

Seward Highway to Glenn Highway Connection

# Environmental Justice Methodology

Alaska Department of Transportation & Public Facilities  
P.O. Box 196900  
Anchorage, AK 99519-6900

Federal Project No: NH-000S(588)  
AKSAS Project No. 58544

---

**August 2009**

Seward Highway to Glenn Highway



**MULTIMODAL SOLUTIONS**  
moving people and goods

## Table of Contents

1.0	INTRODUCTION .....	1
2.0	Background.....	1
3.0	REGULATIONS, GUIDANCE, AND STANDARDS.....	2
4.0	PROPOSED METHODOLOGY .....	2
4.1	Affected Environment.....	2
4.1.1	Identifying EJ Study Area Boundaries .....	3
4.1.2	Identifying Minority and Low-Income Populations .....	3
4.2	EJ Focused Public Outreach .....	5
4.3	Environmental Consequences.....	6
4.3.1	Qualitative versus Quantitative Methods.....	6
4.3.2	Benefits .....	7
4.3.3	Mitigation.....	7
5.0	BIBLIOGRAPHY.....	8

## List of Acronyms

ACS.....	American Community Survey
CAA.....	Clean Air Act
CEQ.....	Council on Environmental Quality
CFR.....	Code of Federal Regulations
CIA.....	Community Impact Assessment
DHAAE.....	disproportionately high and adverse effect
DOT&PF.....	Alaska Department of Transportation and Public Facilities
EIS.....	environmental impact statement
EJ.....	environmental justice
FHWA.....	Federal Highway Administration
FTA.....	Federal Transit Administration
GIS.....	Geographic Information Systems
H2H.....	Seward Highway to Glenn Highway Connection or Highway-to-Highway project
HHS.....	U.S. Department of Health and Human Services
HUD.....	U.S. Department of Housing and Urban Development
MOA.....	Municipality of Anchorage
NEPA.....	National Environmental Policy Act
USACE.....	U.S. Army Corps of Engineers
PPG.....	H2H Public Participation Guide

## 1.0 INTRODUCTION

The Seward Highway to Glenn Highway Connection project is being undertaken by the Federal Highway Administration (FHWA) (Federal Lead Agency), the Alaska Department of Transportation and Public Facilities (DOT&PF) (Joint Lead Agency), and the Federal Transit Administration (FTA) (Joint Lead Agency) in cooperation with the Municipality of Anchorage (MOA) (Cooperating Agency) and the U.S. Army Corps of Engineers (USACE) (Cooperating Agency). FTA joined the process as a result of comments received during the first scoping meeting. The agencies propose to improve mobility and access for people and goods using the arterial connection between the Seward and Glenn highways in Anchorage, Alaska. The proposed action, also referred to as the Highway-to-Highway or H2H project, would use federal transportation funds making the project a federal action. To comply with the National Environmental Policy Act (NEPA), an environmental impact statement (EIS) is being prepared. This methodology paper has been prepared to support the environmental and engineering analysis for the EIS.

This report outlines the methods that will be used to conduct an environmental justice (EJ) analysis for the H2H project. This analysis will be completed in coordination with the socio-economic assessment. The basis for this methodology is FHWA Order 6640.23 which establishes the policies and procedures for complying with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.

## 2.0 BACKGROUND

The U.S. Environmental Protection Agency's Office of Environmental Justice defines environmental justice 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. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.*

The socio-economic analysis for the H2H project includes a Community Impact Assessment (CIA) and an Economic Assessment; however, environmental justice issues must also be addressed as part of the environmental impact statement. An initial review of demographic information for the H2H project study area reveals that there is a diverse racial population and a wide range of economic conditions. The methodology presented below was developed to evaluate the reasonable alternatives to determine whether there would be disproportionately high and adverse effects<sup>1</sup> (DHAAE) on minority populations and low-income populations.

The environmental justice analysis will be based on income and race information from available U.S. Census data, information obtained from local agencies/organizations, and through public involvement and community outreach activities. The data collection efforts will be coordinated closely with the socio-economic analysis. Potential impact categories include: air, noise, and water pollution; increased vibration or traffic congestion; soil contamination; destruction of aesthetic value, disruption of

---

<sup>1</sup> According to FHWA Order 6640.23 a disproportionately high and adverse effect on minority and low-income population mean 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.

community cohesion or economic vitality, disruption of cultural resources, changes in the availability of public and private facilities and services; adverse employment effects; and displacement of persons, businesses, or nonprofit organizations.

### **3.0 REGULATIONS, GUIDANCE, AND STANDARDS**

Key compliance issues relate to ensuring an inclusive and meaningful participation process for potentially affected minority populations and low-income populations, determining how to identify locations of those populations while remaining consistent with EJ guidance provided by several different sources and agencies, and finally, figuring out how to determine whether the project alternatives will have disproportionate effects, and then providing this information in a clear way to the public, regulatory agencies, and decision-makers.

The study of impacts to environmental justice populations from a transportation project is legally mandated and supported by federal regulations, statutes, policies, technical advisories, and Executive Orders, including:

- FHWA Order 6640.23
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- Title VI of the Civil Rights Act of 1964
- Environmental Protection Agency (EPA) Guidance for Consideration of Environmental Justice in Clean Air Act Section 309 Reviews
- U.S. Department of Transportation Order on Environmental Justice (5680-1), 1997
- National Environmental Policy Act (NEPA)
- Clean Air Act (CAA) of 1990, Section 309
- Guidelines published by the Council on Environmental Quality (CEQ) (40 CFR 1500)
- FHWA Technical Advisory 6640.8A (1987), Guidance for Preparing and Processing Environmental and Section 4(f) Documents
- Department of Transportation Order 5610.2

### **4.0 PROPOSED METHODOLOGY**

This section describes the methodology for the EJ analysis that will be conducted for the H2H project. This methodology is based on research and review of various regulations, guidance, and standards governing EJ issues, as well as consideration of several other EJ methodologies from recent transportation improvement projects. Public involvement is an important part of the approach. Information discovered as part of the public outreach effort may require adjustments to this methodology.

#### **4.1 Affected Environment**

This section summarizes the key methods that will be used to describe the affected environment. Detailed information will be collected through the EJ analysis as described below for the purpose of verifying the identification of minority populations and low-income populations, as well as documenting particular project related concerns of these communities.

### **4.1.1 Identifying EJ Study Area Boundaries**

The overall EJ study area will take into account a broad area which will likely start with the census data within the Municipality of Anchorage. This broad study area will be used to identify the location of minority populations and low-income populations, related community services providers, and schools so that an understanding of the relationship between population location and services can be obtained. After a review of the data, the study area for the analysis of specific populations, community service providers, and schools will be refined and reduced to 0.5 mile from each of the alternatives, as these areas would likely experience the greatest project-related impacts. This work will be completed in two stages based on the broader and then refined geographic boundaries.

### **4.1.2 Identifying Minority and Low-Income Populations**

Work completed as part of the *Environmental Justice and Limited English Proficiency White Paper* prepared for the H2H Public Participation Guide (PPG) will be combined with efforts on the CIA Community Profiles and Economic Assessment to form the initial basis for identifying minority populations and low-income populations. Additional data will be collected at a large scale (such as census data) and will be refined using other sources (such as through public outreach and one-on-one interviews). Specific populations, communities, and individual residences will be identified using the following methods:

- Examining the 2000 U.S. census (referred to as Census 2000) data
- Examining the most recent American Community Survey (ACS) data
- Examining student data from online databases and through interviews with school representatives (Anchorage School District)
- Coordinating with H2H Diversity Forum members
- Meeting with local city officials
- Meeting with and gathering data from the area's housing authorities (such as Cook Inlet Housing, Alaska Housing Finance Corporation)
- Interviewing low-income and minority community service providers (such as assistance program representatives and churches, Alaska Department of Health and Social Services: Division of Public Assistance)
- Conducting public involvement activities specifically for low-income and minority population audiences
- Analyzing data using geographic information systems (GIS) software
- Performing fieldwork

Even though CEQ specifically recommends using census information, these data have some limitations as a basis for identifying minority populations and low-income populations. First, the information for Census 2000 is dated and, since that time, the size and distribution of some communities in the project area may have changed. For example, the Hmong and most recently Sudanese populations are known to have substantially increased in the Anchorage area. Second, census tracts can be relatively large in some areas, so they do not necessarily identify the specific locations of minority populations and low-income populations or individuals.

For these reasons, census data will be used to identify general areas of low-income and minority populations, but other methods described below will be used to verify and provide detail about the presence of such populations.

**Minority Populations.** Minority populations are comprised of ethnic and/or racial minorities. As defined in FHWA Order 6640.23, a minority is a person who is Black, Hispanic, Asian American, American Indian, or Alaskan Native. The White House Office of Management and Budget amended this definition in its Bulletin No. 00-02 (March 9, 2000) to include Native Hawaiian and Other Pacific Islanders as minorities.

To estimate the total minority population, then, the estimated number of White, Non-Hispanic persons living in a geographic area is subtracted from the total population of that same area. The percentage of minorities will be compared to percentages from the Municipality of Anchorage to assist in identifying potential EJ population locations. If the data from the 2000 Census and ACS show that that an area might support a minority population, then the area will be further evaluated with supplemental methods.

Information from the National Center for Education Statistics and U.S. Department of Health and Human Services will be obtained and reviewed. The potential presence of minority populations will also be verified by reviewing comments received to date on the project; conversations with representatives of churches and local assistance programs that took place during the development of the H2H PPG (such as Alaska Immigration Justice Center, Anchorage Faith in Action—Congregations Together, Urban League, Catholic Social Services); evaluation of school enrollment records; and visits to areas that the census data suggest might support minority populations. Other organizations that include minority community representatives and service providers, low-income service providers, and city economic and community planners will be contacted as well. This methodology will use statistical data. The public outreach process and conversations with local groups will be used to support that data as appropriate.

Language will also be used to help identify minority populations. The Census 2000 includes a data category for *Population Aged 5 Years and Over that Speaks a Language other than or in addition to English at Home*. For the most part, these data probably capture information about individuals whose primary language is not English, but it may not be considered a good measure on its own since native English speakers that also speak other languages could be captured in this data set. In addition, the census data do not indicate which additional languages are spoken. Although this measurement can be used as a potential indicator of a racial or ethnic minority, the information will be used in combination with other information, like data from the Anchorage School District English as a Second Language (ESL) student populations, to assist in determining the potential presence of minority populations in the study area. This information will also be used to help refine the public involvement effort to ensure outreach materials are provided in the appropriate languages and that cultural sensitivities are considered in the tools to be used in outreach efforts.

**Low-Income Populations.** FHWA Order 6640.23 defines a low-income household as one that has "...a household income at or below the Department of Health and Human Services (HHS) poverty guidelines." HHS thresholds are developed for Alaska specifically by household size up to an eight person household. For 2009, the HHS finds that the Alaskan poverty income threshold is \$32,250 for a family of five. Using the 2000 Census or ACS Municipality of Anchorage average household size data, the HHS threshold amounts for the appropriate year will be used to reflect the average household size for the Municipality. If recent ACS and HHS data show that groups within the study area have a greater percent of households that fall below the poverty income threshold for the Municipality of Anchorage, then further analysis

described below will be conducted to determine the presence of readily identifiable low-income populations.

The potential presence of low-income populations as indicated by the census data would be verified by reviewing comments received to date on the project; conversations with representatives of local churches and local community assistance programs that took place during the development of the H2H PPG (such as the Municipal Department of Health and Human Services, Catholic Social Services and Rural Alaska Community Action Program); evaluation of school enrollment records; and visits to areas that the census data suggest might support low-income populations. Other organizations that include minority community representatives and service providers, churches, and city economic and community planners would be contacted as well. Information will also be obtained from the U.S. Department of Housing and Urban Development (HUD), Cook Inlet Housing, and Alaska Housing Finance Corporation

## **4.2 EJ Focused Public Outreach**

A primary goal of EJ is to reach minority populations and low-income populations that have historically not been able to participate in the transportation decision-making process as readily as other groups. Potential barriers to participation by these populations were acknowledged and tools to overcome these barriers identified in the H2H PPG. These tools and potentially new methods not yet identified will be used, at a minimum, to meet the intent of FHWA Order 6640.23, Executive Order 12898, and Title VI of the Civil Rights Act. The ultimate goal of public outreach will be to not only provide project information, but to actively engage all stakeholders including the minority populations and low-income populations in the project area.

The public involvement program was developed to be all inclusive and to ensure that all potential affected populations have equal access and a meaningful role in the process. The Diversity Forum provided excellent suggestions, ideas, and tools that helped shape the H2H PPG and their input will be again solicited to help shape and comment upon proposed EJ public outreach. The project team will update them on the project status and to present and gather input on information about minority populations and low-income populations, the range of reasonable alternatives and potential impacts. The group will also be asked to comment on a sample community survey and public outreach ideas. The survey would be distributed to specifically targeted local residences, businesses, and community groups throughout the study area to help verify the potentially impacted minority populations and low-income populations, to confirm the understanding of impacts, and to identify any unknown potential concerns these populations may have regarding the project. The survey would be developed to be reader friendly and in several languages to take into account non-English speaking populations.

Public coordination will be focused on presenting the range of reasonable alternatives and potential impacts. The goal will be to gain a greater understanding of impacts, ask for help in optimizing alternatives to avoid and minimize impacts, and finally to introduce and solicit input on mitigation. Follow up public coordination will be focused on the presentation of optimized alternatives and further refinement of mitigation ideas.

Depending upon the effectiveness of the outreach and survey, additional outreach may be warranted. This will be determined through consultation with DOT&PF, FHWA, and FTA. For example, a second meeting with the Diversity Forum and additional outreach could be needed to further refine understanding of populations and impacts, and to identify potential mitigation.

Public outreach will be a key component of the development of the affected environment and it will continue during the evaluation of environmental consequences. The public involvement effort will be documented in the EJ technical report.

### **4.3 Environmental Consequences**

Based on background knowledge of demographic information for the H2H project study area, it is anticipated that minority populations and low-income populations exist within the study area. Thus, the EIS will consider the potential for the alternatives to result in disproportionately high and adverse effects to the identified populations. The impact analysis will focus on identified minority populations and low-income populations that might be directly or indirectly affected by the alternatives. The EJ analysis will use the CIA as the basis for determining adverse effects on the environment and community resources. If a resource category is found to have negligible, minimal, low, or moderate impacts, then no further EJ evaluation will be performed. If a resource category identifies a high and adverse impact, then the methodology described below will be applied to determine if that impact is considered disproportionate with respect to minority populations and low-income populations. The resources that could be affected such that a community might experience adverse impacts include community cohesion (the extent that a community feels connected), quality of life, community services and community gathering centers, economics, relocations, transportation (such as access), land use, Section 4(f) and 6(f) lands, air quality, noise, water quality, cultural resources, hazardous materials, and visual resources.

#### **4.3.1 Qualitative versus Quantitative Methods**

The analysis methods described below will be used as appropriate to develop conclusions about DHAAE. Close coordination with other resources will be required to ensure that data needed for the EJ analysis is available and to ensure that information is presented in a way that is meaningful to persons potentially affected by the project. If there are cases where DHAAE can not conclusively be determined because of data limitations or other factors, this will be discussed in the EJ Technical Report. In some cases, a finding of “inconclusive” may be appropriate.

There are two primary analysis methods: quantitative and qualitative. The section below provides more information about each of these methods. These impact analysis methods will be used to evaluate significant or high and adverse effects of project alternatives, from a total impact by alternatives perspective. The use of the two methods depends on the amount and type of information available about each individual resource impact.

**Quantitative Method (Calculate Proportion).** Quantitative means DHAAE can be quantified in some fashion. A quantitative approach would typically be used in two situations. In the first situation, both the geographic location and number of persons affected are known, without having to do additional outside data collection (e.g., noise impacts on residences). In the second situation, the location of the effect is known and although the resource impact description doesn’t specify the number of persons affected, it can be estimated with additional outside data collection that is feasible, practical, and within scope. For example, for relocation of a school, data could be obtained on student demographics or attendance boundaries.

The affected number and percentage of minority persons and low-income households would be determined and compared with the affected number and percentage of the general population to determine if an effect is predominately borne by a minority population and/or a low-income population or 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.

**Qualitative Method.** Qualitative methods are used when DHAAE cannot be quantified; however, conclusions still could be made about DHAAE depending on the extent of available information. The “overlay approach” would be applied where the location of the effect is known, but the number of persons affected has not been identified in the description of the other resource impact, and it is speculative and/or not feasible, practical, or within scope to determine the total number of persons affected by the alternative. An example is the relocation of several historic structures. In this situation, the number of persons affected by the alternative is speculative and might differ depending upon interpretation. In this case, a map overlay might be used to determine whether the block groups containing the structures have concentrations of minority residents and/or low-income residents. If so, a DHAAE might be identified; however, the analysis must also consider factors specific to the type and location of impact—for instance, if the structures are on the edge of a block group, the most affected population may include a neighboring block group.

#### **4.3.2 Benefits**

The EJ Technical Report will also evaluate the beneficial effects of the project alternatives using the same general set of approaches.

#### **4.3.3 Mitigation**

If DHAAE are identified, the mitigation already identified for other resource categories will be reviewed to evaluate the following issues and will recommend additional mitigation if needed:

- Are all DHAAE mitigated?
- If not, will the resulting reductions in adverse effects benefit all adversely affected populations, including minority populations and low-income populations?
- If there are still DHAAE on minority populations and low-income populations following the implementation of mitigation, is other mitigation “practicable”? In determining whether a mitigation measure is practicable, the social, economic (including costs), and environmental effects of avoiding or mitigating the adverse effects will be taken into account.

The project team will take into account measures to avoid, minimize, and/or mitigate DHAAE and consider enhancements measures and potential offsetting benefits to the affected minority populations or low-income populations. Other factors that may be taken into account include design, comparative impacts, and the relevant number of similar existing system elements in nonminority and non-low-income areas.

## 5.0 BIBLIOGRAPHY

Evans, S.L. 2008. *The Anchorage Community Survey, 2007*. Executive Summary. Anchorage, Justice Center, University of Alaska Anchorage.

Forkenbrock, David J., and Jason Sheeley. 2004. *Effective Methods for Environmental Justice Assessment*, NCHRP Report 532. Municipality of Anchorage. 2005. Anchorage Municipal Code 2.40.030: Definition and recognition of community councils. Published online at <http://www.communitycouncils.org/download/1825.pdf>.

Municipality of Anchorage, Anchorage School District. 2006. *ASD Memorandum #143 (2006–2007), Ethnicity Report 2006–2007*. December.

———. 2007. *ASD Memorandum #121 (2007–2008), Ethnicity Report 2007–2008*.

———. 2008. *ASD Memorandum #141 (2008–2009), Ethnicity Report 2008–2009*.

Municipality of Anchorage, Department of Community Planning and Development. 2000. *Census 2000 Profile*.

Municipality of Anchorage, Office of Economic and Community Development. 2007. *Anchorage Indicators Neighborhood Sourcebook*. Published online at <http://www.muni.org/oced/neighborhoodsourcebook.cfm>.

Myrstol, B., and R. Langworthy. 2005. *The Anchorage Community Survey, 2005: Sourcebook*. Justice Center, University of Alaska Anchorage.

Nebesky, W., R. Loeffler, and W. Wrede. 1987. *Major Corridors Social-Economic Impact Study*. Prepared for Alaska Department of Transportation and Public Facilities.

U.S. Bureau of the Census. 2000. Decennial Census.

———. 2006. American Community Survey.