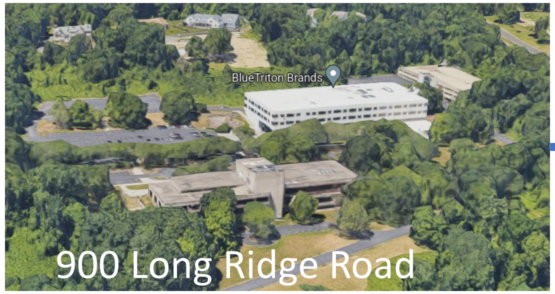
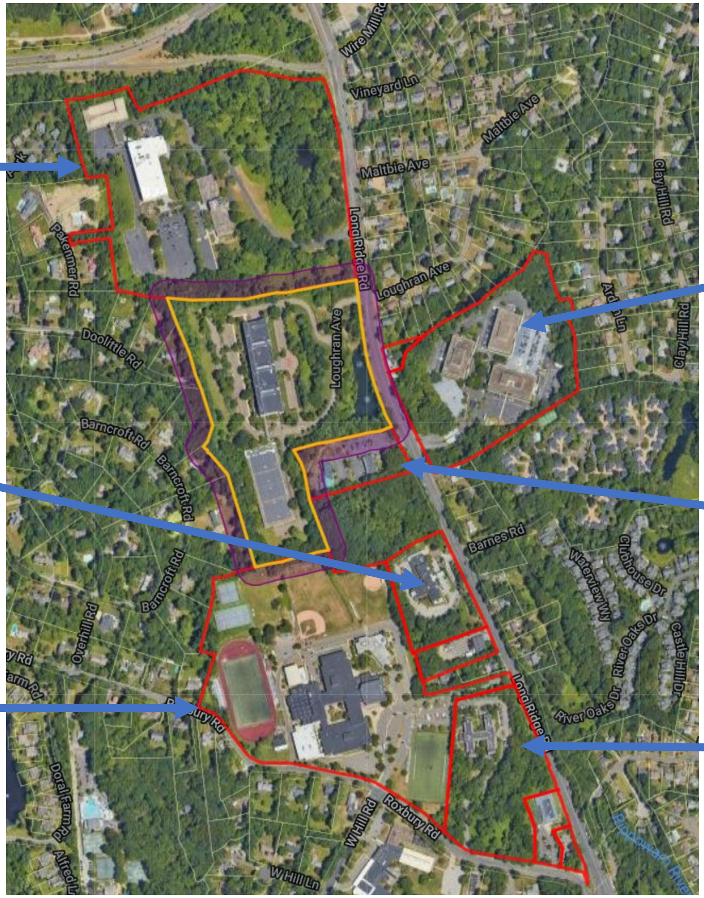
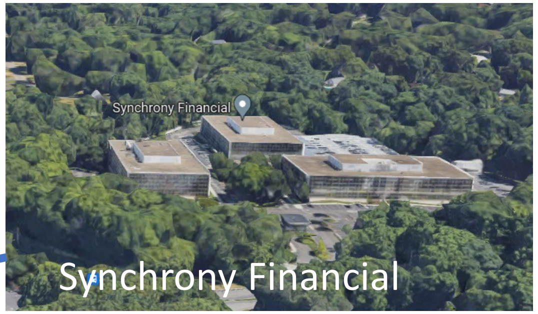
EXHIBIT A

Long Ridge Road – Commercial Corridor







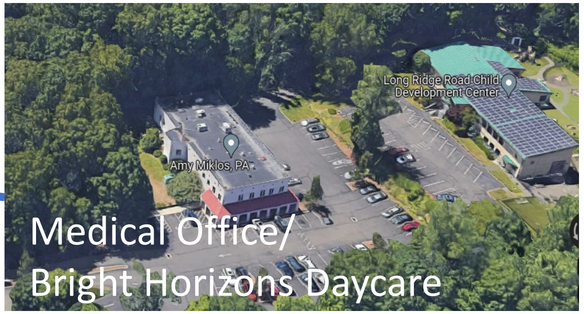
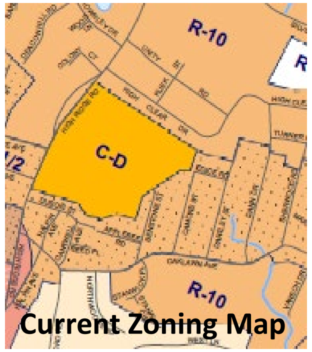
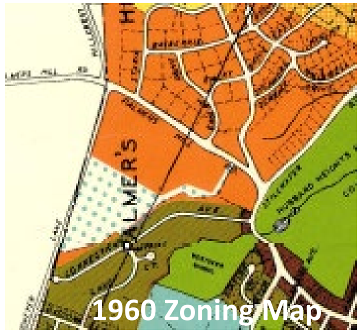


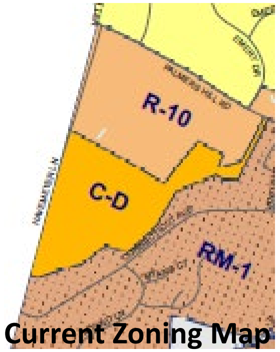
EXHIBIT B

C-D Zones

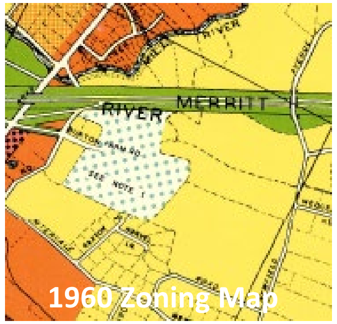


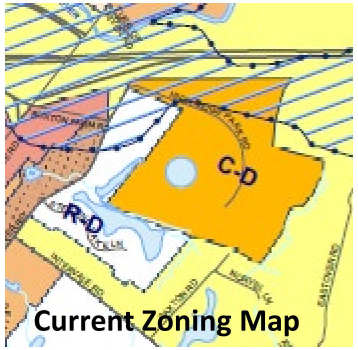
201-225
High Ridge Road
CBS Labs



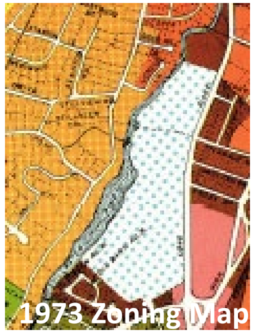


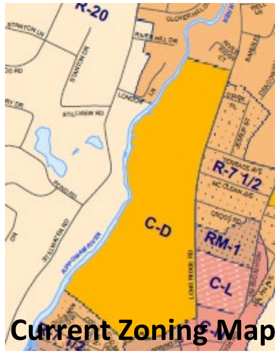
77 Havemeyer
Dorr-Oliver



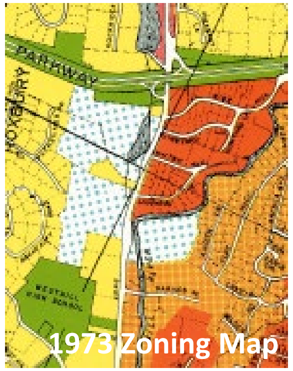


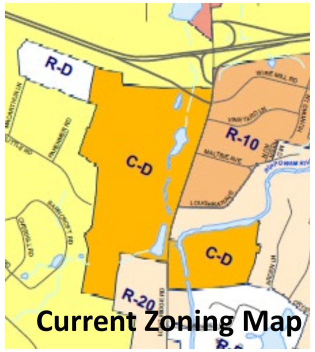
High Ridge
Office Park



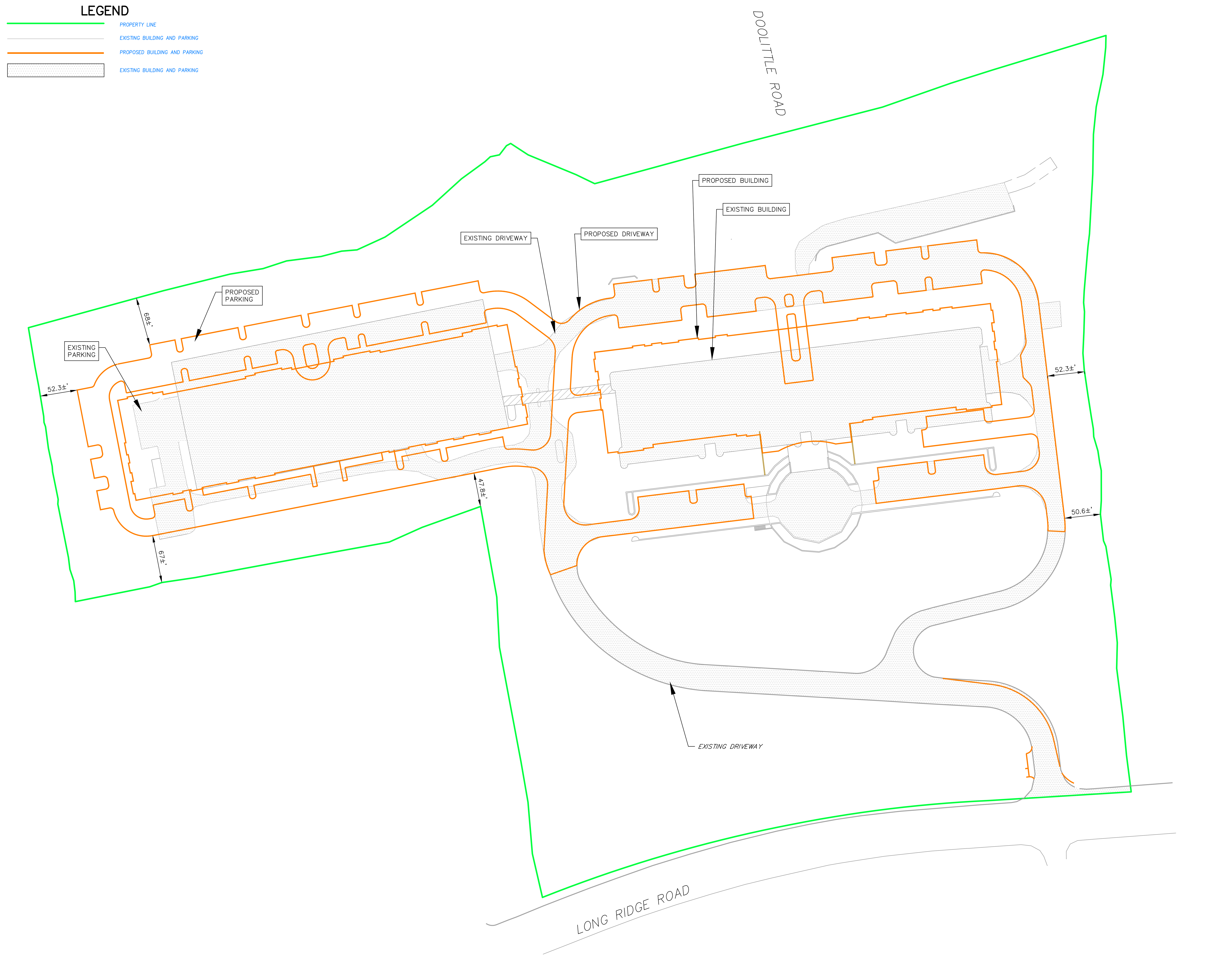


120
Long Ridge Road
Olin Industries





777, 800, 900 Long Ridge Road
(Now) Synchrony
Xerox
Nestle Waters



NO.	REVISION	DATE
1	REVISED PER PARKING REDUCTION	31 MAY 24

Previous Editions Obsolete

60 0 30 60 120

1 inch = 60 feet

800 LONG RIDGE ROAD, LLC
100 WASHINGTON BLVD.
SUITE 200
STAMFORD, CT 06902

IMPERVIOUS DEVELOPMENT OVERLAY

800 LONG RIDGE ROAD

STAMFORD CONNECTICUT

CIVIL 1
CORNERSTONE PROFESSIONAL PARK, SUITE D-101
43 SHERMAN HILL ROAD
WOODBURY (203) 266 - 0778 CONNECTICUT

DRAWN: BB APPROVED: CJ

SCALE: 1" = 60'

DATE: 8 MARCH 24

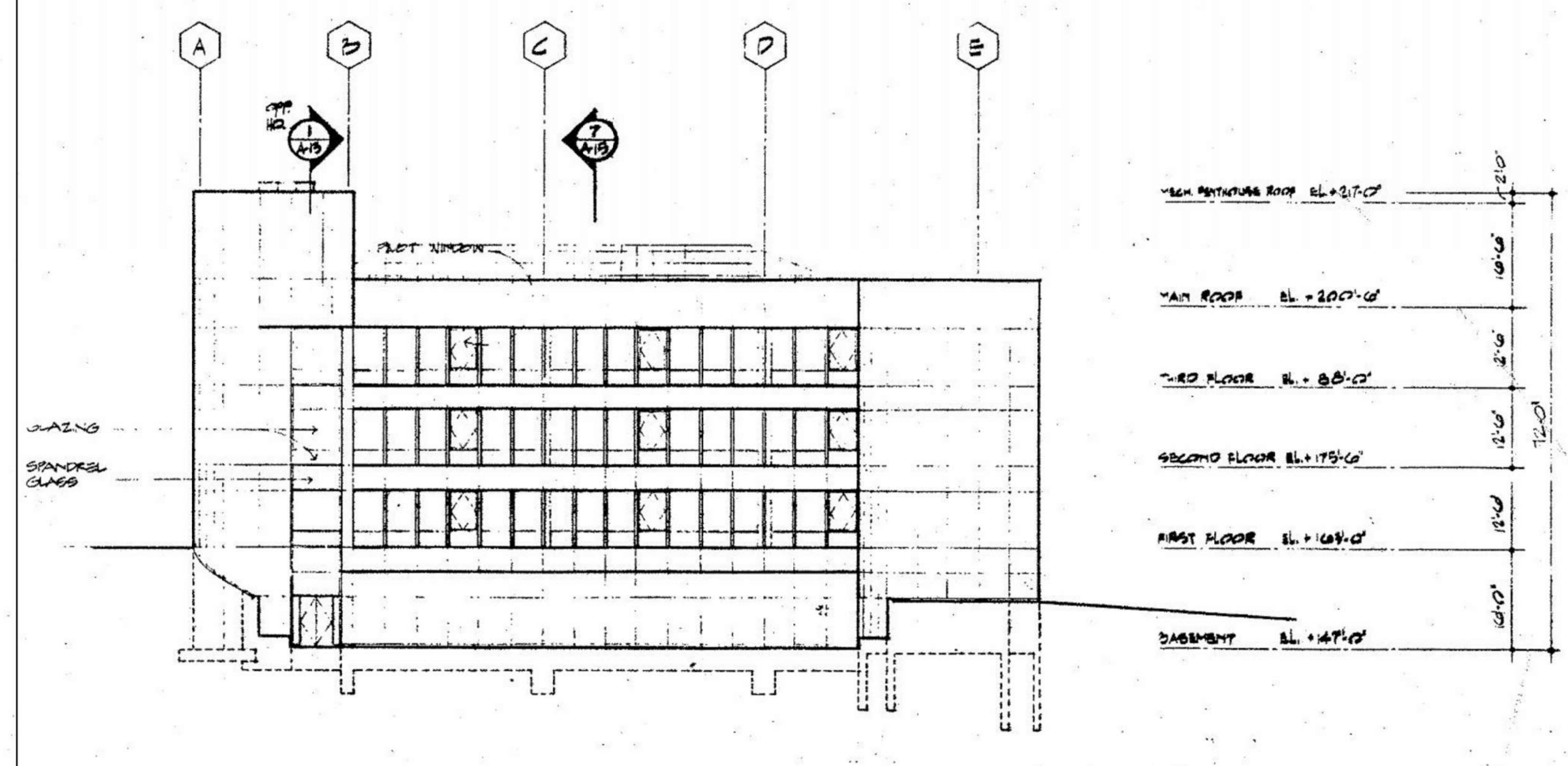
PROJ. NO.: 4084

CADD FILE NAME: 4084

DRAWING NO.:

1 OF 1

PROPOSED CONDITION SCALE: 1'=1/16" 2



EXISTING CONDITION SCALE: 1'=1/16" 1

EDI INTERNATIONAL
25 W 39th Street,12th Floor
New York, NY 10018
Phone: (212) 228-8411
www.EDI-International.com

OWNER:
BUILDING & LAND TECHNOLOGY
1 Elmcroft Road, Suite 500
Stamford, CT 06902
Phone:
Fax:
Contact: Ted Ferrarone
Email: tferrarone@harborpt.com

CIVIL:
CIVIL 1, INC.
43 Sherman Hill Road, Suite D-101
Woodbury, CT 06798
Phone: 203-266-0778
Fax:
Contact: BRIAN J. BAKER, P.E.
Email: brian@civil.com

800 LONG RIDGE ROAD
STAMFORD, CT

BLT Building and Land Technology

STATE OF CONNECTICUT ... MIRONTS ... NO. 6512 LICENSED ARCHITECT

NO.	DATE	ISSUE
	01.18.2024	RE-ISSUE

PROJECT NO:
ISSUED: ZONING SET
ISSUED DATE: 11/16/2023

DRAWING TITLE
SITE PLAN

DRAWING NUMBER
A303

BLDG 1, 2, 3 & 4 - SITE PLAN

SCALE 1/64"=1'-0"

EDI INTERNATIONAL
25 W 39th Street, 12th Floor
New York, NY 10018
Phone: (212) 228-8411
www.EDI-International.com

OWNER:
BUILDING & LAND TECHNOLOGY
1 Elmcroft Road, Suite 500
Stamford, CT 06902
Phone:
Fax:
Contact: Ted Ferrarone
Email: tferrarone@harborpt.com

CIVIL:
CIVIL 1, INC.
43 Sherman Hill Road, Suite D-101
Woodbury, CT 06798
Phone: 203-266-0778
Fax:
Contact: BRIAN J. BAKER, P.E.
Email: brian@civil.com

800 LONG RIDGE ROAD
STAMFORD, CT

Building and Land Technology

STATE OF CONNECTICUT · NO. 6612 · LICENSED ARCHITECT

NO.	DATE	ISSUE

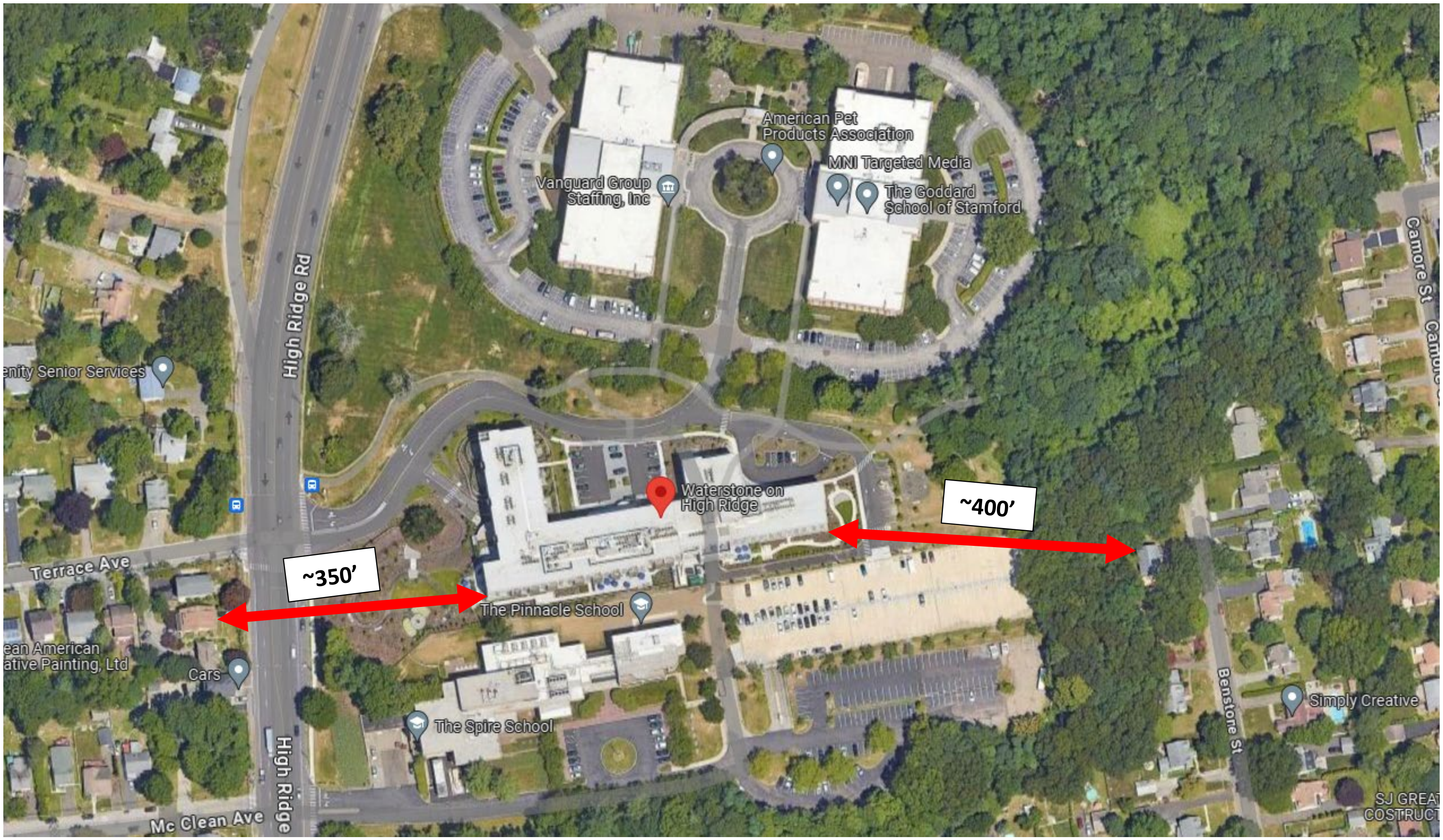
PROJECT NO:
ISSUED: ZONING SET
ISSUED DATE: 11/16/2023

DRAWING TITLE
ADJACENCY PLAN

DRAWING NUMBER
Z004

Exhibit F
Residential Setbacks for 215 High Ridge Road and 210 Long Ridge Road

Waterstone Senior Living Community
215 High Ridge Road



{S7560659}

LANDSCAPE AERIAL EXHIBIT

210 LONG RIDGE ROAD

STAMFORD, CT

REDNISS & MEAD

LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
PERMITTING

22 First Street | Stamford, CT 06905
Tel: 203.327.0500 | Fax: 203.357.1118
www.rednissmead.com

COMM. NO.:	DATE:
1730	10/13/2023
	SCALE: 1"=100'

Exhibit G
Comparison of 215 High Ridge Road, 210 Long Ridge Road, and 800 Long Ridge Road

C-D Zone				
	Required/Allowed	**Waterstone Senior Housing 215 HRR Approved**	**Mozaic Senior Housing 210 LRR Approved**	**800 LRR Proposed**
Lot Area	15 acres	10 acres[1]	15 acres	25.26 acres
Building Coverage	10%	10%	17.0%[2]	9.51%
Lot Coverage	35%	23%	35%	34.97%
FAR	0.40	0.397	0.35	0.389
Density	14 units / acre	145 units 14.5 units / acre[3]	210 units 14 units / acre[4]	354 units 14 units / acre
Building Stories	4	4	4	4
Building Height	60’	55’	59’-10”	47’-8”
Closest Single-Family Home	100’	350’	300’	256’-9”

[1]Pursuant to § 9.G.2. of the Zoning Regulations, the lot size of this parcel conforms with the minimum area requirements for the C-D Zone because it originally was part of a larger parcel within the C-D Zone that subsequently was subdivided.
[2]This application included a text change application (Appl. 222-08) permitting Senior Housing and Nursing Home Facility Complexes to have up to 17 percent building coverage.
[3]This use was controlled by FAR at the time. The density is provided by way of comparison only.
[4] This use was previously controlled by FAR. The density standard was added as part of the text change application accompanying the project (Appl. 222-08).

Assessment of Residential Compatibility:
Multi-Family Residential Proximate to Single-Family Residential

Stamford, Connecticut

Prepared for 800 Long Ridge, LLC

April 18, 2024

GOMAN + YORK ADVISORY SERVICES
1137 Main Street
East Hartford, CT 06108
Tel: (860) 841-3271
Fax: (877) 741-7210
gomanyork.com

Executive Summary

Statement of Findings – Donald J. Poland, PhD, AICP

Goman+York Property Advisors, LLC has concluded our assessment of the impact that the proposed multi-family development at 800 Long Ridge Road, Stamford CT will have upon neighboring and proximate single-family residential properties. In the preparation of this report, we have visited the subject site and surrounding area, reviewed the Stamford Zoning Regulations (2023) and Master Plan or Plan of Conservation and Development (2015) and conducted a review of land use, academic, and industry research that has analyzed the impacts of new real estate development on proximate properties. Specifically, this review focused on the impact of a multi-family residential development on proximate single-family residential properties, including property values. Additionally, we cite a recent study we conducted on the impact of multi-family residential development in Darien on the property value of adjacent and proximate single-family residential properties.

Based on our review and analysis, we find that the proposed redevelopment of 800 Long Ridge Road into 354 multi-family residential housing units and 9,394 square feet of commercial space will have *no negative impact, including the property values, of neighboring and proximate properties*. We also find that it is likely the newly constructed multi-family residential units will have a *positive effect on property values*. This positive impact will result from further diversity in Stamford's housing stock, creating greater opportunities to retain and attract households. This will add to the amenity value of the Stamford community and the overall housing market.

Respectfully submitted,

Donald J. Poland, PhD, AICP
Managing Director, Urban Planning & Strategy

Section I:

Reading the Neighborhood

GOMAN+YORK

Reading the Neighborhood

Methodology Overview

When assessing any site, project, or community, we start by engaging in the practice we call *reading the neighborhood*. *Reading the neighborhood* is more than simply conducting a site visit, it is a qualitative process of seeking to understand the site and situation of place. Specifically, seeking to understand the market, capacity, condition, and image that are the collective attributes of place and the real estate market. Collectively,

- who and what is there
- what abilities and behaviors exist
- how things look and feel
- what signals are being sent

These characteristics inform us as to the health and strength of a place, a neighborhood—the real estate market. The process and practice of *reading a neighborhood* provides a qualitative understanding of investment behaviors and property values. Is the neighborhood healthy and prosperous, weak and stagnating, or distressed and declining?

UNDERSTANDING PLACE

Market	**Who and what is there**
Capacity	**What abilities and behaviors**
Condition	**How things look and feel**
Image	**What signals are being sent**

Reading the Neighborhood

The Site – 800 Long Ridge Road

The subject site, 800 Long Ridge Road, consists of approximately 25.26 acres and two large structures. Developed in 1978, the main structure is a four story, 275,829 square foot office building. The second structure is a 243,439 square foot accessory parking structure designed with 512 parking spaces.

The existing site is designed into a ridge, with a change in elevation of approximately 136 feet from a low at Long Ridge Road to a high at the rear property line. The office building has a first-floor elevation of approximately 158 feet and is 56 feet tall. Therefore, the existing building rises approximately 8 feet above the highest elevation along the rear property line. The parking structure has a first-floor elevation of approximately 132 and is 24 feet high. Therefore, the parking structure rises approximately 20 feet above the lowest elevation at the rear property line.

The proposed redevelopment of the site calls for two, four-story apartment buildings generally placed over the footprint of the two existing structures. The structures are separated into two section and are also designed into the slope of the land with at grade parking structures below. Building One (Sections 1 & 2) have maximum height lower than existing office building and Building Two (Section 3 & 4) will rise 2 stories or 20 feet higher than the existing parking structure.

The entry points for the underground parking structures are orientated on the south of Building One and the east on Building Two, minimizing interior site circulation movements around the buildings. Existing grades and vegetation screen the circulation from neighboring sites.

Reading the Neighborhood

The Neighborhood – 800 Long Ridge Road

The subject site is in the west-central area of Stamford, approximately a quarter mile south of Route 15, Exit 34. Access to the site is provided from Long Ridge Road. The area is an older established neighborhood with a mix of commercial and residential uses.

Long Ridge Road, also know as State Route 104, is a major arterial running north and south. North of the site on the west side of Long Ridge Road is a commercial office development. To the east of Long Ridge Road is a mixture of commercial and single-family residential uses. Between the site, which is set back, and Long Ridge Road is a commercial use. Moving south of the commercial use are additional commercial uses on the west side of Long Ridge Road. On the east side of Long Ridge Road, across from the site, there is a large commercial office development and moving south on the east side of Long Ridge Road are a mix of multi-family and single-family residential uses.

The site is bordered to the south by Westhill High School and to the west by a single-family residential neighborhood. Access to the residential neighborhood to the west is provided from Roxbury Road approximately three-quarters of mile south of the site entrance. Additional access to this residential neighborhood is provided from Den Road and Exit 33 of Route 15. This results in the residential neighborhood to the west being mostly isolated from the site.

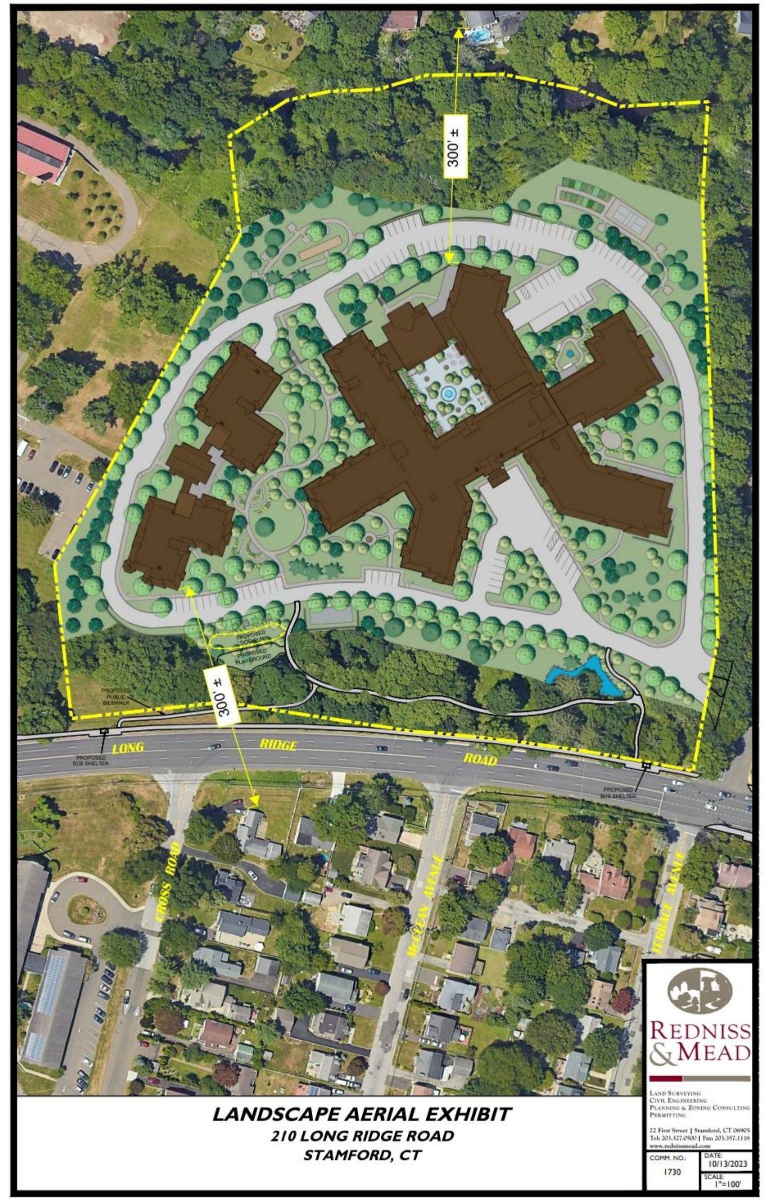
Reading the Neighborhood

The Neighborhood – 800 Long Ridge Road

As part of this exercise in reading the neighborhood, we believe it is valuable and informative to consider a recently approved development at 210 Long Ridge Road (a site one and half miles if 800 Long Ridge Road). In October 2023, the Zoning Board unanimously approved an application for a 187 unit assisted living facility. Assisted living facilities are functionally hybrid uses, utilized and characterized by both residential living and limited medical care and housekeeping services. While different from the conventional multi-family residential use proposed 800 Long Ridge Road, the assisted living development offers some notable similarities in situation and site development.

The assisted living site is bounded by a single-family residential uses to the west (Stillwater Road) and to the east (across Long Ridge Road). Neighboring the site to north is a medical office building and to the south a conventional office building. The assisted living site development includes two large buildings, the largest being 4 stories and the smaller being both 3 and 4 stories.

The approved assisted living development reveals many similarities to the proposed multi-family development at 800 Long Ridge Road in the context of neighboring land use patterns, site development density, building massing, building height, proximity to single-family residential uses, and onsite circulation patterns. This approved development demonstrates two important and relevant facts. The first is that Long Ridge Road is not static, it is evolving and adapting to change. Second, it demonstrates that new development (and redevelopment in the context of 800 Long Ridge Road) can be designed and accommodated into existing neighborhood.



Reading the Neighborhood

Regional Access – 800 Long Ridge Road

Our *reading the neighborhood* reveals a strong market and mostly affluent community. As a strong market, capacity exists to manage the day-to-day occurrences, the physical conditions are very well maintained, and the image of the area is positive and prosperous. In addition, the neighborhood has good access to community and regional scale amenities and to employment centers—primarily within Stamford, Westchester County, and New York City.

The collective attributes of place, of this neighborhood, inform us that this is a stable and resilient real estate market where property values are influenced mostly by macro-economic forces (i.e., spatial proximity to employment centers) and little to no influence from individual land uses or properties. For example, the City of Stamford's Assessment Records indicate the market value of single-family residential land to be approximately $430,000 per acre and the market value of single-family homes adjacent to the subject site to average approximately $460 per square foot. It is important to note that present residential market values reflect the proximity of housing to commercial development and uses.

Section 1: Reading the Neighborhood

Methodology Overview – 800 Long Ridge Road

The drivers of demand for real property markets, which in turn contribute to property value are; jobs, population, household formation, and income (See Table 2).

The demand drivers inform us that jobs are the primary driver of demand, and when jobs are increasing, population and household formation also increase. The Bridgeport-Stamford-Norwalk metropolitan region has been and is still experiencing growth in jobs, population, and household formations, indicating strong demand and a strong real estate market for residential uses.

In addition, Stamford is a prosperous community, with high household incomes and high property values. Together, these demographic and economic indicators of demand confirm that Stamford is a strong market community. This further informs us that Stamford's residential property values are driven primarily by the macro-economics of the region, with little influence from specific and proximate land uses. It explains why high value multi-family housing (e.g., Heatherwoood and River Oaks Condo's) already exist along Long Ridge Road, adjacent to commercial development and single-family residential development. Most important, existing residential property values remain high even when proximate to existing multi-family development. This qualitative analysis of R*eading the Neighborhood* informs us that multi-family residential housing on Long Ridge Road is a suitable use and would not negatively impact adjacent and proximate single-family property values.

Table 2. Demand Drivers

Jobs (Employment):	Growth in jobs drive demand for *residential, commercial, and industrial* space (real estate).
Population:	Growth in population (driven by job growth) drives demand for *residential and commercial* (retail and office) space.
Household Formations:	Growth in households, new household formations, drives demand for *residential and commercial* space.
Income, Household:	Income (growth in income) drives the price point of where demand is realized. A reasonable measure of demand for *residential and commercial* space.

Section 2:

Land Use and Zoning

GOMAN+YORK

Impact of Multi-Family Residential Development

History & Purpose of Zoning

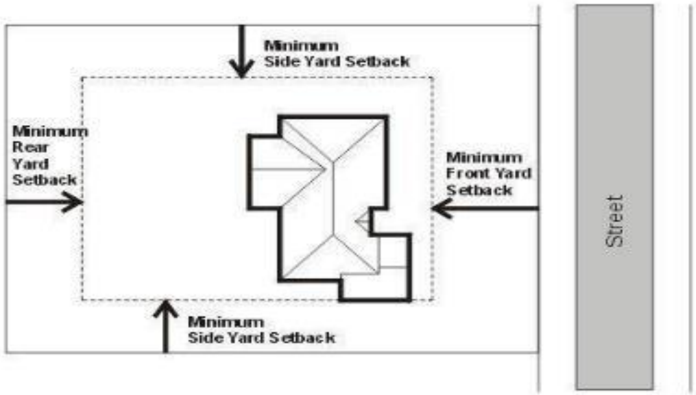
To understand land use, specifically similarities or differences in single-family and multi-family land uses, we need to better understand zoning and the aim of zoning. Zoning is the legal authority of municipal government to regulate the use, density, and intensity of land—a police power of government that seeks to protect the public health, safety, and welfare.

American Zoning originated in the early twentieth century and was established as the primary means of regulating land use in the 1920s—separating incompatible land uses. A progressive era planning tool, zoning emerged as reaction to the harsh and undesirable conditions of the American industrial city—zoning as a means of confront the noxious conditions of uncontrolled urban development.

Zoning authorized the local municipalities:

> to regulate and restrict the height, number of stories, and size of buildings and other structures, the percentage of lot that may be occupied, the size of yards, courts, and other open space, the density of population, the location and use of buildings, structures, and land for trade, industry, residence, or other purposes.

Jacob Riis, How the Other Half Lives



Dimensional Requirements: Bulk and Area

Impact of Multi-Family Residential Development

History & Purpose of Zoning

As a reaction to the conditions of the industrial city, zoning was a means of mitigating the undesirable conditions. The purpose of zoning was and is:

- to lessen congestion in the streets;
- to secure safety from fire, panic, and other dangers;
- to promote health and general welfare; to provide adequate light and air;
- to prevent the overcrowding of land;
- to avoid undue concentration of population;
- to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirements.
- Such regulations shall be made with reasonable consideration, among other things, to the character of the district and its peculiar suitability for particular uses, and with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout such municipality.

Impact of Multi-Family Residential Development

History & Purpose of Zoning

A century later, few if any of us live in fear of *fire, panic, or other dangers*, nor do we suffer from lack of *adequate light and air*.

Zoning, along with other codes and regulations (e.g. building, health, environmental, etc.), have mitigated much of the undesirable physical and environmental conditions of the industrial city and prevented the emergence of such conditions in most of the post-1945 American suburbs.

By dividing a *municipality into districts*—the segregation of incompatible land uses—and regulating the density (lot size and dimensional standards) and intensity (site design and utilization) of development, zoning mitigated the undesirable conditions of the past.

> For example, slaughterhouses are no longer allowed in the same district and next door to a residential use.

This is important to understanding zoning, specifically how zoning has evolved over time, and the role of zoning today in the regulation of land use.

Impact of Multi-Family Residential Development

History & Purpose of Zoning

Since the inception of Zoning in the 1920s with the establishment of the *Standard State Zoning Enabling Act,* zoning districts and regulations have been created with the consideration that:

> *such regulations shall be made with reasonable consideration…to the character of the district and its peculiar suitability for particular uses, and with a view to conserving the value of buildings…*

The *view to conserving the value of buildings* was originally aimed at protecting the value of buildings (i.e., property) from the harm associated with the undesirable conditions of the industrial city and the proximity of dissimilar and conflicting uses. The outcome has been a zoning system that creates predictability and stability in real estate markets. Unfortunately, shortsightedness in Connecticut's understanding of this foundational and important principle in zoning resulted in a change to this language in 2021. Connecticut zoning law now explains that such regulations be:

> *drafted with reasonable consideration as to the physical characteristics of the district and its peculiar suitability for particular uses and with a view to encouraging the most appropriate use of land throughout the municipality.*

This recent change in Connecticut zoning highlights the importance of the *physical characteristics of the district and its peculiar suitability for particular uses and* eliminated the *view to conserving the value of buildings,* replacing it with *encouraging the most appropriate use of land throughout the municipality.* While this changes a zoning commission considerations when establishing a zoning district, it does not negate the 100 years of zoning decision that considered *conserving the value of buildings.* Therefore, Stamford's existing zoning regulations and districts were established with a *view to conserving the value of buildings,* and this consideration remains imbedded in zoning today.

While zoning contributed to the mitigation of the noxious and incompatible uses of the industrial, *the view to conserving of value* has been distorted into an economic valuing of aesthetics—the false assumption that differing aesthetic (or densities) create negative impacts.

Understanding the origins, evolution, and distortion of zoning—a regulatory system designed to protect public health, safety, and welfare, and to *conserve the value of buildings* aimed at mitigating the undesirable conditions of the industrial city—helps to inform us about *residential land uses and permitting multi-family residential proximate to single-family residential.*

Impact of Multi-Family Residential Development

Use, Density, Intensity, & Value

Today, far removed in time from the industrial city of the past, zoning has evolved into a complex regulatory system of land use that over-conceptualizes differences in use, exaggerates threats posed by use, density, and intensity, and the potential impacts to property value. To put it another way, zoning was established to segregate the negative outcome of factories smelting metals proximate to dissimilar uses, such as residential uses. Zoning, when first established, did not conceptualize substantial differences in residential uses—single-family versus multi-family—as a problem to solve. That is not to say that zoning did not recognize difference in residential densities. Unfortunately, with the noxious uses of the industrial city far in the past, zoning has evolved into a complex system of land use controls that over-emphasize what are nuanced difference between residential uses—single-family versus multi-family residential uses.

Therefore, to best understand the proposed multi-family (with commercial) residential use—keeping in mind that this proposed multi-family residential development is the redevelopment of an existing commercial office development—it is important to break out the differences or changes regarding use, density, intensity, and *property value*:

- ***Use:*** There is no difference in the use of a building containing one residential dwelling unit and the use of a building containing 354 residential dwelling units. Both buildings (and properties/land) are being used as residential. Most important, in the case of this specific application, the use of the property is changing from commercial to residential—a down zoning (to residential) which is considered a less intensive land use compared to commercial. Therefore, the proposed multi-family use, in the context of land use planning and zoning, is more compatible with the existing and proximate single-family residential uses than the existing commercial use that has existed on the site for decades.
- ***Density:*** The density of site development, changing from commercial office to multi-family residential, is not an apples-to-apples change in density. However, said change in density is not dissimilar, even though the proposed multi-family is denser by some comparative metrics. For example, the existing commercial office use was designed to house 600 employees at its peak. The proposed multi-family use is designed to house 354 households or approximately 656 total persons (1.85 persons per household) based on rental per person occupancy. Another example, the commercial office use was constructed with 662 parking spaces compared to the proposed multi-family use designed with 618 parking spaces. These two simple metrics of density show that in one case the proposed multi-family may be denser, while in the other case it is not. More importantly, it demonstrates that site is actually being redevelopment to a similar density.

Impact of Multi-Family Residential Development

Use, Density, Intensity, & Value

- ***Intensity:*** When compared to the existing commercial office use, the intensity of proposed multi-family use decreases the site utilization in some ways and increases site utilization in other ways. For example, as discussed earlier, the exiting commercial use consists of two large structures; the office structure is 275,829 square feet and four stories, and the parking structure is 243,439 square feet and two stories. The footprint of the proposed multi-family structures nearly mirror these existing structures—generally placed in the same locations. The existing commercial structures total approximately 519,268 gross square feet, while the proposed multi-family structures total approximately 580,850 gross square feet. By comparison, proposed multi-family use is approximately 80,000 square feet larger, but only a net increase of less than 12%, signifying a similarity in intensity of development. Another way of thinking about intensity is building height. The proposed multi-family structure replacing the office structure will be a few feet lower on the westside and a couple feet higher on eastside than existing office building. The proposed multi-family structure that is replacing the parking structure will rise 2 stories (or approximately 20 feet) higher than the existing parking structure. Like the ambiguity in density discussed above, these two metrics of intensity are also ambiguous as to outcome. The increase in square feet of development is marginal, while the increase in heigh varies. Neither metric definitively demonstrate a meaningful increase in intensity. The only notable change in intensity is the days and hours of use. The existing commercial office use primarily operated five days a week and 12 hours a day. The proposed multi-family use will operate seven days a week and 24 hours a day—a natural and understandable difference in residential versus commercial uses.
- ***Property Value:*** Recognizing that the multi-family use is more compatible with the proximate single-family uses, that density of development remains similar, and that the change in tensity is more temporal than spatial, it is unrealistic to conclude that there will be a meaningful negative impact on property value. The fact is, residential uses do not negatively impact other residential uses. (See a more detailed discussion on property value in the following section.)

When considering the proposed multi-family use and potential impacts on proximate residential properties, it is important to recognize that in land use planning and zoning (the regulation of land use), multi-family residential is considered a less intensive use than the existing commercial office use. In addition, multi-family and single-family uses are both residential land uses. The only meaningful differences between the proposed multi-family and the existing commercial office use is the temporal use of the site. Most important, the temporal utilization of the proposed multi-family residential use is the same as the temporal utilization of proximate single-family residential uses.

Section 2:

Impact on Property Value

GOMAN+YORK

Impact on Property Value

Academic & Industry Research Findings

Concerns over the impact of new development (i.e., commercial, industrial, or residential) are common in land use planning and the zoning approval process. In fact, as discussed above, one of the foundational concepts of zoning is that "such regulations shall be made with reasonable consideration…to the character of the district…with a view to conserving the value of buildings" (Zoning Enabling Act, 1922).

The concept of ***a view to conserving the value of buildings*** needs to be contextualized to the time when it was written and the problems that zoning was designed to solve. The 1920s context included harsh conditions of the industrial city and the lack of regulatory provisions to deal with incompatible uses and the negative impacts as consequences of proximity—noxious uses devaluing adjacent and proximate properties. In addition to the ***character of the district*** and ***conserving the value of buildings***, zoning was intended to protect us from ***fire, panic, and other dangers***, conditions that no longer threaten us in the ways they did in the 1920s industrial city. Simply stated, zoning (along with other policies and regulations) has successfully solved the problem of the industrial city and has created stability and predictability in real property markets. Therefore, today, the way in which we need to conceptualize ***the character of the district*** and ***conserving the value of buildings*** has changed. That is, the dissimilarity in uses has been greatly reduced, and there is little difference between single-family and multi-family residential uses.

In addition, the negative impacts on proximate property have been mostly reduced to the most undesirable land uses. For example, undesirable land uses such as airports, landfills, superfund sites, etc. and their impact on residential and other proximate uses have been extensively studied and documented as having negative impacts on property values (Bell, 1998, 2001; Findlay and Phillips, 1991; Cartee, 1989; Hurd, 2002; Simons, 1997).

However, such concerns and claims of the negative impact created by other dissimilar uses have persisted, especially regarding new commercial development and new multi-family development proximate to existing single-family residential. It has even become common to hear claims that new single-family residential development will negatively impact the value of adjacent and proximate existing single-family residential properties.

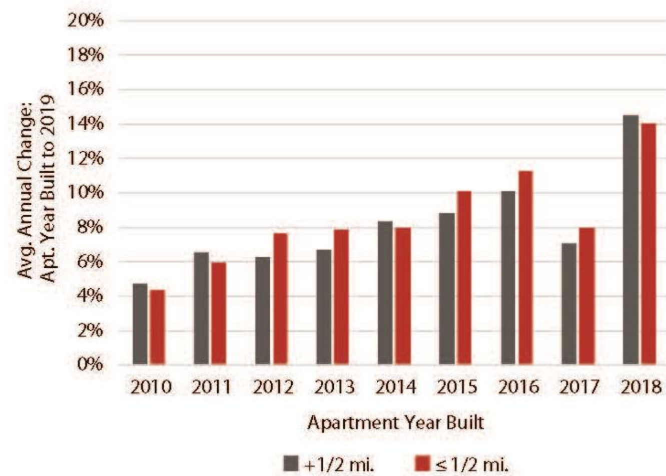
Impact on Property Value

Academic & Industry Research Findings

The prevalence of such concerns and claims have led to academic and industry research into the impacts of new development on existing residential property values. Most important, ***the abundance of academic research has shown that such claims are not substantiated***. For example, a notable and comprehensive longitudinal study by the MIT Center for Real Estate of 7 high-density affordable housing developments adjacent to medium- and low-density single-family residential areas in 6 communities spread across Metropolitan Boston concluded that the findings "in all seven case study towns lead us to conclude that the introduction of larger-scale, high-density mixed-income rental developments in single-family neighborhoods ***does not*** [emphasis added] affect the value of surrounding homes. The fear of potential asset-value loss among suburban homeowners is misplaced" (Pollakowski, et. al, 2005: ii). A 2003 study by Harvard's Joint Center for Housing Studies found that apartments posed no threat to surrounding single-family house values (Hoffman, 2003).

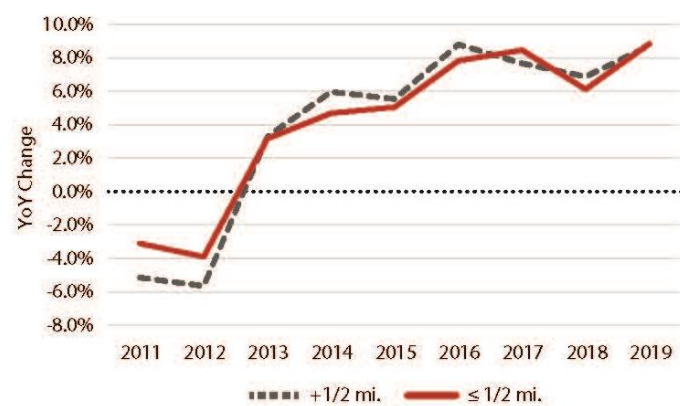
The findings of the MIT and Harvard studies are further substantiated in a recent comprehensive study by Kem C. Gardner Policy Institute at the University of Utah. The study, *The Impact of High-Density Apartments on Surrounding Single-Family Home Values in Suburban Salt Lake County*, analyzed the construction of 7,754 multi-family units between 2010 and 2018 and the impact of these developments on single-family home values within a half mile of the new rental apartments. The researchers found:

Figure 5: Average Annual Change in Median Price, Year of Apartment Built to 2019, Salt Lake County



Source: Salt Lake County Assessor, Kem C. Gardner Policy Institute

Figure 6: Year-Over Change of Median Market Value, Salt Lake County



Source: Salt Lake County Assessor, Kem C. Gardner Policy Institute

Impact on Property Value

Academic & Industry Research Findings

> This study found apartments built between 2010 and 2018 have not reduced single-family home values in suburban Salt Lake County. In response to accelerating housing prices over the last decade, the market continues to shift to denser development to slow this trend. However, denser development continues to be a politically controversial topic on city council agendas as existing residents often bring up negative impacts on home values. Single-family homes located within 1/2 mile of a newly constructed apartment building experienced higher overall price appreciation than those homes farther away (Eskic, 2021: 1).

Another study, an industry study by the National Association of Homebuilders, found that single-family residential property values within 300 feet of multi-family rental housing increased by 2.9% (NAHB, 2001). Researchers at Virginia Tech University conducted a study that concluded, multi-family rentals that were well-designed, attractive, and well-landscaped, increased the value of proximate single-family residential housing (Eskic, 2021). What was most interesting about the Virginia Tech study, as explained by Eskic (2021: 2), were the researchers three possible reasons to explain their findings:

> **first**, new construction serves as a potential indicator of positive economic growth; **second**, new apartments increase the pool of future homebuyers for current homeowners; and **third**, apartments with mixed-use development often increase the attractiveness of nearby communities as they provide more housing and amenity choices.

The first explanation is consistent with our discussion of demand drivers above. In places where jobs, population, and household formations are increasing, demand is high and property values are increasing. Therefore, new construction is an indicator of positive economic growth. The third explanation is consistent with our qualitative *reading the neighborhood*, in that more housing and a greater diversity in housing stock, contribute to the amenity value of the community. Last, the second explanation, is also related to the amenity value of the community. Providing a more diverse housing stock not only increases the pool of future homebuyers, but it also provides housing alternatives for residents already in the community. For example, young professionals and empty nesters who seek to remain in the community but need and want alternative types of housing to overabundance of single-family detached housing.

Impact on Property Value

Academic & Industry Research Findings

While claims of negative property impacts are likely to persist in the local land use approval process, the unbiased academic research is clear in its findings, “apartments posed no threat to surrounding single-family house values" (Hoffman, 2003) and “the fear of potential asset-value loss among suburban homeowners is misplaced” (Pollakowski, et. al, 2005: ii).

Based on our experience, knowledge, and understanding of housing, communities, neighborhoods, and housing markets, we agree with the academic findings and do not believe the proposed redevelopment of the 800 Long Ridge Road property into 354 multi-family residential rental housing units with a small commercial space will have a negative impact on adjacent or proximate single-family property value.

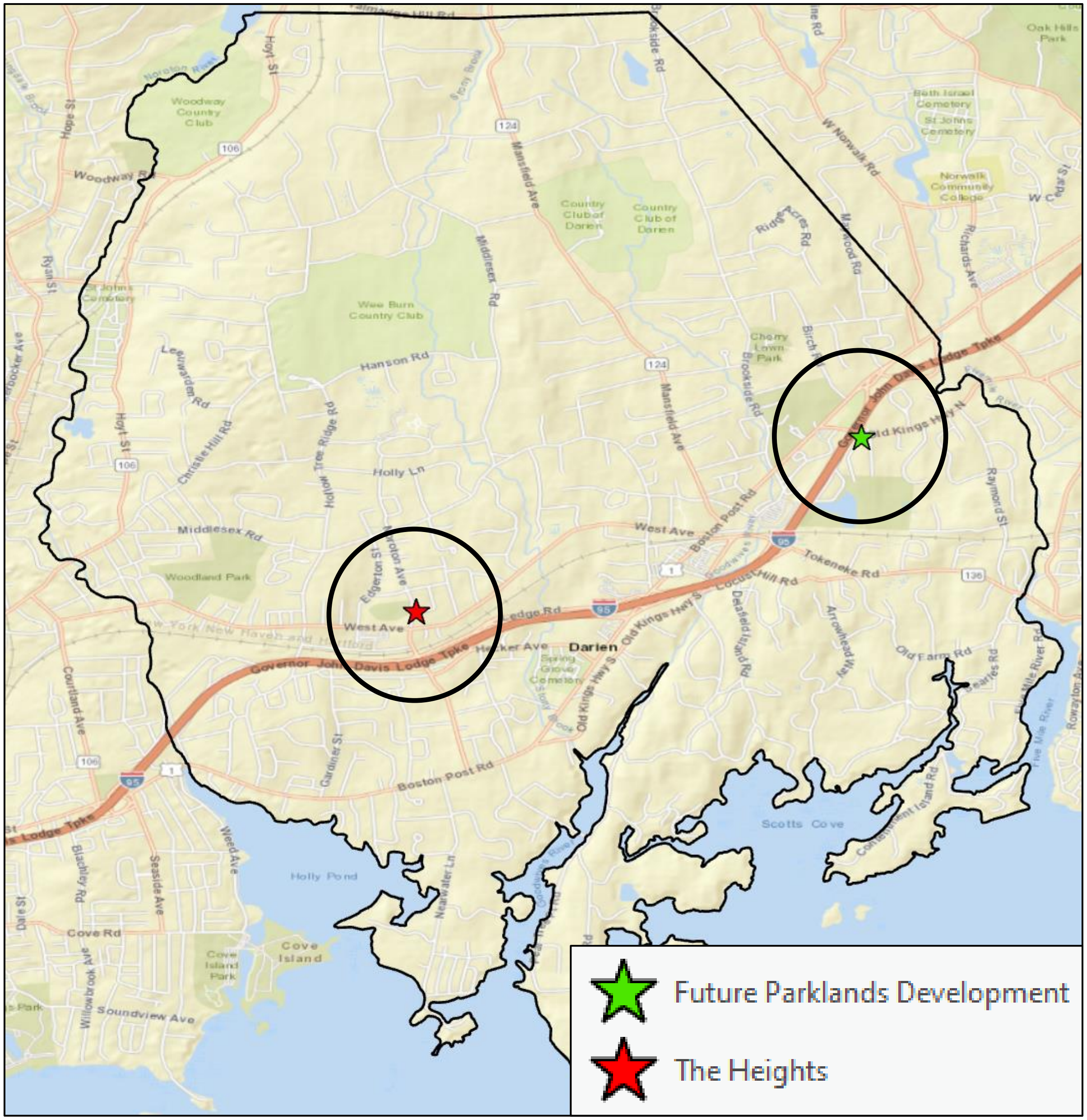
Section 3:

Local Case Study: Paired Sales Analysis

GOMAN+YORK

Darien Single-Family Housing Trends

Methodology Overview



Recognizing that the academic research finding in the prior section were not local to Connecticut or Fairfield County, we want to provide a recent and local study that we conducted related to impact of multi-family residential development on proximate single-family residences. Therefore, this section provides a summary of our findings on a paired sales analysis in Darien.

To determine the potential effects of new multi-family housing on surrounding single family housing prices, Goman+York analyzed the CT MLS 10 years of sales data (2011 – 2021) for the town of Darien.

In addition, Goman+York highlighted two 0.5-mile radius study areas surrounding a proposed multi-family development on Parklands Drive as well as the affordable housing development "The Heights” to analyze the effects of multi-family development on local single-family markets.

The Heights, a 106-unit affordable housing development completed in 2014, was chosen as a comparable due to recent construction and its similarity to the proposed development as it is comprised primarily by townhome style units.

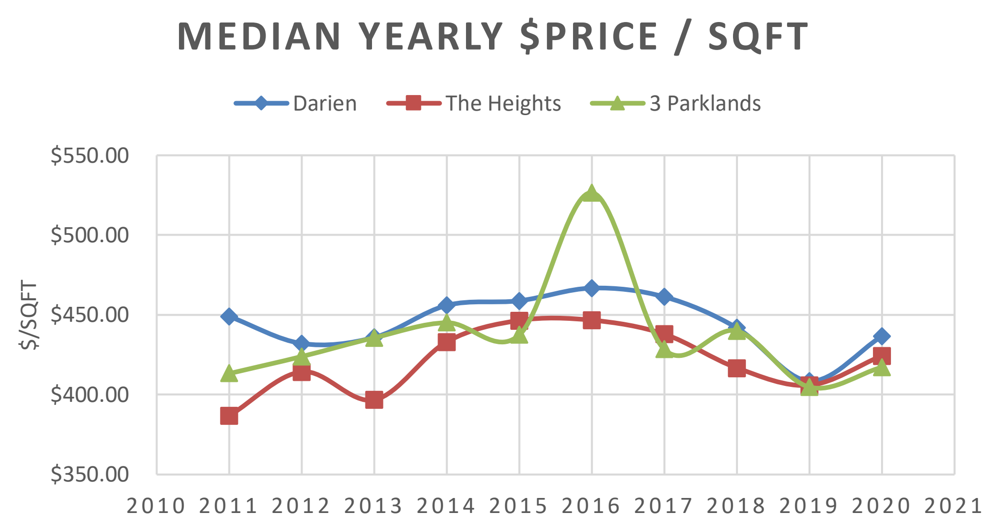
Darien Single-Family Housing Trends

Methodology Overview

The Darien single-family housing market from 2011-2020 was relatively flat, initially increasing from $449 per square foot ($/SQFT) in 2011 to $467/SQFT in 2016 before decreasing to $408/SQFT in 2019. The negative trend then reversed in 2020, with prices increasing to $436 from the 2019 low.

The selected study areas around The Heights & Parklands Drive had a lower median $/SQFT but overall similar trends in price with 2011 median housing price at $413/$387 around Parklands/The Heights and 2020 median housing price at $417/$424 around Parklands/The Heights. Of note, housing prices around The Heights increased from 2011-2020 while prices around Parklands declined similarly to Darien with an outlier year during 2016.

Focusing on area surrounding The Heights, Goman+York examined the prices before The Heights was occupied in 2014 and after. To aid in comparing prices between The Heights and Darien as a whole, prices were indexed for each study area's 2014 median price, represented by 100. This allows us to measure the relative increase (>100) or decrease (<100) in prices in each study area.

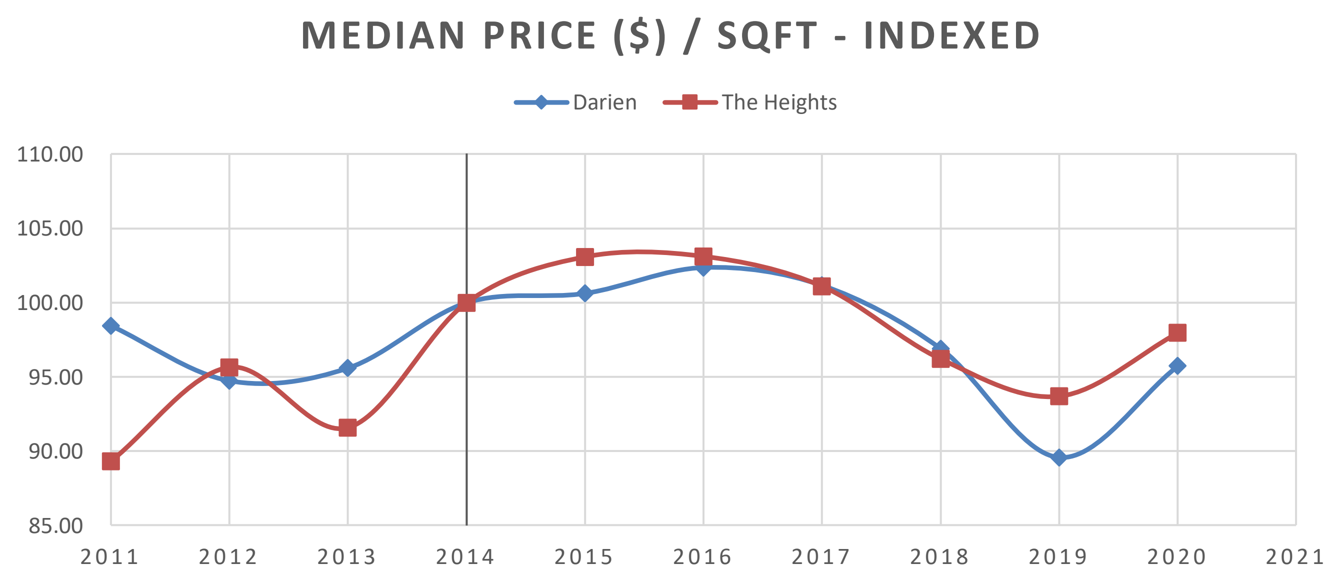


Year	Darien ($/SQFT)	The Heights ($/SQFT)	Parklands ($/SQFT)
2011	$449	$387	$413
2012	$432	$414	$424
2013	$436	$397	$436
2014	$456	$433	$445
2015	$459	$446	$438
2016	$467	$447	$526
2017	$461	$438	$428
2018	$442	$417	$440
2019	$408	$406	$405
2020	$436	$424	$417

The Heights – Effects of Multi-Family on Local Housing Prices

Methodology Overview

Overall, after 2014, housing prices surrounding The Heights outperformed the Darien average with prices surrounding The Heights reaching 98% of their 2014 median compared to 96% for Darien. Two important points are worthy of noting. First, The Heights and Darien are tracking up and down at the same points in time—demonstrating movement consistent with the overall market—this the effect of the macro-scale economic influences previously discussed. Second, the housing market remained sluggish until 2020.



The Heights – Effects of Multi-Family on Local Housing Prices

Paired Sales

Goman+York also examined individual sales of homes immediately surrounding The Heights that were sold two or more times in the 10-year study period. Four such sales were found:

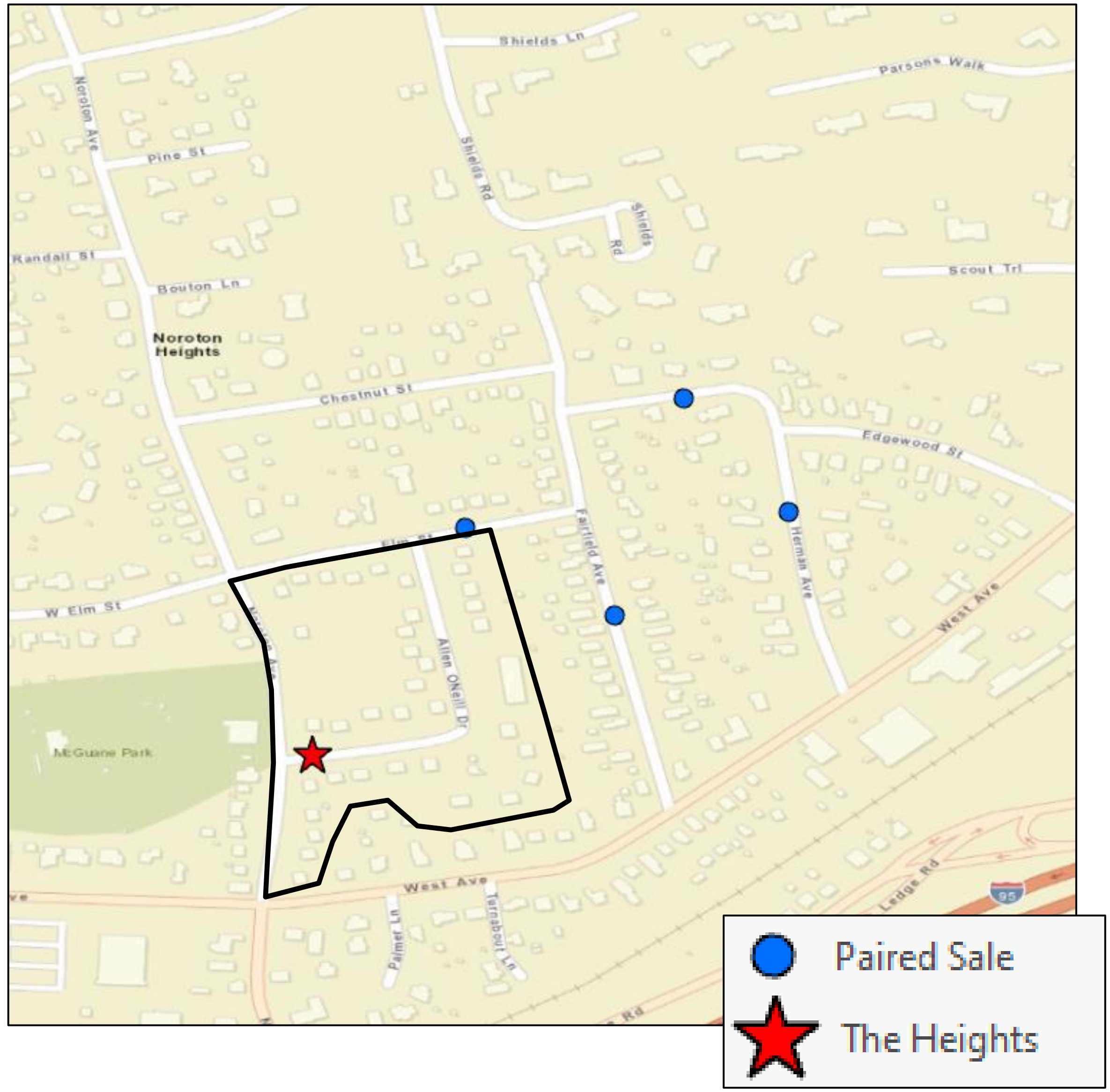
20 Elm Street (2.57%)
- June 2014 - $892,000
- August 2017 - $915,000

24 Fairfield Avenue (31.2%)
- August 2014 - $625,000
- June 2020 - $820,000

27 Herman Avenue* (128.2%)
- May 2016 - $620,000
- October 2017 - $1,415,000

33 Herman Avenue (24.2%)
- November 2012 - $495,000
- November 2020 - $615,000

Overall, no homes sold in the past 10-years lost value.



*Records indicate a significant renovation to this property between the two sale dates.

Parklands – Effects of Assisted Living Facility on Local Housing Prices

Paired Sales

Similarly, Goman+York also examined individual sales of homes immediately surrounding the proposed prospective multi-family development site at 3 Parklands that were sold two or more times in the 10-year study period to. Five such sales were found:

18 Fairmead Road (39.0%)
- September 2012 - $1,080,000
- August 2015 - $1,501,000

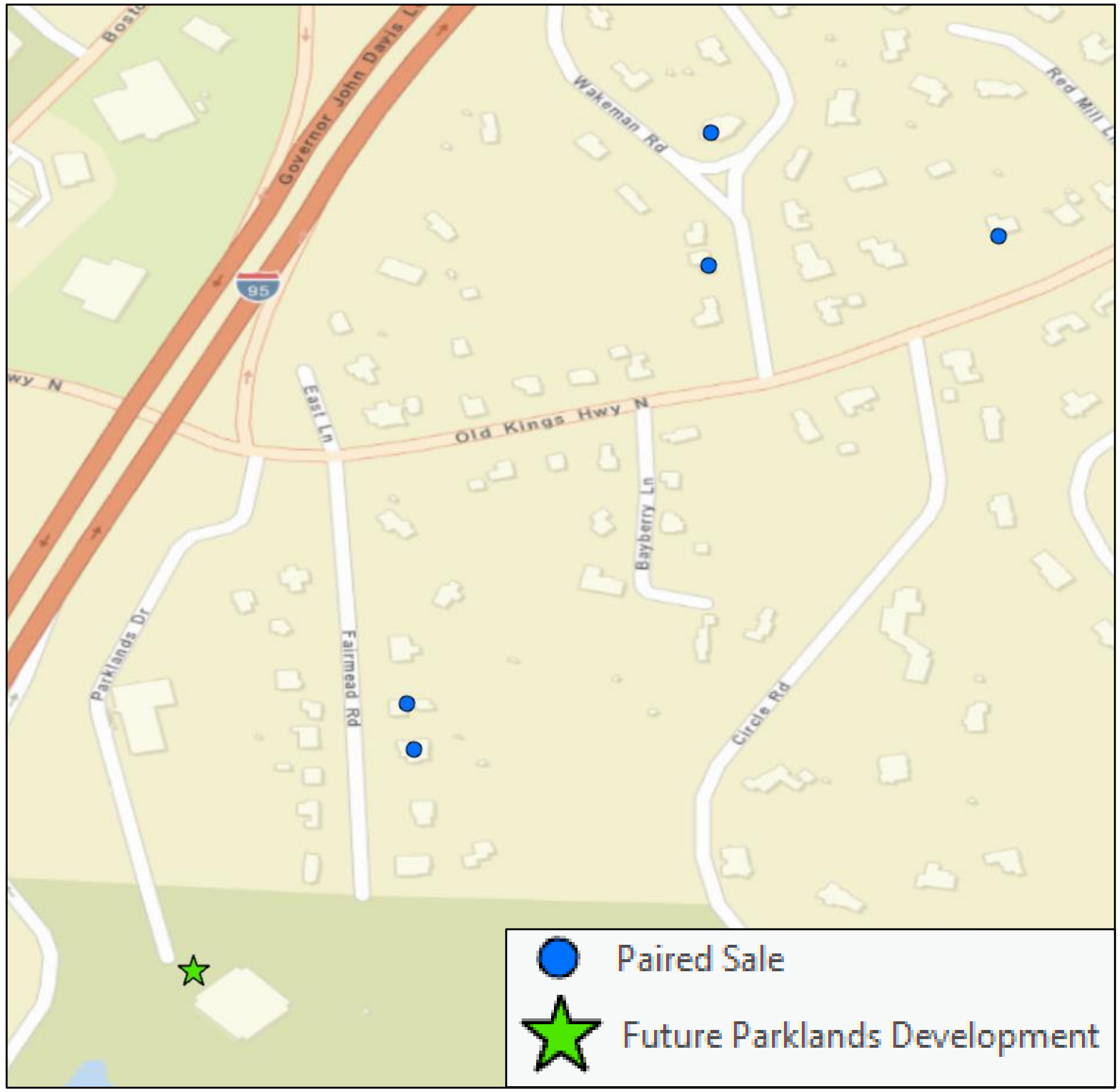
22 Fairmead Road (-2.0%)
- January 2014 - $1,275,000
- October 2016 - $1,250,000

3 Wakeman Road (7.8%)
- May 2016 - $1,160,000
- October 2017 - $1,250,000

8 Wakeman Road (52.4%)
- May 2011 - $945,132
- June 2020 - $1,440,000

190 Old Kings Highway (15.4%)
- November 2012 - $901,000
- November 2020 - $1,040,000

Overall, all but one house appreciated in value



Darien Housing Market Trends and Paired Sales

Conclusions

Darien, like Stamford, is a strong and high-value housing market. The price per square foot of residential is near a ceiling, constraining the potential for large property value appreciation. The similarity of trends in Darien and the two submarkets of The Heights and 3 Parklands provide a strong indicator that macro-scale economic/forces are the primary drivers of property value fluctuation in the housing market. This is important to understand; the housing market is being driven at submarket scale, yet the housing market is not showing signs of being influenced by conditions and occurrences at the micro-scale of neighborhoods.

The paired sales analysis of both The Heights and 3 Parklands submarkets further confirms the overall market trend findings above. Furthermore, the paired sales analysis of The Heights pre and post construction is consistent with and confirms the academic and industry research that consistently finds that multi-family “apartments posed no threat to surrounding single-family house values" (Hoffman, 2003) and “the fear of potential asset-value loss among suburban homeowners is misplaced” (Pollakowski, et. al, 2005: ii).

Section 4:

Sources

GOMAN+YORK

Sources

Supportive Material

AdvanceCT, Town Profile – Stamford 2*022.*

Aydin, Recain, Crawford,Evert, and Smith, Barton, A., (2006): “Commercial Development Spillover Effects Upon Residential Values”. *Southeastern Economic Review*.

Bell, Randall, (1998): “The Impact of Detrimental Conditions on Property Values” The Appraisal Journal. 380-391.

Bell, Randall, (2001): “The Impact of Airport Noise on Residential Real Estate” The Appraisal Journal. 312-321.

Brett, Deborah L., and Schmitz, Adrienne, (2009): *Real Estate Market Analysis: Methods and Case Studies*. Second Edition. Urban Land Institute. Washington, D.C.

Burchell, Listokin, and Dolphin, *Development Impact Assessment Handbook,* Washington, DC, Urban Land Institute, 1994.

Cartee, Charles, P., (1989): “A Review of Sanitary Landfill Impacts on Property Values” The Real Estate Appraiser and Analyst. 43-46.

Corlija, Melvin, Siman, Emilian, and Finke, Michael, S., (2006): Longitudinal Analysis of Big Box Store Construction on Nearby Home Values. *Consumer Interests Annual*. Vol. 52: 187-197.

Department of Commerce, United States, (1922): Standard State Zoning Enabling Act: Under Which Municipalities May Adopt Zoning Regulations.

Darien, Town of, *2016 Plan of Conservation and Development*.

Darien, Town of, *Zoning Regulations*, as of March 2021.

Findlay, III and G. Phillips, “An Evaluation of the Impact of a Well-Designed Landfill on Surrounding Property Values” The Appraisal Journal (April 1991): 247-52.

Hoffman, Alexander, (2003): “The Vitality of America’s Working Communities.” Cambridge, Massachusetts: Harvard University Joint Center for Housing Studies.

Hurd, Brian, H., (2002): “Valuing Superfund Site Cleanup: Evidence of Recovering Stigmatized Property Values” *The Appraisal Journal*. 426-437.

Jaeger, William, K, (2006): “The Effects of Land Use Regulations on Property Values”. *Environmental Law*, Volume 26:105.

Johnson, Daniel K.N., Lybecker, Kristina M., Gurley, Nicole, Stiller-Shulman, Alex, and Fischer, Stephen, (2009): The NWIMBY Effect (No WalMart In My Backyard): Big Box Stores and Residential Property Values. (Working Paper) Department of Economics and Business, Colorado College. Colorado Springs. CO.

Loyer, John, (2010): The Effect of Wal-Mart on Residential and Commercial Property Values: Evidence from New Jersey. The College of New Jersey. New Jersey. Matthews, John William, (2006): “The Effects of Proximity to Commercial Uses on Residential Prices”. Doctoral Dissertation. *Georgia State University and the Georgia Institute of Technology*.

Sources

Supportive Material

Miles, Mike E., Berens, Gayle L., Eppli, Mark J., and Weiss, Marc A., (2007): *Real Estate Development: Principles and Process.* Fourth Edition. Urban Land Institute. Washington, D.C.

National Association of Home Builders, (2001): "Market Outlook: Confronting the Myths about Apartments with Facts." Washington, D.C.

Poland, Donald. (2008); *Healthy Neighborhoods: Creating Neighborhoods of Choice in Weak-Market Cities*. Published by the Author. Hartford, CT.

Poland, Donald. (2016); *Urban Resilience – Evolution, Co-Creation, and the Remaking of Space: A Case Study of West Hartford Center*. (Doctoral Thesis) University College London. London, UK.

Pollakowski, Henry, O., Ritchay, David, and Weinrobe, Zoe, (2005): *Effects of Mixed-Income, Multi-Famity Rental Housing Developments on Single-Family Housing Values*. MIT Center for Real Estate. Cambridge, MA.

Simons, Robert A., Bowen, William, and Arthur Sementelli, Author, (1997): "The Effect of Underground Storage Tanks on Residential Property Values in Cuyahoga County, Ohio" *Journal of Real Estate Research.* Vol 14, 29-42.

Song, Yan, and Knaap, Gerrit-Jan, (2004): 'Measuring the Effects of Mixed Land Uses on Housing Values.' *Regional Science and Urban Economics*. Vol. 34: 663–680.

University of Washington. "Denser development is good for single-family home values." ScienceDaily. www.sciencedaily.com/releases/2012/06/120626151109.htm

Wiley, Jonathan, A., (2015): "The Impact of Commercial Development on Surrounding Residential Property Values". *Georgia State University*.

Our Team

Donald J. Poland PhD, AICP | Senior Vice President, Urban Planning

Dr. Poland is a geographer, planner, and community strategist whose work focuses on assisting communities compete for wealth and investment through strategic market, land use, and planning interventions that build community confidence, foster pride in place, create governance capacity, and grow market demand. With over twenty years' experience in the public, private, non-profit, and academic sectors, he offers a unique approach to addressing the social, economic, spatial, governance, and policy challenges of creating and maintaining healthy, vibrant, and prosperous communities.

Dr. Poland's consultancy, while covering a wide range of planning activities and providing extensive services, focuses mostly on smaller cities and weak-market communities that struggle to compete for wealth, investment, vibrancy, and prosperity. Dr. Poland specializes in creating strategic and scaled interventions designed to (re)position communities to compete for wealth and investment. His consultancy work and clients have included post-Katrina planning, land use, and redevelopment strategies for St. Bernard Parish, Louisiana, an economic investment strategy for the City of Oswego, New York, the preparation of a HUD NSP-2 application for Venango County, Pennsylvania, and the creation of an innovative zoning approach to implement the comprehensive plan in Canton, Ohio.

Dr. Poland is accepted as an expert witness in the areas of land use planning, neighborhood redevelopment, and community development in the United States District Court, Eastern District of Louisiana—the cases involved zoning and disparate impacts. He is a member of the American Institute of Certified Planners, a Certified Zoning Enforcement Official, Past-President of the Connecticut Chapter of the American Planning Association, and a fellow with the Connecticut Policy Institute.

GOMAN
+YORK

1137 Main Street
East Hartford CT 06108

Tel: (860) 841-3271
Fax: (877) 741-7210

http://gomanyork.com

EVERSOURCE

11 Harbor Avenue
Norwalk, CT 06850

April 4/9/2024

Mr. William Buckley
Building and Land Technology
Harbor Point Development, LLC
1 Elmcroft Road 6th Floor
Stamford, CT 06902

RE: 800 Long Ridge Road
800 Long Ridge Road
Stamford, CT 06902

Dear Mr. Buckley,

This letter is to advise that Eversource Gas Engineering Department has confirmed the ability to provide natural gas at 800 Long Ridge Road Stamford, CT for the planned development a new 4-building 354 unit residential apartment complex, and club house.

Eversource plans serve this development from the existing 12" high pressure gas main on Long Ridge Road. Additionally, Eversource will have the ability to provide 2 pounds of gas pressure to meet your demand as requested on your gas load letter.

Following completion of an infrastructure design and capital cost estimating, Eversource will conduct a financial analysis to determine if there would be any cost to the developer/property owner.

If an easement is required to serve any building(s), easement costs will be the responsibility of the developer/property owner.

This letter is not an agreement to provide natural gas service and is solely for identifying gas availability to serve the project.

Sincerely,

Marcus Sherrod

Marcus Sherrod
Account Executive – Natural Gas
Phone: 203-854-6440
11 Harbor Avenue Norwalk, CT 06850
EVERSOURCE

107 Selden Street, Berlin, CT 06037
P.O. Box 270, Hartford, CT 06141-0270

April 10, 2024

William Buckley
Building and Land Technology
1 Elmcroft Road, 6th Floor.
Stamford, CT 06902

Re: Eversource Electric Service to 800 Long Ridge Road Stamford, CT

Dear Mr. Buckley:

I am responding to the recent inquiry you submitted to The Connecticut Light and Power Company dba Eversource Energy ("Eversource").

This letter confirms that Eversource has existing electric distribution facilities that extend down Long Ridge Road. Any provisions of electric service to a new distribution customer would be done in accordance with Eversource's Tariffs, Policies, procedures, Terms and Conditions for Delivery Service and state law/regulation and the customer's premises and use thereof cannot conflict or unreasonably interfere with Eversource's existing easements, facilities and rights over the premises served.

Sincerely,

Dennis Labrosciano
Field Engineering Design
Eversource Energy

Cc: Ed Finelli – Supervisor Field Engineering Design

AQUARION Water Company
Stewards of the Environment™

203.445.7310 phone
800.732.9678 (toll free)

April 15, 2024

William J. Buckley Jr., PE
100 Washington Blvd, Suite 200
Stamford, CT 06902

Re: Request for Water Service – 800 Long Ridge Road, Stamford, Connecticut

Dear Mr. Buckley,

This letter confirms that Aquarion Water Company of Connecticut (Aquarion) has sufficient water supply to meet the following estimated residential water demand for the proposed development at the above referenced property.

- Average Day Demand: 32,568 gallons per day
- Maximum Day Demand: 65,136 gallons per day
- Irrigation System Demand: 150 gallons per day
- Hydrant Demand: 500 gallons per minute at 20 psi
- Fire Sprinkler Demand: 1,000 gallons per minute at 20 psi

Please note that Aquarion has instituted conservation measures in Stamford that limits the operation of irrigation systems to two (2) times per week. Please visit our website for additional information (www.aquarionwater.com).

Based on our preliminary analysis, the pressures at the project site range from 28 to 50 psi. Therefore, a Limited Service Agreement will be needed in order to provide water service to the site. Aquarion recommends evaluating the installation of a booster pump system for the proposed development.

The attached fire flow test report indicates an available fire flow of approximately 4,606 gallons per minute at 20 psi in the road. Please note that fire flow tests are indicative of the available flow at a specific time in the road. Available flow and pressures will vary throughout the day and year based on system demands, which may result in lower available flow and pressure. It is your engineer's responsibility to design accordingly to achieve the required flow and pressure while considering all the building demands and system demands.

This service commitment is valid for 12 months from the date of issuance. If your proposed project is not ready for water service (intended usage) within 12 months of this letter, then Aquarion's ability to serve your project will have to be re-evaluated.

While this letter serves as a service commitment, it is not an approval of how or when you connect (tap) to our water main. You must complete the New Services Process, including obtaining additional approvals that are required, payment of required fees, etc. If you have any questions regarding this letter, please feel free to contact me at 203.362.3067. If you have questions regarding the new services process and next steps required to connect (tap) to our system, please contact our New Services Team at newservices@aquarionwater.com.

Very truly yours,
Aquarion Water Company

Hannah P. Swearsky
Planning Engineer

cc: New Services, File
Attachment: Fire flow test at hydrant 0164 dated 10/17/2023
Will Serve Letter Application dated 03/21/2024

William P. Brink, P.E. BCEE
Executive Director
Stamford Water Pollution Control Authority
203-977-5809
wbrink@stamfordct.gov

STAMFORDWPCA

Edward Kelly, Chairman
SWPCA Board of Directors
Stamford Water Pollution Control Authority
ekelly@stamfordct.gov

May 23, 2024

<u>To Whom It May Concern:</u>

This notice is to state that public sewer service is available in Long Ridge Road to serve the proposed development at 800 Long Ridge Road. Sewer service is subject to a detailed review of the proposed development during the building permit application process.

Should you have any questions, feel free to call (203) 977-5768.

Sincerely,

Ann M Brown

Ann M Brown, P.E.
Supervising Engineer

STAMFORDWPCA

Stamford WPCA Presentation to

City of Stamford Zoning Board

September 18, 2023

William Brink, Executive Director

Stamford Water Pollution Control Authority

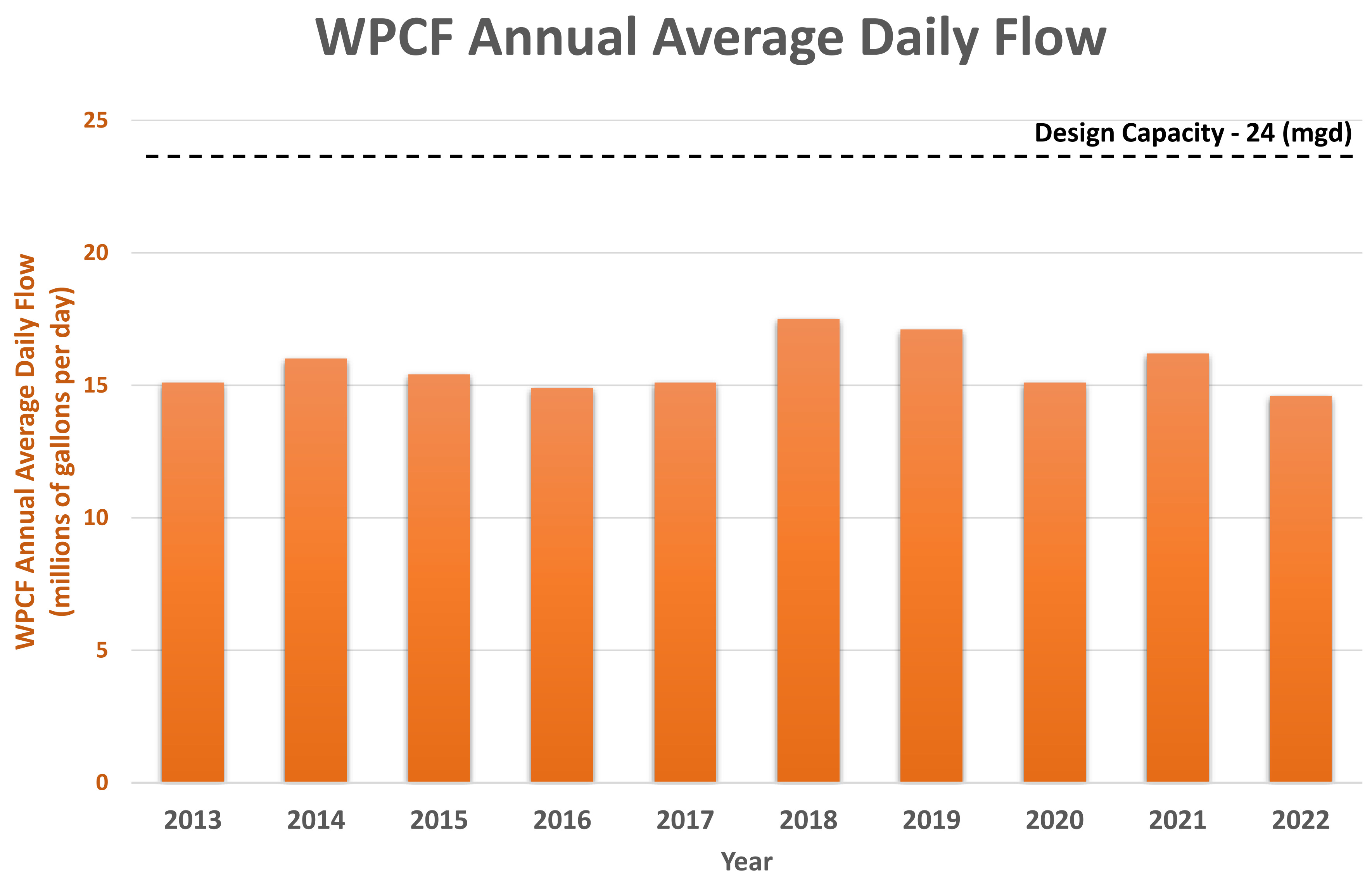
- Enterprise fund within City
- Nine-member Board of Directors
- Provides wastewater collection and treatment services for sanitary sewered areas of the City and treatment for Town of Darien
- Collection system – 250 miles of gravity sewer and force main and 23 pump stations
- Receives septage from non-sewered areas of City
- Operates and maintains the City's Hurricane Barrier and three (3) storm water pump stations
- Operating Budget for FY 23-24 is $28.3 million
- Total staff of 47

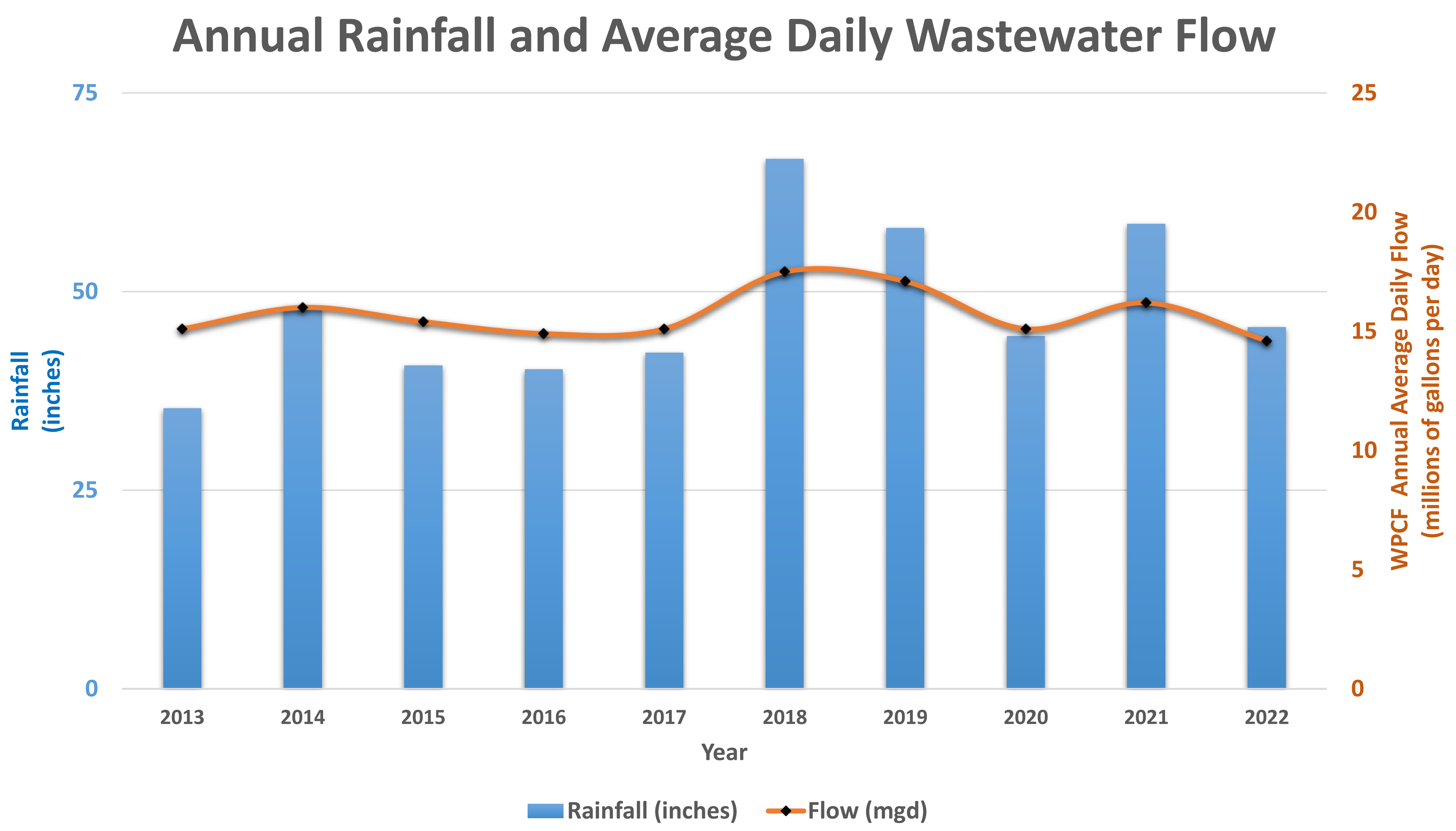
Stamford Water Pollution Control Facility

STAMFORDWPCA

Water Pollution Control Facility

- Major upgrade and expansion in 2004
- Provides advanced wastewater treatment to remove nitrogen to protect the water quality in Long Island Sound.
- Wastewater treatment capacity of 24 million gallons per day (mgd) average daily flow.
- Current daily wastewater flows average between 13 to 16 mgd.
- Wastewater flows influenced by rainfall and groundwater levels.
- Peak hydraulic capacity (for a major storm event) of 68 mgd.


WPCF Annual Average Daily Flow
Design Capacity - 24 (mgd)
WPCF Annual Average Daily Flow (millions of gallons per day)
25
20
15
10
5
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Year



Annual Rainfall and Average Daily Wastewater Flow
75
50
25
0
Rainfall (inches)
25
20
15
10
5
0
WPCF Annual Average Daily Flow (millions of gallons per day)
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Year
Rainfall (inches)
Flow (mgd)

STAMFORDWPCA

Major WPCF Upgrades and Improvements

- Improved flow distribution to the WPCF's four (4) final clarifiers and increased capacity of effluent pumping to 68 mgd with one (1) pump in reserve ($4 million construction cost).
- Upgraded UltraViolet (UV) Disinfection with new equipment and added an additional channel to provide disinfection up to 68 mgd with UV equipment in reserve ($7.1 million construction cost)
- Replaced three (3) mechanical screens and the five (5) raw sewage pumps with larger units to increase capacity to 68 mgd with one (1) unit each in reserve ($11.2 million construction cost)
- Replaced aged aeration blowers with three new (3) high efficiency units and modified the aeration tanks to save energy and reduce chemical costs ($8.5 million construction cost).
- Upgrade primary sludge pumping and sludge degritting to improve operation (construction ongoing at cost of $9.2 million).
- Replacement of aged Return Sludge Pumps and Plant Water Pumps (in design – estimated construction cost $10 million)

Upgrade of WPCF Raw Sewage Pump Station

Five (5) New Raw Sewage Pumps and Piping

Upgrade of Raw Sewage Pump Station

New Mechanical Screens

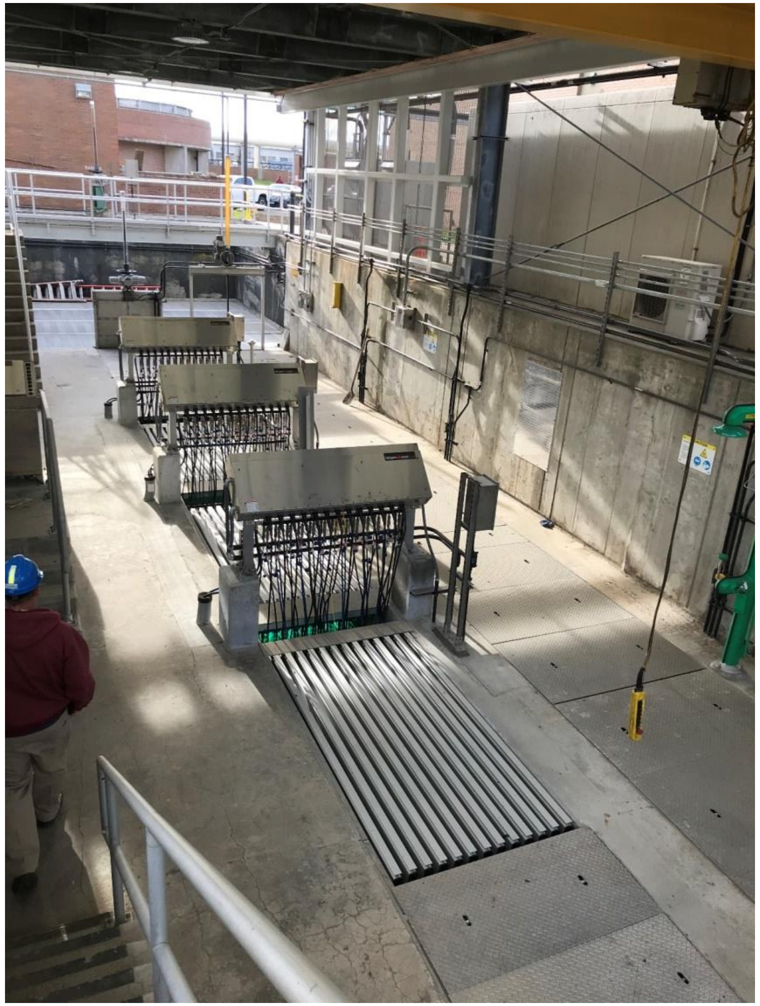
New Odor Control

Secondary Treatment Improvements

Three (3) New High Efficiency Blowers

Upgrade of UV Disinfection System

- Replaced aged UV equipment with new UV equipment manufactured by Trojan Technologies
- Added a third UV channel for redundancy



SWPCA Collection System Improvements

- Upgrade of Alvord Lane, Commerce Drive and Saddle Rock Road Pumping Stations currently in design.
- Muti-year program to remove extraneous rain and groundwater (called Infiltration and Inflow) from the collection system.
- An Infiltration and Inflow Study identified sub areas of the collection system with greatest amounts of Infiltration and Inflow.
- Sewer system evaluation surveys identify sources of Infiltration and Inflow by internal inspection of the sanitary sewers using CCTV, and smoke and dye testing to identify illegally connected roof drains, yard drains and catch basins.
- SWPCA spends approximately $500k each year lining and replacing sanitary sewers and sealing leaking joints in sewers and manholes to remove Infiltration and Inflow.

STAMFORDWPCA

WPCA Review of Proposed Development

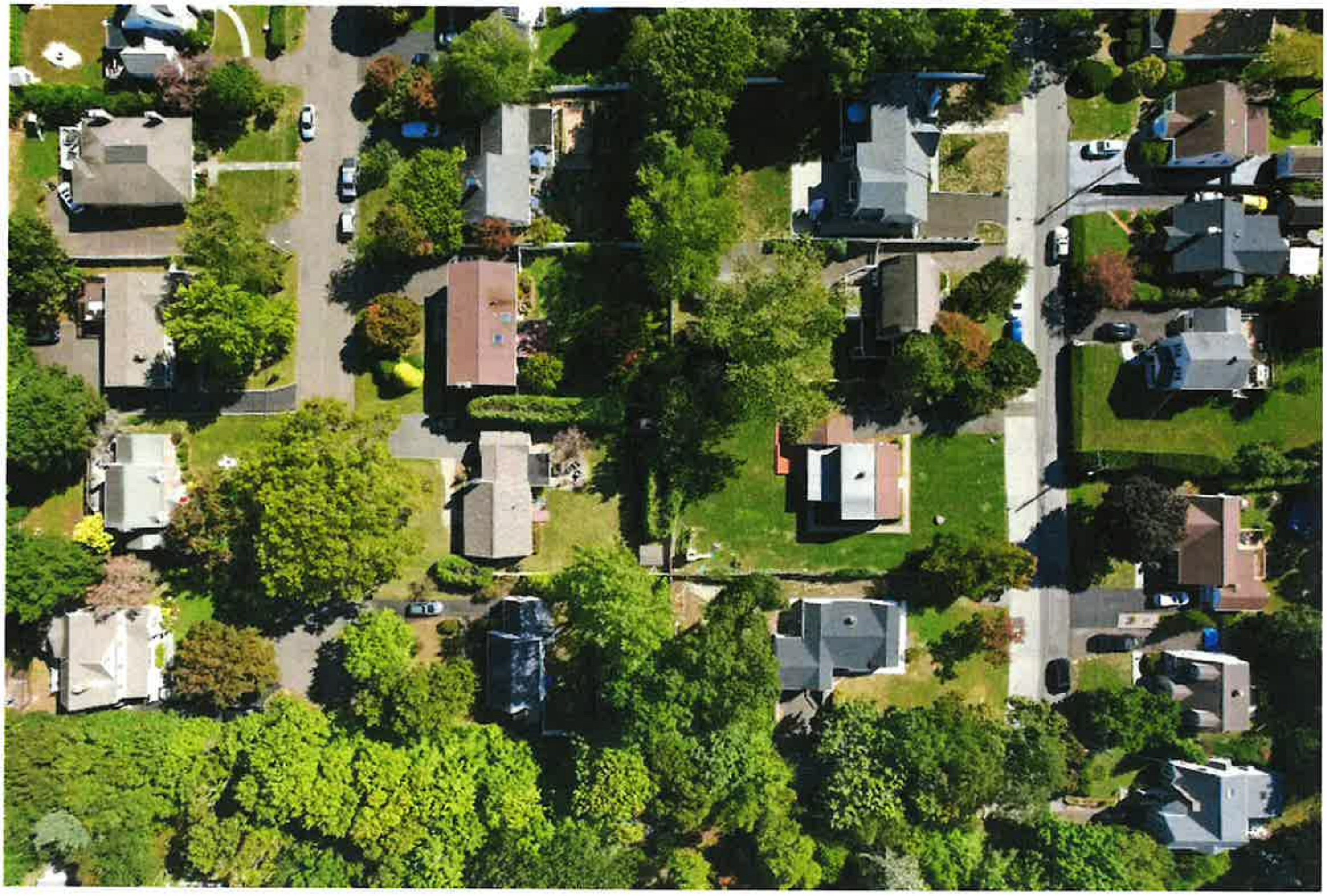
- WPCA staff review all proposed development within service area.
- SWPCA Supervising Engineer reviews proposed development to determine impact on collection system and treatment plant and whether a sewer system capacity analysis is needed by the applicant for the WPCA to be able to issue a statement of "capacity to serve".
- SWPCA Regulatory Compliance staff review proposed development for compliance with the City's Fats, Oil and Grease (FOG) Ordinance.
- Proposed development that will discharge non-domestic wastewater must submit a permit application for review by SWPCA's Plant Supervisor.

NEWS

As Stamford adds more housing, does water supply present a problem? Aquarion says it's complicated.

By **Verónica Del Valle**, *Reporter*

Oct 4, 2022



Residential homes on Mercedes Lane, left, and Knollwood Avenue in Stamford, Conn. are photographed Tuesday, Sept. 27, 2022.

Tyler Sizemore / Hearst Connecticut Media

STAMFORD — Despite the pace of development in the city, there's plenty of water available, in part because of modern appliances and better planning, a water company spokesman said.

Aquarion Vice President of Engineering Dan Lawrence appeared before the Zoning Board recently to talk about water use. Critics of zoning projects often refer to drought restrictions and water pressure problems as reasons to deny a developer. Lawrence was asked to the meeting to explain about water use and policy.

During a sprawling discussion on the company's approach to water supply and development in the region, Lawrence told Zoning Board members that even though more people are moving into the city, water use is down because of long-rage utilities planning projects and progress in water efficiency technology.

"Over the last 20 years, we have seen a decline in individual water use on an average day, specifically related to better appliances or efficient appliances," Lawrence told The Stamford Advocate before his appearance before the Zoning Board.

More News

Stamford teachers rally against plan to restructure EL department

Judge: Former CT student accused of fraud can attend brother's graduation

Similar trends have been observed across the country, even in extreme drought periods. Daily water use per capita dropped 22 percent between 1996 and 2006 in residences across the country, according to the American Water Works Association. In Los Angeles — an area that suffers from a persistent drought — people use 44 percent less water per person annually than in the 1980s, according to an LA Times report.

Water use can also vary depending on the type of structure or the infrastructure associated with it, Lawrence said. There is a difference between water use in apartment buildings and single-family homes, he said.

"Your water use per capita or per person is more like 40, 45 maybe 50 gallons per day" in an apartment, he said, "versus a traditional home in Southwest Fairfield County (which) would probably be 70 (gallons) or higher."

Aquarion evaluates its water supply regionally, according to Lawrence, so Stamford's supply is evaluated along with that of Greenwich, Darien and New

Canaan. The company uses population estimate tools to determine how many people could live in a given region compared to how much water they might use.

While Aquarion cannot advocate for growth as a utility provider, the company will provide developers with information on whether or not a given parcel has adequate supply, pressure and water flow to meet the needs of a given project, Lawrence said.

Sometimes, a developer must extend a water main to meet the needs of a project. Other times, a developer building an apartment complex opts to install a pump at the site of new construction to increase the water pressure on the location, he said.

The company has issued “almost 40 letters for projects” since 2020 for a diverse range of commercial and residential projects, he said.

veronica.delvalle@hearstmediact.com

STAMFORD HEALTH
Affiliate: Columbia University Vagelos College of Physicians and Surgeons
A Planetree Hospital
A Magnet® Recognized Hospital

March 21, 2024

Stamford Zoning Board
888 Washington Boulevard
Stamford, CT 06901

RE: 800 Long Ridge Road, LLC – Zoning Board Appl. 223-38

Dear Members of the Stamford Zoning Board,

I am writing in response to a question recently raised in connection with the redevelopment of 800 Long Ridge Road. Specifically, I understand some members of the community are concerned about Stamford Hospital's ability to properly serve the population growth in Stamford. I am writing to assure the Zoning Board that Stamford Hospital does not have capacity constraints.

Stamford Health diligently conducted multiple population-based studies, both preceding the construction of our new hospital building and more recently as we plan for the future. These comprehensive analyses consistently reaffirmed our capacity to accommodate population growth, not only within Stamford, but also in the surrounding communities we serve. Furthermore, we have accounted for potential market share growth in our assessments.

While it is true that there has been an increase in wait times within our emergency department in recent months, I would like to clarify that this was not indicative of an inability to meet demand. Rather, the temporary constraints were attributable to the renovation of our maternity wing. During this period, 36 medical-surgical beds were repurposed to function as a temporary maternity wing, which briefly impacted patient throughput. However, with the completion and opening of our new, state-of-the-art maternity wing this month, these beds are now back online, ensuring the restoration of our emergency department's functionality to its optimal state.

Stamford Hospital is licensed by the state to operate 305 beds, yet we do not currently utilize them all. In fact, we have an entire floor within our facility that remains undeveloped. It is only prudent to underscore this fact to emphasize our commitment to responsible growth and expansion. If necessary, in the future, we could certainly pursue approval from the state for additional licensed beds.

Additionally, we have recently added after hour care options at our walk-in center at 292 Long Ridge Road for patients with immediate, non-acute care needs, and have plans to add similar options at other Stamford Health locations, including a new location in Harbor Point opening in the next few months. These locations will reduce demand at our emergency department, as patients often use the hospital emergency department after hours for lower acuity services that don't require emergency-level care. The 292 Long Ridge Road location will be convenient for residents of 800 Long Ridge Road, should the Zoning Board approve this project.

Stamford Health is confident in our ability to serve the community's healthcare needs effectively, even amidst projected population growth. We remain steadfast in our dedication to providing exemplary healthcare services to the residents of Stamford and the surrounding areas.

Thank you for your continued commitment to our community.

Sincerely,

Ben Wade

Ben Wade
Senior VP, Strategy & Marketing and Chief Strategy Officer

Exhibit L
Multifamily Housing Student Population

Address/Development	Number of Students[1]	Number of Units	Percentage of Units with Students[2]
River Oaks Condos	1	59	1.69%
180 Turn of River Road	3	70	4.29%
77 Havemeyer Lane	6	190	3.16%
816-820 High Ridge Road (Maple Ridge)	5	53	9.43%
900 Pacific Street (Opus)	0	180	0.00%
66 Summer Street	0	211	0.00%
1011 Washington Boulevard (Vela)	1	209	0.48%
355 Atlantic Street (Atlantic Station)	5	325	1.54%
545 Bedford Street (Bedford Hall)	3	82	3.66%
111 Morgan Street (Element One)	5	183	2.73%
1340 Washington Boulevard (Parallel 41)	3	124	2.42%
184 Summer Street (Summer House)	4	228	1.75%
1 Greyrock Place (Urby)	9	641	1.40%
75 Tresser Boulevard	12	344	3.49%
880 Pacific Street (Escape)	3	435	0.69%

[1]Number of students provided by Ryan Fealey from Stamford Public Schools.
[2]Assumes that there are no units with multiple students.

Exhibit M
Sustainability Scorecards from Projects Approved in 2022-23

Approved Project	Score	Grade
Broad Street & Greyrock Place (221-14, 221-15, & 221-16)	22 out of 65	N/A
821-831 East Main Street and 27-29 Lafayette Street (220-46 & 221-19)	33 out of 63	N/A
419-650 West Avenue (221-26)	15 out of 72	N/A
648-690 Pacific Street & 171 Henry Street (221-29)	43 out of 55	C
122-24, 128-36, & 0 Broad Street (222-37)	32 out of 75	N/A
100 Clinton Avenue (222-32)	51 out of 127	C
0 Walton Place & 80 Prospect Street (222-25, 222-26, & 222-27)	37 out of 78	N/A
68 Seaview Avenue (222-23 & 222-24)	38 out of 57	N/A
821-833 East Main Street (222-06 & 222-07)	30 out of 59	N/A
0, 441, & 481 Canal Street, & 50 John Street (222-03 & 222-04)	50 out of 117	C
50 Barry Place (223-01)	20 out of 127	N/A
210 Long Ridge Road (223-28)	53 out of 127	C

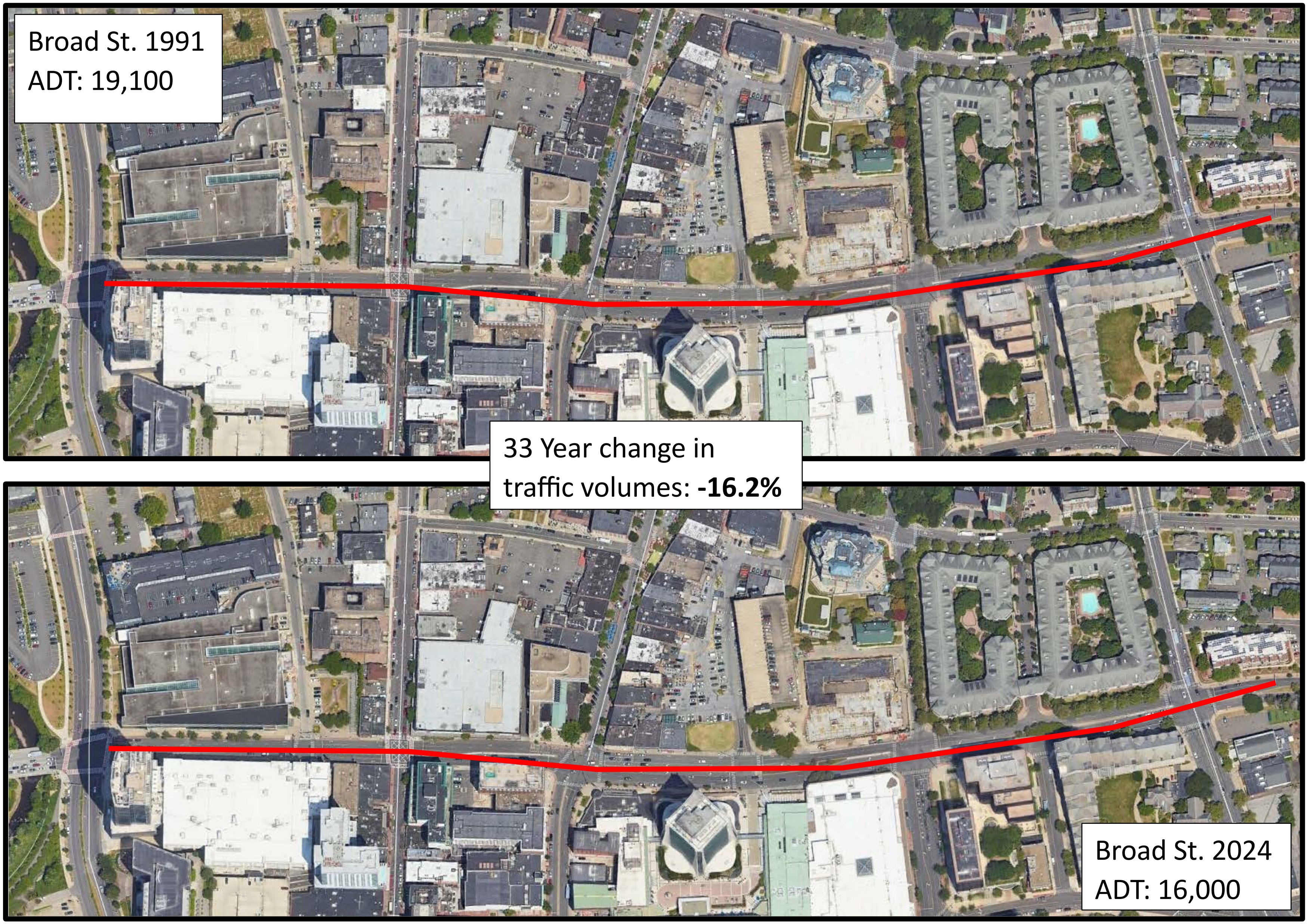
Stamford Citywide Traffic Data

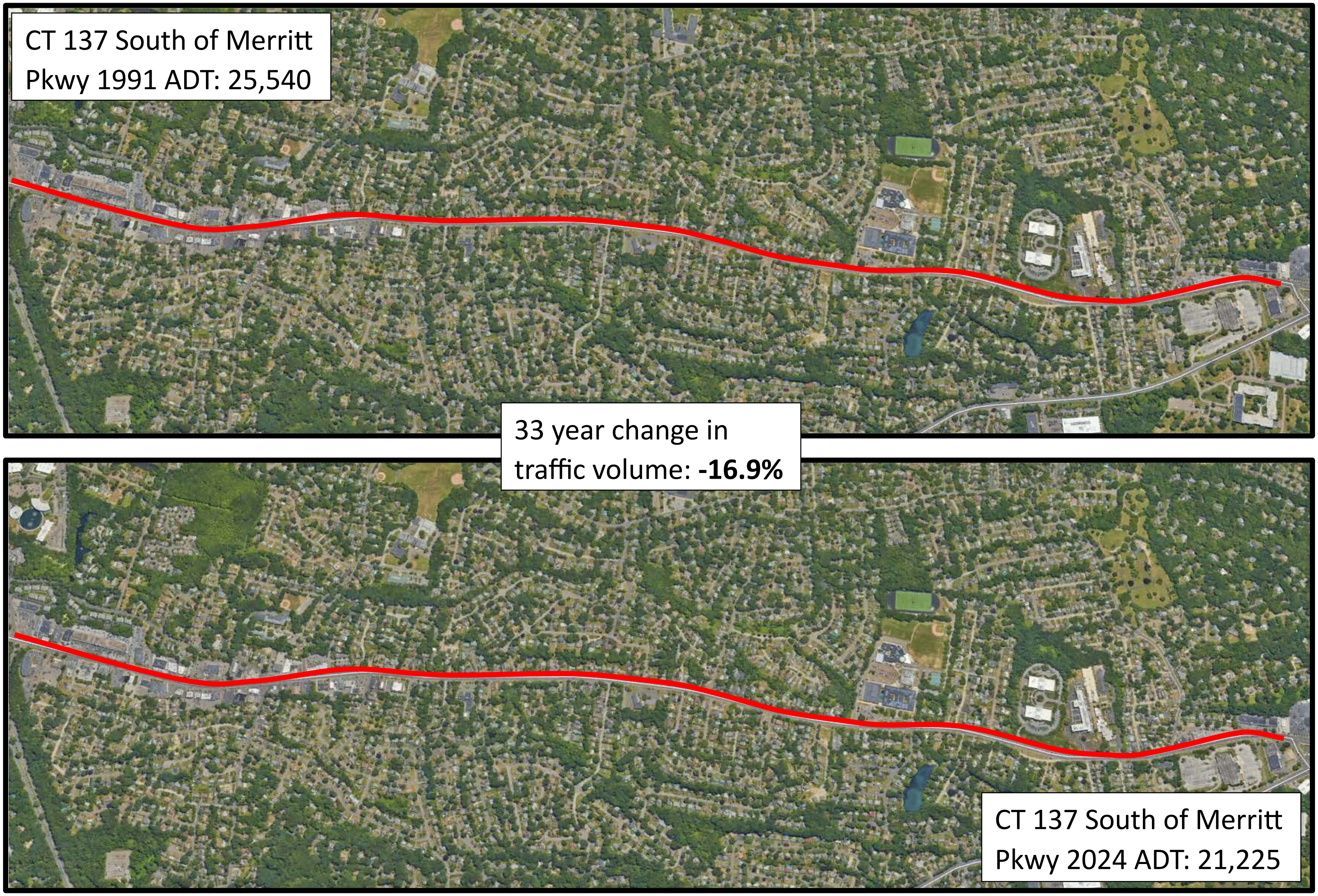
KEY TERMS

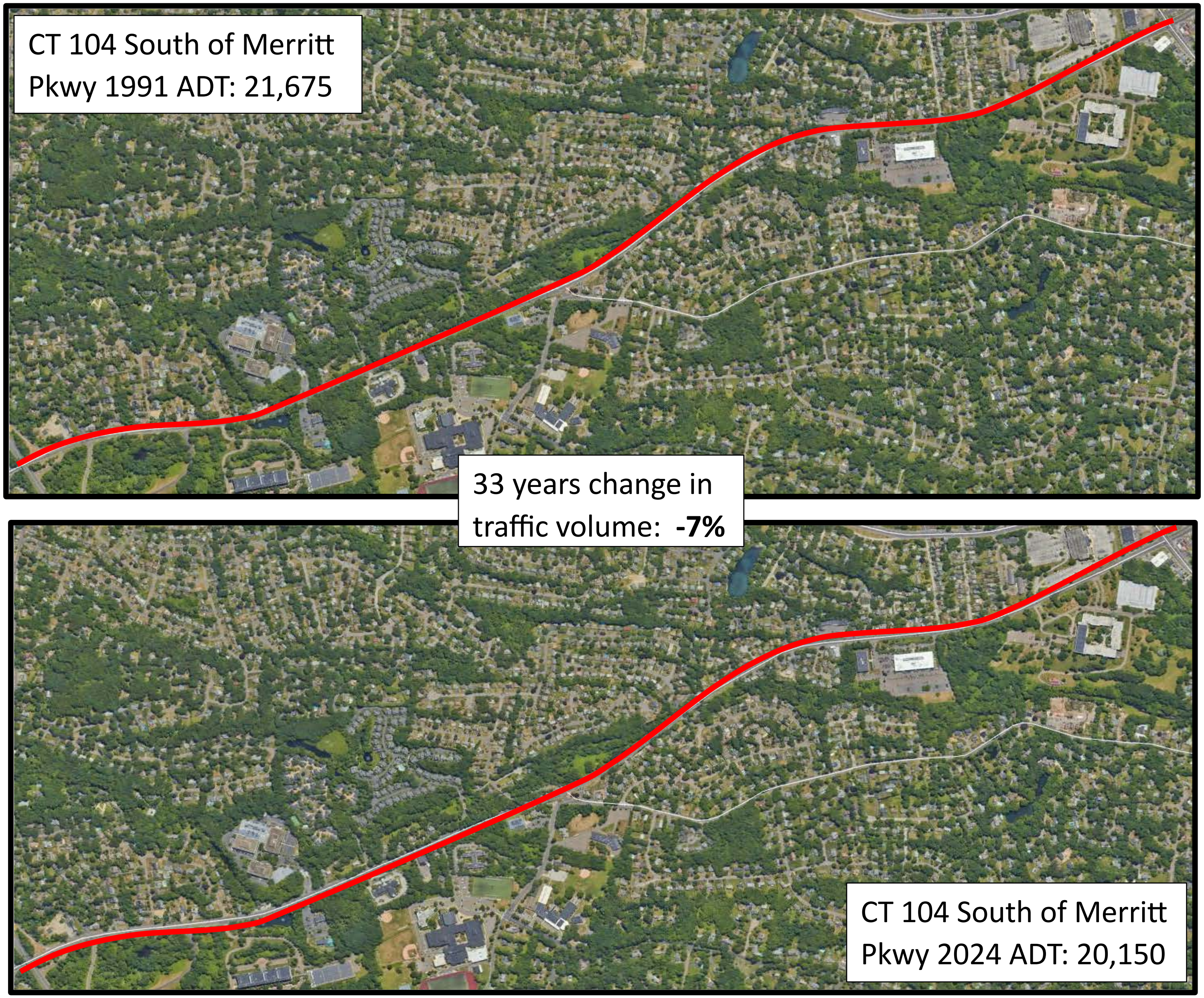
- Average Daily Traffic (ADT)
  - Total volume of traffic divided by 365
- Level of Service (LOS)
  - Qualitative measure of vehicle delay.
  - Scaled A-F
- CTDOT Continuous Count Stations
  - CTDOT collects 3 days worth of traffic data at count stations across the State every 3 years
- Institute of Transportation Engineers (ITE)
  - Professional Traffic Engineering and Planning Organization
- ITE Trip Generation Handbook
  - National Standard for Development Trip Generation

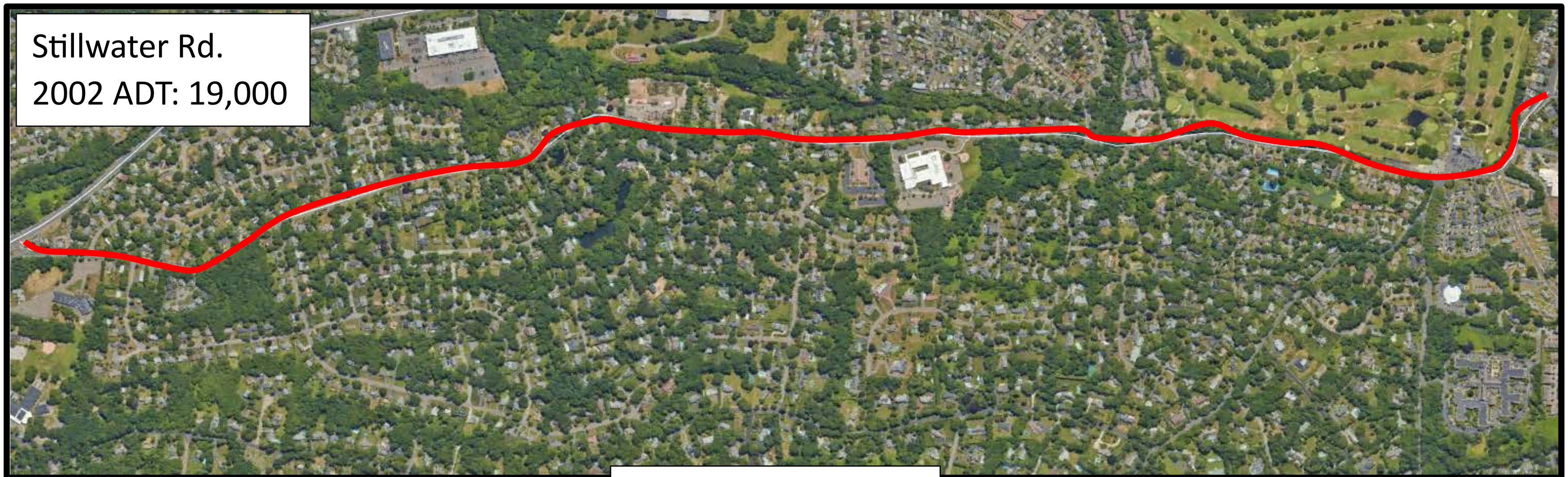
ZONING APPLICATION REVIEW PROCESS

- All applications are reviewed by three TTP Department staff members
    - Luke Buttenwieser, Transportation Planner
        - 5+ years experience
    - Jianhong Wang, P.E, PTOE, RSP1, Traffic Engineer
        - 15+ years experience
    - Frank W. Petise, P.E, Transportation Bureau Chief
        - 20+ years experience
- Larger applications are reviewed by the Connecticut Department of Transportation Office of State Traffic Administration (OSTA)
    - Reviews for safety and impact to State Highway System

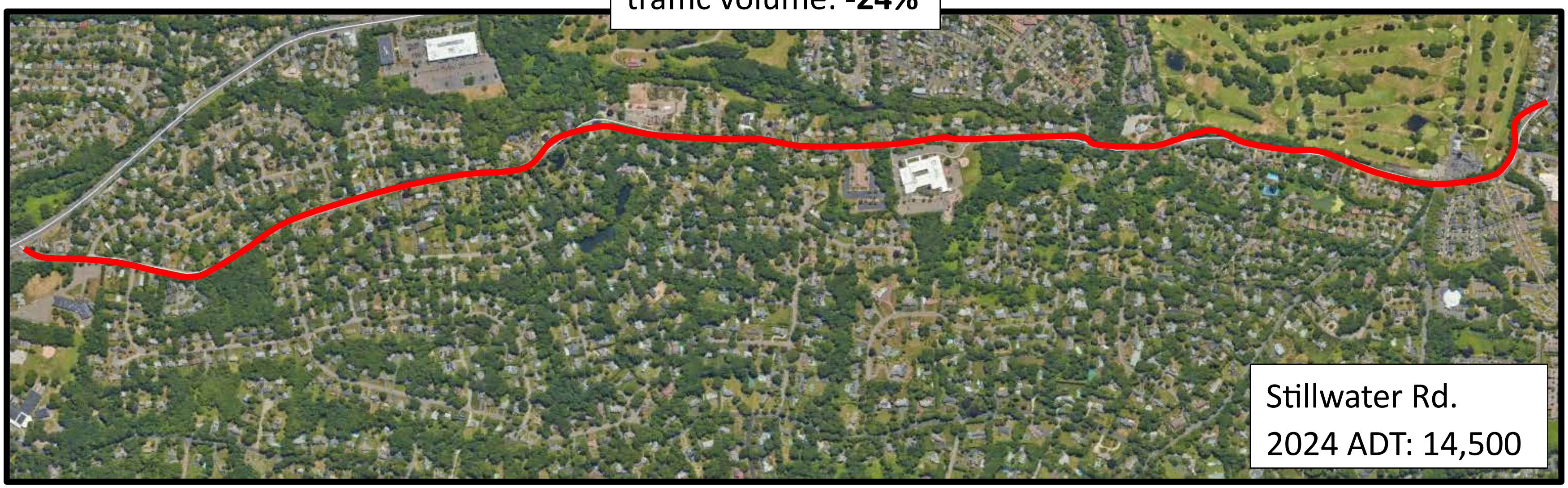

Broad St. 1991
ADT: 19,100
33 Year change in traffic volumes: **-16.2%**
Broad St. 2024
ADT: 16,000

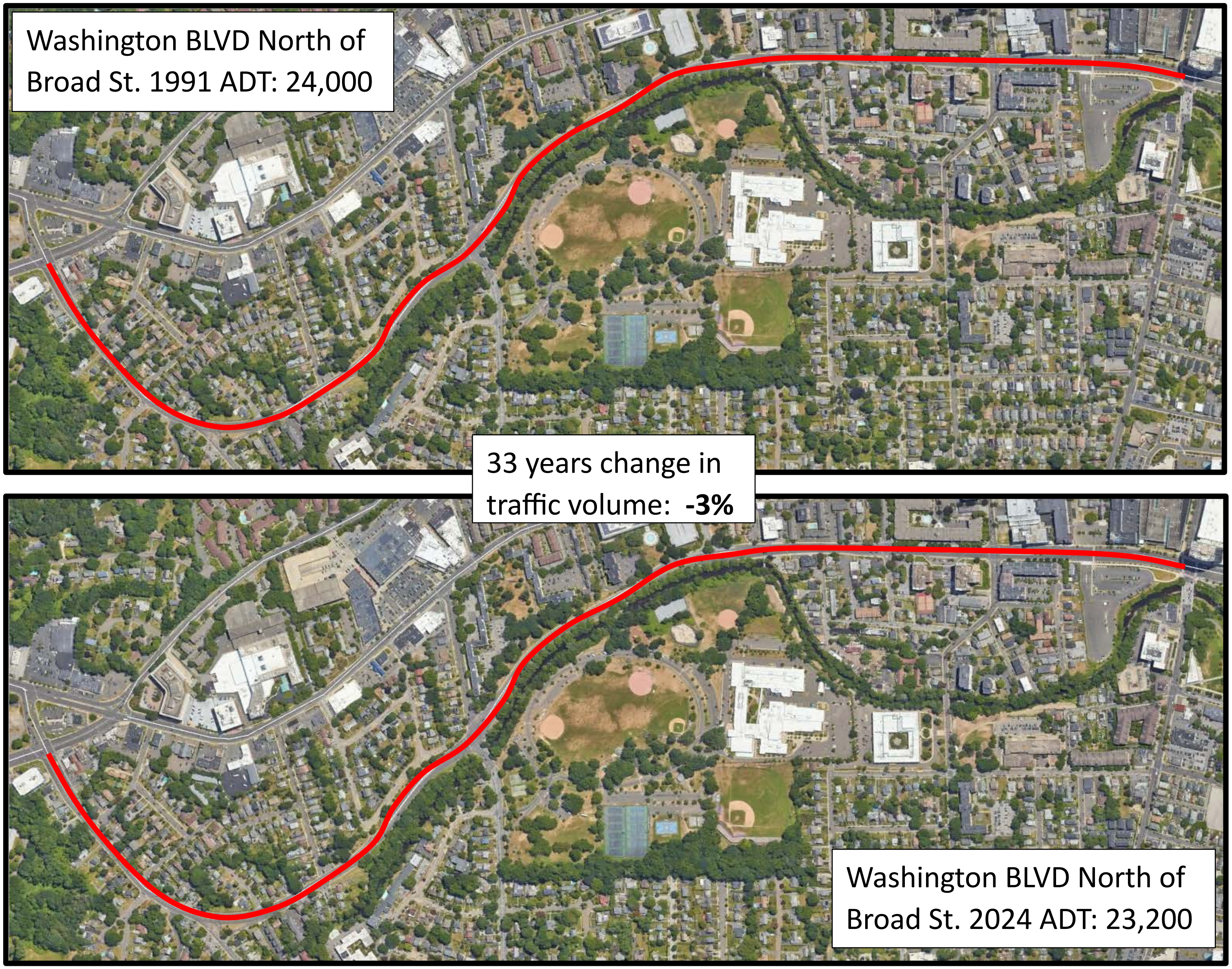

CT 137 South of Merritt Pkwy 1991 ADT: 25,540
33 year change in traffic volume: **-16.9%**
CT 137 South of Merritt Pkwy 2024 ADT: 21,225

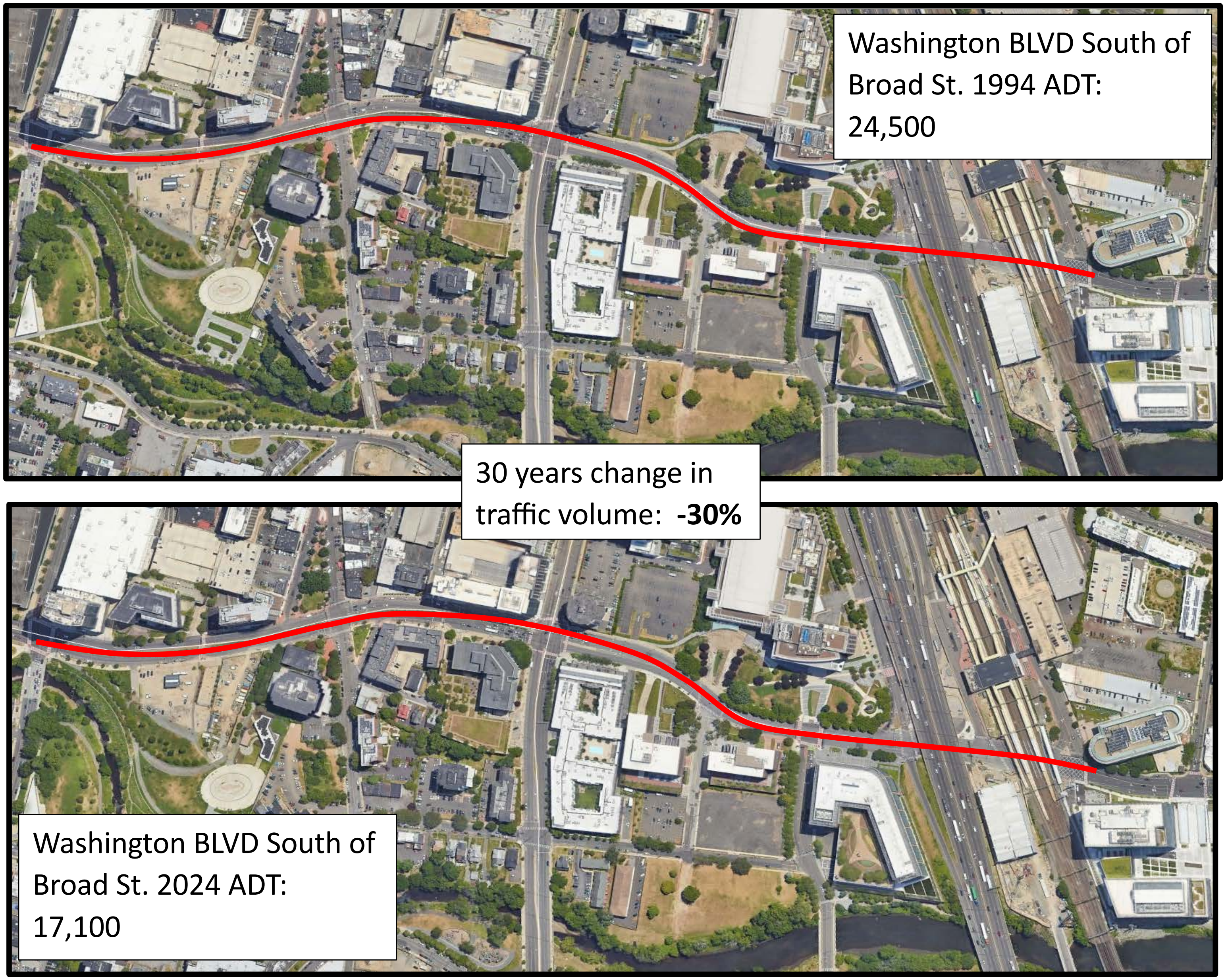

CT 104 South of Merritt Pkwy 1991 ADT: 21,675
33 years change in traffic volume: **-7%**
CT 104 South of Merritt Pkwy 2024 ADT: 20,150

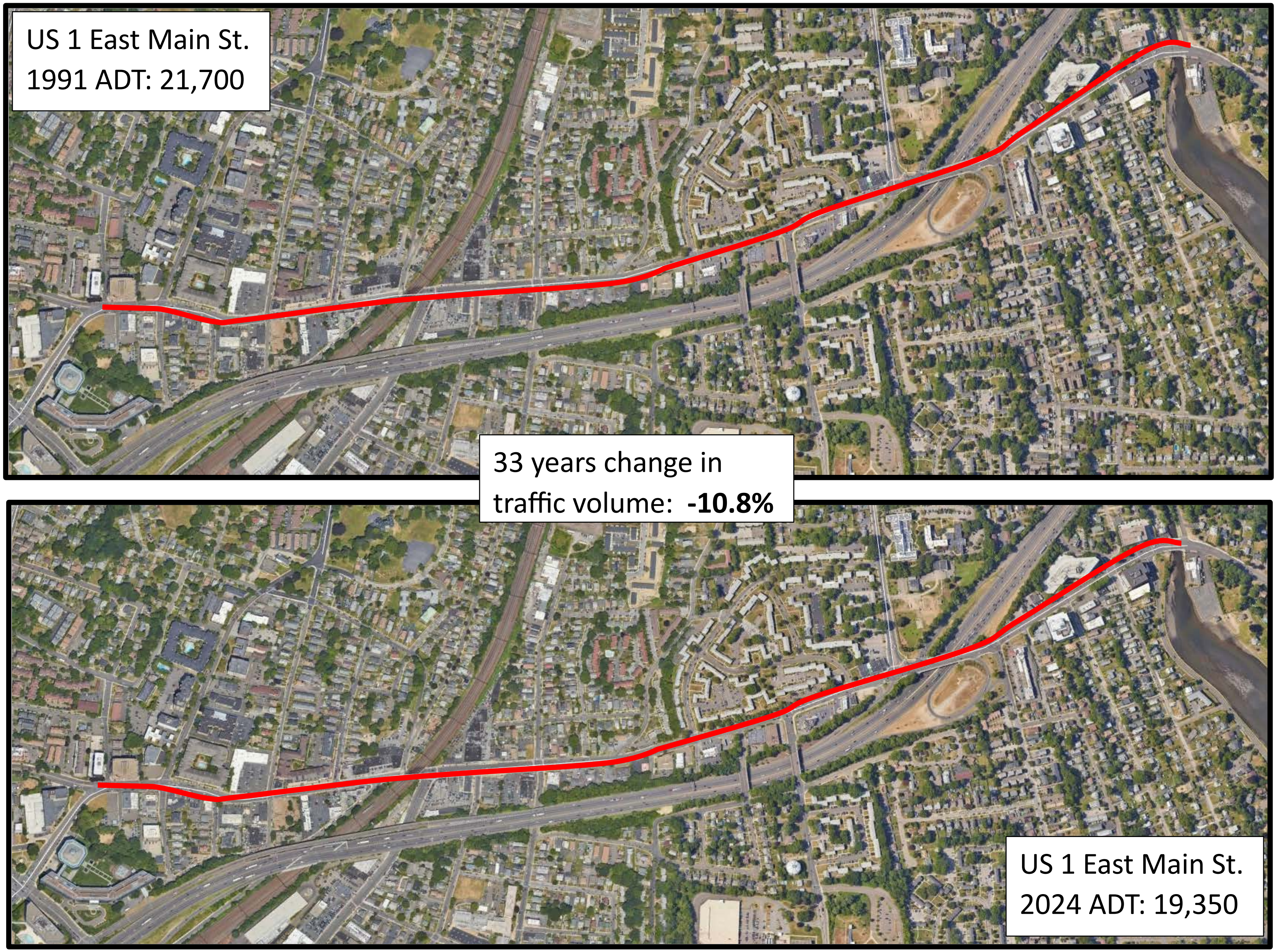


22 years change in traffic volume: **-24%**

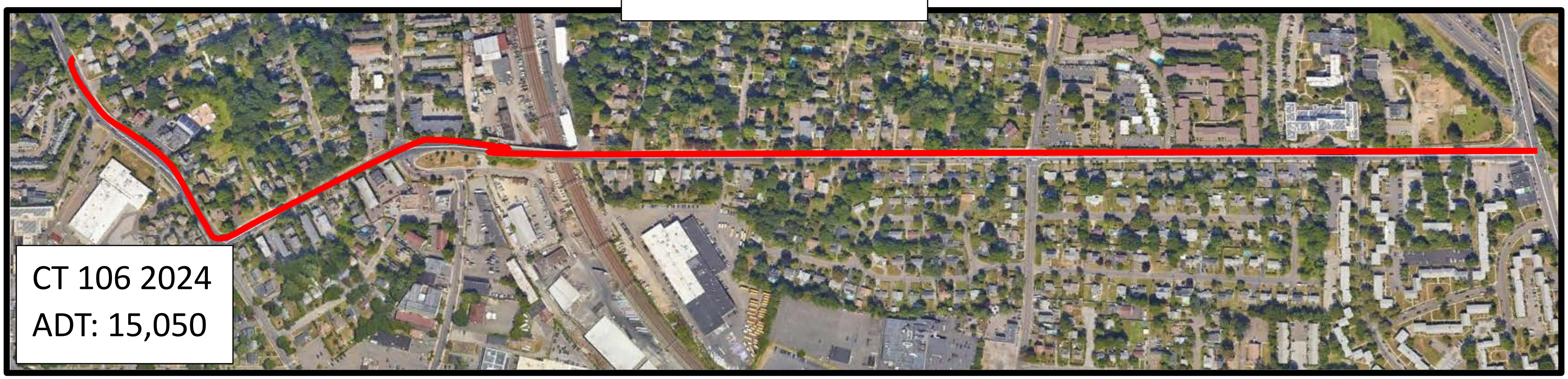


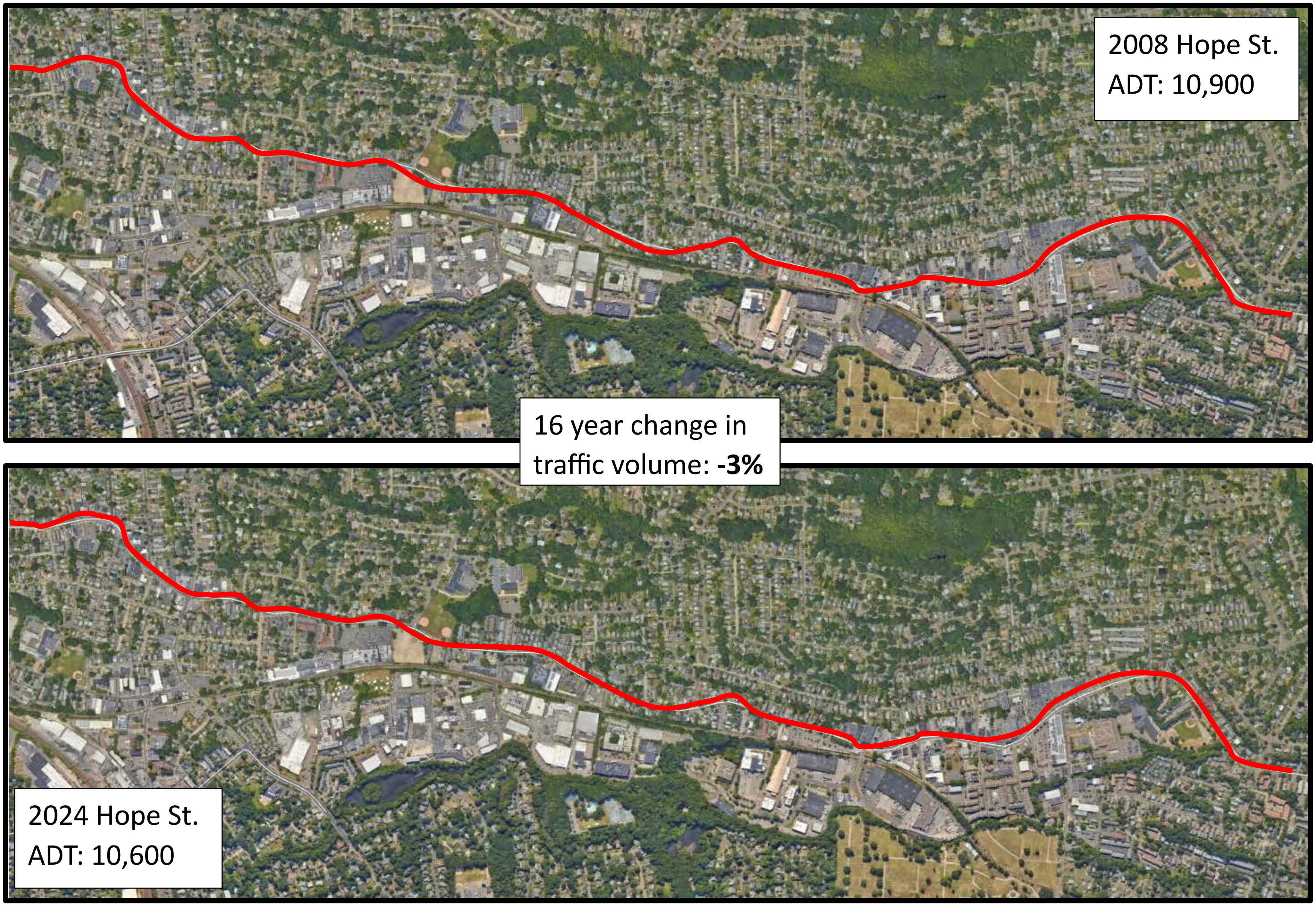

Washington BLVD North of Broad St. 1991 ADT: 24,000
33 years change in traffic volume: -3%
Washington BLVD North of Broad St. 2024 ADT: 23,200

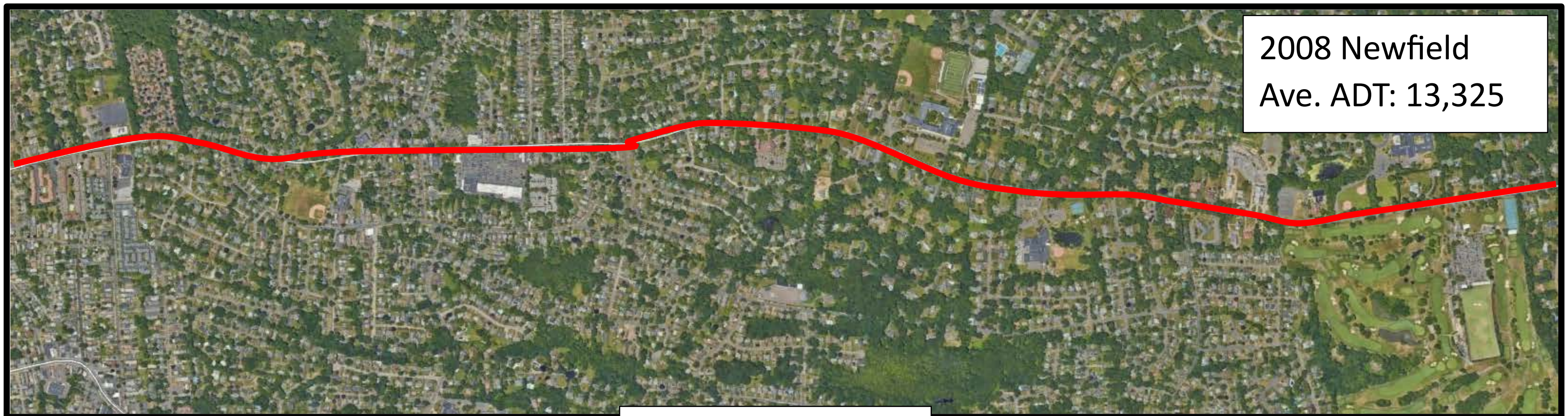

Washington BLVD South of Broad St. 1994 ADT: 24,500
30 years change in traffic volume: **-30%**
Washington BLVD South of Broad St. 2024 ADT: 17,100


US 1 East Main St.
1991 ADT: 21,700
33 years change in
traffic volume: **-10.8%**
US 1 East Main St.
2024 ADT: 19,350

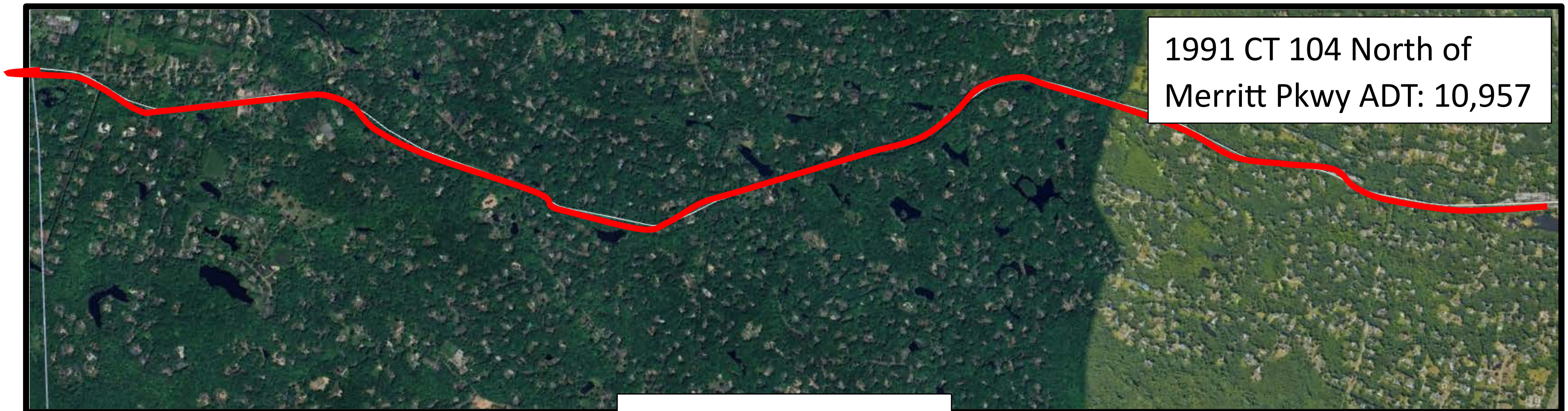
33 year change in traffic volume: 0%




2008 Hope St.
ADT: 10,900
16 year change in traffic volume: **-3%**
2024 Hope St.
ADT: 10,600

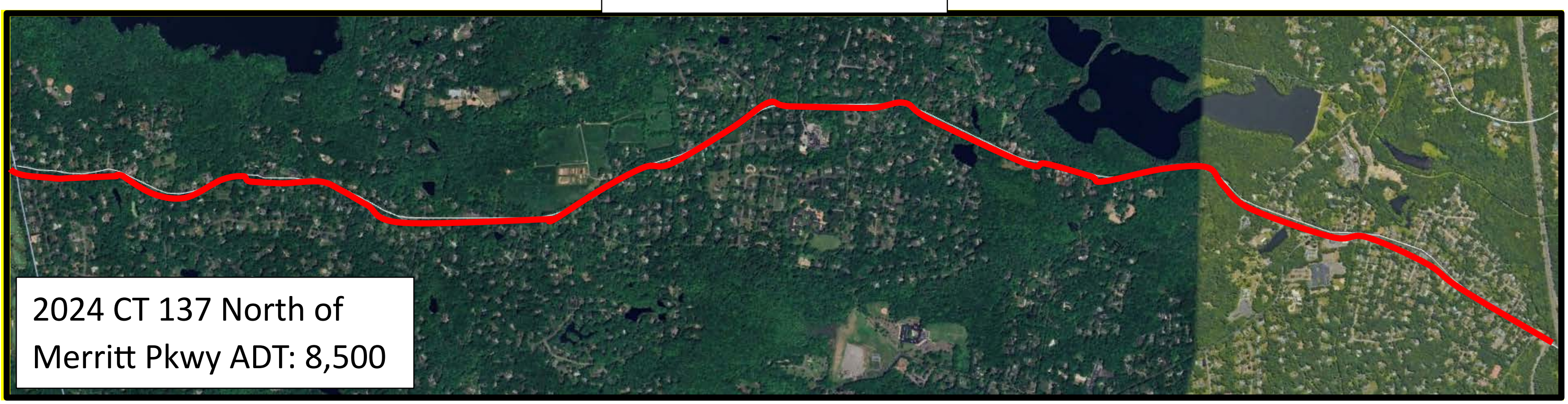


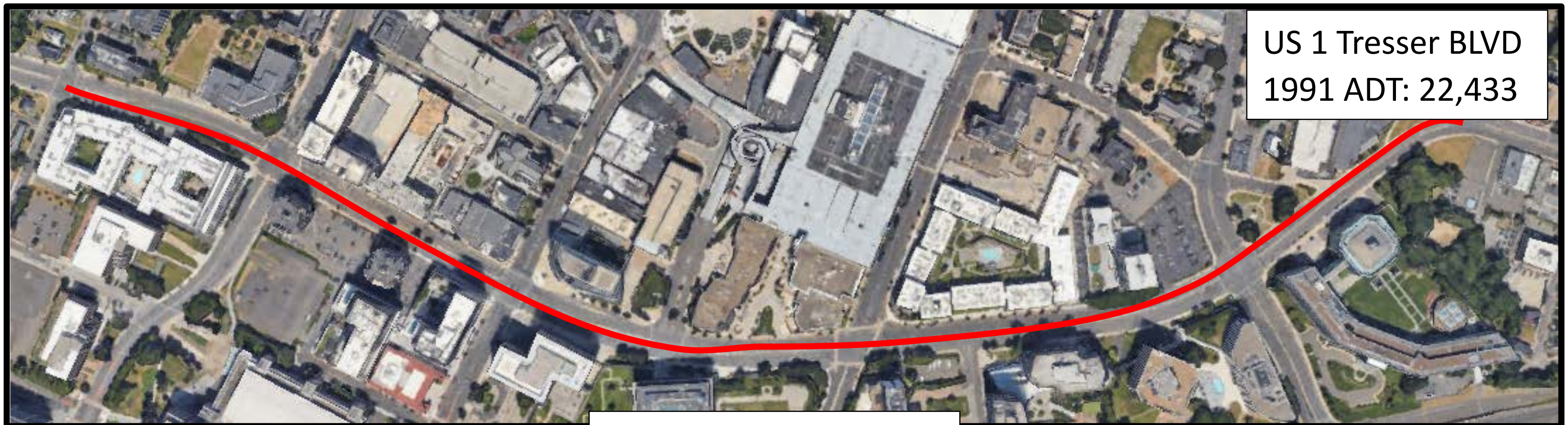
16 year change in traffic volume: **-6%**



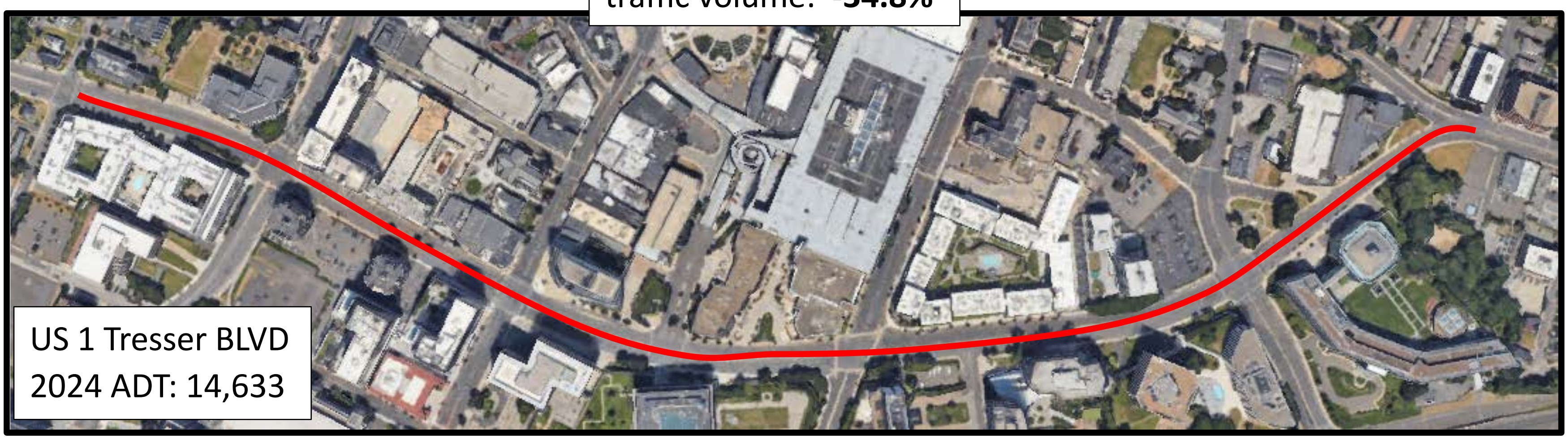
33 year change in
traffic volume: 8.5%

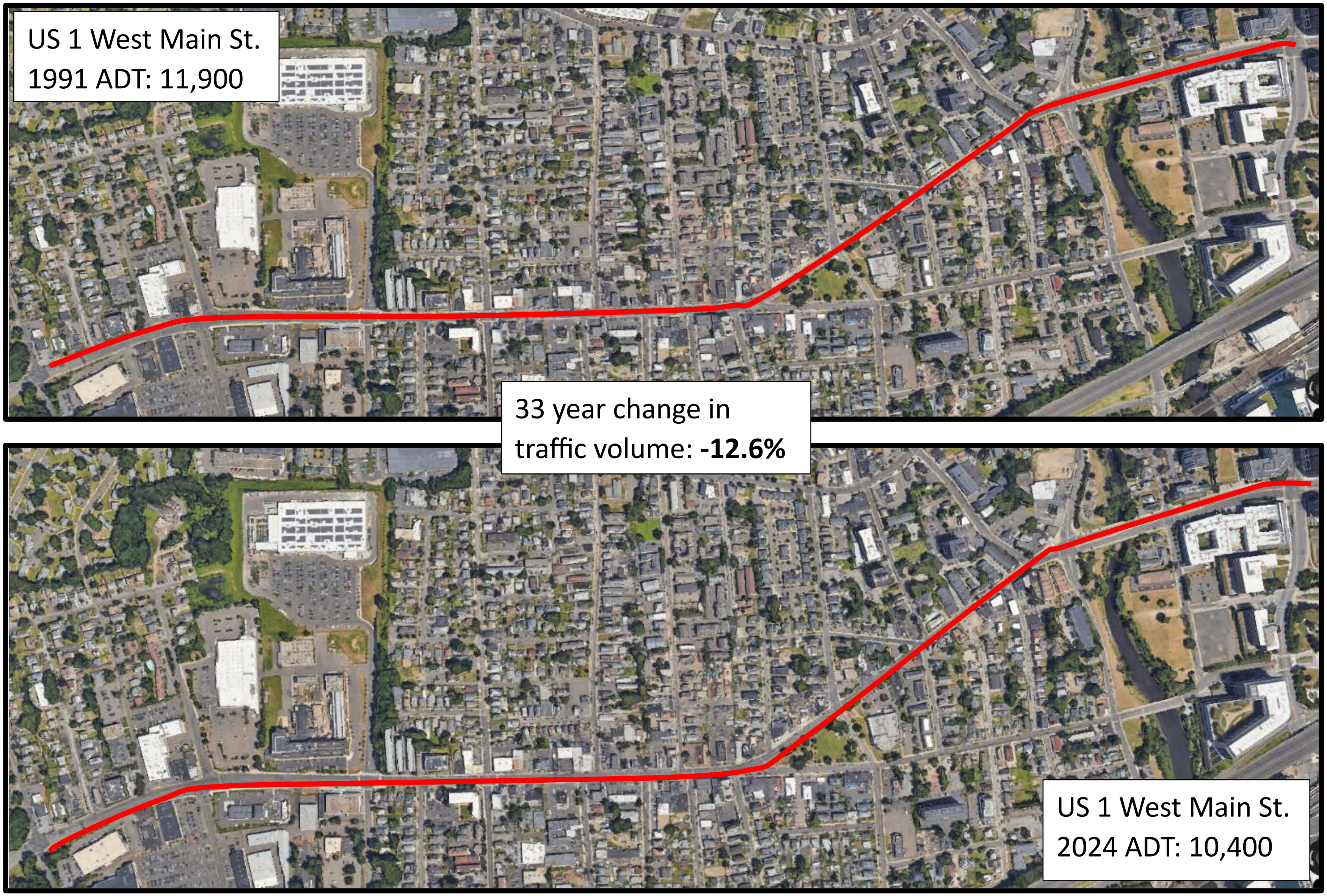
33 year change in traffic volume: **-4.1%**





33 year change in traffic volume: **-34.8%**




US 1 West Main St.
1991 ADT: 11,900
33 year change in traffic volume: **-12.6%**
US 1 West Main St.
2024 ADT: 10,400

FUSS & O'NEILL

May 31, 2024

Lisa L. Feinberg
Carmody Torrance Sandak & Hennessey LLP
1055 Washington Blvd., 4th Floor
Stamford, CT 06901-2218

Re: Supplemental Traffic Engineering Analysis
800 Long Ridge Road
Stamford, Connecticut

Dear Ms. Feinberg:

As requested, Fuss and O'Neill has compiled additional traffic data and analysis to supplement our Traffic Impact Study dated September 2023 for the proposed development at 800 Long Ridge Road, Stamford, Connecticut. Additional traffic counts were collected at the existing Curb residential development on Glover Avenue in Norwalk to verify that the actual trip generation rates for this use are consistent with what the ITE Trip Generation Manual would project. In addition, traffic counts and analysis were conducted at the Long Ridge Rd at Wire Mill Rd and Route 15 NB Off Ramp intersection as well as the Long Ridge Rd at Vineyard Ln. intersection to verify the amount of traffic at these intersections today as well as the de minimis impact the additional 800 Long Ridge Road development traffic will have on these intersections.

This letter will serve to summarize our findings. Our scope tasks are reprinted in *italics* with our responses below.

1. *Conduct traffic counts at the existing Curb residential development on Glover Avenue in Norwalk during the morning and afternoon peak hours of traffic. It is assumed that four count cameras will be needed to capture the two site/garage driveways and the driveways to the surface lots across the street as well as the 25 short term parking spaces in front of the buildings. Counts will be compiled to determine the total entering and exiting vehicles from the development and then adjusted upward by 20% to account for the transit/pedestrian related traffic occurring at the site. The buildings are assumed to be 100% occupied.*

   Additional turning movement counts were conducted at the existing Curb residential development on Glover Avenue in Norwalk, Connecticut on Thursday April 11, 2024. The traffic count data collected indicates that the existing 761-unit residential development generates a total of 228 vehicle trips (58 entering, 170 exiting) during the morning peak hour and a total of 281 vehicle trips (190 entering, 91 exiting) during the afternoon peak hour. The traffic count data collected indicates that the weekday morning peak hour of traffic is 8:00 a.m. to 9:00 a.m. and the weekday afternoon peak hour is 5:00 p.m. to 6:00 p.m. Copies of the turning movement counts can be found attached.

   Vehicular counts entering and exiting The Curb development in Norwalk, Connecticut were grown by 20 percent (as approved by CTDOT) to represent the trips occurring by public transportation since there is no nearby rail for residents to use as a mode of transportation at the proposed 800 Long

Ridge Road site location. After applying the 20 percent growth factor, the 761-unit Curb residential development was counted to generate a total of 274 vehicle trips (70 entering, 204 exiting) during the morning peak hour and a total of 337 vehicle trips (228 entering, 109 exiting) during the afternoon peak hour.

Utilizing the trip generation rates actually occurring at the 761-unit Curb development and applying them proportionally to the proposed 354 units at the 800 Long Ridge Road residential development, the 800 Long Ridge Road development can be expected to generate 127 new vehicle trips in the morning peak hour and 156 new vehicle trips in the afternoon peak hour.

For comparison purposes, the empirical data from the Institute of Transportation Engineers (ITE) publication Trip Generation, 11th edition, 2021, using land use code 221 "Multifamily Housing (Mid-Rise)" that was utilized in our Traffic Impact Study projects that a residential development consisting of 354 units not close to rail transit will generate a total of 144 vehicle trips during the morning peak hour and a total of 139 vehicle trips during the afternoon peak hour. Therefore, the ITE rates that were utilized are comparable to the observed rates occurring at the Curb (approximately 17 trips more in the morning peak hour and approximately 17 trips less in the afternoon peak hour).

2. *Conduct turning movement traffic counts at the intersections of Long Ridge Rd at Wire Mill Rd and the Rte 15 NB Off Ramp as well as Long Ridge Rd at Vineyard Ln. to determine existing traffic volumes utilizing these side streets. Counts will be performed at both intersections during the morning and afternoon peak hours of traffic.*

   Additional turning movement counts were conducted at the intersections of Long Ridge Rd at Wire Mill Rd and the Route 15 NB Off Ramp as well as Long Ridge Rd at Vineyard Ln on Tuesday April 23, 2024. The traffic count data collected indicates that the weekday morning peak hour of traffic is 8:00 a.m. to 9:00 a.m. and the weekday afternoon peak hour is 5:00 p.m. to 6:00 p.m. Copies of the turning movement counts can be found attached.

   The additional turning movement counts were subsequently analyzed during 2025 background conditions and 2025 combined conditions. Capacity analysis was conducted for the signalized and unsignalized intersection using Synchro Professional Software, version 11.0. Additionally, Background and Combined Condition 95th percentile (design) queue lengths were reviewed at the intersections.

   The distribution of traffic entering and exiting the proposed site was applied to the road network based on the existing regional traffic distributions and the layout of the adjacent roadway network.

   The signalized intersection of Route 104 and Long Ridge Rd at Wire Mill Rd and the Route 15 NB Off Ramp operates at LOS C under background conditions during the morning and afternoon peak hours and continues to do so in the combined conditions under the existing office use and proposed residential land use.

   At the unsignalized intersection of Route 104 and Vineyard Lane, the westbound Vineyard Lane approach operates poorly at LOS F during the morning and afternoon peak hours under background conditions and continues to do so in the combined condition under both the existing office land use and proposed residential land use. The southbound left turn movement operates efficiently at LOS B during the morning and afternoon peak hours under background conditions and continues to do so in the combined condition under both the existing office land use and proposed residential land use. The addition of the site generated traffic will result in a de minimis two second increase in vehicular delay for the westbound Vineyard Lane approach and will have no noticeable impact to traffic operations at the intersection.

At both intersections that were analyzed, the 95th percentile queue lengths on all approaches will experience minimal queue increases (six vehicle lengths or less during the morning peak hour and four vehicle lengths or less during the afternoon peak hour) between the background and combined condition with the proposed residential land use. The queue increases experienced occur on Route 15 off ramp and Long Ridge Road mainline and are generally less with the proposed residential land use in comparison to the existing office use. Queue increases on the Wire Mill Road and Vineyard Lane approaches are negligible. Ample lane storage lengths exist on all approaches to accommodate these anticipated queue increases.

Table No. 1 attached presents a summary of the levels of service at the signalized intersection and *Table No. 2* attached presents a summary of the levels of service at the unsignalized intersection, for both Background and Combined Condition traffic volumes of the existing office and proposed residential land uses. *Tables 3 and 4* attached provide a summary of the queue lengths for the critical lanes at each intersection. Copies of the analysis worksheets can be found attached.

We trust that this information is sufficient for you to complete your review. Should you have any questions or require additional information, please contact us.

Sincerely,

Ajeet Sandhu, EIT
Project Engineer

Mark G. Vertucci, PE, PTOE
Vice President

Attachments:
Appendix A - Tables
Appendix B - Figures
Appendix C - Intersection Capacity Analysis Worksheets Weekday Morning Peak Hour
Appendix D - Intersection Capacity Analysis Worksheets Weekday Afternoon Peak Hour
Appendix E - Turning Movement Count (TMC) Data

Appendix A

Tables

Table 1

Signalized Intersection Level of Service Summary
800 Long Ridge Road Multi-Family Housing
Stamford, Connecticut

Critical Movements	**2025 Weekday Morning Peak Hour**			**2025 Weekday Afternoon Peak Hour**		
	Background	**Office Land Use Combined**	**Residential Land Use Combined**	**Background**	**Office Land Use Combined**	**Residential Land Use Combined**
Route 104 at Wire Mill Road and Route 15 Off-Ramp	**C**	**C**	**C**	**C**	**C**	**C**
Eastbound Approach	D	E	D	D	D	D
Westbound Approach	D	D	D	D	D	D
Northbound Approach	C	C	C	C	D	C
Southbound Approach	B	B	B	B	B	B

*Values indicated are overall intersection and approach Level of Service (LOS)

Table 2

Unsignalized Intersection Level of Service Summary
800 Long Ridge Road Multi-Family Housing
Stamford, Connecticut

Critical Movements	2025 Weekday Morning Peak Hour			2025 Weekday Afternoon Peak Hour		
	Background	Office Land Use Combined	Residential Land Use Combined	Background	Office Land Use Combined	Residential Land Use Combined
Route 104 at Vineyard Lane						
Westbound Approach	F	F	F	F	F	F
Southbound Left	B	B	B	B	B	B

*Values indicated are overall intersection and approach Level of Service (LOS)

FUSS & O'NEILL

Table 3

Weekday Morning Peak Hour Queue Length Summary
800 Long Ridge Road Multi-Family Housing
Stamford, Connecticut

Intersection	Approach Lane	2025 Background Queue	2025 Office Use Combined Queue	2025 Residential Use Combined Queue	Available Storage
Route 104 at Wire Mill Road and Route 15 Off-Ramp	EB Left Turn/Through	120 Feet	120 Feet	120 Feet	1,500 Feet
	EB Right Turn	210 Feet	395 Feet	260 Feet	500 Feet
	WB Left Turn	80 Feet	100 Feet	85 Feet	1,240 Feet
	WB Right Turn	0 Feet	0 Feet	0 Feet	100 Feet
	NB Through/Right Turn	245 Feet	305 Feet	310 Feet	2,700 Feet
	SB Left Turn	10 Feet	25 Feet	25 Feet	285 Feet
	SB Through	220 Feet	375 Feet	340 Feet	1,450 Feet
Route 104 at Vineyard Lane	WB Approach	10 Feet	15 Feet	10 Feet	1,150 Feet
	NB Through/Right Turn	0 Feet	0 Feet	0 Feet	1,215 Feet
	SB Left Turn	0 Feet	0 Feet	0 Feet	65 Feet
	SB Through/Right Turn	0 Feet	0 Feet	0 Feet	270 Feet

NOTE: Values indicated represent 95th percentile (design) vehicle queue lengths. Values are rounded to the nearest 5 feet.

Table 4

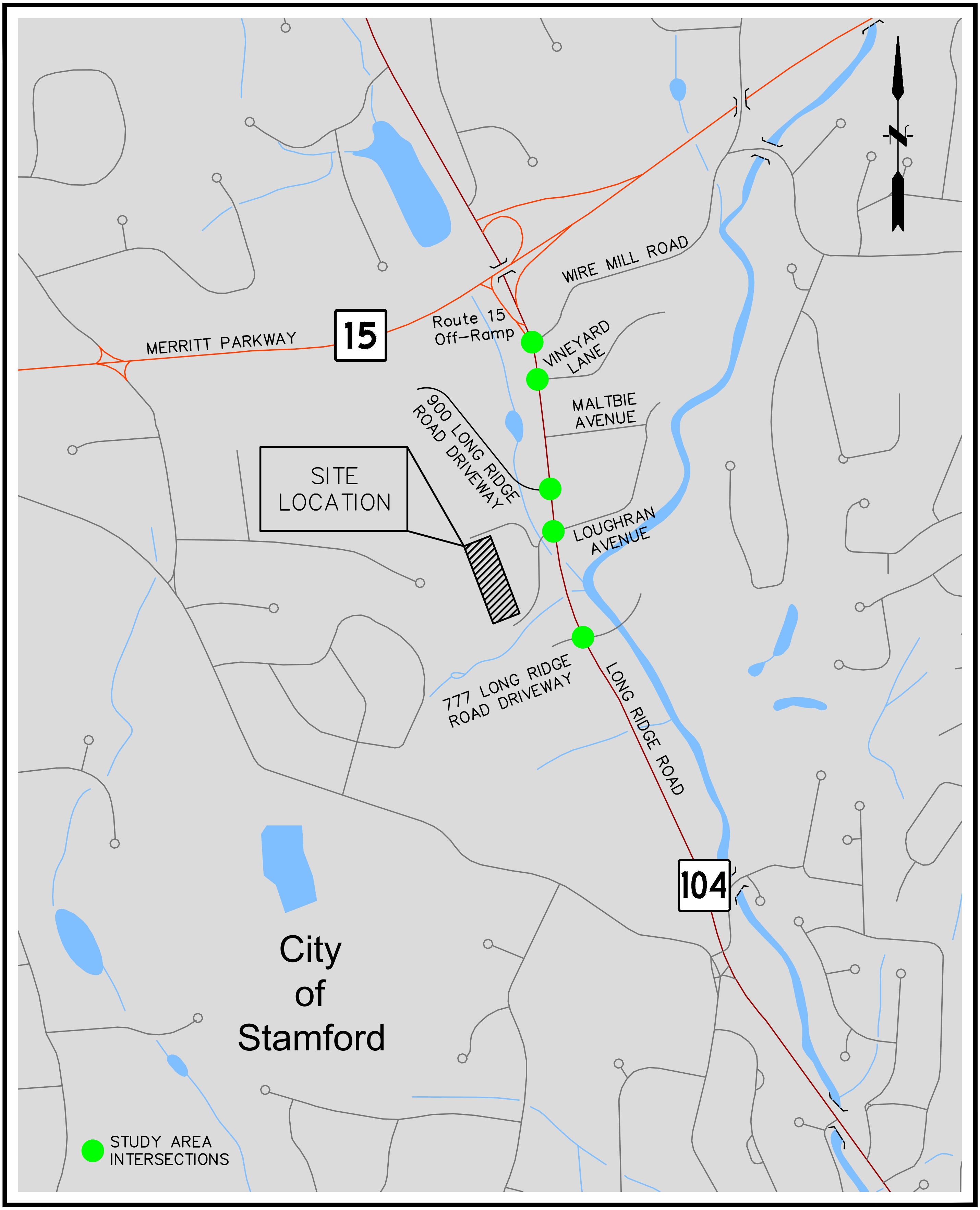
Weekday Afternoon Peak Hour Queue Length Summary
800 Long Ridge Road Multi-Family Housing
Stamford, Connecticut

Intersection	Approach Lane	2025 Background Queue	2025 Office Use Combined Queue	2025 Residential Use Combined Queue	Available Storage
Route 104 at Wire Mill Road and Route 15 Off-Ramp	EB Left Turn/Through	460 Feet	470 Feet	470 Feet	1,500 Feet
	EB Right Turn	165 Feet	365 Feet	390 Feet	500 Feet
	WB Left Turn	70 Feet	75 Feet	75 Feet	1,240 Feet
	WB Right Turn	0 Feet	0 Feet	0 Feet	100 Feet
	NB Through/Right Turn	395 Feet	505 Feet	415 Feet	2,700 Feet
	SB Left Turn	40 Feet	40 Feet	40 Feet	285 Feet
	SB Through	260 Feet	270 Feet	275 Feet	1,450 Feet
Route 104 at Vineyard Lane	WB Approach	10 Feet	10 Feet	10 Feet	1,150 Feet
	NB Through/Right Turn	0 Feet	0 Feet	0 Feet	1,215 Feet
	SB Left Turn	5 Feet	5 Feet	5 Feet	65 Feet
	SB Through/Right Turn	0 Feet	0 Feet	0 Feet	270 Feet

NOTE: Values indicated represent 95th percentile (design) vehicle queue lengths. Values are rounded to the nearest 5 feet.

Appendix B

Figures



SCALE:
HORZ.: 1" = 1000'
VERT.:
DATUM:
HORZ.:
VERT.:
0 500 1000
GRAPHIC SCALE

FUSS & O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

BLT MANAGEMENT LLC

SITE LOCATION MAP

800 LONG RIDGE ROAD

STAMFORD CONNECTICUT

PROJ. No.: 20101217.A30
DATE: MAY 2024

LOC-01

MS VIEW:
LAYER STATE:

File: J:\DWG\P2010\1217\A30\Civil\Traffic Figures\20101217A30_LOC.dwg Layout: 08.5X11-P Plotted: 2024-05-01 4:58 PM Saved: 2024-05-01 4:57 PM User: holly.russell
PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB

Appendix C

Intersection Capacity Analysis Worksheets Weekday Morning Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	4	1148	4	1	1427
Future Volume (vph)	6	4	1148	4	1	1427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt	0.951					
Flt Protected	0.969				0.950	
Satd. Flow (prot)	1717	0	5085	0	1770	3539
Flt Permitted	0.969				0.950	
Satd. Flow (perm)	1717	0	5085	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	452		758			211
Travel Time (s)	10.3		17.2			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	4	1248	4	1	1551
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	1252	0	1	1551
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 49.4% ICU Level of Service A

Analysis Period (min) 15

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	4	1148	4	1	1427
Future Volume (Veh/h)	6	4	1148	4	1	1427
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	4	1248	4	1	1551
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			758			211
pX, platoon unblocked	0.80					
vC, conflicting volume	2028	418			1252	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1783	418			1252	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	99			100	
cM capacity (veh/h)	58	584			552	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	499	499	254	1	776	776
Volume Left	7	0	0	0	1	0	0
Volume Right	4	0	0	4	0	0	0
cSH	87	1700	1700	1700	552	1700	1700
Volume to Capacity	0.13	0.29	0.29	0.15	0.00	0.46	0.46
Queue Length 95th (ft)	10	0	0	0	0	0	0
Control Delay (s)	52.5	0.0	0.0	0.0	11.5	0.0	0.0
Lane LOS	F				B		
Approach Delay (s)	52.5	0.0			0.0		
Approach LOS	F						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	305	62	0	49	0	1133	32	31	1058	0
Future Volume (vph)	101	10	305	62	0	49	0	1133	32	31	1058	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		335	100		0	0		0	285		0
Storage Lanes	0		1	1		1	0		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			0.850			0.850		0.996				
Flt Protected		0.957		0.950						0.950		
Satd. Flow (prot)	0	1783	1583	1770	0	1583	0	5065	0	1770	3539	0
Flt Permitted		0.957		0.950						0.137		
Satd. Flow (perm)	0	1783	1583	1770	0	1583	0	5065	0	255	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			163			147		5				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		585			436			211			555	
Travel Time (s)		13.3			9.9			4.8			12.6	
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)	110	11	332	67	0	53	0	1232	35	34	1150	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	121	332	67	0	53	0	1267	0	34	1150	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Detector Phase	4	4	4	3		3		2		1	1 2	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	24.5	24.5	24.5	17.0		17.0		44.0		12.0		
Total Split (s)	27.0	27.0	27.0	17.0		17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Maximum Green (s)	20.5	20.5	20.5	12.6		12.6		38.0		8.0		
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)		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		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0		3.0		3.0		
Recall Mode	None	None	None	None		None		C-Min		None		
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	11.0	11.0	11.0					11.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		16.2	16.2	9.4		9.4		42.6		57.7	61.7	
Actuated g/C Ratio		0.16	0.16	0.09		0.09		0.43		0.58	0.62	
v/c Ratio		0.42	0.84	0.40		0.19		0.59		0.10	0.53	
Control Delay		40.6	39.4	49.3		1.5		22.1		11.5	14.0	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		40.6	39.4	49.3		1.5		22.1		11.5	14.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		D	D	D		A		C		B	B	
Approach Delay		39.7			28.2			22.1			13.9	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)		69	105	41		0		245		9	220	
Queue Length 95th (ft)		120	#212	81		0		296		25	330	
Internal Link Dist (ft)		505			356			131			475	
Turn Bay Length (ft)			335	100						285		
Base Capacity (vph)		370	458	223		327		2161		346	2184	
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		0.33	0.72	0.30		0.16		0.59		0.10	0.53	

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: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

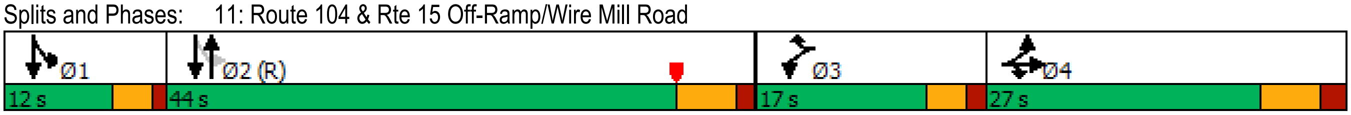
Intersection Signal Delay: 21.8 Intersection LOS: C

Intersection Capacity Utilization 63.6% ICU Level of Service B

Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	305	62	0	49	0	1133	32	31	1058	0
Future Volume (vph)	101	10	305	62	0	49	0	1133	32	31	1058	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	4.4		4.4		6.0		4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.91		1.00	0.95	
Frt		1.00	0.85	1.00		0.85		1.00		1.00	1.00	
Flt Protected		0.96	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1782	1583	1770		1583		5064		1770	3539	
Flt Permitted		0.96	1.00	0.95		1.00		1.00		0.14	1.00	
Satd. Flow (perm)		1782	1583	1770		1583		5064		255	3539	
Peak-hour factor, PHF	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)	110	11	332	67	0	53	0	1232	35	34	1150	0
RTOR Reduction (vph)	0	0	137	0	0	49	0	3	0	0	0	0
Lane Group Flow (vph)	0	121	195	67	0	4	0	1264	0	34	1150	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Actuated Green, G (s)		16.2	16.2	8.0		8.0		41.8		54.9	58.9	
Effective Green, g (s)		16.2	16.2	8.0		8.0		41.8		54.9	58.9	
Actuated g/C Ratio		0.16	0.16	0.08		0.08		0.42		0.55	0.59	
Clearance Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)		288	256	141		126		2116		338	2084	
v/s Ratio Prot		0.07	c0.12	c0.04		0.00		c0.25		0.01	c0.32	
v/s Ratio Perm										0.04		
v/c Ratio		0.42	0.76	0.48		0.03		0.60		0.10	0.55	
Uniform Delay, d1		37.7	40.1	44.0		42.4		22.6		11.5	12.5	
Progression Factor		1.00	1.00	1.00		1.00		0.90		1.00	1.00	
Incremental Delay, d2		1.0	12.6	2.5		0.1		1.1		0.1	0.3	
Delay (s)		38.7	52.7	46.5		42.5		21.4		11.6	12.8	
Level of Service		D	D	D		D		C		B	B	
Approach Delay (s)		49.0			44.8			21.4			12.8	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	4	1175	4	1	1627
Future Volume (vph)	6	4	1175	4	1	1627
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt	0.951					
Flt Protected	0.969				0.950	
Satd. Flow (prot)	1717	0	5085	0	1770	3539
Flt Permitted	0.969				0.950	
Satd. Flow (perm)	1717	0	5085	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	452		758			211
Travel Time (s)	10.3		17.2			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	4	1277	4	1	1768
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	1281	0	1	1768
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 55.0% ICU Level of Service A

Analysis Period (min) 15

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	4	1175	4	1	1627
Future Volume (Veh/h)	6	4	1175	4	1	1627
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	4	1277	4	1	1768
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			758			211
pX, platoon unblocked	0.73					
vC, conflicting volume	2165	428			1281	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1856	428			1281	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	99			100	
cM capacity (veh/h)	47	575			538	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	511	511	259	1	884	884
Volume Left	7	0	0	0	1	0	0
Volume Right	4	0	0	4	0	0	0
cSH	71	1700	1700	1700	538	1700	1700
Volume to Capacity	0.15	0.30	0.30	0.15	0.00	0.52	0.52
Queue Length 95th (ft)	13	0	0	0	0	0	0
Control Delay (s)	64.5	0.0	0.0	0.0	11.7	0.0	0.0
Lane LOS	F				B		
Approach Delay (s)	64.5	0.0			0.0		
Approach LOS	F						

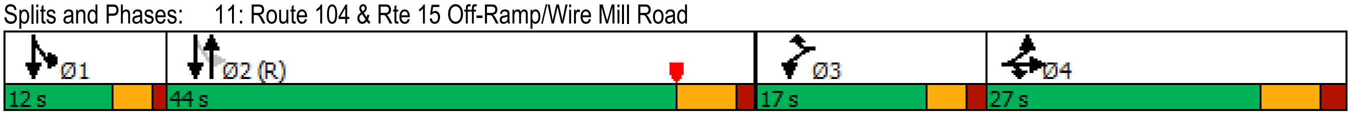
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	385	82	0	49	0	1158	34	31	1158	0
Future Volume (vph)	101	10	385	82	0	49	0	1158	34	31	1158	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		335	100		0	0		0	285		0
Storage Lanes	0		1	1		1	0		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			0.850			0.850		0.996				
Flt Protected		0.957		0.950						0.950		
Satd. Flow (prot)	0	1783	1583	1770	0	1583	0	5065	0	1770	3539	0
Flt Permitted		0.957		0.950						0.112		
Satd. Flow (perm)	0	1783	1583	1770	0	1583	0	5065	0	209	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127			147		5				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		585			436			211			555	
Travel Time (s)		13.3			9.9			4.8			12.6	
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)	110	11	418	89	0	53	0	1259	37	34	1259	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	121	418	89	0	53	0	1296	0	34	1259	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Detector Phase	4	4	4	3		3		2		1	1 2	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	24.5	24.5	24.5	17.0		17.0		44.0		12.0		
Total Split (s)	27.0	27.0	27.0	17.0		17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Maximum Green (s)	20.5	20.5	20.5	12.6		12.6		38.0		8.0		
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)		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		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0		3.0		3.0		
Recall Mode	None	None	None	None		None		C-Min		None		
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	11.0	11.0	11.0					11.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		22.4	22.4	10.1		10.1		38.0		50.9	54.9	
Actuated g/C Ratio		0.22	0.22	0.10		0.10		0.38		0.51	0.55	
v/c Ratio		0.30	0.92	0.50		0.18		0.67		0.12	0.65	
Control Delay		35.3	55.0	51.8		1.4		24.6		12.9	18.6	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		35.3	55.0	51.8		1.4		24.6		12.9	18.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		D	E	D		A		C		B	B	
Approach Delay		50.6			32.9			24.6			18.5	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)		64	188	55		0		254		10	300	
Queue Length 95th (ft)		120	#394	102		0		306		25	376	
Internal Link Dist (ft)		505			356			131			475	
Turn Bay Length (ft)			335	100						285		
Base Capacity (vph)		399	453	223		327		1927		276	1941	
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		0.30	0.92	0.40		0.16		0.67		0.12	0.65	

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: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 26.8	Intersection LOS: C
Intersection Capacity Utilization 72.5%	ICU Level of Service C
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	385	82	0	49	0	1158	34	31	1158	0
Future Volume (vph)	101	10	385	82	0	49	0	1158	34	31	1158	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	4.4		4.4		6.0		4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.91		1.00	0.95	
Frt		1.00	0.85	1.00		0.85		1.00		1.00	1.00	
Flt Protected		0.96	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1782	1583	1770		1583		5064		1770	3539	
Flt Permitted		0.96	1.00	0.95		1.00		1.00		0.11	1.00	
Satd. Flow (perm)		1782	1583	1770		1583		5064		208	3539	
Peak-hour factor, PHF	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)	110	11	418	89	0	53	0	1259	37	34	1259	0
RTOR Reduction (vph)	0	0	99	0	0	48	0	3	0	0	0	0
Lane Group Flow (vph)	0	121	319	89	0	5	0	1293	0	34	1259	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Actuated Green, G (s)		22.4	22.4	8.7		8.7		37.1		48.0	52.0	
Effective Green, g (s)		22.4	22.4	8.7		8.7		37.1		48.0	52.0	
Actuated g/C Ratio		0.22	0.22	0.09		0.09		0.37		0.48	0.52	
Clearance Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)		399	354	153		137		1878		270	1840	
v/s Ratio Prot		0.07	c0.20	c0.05		0.00		0.26		0.01	c0.36	
v/s Ratio Perm										0.05		
v/c Ratio		0.30	0.90	0.58		0.03		0.69		0.13	0.68	
Uniform Delay, d1		32.3	37.7	43.9		41.8		26.6		15.3	17.9	
Progression Factor		1.00	1.00	1.00		1.00		0.88		1.00	1.00	
Incremental Delay, d2		0.4	25.1	5.5		0.1		1.8		0.2	1.1	
Delay (s)		32.7	62.9	49.4		41.9		25.3		15.5	19.0	
Level of Service		C	E	D		D		C		B	B	
Approach Delay (s)		56.1			46.6			25.3			18.9	
Approach LOS		E			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	5	1228	4	1	1472
Future Volume (vph)	6	5	1228	4	1	1472
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt	0.944					
Flt Protected	0.972				0.950	
Satd. Flow (prot)	1709	0	5085	0	1770	3539
Flt Permitted	0.972				0.950	
Satd. Flow (perm)	1709	0	5085	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	452		758			211
Travel Time (s)	10.3		17.2			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	5	1335	4	1	1600
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	1339	0	1	1600
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 50.7%	ICU Level of Service A
Analysis Period (min) 15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	5	1228	4	1	1472
Future Volume (Veh/h)	6	5	1228	4	1	1472
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	5	1335	4	1	1600
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			758			211
pX, platoon unblocked	0.78					
vC, conflicting volume	2139	447			1339	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1901	447			1339	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	99			100	
cM capacity (veh/h)	48	559			511	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	534	534	271	1	800	800
Volume Left	7	0	0	0	1	0	0
Volume Right	5	0	0	4	0	0	0
cSH	77	1700	1700	1700	511	1700	1700
Volume to Capacity	0.16	0.31	0.31	0.16	0.00	0.47	0.47
Queue Length 95th (ft)	13	0	0	0	0	0	0
Control Delay (s)	60.3	0.0	0.0	0.0	12.1	0.0	0.0
Lane LOS	F				B		
Approach Delay (s)	60.3	0.0			0.0		
Approach LOS	F						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

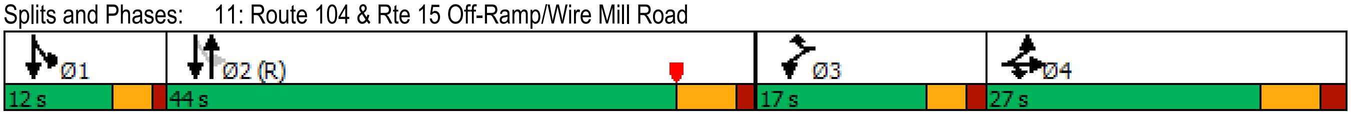
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	323	67	0	49	0	1205	40	31	1080	0
Future Volume (vph)	101	10	323	67	0	49	0	1205	40	31	1080	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		335	100		0	0		0	285		0
Storage Lanes	0		1	1		1	0		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			0.850			0.850		0.995				
Flt Protected		0.957		0.950						0.950		
Satd. Flow (prot)	0	1783	1583	1770	0	1583	0	5060	0	1770	3539	0
Flt Permitted		0.957		0.950						0.113		
Satd. Flow (perm)	0	1783	1583	1770	0	1583	0	5060	0	210	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			153			147		6				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		585			436			211			555	
Travel Time (s)		13.3			9.9			4.8			12.6	
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)	110	11	351	73	0	53	0	1310	43	34	1174	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	121	351	73	0	53	0	1353	0	34	1174	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Detector Phase	4	4	4	3		3		2		1	1 2	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	24.5	24.5	24.5	17.0		17.0		44.0		12.0		
Total Split (s)	27.0	27.0	27.0	17.0		17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Maximum Green (s)	20.5	20.5	20.5	12.6		12.6		38.0		8.0		
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)		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		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0		3.0		3.0		
Recall Mode	None	None	None	None		None		C-Min		None		
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	11.0	11.0	11.0					11.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		17.8	17.8	9.6		9.6		41.8		56.0	60.0	
Actuated g/C Ratio		0.18	0.18	0.10		0.10		0.42		0.56	0.60	
v/c Ratio		0.38	0.86	0.43		0.19		0.64		0.11	0.55	
Control Delay		38.7	42.9	50.0		1.4		21.0		12.1	15.1	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		38.7	42.9	50.0		1.4		21.0		12.1	15.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		D	D	D		A		C		B	B	
Approach Delay		41.8			29.6			21.0			15.1	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)		66	122	45		0		272		9	251	
Queue Length 95th (ft)		120	#262	87		0		264		25	339	
Internal Link Dist (ft)		505			356			131			475	
Turn Bay Length (ft)			335	100						285		
Base Capacity (vph)		371	451	223		327		2118		307	2122	
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		0.33	0.78	0.33		0.16		0.64		0.11	0.55	

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: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 22.2 Intersection LOS: C
Intersection Capacity Utilization 65.6% ICU Level of Service C
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	323	67	0	49	0	1205	40	31	1080	0
Future Volume (vph)	101	10	323	67	0	49	0	1205	40	31	1080	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	4.4		4.4		6.0		4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.91		1.00	0.95	
Frt		1.00	0.85	1.00		0.85		1.00		1.00	1.00	
Flt Protected		0.96	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1782	1583	1770		1583		5061		1770	3539	
Flt Permitted		0.96	1.00	0.95		1.00		1.00		0.11	1.00	
Satd. Flow (perm)		1782	1583	1770		1583		5061		211	3539	
Peak-hour factor, PHF	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)	110	11	351	73	0	53	0	1310	43	34	1174	0
RTOR Reduction (vph)	0	0	126	0	0	49	0	4	0	0	0	0
Lane Group Flow (vph)	0	121	225	73	0	4	0	1349	0	34	1174	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Actuated Green, G (s)		17.8	17.8	8.2		8.2		40.9		53.1	57.1	
Effective Green, g (s)		17.8	17.8	8.2		8.2		40.9		53.1	57.1	
Actuated g/C Ratio		0.18	0.18	0.08		0.08		0.41		0.53	0.57	
Clearance Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)		317	281	145		129		2069		302	2020	
v/s Ratio Prot		0.07	c0.14	c0.04		0.00		c0.27		0.01	c0.33	
v/s Ratio Perm										0.05		
v/c Ratio		0.38	0.80	0.50		0.03		0.65		0.11	0.58	
Uniform Delay, d1		36.2	39.4	44.0		42.3		23.8		12.7	13.8	
Progression Factor		1.00	1.00	1.00		1.00		0.81		1.00	1.00	
Incremental Delay, d2		0.8	15.1	2.7		0.1		1.4		0.2	0.4	
Delay (s)		37.0	54.5	46.7		42.4		20.7		12.9	14.2	
Level of Service		D	D	D		D		C		B	B	
Approach Delay (s)		50.0			44.9			20.7			14.2	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Appendix D

Intersection Capacity Analysis Worksheets Weekday Afternoon Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	1356	12	8	1345
Future Volume (vph)	5	1	1356	12	8	1345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt	0.977		0.999			
Flt Protected	0.960				0.950	
Satd. Flow (prot)	1747	0	5080	0	1770	3539
Flt Permitted	0.960				0.950	
Satd. Flow (perm)	1747	0	5080	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	452		758			211
Travel Time (s)	10.3		17.2			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	1	1474	13	9	1462
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	1487	0	9	1462
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 47.2%	ICU Level of Service A
Analysis Period (min) 15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	1	1356	12	8	1345
Future Volume (Veh/h)	5	1	1356	12	8	1345
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	1	1474	13	9	1462
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			758			211
pX, platoon unblocked	0.81					
vC, conflicting volume	2230	498			1487	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2048	498			1487	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	100			98	
cM capacity (veh/h)	38	518			448	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	590	590	308	9	731	731
Volume Left	5	0	0	0	9	0	0
Volume Right	1	0	0	13	0	0	0
cSH	45	1700	1700	1700	448	1700	1700
Volume to Capacity	0.13	0.35	0.35	0.18	0.02	0.43	0.43
Queue Length 95th (ft)	11	0	0	0	2	0	0
Control Delay (s)	96.1	0.0	0.0	0.0	13.2	0.0	0.0
Lane LOS	F				B		
Approach Delay (s)	96.1	0.0			0.1		
Approach LOS	F						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

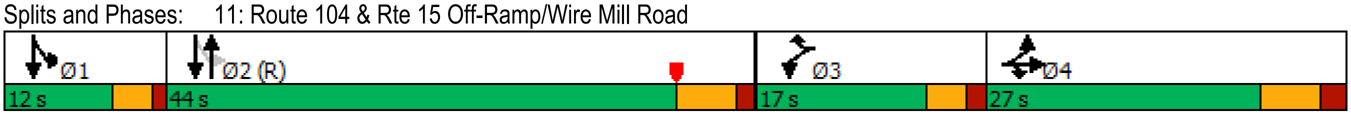
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	248	303	49	0	28	0	1352	120	62	893	0
Future Volume (vph)	126	248	303	49	0	28	0	1352	120	62	893	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		335	100		0	0		0	285		0
Storage Lanes	0		1	1		1	0		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			0.850			0.850		0.988				
Flt Protected		0.983		0.950						0.950		
Satd. Flow (prot)	0	1831	1583	1770	0	1583	0	5024	0	1770	3539	0
Flt Permitted		0.983		0.950						0.108		
Satd. Flow (perm)	0	1831	1583	1770	0	1583	0	5024	0	201	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209			147		17				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		585			436			211			555	
Travel Time (s)		13.3			9.9			4.8			12.6	
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)	137	270	329	53	0	30	0	1470	130	67	971	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	407	329	53	0	30	0	1600	0	67	971	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Detector Phase	4	4	4	3		3		2		1	1 2	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	24.5	24.5	24.5	17.0		17.0		44.0		12.0		
Total Split (s)	27.0	27.0	27.0	17.0		17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Maximum Green (s)	20.5	20.5	20.5	12.6		12.6		38.0		8.0		
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)		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		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0		3.0		3.0		
Recall Mode	None	None	None	None		None		C-Min		None		
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	11.0	11.0	11.0					11.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		26.0	26.0	8.7		8.7		38.0		48.7	52.7	
Actuated g/C Ratio		0.26	0.26	0.09		0.09		0.38		0.49	0.53	
v/c Ratio		0.86	0.58	0.35		0.11		0.83		0.29	0.52	
Control Delay		55.7	17.3	48.7		0.8		29.7		15.4	16.8	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		55.7	17.3	48.7		0.8		29.7		15.4	16.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		E	B	D		A		C		B	B	
Approach Delay		38.5			31.4			29.7			16.7	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)		252	63	33		0		334		20	205	
Queue Length 95th (ft)		#462	163	69		0		397		42	262	
Internal Link Dist (ft)		505			356			131			475	
Turn Bay Length (ft)			335	100						285		
Base Capacity (vph)		475	565	223		327		1919		235	1865	
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		0.86	0.58	0.24		0.09		0.83		0.29	0.52	

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: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 27.7 Intersection LOS: C
Intersection Capacity Utilization 72.7% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	248	303	49	0	28	0	1352	120	62	893	0
Future Volume (vph)	126	248	303	49	0	28	0	1352	120	62	893	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	4.4		4.4		6.0		4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.91		1.00	0.95	
Frt		1.00	0.85	1.00		0.85		0.99		1.00	1.00	
Flt Protected		0.98	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1832	1583	1770		1583		5023		1770	3539	
Flt Permitted		0.98	1.00	0.95		1.00		1.00		0.11	1.00	
Satd. Flow (perm)		1832	1583	1770		1583		5023		201	3539	
Peak-hour factor, PHF	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)	137	270	329	53	0	30	0	1470	130	67	971	0
RTOR Reduction (vph)	0	0	155	0	0	28	0	11	0	0	0	0
Lane Group Flow (vph)	0	407	174	53	0	2	0	1589	0	67	971	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Actuated Green, G (s)		26.0	26.0	7.3		7.3		37.1		45.8	49.8	
Effective Green, g (s)		26.0	26.0	7.3		7.3		37.1		45.8	49.8	
Actuated g/C Ratio		0.26	0.26	0.07		0.07		0.37		0.46	0.50	
Clearance Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)		476	411	129		115		1863		228	1762	
v/s Ratio Prot		c0.22	0.11	c0.03		0.00		c0.32		0.03	c0.27	
v/s Ratio Perm										0.11		
v/c Ratio		0.86	0.42	0.41		0.02		0.85		0.29	0.55	
Uniform Delay, d1		35.2	30.8	44.3		43.0		28.9		18.6	17.4	
Progression Factor		1.00	1.00	1.00		1.00		0.92		1.00	1.00	
Incremental Delay, d2		14.0	0.7	2.1		0.1		4.5		0.7	0.4	
Delay (s)		49.2	31.5	46.4		43.1		31.1		19.3	17.7	
Level of Service		D	C	D		D		C		B	B	
Approach Delay (s)		41.3			45.2			31.1			17.8	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	1535	12	8	1381
Future Volume (vph)	5	1	1535	12	8	1381
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt	0.977		0.999			
Flt Protected	0.960				0.950	
Satd. Flow (prot)	1747	0	5080	0	1770	3539
Flt Permitted	0.960				0.950	
Satd. Flow (perm)	1747	0	5080	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	452		758			211
Travel Time (s)	10.3		17.2			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	1	1668	13	9	1501
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	1681	0	9	1501
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 48.2%	ICU Level of Service A
Analysis Period (min) 15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	1	1535	12	8	1381
Future Volume (Veh/h)	5	1	1535	12	8	1381
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	1	1668	13	9	1501
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			758			211
pX, platoon unblocked	0.80					
vC, conflicting volume	2443	562			1681	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2306	562			1681	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	100			98	
cM capacity (veh/h)	25	470			377	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	667	667	347	9	750	750
Volume Left	5	0	0	0	9	0	0
Volume Right	1	0	0	13	0	0	0
cSH	30	1700	1700	1700	377	1700	1700
Volume to Capacity	0.20	0.39	0.39	0.20	0.02	0.44	0.44
Queue Length 95th (ft)	16	0	0	0	2	0	0
Control Delay (s)	153.0	0.0	0.0	0.0	14.8	0.0	0.0
Lane LOS	F				B		
Approach Delay (s)	153.0	0.0			0.1		
Approach LOS	F						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

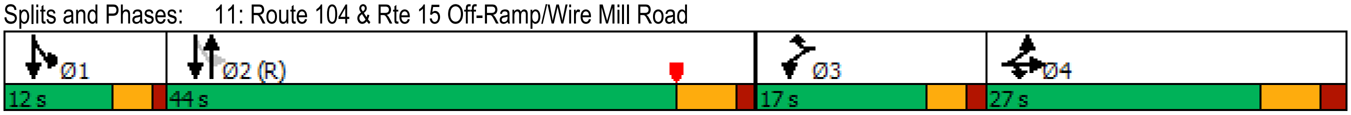
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	248	417	53	0	28	0	1513	138	62	911	0
Future Volume (vph)	126	248	417	53	0	28	0	1513	138	62	911	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		335	100		0	0		0	285		0
Storage Lanes	0		1	1		1	0		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			0.850			0.850		0.987				
Flt Protected		0.983		0.950						0.950		
Satd. Flow (prot)	0	1831	1583	1770	0	1583	0	5019	0	1770	3539	0
Flt Permitted		0.983		0.950						0.108		
Satd. Flow (perm)	0	1831	1583	1770	0	1583	0	5019	0	201	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			198			147		17				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		585			436			211			555	
Travel Time (s)		13.3			9.9			4.8			12.6	
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)	137	270	453	58	0	30	0	1645	150	67	990	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	407	453	58	0	30	0	1795	0	67	990	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Detector Phase	4	4	4	3		3		2		1	1 2	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	24.5	24.5	24.5	17.0		17.0		44.0		12.0		
Total Split (s)	27.0	27.0	27.0	17.0		17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Maximum Green (s)	20.5	20.5	20.5	12.6		12.6		38.0		8.0		
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)		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		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0		3.0		3.0		
Recall Mode	None	None	None	None		None		C-Min		None		
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	11.0	11.0	11.0					11.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.9	25.9	9.0		9.0		38.0		48.6	52.6	
Actuated g/C Ratio		0.26	0.26	0.09		0.09		0.38		0.49	0.53	
v/c Ratio		0.86	0.81	0.37		0.11		0.94		0.29	0.53	
Control Delay		56.3	33.8	48.8		0.8		34.0		15.4	17.1	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		56.3	33.8	48.8		0.8		34.0		15.4	17.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		E	C	D		A		C		B	B	
Approach Delay		44.5			32.4			34.0			17.0	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)		253	161	36		0		374		20	211	
Queue Length 95th (ft)		#468	#363	73		0		#496		42	268	
Internal Link Dist (ft)		505			356			131			475	
Turn Bay Length (ft)			335	100						285		
Base Capacity (vph)		473	556	223		327		1917		232	1860	
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		0.86	0.81	0.26		0.09		0.94		0.29	0.53	

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: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 31.6 Intersection LOS: C
Intersection Capacity Utilization 76.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	248	417	53	0	28	0	1513	138	62	911	0
Future Volume (vph)	126	248	417	53	0	28	0	1513	138	62	911	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	4.4		4.4		6.0		4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.91		1.00	0.95	
Frt		1.00	0.85	1.00		0.85		0.99		1.00	1.00	
Flt Protected		0.98	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1832	1583	1770		1583		5022		1770	3539	
Flt Permitted		0.98	1.00	0.95		1.00		1.00		0.11	1.00	
Satd. Flow (perm)		1832	1583	1770		1583		5022		201	3539	
Peak-hour factor, PHF	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)	137	270	453	58	0	30	0	1645	150	67	990	0
RTOR Reduction (vph)	0	0	147	0	0	28	0	11	0	0	0	0
Lane Group Flow (vph)	0	407	306	58	0	2	0	1784	0	67	990	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Actuated Green, G (s)		25.9	25.9	7.6		7.6		37.0		45.6	49.6	
Effective Green, g (s)		25.9	25.9	7.6		7.6		37.0		45.6	49.6	
Actuated g/C Ratio		0.26	0.26	0.08		0.08		0.37		0.46	0.50	
Clearance Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)		474	409	134		120		1858		226	1755	
v/s Ratio Prot		c0.22	0.19	c0.03		0.00		c0.36		0.03	c0.28	
v/s Ratio Perm										0.11		
v/c Ratio		0.86	0.75	0.43		0.02		0.96		0.30	0.56	
Uniform Delay, d1		35.3	34.1	44.1		42.8		30.8		20.3	17.6	
Progression Factor		1.00	1.00	1.00		1.00		0.84		1.00	1.00	
Incremental Delay, d2		14.3	7.3	2.2		0.1		11.5		0.7	0.4	
Delay (s)		49.6	41.4	46.4		42.8		37.3		21.0	18.1	
Level of Service		D	D	D		D		D		C	B	
Approach Delay (s)		45.3			45.2			37.3			18.2	
Approach LOS		D			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.9
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	1412	12	8	1412
Future Volume (vph)	5	1	1412	12	8	1412
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt	0.977		0.999			
Flt Protected	0.960				0.950	
Satd. Flow (prot)	1747	0	5080	0	1770	3539
Flt Permitted	0.960				0.950	
Satd. Flow (perm)	1747	0	5080	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	452		758			211
Travel Time (s)	10.3		17.2			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	1	1535	13	9	1535
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	1548	0	9	1535
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 49.0%	ICU Level of Service A
Analysis Period (min) 15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	1	1412	12	8	1412
Future Volume (Veh/h)	5	1	1412	12	8	1412
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	1	1535	13	9	1535
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			758			211
pX, platoon unblocked	0.80					
vC, conflicting volume	2327	518			1548	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2159	518			1548	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	100			98	
cM capacity (veh/h)	32	502			424	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	614	614	320	9	768	768
Volume Left	5	0	0	0	9	0	0
Volume Right	1	0	0	13	0	0	0
cSH	38	1700	1700	1700	424	1700	1700
Volume to Capacity	0.16	0.36	0.36	0.19	0.02	0.45	0.45
Queue Length 95th (ft)	13	0	0	0	2	0	0
Control Delay (s)	117.8	0.0	0.0	0.0	13.7	0.0	0.0
Lane LOS	F				B		
Approach Delay (s)	117.8	0.0			0.1		
Approach LOS	F						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

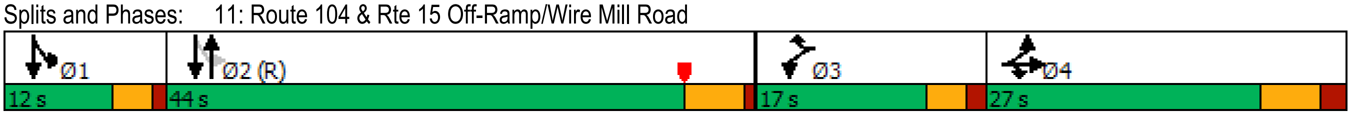
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	248	430	55	0	28	0	1402	126	62	927	0
Future Volume (vph)	126	248	430	55	0	28	0	1402	126	62	927	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		335	100		0	0		0	285		0
Storage Lanes	0		1	1		1	0		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			0.850			0.850		0.988				
Flt Protected		0.983		0.950						0.950		
Satd. Flow (prot)	0	1831	1583	1770	0	1583	0	5024	0	1770	3539	0
Flt Permitted		0.983		0.950						0.106		
Satd. Flow (perm)	0	1831	1583	1770	0	1583	0	5024	0	197	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			191			141		17				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		585			436			211			555	
Travel Time (s)		13.3			9.9			4.8			12.6	
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)	137	270	467	60	0	30	0	1524	137	67	1008	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	407	467	60	0	30	0	1661	0	67	1008	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Detector Phase	4	4	4	3		3		2		1	1 2	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	24.5	24.5	24.5	17.0		17.0		44.0		12.0		
Total Split (s)	27.0	27.0	27.0	17.0		17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Maximum Green (s)	20.5	20.5	20.5	12.6		12.6		38.6		8.0		
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		1.0		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		5.4		4.0		
Lead/Lag	Lag	Lag	Lag	Lead		Lead		Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0		3.0		3.0		
Recall Mode	None	None	None	None		None		C-Min		None		
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	11.0	11.0	11.0					11.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.8	25.8	9.0		9.0		38.6		48.6	52.6	
Actuated g/C Ratio		0.26	0.26	0.09		0.09		0.39		0.49	0.53	
v/c Ratio		0.86	0.85	0.38		0.11		0.85		0.29	0.54	
Control Delay		56.7	38.0	49.0		0.8		29.0		15.5	17.2	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		56.7	38.0	49.0		0.8		29.0		15.5	17.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		E	D	D		A		C		B	B	
Approach Delay		46.7			33.0			29.0			17.1	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)		253	178	37		0		352		20	216	
Queue Length 95th (ft)		#469	#392	75		0		390		42	274	
Internal Link Dist (ft)		505			356			131			475	
Turn Bay Length (ft)			335	100						285		
Base Capacity (vph)		472	549	223		322		1949		230	1860	
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		0.86	0.85	0.27		0.09		0.85		0.29	0.54	

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: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 29.8 Intersection LOS: C
Intersection Capacity Utilization 73.3% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	248	430	55	0	28	0	1402	126	62	927	0
Future Volume (vph)	126	248	430	55	0	28	0	1402	126	62	927	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	4.4		4.4		5.4		4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.91		1.00	0.95	
Frt		1.00	0.85	1.00		0.85		0.99		1.00	1.00	
Flt Protected		0.98	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1832	1583	1770		1583		5022		1770	3539	
Flt Permitted		0.98	1.00	0.95		1.00		1.00		0.11	1.00	
Satd. Flow (perm)		1832	1583	1770		1583		5022		198	3539	
Peak-hour factor, PHF	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)	137	270	467	60	0	30	0	1524	137	67	1008	0
RTOR Reduction (vph)	0	0	142	0	0	28	0	11	0	0	0	0
Lane Group Flow (vph)	0	407	325	60	0	2	0	1650	0	67	1008	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Actuated Green, G (s)		25.8	25.8	7.6		7.6		37.7		46.3	50.3	
Effective Green, g (s)		25.8	25.8	7.6		7.6		37.7		46.3	50.3	
Actuated g/C Ratio		0.26	0.26	0.08		0.08		0.38		0.46	0.50	
Clearance Time (s)		6.5	6.5	4.4		4.4		5.4		4.0		
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)		472	408	134		120		1893		226	1780	
v/s Ratio Prot		c0.22	0.21	c0.03		0.00		c0.33		0.03	c0.28	
v/s Ratio Perm										0.11		
v/c Ratio		0.86	0.80	0.45		0.02		0.87		0.30	0.57	
Uniform Delay, d1		35.4	34.7	44.2		42.8		28.9		18.9	17.3	
Progression Factor		1.00	1.00	1.00		1.00		0.88		1.00	1.00	
Incremental Delay, d2		14.9	10.4	2.4		0.1		5.0		0.7	0.4	
Delay (s)		50.3	45.0	46.6		42.8		30.4		19.6	17.7	
Level of Service		D	D	D		D		C		B	B	
Approach Delay (s)		47.5			45.3			30.4			17.8	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.3
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Appendix E

Turning Movement Count (TMC) Data

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	**STREET 1**	Wire Mill Road and the Route 15 NB Off Ramp
CITY/TOWN	Stamford, CT	**STREET 2**	Long Ridge Road
WEATHER	Cloudy	**DATE**	04/11/2024
INTERSECTION #	3		

Passenger Cars & Heavy Vehicles Combined

	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
Start Time	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**
7:00 AM	0	0	116	2	2	0	237	0	0	10	0	27	0	19	0	7
7:15 AM	0	0	205	4	2	3	244	0	0	8	3	41	0	9	0	4
7:30 AM	0	0	268	8	2	5	226	0	0	10	0	34	0	13	0	4
7:45 AM	0	0	279	4	2	5	286	0	0	15	2	51	0	17	0	4
8:00 AM	0	0	276	5	5	2	265	0	0	28	5	61	0	8	0	15
8:15 AM	0	0	264	3	2	4	263	0	0	20	2	87	0	19	0	9
8:30 AM	0	0	251	7	3	7	256	0	0	20	3	69	0	13	0	12
8:45 AM	0	0	272	9	4	4	255	0	0	32	0	78	0	20	0	13
4:00 PM	0	0	251	16	1	14	177	0	0	29	66	109	0	10	0	5
4:15 PM	0	0	249	24	5	7	174	0	0	31	50	74	0	9	0	10
4:30 PM	0	0	266	19	1	11	188	0	0	33	41	107	0	7	0	3
4:45 PM	0	0	257	26	5	13	197	0	0	31	23	89	0	5	0	5
5:00 PM	0	0	329	23	7	16	209	0	0	25	57	93	0	12	0	8
5:15 PM	0	0	368	38	1	11	213	0	0	26	74	82	0	5	0	8
5:30 PM	0	0	304	28	2	16	235	0	0	36	57	112	0	11	0	7
5:45 PM	0	0	314	26	0	9	204	0	0	38	58	93	0	15	0	5

AM PEAK HOURS	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
8:00 AM	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**
	0	0	1063	24	14	17	1039	0	0	100	10	295	0	60	0	49
PHF	0.97				0.98				0.92				0.83			
HV%	#DIV/0!	#DIV/0!	2.4%	29.2%	0.0%	5.9%	2.7%	#DIV/0!	#DIV/0!	1.0%	0.0%	0.3%	#DIV/0!	5.0%	#DIV/0!	6.1%

PM PEAK HOURS	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
5:00 PM	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**	**U-Turn**	**Left**	**Thru**	**Right**
	0	0	1315	115	10	52	861	0	0	125	246	380	0	43	0	28
PHF	0.88				0.91				0.92				0.89			
HV%	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	#DIV/0!	0.0%	#DIV/0!	0.0%

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	STREET 1	Wire Mill Road and the Route 15 NB Off Ramp
CITY/TOWN	Stamford, CT	STREET 2	Long Ridge Road
WEATHER	Cloudy	DATE	04/11/2024
INTERSECTION #	3		

Heavy Vehicles

	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	15	1	0	0	6	0	0	0	0	0	0	2	0	0
7:15 AM	0	0	11	0	0	1	8	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	5	0	0	3	2	0	0	0	0	1	0	0	0	1
7:45 AM	0	0	8	5	0	1	3	0	0	0	0	1	0	2	0	2
8:00 AM	0	0	4	4	0	0	6	0	0	1	0	1	0	1	0	2
8:15 AM	0	0	11	1	0	1	5	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	8	1	0	0	10	0	0	0	0	0	0	1	0	0
8:45 AM	0	0	3	1	0	0	7	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	2	0	0	0	6	0	0	0	0	0	0	1	0	0
4:15 PM	0	0	4	0	0	2	5	0	0	0	0	0	0	2	0	0
4:30 PM	0	0	2	0	0	1	8	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	8	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	2	0	1
5:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0

AM PEAK HOURS	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
8:00 AM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	26	7	0	1	28	0	0	1	0	1	0	3	0	3

PM PEAK HOURS	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
5:00 PM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	5	0	0	0	9	0	0	0	0	0	0	3	0	2

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,		**STREET 1**	Wire Mill Road and the Route 15 NB Off Ramp
CITY/TOWN	Stamford, CT		**STREET 2**	Long Ridge Road
WEATHER	Cloudy		**DATE**	04/11/2024
INTERSECTION #	3			

Pedestrians and Bicycles

	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
Start Time	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
AM PEAK HOURS	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
PM PEAK HOURS	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	STREET 1	Vineyard Lane
CITY/TOWN	Stamford, CT	STREET 2	Long Ridge Road
WEATHER	Cloudy	DATE	04/11/2024
INTERSECTION #	4		

Passenger Cars & Heavy Vehicles Combined

	Long Ridge Road - Northbound			Long Ridge Road - Southbound			Vineyard Lane - Westbound		
Start Time	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
7:00 AM	0	116	0	0	0	283	0	1	3
7:15 AM	1	205	0	0	0	294	0	1	1
7:30 AM	0	268	2	0	0	273	0	0	0
7:45 AM	0	279	4	0	1	354	0	2	1
8:00 AM	0	276	0	0	0	334	0	3	1
8:15 AM	0	264	0	0	0	369	0	0	0
8:30 AM	0	251	0	0	0	338	0	1	2
8:45 AM	0	272	1	0	3	353	0	0	0
4:00 PM	0	251	1	0	11	296	0	2	1
4:15 PM	0	249	2	1	2	257	0	2	3
4:30 PM	0	266	3	0	2	302	0	0	2
4:45 PM	0	257	3	0	1	291	0	3	1
5:00 PM	0	329	3	3	2	314	0	2	0
5:15 PM	0	368	4	0	1	300	0	3	0
5:30 PM	0	304	5	0	1	358	0	0	1
5:45 PM	0	314	0	0	1	312	0	0	0

AM PEAK HOURS	Long Ridge Road - Northbound			Long Ridge Road - Southbound			Vineyard Lane - Westbound		
7:45 AM	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
	0	1070	4	0	1	1395	0	6	4
PHF		0.95			0.95			0.63	
HV%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOURS	Long Ridge Road - Northbound			Long Ridge Road - Southbound			Vineyard Lane - Westbound		
5:00 PM	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
	0	1315	12	3	5	1284	0	5	1
PHF		0.89			0.90			0.50	
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	STREET 1	Vineyard Lane
CITY/TOWN	Stamford, CT	STREET 2	Long Ridge Road
WEATHER	Cloudy	DATE	04/11/2024
INTERSECTION #	4		

Heavy Vehicles

	Long Ridge Road - Northbound			Long Ridge Road - Southbound			Vineyard Lane - Westbound		
Start Time	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
7:00 AM	0	15	0	0	0	8	0	0	0
7:15 AM	0	11	0	0	0	8	0	0	0
7:30 AM	0	5	0	0	0	3	0	0	0
7:45 AM	0	6	2	0	0	6	0	0	0
8:00 AM	0	4	0	0	0	8	0	0	0
8:15 AM	0	11	0	0	0	6	0	0	0
8:30 AM	0	8	0	0	0	11	0	0	0
8:45 AM	0	3	0	0	0	7	0	0	0
4:00 PM	0	2	0	0	0	7	0	0	0
4:15 PM	0	4	0	0	0	7	0	0	0
4:30 PM	0	2	0	0	0	8	0	0	0
4:45 PM	0	8	0	0	0	1	0	0	0
5:00 PM	0	1	0	0	0	3	0	0	0
5:15 PM	0	2	0	0	0	3	0	0	0
5:30 PM	0	2	0	0	0	3	0	0	0
5:45 PM	0	0	0	0	0	3	0	0	0

AM PEAK HOURS	Long Ridge Road - Northbound			Long Ridge Road - Southbound			Vineyard Lane - Westbound		
7:45 AM	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
	0	29	2	0	0	31	0	0	0

PM PEAK HOURS	Long Ridge Road - Northbound			Long Ridge Road - Southbound			Vineyard Lane - Westbound		
5:00 PM	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
	0	5	0	0	0	12	0	0	0

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	**STREET 1**	Vineyard Lane
CITY/TOWN	Stamford, CT	**STREET 2**	Long Ridge Road
WEATHER	Cloudy	**DATE**	04/11/2024
INTERSECTION #	4		

Pedestrians and Bicycles

	Long Ridge Road - Northbound			Long Ridge Road - Southbound			Vineyard Lane - Westbound		
Start Time	**Peds**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Peds**	**Left**	**Right**
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0

AM PEAK HOURS	Long Ridge Road - Northbound			Long Ridge Road - Southbound			Vineyard Lane - Westbound		
7:45 AM	**Peds**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Peds**	**Left**	**Right**
	0	0	0	0	0	0	0	0	0

PM PEAK HOURS	Long Ridge Road - Northbound			Long Ridge Road - Southbound			Vineyard Lane - Westbound		
5:00 PM	**Peds**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Peds**	**Left**	**Right**
	0	0	0	0	0	0	0	0	0

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	STREET 1	Northern Site Driveway
CITY/TOWN	Norwalk, CT	STREET 2	Glover Avenue
WEATHER	Cloudy/Rainy	DATE	04/11/2024
INTERSECTION #	5		

Passenger Cars & Heavy Vehicles Combined

	Glover Avenue - Northbound				Glover Avenue - Southbound				Northern Site Driveway - Eastbound				Northern Surface Lot - Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	23	0	1	3	14	0	0	0	0	0	0	3	0	14
7:15 AM	0	0	27	0	0	5	22	0	0	0	1	0	0	4	0	26
7:30 AM	0	0	24	0	0	0	23	0	0	0	0	0	0	3	0	21
7:45 AM	0	0	36	1	3	1	27	1	0	0	0	1	0	2	0	16
8:00 AM	0	0	46	1	0	5	27	0	0	0	0	0	0	4	0	24
8:15 AM	0	0	42	2	0	1	43	1	0	1	0	0	0	2	0	17
8:30 AM	0	0	38	0	3	2	30	1	0	1	0	0	0	2	0	14
8:45 AM	0	0	42	1	2	10	40	1	0	1	0	0	0	4	0	11
4:00 PM	0	0	18	0	1	7	19	0	0	0	0	0	0	2	0	4
4:15 PM	0	0	33	3	1	9	34	0	0	0	0	0	0	2	0	3
4:30 PM	0	0	34	2	2	10	26	3	0	1	0	0	0	4	0	5
4:45 PM	0	0	36	4	0	7	20	0	0	2	0	0	0	1	0	5
5:00 PM	0	0	50	6	2	18	35	2	0	1	0	0	0	2	0	11
5:15 PM	0	0	40	6	2	10	29	0	0	0	0	0	0	1	0	11
5:30 PM	0	0	34	4	1	12	19	0	0	0	0	0	0	5	0	8
5:45 PM	0	0	40	13	1	21	33	0	0	0	0	0	0	0	0	6

AM PEAK HOURS	Glover Avenue - Northbound				Glover Avenue - Southbound				Northern Site Driveway - Eastbound				Northern Surface Lot - Westbound			
8:00 AM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	168	4	5	18	140	3	0	3	0	0	0	12	0	66
PHF	0.91				0.78				0.75				0.70			
HV%	0.0%	0.0%	6.5%	0.0%	0.0%	5.6%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOURS	Glover Avenue - Northbound				Glover Avenue - Southbound				Northern Site Driveway - Eastbound				Northern Surface Lot - Westbound			
5:00 PM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	164	29	6	61	116	2	0	1	0	0	0	8	0	36
PHF	0.86				0.81				0.25				0.85			
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	STREET 1	Northern Site Driveway
CITY/TOWN	Norwalk, CT	STREET 2	Glover Avenue
WEATHER	Cloudy/Rainy	DATE	04/11/2024
INTERSECTION #	5		

Heavy Vehicles

	Glover Avenue - Northbound				Glover Avenue - Southbound				Northern Site Driveway - Eastbound				Northern Surface Lot - Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	1	1	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0

AM PEAK HOURS	Glover Avenue - Northbound				Glover Avenue - Southbound				Northern Site Driveway - Eastbound				Northern Surface Lot - Westbound			
8:00 AM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	11	0	0	1	1	0	0	0	0	0	0	0	0	0

PM PEAK HOURS	Glover Avenue - Northbound				Glover Avenue - Southbound				Northern Site Driveway - Eastbound				Northern Surface Lot - Westbound			
5:00 PM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	9	0	0	0	2	0	0	0	0	0	0	0	0	0

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	**STREET 1**	Northern Site Driveway
CITY/TOWN	Norwalk, CT	**STREET 2**	Glover Avenue
WEATHER	Cloudy/Rainy	**DATE**	04/11/2024
INTERSECTION #	5		

Pedestrians and Bicycles

	Glover Avenue - Northbound				Glover Avenue - Southbound				Northern Site Driveway - Eastbound				Northern Surface Lot - Westbound			
Start Time	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
7:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0
7:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
7:45 AM	1	0	0	0	3	0	0	0	1	0	0	0	1	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0
4:00 PM	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
4:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	2	0	0	0	2	0	0	0	0	0	0	0	4	0	0	0
5:00 PM	1	0	0	0	3	0	0	0	0	0	0	0	4	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
5:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
5:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0

AM PEAK HOURS	Glover Avenue - Northbound				Glover Avenue - Southbound				Northern Site Driveway - Eastbound				Northern Surface Lot - Westbound			
8:00 AM	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
	0	0	0	0	1	0	0	0	0	0	0	0	12	0	0	0

PM PEAK HOURS	Glover Avenue - Northbound				Glover Avenue - Southbound				Northern Site Driveway - Eastbound				Northern Surface Lot - Westbound			
5:00 PM	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
	3	0	0	0	3	0	0	0	0	0	0	0	17	0	0	0

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	STREET 1	Southern Site Driveway
CITY/TOWN	Norwalk, CT	STREET 2	Glover Avenue
WEATHER	Cloudy/Rainy	DATE	04/11/2024
INTERSECTION #	6		

Passenger Cars & Heavy Vehicles Combined

	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	12	1	1	1	15	0	0	4	1	8	0	2	0	1
7:15 AM	0	0	17	0	0	3	24	0	0	1	0	0	0	4	0	10
7:30 AM	0	0	25	0	0	3	20	2	0	2	0	0	0	2	0	17
7:45 AM	0	0	17	0	2	1	24	2	0	2	1	2	0	1	0	14
8:00 AM	0	1	27	1	0	2	29	0	0	0	0	0	0	4	0	17
8:15 AM	0	0	29	3	1	1	40	0	0	1	0	1	0	8	0	13
8:30 AM	0	0	31	1	1	2	30	0	0	1	0	0	0	4	0	13
8:45 AM	0	1	28	1	0	6	34	0	0	2	0	0	0	4	0	13
4:00 PM	0	0	17	3	1	6	15	0	0	0	0	0	0	2	0	1
4:15 PM	0	0	28	6	0	7	24	2	0	0	0	1	0	0	0	6
4:30 PM	0	0	30	5	0	7	20	0	0	1	0	0	0	0	0	6
4:45 PM	0	2	40	4	2	5	13	1	0	0	0	0	0	1	0	3
5:00 PM	0	1	44	4	1	9	23	1	0	3	1	0	0	6	1	6
5:15 PM	0	3	48	5	0	7	23	0	0	1	0	0	0	1	0	1
5:30 PM	0	1	28	8	0	8	13	2	0	0	0	0	0	3	0	2
5:45 PM	0	0	43	2	0	15	18	0	0	1	1	0	0	2	0	4

AM PEAK HOURS	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
8:00 AM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	2	115	6	2	11	133	0	0	4	0	1	0	20	0	56
PHF	0.96				0.87				0.63				0.90			
HV%	0.0%	0.0%	8.7%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOURS	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
5:00 PM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	5	163	19	1	39	77	3	0	5	2	0	0	12	1	13
PHF	0.83				0.88				0.44				0.50			
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	STREET 1	Southern Site Driveway
CITY/TOWN	Norwalk, CT	STREET 2	Glover Avenue
WEATHER	Cloudy/Rainy	DATE	04/11/2024
INTERSECTION #	6		

Heavy Vehicles

	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
5:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0

AM PEAK HOURS	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
8:00 AM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	10	0	0	0	1	0	0	0	0	0	0	0	0	0

PM PEAK HOURS	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
5:00 PM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	6	1	0	1	1	0	0	0	0	0	0	1	0	0

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	STREET 1	Southern Site Driveway
CITY/TOWN	Norwalk, CT	STREET 2	Glover Avenue
WEATHER	Cloudy/Rainy	DATE	04/11/2024
INTERSECTION #	6		

Pedestrians and Bicycles

	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
Start Time	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
7:00 AM	1	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0
7:15 AM	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
7:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0
8:30 AM	2	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0
8:45 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
5:00 PM	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0
5:15 PM	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
5:45 PM	1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0

AM PEAK HOURS	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
8:00 AM	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
	2	0	0	0	4	0	0	0	1	0	0	0	6	0	0	0

PM PEAK HOURS	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
5:00 PM	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
	10	0	0	0	2	0	0	0	6	0	0	0	2	0	0	0

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	STREET 1	Glover Avenue
CITY/TOWN	Stamford, CT	LOCATION	North of North Driveway
WEATHER	Cloudy/Rainy	DATE	4/11/2024
INTERSECTION #	7a		

Passenger Cars & Heavy Vehicles Combined

	East Side of Glover Avenue		West Side of Glover Avenue	
Start Time	Vehicle Parking	Vehicle Leaving	Vehicle Parking	Vehicle Leaving
7:00 AM	1	1	0	0
7:15 AM	0	0	0	0
7:30 AM	0	1	0	0
7:45 AM	0	1	0	0
8:00 AM	1	1	0	0
8:15 AM	1	0	0	0
8:30 AM	1	1	0	2
8:45 AM	0	0	2	0
4:00 PM	0	1	2	1
4:15 PM	1	1	1	1
4:30 PM	1	0	4	3
4:45 PM	1	0	1	0
5:00 PM	2	3	0	0
5:15 PM	0	0	1	2
5:30 PM	0	0	0	0
5:45 PM	1	1	0	0

AM PEAK HOURS	East Side of Glover Avenue		West Side of Glover Avenue	
7:00 AM	Vehicle Parking	Vehicle Leaving	Vehicle Parking	Vehicle Leaving
	3	2	2	2

PM PEAK HOURS	East Side of Glover Avenue		West Side of Glover Avenue	
4:00 PM	Vehicle Parking	Vehicle Leaving	Vehicle Parking	Vehicle Leaving
	5	4	6	4

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	STREET 1	Glover Avenue
CITY/TOWN	Stamford, CT	STREET 2	Between North and South Driveway
WEATHER	Cloudy/Rainy	DATE	4/11/2024
INTERSECTION #	7b		

Passenger Cars & Heavy Vehicles Combined

	East Side of Glover Avenue		West Side of Glover Avenue	
Start Time	Vehicle Parking	Vehicle Leaving	Vehicle Parking	Vehicle Leaving
7:00 AM	0	0	0	1
7:15 AM	0	0	1	0
7:30 AM	0	0	1	0
7:45 AM	0	1	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	1
8:45 AM	0	0	0	0
4:00 PM	1	0	1	0
4:15 PM	1	0	0	0
4:30 PM	1	1	0	1
4:45 PM	3	1	2	0
5:00 PM	1	3	0	0
5:15 PM	0	0	1	0
5:30 PM	0	0	0	0
5:45 PM	3	2	0	0

AM PEAK HOURS	East Side of Glover Avenue		West Side of Glover Avenue	
7:00 AM	Vehicle Parking	Vehicle Leaving	Vehicle Parking	Vehicle Leaving
	0	1	2	1

PM PEAK HOURS	East Side of Glover Avenue		West Side of Glover Avenue	
4:00 PM	Vehicle Parking	Vehicle Leaving	Vehicle Parking	Vehicle Leaving
	6	5	2	1

NE TRAFFIC COUNTS

New England Traffic Counts
(413) 579-8366
emayboroda@netrafficcounts.com
www.netrafficcounts.com

CLIENT	Fuss & O'Neill,	**STREET 1**	Glover Avenue
CITY/TOWN	Stamford, CT	**LOCATION**	South of South Driveway
WEATHER	Cloudy/Rainy	**DATE**	4/11/2024
INTERSECTION #	7c		

Passenger Cars & Heavy Vehicles Combined

	East Side of Glover Avenue	
Start Time	**Vehicle Parking**	**Vehicle Leaving**
7:00 AM	0	1
7:15 AM	0	0
7:30 AM	0	1
7:45 AM	0	0
8:00 AM	0	0
8:15 AM	1	0
8:30 AM	1	0
8:45 AM	0	0
4:00 PM	0	0
4:15 PM	1	0
4:30 PM	0	1
4:45 PM	2	1
5:00 PM	0	0
5:15 PM	0	0
5:30 PM	0	0
5:45 PM	0	0

	East Side of Glover Avenue	
AM PEAK HOURS	**Vehicle Parking**	**Vehicle Leaving**
7:00 AM	0	2

	East Side of Glover Avenue	
PM PEAK HOURS	**Vehicle Parking**	**Vehicle Leaving**
4:00 PM	3	2

Stamford Market Discussion

March 27th, 2024

Gil Ohls
Managing Director
(212) 418-2602

Matthew Felice
Executive Vice President
(212) 812-6422

JLL SEE A BRIGHTER WAY

Stamford CBD/Railroad

Trophy - 2.9 msf / 14% Vacancy (6% assuming 400 Atlantic lease up)

1. Harbor Point
400,500 SF
$70.00 psf
10.5% available

2. 400 Atlantic St
533,000 SF
$57.50 psf
51.2% available

3. Charter HQ
779,500 SF
n/a
0.0% available

4. 600 Washington
454,000 SF
$70.00 psf
14.8% available

5. 677 Washington
740,000 SF
$70.00 psf
3.8% available

Class A – 4.1 msf / 30% Vacancy

1. The Link
590,500 SF
$55.00 psf
24.1% available

2. Metro Center
282,000 SF
$52.00 psf
39.2% available

3. First Stamford Pl
800,000 SF
$43.00 psf
31.7% available
Special Servicing

4. 1055 Washington
183,000 SF
$39.00 psf
13.9% available

5. 201 Tresser
480,000 SF
$55.00 psf
49.1% available
Special Servicing

6. 2187 Atlantic St
193,000 SF
$47.00 psf
15.1% available

7. Stamford Plaza
975,000 SF
$48.00 psf
25.3% available
CMBS Watchlist

8. 300 Atlantic St
295,000 SF
$53.00 psf
53.1% available

9. Stamford Towers
325,000 SF
$54.00 psf
22.2% available

Class B – 1.7 msf / 28% Vacancy

1. 177 Broad St
199,000 SF
$35.00 psf
11.8% available

2. 421 Atlantic St
43,000 SF
$51.00 psf
100.0% available

3. Landmark Square
730,000 SF
$40.50 psf
23.0% available

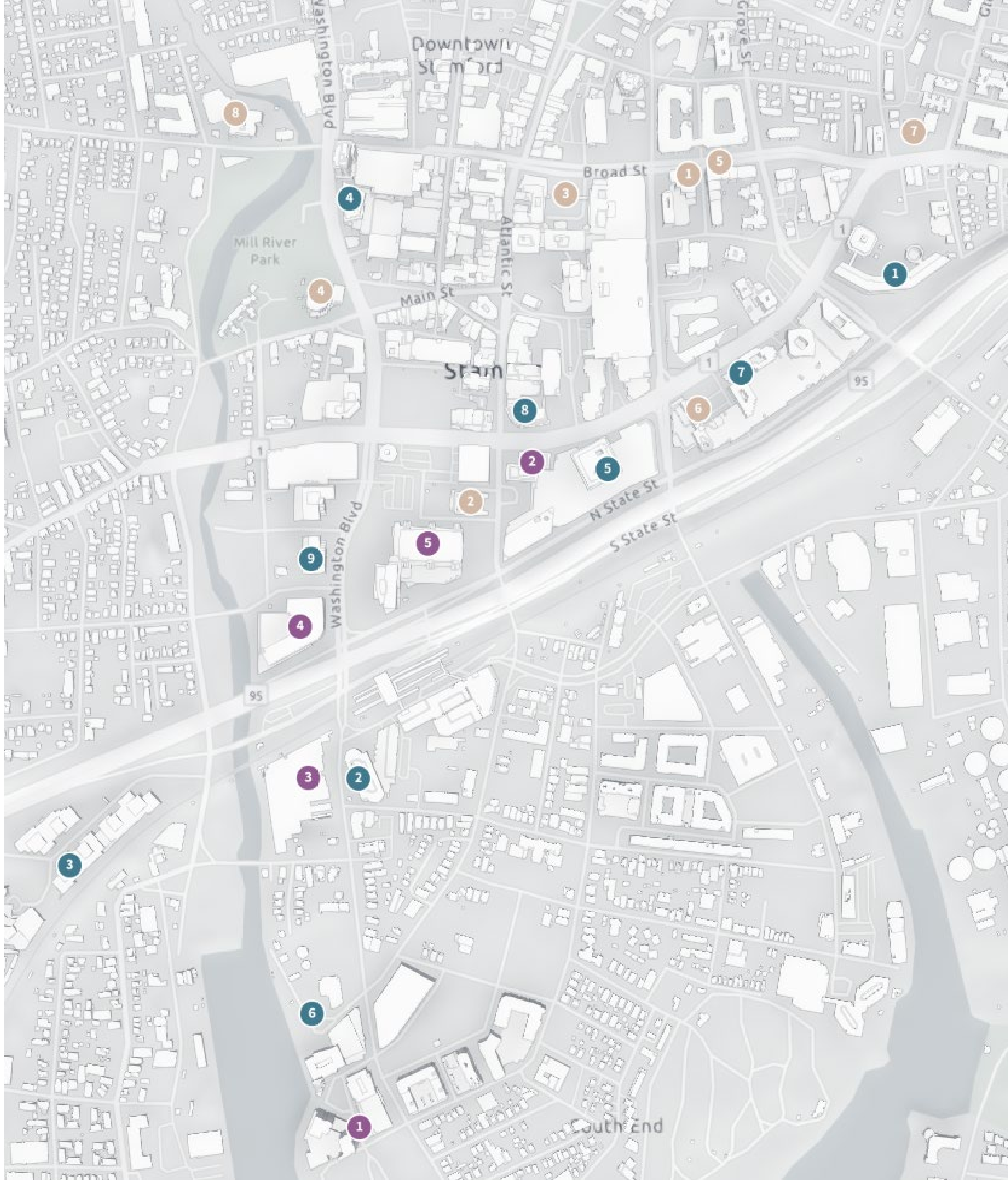
4. 1010 Washington
188,000 SF
$37.50 psf
13.8% available

5. Canterbury GRN
245,000 SF
$40.00 psf
53.6% available

6. 350 Bedford St
72,500 SF
$30.00 psf
18.7% available

7. 750 E Main St
100,000 SF
$28.50 psf
30.6% available

8. 9 W Broad St
200,000 SF
$28.50 psf
30.6% available



 |

JLL

Stamford South/I-95

Class A – 1.0 msf / 28% Vacancy

1. The Village
135,000 SF
n/a
0.0% available

2. Shippan Landing
770,000 SF
$48.50 psf
34.7% available

3. 43 Gatehouse Rd
20,000 SF
n/a
0.0% available

4. 72 Cummings Pt
100,000 SF
n/a
0.0% available

Class B – 2.1 msf / 44% Vacancy

1. 333 Ludlow St
430,000 SF
$37.50 psf
45.0% available

2. 56 Top Gallant
108,000 SF
n/a
0.0% available

3. 70 Gatehouse Rd
47,000 SF
n/a
0.0% available

4. 70 Seaview Ave
100,000 SF
$40.00 psf
100.0% available

5. 22 Gatehouse Rd
36,000 SF
n/a psf
0.0% available

6. 88 Gatehouse Rd
62,000 SF
n/a
0.0% available

7. 1 Dock St
86,000 SF
$35.00 psf
25.6% available

8. 550 West Ave
54,000 SF
$25.00 psf
24.9% available

9. 700 Fairfield Ave
140,000 SF
$26.00 psf
76.9% available

10. 850 Canal St
70,000 SF
n/a
0.0% available

11. Harbor Landing
200,000 SF
$37.50 psf
42.4% available

12. 1290 E Main St
54,000 SF
$28.00 psf
48.5% available

13. 1 Cummings Pt
168,000 SF
n/a
0.0% available

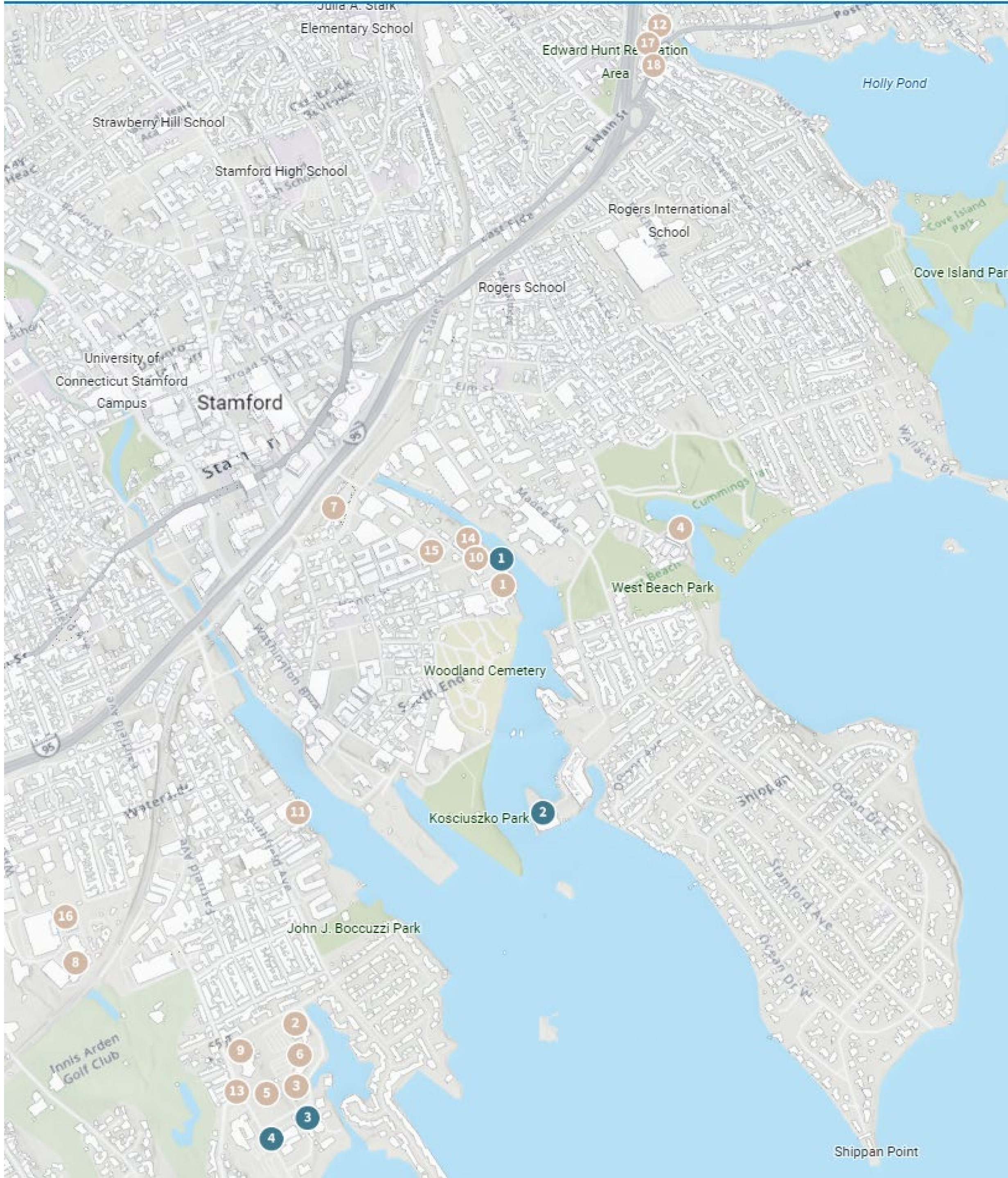
14. 700 Canal St
90,000 SF
$35.00 psf
19.3% available

15. 711 Canal St
45,000 SF
$37.50 psf
61.5% available

16. 470 West Ave
56,500 SF
$24.00 psf
75.7% available

17. 1266 E Main St
180,000 SF
$28.00 psf
61.5% available

18. 1241 E Main St
115,000 SF
n/a
100.0% available
For sale only



JLL

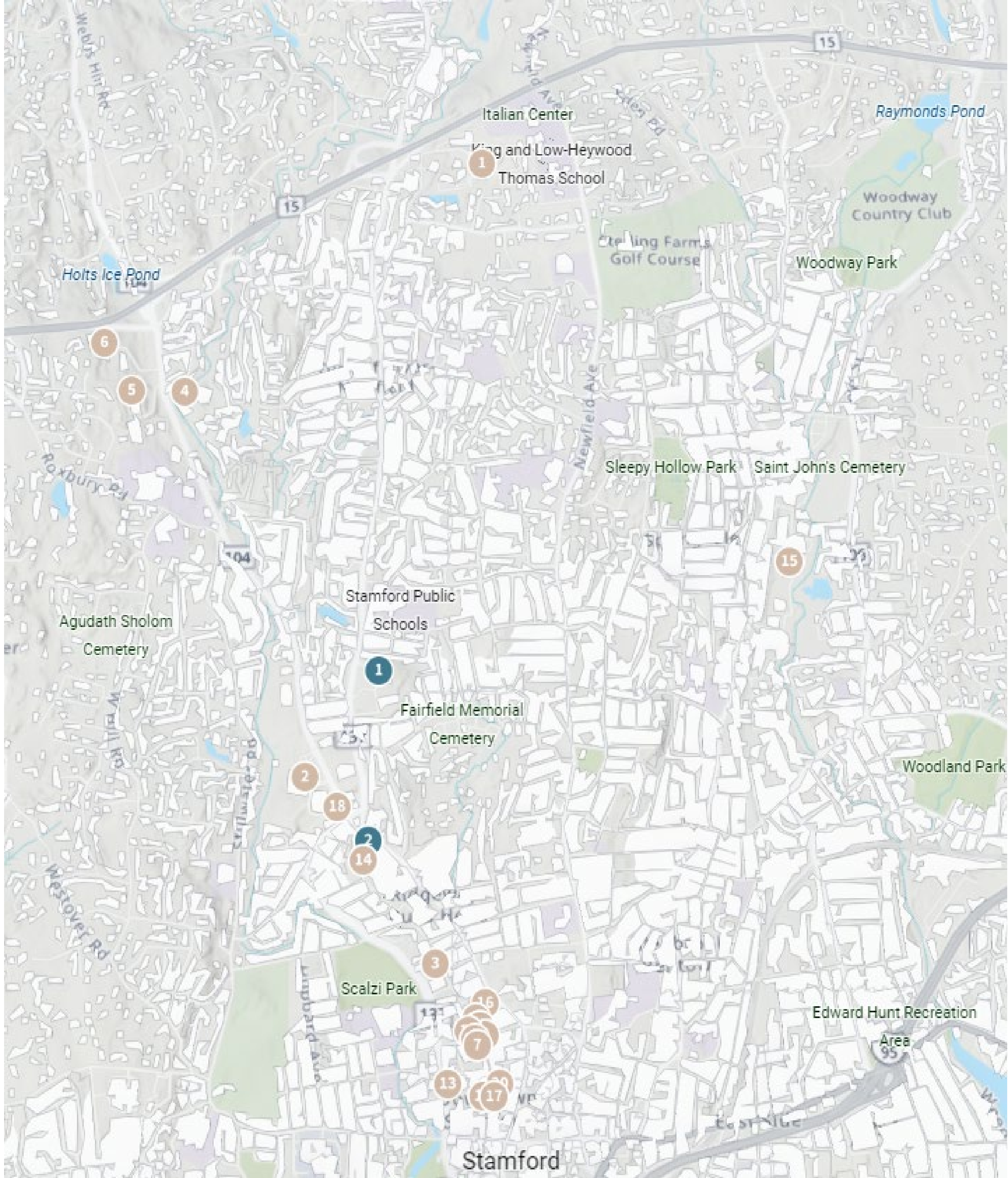
Stamford North/Merritt Pkwy

Class A – 0.5 msf / 22% Vacancy

1. 225 High Ridge Rd 228,000 SF **$30.00 psf** 32.5% available	**2. 3001 Summer St** 290,000 SF **$38.00 psf** 13.4% available

Class B – 3.0 msf / 56% Vacancy

1. High Ridge Park 590,000 SF **$35.00 psf** 65.7% available	**2. 120 Long Ridge Rd** 310,000 SF **$35.00 psf** 100.0% available	**3. 1600 Summer St** 250,000 SF **$33.00 psf** 100.0% available	**4. 777 Long Ridge Rd** 315,000 SF **n/a** 0.0% available ***Synchrony remote***	**5. 800 Long Ridge Rd** 275,000 SF **$28.00 psf** 100.0% available
6. 900 Long Ridge Rd 224,000 SF **$28.00 psf** 100.0% available	**7. 1010 Summer St** 28,000 SF **n/a** 0.0% available	**8. 1055 Summer St** 28,000 SF **n/a** 0.0% available	**9. 1100 Summer St** 58,500 SF **$24.00 psf** 2.8% available	**10. 1111 Summer St** 65,500 SF **$26.50** 24.2% available
11. 1150 Summer St 25,000 SF **$24.00 psf** 11.2% available	**12. 1177 Summer St** 54,000 SF **$26.50 psf** 14.1% available	**13. 1351 Washington** 223,000 SF **$30.00 psf** 37.0% available	**14. 2777 Summer St** 110,000 SF **$28.00 psf** 30.3% available	**15. 1 Omega Dr** 122,000 SF **$22.50 psf** 46.5% available
16. 30 Oak St 56,000 SF **$25.00 psf** 53.4% available	**17. 595 Summer St** 63,000 SF **n/a** 0.0% available	**18. 60 Long Ridge Rd** 54,000 SF **$28.00 psf** 13.6% available	**19. 600 Summer St** 103,000 SF **$29.50 psf** 15.7% available	**20. 707 Summer St** 74,000 SF **$30.00 psf** 35.9% available



JLL

CITY OF STAMFORD
innovating since 1641

The Fiscal Impacts of Development in Stamford 2013-2024

Prepared by City of Stamford Office of Administration, January 2024

Growth in Stamford

- Since 2013, Stamford has permitted 5,384 new housing units, compared to 50,573 housing units counted by the US Census in 2010.

- The Census also reported a 10% increase in population between 2010 and 2020, with the growth occurring in downtown and adjoining neighborhoods. (Census data)

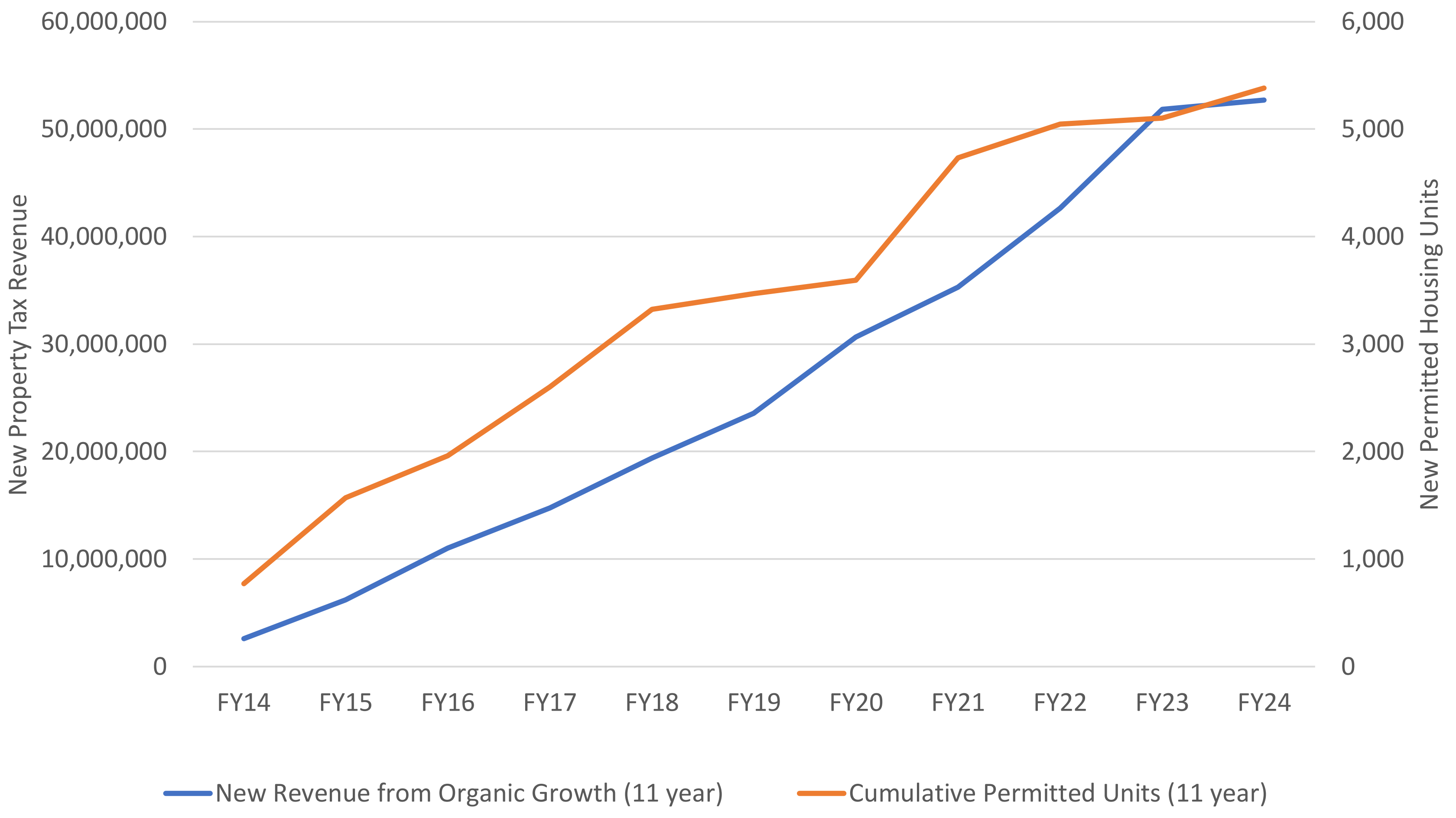
Impact of Growth on City Resources

- New development in Stamford since 2013 has added $2.1 billion to the City's $24.4 billion grand list.
- This additional value results in $52.7 million in tax revenue, about 9% of all property tax revenue in the current year.
- Since 2013 the City has received $102m in Building Permit Fees.
- Since 2015 the BMR program has supported 1,148 units, 25% of all permitted units during this period.

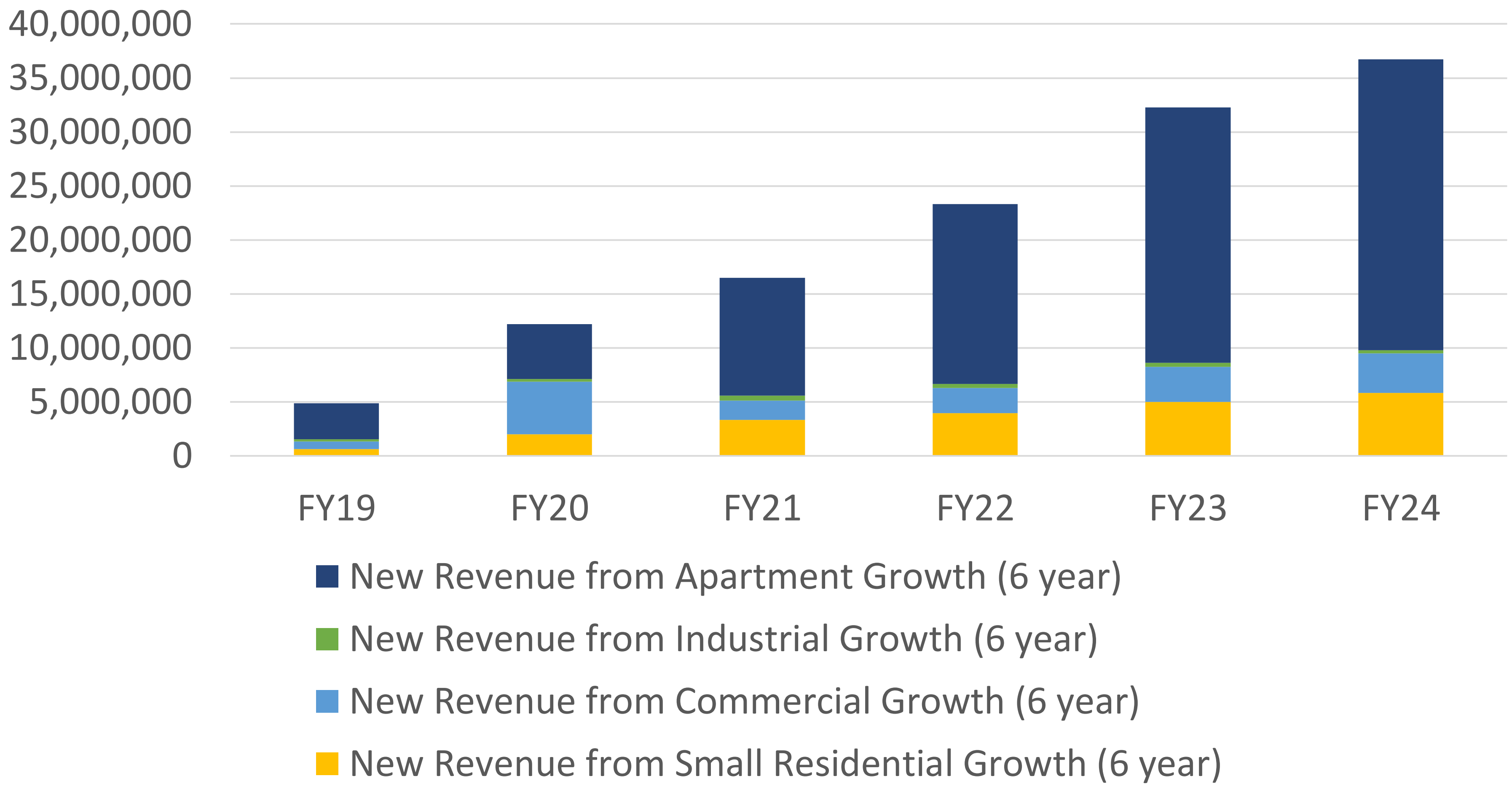
Note on Data:

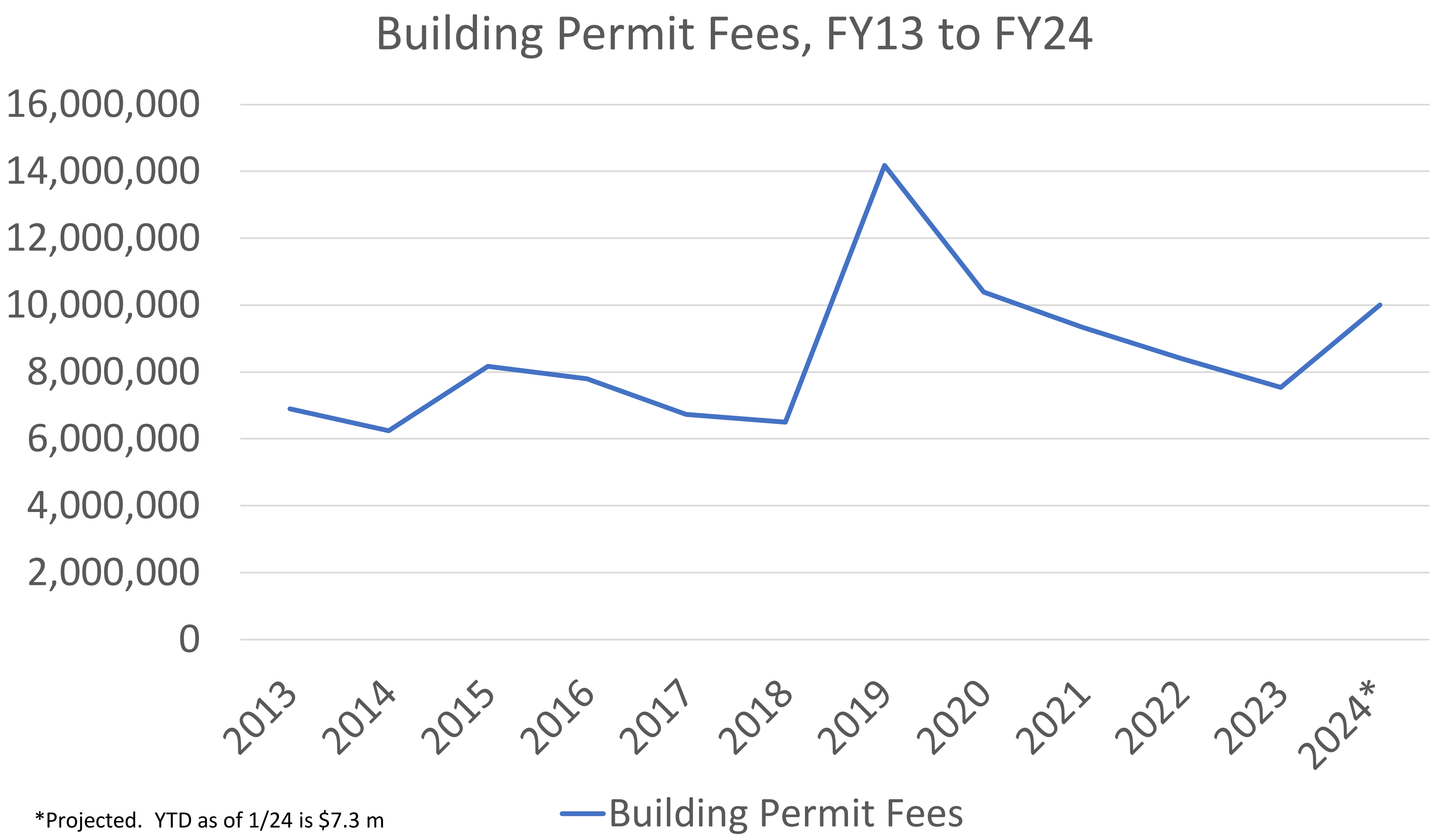
- The tax revenue data presented here is based on calculations by the Stamford Assessor's Office of "Organic Growth."
- Organic Growth reflects the change in the Grand List each year that is attributable to new building and development activity, rather than market changes to values.
- Data on Organic Growth by property class is only available for 2018 and after because of changes to classifications in 2017.

New taxes from development and permitted housing units, FY13 to FY24

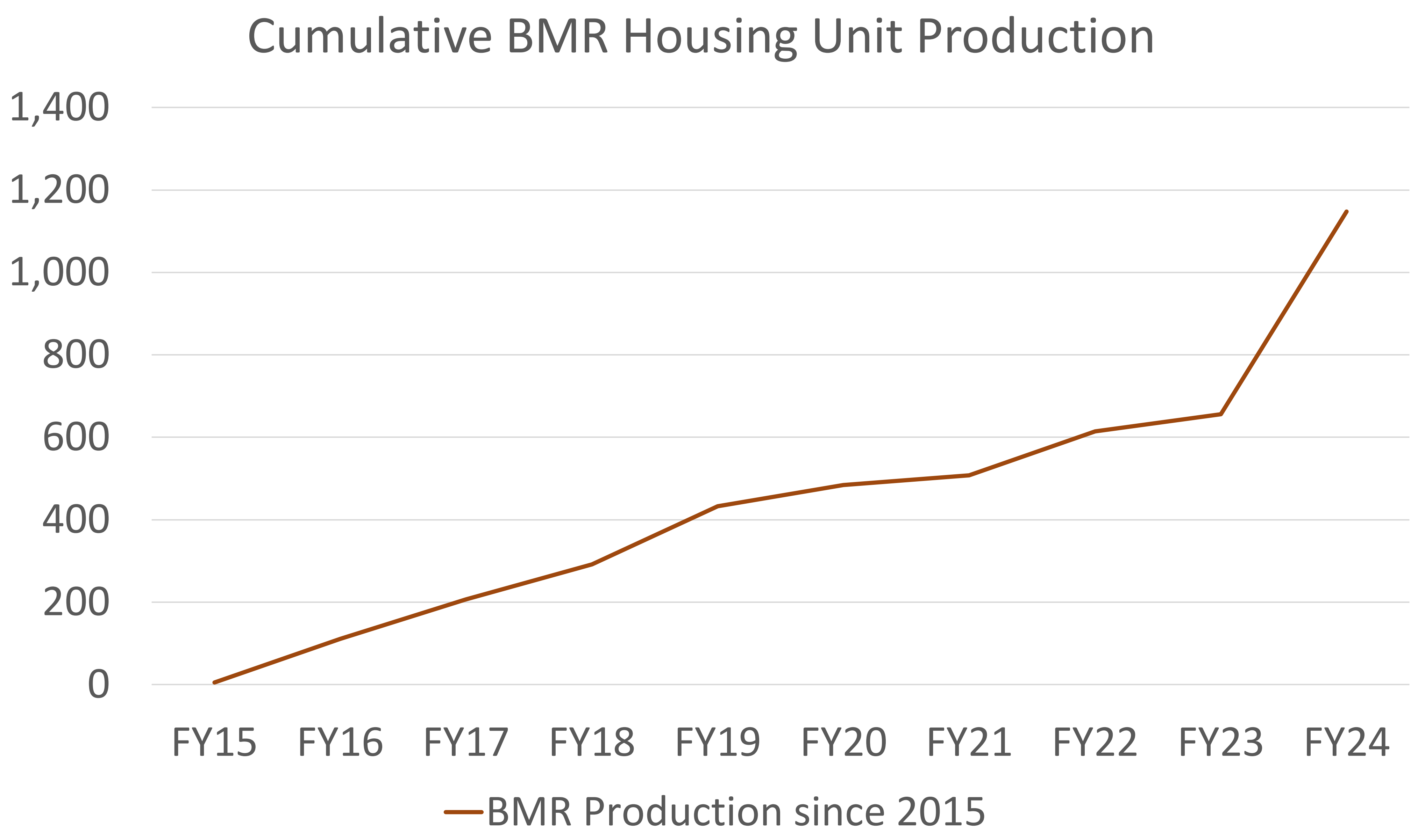


Growth in property tax revenue since 2018 is mostly from apartments





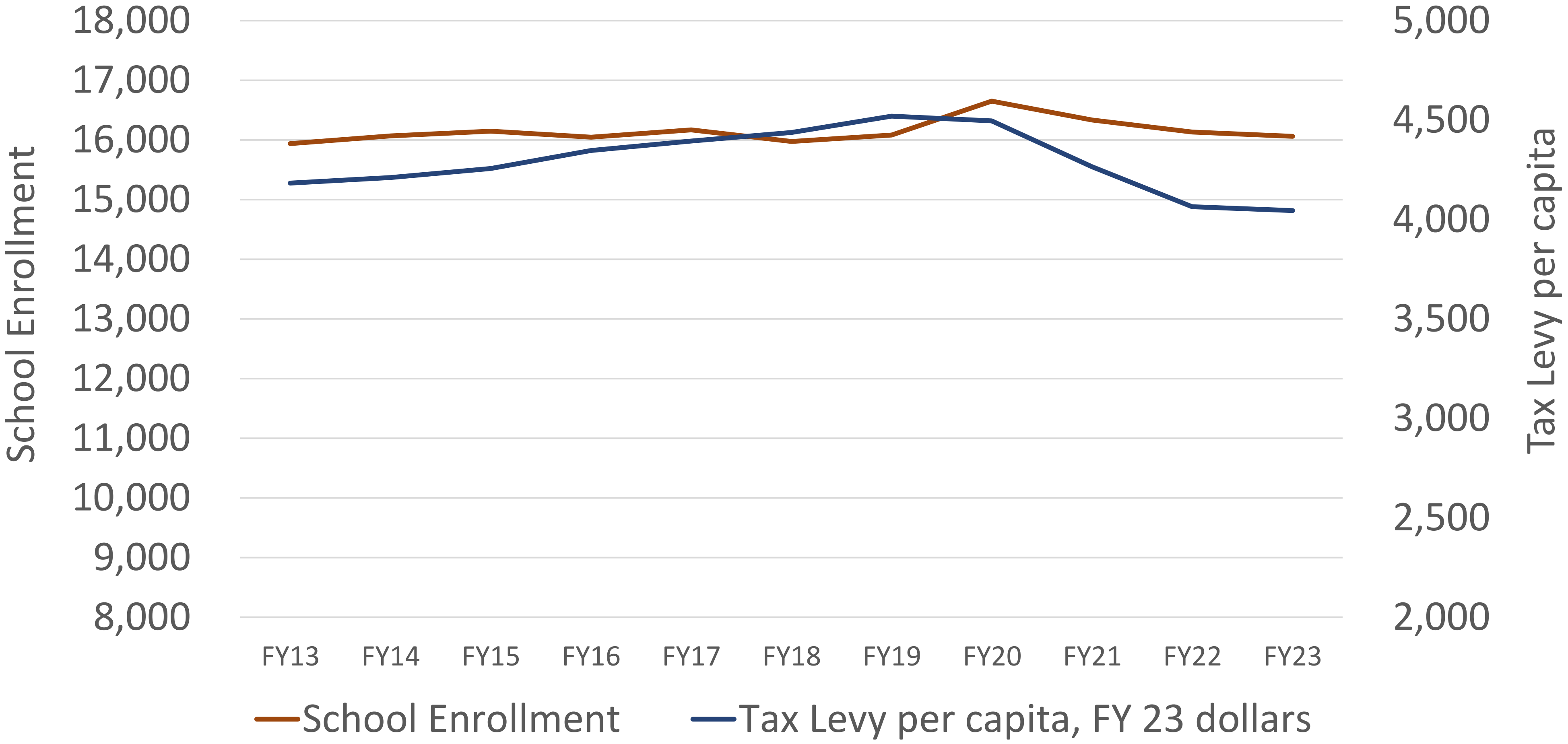
*Projected. YTD as of 1/24 is $7.3 m


Cumulative BMR Housing Unit Production
1,400
1,200
1,000
800
600
400
200
0
FY15
FY16
FY17
FY18
FY19
FY20
FY21
FY22
FY23
FY24
BMR Production since 2015

Impact of Growth on Services

- School enrollment has grown only slightly since 2013 (15,951 to 16,134)
- The real tax levy per capita was lower in FY 2023 than in 2013. This is an inflation-adjusted measure of how much people pay in property taxes each year.
- The number of restaurant and hotel establishments in Stamford increased by 10% from 311 to 343 between 2013 and 2019. This and other secondary effects of growth will drive caseload increases for City code enforcement and public safety services.

Despite population gains, taxes per capita and school enrollment are stable



Thank you for your attention.

Ben Barnes
Director of Administration
City of Stamford
203-977-4182
bbarnes@stamfordct.gov

CITY OF STAMFORD
innovating since 1641

Exhibit R
Comparison of Assessed Values Before and After Multifamily Development

	2013 FMV	2023 FMV	Increase
Maple Ridge Condos	1,425,100	11,238,470	688.61%
16 Maplewood Place	353,880	475,240	34.29%
20 Maplewood Place	304,110	424,650	39.64%
23 Maplewood Place	454,590	657,910	44.73%
26 Maplewood Place	428,970	588,150	37.11%
27 Maplewood Place	435,370	629,990	44.70%
28 Maplewood Place	465,720	633,000	35.92%
31 Maplewood Place	455,550	635,370	39.47%
32 Maplewood Place	421,440	582,580	38.24%
33 Maplewood Place	375,750	522,500	39.06%
39 Maplewood Place	399,190	528,790	32.47%
40 Maplewood Place	504,180	686,120	36.09%
41 Maplewood Place	515,800	883,660	71.32%
46 Maplewood Place	429,700	585,210	36.19%
		Average Increase in FMV	**40.71%**

	2015 FMV	2023 FMV	Increase
504 Glenbrook Road	1,506,400	15,720,890	943.61%
13 Parker Avenue	290,030	411,780	41.98%
18 Parker Avenue	368,270	610,200	65.69%
22 Parker Avenue	437,060	577,330	32.09%
23 Parker Avenue	375,060	681,640	81.74%
25 Parker Avenue	420,950	757,780	80.02%
28 Parker Avenue	345,000	486,870	41.12%
29 Parker Avenue	1,356,640	2,063,400	52.10%
30 Parker Avenue	297,670	442,210	48.56%
34 Parker Avenue	687,330	1,056,340	53.69%
35 Parker Avenue	327,870	460,460	40.44%
37 Parker Avenue	347,570	580,990	67.16%
38 Parker Avenue	514,560	855,380	66.24%
40 Parker Avenue	359,570	576,820	60.42%
41 Parker Avenue	173,140	268,520	55.09%
46 Parker Avenue	443,440	741,280	67.17%
47 Parker Avenue	329,150	548,800	66.73%
50 Parker Avenue	436,720	715,220	63.77%
54 Parker Avenue	350,680	583,490	66.39%
65 Parker Avenue	389,310	629,670	61.74%
		Average Increase in FMV	**58.53%**

MAYOR
Caroline Simmons

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
lcohen@stamfordct.gov

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

RECEIVED
MAR 1 8 2024
ZONING BOARD

March 18, 2024

Mr. David Stein, Chair
City of Stamford
Zoning Board
888 Washington Boulevard
Stamford, CT 06902

RE: ZB APPLICATION #223-38 - 800 LONG RIDGE ROAD, LLC - 800 LONG RIDGE ROAD - Site & Architectural Plans and/or Requested Uses and Special Permit

Dear Mr. Stein & Members of the Zoning Board:

During its regularly scheduled meeting held on Tuesday, March 12, 2024, the Planning Board reviewed the above captioned application referred in accordance with the requirements of the Stamford Charter.

Applicant is proposing a redevelopment consisting of 354 apartments and approximately 9,394 sq. ft. of commercial space along with associated landscaping and site improvements. Applicant is requesting: **[*a*]** Final Site Plan Approval; **[*b*]** Special Permit approval for multifamily residential use of the property and a 5 ft. sidewalk requirement in lieu of 6 ft.; and **[*c*]** Special Permit exemption from the sidewalk requirements for the Long Ridge Road frontage to the south of the entrance to the property.

Lisa Feinberg, Carmody Torrance Sandak & Hennessey, LLP; representing the applicant, made a presentation and answered questions from the Board.

After considerable discussion, the Planning Board unanimously voted to recommended ***approval*** of ***ZB Application #223-38*** with the recommendation that sidewalks be provided throughout the project for easier accessibility to Long Ridge Road and to restrict the commercial uses to those which would service the residents of the complex. The Board found this request is in general harmony with Master Plan Category #8 (Mixed-Use Campus).

Sincerely,

STAMFORD PLANNING BOARD

Theresa Dell

Theresa Dell, Chair

TD/lac

DAVID J. STUART, AIA

edi-international.com

Studio Leader

david.stuart@edi-international.com

SUMMARY

As EDI's New York City Studio Leader, David brings 33+ years of experience in the design and realization of Multi-Family and Mixed-Use projects. He has excelled in directing design teams toward the successful completion of over 20 projects in the NYC area. His expertise in the design of housing for the New York City Market both in the Affordable Housing, as well as market rate spheres is a key asset to the firm. Stuart processes a detailed understanding of NYC Zoning as well as the DOB approvals process and has extensive experience working with the Housing Preservation and Development (HPD), the Department of Design and Construction (DDC) and Housing and Urban Development (HUD). He has contributed to the design of a full range of architectural projects over his career: Institutional and Cultural projects, Urban Scale Mixed-Use developments, Residential projects at all scales and Historic renovations including LEED and Passive House designs. He has a proven talent for developing strong client relationships and understands the importance of timely and efficient performance.

EDUCATION

Rensselaer (R.P.I.): Master of Architecture

Boston College: Bachelor of Architecture

Summer Studio (Istanbul, Turkey): M.E.T.U./R.P.I. Rome Studies Program:

Rome, Italy

AFFILIATIONS

American Institute of Architects National Council of Architectural

Registration Boards Architectural Registrations: New York and New Jersey

TENURE EDI

Since 2015

Prior Experience: 25 Years

EXPERIENCE

Multi Family Market-Rate and Affordable

Pratt Landing Mixed Use   New Rochelle, NY

Park Haven   Bronx NY

Park District Block 2   Sarasota, Florida

290 & 270 Mason Street   Greenwich CT

188-11 Hillside   Queens, NY

20 East End Avenue Condominiums   Manhattan, NY

920 Westchester Avenue - LEED Silver   Bronx, NY

AURUM Apartments - LEED Silver   Harlem, NY

Albany Avenue Apartments and Fresh Food Store   Brooklyn, NY

Kent Avenue Apartments   Williamsburg, NY

Melrose Commons Apartments   Bronx, NY

New Brunswick Transit Village   New Brunswick, NJ

Roscoe C. Brown, Jr. Apartments   Bronx, NY

Norwalk North 7   Norwalk, CT

Competitions

E111 Gardens - Passive House   East Harlem, NY

St Ann's   Bronx, NY

Conversion Rehabilitation

Calcagno Homes Rehabilitation   Yonkers, NY

Herkimer Street Housing Rehabilitation   Brooklyn, NY

Brunswick School Conversion   Greenwich, CT

Eckford Lofts IMD Conversion   Williamsburg, NY

Institutional

National Museum of American Indian, Smithsonian   Washington, DC

Symphony Space   Manhattan, NY

Brookline Music School   Brookline, MA

CIVIL 1

BRIAN BAKER, PE, CPESC®, CPSWQ

Director of Engineering

Since joining Civil 1 in 1997, Brian has masterfully secured hundreds of land use approvals throughout the State of Connecticut. In his role as Director of Engineering, he is responsible for ensuring the delivery of quality engineering services that the firm is known for. Brian has been instrumental in building Civil 1's unified and efficacious team, working closely with project managers and engineers to ensure schedules and budgets stay on track. His background in customer service, gained during his tenure at Toyota in California, helps him proactively diagnose and resolve issues. A results-driven leader, he focuses on identifying the best solutions for the challenges posed by his clients, utilizing the diverse skills of Civil 1's in-house team and consulting partners and applying the necessary resources to get the job done.

EDUCATION

Lafayette College, BS, Civil Engineering

CERTIFICATIONS

Licensed Professional Engineer Connecticut

Certified Professional Stormwater Quality

Certified Professional Erosion and Sediment Control

SELECTED PROJECT EXPERIENCE

The Elms

Bristol, CT | Role: Senior Project Manager

Site renovation plans including, new driveway access and parking configuration, redesign existing utilities, local permitting, and value engineering to reduce site improvement costs

Liberty Place

Clinton, CT | Role: Senior Project Manager

Site/civil engineering; utility design; septic system design, inspection and certification; land use approvals

Harbor Point

Stamford, CT | Role: Senior Project Manager

Site/civil package, including detailed grading plans, storm drainage and utility plans, landscape and lighting designs, low impact stormwater management

Glover Avenue

Norwalk, CT | Role: Senior Project Manager

Site planning, stormwater management, and utility design for apartment community with spacious outdoor areas

Benton's Knoll

Guilford, CT | Role: Senior Project Manager

Site engineering, including low-impact techniques for stormwater management

Mark Vertucci, PE, PTOE

FUSS & O'NEILL

Mark is a Vice President in our Transportation Business Line. He has many years of experience in traffic engineering, transportation planning, site development, and roadway improvement projects. Throughout his career, he has prepared numerous traffic impact studies, planning studies, corridor studies, parking studies, and traffic management plans. Mark has extensive experience with traffic signal design projects, roadway design projects, and intelligent transportation systems.

FIRM ROLE

Vice President

EDUCATION

Bachelor of Science, Civil Engineering - 1998
Rensselaer Polytechnic Institute

EXPERIENCE

26 Years with Fuss & O'Neill
27 Years Professional Experience

LICENSES AND REGISTRATIONS

Professional Engineer CT
Professional Engineer MA
Professional Engineer NY
Professional Engineer RI
Professional Traffic Operations Engineer

mark.vertucci@fando.com
860.783.4756

www.fando.com

REPRESENTATIVE PROJECTS:

Greenwich Avenue Corridor Study - Stamford, CT
Project Manager for a traffic analysis and parking study that reviewed operations, safety, and capacity at 13 intersections, as well as consideration of streetscape enhancements.

Citywide Bicycle and Pedestrian Improvements - Stamford, CT
Senior Transportation Engineer for bicycle and pedestrian safety projects throughout the City that have included proven measures to reduce crashes and improve safety.

Greenwich Avenue Corridor Improvements and Roundabout Design - Stamford, CT
Project Director for conceptual plan alternatives to improve traffic safety and flow, pedestrian circulation, and streetscapes throughout the corridor limits.

Traffic Signal Hardware Upgrade, Phases D through G - Stamford, CT
Senior Transportation Engineer for design, review, and oversight of design plans for this major traffic signal system hardware upgrade.

Urban Transitway Traffic Signal Design and Transit Signal Priority - Stamford, CT
Senior Transportation Engineer for the preparation of traffic signal plans, equipment layout, and Synchro progression and capacity analyses for eight new traffic signals on the Stamford Urban Transitway.

Signal Design, Selleck Street at Greenwich Avenue - Stamford, CT
Project Manager for a traffic impact analysis and recommendation of a new turn lane, followed by the design of a new signal and completion of signal plan updates.

Atlantic Street Reconstruction - Stamford, CT
Senior Project Manager for widening and complete streets improvements along Atlantic Street for approximately 1,600 feet between Washington Boulevard and the Urban Transitway.

Harbor Point Development Transportation Planning - Stamford, CT
Senior Project Manager for transportation planning support for the $3.5B Harbor Point development, which included an interactive traffic model to analyze traffic operations and impacts at 50+ intersections and to answer a variety of "what if?" scenarios.

MATTHEW J. POPP
Landscape Architect / Senior Professional Wetland Scientist

PROFESSIONAL HISTORY:

1995 - Present	Principal / Landscape Architect / Senior Professional Wetland Scientist Environmental Land Solutions, LLC, Norwalk, Connecticut
1987-1995	Landscape Architect / Environmental Analyst Environmental Design Associates, PC, Wilton, Connecticut

EDUCATION:

1983	The University of Connecticut, Storrs Bachelor of Science in Horticulture
1987	The University of Georgia, Athens Master's of Landscape Architecture

LICENSES AND CERTIFICATIONS:

State of Connecticut:	Landscape Architect #630
State of Connecticut (DEEP):	Permit to Collect Wildlife for Scientific / Educational Purposes (0323001)
State of Massachusetts	Landscape Architect #4065
State of New Jersey:	Landscape Architect #21AS0013400
State of New York:	Landscape Architect #1509-1
Society of Wetland Scientists:	Senior Professional Wetland Scientist #1322

AWARDS:

"2009 Honor Award" - Site Design of Cove Island Wildlife Sanctuary, Stamford, Connecticut.
Outstanding Professional Achievement from the American Society of Landscape Architects, CT Chapter.

PUBLICATIONS AND PRESENTATIONS:

"Can Tidal Wetlands Really Be Restored? A Case Study of the Science and Law of Tidal Wetland Restoration." Co-author. Wetlands Watch. Vol. 1, No.2. Robinson & Cole, Hartford, CT. Spring, 1991.

PROFESSIONAL AFFILIATIONS:

Member (1986 to present):	American Society of Landscape Architects
Board Member (1999 to 2008):	Audubon Greenwich, CT - President (2002 to 2005), Secretary (2001)
Board Member (2003 to 2013):	Calf Island Conservancy, Inc., Greenwich, CT - Treasurer (2012-2013)
Member (1988 to present):	Connecticut Botanical Society
Member (1991 to present):	Connecticut Ornithological Association
Member (2016 to 2022):	Friends of Greenwich Point, Greenwich, CT - Conservation Committee
Board Member (1995 to 1999):	Greenwich Audubon Society, CT - Vice President (1998-1999)
Board Member (2022 to present):	Greenwich Board of Parks and Recreation
Member (1993 to 2009):	Inland Wetlands and Watercourses Agency, Town of Greenwich, CT
Member (2004 to present):	New England Hawk Watch
Volunteer (1995 to present):	Quaker Ridge Hawk Watch, Greenwich, CT - Director (1995-2002)
Member (2002 to present):	Society of Wetland Scientists - Senior Professional Wetland Scientist

EXPERIENCE:

The integration of landscape, ecology, design and culture to create sustainable site plans for a range of projects including parks, educational and health care institutions, mixed use and commercial developments, housing communities, single-family residences, and wetland restoration and mitigation. Natural resource inventories for both plant and wildlife communities. The preparation of environmental assessment reports with the evaluation of environmental impacts, mitigation, and alternatives for projects subject to local, state and federal review. Presentation of testimony at public hearings and meetings in support of our project. Site monitoring for permit compliance with regulatory permit conditions including erosion control and wildlife monitoring.

Curriculum Vitae

Donald J. Poland, PhD, AICP
Urban Planner – Human Geographer – Development Strategist

Connecticut, U.S.A.

E-Mail: don@donaldpoland.com
Phone: 860-655-6897

Professional Biography

Dr. Poland is a spatial and social scientist with over twenty-eight years' experience in land use planning, housing, economic development, real estate development, and community investment. Having worked in the public, private, non-profit, and academic sectors, Dr. Poland offers a unique perspective and deep understanding of the social, spatial, economic, governance, and policy challenges that face communities and real estate developers.

Internationally trained, Dr. Poland earned his PhD from University College London, Department of Geography, *Cities and Urbanization* program. His doctoral research focused on urban ecology, ecological resilience, and how ecological metaphors and theory help us understand urban environments as complex adaptive systems. This has allowed Dr. Poland to develop a unique approach to planning and urban policy that treats cities and markets as complex adaptive systems to be managed through strategic interventions and governance.

His philosophy, method, and approach utilizes a unique mixture of social-psychology, system management, urban ecology, and market economics to frame policies and strategic interventions aimed at building market and creating improvement. To accomplish this, Dr. Poland's approach is driven by qualitative and quantitative research, market-based outcomes, and strategic interventions. He is a natural leader, effective manager, and highly skilled strategist who is willing to ask hard questions, confront unfavorable findings, and lead clients and communities toward innovative transformations aimed at continuous improvement.

Dr. Poland is accepted as an *expert witness* in the areas of *land use planning, neighborhood redevelopment,* and *community development* in the United States District Court, Eastern District of Louisiana. He is also accepted as an expert witness in the Circuit Court pf St. Louis County, State of Missouri for land use planning. Dr. Poland is a member of the American Institute of Certified Planners and a Certified Zoning Enforcement Official. He is a Past-President of the Connecticut Chapter of the American Planning Association, a founding member of the Connecticut Partnership for Balanced Growth, was a governor appointee on the CT Board of Examiners for Professional Engineers and Land Surveyors, served on the Board of Trustees for the CT Trust for Historic Preservation, and the Bushnell Park Foundation.

His academic experience includes an appointment as *Visiting Lecturer in Urban Studies (previously Public Policy),* Graduate Studies Program at Trinity College, Hartford, CT, and Associate Professor, Instructor, and Adjunct Lecturer in geography, planning, and tourism at Central Connecticut State University, the University of Connecticut, and Manchester Community College. He was awarded the Connecticut Homebuilders Outstanding Land Use Official Award (2003) and the Hartford Business Journal's Forty Under Forty award (2004). Dr. Poland enjoys European travel, is a licensed private pilot, and enjoys spending time in the North Woods of Maine with, Alison (his better half) and their three dog, Brixton, Bowie, and Skye.

Related Professional Skills and Knowledge

- Real Estate Asset Classes
- Comprehensive Planning
- Economic Development
- Community Investment
- Tax Incentive Programs
- Housing Markets & Affordability
- Market & Financial Feasibility
- Multi-Family Development
- Community Loan Funds
- Public Policy & Advocacy
- Tourism & Hospitality
- Permitting & Entitlements
- Leadership & Vision
- C-Level Presentations
- Project Management
- Strategic Planning
- Zoning & Regulations
- Qualitative Research

Professional Competencies

Cities & Urbanization

A thought leader who challenges the status quo of our urban understandings. Over 27-years experience and three degrees focused on understanding the complexity cities, urbanization, and urban planning. The ability to see critical patterns and slow-moving variables that drive urban change. A firm understanding of common cause and special cause variation and effects of such variations on our interpretation of urban data and outcomes.

Leadership & Management

A natural leader and effective manager with an entrepreneurial spirt who empowers employees and team members to take initiative and realize their potential. Over 15-years senior level management experience in public administration, non-profit management, and real estate consulting. Management experience includes direct and indirect reports, budgeting and financial controls, program implementation, policy formation, and project management. Management roles include executive director/CEO of a neighborhood development corporation, municipal director of planning and economic development, and managing director/senior vice president of a real estate consulting firm.

Research & Data Analysis

A skilled and versatile qualitative (and quantitative) researcher who utilizes a mix-method approach aimed at better understanding the social, spatial, and economic drivers and outcomes of settlement patterns, social practices, consumer behaviors, property markets, and public policy outcomes. Methods and proficiencies include demographic and socio-economic analysis, consumer behavior and market segmentation, case studies, focus groups, interviews, participant observations, and ethnography. Additional research and analysis experience with property valuation, project feasibility, economic impact, and financial feasibility. Skilled in the design, execution, interpretation, report writing, and presentation of research and findings.

Policy & Strategy

An accomplished policy analyst, advisor, and strategist with vast experience in land use planning, housing and housing affordability, tourism, urban redevelopment, and property markets for all asset classes. Over 20 years' experience studying the social, economic, and governance structures of metropolitan and non-metropolitan markets and the resultant impacts of public policies and programs on market outcomes. From this I have developed a unique knowledge and understanding of the relationship between public policy, market forces, and consumer behaviors that affords me the ability to provide unique policy, market, and consumer insights that create the foundation to innovative strategic interventions aimed at positioning properties, markets, and communities to compete for investment and wealth. Additional experience with regulatory processes, entitlements, legislative reform, and policy implementation.

Public Speaking & Training

A talented public speaker, educator, trainer, and facilitator who has presented to groups from five to 400 persons. Have successfully facilitated seminars, workshops, and focus groups designed to gain insights and convey information. A regular presenter at professional and academic conferences and seminars. A highly skilled academic educator who can establish learning objectives and outcomes, designs curriculum, facilitate instruction, and perform evaluation and assessment. Topical areas of expertise include land use planning, zoning regulations, neighborhood reinvestment, housing policy, economic development, real estate markets, urban ecology and ecological resilience, urban governance, urban user experience, and urban and suburban history. C-level presentation and dynamic audience engagement.

Professional Experience

Managing Director & Senior Vice President, Planning & Development Strategy — 2013 - Present

GOMAN + YORK PROPERTY ADVISORS — **EAST HARTFORD, CT**

Manage a dynamic and innovative consulting practice providing fee-for-service market research, project feasibility, economic development, and land use planning, comprehensive planning, regulations, and entitlement services for private and public sector clients. Private sector clients include real estate developers, financial institutions, colleges and universities, healthcare providers, and housing/retail investors. Public sector clients include municipal, county, and state agencies.

Planning and Economic Development Consultant — 2008 – Present

CT PLANNING & DEVELOPMENT, LLC — **EAST HAMPTON, CT**

Provide research, reports, plans, strategies, and expert testimony for developers, public agencies, and non-profit organizations in the areas of planning, zoning, economic development, housing, and community development. Research services include a mixed-methods (qualitative & quantitative) approach focused on socio-economic analysis, ethnography, interviews, focus groups, and user experience. He assist communities (and clients) to develop strategic interventions that build community confidence, foster pride in place, create predictability in market, and grow demand.

Executive Director & CEO — 2004 – 2008

THE NEIGHBORHOODS OF HARTFORD, INC. — **HARTFORD, CT**

Started and managed a non-profit neighborhood reinvestment organization focused on creating investment and wealth in distressed- and weak-market communities. Managed a staff of seven, answered to a board of directors, and designed, facilitated, and implemented a comprehensive neighborhood reinvestment strategy focused on consumer (homeowner) behavior and market interventions.

Director of Planning and Economic Development — 2000 – 2004

TOWN OF EAST WINDSOR — **EAST WINDSOR, CT**

Managed the Planning and Economic Development Department for this growing suburban community in metropolitan Hartford. Oversaw a staff of four, supported four land use commissions, and functioned as senior advisor to the First Selectmen.

Associate Planner — 1998 – 2000

PLANIMETRICS, LLP — **AVON, CT**

Zoning & Code Enforcement Official — 1996 – 1998

TOWN OF EAST HARTFORD — **EAST HARTFORD, CT**

Research Associate — 1994 – 1996

AMADON & ASSOCIATES, INC. — **HARTFORD, CT**

Education

Doctorate, Geography – *Cities & Urbanization* 2016
University College London, Department of Geography **London, England**

Master of Science, Geography – Concentration in Urban Planning 2000
Central Connecticut State University, Geography Department **New Britain, Connecticut**

Bachelor of Arts, Psychology and Geography 1995
Central Connecticut State University, Geography Department **New Britain, Connecticut**

Professional Affiliations

American Association of Geographers (AAG)

American Institute of Certified Planners (AICP)

American Planning Association (APA)

Connecticut Chapter - American Planning Association (CCAPA)

Northern New England Chapter, American Planning Association (NNEAPA)

Aircraft Owners and Pilots Association (AOPA)

Testimonials

"Don connects with his clients on their own terms while simultaneously introducing new perspectives. He listens to understand his clients and their community before jumping to conclusions. He is genuine and addresses each community with respect and consideration. He always has his client's best interests at heart. Don worked hard to produce a plan with action items that were attainable and will lead to real results. He gently guided our staff through a new code in training sessions that made them so much better at what they do. Don had an uncanny knack for working with challenging individuals in our community who needed to be involved in our planning activities, but who could easily have derailed the process."

− Candace Watkins, (Former) Director of Community Development, St. Bernard Parish, Louisiana

"Don's brilliant work in developing the City of Oswego's Economic Investment Strategy laid the foundation for the City to receive a $10 million-dollar grant from New York State for Downtown Revitalization. He was skillful at quickly analyzing the community's unique challenges and opportunities and worked tirelessly to provide clear, data driven, recommendations. Don is the most brilliant Planning and Economic Development consultant that I have had the pleasure of working with. His development of our hand tailored strategy and beautifully communicated narrative ultimately set us apart from our competition. As a result, many of the projects identified in the strategy will receive actual funding to further Oswego's renaissance and transformation."

− Amy Birdsall, (Former) Director of Planning, Oswego, New York

"Professor Poland is a superb teacher who clearly knows his material. For purposes of graduate education, he is especially adept in relating concrete examples and practical considerations to theoretical and philosophical concerns. Class discussions do not proceed merely at a "how-to" level, but often involve questions of "why." Such a philosophical approach broadens the discussion and raises it to a level that meets the educational objectives of the graduate program."

− William Barnett, PhD, (Retired) Dean of Graduate School, Trinity College, Hartford, Connecticut

Dr. Poland

Curriculum Vitae

Supplemental Material & Experience

Expert Witness

In August 2011 Dr. Poland was accepted as an expert witness in the areas of *land use planning*, *neighborhood redevelopment*, and *community development* in the United States District Court, Eastern District of Louisiana. The following are five disparate impacts cases for which he has testified and been retained as an expert witness:

Jurisdiction	Cases
U.S. District Court for the Eastern District of Louisiana	United States of America, vs. St. Bernard Parish. No 2:12-CV-00321 (2013) NOLA Capital Group, vs. St. Bernard Parish. No 2:12-CV-00322 (2013) Greater New Orleans Fair Housing Action Center, vs. St. Bernard Parish. No 2:12-CV-00325 (2013) Greater New Orleans Fair Housing Action Center, vs. St. Bernard Parish. Et Al. No 2:11-CV-00858-HGB-SS (2012) Greater New Orleans Fair Housing Action Center, Et Al, vs. St. Bernard Parish, Et Al. No 2:06-CV-07185 (2011)

Legislative Experience and Testimony

Dr. Poland has established himself as a leader in planning and urban policy. As Government Relations Chair for CT Chapter of the American Planning Association and as Executive Director for the CT Partnership for Balanced Growth, Dr. Poland has eight years of government relations and public policy experience. In these roles, Dr. Poland has engaged in many facets of the legislative process. This has included proposing bills and successfully working a half-dozen bills through the legislative process. In addition, he has testified before numerous legislative committees, at dozens of legislative hearings, and on countless proposed bills related to planning, land use, development, and transportation. The following is a sample of Dr. Poland's legislative experience:

Government Relations	Highlights and Descriptions
Legislative Hearings	Has testified before many legislative committees to support and oppose over 100 proposed bills between 2000 and 2010.
Bill Screening	Assisted the Planning and Development Committee with bill screening and drafting statutory language for a number of bills in 2003 and 2004.
Informational Hearings	Has been invited to testify on informational hearings regarding planning, state plans, smart growth, and transportation related issues.
American Planning Association	Participated in the development of and adoption of APA's Smart Growth Policy Guide as a member of the National Delegates Assembly.

Professional Affiliations & Community Involvement

Organization	Position
American Planning Association – Connecticut Chapter	Board Member – 1999-present Past-President - 2010-2013 President – 2007-2010 President Elect – 2006-2007 Vice President – 2004-2007 Government Relations Chair – 2001-2004
American Planning Association	Chapter Presidents Council – 2007-2010 State Legislative Liaison – 2001-2004 Delegates Council – 2003 & 2004
Bushnell Park Foundation	Board Member – 2009-2017 Vice President – 2015-2016
Connecticut Trust for Historic Preservation	Trustee – 2006-2012 Grants Committee – 2006-2012
Connecticut Partnership for Balanced Growth	Charter Member – 2002-2021 Secretary – 2002- 2012 Executive Director – 2008-2011
Community Builders Institute	Curriculum Committee – 2007-2012 Instructor/Faculty – 2009-2012
Connecticut, State of, Board of Examiners: Professional Engineers and Land Surveyors	Board Member – 2010-2015
Connecticut Association of Zoning Enforcement Officials	Board Member – 1999-2004 Newsletter Editor – 2002-2003 Legislative Liaison – 2003-2004
State Taskforce – Clean Air Act Amendments Compliance	Member – 2002-2006
Metro Hartford Alliance	Economic Development Forum – 2000-04 Neighborhood Committee - 2004-2011
Capitol Region Council of Governments	Policy Board – 2000-2004 Transportation Committee – 2000-04 Executive Board – 2000-2004
Connecticut Trolley Museum	Board Member - 2001-2002
North Frog Hollow NRZ	Board of Directors – 2004-2007 Development Committee – 2004-2009
Mortson/Putnam Heights Block Watch	Chairman – 2004-2006

Lectures, Training, and Presentations (featured selection)

Professional Training Programs	**Topic**
American Planning Association, CT Chapter	AICP Exam Preparation Course (2012-2023)
Community Builders Institute Continuing education program	Planning for Economic Development – I & II, 2009–2012 Best Practices in Land Use Approvals, 2010 The Healthy Neighborhoods Approach, 2007
Connecticut Association of Zoning Enforcement Officials Professional certification program for zoning officials	Certification Program Instructor, 2002-2003 Neighborhoods & Zoning Enforcement, 2007 Flexible Zoning Techniques, 2002 Drafting Zoning Regulations, 2001

Professional Presentations	**Topic**
American Planning Association – National Conference New York, NY 2017	National Sign Illumination Standards
American Planning Association – Policy Conference Washington D.C. 2003	Legislative Best Practices – Connecticut
American Planning Association – National Conference Denver, CO 2003	Steering States Toward Smart Growth
Community Development Network - National Conference Baltimore, MD 2005 & 2006	The Healthy Neighborhoods Approach Hartford and Healthy Neighborhoods
Neighbor Works America – National Conference Philadelphia, PA 2013	Neighborhood Intervention – Fresh Eyes Block Walk – East Camden
Yankee Institute – Future of Freedom Summit New Haven, CT 2015	Free to Live: Letting our Cities Thrive
National Community Development Association Hartford, CT 2006	NHI's Healthy Neighborhoods Strategy
Southern New England Planning Conference Worcester, MA 2013	After the Storm – Post-Katrina Planning in St. Bernard Parish
Connecticut Conference of Municipalities Hartford, CT 2013	Positioning Communities for Investment - Economic Development
Southern New England Planning Conference New Haven, CT 2012	West Hartford Center and the Remaking of Urban Space
Southern New England Planning Conference New Haven, CT 2006	NHI's Healthy Neighborhoods Strategy
1000 Friends – Connecticut Smart Growth Conference New Haven, CT 2007	Sprawl or Suburbanization?
Connecticut Housing Coalition – Housing Forum Hartford, CT 2004 & 2005	Neighborhood Reinvestment – Case Study A Tale of Two Cities, Hartford & Stamford
Connecticut Community Development Association Hartford, CT 2003- 2004	Connecticut Legislative Issues
Connecticut Bar Association – Real Estate Section New Haven, CT 2004	Smart Growth Policy in Connecticut
HBA – Developers Council Berlin, CT 2003 – 2004	Smart Growth in Connecticut Working With Planners/Mock Hearing

Publications & Media Appearances

Articles – Op-Eds	Title
The Hartford Courant – Sunday Commentary	Where Does Our Road Lead? (2015) Smart Growth Strategy Must First Embrace Real Growth (2008) Hartford's Bad Rep Is Bad Rap (2006) Hartford Needs to Lighten Up (2005) Six and the City (2004) Building from Strength (2004) Where Growth is Concerned, Denser May be Smarter (2004) Betting the House (2003) A Question of Character – Go With Building All Homes (2003)
The Hartford Business Journal – Commentary	Hartford Revitalization: Bad Policy (2013) In Praise of Sprawl (2007) Suburbanization, Not Sprawl (2007)
American Planning Association – Planning & Environmental Law Journal	Kelo in Connecticut (2005)
Connecticut Chapter of the American Planning Association – Connecticut Planning Magazine	The Evangelicals and Suburban Ideals (2010) Hartford: A Suburban City (2010) Book Review – The Complete Guide to Zoning, By Dwight Merriam (2005)

Dr. Poland

Curriculum Vitae

Academic Experience

Academic Experience

Dr. Poland has the full-time equivalent of eleven years' experience—including three-years full time appointments—lecturing in geography, planning, tourism, and public policy as a *Visiting Lecturer* at Trinity College, *Instructor and Associate Professor* at Central Connecticut State University, and as an *Adjunct Lecturer* at the University of Connecticut, Sacred Heart University, University of Saint Joseph, and Manchester Community College. His teaching experience includes being second advisor to three graduate student capstone projects/theses and leading three 18-day European study abroad courses. The following is a summary of the courses Dr. Poland has taught:

Trinity College	**Course Description**
Public Policy 833 Urban Planning	An overview of urban planning focused on key theories and concepts as well as methods and empirical case studies in this multidimensional field.
Urban Studies 219 Comparative Planning	A comparative approach exploration of city planning from the local to the global.

CCSU	**Course Description**
Geography 569 Independent Study	Exploring Urban Theory and Neighborhood Regeneration.
Geography 518 & 479 Advanced Field Studies	Site Plan Review
Geography 530 Graduate Internship	Supervised graduate internship for a housing and retail market study.
Geography 514 & 483 Design of Cities	This course explores the architectural and spatial design of cities in the context of planning movements and emergent spatial formations.
Geography 450 Tourism Planning	Integrated and sustainable development approach to tourism planning explored through lectures, seminars, and case studies.
Geography 518 & 445 Environmental Planning	Examines the environmental impacts of land development and natural constraints on planning and public policy decision-making.
Geography 518 & 441 Community & Regional Planning	Philosophies, theories, and principles involved in planning of regions and urban areas.
Geography 516 & 440 Rural Land Use Planning	Land use patterns and the planning process in agriculture, transportation, recreation, industry, population and settlement in rural areas.
Geography 518 & 439 Urban Geography	An exploration of cities through theories of centrality, materiality, infrastructure, globalization, design, segregation, consumption, and public space.
International Studies 360	Study Abroad: The Great Cities of Western Europe.
Geography 290 Geography of Tourism	Introduces the major themes associated with the geographic study of tourism. Topics include supply and demand, tourist motivations, socio-economic and environmental impacts. and sustainable tourism.
Geography 241 Introduction to Planning	Introduction to the principles and practices of planning at various spatial scales—regional, urban and neighborhood.
Geography 220 Human Geography	A survey of the world's peoples and their cultures through topics of population, religion, culture, social problems, resources, and environment.
Geography 110 Introduction to Geography	Geography as physical, spatial, and social science. Basic theories and patterns of spatial and human relationships.
Geography 100 Search	Study Abroad: X and the European City.
Geography 100 Search	Study Abroad: The Great Cities of Western Europe.

Academic Experience (Continued)

UCONN	Course Description
Geography 4210 Urban & Regional Planning	Philosophies, theories, and principles involved in planning of urban regions.

MCC	Course Description
Geography 201 Urban Geography	An exploration of urban geography through concepts of centrality, materiality, infrastructure, globalization, architecture, experience, segregation, consumption, and public space.
Geography 100 Introduction to Geography	Geography as physical, spatial, and social science. Basic theories and patterns of spatial and human relationships.

SJU	Course Description
Geography 100 World Regional Geography	Survey of the lands, people and places in the world's major culture regions.

CCSU	Capstone Project/Thesis – Second Supervisions
Jeremy DeCarlie Thesis	The Route 11 Project and the Changes that Lie Ahead.
Alexandra Johnston Thesis	How the Presence of the Metro North New Haven Line Affects the Sense of Place of the Residents of Fairfield, Connecticut.
Ali Fernandez Comprehensive Exams	Comprehensive Exams

CCSU	Study Abroad Courses – Course and Travel Description
Great City of Europe Study Abroad	The Geography of the Great Cities of Western Europe (London, Paris, Heidelberg, Munich, Venice, Florence, and Rome) introduces students to the history and human geography of these Western European cities. Students experience these European cities first hand, while engaging in discussions, lectures, excursions, and tours aimed at exploring and understanding the geographical context of history, culture, and lifestyle of these European cities. Academics include the spatial organization, design, and functioning of cities. Urban themes include centrality, mobility, global cities, nature, infrastructure, consumption, and public space.
X and the European City Study Abroad	‘X’ and the European City explores the dynamic interplay of the two subjects, where mathematics and urban geography enhance each other to reveal infinite possibilities for exploring the European city. By utilizing an applied mathematics approach to geography, cities, and travel, students learn and experience how X (math) and the city shape our lives. The course explores the mathematics that are inherently found in cities, travel, and geography in general, with the context of the European city and landscape as the backdrop. Students gain practice in practical travel mathematics and also discover the endless ways in which mathematics is “hidden” in the world around us.

Academic Experience – Doctoral Research

PhD Dissertation Summary

Dr. Poland earned his PhD at University College London (UCL), Department of Geography *Cities and Urbanization* program. In 2016, the year he graduated, both UCL and the UCL Department of Geography were ranked seventh in the QS World University Rankings and Subject rankings.

- Primary supervisor: Dr. Alan Latham.
- Secondary supervisor: Dr. Andrew Harris.
- Upgrade Workshop - thesis proposal examiner: Dr. David Bell, University of Leeds.
- Viva/Defense external examiner: Dr. Mark Jayne, Cardiff University.
- Viva/Defense internal examiner: Dr. Susan Moore, The Bartlett, School of Planning & Architecture.
- Thesis Title: *Urban Resilience – Evolution, Co-Creation, and the Remaking of Space: A Case Study of West Hartford Center.*

Abstract:

Dissatisfied with the large urban bias—the overreliance on large cities, spectacular space, and paradigmatic cases—and equally dissatisfied with our urban vocabularies and understandings of suburbanization and gentrification, I seek to explore how urban theory informs us about change in smaller cities and smaller suburban spaces. I argue that much of our urban understandings juxtapose the city as one kind of space and the suburban as another kind of space even though the distinction has become blurred. As a result, I argue that our understandings suburbanization and gentrification fall short of conceptualizing and understanding the remaking of smaller (sub)urban spaces such as West Hartford Center.

Utilizing a case study approach, I explore the space of West Hartford Center and how the Center changed—was remade from a suburban town center to a regional center of middle-class hospitality and sociality—from 1980 to 2012. To accomplish this, I introduce ecological resilience as a metaphor and theoretical framework for thinking about and working though our understandings of urban space, the processes of urban change—suburbanization and gentrification—and how and why (sub)urban space is remade. Through the metaphorical and theoretical lens of ecological resilience, I explore West Hartford Center as a complex adaptive system that has been resilient—having the capacity to absorb shock and disturbance while maintaining its function and structure. In doing so, I explore how the actors and their actions—the business owners, government officials, and consumers—coalesce into a dynamic process of re-creating urban space. Through this approach and my findings, I argue for more contextual geographies of place and geographies what happens; including the need for more and better studies of small city urbanism.

Academic Papers, Presentations, and Research

The following is a summary of Dr. Poland's academic accomplishments related to papers, presentations, and research. While Dr. Poland is new to academia and the completion of his dissertation, he is actively involved in research related to his dissertation and other research interests.

Academic Papers & Presentations	Topic
Connecticut, State of, SHPO Hartford, CT (2020)	Manuscript – Unconscious Influence: Olmsted's Hartford
Association of American Geographers Washington, DC (2019)	Paper – Unconscious Influence: Olmsted's Hartford and an Early Suburban Milieu
Association of American Geographers New York, NY (2018)	Paper – The Role of Entrepreneurs in the Remaking of Urban Space
City Planning in the Age of Climate Change University of Connecticut, West Hartford, CT (2016)	Panel Discussion – Moderator
Conference - The City in Connecticut History Fairfield University, CT (2014)	Paper – The Case of Hartford 1805-1880: An Early Suburban Milieu
University of Connecticut – Law School Hartford, CT (2014)	Planning, Zoning, and Urban Investment
Association of American Geographers New York, NY (2012)	Paper – The Remaking of Urban Space: Making Sense of Urban Change
University College London London, England (2011)	PhD Upgrade Workshop – The Remaking of Resilient Urban Space
Research Paper – In progress On-going research project	Unconscious Influence: Olmsted's Hartford and an Early Suburban Milieu
Research Paper – In progress On-going research project	Consumer Culture Origins: Keeping Up With The Joneses
Research Paper – In progress On-going research project	The American Suburban Vision: The Case of Hartford's Early Suburban History
Association of American Geographers Seattle, WA (2011)	Paper Presentation – An Urban Geography of Small Urban Places
University of Connecticut – Geography Department Storrs, CT (2009)	Guest Lecturer – Urban Sprawl and Suburbanization
University of Connecticut – Geography Department Storrs, CT (2008)	Guest Lecturer – Planning Issues in Connecticut
Clark University – Community Development Program Worcester, MA (2006)	Guest Lecturer – Alternative Neighborhood Reinvestment Strategies

Consulting Experience

Consultancy Experience – Select Private Sector Projects

Clients	Projects
Lexington Partners, Cromwell, CT	Mixed-Use Residential (111-Units) – Zone Change (2023)
Urso Development, South Windsor, CT	Industrial Warehouse (369,000 sf) – Special Permit (2022)
Connecticut Post Mall	Multi-Family Development (300-Units) Fiscal Impact (2020)
Avon Gardens	255 Unit Multi-Family Development – Fiscal Impact (2020)
Avon Meadows	Affordable Housing (400 Units) – Market Feasibility (2020)
Mystic Marine, Stonington, CT	Mixed-Use Redevelopment – Fiscal Impact (2018-19)
Blue Fox Run, Avon, CT	Residential Development (98-Units) – Fiscal Impact (2019)
Goodwin College, East Hartford, CT	Facilities and Land Use Planning (2014-2019)
Weber Development, South Windsor, CT	Mixed-Use Residential – Fiscal Impact (2019)
I-691 Site, Cheshire, CT	Interchange Zone – Fiscal Impact Analysis (2019)
Lexington Partners, Wethersfield, CT	Mixed-Use Residential (111-Units) – Tax Abatement (2018)
Weber Development, Canton, CT	Mixed-Use Development (70-Units) Tax Abatement (2017)
Five Corners, Farmington, CT	Commercial Retail – Property Value Impact (2017)
Color Lab, Stonington, CT	Residential Development (70-Units) Fiscal Impact (2017)
Eastfield Mall, Eastfield, MA	Retail Mall – Market Analysis & Concept Design (2017)
Tomasso Development – New Britain, CT	Land Development – Market & Feasibility Analysis (2017)
ConnectiCare – Manchester, CT	Customer Service Center – Land Use Permitting (2016)
Weber Development, Wethersfield, CT	Residential (68-Units) – Tax Abatement (2017)
Stone Acres Farm, Stonington, CT	Municipal Fiscal Impact Analysis (2016-17)
R-Young, New Rochelle, NY	Mixed-Use Commercial/Residential – Tax Abatement (2017)
Weber Development, Wethersfield, CT	Residential Development (70-Units) Tax Abatement (2017)
Multi-Family, Woodbridge, CT	Multi-Family Residential (138-Units) – Fiscal Impact (2017)
Color Lab, Stonington, CT	Residential Development (70-Units) Fiscal Impact (2017)
Perkins Farm, Stonington, CT	Mixed-Use Office/Residential - Fiscal Impact (2016)
Hartford Healthcare – Newington, CT	Facilities and Land Use Assessment (2015)
Dorset Crossing – Simsbury, CT	Zone change and site plan application (2011-12)
Ellington Chase Apartments – Ellington, CT	Zone change – 172-unit development (2011)
Avalon Farms – Glastonbury, CT	Special permit modification (2010)
Indian River Road, LLC – Orange, CT	14-acre mixed-use development (2009)
Optiwind – Goshen, CT	Special Permit, wind energy generation (2009)
GNOF – New Orleans, LA	Post-Katrina Land Use Consulting Services (2008)
NRT Realty – East Windsor, CT	Zone Change, 30ac, 200,000sf commercial (2008)
Southern Auto Action – East Windsor, CT	Zoning text amendment and site plan (2008)
Baker Residential – Berlin, CT	384-unit affordable housing development (2007)

Consultancy Experience – Select Public Sector Projects

Clients	Projects
East Hartford, Town of, CT	Redevelopment Plan – Silver Lane (2022)
Tolland, Town of, CT	Zoning Regulation – Commercial Updates (2020)
West Hartford, Town of, CT	Mix-Use Dev. – Tax Abatement Review (2020)
Manchester, Town of, CT	Mix-Use Dev. – Tax Abatement Review (2020)
Tolland, Town of, CT	Comprehensive Plan (2018-19)
Ellington, Town of , CT	Comprehensive Plan (2018-19)
Manchester, City of , CT	Downtown Design Guidelines (2018-19)
Bloomfield, Town of, CT	Economic Development – Town Center (2014-19)
Bristol, City of, CT	Downtown Development Consulting (2019)
Trumbull, Town of, CT	Comprehensive Zoning Regulation Update (2017-19)
Ridgefield, Town of, CT	Affordable Housing Application Review (2018)
Stafford, Town of, CT	Market Feasibility Study – Groceries & Retail (2019)
Durham, Town of, CT	Economic Development Regulatory Review (2018-19)
Darien, Town of, CT	Expert Review and Testimony - ZBA (2017)
Perry, Village of, NY	Comprehensive Zoning Code Update (2016-17)
Stafford, Town of, CT	Zoning Regulation Updates (2016-17)
Canton, City of, OH	Comprehensive Plan & Zoning Rewrite (2014-16)
Oswego, City of, NY	URI Economic Investment Strategy (2015)
Hutchinson, City of, KS	Healthy Neighborhood Training (2015)
Stafford, Town of, CT	Consulting Planner (2014-17)
Bristol, City of, CT	Downtown Development Plan Assessment (2014)
St. Bernard, Parish of, LA	Comprehensive Land Use Plan (2012-14)
Millinocket, Town of, ME	Economic and Policy Assessment (2014)
St. Bernard Parish, LA	Expert witness, federal fair housing cases (2012-13)
North Stonington, Town of, CT	Zoning Regulation Modernization (2013-14)
Canton Downtown Partnership, Canton, OH	Downtown Plan – Planning Assessment (2012)
North Stonington, Town of, CT	Zoning Regulation Review (2012)
St. Bernard Parish – St. Bernard, LA	Expert witness, disparate impact cases (2011-12)
Salisbury, Town of – Salisbury, CT	Land Use Application Process Review (2010)
St. Bernard Parish – St. Bernard, LA	Zoning Update, TND, and Permitting (2008-10)
Cornplanter, Town of – Cornplanter, PA	Comprehensive Plan, Housing Element (2009)
Vernago County RPA – Franklin, PA	HUD NSP-II Application and Strategy (2009)
East Windsor, Town of – East Windsor, CT	Comprehensive Plan Supervision (2006)
East Windsor, Town of – East Windsor, CT	120-Acre Land Acquisition (2005)
East Windsor, Town of – East Windsor, CT	Comprehensive Zoning Regulation Update (2005)

References

Employment References

Bob Kantor
Principal
Bob Kantor Consulting
Branford, CT 06405
Office: 860-709-0606
E-Mail: Bob@bkantorconsulting.com

Mike Goman
Principal
Goman+York Property Advisors, LLC
1137 Main Street
East Hartford, CT 06108
Office: 860-841-3271
E-Mail: mgoman@gomanyork.com

Marco Cocito Monoc
Executive Director, Foundation Relations
UMASS
Cell: 985-377-6002
E-Mail: marcococitomonoc@gmail.com

Rob Montesi
Broker
Goman+York Property Advisors
1137 Main Street
East Hartford, CT 06108
Cell: 860-866-7572
E-Mail: montesi@gomanyork.com

Consulting References

Candace Watkins
Former Mayor of Covington (and)
Former Disaster Recovery Specialist
Louisiana Office of Community Development
Disaster Recovery Units
Cell: 985-249-8646
E-Mail: candacewatkins@yahoo.com

Amy Birdsall, Assoc. AIA
Former Planning and Zoning Director
City of Oswego
Oswego, NY 13126
Cell: 970-445-0098
E-Mail: abirdsall11@gmail.com

Academic Employment References

Cynthia Pope, PhD
Professor and Past-Department Chair
Department of Geography
Central Connecticut State University
P.O. Box 4010
New Britain, CT 06050-4010
Office: 860-832-2799
E-Mail: PopeC@mail.ccsu.edu

William R. Barnett, PhD
Dean of Graduate Studies (Retired)
Trinity College
Bernett Writer, LLC
Manchester, CT 06040
Office: 860-880-0311
E-Mail: barnettwriter@gmail.com

Academic, PhD Advisors

Alan Latham, PhD (Primary)
Senior Lecturer, Geography
Department of Geography
University College London
Room G19, Pearson Building, Gower Street
London WC1E 6BT
Office: +44 (0)20 7679 0525
E-Mail: alan.latham@ucl.ac.uk

Andrew Harris, PhD (Secondary)
Senior Lecturer, Urban Studies
Department of Geography
University College London
26 Bedford Way
London, WC1H 0AP
Office: +44 (0)20 7679 5528
E-Mail: andrew.harris@ucl.ac.uk