MAYOR **Caroline Simmons** 



CITY OF STAMFORD
ZONING BOARD
LAND USE BUREAU
888 WASHINGTON BOULEVARD
STAMFORD, CT 06904 -2152

DIRECTOR OF OPERATIONS
Matthew Quiñones

Land Use Bureau Chief Ralph Blessing

Principal Planner Vineeta Mathur (203) 977-4716 vmathur@stamfordct.gov

Associate Planner **Lindsey Cohen** (203) 977-4388 <u>lcohen@stamfordct.gov</u>

RECEIVED

June 21, 2023

Ms. Theresa Dell, Chair, Planning Board Land Use Bureau, City of Stamford 888 Washington Blvd. Stamford, CT 06904

JUN 2 1 2023

PLANNING BOARD

RE: <u>Application 223-29 – Horn & Hoof Properties LLC, c/o Joseph J. Capalbo, II, 961 Long Ridge Rd and 16 Wire Mill Road, Stamford, CT - Map Change</u>: Applicant is proposing to rezone 961 Long Ridge Road and 16 Wire Mill Road from the present R-10 (Single Family, Low Density) to proposed RM-1 (Multiple Family, Low Density Design District).

Dear Ms. Dell:

In accordance with Section C6-40-10 of the Charter of the City of Stamford, the above captioned Application for a Map Change is hereby referred to the Planning Board of the City of Stamford for its advisory report.

A public hearing has not yet been scheduled. Referral comments should be filed with the Zoning Board Office by *July 26, 2023*.

If you have any questions, please feel free to contact me at (203) 977-4716.

Sincerely,

Principal Planner



\$1,060.00



Fee Schedule

Map Change (Affected Area of 1 Acre or Less)

#### APPLICATION FOR CHANGE IN THE ZONING MAP OF STAMFORD, CONNECTICUT

Complete, notorize, and forward thirteen (13) hard copies and (1) electronic copy in PDF format to Clerk of the Zuring Board with a \$1,000.00 Public Hearing Fee and the required application filing fee (see Fee Schedule below), payable to the City of Stamford.

**NOTE**: Cost of required Public Hearing advertisements are payable by the Applicant and performance of mailing of required property owners is the sole responsibility of the applicant. **LAND RECORDS RECORDING FEE**: \$60.00 for First page - \$5.00 for each additional page)

	Map Change (Affected Area of greater than 1 Acre)	\$1,060.00 + \$2,000 per acre or portion thereof in excess of 1 acre	
APPLICAN	T NAME (S): HORN & HOOF PROPERTIES LLC		
	TADDRESS: c/o Joseph Capalbo 1100 Summer Street Stamford, CT 06905		
	T PHONE #: (203) 324-8882		
IS APPLICA	ANT AN OWNER OF PROPERTY IN THE CITY OF STAMFORD?  ZONING DISTRICT: R-10 PROPOSED ZONING DISTRICT: F	RM-1	
LOCATION intersecting	OF PROPOSED CHANGE: (Give boundaries of each parcel in proposed change and indicate dir street. Also include Assessor's Card number and Town Clerk's Block number, and square footage of map showing area proposed for change.)  Legal description attached; property on the	nensions from nea	twelve
Ridge Ro	ad and Wire Mill Road; Block 377; 001-8189 and 001-8187; total square footage	in proposed	
change :	<sup>+</sup> 2.63 acres.		
Horn & Ho	AND ADDRESS OF THE OWNERS OF ALL LAND INCLUDED WITHIN THE PROPOSED CHAN LOCATION TO THE PROPOSED CHAN LOCATION THE PROPOSED CHAN AND THE PROPOSED CHAN A	GE:	
ARE THERI	E DEED RESTRICTIONS THAT CONFLICT WITH THE PROPOSED ZONE DISTRICT FOR THIS	PROPERTY?	
F YES, LIS	T REFERENCE TO TOWN CLERK BOOK & PAGE #: N/A		
			-
OOES ANY NITH GREE community (	PORTION OF THE PREMISES AFFECTED BY THIS APPLICATION LIE WITHIN 500 FEET OF 1 NO. (If yes, notification must be sent to To by registered mail within 7 days of receipt of application – PA 87-307).	HE BORDER LIN wn Clerk of neigh	IE boring





Stamford Planning Board. the Zoning Board at least the	SIGNED:	oseth Capallo II Drilly hearing until 50 days have raw the application, this mu to public hearing in order to	2023  Authorized elapsed from the date of referral to st be done in writing, and be receiprovide sufficient time to publicizaring date will not be rescheduled	ved by e the
STATE OF CONNECTICUT COUNTY OF FAIRFIELD	ss STAMFORD	June 6,	20_23	
Personally appearedJOSE the truth of the contents there	PH J. CAPALBO II of, before me.	Muuns	of the foregoing application, who made	
FOR OFFICE USE ONLY				
APPL. #:	Received in the	ne office of the Zoning Board:	Date:	
		Ву:		

Revised 04/30/20

City of Stamford Planning Board Zoning Board 888 Washington Blvd. Stamford, CT 06901

ATTENTION: Lindsey Cohen

RE: APPLICATION FOR CHANGE TO MASTER PLAN AND ZONING MAPS 961 LONG RIDGE ROAD and 16 WIRE MILL ROAD, STAMFORD, CT

Dear Ms. Cohen;

The undersigned, owner of the properties commonly known as 961 Long Ridge Road and 16 Wire Mill Road, Stamford, Connecticut does hereby authorize Attorney Joseph J. Capalbo, II, or his designee(s) and employee(s), to act as our agent in connection with all matters before the Stamford Land Use Boards, agencies or departments in order to effectuate a change in the land use designation to permit town house type, residential development on the above referenced parcels.

Horn & Hoof Properties LLC:

By: Brenda Case Duly Authorized 961 Long Ridge Road

ALL THAT CERTAIN piece, parcel or tract of land, together with the buildings and improvements thereon, situated in the City of Stamford, County of Fairfield, and State of Connecticut shown and delineated on a certain map entitled, "Property Surveyed for Alexandra R. Crandall, Stamford, Conn., "Certified 'Substantially correct', L. Bromfield, Jr., Engineer & Surveyor, Stamford, Conn., October 25, 1946", which map is now on file in the office of the City and Town Clerk of Stamford and numbered 3362, reference thereto being had. Said premises are bounded and described as follows:

NORTHERLY: 83.74 feet, more or less, and EASTERLY: 153.06 feet, more or less, by second tract hereinafter described: SOUTHERLY: 84.54 feet by Wire Mill Road: SOUTHWESTERLY: 39.37 feet by the curved intersection of Wire Mill Road and Long Ridge Road; and WESTERLY: 131.33 feet by Long Ridge Road.

#### 16 Wire Mill Road

ALL THAT CERTAIN piece, parcel or tract of land, together with the buildings and improvements thereon, situated in said City of Stamford and shown and delineated on a certain map entitled, "Property Surveyed for Arthur I. Crandall and Alexandra R. Crandall, Stamford, Conn., "certified "Substantially Correct' by L. Bromfield, Jr., Engineer & Surveyor, Stamford, Conn., Aug. 7, 1950, which map is now on file in the office of the city and Town Clerk of said Stamford and numbered 4064, reference thereto being had. Said premises are bounded and described as follows:

COMMENCING at a point on the northerly side of Wire Mill Road, which point marks the division line between the first tract hereinabove described and land herein described, thence running north along said first tract N. 18 degrees 18 minutes West 153.06 feet; thence continuing along said first tract South 61 degrees 36 minutes West 83.74 feet to Long Ridge Road; thence along Long Ridge Road on a curve to the left on the arc of a circle the radius of which is 1677.28 feet, a distance of 225.45 feet; thence continuing along Long Ridge Road North 17 degrees 36 minutes 40 seconds West 35.83 feet to land of the State of Connecticut known as the Merritt Parkway; thence along the Merritt Parkway North 67 degrees 15 minutes 10 seconds East 288.25 feet to land of Dorothy F. Spiers; thence along said land of Dorothy F. Spiers South 16 degrees 51 minutes 50 seconds East 284.84 feet to the northerly side of Wire Mill Road; thence along the northerly side of Wire Mill Road South 29 degrees 10 minutes West 130.01 feet; then continuing along the northerly side of Wire Mill Road on a curve to the right on the arc of a circle the radius of which is 171.91 feet, a distance of 97.31 feet and South 61 degrees 36 minutes West 34.0 feet to the point or place of beginning.

## **ZONING COMPARISON CHART**

### 961 LONG RIDGE ROAD 16 WIRE MILL ROAD

DISTRICT	R-10		RM-1
AREA (sf)	10000		5000
FRONTAGE (ft)	75		50
S.F. PER FAMILY	10000	:#t	3750
MAX FAMILIES PER LOT	1		<b>3</b>
STORIES / FEET	2.5 / 30		2.5 / 30*
% OF LOT COVERAGE	20		25*
DISTANCE TO STREET LINE	40		25
DISTANCE TO STREET CENTER	65		50
ONE SIDE YARD SETBACK	10		10*
BOTH SIDE YARD SETBACKS	20		20*
REAR YARD	30		30*

<sup>\*</sup> Subject to Note 18 to the Footnotes of Appendix B in the Stamford Zoning Regulations

#### AMENDED NARRATIVE

# MASTER PLAN MAP CHANGE APPLICATION OF HORN & HOOF PROPERTIES LLC FOR 961 LONG RIDGE ROAD AND 16 WIRE MILL ROAD

The properties subject to this proposed Master Plan Map Change application are commonly known as 961 Long Ridge Road (001-8187) and 16 Wire Mill Road (001-8189) and are owned by the applicant, Horn & Hoof Properties LLC (hereinafter both properties being collectively referred to as the "Premises"). The Premises is generally bounded to the west by Long Ridge Road, to the south by Wire Mill Road, to the east by a single-family residence, and to the north by the Merritt Parkway. The Premises is  $\pm 2.58$  acres in area. The Premises is currently zoned R-10. Areas immediately east and south are also zone R-10. Immediately across the street on Long Ridge Road the zoning designation is C-D. The area adjacent and immediately north is the Merritt Parkway. There is currently existing a commercial structure, two stories, approximately 3,173 square feet in area constructed in or around 1920. There also exists an accessory structure  $\pm\,520$ square feet, also of significant age. A majority of the Premises is presently used as an equipment and material storage and staging area for the utility companies and the State of Connecticut. The two commercial structures are occupied by assorted commercial tenants.

Presently, the Premises is located in Master Plan Category 2, Residential-Low Density Single Family. Areas immediately to the south and east are also located in Master Plan Category 2. The areas to the north and northwest along the Merritt Parkway are in Master Plan Category 14, Open Space-Public Parks. The area directly west is in Master Plan Category 8, Mixed Use-Campus, currently used and occupied as a corporate campus.

Wire Mill Road, east of the Premises is developed with single family homes in accordance with the R-10 designation. The area south of the Premises along the east side of Long Ridge Road consists of a mix of single-family dwellings and legal non-conforming commercial uses. The west side of Long Ridge Road is entirely commercial consisting of corporate campus type development.

The applicant is proposing to amend the Master Plan Map for the Premises from Master Plan Category 2 to Master Plan Category 3, Residential-Low Density Multi-Family. The objective is to consolidate the two parcels into one and propose a change of zone to allow the existing commercial buildings to remain and provide for the remainder of the Premises to be developed into a residential townhouse style community. Should the applicant be successful in obtaining a change to the Master Plan Map, the Zoning Board will be asked to consider an Application to Amend the Zoning Map from R-10 to RM-1 along with an Application for Site Plan Review to consider the proposed townhouse style of development.

Master Plan Category 3, Residential - Low Density, Multifamily is defined in the Stamford Master Plan as, "intended to allow the amenities of multifamily living in a single-family neighborhood setting. The category is intended to provide for and protect single family dwellings and the least intensive of multifamily development..."

Master Plan Category 3 is the most appropriate vehicle to fulfill the general policies and objectives of the Master Plan as they relate to these two parcels. This Premises abuts Long Ridge Road and the Merritt Parkway on two sides, is directly across the street from a corporate office park and maintains a single-family neighborhood to its east. An amendment to the Master Plan Map to Category 3 will promote and enhance the Master Plan policies by:

- Providing a buffer to help maintain the residential neighborhood character of Wire Mill Road (Policy 6A)
- Supporting residential development while maintaining and preserving existing residential communities. (Policy 6A.1)
- Providing increased density along the transit corridors. (Policy 6C.5)
- Reinforcing the policy of preserving historic buildings. (Policy 6D)
- Encouraging appropriate multifamily density standards. (Policy 7G.2)
- Encouraging Infill development. (Policy 7H)

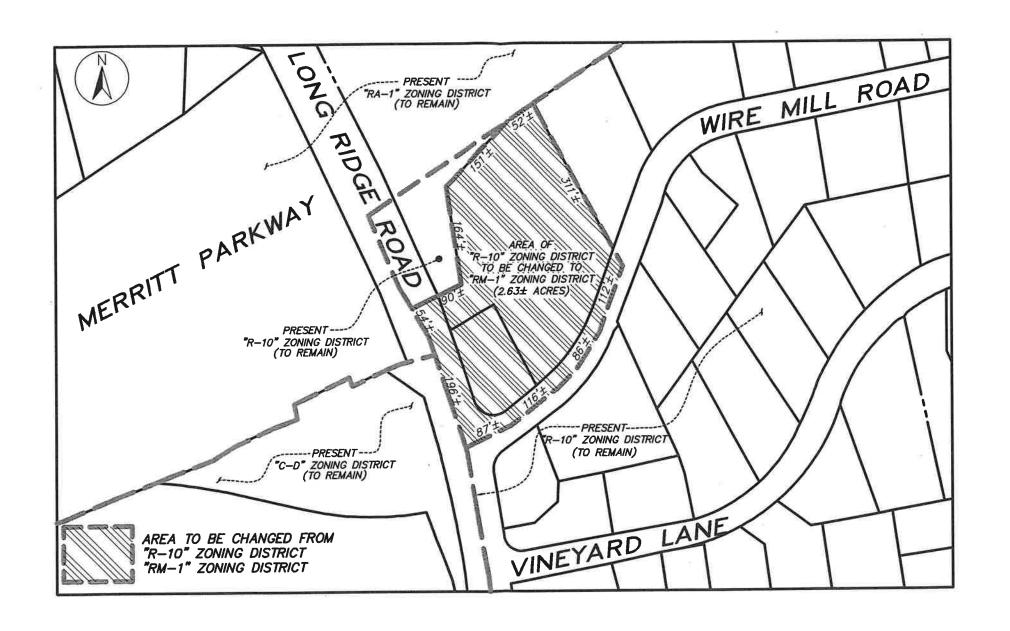
 In addition, a change to Category 3 will result in aesthetic improvements to the landscape and streetscape, a policy encouraged by the Long Ridge / High Ridge Corridors Study.

Approval from the Planning Board for a change in the Master Plan Map to Category 3 will trigger the aforesaid applications for an RM-1 development of the Premises. The RM-1 zone permits one family for each 3750 square feet of area. It limits the lot coverage to 25% and building height, in most instances, to 2 ½ stories, but never more than 3.

Considering the location of this Premises, its nature and use, as well as the surrounding area, the proposed concept of development will provide an appropriate transition between the commercial nature of Long Ridge Road, the vehicular activity and noise from the Merritt Parkway, and the single-family residences along Wire Mill Road. The applicant has submitted for illustration purposes a proposed site plan. Intended is a townhouse style of development with garage parking and adequate screening and buffer zones. Although development is only conceptual at this time, there is anticipated to be a total of approximately eighteen (18) residential units proposed while permitting the historically significant commercial structures to remain. The present activities, including the use of the

Premises as staging areas for State of Connecticut and utility company equipment and materials will cease.

The applicant's proposed development for a mixed use of predominantly residential housing directly addresses and fulfills the policies of the city's Master Plan. It will cause to eliminate an existing use of the site as a staging area, obnoxious to the residents to the east, and provide an adequate buffer zone for the nearby single family residences. For all of the foregoing reasons a change to the Master Plan Map to Category 3 is most appropriate for these two parcels of land.



JANUARY 30, 2023

RIVERSIDE, CT 06878

P.O. BOX 549

# D'ANDREA SURVEYING & ENGINEERING, PC

- LAND PLANNERS
  - ENGINEERS
    - SURVEYORS

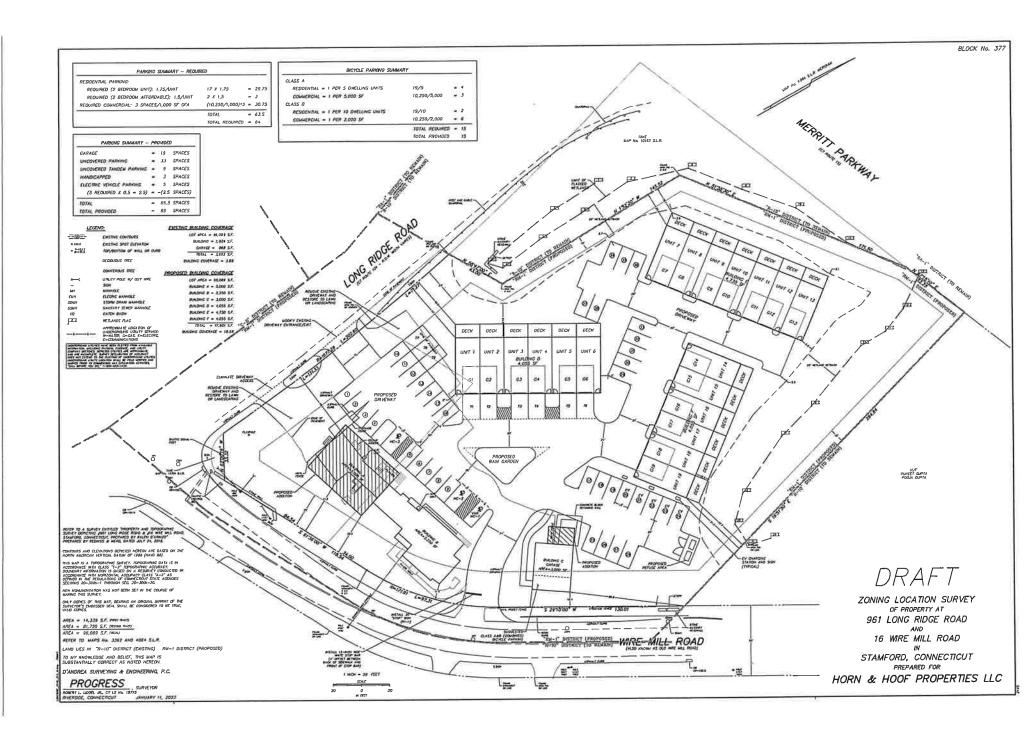
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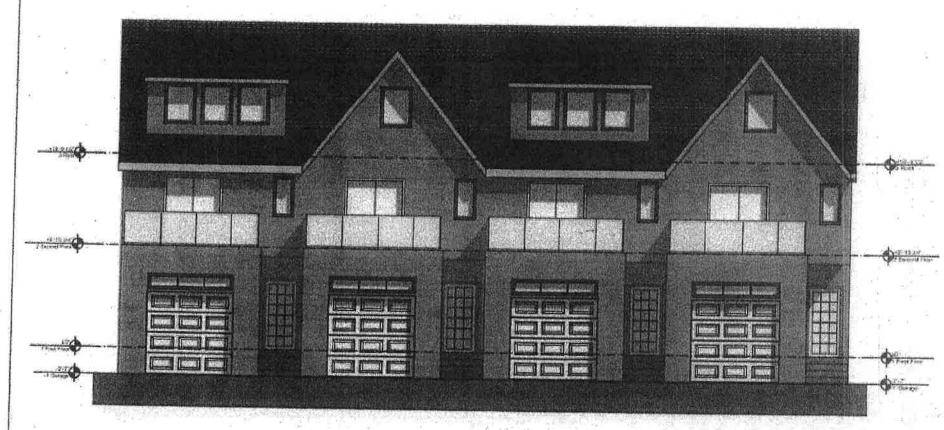
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PROPOSED REVISION OF
ZONING DISTRICTS
AT
961 LONG RIDGE
16 WIRE MILL ROAD
STAMFORD, CONNECTICUT

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April 28, 2023

Mr. Ralph D'Arienzo
Ms. Brenda L. Case
Horn & Hoof Properties

Re: Traffic Study

Proposed Residential and Office Development 16 Wire Mill Road/Long Ridge Road Stamford, Connecticut SLR #141.21518.00001

Dear Ms. Case and Mr. D'Arienzo,

At your request, SLR International Corporation (SLR) has prepared this study to assess the traffic aspects of your proposed development to add 19 residential units and approximately 7,000 square feet (SF) of net increase of office space to 16 Wire Mill Road in Stamford, Connecticut. The site location and area roadways are shown in **Figure 1**.

The study involved field reconnaissance and inventory of current roadway and traffic conditions; collection and review of traffic volume data, crash data, and other pertinent information; review of the sight lines at the site access driveways; estimation of amounts of new site traffic that may be generated by the proposed development; estimation of future roadway traffic volumes with and without the proposed development; and analysis of anticipated future traffic flow operations adjacent to the site at the signalized intersection of Long Ridge Road at Wire Mill Road and the Merritt Parkway northbound off-ramp exit 34, and at the site driveway intersections with Long Ridge Road and Wire Mill Road. Additionally, a field meeting with City of Stamford Department of Transportation, Traffic & Parking (TTP) staff was held at the site on March 21, 2023, to confirm the scope of this traffic study.

#### Study Area Roadway and Site Environs

Long Ridge Road (Route 104) is a north-south principal arterial roadway that runs between North Stamford and the New York state line to the north, and the Bulls Head area of Stamford to the south. Long Ridge Road near the site has four vehicle travel lanes plus dedicated turn lanes at key intersections and has a posted speed limit of 40 miles per hour (mph). Directly adjacent to the site, Long Ridge Road is noted to have a raised median. The Merritt Parkway (Route 15), which provides regional east-west access, is located just north of the site, and has on- and off-ramps nearby including a northbound off-ramp (exit 34) that connects with Long Ridge Road at a signalized intersection opposite Wire Mill Road at the southwest corner of the site.



Wire Mill Road is a local road that runs generally east-west and, along with Cedar Heights Road to the east, connects Long Ridge Road with High Ridge Road. Wire Mill Road has one lane in each direction and a posted speed limit of 25 mph. The surrounding area is mostly residential with commercial uses along Long Ridge Road.

#### **Area Traffic Volume Data**

Review was made of available traffic data from the Connecticut Department of Transportation (CTDOT). The state maintains a traffic monitoring location on Long Ridge Road south of Wire Mill Road nearby. The latest available state data at this location indicates that Long Ridge Road had a two-way Annualized Average Daily Traffic (AADT) of 18,400 vehicles in 2020. Pre-pandemic, Long Ridge Road near the site had an AADT volume of 26,200 vehicles in 2017, according to the CTDOT traffic monitoring data. The most recent vehicle travel speed data recorded at this location by CTDOT found that the average travel speeds and 85<sup>th</sup> percentile travel speeds on Long Ridge Road are approximately 35 mph and 41.5 mph in the northbound direction, respectively, and 35 mph and 42.5 mph in the southbound direction, respectively.

To supplement the state data, new manual turning movement counts were collected at the intersection of Long Ridge Road at Wire Mill Road and the Merritt Parkway northbound off-ramp (exit 34), as well as the site driveway at Wire Mill Road, on Tuesday, March 28, 2023, during the morning and afternoon commuter peak periods. **Figure 2** shows the peak-hour traffic volumes for the weekday morning (7:45 a.m. to 8:45 a.m.) and afternoon (4:45 p.m. to 5:45 p.m.).

#### **Area Crash History**

Information on crash data along the site frontage, and at the intersection of Long Ridge Road at Wire Mill Road and the Merritt Parkway northbound off-ramp, was obtained from the Connecticut Crash Data Repository for the 5-year period of March 26, 2018, to March 27, 2023. The data collected for this period is shown in **Table 1**, summarized by location, collision type, and crash severity.

In the direct vicinity of the site's driveways, only two crashes were reported to have occurred over this 5-year period, both of which resulted in reported property damage only. At the signalized intersection of Long Ridge Road at Wire Mill Road and the Merritt Parkway northbound off-ramp, there was a reported total of thirteen crashes over this 5-year period; nine that resulted in property damage only and four that involved possible or suspected injuries. No fatalities were reported. The crash that resulted in suspected serious injury was a collision between a car and a motorcycle. Of the thirteen intersection crashes, six were rear-end collisions, four were collisions at an angle, two were sideswipes, and one was a collision with a fixed object. There do not appear to be any unusual crash patterns adjacent to the site, as rear-ends, angle and sideswipe collisions at these rates are unfortunately common at/adjacent to large, signalized intersections.



Table 1 Crash Summary

		Ty	pe Of	Collisi	oπ			Cras	h Sevo	erity	
Location	Angle	Fixed Object	Rear End	Sideswipe - Opposite Direction	Sideswipe – Same Direction	Total	Possible Injury	Property Damage Only	Suspected Winor Injury	Suspected Serious Injury	Total
Along the Site Frontage on Long Ridge Road	0	0	0	0	1	1	0	1	0	0	1
Along the Site Frontage on Wire Mill Road	1	0	0	0	0	1	0	1	0	0	1
Long Ridge Road at Wire Mill Road/Merritt Parkway Northbound Off-ramp Exit 34	4	1	6	1	1	13	2	9	1	1	13
Total	5	1	6	1	2	15	2	11	1	1	15

Source: Connecticut Crash Data Repository from March 26, 2018, to March 27, 2023

#### Proposed Development

Proposed for 16 Wire Mill Road is the addition of 19 housing units within three new multi-family townhouse buildings, as well as additional office space to be added to the existing buildings on site. The site currently has approximately 3,200 SF of office space that will be expanded with a net increase of around 7,000 SF of new added office space. Vehicle access to/from the development will remain as currently exists, with right-in/right-out driveway access at Long Ridge Road (left turns restricted by the median on Long Ridge Road) and a full-access driveway at Wire Mill Road. Note that the site currently has two curb cuts at Long Ridge Road that will be consolidated to one with this proposed development. Site egress will remain stop-controlled to both Long Ridge Road and Wire Mill Road.

Motorist visibility was reviewed from the points of site egress. At the site driveway exit to Wire Mill Road, the Intersection Sight Distance (ISD) looking to the left/east extends for a maximum distance of approximately 400 feet to a curve in the road east of the site. This ISD meets CTDOT guidelines to see approaching vehicles traveling 36 mph or less. Note again that the posted speed limit is 25 mph, and there is an advisory 15 mph speed sign for westbound traffic at the approach of the bend in Wire Mill Road northeast of the site. Looking to the right/west from the site driveway exit at Wire Mill Road, upon minor regrading of the site frontage and/or a minor regrading of the site driveway apron on-site to slightly elevate its approach to Wire Mill Road, the ISD will extend a maximum of approximately 280 feet to Long Ridge



Road. A 280-foot ISD corresponds with the CTDOT guideline for the 25-mph speed limit. Note, as well, that traffic turning onto Wire MIII Road at this point will be slowed by either turning left or right from Long Ridge Road, or by egressing the Merritt Parkway off-ramp. At the site driveway right-only exit to Long Ridge Road, the ISD looking to the left/south extends for several hundred feet to exceed CTDOT guidelines to see for approaching vehicles traveling well over the 40-mph speed limit.

#### **Site Traffic and Distribution**

The amount of site traffic to be generated by the proposed 19 residential units and net increase of 7,000 SF of office space was estimated based on review of statistical data published by the Institute of Transportation Engineers (ITE) in their Trip Generation Manual (Land Use Codes #220, Multifamily Housing (Low-Rise) and #710, General Office Building). Table 2 below summarizes the peak hour traffic that is estimated to be generated by this development.

**Table 2** New Site Traffic Estimates

	Number Of Vehicle Trips						
Land Use	Weekday Morning Peak Hour			Weekday Afternoon Peak Hour			
	In	Out	Total	lin	Out	Total	
Proposed Multifamily Housing (Low-Rise), 19 Units	2	6	8	6	4	10	
Proposed Net Increase in Office Space 7,000 SF approximately	10	1	11	2	8	10	
Total Trips	12	7	19	8	12	20	

Trip Generation Manual, 11th Edition. Institute of Transportation Engineers, 2021 (ITE land uses #220 and #710)

The geographic distribution of the site-generated traffic was estimated based on review of Census Journeyto-Work data and our understanding of the surrounding roadway system. It is estimated that approximately 40 percent of the new site traffic will access the site via Long Ridge Road to/from the South, 30 percent will be oriented to/from the north of the intersection of Long Ridge Road at Wire Mill Road including to/from the east via the Merritt Parkway, 25 percent will be oriented to/from the west via the Parkway, and 5 percent to/from the east on Wire Mill Road.

Figure 3 and Figure 4 illustrate the site generated traffic's geographic distribution and site generated trip estimates for the proposed development during the weekday morning and afternoon peak hours, respectively.



#### **Future Traffic**

For the purpose of this study, a future horizon build-year of 2025 was used for analysis. The 2025 intersection traffic volumes within our study area at/adjacent to the site were estimated and evaluated both without (background/no-build conditions) and with (combined/build conditions) the proposed development to determine possible traffic impacts specifically associated with this subject development.

To estimate the future background traffic volumes, the existing peak hour traffic volumes were projected to year 2025 using an annual growth rate of 0.5 percent that was suggested by CTDOT's Bureau of Policy and Planning. Discussions with CTDOT and the City of Stamford indicated that there are no approved developments of significant size nearby to also include in the 2025 background traffic volumes. The future background (no-build) volumes for the weekday morning and afternoon peak periods, which again do not include site-generated traffic, are shown in **Figure 5**.

The estimated new site traffic volumes generated by the proposed development were then added to the 2025 background traffic volumes to derive the future combined (build) traffic volumes. The combined traffic volumes reflect future roadway traffic volumes with the proposed development in place and are used in analyses to determine roadway adequacy. **Figure 6** depicts the 2025 combined traffic volumes for the weekday morning and weekday afternoon peak hours at/adjacent to the site.

#### Capacity Analysis

The study intersections were evaluated by means of capacity analysis techniques. Levels of Service (LOS) were then determined, which are qualitative measures of the efficiency of traffic flow operations in terms of delay and inconvenience to motorists. A description of the various LOS designations, A through F, is given in the Appendix. LOS A indicates very low average control delay per vehicle while LOS F describes operations with long average delays. Peak-hour LOS D or better is considered acceptable in most communities. However, in some areas, typically more urbanized areas, LOS E during peak hours may be deemed acceptable and can indicate an efficient tradeoff between traffic flow and the amount of land devoted to the movement of motor vehicles. The analysis worksheets are enclosed in the Appendix. Table 3 summarizes the findings of future LOS at the study intersections without (Background Conditions) and with (Combined Conditions) the estimated new traffic from the proposed development.

No changes to LOS are anticipated at the signalized intersection of Long Ridge Road at Wire Mill Road and the Merritt Parkway northbound off-ramp during peak hours as a result of this proposed development's estimated new future traffic. This indicates that the subject proposed development will not have a traffic impact. Note that this intersection does have some peak-hour delays that occur today/will occur in the future regardless of this development. Review of potential traffic signal timing adjustments that the city could make finds that minor timing adjustments to this intersection could somewhat improve traffic flow operations, particularly for the southbound left turn movement's poor background LOS during the afternoon peak hour. It is important to note, again, that signal timing adjustments are not triggered as a



result of this proposed development. Nonetheless, the City of Stamford TTP Department could consider such Liming adjustments, which are detailed in the Appendix, as part of routine signal traffic operations maintenance.

At the unsignalized site driveway intersections, motorist LOS are expected to be good in the future, with LOS A for motorists passing by and turning directly into the site driveways, and LOS C or better for motorists exiting the site during peak hours. At the Wire Mill Road site driveway, it is noted that vehicle queueing on Wire Mill Road from the Long Ridge Road signal does sometimes extend back to the driveway today. To manage this such that occasionally queuing would be less likely to block this driveway in the future, we recommend that a sign be installed on Wire Mill Road just east of the site driveway for westbound traffic that states 'Do Not Block Driveway'.

**Table 3 Capacity Analysis Summary** 

		Level Of	Service		
Intersection	Weekday I Peak F	THE RESERVE OF THE PARTY OF THE	Weekday Afternoon Peak Hour		
	Background	Combined	Background	Combine	
WHILD BEARSON - THE EAST CHILD SERVED	Signal	lized			
Long Ridge Road at W	ire Mill Road and Mer	ritt Parkway Northbou	nd Off-Ramp Exit 34		
Eastbound Left/Through	D	D	E	E	
Eastbound Right	D	D	C	С	
Westbound Left	E E	E	E	E	
Westbound Right	Α	Α	Α	A	
Northbound Through/Right	С	С	D	D	
Southbound Left	D	D	F*	F*	
Southbound Through	В	В	В	В	
Overall LOS	С	С	D	D	
	Unsign	alized			
	Site Driveway at	Wire Mill Road			
Southbound Left/Right	В	В	А	В	
Eastbound Left/Through	Α	А	А	А	
	Site Driveway at I	Long Ridge Road			
Westbound Right	С	С	С	С	

<sup>\*</sup>Could be improved by minor signal timing adjustment by the city.

#### Summary

A study was conducted to assess the traffic aspects of the proposed addition of 19 multi-family housing units and approximately 7,000 SF of net increase of office space to 16 Wire Mill Road in Stamford, Connecticut. A study of existing traffic conditions was undertaken through a detailed field reconnaissance



and data assembly effort. Traffic generated by the proposed development was estimated based on review of industry standard data. Future roadway traffic volumes were estimated with and without the development in place, and capacity analyses of Future Conditions were performed. It was found that no impacts to traffic LOS are expected to be caused by the proposed development. The proposed development is thus not expected to have a traffic impact.

We do make the following minor recommendations to best accommodate the proposed development from a traffic standpoint:

- Any vegetation along the site frontage and within the Long Ridge Road and Wire Mill Road rightsof-way adjacent to the site driveways should be kept trimmed to maintain good sight lines.
- For the site driveway at Wire Mill Road, a minor regrading of the driveway apron on-site should be done to elevate its approach to the road, and/or a minor regrading of the site frontage along Wire Mill Road between this driveway and Long Ridge Road should be done, to maximize sightlines from this driveway.
- A 'Do Not Block Driveway' sign should be installed on Wire Mill Road just east of the site driveway facing westbound traffic to lessen the likelihood of occasional signal queueing blocking this driveway.

Lastly, while not triggered as a result of this development's traffic, the city should consider making a minor signal timing adjustment to the intersection of Long Ridge Road at Wire Mill Road and the Merritt Parkway northbound off-ramp for the afternoon commuter period timing pattern to optimize signal operations.

We hope this traffic study is useful to you and the City of Stamford in assessing the traffic aspects of this proposed development. If you have any questions or need any further information, please do not hesitate to contact us.

Sincerely,

SLR International Corporation

David G. Sullivan, PE

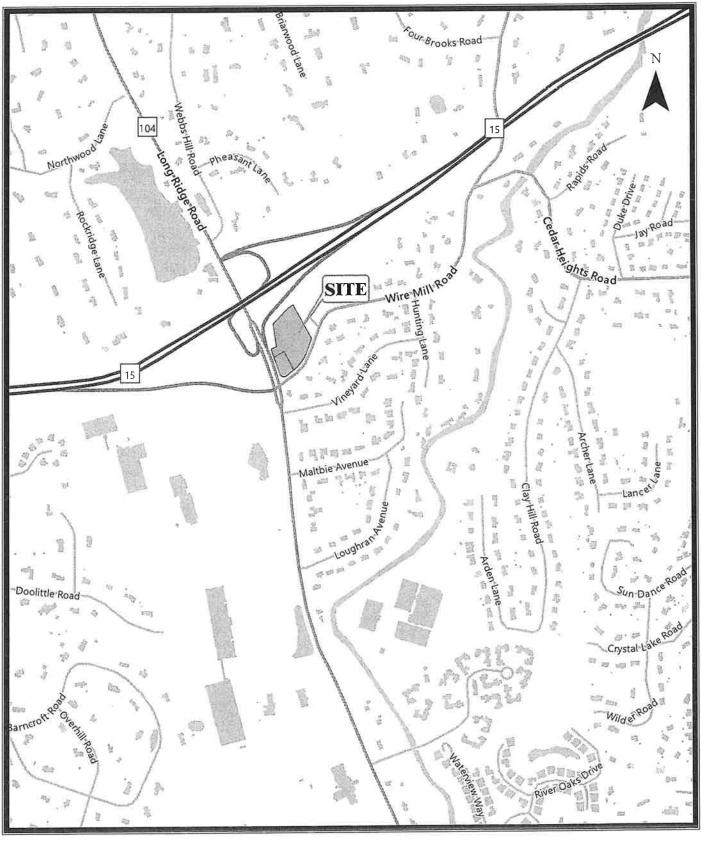
U.S. Manager of Traffic & Transportation Planning

Neil C. Olinski, MS, PTP

Principal Transportation Planner

Enclosures

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0 500 1,000 Feet

Proposed Residential and Office Space Expansion 16 Wire Mill Road Stamford, Connecticut

FIGURE 1



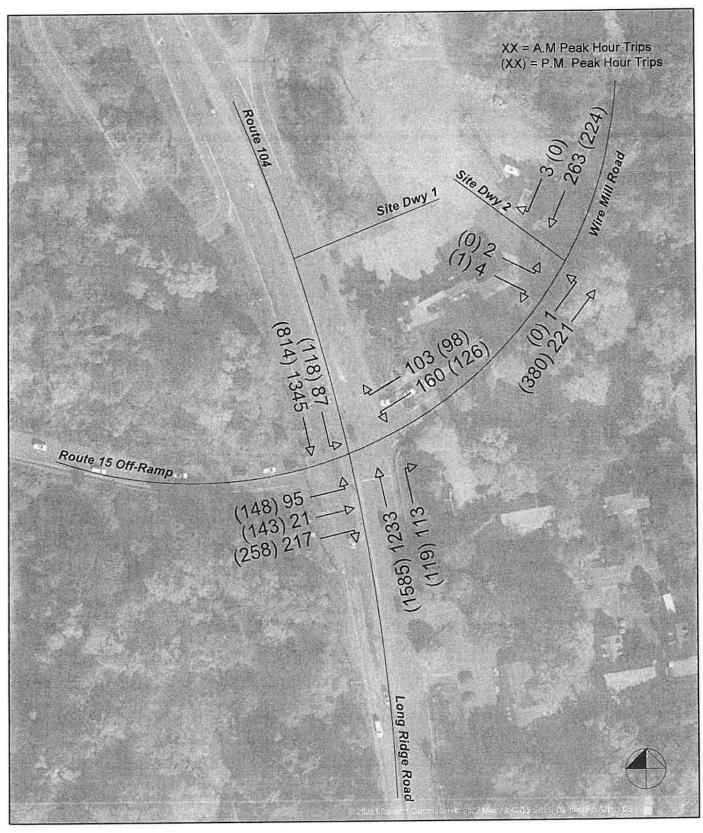


Figure 2
Existing Weekday Peak Hour Vehicular Traffic Volumes (2023)



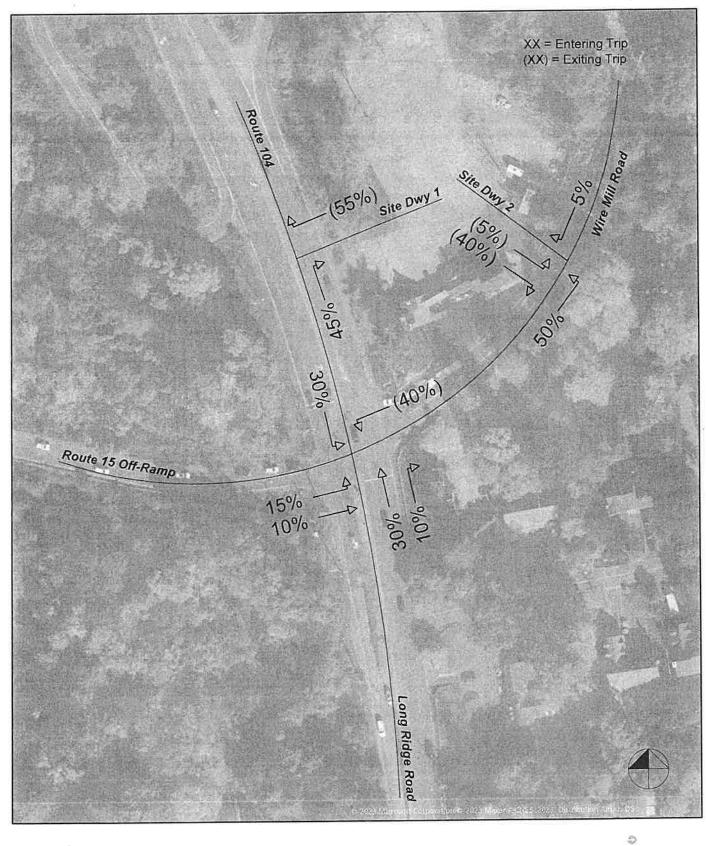
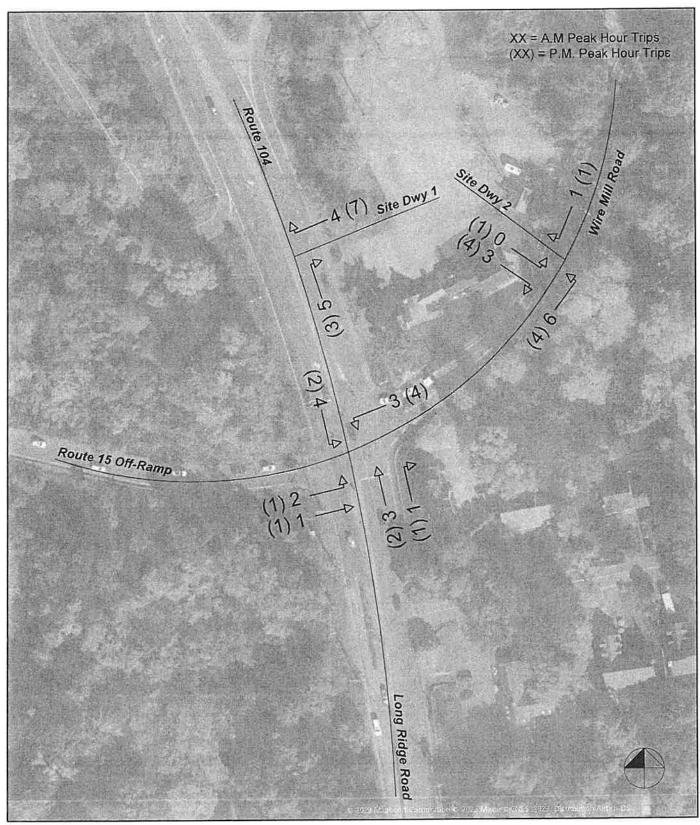


Figure 3
Site Traffic Distribution



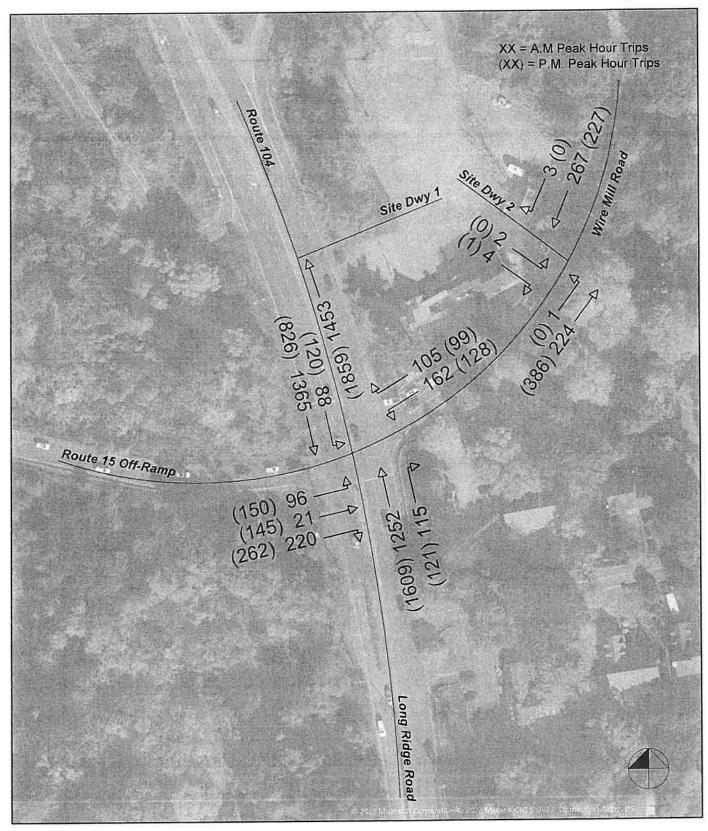
0



**Figure 4**Site-Generated Weekday Peak Hour Traffic Volumes



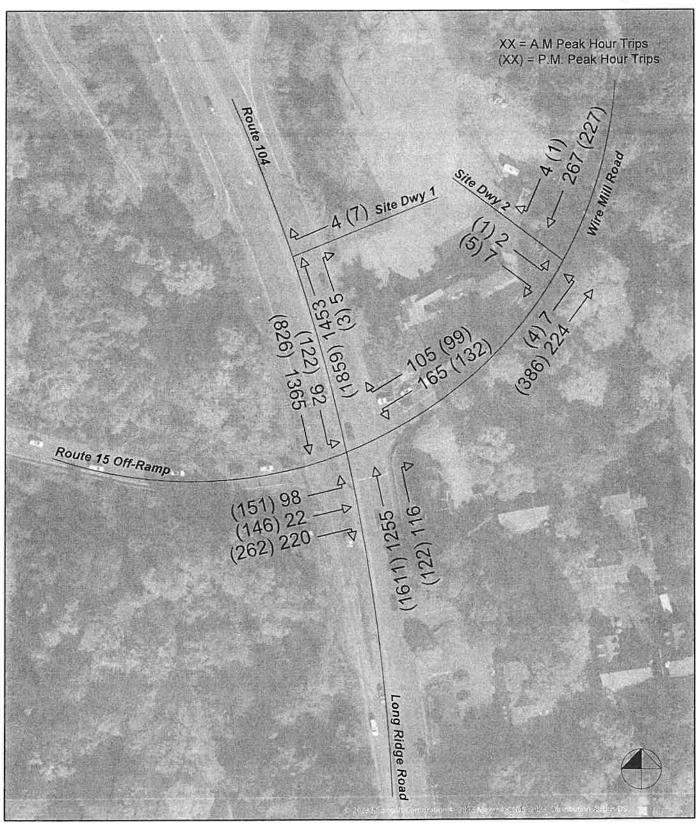
0



**Figure 5**Future Background Weekday Peak Hour Traffic Volumes (2025)



3



**Figure 6**Future Combined Weekday Peak Hour Traffic Volumes (2025)

# **APPENDIX**

# LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS (MOTORIZED VEHICLE MODE)

Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-min analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group. The criteria are given below.

LEVEL-OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS MOTORIZED VEHICLE MODE							
LOS By Volume-	LOS By Volume-to-Capacity Ratio <sup>1</sup>						
v/c ≤ 1.0	v/c > 1.0	CONTROL DELAY (s/veh)					
A	F	≤ 10					
В	F	> 10 AND \le 20					
C	F	> 20 AND ≤ 35					
D	F	> 35 AND ≤ 55					
E	F	> 55 AND ≤ 80					
F	F	> 80					

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

Specific descriptions of each LOS for signalized intersections are provided below:

<u>Level of Service A</u> describes operations with a control delay of 10 s/veh 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 exceptionally favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

**Level of Service 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.

**Level of Service 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. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

<u>Level of Service D</u> 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. Many vehicles stop and individual cycle failures are noticeable.

<u>Level of Service E</u> 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. Individual cycle failures are frequent.

Level of Service 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. Most cycles fail to clear the queue.

Reference: Highway Capacity Manual 6, Transportation Research Board, 2016.

# LEVEL OF SERVICE FOR TWO-WAY

## STOP SIGN CONTROLLED INTERSECTIONS

The level of service for a TWSC (two-way stop controlled) intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. LOS criteria are given in the Table. LOS criteria are given below:

LEVEL-OF SERVICE CRITERIA FOR AWSC INTERSECTIONS						
LOS <sup>1</sup> CONTROL DELAY (s/s						
A	≤ 10					
В	> 10 AND ≤ 15					
С	> 15 AND ≤ 25					
D	> 25 AND ≤ 35					
E	> 35 AND ≤ 50					
F	> 50					

Note:

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.

LOS F is assigned to a movement if the volume-to-capacity ratio exceeds 1.0, regardless of the control delay

Reference: Highway Capacity Manual Version 6.0. Transportation Research Board, 2016.

	٠	<b>→</b>	*	•	-	•	1	†	1	-	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4	7	*5		74		446		43	ተተ	
Traffic Volume (vph)	96	21	220	162	0	105	0	1252	115	88	1365	0
Future Volume (vph)	96	21	220	162	0	105	0	1252	115	88	1365	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	and the second second second	0	150	- Inches	0	0		0	0		0
Storage Lanes	0	ALTERNATION OF THE PARTY OF THE	1	1	A XIII	1	0		0	1011	<b>分割层</b> 数	0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt		1,000	0.850	- CANADA	and the literal	0.850		0.987				
Fit Protected	6255 STATE	0.961		0.950			ALC: N			0.950		
Satd. Flow (prot)	0	1790	1583	1770	0	1583	0	5019	0	1770	3539	0
Flt Permitted		0.961		0.950						0.950		100
Satd. Flow (perm)	0	1790	1583	1770	0	1583	0	5019	0	1770	3539	0
Right Turn on Red			Yes		134 354	Yes		HAND SEED	Yes	THE STATE		Yes
Satd. Flow (RTOR)	STATISTICS OF	LONG STREET	124			147	1111001111111	17		******		
Link Speed (mph)		40		a destru	25	1000 F	A 100 PM	35		USE NO.	35	
Link Distance (ft)		391	30,750,000		302		10 -00	586			164	THE REAL PROPERTY.
Travel Time (s)		6.7	2018		8.2			11.4		W. Tarto	3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	23	239	176	0	114	0	1361	125	96	1484	0
Shared Lane Traffic (%)						ENERGY TOTAL	A CONTRACTOR OF THE PARTY OF TH	- planting	111111111111111111111111111111111111111			
Lane Group Flow (vph)	Ö	127	239	176	0	114	0	1486	0	96	1484	0
Turn Type	Split	NA	Prot	Prot		Prot	1151	NA	7	Prot	NA	-
Protected Phases	4	4	4	3		3		2	Tall land	1	12	
Permitted Phases				NAME OF STREET	Haraca de la constanta de la c		- CE - CE - CE				7	
Detector Phase	4	4	4	3	TE STATE OF	3	No.	2	A RESIDE	1	12	AVEZUA
Switch Phase		ALC HE STATE			TO SECURE THE PARTY.	HAVE BEEN COMMISSION		-			Pala medicine	-
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0	thungs of	3.0		1500
Minimum Split (s)	13.5	13.5	13.5	17.0		17.0	Francisco Salarinia	31.0	an House	7.0		
Total Split (s)	27.0	27.0	27.0	17.0	Series de	17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Yellow Time (s)	4.4	4.4	4.4	3.0		3.0		4.4		3.0		
All-Red Time (s)	2.1	2.1	2.1	1.4	Name and Address of the Owner, St.	1.4		1.6		1.0		
Lost Time Adjust (s)		0.0	0.0	0.0	311	0.0	allers.	0.0	45 S	0.0		STATE OF THE PARTY
Total Lost Time (s)		6.5	6.5	4.4	***************************************	4.4		6.0		4.0		
Lead/Lag	Lag	Lag	Lag	Lead		Lead	The same	Lag	WS THE	Lead	SURF	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	-	Yes		Yes		Contract of the Contract of th
Recall Mode	None	None	None	None		None		C-Min	A STATE	None	PARK N	199
Act Effct Green (s)	1015000	12.9	12.9	12.0		12.0		38.7		15.6	60.2	
Actuated g/C Ratio		0.13	0.13	0.12	Taravia,	0.12		0.39	STRUG	0.16	0.60	ALCO IS
v/c Ratio	LODGE PARTY OF THE	0.55	0.77	0.83		0.36		0.76		0.35	0.70	
Control Delay		48.7	35.8	73.8		6.6	a la la	29.7		44.7	17.0	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		48.7	35.8	73.8		6.6	U.S. S. No.	29.7		44.7	17.0	
LOS	ALL CANADA	D	D	E		A		С		D	В	
Approach Delay	1514 FEE	40.2			47.4		RE LES	29.7		ESTENIE .	18.7	
Approach LOS	STATE OF THE PARTY	D			D			С	and the same of th		В	1044
Stops (vph)	Na uzava	105	105	145		8		1139	S-1/48	74	919	STATE OF
Fuel Used(gal)	WOOD OF STREET	3	3	3		0	100	23		1	13	
- aci oscu(gai)											-	

ū	•	-	7	*	-	*		<b>†</b>	1	-	1	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
CO Emissions (g/hr)		175	225	238		31		1580		102	927	
NOx Emissions (g/hr)		34	44	46		6		307		20	180	
VOC Emissions (g/hr)		41	52	55		7		366	22000003	24	215	
Dilemma Vehicles (#)		4	0	0		0		68		0	68	
Queue Length 50th (ft)		78	71	110	3	0	7/115: 257	297		55	314	
Queue Length 95th (ft)		125	144	#219		29		355		#134	486	
Internal Link Dist (ft)		311			222			506	Tan Inv		84	
Turn Bay Length (ft)				150								
Base Capacity (vph)		366	423	223		327		1950		275	2131	
Starvation Cap Reductn		0	0	0		0		0		0	0	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.35	0.57	0.79		0.35		0.76		0.35	0.70	
Intersection Summary									1000			
No. of Section 2016 at 10 and	Other			ASIME	Halle						687974	
Cycle Length: 100												
Actuated Cycle Length: 100			Line Mile									MARIE S
Offset: 0 (0%), Referenced	to phase 2:	NBSB, SI	tart of Ye	llow								
Natural Cycle: 70						30/1/2						
Control Type: Actuated-Coo	ordinated											
Maximum v/c Ratio: 0.83												
Intersection Signal Delay: 2	7.4			In	tersection	LOS: C						
Intersection Capacity Utiliza	ition 72.4%			IC	U Level	of Service	С					
Analysis Period (min) 15												-
	Control of the Contro	SECURITY OF A SECURITY OF SECURITY					The second secon					

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

<b>№</b> g1	<b>1</b> a2 (B)		\$04
12 s	44 s	17 s	27 s

	٤	<b>→</b>	*	€	+	•	1	†	1	-	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4	P	*5		74		ተተቡ		1/2	ተተ	
Traffic Volume (vph)	98	22	220	165	0	105	0	1255	116	92	1365	0
Future Volume (vph)	98	22	220	165	0	105	0	1255	116	92	1365	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	1000	0	150		0	0	The state of the s	0	0		0
Storage Lanes	0		100	2103.3479	TO SHARE	1	0		0	1		0
Taper Length (ft)	25		CONTRACTOR OF THE PARTY OF THE	25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt	1.00	1,00	0.850		1000	0.850		0.987	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 - DA - SOLGE		
Flt Protected		0.961	MANAGED TO	0.950						0.950	1833	TEN IS
Satd. Flow (prot)	0	1790	1583	1770	0	1583	0	5019	0	1770	3539	0
Flt Permitted		0.961	Manual S	0.950						0.950		
Satd. Flow (perm)	0	1790	1583	1770	0	1583	0	5019	0	1770	3539	0
Right Turn on Red	CA SAUSANI		Yes			Yes			Yes		NEW STATES	Yes
Satd. Flow (RTOR)			124	P.S. 111112		147		17			2,000	- Hara
Link Speed (mph)	A ( 8 V ) La ( 9 d	40	p Selense	New Property	25			35		STATES	35	
Link Distance (ft)	100	391	ALC: NO	Oblinion.	302		inhead (min	607	the street	7-5-24	164	And the second
Travel Time (s)	Company of the	6.7		(VE) US-SI	8.2			11.8	RESTAN		3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	107	24	239	179	0.32	114	0.32	1364	126	100	1484	0
Adj. Flow (vph)	107	24	205	113	U	104	U	1304	120	100	1101	
Shared Lane Traffic (%)	0	131	239	179	0	114	0	1490	0	100	1484	0
Lane Group Flow (vph)			The state of the s		U	Prot	U	NA	U	Prot	NA	U
Turn Type	Split	NA 4	Prot 4	Prot 3		3		2	STATE	1	1.2	
Protected Phases	4	4	4	3	NAT HOU	3	POPULIER.		STATISTICAL STATES		12	
Permitted Phases	4	NAME OF TAXABLE	4	3	E STATE	3	14257112500	2		100 A	12	SITEATION
Detector Phase	4	4	4	3		3	NO THE	4	EMESTIC		1.2	SETT ICE
Switch Phase	7.0	7.0	7.0	7.0		7.0		25.0		3.0	ULASTIDE.	18 10 10
Minimum Initial (s)	7.0	7.0	7.0	7.0	SORTHER		EXAMP.	31.0		7.0	(L)(3) 5/3	
Minimum Split (s)	13.5	13.5	13.5	17.0	D/MISSING	17.0	NOTE OF THE	44.0	515 YE 65	12.0		E 28 JV
Total Split (s)	27.0	27.0	27.0	17.0	MANEL CO.	17.0				12.0%		1 316 53
Total Split (%)	27.0%	27.0%	27.0%	17.0%	Company of	17.0%	TOTAL TER	44.0%				
Yellow Time (s)	4.4	4.4	4.4	3.0		3.0		4.4	3 212	3.0	-	
All-Red Time (s)	2.1	2.1	2.1	1.4		1.4	Marine III	1.6	ARVESTS.	1.0		
Lost Time Adjust (s)	Attendance	0.0	0.0	0.0	Master Ca	0.0		0.0		0.0 4.0		100
Total Lost Time (s)		6.5	6.5	4.4	JAN GAST	4.4	STREET, ST.	6.0		111111111111111111111111111111111111111		-
Lead/Lag	Lag	Lag	Lag	Lead		Lead		Lag	E TEVE	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	No.	Yes	0.75000VST	Yes		Yes		MENUE TO
Recall Mode	None	None	None	None	W. W. Hose	None		C-Min		None	00.4	
Act Effct Green (s)		12.9	12.9	12.0	are trumbe	12.0		38.6	- Itezen	15.5	60.1	CHINESE CONTRACTOR
Actuated g/C Ratio		0.13	0.13	0.12		0.12	S2 18 A	0.39	A TOTAL	0.16	0.60	MAN H
v/c Ratio		0.57	0.77	0.84		0.36		0.77	SULES, WEIGHT	0.36	0.70	
Control Delay		49.3	35.6	75.4	100	6.6	10 -0 5	29.8		45.1	17.1	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		49.3	35.6	75.4		6.6	ie cari	29.8	of Senting	45.1	17.1	N. Special
LOS		D	D	E		Α		C		D	В	
Approach Delay	# Tiller	40.5	757	5031 60	48.6			29.8	anni s		18.8	-51
Approach LOS		D	wed in		D	gentales a		С	Onless of the	1100 DE	В	
Stops (vph)		110	105	149		8	WE WILL	1145	TS TAKE	77	921	100
Fuel Used(gal)		3	3	4		0		23		2	13	

Lanes, Volumes, Timings SLR

Synchro 11 Report Page 1

Timing Plan: AM Peak

	1	-	*	•	<b>—</b>	*	1	<b>†</b>	1	1	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
CO Emissions (g/hr)		183	224	247		31		1603		107	929	
NOx Emissions (g/hr)		36	44	48		6		312		21	181	************
VOC Emissions (g/hr)		42	52	57		7		372		25	215	
Dilemma Vehicles (#)		5	0	0		0		68		0	68	
Queue Length 50th (ft)		80	71	113		0		298		57	314	
Queue Length 95th (ft)		129	144	#225		29		356		#141	486	-
Internal Link Dist (ft)		311			222			527	11		84	
Turn Bay Length (ft)				150								
Base Capacity (vph)		366	423	223		327		1947	Dr.	274	2128	
Starvation Cap Reductn		0	0	0		0		0		0	0	
Spillback Cap Reductn	PERM	0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.36	0.57	0.80		0.35	N/Vid	0.77		0.36	0.70	
Intersection Summary										0.46	Walt (	
A SA CONTRACTOR OF THE PARTY OF	Other									4		
Cycle Length: 100					onenierte		DOWNSON TANK	CENTRAL PROPERTY.				HISTORIA I
Actuated Cycle Length: 100			100									
Offset: 0 (0%), Referenced to	o phase 2	NBSB, S	tart of Ye	llow						to the same of the	************	THAT IS SE
Natural Cycle: 70		410						1 100				
Control Type: Actuated-Cool	dinated						(+)			min 1 mm 127 min 7 min		
Maximum v/c Ratio: 0.84				Tree of			10000				- Partition	
Intersection Signal Delay: 27	.7				tersection					-		- CTREAM
Intersection Capacity Utilizat	ion 72.6%			10	U Level	of Service	C				Y SOUTH	
Analysis Period (min) 15						-					De la constanta	
# 95th percentile volume e	xceeds ca	pacity, qu	ieue may	be longe	er.						163 06	
Queue shown is maximul	n after two	cycles.										

₽ø1	<b>↓</b> ↑ Ø2 (R)	<b>≯</b> ø3	\$04
12 s	44 s	17 s	27 s

Intersection		700				
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	7+		X.Y	
Traffic Vol, veh/h	1	224	267	3	2	4
Future Vol, veh/h	1	224	267	3	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length				( <b>*</b>	0	-
Veh in Median Storage	.# -	0	0		0	SAMO.
Grade, %	:=0	0	0		0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	243	290	3	2	4
Major/Minor M	Major1	CO AL	Major2	1	Minor2	
Conflicting Flow All	293	0	1.5	0	537	292
Stage 1		10 73 43	Halo		292	5)
Stage 2		-			245	
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	2.42, comics			3.518	3.318
Pot Cap-1 Maneuver	1269		NA CE		505	747
Stage 1	/	-			758	
Stage 2		SAP SALE	Mary Ja	1000	796	
Platoon blocked, %		-	-		,,,,	
Mov Cap-1 Maneuver	1269	SUCCESSORY	NI STELL		504	747
Mov Cap-2 Maneuver	-	-			504	
Stage 1	122	SEO DI		The said	757	
Stage 2		-			796	
PAGE DESCRIPTION	EN EAR	I LEEU		AST LU		
		PORMETA		CONGRESS OF	0.5	RESIDENCE OF THE PARTY OF THE P
Approach	EB		WB	V-107	SB	S KONTA (I)
HCM Control Delay, s	0	l v	0		10,6	18 R
HCM LOS				MISSES OF THE PERSON NAMED IN	В	UNCLE
	150				119146	
Minor Lane/Major Mvm	it.	EBL	EBT	WBT	WBR	
Capacity (veh/h)		1269				644
HCM Lane V/C Ratio		0.001	-		-	0.01
HCM Control Delay (s)		7.8	0			10.6
HCM Lane LOS		Α	Α	•	3	В
HCM 95th %tile Q(veh	)	0	U. P.			0

Intersection	ing 2			SHOW.	West.	BAT HIS	
Int Delay, s/veh	0.3						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		4	3+		***		
Traffic Vol., veh/h	7	224	267	4	2	7	
Future Vol, veh/h	7	224	267	4	2	7	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized		None		A PROPERTY OF THE PARTY OF THE		THE PARTY OF THE P	
Storage Length		-			0	-	
Veh in Median Storage	.# -	0	0		0		
Grade, %		0	0		0		
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	8	243	290	4	2	8	
Major/Minor I	Vajor1	Lastrate I	Major2	10 7 7 20	Minor2		
Conflicting Flow All	294	0	najorz	0	551	292	
Stage 1	234	Number 1			292	LUZ	
Stage 2		-	-		259		NEW TOTAL PROPERTY AND FOREST PROPERTY.
Critical Hdwy	4.12	O FOULE		AND N	6.42	6.22	· 多国际的 · 医· 图 医克里特别斯特氏 自己的 · 图 · 图 · 图 · 图 · 图 · 图 · 图 · 图 · 图 ·
Critical Hdwy Stg 1	7.12		-		5.42	-	
Critical Hdwy Stg 2		Sept.			5.42		
Follow-up Hdwy	2.218				3.518		
Pot Cap-1 Maneuver	1268	89 July		THE P	495	747	
Stage 1			-		758		
Stage 2			STANKS.		784		
Platoon blocked, %		-	-	) <del>*</del>			
Mov Cap-1 Maneuver	1268	MARKET.	1500	SW.	492	747	
Mov Cap-2 Maneuver			±3000000000		492		
Stage 1		-			753		
Stage 2		-	-		784		
	III.				1500		
Assessment	ED		WB		SB		
Approach	EB	6	0 WB		10.5		
HCM Control Delay, s	0.2		0	25010			
HCM LOS	SE T	1000	Resilient	500100	В	D/10/15/2	
	N A U	- CU 14	S Lat			Elms/6	
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	10.50	SBLn1	
Capacity (veh/h)		1268				670	
HCM Lane V/C Ratio		0.006				0.015	V
HCM Control Delay (s)		7.9	0	Toronto.		10.5	
HCM Lane LOS		Α	Α	-			THE RESERVE TO SERVE THE PROPERTY OF THE PARTY OF THE PAR
HCM 95th %tile Q(veh	)	0				0	

Intersection	WS E	6 A 86	A ST	學		
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
	VVDL		种和	NOIN	ODL	十十十
Lane Configurations Traffic Vol, veh/h	0	4	1453	3	0	0
	0	4	1453	3	0	0
Future Vol, veh/h	0	0	1455	0	0	0
Conflicting Peds, #/hr		The second second	-	10-1	Free	Free
Sign Control	Stop	Stop	Free	Free	Free -	Section 1995
RT Channelized		-		244		None
Storage Length	4 A	0	- 0	mulad		
Veh in Median Storage		7/411-			製以り	0
Grade, %	0	-	0	- 00	- 00	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	1579	3	0	0
Major/Minor N	Minor1		Major1	٨	Major2	NATURE OF THE PARTY OF THE PART
Conflicting Flow All	minor i	791	0	0	nojoi E	
	2001	191		125 3 2010		
Stage 1		ALC: N	HOURS.		CONTRACT.	1000000
Stage 2		7.44	-	VIEW .	9.65amil	ACTUAL D
Critical Hdwy	DVA SA	7.14			MESIS	
Critical Hdwy Stg 1		-	-			
Critical Hdwy Stg 2					Micale .	
Follow-up Hdwy		3.92	-		-	-
Pot Cap-1 Maneuver	0	285			0	
Stage 1	0				0	-
Stage 2	0		0		0	
Platoon blocked, %						
Mov Cap-1 Maneuver	/Milos	285				College.
Mov Cap-2 Maneuver			-	-		
Stage 1		TO BE		5,510	150	10 march 10
Stage 2					di-July	T. III. CF
Staye 2		100330		5.050	0 8 2 1	10 25 19
	165	041 SZL 4	AFIL S	Marine C		
Approach	WB	STATE OF THE PARTY	NB	1600	SB	APPENDED.
HCM Control Delay, s	17.8		0		0	
HCM LOS	С					
				CAU, SE		
	7/800 11/G	NOT	Almer	MDI 3	ODT	NE CONTRACTOR DE
Minor Lane/Major Mvm	t Alexander	NBT		WBLn1	SBT	SUD ESTA
Capacity (veh/h)	1			Land of the land	AL S	
HCM Lane V/C Ratio		•		0.015	wordstate the	
HCM Control Delay (s)		1		17.8		
HCM Lane LOS		•	2		-	1
HCM 95th %tile Q(veh)				0		
, ne . v v v v v v v						

3. Long Ridge Rd/	٠	<b>→</b>	7	1	+	1	1	†	-	1	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		र्नी	54	*		74		ተቀሱ		M.	44	
Traffic Volume (vph)	150	145	262	128	0	99	0	1609	121	120	826	0
Future Volume (vph)	150	145	262	128	0	99	0	1609	121	120	826	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	1000	0	150		0	0	Carl Colle	0	0		0
Storage Lanes	0		1	1	STALLS.	1	0	A 1995	0	1	E8 5	0
Taper Length (ft)	25			25	A		25	The House of		25		and the same
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt	1,00	1.00	0.850	1.00	1,00	0.850	1,00	0.989				The Carles would
Fit Protected		0.975	0.000	0.950	1516916	0.000	107	(2000)		0.950		Carling .
The party of the p	0	1816	1583	1770	0	1583	0	5029	0	1770	3539	0
Satd. Flow (prot)		0.975	1000	0.950		1000	SENJAL SA	0020		0.950	TENER	
Fit Permitted	0	1816	1583	1770	0	1583	0	5029	0	1770	3539	0
Satd. Flow (perm)		1010	Yes	1770		Yes	ate to the second	3023	Yes			Yes
Right Turn on Red	200000		158		Via Control	147	Terroge 2	14	103		1000000	The state of the s
Satd. Flow (RTOR)		40	100	#5#7/35WH	25		USANCE	35		Tutte Street	35	
Link Speed (mph)		40				115	2 - 10	586	(A) 8 ( )	SONTERS	164	Stranger
Link Distance (ft)	onenatesa:	391	9111051018	AVE NO.	302	IBM CO	telloolly.	11.4	Wildelphi	-11577666	3.2	HE STE
Travel Time (s)		6.7	2.00	2.00	8.2	0.00	0.00		0.02	0.92	0.92	0.92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	Company of the late of	898	0.52
Adj. Flow (vph)	163	158	285	139	0	108	0	1749	132	130	090	U
Shared Lane Traffic (%)			F0000	and a fundamental participation	12.1	To go	TO LANGUE			100	200	Ô
Lane Group Flow (vph)	0	321	285	139	0	108	0	1881	0	130	898	0
Turn Type	Split	NA	Prot	Prot		Prot		NA	and the same	Prot	NA	coordinate
Protected Phases	4	4	4	3		3		2		1	12	15.3
Permitted Phases									- vature of			VINCESCO.
Detector Phase	4	4	4	3		3		2		1	12	
Switch Phase												nero i Chini (ini
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	13.5	13.5	13.5	17.0		17.0		31.0		7.0		***************************************
Total Split (s)	24.0	24.0	24.0	18.0		18.0		46.0	State of	12.0		15.5.11
Total Split (%)	24.0%	24.0%	24.0%	18.0%		18.0%		46.0%		12.0%		non-incept
Yellow Time (s)	4.4	4.4	4.4	3.0		3.0		4.4	Kengli.	3.0		
All-Red Time (s)	2.1	2.1	2.1	1.4		1.4		1.6		1.0		
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0		
Total Lost Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Lead/Lag	Lag	Lag	Lag	Lead		Lead	MOTO AND	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		Yes		Yes		
Recall Mode	None	None	None	None		None		C-Min	SED BY	None		01217
Act Effct Green (s)		19.5	19.5	11.3		11.3		40.0		8.3	54.3	
Actuated g/C Ratio		0.20	0.20	0.11		0.11		0.40	en selvey	0.08	0.54	
v/c Ratio		0.91	0.65	0.69		0.35		0.93		0.89	0.47	
Control Delay	PHONE WELL	70.8	24.8	60.6		6.0		38.3	HOLA G	98.0	15.1	THE ACT OF
Queue Delay		0.0	0.0	0.0		0.0	Lancia Comment	0.0		0.0	0.0	
	3 7 18 6 7 6	70.8	24.8	60.6	SUS	6.0	BALL	38.3	PRINCE	98.0	15.1	
Total Delay			24.0 C	E	The state of the s	A		D	110	F	В	
LOS	Seven Service	49.2			36.8	U.S. U.S. U.S.	THE REAL PROPERTY.	38.3	SISTER		25.6	
Approach Delay		49.2 D	(HOLISH		30.0 D			D		1 1	С	
Approach LOS		and the second second	113	122		6	HILL PARTS	1535	MIRE TO A	100	483	用河南
Stops (vph)		243				0	A CONTRACTOR	32	- OUT LIA	3	7	-
Fuel Used(gal)		7	3	2		U		JZ				

	۶	<b>→</b>	*	•	•	*	4	<b>†</b>	1	-	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
CO Emissions (g/hr)		519	219	166		28		2262		230	500	
NOx Emissions (g/hr)		101	43	32		5		440		45	97	
VOC Emissions (g/hr)		120	51	39		6	80	524		53	116	
Dilemma Vehicles (#)		12	0	0		0		85		0	41	
Queue Length 50th (ft)	BASE RE	203	73	86		0		409		84	176	
Queue Length 95th (ft)		#386	169	148		25		#520		#198	225	
Internal Link Dist (ft)	04 15 194	311			222			506			84	
Turn Bay Length (ft)				150								
Base Capacity (vph)	a Edg	354	436	240		342		2020		146	1920	
Starvation Cap Reductn		0	0	0		0		0		0	0	
Spillback Cap Reductn	a Visiting	0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.91	0.65	0.58		0.32		0.93		0.89	0.47	
Intersection Summary				W 1994		4255						<b>LUMB</b>
Area Type: C	)ther											
Cycle Length: 100												
Actuated Cycle Length: 100					An in S							
Offset: 0 (0%), Referenced to	phase 2	:NBSB, S	tart of Ye	llow								
Natural Cycle: 90												
Control Type: Actuated-Coor	dinated											
Maximum v/c Ratio: 0.93		433011				and ve En						
Intersection Signal Delay: 36	.5			In	tersection	LOS: D						
Intersection Capacity Utilizat	ion 80.5%			IC	U Level	of Service	D					
Analysis Period (min) 15												
# 95th percentile volume e	xceeds ca	apacity, qu	ieue may	be longe	r.						W1100	
Queue shown is maximur	n after tw	o cycles.										
		•										
Splits and Phases: 3: Long	g Ridge R	d/Rt 104	& Rt 15 N	B off-ran	np/Wire N	Mill Rd						

₩ Ø2 (R)

 $\blacktriangleright_{\varnothing 1}$ 

	٠	<b>→</b>	*	1	+-	1	1	<b>†</b>	-	-	<b>↓</b>	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		Ą.	7	45		14		种科		AC	ተተ	
Traffic Volume (vph)	151	146	262	132	0	99	0	1611	122	122	826	0
Future Volume (vph)	151	146	262	132	0	99	0	1611	122	122	826	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	0		0	0		0
Storage Lanes	0			man 11	DOM SAN	1	0	SERVICE VA	0	1		0
Taper Length (ft)	25			25			25			25		-
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt	The state of the s	COLUMN TO SERVICE OF THE SERVICE OF	0.850	0.000		0.850		0.989				
FIt Protected		0.975	MARIE .	0.950						0.950		
Satd. Flow (prot)	0	1816	1583	1770	0	1583	0	5029	0	1770	3539	0
FIt Permitted		0.975		0.950						0.950		
Satd. Flow (perm)	0	1816	1583	1770	0	1583	0	5029	0	1770	3539	0
Right Turn on Red	Election 1		Yes		to all a	Yes		1000	Yes	of the last		Yes
Satd. Flow (RTOR)			156			147		14				
Link Speed (mph)		40			25			35			35	
Link Distance (ft)		391			302			607			164	
Travel Time (s)	Salasana	6.7		THE STATE OF	8.2			11.8			3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	164	159	285	143	0	108	0	1751	133	133	898	0
Shared Lane Traffic (%)	1900										and a transfer from the con-	
Lane Group Flow (vph)	0	323	285	143	0	108	. 0	1884	0	133	898	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		Prot	NA	
Protected Phases	4	4	4	3		3		2		1	12	
Permitted Phases			-									
Detector Phase	4	4	4	3		3		2		1	12	1372
Switch Phase		hite	2000									
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0	A STATE	3.0		
Minimum Split (s)	. 13.5	13.5	13.5	17.0		17.0		31.0		7.0		
Total Split (s)	24.0	24.0	24.0	18.0		18.0		46.0		12.0		
Total Split (%)	24.0%	24.0%	24.0%	18.0%		18.0%		46.0%		12.0%		
Yellow Time (s)	4.4	4.4	4.4	3.0		3.0		4.4		3.0	1890	
All-Red Time (s)	2.1	2.1	2.1	1.4		1.4		1.6		1.0		
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0		
Total Lost Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Lead/Lag	Lag	Lag	Lag	Lead	11/12	Lead		Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		Yes		Yes		
Recall Mode	None	None	None	None		None		C-Min		None		
Act Effct Green (s)	- Carlonnia	19.6	19.6	11.4		11.4		40.0		8.1	54.1	
Actuated g/C Ratio		0.20	0.20	0.11		0.11		0.40		0.08	0.54	
v/c Ratio		0.91	0.66	0.71		0.35		0.93		0.93	0.47	
Control Delay	RALL ST	71.5	25.2	61.3		6.0		38.4		106.7	15.2	
Queue Delay		0.0	0.0	0.0		0.0	8	0.0		0.0	0.0	
Total Delay		71.5	25.2	61.3		6.0		38.4	111	106.7	15.2	and the
LOS		E	С	Е		Α		D		F	В	
Approach Delay	13 (7G)	49.8			<b>37</b> .5		The last	38.4		U SVI	27.0	
Approach LOS		D			D			D			С	
Stops (vph)		245	116	124		6		1537		101	484	
Fuel Used(gal)		8	3	2		0		33		4	7	

Lanes, Volumes, Timings SLR

Synchro 11 Report Page 1

	*	-	~	1	•	1	4	<b>†</b>	1	-	Į.	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
CO Emissions (g/hr)		525	222	172		28	THE COL	2287		248	501	
NOx Emissions (g/hr)		102	43	34		5		445		48	97	
VOC Emissions (g/hr)	DE NAMES DE	122	51	40		6		530		58	116	
Dilemma Vehicles (#)		13	0	0		0		85		0	41	
Queue Length 50th (ft)		205	74	88		0		410		86	176	8.64
Queue Length 95th (ft)		#388	#172	151		25		#521		#202	225	
Internal Link Dist (ft)		311		a figure	222			527		iz es	84	
Tum Bay Length (ft)	NAME OF TAXABLE PARTY.	- Column		150	The section of the se							
Base Capacity (vph)		355	434	240		342		2020		143	1914	
Starvation Cap Reductn		0	0	0		0		0		0	0	
Spillback Cap Reductn		0	0	0		0	331 7	0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.91	0.66	0.60		0.32		0.93		0.93	0.47	158,500
Intersection Summary			MAK		DA SER		用的原					
Area Type:	Other										STATE SALE	
Cycle Length: 100											-	CHORSON II
Actuated Cycle Length: 10	0								57.60 51			75
Offset: 0 (0%), Referenced	to phase 2	:NBSB, S	Start of Ye	llow								
Natural Cycle: 90		SECTION .										
Control Type: Actuated-Co	ordinated									S ADDRESS OF THE	and this war	
Maximum v/c Ratio: 0.93			ii da							STEELS ST		

Intersection Signal Delay: 37.1

Intersection Capacity Utilization 81.0%

Intersection LOS: D

ICU Level of Service D

Analysis Period (min) 15

Queue shown is maximum after two cycles.

k	IA .		3	<b>A</b>
<b>▼</b> Ø1	▼ Ø2 (R)	₩	<b>♥</b> Ø3	*F04
98	46.5	作 医氯酚 医胆管 医皮肤 医皮肤	18 s	24 s

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

Intersection				77%		
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	T.		**	
Traffic Vol., veh/h	1	386	227	0	0	1
Future Vol, veh/h	1	386	227	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	•	-	-	-	0	-
Veh in Median Storage	,# -	0	0		0	
Grade, %	-	0	0		0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	420	247	0	0	1
Major/Minor N	Major1	٨	//ajor2		Minor2	No.
Conflicting Flow All	247	0	-	0	669	247
Stage 1					247	
Stage 2		-	=	-	422	700
Critical Hdwy	4.12			4	6.42	6.22
Critical Hdwy Stg 1	-	12/	2	24	5.42	
Critical Hdwy Stg 2					5.42	
	2.218	27	2	_	3.518	3.318
Pot Cap-1 Maneuver	1319				423	792
Stage 1		-	-	520	794	-
Stage 2					662	\\\
Platoon blocked, %			-	848		
Mov Cap-1 Maneuver	1319				423	792
Mov Cap-2 Maneuver	-	-	-	-	423	
Stage 1					793	
Stage 2		•		12	662	
			ne de			
Approach	EB		WB	1205.50	SB	630 No. 11
HCM Control Delay, s	0		0	THE DES	9.6	EVID A
HCM LOS	U		Ü	ENT B	Α.	
TIGINI EGG		SALVAGO.		NEW ST	SHE	
	2000	TO CO		WOT	WDD	CDI nd
Minor Lane/Major Mvm	T. The state of	EBL	EBT	WBT		SBLn1
Capacity (veh/h)		1319	-			THE RESERVE AND ADDRESS OF THE PARTY OF THE
HCM Lane V/C Ratio		0.001	-		-	0.001
	The second second	7.7	0		•	0.0
HCM Control Delay (s)		Λ	A			
HCM Control Delay (s) HCM Lane LOS HCM 95th %tile Q(veh		A 0	A	- 10 To 100		A 0

ntersection nt Delay, s/veh		150				
Int Delay, s/veh						BULLINGER
	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		Ą	7+		A.A.	
Traffic Vol, veh/h	4	386	227	1	SER1	5
Future Vol, veh/h	4	386	227	1	1	5
Conflicting Peds, #/hr		0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	1100	None	1100	None		None
Storage Length	-	-		-	0	
Veh in Median Storag	e# -	0	0	are du	0	untire)
Grade, %	J. 11	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	4	420	247	2	1	5
MAINTENA	4	420	241			
	Major1	6 25 A	Najor2		Minor2	
Conflicting Flow All	248	0		0	676	248
Stage 1	HI TIE		- Vale	a bita	248	
Stage 2					428	
Critical Hdwy	4.12		16 (4)	1	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	1318				419	791
Stage 1	-	-			793	
Stage 2					657	HIME
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1318	US 81516			417	791
Mov Cap-2 Maneuver		-			417	
Stage 1	DEG SWA	Maria.		NA COL	790	17-50-0
Stage 2	-			-	657	-
Stage 2	W. 48.07	5	Section 2	18/20	NAME OF THE PARTY	PAR ARE
					and the same of	Description of the last of the
Approach	EB	148	WB	1	SB	To the
HCM Control Delay, s	0.1	Well by	0	The Park	10.3	
HCM LOS					В	-
		SHEAR		1/10/2		
Minor Lane/Major Mvr	nt	EBL	EBT	WBT	WBR	SBI n1
Capacity (veh/h)		1318	-			10000000
HCM Lane V/C Ratio		0.003				0.009
HCM Control Delay (s	A Section	7.7	0			PROPERTY AND ADDRESS.
	)	A	A			
HCM Lang LOS				-		
HCM Lane LOS HCM 95th %tile Q(vel	1	0		17016		0

HCM 6th TWSC Synchro 11 Report Page 4

	REVIOL				
0.1					
WBL	WBR	NBT	NBR	SBL	
		中华孙			十十十
0	7	1859	2	0	0
0	7				0
	CONTRACTOR COLLEGE	the same of the same of	42-60		_ 0
MESTRO HER HAS		CONTRACTOR OF STREET			Free
	A STATE OF THE PARTY OF THE PAR				
μ o	U			DA HEST	0
	172		SOME SERVICE		0
					92
				STATE OF THE PARTY OF	2
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V					
Ainor1		Major1	no Est	Azior2	
				-	
15/35	1012	The second second			ije nastij
-	-				-
VISIN	7.14	3450	HOPE		
	-	-	•	-	
				TAL S	
-	3.92				- 15
0	204				
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	204				CI UZE
	-	ineration.	-	-	
			19 1151	1.5	V 5 . *
	esto se	91511-1	ALC: UNK		DOMIN
Nego					
WB		NB		SB	
23.3		NB 0		SB 0	
			City		
23.3					
23.3	NBT	0	VBLn1		
23.3 C	NBT	0 NBRV	204	0	
23.3 C	NBT	0 NBRV	204 0.037	0 SBT	
23.3 C	NBT.	0 NBRV	204 0.037 23.3	0 SBT	
23.3 C	NBT -	NBRV	204 0.037	SBT	
	# 0 0 92 2 0 0 Minor1 0 0 0 0	WBL WBR  0 7 0 7 0 0 Stop Stop - None - 0 ,# 0 - 92 92 2 2 2 0 8  Minor1 - 1012 7.14 3.92 0 204 0 - 0 - 204	WBL WBR NBT    F   F  F    0   7   1859   0   7   1859   0   0   0     Stop   Stop   Free   None   -     # 0   -   0     92   92   92   2   2   2   2   0   8   2021    Minor1   Major1     -   1012   0     -   -   -     -   7.14   -     -   -   -     -   3.92   -     0   0   -     0   -   -     0   -   -     -   204   -	WBL         WBR         NBT         NBR           0         7         1859         2           0         7         1859         2           0         0         0         0           Stop         Stop         Free         Free           - None         - None         - None           - 0             0         - 0            92         92         92         92           2         2         2         2           2         2         2         2           2         2         2         2           2         2         2         2           2         2         2         2           2         2         2         2           3         2021         2     **The company of the company	WBL         WBR         NBT         NBR         SBL           IF         IF <t< td=""></t<>

	•	<b>→</b>	•	1	<b>—</b>	4	4	1	1	<b>&gt;</b>	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4-0000000000000000000000000000000000000	ৰ	7	*		Sar		ተቀቡ		析	44	
Traffic Volume (vph)	150	145	262	128	0	99	0	1609	121	120	826	0
Future Volume (vph)	150	145	262	128	0	99	0	1609	121	120	826	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	0		0	0	N. P. Carlotte, S.	0
Storage Lanes	0	BALLY S	1	(E) (E) (E)	AS DAVE	1	0		0	1	C C C C C	0
Taper Length (ft)	25			25	and the same	and the second	25	and where carry just		25		CHICK THE
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt		No. of Control of Cont	0.850	The State of the S		0.850	7.5	0.989	3,000			and the second
Fit Protected		0.975		0.950	NEW T		STATISTICS.		OUT TO LEG	0.950		CEAN
Satd. Flow (prot)	0	1816	1583	1770	0	1583	0	5029	0	1770	3539	0
Flt Permitted		0.975		0.950	HISTORY.	A BEAS Y	1012 St. 1775	HEREIT		0.950	NS. IS	
Satd. Flow (perm)	0	1816	1583	1770	0	1583	0	5029	0	1770	3539	0
Right Turn on Red	SECTION SE		Yes			Yes		HEMSASII	Yes		HUMBER	Yes
Satd. Flow (RTOR)			158			147		14	1,00			100
Link Speed (mph)		40	THE SER	STATE OF	25	NE PRINT		35	OU. STATE		35	
Link Distance (ft)		391	mathemati		302			586			164	
Travel Time (s)	3/4/3/16/	6.7	4.58	Su 123	8.2	PA SES		11.4	9.83	122	3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	158	285	139	0.52	108	0.02	1749	132	130	898	0.52
Shared Lane Traffic (%)	100	100	200	100		100		1,129	102	100	000	0
Lane Group Flow (vph)	0	321	285	139	0	108	0	1881	0	130	898	0
Turn Type	Split	NA	Prot	Prot	-	Prot	ALTO ALTO AND	NA	U	Prot	NA	9
Protected Phases	4	4	4	3	OKS WEST	3	HUSTON.	2	AN ESTAN	1 100	12	See 1
Permitted Phases					111111111111111111111111111111111111111	NYSHE & LIG		4		a de la		
Detector Phase	4	4	4	3	ELEVISION .	3	WEDE	2	0.950 11.5	1	12	Caxenal
Switch Phase								STATE OF THE			1 - 100	
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0	PO SOT DOTA	3.0		AVO. SE
Minimum Split (s)	13.5	13.5	13.5	17.0		17.0		31.0		7.0		1000
Total Split (s)	24.0	24.0	24.0	18.0		18.0	312.71.42	44.0	FEE A.	14.0		III WAR
Total Split (%)	24.0%	24.0%	24.0%	18.0%		18.0%		44.0%	A 1000	14.0%		
Yellow Time (s)	4.4	4.4	4.4	3.0	81.55 EV	3.0	\$10 E Y S	4.4	SAME OF	3.0		E338151
All-Red Time (s)	2.1	2.1	2.1	1.4		1.4		1.6		1.0		
Lost Time Adjust (s)	AND MINE	0.0	0.0	0.0	TOTAL TOTAL	0.0	sterie Ovil	0.0		0.0		a Haras
Total Lost Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Lead/Lag	Lag	Lag	Lag	Lead		Lead	SW Facility	Lag		Lead	TEAST 1/A	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	450000-260	Yes		Yes		Yes	SHIDSERSE	100
Recall Mode	None	None	None	None		None		C-Min		None		
Act Effct Green (s)		19.5	19.5	11.3	WALL STREET	11.3		38.0	unicolit.	10.3	54.3	
Actuated g/C Ratio		0.20	0.20	0.11	SYSTY	0.11	STATE OF THE STATE	0.38		0.10	0.54	AL SE
v/c Ratio		0.91	0.65	0.69	The second	0.35		0.98	**	0.71	0.47	
Control Delay	400000000000000000000000000000000000000	70.8	24.8	60.6		6.0		47.4	Wishwi	66.4	15.1	My Was
Queue Delay		0.0	0.0	0.0		0.0		0.0	E 0 0 0 0	0.0	0.0	
Total Delay	STEEL STORY	70.8	24.8	60.6	USE ANTONIO	6.0		47.4		66.4	15.1	
LOS	THE NAME OF STREET	E	C	E		A	IN SELECT	D	EINE.	E	В	
Approach Delay		49.2		Was a	36.8	HE LEGICAL SAL	To 18 100	47.4	SEATON IS	UNITED S	21.6	NAME OF TAXABLE PARTY.
Approach LOS		D			D D			D	ACTUAL OF		C	
Stops (vph)		243	113	122		6		1535	24	106	483	
Fuel Used(gal)		7	3	2		0		36		3	7	ACCHIES
		,				v		00		9		

	<i>•</i>	-	•	1	<b>—</b>	*	1	<b>†</b>	1	1	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
CO Emissions (g/hr)		519	219	166		28		2487		1/9	500	
NOx Emissions (g/hr)		101	43	32		5		484		35	97	
VOC Emissions (g/hr)		120	51	39	ENO DE	6		576		41	116	
Dilemma Vehicles (#)		12	0	0		0		83		0	41	
Queue Length 50th (ft)		203	73	86		0	0	424		82	176	
Queue Length 95th (ft)	100000000000000000000000000000000000000	#386	169	148		25		#545		#174	225	
Internal Link Dist (ft)	CURIAN IN	311		U.W. Tall	222			506			84	
Turn Bay Length (ft)				150							-11.70	
Base Capacity (vph)		354	436	240		342		1919		182	1920	
Starvation Cap Reductn		0	0	0		0		0		0	0	
Spillback Cap Reductn		0	0	0		0		0		0	0	(A) L
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.91	0.65	0.58		0.32		0.98		0.71	0.47	

Intersection Summary

Area Type:

Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 39.9

Intersection Capacity Utilization 80.5%

Intersection LOS: D
ICU Level of Service D

Analysis Period (min) 15

Queue shown is maximum after two cycles.

<b>№</b> Ø1	1 02 (0)	u	<b>≯</b> ø3	\$ 204
14 s	44 s		18 s	24 s

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.

er of a

3: Long Ridge Rd/Rt 104 & Rt 15 NB off-ramp/Wire Mill Rd

o. Long radge ran	J	-	•	•	<b>—</b>	•	4	†	/	-	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ৰী	7	4		795		ተተጉ		45	44	
Traffic Volume (vph)	151	146	262	132	0	99	0	1611	122	122	826	0
Future Volume (vph)	151	146	262	132	0	99	0	1611	122	122	826	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	1000	0	150	OH MANAGE	0	0	Sign there	0	0		0
Storage Lanes	0		(E. D. 1	100		1	0	STATE OF	0	1000	3 49 5	0
Taper Length (ft)	25	N/A/EDIE		25			25		110	25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt	1.00	1.00	0.850	1.00	1.00	0.850	1,00	0.989	0.0			
Fit Protected		0.975	0.000	0.950		0.000	ETHION S		W. Donald	0.950		10 N
	0	1816	1583	1770	0	1583	0	5029	0	1770	3539	0
Satd. Flow (prot)		0.975	1303	0.950	NUEZ DE	1303		0020	NAME OF TAXABLE PARTY.	0.950	00000	HALES.
Fit Permitted	0	1816	1583	1770	0	1583	0	5029	0	1770	3539	0
Satd. Flow (perm)		1010	Yes	1770	U U	Yes		0023	Yes		COURSE OF THE PERSON NAMED IN	Yes
Right Turn on Red				1 1 1 1 1 2		147		14	163	Tree and		100
Satd. Flow (RTOR)		10	156	SHOWN THE	OF.	147	nation etc.	35	SHEDOWIN.		35	ASVEY 5
Link Speed (mph)	New York	40		A comment	25			607		St. Day Chilly	164	
Link Distance (ft)		391			302	mit-messari	ASSESSED FOR		L-IV/OS	10000	3.2	in site
Travel Time (s)		6.7			8.2	0.00	0.00	11.8	0.00	0.00	0.92	0.92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		and the second second
Adj. Flow (vph)	164	159	285	143	0	108	0	1751	133	133	898	0
Shared Lane Traffic (%)		int has long-rooms	V FRANKSOFFE		70.7	vreker	True 1211			ion	000	0
Lane Group Flow (vph)	0	323	285	143	0	108	0	1884	0	133	898	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		Prot	NA	revestation
Protected Phases	4	4	4	3		3		2		1	12	
Permitted Phases												-
Detector Phase	4	4	4	3	1, 14,45	3		2		1	12	
Switch Phase										The language of	To the same	
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	13.5	13.5	13.5	17.0		17.0		31.0		7.0		
Total Split (s)	24.0	24.0	24.0	18.0		18.0		44.0		14.0		de zel
Total Split (%)	24.0%	24.0%	24.0%	18.0%		18.0%		44.0%		14.0%		
Yellow Time (s)	4.4	4.4	4.4	3.0		3.0		4.4		3.0		
All-Red Time (s)	2.1	2.1	2.1	1.4		1.4		1.6		1.0		
Lost Time Adjust (s)	10 STOLEN	0.0	0.0	0.0		0.0		0.0		0.0		
Total Lost Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Lead/Lag	Lag	Lag	Lag	Lead		Lead		Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		Yes		Yes		
Recall Mode	None	None	None	None		None	visuns S	C-Min		None	167 E NE	
Act Effct Green (s)	- Division R	19.6	19.6	11.4		11.4	34	38.0		10.1	54.1	
Actuated g/C Ratio		0.20	0.20	0.11		0.11		0.38	e dia	0.10	0.54	
v/c Ratio	OHITHERA DIE	0.91	0.66	0.71		0.35		0.98		0.74	0.47	
Control Delay		71.5	25.2	61.3		6.0		47.7		69.4	15.2	88.99E
Queue Delay		0.0	0.0	0.0		0.0	of the last of the	0.0	700	0.0	0.0	
Total Delay	Constanting the	71.5	25.2	61.3		6.0	F - F - L	47.7	Valid P	69.4	15.2	DUE SA
LOS		(1.3 E	23.2 C	01.3 E		A		D		E	В	-
	CONTRACTOR	49.8	Constant in		37.5		STANIS OF	47.7			22.2	ROGA
Approach Delay	1511=1415-14		VALUE OF	NAME OF TAXABLE	37.3 D	SE SERE	-5_/0=	D	95-11		C	
Approach LOS	(II) = 100000	D 245	116	124		6	No.	1537	THE STATE OF	109	484	85000
Stops (vph)		245	A STATE OF THE PARTY OF THE PAR		Stall J. E.			36		3	7	
Fuel Used(gal)		8	3	2		0		30		J		

Lanes, Volumes, Timings SLR

	<b>*</b>	-	*	<b>*</b>	<b>—</b>	*	1	1		-	+	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
CO Emissions (g/hr)		525	222	172		28		2516	raita	188	501	U=(0.141
NOx Emissions (g/hr)		102	43	34		5		490		37	97	
VOC Emissions (g/hr)		122	51	40		6		583		44	116	Set I
Dilemma Vehicles (#)		13	0	0		0		83		0	41	
Queue Length 50th (ft)		205	74	88		0		426		84	176	
Queue Length 95th (ft)		#388	#172	151		25		#547		#178	225	
Internal Link Dist (ft)		311			222			527			84	
Turn Bay Length (ft)				150								
Base Capacity (vph)		355	434	240		342		1919	CS CY	179	1914	2010/12/201
Starvation Cap Reductn		0	0	0		0		0		0	0	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.91	0.66	0.60		0.32		0.98	Very serior	0.74	0.47	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 40.4

Intersection Capacity Utilization 81.0%

Intersection LOS: D

ICU Level of Service D

Analysis Period (min) 15

Queue shown is maximum after two cycles.

<b>№</b> @1	<b>↓</b> ↑ Ø2 (R)	. 2	Ø3	<b>♣</b> Ø4
14s	44.s	18 s		24 s

<sup># 95</sup>th percentile volume exceeds capacity, queue may be longer.