

## SECTION 3

# Environmental Resources, Impacts, and Mitigation

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This section identifies the socioeconomic and natural resources in the Tier Two project corridor, and the potential impacts that the Build Alternative and its alternates may have on those resources. During Tier Two, detailed engineering work led to design decisions that refined the project footprint. The refined project footprint is inclusive of permanent right-of-way, and temporary and permanent easements. Throughout the process, there has been a concerted effort to avoid and minimize impacts with shifts or adjustments of project features, and when impacts could not be avoided, mitigation has been proposed to reduce the loss of resource.

In Tier Two, engineering details have been refined and resources have been defined with more precision through field surveys and detailed research. The refined engineering detail, combined with more accurate information, affords better estimates of the socioeconomic and environmental impacts of the Build Alternative and its alternates. Much of this information was compiled into a Geographic Information System (GIS) database. See Appendix F for the list of GIS data layer sources.

Surficial geology, bedrock geology, and mineral resources do not affect the consideration of the Build Alternative and its alternates; therefore, these resources are not discussed.

Generally, the impacts of the No-Build Alternative are included where they are relevant. In several instances, the discussion of impacts associated with the No-Build Alternative has value for comparative purposes, and this includes impacts to social characteristics, economic conditions, noise, and air quality. For each of these disciplines, the impacts of both the Build Alternative and the No-Build Alternative are presented.

Impacts in this section are described for several geographical extents. Sometimes, impacts are described specifically for the project corridor, and at other times, impacts may be described more broadly for the project area. The project corridor represents the footprint, or construction limits, of the proposed improvements. The project area is larger and coincides with the Tier One study area.

This Tier Two Final EIS has recommended the Build Alternative as the Preferred Alternative. The Build Alternative is an optimal arrangement of many design features including mainline, interchange types, facility type, and transit and bicycle/pedestrian accommodations. Many design alternates were evaluated in the process of defining the Build Alternative. In two locations, more than one design alternate was under consideration at the conclusion of the Tier Two Draft EIS. Since the close of the Tier Two Draft EIS comment period (May 14, 2012), the preferred alternate at the Elmhurst Road and I-90 interchange and the IL 72 and Elmhurst Road intersection have been identified and are presented in this document. The preferred alternates include the diverging diamond interchange type (Alternate 4) at the Elmhurst Road and I-90 interchange, and the Quadrant

Bypass (Old Higgins Road) Alternate at the IL 72 and Elmhurst Road intersection. In this section, the impacts have been updated. As described in Section 2, there have been refinements to various design features, which has resulted in slight changes to the project footprint of the Build Alternative and preferred alternates. Any impacts associated with these changes have been updated in this section.

Impacts are discussed in this section as direct, indirect, and cumulative. Direct impacts (those that have an immediate impact) are described for all resources. The analysis of indirect and cumulative impacts has been completed for those resources that have impacts far reaching in time and geography, including impacts to economic conditions, land use, wetlands, water quality, and biological resources. Indirect impacts “are caused by an action and are later in time or further removed in distance but are still reasonably foreseeable” (Title 40, *Code of Federal Regulations*, 1508.8). Indirect impacts occur after the initial construction of the project, or beyond the construction limits, but can be attributed to the project. Cumulative impacts “result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (Title 40, *Code of Federal Regulations*, 1508.7). The analysis of cumulative impacts allows for a more comprehensive evaluation of impacts by projects that individually may have minimal impacts but, when considered in combination with other projects in the vicinity, may have greater impacts on sensitive resources. The projects that are considered cumulatively with this project include the modernization of O’Hare Airport, I-90 resurfacing, York Road and Irving Park Road intersection, and I-90 reconstruction. Uniquely, this analysis used a real estate based market study to determine the extent of secondary development that was pinpointed to specific properties. This provided the opportunity to more accurately determine the spatial resource impacts that result from the cumulative effects of the EO-WB project and other projects. In this section, when indirect impacts and cumulative impacts are described for a resource, their discussions follow the description of direct impacts.

A project of this magnitude has unavoidable impacts, and for resources that are impacted, appropriate mitigation has been developed to reduce harm. Since the circulation of the Tier Two Draft EIS, coordination with the resource agencies has occurred to finalize the scope of the mitigation strategies. These strategies have been concurred by the agencies and represent measures that will greatly benefit the environment. The Illinois Tollway and IDOT have embraced these measures as commitments and will steward the implementation (see subsection 3.21).

### 3.1 Social Characteristics

The social setting of the project corridor is representative of its population characteristics, the location of neighborhoods in relation to the proposed improvements, and income and demographic characteristics of residents. Impacts on the social characteristics are identified by determining the projected population changes with and without the proposed improvements, the results of displacing residents to enable construction of the project, and how the proposed improvements may affect low-income or minority populations.

### 3.1.1 Affected Environment

#### 3.1.1.1 Population Changes

The project corridor is located within a densely populated suburban Chicago area. Communities in the project corridor have reached a mature development stage with most of the area developed into residential, industrial, commercial, or transportation uses and very little remaining as open space. As shown in Table 3-1, the population of Chicago and Cook County declined or stabilized between 1950 and 1980, while populations of suburban communities and DuPage County increased, some substantially. The populations of Chicago suburbs continued to increase from 1980 to its current population in 2010, albeit not as dramatically as from 1950 to 1980. As population growth slowed in Cook and DuPage Counties, population growth increased in surrounding counties. The continued shift in population growth farther from Chicago indicates that Cook and DuPage Counties have reached maturity in terms of population growth; notable population growth continues to shift to the counties farther from Chicago.

**TABLE 3-1**  
Population Changes Over Time in the Affected Communities and Counties

Geographic Area	1950	1980	2010	% Change 1980 to 2010
Village of Hanover Park	305 <sup>a</sup>	28,850	37,973	32%
Village of Schaumburg	130 <sup>b</sup>	53,305	74,227	39%
Village of Roselle	1,038	16,948	22,763	34%
Elk Grove Village	116 <sup>c</sup>	28,907	33,127	15%
Village of Itasca	1,274	7,129	8,649	21%
Village of Wood Dale	1,857	11,251	13,770	22%
Village of Bensenville	3,754	16,124	18,352	14%
City of Elmhurst	21,273	44,276	44,121	-0.4%
City of Northlake	4,361	12,166	12,323	1%
Village of Franklin Park	8,899	17,507	18,333	5%
City of Des Plaines	14,994	53,568	58,364	9%
Village of Mount Prospect	4,009	52,634	54,167	3%
City of Chicago	3,620,962	3,005,072	2,695,958	-10%
Cook County	4,508,792	5,253,655	5,194,675	-1%
DuPage County	154,599	658,835	916,924	39%

Sources: Elk Grove Village, 2010; Hanover Park, 2010; Schaumburg, 2010; U.S. Bureau of the Census, 1952; U.S. Bureau of the Census, 1982; CMAP, 2011.

<sup>a</sup> The population number is from 1958, the year Hanover Park was incorporated.

<sup>b</sup> The population number is from 1956, the year Schaumburg was incorporated.

<sup>c</sup> The population number is from 1956, the year Elk Grove Village was incorporated.

### 3.1.1.2 Neighborhoods

Residential areas can be found scattered along the project corridor. These neighborhoods are well established, well maintained, and a permanent part of the community fabric. These neighborhoods provide valued housing stock and a sense of community with the cultural attributes fully intact. Each of these neighborhoods is supported by a full complement of community services, including public and private schools, libraries, fire and police protection, hospitals, water and sewer services, and energy providers.

Current plans for each of the communities provide for the long-term preservation and protection of these neighborhoods. There are no known plans to relocate or rezone any parts of these neighborhoods. To the contrary, the community goals guard against their decline or conflicting uses that would threaten the quality of life.

Single- and multi-family residences can be found along much of the Elgin O'Hare corridor in Hanover Park, Schaumburg, Roselle, and Itasca (see Exhibit 1-1 for community locations and Figure 3-1 for a representation of residential areas along the Elgin O'Hare corridor). Access control policies along the existing Elgin-O'Hare Expressway do not permit direct access by any means other than local access interchanges, such as Springinsguth Road and Roselle Road. Along Thorndale Avenue, single- and multi-family residences are located on the

south side of the roadway between I-290 and Prospect Avenue in Itasca. These residents have direct access to Thorndale Avenue. The residences on the north side of Thorndale Avenue between I-290 and Arlington Heights Road have direct access to Thorndale Avenue. Single- and multi-family residences can be found along I-90 in Mount Prospect and Des Plaines, including two mobile home communities. These residents access I-90 by local access interchanges at Arlington Heights Road, Elmhurst Road, or Lee Street. Single-family residences are located near the proposed south leg of the West Bypass corridor in Bensenville. The residents currently travel approximately 3.5 miles north on York Road to access I-90 and 2.75 miles south on York Road to access I-290 and I-294.

### 3.1.1.3 Income and Demographic Characteristics

Income and demographic characteristics were gathered for the communities located along the project corridor (Hanover Park, Schaumburg, Roselle, Elk Grove Village, Itasca, Wood Dale, Bensenville, Elmhurst, Northlake, Franklin Park, Des Plaines, and Mount Prospect; see Exhibit 1-1), for Cook and DuPage Counties, and for the State of Illinois. Income and demographic characteristics presented for these core communities are also representative of



the broader project area because the proposed improvements are mainly contained within the municipal limits of the communities.

Income characteristics in the project corridor are derived from the 2005-2009 American Community Survey (U.S. Bureau of the Census, 2010). The communities' median family income ranges between \$44,129 (Elk Grove Village) and \$104,392 (Elmhurst). The average family size is between three and four individuals. The 2011 U.S. Department of Health and Human Services (DHHS) poverty guidelines are \$18,530 for a family of three and \$22,350 for a family of four. The communities within the project corridor have incomes well above the poverty thresholds. The percentages of families in the core communities living below the poverty line range between 1.1 percent (Itasca) and 12.4 percent (Bensenville). In total, approximately 4.4 percent of families along the project corridor are living below the poverty line, compared to 11.8 percent of families in Cook County, 3.8 percent in DuPage County, and 9.1 percent in the State of Illinois (see Table 3-2).

<b>Community</b>	<b>Median Family Income <sup>a</sup></b>	<b>Average Family Size</b>	<b>Families Living Below Poverty Line</b>
Hanover Park	\$70,333	3.7	7.9%
Schaumburg	\$85,944	3.1	3.7%
Roselle	\$91,299	3.3	1.2%
Elk Grove Village	\$44,129	3.2	2.8%
Itasca	\$92,578	3.2	1.1%
Wood Dale	\$66,944	3.3	6.2%
Bensenville	\$55,616	3.3	12.4%
Elmhurst	\$104,392	3.3	2.4%
Northlake	\$65,250	3.8	1.9%
Franklin Park	\$61,997	3.7	7.1%
Des Plaines	\$75,178	3.3	4.5%
Mount Prospect	\$81,836	3.2	3.8%
Cook County	\$64,973	3.4	11.8%
DuPage County	\$92,059	3.3	3.8%
Illinois	\$67,660	3.3	9.1%

*Source:* U.S. Bureau of the Census, 2010.  
<sup>a</sup> In 2009 inflation-adjusted dollars.

The 2010 Census data were used to determine demographic characteristics of the core communities in the project corridor. As a group, the core communities in the project area have a minority population of approximately 24.1 percent, which is lower than Cook County (44.6 percent) and Illinois (28.4 percent) but higher than DuPage County (22.1 percent). Hanover Park is the core community with the greatest percentage of minority

residents at 41.5 percent. Elmhurst has the least percentage of minority residents at 10.5 percent, which is lower than both counties and the state. Hanover Park, Northlake, and Franklin Park have the highest percentages of Hispanic or Latino residents. The core communities with the lowest percentage of Hispanic and Latino residents are Schaumburg, Roselle, and Elmhurst (see Table 3-3).

## 3.1.2 Environmental Consequences

### 3.1.2.1 Population Forecasts

Population forecasts were developed for both the Build and No-Build Alternatives as part of the EO-WB project study. Population and employment forecasts for an area are subject to many variables, including the area's competitive position in the market place, the synergy of economic activities in the area, properties available for development or redevelopment, and accessibility to major transportation facilities. All of these variables were taken into consideration in the development of population and employment forecasts to the year 2040 for the Build and No-Build Alternatives. The analysis revealed notable differences in the population and employment between alternatives. The methodology used in the development of the forecasts was a fact-based economic analysis of the potential for development growth and its associated population and employment growth both with and without the project improvements. The method of analysis was fully coordinated with CMAP, the regional transportation agency responsible for the regional population and employment forecasts. These forecasts have had a variety of uses in the conduct of the study, including travel forecasts and traffic operations that directly influence the requirements of the project.

The growth in population would be a modest net increase of 34,000 people growing from 543,000 people in the year 2010 to 577,000 by the year 2040 under the Build Alternative. This nominal growth is characteristic of a mature area with limited opportunities for development that will see some infill of predominately multifamily housing development. The No-Build Alternative has a similar growth in population – growing to 572,000 people by 2040, or a net increase of 29,000. The small difference in population growth between the Build Alternative and No-Build Alternative (six percent versus five percent, respectively) is indicative of the fact that space is only available for close-in residential development despite improved transportation. However, additional population growth may occur under the Build Alternative if local communities accommodate residential infill to minimize housing/employment imbalances by encouraging residential development for housing new employees.

CMAP, underscoring the economic importance of the Chicagoland region and the potential for continuing imbalance between housing and employment in its *GO TO 2040 Comprehensive Regional Plan*, is encouraging communities to promote residential development to house employees working in the region. CMAP has projected that if communities follow CMAP's guidance and support residential growth, the population may increase under the Preferred Alternative by another 78,000 to 655,594 by the year 2040.

**TABLE 3-3**  
**Comparison of the Demographics of the Core Communities in the EO-WB Project Area to DuPage and Cook Counties and the State of Illinois**

	Hanover Park	Schaumburg	Roselle	Elk Grove Village	Itasca	Wood Dale	Bensenville	Elmhurst	Northlake	Franklin Park	Des Plaines	Mount Prospect	Cook County	DuPage County	State of Illinois
White	22,207 (58.5%)	52,281 (70.4%)	19,161 (84.2%)	27,464 (82.9%)	7,271 (84.1%)	11,489 (83.4%)	12,345 (67.3%)	39,478 (89.5%)	8,250 (66.9%)	13,703 (74.7%)	45,133 (77.3%)	41,715 (77.0%)	2,877,212 (55.4%)	714,140 (77.9%)	9,177,877 (71.5%)
Black or African American	2,674 (7.0%)	3,123 (4.2%)	584 (2.6%)	472 (1.4%)	184 (2.1%)	168 (1.2%)	646 (3.5%)	841 (1.9%)	397 (3.2%)	233 (1.3%)	1,039 (1.8%)	1,282 (2.4%)	1,287,767 (24.8%)	42,346 (4.6%)	1,866,414 (14.5%)
American Indian and Alaska Native	397 (1.0%)	162 (0.2%)	34 (0.1%)	100 (0.3%)	17 (0.2%)	30 (0.2%)	179 (1.0%)	53 (0.1%)	57 (0.5%)	68 (0.4%)	369 (0.6%)	196 (0.4%)	21,559 (0.4%)	2,415 (0.3%)	43,963 (0.3%)
Asian	5,764 (15.2%)	14,731 (19.8%)	2,075 (9.1%)	3,348 (10.1%)	731 (8.5%)	721 (5.2%)	888 (4.8%)	2,272 (5.1%)	344 (2.8%)	565 (3.1%)	6,674 (11.4%)	6,339 (11.7%)	322,672 (6.2%)	92,304 (10.1%)	586,934 (4.6%)
Native Hawaiian and other Pacific Islander	9 (0.0%)	23 (0.0%)	7 (0.0%)	4 (0.0%)	1 (0.0%)	2 (0.0%)	3 (0.0%)	5 (0.0%)	4 (0.0%)	4 (0.0%)	9 (0.0%)	16 (0.0%)	1,724 (0.0%)	217 (0.0%)	4,050 (0.0%)
Other race	5,622 (14.8%)	2,100 (2.8%)	435 (1.9%)	1,110 (3.4%)	288 (3.3%)	1,067 (7.7%)	3,748 (20.4%)	773 (1.8%)	2,916 (23.7%)	3,295 (18.0%)	3,721 (6.4%)	3,533 (6.5%)	551,971 (10.6%)	45,106 (4.9%)	861,412 (6.7%)
Two or more races	1,300 (3.4%)	1,807 (2.4%)	467 (2.1%)	629 (1.9%)	157 (1.8%)	293 (2.1%)	543 (3.0%)	699 (1.6%)	355 (2.9%)	465 (2.5%)	1,419 (2.4%)	1,086 (2.0%)	131,770 (2.5%)	20,396 (2.2%)	289,982 (2.3%)
<b>Total population</b>	<b>37,973</b>	<b>74,227</b>	<b>22,763</b>	<b>33,127</b>	<b>8,649</b>	<b>13,770</b>	<b>18,352</b>	<b>44,121</b>	<b>12,323</b>	<b>18,333</b>	<b>58,364</b>	<b>54,167</b>	<b>5,194,675</b>	<b>916,924</b>	<b>12,830,632</b>
<b>Percent minority</b>	<b>41.5%</b>	<b>29.6%</b>	<b>15.8%</b>	<b>17.1%</b>	<b>15.9%</b>	<b>16.6%</b>	<b>32.7%</b>	<b>10.5%</b>	<b>33.1%</b>	<b>25.3%</b>	<b>22.7%</b>	<b>23.0%</b>	<b>44.6%</b>	<b>22.1%</b>	<b>28.4%</b>
Hispanic or Latino <sup>a</sup> population (any race)	14,532 (38.3%)	6,554 (8.8%)	1,867 (8.2%)	3,149 (9.5%)	919 (10.6%)	2,796 (20.3%)	8,781 (47.8%)	2,898 (6.6%)	6,520 (52.9%)	7,902 (43.1%)	10,053 (17.2%)	8,408 (15.5%)	1,244,762 (24.0%)	121,506 (13.3%)	2,027,578 (15.8%)

Source: U.S. Bureau of the Census, 2011.

<sup>a</sup> Individuals identifying themselves as Hispanic or Latino can be of any race. Therefore, this category is separate from the race categories above.

### 3.1.2.2 Residential Displacements

The proposed improvements would require the displacement of seven residences. Residential displacements are shown in Exhibit 3-1. All are located in unincorporated DuPage County on the north and south sides of Thorndale Avenue between Arlington Heights Road and Prospect Avenue. All are single-family residences; no multifamily residences would be displaced. Three residences are located within a Census block with a minority population higher than the county average and an Asian population higher than the state and county averages. One displacement is located in a Census block with an Asian population higher than the state average. Three residences are located within Census blocks with no minority, Hispanic or Asian population over the state and/or county averages. An environmental justice analysis was conducted to determine if the project is expected to have a disproportionate impact on minority and low-income populations. This evaluation is described in subsection 3.1.2.3. The displacements are located on the edges of the neighborhoods in which they are located. As such, they would not disrupt the cohesion, and therefore nature, of the neighborhoods. Ample replacement housing is located in the vicinity of the displaced residences. A review of Multiple Listing Service data indicated that as of February 10, 2012, 37 single-family homes in the vicinity of the displaced residences (between Devon Avenue and Irving Park Road, and Rohlwing Road and Busse Road) were on the market at a range of asking prices, between \$159,900 and \$949,000 (Multiple Listing Service, 2012). Losses in tax revenue resulting from the displacement of residences by the Build Alternative are described in subsection 3.2.2.4.

### 3.1.2.3 Environmental Justice

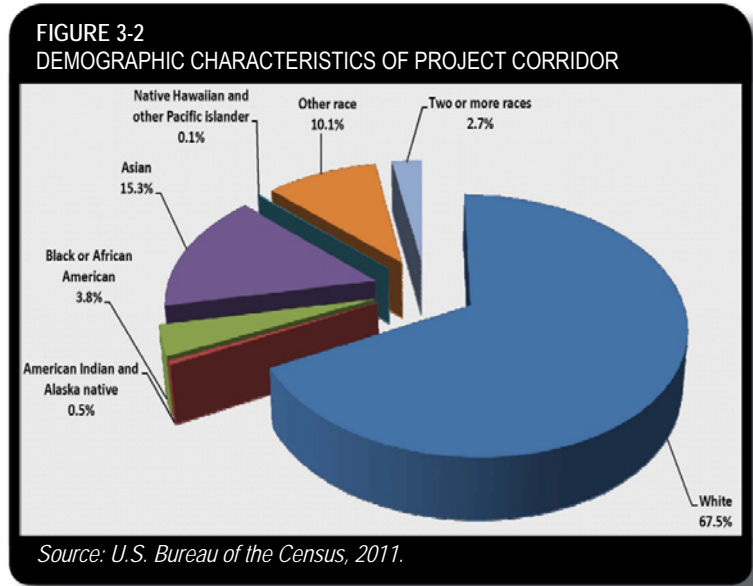
Executive Order (EO) 12898 on Environmental Justice signed February 11, 1994, requires federal agencies to consider the effects that actions have on low-income and minority populations. Federal agency actions, to the extent practicable and permitted by law, may not have disproportionately high or adverse impacts on such populations. Further, the EO requires federal agencies to allow low-income or minority populations that could be adversely affected by the project to have the opportunity to be included in the impact assessment and public involvement process. The analysis of effects on low-income or minority populations (described below) resulted in the finding that the proposed improvements would not disproportionately impact low-income or minority populations. The robust public involvement process undertaken for this project has been inclusive of all populations. No person, because of income, race, color, religion, national origin, sex, age, or handicap, has been excluded from participating in, denied benefits of, or was subject to discrimination during this project. The project's public involvement process included over 400 meetings with local communities and the public at-large during both Tier One and Tier Two. This provided early and frequent opportunities for community officials to notify the project team of any population within their communities that might require alternative outreach efforts to ensure project-related communications reach those community members. Notices to the public of upcoming public involvement activities provided members of the community the opportunity to request interpreters and other similar accommodations. A Spanish translator was available to attendees at both public information meetings. All public meetings were accessible to handicapped individuals.



Demographic characteristics, including race data and data on Hispanic populations, were gathered at the Census-block level (the smallest possible Census unit). As shown in Table 3-4 and Figure 3-2, non-white residents account for 32.5 percent of the population along the proposed improvements. Comparatively, this is higher than DuPage County and the State of Illinois but lower than Cook County. The highest non-white percentage (15.3 percent) includes the Asian population, which is higher than the State of Illinois and both counties. The Hispanic population percentage (24.8 percent) is higher than the State of Illinois and both counties.

Census blocks with non-white percentages higher than the state or county are located along the Elgin O'Hare corridor, on either side of I-90, and on the south side of O'Hare Airport (see Exhibit 3-2A). Census blocks with Hispanic populations higher than the state or county are also located along the Elgin

O'Hare corridor, both sides of I-90, and along I-294 at the south end of the proposed improvements (see Exhibit 3-2B). Census blocks with percentages of Asians higher than the state or counties are located on the north side of I-90, along the Elgin O'Hare corridor, and along I-294 at the south end of the proposed improvements (see Exhibit 3-2C).



**TABLE 3-4  
Demographic Characteristics of the Project Corridor**

Race	Project Corridor	DuPage County	Cook County	State of Illinois
White	7,721 (67.5%)	714,140 (77.9%)	2,877,212 (55.4%)	9,177,877 (71.5%)
Black or African American	431 (3.8%)	42,346 (4.6%)	1,287,767 (24.8%)	1,866,414 (14.5%)
American Indian and Alaska native	60 (0.5%)	2,415 (0.3%)	21,559 (0.4%)	43,963 (0.3%)
Asian	1,747 (15.3%)	92,304 (10.1%)	322,672 (6.2%)	586,934 (4.6%)
Native Hawaiian and other Pacific islander	10 (0.1%)	217 (0.0%)	1,724 (0.0%)	4,050 (0.0%)
Other race	1,159 (10.1%)	45,106 (4.9%)	551,971 (10.6%)	861,412 (6.7%)
Two or more races	304 (2.7%)	20,396 (2.2%)	131,770 (2.5%)	289,982 (2.3%)

**TABLE 3-4**  
Demographic Characteristics of the Project Corridor

Race	Project Corridor	DuPage County	Cook County	State of Illinois
<b>Total population</b>	<b>11,432</b>	<b>916,924</b>	<b>5,194,675</b>	<b>12,830,632</b>
<b>Percent non-white</b>	<b>32.5%</b>	<b>22.1%</b>	<b>44.6%</b>	<b>28.5%</b>
Hispanic population (any race)	24.8%	13.3%	24.0%	15.8%

Source: U.S. Bureau of the Census, 2011.

Note: In some cases, the percentages do not total exactly 100 percent due to rounding.

Residential displacements caused by the Build Alternative would occur in only three Census blocks, one with a higher non-white population than the county average and a higher Asian population than the state and county averages, one with a higher Asian population than the state average, and one without any minority population.

Business displacements caused by the Build Alternative occur in only one Census block with residents; this Census block has a higher non-white and Asian population than the state and county averages. All other business displacements occur in Census blocks with no residential population. Exhibits 3-2A, 3-2B, and 3-2C depict minority, Asian, and Hispanic populations along the project corridor.

Income characteristics were gathered at the Census block group level. Data collected during the 2005-2009 American Community Survey were used rather than decennial Census data because income characteristics were not collected for the 2010 Census. The average median family income (in 2009 inflation-adjusted dollars) in the project corridor is greater than Cook County and the State of Illinois, but less than DuPage County (see Table 3-5). It is, however, well above the 2012 DHHS poverty guideline for a family of three, \$19,090. Further, there are no block groups with a median family income level below the 2012 poverty guideline.

**TABLE 3-5**  
2005-2009 Income Characteristics of the Project Corridor

	Project Corridor	DuPage County	Cook County	State of Illinois
Median family income	\$72,778	\$92,059	\$64,973	\$67,660
Average family size	3	3	3	3
Families living below poverty line	6.9%	3.8%	11.8%	9.1%

Source: U.S. Bureau of the Census, 2010.

An analysis of the effects on toll users living in the vicinity of the corridor was undertaken (see subsection 3.2.2.5). As indicated on Exhibit 3-3, residents in the communities along the project corridor have a high participation rate of the prepaid toll collection system (I-PASS) program. Because the mainline along the entire corridor will be tolled, all residents along the corridor will be affected by the addition of tolling requirements.

Noise levels after implementation of the proposed improvements were predicted along the project corridor (see subsection 3.8). All applicable sensitive receptors (e.g., residences and parks) were analyzed to determine if the project would cause noise impacts and, where noise impacts were predicted to occur, if mitigation measures (i.e., noise barriers) would be feasible and reasonable. Sensitive receptors were located in Census blocks with comparatively higher and lower minority populations. Impacts were identified in Census blocks with comparatively higher and lower minority populations. Most of the residences adjacent to the proposed improvements would be impacted, regardless of racial or ethnic background. Noise barriers will be implemented along residential areas with comparatively higher and lower minority populations. Because noise impacts would occur in locations with and without comparatively higher minority populations, and noise barriers will be implemented in locations with and without comparatively higher minority populations, no minority population is expected to incur disproportionately high or adverse noise impacts.

Based on the evaluation of the demographic and income characteristics of the population along the project corridor, the Build Alternative would not exert high or disproportionate adverse impacts on minority or low-income populations. Furthermore, the Build Alternative would not have a disproportionate impact on Hispanic populations because no displacements occur in Census blocks with Hispanic populations above the state or county averages. In addition, non-white populations would not experience high or disproportionately adverse impacts. The proposed project is a large-scale project with white and non-white populations spread throughout the entire project corridor. Many of the improvements are proposed on existing transportation facilities, and none of the residential displacements would occur on new alignment. There are over 11,000 residents living along the project corridor, and only seven residential displacements would occur with all located within Census blocks with substantially higher white populations than Asian. Three of the residential displacements, or approximately half of the residential displacements, are located in all-white Census blocks. One residential displacement occurs within a Census block that is 94 percent white (15 residents) and 6 percent Asian (one resident). The three remaining residential displacements occur within a Census block that is 74 percent white (14 residents) and 26 percent Asian (five residents). Because the displacements occur in locations that have substantially higher white residents than non-white residents, there are no high or disproportionately adverse impacts to minority populations.

The project would not have a disproportionate impact on low-income populations because impacts are not borne by any smaller populations with income below the 2012 poverty guideline. No Census block along the project corridor has a median family income below the 2012 poverty guideline.

Further, because the number of residential displacements is small, there would be no impact on the demographic diversity of the area. Ample replacement housing is located in the vicinity of the displaced residences.

Tolling would be applied universally to all tollway users; therefore, there would be no disproportionate impact to low-income and minority populations with the addition of tolling. Local access would be maintained in nearly all residential areas by means of local service interchanges and frontage roads (e.g., along Thorndale Avenue). Thus, local trips would not require indirect or circuitous travel, and no populations would be adversely impacted by access changes.