



## Research Problem Statement

ODOT Research Section  
555 13<sup>th</sup> Street NE; Ste 2  
Salem OR 97301-5192

Phone (503) 986-2700  
Fax (503) 986-2844

### I. TITLE – 17-056 Transportation Equity & Transportation Disadvantage in Oregon

#### II. PROBLEM

Significant disparities exist in who has access to the transportation resources necessary to meet daily needs in the U.S. Race/ethnicity, gender, age, income level, disability status, immigration status, and English proficiency have all been linked to inequities in access to transportation. Vulnerable populations protected by Title VI of the Civil Rights Act, the Executive Order on Environmental Justice (EJ), and other key federal civil rights policies and laws are more likely to be transportation disadvantaged, with critical transportation needs going unmet. Access to transportation also differs significantly between urban and rural communities. Many transportation agencies and advocacy organizations are grappling with how best to address equity when serving their communities, including how to decision-making should consider disparities in resources between groups.

While ODOT includes equity goals in documents like the Transportation Options Plan and the draft Bicycle and Pedestrian Plan, we lack thorough research on the demographic determinants of transportation disadvantage in Oregon, making it difficult to define which Oregonians are most at risk of being underserved. Available analyses are often limited to smaller areas within the state (like the [Regional Equity Atlas](#)), do not include sufficient geographic detail (like the EJ layers in [ODOT TransGIS](#)), or address demographic patterns but not unmet transportation needs (like the EPA's [EJSCREEN](#)). Without statewide analysis, we do not know whether in-state disparities differ from national patterns, or where Oregon's transportation-disadvantaged populations are concentrated. This limits our ability to develop and implement statewide guidance on how to consider transportation equity when planning, prioritizing, and delivering projects. Without such guidance, each ODOT plan or project may start from scratch when identifying how to address equity. This ad-hoc approach will increase planning and analysis costs to the agency over time. Lack of guidance not only hampers ODOT's internal work and Title VI/EJ compliance, but reduces our ability to respond to frequent technical assistance from MPOs and local governments uncertain how to meet their own Title VI/EJ obligations.

#### III. PROPOSED RESEARCH, DEVELOPMENT, OR TECHNICAL TRANSFER ACTIVITY

This problem statement proposes a project analyzing transportation disadvantage in the State of Oregon, using methods feasible with existing data sets, and developing tools that can be used in future planning and project development activities. Project deliverables would include:

1. **Literature review** of national research/guidance on transportation equity, disadvantage, and how they relate to Title VI and EJ obligations. Describe how equity is addressed by USDOT, FHWA, FTA, other state DOTs, Oregon local governments with transportation responsibilities, and transportation advocacy organizations. Describe historical factors influencing transportation disadvantage in Oregon.
2. **Overview of current ODOT policies and practices** for addressing transportation disparities (including Title VI/EJ impacts) throughout the project lifecycle. Identify data sources and analytic methods used to assess inequities; how transportation equity considerations affect decision-making; and examples of successful ODOT engagement of transportation-disadvantaged communities. Describe established efforts and those under development, including both ODOT headquarters and ODOT region efforts.
3. **Assessment of data sources** available to ODOT that may be used to analyze transportation disadvantage in Oregon. Include information on available formats, update frequency, OR sample size, and other strengths/limitations of the data sets. Should include: Census/ACS, OHAS/OTAS, National Household Travel Survey, Oregon DMV, Oregon Health Authority, and other relevant data from Oregon State Agencies.
4. **Measures/criteria for evaluating transportation disparities**, such as: trip rates, access to multimodal options; vehicle ownership rates; transportation cost burden; driver licensure rates; likelihood of being killed/injured on the transportation system. Identify which can use available data sources, which are suitable for plan/project decision-making, and which can be monitored as statewide performance measures.

5. **Demographic and geographic analysis of transportation disadvantage in Oregon**, identifying which demographic groups experience transportation disadvantages in Oregon. Analyze relationships between demographic factors to determine which, if any, are most predictive of transportation disadvantage. Compare Oregon results to national patterns. Map transportation disadvantaged groups and analyze geographic patterns to identify disparities by region and by urban/suburban/rural context. If limited English proficiency is a statistically significant predictor of transportation disadvantage in Oregon, include a four-factor analysis complying with Executive Order 13166 suitable for use in ODOT's Statewide LEP Plan.
6. **Analytic products for use in future planning and project development efforts**. Provide spreadsheets and/or database files that can be used to estimate prevalence of transportation disadvantaged populations within census geographic areas (at least to block group level) and TAZs. Provide GIS files mapping transportation disadvantage by census geographies and TAZs. Include metadata and user guidance documents to support future use of products and updating by ODOT as new data becomes available.
7. **Results analysis and final report**, including identification of demographic groups that are likely to experience transportation disadvantage in Oregon, geographic patterns in where these groups are concentrated, and recommendations of performance measures suitable for tracking statewide changes in transportation disadvantage using available data sources. Describe any limitations of the methodology and analysis used. Discuss whether the products developed are likely to be sufficient for Title VI/EJ analysis.

#### IV. POTENTIAL BENEFITS

This project will significantly enhance ODOT's understanding of the concepts of transportation equity, transportation disadvantage, and how demographic and geographic factors influence access to transportation choices and resources in the state of Oregon. It will provide greater insight into which demographic groups are underserved by existing transportation resources, and recommend measures that can be used to estimate prevalence of transportation disadvantage. This project will rely only on available data sources, limiting research costs, and will be designed to develop methods and tools that may be reused throughout the state, offering a high return on investment. The information developed in this project can support the efforts of ODOT senior management and Office of Civil Rights to develop policies and procedures for addressing equity and transportation disadvantage in department activities. Lessons learned from this research may also inform the work of the Governor's Environmental Justice Task Force, of which ODOT is a member agency.

#### V. IMPLEMENTATION

Potential implementation activities include: development or augmentation of planning policy and guidance on equity, Title VI, and/or EJ; establishment of performance measures for use in statewide policy plans with equity goals; analysis of transportation equity in statewide, regional, and local planning and project delivery; development of technical assistance materials for use by MPOs and local jurisdictions. ODOT project sponsors for this research include Angela Ramos (OCR Manager), Amanda Pietz (TDD Planning Manager), and Michael Rock (Planning Programs Manager).

#### VI. LIST OF REFERENCES

- Bhat, G., Naumann, R.B. (2013.) "Travel-related behaviors, opinions, and concerns of U.S. adult drivers by race/ethnicity, 2010." *Journal of Safety Research*, 47, pp. 93-97.
- Duthie, J., Cervenka, K., Waller, S. (2007.) "Environmental Justice Analysis: Challenges for Metropolitan Transportation Planning." *Transportation Research Record*, 2013, pp. 8-12.
- [FHWA NHTS Brief: Mobility Challenges for Households in Poverty, 2009 National Household Travel Survey Data.](#)
- Golub, A., M. Mahoney and J. Harlow. 2013. "Sustainability and intergenerational equity: Do past injustices matter?" *Sustainability Science* 8(2), pp. 269-277.
- Golub, A. and K. Martens. 2014. "Using principles of justice to assess the modal equity of regional transportation plans." *Journal of Transport Geography* 41, 10-20.
- Giuliano, G. (2012.) "Transportation Policy: Public Transit, Settlement Patterns, and Equity in the United States." In *The Oxford Handbook of Urban Economics and Planning*.
- Taylor, B.D., Morris, E.A. (2015.) "Public transportation objectives and rider demographics: are transit's priorities poor public policy?" *Transportation*, 42 (2), pp. 347-367.
- ODOT Resources:** [ODOT Planning Inclusive Public Involvement Intranet Site](#), [Guidelines for Addressing Title VI and Environmental Justice In Planning](#), [Transportation Development Division Planning Business Line Team Operational Notice number 4 \(PB-04\)](#), [ODOT Title VI Implementation Plan October 2014](#), [Handbook Title VI of the Civil Rights Act – Public Transit Division](#), [Oregon Department of Transportation Intermodal Title VI Program](#)

#### VII. CONTACT INFORMATION

**Your name:** Talia Jacobson  
**Affiliation:** ODOT Active Transportation (Policy Lead)  
**Telephone:** 503-986-3491  
**Email:** [talia.jacobson@odot.state.or.us](mailto:talia.jacobson@odot.state.or.us)

**Person Responsible for Implementation:** Angela Ramos  
**Affiliation:** ODOT Office of Civil Rights (Manager)  
**Telephone:** 503.986.4353  
**Email:** [Angela.M.RAMOS@odot.state.or.us](mailto:Angela.M.RAMOS@odot.state.or.us)