



# SPR RESEARCH PROGRAM SECOND-STAGE PROBLEM STATEMENT FY 2017

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**I. PROBLEM NUMBER AND TITLE:** 17-056: Develop Methods and Data to Identify Transportation Disadvantage in Oregon

## II. RESEARCH PROBLEM STATEMENT

Access to effective and affordable transportation is essential for urban and rural Oregonians to lead full social and economic lives. Research shows that people who lack transportation resources are less able to meet daily needs, due to their reduced access to employment opportunities, education, health care, and social support networks. Race/ethnicity, gender, age, income level, disability status, immigration status, and limited English proficiency have all been linked to inequities in access to transportation. Title VI of the Civil Rights Act, the Executive Order on Environmental Justice (EJ), and other federal<sup>1</sup> and state<sup>2</sup> regulations and guidance<sup>3</sup> require transportation agencies at all levels to address these issues in their plans, policies, and project implementation. FTA sets further expectations that subrecipients distribute grant funding without creating disparities.

Many transportation agencies and advocacy organizations are grappling with how best to address equity, including how plans and investments can improve access to opportunities for those facing transportation barriers. 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 and spatial determinants of transportation disadvantage in Oregon, making it difficult to define which Oregonians are most at risk of being underserved. Analytic tools 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 overlook unmet transportation needs (like the EPA's [EJSCREEN](#)). ODOT also lacks effective tools to measure whether funding and investment decisions are reducing or increasing disparities in access to transportation. Improved statewide analysis is needed to identify what factors contribute to poor access to transportation, map where Oregon's transportation-disadvantaged populations are concentrated, and support implementation of transportation equity guidance. Without a well-validated methodology, each ODOT plan or project must start from scratch, which increases planning and analysis costs and leads to inconsistency across the agency. This also hampers ODOT's effectiveness in Title VI/EJ/LEP compliance, as well as its ability to offer technical assistance to MPOs and local governments concerning their own civil rights obligations.

## III. RESEARCH OBJECTIVES

The goal of the proposed project is to develop a methodology and baseline assessment suitable for use in future planning and project development activities throughout the state. To achieve this, we plan to review existing guidance and best practices, review ODOT efforts, explore available data sources, assess statewide contributors to and distribution of transportation disadvantage, and provide analytic tools that could be used in future planning, project development, and investment efforts.

## IV. WORK TASKS, COST ESTIMATE AND DURATION

Estimated project cost: \$75,000

Estimated time frame to complete project: 12 months

1. **Literature review** of research, guidance, and best practices in analyzing transportation equity, disadvantage, and how they relate to Title VI and EJ. Describe how equity is addressed by USDOT, FHWA, FTA, TRB/NCHRP/TCHRP, 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 planning, programming, and project lifecycle. Identify data sources, analytic methods, how equity

<sup>1</sup> FTA (2012) Circular 4702.1 (b) "Title VI Program Guidelines for FTA Recipients"; USDOT (2012) Order 5610.2(a) Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations; FHWA (2012) Order 6640.23(a) FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (June 14, 2012); FTA (2012) Circular 4703.1 Environmental Justice Policy Guidance for FTA Recipients (Aug 15, 2012), Executive Order 13166 concerning Limited English Proficiency. Other guidance may also be relevant, including: American Disabilities Act, Affirmatively Furthering Fair Housing Final Rule (2015), and requirements implemented in ISTEA (1991) and updated in the FAST act.

<sup>2</sup> [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](#)

<sup>3</sup> See the recent "Planning Emphasis Areas" memos from the US DOT secretary Foxx to state DOTs emphasizing the need to address barriers to transportation [https://www.fhwa.dot.gov/planning/processes/metropolitan/mpo/fy\\_2016/index.cfm](https://www.fhwa.dot.gov/planning/processes/metropolitan/mpo/fy_2016/index.cfm)

is considered in decision-making, and examples of successful engagement of transportation-disadvantaged communities.

3. **Assessment of statewide data sources** available to ODOT related to transportation disadvantage in Oregon. Include information on available formats, update frequency, Oregon sample size, and other strengths or limitations of the data. Should include: Census/ACS/LEHD, NHTS, Oregon Transportation Needs & Issues Survey, OHAS/OTAS, Oregon DMV, Oregon Health Authority, and other data from Oregon state agencies.
4. **Identify potential measures/criteria for evaluating transportation disparities**, drawing from the literature review. Identify the subset that can be assessed using available data sources. Of those, identify which measures and criteria are suitable for plan/project decision-making, and which can be monitored as statewide performance measures.
5. **Analyze transportation disadvantage in Oregon**, exploring relationships between demographic and spatial factors identified in Task 4 to determine which are most predictive of transportation disadvantage in Oregon. Compare Oregon results to national patterns. Produce GIS maps of transportation disadvantaged groups using the most predictive factors, and analyze geographic patterns to identify disparities by region and by urban/suburban/rural context.
6. **Analytic products for use in future planning and project development.** Package database and GIS files developed to complete Task 5 into formats that can be used by ODOT to estimate prevalence of transportation disadvantage within census geographic areas (at least to block group level) and TAZs. Provide GIS files mapping transportation disadvantage by census geographies and TAZs. Develop metadata and user guidance documents to support future use of these products in other ODOT plans and projects, as well as future updates by ODOT as new data becomes available.
7. **Document and present results** of the analysis of transportation disadvantage in Oregon, including most predictive measures and significant geographic patterns. Recommend performance measures suitable for tracking statewide changes in transportation disadvantage and for use in plan/project decision-making. Describe any limitations of the methodology and analysis used. Discuss whether the products developed are likely to be sufficient for Title VI, EJ, and LEP analysis.

**V. IMPLEMENTATION**

If successful, this research creates a baseline assessment, methodology and tools that ODOT could use to address transportation equity issues during planning, programming, and project development. The methodology will apply to a wide range of geographic scales, and could be incorporated into technical assistance materials for use by MPOs and local jurisdictions. The potential performance measures could be used to monitor progress towards achieving equity goals in statewide policy plans, supporting implementation of the Transportation Option Plan and the Bicycle & Pedestrian Plan. The Office of Civil Rights recommends that these tools be shared widely to support civil rights-related demographic analysis, which would respond to federal direction to develop a clear and consistent methodology.

**VI. POTENTIAL BENEFITS**

The tools this project will create could be used in a wide variety of ODOT plans and projects, yielding high return on investment. Developing these tools through the ODOT Research program will allow us to draw on national best practices and academic expertise to develop a theoretically grounded, defensible approach at a lower cost than launching a similar project with consultants. Because they will rely on available datasets, these tools would be low-cost to use and maintain. ODOT could use these methods to quickly identify transportation-disadvantaged communities early in plan/project kickoff, allowing project managers to adequately scope public process and outreach tasks to include those populations. To the extent that these tools are also suitable for Title VI/EJ/LEP analysis, their use in future efforts would improve ODOT’s ability to report Title VI/EJ/LEP compliance and could help insulate ODOT against complaints and legal challenges in this area.

If this research is not done, inconsistency in addressing transportation disadvantage will damage ODOT’s credibility with stakeholders who hold equity as a core value. Continuing to rely on ad-hoc approaches will increase costs and add delay to plans and projects, as project managers will need to invest additional resources during project scoping, public involvement, or analysis of alternatives. Over time, this will increase overall costs of ODOT plans and projects, reducing our agency’s financial efficiency. Because the current status quo is that many plans and projects do not explicitly consider issues related to transportation disadvantage when making decisions, there is a risk that equity goals in statewide policy plans will not be met. Most seriously, ODOT will be less able to help transportation-disadvantaged Oregonians meet their daily needs.

**VII. SUBMITTED BY**

<i>Stage 1 Submitter</i>	<i>Stage 2 Submitter</i>	<i>ODOT champions</i>
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