



Inroads Toward Equity

An analysis of equity frameworks in infrastructure decision-making for
King County Roads Services

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Executive Summary

The King County Department of Local Services Road Services Division serves a large and diverse population in both rural and urban areas. In light of this, Roads has asked our team to provide research and recommendations about how an infrastructure-based agency can incorporate equity into its decision-making and investment processes. We present this report detailing our findings, our recommended strategy, and recommended actions to ensure the strategy's success.

Incorporating equity in infrastructure planning and decision-making is a relatively new priority without significant academic literature or guidance to support best practices. Rather, most strategies are created by practitioners in the field. Based on this, we determined that we would study and interview organizations that have begun incorporating these practices to find ideal methods for Roads.

We developed the following research questions to guide our interviewing strategy:

1. How do other government agencies define “equity” within the context of capital and maintenance operations decision-making?
 - a. How do these definitions align with the King County Equity and Social Justice Plan?
2. How do other government agencies incorporate equity into their capital and operational decision-making processes?
3. What key performance indicators or metrics are used by other government agencies to measure the impact of their capital and operational investments to traditionally under-served communities?
4. What factors need to be in place for successful implementation of equity in capital and operations or maintenance decision-making?

Based on our interviews, we determined that organizations as a whole did not have a singular definition of equity. Instead, each organization approached equity in a different way based on their circumstances and definitions from other jurisdictions. Organizations universally used socio-economic data, particularly from the US Census, to determine whether an outcome was equitable or not.

Through our research, we identified four strategy alternatives currently in use at various organizations:

- Multi-criteria analysis: Portfolio-wide ranking of projects based on selected criteria
- Project scorecards: Data-driven assessments of individual projects on selected criteria
- Equity tool kits: Planning documents to encourage implementing equity in projects
- Strategic opportunity indicators: Yes/no questions to compare projects on equity opportunities

The organizations we studied measured whether they had successfully incorporated equity in a variety of ways, including:

- Whether the project increased economic activity or the number of jobs within impacted communities
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- Whether the community approved of the work their organization did, based on community feedback mechanisms like surveys
- Comparing past and present levels of service to particular areas to address historic underinvestment
- Instituting post-project reviews to determine whether equity opportunities identified at the start of a project were actually realized

Finally, our interviewees stated that the keys to success for any strategy incorporating equity were:

- Conducting effective community engagement to determine which projects should be approved and how projects should be carried out
- Prudently using data while acknowledging that, because data may be incomplete or incorrect, to supplement it with community input whenever possible
- Ensuring that leaders within the organization and community approved of and promoted any strategy, which would help increase buy-in among staff and community residents

Based on our findings, we consider which of the four identified strategy alternatives would best suit Roads' needs and priorities. We based our analysis on three criteria:

- Social equity, or the ability of a strategy to systematically account for equity in capital programming
- Feasibility, or the availability of proper data and the cost in time and labor of implementing a new strategy
- Defensibility, or the alignment of the strategy with County priorities and community needs

We recommend that the Roads implement a **multi-criteria analysis** in their capital planning procedures. We believe that this strategy offers the best chance for producing consistent equitable results, using data that Roads already has access to, with a reasonable long-term cost. We acknowledge that the other strategy alternatives have their own particular strengths that Roads may want to consider.

We offer the following advice for Roads to ensure that multi-criteria analysis is effectively implemented into capital programming:

- Contact the Multnomah County Transportation Division, who uses multi-criteria analysis as a systematic pro-equity tool for transportation planning across their capital improvement plan
 - Invest the proper amount of time and resources to create a robust, replicable analytical tool
 - Involve the community in all stages of developing the strategy, including setting high-level service priorities, determining weighting of analytical criteria, and verifying that the analysis is producing the results the community desires
 - Use multi-criteria analysis to include other Roads and King County priorities, such as safety and climate change remediation
 - Ensure that Roads leadership, County leader, and staff goals are aligned within the new strategy
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Table of Contents

Positionality Statement..... 1

Chapter 1: Introduction 2

Chapter 2: Research Methodologies 6

Chapter 3: Research Findings 11

Chapter 4: Alternatives Analysis 21

Chapter 5: Recommendation and Conclusion 28

Appendix 1: Literature Review..... 31

Appendix 2: Case Studies 39

Appendix 3: Interview Protocol 47

Appendix 4: Multi-Criteria Analysis Punchlist..... 53

References 55

Positionality Statement

We are the King County Road Services Capstone Team at the University of Washington's Evans School of Public Policy and Governance. The team's identities do not and cannot possibly represent the full experiences of King County residents. We cannot, nor do we claim to, represent the views and needs of communities in King County. In addition, we are approaching this project as consultants who are not county staff. We present our report outlining King County Road Services Division's request for us to research ways in which they can center equity in its capital programs investment and implementation decision-making. Our team approached this work humbly with the goal that our eventual recommendations would aim to:

1. Bring forward potential improvements for the Road Services Division to use in operations.
2. Increase the likelihood of racially and socially equitable outcomes in King County's roadway infrastructure
3. Identify operations and outcomes that have the potential to last for years to come

Though we attempted to bring together a comprehensive analysis of disparity, diversity, equity, and inclusion while simultaneously meeting the needs of our client, our report still cannot have a complete picture of the many diverse perspectives in our region. Bias and limitations may inevitably exist in our recommendation, though we have done our best to eliminate as many as we could identify.

Acknowledgement

Our team would like to express our gratitude to Professor Grant Blume of the Evans School for guiding our team through this project and answering our many questions. Our heartfelt thanks also go to the King County Road Services team, especially Jennifer Knauer, Cathleen Buzan and JoAnn Kosai-Eng for providing us time, information and contacts to other transportation and road services personnel in the Pacific Northwest. In addition, we are grateful to our fellow student Basil Hariri for providing invaluable proofreading of this report and our work. Finally, we are grateful to all personnel, professors, and other professionals we interviewed as part of this process.

Chapter 1: Introduction

Organization Background

The King County Department of Local Services Road Services Division (Roads) is responsible for almost 1,500 miles of roads, 185 bridges, and related infrastructure such as sidewalks and pathways, bike lanes, guardrails, drainage facilities, traffic control equipment, and traffic cameras, in both rural and urban areas and on high volume arterials as well as low volume access roads.¹ This widespread infrastructure network enables travel between cities and other counties, as well as within unincorporated communities. As King County's population continues to grow, especially within incorporated areas, traffic volumes on the unincorporated road system have increased. King County's road network and bridges support over one million trips per day and are necessary links for the movement of people, utilities, and goods throughout the most urban and dense county in the state.

All unincorporated communities receive a broad spectrum of road safety and maintenance services, with needs determined using risk analyses, consideration of asset condition, and engineering and safety criteria based on national standards. Similar criteria drive the identification of capital projects and programs. Customer service requests are an important way that needs are identified. Roads receives more than 7,000 customer service requests annually and Roads staff work to resolve issues within budgetary and other resource constraints.

The unincorporated system of roads, many built generations ago, are failing and an ongoing roads funding crisis has left insufficient funding to maintain and replace them. King County is experiencing declining revenues due to municipal annexations, declines in gas tax revenues, the effects of the 2008 recession, and the effects of voter initiatives, while the costs of maintaining an aging bridge and road system are increasing. The lack of revenue is significantly impacting the County's ability to maintain and improve roads.² Roads therefore focuses its limited resources on operational safety, regulatory compliance, and the maintenance and preservation of infrastructure. Securing sustainable funding sources remains a top priority for Roads. Without new funding sources, conditions on the road system will continue to deteriorate and Roads will have to focus its finite budgetary resources on critical safety needs.

Roads employs a risk management approach to its roads and bridges and the Strategic Plan for Road Services responds to the dilemma of significantly constrained resources by setting clear priorities to guide operational and capital investment decision-making. The strategic plan's goals prioritize operational safety, regulatory compliance, and the maintenance and preservation of infrastructure. While Roads recognizes that it is not able to fully accomplish all of the concepts outlined within its strategic plan, strategic plan goals are used to guide work that meets the most critical needs within available funding and resources. Roads applies its strategic plan goals and priorities to build its biennial budget and six-year capital improvement program, which results in funding safety and regulatory work first and then, due to revenue constraints, a limited amount of

¹ Unless otherwise cited, information for this section comes from conversation with Roads staff.

² King County Road Services Division 2020, pg. 7

preservation and maintenance activities. The division currently lacks resources to fund roadway capacity improvements. The guidance provided by the 2014 Strategic Plan for Road Services and the adopted biennium Roads Line of Business Plan will continue to play an important role in their decision-making, especially as funding for the Roads capital program decreases over time. However, these strategic plans do not address equity.

Historical Context

Many governments, including King County, have a history of racist policies, most prominently a legacy of racially segregated neighborhoods. Until recently, many neighborhoods across King County had legally enforceable racist housing covenants preventing people of color from buying and living in homes in some neighborhoods, forcing them to live only in specific areas.³ Although these racist covenants are no longer legal nor enforced today, their legacy remains. King County and its cities underinvested in neighborhoods with primarily Black, Indigenous, and people of color (BIPOC) residents, leaving them with less access to resources and creating poorer public health outcomes.⁴ These historically underinvested communities are typically characterized with infrastructure, such as road networks, that does not meet standards and contains substantive identified needs for improvement. The county has acknowledged the persistent and wide-ranging inequalities that past policies have created and declared racism a public health crisis as of 2020.⁵ The underinvestment in these communities has intersectional impacts as well on residents with lower English-speaking knowledge, mobility limitations, and other identities marginalized by past and current policy.

Motivation for Project

In the face of these challenges, Roads personnel worry that plans and procedures do not adequately address social equity and justice. In addition to King County's history of discriminatory practices, Roads must contend with historic underinvestment in certain unincorporated communities that were anticipated to be annexed by cities. In 1990, Washington state passed the Growth Management Act, which increased the rate of annexations from unincorporated King County into various municipalities. In response to this trend, many King County agencies, including Roads, underinvested in potential annexation areas. Some of these areas have yet to be annexed by cities, particularly those with lower average incomes and high concentrations of BIPOC residents. Underinvestment over time in these potential annexation areas, such as the communities of Skyway and White Center, led to a lower level of service and quality of road infrastructure as compared to portions of the unincorporated road network located in wealthier, less diverse areas that were not subject to potential annexation.

Another motivator for adopting equitable procedures comes from the King County Executive's goals on equity. Starting in 2008, King County began the process of integrating equity and social justice (ESJ) into its work, and in 2016, the County established its Equity and Social Justice Plan. In the plan, the county acknowledges the "deep and persistent inequities -- especially by race and place -- that in many cases are getting worse and

³ Seattle Civil Rights & Labor History Project 2020

⁴ Weiler 2016

⁵ King County 2020

threaten our collective prosperity.”⁶ In response to these persistent inequities, King County commits to being “pro-equity” by dismantling “deeply entrenched systems of oppression that have led to inequitable decision-making processes” and uneven resources for communities in King County.⁷ The plan includes six goal areas which are implemented in two-year cycles to align with the county’s biennial budget. This alignment is intended to allow for greater accountability and ability to improve implementation progressively each cycle.

Most relevant to King County Road Services are the ‘Facility & System Improvements (CIP)’ goals. Project scopes have explicit ESJ objectives that align to system goals as described in the Master and Line of Business plans. Targets under this goal area include that:

- Capital development policies, budgets, portfolios and programs are pro-equity and contribute to improved community conditions.
- Capital projects have objectives for community engagement and ESJ in benefits/burdens distribution -- which are document[ed] via the King County sustainable infrastructure scorecard.⁸

Project Goal

Mindfully incorporating equity into government work is a relatively new practice, especially for agencies that work with physical infrastructure. Most of the focus on equity is understandably directed at human services in largely urban areas in response to critical problems in visible neighborhoods and focuses on immediately implementable measures to bring quick relief. In contrast, infrastructure planning and maintenance is a gradual process that requires significant amounts of up-front investment and takes years, if not decades, to realize, and thus has not been focused on by advocacy groups as much. In transportation development, most of the focus has been on cost-efficiency and, only recently, on environmental impacts, with social impacts often not centered in the planning process.⁹

Roads has requested our team to investigate how equity has been, or could be, incorporated into capital prioritization processes. We specifically focused on how other government agencies, both in Washington and across the country, have responded to the challenge of centering social justice in their work. Roads also requested a recommendation of the most suitable procedures to include equity and social justice considerations in their work.

Research Questions

Our report will answer the following research questions:

1. How do other government agencies define “equity” within the context of capital and maintenance operations decision-making?
 - a. How do these definitions align with the King County Equity and Social Justice Plan?

⁶ King County OESJ 2016a, p. 4

⁷ King County OESJ 2016a, p. 4

⁸ King County OESJ 2016a, p. 2-5

⁹ France-Mensah et al. 2019

2. How do other government agencies incorporate equity into their capital and operational decision-making processes?
3. What key performance indicators or metrics are used by other government agencies to measure the impact of their capital and operational investments to traditionally under-served communities?
4. What factors need to be in place for successful implementation of equity in capital and operations or maintenance decision-making?

Research and Analysis Processes

The rest of this report will outline our research, analysis, and recommendations for best practices for Roads. Chapter 2 covers our research methodology. Our research topic is relatively novel and as such we will be following a descriptive research design with the goal of producing an accurate snapshot of the current state of equity in capital planning and decision-making and outlining avenues for potential further study. This research was primarily based on interviews with regional practitioners inside and outside of King County, as well as non-practicing interested parties.

Chapter 3 reviews our research findings. We address each research question in order, highlighting common themes we observed from planning documents and our interviews. We define four strategy alternatives used at public infrastructure agencies and summarize interviewee thoughts on how to measure and ensure the success of an equity inclusion strategy.

Chapter 4 covers our strategy alternatives analysis. We compare four strategy alternatives, including multi-criteria analysis, equity scorecards, equity toolkits, and strategic opportunity indicators, in terms of criteria of social equity, feasibility, and defensibility.

Chapter 5 presents our recommendation and implementation considerations to the Road Services Division. We recommend that Roads adopt a multi-criteria analysis approach to incorporate equity into its work. Multi-criteria analysis is a complex tool that requires careful consideration to set up. We offer insights derived from our research on how to implement this strategy effectively and ensure that it makes meaningful changes to infrastructure planning now and into the future.

Appendix 1 contains our literature review for the project. It reviews the academic literature on the subject, broadly examines current practices at other public infrastructure agencies based on publicly available documents, and summarizes our chosen research strategies. Appendix 2 presents four miniature case studies of transportation and public works divisions in the region who have started incorporating equity into their planning and decision-making processes. From these case studies we derived the four strategy alternatives and other considerations that are summarized in Chapter 3. Appendix 3 is our interview protocol which describes how we conducted our interviews, the questions we asked, and the motivation for each interview grouping.

Chapter 2: Research Methodologies

Formal and systematic inclusion of equity and social justice in planning and decision-making is a relatively recent practice for public managers. As such, our analysis was based on a descriptive research design that aims to provide a snapshot of how equity is currently operationalized in municipal capital planning and decision-making in jurisdictions around the Pacific Northwest

To accomplish this task, we conducted a literature review (see Appendix 1) followed by a series of interviews with King County Roads staff, practitioners in other agencies and jurisdictions, and to provide a robust description of the current state of equity in capital planning. We also developed a set of case studies to illustrate how municipalities are incorporating equity into capital planning. Finally, we use our research findings to define a set of strategy options for and provide an analysis of the relevant tradeoffs of each strategy option.

Sequence of Research Activities

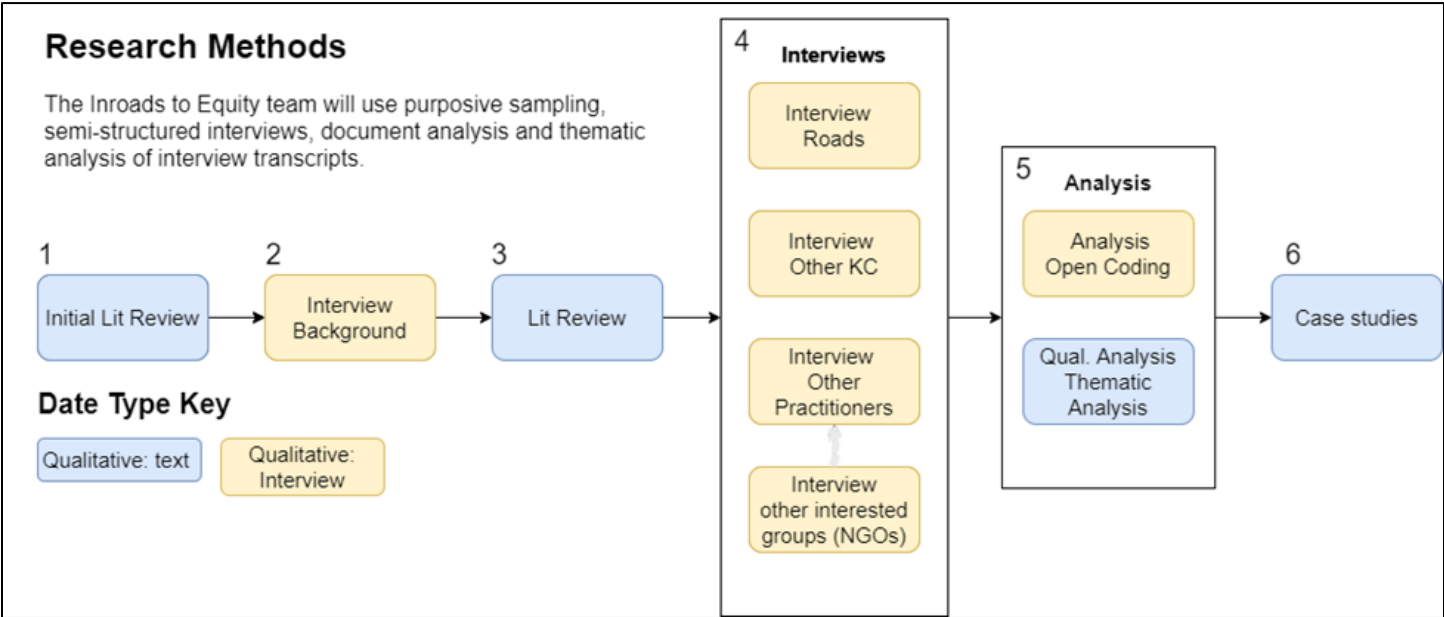


Figure 1 Research Methods Summary

As Figure 1 shows above, our initial literature review (1) informed our background interviews (2) with relevant UW faculty at the Evans School of Public Policy and the Department of Urban Design and Planning, College of Built Environments. These background interviews determined our approach to the primary interviews, further refined our literature review goals, and informed an initial qualitative analysis of key concepts relevant to our work. The full literature review process has shaped our interview protocols, interview questions and analysis methods (3).

We identified four strategic interview groups: Roads staff, other King County staff (e.g., Office of Equity and Social Justice), capital planning practitioners from peer municipalities, and academics/nonprofits operating in this space (4). The precise order of the interviews was based on the availability of the interviewees.

We used a qualitative thematic analysis method to identify themes and patterns in the interviews which related to our research questions (5). Current practices for including equity considerations into capital planning and decision-making which we identified from the interviews formed our equity strategy alternatives. We further explored these strategy alternatives in a series of case studies (6).

Finally, we looked at tradeoffs between each strategy by applying the themes that emerged from our interviews to the strategy recommendation. These tradeoffs were analyzed using a policy evaluation and policy matrix methodology.¹⁰

Identifying Interviewees

Our goal for the interviews was to reach experienced public managers both inside and outside the County. Key interviews within King County included representatives of the Office of Equity and Social Justice and the Road Services Division itself. Outside of King County our interview targets were informed by our literature review. We identified both Seattle Department of Transportation and Multnomah County Transportation Division because of their public and well-developed equity considerations in transportation planning. We also identified the need to interview representatives from outside of transportation planning. To accomplish this we identified the Government Alliance for Race and Equity (a nonprofit coalition) and a capital planning academic as valuable perspectives on this issue. All other interviews were selected based on recommendations from our client and the interviewees, a method known as “snowball sampling.” A summary of our interview participants is included in table 1.

¹⁰ Bardach & Patashnik 2016

Role	Organization	Expertise
County Road Engineer	KC Roads Division Managing Engineer	Extensive knowledge of the Road Services Divisions priorities and capabilities
Senior Policy Advisor on Equity & Social Justice	KC Office of Equity and Social Justice	Extensive knowledge of King County Equity and Social Justice Strategic Plan implementation considerations
Portfolio Planning and Analysis Unit Manager	KC Wastewater Treatment Division	Experience with equity considerations at other capital programs in King County
Transportation Planning and Development Manager	Multnomah County Transportation Division	Experience with equity consideration in transportation planning
Transportation Planning Consultant	Multnomah County Transportation Division	Experience with equity consideration in transportation planning
Planning Manager Management of Mobility Division	WSDOT	Experience with equity consideration in transportation planning
Director of Active Transportation Division	WSDOT	Experience with equity consideration in transportation planning
Assistant Division Manager	Tacoma Public Works - Transportation Division	Experience with equity consideration in transportation planning
Senior Transportation Planner	Seattle Department of Transportation	Experience with equity consideration in transportation planning
Professor and Director of Urban Infrastructure Lab	University of Washington School of Urban Design and Planning	Academic who specializes in environmental justice considerations in capital program planning
Senior Director for Federal Strategies	Race Forward / Government Alliance for Race and Equity	Leader in relevant nonprofit and professional network

Table 1 Summary table of Interviews. 10 total interviews representation from 8 organizations in the region.

Interviews with King County Roads Division Staff

The purpose of these interviews was to determine what systematic decision-making practices are currently in place within the county. Interviewees were members of capital divisions or part of the Office of Equity and Social Justice. These interviews helped to define how decision-making processes align with King County's

Equity and Social Justice Plan. Additionally, themes and practices identified in these interviews informed the case studies.

Interviews with King County Staff at Other Departments

The purpose of these interviews was to understand how other municipalities outside of King County apply equity in capital and operational decision-making processes. These interviews helped to identify lessons learned from organizations who have experience incorporating equity into decision-making. Additionally, themes and practices identified in these interviews informed the case studies.

Interviews with Capital Planning Practitioners at Other Municipalities

The purpose of these interviews was to understand how other municipalities outside of King County apply equity in capital and operational decision-making processes. These interviews helped to identify lessons learned from organizations who have experience incorporating equity into decision-making. Additionally, themes and practices identified in these interviews were developed into case studies.

Interviews with Other Interested Groups: Academics and relevant nonprofits

The purpose of these interviews was to get a wider perspective on equity in capital and operational decision-making processes. These interviews widened the reach of our analysis and identified new ways to apply equity in decision-making.

Interview Protocol

Our interviews followed a semi-structured format where two representatives from the research team conducted each interview. The interviewers wrote a brief memo after each interview to capture their initial interpretation of the main themes. Detailed interview protocols and interview questions are attached in Appendix 3. We conducted the interviews virtually using Zoom and used its transcription service to generate a written record for later themes analysis. These interviews produced 78 pages of transcripts for our analysis

Qualitative Analysis

We used thematic analysis to examine the interview transcripts to develop various themes that describe the emergent practice of incorporating equity consideration into capital planning and decision-making. Our analysis used the methodology for thematic analysis described by Virginia Braun and Victoria Clarke in their 2006 paper “Using Thematic Analysis in Psychology.” We used Atlas.Ti 8 qualitative analysis software to code the transcripts. In this case, our coding practice involved highlighting passages and marking them with a word or phrase that identifies the key idea. Once an entire interview was coded, the codes were reviewed to see how often and in what context a key idea repeated. Two team members were assigned to independently code each transcript and perform the analysis.

¹¹ Williams & Moser 2019, p. 45

Thematic Analysis

We continued to follow the analytical framework of thematic analysis to identify themes that emerge from the interviews. The themes represent practices, policies, or ideas that appeared across multiple interviews. We were not prescriptive about the themes we analyzed, we let the themes emerge during an iterative analysis process during which we reviewed coded transcripts multiple times

Our analysis process followed the 6-step process for thematic analysis identified by Braun and Clarke.¹²

1. We familiarized ourselves with the interviews by reading each transcript and took note of initial ideas.
2. We used open coding to generate initial codes in a systematic fashion across the entire data set.
3. We organized the codes and identified potential themes.
4. We verified if the themes fit the data by reviewing the transcripts and validating that the themes made sense, or not.
5. We defined the themes.
6. We used extracts from the data to construct a narrative of each theme.

Identification of Strategy Alternatives

Policies and practices identified during our literature review and interviews were arranged into a set of recommendations for King County Road Services to consider adopting. These recommendations were then qualitatively assessed to determine how well they fit with Roads Services goals, policies, and resource constraints.

A detailed description of our strategy alternatives is included in the Chapter 3: Research Findings.

Case Studies

Case studies were developed to exemplify the strategy alternatives in our analysis. Case studies were derived from the municipalities that we interviewed or other municipalities identified during our literature review.

Brief descriptions are included in the Chapter 3: Research Findings, and detailed descriptions are included in Appendix 2.

Open Coding

“Open coding is one of the strategies that enables a cyclical and evolving data loop in which the researcher interacts, constantly comparing data and applying data reduction, and consolidation techniques. By using open coding, we sifted through interviewees’ responses and organized similar words and phrases, concept-indicators, in broad initial thematic domains, then identified distinct concepts and themes for categorization.”¹²

¹² Braun & Clarke 2006

Chapter 3: Research Findings

We organize our results based on the research questions detailed in Chapter 1. Some themes have relevance to multiple research questions. For instance, many interviewees use data practices to both create definitions of equity and as a factor to ensure success of equity work. In choosing to organize the results by research question, we highlight actionable aspects of the themes we identified as they relate to the central questions in our report.

Research Question #1

How do other government agencies define ‘equity’ within the context of capital and maintenance operations decision-making?

Reliance on existing State, County, and City definitions

A recurring theme we heard was the impact and influence of higher-level equity definitions from other jurisdictions of which they are part. Organizations must participate in city, county, or state-wide initiatives and may also use their own definitions of equity. Almost every practitioner we spoke to noted the importance of higher-level jurisdictions in guiding their own efforts. Our interviewees were part of King County, the City of Seattle, Washington State, and Multnomah County, all of which have their own equity & social justice offices, policies, and/or initiatives.

Definitions Implied by Practices

Most practitioner interviewees did not give a concise, dictionary-like definition of equity in conversation. Rather, they began describing who they focus on helping, and how they identify those communities where there is historic underinvestment. From the organization’s practices, an implied definition of equity could be defined. For instance, if a project is focused on improving access for people with disabilities, then the project’s definition of equity could be providing equitable access to public places. Other interviewees, such as those at NGOs or in academia, would more often discuss high-level definitions of equity or frameworks such as rights (see page 16).

Using Data to Operationalize Definitions of Equity

Most practitioners discussed the use of data to formalize and apply definitions of equity. When implementing guidance from state, county, or city definitions above, the next step for agencies is identifying communities where equity work is needed. Census data, such as the American Community Survey (ACS), was commonly mentioned in interviews as the tool used for identifying communities. Once agencies geographically identify those communities, they can begin to consider how infrastructure investments, benefits, and disadvantages overlap with these geographic areas. As an example, an interviewee from WSDOT mentioned a proposal to “overspend in over-harmed areas” to undo historical harm. “Over-harmed areas” included areas with “higher

percentages of people who are Black, Indigenous, or People of Color,” as well as places where levels of poverty or people with disabilities are higher than the state average. In this way, WSDOT’s plan moves the definition of equity from the intention to provide equitable benefits to a specific program that has identified communities where equity work needs to take place. The use of strategies like these to identify geographic areas to focus on for equity work or undoing historical underinvestment was mentioned by many interviewees.

Definitions based on Legal Frameworks

Most interviewees worked at organizations subject to local, state and federal laws that influenced their definition of equity. Interviewees referenced these high-level definitions as starting points for their programs’ discussions of equity, and sometimes as ways to audit their equity intentions. For instance, people from multiple agencies talked about comparing their agency’s record to the language in Title VI and asking if they were continuing to fully meet the requirements. Below are examples of the different levels.

- **Federal level:** Almost every practitioner mentioned Title VI of the Civil Rights Act “which prohibits discrimination on the basis of race, color, or national origin in any program of activity that receives Federal funds.”¹³ Any program using federal funds must comply with Title VI requirements.
- **State level:** Some interviewees were also at agencies that comply with the Washington State HEAL Act, which 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, rules, and policies.”¹⁴ In those cases, agencies also used this definition of equity, which focuses on environmental outcomes, as a building piece in their strategy.
- **Local level:** As mentioned above, many local jurisdictions add their own specific equity criteria on top of these requirements, although these criteria are often not laws. Seattle’s Race and Social Justice Initiative (RSJI) is an example. RSJI, which is implemented within the City of Seattle, is a “long-term commitment to undo institutional racism” by the city. RSJI “provides racial equity support to city departments” using a variety of strategies including training and facilitation.¹⁵ While not a law, RSJI adds an additional framework on top of laws that establishes guidelines, goals, and support for city staff.

Framing the Definition of Equity in Terms of Rights

Nonprofit and academic interviewees highlighted the right of residents, as taxpayers, to have quality infrastructure. While practitioners tended to focus on their specific jurisdiction, interviewees such as academics with a broader focus would often bring up rights in order to emphasize the connection between infrastructure and other historical systemic issues in the United States. Specifically, both highlighted the need for low-income areas and communities of color to receive comparable road infrastructure benefits as other

¹³ Title VI of the Civil Rights Act 2013

¹⁴ *Environmental Justice* n.d.

¹⁵ City of Seattle RSJI n.d.

communities. To be clear, this is not about the amount of taxes paid, but rather the idea that every person who pays their required taxes is entitled to equal infrastructure benefits from the government regardless of where they live within a jurisdiction. Interviewees emphasized this concept as an ethical imperative to drive action on the issue. The concept is to help policymakers keep in mind the duty to provide equal infrastructure benefits.

Safety and Underserved Communities

Equal benefits can have a significant impact on safety. All agencies consider safety as a critical part of infrastructure design. When self-examining for historic inequalities, some agencies are beginning to look at the intersection of identified vulnerable populations and safety data. Once an agency has identified communities that have not historically received the same level of service, they can cross-reference those communities and areas with safety data. If underinvested areas experience, for instance, higher levels of collisions or injury, that indicates a need to reevaluate safety priorities. The response to such a finding is not usually defined by agencies. While finding inequality in safety data indicates a need to consider carefully how safety needs are prioritized, making such decisions requires careful team discussion and thought. We did not find agencies with specific plans to address these findings of safety inequality, but rather agencies beginning to identify these inequalities while implementing current projects.

Focus on Long-Term, Adaptive Asset Management

A recurring theme is discussing how maintaining infrastructure through asset management best practices is an important aspect of equity. In addition to the initial investment to create assets, maintaining assets is critical to ensuring equitable safety and ability to travel across a region. For instance, one interviewee talked about the importance of creating assets with resilience to climate wear in light of climate change, to both reduce life cycle costs and increase benefits for those who depend on those assets. Similarly, a practitioner noted that infrastructure provides “both a physical asset and a service” which can be critical to the community using the asset. The same practitioner suggested that thinking of infrastructure as a service is a method to focus on the importance of spatial distribution of assets as a way to achieve social equity.

Research Question #2

How do other government agencies incorporate equity into their capital and operational decision-making processes?

Multi-Criteria Analysis

Multi-criteria analysis is an analytical framework, developed in the 1980s,¹⁶ that systematically compares the merits of a set of projects based on predefined selection criteria.¹⁷ While many organizations we studied include some form of analysis-based principles, Multnomah County, Oregon, was the only one that had

¹⁶ Dean 2020

¹⁷ Ellen et al. 2017, p. 39

implemented a full analysis of its capital improvement portfolio. Projects are scored for each criterion and the scores are weighted and combined to produce a total score, often referred to as the priority ranking score. Higher total scores indicate higher priority projects. Usually, the criteria focus on project metrics that are important to decision-makers, such as equity, cost, time to completion, and so on. The criteria are then weighted based on their relative importance, and the total scores are used to rank projects in order of priority.¹⁸ Multnomah County determined these weights, in part, by asking local communities which criteria they value. Figure 2 is an example of the criteria and weights used by Multnomah County in their multi-criteria analysis of their 132 project CIP.

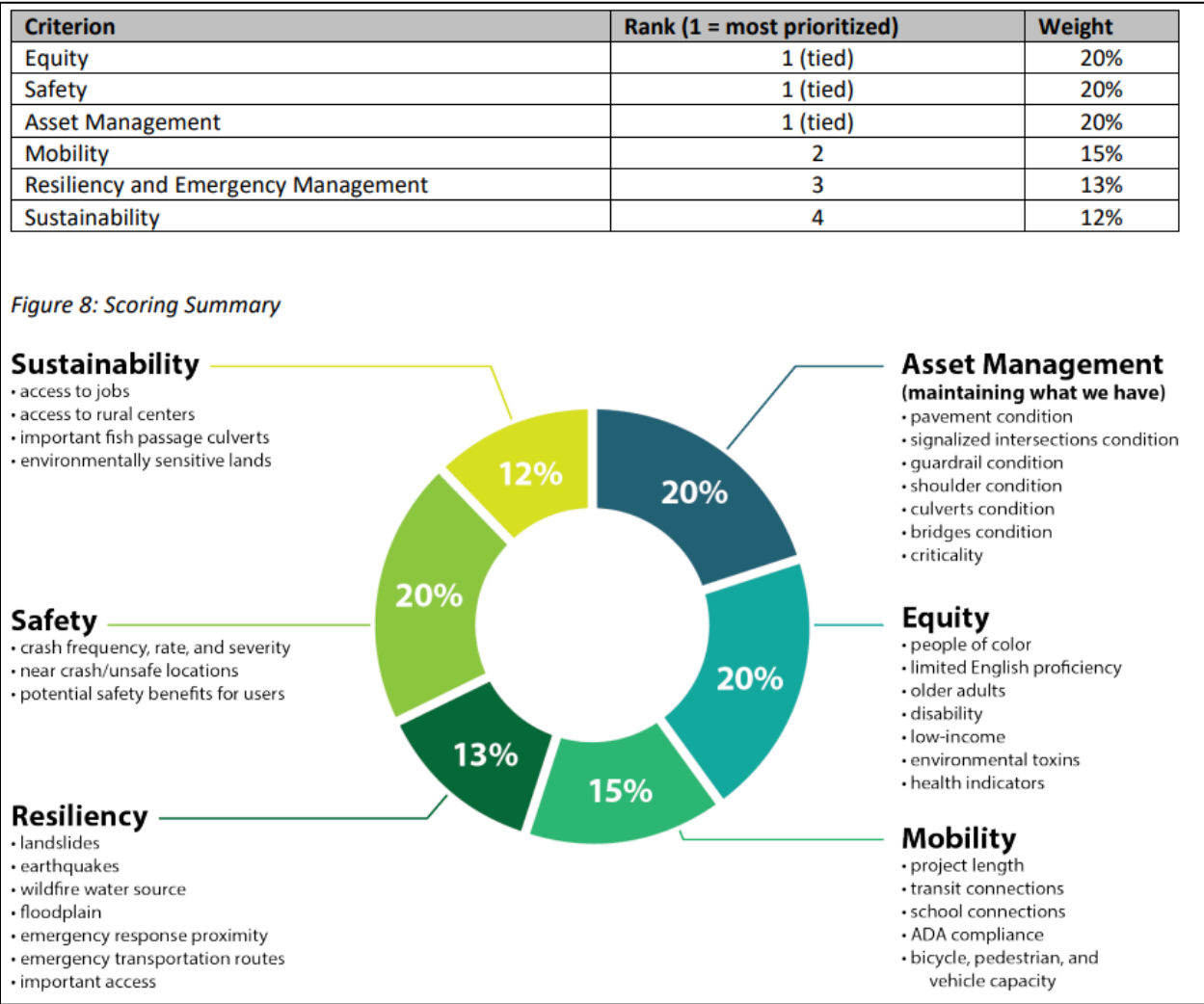


Figure 2 Example of multi-criteria analysis as designed by Multnomah County in their Transportation Capital Improvement Plan and Program 2020 – 2024. Multnomah County uses both GIS and Excel to compile the scores for each project and calculate a rank based on the above criteria and weights

¹⁸ Marlowe et al. 2016

Project Scorecards

Project scorecards are a data-driven framework that present the key characteristics of a project in a concise format so decision-makers can directly compare projects when making funding decisions. These are in use at the Seattle Department of Transportation. It is similar to multi-criteria analysis in that it uses socioeconomic data and community engagement to analyze equity criteria alongside criteria for other characteristics of a given project. Project scorecards use these predetermined criteria to summarize sets of projects under consideration. However, they stop short of combining the criteria into a single metric like the priority ranking score in multi-criteria analysis. Rather, project scorecards allow decision-makers to attach their own value to each criterion when considering a portfolio of proposed projects. Equity can be included in project scorecards either as an explicit criterion, or by comparing other criterion's effects on specific groups of residents. Figure 3 is an example of a project scorecard for a single project from SDOT's NE 130th St & Shoreline South/148th Stations: Multimodal Access Study final report.

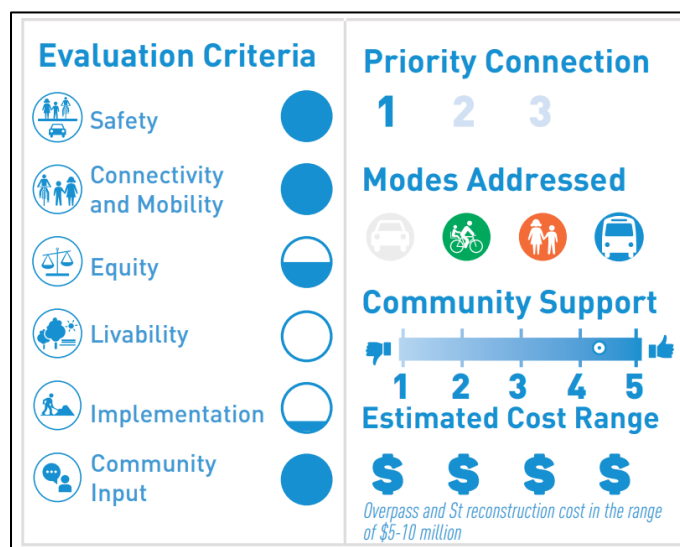


Figure 3 Project Scorecard from SDOT's NE 130th St & Shoreline South/148th Stations: Multimodal Access Study Final Report.

Equity Toolkits

An equity toolkit is a framework that rigorously accounts for the equity impacts of a program or project throughout its lifecycle. This framework was first developed by the Government Alliance on Race and Equity to identify gaps in equitable outcomes and design strategies to bridge those gaps. This process is in use formally at SDOT, in a more informal manner at the Tacoma Public Works Transportation Division, and is roughly analogous to King County's Equity Impact Review tool. Applying an equity toolkit to capital projects begins by identifying desired equity outcomes during the initial stages of project prioritization and planning. Project staff define the quantitative and qualitative data required to evaluate progress toward those equity outcomes. Early community engagement is used to identify evaluation criteria. The results of this process can be used to guide project completion and inform post-project evaluations. Figure 4 is an outline of the City of Seattle's six step equity toolkit.

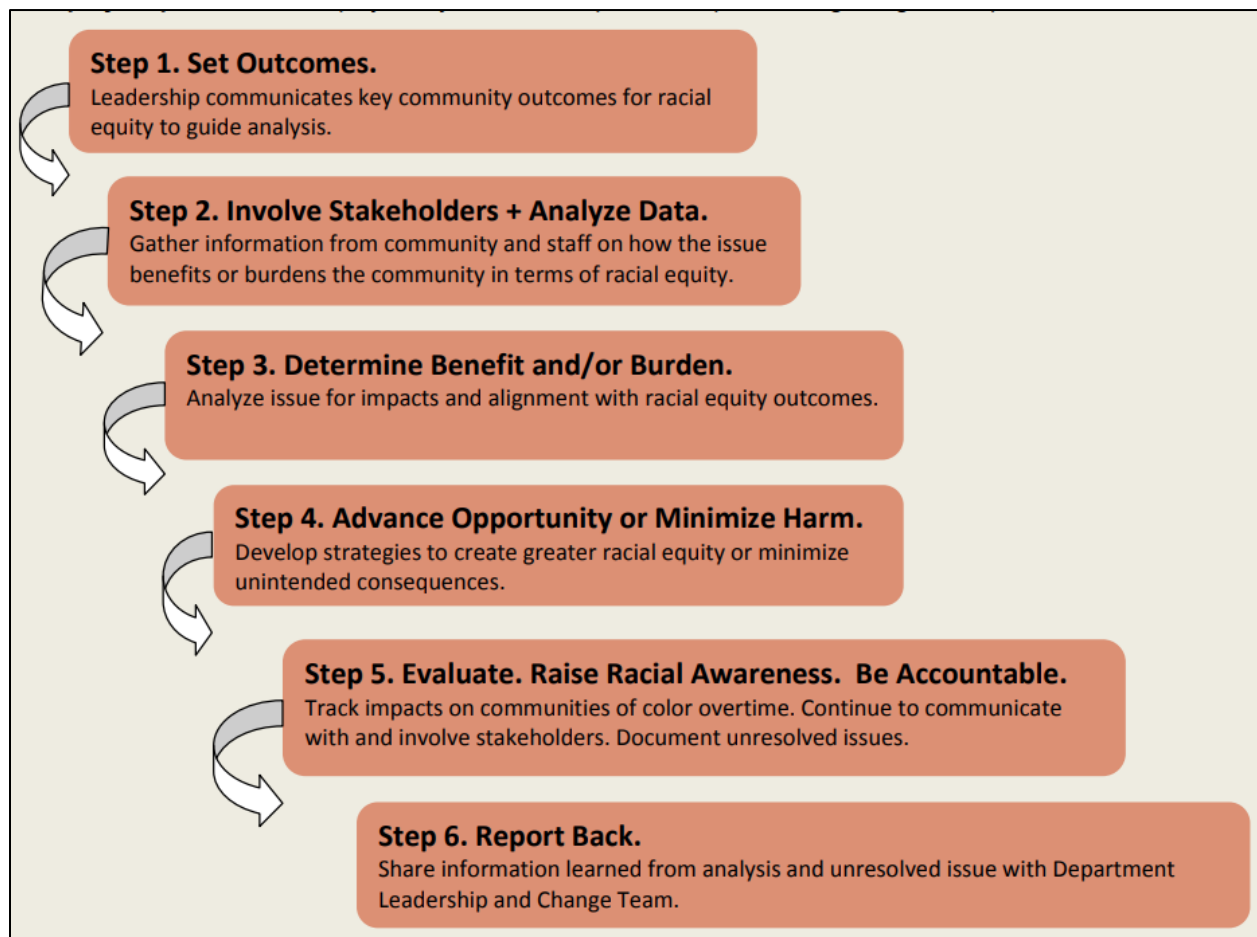


Figure 4 Summary diagram of City of Seattle's six step equity toolkit approach

Strategic Opportunity Indicators

The strategic opportunity indicator framework uses predefined priority areas and the location of proposed projects to support equity considerations in the decision-making process. This strategy alternative comes from the King County Wastewater Treatment Division. This framework ties equity consideration to the decision-making process by operationalizing specific goals of overarching strategic plans, like King County's Equity and Social Justice Strategic Plan. Program staff use a standard form to document the potential for a proposed project to contribute to each strategic initiative in a series of yes-or-no questions. This form is filled out early in project scoping and does not include a plan to implement the strategic initiative, only that the project has the opportunity to contribute to an initiative. Decision makers can use the location of a project and the potential to contribute to strategic initiatives when deciding which projects should be approved during the decision-making process. Figure 5 is an excerpt of the strategic opportunity indicators reporting document used by King County Wastewater Treatment Division.

Question	Yes	No
Is this project located in an area of high poverty, racial and/or linguistic diversity; located in an area designated by the CDC Social Vulnerability Index Map; or has been designated on KC demographic maps as having the opportunity to improve access to the 13 Determinants of Equity?		
Does this project have the potential to directly address negative burdens caused by facilities and systems on impacted communities?		
Does this project have the potential to optimize benefits for those whose access levels are most deficient or have historically been underserved?		
Does this project have the potential to partner and collaborate with priority populations?		
Does this project have the potential to advance economic justice via means such as Community Workforce Agreements, by contracting with consultants from priority populations, or through partnerships with companies and community-based organizations that advance economic justice, etc.?		

Figure 5 Excerpt from King County WTD strategic opportunity indicator project level assessment form.

Research Question #3:

What key performance indicators/metrics are used by other government agencies to measure the impact of their capital and operational investments to traditionally under-served communities?

Job Creation and Economic Benefits

Agencies take multiple strategies to try to target the economic benefit of projects to the communities in which they take place. For example, King County Wastewater Treatment Division uses community workforce agreements and gives priority hiring to certain zip codes for projects whose cost exceeds a threshold. Many other agencies also mentioned economic benefits to local or minority and women-owned businesses as a consideration when creating contracts for workers on large infrastructure projects. The emphasis on economic benefits to women and minority owned businesses is aligned with Washington State Law RCW 39.19 which aims to “increase(d) participation by minority and women-owned and controlled businesses in participating in public works.”¹⁹ Job creation was a top metric used by multiple agencies to measure economic benefit to underserved areas, and a measure of success in fighting historical underinvestment.

Approval of Community Members

In our interviews, we repeatedly heard that community input is the best way to accurately judge if a project is successfully addressing historical harms and inequity. Communities that have historically been harmed often do not have representation amongst the decision makers at public agencies. Although other hiring changes and policies are in place to address this across those surveyed, the issue of representation remains unresolved. It is quite possible for project managers with the best intentions to misestimate the needs of a community and fail to meet their needs. With no communication, project managers could repeatedly fail to

¹⁹ Office of Minority and Women’s Business Enterprises 1983

address a key community issue and never hear about it. As such, interviews repeatedly emphasized the need to connect with communities, to ensure that all voices in the community are present at the time, and to hear everyone's feedback.

Despite the critical need for feedback, measuring community approval can be difficult. At the outset, there can be difficulty correctly identifying communities. As mentioned above, data on community demographics and locations may be limited or missing. In addition, there is often difficulty locating a representative group of community members. Sometimes those communities with important feedback are also busy during public meeting times. Or key members may decline to attend meetings after historically seeing no results for their community. For these reasons and more, agencies have work to do and reluctance to overcome to ensure quality community engagement. Interviewees most commonly managed community engagement through surveys or recorded feedback at community meetings. Surveys provide the benefit of time flexibility, while recorded feedback offers the potential for more in-person communication and the use of tone and body language. With these two techniques, most found helpful feedback allowed them to avoid errors and focus on the most important needs.

Comparing Past and Present Levels of Service

Historic levels of service can serve as a baseline by which to measure improvements in equity as defined by an organization. If an area has historically had low levels of service, that level of service can become a baseline to compare the impacts of future investments. Increase in project investment in a region over time is a positive step towards equitable outcomes. Although this topic came up multiple times in our research, few organizations are currently implementing it. Up front, this work requires definitions of equity, of vulnerable groups, and what projects qualify as investments in a particular area. If an agency is able to successfully create a framework of these definitions, they may be able to track improvement towards goals in a specific, monetary way. Across discussions, while some had begun the groundwork of creating this setup, none had generated results of investment over time.

Institute End-of-Project Review for Long-Term Self-Assessment

As an agency develops equity plans and scores projects on potential equity benefits, data is created on an agency's expectations. Agencies would review all of that data at the end of projects and in the following years to see how well those expectations were met. Where expectations are not met, agencies would look at the process to identify systems issues. For instance, they may assess if expectations were generated in an unrealistic way, or if projects consistently fail to meet goals. No institutions reported using an end-of-project review, although the idea is under consideration.

Research Question #4

What factors need to be in place for successful implementation of equity in capital and operations/maintenance decision-making? (i.e., knowledge, capacity, budgetary, political, legal, or administrative factors).

The Need for Community Engagement and Authentic Understanding

A recurring theme identified in our interviews is the need for authentic community engagement to ensure that projects accurately reflect the needs and desires of constituents. This engagement can take many forms such as discussing data with community members or updating impacted communities on project progress and direction. For instance, one practitioner mentioned seeing increasing survey reports of belief and trust in the agency from neighborhoods with majority low-income residents and people of color as a positive sign. Another practitioner noted that communities rank needs, such as livability, efficient transportation, green space, and the like, differently even at relatively small distances between neighborhoods in a city. Without consistent community engagement, it is difficult to design and execute projects that have a positive, equitable impact on vulnerable and underserved communities.

Overcoming Limitations of Data with Community Dialogue

The data available for decision-making may have limitations and/or may be incomplete. For instance, one practitioner noted that distrust of the government could lead to inaccurate data. If residents choose not to engage or report out of mistrust, they will not show up in primary survey or secondary socioeconomic (Census) data, and that group may include exactly the people a project is trying to reach. One interviewee discussed data with community groups over time to identify gaps or inaccuracies. Another organization was internally working on a process to address different levels of service requests in different neighborhoods. If one neighborhood was not putting in the same level of service requests, was that due to lack of need, or lack of trust and access to reporting?

Talking to a community about data is not always easy. One practitioner noted that organizations often have a “habit of ... expect[ing] everybody to come to the table as engineers and planning and to know what a project looks like” and therefore fail to really engage. In community sessions, organizations must take care to avoid assumptions and fully explain the relevant information to the project. Organizations must also understand that community members may not share high-level planning or engineering concerns.

Do Not Wait for Perfect Data

Despite the limitations of data mentioned above, some participants also cautioned against waiting for the “perfect data,” especially if waiting for perfect data delays a project that may benefit communities that have historically been underinvested in or otherwise marginalized. One interviewee expressed the view that it is unlikely for an area that has faced decades of underinvestment to have dramatically improved without change, and that requests to delay intervention until, for instance, new census data is available are counterproductive. While it is important to take steps as outlined above to improve data and find gaps, too much inaction amounts to maintaining the harms in the status quo.

Leadership Support and Organizational Culture

Given the large scale of infrastructure projects, strong and consistent leadership is required to enact change that promotes equity. Leaders are best positioned within organizations to ensure that all employees stay

engaged with equity goals. For instance, all of the data work above cannot be realized without employees truly incorporating that information into project decisions. In interviews, one of the stronger themes was a desire for public leaders to set these expectations not only for staff, but for themselves. In doing so, leaders instill in themselves and in agencies a drive to act on ethical and moral imperatives.

Leadership may support the internal team dynamic through specific team practices to strengthen each individual's understanding of equity. As an example, leaders may encourage and support conversations about race and equity regularly within the organization. Over time, employees can build a group consensus of the expectations and approaches to equity they need to use. This consensus amounts to an organizational culture that promotes dialogue and intentional work on social equity across practices. Those we spoke to specifically emphasized the role that leadership has in setting organizational culture through the establishment and enforcement of norms. However, every employee is a part of creating that culture as well, and one speaker emphasized that an individual not participating or pushing back against social equity work can have an impact on the whole. Leadership matters, but is not the only key to success.

Chapter 4: Alternatives Analysis

In this chapter, we present an analysis of four strategy alternatives for embedding equity within the Roads' capital and maintenance prioritization processes. We derive these strategies from our interviews with peer municipalities presented in our research findings (Chapter 3) and further described in the case studies which are included in Appendix 2. The tradeoffs between these strategy alternatives are discussed using relevant research findings identified in Chapter 3.

This analysis aims at identifying the tradeoffs between strategy alternatives in terms of their ability to address the goal of the Road Services Division²⁰.

The four strategy alternatives we compare are:

1. Multi-criteria analysis - A priority ranking formula with equity as an explicit criterion
2. Project scorecards - A concise summary of a project's impacts for decision-makers to consider
3. Equity toolkits - A multistep process to determine the equity impacts of a project or program that can be delivered to decision-makers for consideration
4. Strategic opportunity indicators - A yes/no determination if a project is in a predefined priority area and contributes to a strategic plan

In this chapter we first define three criteria for comparing these strategies. We then present our analysis of each strategy alternative based on the criteria. Finally, we present a summary matrix which compares each strategy alternative side by side.

Analysis Criteria

We analyze the four recommendations using three criteria: social equity, feasibility, and sustainability. These criteria align with themes from our interviews and Roads' stated goal of implementing equity-informed decision-making in their capital programs. Each criterion is made up of component parts we term factors. For example, the factors of the equity criterion are whether a strategy addresses historic underinvestment, has an equitable distribution of benefits, and improves road safety outcomes in traditionally underserved communities. Each factor is ranked with ordinal values from 1 to 5 where 1 is least likely to produce a desirable result and 5 is most likely to produce a desirable result, based on the literature review, interviews, and our own understanding.

Key Finding

Our analysis reveals that implementing multi-criteria analysis as a decision-making framework will provide the most significant improvement in socially equitable decision-making at the Road Services Division, compared to the status quo.

²⁰ Bardach & Patashnik 2016

Social Equity

A socially equitable outcome is the paramount criterion of our analysis. We define the social equity criterion as the likelihood the strategy alternative will produce more equitable outcomes from the decision-making process when compared to the status quo. Notably, King County and its cities underinvested in neighborhoods with primarily BIPOC residents, leaving them with less access to resources and creating poorer public health outcomes.²¹ When analyzing equitable outcomes, we consider the following factors:

- Remedy historic underinvestment: The alternative prioritizes increasing services in communities that have experienced historical underinvestment.
- Equitable distribution of benefits and burdens: The alternative facilitates an equitable distribution of benefits and burdens rooted in an understanding of project impacts and negative externalities across people, place, and time.

Feasibility

We will also consider the feasibility of the strategy alternatives. These are the internal factors that will determine a successful outcome. We define feasibility as the likelihood that Roads can implement the strategy alternative or deliver the program well with robust and replicable results. When analyzing the feasibility of the strategy alternatives we consider the following factors:

- Availability and reliability of decision-making process inputs (technical feasibility): The information and data needed to facilitate the decision-making process is easy to access in a systematic way.
- Labor and financial costs (administrative feasibility): The alternative can be completed for relatively few marginal labor hours and other costs associated with the decision-making process compared to the status quo.
- Longevity and robustness: The alternative will produce similar results as budgets, decision-makers, and data change over time.

Defensibility

Finally, we will consider the defensibility of the strategy alternatives within Roads' external political and public environment. We define defensibility as the likelihood the alternative will engender support or approval from these key coalition members. When analyzing the defensibility of the strategy alternative we consider the following factors:

- Support from King County administration and elected officials: The alternative aligns with the strategic frameworks identified by King County Office of Equity and Social Justice as well as the County Executive and King County Council.
- Support from external partners: The alternative is designed in a way that systematically addresses the concerns and aligns with the interests of traditionally underserved communities.

²¹ Weiler 2016

Alternatives Analysis

In this section we evaluate each strategy alternative using our analysis criteria. These risks and rewards are identified below with a brief description of how equity is leveraged in the decision-making process

Strategy 1. Multi-Criteria Analysis

Key Features and Takeaways:

- This option creates a data-driven, repeatable decision-making framework but suffers from a rigid structure.
- Equity is used as one of many criteria in a priority ranking formula that produces a single list of prioritized and ranked projects.
- This option is currently used by Multnomah County, SDOT, WSDOT and Tacoma Public Works. While SDOT, WSDOT, and Tacoma Public Works incorporate elements of multi-criteria analysis in their work, Multnomah County stands out for its application at the capital program scale.

Equity

This framework will meaningfully impact equitable outcomes of the decision-making process. If the ranking formula includes an equity criterion that is supported by historic socioeconomic data and community engagement, like in Multnomah County, then the process prioritizes an equitable distribution of benefits and addressing historical underinvestment directly.

Feasibility

After an initial implementation cost, this framework is feasible for Roads to use on a regular basis. The primary expenses in this process are associated with conducting community engagement to define the ranking formula. After the ranking formula is defined, the secondary data that need to be updated require little investment to maintain (e.g., tract level socioeconomic data from the Census). This framework will require a large initial investment to conduct community engagement activities and define the ranking formula. However, once the formula is in place there will be few costs associated with ranking new projects. Additionally, this framework is robust because it has low operating costs, uses easily accessible data, and does not primarily rely on the judgment of decision-makers.

Defensibility

This framework is moderately defensible. Its reliance on public datasets like the Census to operationalize equity considerations may oversimplify the concept and may not align with King County's Equity and Social Justice Strategic Plan. That said, if community engagement is thorough, this framework can elevate the priorities of traditionally underserved communities and address their concerns in a systematic way.

Strategy 2. Project Scorecards

Key Features and Takeaways:

- This alternative presents clear and concise information to decision-makers
- Project scorecards highlight many different criteria, including equity
- Similar to multi-criteria analysis but stops short of combining all criteria into a metric for comparison
- This option is used by SDOT

Equity

This framework can make a modest improvement to the equitable outcomes of Roads' decision-making process. If equity is included as a set of criteria that represent meaningful improvements for traditionally underserved communities, then decision-makers can choose to prioritize equity. However, the value placed on these criteria is subjective to the decision-maker. The distribution of benefits and burdens of the framework is determined by decision-makers. Similarly, the ability to account for historic underinvestment in the scorecard at the decision-makers discretion.

Feasibility

This framework is reasonably feasible Roads to implement on a regular basis. Project scorecards rely on many of the same data inputs as multi-criteria analysis and require a similarly low level of effort to update the primary (project-specific) and secondary (socioeconomic) data. However, if the scorecard is expected to account for levels of community support for each project, then a community engagement activity will have to be conducted each time to gauge that level of support. This requirement may reduce feasibility with increased implementation costs. Finally, this process is only modestly robust because while it leverages a systematic approach to compare projects, it relies on decision-makers to be consistent when evaluating the scorecards. Decision makers may unconsciously overvalue one project over another.

Defensibility

This framework is moderately defensible. Like multi-criteria analysis, projects scorecards rely heavily on socioeconomic datasets like the Census to define equity which may oversimplify the concept and may not align with King County's Equity and Social Justice Strategic Plan. However, if community engagement is used to gauge the support of traditionally underserved communities on a project-by-project basis, this framework has the potential to elevate their priorities in a systematic way.

Strategy 3. Equity Toolkit

Key Features and Takeaways

- This alternative incorporates accountability into the decision-making process
- Equity is promoted through robust community engagement at multiple stages in the project delivery process
- This option is used by Tacoma Public Works, SDOT, and Multnomah County

Equity

This framework can meaningfully impact the equity outcomes of the decision-making process. Systematically incorporating community engagement and evaluation into the decision-making process enables identification and tracking of the priorities of traditionally underserved communities. This process directly promotes the equitable distribution of benefits and addresses historic underinvestment.

Feasibility

This framework is minimally feasible for Roads to implement on a regular basis. Equity toolkits rely on strong adherence to a time-consuming process to produce reliable results. Program staff will need to commit significant time to data collection, analysis of each activity in the capital program, and meaningful community engagement activities. Finally, the high commitment of staff time needed to rigorously follow the process leaves the impact of equity toolkits vulnerable to changes in budgets, staffing levels, and support from leadership.

Defensibility

This framework is very defensible. The high degree of community engagement and accountability featured in Equity Toolkits strongly aligns with the values and strategic plans of King County Office of Equity and Social Justice as well as the County Executive and King County Council. Additionally, if community engagement is meaningfully done, then Equity Toolkits systematically address the concerns of traditionally underserved communities.

Strategy 4. Strategic Opportunity Indicators

Key Features and Takeaways

- This process uses staff time efficiently
- Equity is incorporated by aligning with County Level equity priorities
- This process is used by King County Wastewater Treatment Division

Equity

This framework has the potential to make a small contribution to improving social equity outcomes. Identifying a project's location and potential to contribute to initiatives that promote social equity provides a consistent framework that decision makers can evaluate during the decision-making process. Notably, reliance on the geographic location of a project has been criticized for potentially using adjacency as a stand-in for benefit, even when the project provides no direct benefit to the community. Additionally, relying on socioeconomic maps can cause program staff to overlook minority populations and can collapse "equity" into a very narrow definition.

Feasibility

Once in place this framework is very feasible for the Roads Services Division to implement on a regular basis. This framework has very low labor costs because the process uses readily available data and a simple determination of a project's potential to contribute to enterprise-wide strategic initiatives. This process is

reasonably robust given that it aligns with strategic initiatives that are larger than the agency. However, final decisions are still made based on the individual values of the decision makers.

Defensibility

This process is reasonably defensible. Like project scorecards, this framework relies heavily on socioeconomic data sources like the Census to define equity which may oversimplify the concept and not engender support from the King County Office of Equity and Social Justice, the County Executive and King County Council. However, because this process aligns with enterprise-wide strategic priorities, it may attract broad support from within King County administration. Additionally, the alignment with the overarching strategic plans is the only mechanism to ensure the framework systematically addresses the concerns of traditionally underserved communities. If those overarching strategic plans are justifiable, then the strategic opportunity indicators can address those concerns. Finally, this decision-making framework is likely to be legally defensible because it aligns with the larger King County strategic frameworks.

Alternative Analysis Summary Matrix

Figure 6 is an alternative analysis matrix that summarizes the tradeoffs among each recommendation. Strategic opportunity indicators are feasible and defensible but, based on our interviews and literature review, they will only make a small improvement in social equity compared to the status quo. Project scorecards will likely make modest improvements to all criteria of analysis. Equity toolkits will incorporate social equity in a meaningful and defensible way, however adhering to the detailed and community orientated process at the capital program scale is very resource intensive which is likely not feasible for Road Services. Multi-criteria analysis will likely make significant improvements to social equity, will be feasible for Road Services, and will be reasonably defensible.

		Strategic Opportunity Indicators	Project Scorecards	Equity Toolkits	Multi-Criteria Analysis
Equity	Addressing Historic Underinvestment	1 Only measures the opportunity to address historic underinvestment without considering the magnitude of the impacts	3 Primary and secondary data is presented in concise manner for decision makers	5 Systematic inclusion of community engagement and community evaluation of investments	5 Combines primary and secondary data on equity and transportation improvement using a formula
	Distribution of benefits	1 Can conflate proximity to a project with benefit from a project	3 Decision makers use their own values to prioritize projects across the County	5 Systematic approach to analyze and engage with impacted communities	5 Weighted criteria prioritizes equity relative to other criteria
Feasibility	Access to Inputs	5 Primary and secondary data are easy to access	4 Primary and Secondary data are easy to access, requires some data refresh	1 Require program staff to generate new data from primary and secondary sources during each iteration	5 Primary and Secondary data are easy to access
	Labor Costs	5 Very low setup and operating costs	3 Requires community engagement with each planning cycle	1 High data collection, analysis, and community engagement when done at scale	5 Very low operating costs after the ranking formula is defined. Cost driver is initial community engagement
	Robustness	5 Very resilient to changes in staff, budget, and leadership	2 Changes in budgets and leadership will create inconsistent results over time	1 Changes in budget, staffing and leadership will greatly impact the consistency	5 The formula should produce consistent results over time and as the Division evolves
Defensibility	Support from King County Admin	4 Aligns with ESJ, SCAP and other County strategies. However, it may over rely on census derived maps	3 Reliance on Census Data may not align with ESJ Strategic Plan	5 High degrees of committee involvement in evaluation of projects is likely in line with the ESJ Strategic Plan	3 Reliance on Census Data may not align with ESJ Strategic Plan
	Support from external Partners	4 Aligns with County strategies that address community concerns in a systematic way	3 Score cards can summarize project information	5 Highly systematic way to include community members in a meaningful way	4 Early engagement BIPOC communities can address their concerns in a systematic way

Figure 6 This is a strategy/policy decision matrix comparing the benefits of the four strategies we analyzed across three criteria: Social Equity, Feasibility and Defensibility. The numbers indicate the likelihood of producing a desirable result on a scale of 1-5. 1= low probability, 2= medium low, 3= medium, 4= medium high, and 5=high probability. For instance, a high value in Social Equity: Addressing Historic Underinvestment means the decision-making framework has a high likelihood of countering historic under investment in communities in a systematic way. These values were generated by analyzing current successes and failures found in our case studies as well as relevant literature

Chapter 5: Recommendation and Conclusion

This chapter concludes our analysis and presents a recommended process for incorporating equity considerations into capital program planning and decision-making. This recommendation is derived from our alternatives analysis in Chapter 4. We use themes identified in our research findings (Chapter 3) to provide implementation considerations. We also present a series of general considerations for Roads to apply to any pro-equity decision-making strategy. We end our analysis with a brief conclusion on the impacts of incorporating equity considerations into capital planning and decision-making at Roads.

Recommendation

Based on our analysis, the Road Services Division should consider adopting multi-criteria analysis as a methodology to systematically incorporate equity into their capital program planning and decision-making.

This methodology incorporates meaningful community engagement early in the planning process to define a priority ranking formula that reflects values and priorities of the people of King County. This priority ranking formula can combine technical priorities like safety, sustainability, and resilience with equity considerations in a systematic way that can compare the relative merits of projects within or across portfolios of capital projects. Multi-criteria analysis differs from the other process alternatives by creating a standard measure (priority ranking) to directly compare projects.

Implementation Considerations Specific to Multi-Criteria Analysis

If the Road Services Division chooses to implement multi-criteria analysis as their pro-equity approach to capital program planning and decision-making, the implementation considerations below should ensure that rollout is meaningful and effective. We have included a “punch list” of key steps to design and implement multi-criteria analysis in a systematic pro-equity approach as Appendix 4.

- **Learn from peer governments:** Contact the Multnomah County Transportation Division to identify lessons learned from their process. They have a robust multi-criteria analysis framework that covers their 130 project CIP and effectively uses community engagement throughout the design process.
- **Invest time and resources into the planning process:** Multi-criteria analysis is a planning tool that can be used for many successive planning and budget cycles. Invest time and resources into the planning process that are commensurate with the value you will receive from a comprehensive and pro-equity planning tool.
- **Create an iterative community engagement process:** Community engagement and collaboration can be done in discrete stages with clear deliverables. Early community engagement can define the initial high level service priorities for community members. Later community engagement can inform the weighting of the various criteria in the priority ranking formula. A final round of community engagement can share a sample data set to verify the results of the analysis. This approach allows for multiple check-ins with community members to demonstrate results and accountability to community priorities.

- **Adapt multi-criteria analysis to meet your needs:** Multi-criteria analysis is a robust decision-making tool that has been in the planning literature for more than 40 years. During this time, it has been adapted to include climate change considerations and other emerging priorities. Consider how to include the county’s Strategic Climate Action Plan (SCAP) and other strategies into the priority ranking formula. Additionally, a similar priority ranking formula can be applied to an asset management strategy to ensure maintenance decisions systematically incorporate equity.
- **Utilize additional equity strategies to complement multi-criteria analysis:** Multi-criteria analysis provides a standard measure for comparing projects before they are implemented. Consider utilizing project scorecards to summarize the criteria of the priority ranking formula on a public-facing CIP website. Additionally, project managers can use an equity toolkit to ensure comprehensive inclusion of equity considerations during project delivery.

General Implementation Considerations

Our research identified four strategies for incorporating equity into capital program planning and decision-making. Each of these approaches provides a meaningful method to evaluate the upstream determinants of equity and plan for pro-equity outcomes. If Roads chooses to adopt any of these, they should consider the following implementation considerations.

- **Align equity goals across staff and leadership:** Specific training or workshops for program staff can help build up the internal base of support for the process. In the long run, staff understanding and support are key to ensuring the process is executed in a consistent manner. Similarly, support from Road Services leadership can ensure that program staff have the resources and take the time to meaningfully work through the process.
- **Build support for the decision-making strategy with elected officials:** Ultimately the Road Services Division will need to demonstrate its decision-making process to the King County Executive and Council. Including these key authorizers in early discussion can help establish the equity strategy as a significant process improvement for the County.
- **Do not wait for the “perfect” data:** The historical underinvestment and environmental injustice are harming King County residents now and will continue to hurt them in the future. Delaying the roll out of systematic pro-equity decision-making strategy to wait for better data sources will delay the remediation of clear inequities. If there are concerns about missing or incorrect data, the Division should supplement available data with community input to help determine strategic priorities.
- **Champion transparency and accountability through community engagement:** Community engagement can be leveraged at multiple points throughout the process to identify community priorities, collaborate on the design of the analysis, and practice accountability. Adopting a standardized strategy for incorporating equity also provides the opportunity for transparent alignment to the King County Equity and Social Justice Strategic Plan.

Conclusion

Ending cycles of discrimination by, and alienation from, government processes is a daunting and laudable task. King County is making strides to understand and address the upstream determinants of inequity by aligning departments and agencies to the Equity and Social Justice Strategic Plan. The Road Services Division can contribute to this effort by including equity considerations in capital program planning and decision-making in a systematic way. Equity consideration in capital program planning and decision-making is relatively new but not without precedent. Our research shows that the region has many public managers and planning professionals who routinely use socioeconomic data and community engagement to address historic underinvestment in Black, Indigenous and other communities of color while balancing traditional transportation planning criteria like safety, sustainability, and mobility.

We hope that our research will be beneficial to your commitment to creating a county where all people have equitable opportunities to live and thrive.

Appendix 1: Literature Review

Our Approach to Literature Review

Little academic research is available on the topic of equity in capital planning and maintenance operations. As such, our strategy relies heavily on gray literature and other resources from practitioners who may be developing new methods and strategies in this area. Academic literature about equity framework is still included in this literature review to provide a theoretical basis for later recommendation.

Initial Topics

Our literature review is comprised of the following topics: (1) a brief definition of the term Social Equity and how we will use the term throughout the paper (2) Equity Frameworks for Capital Planners Used in King County, (3) Multi-Criteria Analysis (4) Equity Frameworks for Capital Planners Used Outside of King County (5) Equity in Practice at Other Municipalities, and (6) Analysis Methodology. In addition to identifying broad frameworks and practices, we developed initial case studies from individual municipalities engaged in similar projects to incorporate equity directly into capital planning. These early case studies provide general examples of current approaches to formally incorporating equity into capital road portfolio construction and maintenance. Later in our report, we referenced interviews we conducted to create more in-depth case studies. We use these case studies to provide a detailed comparison of four jurisdictions.

The Term “Social Equity”

Throughout our report, we will reference “equity” and “social equity” as broad, interchangeable terms. Although “equity” and “equality” are similar concepts, “equity” is “a more flexible measure allowing for equivalency while not demanding exact sameness.” Adding the term “social” further “draws attention to the human factor in terms of economic fairness and advantage.” “Social equity” also often implies consideration of rectifying historical harm or injustice, and consideration of how those injustices came to be. Practicing social equity can involve considering a number of identities. For instance, racial equity is critical, due to the history of racist policy in Washington State and King County outlined in Chapter 1. Additionally, practitioners may also consider equity across gender, ability, income, nationality, immigration status, and more. Every aspect of equity is important to achieving the value of providing equivalent benefit to all residents in a jurisdiction. In our research, we will attempt to outline and describe how different organizations think about and practice social equity when doing roads infrastructure and maintenance projects.

Existing King County Capital Planning Equity in Decision-Making Frameworks

Equity Impact Review in King County

The Equity Impact Review (EIR) is a tool offered by King County created by King County Executive Office to aid its departments in aligning practices with the values of the ESJ Plan. The county also offers examples of its use by departments. King County Roads has begun using this tool in project implementation, although it is not currently used in project planning.

The process of using EIR is open-ended, allowing the tool to be used in a variety of circumstances. The county specifies that EIR is expected to be “embedded within the development and implementation process of [a] proposed action.”²² The EIR process is comprised of five steps²³:

- Scope - identify who will be affected by the project, as well as the level of impact, and the duration of impact. EIR encourages agencies to particularly consider impacts on “low income populations, communities of color, and limited-English speaking residents.”
- Assess equity and community contexts - this step includes community engagement to identify concerns of those impacted, and analyzing how the project will affect known disparities, even in unintended ways.
- Analysis and decision process - map out specific alternatives, evaluate each alternative for disproportionate benefits or burdens, and prioritize alternatives by equitable outcomes while reconciling with functional and fiscal policy drivers.
- Implement - while implementing the chosen alternative, stay in contact with communities, collaborators, and employees and continue to measure and evaluate intended outcomes alongside the actual outcomes.
- Ongoing learning - listen, adjust, and co-learn with communities and employees.

Example: ADA Implementation in King County

King County Roads Services recently completed its ADA Transition Plan to bring the county’s roads into compliance with the federal Americans with Disabilities Act of 1990. While the plan identifies areas of improvement, Roads does not have the resources to immediately implement the necessary changes. In the plan, Roads Services outlines a number of methods to identify and prioritize service areas. a thorough physical inventory to identify all areas that may be out of compliance with ADA regulations. Then given that Roads does not have all the funds to immediately fix areas out of compliance, they use a combination of two indices: (1) an Accessibility Index Score, which measures how much the lack of compliance makes the infrastructure physically difficult to access. (2) a Location Index Score, which measures the importance of that infrastructure

²² King County OESJ 2016b

²³ King County OESJ 2016b

in allowing pedestrian accessibility to key areas such as schools, parks, transit facilities, signals or roundabouts, public buildings, and downtown or commercial business centers. The Accessibility and Location indexes are combined for a total score that is ultimately used to prioritize ADA improvements.

Legal Requirements for Equity

Title VI of the Civil Rights Act of 1964

Title VI of the Civil Rights Act of 1964 “prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance.” As many local government agencies receive federal funds, this law applies to most, if not all, agencies we interviewed. Due to the direct, clear nature of the text and its place in the Civil Rights Act, the law is well known, respected, and understood by practitioners. Title VI provides a high-level basis for practicing the values of social equity, and particularly racial equity.

HEAL Act (Healthy Environment for All)

The HEAL Act, which is a Washington State Law passed in 2021, requires seven state agencies including WSDOT to implement steps towards environmental justice. In addition to the seven agencies required to comply, others may opt in. The act includes a definition of 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, rules, and policies.” Further the law sets a target for “equitable sharing of environmental benefits” by setting a goal of 40% of implementing agencies grants and expenditures to be targeted and overburdened communities and vulnerable populations. Establishing this state-level definition promotes an understanding of how environmental policy intersects with racial and social equity.

Equity in Practice in Other Municipalities

Incorporating equity in capital planning and decision-making is a relatively recent practice, with most examples occurring in the last two decades. Our literature review indicates that, although there are relatively few academic studies on the subject, several municipalities have begun incorporating equity consideration into their planning practices in recent years. The methods by which municipalities incorporate equity varies, but a general survey provides King County Roads Services a variety of options to consider. These summaries are a cursory glance at equity practices in various organizations. Appendix 2 offers four in-depth miniature case studies on other organizations.

Portland, OR

Portland has been a leader in including equity and social justice into city practices for years. In 2012, the City Council created the Office of Equity and Human Rights to focus specifically on race and disability. In 2015, the Office of Equity and Human Rights created a set of racial equity goals and strategies which the City Council

codified into City Policy (see *Figure 7*).²⁴ All departments are intended to adopt these goals and strategies and all city employees are responsible for implementation. To accomplish broad adoption of the equity strategies, Portland created a broad Racial Equity Toolkit (RET). The toolkit is a broad guidance document with high level recommendations detailing how a department or program can set racially equitable targets, gather a holistic understanding of their targets, and develop plans to meet those targets. The toolkit is intended to be flexible enough to be used by all departments and scalable for both simple and complex applications. Portland has used the RET as a guide for each city department to set Racial Equity Plans that identify their goals, performance, and evaluation methods.

The Portland Bureau of Transportation developed an Equity Matrix which scores communities (census tracts) based on American Community Survey demographic data.²⁵ Their strategic plan indicates the matrix should be included in the budget process and used when prioritizing upcoming projects. However, clear guidance on how they are operationalizing the Racial Equity Toolkit, or the Equity Matrix is not available at this time.



Figure 7 Portland Equity Goals and Strategies

²⁴ City of Portland n.d.

²⁵ Portland BOT 2017

Washington State Department of Transportation (WSDOT)

Washington State Department of Transportation (WSDOT) launched an Executive Order in 2021 that set forth an anti-racism and diversity, equity, and inclusion plan. The plan aligned with Governor Inslee's commitment to diversity, equity, and inclusion. Further, the plan includes a commitment to upholding a list of federal anti-discrimination laws, as well as definitions of anti-racism and racism²⁶. The same year, WSDOT commissioned a study investigating WSDOT's records to look at equitable compensation in property acquisition, equity of highway construction program investments, workforce representation, and distribution of benefits for transportation investments. The lines of investigation indicate the ways in which WSDOT is attempting to think about equity in future projects. The study did not make significant findings in terms of property acquisition or workforce representation. For highway construction investments, the study suggested that the patterns were not the result of bias by WSDOT but rather "structural and historic factors." For highway construction, the study found that "investments are highly car based, which may be disadvantageous to low-income individuals that are unable to afford a vehicle."²⁷ For future planning, WSDOT also published an 'Equity Lens.' The Equity Lens includes questions for WSDOT staff to self-reflect on equity while completing projects, such as "Who will benefit from our action or project, and who might disagree with it?" The Equity Lens also includes online resources for further learning about diversity, equity, and inclusion as well as definitions for staff to reference²⁸. While the Equity Lens does not contain binding rules, the guidance is meant to encourage staff to embrace social equity and reinforce equity concepts.

Oakland Department of Transportation (OakDOT)²⁹

The City of Oakland updated its city code in 2015 to embed equity into citywide goals and strategies. The Department of Transportation Strategic Plan from 2019, the most recent year available, outlines how the Department will begin to incorporate equity into its goals and strategies. The plan outlines four goal areas, of which Vibrant Sustainable Infrastructure is the most relevant to road services. Under this infrastructure-related goal area, OakDOT lists several specific goals including a goal to "plan and develop projects in an equitable, timely, efficient, and coordinated manner." Further in the plan, OakDOT details specific progress they have made on this goal. They are 60% of the way to creating an interdisciplinary, interagency team that will take charge of coordinating and prioritizing capital projects, and 50% to collecting, analyzing, and distributing information on equity of distribution in planning investments. In this way, OakDOT is still at the beginning of creating and maintaining their priority process and incorporating equity, with few details available. However, they have a number of ambitious goals, and in future plans may have further detail and useful knowledge to share. In addition to their work developing a method to plan and develop projects equitably, OakDOT's other goals include improving asset management and coordinating land use with transportation planning.

²⁶ Washington State Department of Transportation 2021a

²⁷ Barber et al. 2021

²⁸ Washington State Department of Transportation 2021b

²⁹ City of Oakland Department of Transportation 2019

The City of Baltimore convened an Equity in Planning Committee in 2015, which recommended an analysis of the Baltimore Capital Improvement Program (CIP). The Committee made several additional recommendations, but we focus here on the CIP analysis, which is most relevant to our client. The full analysis of the CIP covered the plan for the years 2014-2020 and outlines a replicable method for determining the scale of impacts of a project. For instance, a project could be “local” and largely benefit a single community, or it could be “multi-neighborhood” or even “city-wide” depending on the scale. The analysis used units called “Community Statistical Areas (CSAs)” to spatially define communities. CSAs are organized around census tract boundaries.

In addition to looking at spatial impact of projects, the analysis looks at equity impact across several criteria. The criteria are identified using the City of Baltimore’s Equity Lens, which describes four areas of equity that every planner should consider when beginning a project: structural equity, procedural equity, distributional equity, and transgenerational equity. Each area of equity is defined with a central question described below.

1. **Structural Equity:** What historic advantages or disadvantages have affected residents in the given community?
2. **Procedural Equity:** How are residents who have been historically excluded from planning processes being authentically included in the planning, implementation, and evaluation of the proposed policy or project?
3. **Distributional Equity:** Does the distribution of civic resources and investment explicitly account for potential racially disparate outcomes?
4. **Transgenerational Equity:** Does the policy or project result in unfair burdens on future generations?

Baltimore selected community-based indicators to measure impact in the CIP to each area of equity. For structural equity, they consider race, diversity and income. For procedural equity, they note the most recent plan year that an area master plan or study was adopted for a region. For transgenerational equity, they look at the percentage of age groups in the area in question. And for structural equity, they look at demographic data for vacancy rates, crime, life expectancy, and property type.

Using both the community-based indicators and an analysis of the area of impact, the CIP examines and details the impact of projects 2014-2020. Moving forward, the plan is updated every fiscal year to describe how resources have been spent, the impact along equity lines, and future work to be done.

Massachusetts Department of Transportation (MassDOT)³²

The Massachusetts Department of Transportation (MassDOT) has included an equity analysis in its annual Capital Investment Plans since at least fiscal year 2016, the earliest year plans were available online. Here, we examine the analysis given in the draft plan for fiscal year 2022, the most recent plan available. In the 2022 geographic analysis, MassDOT uses a formula that has been in place since 1972 to distribute funds to

³⁰ Baltimore Neighborhood Indicators Alliance 2019, pgs. 8 -11

³¹ City of Baltimore Equity in Planning Committee 2022

³² MassDOT 2022

municipalities. The formula distributes funding with 20.83% based on total population in each area, 20.83% based on total number of employed people in each area, and 58.33% based on the total number of lane miles in that area. MassDOT considers funding distribution equitable if it matches the distribution that would be made using this formula.

In addition to the above geographic analysis, MassDOT does a social equity analysis which looks at the distribution of funds across census tracts using their equity indicators. MassDOT's chosen equity indicators include percent minority residents (not defined), percent of residents with low-income, and percent of residents with limited English proficiency (LEP). MassDOT uses a state practice which states that differences on the order of 20% between groups may be observed without implicating equity. In the 2022 draft report they state that their analysis "does not seem to indicate social equity concerns."

Analysis Methodology

Equity and social justice are prominent values that many community members, community organizers and political leaders have incorporated into their planning and decision-making practices. However, formal and systematic inclusion of equity and social justice in infrastructure planning decision-making is a relatively novel practice for public managers to consider. As such, our analysis is based on a descriptive research design which aims to capture an accurate snapshot of the current state of equity consideration in municipal capital planning and decision-making. We conducted this research primarily by examining government documents and interviewing practitioners. The precise qualitative analysis methods used to conduct this research can impact the validity of our results. As such we examined the academic literature with the goal of identifying practical analysis methods for our purposes.

Qualitative Analysis Methodology: Interviews

Our goal is to determine a practical method for examining government documents and interviews with municipal capital planning professionals. A basic typology of qualitative analysis methods places methods on a continuum from description to interpretation based on the degree of data transformation conducted during the analysis processes.³³ Content analysis and thematic analysis are considered suitable methodologies for qualitative descriptive studies with a low level of interpretation whereas methods such as grounded theory are valuable for studies which require high levels of interpretation.³⁴ Given our descriptive research design we determined that either content analysis or thematic analysis would be within the scope of our project.

Content analysis and thematic analysis are methods that provide researchers with a systematic way to review text documents or transcriptions of interviews and extract a valid meaning of their content. Both methods use systematic organization, coding and categorization of text. Content analysis aims to create a broad description of a phenomenon by producing a set of specific concepts that describe the phenomena.³⁵ Content analysis specializes in transforming qualitative data into quantitative data for the purposes of interpreting meaning

³³ Sandelowski & Barroso 2003

³⁴ Bengtsson 2016

³⁵ Vaismoradi & Bondas 2013

from the frequency or distribution of key words and concepts. Thematic analysis organizes qualitative data along themes that emerge after coding and during analysis of the data.³⁶ Thematic analysis can go further than describing the data and provide interpretation of various aspects of a research topic.³⁷

The tradeoff we faced was between providing broad themes that tie together all our interviews or providing a narrower description with quantifiable concepts and phrases.

Incorporating Equity into Multi-Criteria Analysis

Multi-Criteria Analysis is an analytical framework that has been part of the urban planning literature since the mid-1970s. It is an analytical framework that is well suited to evaluate both qualitative and quantitative³⁸ characteristics of a set of projects. Different forms of multi-criteria analysis are commonly used in infrastructure planning and decision-making. Generally, multi-criteria analysis includes four stages:

1. Defining the problem and assessment structure
2. Determining the weights of the criteria and assessment structure
3. Evaluating options using the criteria, without weighting
4. Apply the weights to each criterion to produce a full score for each alternative

There are many forms of multi-criteria analysis using this general structure. A common application of multi-criteria analysis in urban planning is to use a set of criteria to rank a set of projects and produce a prioritized list of projects. Although not yet standardized in multi-criteria analysis, organizations are increasingly including social equity into their project prioritization systems through multi-criteria assessment. Methods of incorporating equity include using econometric models or indicators, measuring the differences in benefits and burdens between groups, and vulnerability measurement.

³⁶ Braun & Clarke 2006

³⁷ Boyatzis 1998

³⁸ Sierra et al. 2018

Appendix 2: Case Studies

In this appendix, we present miniature case studies of four infrastructure and public works organizations that incorporate equity into capital project prioritization and decision-making. These case studies focus on the process, underlying data sources, the outputs, and outcomes of each process, and what each organization has learned about the opportunities and challenges of incorporating equity into their work.

We present these case studies in an order based on the way in which each organization factors equity into their decision-making. At one end of the spectrum, the process is strictly defined and applied to every project in the same way such that projects are comparable across portfolios. At the other end, the process is loosely defined, with individual project planners given bureaucratic discretion to incorporate equity in infrastructure planning and maintenance.

The case studies are based on personal interviews conducted with staff members from each organization and relevant documents outlining equity-based procedures and outputs. Unless cited otherwise, all quotations are from interviews with relevant officials.

Multnomah County Transportation Division – Multi-Criteria Analysis

The Multnomah County Transportation Division (MCTD) in Oregon uses detailed multi-criteria analysis to systematically determine capital project prioritization. This analysis is based on six criteria, of which equity is one of the most heavily weighted. The result is a list of all capital projects across the county, scored and ranked by six criteria, each criterion with multiple analysis factors. MCTD hopes the inclusion of equity in project prioritization will result in a larger number of capital projects and improvements in areas with higher proportions of people of color and low-income residents.

Data

MCTD officials determine which projects are chosen by using both primary and secondary sources to identify high-priority places within the County to address inequity. The secondary data sources include the U.S. Census, the Environmental Protection Agency, and the Multnomah County Health Department, which help determine the proportion of priority population groups in specific locales, including people of color, seniors, people with disabilities, low-income residents, children, and people with limited English proficiency, as well as environmental problems and health risks across the county.³⁹ With these places identified, MCTD conducts its own outreach sessions to collect primary community feedback. This feedback helps officials more accurately determine areas of concern, potential improvements, and what criteria in the analysis MCTD should prioritize.

Process

MCTD considers six criteria in its multi-criteria analysis: safety, equity, asset management, mobility, resiliency & emergency management, and sustainability.⁴⁰ Within each criterion are several factors; for example, under

³⁹ Multnomah County Transportation Division 2020, p. 11

⁴⁰ Multnomah County Transportation Division 2020, p. 8

the equity criteria, factors include people of color, limited English proficiency, older adults, health indicators, and so on. Officials determine each project's equity criteria score by assigning an ordinal rank from 0 to 3 based on the concentration of target populations or health risks within it. A 0 indicates little to no concentration of the relevant group(s), and a 3 indicates a high concentration.⁴¹ After scoring each factor, MCTD sums all scores to produce a total score for the criteria. They then apply standardized weights to determine the criteria's final score.

An important facet of this process is its replicability. One of those consultants who helped develop the analysis explained its importance:

The consultant team set it up within GIS so that the projects would be able to be scored, and then as projects were modified and new projects were added in, the county asset management team would be able to carry that forward.

MCTD intends for this process to become the standard way to judge the importance of maintenance and improvement projects, and one that is not reliant on particular people continuing to work within the organization.

Outputs and Outcomes

The process above produces a list of all extant capital projects in the MCTD portfolio, ranked by their analysis score. The higher a project's total score across all six criteria is, the higher of a priority it is for MCTD. This list represents "the order in which projects would be delivered if limitless resources existed and no emergencies or other mitigating factors occurred," although circumstances such as current financial limitations, natural disasters, new cost-sharing and grant opportunities, and public input may alter the order in which MCTD approves capital projects.⁴²

MCTD's desired outcome is this analysis directs investment to underserved communities. Our interviewees expressed the hope that this process means that "we actually have safe infrastructure in our lowest income areas with the highest proportion of people of color." Having only been adopted in 2020 and with only a few projects approved in accordance with the multi-criteria analysis, it is still too early to determine if Multnomah County achieved this outcome. However, our interviewees are optimistic, and stated that the act of creating and executing the analysis has already helped their organization think about the equity implications of its work more often than before.

Lessons Learned

The creation of this analytical tool was the result of long deliberations within and without the MCTD. According to our interviews, county staff deliberated at length over how population groups would be analyzed and how scores would be calculated. Some desired equity factors ultimately did not make it in. For example, Multnomah County chose not to include a factor measuring a project's potential for quality-of-life

⁴¹ Multnomah County Transportation Division 2020, p. 11

⁴² Multnomah County Transportation Division 2020, p. 89

improvement within “marginalized and underrepresented communities” because of a lack of data which would prevent them from objectively measuring the strength of that factor. Additionally, the creation of the criteria weighting system was informed by internal discussions among county staff and specific input from the community about the importance of each criterion.

Staff interviews were largely positive about the direction of the project but did acknowledge some difficulties. Since Multnomah County, like King County, is facing fiscal stress, measuring the success of the program will be difficult. Lower levels of funding will likely result in fewer new capital projects centering equity. Furthermore, our interviewees acknowledged that the multi-criteria analysis focuses on outcome equity without meaningfully including process equity. When the time comes to evaluate and update the analysis process, our interviewees stated that they hope to be able to expand the scope of their analysis so that equity can play an even more important role in prioritizing projects. When asked to rank their organization's progress on equity they gave their efforts a 2-to-3 out of 5 “in terms of our ability to actually use equity in decision-making around transportation improvements.”

Seattle Department of Transportation – Equity Toolkits and Project Scorecards

The Seattle Department of Transportation uses racial equity toolkit and project evaluation scorecards to encourage planners to think about the equity implications of a particular project, both before adoption and after completion. These tools use Census and GIS data to determine target areas, and community engagement data to determine the ability of a project to improve the well-being of the city's residents.

Data

SDOT considers capital projects using data and analysis from the U.S. Census and Seattle's Office of Planning and Community Development. The Office's *Seattle 2035* document categorizes capital projects under two geographic dimensions: “areas of opportunity,” which refers to locations that have high access to opportunities that measure access to resources people need to succeed and thrive, and “areas of displacement,” which refers to locations where displacement of marginalized populations may be more likely.⁴³ These maps are a starting point for further exploration of the communities who are being served or harmed by a capital project. SDOT also conducts its own surveys within communities to determine resident attitudes towards current and future capital projects. This data helps SDOT determine whether a planned capital project is supported by the community the project is meant to benefit.

Process

SDOT evaluates equity effects and opportunities on a project-by-project basis, rather than across the capital portfolio as in Multnomah County's multi-criteria analysis. Current capital master plans do not have consistent measures for equity within their criteria, so many projects “have their own way of putting this framework

⁴³ Seattle Office of Planning & Community Development 2016, ps. 17-19

together.” Thus, project planners and managers use a variety of tools which are meant to encourage contemplating how capital projects may be implemented equitably.

One such tool is the Racial Equity Toolkit provided by the Seattle Office of Civil Rights.⁴⁴ Similarly to Portland’s Racial Equity Toolkit, this six-page document provides a voluntary guide for project planners to set outcomes, involve community members, anticipate benefits and burdens, and plan for project evaluation along equity guidelines. The toolkit also provides examples of what forms community outreach may take, as well as a glossary of terms. While the toolkit encourages discussion and consideration of equity within projects, it does not include data metrics with which the project can be evaluated against other projects.

Recently, SDOT has begun using a pilot evaluation scorecard as another tool to encourage equitable project planning. Unlike the racial equity toolkit, which is an informal planning document, the scorecard uses data to evaluate a particular project based on certain criteria. The scorecard measures various metrics across eight different user- and system-level goal areas, such as safety, mobility, accessibility, sustainability, and collaboration. For each goal, the scorecard requires how the pilot performed for specific groups of users, such as users of color, users with disabilities, users with low incomes, and other historically marginalized or disadvantaged groups.

SDOT has also used a similar scorecard to compare projects within a larger capital plan before implementation. For example, SDOT made use of such a scorecard in the NE 130th St & Shoreline Multimodal Access Study.⁴⁵ In this case, equity was measured by the ability of projects to incorporate improvements for vulnerable travelers, ability to improve access to social services, and whether the project is located in areas with high equity-focus populations in accordance with the Racial and Social Equity Composite Index from the City of Seattle Open Data Program.

Outputs and Outcomes

The immediate outputs are completed toolkit documents and project scorecards. The initial outcome is the ability of capital project planners to better evaluate the equity considerations of their projects. Toolkits can help planners develop the project charter and guide the project implementation to better reflect equity concerns. Scorecards provide project managers with an evaluation of how a project benefited, or can benefit, target populations, and guide future projects which share the same goals.

Our interviewee’s expected long-term outcome of these tools is for SDOT to improve the “distribution of investment and benefits among different communities.”⁴⁶ Their stated goal was to increase community satisfaction, determined by engaging community members in capital projects.

⁴⁴ City of Seattle n.d.

⁴⁵ Seattle DOT 2020

⁴⁶ Seattle DOT 2015, p. 37

Lessons Learned

Unlike Multnomah County’s approach emphasizing the systemic review of every project in a portfolio, SDOT’s approach encourages, but does not require, a variety of tools for project teams to use. The flexibility provided to individual capital projects can help increase staff buy-in by making mandates to include equity less onerous. At the same time, it makes projects difficult to compare, raising questions about whether SDOT is efficiently addressing equity across all of its work. These tools are not formal enforcement mechanisms but provide tools for project managers to advance equity for their individual project, which they can use as they see fit. They are dependent on staff making important decisions based on equity and community feedback. Still, our interviewee was positive about the direction SDOT is taking in incorporating equity, and when asked to rank their progress on equity they gave their efforts a 3 out of 5. It should also be noted that this process is changing to a more department-wide focus with the adoption of the Transportation Equity Framework in 2022, which seeks to align best practices across all of SDOT.⁴⁷

King County Wastewater Treatment Division – Strategic Opportunity Indicators

King County’s Wastewater Treatment Division (WTD) balances equity with other County priorities through the use of *strategic opportunity indicators*. These indicators are based on whether projects lie in “equity priority areas,” or locales with high proportions of “equity-focus communities,” or target communities with a history of being underserved by the government. “Equity-focus communities” include neighborhoods with a high proportion of people of color and low-income residents. Rather than using a numerical score to represent the magnitude of equity opportunities for each project, WTD simply indicates whether a project has those opportunities or not. This system is intended to guide prioritization decisions, inform project charter formation, and influence how the project is carried out.

Data

WTD determines the equity opportunities of a project using data from the CDC Social Vulnerability Index and demographic maps from the King County GIS Center.⁴⁸ The division also uses some community outreach to determine how equity-focus communities can be included in the project implementation, including hiring from equity-focus communities or working closely with community organizations.

Process

Based on the above data, WTD uses this data to examine how a project may be able to advance economic and social equity, based on a project’s location in or near equity-focus communities. This is part of the process that examines all county priorities together, which include equity, sustainability, clean water, and community improvement. There are five yes/no questions relating to equity:

⁴⁷ Seattle Department of Transportation 2022

⁴⁸ King County WTD, p. 6

1. Is the project located in an area of high poverty, racial and/or linguistic diversity; located in an area designated by the CDC Social Vulnerability Index Map, or has been designated on KC demographic maps as having the opportunity to improve access to the 13 Determinants of Equity?
2. Does the project have the potential to directly address negative burdens caused by facilities and systems on impacted communities?
3. Does the project have the potential to optimize benefits for those whose access levels are most deficient or have historically been underserved?
4. Does this project have the potential to partner and collaborate with priority populations?
5. Does this project have the potential to advance economic justice via means such as Community Workforce Agreements, by contracting with consultants from priority populations, or through partnerships with companies and community-based organizations that advance economic justice, etc.?⁴⁹

The score for each strategic opportunity is the sum of yeses to the above questions. These strategic opportunities are considered equal with no weighting. WTD can use these scores as a prioritization metric.

Since these are yes/no questions, the *number* of equity opportunities can be compared across projects, but the *size* of those opportunities cannot. A smaller project with less opportunities to hire from priority populations would theoretically receive the same score as a large project in an equity priority area with deep relationships to community organizations and multiple construction firms. As our interviewee phrased it, this process “[does not] measure the magnitude, just whether it has potential.”

Outputs and Outcomes

The immediate output is a metric by which the division can compare project scores. This process also helps Division staff “identify very early, before we even seek funding, a project’s ability to advance equity.” In fact, the use of strategic opportunity indicators may be more important for the way of thinking it inspires within WTD than the prioritization output it generates, with our interviewee calling the former the “real value” of the project.

Nonetheless, strategic opportunity indicators inform further equity developments within project delivery. WTD uses the insights gained from strategic opportunity indicators as part of the basis for each project’s charter. The indicators are also reviewed at each project checkpoint to determine whether division staff are adequately addressing identified opportunities during implementation. The Division hopes to eventually collect this information to inform future projects about best practices to address equity and advance economic justice.

Lessons Learned

Because this project has only been implemented within the last couple of years, it is too early to tell whether this project is noticeably improving the county’s infrastructure in an equitable way. However, our interviewee

⁴⁹ King County WTD, p. 6

has been encouraged by the change they have seen so far within their staff. Our interviewee rated their progress 3 out of 5, saying that it seems “there has been broad acceptance among leadership and staff that this is part of how we do business.”

Tacoma Public Works – Transportation Division – The Equity Lens Approach

The Transportation Division of Tacoma Public Works (TD) has adopted what we call an “equity lens” that informs some aspects of capital project decision-making. Using data compiled in an equity index and community surveys, the TD uses various ways to determine how a project can serve priority populations, such as people of color, low-income residents, and people with disabilities. These findings can be presented to the council as a potential, but not mandatory, factor for project approval.

Data

The TD relies on the Equity Index, a tool developed by Tacoma’s Office of Equity and Human Rights. This index “uses 29 data points sorted into five determinant categories to determine where community members are not able to access services or where services do not meet community needs.”⁵⁰ This index provides the bulk of data the division uses to understand the impacts a capital project may have on different populations. Primary quantitative data sources include the traffic safety data collected internally. The division also makes use of survey data from community members regarding the quality of public works and their satisfaction with Tacoma’s infrastructure, collected by the TD itself.

Process

One tool the division employees use to apply this “equity lens” is a “first review” of projects. This review overlays project locations with both traffic safety data and data from the Equity Index, classifying each project as having low or high opportunities to address equity. Building on the first review, the division may also score individual projects based on formulas incorporating safety and equity to provide a comparative heuristic score for city decision-makers. One example a staff member provided was for the Safe Routes for Schools program:

It was a formula that we from the staff side, our consultants had created...it was a weighted system, so we did give crashes a higher weight...and then we equally weighted income, free and reduced lunches, and students of color, and so there's a formula that populated what that scoring would be...

Both of these processes are similar to multi-criteria analysis techniques that Multnomah County uses, as stated above. The key difference between Multnomah County’s approach and Tacoma’s equity lens approach is that decision-makers are not required to use equity lens ideas. Instead, the equity lens is a tool used to help decision-makers make informed choices. As in SDOT’s case, this may be a way to increase process buy-in among staff by allowing more flexibility in how a project team may approach considering equity. It was also

⁵⁰ City of Tacoma 2020

noted in interviews that this process is seen as a first step, not a final one, towards broader ways of addressing equity in infrastructure.

Outputs and Outcomes

The output of the equity lens process is a number attached to each project that indicates the relative degree of opportunity to address equity. Within the division, this determines which projects can apply for certain funding grants that require equity considerations. This also provides information to the council, who can use it when determining which projects will be funded within the portfolio.

The desired long-term outcome is how these processes can help increase staff buy-in to policies that include equity in capital planning. According to a division staff member, Tacoma is “not at the point where we’re incorporating equity in every component of our decision-making.” These policies can serve as an enforcement mechanism for this change. Embedding equity into the decision-making process has a trickle-down effect in the Division’s work, “making sure that everyone is aware of that policy and what it means, and...understand, communicate exactly why we’re going that route.” In this way, the “equity lens” approach can be seen as an intermediate phase on the way to adopting firmer policies that explicitly include equity in all prioritization processes.

Lessons Learned

While the “equity lens” approach encourages both division officials and the Tacoma City Council about the potential to address equity concerns, this approach represents a new direction for the city, and thus carries some difficulties. Our interviewee pointed out that a lack of data makes the inclusion of certain priority populations, such as people with disabilities, difficult and patchwork across their portfolios. Overall, however, they were pleased with progress towards the inclusion of equity in capital projects, and when asked to rank their organization's progress on equity they gave their efforts a “strong 3 out of 5, getting to a 4 out of 5.”

Appendix 3: Interview Protocol

Interview Guide

Inroads Toward Equity

Incorporating Equity into Capital and Operations Decision-making

Summary

This document provides a basic outline of our interview protocol. We intend to have 4 strategic interview groups: KC Roads staff, other KC staff (e.g. Office of ESJ), capital planning practitioners from peer municipalities and academics/nonprofits operating in this space. Our goal when selecting interviewees is to target experienced decision makers or thought leaders. The interviews will be semi-structured and interview transcripts will be analyzed to identify consistent themes among the interviews. We will use zooms transcription feature to document the interviews. We will have two Evans School team members conducting each interview. The analysis of the transcripts will follow a Thematic Analysis approach that aims to extract broad themes from the entire set of interviews. Specific examples from the interviews may be developed into case studies to demonstrate equity and decision-making in practice, as it pertains to this project.

Basic Instructions for the interviewer:

Inside of Roads Services, decision-making is primarily done at the “Program” level. For other jurisdictions, the phrase “capital improvement program” or “capital program” can orientate the interviewee to the correct scope, i.e., infrastructure projects.

One week before the interview

1. Send an email including our goal, introduction, agenda, how long the interview will take (30min), describe our intent to use zooms transcription service, describe our plan for allowing their approval for any direct or indirect quotes and our plan to delete the transcriptions at the end of the research project
2. Set up the time, create a zoom meeting and send a link to the interviewee.

Two business days before the interview

3. Send an email reminding the interviewee.

During the Interview

4. Questions should be direct, though the interviewees' reaction should be considered in case the line of questioning is not appropriate for the interviewee.

5. At the end of the interview, leave a space for interviewees to provide any information that may not have been covered during the interview.

How to read the draft interview questions:

- 1) This is the primary questions
 - a) This is a clarifying question or follow up question 1.
 - b) This is a clarifying question or follow up question 2.

King County Roads Services Division Staff

The purpose of these interviews is to understand how King County's Equity and Social Justice Plan can relate to decision-making at King County Roads Services Division. These interviews should inform our analysis of the factors that need to be in place for successful implementation of equity into capital and operations/maintenance decision-making. Some factors that have led to success at other municipalities may not work for the Roads Services Division while others may already be in place.

Draft interview questions:

1. How do you define equity in capital and operating/maintenance decision-making?
 - a. What helps you define equity?
2. How does equity play into program level decision-making?
 - a. Are there any challenges that arise when applying equity?
 - i. Are these challenges related to operations, driven by statutory authority, or resource driven?
 - b. Are there any examples of equity applied at the program level?
 - i. What contributed to the success of or challenges to that application of equity?
 - ii. How do you feel when equity is included in decision-making in these examples?
3. What might indicate an equitable outcome in one of your (capital) projects?
 - a. How about a hypothetical project or a peer's (capital) project?
 - b. How do you measure equitable outcomes in your (capital) project or program?
4. What are 3 factors that can lead to successful incorporation of equity in program level decision-making?
 - a. Are there any factors that are internal to your division?
 - b. Are there any factors that are external to your division?
5. On a scale from 1 to 5 how would you rank your division's equity maturity, and why?

Other Capital Planning Practitioners

The purpose of these interviews is to understand how other municipalities apply equity in capital and operational decision-making processes. These interviews should help to identify lessons learned from organizations who have experience incorporating equity into decision-making. Additionally, themes and topics raised in these interviews may be developed into specific case studies.

Draft interview questions:

1. How do you define equity in capital and operating/maintenance decision-making?
 - a. What helps you define equity?
2. When did equity become a priority for your organization?
 - a. Was there a specific event or thought leader?
 - b. Was there a policy decision?
3. How does equity play into program level decision-making?
 - a. Do you have specific tools or resources?
4. Are there any challenges that arise when applying equity?
5. How about a hypothetical project or a peer's project?
 - a. If there have been challenges, how have you overcome them?
6. How do you define success when applying equity to decision-making?
 - a. What might indicate an equitable outcome in one of your capital projects?
 - b. How do you measure an equitable outcome in one of your capital projects?
7. What are 3 factors that can lead to successful incorporation of equity into program level decision-making?
 - a. Are there any factors that are internal to your division or agency?
 - b. Are there any factors that are external to your division or agency?
8. On a scale from 1 to 5 how would you rank your division's equity maturity, and why?
9. Are there any thought leaders or peer organizations that we should know about?
10. What advice do you have for a capital planner who is considering how to apply equity to decision-making?

Academics or Staff of Relevant NGOs

The purpose of these interviews is to get a wider perspective on equity in capital and operational decision-making processes. These interviews should widen the reach of our research and possibly identify new ways to apply equity in decision-making. Additionally, themes and topics raised in these interviews may be developed into specific case studies.

Draft interview questions:

1. What is your preferred definition of equity as it pertains infrastructure planning?
 - a. How does that definition apply to government decision-making?
 - b. How does that definition apply to equity in infrastructure planning?
2. What processes can be used to achieve equitable outcomes in infrastructure decision-making?
 - a. How can planners use equity to inform their decisions?
 - b. How can operations and maintenance crews use equity to inform their decisions?
 - c. Where have these processes been applied?
3. Can you think of key examples of where equity was appropriately applied to infrastructure planning?
 - a. Are there any cities that are doing this well?
 - b. Are there any countries that stand out?
 - c. Is there an example of a specific project that stands out?
 - d. Why was that example successful?
4. What would indicate success for a hypothetical project?
 - a. Are there any indicators that you would look for 1 year before construction?
 - b. Or 1 year after construction is complete?
 - c. Or 5 years after construction?
 - d. How do you measure an equitable outcome in a capital program?
5. What are 3 factors that can lead to successful inclusion of equity in program level decision-making?
 - a. Are there any internal factors?
 - b. Are there any external factors?
6. Are there any thought leaders or peers that we should know about?
7. What advice do you have for a capital planner who is considering how to apply equity to decision-making?

Other King County Staff

The purpose of these interviews is to determine if there are any examples of excellence within the county. Interviewees may be members of another division or part of the Office of Equity and Social Justice. These interviews should help to define how decision-making processes align with King County's Equity and Social Justice Plan. Additionally, themes and topics raised in these interviews may be developed into specific case studies.

Draft interview questions:

1. How do you define equity in capital and operational decision-making?
 - a. What helps you define equity?
 - b. Are there any examples of equity informing capital and operational decision-making?
2. How does equity play into program level decision-making?
 - a. Do you have specific tools or resources?
 - b. Are there any challenges that arise when applying equity?
 - c. Are there any examples of equity applied at the program level?
3. What might indicate an equitable outcome in one of your (capital) projects?
 - a. How about a hypothetical project or a peer's (capital) project?
 - b. How do you measure equitable outcomes in your (capital) project or program?
4. How does your example of the application of equity align with the ESJ Strategic Plan?
 - a. Are you using specific tools?
 - b. Are you using any methods that are not defined by the Office of Equity and Social Justice?
 - c. Are there any specific considerations for capital or operational decision-making?
5. When did equity become a priority for your organization?
 - a. Was there a specific event or thought leader?
 - b. Was there a policy decision?
6. What are 3 factors that can lead to successful inclusion of equity into program level decision-making?
 - a. Are there any factors that are internal to a division?
 - b. Are there any factors that are external to a division?
7. Are there any thought leaders or peer organizations that we should know about?
8. What advice do you have for a capital planner who is considering how to apply equity to decision-making?

Appendix 4: Multi-Criteria Analysis Punchlist

The goal of this document is to provide key steps to develop a priority ranking formula (multi-criteria analysis) that can be applied to the entire capital improvement program, similar to Multnomah County's method.⁵¹

Pre-planning: establish the foundations of the priority ranking formula

- ☐ Review the goals of the county (e.g., EJS, SCAP and others)
- ☐ Identify the goals of the Roads Services Division (e.g., safety, sustainability, resiliency)
- ☐ Define the goal of the priority ranking formula and how it relates to the CIP (e.g., assign revenues to the highest priority projects)

Planning: identify the initial criteria and plan community engagement

- ☐ Survey Road Service Division's Assets (identify system improvements)
- ☐ Conduct initial community engagement to identify community goals and identify projects or project locations (e.g., open houses and online format)
- ☐ Identify a preliminary project list

Initial Design: produce a schematic design of the priority ranking formula for review

- ☐ Translate county, Roads Services, and community goals into evaluation criteria (e.g., distance to school, highest concentration older adults in census tract) and scoring methodology (e.g., 0 to 3 or 1 to 10)
- ☐ Conduct community engagement to gather input on the project list, evaluation criteria and the relative importance of the evaluation criteria (e.g., open houses, online formats, with possibility of surveys and written correspondence)
- ☐ Identify initial weighting of the evaluation criteria based on subject matter expert and community engagement input

⁵¹ Multnomah County Transportation Division 2020

Final Design: produce a finalized priority ranking formula and prioritized project list

- ☐ Develop the priority ranking formula in GIS and other available resources
- ☐ Test the priority ranking formula by developing alternative weighting assignments that match subject matter expert and community input
- ☐ Conduct community engagement to gather feedback on the priority ranking formula, alternative weighting assignments as well as the proposed project list (open houses, online formats, with possibility of surveys and written correspondence)
- ☐ incorporate subject matter expert and community feedback into the final design of the priority ranking formula

Implementation: use the priority ranking formula to assign revenues in a pro-equity way

- ☐ Assign revenues to projects based on their ranking (e.g., biennial budget or 5-year CIP)
- ☐ Minor updates every 2 years (e.g., identify emergent needs, account for technology changes or changes in environment)
- ☐ Substantive updates every 5 years (e.g., evaluate project list to update scope and cost estimates, identify new projects in response to transportation needs)
- ☐ Regular public engagement to collect input on transportation needs
- ☐ Possibility to update the priority ranking formula in response to shifting priorities as needed (e.g., a new strategic plan is enacted or substantive shifts in the public's priorities)

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