

## **12. Socioeconomics, Environmental Justice, and Children’s Environmental Health and Safety Risks**

<b>12.1. Socioeconomics .....</b>	<b>12-1</b>
12.1.1. Regulatory Setting .....	12-2
12.1.1.1. Consultations, Permits, and Other Approvals .....	12-2
12.1.2. Affected Environment .....	12-2
12.1.2.1. Economic Activity and Income .....	12-3
12.1.2.2. Employment.....	12-3
12.1.2.3. Population and Housing.....	12-3
12.1.2.4. Public Services and Social Conditions .....	12-4
12.1.3. Environmental Consequences .....	12-4
12.1.3.1. Significance Determination .....	12-6
12.1.4. Mitigation .....	12-6
<b>12.2. Environmental Justice .....</b>	<b>12-7</b>
12.2.1. Regulatory Setting .....	12-7
12.2.1.1. Consultations, Permits, and Other Approvals .....	12-8
12.2.2. Affected Environment .....	12-9
12.2.3. Environmental Consequences .....	12-12
12.2.3.1. Determining Disproportionately High and Adverse Effects ...	12-12
12.2.3.2. Significance Determination .....	12-12
12.2.4. Mitigation .....	12-13
<b>12.3. Children’s Environmental Health and Safety Risks .....</b>	<b>12-14</b>
12.3.1. Regulatory Setting .....	12-14
12.3.1.1. Consultations, Permits, and Other Approvals .....	12-15
12.3.2. Affected Environment .....	12-15
12.3.3. Environmental Consequences .....	12-15
12.3.3.1. Significance Determination .....	12-16
12.3.4. Mitigation .....	12-16

This chapter covers socioeconomics (Section 12.1), environmental justice (Section 12.2), and children’s environmental health and safety risks (Section 12.3).

### **12.1. Socioeconomics**

Socioeconomics is an umbrella term used to describe aspects of a project that are either social or economic in nature, or a combination of the two. A socioeconomic analysis evaluates how elements of the human environment such as population, employment, housing, and public services might be affected by the proposed action and alternative(s).

Section 1508.14 of the Council on Environmental Quality (CEQ) Regulations states that “economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment”. Therefore, the requirement to prepare socioeconomic analysis in an Environmental Assessment (EA) or Environmental Impact Statement (EIS) is project specific and is dependent upon the existence of a relationship between natural or physical environmental effects and socioeconomic effects.

### 12.1.1. Regulatory Setting

Exhibit 12-1 lists the primary statute related to socioeconomic impacts for the Federal Aviation Administration’s (FAA) National Environmental Policy Act (NEPA) reviews. See Appendix B.9 for more detailed information about these requirements.

**Exhibit 12-1. Statute Related to Socioeconomic Impacts**

Statute	Location in U.S. Code	Implementing Regulation(s)	Oversight Agency <sup>a</sup>	Summary
Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970	42 U.S.C. § 61 et seq.	49 CFR part 24	FHWA	This Act contains provisions that must be followed if acquisition of real property or displacement of people would occur as a result of implementing the selected alternative.

<sup>a</sup> CFR = Code of Federal Regulations; FHWA = Federal Highway Administration; U.S.C. = United States Code.

#### 12.1.1.1. Consultations, Permits, and Other Approvals

##### *Uniform Relocation Assistance and Real Property Acquisition Policies Act*

If acquisition of real property or displacement of persons is involved, 49 CFR part 24 (implementing the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970), as amended, must be met for federal projects and projects involving federal funding. Additionally, the FAA, to the fullest extent possible and when applicable, observes all state and local laws, regulations, and ordinances concerning zoning, transportation, economic development, housing, etc. when planning, assessing, or implementing the proposed action or alternative(s). (This requirement does not cover local zoning laws, set-back ordinances, and building codes because the federal government is exempt from them).

### 12.1.2. Affected Environment

For socioeconomics, the study area may be larger than the study area for other impact categories, as a proposed action could have an effect on the social fabric of the surrounding community. The environmental review should consider the impacts of the alternatives on the following broad indicators: economic activity, employment, income, population, housing, public services, and social conditions. The responsible FAA official should consult with local transportation, housing

and economic development, relocation and social agency officials, and community groups regarding the social impacts of the proposed action and alternative(s).

The baseline conditions should include the size of local population centers, the distance from a project site to these areas, and the nature of the local economies. U.S. Census Bureau, state, and local government data are often used to describe baseline socioeconomic characteristics. Other data sources include the following: U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis, state economic development agencies, local government agencies, chamber of commerce records, and private organizations that operate as data brokers. Private institutions may also post relevant data on websites or publish them in readily available formats.

The following indicators may be relevant when characterizing the baseline socioeconomic conditions within the affected environment.

#### **12.1.2.1. Economic Activity and Income**

Understanding the incomes of individuals located in the study area will allow for a comparison between the current condition and projected impacts associated with the alternatives. The U.S. Bureau of Economic Analysis website at: <http://www.bea.gov/> provides regional and national information about gross domestic product and personal income. The American Community Survey (ACS) at: <https://www.census.gov/programs-surveys/acs/> also includes information about income. In addition, information about state and local taxes can be found on the U.S. Census Bureau's Census of Governments website at: <https://www.census.gov/govs/> or on local government websites. Each state's income, sales, and property tax rates will vary.

#### **12.1.2.2. Employment**

The U.S. Bureau of Labor Statistics website at: <http://www.bls.gov/> provides information on the labor force and various labor force characteristics including the current number of employed and unemployed persons within an area, consumer price indexes, productivity, and demographic characteristics of the labor force. This website can be used to collect information about the people working in the study area and their spending habits.

#### **12.1.2.3. Population and Housing**

The U.S. Census Bureau website at: <http://www.census.gov/> provides the results of the Decennial Censuses and American Community Survey, which include housing and population information. Census data may be particularly useful because the data are summarized at different geographic levels in descending order of size, including: national, state, county, census tracts, block group, and block. Because of the need to protect the privacy of individuals living within blocks, income data are available only as small as the block group level. The various sizes of Census data available allow the most appropriate data to be selected for the specific study area. As ACS data is often more current than decennial census data, consider which data set is likely to provide more relevant data based on the population of the study area and the amount of time that has elapsed since the last decennial census. Further, ACS data at the block group level is available within the Aviation Environmental Design Tool (AEDT).

Useful tools for downloading Census data include the American FactFinder (<http://factfinder.census.gov/>) and DataFerrett (<http://dataferrett.census.gov/>).

#### **12.1.2.4. Public Services and Social Conditions**

Depending on the location and scope of the alternatives, consult state, local, or county government resources to determine the public services and social conditions potentially impacted by a project. Detailed information regarding a community's educational institutions, medical services, and emergency response services is typically available from federal, state, or county/municipal sources.

#### **12.1.3. Environmental Consequences**

A proposed action and alternatives may involve the potential for socioeconomic impacts on surrounding communities, such as shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity. An example of a direct socioeconomic impact is the change in job availability caused when a new construction project is proposed in an area. The construction project may result in an increase in available jobs; however, these jobs may be temporary in nature and would cease to exist when construction is completed.

The specific types of socioeconomic impacts that may result from an alternative depend on the nature of the proposed action and alternatives. Exhibit 12-2 provides examples of the types of socioeconomic impacts that may be considered for the proposed action and alternatives. Whether or not the various potential impact areas should be discussed will depend on what the action is and whether the potential socioeconomic impacts are interrelated with or inseparable from a physical or natural environmental effect. When the analysis indicates substantial induced or secondary impacts attributable to the proposal, a detailed analysis of such impacts should be included in the document. As pertinent and to the extent known or reasonably foreseeable, such factors as impacts on regional growth and development patterns, and spin-off jobs created should be described.

**Exhibit 12-2. Socioeconomic Impacts that May be Considered**

Potential Impact Area	What to Analyze
Economic Activity	Consider the effects of the proposed action and alternatives on the reduction of or increase in economic activity in the study area. As pertinent and to the extent known or reasonably foreseeable, describe such factors as impacts on regional growth and development patterns.
Employment	Determine the impacts of the proposed action and alternatives on employment in the study area. Analyze indicators such as current unemployment rates, commuter patterns, and the existing labor force. Consider these factors in conjunction with implementation of the proposed action and alternatives.
Income	Analyze current information on per capita income, median household income, and rates of poverty for individuals in the study area and consider how the proposed action and alternatives would change the existing conditions.
Population	Determine the impacts of the proposed action and alternatives on current population and projected population growth rates in the study area. Consider the impact of a project on the potential for people to migrate to or leave the area.
Housing	Consider the effects of the proposed action and alternatives on the availability of housing, both temporary and permanent, in the study area. Research the available housing units and determine if a project would cause an increase or decrease in the demand for housing.
Public Services	Determine the effects of the proposed action and alternatives on the availability of public services to those in the study area. Consider factors such as changes in water usage, traffic patterns, transportation availability, or medical, rescue, education, or utility services as a result of a project.
Social Conditions	Analyze the social conditions in the study area. Consider how the proposed action and alternatives would impact factors such as community cohesion and religious institutions or otherwise result in disruption or division of the local community.

Consider whether the proposed action and alternatives would result in relocation of local businesses, public services, or housing units. In cases where relocation is involved, the NEPA documentation should provide:

- estimates of the numbers and characteristics of individuals and families to be displaced;
- the impact on the neighborhood and housing to which relocation is likely to take place; and
- an indication of the ability of that neighborhood to provide adequate relocation housing for the families to be displaced.

The NEPA document should also include a description of special relocation advisory services to be provided, if any, for the elderly, handicapped, or illiterate regarding interpretation of benefits or other assistance available.

If an insufficient supply of generally available relocation housing is indicated, the document should reflect a thorough analysis of efforts made to remedy the problem. This includes, if necessary, a provision for housing of last resort as authorized by Section 206(a) of the Uniform Relocation Assistance and Real Property Acquisition Policies Act. If business relocation would

cause appreciable economic hardship on the community, if significant changes in employment would result directly from the action, or if community disruption is considered substantial, the NEPA document should include a detailed explanation of the impacts and the reasons why significant impacts cannot be avoided.

#### **12.1.3.1. Significance Determination**

The FAA has not established a significance threshold for socioeconomics in FAA Order 1050.1F; however, the FAA has identified factors to consider when evaluating the context and intensity of potential environmental impacts for socioeconomics (see Exhibit 4-1 of FAA Order 1050.1F). The determination that significant impacts exist in the socioeconomic impact category is normally dependent on whether the potential socioeconomic impact(s) are interrelated with or inseparable from a physical or natural environmental effect. Please note that these factors are not intended to be thresholds. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts.

Factors to consider that may be applicable to socioeconomic resources, if they are interrelated with natural or physical environmental impacts (see 40 CFR § 1508.14), include, but are not limited to, situations in which the action would have the potential to:

- induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area);
- disrupt or divide the physical arrangement of an established community;
- cause extensive relocation when sufficient replacement housing is unavailable;
- cause extensive relocation of community businesses that would cause severe economic hardship for affected communities;
- disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; or
- produce a substantial change in the community tax base.

#### **12.1.4. Mitigation**

Examples of potential measures to mitigate socioeconomic impacts that may be appropriate for the proposed action and alternatives include the following:

- compensating for or reducing any detrimental impacts the proposed action or alternative(s) may have caused to the economic health of the study area. This could include providing relocation assistance to local business owners in accordance with the Uniform Relocation Act; and
- providing a financial payment and/or relocation assistance to renters and people who are displaced from their homes as required by the Uniform Relocation Assistance and Real Property Acquisition Policies Act.

## 12.2. Environmental Justice

According to the U.S. Environmental Protection Agency (EPA), Environmental Justice is 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. EPA defines *fair treatment* to mean that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies. EPA defines *meaningful involvement* as:

- Potentially affected populations have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health;
- the public’s contribution can influence the regulatory agency’s decision;
- the concerns of all participants will be considered in the decision making process; and
- the rule-writers and decision makers seek out and facilitate the involvement of those potentially affected.

### 12.2.1. Regulatory Setting

Exhibit 12-3 lists the primary statutes, Executive Orders, and other guidance related to environmental justice impacts. See Appendix B.9 for more detail on these requirements.

**Exhibit 12-3. Statutes, Executive Orders, and Other Guidance Related to Environmental Justice**

Statute or Executive Order	Location in U.S. Code or <i>Federal Register</i>	Implementing Regulation(s)	Oversight Agency <sup>a</sup>	Summary <sup>a</sup>
Title VI of the Civil Rights Act of 1964, as amended	42 U.S.C. §§ 2000d-2000d-7	28 CFR § 42.401	DOJ	Title VI of the Civil Right Act of 1964 states that “No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.” Title VI explicitly prohibits any discrimination in federally funded programs and projects, including those sponsored by the FAA.
Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	59 <i>Federal Register</i> 7629, (February 11, 1994)	Not applicable	EPA	Requires federal agencies to incorporate environmental justice into their programs, policies and activities.

Statute or Executive Order	Location in U.S. Code or <i>Federal Register</i>	Implementing Regulation(s)	Oversight Agency <sup>a</sup>	Summary <sup>a</sup>
CEQ Guidance: “Environmental Justice: Guidance Under the National Environmental Policy Act” (December 10, 1997)	Not applicable	Not applicable	CEQ	Outlines how environmental justice could be considered in NEPA documents. Provides widely used definitions of minority, low-income, and other environmental justice concepts.
Memorandum of Understanding on Environmental Justice and Executive Order 12898 (August 4, 2011)	Not applicable	Not applicable	Not applicable	The participating federal agencies (which includes the FAA) agree to declare the continued importance of identifying and addressing environmental justice considerations in their programs, policies, and activities as provided in Executive Order 12898.
U.S. Department of Transportation Environmental Justice Strategy <sup>1</sup>	Not applicable	Not applicable	DOT	Describes the framework for comprehensively incorporating environmental justice into all of DOT’s programs, policies and activities.
DOT Order 5610.2(a), Environmental Justice in Minority and Low-Income Populations	<i>77 Federal Register 27534</i> , (May 10, 2012)	Not applicable	DOT	Establishes principles for integrating environmental justice into current policies and practices.
Promising Practices for EJ Methodologies in NEPA Reviews, Report of the Federal Interagency Working Group on Environmental Justice & NEPA Committee (March 2016)	Not applicable	Not applicable	Federal Interagency Working Group on Environmental Justice & NEPA Committee	Compilation of methodologies gleaned from current federal agency practices concerning the interface of environmental justice considerations through the NEPA processes.

<sup>a</sup> CEQ = Council on Environmental Quality; CFR = Code of Federal Regulations; DOJ = U.S. Department of Justice; DOT = U.S. Department of Transportation; EPA = U.S. Environmental Protection Agency; FAA = Federal Aviation Administration; MOU = Memorandum of Understanding; NEPA = National Environmental Policy Act; U.S.C. = United States Code.

### 12.2.1.1. Consultations, Permits, and Other Approvals

#### *Executive Order 12898 and DOT Order 5610.2(a)*

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, signed by the President on February 11, 1994 directs federal agencies to identify and address disproportionately high and adverse effects of federal

<sup>1</sup> <https://www.transportation.gov/policy/transportation-policy/environmental-justice-strategy>.

projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law.

When the FAA determines that a project has significant impacts in any environmental impact category, the potential for disproportionately high and adverse effects on minority or low-income populations must be examined pursuant to DOT Order 5610.2(a). Even in the absence of a significant impact in an environmental impact category, further inquiry into the potential for disproportionately high and adverse effects on minority or low-income populations may be warranted based upon the demographics of the study area and the nature of environmental impacts associated with the proposed project. If there are disproportionately high and adverse effects on minority or low-income populations, DOT Order 5610.2(a) requires that certain procedures be followed for analyzing the proposed action's potential impacts, offsetting benefits, potential alternatives, and substantial need. The FAA reflects its adherence to the requirements of DOT Order 5610.2(a) in its NEPA document.

### ***Title VI of the Civil Rights Act***

Under Title VI, the FAA is required to ensure that no person, on the ground of race, color, or national origin, is excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving federal financial assistance. The Title VI requirements apply to all Federally-funded projects and activities and govern actions both by the federal government and the recipients of federal financial assistance. Title VI applies not only to adverse human health or environmental effects of a federally funded project or activity but also to the provision of benefits under such a project or activity. However, Title VI does not address discrimination based on income in any program or activity receiving federal financial assistance.

### ***FAA Order 1050.1F***

Requirements for meaningful public involvement by minority and low-income populations are addressed in Paragraph 2-5.2.b of FAA Order 1050.1F. As stated in the Order, the FAA must provide for meaningful public involvement by minority and low-income populations. In accordance with DOT Order 5610.2(a), this public involvement must provide an opportunity for minority and low income populations to provide input on the analysis, including demographic analysis, which identifies and addresses potential impacts on these populations that may be disproportionately high and adverse. The public involvement process can also provide an opportunity to gather information on patterns of subsistence consumption of fish or wildlife by the affected populations, and to provide information on the risks of such consumption when a proposed action or its alternatives substantially affect these risks.

## **12.2.2. Affected Environment**

The combination of all study areas for the other relevant impact categories represents the potential impact area for environmental justice, because environmental justice impacts may be realized in conjunction with impacts to any other impact category.

The description of the affected environment for the NEPA document should identify the minority and low-income populations located within the identified study area. The environmental document should include demographic information about the affected populations and information about the populations that have an established use for the significantly affected resource, or to whom that resource is important (e.g., subsistence fishing).

Exhibit 12-4 presents the definitions from DOT Order 5610.2(a) that may be used to help identify potential environmental justice populations in the study area.

**Exhibit 12-4. Definitions from DOT Order 5610.2(a) to Identify Status of Environmental Justice Populations**

Term	Definition
Minority	A person who is: <ol style="list-style-type: none"> <li>1. Black: a person having origins in any of the black racial groups of Africa;</li> <li>2. Hispanic or Latino: a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race;</li> <li>3. Asian American: a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent;</li> <li>4. American Indian and Alaskan Native: a person having origins in any of the original people of North America, South America (including Central America) and who maintains cultural identification through tribal affiliation or community recognition; or</li> <li>5. Native Hawaiian and Other Pacific Islander: people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.</li> </ol>
Minority Population	Any readily identifiable group of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity.
Low-Income	A person whose median household income is at or below the Department of Health and Human Services poverty guidelines. <sup>a</sup>
Low-Income Population	Any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity.

Source: DOT Order 5610.2(a)

<sup>a</sup> These guidelines can be found on the U.S. Department of Health and Human Services website located at: <http://www.hhs.gov/>.

Per DOT Order 5610.2(a), low income population is determined by considering the percentage of individuals in the study are whose median household income is at or below the Department of Health and Human Services (HHS) poverty guidelines, available at:

<http://aspe.hhs.gov/poverty/index.cfm>. According to HHS, the best approximation for the number of people below the HHS poverty guidelines in a particular area would be the number of persons below the Census Bureau poverty thresholds in that area. (<https://aspe.hhs.gov/frequently-asked-questions-related-poverty-guidelines-and-poverty#many>).

The following methods may be used to help find information about potential environmental justice populations in the study area:

- AEDT: The Aviation Environmental Design Tool (AEDT) incorporates a methodology to identify potential environmental justice populations. The screening capability uses U.S. Census American Community Survey (ACS) data to graphically present census block groups with minority and/or low-income populations that exceed specified thresholds. Screening results should be supplemented with additional information and local knowledge to obtain a better understanding of the issues in a selected location. Refer to the guidance document *Guidance on Using the Aviation Environmental Design Tool*

(AEDT) to Screen for Potential Environmental Justice Populations on the AEDT website ([www.aedt.faa.gov](http://www.aedt.faa.gov)) for additional guidance on using AEDT to identify potential environmental justice populations.

- Census data: Demographic data can be accessed through the Census Bureau’s American Community Survey website at: <https://www.census.gov/programs-surveys/acs/>, or through the most recent decennial census. Data, including minority and low-income population data, can be accessed for select census block groups and evaluated using Geographic Information Systems (GIS). Caution must be undertaken to avoid inadvertently counting an individual twice with regard to race categories. For example, people may choose to report more than one race to indicate their racial mixture, such as “American Indian” and “White”.
- EJSCREEN, available at: <http://www.epa.gov/ejscreen>, is an environmental justice mapping and screening tool that provides a nationally consistent dataset and approach for combining environmental and demographic indicators. EJSCREEN provides demographic and environmental information and includes a method for combining environmental and demographic indicators into EJ indexes. Screening results should be supplemented with additional information and local knowledge to get a better understanding of the issues in a selected location. Note that EJSCREEN defines “low-income” as individuals living with incomes below 200 percent of the federal poverty level, which differs from the DOT definition used by the FAA. As a result, when using this tool, practitioners should ensure that they can convert the results so that they can be compared to the DOT definition.
- Transient or temporary workers or temporary workers may not be captured in the HHS data. Data on transient or temporary workers can be found through sources such as the Department of Labor’s National Agricultural Worker’s Survey, and through data collected by town, city, and county governments in the vicinity of the proposed action and alternative(s).
  - U.S. Department of Labor’s National Agricultural Worker’s Survey, <https://www.doleta.gov/naws/>
  - U.S. Department of Housing and Urban Development Homeless Data Exchange, <http://www.hudhdx.info/>
- **Local sources** can provide additional information. These include, but are not limited to, state, county or city organizations such as Metropolitan Planning Organizations; social service agencies; economic development organizations; housing authorities, tribal governments and school districts. Places of worship, food banks, homeless shelters, medical clinics and universities may also be useful sources of local demographic and economic data. Local sources may be especially helpful to identify minority and low-income populations that use resources affected by the project and to whom the affected resources are important for subsistence or cultural reasons. Also, local data may include temporary minority and low-income residents such as migrant workers that are not captured in the U.S. Census Bureau data.

### 12.2.3. Environmental Consequences

An environmental justice analysis considers the potential of federal actions to cause disproportionately high and adverse effects on low-income or minority populations.

DOT Order 5610.2(a) provides the following definition for the types of adverse impacts that should be considered when assessing impacts to environmental justice populations:

Adverse effects means the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness, or death; air, noise, and water pollution and soil contamination; destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion, or separation of minority or low-income individuals within a given community or from the broader community; and the denial of, reduction in, or significant delay in the receipt of, benefits of DOT programs, policies, or activities.

#### 12.2.3.1. Determining Disproportionately High and Adverse Effects

The NEPA document should clearly describe the methodology used to determine if there are adverse impacts that disproportionately affect environmental justice populations. This includes providing results of analysis to determine if a low income or minority population using a resource sustains more of the impact than any other population segment. This determination relies upon meaningful public involvement to ensure that the unique characteristics of a minority or low-income population are considered.

DOT Order 5610.2(a) provides the following definition for a “disproportionately high and adverse impact” that should be used when assessing impacts to environmental justice populations:

*Disproportionately high and adverse effect on minority and low-income populations* means 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 non-minority population and/or non-low-income population.

DOT Order 5610.2(a) indicates that mitigation and enhancement measures, offsetting benefits, and the relevant number of similar existing system elements in non-minority and non-low-income areas, can be taken into consideration when determining if there are disproportionately high and adverse effects from a project.

#### 12.2.3.2. Significance Determination

The FAA has not established a significance threshold for environmental justice in FAA Order 1050.1F; however, the FAA has identified factors to consider when evaluating the context and

intensity of potential environmental impacts for environmental justice (see Exhibit 4-1 of FAA Order 1050.1F). Please note that these factors are not intended to be a threshold. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts.

The factors to consider that may be applicable to environmental justice include, but are not limited, to a situation in which the proposed action or alternative(s) would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population, i.e., a low-income or minority population, due to:

- Significant impacts in other environmental impact categories; or
- Impacts on the physical or natural environment that affect an environmental justice population in a way that the FAA determines is unique to the environmental justice population and significant to that population.

Note that not all “adverse impacts” within the meaning of DOT Order 5610.2(a) will meet or exceed a significance threshold in another environmental impact category. Some adverse impacts may not be significant impacts in another environmental impact category as defined by Exhibit 4-1 in FAA Order 1050.1F, yet they may be a significant impact when examined in the context of their effects on minority or low-income populations. As a result, the responsible FAA official must undertake a case-by-case analysis of an action’s unique facts. The responsible FAA official does this to determine if impacts not otherwise rising to a level of significance for NEPA purposes nonetheless represent disproportionately high and adverse effects, and/or a significant impact for environmental justice purposes. Examples of impacts that may not be significant impacts in another environmental impact category, but may be considered significant impacts when examined in the context of environmental justice include:

- Water resource impacts and/or biological resource impacts that are not considered significant standing alone, but may be significant when considered in the context of subsistence fishing or game consumption by environmental justice communities.
- Special cultural traditions associated with traditional cultural sites of Indian tribes may increase sensitivity to aircraft overflights. In such locations, overflights may introduce noise or visual intrusions that represent disproportionately high and adverse effects and significant impacts to an environmental justice population.

#### **12.2.4. Mitigation**

Any potential adverse impacts that affect minority or low-income populations should be identified early in the planning process so action can be taken to prevent them. Environmental justice impacts may be avoided or minimized through communicating early and consistently with the public and allowing ample time for public coordination. In addition to including public outreach efforts as part of the NEPA process, it may also be beneficial to include the public in identifying possible mitigation measures. In “*Environmental Justice: Guidance Under the National Environmental Policy Act*,” CEQ emphasizes the community’s role in mitigation efforts, stating that efforts should reflect the needs of affected low-income populations, minority populations, or Indian tribes.

In cases where the FAA finds a significant impact, but determines that mitigation would reduce that impact below the applicable significance threshold, the environmental document should

describe how mitigation would reduce the impact to less than significant levels and verify that a project would not result in disproportionately high and adverse effects on low-income and minority populations.

### **12.3. Children’s Environmental Health and Safety Risks**

Pursuant to Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* 62 *Federal Register* 19885, (April 21, 1997), federal agencies are directed, as appropriate and consistent with the agency’s mission, to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. The FAA is encouraged to identify and assess environmental health risks and safety risks that the agency has reason to believe could disproportionately affect children. Environmental health risks and safety risks include risks to health or to safety that are attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products they might use or be exposed to.

The Task Force on Environmental Health Risks and Safety Risks to Children, created by Executive Order 13045, identified four priority areas of impacts to children for immediate attention:

- Asthma;
- unintentional injuries;
- developmental disorders (including lead poisoning); and
- cancer.

For more information on the Task Force on Environmental Risks and Safety Risks to Children, see EPA’s website for Children’s Health Protection at: <http://www2.epa.gov/children>.

Impacts to children are considered separately in NEPA reviews because children may experience a different intensity of impact as compared to an adult exposed to the same event. For example, children’s internal organs are still developing and they are therefore unable to process exposure to toxic substances in the same way that an adult can. Children are also more likely to exhibit behaviors that put them at a greater risk for exposure to hazards. Children under age 5 are more susceptible than adults to environmental hazards due to the fact they are more heavily exposed to toxins in proportion to their body weight. Children under age 5 breathe more air, drink more water, and eat more food per unit of body weight than adults do, so they may experience higher rates of exposure to toxins, pollutants, and pathogens.

#### **12.3.1. Regulatory Setting**

Exhibit 12-5 lists the Executive Order related to children’s environmental health and safety risks. See Appendix B.9 for more detail on Children’s Environmental Health and Safety Risks.

### Exhibit 12-5. Executive Order Related to Children’s Environmental Health and Safety Risks

Executive Order	Location in <i>Federal Register</i>	Implementing Regulation(s)	Oversight Agency	Summary
Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks	62 <i>Federal Register</i> 19885, (April 23, 1997)	Not applicable	Not applicable	This Executive Order directs federal agencies to analyze their policies, programs, activities, and standards for any environmental health or safety risks that may disproportionately affect children. Included in these categories are risks to health or safety that are attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, water, recreational waters, soil, or products they might use or be exposed to.

#### 12.3.1.1. Consultations, Permits, and Other Approvals

There are no formal required federal consultation processes, permits, or other approvals related to children’s environmental health and safety risks.

#### 12.3.2. Affected Environment

The affected environment for potential impacts for children’s environmental health and safety is related to the affected environment for other impact categories (i.e., air quality, noise, etc.). Therefore, the study area for children’s environmental health and safety should include the study areas identified for other impact categories that have the potential to impact children’s environmental health and safety.

To identify how many children live in the area and how old they are, the Census Bureau collects data on children that can be accessed through their Fact Finder at: <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>.

In addition to determining the number and age of children in the study area, it may be beneficial to determine the number of schools, daycares, parks, and children’s health clinics in the study area. Local websites and reports can be helpful in identifying these resources. Detailed information regarding a community’s educational institutions, medical services, and emergency response services is typically available from federal, state, or county/municipal sources.

The FAA should consider whether the proposed action or alternative(s) would create new or exacerbate existing adverse impacts to children in any of the priority areas identified by the Task Force.

#### 12.3.3. Environmental Consequences

Similar to environmental justice, impacts to children’s health and safety in the context of other impact categories should be considered.

**12.3.3.1. Significance Determination**

The FAA has not established a significance threshold pertaining to impacts to children's environmental health and safety in FAA Order 1050.1F; however, the FAA has identified a factor to consider when evaluating the context and intensity of potential environmental impacts for children's environmental health and safety (see Exhibit 4-1 of FAA Order 1050.1F). Please note that this factor is not intended to be a threshold. The existence of this factor does not necessarily establish a significant impact; rather, the FAA must evaluate this factor in light of context and intensity to determine if there are significant impacts.

The factor to consider that may be applicable to children's environmental health and safety includes, but is not limited to, situations in which the proposed action or alternative(s) would have the potential to lead to a disproportionate health or safety risk to children.

**12.3.4. Mitigation**

The mitigation measures appropriate to minimize or eliminate potential adverse impacts could be the same as the mitigation measures identified for other impact categories with the potential to impact children's environmental health and safety (i.e., air, water, etc.), although in some situations unique mitigation measures specific to children may be identified.

## **Appendix B. Socioeconomics, Environmental Justice, and Children’s Environmental Health and Safety Risks**

Federal activities affecting all environmental impact categories are governed by many statutes, regulations, and Executive Orders. Each impact category chapter of this Desk Reference (Chapters 1-14, as applicable) contains an exhibit with a tabular overview of the major applicable Federal statutes, regulations, Executive Orders, and the agencies responsible for overseeing their implementation. This appendix supplements the background information relevant to those requirements that is provided in the chapter exhibits. Please note that these requirements may not be applicable to every FAA action, and should only be included when relevant to the proposed project.

### **B.9. Socioeconomics, Environmental Justice, and Children’s Environmental Health and Safety Risks**

The following statutes, orders, regulations, and other documents govern socioeconomics and environmental justice.

#### **B.9.1. Socioeconomics**

##### **B.9.1.1. Council on Environmental Quality Regulations for Implementing NEPA**

The CEQ Regulations require analysis of socioeconomic impacts by stating that “*effects*” to be considered when preparing a NEPA document include “ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative” (see 40 CFR § 1508.8) and that through NEPA, the *Human Environment* “shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment” (see 40 CFR § 1508.14). The CEQ Regulations also state that although “economic or social effects are not intended by themselves to require preparation of an environmental impact statement” when “economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment.” The CEQ Regulations use the terms “effects” and “impacts” synonymously.

##### **B.9.1.2. Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970**

If acquisition of real property or displacement of people would occur as a result of the proposed action or alternative(s), follow the provisions in 49 CFR part 24 (which implements the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970), which state the following:

- a. Ensure that owners of real property to be acquired for federal and federally-assisted projects are treated fairly and consistently, to encourage and expedite acquisition by agreements with such owners, to minimize litigation and relieve congestion in the courts, and to promote public confidence in federal and federally-assisted land acquisition programs;

- b. Ensure that persons displaced as a direct result of federal or federally-assisted projects are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole; and
- c. Ensure that Agencies implement these regulations in a manner that is efficient and cost effective.

To view the full text of the regulation posted on the FHWA's website, see <http://www.fhwa.dot.gov/legsregs/directives/fapg/cfr4924a.htm>.

If the proposed action or alternative(s) does not specifically require acquisition of property or displacement of people, the FAA, to the fullest extent possible and when applicable, should observe all state and local laws, regulations, and ordinances concerning zoning, transportation, economic development, and housing when planning, assessing, or implementing a proposed action or alternative(s).

## **B.9.2. Environmental Justice**

### **B.9.2.1. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations**

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, 59 *Federal Register* 7629, (February 16, 1994) requires federal agencies to incorporate environmental justice into their planning processes by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The Executive Order directs federal agencies to provide public involvement opportunities for low-income or minority populations. The Executive Order directs each federal agency, whenever practicable and appropriate, to collect, maintain, and analyze information assessing and comparing environmental and human health risks posed to populations identified by race, national origin, or income and use this data to identify multiple and cumulative exposures on these at-risk populations. The Executive Order also directs that, to the extent practical and appropriate, federal agencies use this information to determine whether the proposed action and alternatives have a disproportionately high and adverse effect on minority or low income populations.

To read the full text of this Executive Order, see <http://energy.gov/em/downloads/executive-order-12898-federal-actions-address-environmental-justice>.

### **B.9.2.2. Department of Transportation Order 5610.2, Environmental Justice in Minority and Low-Income Populations**

This Order was issued to comply with Executive Order 12898. This Order outlines the DOT's commitment to the principles of environmental justice and presents a program for department-wide implementation. The Order established environmental justice policy "to actively administer and monitor [DOT's] operations and decision making to ensure that nondiscrimination is an integral part of its programs, policies, and activities." The Order emphasizes identifying and evaluating environmental, public health, and interrelated social and economic effects; proposing measures to avoid, minimize, and/or mitigate disproportionately high and adverse effects; and

eliciting public involvement from affected communities. The following two principles are presented for integrating environmental justice into current policies and practices:

1. Planning and programming activities that have the potential to have a disproportionately high and adverse effect on human health or the environment shall include explicit consideration of the effects on minority populations and low-income populations. Procedures shall be established or expanded, as necessary, to provide meaningful opportunities for public involvement by members of minority populations and low-income populations during the planning and development of programs, policies, and activities (including the identification of potential effects, alternatives, and mitigation measures).
2. Steps shall be taken to provide the public, including members of minority populations and low-income populations, access to public information concerning the human health or environmental impacts of programs, policies, and activities, including information that will address the concerns of minority and low-income populations regarding the health and environmental impacts of the proposed action or alternative(s).

To read the full text of the Order, see the FHWA's website at:

[https://www.fhwa.dot.gov/environment/environmental\\_justice/ej\\_at\\_dot/orders/order\\_56102a/](https://www.fhwa.dot.gov/environment/environmental_justice/ej_at_dot/orders/order_56102a/).

#### **B.9.2.3. CEQ Guidance – Environmental Justice: Guidance under the National Environmental Policy Act**

In addition to the regulatory requirements listed above in paragraph B.8.1.1, CEQ issued guidance suggesting how environmental justice could be considered in NEPA documents. The CEQ document, *Environmental Justice: Guidance Under the National Environmental Policy Act* (December 1997), offers several principles focusing on identifying minority and low-income communities, providing meaningful opportunities for public participation, and mitigating potential disproportionately high and adverse environmental and human health effects. Other areas of emphasis include addressing language barriers, seeking tribal representation, and considering environmental justice in specific phases of the NEPA process.

The guidance suggests that recognizing how the cultural, historic, or social concerns of a low-income or minority population amplify that population's perceptions of an action's effects is important. Consequently, reaching out to local community leaders, tribal elders, or other suitable spokespeople early in the environmental process is often an important step in efficiently and effectively completing an environmental justice analysis. Often, that contact is the best way to collect information essential to addressing an affected population's culturally important concerns and needs (for example, subsistence consumption of fish, vegetation, and wildlife; unique ceremonial lands; or water bodies, landforms, buildings, or vistas important to a population's culture). In some instances, outreach efforts scheduled for certain times and places may be the only way to gather that information.

To read the CEQ Guidance, see CEQ's website at: <https://ceq.doe.gov/nepa-practice/justice.html>.

#### **B.9.2.4. Memorandum of Understanding on Environmental Justice and Executive Order 12898 (August 4, 2011)**

The participating federal agencies (which includes DOT) of this MOU agree to declare the continued importance of identifying and addressing environmental justice considerations in their

programs, policies, and activities as provided in Executive Order 12898. Agencies agree to renew the process under Executive Order 12898 for agencies to provide environmental justice strategies and implementation progress reports. In addition, agencies agree to establish structures and procedures to ensure that the Interagency Working Group on Environmental Justice, established under a charter, operates effectively and efficiently. Lastly, agencies agree to identify particular areas of focus to be included in agency environmental justice efforts.

To review this MOU, see <https://www.epa.gov/environmentaljustice/memorandum-understanding-environmental-justice-and-executive-order-12898>.

#### **B.9.2.5. U.S. Department of Transportation Environmental Justice Strategy 2016**

Consistent with the Environmental Justice MOU (above), the DOT reviews and updates its DOT Environmental Justice Strategy. The 2016 revised strategy continues to reflect DOT's commitment to environmental justice principles and to integrating those principles into DOT programs, policies, and activities. The DOT continues to rely upon existing authorities for achieving environmental justice, as well as conforming to the commitments and focus areas set forth in the Environmental Justice MOU (i.e., implementation of NEPA, implementation of Title VI, impacts from climate change, and impacts from commercial transportation and supporting infrastructure).

To review the 2016 DOT EJ Strategy, see <https://www.transportation.gov/policy/transportation-policy/environmental-justice-strategy>.