

Environmental Justice and Projects within the U.S. Department of Transportation

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We analyzed a sample of DOT's final environmental impact statements (FEISs) to determine the extent of the department's activities and disproportionate impacts in environmental justice (EJ) communities. We also looked at how DOT compares with other federal agencies, and how DOT agencies compare with each other.

Background

The National Environmental Policy Act of 1969 (NEPA) requires federal agencies to undertake scientific assessments of the environmental and social impacts of proposed projects, or actions, to issue the assessments in the form of environmental impact statements, and to involve the public in the process.

Building on these initial regulations, the White House issued Executive Order (EO) 12898 in 1994 to provide equal protection to all Americans by compelling agencies to consider the disproportionate impact of actions on environmental justice (EJ) communities (i.e., low-income and minority groups).

In the nearly three decades since issuance of the EO, however, there has been no study that comprehensively evaluates how agencies have implemented it.

Objectives

The objective of this research brief is to show how federal departments, with a focus on the Department of Transportation (DOT), have implemented the 1994

Environmental Justice Regulations within NEPA. We determined how often an EJ community is identified in the affected area of a project as well as how often potential disproportionate impacts to EJ communities were identified within final environmental impact statements (FEISs).

Methods

We extracted and analyzed from the NEPAAccess platform (nepaaccess.org) a sample of 706 FEISs for the period 2013-2021. This number represents 65% of all available FEISs published during that period. Among this sample were 71 projects (10% of the sample) undertaken by DOT.

We manually coded the FEISs to ascertain how they reported:

- EJ community presence
- potential for disproportionate impacts
- mitigation efforts

We utilized chi-square tests to assess how far results deviated from expected values.

Findings

1. How many DOT projects have environmental justice (EJ) communities present?

Based on a sample of 71 DOT projects for 2013-2021:

- 70% (n=50) of DOT projects (actions) were determined to have an EJ community present.
- 14% (n=10) of DOT projects were determined not to have an EJ community present.
- 8% (n=6) of DOT projects mentioned demographics but were unclear on whether an EJ community was present.
- 8% (n=5) of DOT projects did not mention the demographics within the FEIS.

2. How does DOT compare with other federal departments?

Compared with other large federal departments, proportionately DOT's activity in EJ communities was similar to that of Defense and Energy, and much higher than that of Interior and Agriculture (Figure 1).

- DOT - 70% (n=50)
- DOD - 67% (n=83)
- DOE - 67% (n=40)
- DOI - 58% (n=108)
- USDA - 34% (n=52)

Based on analysis of residuals of a chi-square test, DOT falls within the expected range, meaning DOT did a similar number of projects where EJ communities were present compared to other federal departments.

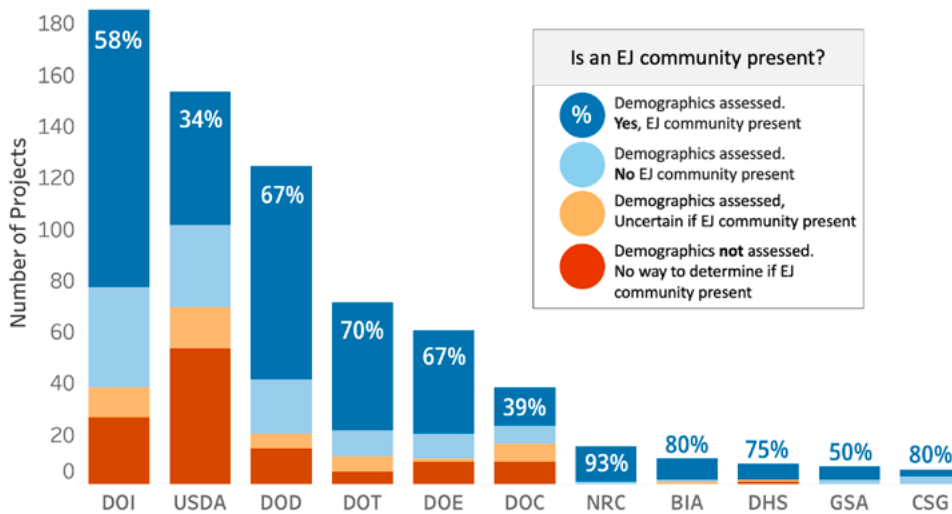


Figure 1: How does DOT compare to other departments on how frequently projects had EJ communities present (number and percent of projects)?

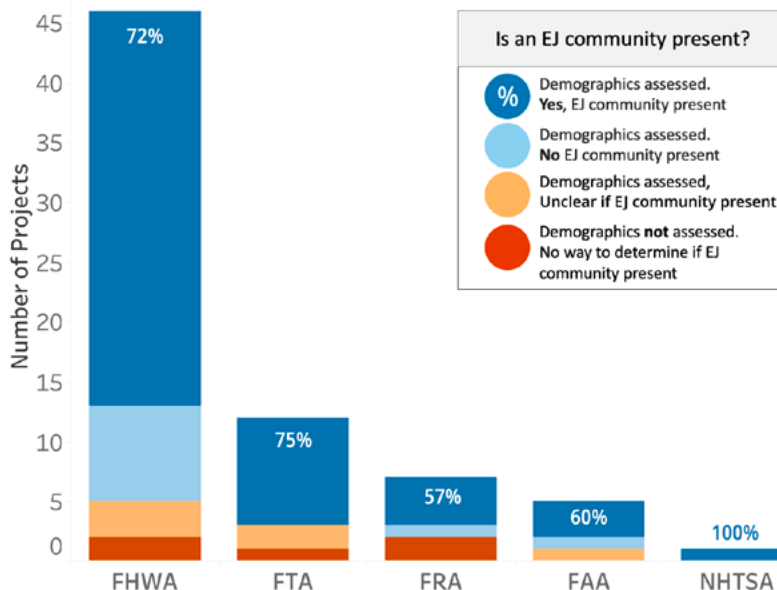


Figure 2: How do DOT agencies compare to each other on how frequently their projects had EJ communities present?

3. How do DOT agencies compare to each other?

Of the DOT agencies that prepared FEISs during 2013-2021, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) had the highest proportion of projects that had EJ communities present (Figure 2).

- FHWA - 72% (n=33)
- FTA - 75% (n=9)

Chi-square residuals show that among all DOT agencies, statistically speaking, the Federal Railroad Administration (FRA) was less likely to mention the demographics of its projects within FEISs than expected.

4. Of DOT projects that have an EJ community present, how many report potential disproportionate impacts on those communities?

Some 26% (n=13) of DOT projects that affected EJ communities had potential disproportionate impacts in those communities.

When compared to other federal departments, DOT had one of the highest rates of potential disproportionate impacts when an EJ community was present:

- DOT - 26% (n=13)
- DOI - 22% (n=24)
- USDA - 21% (n=11)
- DOD - 17% (n=14)
- DOE - 5% (n=2)

These numbers are supported by analysis of chi-square residuals that indicate DOT undertook projects with potential disproportionate impacts on EJ communities at a higher frequency than other departments.

Among DOT agencies, when the FEIS reported that an EJ community was present, FRA had a high proportion (50%, n=2) of projects with potential disproportionate impacts compared to FAA (33%, n=1), FHWA (21%, n=7), and FTA (22%, n=2). However, because some FEISs did not mention the demographics of the area (as reported above), these numbers may provide an incomplete picture.

Figure 3 shows a breakdown of disproportionate impacts of all projects by DOT agencies, whether or not they assessed the demographics of the area. Notably, two agencies within DOT did not include an analysis of disproportionate impacts within some of their FEISs: FRA (29%, n=2) and FHWA (2%, n=1). Chi-square residuals reveal that FRA did not include an analysis of disproportionate impacts within its FEISs as often as expected when compared to all other federal agencies. Additionally, two (4%) of FHWA's FEISs included EJ analyses, but were unclear whether an EJ community would be disproportionately impacted.

5. What are the types of mitigation measures mentioned in DOT's FEISs?

- Infrastructure enhancements and modifications
- Sound barriers
- New pedestrian crossings or bridges
- Improved traffic signals/pavement markings*
- New bus shelters*

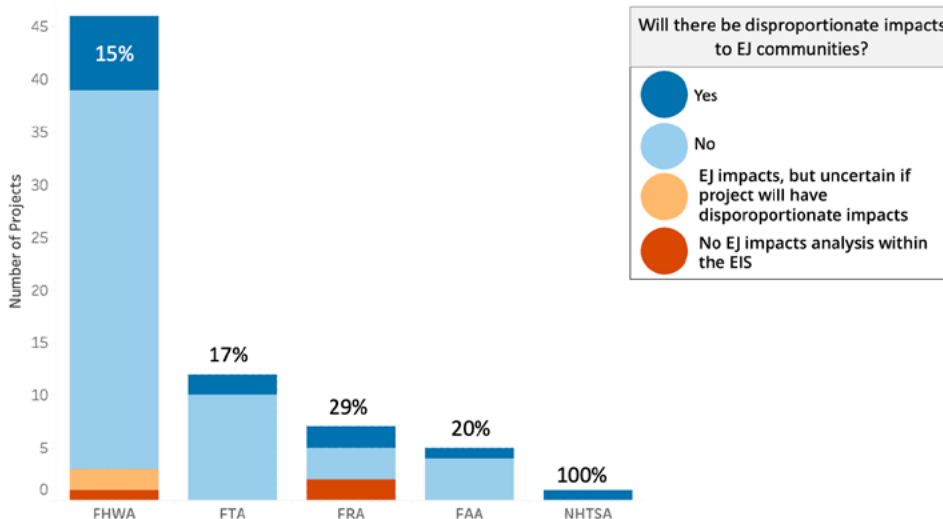


Figure 3: How do DOT agencies compare to each other on how frequently projects have disproportionate impacts on EJ communities?

- Track vibration isolation
- Retaining walls
- Water quality infrastructure
- New public park*
- Increasing tree canopy*
- Public art*
- Outreach and consultation with community, local government, and local transit authority
- Relocation and compensation
- Facilitate access to community buildings/businesses*
- Help local businesses identify preferred relocation options*
- On-site staffed public office to accommodate drop-in visitors*
- Air monitoring

*These mitigation measures come from a separate study by Alex Binford-Walsh (see box below)

Conclusions

To our knowledge, this effort is the first environmental justice study to analyze over 700 environmental impact statements for 2013-2021 covering the entire United States. Based on our analysis of those documents, we have determined that:

- DOT’s projects had EJ communities present more than did those of other departments.
- DOT’s projects identified potential disproportionate impacts on EJ communities more often than did those of other federal departments.
- DOT included within its FEISs more than twice the number of pages with EJ text compared to other federal departments (see box below).
- Among DOT agencies, the Federal Highway Administration (FHWA) had the most projects (46) and had the greatest number of projects with disproportionate impacts to EJ communities (7).
- The Federal Railroad Administration (FRA) did not include the demographics of the project area or an analysis of disproportionate impacts in their FEISs as often as expected when compared to other DOT agencies.

Citation

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RELATED STUDY

How many pages of EJ text do departments provide in FEISs?

Based on a related study by Alex Binford-Walsh of 100 FEISs from DOT (n=9) and other departments (n=91), 2016-2021, DOT included within its FEISs more than twice the number of pages with EJ text compared to other federal departments, (University of Arizona Master’s thesis, 2023).

