



**Routes 7/15 Interchange
Norwalk, Connecticut
State Project No. 102-358**

**Environmental Assessment,
Draft Section 4(F) Evaluation and
Environmental Impact Evaluation**

**Appendix M
Environmental Justice Study**

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Prepared for:
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Administration



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1.0 ENVIRONMENTAL JUSTICE STUDY

This section addresses Environmental Justice (EJ), defined by the US EPA as “.. *the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies*” [1].

Executive Order 12898, *Federal Actions to Address Environmental Justice (EJ) in Minority Populations and Low Income Populations*, directs Federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of Federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law.

Additional policy guidance is provided in the U.S. Department of Transportation (USDOT) EJ Order 5610.2(a), FHWA EJ Order 6640.23A, and the 2015 FHWA Environmental Justice Reference Guide [2].

In addition, Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in programs and activities of any entity that receive federal assistance, including federally funded highway projects. In 2000, Title VI protection was extended by Executive Order 13166 [3] to populations having limited English proficiency (LEP), including ensuring that these populations have adequate input to decision making process during assessment of federally funded projects.

The base study area for this analysis is comprised of the areas of direct and indirect impacts identified in the EA/EIA, which consists of the construction area limits for the combined Build Alternatives (direct impacts)¹ and study areas identified for noise, air quality, traffic, and visual impacts (indirect impacts). As described in Section 2.0, evaluation of other resources identified no substantial impacts, or impacts were limited to areas of soil disturbance within the construction area (i.e. wetland and subsurface archaeological resources) that would be mitigated through permitting or MOA processes. In the following discussions of individual resources and demographic groups, the base study area is expanded as needed to match the limits of the US Census geographical units from which the corresponding demographic data are sourced.

¹ For purposes of this analysis, the extension of the Project Site south of Perry Avenue is excluded, because the work activities involve no ground disturbance (e.g. striping pavement), will be of very short duration, and are restricted to being within the Route 7 right-of-way.



The overall approach of this EJ analysis is as follows:

1. Identify EJ communities present within the areas where Project impacts may occur;
2. Identify impacts, direct and indirect, that may reasonably be anticipated to occur within the identified EJ communities, and;
3. Evaluate whether these communities would experience disproportionately high and adverse impacts.

In addition, demographics of the study area are analyzed to assess the Project planning process and inclusion of LEP populations within the study area.

1.1 EXISTING CONDITIONS

Setting

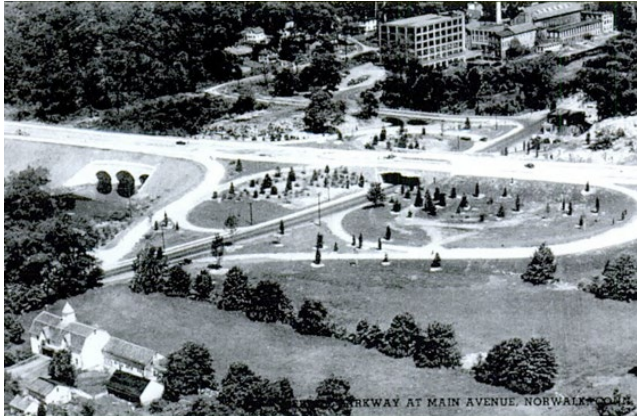
From 1927 when Route 7 was commissioned through the late 1930s when Route 15 was under construction, land in the Project Area was largely rural. The population center was the Norwalk city center to the south of the site. By 1938 the Interchange 40 was complete and commercial development was already well established in adjacent areas that are most prominent today Figure 1.1.1 and Figure 1.1.2. The existing partial interchange (Interchange 39) between the two roadways was constructed 1990. Current land uses have developed over almost a century with some version of the existing intersection in place.

Within the study area, both Route 7 and Route 15 are generally constructed with grade-separated crossings of local roads, with connections to local neighborhoods and businesses limited to entrance and exit ramps. Surface road connections across Route 7 and the Parkway are provided by underpasses, generally at intervals greater than a quarter mile.

Main Avenue is the primary commercial street near Interchange 40. Commercial establishments line Main Avenue southeast of the interchange, including restaurants, retail shops, motels, and offices. To the northeast are predominantly office buildings, apartments, and hotels, along with small service and professional businesses.



As has been the case since the 1920s, the existing Merritt Parkway and Route 7 define neighborhoods and business centers into quadrants with limited direct connections. The interchange has no provisions for bicycle or pedestrians to connect from one quadrant to another without significant detours. In addition, because the existing Interchange 39 does not provide access between the Parkway and Route 7 to or from the north, motorists must use the Main Avenue/Merritt Parkway interchange, adding to traffic on Main Avenue.



Route 15 / Main Avenue (Route 7) Interchange (Interchange 40). Downtown Winnipauk, 1938. View northwest. (Bepler, *Route 7 the Road North – Norwalk to Canaan*, p 18).



Route 15 Interchange 40 with Main Avenue, 2017. Google Maps.

Figure 1.1.1 Historical Aerial Photos – 1938 and 2017 Comparison



Routes 7/15 Interchange 40, 1940.
Merritt Parkway Construction, CT State Library.



Routes 7/15 Interchange, 2017. Google Maps.

Figure 1.1.2 Historical Aerial Photos - 1940 and 2017 Comparison



Community Services

The following public community service providers are located within the study area Figure 1.1.3:

- Richard C. Briggs High School, 350 Main Avenue; and
- Merritt 7 train/bus station.

The Project is located within the Fire District served by Fire Station #1, which is located located on New Canaan Avenue, beyond the western boundary of the study area. The Norwalk Police Department is located approximately 2 miles south of the study area on Monroe Street. The nearest general hospital is Norwalk Hospital, located approximately 1 mile south of the study area on Maple Street. Other nearby community services are depicted in Figure 1.1.3.

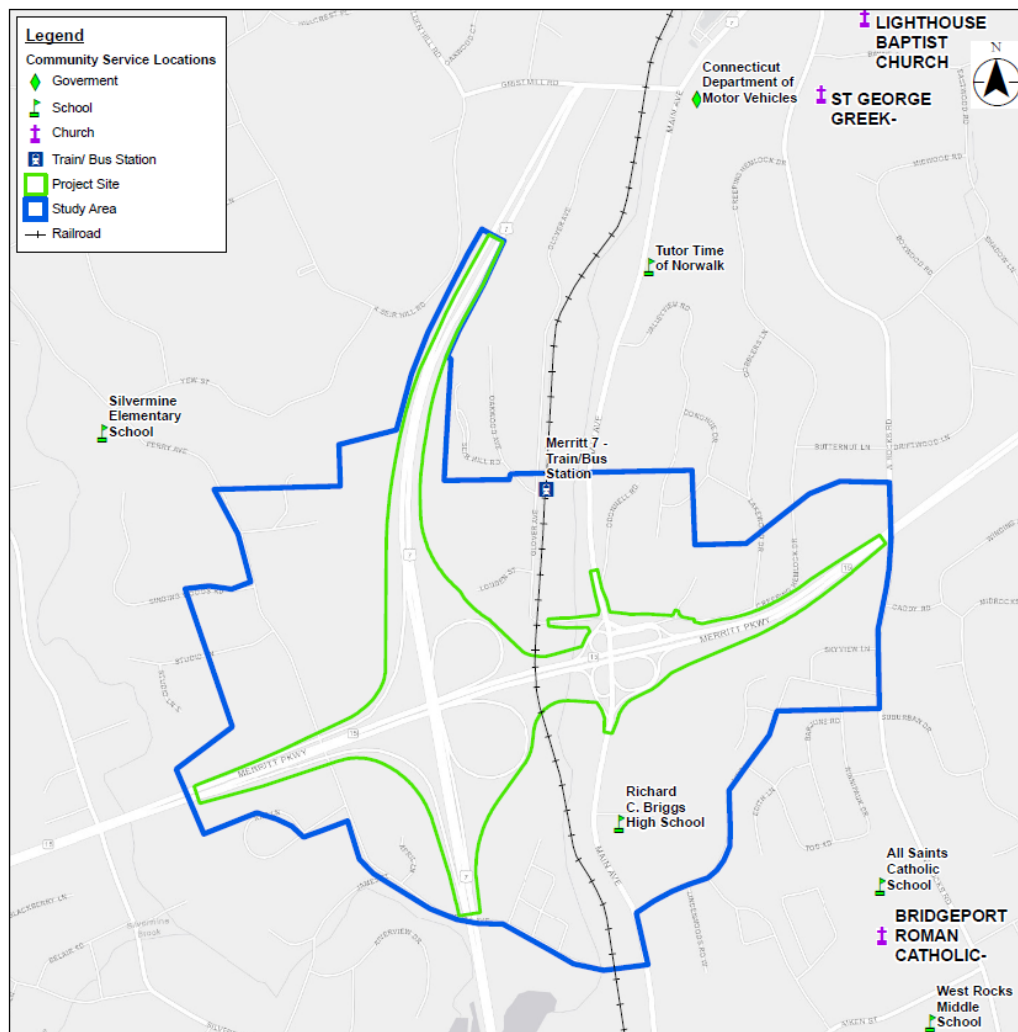


Figure 1.1.3 Community Resources



With the exception of the Norwalk Valley River Trail, there are no public recreation facilities within the study area.

The study area consists of the three U.S. Census Tracts that overlie the Project Site (Figure 1.1.4). For context, data are compared to statistics for the City of Norwalk and State of Connecticut. Socioeconomic data and information were obtained from U.S. Census American Community Survey (ACS) [4] and the Connecticut Economic Resources Center [5] .

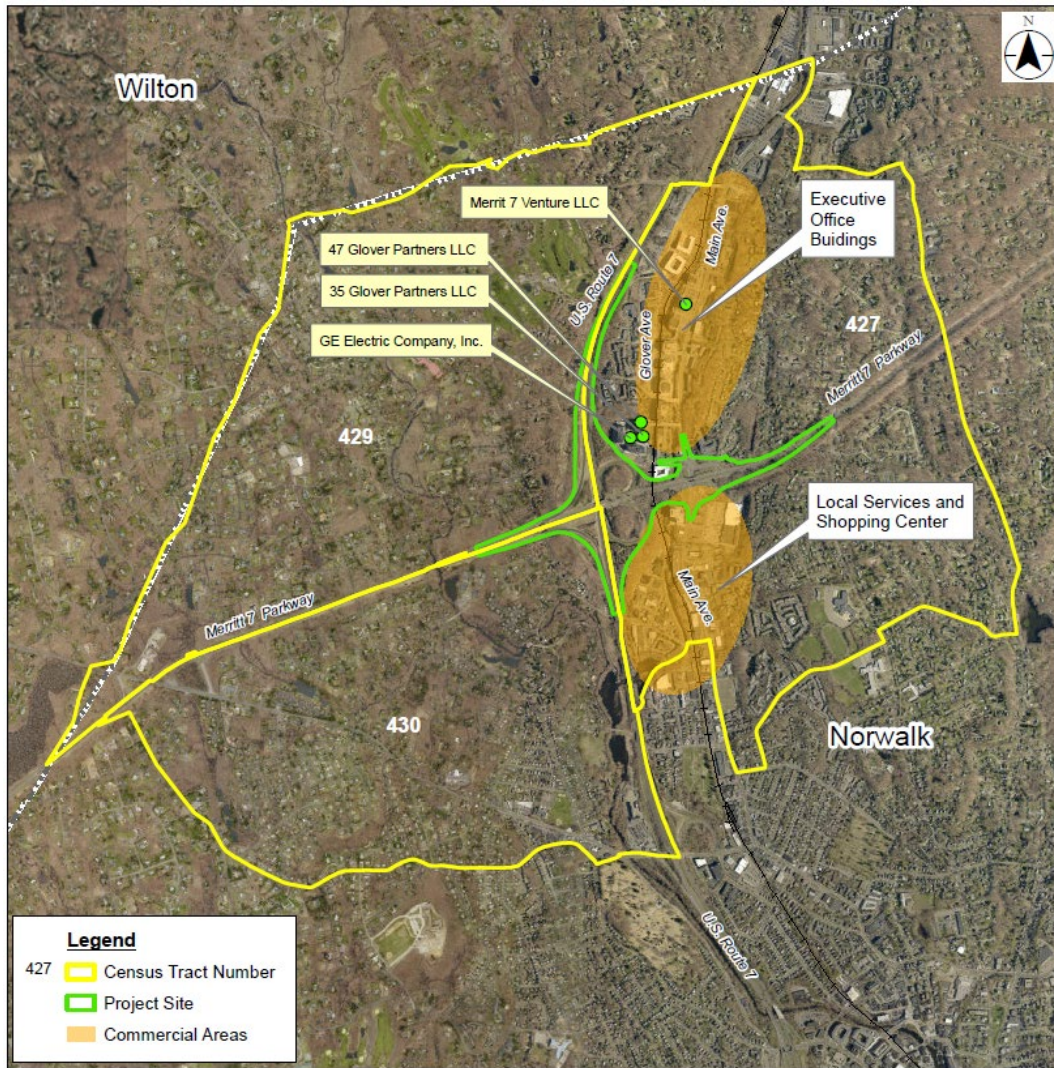


Figure 1.1.4 Study Area

The Project is located within the Town of Norwalk, which has a population of 88,537 (2017 ACS). The Town population decreased by 0.9% in the period between 2017 and 2020. During the same period, the population of Connecticut decreased by 0.1%.

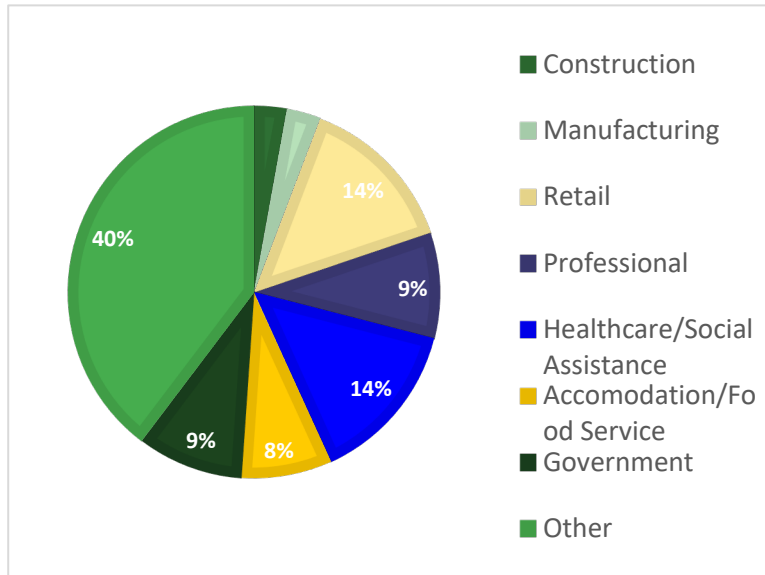


Figure 1.1.5 City of Norwalk Employment Sectors

Employment sectors are listed in Figure 1.1.5. Of the categorized sectors, the top employment sectors are in: Healthcare/Social Assistance (14%), Retail (14%), Government (9%), and Professional (9%). The predominance of office/professional services is reflected in the Town's commercial building inventory. Three of the top five "Grand List" properties in the City of Norwalk, as ranked by assessed value, are located within or near the study area:

- Merritt 7 Venture LLC
- 35 Glover Partners
- 45 Glover Borrower, LLC

General Electric Company, Inc., one of Norwalk's top five employers, is located within the study area. Additional demographic data from the US Census Bureau are provided in Table 1.1.1.

Table 1.1.1 City of Norwalk Demographic Data

Census Tract	Median Household Income (\$)	Number of Households	Total population 16 years and over	Unemployment rate
427	\$85,000	2116	4,328	3.10%
429	\$136,625	613	1,405	5.20%
430	\$118,983	1209	2,458	2.40%
Study area	\$103,469	3938	8,191	3.25%
Norwalk	\$81,546	33,385	50,799	3.7%



The median household income for the study area (\$103,469) was above the Town of Norwalk (\$81,546), Fairfield County (\$89,773) and the State (\$73,781) medians. The lowest median household income by tract (\$85,000 in Tract 427) was above the Town of Norwalk and State medians, but below the Fairfield County median (\$89,773).

The study area unemployment rate (3.25%) was below the Town of Norwalk (3.7%), Fairfield County (4.0%) and the State (4.1%) rates. The highest unemployment rate by tract (5.2% in Tract 429) was above the Town, County, and State rates.

1.2 EJ AND LEP POPULATIONS

EJ and LEP populations were identified based on US Census data. The data are available at various levels of detail and statistical variance. Basic information, including minority status, is available from the decennial Census, with 2010 providing the most recent information. The decennial information has the lowest variance (statistical error) of available Census databases but offers limited types of demographic information. More detailed statistics on poverty level and LEP households is available from the annual American Community Survey (ACS). However, the smaller sample sizes in the ACS survey result in larger statistical errors. Census and FHWA guidance suggest that ACS data are best used in comparing percentages rather than raw numbers. Given that the following analysis is based primarily on relative (percentage) data, and for purposes of consistency within this section and with data collected for other sections (e.g. traffic), the following analysis is based on ACS data for 2017 or closest available year.

Minority Populations

The FHWA and USDOT EJ Orders refer to the US Census definitions of “minority”, which is based on race and Hispanic heritage. Based on Census data, a demographic analysis was conducted to:

1. Identify minority populations as a percentage of the total population for individual Census units.
2. Determine the overall percentage of minority populations in the Project area, Town of Norwalk, region, and state populations and then select the most conservative percentage as the EJ threshold for this analysis.
3. Compare the percentage of minority populations within the Project area (by appropriate Census unit) to the selected threshold.

Demographic information was obtained from the 2017 ACS. Data were accessed through the *American FactFinder* website maintained by the Census Bureau [6] and the Bureau’s March 2020 updated “Explore Census Data” website [7]. Data were extracted from Table B03002 at the Block Group level, the most granular geographical unit for minority populations. The



“P9_LEP” tool available from FHWA [8] was utilized to process the ACS data.

The analysis considered block groups intersecting the limits of the indirect impacts study area in order to capture potential direct effects (e.g. construction) as well as more indirect effects such as traffic, noise, and visual impacts. The identified block groups and their minority population by percentage are shown in Figure 1.2.1 and listed in Table 1.2.1.

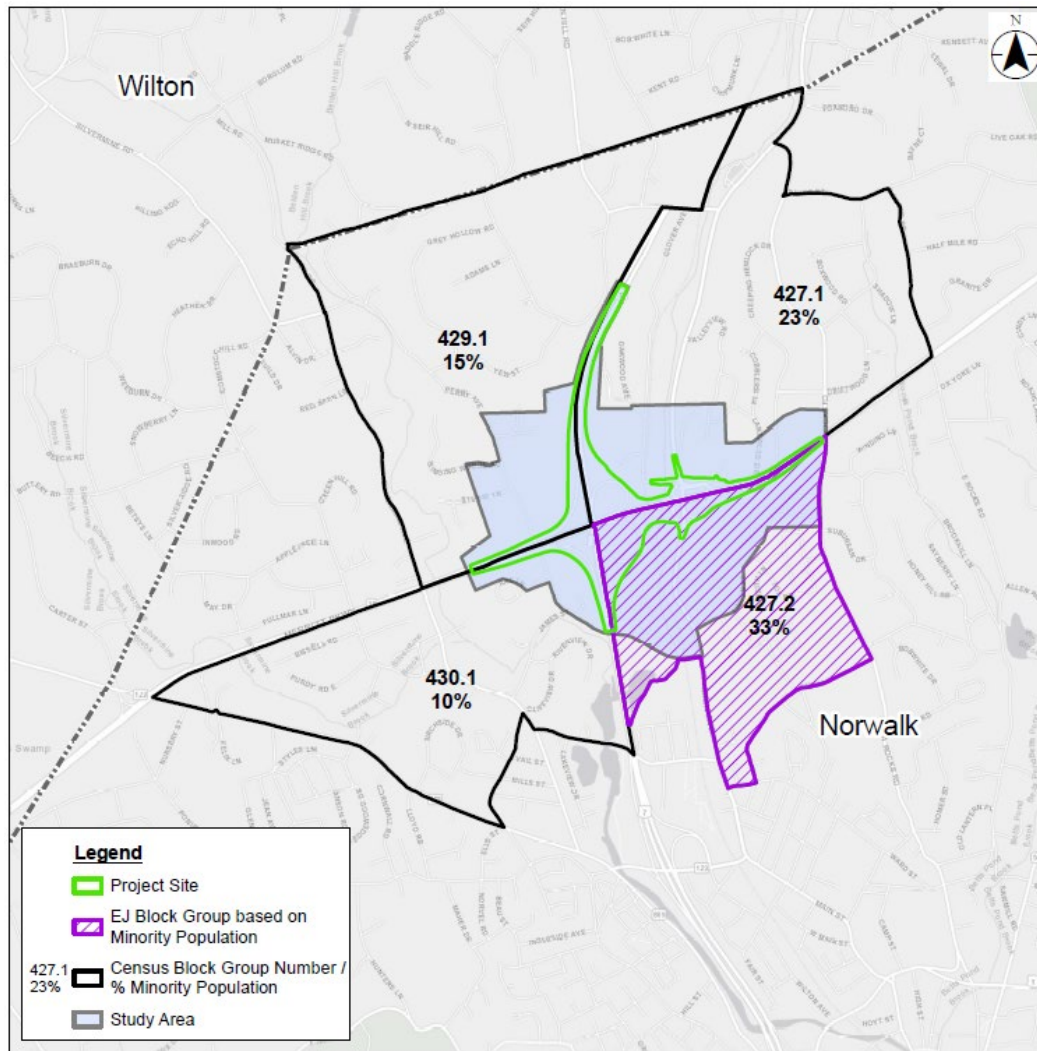


Figure 1.2.1 Minority Population by Block Group



Table 1.2.1 Minority Population by Study Area Block Group

Block Group	Estimate Total	Total Minority	Percent Minority	Percent Hispanic or Latino	Percent White Alone	Percent Black Alone	Percent American Indian or Alaska Native Alone	Percent Asian Alone	Percent Other Race Alone	Percent Two or More Races
427.1	2509	570	23%	6%	77%	2%	0%	12%	0%	2%
427.2	1779	587	33%	23%	67%	8%	0%	2%	0%	0%
429.1	929	141	15%	5%	85%	2%	3%	2%	2%	1%
430.1	1207	122	10%	10%	90%	0%	0%	0%	0%	0%
	6424	1420								

Identify Minority Threshold for EJ Analysis

Minority population data for the Project Area, City of Norwalk, southwestern Connecticut, Fairfield County, and the State of Connecticut were extracted from the ACS 2017 dataset and are presented in Table 1.2.2.

Table 1.2.2 Minority Populations by Geographic Unit

Area	Total Population	Minority Population	Minority Population %
Study Area	42,256	13,846	29%
City of Norwalk	88,537	23,832	27%
Fairfield County	947,328	352,005	37%
State of Connecticut	3,594,478	1,148,429	32%

As shown in Table 1.2.2, the geographic unit with the lowest (most conservative for EJ analysis) minority population percentage is the City of Norwalk, at 27%. Applying that percentage as a threshold results in identification of one EJ block group, Block group 427.2 (Table 1.2.3). The location of this block group is depicted in Figure 1.2.1.

Table 1.2.3 EJ Block Groups Based on % Minority Population

Block Group	Minority Population %
427.1	23%
427.2	33%
429.1	15%
430.1	10%



Low Income Populations The FHWA and USDOT EJ Orders define a “low-income” individual as a person whose median household income is at or below the Department of Health and Human Services poverty guidelines. Following the same methodology as for the minority population analysis, demographic information was obtained from the US Bureau of Census 2017 American Community Survey (ACS). Data were extracted from the 2017 DP03 Census Table at the Census Tract level, the most granular level of ACS data for low income populations. The analysis considered all Census Tracts intersecting the study area. Figure 1.2.2 and Table 1.2.4 show the percentage of the population below the poverty level by Census tract.

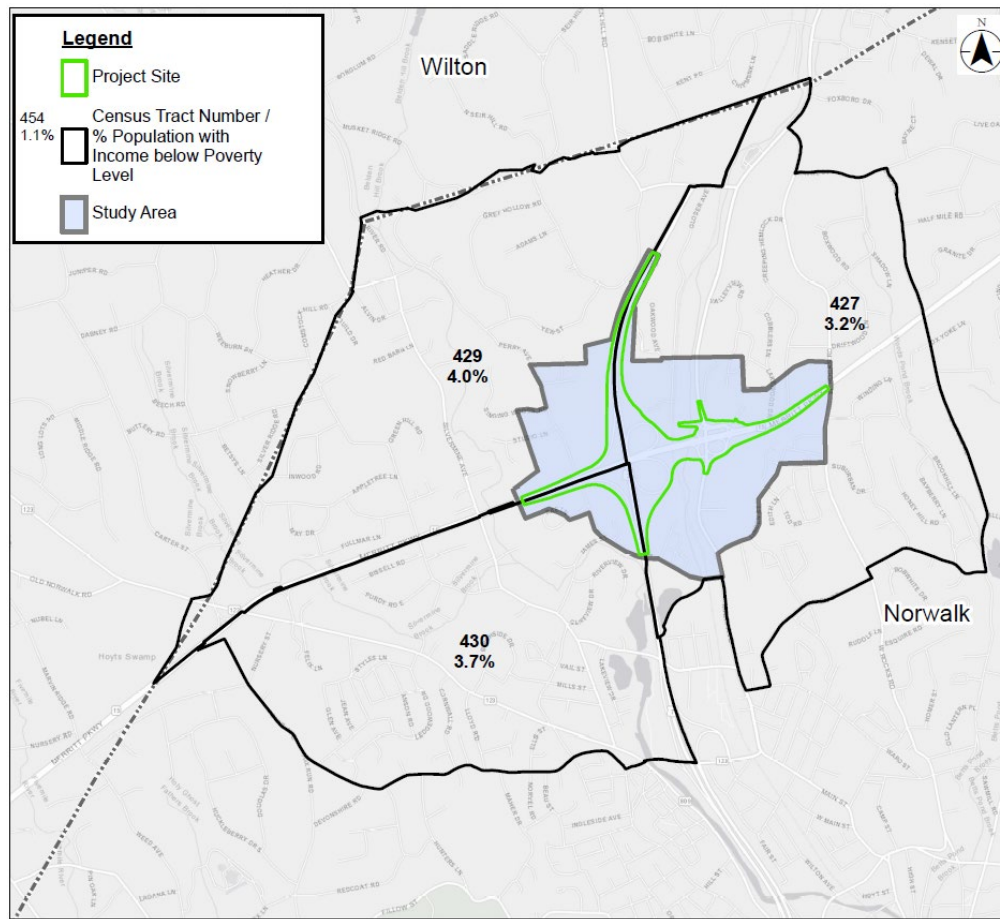


Figure 1.2.2 Low Income Populations by Census Tract



Table 1.2.4 Percent of Population below Poverty Line by Census Tract

Census Tract	Low Income Population %
427	3.2%
429	4.0%
430	3.7%

Low Income Threshold for EJ Analysis

Low income population data for the Project Area, City of Norwalk, southwestern Connecticut, Fairfield County, and the State of Connecticut were extracted from the 2017 ACS DP03 dataset and are presented in Table 1.2.5.

Table 1.2.5 Low Income Populations by Geographic Unit

Area	Total Population	Low Income Population	Low Income Population %
City of Norwalk	88,537	8,145	9.2%
Fairfield County	947,328	83,365	8.8%
State of Connecticut	3,594,478	363,042	10.1%

As shown in Table 1.2.5, all Census tracts in the study area, as well as the study area overall, had rates of poverty less than half that of the City of Norwalk, Fairfield County, and the State of Connecticut. Therefore, no EJ Census tracts based on poverty level were identified in the study area.

LEP Households

The Census defines LEP households as those in which no one 14 years old and over is proficient in English, where “proficient” means to (1) speak only English or (2) speak a non-English language but also speak English “very well.”

LEP data is collected at the household level. Following the same methodology as the minority population analysis, demographic information was obtained from the US Bureau of Census 2015 American Community Survey (ACS) Table B16001 (closest year to 2017 for which this data set is available). Census tracts intersecting the study area are shown in Figure 1.2.3 and summarized in Table 1.2.6. The LEP percentage number shows the LEP language group representing the highest percentage of the census tract population. Notably, in all cases, the language group with highest representation is Spanish.

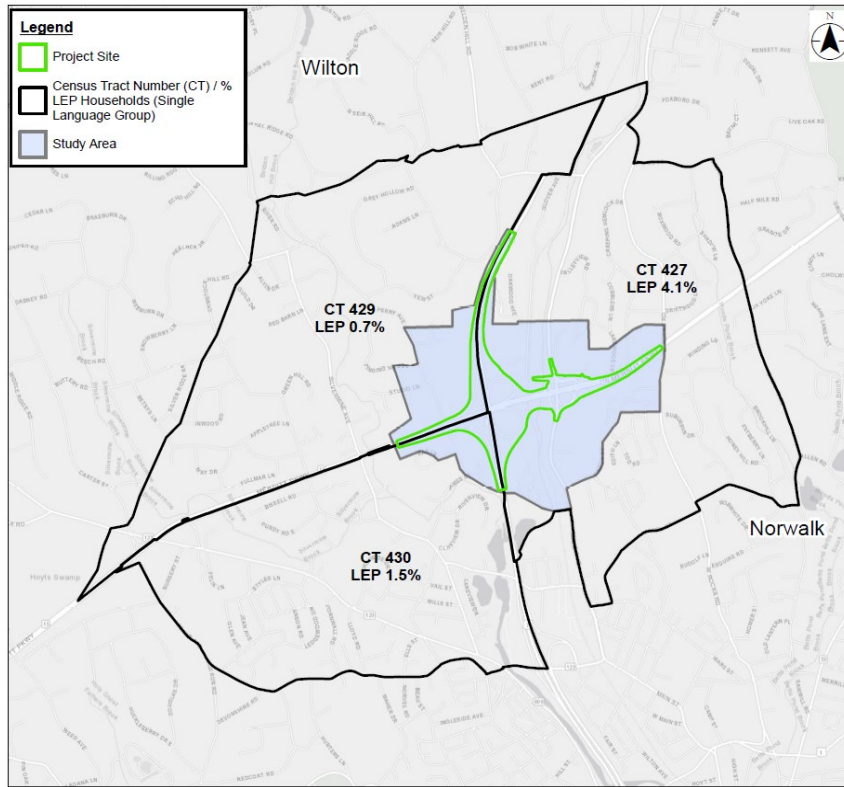


Figure 1.2.3 LEP Households by Census Tract

Table 1.2.6 LEP Households by Language Group and Census Tract

Language Group	427		429		430	
	Total	% of tract	Total	% of tract	Total	% of tract
Total population	4455	100	1587	100	3081	100
Chinese	49	1.1	-	-	-	-
French	-	-	10	0.6	12	0.4
French Creole	6	0.1	-	-	-	-
Greek	160	3.6	-	-	-	-
Hungarian	-	-	6	0.4	8	0.3
Italian	22	0.5	6	0.4	10	0.3
Japanese	11	0.2	-	0.0	24	0.8
Korean	-	-	6	0.4	-	-
Other Indic	-	-	-	-	-	-
Other Slavic	23	0.5	-	-	-	-
Russian	23	0.5	-	-	-	-
Spanish	184	4.1	11	0.7	45	1.5



FHWA guidance [9] indicates that a project sponsor should provide written translations of vital documents for each eligible LEP language group that constitutes 5% or 1,000, whichever is less, of the population of persons likely to be affected. Neither the 5% nor the 1,000 person threshold is exceeded within the study area Census Tracts or within the study area as a whole for any language group.

However, public participation efforts for this Project included specific outreach to Spanish speakers, including:

1. Canvassing commercial and retail and some neighborhood gathering spaces (e.g. Dunkin' Donuts) within ¼ mile of the construction area in July 2018 to reach out to those that do not typically attend meetings or otherwise participate in the project. The canvass distributed over 500 newsletters and business cards over a two-day period. The newsletters and business cards were in English and Spanish.
2. Contacting a diverse group of media outlets that reach a variety of cultural groups in the community.
3. Offering a Spanish language translator and language assistance at the 2017 and 2019 public meetings.

1.3 POTENTIAL IMPACTS

The FHWA and USDOT EJ Orders state that a “disproportionately high and adverse” impact refers to an adverse effect that (1) is predominately borne by a minority population and/or a low-income population; or (2) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the nonminority population and/or non-low-income population. In determining whether an effect is “disproportionately high and adverse,” the USDOT EJ Order notes that practitioners may take the following into account: planned mitigation measures, offsetting benefits to the affected minority and low-income populations, the design, the comparative impacts, and the relevant number of similar existing system elements in non-minority and non-low-income areas. This section first evaluates impacts within the study area in light of the EJ Order guidance and then evaluates whether a given impact would disproportionately impact EJ populations.

Impact Evaluation

Potential impacts associated with the Project are evaluated throughout Section 3.0 of the EA document and summarized in EA Section 2.0. For many resources, the Project is identified as having de minimis impacts or positive benefits. Findings for resources for which negative impacts or substantial benefits were identified, and/or those with high relevance for EJ



communities are reviewed below. Table 1.3.1 lists potential impacts of the completed Project as they relate to EJ communities. A discussion of construction impacts follows the table.

Table 1.3.1 Potential Impacts of the Project

Resource	Benefit/Impact of Build vs. No-Build Alternatives	Notes
Traffic	<p>Both Build alternatives would decrease congestion and improve safety, in turn leading to improved access to community facilities and businesses.</p> <p>Vehicle access to the study area during construction may sometimes be limited. However, access would be maintained throughout construction even if intermittently at a lower service level than normal. Local access to sidewalks, bus stops, and local business locations may also be interrupted temporarily. The impacts would be temporary and are not anticipated to rise to more than the “necessary nuisance” level typical of highway construction projects. The duration of overall temporary construction impacts would be greater for Alternative 21D. However, impacts on Main Avenue traffic would be roughly the same for both Build Alternatives.</p>	<p>Benefits would accrue directly to local residents and commuters who travel Routes 7 and 15 and use local roads. During outreach to local businesses in July 2017, many stakeholders mentioned concerns about safety and congestion at the existing Routes 7/15 intersection that would be addressed by the project.</p> <p>CTDOT is would provide timely updates to the neighbors and businesses within the study area in order to help them prepare and adjust to potential changes in traffic patterns/access, and short term nuisance dust and noise. Notices would be provided to Main Avenue businesses that serve the EJ community and through local media typically accessed by residents in the study area</p> <p>Specific measures to minimize effects on access during construction would be determined during final Project design, but would typically include detailed phasing and closure plans for roadways, phasing plans for sidewalk repairs to maintain access, design and placement of barriers such that access is maintained to local businesses.</p>



Resource	Benefit/Impact of Build vs. No-Build Alternatives	Notes
Air quality	Air quality would slightly improve under either Build Alternative. Potential nuisance dust and vehicle emissions could occur during construction. These impacts are typical of highway construction and control methods are routine and effective.	Slight benefits would accrue to both EJ and non-EJ populations following construction. Emissions during construction would be managed with standard practices such as use of water trucks to control dust and limiting equipment idling.
Noise	1 dBA increase in post construction noise levels was identified in the northeast quadrant of the 7/15 intersection; other receptors would experience the same or lower noise levels.	A 1 dBA increase would not be perceptible. The increase would occur outside the identified EJ communities and would therefore be neither high nor disproportionate.
Visual	Impacts would occur due to repair/replacement of existing historical bridges and construction of new ramps, both during and following construction.	Mitigation would be provided through to a Memorandum of Agreement designed to compensate for and/or ameliorate impacts to historical visual resources. Impacts would not disproportionately occur in EJ communities.
Community Resources	Improved traffic conditions would benefit local residents and businesses, as well as community services such as police and EMS. Improved pedestrian and bike infrastructure would make mobility in the study area safer, more accessible and appealing, as well as improving access to the Merritt 7 train station. With the the exception of potential sliver takings or easements for sloping and/or minor grading during construction, no property takings would occur. No relocations of private or public facilities would occur. The Project would not create new barriers to community cohesion.	Benefits are likely to be most apparent south of Route 15, where most of the shops and businesses that provide local services (grocery shopping, clothing, auto repair, restaurants) are located. The identified EJ communities are located in the southeast portion of the study area where these local benefits will primarily accrue.



POPULATIONS POTENTIALLY DISPROPORTIONATELY IMPACTED

The remaining step in this analysis is to evaluate whether impacts disproportionately affect minority populations. Impacts were analyzed following FHWA guidance for compliance with Title VI requirements [10], based on the “4/5” rule. The analysis steps are:

1. Identify populations potentially impacted by the Project;
2. Identify minority populations within areas potentially impacted, and;
3. Calculate the percentages of minority and non-minority populations potentially negatively impacted. Calculate the ratio of (percentage non-minority populations impacted) / (percentage of minority populations impacted). A ratio less than 4/5 (80%) is considered to indicate a disparate impact on minority populations.

The 4/5 rule evaluation for this project is described below.

Evaluation of Disparate Impacts on Minority Populations

Block groups located in the Study and overall population demographics are identified in Table 1.3.2. Note, per FHWA guidance [10] [11] that for the 4/5 rule to be valid, only groups that constitute at least 2% of the sample should be included in the analysis.

Table 1.3.2 4/5 Rule Analysis – Block Groups in Study Area

Total potentially impacted	Total	White	Black	Hispanic/ Latino	Asian
Study Area total	6,424	5,004	207	737	361
Study Area %		78%	3%	11%	6%

*Because groups not meeting the 2% criterion are not included in the analysis, percentages do not sum to 100%.

The intent of the 4/5 rule is to test whether minority groups within impacted areas to the study area are impacted to a greater degree than non-minority groups. As discussed above, the primary impacts of relevance for this Project are the construction impacts (access to local businesses and community resources, noise, and air quality). Since most of the local shops, restaurants, and businesses providing local services are located south of Route 15, Block Groups 427.2 and 430.1 could potentially experience more of these impacts than the block groups north of Route 15. The results of the “4/5” rule analysis for these Block Groups is presented in Table 1.3.3.



Table 1.3.3 4/5 Rule Analysis – Potentially Negatively Impacted Minority Populations

Total potentially impacted	Total	White	Black	Hispanic/Latino	Asian
Block Group 427.2 and 430.1	2,277	2,277	141	533	35
% impacted by minority status*		45.5%	68.1%	72.3%	9.7%
Ratio of least % impacted (White) / % impacted by minority group			0.67	0.63	4.69

*Percent (minority population in impacted Block Group) of (minority population in study area)

As shown in Table 1.3.3, the White (non-Hispanic) percentage of the population potentially impacted is 45.5%. For Blacks the ratio of (% impacted White (non-Hispanic)) to (% impacted Black population) is $(45.5 / 68.1) = 0.67$ which is less than 4/5 ($4/5 = 0.8$). For the Hispanic population, the ratio $(45.5 / 72.3) = 0.63$, which is also less than the 4/5 rule threshold (0.8). Therefore, these populations could be disparately impacted by the Project. For Asians, the ratio $(45.5 / 9.7) = 4.69$ is greater than 0.8 and therefore does not indicate disparate impact.

In cases where potential disparate impacts of Build Alternatives are identified, the impacts are limited to temporary construction impacts, which would be addressed as discussed above. In addition, as noted in the FHWA guidance, the 4/5 rule can also be used to assess the extent to which *benefits* of this project would also accrue to this population in the same proportion. The improvements in traffic and safety, in particular, would accrue to the local minority populations in a similar way as the temporary construction impacts. The USDOT EJ Order states that practitioners may take offsetting benefits to the affected minority and low-income populations into account when assessing whether impacts are both high and disparate. The Order further suggest assessment take into account whether non-EJ communities are subject to similar impacts. In this case, Block Group 430.1 (non-EJ) is on the west side of Main Avenue and Block Group 427.1 (minority EJ) is located on the east side. Each will experience similar impacts, which suggests that the impacts are not disparate.

In the case of the No Build Alternative, while the potential construction impacts would not occur, the potential positive impacts would also not be provided to EJ populations within the Project Area.



Evaluation of Disparate Impacts on Low Income Populations

No census tracts located in the study area were identified as low-income. Therefore, the analysis did not identify disparate impacts to low-income populations identified by poverty level.

SUMMARY OF IMPACTS

Based on the above discussion and analysis, the Project Build Alternatives will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of E.O. 12898 and FHWA Order 6640.23A.

1.4 MITIGATION MEASURES

While no disproportionately high and adverse effects on any minority or low-income populations due to the Project Build Alternatives were identified, CTDOT is committed to providing timely Project updates to the neighborhoods and businesses within the study area in order to help residents and business owners prepare and adjust to temporary construction activities, potential changes in traffic patterns and access, and short term nuisance dust and noise. Continued care will be taken to provide notices directly to Main Avenue businesses that serve the EJ community and through local media typically accessed by residents in the study area. In the long term, EJ communities would benefit from improved traffic conditions as well as pedestrian and bicyclist amenities as a result of the Project. Therefore, no mitigation is required.



References

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