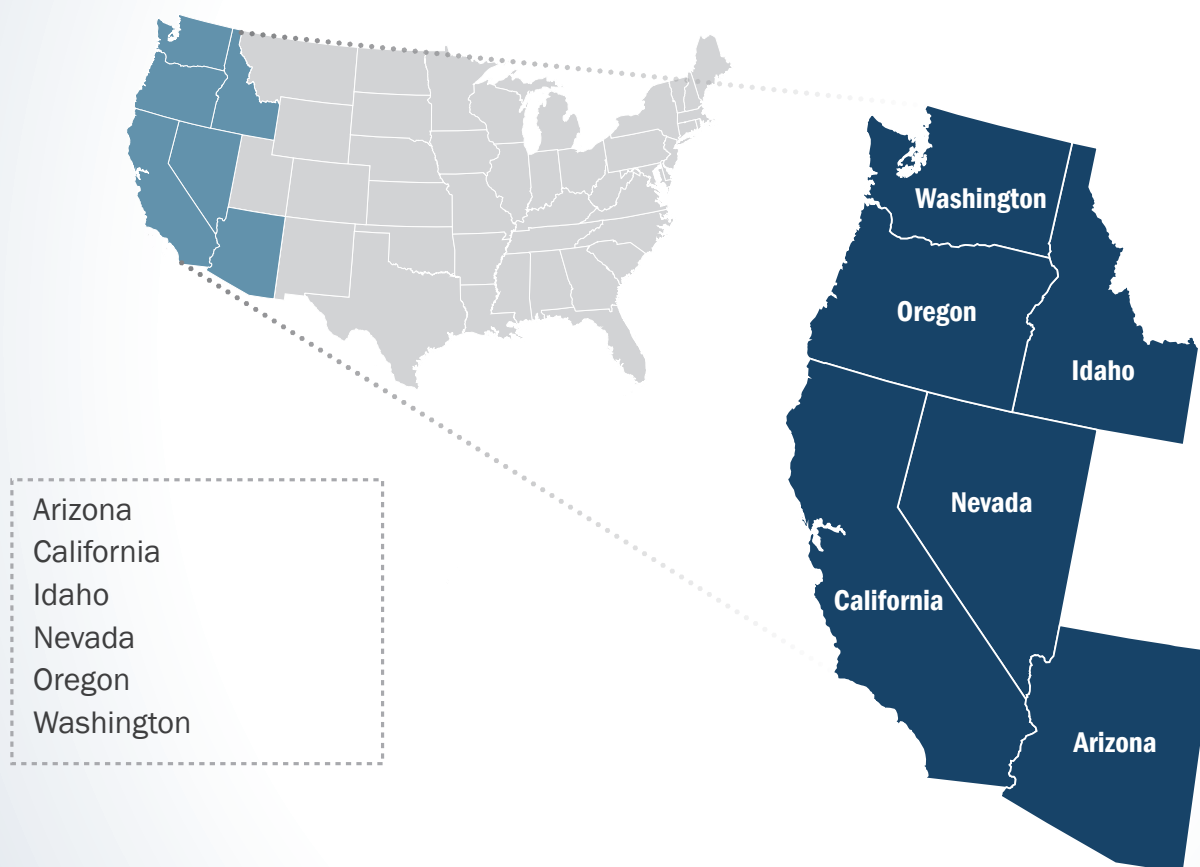




Nationwide Public Safety Broadband Network
**Draft Programmatic Environmental Impact Statement
for the Western United States**

APPENDIX D - ENVIRONMENTAL JUSTICE METHODOLOGY



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First Responder Network Authority



Nationwide Public Safety Broadband Network **Draft Programmatic Environmental Impact Statement for the Western United States**

APPENDIX D – ENVIRONMENTAL JUSTICE METHODOLOGY

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Cooperating Agencies

Federal Communications Commission
General Services Administration
U.S. Department of Agriculture—Rural Utilities Service
U.S. Department of Agriculture—U.S. Forest Service
U.S. Department of Agriculture—Natural Resource Conservation Service
U.S. Department of Defense—Department of the Air Force
U.S. Department of Energy
U.S. Department of Homeland Security

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APPENDIX D – ENVIRONMENTAL JUSTICE METHODOLOGY

FirstNet Methodology to Screen for Potential Environmental Justice Populations

This appendix explains the methodology used in this Programmatic Environmental Impact Statement (PEIS) to screen for the presence of potential environmental justice populations. The PEIS applies this methodology to every state and territory. Future analyses for site-specific actions may tier-off the results and methodology of this PEIS (see Section 1.2).

The first step in developing a screening methodology is to determine the types of communities that are relevant. The Council on Environmental Quality (CEQ) defines both place-based and non-place based communities for environmental justice consideration. Specifically, “agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.” (CEQ, 1997)

Telecommunications projects could have effects on place-based minority or low-income populations, meaning populations of individuals “living in geographic proximity” to one another and to an action such as placement of a telecommunications tower. Potentially, such projects could affect place-based environmental justice communities disproportionately due to localized human health or environmental effects. (The focus in environmental justice assessments is always on adverse effects, but telecommunications projects could also have beneficial effects such as improvements in police, fire, and emergency medical services. The Environmental Consequences section for infrastructure addresses such effects.) Telecommunications projects would be very unlikely to affect disproportionately any populations that are not place-based. Because FirstNet is such a broad program, it would affect at the same rate and intensity the general population and groups not defined by where they live, such as migrant workers, other types of workers that disproportionately fall into particular minority categories, racial and ethnic groups in general, and Native American Tribes as dispersed entities.

Identifying potential place-based environmental justice communities involves screening geographic areas for minority and low-income populations. This requires choosing the appropriate geographic units of analysis, the appropriate general population comparison group, and the appropriate metrics for classifying populations according to the CEQ definitions. The following paragraphs address each consideration in turn.

Any adverse effects of FirstNet projects are most likely to manifest at a local level. For example, dust and noise exposure from construction of communication towers, changes in property values, and any adverse radiation from operation of communications equipment – should these be actual impacts – would affect people in proximity to those activities. Therefore, the environmental justice population screening analysis in this PEIS uses the smallest geographic unit for which regularly updated socioeconomic data are readily available, the census block group (BG).

The Census Bureau defines this unit as follows:

“Block Groups are statistical divisions of census tracts, [and] are generally defined to contain between 600 and 3,000 people. ... A BG usually covers a contiguous area. ... BGs never cross state, county, or census tract boundaries but may cross the boundaries of any other geographic entity.”
(U.S. Census Bureau, 2015a)

In dense inner city areas, a BG may only encompass a few city blocks. In rural areas, a BG may cover many square miles.

Regarding the choice of general population comparison group, this PEIS uses each state’s population as the comparison group, hereafter called the reference population. This is because: a) states are the fundamental analysis units for the PEIS as a whole, and b) states vary considerably in their demographic and economic conditions, thus it would not be appropriate to compare BG figures to national figures on population by minority group or poverty status.

The choice of appropriate metrics for identifying minority populations and low-income populations is somewhat complicated. The CEQ provides some basic guidance. Additional aspects are discretionary and are matters of precedent and best practice within particular agencies and among socioeconomic analysts.

The CEQ provides the following direction on minority populations:

“Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50% or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.” (CEQ, 1997)

The CEQ does not define “meaningfully greater.” In practice, many analysts use varying percentages above the reference population’s percentage of individual minority groups (e.g., Asian or Hispanic) or combined minority groups.

The CEQ also directs that “Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census’ Current Population Reports, Series P-60 on Income and Poverty” (CEQ, 1997). Poverty thresholds are specific income levels that take into account factors such as family size and the ages of family members. The federal government defines these levels annually for the nation. The CEQ does not provide additional direction on applying poverty thresholds. In practice, many analysts use varying percentages above the reference population’s percentage of people with incomes at or below the poverty level.

Minority and low-income populations are each of concern in environmental justice assessments. If a block group meets either the minority criteria or the low-income criteria, it is considered a potential environmental justice population.

This PEIS uses several different criteria (thresholds) in a screening methodology designed to identify degrees of likelihood that a BG contains a potential environmental justice population.

These thresholds are:

- a) An absolute threshold of over 50 percent of the BG's population being of minority status. This is a CEQ-defined threshold as noted above (CEQ, 1997).
- b) An absolute threshold of 20 percent or more of the BG's population living in poverty. This is the Census Bureau's definition of a "poverty area" (Bishaw, 2014).
- c) A meaningfully greater threshold of 20 percentage points greater than the reference population's minority population, whether an individual minority population or combined minority population. For example, if the combined minority population in the reference population is 10 percent, the threshold applied to each BG is 30 percent. This is the U.S. Department of Housing and Urban Development's definition of a "minority neighborhood" (U.S. Department of Housing and Urban Development, 2015). An example of a recent, multi-state PEIS that used this threshold is the *Approved Resource Management Plan Amendments/Record of Decision (ROD) for Solar Energy Development in Six Southwestern States* (U.S. Bureau of Land Management, 2012). Its *Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States* (U.S. Bureau of Land Management and U.S. Department of Energy, 2010) provides the environmental justice screening analysis (see Chapter 4, Affected Environment, and the individual state affected environment and impact assessment chapters).
- d) A meaningfully greater threshold of 120 percent of the reference population's minority population (individual minority or combined minority population). For example, if the minority population in the reference population is 10 percent, the threshold applied to each BG is 12 percent. However, using this as the sole criterion at the BG level would be problematic because it may mis-identify the environmental justice potential of many BGs.¹
- e) A meaningfully greater threshold of 120 percent of the reference population's percentage of individuals living with incomes below 200 percent of the federal poverty level. For example, if 25 percent of the reference population is below 200 percent of the poverty level, the threshold applied to each BG is 30 percent. This approach aligns with the U.S. Environmental Protection Agency's (USEPA) approach to defining "low income" in its recently released environmental justice screening tool, EJSCREEN. EPA's rationale for this threshold cites literature indicating that the "effects of income on baseline health and probably on other aspects of susceptibility are not limited to those [people] below the poverty thresholds," and the view of some socioeconomic analysts that "today's poverty thresholds are too low to adequately capture the populations adversely affected by low income levels."

¹ For instance, if the reference population percentage for a specific minority is 1 percent, the threshold for defining a potential environmental justice population is 1.2 percent. If a BG has a total population of 1,000, the specific minority population equivalent to the reference population percentage is 10, and the threshold for defining an environmental justice population is 12. The difference of only two persons categorizes this BG as a potential environmental justice population. This is a questionable conclusion in terms of data fidelity (census and sampling errors), and whether such small differences truly are meaningful in the environmental justice context. The 120 percent approach to "meaningfully greater" can lead to identifying many BGs as potential environmental justice populations based on very small differences, and where the individuals do not constitute a community according to the CEQ definition noted above—"a group of individuals living in geographic proximity to one another." Therefore, this EIS uses this threshold to identify moderate potential for environmental justice populations, and other, higher thresholds to identify high potential for environmental justice populations.

(USEPA, 2015c) However, this definition broadens the definition of low-income provided by the CEQ (CEQ, 1997) and considerably increases the number of BGs identified as having environmental justice potential.

For this PEIS, combinations of these thresholds define three degrees of likelihood that a BG contains a potential environmental justice population:

High Potential for Environmental Justice Populations:

- Greater than 50% combined minority population
- Or greater than 20% of the total population living in poverty
- Or greater than the reference percentage plus 20 percentage points for at least one minority population
- Or greater than 120% of the reference percentage for combined minority population

Moderate Potential for Environmental Justice Populations

- Does not meet any of the above thresholds
- And greater than 120% of the reference percentage for at least one minority population
- Or greater than 120% of the reference percentage for individuals living with incomes below 200 percent of the federal poverty level

Low Potential for Environmental Justice Populations

- Does not meet any of the above thresholds

The thresholds specific to the Moderate Potential category are much broader than those of the High Potential category. The Moderate Potential category casts a wide net – it was defined to err on the side of including an area as a potential environmental justice population. During FirstNet deployment, further analysis to verify the presence of specific, localized environmental justice populations would be particularly warranted for the Moderate Potential category.

This PEIS applies this methodology to all BGs in a state, using data from the Census Bureau's American Community Survey (ACS) 2009-2013 5-Year Estimates (U.S. Census Bureau, 2015b; U.S. Census Bureau, 2015c; U.S. Census Bureau, 2015d; U.S. Census Bureau, 2015e) and Census Bureau urban classification data (U.S. Census Bureau, 2010a; U.S. Census Bureau, 2010b). The ACS is the Census Bureau's flagship demographic estimates program for years between the decennial censuses. The 5-Year Estimates use sample data taken over a five-year period; this is the only nationally consistent source of the necessary data at the BG level.

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