

# Equity in Practice

A Guidebook for Transit Agencies

in collaboration with **CNT**



## **TransitCenter**

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TransitCenter works to improve public transit in ways that make cities more just, environmentally sustainable, and economically vibrant. We believe that fresh thinking can change the transportation landscape and improve the overall livability of cities. We commission and conduct research, convene events, and produce publications that inform and improve public transit and urban transportation. For more information, please visit [www.transitcenter.org](http://www.transitcenter.org).

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**Millions of riders encounter inequities in transit systems. These include disparities between transit and car-based travel, which has been prioritized at all levels of government policy to the detriment of transit. Many of these inequities can be traced to racial discrimination in mid-twentieth-century planning.**





**This report addresses the persistent inequities within transit. We examine how current practices in the field of transit can marginalize groups of people—including Black people, Indigenous people, people of color, people with low incomes, people with disabilities, women, and LGBTQ people.**

## **About This Report**

At its best, public transit provides safe, affordable, and convenient access to the places that allow people to lead healthy, fulfilling lives. Every day, buses, trains, paratransit, and other transit modes connect millions of people to jobs, education, health care, goods and services, friends and family, and other essentials.

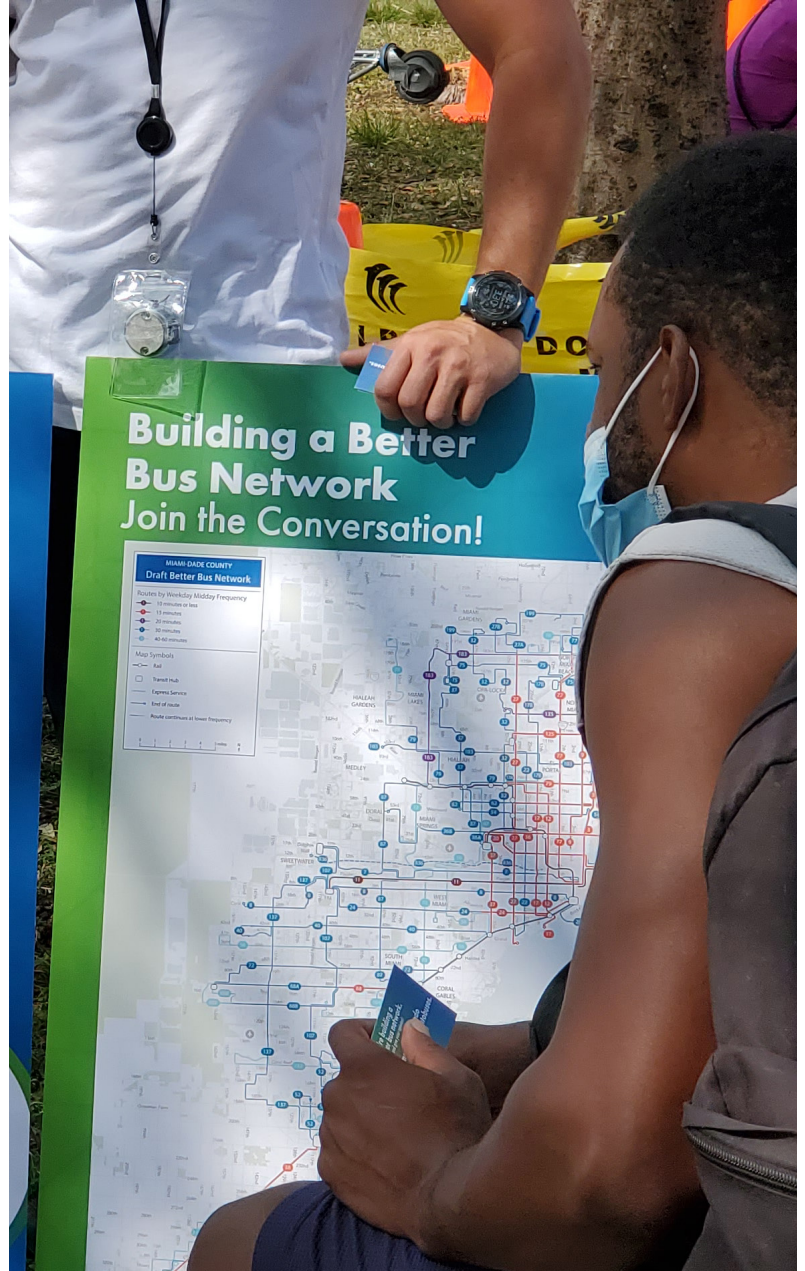
But millions of riders also encounter inequities in transit systems. These include disparities between transit and car-based travel, which has been prioritized at all levels of government policy to the detriment of transit. They also include disparities within transit systems, such as fare structures that make good service unaffordable to people with low incomes, policing that brutalizes and discriminates against Black and brown riders, safety concerns that are felt more strongly by women and LGBTQ people, and infrastructure that is inaccessible to people with disabilities.

Many of these inequities can be traced to racial discrimination in mid-twentieth-century planning. In large urban regions, patterns of mass suburbanization produced expensive rail services that whisked affluent, white commuters through the neighborhoods of Black and brown people. Meanwhile, the disproportionately Black and brown residents who remained in central cities were served by affordable but unreliable local transit networks. Today, federal civil rights protections prevent some policies that would obviously worsen racial and social inequities. But even under “neutral” policies, the effects of past discrimination persist, maintaining disparities embedded in the system.

This report addresses the persistent inequities within transit. We examine how current practices in the field of transit can marginalize groups of people—including Black people, Indigenous people, people of color, people with low incomes, people with disabilities, women, and LGBTQ people. And we explore how some agencies are changing these practices, confronting racism and discrimination in their own decision-making, and establishing new protocols to prioritize riders who have historically been neglected.

Many transit practitioners are working toward change but face institutional barriers to industry-wide transformation. The main federal mechanism of transit equity oversight, the Federal Transit Administration’s implementation of Title VI of the Civil Rights Act of 1964, focuses narrowly on preventing system changes that would worsen social disparities. While Title VI guards against some inequities, harmful policies can (and do) slip past its blunt approach. And

**While 60% of US transit riders identify as people of color, two-thirds of agency staff and leadership roles are filled by white people.**



it is fundamentally reactive: designed to prevent the worst but not to motivate anything better.

At many transit agencies, lack of leadership attention and lack of representation stymie internal progress on equity. While 60% of US transit riders identify as people of color, two-thirds of agency staff and leadership roles are filled by white people. The number of people riding influences how boards set agendas and how governments disburse grant money, so financial or political pressures may dampen transit agency efforts to preserve equity, which can run counter to increasing ridership or revenue.



Transit agencies must elevate equity as a principle that governs every decision and then commit to operationalizing equity in the day-to-day practices of management, budgeting, workforce hiring and retention, public engagement, data analysis, policy making, and service provision. They should acknowledge transit agency practices that, regardless of intention, have marginalized groups of people and then shift power to these people so they can meaningfully shape the transit practices that affect them. By treating equity as a guiding value, transit agencies can repair disparities within their systems and make their services more effective at addressing injustice in the broader transportation network.

This report aims to provide the transit industry with a shared vocabulary to productively discuss issues of equity and to supply models for operationalizing equity in transit agency practice. It includes:

- A framework for transit agencies to define equity and consider how it should shape their work.
- Recommended actions that transit agency staff and leaders, advocates, and the federal government can take to further transit equity.
- Case studies of transit agency equity initiatives, reviews of software tools that can be used to evaluate equity, and lessons from non-transportation fields.
- A bibliography of equity-related research and practice (in Appendix I).



## Research Process and Acknowledgments

This report was written by a team of researchers from TransitCenter and the Center for Neighborhood Technology, including Mary Buchanan, Jessica Cruz, Bob Dean, Jacky Grimshaw, Steven Higashide, Heidy Persaud, Natalee Rivera, and Preeti Shankar. David Bragdon, Ben Fried, Stephanie Lotshaw, Tom Pera, and Chris Van Eyken provided additional writing and editorial review.

The findings and synthesis draw considerably upon the experience of our Project Advisory Committee. Committee members met with the project team five times over the course of the research in 2020 and 2021. They helped shape the project direction, participated in some case-study interviews, reviewed draft findings and text, and provided much-valued counsel throughout the process. Committee members included:

**Dara Baldwin**, Center for Disability Rights

**Jonathan Brooks**, LINK Houston

**Hana Creger**, The Greenlining Institute

**Naomi Doerner**, Nelson\Nygaard

**Cyndi Harper**, Metro Transit

**Lisa Jacobson**, Barr Foundation

**Jarred Johnson**, TransitMatters

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**Adonia Lugo**, Antioch University

**Laurel Paget-Seekins**, Open Society Foundations (formerly Massachusetts Bay Transportation Authority)

**Axel Santana**, PolicyLink

**Anson Stewart**, Conveyal/MIT Transit Lab

We began by reviewing roughly 70 equity plans, frameworks, and related research papers from public agencies, civic organizations, and academia (available in Appendix I as the “Annotated Bibliography”). The project team identified common themes and then refined them after discussion with the Project Advisory Committee; the resulting themes are described in the “Defining an Equity Strategy” section.

Next, the project team interviewed 45 transportation agency staff, advocates, private-sector consultants, and practitioners in non-transportation fields to develop case studies on equity practices at agencies





and government, in advocacy, and in evaluation and research. Project Advisory Committee members joined some of these interviews and provided extensive feedback on the findings. We are grateful to the sources (named in the case studies and in Appendix II) for sharing their time and expertise.

Finally, the project team processed the results of the industry-wide scan, the case studies, and notes from Project Advisory Committee meetings. We synthesized this body of research into findings that can be applied by transit staff and decision-makers to operationalize equity.



## Notes on Terminology

**Marginalization:** describes the historic and current systemic exclusion or oppression that individuals and communities face as a result of racism, classism, ableism, sexism, and other forms of discrimination embedded in institutions.

**People who have been marginalized:** describes people facing systemic exclusion or oppression because of aspects of their identity. Black, Hispanic, Asian, and Indigenous people; immigrants; people with low incomes; people with disabilities; LGBTQ people; women; and other groups often face marginalization in communities across the United States. In transportation, practitioners have enacted discriminatory policies that prevent some people from having affordable, safe, and convenient transportation.

**Equity:** a principle that recognizes how an institution or system harms certain groups of people with excessive burdens and deprives them of the benefits of that system and corrects that imbalance by committing more resources to and by heavily weighing the needs and influence of marginalized groups when considering policy.

**BIPOC:** stands for Black, Indigenous, and People of Color and refers to members of specific racial and ethnic groups who have faced historic and ongoing marginalization in the United States.

**Community-based organizations:** organizations focused on advocacy, community organizing, and/or direct service provision for a specific community or small set of communities. CBOs are distinct from regional-scale advocacy organizations, which also play roles in advancing equity.



To break the cycle of marginalization, agencies must engage more deeply with the communities they serve, collect more and different kinds of information about how people use (or are unable to use) their services, and structure themselves to deliver transit improvements that advance equity.

## Defining an Equity Strategy: Guidelines for Public Agencies

Transit agencies often describe their mission in terms of operating safe and efficient service. Committing to equity requires that transit leaders ask: **How can agencies optimize their service to help people who have been marginalized thrive?**

To break the cycle of marginalization, agencies must engage more deeply with the communities they serve, collect more and different kinds of information about how people use (or are unable to use) their services, and structure themselves to deliver transit improvements that advance equity. When transit agencies accept furthering equity as their mission and do the hard work that this mission requires, they can build trust with their riders and make cities more just.

In *Equity in Sustainability: An Equity Scan of Local Government*, the Urban Sustainability Directors Network Equity Scan Steering Committee identifies the following four forms of equity, each relevant to the transit industry:

- **Procedural Equity**—inclusive, accessible, authentic engagement and representation in processes to develop or implement programs or policies.
- **Distributional Equity**—programs and policies result in fair distribution of benefits and burdens across all segments of a community, prioritizing those with highest need.
- **Structural Equity**—decision-makers institutionalize accountability; decisions are made with a recognition of the historical, cultural, and institutional dynamics and structures that have routinely advantaged privileged groups in society and resulted in chronic, cumulative disadvantage for subordinated groups.
- **Transgenerational Equity**—decisions consider generational impacts and don't result in unfair burdens on future generations.

In this report we refer to transformational as restorative equity, in which present decisions and investments correct for past actions that overburdened certain groups of people, ending marginalization. Sustained success on the other three forms of equity enables restorative equity, which should be the ultimate target of an equity strategy.

These dimensions are not alternative pathways toward equity, but essential and mutually reinforcing steps on one path. Many policies prioritize resources for those with the greatest needs (distributional equity), but to achieve lasting impacts, policy should be influenced by the people it aims to help (procedural equity), public officials must be

accountable for upholding those policies (structural equity), and the scope of action should reverse effects of past decisions that perpetuate disadvantage (restorative equity). Each of these dimensions of equity should factor into agency service planning, budgeting, policy making, policing, hiring, and other significant decisions.

This four-point framework is embedded throughout this paper’s findings and recommendations, which include actions that advance equity along each of these dimensions.

Because an equity focus requires agencies to work differently than they have before, many find it useful to define a new approach, sometimes in a stand-alone equity platform.

Any equity strategy must be grounded in local conditions and informed by riders, community-based organizations, and agency staff, including frontline workers; we do not intend to offer a one-size-fits-all template. However, our review of agency equity documents suggests that most meaningful approaches to transportation equity rest on five fundamental pillars.

- 1.** Articulate a vision of an equitable transportation system and explain why resources must be prioritized to benefit people who have been marginalized.
- 2.** Connect transportation to other aspects of people’s lives, recognizing that transportation exists within broader inequities.
- 3.** Acknowledge past transportation decisions that have deepened inequity.
- 4.** Measure equitable outcomes for people and the neighborhoods where they live and work.
- 5.** Create processes for the people most affected by agency actions to express their interests and exert meaningful influence over agency decisions.

### **Pillar 1: Articulate a vision of an equitable transportation system and explain why resources must be prioritized to benefit people who have been marginalized.**

*Acknowledge that specific groups of people have been historically and are currently marginalized, assert that transportation policy should seek to end this marginalization, and provide a positive vision of equitable access.*

Each agency must begin by describing and documenting what an equitable transportation system looks like: a system that everyone—especially people who have faced marginalization—can use to access what



they need to thrive. Attaining this goal requires *prioritizing resources* to meet the needs of people with disabilities, people with low incomes, people of color, and others marginalized by disinvestment, segregation, and other forms of discrimination in transportation policy.

This framing should be complemented with data disaggregated by demographics (including race, ethnicity, and income) that convey existing conditions and demonstrate disparities between groups of people. The agency should then measure progress toward equity against benchmarks. At present, there is no widely accepted, standardized way to measure the overall equity of a transit system, but several agencies use a mix of indicators to guide decision-making. (See Pillar 4 for a more detailed discussion.)

*Example:* LA Metro’s Equity Platform (reproduced later in this report) defines inequity and identifies who faces harmful disparities: “Access to opportunity should be a core objective of public decision-making, public investment, and public service—and transportation is an essential lever to enabling that access.... [I]nequity exists when there are fundamental differences in access to opportunity, not just with respect to where you begin, but in your capacity to improve from that starting position. Historically and currently, race and class have largely defined where these disparities are most concentrated: in poor, minority communities throughout LA County. Age, gender,





disability, and residency also can expand or constrain opportunities.”

*Example:* Oakland’s Bike Plan provides a positive vision of equitable access and identifies groups facing disparities: “Equity means that your identity as an Oaklander has no detrimental effect on the distribution of resources, opportunities, and outcomes for you as a resident... Some groups of Oaklanders face greater vulnerabilities and disparities in the transportation system. The more groups a person identifies with, the greater the disparity. These groups include: people of color, women, people of no and low income, people with limited English proficiency, people with disabilities, children and seniors, single parents, people who don’t own cars or do not drive.”<sup>1</sup>

*Note:* An equity strategy should outline how to prioritize the needs of people who have been marginalized from the transportation system and to repair past and current harms. The purpose should be achieving a transit system that provides service proportional to *need*—not “equal” service to all. Elected officials sometimes call for “geographic equity,” arguing that a particular jurisdiction, like a city or county, deserves transit service that is proportional to the amount of tax revenue that it contributes to an agency. This concept does not belong in a transit agency’s equity strategy.

1 City of Oakland Department of Transportation, Oakland Bike Plan, 2019.



**Transportation equity strategies should recognize how injustices like housing segregation and unaffordability, lack of quality schools, and racist policing interact with the transportation system.**

**Pillar 2: Connect transportation to other aspects of people's lives, recognizing that transportation exists within broader inequities.**

*Situate marginalization from transportation resources within a larger understanding of systemic inequity. Identify how transportation interacts with other systems (e.g., policing, housing, education, politics, public health) to multiply inequitable outcomes and account for those interactions in policy and processes.*

An equitable society guarantees fair treatment, just distribution of resources, opportunity, and advancement for people and communities based on need and potential to benefit. Transportation can help advance equity, but transportation exists within and alongside other systems that also affect equity. To paraphrase the writer and activist Audre Lorde, “single-issue” solutions will always fall short because people do not live single-issue lives.

Transportation equity strategies should recognize how injustices like housing segregation and unaffordability, lack of quality schools, and racist policing interact with the transportation system. Transit agencies do not have the sole responsibility or power to address all harms but should acknowledge the experience of transit riders and highlight the role of other actors in ending marginalization. Agency initiatives that don't consider these realities will fail to improve how riders and communities interact with the transit system. Agencies should seek to adopt metrics that account for systemic inequity.

As one example, metrics like travel time or the number of jobs one can access on transit in an hour, while valuable, are incomplete and often do not represent the nuance in how people navigate public space. Local knowledge of dangerous areas (for example, streets where women are more likely to experience harassment or areas that cross gang boundaries) can lead people to take longer, more circuitous routes.<sup>2</sup> This knowledge should be incorporated into project planning.

Some cities have developed indicators that transportation agencies can use to better understand the whole picture of inequity. For example, Oakland's Department of Race and Equity tracks 72 separate measures, ranging from housing (e.g., overcrowding or whether residents have complete plumbing facilities) to public health to transportation-related measures like bus frequency and ADA curb ramps.<sup>3</sup> Academic researchers, community foundations, and others have developed similar measures in other regions.

After reviewing these types of indicators, transportation agencies should adapt their metrics in light of them. For example,

2 Sahra Sulaiman, “I Can't Go Everywhere That I Thought I Could Go”: When Black and Brown Cyclists Need Safety from More Than Traffic,” Streetsblog LA, May 1, 2018.

3 City of Oakland Department of Race and Equity, Oakland Equity Indicators: Measuring Change Toward Greater Equity in Oakland, 2018.

**By accounting for past harm in equity strategy documents and elsewhere, agencies show transparency and a willingness to be held accountable.**

access-to-opportunity measures often focus on job access and don't account for the quality of pedestrian infrastructure. These measures can be retrofitted to incorporate ADA accessibility and access to SNAP-eligible grocery stores, parks, health care, and other essential destinations.

*Example:* The Pittsburgh Department of Mobility and Infrastructure aims for every household to have “access [to] fresh fruits and vegetables within 20 minutes travel of home, without the requirement of a private vehicle” and strives to ensure that the “combined cost of transportation, housing and energy does not exceed 45% of household income for any income group.”<sup>4</sup>

*Example:* Oakland's Bike Plan incorporated survey results showing that compared to the citywide average, people of color in four neighborhoods were more likely to cite being stopped by police or robbed as barriers to bicycle use. It also cited police data to show that Black residents represented 60% of Oaklanders stopped by police while biking, despite being only 25% of city residents.

### **Pillar 3: Acknowledge past transportation decisions that have deepened inequity.**

Nearly every American city bears a history of racist and exclusionary urban planning exemplified by redlining, urban renewal, and disruptive highway construction. But discriminatory and harmful urban policies aren't ancient history, nor can transit agencies dismiss their roles in creating and perpetuating them. Agencies must acknowledge *their own* actions that may have bred distrust and marginalization of riders. These include, and are not limited to:

- Violence, harassment, and biased enforcement by transit police.
- Service cuts and cancelled projects whose harms fall on communities of color, like the 2015 cancellation of the Red Line in Baltimore, Maryland.
- Business disruption and displacement caused by large-scale transit projects.

By accounting for past harm in equity strategy documents and elsewhere, agencies show transparency and a willingness to be held accountable. These acknowledgments will help move projects forward and provide a path for agencies to build toward restorative equity.

*Example:* On the 25th anniversary of the opening of LA Metro's Green Line (now known as the C Line), the agency posted an article on its official blog recounting how the rail line was built as part of a freeway project that bulldozed homes in communities of color and

4 City of Pittsburgh, “Mobility and Infrastructure.”

that the rail project itself had several “compromises” in its design that made it less useful to riders.<sup>5</sup> These included the rail line’s placement in the freeway median (which exposes riders to noise and air pollution) and routing that stops short of key destinations. The post identified upcoming extensions of the line that will fix some of the design flaws.

*Example:* In June 2020 (as widespread racial justice demonstrations were taking place in the US), Seattle’s King County Metro announced it would no longer provide buses to transport law enforcement officers to and from protests or demonstrations and would not provide buses to transport arrested protesters. In a statement, General Manager Rob Gannon said that “our conversations and reflections in recent days remind us of the role that law enforcement has played historically in our nation and continues to represent for many within the communities we are most called to serve.... [I]t is not appropriate for a transit agency to deliver high numbers of law enforcement officers to a demonstration or protest.”

#### **Pillar 4: Measure equitable outcomes for people and the neighborhoods where they live and work.**

*Track outcomes of the transportation system for people who depend on transit and people facing marginalization wherever they live in the region as well as for neighborhoods with a high concentration of residents who depend on transit or who face marginalization.*

To measure progress towards equitable transit, agencies must define and measure outcomes for people and the communities in which they live and work. Transit agencies need at least two types of metrics:

- **Place- or neighborhood-focused measures** show how the benefits and harms of transportation accrue to areas with many residents of color or residents with low incomes. Neighborhood-focused measures often show outcomes for defined areas of need (the definition varies by agency but may be based on factors such as the proportion of residents who have low incomes, are not white, or lack access to a vehicle) against the region as a whole. An example of a neighborhood-focused measure is, “How reliable is bus service in racially concentrated areas of poverty?”
- **Person-focused measures** show how benefits and harms of transportation accrue to people of certain identities, aggregating across residential locations. An example of a person-focused measure is, “How reliable is bus service for the average Black bus commuter?”

5 Steve Hyman, “The Green Line is 25 years old. Some thoughts on that.” *The Source*, August 12, 2020.

### **Place- or neighborhood-focused measures**

Place- or neighborhood-focused measures assess transportation outcomes in areas where many residents are BIPOC or have low incomes. These areas tend to have faced disinvestment historically and have a concentrated need of investment now; neighborhood-focused measures help make the case for equitable, place-based investments.

Several transit agencies define areas of need using a mix of census, transit agency, and other data. For example, the San Francisco Municipal Transportation Agency has defined eight “equity neighborhoods” based on income, private vehicle ownership, race, and ethnicity. According to agency policy, service should improve in these neighborhoods at least as much as in the system as a whole. SFMTA issues a biennial report showing how transit performance has changed in those neighborhoods and identifying improvements to make. (See example below.)

The SFMTA prioritizes service improvements in the eight equity neighborhoods as well as on fifteen routes with a large proportion of riders with disabilities and senior citizens. This slide from a 2018 presentation shows how the agency works to identify needs in equity neighborhoods and make service improvements accordingly.

### **Neighborhood-Focused Metrics from SFMTA Muni Equity Service Strategy**



SFMTA's Muni Equity Service Strategy commits the agency to “assess Muni service performance in select low income and minority neighborhoods, identify major Muni transit-related challenges impacting selected neighborhoods with community stakeholder outreach, and develop strategies to address the major challenges.... SFMTA shall develop performance targets for each strategy based on peer Muni route performance and track progress compared to baseline conditions, performance targets, and year-over-year progress.

“Performance metrics will include:

- On-Time Performance
- Service Gaps
- Crowding (also serves as a proxy for pass-ups)
- Capacity Utilization
- Travel Times to/from key destinations such as the nearest grocery store, nearest medical facility, City College, downtown, and nearest major park
- Customer satisfaction information

“Metrics will include data by time of day (including midday and late evening). Where available, data will be evaluated for conditions within the neighborhood, as well as the route as a whole.”



## Neighborhood Example: Chinatown

Key Need	Improvements Underway or Completed	Primary FY 2020 FY 2020 Recommendations
Address travel time and crowding issues on the 1 California	Upgraded existing transit-only lanes with red coloration on parts of Clay Street downtown	Long term, explore Muni Forward improvements to improve reliability and address crowding
Reduce crowding and occasional service gaps on the 8/8AX/8BX	Muni Forward reliability improvements on San Bruno Avenue	<ul style="list-style-type: none"> <li>• Increase service frequency to reduce crowding</li> <li>• Explore transit reliability improvements on the rest of the 8 line (e.g. Visitation Valley and 3rd Street in SoMa)</li> </ul>
Address service gaps that lead to crowding on the 10 Townsend	<ul style="list-style-type: none"> <li>• Sansome Street contraflow lane</li> <li>• Increase service frequency</li> <li>• New low-floor issues</li> </ul>	Focus on active line management to address gaps in service in peak periods
Address service gaps and occasional crowding on the 12 Folsom	Increased service frequency in 2016 to reduce crowding	<ul style="list-style-type: none"> <li>• Increase service to reduce gaps</li> <li>• Vet a more direct route to 24th Street Bard Station</li> <li>• Explore transit-only lanes on Folsom Street in SoMa</li> </ul>

Source: San Francisco Municipal Transportation Agency

Other agencies that have used neighborhood-based equity measures to guide capital investments or service decisions include Metro Transit in Minneapolis–St. Paul and TriMet in Portland, Oregon. Geographic measures can also assess harms. For example, TriMet measures whether older, more polluting buses are disproportionately located in equity neighborhoods. (The Metro Transit and TriMet examples are case studies later in this report.)

Transit investments outside of equity neighborhoods can improve outcomes within those neighborhoods. For example, a bus lane or rail tunnel in a congested downtown area can improve travel times for riders who don't live downtown but travel through it.

### Person-focused measures

Person-focused measures show transportation outcomes for groups of people, regardless of where they live. Person-focused measures

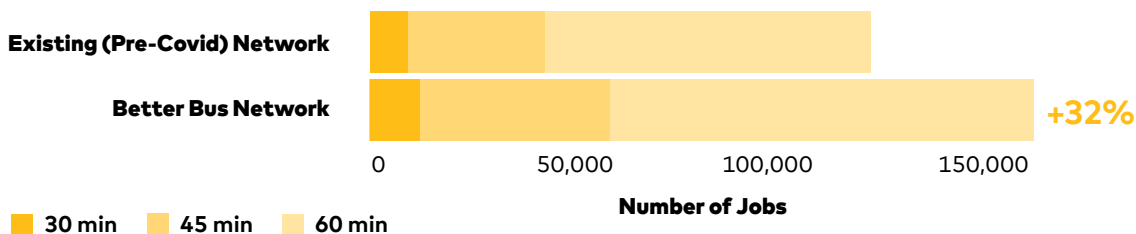
are necessary to design and evaluate programs intended to improve outcomes for marginalized groups of people. Relying only on neighborhood-focused metrics obscures the needs of, for example, a Black family living in a predominantly white neighborhood.

Person- and neighborhood-focused measures can be calculated from the same data sources, but person-focused measures require an extra step to rearrange spatial data into population groups. Because of their simpler methodology, neighborhood-focused measures are sometimes used instead of person-focused measures, even if the latter is more appropriate.

One common set of person-focused measures are “access to opportunity” metrics, which calculate how many jobs (or how many high-quality jobs), grocery stores, parks, or other destinations a person can reach on public transit in a certain amount of time, or how many people have access to frequent transit service. Miami-Dade County analyzed its bus network redesign by measuring the number of jobs that the average person, average person in poverty, average person of color, and average person without a vehicle could reach using transit, before and after the redesign.

Travel diaries and US Census journey-to-work data capture individual travel behavior and are common sources for person-focused measures. But they are biased toward commuting trips and long trips, a segment of all trips that people take and one in which wealthier people are overrepresented. Anonymized location data generated from smartphone apps captures trips of all purposes and distances. These location-based services (LBS) data sets can be merged with demographic data to measure—more completely and accurately than

## How many opportunities (jobs and services) can the average person of color\* reach in 30, 45, and 60 minutes by transit and walking during weekday midday?



\*A person of color is based on Census categories of race and ethnicity and includes anyone who identifies as Non-White or Hispanic. Source: Miami-Dade County and Transit Alliance, Final Better Bus Network and Resilience Plan (2020).

## Person-focused measures can convey impacts that neighborhood-focused metrics cannot.

common sources—how different groups of people travel. (There are concerns, however, that they underrepresent older adults and non-English speakers, who are less likely to have smartphones.) LBS data sets have not yet been applied to create person-focused equity measures, but both the Massachusetts Bay Transportation Authority and Los Angeles Metro have created other measures with LBS data sets. (These examples are discussed in the case studies.)

Person-focused measures can convey impacts that neighborhood-focused metrics cannot. For example, while neighborhood-focused metrics can evaluate whether a new light-rail line improves transit access to jobs along the route, they don't capture whether residents with low incomes are displaced as the area becomes desirable to more affluent people. Only person-focused measures can determine whether people with low incomes enjoy better access thanks to the new light-rail service.

Person-focused measures also capture the needs of communities of people that don't map onto a defined geography. For example, focus groups conducted by the Portland Bureau of Transportation in Albina, a historically Black but quickly gentrifying neighborhood, convinced the department to move a planned bike lane off a street where many Black cultural institutions were sited. Planners learned that many Black Portlanders had been displaced from Albina but continued to use (and drive to) the cultural institutions on the street. Qualitative engagement led planners to recognize the presence of a diaspora community.

### **Pillar 5: Create processes for the people most affected by agency actions to express their interests and exert meaningful influence over agency decisions.**

*Advancing equity requires shifting some decision-making power to the people who will be affected. Public transit riders should have opportunities to influence transit agency decisions, transparency from the agency about why choices are made, and venues to hold decision-makers accountable.*

Most transit agencies solicit public input in multiple ways, including having open public comment periods at agency board meetings and public meetings and holding open houses to provide information and answer questions about specific projects and planning processes. By their nature, these typically fail to generate representative input from many riders or community members. Long meetings are challenging to attend for many people, and it can be unclear what impact public

**It is critically important that transit agencies adopt a culture and processes that give riders and community members meaningful influence over agency decisions.**

feedback has on decisions. Such meetings are often poorly attended, and when attendance is high, it is often because organized interests have encouraged participation.

Agencies should seek public input in multiple ways:

- Surveys and mobile engagement (such as tabling at community events), which can gather input from a large number of people but on a limited number of questions.
- Focus groups and facilitated discussion with community members, which can gather input that is deep and nuanced but not always generalizable.
- Formal advisory committees that allow community-based groups to provide input on plans, projects, policies, and budgets. At their best, these can allow for the development of lasting relationships between agency staff and community leaders.

It is critically important, however, that transit agencies adopt a culture and processes that give riders and community members *meaningful influence* over agency decisions. It is self-defeating to improve engagement if agency decision-makers regularly disregard public input. There should be an understanding within an agency that major decisions have not been truly “vetted” if staff have not conducted a high-quality engagement process. Community members who have been engaged should be told how their feedback was used, or why it was not.

*Example:* TriMet’s Transit Equity Advisory Committee (TEAC) includes representatives from sixteen organizations working with transit-reliant populations, youth, community colleges, housing groups, and advocacy groups, as well as a TriMet board member (which ensures that committee members are heard by agency leadership). The TEAC meets monthly and allows TriMet to brief members and get input on projects, initiatives, and studies that could influence the equitable provision of service. In 2020, agendas included discussion of changes to the low-income fare enrollment process, proposed bus lane and light-rail extension projects, and changes to transit policing.

*Example:* In Minneapolis–St. Paul, Metro Transit’s Better Bus Stops program advanced procedural equity by providing funding to community organizations to conduct outreach, ensuring that participants reflected neighborhood demographics. Program managers communicated clearly how input was used to make decisions and made internal cross-departmental policy changes that reflected lessons learned from the program. Importantly, the program also led to more equitable outcomes by deliberately improving bus shelters in racially concentrated areas of poverty.





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## Annotated LA Metro Equity Platform

In February 2018, Los Angeles Metro adopted an Equity Platform that includes many of the key components described above.

It's important to note that, while LA Metro's Equity Platform is a strong set of principles, many would argue the agency was slow to operationalize these principles after the platform was published. The agency has now hired an Executive Officer for Equity and Race who is actively working to implement its principles, but this hire occurred nearly two years after the platform was adopted.

The Equity Platform is nevertheless a useful model for agencies seeking to articulate their own equity strategy. Below, we reproduce text from the platform and describe how some of the components are reflected. In this section, our annotations are in italics. All other text is from LA Metro Equity Platform. Key elements of the LA Metro Equity Platform are highlighted in yellow.

*LA Metro's Equity Platform has four pillars. In its first pillar, it defines "equity" and acknowledges disparities that exist in Los Angeles County. It also announces its intent to define equity metrics that influence investment decisions and recommends that these play a role early in decision-making:*

First, we need to define a common basis for talking about and building an agenda around equity, and how to improve it.

- Equity holds different perspectives and priorities for everyone and anyone who will be part of this conversation.
- At its core, inequity exists when there are fundamental differences in access to opportunity, not just with respect to where you begin, but in your capacity to improve from that starting position.
- Historically and currently, race and class have largely defined where these disparities are most concentrated: in poor, minority communities throughout LA County. Age, gender, disability, and residency also can expand or constrain opportunities.
- It would be presumptuous to begin a truly inclusive conversation with a pre-determined definition of "equity" and all its facets, but Metro can enter into that conversation committing to the following:
  - Establish meaningful goals around a shared definition of equity and actions to achieve those goals.
  - Define metrics to evaluate outcomes and consider redirected actions if needed. It will be particularly critical to infuse equity-based performance metrics in Metro's investment decisions.

These cannot be the only investment considerations. Transportation is rife with tradeoffs. But equity metrics need to be definable, impactful, measurable, accountable, and at the front end of the analysis, not the back end.

- Seek and invite the diverse range of voices that must participate with Metro in accomplishing the above. Importantly, we need to proactively reach out to those who have remained on the margins of decision-making in the past. These will include historically underserved communities and organizations that represent them. But we must also reach out and hear voices that may not be aligned with established groups.

*Next, the platform recognizes that advancing equity requires creating a forum to hear and acknowledge past inequitable decisions, including those perpetuated by the agency itself. It calls for a restorative approach to these past harms.*

Second, Metro needs to establish comprehensive, multiple forums to engage the community meaningfully and actively in pursuit of the first step discussed above. An important opening conversation with LA's community members would address: a) where they believe achieving equity has been problematic—broadly, and specific to transportation's role; and b) where improved relationships, partnerships and actions aligned with Metro's portfolio of responsibility can be defined to advance more equitable transportation outcomes going forward.

- This will be a challenging conversation, insofar as it requires the Metro as Board and staff to invite the community to articulate where it has experienced, in fact deeply felt, inequity in Metro's past. This isn't a platform for Metro to defend or be defensive; people feel what they feel, and it is going to be impossible to define a new path and build a different position of trust if past experience is not given voice and legitimacy.
- That said, the main point of this conversation forum should be to learn and move forward based on that acknowledgement. This may require reconciling divergent opinions to arrive at some shared goals and actions. Actions going forward may redress past ills—that is to be determined—but they certainly should not repeat them, if at all possible. It is also an opportunity to discuss with community members those initiatives where Metro has actively tackled disparity gaps, such as its growing portfolio of workforce development initiatives.

- Advice and best practices on how to effectively have these community-driven conversations will be key.
  - Metro can start with lessons learned from other cities across the country. San Francisco, Seattle, Oakland and others all have models to tap.
  - These forums would benefit from professional facilitation. Foundations have established several venues that Metro might pivot from (e.g. the on-going national Strong, Prosperous and Resilient Communities Challenge (SPARCC) Initiative includes Los Angeles as a participating city—LA Thrives coalition is the local lead; the California Endowment and others have underwritten numerous initiatives across the County); or seek new support.

*The platform suggests multiple process changes to improve policy and service development, including an external advisory group and a formal approach to including community-based organizations in engagement. It also points out that Metro may need to provide resources (both funding and technical assistance) to facilitate projects in “equity communities”:*

- As noted at the outset, Metro consulted with equity thought leaders whose advice informed the core of this platform. Retaining this cross-sectional consultation will be critical to successfully implementing a platform that requires dedication and time. In particular, the community forums envisioned will benefit from a circle of demonstrated leaders. We certainly don’t hold all the keys on issues, and making use of the rich resources around us is essential.
  - A key step will be to establish a formal or informal advisory group supporting the equity platform, and to incorporate, as appropriate, the equity agenda into existing advisory groups.
- In addition, the following initiatives are also suggested:
  - Actively develop and invest in a Community-Based Organization (CBO) oriented public engagement program. This approach may not be applicable to every Metro investment, program or activity located in, or otherwise impacting, LA County’s historically underinvested (HU) communities. As stated above, we must be mindful that any single group does not represent all voices in every community. However, this approach should be added to and implemented as part of our public process, if we are going to establish and maintain legitimacy within



impacted communities when addressing equity issues that they themselves are experiencing directly.

- Invest in the transportation technical capacity of local governments that serve HU communities. Metro cannot and should not be the sole partner in all transportation or transportation-impacted decisions, legally or practically. And traditional funding and regulatory programs in particular assume effective participation by local jurisdictions. In short, strengthening cities that are home to equity communities is probably a core requirement for a more equitable County. This assistance can range from delivering transportation improvements swiftly and effectively to competing for discretionary funding more successfully; to better supporting more community-inclusive decision-making around transport investments.

*The platform calls for operationalizing equity in long-range planning and notes that it should measure both increased benefits and reduced harms to marginalized communities.*

Third, the Long Range Transportation Plan (LRTP) must have a concentrated focus on equity. There are two major arenas for that focus to take root.

#### Where Metro **Leads**

- First and foremost, we must tackle impacts of the LA County’s transportation system under our direct responsibility via Metro’s role as transportation planner, operator, builder and funder. As such, equity is a “cross cutting” principle that will be applied throughout the LRTP’s development, as reported to the Board in prior presentations on the Plan’s design and rollout.
- Critically, what we choose—or do not choose—to invest in that system is paramount. Over the 40-year span of the LRTP, a considerable amount of funding controlled by Metro is legally or legislatively dictated, such as Measure M. It should be noted that equity related factors were considered as part of the 5 performance measures developed to assess and prioritize Measure M’s expenditure plan projects. Specifically, the “Economy” and “Sustainability/Quality of Life” themes included metrics attached to investments in disadvantaged communities. But while there are important additional equity considerations Metro can assess as projects are implemented, there are practical limitations to rethinking or re-directing certain funds that are statutorily prescribed. However,







a significant amount of funding in the long range plan is not yet locked down for 40 years, allowing us to reassess current patterns of investment and either reaffirm them or change them.

- These investment decisions should be based on performance outcomes and, as presented here, front and center considerations should be given to those that actively:
  - advance outcomes that promote and sustain opportunities in underserved communities; or
  - avoid outcomes that lead to or aggravate disparities in opportunity in those communities.
- Notably, investments must be made to operate, maintain and rebuild the existing transportation system, in addition to expanding it. The community’s ability to access that transportation system—where, when, how, and at what cost—impacts their opportunities to jobs, housing, education and health. Thus, measuring equity against that access, and for whom, is central to our planning process.
  - In this realm, there will be several, discrete transportation activities that will be developed alongside the LRTP where equity will be front and center: any discussion of “right sizing” fares, redesign of the Metro bus system, our continuing work in Work Force Development and small business support, to name a few.
  - The Long Range Transportation Plan will not duplicate analysis and recommendations in these areas. It will incorporate goals, decisions, and any actions attached to all of them, and will likely help facilitate equity-driven discussions in each of them.
  - These issues address critical transportation access concerns, and will be important venues for coordinating community involvement.

#### Where Metro **Partners**

- Beyond its core transportation responsibilities, there will be an expectation to take on a new, countywide, visible equity challenge: the Metro transport system’s interface with gentrification/displacement/affordable housing.
- Neighborhoods throughout the county are facing escalating housing costs, real estate developments that are reshaping community culture, and in both cases, frequently forcing existing residents into painful relocation or transportation decisions. Gentrification/displacement/affordable housing is a common thread of concern among elected officials and advocates. And it hits every corner of the County.
- Metro cannot address this subject by ourselves—it will require



**We need to pursue equity training within Metro. Successfully setting and delivering on a new equity agenda requires “top to bottom” ownership throughout the agency.**

active partnerships with others, such as the County, cities, Council of Governments, private sector and business as well as community representatives. Foundations are extremely interested in this arena and could bring valuable resources to the table.

- Among other considerations, these issues underscore the complexity of equity concerns and the necessarily complex response to them. By taking up a big problem—but not Metro’s problem alone—it gives us the space to explore, experiment and advance change while building necessary partnerships at the outset.

*Finally, the platform recognizes the importance of building an internal equity culture that includes buy-in from leadership all the way down to frontline staff, including competencies around measurement and public engagement.*

Fourth, we need to pursue equity training within Metro. Successfully setting and delivering on a new equity agenda requires “top to bottom” ownership throughout the agency.

- In recent years, there has been a growing body of equity training designed for governmental agencies. LA County departments have deployed these programs, among others. We intend to explore options and commit to internal education that would be required at certain levels and positions.
- Training would be in two important areas:
  - Methods to evaluate equity including data collection, measurement and analysis; and
  - Approaches to effectively communicate and work with communities in a manner that recognizes and respects equity issues.

This platform is a starting point, and should be considered a working outline that can be adjusted with experience and feedback. The commitment expressed herein, however, should be a guiding constant—for Metro, our transportation partnerships, and the people we serve.

**It is cost-effective for transit agencies to operate equitable systems. Transit service designed without addressing the needs of people who depend on it is destined to be inaccessible or not useful for them, therefore failing on metrics of both equity and ridership.**

## **Lessons for Advancing Transit Equity**

These recommendations are based on our evaluations of the industry scan of equity practice, extensive case-study research (see the “Transit Equity in Action” section for case studies), and expertise from advisory committee members.

Many of these lessons are based on established practices, and for those, transit agencies must commit to the hard work of implementing them at home. Others call on community-based organizations (CBOs), transit advocates, researchers, and even the federal government to collaborate with or take action on behalf of transit agencies to achieve transit equity. Finally, there are roles for all stakeholders to play in helping to design new solutions to stubborn equity challenges and to keep transit providers accountable to their equity commitments and to their riders.

### **Note on Funding**

The success of these actions hinges on the transit agency committing significant, sustained financial resources. To secure sufficient allocations for equity-related work while facing financial constraint, ***transit agencies will have to examine their own budgets and redistribute internal funds to equity efforts.*** Funding from external sources (e.g., federal, state, or local government or private foundations) is not guaranteed, tends to be one-off rather than sustained, and may stipulate or limit how funds can be used.

While not an easy task, there are different methods for shifting budgets appropriately: reallocating funding so that expenditures with greater impact on equity receive more (for example, commuter discounts for large corporate employers do less to make transit affordable for riders with low incomes than targeted fare programs); using civilian teams (not armed police) as the primary response to people experiencing homelessness or mental health crises; prioritizing funding within project budgets for equity action items before settling on allocations for other project needs; and paying CBOs for research and engagement instead of corporate consultants.

It is cost-effective for transit agencies to operate equitable systems. Transit service designed without addressing the needs of people who depend on it is destined to be inaccessible or not useful for them, therefore failing on metrics of both equity and ridership. On the other hand, decisions that weigh the needs of riders result in money well spent. Spending millions or billions of dollars to adjust, expand, or modernize transit systems results in systems that work for the people

**1****Agency leadership, structure, and culture must prioritize equity.**

who use them. Sustainable funding sources ensure that this work continues to build and progress, rather than having to be redone at a cost.

Finally, transit agencies that champion equity must put their money where their mouths are. Stated values mean little if they are not reflected in the budget. There is no way to progress on equity in transit without funding it.

**Agency leadership must champion equity and back the work of internal equity teams.**

- Leaders at all levels play a role in maintaining a culture that values and promotes equity. Advancing equity internally relies on managers who are nonhierarchical, comfortable with conflict and hard conversations, and honest about past and current mistakes. Creating such a culture takes time and dedication.
- To gain public confidence in decisions that prioritize equity, agency executives must persuasively communicate to neighborhood leaders, agency board members, media, business owners, and other key constituencies. Mid-level staff will struggle to overcome opposition without leadership buy-in.
- Executives should regularly put equity—including progress toward equity goals or review of equity assessments—on board agendas. Benefits of this practice include engaging board members who otherwise lack context or nuance on equity concepts and preparing them to recognize and confront equity impacts of their other decisions; strengthening agency equity efforts with another layer of debate and guidance; and raising equity issues in a public setting where leaders can be held to account.

**Financial and organizational structures should demonstrate that equity is a priority.**

- Fair resource allocation and dedicated investments, like fully staffed teams, professional development opportunities, and budgetary support, are necessary to position an agency to prioritize equity and to drive equity work forward.
- In the organizational chart, internal equity teams should be close to agency leadership. An agency's equity lead should report to a member of the executive team, such as the CEO.
- Equity teams should be situated in the organization to receive input from all divisions within an agency and influence all major agency functions (such as service planning, communications, capital planning, and operations). An equity team can coordinate with liaisons for each department, or it can chair a standing committee





or internal equity working group spanning those departments.

- The skills and leadership needed for internal equity (e.g., Diversity, Equity, and Inclusion or Disadvantaged Business Enterprise programs) are distinct from external equity (service, capital, outreach, etc.). Addressing equity in each of these areas requires different strategies and approaches.

**Achieving equity requires a discrete competency and knowledge base that should be prioritized and cultivated among agency leadership.**

- An understanding of and commitment to equity should be a key requirement for agency executive hires.
- Agency leadership and staff should be expected to question historic, ongoing racial and social inequity in transit policy and planning and to implement relevant solutions.

**Agencies must have an equity strategy beyond a verbal commitment.**

- Documented, public equity strategies establish accountability and benchmark progress, or lack thereof, toward stated commitments.
- A plan to guide implementation is a crucial component of an equity strategy.

  
**2**

**Agencies should hire and evaluate staff based on skills and experiences that build neighborhood trust and increase agency understanding of neighborhood priorities.**

**Hiring staff at every level of the organization who can connect with communities facing marginalization is an imperative for building trust, organizing effective outreach, conducting empathetic analysis, and making equitable decisions. (See Lesson 4.)**

- Hiring must consider interpersonal skills that help with community relationship-building in addition to technical skills.
- Black, Indigenous, and people of color representation must be strong on all agency teams (including executive leadership) to translate the needs of those communities into equitable transit service. When agency staff do not represent or understand the needs of most riders, they may misjudge what aspects of service are important to those riders.

**Agencies should elevate their commitment to retain BIPOC staff and staff with relationships to community members.**

- BIPOC staff should be assigned purposeful, influential, and challenging roles. An effort to increase workforce diversity can lead to tokenism when staff of color are placed in high-visibility roles that nonetheless lack decision-making power.
- Compensation systems and performance reviews should recognize the value that outreach skills and community connections bring to the agency.

**Participation in organizational equity efforts (such as on an internal equity working group) should be considered an essential job function.**

- Staff should conduct equity-related work during regular work hours (rather than during overtime or on their own time); their workloads should be adjusted accordingly.
- Performance reviews should weigh an individual's contributions to equity efforts.

**Inclusive working environments for frontline workers are an essential part of agency equity efforts.**

- Frontline teams usually have greater BIPOC representation but little power to contribute to internal or external policies.
- Inclusion of frontline workers in decision-making has been a key feature of the internal equity teams at some agencies.
- Mistrust stemming from the traditionally hierarchical, exclusive, and white culture of many public agencies can weaken relationships between frontline workers and management. This parallels mistrust between communities and agencies.

**3**

**Agencies should partner with community-based organizations (CBOs) to elevate these organizations' roles in advancing equity outcomes in transit.**

**Agencies should engage CBOs to support equity advancement in several different ways. (See Lesson 4.)**

- CBO-led outreach can effectively engage residents during a planning process.
- CBOs can gather data from a user perspective, complementing agency data sets that often focus on the operational perspective.
- CBO members can serve on internal agency committees to guide overall equity work.

**Compensating CBOs fairly for their involvement should be standard agency practice.**

- The value that CBOs can add to community outreach, data collection, or internal policy making exceeds the cost of their involvement. CBOs have better ties and are better equipped to engage with communities than paid consultants.
- Agencies should commit portions of their own budgets to make CBO compensation an ongoing, replicable part of planning and policy making. Historically, CBO compensation has occurred through a one-time grant from a government or foundation, not through the agency itself.
- A significant barrier to CBO compensation is internal agency procurement processes, which are not set up to permit CBO participation. Some agencies have used sole source procurements or blanket contracts with umbrella organizations to make this easier.

**Both CBOs and transit agencies must enter this relationship with full awareness of each other's expectations and commitment to genuine and authentic engagement.**

- Building capacity among both CBOs and agency staff—so there is mutual understanding of roles and capabilities—makes this relationship more effective.
- In some cases, agencies must build trust with CBOs before they are willing to be part of the institutional process.
- Agencies also need to consider the implications of choosing certain CBOs as partners rather than others. This decision will need to be justified, both internally and externally.
- Agencies must allow their CBO partners to lead outreach efforts in order to ensure that engagement is a genuine and authentic reflection of community needs and not dictated by or influenced by agency priorities.

**4**

**Agencies should set up internal structures to conduct public outreach that is transparent, incorporates feedback from community members, builds on previous outreach, and strengthens relationships with communities.**

- For their part, CBOs need to consider the implications of receiving funding from a transit agency and determine whether this compromises their ability to be effective advocates.

**Outreach teams must be staffed by people who are skilled at public engagement, speakers of the languages used by communities, and able to connect on a personal level with members of communities served by the agency. (See Lesson 2.)**

- Outreach team members should possess communication, mediation, and public speaking skills. They should also be able to empathize with communities in order to maintain trusting, productive relationships.
- Agencies should prioritize hiring people with outreach experience or connections to communities rather than favoring candidates with planning degrees or civil service certifications.

**Accountability for and understanding of public outreach should extend beyond outreach teams. (See Lesson 6.)**

- Understanding community needs should not be siloed within outreach staff.
- Data collected through outreach should be fully integrated into projects, reports, and initiatives, ensuring this knowledge is retained despite staff turnover.
- Findings from current and past outreach should be shared across teams, so as to incorporate data in all relevant aspects of agency work and avoid duplicating efforts or exhausting the public.

**Agencies must commit time and money to public engagement. (See Lesson 6.)**

- Agencies should engage with communities early and regularly to create trust, transparency, and meaningful engagement.
- Task forces, committees, and projects that ask transit riders regularly to provide feedback and share their lived experiences should compensate people for participating.
- Agencies should create outreach materials that are easily comprehensible, with minimal jargon. Materials should be available in multiple languages and outline actions for transit riders to engage in.





5

**Transit agencies must expand the application of quantitative and qualitative data to inform decisions that address the needs and priorities of people who have been marginalized.**

**Agency partnerships with the public enrich the engagement process and can take different forms. (See Lesson 3.)**

- Agencies may employ neighborhood liaisons or street ambassadors with strong connections to the local community to communicate between the agency and riders.
- External teams composed of riders and community partners can provide direct, honest feedback on how agency programs should contribute to equity goals.
- Agencies may hire community-based organizations with a stronger knowledge of neighborhoods than internal staff to conduct engagement or local research.
- Community-led engagement can reach riders that agency-led efforts leave out, adding nuance and depth to the portfolio of outreach data collected by internal staff.

**Multiple equity metrics, including some based on qualitative data, should inform every planning and policy-making process.**

- Using a range of metrics to evaluate transit equity improves understanding of community needs, makes conclusions more robust, weakens the effect of bias in any one data source, and better informs agency decisions.
- Qualitative data provides insight into rider needs—such as safety or comfort—not captured by quantitative measures of service. It also captures the experiences of people who are underrepresented in commonly used metrics like commute data.
- Local communities should have a say in designing or selecting the metrics used in evaluation, since metrics themselves influence evaluations and conclusions.
- Agencies should identify intermediate milestones to assess progress toward equity goals within a year or two of adoption. This helps generate immediate advances in equity, synchronizes equity goals with regular agency processes like budgeting, and makes long-term goals more achievable.
- Qualitative and quantitative metrics are mutually reinforcing. Agencies should continuously collect and analyze both types of data throughout the planning and policy-making process. (See Lesson 4.)

**Transit agencies should turn to new data sources and methods to conduct quantitative service-equity analysis.**

- The American Community Survey from the US Census is widely used but includes limited data on riders and their behavior. Rider

surveys and location-based services provide more accurate, detailed data on travel patterns and rider demographics.

- Lacking other direction from the Federal Transit Administration, agencies often limit their equity analysis to demonstrating Title VI compliance. In this process, transit planners analyze the demographics where a policy change would occur to show that neighborhoods whose residents are predominantly people of color are not disproportionately harmed by the change. This method has many shortcomings, including that evaluating a transit system based only on where people live discounts how people actually use transit: to travel between home, jobs, health care, and other places. (See “Revisiting federal Title VI regulations.”)
- Access-to-opportunity metrics, disaggregated by groups like race and income, have recently become possible for transit agencies to quantify because of advances in GTFS schedule data and open-source mapping. These metrics are an improvement upon commonly used Title VI methods because they evaluate public transit networks based on how people experience transit in real life: their ability to conveniently reach destinations on public transit. (See “Revisiting federal Title VI regulations.”)

**Transit agencies must commit more resources to data collection and analysis.**

- Centralized teams should build and maintain data structures, coordinate use of qualitative and quantitative data within and across projects, and tackle open-ended questions about how best to assess progress.
- Investing in data sources has a high return, as officials will be better informed about which operational changes and capital investments serve riders equitably and effectively.

**Transit agencies should develop cross-team practices to retain and reapply qualitative data from prior outreach that is relevant to any team’s ongoing work. (See Lesson 4.)**

- Often, outreach data is collected for and applied to just one project. This single-use approach is costly, and when people are repeatedly asked the same questions without seeing results from previous outreach, it erodes public trust in the agency.

**Transit agencies should begin outreach early, before any key decisions are made about the project or policy in question, and they should continue outreach efforts throughout their decision-making process. During the outreach process, agencies should be**

6

**Transit agencies should broaden and standardize the use of qualitative data and create mechanisms to be publicly accountable for acting on that data.**



**transparent about potential limitations they foresee or may face in implementing the priorities that communities express.**

- Initiating outreach after key decisions have already been made prevents community priorities from influencing outcomes. But pursuing outreach outside the context of fiscal constraint or operational realities can set unrealistic priorities and require redoing outreach.

**Transit agencies should be transparent about how community outreach influences decisions and open lines of communication to be publicly accountable for their use of qualitative data from the outreach process.**

- Prior to outreach, agencies should detail their existing data on community needs, potential barriers to addressing those needs, and how newly collected data will address those needs.
- After outreach, agencies should describe the qualitative data they collected and how they plan to apply conclusions from that data to policy.
- Transit agencies should always report back to the public about how they ultimately used (or didn't use) this input to inform policies or plans.

6 Federal Transit Administration, Title VI Requirements and Guidelines for Federal Transit Administration Recipients (Circular 4702.1B), October 1, 2012.



## Revisiting Federal Title VI Regulations

Today, the “floor” for measuring transit equity is set by the Federal Transit Administration’s implementation of Title VI of the 1964 Civil Rights Act, which prohibits discrimination based on race, ethnicity, and national origin in programs receiving federal funds.

The FTA’s current Title VI Circular (guidance) dates to 2012.<sup>6</sup> It requires that before transit agencies enact a “major” change to their fares or service, they conduct an analysis to show that the change does not have a “disparate impact” on people of color. These requirements are narrow, easily gamed, and insufficient as a mechanism to secure equitable transit.

**Title VI’s regulatory power is too weak.** The requirements are standardized and straightforward for any US transit agency to complete. But they lack robust instruction, allotting too much discretion to each transit agency conducting an analysis. As a result, methods of evaluating equity are inconsistent across agencies rather than standardized.

Transit agencies have the authority to define what counts as a “major change” and a “disparate impact.” If a proposed fare or service change would have a disparate impact on people of color, the agency can still enact the change by arguing that it is “the least discriminatory” option available. Thresholds and binaries simplify the analysis but make the results vulnerable to manipulation. Evaluations also cover a discrete time period, which can mask the net effect of changes over time. Theoretically, an agency can “phase in” a major service change with disparate impact—without conducting a Title VI analysis—by making a series of incremental adjustments over time.

The Title VI Circular stipulates some universal parameters, but in ways that yield inconsistent results for agencies of different service areas, sizes, and ridership. The Title VI analysis is meant to scrutinize service changes to “minority routes,” for example, but what constitutes a minority route differs for every agency. A transit route is deemed “minority” if the percentage of non-white residents living nearby is higher than the percentage of non-white residents in the transit agency service area. Under this standard, a suburban agency’s minority routes might be much whiter than those of a neighboring urban agency.

**Title VI disregards the regional nature of transit equity.** Each transit agency evaluates how a policy change would alter the balance of equity in its own system. But most transit riders live in regions with complex networks of transit systems, operated by multiple transit agencies.

If an agency’s ridership is majority people of color, a Title VI analysis might identify that service cuts in a majority-Black neighborhood *do not* have a disproportionate impact on people of color. But using a regional scope to analyze the same service change might show disproportionate harm to Black people if they face service cuts, while many of the region’s white residents—served by another agency—would not be harmed.

**Title VI produces oversimplified analyses.** The FTA requires that transit agencies analyze ridership (the demographics of riders affected by a fare or service change, based on survey data that is expensive and therefore collected irregularly) or proximity (the demographics of the people living near transit who will be affected by a fare or service change, based on US Census data).

Because it relies on census data, the proximity analysis is the simplest for most agencies to conduct, but it is also deeply flawed as a measure of the equity of a proposed change. The proximity analysis looks at *who lives near transit*, but this can be quite different from *who benefits from transit*.





For example, lowering commuter rail fares and increasing service between a city and a predominantly white suburb may look inequitable using a proximity analysis, even if most new riders are low-income people of color who gain affordable access to suburban job centers. (Such changes could also look inequitable using a ridership analysis if most current commuter rail riders are white, even if the changes would lead to substantial new ridership by people of color.)

Many agencies have the ability to do more comprehensive equity analysis but are still required to conduct the oversimplified Title VI analysis. And because the FTA has not provided other guidance around equity, the Title VI process has become the de facto industry standard for defining and addressing transit equity, for which it is ill-equipped.

**The scope of Title VI analysis is too narrow.** Title VI analysis aims to determine whether a proposed change is equitable *but says nothing about whether existing transit service is equitable.*

As we describe in the case-study interview with Alex Karner, the FTA has commissioned research that recommends more comprehensive analyses, including:

- **Access to opportunities.** How many opportunities (e.g., jobs) can someone reach on transit in an amount of time? The metric uses OpenTripPlanner and US Census demographic and jobs data.
- **Trip characteristics.** What are the travel times, transfers, fares, or other characteristics of transit trips that people make? The metric uses rider survey data if available, or Census Transportation Planning Products (CTPP) data on commute patterns.
- **Logsum measures.** Given a transit service change, how do people's travel times change? The metric is weighted by population and trips made. It uses the FTA's STOPS travel demand model and CTPP data.

Each of these measures reveals more detail about the equity of transit outcomes than the analyses currently required in the Title VI Circular.

**7**

**Federal, regional, and local policy makers must set standards for transit agencies that advance transit equity. Title VI compliance alone falls far short of guiding agencies toward transit equity.**

**The FTA should promote the adoption of the “next generation” equity analyses that it has developed but not yet released. It should:**

- Work with transit agencies to understand the internal capacity needed to effectively conduct these analyses and to determine what constitutes a “disparate impact” with these metrics.
- Update the Title VI Circular to allow agencies to use these metrics to comply with Title VI requirements instead of the current proximity and ridership measures.
- Potentially update the Circular to *require* the use of these metrics instead of the current proximity and ridership measures.

**Federal, regional, and local leaders should work with equity advocates to replace or supplement the narrow Title VI analysis (which measures the equity of proposed changes) with a prospective standard that measures the equity of the existing transit system (for example, by showing gaps in transit access between different demographic groups) and whether a region is making progress toward equitable transit access.**

- This standard should include quantitative measurement of transit access and ask if local agencies have adopted equitable planning processes—for example, whether they are using comprehensive equity analysis and have representative community participation.
- The fair housing field shows a path for reforming Title VI requirements: In 2015, the US Department of Housing and Urban Development issued a new regulation, termed Affirmatively Furthering Fair Housing, to require funding recipients to comprehensively evaluate barriers to fair housing. This replaced previous requirements that led to narrow, quantitative analyses—close equivalents to the Title VI analyses that transit agencies conduct. (The 2015 regulation was rescinded by the Trump administration but is likely to be reinstated under the Biden administration.)

**Currently, at least two measures of ridership—passenger revenue miles and unlinked passenger trips—help determine the amount of federal transit funding a region receives. This creates a financial disincentive for service changes that advance equity but may reduce performance on these measures. The federal government should create new incentives in grant programs that support equitable transit service—for example, an incentive for transit investments that expand access to opportunities for low-income people.**





**Thoughtful preparation, an inclusive analysis process, and critical application of the conclusions are indispensable components of any equity evaluation.**

- An equity impact assessment should be conducted well before proposed policies are finalized so that the results can factor into the final decision.
  - Equity should be weighted at least as heavily as other considerations, like fiscal impact. This means an equity assessment should be completed and considered at the same time as other evaluations that factor into decision-making.
  - Conducting an equity analysis only after a policy decision has been reached can have a damaging effect, robbing the equity evaluation of any practical impact, minimizing public input (if any was collected), and damaging riders' trust in the agency. However, a post-implementation reevaluation is appropriate to determine if the policy change had the desired positive effect on equity.
- Agencies should establish how equity evaluations are conducted in advance. Guidelines should specify what prompts an evaluation, what will be measured, which types of data will be used, who will conduct the analysis, and who will review it. Guidelines should also specify how results will trigger or influence next steps. These factors should be determined collectively and transparently and then be institutionalized and consistently applied across departments.
  - The equity evaluation process should be consistent with agency-wide equity principles and can be included in the agency's equity strategy.

# Transit Equity in Action: Case Studies of Existing Practice



Decisions about where to run transit, how often, and for what price directly affect the distribution of benefits from transit and determine who gains access to opportunity. These external outcomes are set in motion by internal processes—public outreach and data analysis, workforce development, budgeting, leadership practices—that set the tone for agency culture. Equity must be infused into these internal processes to generate fair outcomes for riders. But equitable internal processes are rare and not yet industry practice (perhaps because these areas are less visible to the public and therefore less subject to scrutiny).

We identified practical examples of internal processes that transit agencies and their stakeholders have adopted to achieve better outcomes for marginalized groups of people. We sought to learn how these examples were implemented (institutional frameworks that sanctioned them, resources necessary to support them) and if they successfully and equitably accomplished their operational purposes. We also questioned whether challenges remain within the transit industry that have yet to be addressed with practical, equitable solutions.

The more than two dozen case studies in this section arose from our industry scan and suggestions from our advisory committee. We conducted interviews with around 40 experts between June and September 2020. The case-study selections fall into three categories: best practices to advance internal and external equity at transit agencies and departments of transportation, reviews of emerging tools that feature equity metrics, and lessons from other public service-oriented fields to bolster equity.

## Best Practices for Transportation Agency Processes

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### King County Metro (Seattle, WA), North Link Project

*Source: Maha Jahshan, Public Engagement Planner*

Sound Transit in the Seattle region set out to construct three new Link light-rail stations in the northern part of the city by 2021. Changes to the King County Metro bus network and increased access to alternative modes of transit will accompany the construction of these stations. The bus network changes include 40 bus routes, which will streamline the network and directly serve the stations of the North Link project.

The North Link project is especially important for building north-to-south connections for residents of Seattle and for local east-to-west connections across town. Increases in development and gentrification have displaced people outside the center of the city, forcing many Black, Indigenous, and people of color communities to move to areas with poor transit access. The project area remains a large transit hub, as many hospitals, universities, and businesses employ BIPOC communities who rely on transit to get to their places of employment or access services.

Outreach and engagement for the project included translating information into seven languages, giving technical briefings, assembling ethnic media and social media, hosting in-language meetings with community groups, and compensating community-based organizations (CBOs) to conduct focus groups and engagement. In addition, a Mobility Board composed of diverse community members helped co-create the service change proposal with the transit agency project team, and a Partner Review Board made up of institutions, large CBOs, and partner agencies also reviewed the proposal. The project is a collaboration between several agencies, including King County Metro, Seattle DOT, Sound Transit, Community Transit, and Washington State DOT.

NextGen is LA Metro's bus network redesign, led by Metro's service planning department. NextGen began development in 2018 and was implemented in 2020 and 2021, with a service plan that emphasizes a grid of frequent routes. NextGen exemplifies how new kinds of quantitative data can inform service planning. The NextGen service plan increases walking access to frequent transit service to 83% of Metro's bus riders (who have an average household income of less than \$18,000) compared to 48% pre-pandemic.<sup>7</sup>

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### Los Angeles County Metropolitan Transportation Authority (Los Angeles, CA), NextGen Bus Plan

*Source: Conan Cheung, Senior Executive Officer, Service Planning, Scheduling and Analysis*

7 Steve Hymon, "Frequent service plan released for NextGen Bus Plan," *The Source*, January 10, 2020.



NextGen was informed by cell-phone location-based services (LBS) data and fare card “tap” data. By comparing LBS and fare card data, Metro could see how transit competed with other transportation modes for common trips. These data explain where people were using or not using transit, but not why they made those travel choices. Metro also ran an online survey to get information from current riders, former riders, and non-riders to identify barriers to using the bus system. The agency created an external working group with 60 different organizations—including faith-based groups, councils of government, and advocacy organizations—and hosted 400 public workshops, stakeholder meetings, and community events.

The use of LBS data gave Metro insights that weren’t present from previous data sources like the US Census and National Household Travel Survey data—for example, that travel intensity doesn’t align completely with employment or residential density. LBS underscored the importance of regional destinations and captured short trips that are typically underreported in household travel diaries. Both LBS and the survey data showed the importance of frequency to making transit competitive for these short trips.

LA Metro developed a “transit equity score” to define “transit equity focused areas” with the greatest need. The score includes the density of zero-car households, households with low incomes, students between the ages of 10–19, people over the age of 55, single mothers, people with disabilities, and people of color.

While LA Metro has committed to implementing NextGen in its entirety, in fiscal year 2021 the agency adopted a budget that reduced bus service by 20% compared to pre-pandemic service levels. It’s unclear how NextGen will be implemented in this context. The stakeholder working group that helped inform the NextGen plan did not review the Metro budget, limiting the input from these “equity committees” that are project-specific.

More broadly, the progress of equity initiatives at Metro demonstrates the challenges that can arise from agency structure. In addition to operating transit, Metro includes a capital construction division that builds both transit and highway projects as well as a regional planning/programming division that distributes transportation sales tax revenue to dozens of municipal governments. There is not always consistency in principles, priorities, goals, and stakeholders across these functions. For example, the agency’s long-range transportation plan also identifies equity neighborhoods, but with different criteria

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**Massachusetts Bay Transportation Authority and Massachusetts Department of Transportation (Boston, MA), Better Bus Project and Public Engagement Plan**

*Sources: Anna Gartsman, Director of Strategic Research, MBTA; Laurel Paget-Seekins, former Assistant General Manager for Policy, MBTA; Anthony Thomas, Manager of Policy Development and Outreach, MBTA*

than those used in NextGen. Metro recently hired a Director of Race and Equity with the goal of better coordinating these efforts.

The Massachusetts Bay Transportation Authority has become a leader in generating and using data for transit reform initiatives, including plans to redesign the bus network to match regional needs through its Better Bus Project.<sup>8</sup> This success derives from building the internal capacity to do high-quality analysis at the MBTA and at the Massachusetts Department of Transportation's Office of Performance Management and Innovation (OPMI) and from creating analytics departments tasked with high-level, crosscutting research.

The sources pointed out that many limitations of quantitative analysis come from attempting to use poorly suited data to answer equity questions. Currently, most transit equity analyses use data on where people live, not where they travel; this obscures trips made by riders with low incomes between high-income areas, for example.

Instead, it's important to look beyond commonly used data sources for more suitable data. For example, MassDOT used data from Streetlight, a company that analyzes location-based services (LBS) data from cell phones, to inform its bus network redesign. Because LBS data includes travel across different modes, it helps show potential unmet demand for transit service. The use of LBS data allowed the agency to identify popular destinations as well as trips where transit service was competitive with driving. Their analysis suggested that respondents tended to have a lower or higher willingness to use transit (and tolerate everything that comes with it) rather than having strong feelings about trade-offs between different aspects of transit quality (e.g., frequency vs. walking distance).

The agency "ground truthed" these findings using surveys and open house meetings (including virtual meetings during the pandemic). It also organized an external working group with 37 members representing municipalities in the MBTA service area, transportation advocates, business organizations, environmental justice and community-based organizations, and elected officials. The working group initially met monthly and, as of December 2020, now meets quarterly to review analysis and provide input on how the agency communicates the benefits of the redesign.

The sources emphasized the importance of doing outreach and qualitative research to understand and accommodate "edge cases": people with nonstandard commutes or preferences for transit who would be excluded from transit policy that caters solely to the standard rider.

8 Massachusetts Bay Transportation Authority, "Better Bus Project."

One example of the role of qualitative outreach was fare vending: the MBTA held focus groups with seniors, who reported a preference for retail locations over vending machines. Even though retail locations were not available 24/7, they offered a greater feeling of safety than vending machines. More engagement with seniors will be necessary because they are underrepresented in location-based data sets.

The sources found value in the structure of OPMI, which sits within MassDOT and can access data from other transportation agencies. Because this office exists outside operating divisions (such as customer experience), it has the space to develop and execute research projects aimed at predicting future needs. For example, during the pandemic OPMI has developed an “employer panel survey,” a group of major employers who are repeatedly surveyed so that OPMI can understand when and how employees may return to on-site work.

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**Metro Transit (Madison, WI), Racial Equity and Social Justice Initiative**

*Source: Ann Schroeder, Assistant to the General Manager*

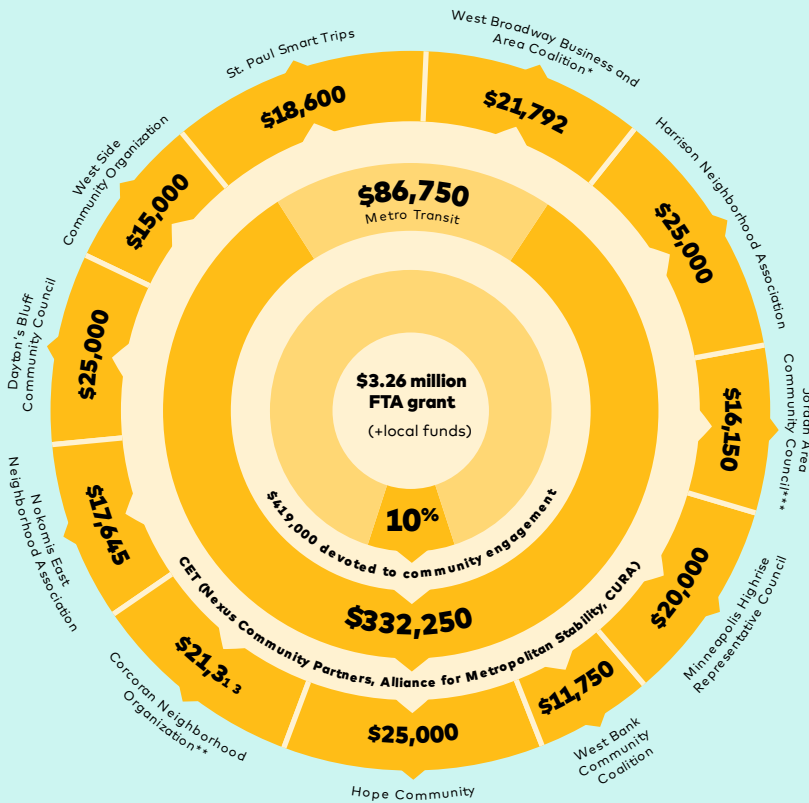
Metro Transit, the public transportation operator for Madison, Wisconsin, participates in the City of Madison’s Racial Equity and Social Justice Initiative (RESJI). The goals of the RESJI are to account for diverse perspectives and experiences in city policies and practices and to achieve equitable outcomes for all Madison residents. The RESJI began in 2013 as a citywide effort to institutionalize equity across departments and withstand electoral turnover. City of Madison staff take on RESJI work on a volunteer basis (in addition to their primary job responsibilities).

At Metro Transit, much of the RESJI work centers on transforming hiring practices in order to achieve greater diversity throughout its workforce. Metro Transit seeks to break down barriers to entry for groups historically excluded from public transit roles—like women and people without high school or college degrees—and to promote the advancement of frontline workers, a large share of whom are BIPOC. An equitable hiring team, formed as part of the RESJI, developed and regularly updates a plan to review and adjust hiring practices. So far, the agency changed the status of new frontline employees from part-time to full-time to create greater stability and increase pay for its frontline workers, and it diversified its interview panels to make hiring decisions more inclusive and collaborative.

The RESJI has also spurred the formation of a racial equity team at Metro Transit. The racial equity team has faced some challenges in recruiting and establishing a core team because of a significant bus operator shortage that limits the capacity of operators to volunteer their time. Transforming agency culture across the board to



## Community Engagement Budget: Better Bus Stops



**\$419,000** devoted to community engagement

**\$86,750**

kept for Metro Transit, to do more traditional engagement and to provide engagement coverage for the entire Metro Transit service area (including a public engagement plan)

**\$332,250**

contracted to the CET (Nexus Community Partners, Alliance for Metropolitan Stability, CURA), with \$217,250 subcontracted out to community-based organizations

\*partnered with Juxtaposition Arts

\*\*partnered with Central Area Neighborhood Development Organization, Lyndale Neighborhood Association, Lake Street Council

\*\*\*partnered with Hawthorne Neighborhood Council

Source: Metro Transit, Better Bus Stops Community Engagement Report (2017)

prioritize equity is another challenge Metro Transit has faced in its implementation of the RESJI.

### Metro Transit (Minneapolis–St. Paul, MN), Better Bus Stops

Sources: Berry Farrington, Senior Planner; Anna Flintoft, Facility Planning and Urban Design Manager; Cyndi Harper, Manager of Route Planning

As Metro Transit, the transit operator for the Minneapolis–St. Paul region, was planning the Green Line light-rail project, advocates and elected officials argued that the agency was focused on transit extensions into the suburbs while neglecting the bus experience in urban areas. In response, Metro Transit agreed to build additional bus shelters in racially concentrated areas of poverty, calling it the Better Bus Stops program. Metro Transit’s outreach approach for this program exemplifies a community process that changed agency decisions.

Metro Transit secured a \$3.26 million federal grant for this bus stop improvement through the US DOT’s Ladders of Opportunity

program in 2014. Ten percent of the grant budget went to community engagement. Metro Transit contracted with one entity, a Community Engagement Team (CET) made up of two citywide nonprofits and a University of Minnesota program. The CET then subcontracted with eleven community-based organizations (CBOs) to lead engagement in different neighborhoods; the selections were made by a committee of community leaders.

This approach simplified procurement and relationships for Metro Transit, which worked directly with large citywide nonprofits with which it had established relationships. To quote Metro Transit's own report on the project: "As an intermediary, the CET offered relationships, trust, and access to community partners that otherwise would not have been available to Metro Transit to create a deeper pool of subcontract applicants."

The CBOs conducted outreach through a range of activities, including tabling at community events, door knocking, and focus groups. Riders were asked for their thoughts on shelter placement, design, features, community assets of historic significance, and how Metro Transit could advance regional equity. As a result of CBO involvement, Metro Transit was able to get feedback from a sample representative of bus riders; the demographics of the survey results were similar to the demographics of bus riders in terms of age, gender, Hispanic ethnicity, and race. Twenty percent of respondents reported having a disability, and 57% of survey respondents heard about the survey through a CBO.

Sources reported that hearing directly from riders "changed the conversation at Metro Transit" and revealed to the agency how important certain amenities, including seating and shelters, were to riders. As a result of the project, Metro Transit changed its standards for bus shelter siting. Before Better Bus Stops, 40 boardings per day were needed to justify a shelter in Minneapolis or St. Paul, compared to 25 per day in the suburbs, where service frequency was lower and riders were assumed to wait longer for the bus. However, riders engaged in the project argued that this was unfair. The agency's Department of Strategic Initiatives also analyzed data from a University of Minnesota study and found no evidence of longer wait times in suburban areas.

Engagement also changed the agency's approach to shelter design. Before the project, the agency's philosophy was that any stop that qualified for a shelter should receive the largest shelter possible. Riders with disabilities pointed out that Metro Transit frequently placed large shelters on narrow sidewalks that made it difficult to pass. As a result, the agency developed a narrow shelter design. The agency also

developed a new internal process for shelter placement, circulating design drawings of proposed shelters through the bus operations department for feedback.

Since the conclusion of the federal grant, the project has evolved into a program for the agency's full service area. As of January 2020, the agency has added 135 shelters and upgraded another 78 with light or heat. (There are about 950 shelters in the system.) In racially concentrated areas of poverty, roughly two-thirds of boardings now take place at stops with shelters—similar to the results across the system.

### **Metro Transit (Minneapolis–St. Paul, MN), Everyday Equity and Network Next**

*Sources: Cyndi Harper, Manager of Route Planning; Sarah Berres, Program Specialist, Equity and Inclusion; Rachel Cagle, Coordinator, Equity and Inclusion; Lesley Kandaras, Senior Manager, Policy Development*

Metro Transit initiated the Everyday Equity program in 2016 to remove barriers to opportunity for the agency workforce. Now known as the Equity and Inclusion Department, three full-time employees work closely with eleven volunteers from within Metro Transit on an agencywide “change team.” Their goal is to lead the agency toward a more inclusive, representative, and equitable workplace and service-oriented institution.<sup>9</sup> The volunteers hold full-time roles in various divisions and functions within Metro Transit—vehicle operators, mechanics, law enforcement, marketing, customer service, etc.—but meet regularly with department staff to plan initiatives that enhance Metro Transit's ability to identify and address inequities. Projects influenced or led by Equity and Inclusion include the Equity Tool (a tool to help staff understand projects through an equity lens), the Better Bus Stops program, the Metro Transit Technician Training program, Spanish classes for bus operators and transit police, the Transit Assistance Program, community engagement approaches, and the Equitable Development Principles and Scorecard.

Network Next is a twenty-year plan for expanding and improving Metro Transit's bus network. Improvements under consideration include adjusted local and express routes, integrated shared mobility options, and new arterial bus rapid transit (BRT) lines. Metro Transit leaned on a community engagement process to identify key principles and high-priority corridors during the planning process for the BRT lines. Outreach activities included surveys, social media, and in-person engagement. In survey responses, 50% of people selected advancing equity and reducing regional disparities as top priorities to be reflected in planning for the BRT corridors.<sup>10</sup>

9 For more information, see TransitCenter, “How Twin Cities' Metro Transit Set Up an Internal Framework for Equity and Inclusion,” May 13, 2020.

10 Metro Transit, “Network Next Proposed BRT Corridors Community Engagement Summary,” November 10, 2020.



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**Oakland Department of Transportation  
(Oakland, CA), Strategic Plan, Slow  
Streets, and Bike Plan**

*Source: Ryan Russo, Director of  
Oakland DOT*

When the Oakland Department of Transportation was created in 2016, its founding strategic plan outlined equity as a pillar to drive the agency's work. Since then, OakDOT has worked closely with Oakland's Department of Race and Equity to increase staff capacity to identify, understand, and address structural racism in transportation through professional development and skills training; to conduct equitable community engagement; and to use data as a tool for equity. At OakDOT, equity, diversity, and inclusion (EDI) competency is treated as a professional skill on par with technical skill development, requiring training and ongoing development. Receiving training to hone competencies that advance equity work are integrated in staff work plans and rewarded through salary bumps and certification pay. Much of OakDOT's EDI work emphasizes the need for greater recruitment and retention of BIPOC staff to have more equitable representation across the agency, including at upper management levels.

OakDOT's recent update to its master Bike Plan has been cited as transit equity in action because of the agency's engagement with community partners to reach marginalized communities, whose participation helped change the narrative around biking while Black and brown in Oakland. For their community engagement approach, OakDOT met with people in spaces familiar to them (holding 25 mobile workshops) and used new strategies—like mock-ups of potential designs—to obtain feedback rather than relying solely on traditional public outreach hearings. The agency also used survey data and qualitative data collected with the help of five trusted community-based cycling organizations with Black and brown membership and leadership. The dynamic, intertwined use of quantitative and qualitative data helped illuminate racial disparities related to police department cycling stops, which was a key finding of the bike plan.

### **San Francisco County Transportation Authority (San Francisco, CA), District 10 Mobility Management Study**

*Sources: Rachel Hiatt, Assistant Deputy Director for Planning, and Paige Miller, Senior Communications Officer, SFCTA; Ezra Kong, Managing Partner and Co-Founder, Reflex Design Collective; Hana Creger, Environmental Equity Program Manager, The Greenlining Institute*

- 11 Ezra Kong, "Co-Designing Equitable Transportation in Southeast San Francisco," April 17, 2019.
- 12 Hana Creger, "Congestion Pricing, Part 2: Best Practices for Community Engagement," November 9, 2020.
- 13 San Francisco Municipal Transportation Agency, "Muni Service Equity Strategy."

### **San Francisco Municipal Transportation Agency (San Francisco, CA), Service Equity Strategy**

*Source: Sandra Padilla, former Lead on Service Planning*

Some of the most innovative work in transit equity occurs when transit agencies work in close collaboration with nonprofit organizations. The San Francisco County Transportation Authority (SFCTA) applied the Mobility Equity Framework developed by the Greenlining Institute, to implement equitable mobility improvements in its District 10 in southeast San Francisco.

Reflex Design Collective, collaborating with community-based organizations (CBOs) as subcontractors, led a co-design process to engage residents—who were compensated for participating—from the start of the initiative.<sup>11</sup> The agency also committed to weigh qualitative information as much as quantitative analysis, which represented a shift in culture. SFCTA had to counteract residents' deep distrust of the government to productively collaborate with them. These actions were critical to building back trust, and they demonstrated that SFCTA valued community partnerships and respected residents' lived expertise alongside traditional technical expertise.

The approach sought out and actively engaged community residents—particularly those most impacted by transit changes, such as communities of color and non-English speakers—in co-designing solutions to improve mobility in District 10. The engagement of residents broadened the focus to address existing disparities in air quality and access to economic opportunity and to build community involvement in decision-making overall.

According to sources, this effort was made possible by widespread awareness about equity and displacement across the region, including on the SFCTA Board. The approach with District 10 demonstrated the value of an equity-centered approach and caused SFCTA to view the Mobility Equity Framework very favorably. The agency has revised its communications and outreach guidelines to reflect the Framework, and it is currently applying it within a larger-scale congestion pricing project.<sup>12</sup> SFCTA has also begun to consider budgeting for CBO involvement and participant compensation in all of its projects, although these are not yet standard practices.

The Muni Service Equity Strategy started in 2016 and is a continuing effort to improve transit service in eight neighborhoods in San Francisco, California.<sup>13</sup> These neighborhoods, identified as equity neighborhoods, have shares above citywide averages of people of color or with low incomes or below-average rates of car ownership. The Muni Service Equity Strategy set out to determine critical transit needs in these neighborhoods with high transit reliance and where

14 San Francisco Municipal Transportation Agency, "Muni Service Equity Policy."

solutions could be successfully implemented and quickly achieved.

The Muni Service Equity Policy was created in collaboration with the Muni Service Equity Working Group (which SFMTA formed in 2014 and includes government agencies and community-based organizations, or CBOs).<sup>14</sup> The policy mandates a biennial strategy to identify projects that will make service equal or better in equity neighborhoods. In recent years, outreach for the two-year strategy has included working with CBOs in each neighborhood, multilingual presentations and materials, and meetings held in neighborhood spaces with snacks and childcare.

The strategy is updated every two years and presented to the SFMTA board ahead of the biennial budget process. The process of updating the strategy every two years allows for communities to experience rapid changes in service, long-term planning and community input, and an opportunity to influence SFMTA's budget.

SFMTA used a Caltrans grant and funding from Proposition K, a local sales tax administered by the San Francisco County Transportation Authority, to fund the community outreach efforts for the program in 2017 and 2018.

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**Seattle Department of Transportation  
(Seattle, WA), Transportation Equity  
Workgroup and Transportation  
Equity Team**

*Sources: Annya Pintak, Manager of  
Transportation Equity, and Laura Lee  
Sturm, Transportation Access Program  
Manager*

In 2019, Seattle DOT created two workgroups to engage community leaders outside the agency and to engage agency staff. Coordination between the external and internal teams is facilitated by the Manager of Transportation Equity, who serves as a liaison advocating both internally and externally.

The external group, the Transportation Equity Workgroup (TEW), consists of ten BIPOC community members with personal and professional affiliations to community-based organizations in Seattle. This external workgroup was created to provide specific recommendations and set goals for SDOT's Transportation Equity Agenda. Members of the TEW are compensated with a \$5,000 yearly stipend.

SDOT's internal team, the Transportation Equity Team, consists of twenty agency staff from various departments. The internal team works simultaneously with the external team, providing feedback and recommendations set forth by the TEW on the equity agenda.



### **Transit Alliance (Miami, FL), Advocate-led Bus Network Redesign**

*Sources: Azhar Chougle, former Executive Director*

Miami-Dade County’s bus network redesign (which began in May 2019 and was adopted in October 2020) was an unusual collaboration between Miami-Dade Transit (MDT) and the nonprofit Transit Alliance. Transit Alliance was hired by Miami-Dade county government to lead the redesign, with Jarrett Walker + Associates (JW+A) subcontracted to lead technical analysis. Transit Alliance’s approach to public engagement and the use of qualitative information gained from that engagement stand out as lessons that can be applied by other agencies, whether they hire community-based organizations to conduct outreach or rely on in-house capacity.

The network redesign was prompted by the poor reach of the previous bus network. Only 10% of county residents had access to frequent transit. The final plan emphasizes a grid of frequent bus routes, doubling the number of residents within a five-minute walk to a bus arriving at least every 15 minutes. The proportion of Black county residents within walking distance of frequent transit will go from 9% to 31%.<sup>15</sup>

Transit Alliance’s approach to building public understanding and buy-in to the network redesign was cognizant of how an earlier MDT attempt to redesign its network had fallen short. The group took a narrative-driven approach that could explain to media, decision-makers, and riders that the bus system was failing and specific kinds of change would be necessary to build ridership and better serve Miami. The transit agency was initially resistant to an approach that admitted past failures, but County Mayor Carlos Gimenez was strongly supportive.

Transit Alliance focused public engagement in communities of color, where there was historic mistrust of county government. According to Transit Alliance, three months of sustained engagement—primarily listening—were necessary to build trust in these areas. Government’s historic tendency when confronted by community mistrust is to “retreat and move to friendly ground; [instead] we double down and do more” engagement, Chougle said. The information gained through this engagement was used to inform the network redesign. According to Chougle, “every time a decision was being made solely by data, [we] interrupted” to bring in knowledge learned through engagement. Instead of “data-driven” decisions, Transit Alliance says, design should be “data-informed.”

The consultant JW+A developed access-to-opportunity and “access to frequent transit” measures that Transit Alliance used to demonstrate the inequity of existing transit and the possibilities of a redesigned network. This was important because elected officials

15 Miami-Dade County, “A Better Bus Network for Miami-Dade County.”

recognized that there were inequities in the system, but discussion of solutions tended to focus on long-term capital projects. Access-to-opportunity metrics were a powerful way to drive the conversation toward improvements in existing service.

Transit Alliance demonstrated project leadership skills that are a good model for any transit agency leading an equity initiative. When elected officials or other stakeholders challenged elements of the network redesign, Transit Alliance staff began by explaining the rationale behind proposals, instead of immediately appeasing them by changing the design. This helped gain the trust of transit agency staff as well.

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**TransitMatters (Boston, MA),  
Advocating for Nighttime  
Transit Service**

*Source: Jarred Johnson,  
Executive Director*

In 2019, the MBTA increased bus service during early mornings and late nights by about 140 more trips per week. The improvements resulted from a multiyear, collaborative effort by the MBTA, TransitMatters, and other stakeholders to draw attention to and address needs for nighttime service.

The seed for the service expansion came years earlier from TransitMatters, a nonprofit transit advocacy group in the Boston region. In 2016, TransitMatters was calling on the MBTA to restore and expand late-night service, arguing in *CommonWealth Magazine* that there was a cost-effective solution to meet the needs of overnight riders.<sup>16</sup> Its “NightBus” concept proposed that the MBTA could add trips every 75 minutes, all night long, on eight existing high-ridership early-morning bus routes. The routes ran through most low-income communities in and around Boston before converging on Copley Square, a central location.

Though MBTA planners were initially unsure of the proposal’s feasibility, the broader demand caught the attention of the MBTA’s Fiscal Management and Control Board (FMCB). The FMCB directed MBTA staff to research, and then respond to, riders’ needs for nighttime service—starting by understanding and building out the TransitMatters NightBus proposal.

Collaborating with city partners and TransitMatters, the MBTA designed and distributed a survey to ask the public about their overnight travel needs. The survey revealed that low-income workers could benefit from additional service during late-night and early-morning periods. Staff from the Cities of Boston and Cambridge engaged directly with employers in their jurisdictions to identify the needs of overnight commuters. The MBTA also analyzed a mix of origin-destination

16 Ari Ofsevit, Jeremy Mendelson, and James Aloisi, “Our plan for late-night MBTA service,” *Commonwealth Magazine*, March 30, 2016.

data from multiple sources to get a clear picture of demand patterns throughout the night.

Following these research and outreach efforts, the MBTA drafted a pilot proposal for expanded service with input from community partners, including TransitMatters. In 2018, the FMCB approved pilots that extended bus service later in the night and earlier in the morning. Service improvements included increasing frequency and lengthening span of service on certain early-morning and late-night bus routes, as well as a new overnight route (which strung together other existing routes).

By 2019, the early-morning and late-night routes proved to be popular with riders. Responding to the demand that riders demonstrated, the MBTA made 140 weekly trips during those periods permanent.<sup>17</sup>

The overnight service was not continued: low ridership during the pilot had resulted from poor branding and signage, confusing routing that made transfers difficult, and a lack of consideration of safety concerns that riders, particularly women, had with overnight travel. Underestimating the latter outcome led TransitMatters to recognize its own lack of gender diversity, which the organization has worked to address since.

Each party played an important role in ultimately improving nighttime travel for Boston transit riders. TransitMatters originated the concept, then cultivated the political will and maintained pressure for the change. At the MBTA, the FMCB prioritized the demand; staff responded with thorough outreach and analysis to reinforce their service proposals. The cities of Boston and Cambridge supported outreach to ensure that the needs of their constituents were addressed.

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**Transportation Choices Coalition  
(Seattle, WA), Sound Transit and City  
of Seattle Rainier Valley Transit  
Oriented Development**

*Source: Hester Serebrin, Policy Director,  
Transportation Choices Coalition*

In 2018, the Sound Transit Board created an initiative to facilitate the construction of affordable housing on surplus land, originally acquired for construction of light-rail routes in Rainier Valley in Seattle, Washington. The initiative was a collaboration between Sound Transit and the Seattle Housing Authority.

An extensive outreach process for the project set out to determine four things: high-priority sites for construction, uses for commercial/community spaces, density preferences on the sites, and general community support for affordable housing. The outreach included a survey that yielded 945 responses and in-person engagement (six meetings with roughly 100 community members, with an emphasis on limited-English speakers and historically underrepresented groups), conducted via a contract with Puget Sound Sage, a community-based

<sup>17</sup> Massachusetts Bay Transportation Authority, "Early Morning and Late Night Service Becomes Permanent," 2019.

organization. In-person engagement was more successful than the survey at capturing the needs of commonly marginalized groups in Seattle. The in-person outreach found preferences for larger apartments to accommodate bigger families, larger sites for construction, cultural services for the commercial/community spaces, and zero-interest loans.

The Memorandum of Understanding between the two agencies included key priorities determined via the public outreach process, and in the fall of 2020 the Sound Transit Board adopted a resolution allowing Sound Transit to transfer the sites to the City of Seattle at no cost for the development of affordable housing.<sup>18</sup>

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### **TriMet (Portland, OR), Equity Index and Transit Equity Advisory Committee**

*Sources: Carl Green, Jr., former Title VI and Equity Programs Administrator; Roberto Gutierrez, Senior Project Coordinator, Transit Equity, Inclusion, and Community Affairs Department; Scott Nance, Senior Communications Specialist*

TriMet's approach to institutionalizing equity is notable for its use of standing external committees, leveraging its Civil Rights Title VI program, development of new metrics and an equity index that measure different aspects of service provision, and the growth of internal capacity to do equity work.

In 2013, TriMet began the development of a quantitative "Equity Index." The index identifies "equity neighborhoods" by weighing ten factors: people of color, limited English proficiency, youth population, limited vehicle access, affordable housing units, low-income population (200% of federal poverty level), senior population, people with disabilities, low- and medium-wage jobs, and key retail and human/social service destinations.

In 2018, Oregon passed new statewide transportation funding legislation, HB 2017, which provides an additional \$48 million annually for TriMet; the agency has prioritized service investments in the equity neighborhoods determined by the index.

TriMet incorporated equity metrics into its five-year business plan process. In 2017, the agency found that the average age of vehicles on routes serving mostly people of color or people with low incomes was 12 percent older than the average age of the vehicles on the other routes. As a result, the agency retired older buses, examined how it had been assigning vehicles to different depots, and changed its process to improve this metric in future years.

18 Sound Transit, Resolution No. R2020-17, 2020.



19 TriMet, Business Plan FY2020–FY2024, 2019.



### Sample Metric From TriMet FY2020–2024 Business Plan<sup>19</sup>

**Objective:** Ensure equitable distribution of services and resources across the TriMet system

**Measure:** Minority and low-income access within five percent or better than non-minority and non-low-income access across different measures:

- Revenue hours provided
- Vehicle loads
- On time performance
- Service availability
- Vehicle assignment
- Stop amenities

Central to TriMet’s equity work is the use of its Transit Equity Advisory Committee (TEAC), which includes a TriMet board member and representatives from sixteen organizations working with transit-reliant populations, youth, community colleges, housing groups, and advocacy groups. The TEAC meets monthly and is primarily a way for TriMet to brief and get input from community partners on agency projects, initiatives, and research studies that could influence the equitable provision of service. In 2020, for example, TEAC agendas included discussion of changes to the low-income fare enrollment process, proposed bus lane and light-rail extension projects, and changes to transit policing.

Many public agencies have advisory committees that accept input but fail to change agency decision-making. TriMet sources say the TEAC stands out because agency leadership sees it as a serious venue to vet potential policies and inform policy conversations. In other words, proposed changes are discussed in committee early enough that meaningful change can result, and agency leadership views TEAC buy-in as important. The presence of an agency board member on the committee creates a conduit to the rest of the board.

According to the sources, TriMet has intentionally increased the number of staff assigned to equity-related work to twenty full-time staff assigned to equity initiatives across multiple departments.







## Reviews of Emerging Tools to Measure Equity

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### Accessibility Observatory, Access to Opportunity Analysis

*Source: Andrew Owen, Director*

The University of Minnesota’s Accessibility Observatory ([access.umn.edu](http://access.umn.edu)) regularly evaluates access to opportunity on different modes of transportation in urban regions. Its popular Access Across America tool examines multimodal access to jobs: how many jobs are reachable from Point A, using different modes of transportation and traveling at different times of day? The analysis uses US Census job and demographic data, GTFS, and OpenStreetMap, and its results are publicly available. Accessibility Observatory also conducts scenario planning for transit agencies, departments of transportation, and developers, evaluating gains in access to opportunity from potential projects.

Accessibility Observatory states that access to opportunity measures the *supply* of transportation and its intersection with land use, density, and housing—and thus the efficacy of the systems in getting people to and from destinations. Metrics can be disaggregated for different types of people to measure how equitably a transportation system connects people to opportunities (though most analysis by Accessibility Observatory is not disaggregated).

Accessibility Observatory notes that, currently, access-to-opportunity metrics play a minute role in deciding if transportation projects are viable, and they are not used to evaluate if projects are equitable. This is partly because recent expansion of GTFS has made the metrics easier to calculate, and they are increasingly used in transportation decisions. Accessibility Observatory has expanded its services to train transportation officials on how to interpret access-to-opportunity data as it relates to project planning, and it hopes also to expand its data offerings to evaluate equity of access to opportunity.

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### Conveyal, Conveyal Analysis Tool

*Source: Anson Stewart, Project Lead of Analysis and Research*

Conveyal ([conveyal.com](http://conveyal.com)) is a paid, web-based platform that computes access to opportunities—an evaluation of effectiveness and equity in transportation networks—on transit and other modes. It uses demographic and jobs data (with certain US Census Bureau products preloaded), GTFS, and OpenStreetMap. The platform simplifies the technical tasks to conduct the computations, thereby increasing the capacity for meaningful analysis by its transportation planner subscribers.

Conveyal’s Analysis tool requires some technical skill, including familiarity with GIS, but analyzes access to opportunity with more

sophistication and customizability than most other platforms. A few features make Conveyal Analysis unique:

- It can segment destinations by type of job and origins by residential demographics, producing results that imply disparities between groups, such as “The average low-income earner living in Boston can reach X low-wage jobs in 45 minutes on transit.”
- The user can add additional parameters, including fare limits, number of transfers, or specified modes of transit. Users can also upload their own data sets.
- A map-based scenario editor tool enables transit scenario planning.
- The software is open-source, so anyone could replicate its methods. Conveyal updates its software regularly in response to client needs.
- The platform computes rapidly and includes a public engagement portal.<sup>20</sup> Both features enable planners to present impacts of service changes on access to destinations, which bolsters engagement, as riders can provide qualitative reactions to potential changes in real time.

Conveyal provides its subscribers with technical support, but it is not prescriptive about how results should be applied or interpreted. It can also contract with transit agencies to provide analytical support on scenario-planning analysis.

The Conveyal team recognizes deficiencies with the FTA’s Title VI Service Equity Analysis and therefore hasn’t built a Title VI report generator. But one can essentially run a Title VI Equity Analysis by intentionally applying Conveyal features and thinking through results carefully. Conveyal looks hopefully to the growing popularity of access to opportunity, which it views as a better measure of transit equity than existing proximity measures.

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### Federal Transit Administration, STOPS Tool

*Sources: Jim Ryan, FTA Planner;  
Jeff Roux, FTA Planner*

STOPS ([transit.dot.gov/funding/grant-programs/capital-investments/stops](https://transit.dot.gov/funding/grant-programs/capital-investments/stops)) is free software that models vehicle miles traveled and ridership. The FTA built STOPS to assist transit agencies applying for New Starts and Small Starts grants for fixed-guideway projects—particularly small transit agencies without capacity to conduct the required build vs. no build analysis.

The explicit transit focus, editable format, and ability to speed up lengthy forecasting analysis have made STOPS popular for broader transit modeling needs and among transit agency staff, private planners, and researchers. STOPS can be reconfigured to represent changes in other transit modes (besides fixed guideway) and their

<sup>20</sup> See, for example, the portal created for Nashville’s WeGo system at [wego-better-bus.tau.conveyal.com/](https://wego-better-bus.tau.conveyal.com/).



impacts on ridership. The FTA is aware of STOPS being used to evaluate potential service changes, reimagine bus networks, do long-term planning, and measure equity of transit service.

STOPS takes in commute pattern (from CTPP), GTFS, population, employment, and roadway travel times data; infers which trips will be taken given a change to the transit network; and outputs long-term ridership impacts. FTA staff recommend inputting rider survey data if available, which provides more certainty on rider demographics, behavior, and likely trips taken and ultimately creates more detailed and accurate forecasts. (The sources also noted that detailed, quality rider surveys are a good investment for transit agencies interested in improving their ridership modeling and equity analysis in general.)

STOPS in its base format separates ridership forecasts for zero-car households, since the FTA evaluates if potential grantees increase ridership for this group. Editing STOPS code allows one to expand demographic inputs beyond car ownership to allow more comprehensive analysis of the equity of potential changes to transit networks, but this step is technically cumbersome.

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**Florida Department of Transportation,  
TBEST Program**

*Sources: Rodney Bunner, Consultant/  
Developer from ServiceEdge Solutions;  
Chris Wiglesworth, FDOT Transit Planner;  
Matt Cheng, former Northern Virginia  
Transportation Commission  
Program Analyst*

TBEST ([tbest.org](http://tbest.org)) models short- and mid-term changes to transit ridership, given proposed capital projects or service changes. The Florida Department of Transportation developed TBEST to increase the capacity of transit agencies, specifically their ability to include accurate estimates in required planning documents. Its core users are Florida transit agencies, but other agencies, metropolitan planning organizations (MPOs), departments of transportation, academics, and private firms from across the country use TBEST.

TBEST's flexible nature means that it can automate many data analyses, enabling transit agencies to explore network changes and meet reporting requirements more easily. TBEST has a tool that takes data inputs and generates a report that meets the FTA's Title VI Service Equity Analysis requirements. Users can modify the model to account for additional parameters, including how to define minority routes, service areas, and disparate-impact thresholds. TBEST users have also conducted scenario planning, explored how service tweaks impact ridership, and evaluated operating costs.

TBEST uses data from the US Census, LEHD, MPOs, OpenStreetMap, and GTFS feeds to establish existing conditions, to model how conditions will be impacted if the transportation network changes, and to produce report outputs summarizing those changes. TBEST is free but runs on the ArcGIS mapping software program. Users will

need experience with ArcGIS and the software subscription to take advantage of the resource. TBEST is programmed with Florida data, but it can be calibrated with inputs from other states; setup might take from 20 to 120 hours for non-Florida users.

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### Alex Karner, Measuring Transit Equity

*Source: Alex Karner, Assistant Professor of Community and Regional Planning at University of Texas at Austin*

Alex Karner’s research explores transit equity metrics. According to Karner, singular focus on one equity indicator—as in the focus of the Title VI Service Equity Analysis on the demographics of neighborhoods where service changes occur—flattens the nuance of the evaluation and leads to inaccurate conclusions about equity.

The Federal Transit Administration (FTA) sponsored Karner to create methods to evaluate equity in transit agencies’ systems. The resulting work (not published as of June 2021) expands industry practice to encompass new dimensions of methodologically sound, replicable equity measurements.

Karner developed four measures of transit equity that use widely available data, vary in sophistication (so that staff ranging in expertise can apply them), and capture the complexity of how transit service affects riders. To reach a robust conclusion about equity, an evaluation should apply multiple metrics, and metrics should be disaggregated for people of different races, ethnicities, and income levels.

- Proximity to transit: Who lives near a service change? The metric is similar to the Title VI approach and uses US Census demographic data.
- Access to opportunities: How many opportunities (e.g., jobs) can someone reach on transit in an amount of time? The metric uses OpenTripPlanner and US Census demographic and jobs data.
- Trip characteristics: What are travel times, transfers required, fares, or other characteristics of transit trips that people make? The metric uses rider survey data, if available, or Census Transportation Planning Products (CTPP) data on commute patterns.
- Logsum measures: Given a transit service change, how do people’s travel times change? The metric is weighted by population and trips made. It uses the FTA’s STOPS travel demand model and CTPP data.

Karner’s FTA research also explored equitable approaches to planning and policy making, including public engagement efforts, hiring practices, and community advisory committees.

Generally, Karner underlines that designing an equity analysis, interpreting its results, and “ground truthing” its conclusions must heavily involve the community members who will be impacted by the

outcomes. He also emphasizes that equity evaluations should focus on short-term impacts, since advocates tend to fight for urgently needed improvements in the near future and transit agency data model current conditions or short-term changes most accurately. This is a departure from the industry standard, which prefers long-term modeling.

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### **Remix, Remix Software Features to Measure Equity**

*Source: Rachel Zack, former Director of Policy*

Remix ([remix.com](http://remix.com)) is a paid, web-based platform that displays spatial data, models scenarios, and explores equity implications of changes to transportation networks. With high usability and few skill requirements, Remix boasts analysis “with the click of a button” for its transit agency clients. The software features neighborhood demographics, import of any data source merged with a shapefile, an editor for existing GTFS feeds to reflect potential transit systems, and rapid computation.

Jane is a mapping feature that measures access to destinations on transit (and other modes). Using Jane, one can see how many destinations a transit rider can reach in an amount of time starting from an origin and how long it takes to travel between two points. The user can modify the destination type (e.g., jobs, hospitals, schools, parks, etc.), the trip duration, and the network itself to evaluate how changing a transit stop, line, or network shifts access from neighborhoods.

Remix’s Title VI Engine automates the required Title VI Service Equity Analysis. Users input proposed changes, and the engine estimates impacts on low-income neighborhoods and neighborhoods of color in required report format. Going beyond Title VI, the engine weighs the potential change by how it shifts service frequency and by the number of people impacted by the change. The Title VI Engine simplifies what can be a days-long analysis into a manageable, hours-long task. In doing so, it benefits agencies, who won’t hesitate to change service for lack of capacity to complete the associated FTA requirement, and it can benefit riders if the changes improve service and are equitable.

Remix does not advise users on how to interpret results from its software analysis. But it notes that the Title VI Engine analysis should only be a final check on equitable service—multiple equity measures and robust public engagement are necessary for an equitable system. As additional resources for that work, Remix proffers its Jane access-to-destinations metric and Remix Explore, its spatial data layering tool. It also notes that its software can be used to present trade-offs of potential service changes as a way to make community meetings more productive and interactive.







## Lessons from Other Fields to Bolster Equity

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### Education Parallel

*Source: Dan Ryan, Commissioner for Portland, Oregon, and former Executive Director of All Hands Raised*

All Hands Raised is a nonprofit organization that advocates for excellent and equitable education for all students. The organization uses data and engagement to advance racial equity in education in Portland, Oregon. The work of All Hands Raised reveals several parallels between public education and public transportation, namely:

- Federal requirements have caused school districts to report test score data by race robustly—but have also suppressed creativity in the reporting process by encouraging school districts to simply assemble the required reports.
- Additional data is needed to paint a full picture of the student experience. Government entities tend to focus on internal data rather than constituent-focused indicators and on “perfect data sources,” such as student achievement, rather than less conventional metrics. For example, All Hands Raised pushed the field to look beyond test scores to create metrics on the social-emotional realm.
- Ideas for policy changes and common-sense proposals often arose from teachers, counselors, and other frontline workers.
- The support of local leadership and strategic coalitions of stakeholders—including union members, business leaders, philanthropists, and advocates—are critical to winning equity advancements.

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### Energy and Water Parallel

*Sources: Caroline Pakenham, Senior Manager of Water Programs, and Anna McCreery, Research Manager, Elevate Energy*

Elevate Energy is a nonprofit organization that seeks to create a world in which everyone has clean and affordable heat, power, and water in their homes and communities. The energy and water fields provide several parallels to public transportation:

- Bill-discount and reduced-rate programs are common within the energy field and are an emerging practice within the water field. These typically are available only to people who are behind in their payments or face other special hardship and often require a complex application. An alternative practice would be to offer reduced-rate programs to residents with low incomes proactively. For example, the City of Philadelphia’s Tiered Assistance Program provides an income-based bill rather than one based on volume of water consumed.



- Using simple applications to determine eligibility is recommended. The San Antonio Water System, notably, has streamlined the process for applying to its various affordability programs, including water and energy assistance.
- The energy field has determined eligibility for income-based programs with qualification for other income-based programs (like SNAP) rather than requiring a separate verification. Some transit fare-reduction programs, like ORCA LIFT in Seattle, already do this, but most do not.
- A more advanced approach to determining eligibility involves qualifying individuals based on where they live so that entire neighborhoods are eligible. Elevate Energy helped test out this approach in Chicago.
- Federal regulations affect some energy-related programs, like the Low Income Home Energy Assistance Program (LIHEAP), but not water programs. Additional federal policy would be helpful to push best practices to utilities.

### Health Impact Assessments Parallel

*Source: Tiffany McDowell, Director, Equity Institute, YWCA Evanston/North Shore, and member of Chicagoland Equity Network*

The Chicagoland Equity Network is a collaborative of individuals committed to promoting just and fair inclusion of all residents through education, outreach, and equity. The leaders of this coalition have experience conducting Health Impact Assessments and Racial Equity Impact Assessments on public policy decisions of various types.

- A Health Impact Assessment (HIA) is a combination of procedures, methods, and tools that systematically judge the potential—and sometimes unintended—effects of a policy, plan, program, or project on the health of a population and the distribution of those effects within the population.<sup>21</sup> It also includes a thorough approach to evaluate impacts. HIAs continue to be used, but the public health field has shifted toward outreach approaches that don't involve the community in a one-time assessment, which is often a characteristic of HIAs.
- A Racial Equity Impact Assessment (REIA) is a systematic examination of how different racial and ethnic groups will likely be affected by a proposed action or decision, and it can be expanded to also include components of an HIA.<sup>22</sup> Generally, REIAs create a better starting point for equity evaluation than HIAs because it is easier to add health to a broader racial equity lens than it is to consider all the impacts of racial disparities through a health lens.
- Both of these methods have potential to be applied to transit investment or policy decisions. Groups like the Government Alliance on Race and Equity (GARE) offer training and assistance, or transit agencies can use free online toolkits to do this work themselves.

21 Bhatia R, Farhang L, Heller J, Lee M, Orenstein M, Richardson M and Wernham A. Minimum Elements and Practice Standards for Health Impact Assessment, Version 3. September, 2014.

22 Race Forward, "Racial Equity Impact Assessment."

### Housing Parallel

*Sources: Miriam Zuk, former Senior Program Director of Enterprise Community Partners, and Megan Haberle, former Deputy Director of the Poverty and Race Research Action Council (PRRAC)*

Enterprise Community Partners is a national nonprofit with the mission of creating affordable housing in diverse, thriving communities through policy change, technical assistance to communities, and financing. The Poverty and Race Research Action Council is a civil rights law and policy organization that promotes research-based advocacy strategies to address structural inequality and disrupt the systems that disadvantage low-income people of color.

- Federal requirements play a central role in local housing decisions related to equity. The requirements of federal programs (like the Low-Income Housing Tax Credit—LIHTC—and fair housing regulations to disrupt segregation) drive local decision-making. Some jurisdictions go beyond federal requirements based on local



support for equity (e.g., Seattle) or lawsuits that force them to (e.g., Maryland). Most, however, are focused on complying with federal requirements rather than creatively going beyond them. Hence, federal oversight agencies play a key role in mandating accountability and compliance.

- Too much attention in the affordable housing field goes to new development rather than preservation, even though preservation is more practical, cost-effective, and realistic. This parallels the tendency of many transit agencies to spend on expensive capital investment (e.g., light-rail expansion) rather than maintenance of existing service because of the preponderance of federal funding for capital projects and the short-term political payout of delivering new transit projects.
- Housing is a regional issue that requires regional solutions. But current law empowers local jurisdictions to opt out of participating by granting them autonomy over funding and land-use patterns that determine if affordable housing is viable. Federal funding can incentivize or require (serving as a carrot or a stick) local participation in regional housing programs.
- In the past, litigation was an effective route to spreading progressive housing policy by setting a legal, defensible model in one region that stakeholders elsewhere could replicate.
- Advocates have deployed economic and social science arguments to win bipartisan support for housing programs (e.g., how children benefit from housing-choice voucher programs, the economic impact of housing programs on the regional economy).





## Conclusion

This report seeks to answer the question: **How can public transit agencies maximize their service to help people who have been marginalized thrive?**

People of color, low-income people, and people with disabilities have been marginalized in our nation's transportation networks and burdened by long commutes, limited access to important destinations, and harm to their health and environment caused by transportation systems. Public transportation agencies can help bring an end to this marginalization but are not immune to the disparities that characterize transportation overall. This recognition fueled our work: To advance equity, transit agencies need to explicitly and deliberately account for their roles in the transportation system.

Our research revealed methods that agencies across the nation have used to achieve equitable transit outcomes. These methods should be practiced much more widely within the transit field. In broad terms, we advise transit agencies to adopt the following practical equity actions:

- Adopt statements of equity principles, with commitments by the agency board and leadership to embed equity in all decision-making.
- Empower internal staff teams to lead the agency's equity work.
- Use advanced quantitative tools to measure the impact of agency decisions on equity and adjust policy in response.

- Pursue dynamic outreach and engagement to fully capture the priorities of marginalized communities in agency work.
- Collaborate with community-based organizations and incorporate their perspectives in agency decision-making.

Because of resource limitations and competing priorities, many of these actions are rarely implemented. Even agencies with the most advanced approaches to equity still struggle to integrate qualitative data from outreach with quantitative analysis, and few systematically and meaningfully involve community groups in their decision-making. But to make transit service more equitable, agencies must devote more time and resources to these activities. By continuing to face these challenges—both inside each agency and within the field as a whole—transit leaders can expand access to opportunity and reverse the harmful effects of marginalization in the transportation system.

We believe this report has uncovered practical steps that agencies at any stage in their equity journey can take. We hope to build upon these findings through pilot projects that put them into practice. We welcome thoughts and comments on this report. If you would like to learn more or share your experiences as a transit agency or community leader, please contact us at Bob Dean: CEO, Center for Neighborhood Technology ([bobdean@cnt.org](mailto:bobdean@cnt.org)) and at Mary Buchanan: Senior Research Associate, TransitCenter ([mbuchanan@transitcenter.org](mailto:mbuchanan@transitcenter.org)).

## Appendix I

### Annotated Bibliography

Our research started with exploring what racial and social equity mean when applied to transit. We reviewed definitions of equity, equity principles, indicators used to evaluate or measure progress toward equity, and implementations of equity, authored by the stakeholders who are pushing to achieve it: equity advocates, transit agencies, local governments, planning institutions, and academics.

This annotated bibliography can be used as an extensive reference for equity definitions, measures, and implementations applied by stakeholders in the transit industry. The project team compiled the bibliography, and our advisory committee added to it.

#### Definitions of Equity

It is impossible to measure transit equity without first defining what that term means. Many people and organizations have been working for decades to advance visions of transportation equity. The section below includes definitions from advocates, public agencies, and academic research, focusing on the distribution of resources, impacts, benefits, and inclusion in decision-making processes.

#### Advocacy

- The Untokening, *Untokening 1.0: Principles of Mobility Justice* (2017): Communities experiencing historical and current injustices are “given space and resources to envision and implement planning models and political advocacy on streets and mobility that actively work to address historical and current injustices.” Methods prioritize lived experiences as the drivers of change, define success by effects on people, look past transportation fixes for ways to make transit more viable, and put community practices ahead of Eurocentric “best practices.”
- Equiticity, *Racial Equity Statement of Principle* (2019): “Racial Equity is the fair, just distribution of resources, explicitly targeting and prioritizing racial groups who have the greatest need due to being systematically disenfranchised and using these resources to address both historical and contemporary injustices and their consequential burdens.”
- TransitCenter, *Inclusive Transit* (2018): “Transportation equity [is] improved when transportation policies or investments ensure that transportation benefits accrue more in low-income communities and communities of color than to the population in general.”

- Hana Creger, Joel Espino, and Alvaro S. Sanchez, The Greenlining Institute, *Mobility Equity Framework: How to Make Transportation Work for People* (2018): Mobility equity is “a transportation system that increases access to high-quality mobility options, reduces air pollution, and enhances economic opportunity in low-income communities of color. To achieve mobility equity in transportation planning and investments, we must prioritize: 1. Social equity: The fair and just distribution of societal benefits and burdens. 2. Community power: The ability of marginalized communities to influence decisions in a way that addresses their needs and concerns.”
- Desirée Williams-Rajee (2019): “Equity: the correction of broken systems in order to eliminate disparate outcomes based on identity.”
- The Leadership Conference Education Fund, *Where We Need to Go: A Civil Rights Roadmap for Transportation* (2011): Transportation equity “provides people with multiple transportation options,” “promote[s] equal employment opportunities,” “requires equal decision-making power,” “promotes healthy and sustainable communities,” and “requires meaningful civil rights protections.”
- Center for Social Inclusion (Now part of RaceForward, 2015): “Accessible, affordable transportation is critical to the lives we live.... To achieve equity in transportation policy, we need to craft and catalyze strategies that help rural and urban communities of color get the investments needed to spur mobility in every sense of the word.”
  - *Access to Public Transit is a Matter of Racial Equity* (2015): “Transportation benefits us all—connecting our communities to jobs, health care, and educational opportunities. Public transit is vital to people with low incomes and people of color who own fewer cars and tend to live further away from living-wage jobs than their white peers.”
- PolicyLink, *The Equity Manifesto* (2018): “This is equity: just and fair inclusion into a society in which all can participate, prosper, and reach their full potential. Unlocking the promise of the nation by unleashing the promise in us all.”
- LINK Houston, *Equity in Transit* (2018): “*Personal equity* is ensuring fair access to opportunities, which differs from ensuring the same access. Equity is not the same as equality, which is giving everyone the same thing; equality only results in equal outcomes if everyone starts in similar conditions and without systemic barriers or



institutional disparities to overcome. *Community equity* in affordable transportation means ensuring equal distribution of system benefits and burdens. Every community should have acceptable sidewalks, crosswalks, bikeways, and public transit ... which may require investing more in certain communities. Pursuing equity in transportation means intentionally creating systems so that our most disadvantaged populations can overcome institutional barriers and reach opportunity. In the long term, the goal should always remain to seek to remove systemic and institutional barriers.”

### **Transportation/Transit agencies**

- US Federal Transit Administration, *Title VI Requirements and Guidelines* (2012): Definitions for issues related to transit equity include *low-income person/population, discrimination, disparate impact, disproportionate burden, and disparate treatment*. Title VI provides service and fare equity guidance to transit agencies with 50 or more fixed-route vehicles in peak service in large urbanized areas (over 200,000 in population). It is intended “to prevent minority communities and low-income communities from being subject to disproportionately high and adverse environmental effects.” See also the US Department of Transportation’s *Environmental Justice Strategy*.
- Twin Cities Metropolitan Council, *Equity* (2014): “Equity connects all residents to opportunity and creates viable housing, transportation, and recreation options for people of all races, ethnicities, incomes, and abilities so that all communities share the opportunities and challenges of growth and change. For our region to reach its full economic potential, all of our residents must be able to access opportunity. Our region is stronger when all people live in communities that provide them access to opportunities for success, prosperity, and quality of life.”
- Metro Transit, *Equity and Inclusion* (2019): “Equity is access to opportunities for everyone. Access to transportation services enriches lives and supports the health of our community.... Equitable Access: Ensuring all customers have access to the same standard of transportation regardless of community.... Equitable Funding: Evaluating our decision-making and funding supports and benefits our communities.... Equitable Environment: Creating a safe and inclusive environment for our customers.”

- LA Metro, *Equity Platform Framework Policy* (2018): “Access to opportunity should be a core objective of public decision-making, public investment, and public service—and transportation is an essential lever to enabling that access.... [I]nequity exists when there are fundamental differences in access to opportunity, not just with respect to where you begin, but in your capacity to improve from that starting position. Historically and currently, race and class have largely defined where these disparities are most concentrated: in poor, minority communities throughout LA County. Age, gender, disability, and residency also can expand or constrain opportunities.”
- TriMet, *Title VI Program Update* (2019): Transit Equity results from “policies that promote the equitable distribution of burdens and benefits,” “promoting equal access to resources and services,” and “engaging transit-dependent riders in meaningful planning and decision-making processes.”
- Massachusetts Bay Transportation Authority, *Title VI Report* (2017): The MBTA defines the term “equity analysis” as a study that is conducted before any proposed major service or fare change to “determine whether those changes will have a discriminatory impact on minority populations within the transit provider’s service area.” Analysis includes Title VI groups as well as people with low incomes.
- Boston Region Metropolitan Planning Organization, *Transportation Equity Program* (2019): The Boston Region MPO’s transit equity program will “...ensure that populations protected under various federal and state civil rights statutes, executive orders, and regulations are provided equal opportunity to participate fully in the MPO’s transportation planning and decision-making process.”
- Seattle Department of Transportation, *Transportation Equity Program* (2021): “SDOT’s Transportation Equity Program provides department-wide policy and strategic advisement on equitable, safe, environmentally sustainable, accessible, and affordable transportation options that support Black, Indigenous and People of Color (BIPOC) communities, low-income populations, people living with disabilities, and other communities historically and currently underinvested in by government. The program’s principles center on building community trust through engagement and accountability, eliminating racial disparities, and mitigating the effects of displacement from transportation inequities.”

- King County Metro, *Equity and Social Justice Strategic Plan* (2016): “Pro-Equity Means... Defining outcomes for all, identifying obstacles faced by specific groups, and tailoring strategies and building on assets to address barriers (targeted universalism).... Dismantling systems of power, privilege and racial injustice in favor of equitable access to resources and decisions.... Focusing on the people and places where needs are greatest—such as low-income communities, communities of color, and immigrant and refugee populations.... Creating inclusive processes and including people early, continuously and meaningfully.”
- San Francisco Municipal Transportation Agency, *Guiding Principles for Emerging Mobility Services and Technologies* (2017): “Emerging Mobility Services and Technologies must promote equitable access to services. All people, regardless of age, race, color, gender, sexual orientation and identity, national origin, religion, or any other protected category, should benefit from Emerging Mobility Services and Technologies, and groups who have historically lacked access to mobility benefits must be prioritized and should benefit most.”

### **Academic research**

- Todd Litman, Victoria Transport Policy Institute, *Evaluating Transportation Equity: Guidance For Incorporating Distributional Impacts in Transportation Planning* (2021): “Equity refers to the fairness with which impacts (benefits and costs) are distributed. There is no single way to evaluate transport equity; it is generally best to consider various perspectives and impacts. A planning process should reflect each community’s concerns and priorities, so public involvement is important for equity analysis.” This report organizes evaluation around concepts of “horizontal equity” and “vertical equity” and prioritizes five measurable objectives: “treats everybody equally,” “people bear the costs they impose,” “progressive with respect to income,” “benefits transportation disadvantaged people,” and “improves basic access.”
- Karel Martens, *Transport Justice: Designing Fair Transportation Systems* (2017): All people are entitled to a sufficient level of access to opportunities, and it is the role of government to provide that level of transportation, with extra provision to certain groups in order to mitigate social disparities that have developed over decades of exclusion.

- Jonathan London, Alex Karner, Dana Rowangould, *We Can Get There From Here: New Perspectives on Transportation Equity* (2016): A transportation system [CAN'T ACCESS ARTICLE TO VERIFY QUOTE] “where participation is meaningful and effective: participants would have a reasonable expectation that their voices would be heard and decisions changed in response. The benefits and burdens created by projects, policies, and plans would be shared equitably such that no groups would be unduly burdened by a lack of access to adequate transportation nor by negative effects from proximity to transportation infrastructure.”
- Mimi Sheller, *Mobility Justice: The Politics of Movement in an Age of Extremes* (2018): Sheller is very critical of existing perspectives on transportation equity and justice, arguing that they focus too much on distributive concerns. “A mobility justice approach means revealing the power relations inherent in city and regional planning processes. It means challenging more directly the dominance of automobility and fossil fuels, not to mention real estate developers and so-called place-makers. Mobility justice requires including all affected communities in urban and regional planning processes, not just through token ‘stakeholder’ consultations, but through meaningful epistemic inclusion. Finally, we must not be afraid to name and call out elite privilege, vested interests, and dominant paradigms that have benefitted the kinetic elite—whether through the uneven impacts of (auto)mobility or through processes of gentrified place-making.”

### **Measuring Equity**

This section documents the efforts by various groups to quantify equitable access using demographic, economic, affordability, transit quality, and ridership data. Several studies evaluate existing characteristics—both demographic and related to the built environment—and provide insight into successes and areas of improvement.

### **Transit-Specific**

- Linda Young, Elizabeth Irvin, and Preeti Shankar, Center for Neighborhood Technology, *Equity and Smart Mobility* (2019): A report commissioned by the Institute for Sustainable Communities that analyzed transportation equity in ten US cities. Among the findings: There is an acute need for affordable alternatives to vehicle ownership in low-income communities and communities of color. Transit is equitably available in central cities for all income



and racial groups. However, access to quality transit—frequent service to key destinations—is not equitably available. Public transit access does tend to be more equitable than other emerging modes (carshare, bikeshare, ride hailing).

- Xavier J. Harmony, *Fare Policy and Vertical Equity: The Trade-off between Affordability and Cost Recovery* (2018): Evaluates different strategies used by transit agencies to discount fares and the costs of these policies.
- Elizabeth Haney, Tracy Corley, and Ben Forman, *Prioritizing Equitable Growth Through Fare Policy* (2018): A policy brief by MassINC Gateway Cities focused on commuter rail fare policy that critiques the MBTA’s approach to evaluating fare equity, particularly because it does not consider “opportunity equity” (for example, by focusing on current riders rather than the population that could potentially be riders).
- Erin M. Ferguson, Jennifer Duthie, Avinash Unnikrishnan, and S. Travis Waller, *Incorporating Equity into the Transit Frequency-Setting Problem* (2012): This paper proposes a method for evaluating equity impacts of transit frequency decisions.
- LINK Houston, *Equity in Transit* (2018): This approach is derived from fifteen determinants of equity in transit (poverty; single-parent, female-headed households; population with a disability; homes of workers earning less than \$15,000; work sites of workers earning less than \$15,000; non-white population; zero-vehicle households; transit commute share, homes of workers with high school educations or less; work sites of workers with high school educations or less; population density; household density; street intersection density; average block perimeter; and compact neighborhood score).
- Alex Karner and Aaron Golub, *Comparison of Two Common Approaches to Public Transit Service Equity Evaluation* (2019): The FTA allows transit agencies to complete their required Title VI service equity analyses using one of multiple methods, which lead to different conclusions about the equity impacts of service changes; the authors recommend applying ridership data to assessments and consulting with the public to fully understand equity impacts.
- Northeastern University – Dukakis Center for Urban and Regional Policy, *Oriented Toward Equity: A Rating System for Equitable Transit-Oriented Development* (2015): The researchers developed a series of scoring criteria for transit-oriented development. Measures included quality of transit service, characteristics of nearby

population, and characteristics of proposed development. The higher the rating is, the more that area shares combinations of built, social, and transit attributes that reduce driving, increase ridership, and promote equity. Additionally, this breakdown of scores into three sections allows a given station to note which areas it thrives and struggles in, which can inform future development.

- than N. Elkind, Michelle Chan, and Tuong-Vi Faber, UC Berkeley School of Law, *Grading California's Rail Transit Station Areas* (2015): UC Berkeley created a scoring system to measure equitable transit-oriented development by grading transit station areas. Each transit station area was categorized by place type (residential, mixed, and employment) and then scored on transit use and quality, land use, equity measures, and health and environmental impact. The grade of each station area can inform future policy and land-use decisions when considering equitable transit-oriented development projects.
- King County Metro, *Service Guidelines* (2016): Social equity scores are calculated and factored into bus route planning decisions. Corridors receive a social equity score according to the proportion of boardings in census tracts with above-average to below-average levels of low income (200% of the federal poverty level) or POC riders.

### **Transportation**

- Leoma Van Dort, Andrew Guthrie, Yingling Fan, and Gina Baas, Center for Transportation Studies, *Advancing Transportation Equity: Research and Practice* (2019): This report includes a literature review and case studies of specific programs (many in Minnesota) related to equity. Among the programs surveyed, none involved transportation agencies that evaluated equity beyond Title VI compliance. There is less evaluation of procedural equity (equal adherence to prescribed processes) and geographic equity (looking specifically at spatial dimensions of equity) than compensatory equity (evaluating whether initiatives redress or mitigate existing inequities), and more programs addressed social inequities via transportation than addressed inequities of the transportation system. This was particularly true of evaluation efforts. “[M]any of these programs are neither housed in transportation agencies nor specifically charged with improving transportation equity, but rather pursue transportation equity as a strategy for achieving other social goals.”

- Hana Creger, Joel Espino, and Alvaro S. Sanchez, The Greenlining Institute, *Mobility Equity Framework: How to Make Transportation Work for People* (2018): Twelve indicators determine the equity of transportation projects—affordability, accessibility (to destinations), efficiency, reliability, safety, clean air and positive health benefits, reduction in greenhouse gases, reduction in vehicle miles traveled, connectivity to employment and other destinations, fair labor practices, transportation-related employment opportunities, and inclusive local business and economic activity.
- Alex Karner and Deb Niemeier, *Civil Rights Guidance and Equity Analysis Methods for Regional Transportation Plans: A Critical Review of Literature and Practice* (2013): “By relying on an analytical technique that is not likely to reflect the travel behavior of people of color, planning agencies reduce the likelihood that racially disparate outcomes will be identified and mitigated. Meaningful transportation equity analyses must include an assessment of both current and near-term conditions and provide racially specific outcomes, while seeking to mitigate inequities through programming decisions.”
- National Cooperative Highway Research Program, *Guidebook for Assessing the Social and Economic Effects of Transportation Projects* (2001): This guidebook identifies eleven effects to measure: changes in travel time, safety, changes in vehicle operating costs, transportation choice, accessibility (to destinations), community cohesion, economic development, traffic noise, visual quality, property values, and distributive effects.
- Robert D. Bullard, *Addressing Urban Transportation Equity in the United States* (2003): This article measures transportation inequities by quantifying where transportation dollars have been disproportionately spent since the 1950s through the lens of who benefits versus who is burdened.
- Institute for Transportation and Development Policy, *Indicators for Sustainable Mobility* (2019): This research provides a set of indicators that are actionable, scalable, and easily understood for cities to effectively develop sustainable transportation policies. The tool’s scoring criteria is organized into three main groups: access to transit, accessibility (to destinations), and location characteristics.
- Metropolitan Planning Council, *Qualitative Research Reveals Intersectional Transportation Challenges in Chicago’s Economically Disconnected Areas* (2020): Based on focus groups and surveys of transit riders, job seekers, and job coaches, this qualitative analysis

assesses the burdens and benefits of riding transit for people of color and with low incomes in Chicagoland. Researchers used an iterative coding process to identify and synthesize key themes from focus groups. MPC partnered with advocates from Equiticity and University of Illinois Chicago on the research.

- David Levinson has researched transportation access and equity extensively.
  - *Justice, Exclusion, and Equity: An Analysis of 48 US Metropolitan Areas* (2017): A common practice of measuring transportation justice is to compare where high concentrations of disadvantaged groups live in relation to transportation. Accessibility to jobs by various modes is a more effective measurement, because it includes all members of groups regardless of where they live and factors in the effectiveness of transportation services. Access-to-opportunity analyses can be modified to match theories of justice.
  - *Accessibility, Equity, and the Journey to Work* (2018): This paper by Boer Cui, Geneviève Boisjoly, Ahmed El-Geneidy, and David Levinson examines the relationship between access to jobs and commuting duration for low-income individuals compared to the general population in three major Canadian metropolitan regions: Toronto, Montreal, and Vancouver.

### **Relevant work from other fields**

- CUNY Institute for State and Local Governance, *Equity Indicators* (2017): The Equity Indicators is a comprehensive tool that helps six cities (New York City, St. Louis, Pittsburgh, Tulsa, Dallas, and Oakland) understand, measure, and progress toward equality/equity in their city. It works across multiple areas (e.g., education, housing, justice) and measures the disparities faced by disadvantaged groups, comparing the most and least disadvantaged groups across those domains on a regular basis and tracking change over time. Indicators, domain areas, and disadvantaged groups vary across cities. Indicators are ranked out of a score of 100, are developed with local community input, and are meant to be accessible and user-friendly. In New York City, for instance, it uses 96 specific indicators to examine conditions for twelve disadvantaged groups: children, immigrants, individuals currently in jail or on probation, individuals living in poverty, individuals with a physical or intellectual disability, individuals with less than a high school diploma, LGBTQ



individuals, racial and ethnic minorities, religious minorities, seniors, single parents, and women.

## Public Agency Implementation Case Studies

Implementation efforts by public agencies of varying scales—from statewide to regional to citywide and transit agency level—are summarized in the section below. Shortcomings or gaps in some implementation strategies as identified in the literature are also presented.

### States

- Minnesota Department of Transportation, *Rethinking I-94* (2017): There is a long-term effort to improve MnDOT’s engagement and relationships with the communities in a 15-mile study area between St. Paul and Minneapolis, an area where construction of I-94 in the 1960s destroyed homes, disconnected neighborhoods, and led to community distrust of the Minnesota Highway Department. The project includes an evaluation framework tool that came out of an intensive community engagement effort.
- Virginia Department of Transportation, *SMART SCALE Evaluation* (2019): VDOT uses this scoring criteria to select projects to fund. Indicators of success in seven areas, including access (to destinations) and environmental quality, determine the score.

### Regions/MPOs/Counties

- Puget Sound Regional Council, *Regional Transportation Plan: Equity Analysis Report* (2018): PSRC analyzed its 2018 Regional Transportation Plan to see how certain metrics (access to destinations across modes; access to frequent transit; transit, walking, and cycling mode share; and reduction of vehicle miles traveled) were modeled to change for people of color, people with low incomes, and neighborhoods where at least 50% of residents have low incomes.
- King County, Washington, *2015 Equity Impact Review Process Overview* (2016): All King County services (including transit by King County Metro) must undergo an equity review process. “The Equity Impact Review process merges empirical (quantitative) data and community engagement findings (qualitative) to inform planning, decision-making and implementation of actions which affect equity in King County.”
- Chicago Metropolitan Agency for Planning, *On to 2050* (2018): This plan evaluated all regionally significant projects for how much

they improved access to jobs for people living in economically disconnected areas. Related analysis was conducted for projects applying for regional STP funding.

- Boston Region Metropolitan Planning Organization, *Destination 2040: Long-Range Transportation Plan* (2019): This report identifies geographic locations with large groups of people of color or with low incomes. From here, equity is measured through disparate impact, disproportionate burden, and how many jobs, health care, and higher education facilities can be reached from each of these locations. The Boston Region Metropolitan Planning Organization created additional performance measures in Chapter Six of its Long-Range Transportation Plan for 2035: travel speed for bus routes; volume-to-capacity ratios for bus route and rapid transit lines; cost of a monthly transit pass relative to monthly income; number of jobs, educational opportunities, and hospitals within a 40-minute transit, walking, or biking trip or a 20-minute automobile trip; number of people attending organizations represented at MPO transportation equity forums; number of responses to MPO transportation equity surveys; and number of small-group discussions held in an environmental justice communities.
- Boston Region Metropolitan Planning Organization, *Boston Region MPO Triennial Title VI Report* (2017): This report provides project evaluation guidance for transportation improvement programs based on scoring transportation equity criteria. Scores consider service to low-income households, minority populations, limited-English-speaking populations, elderly populations, people with disabilities, zero-vehicle households, and whether or not a project creates a burden for Title VI/non-discrimination populations.
- Juan Perez, Jr., “Cook County Proposal to Expand Train Service Opposed by Chicago Mayor” (2019): A plan to lower fares and increase service on Chicago commuter rail lines running through low-income and majority Black areas of Chicago’s South Side and south suburbs would require partnerships between the city, county, and several transit agencies. There is a general consensus that this is an area where transit service improvements are a major equity issue but questions about existing analytical efforts and how to measure success.

### **Cities**

- City of Tacoma, Washington, *Tacoma Equity Index* (2017): The Equity Index is an interactive tool and map that highlights disparities

within the city. The index uses twenty data points/indicators to determine where people are not able to access services or where services do not meet community needs. These are measured according to the city's 2025 Strategic Plan goals: accessibility, economy, education, and livability. The Equity Index is similar to opportunity mapping and highlights success and obstacles directly correlated to upward mobility and equity.

- Seattle Department of Transportation, *Transportation Equity Program* (2019): SDOT endeavors to “build community trust through engagement and accountability,” “provide affordable transportation options,” and “create opportunities for communities to thrive in place.” The program receives \$2 million annually to fund reduced transit fares for riders with low incomes, free transit fares for youth, rebates on vehicle license fees for income-qualified vehicle owners, and extensive outreach to advance transportation in communities of color and with low incomes.
- City of Oakland Department of Transportation, *Strategic Plan* (2016): Identifies “equitable jobs and housing” as one of the department’s four major goals, with action items related to equitable decision-making frameworks, distribution of resources, and enhancing the use of data to guide equitable mobility and infrastructure investments. Some subsequent implementation items: Oakland DOT’s *Racial Equity Team Charter*, *3-Year Paving Plan*, and *Bike Plan*.
- Baltimore Transit Equity Coalition, “Central Maryland Can Recover from the Loss of the Red Line Light Rail Project—By Building It” (2018): Local transportation equity advocates criticize Baltimore Metropolitan Council’s *2019–2022 Transportation Improvement Plan* for ignoring transit projects like the Red Line light-rail project and instead focusing federal and state dollars towards many highway “preservation” projects.
- Portland Bureau of Transportation, *Five-Year Racial Equity Plan* (2016): and *Equity Matrix* (2019):
  - The Racial Equity Plan (for 2017–2021) is mandated by the City of Portland to address specific racial inequities and bring to life the city’s racial equity goals and strategies, adopted as binding city policy by the Portland City Council in 2015. PBOT tracks progress towards the plan through its *Racial Equity Roadmap* tool.
  - Through its Equity Matrix, PBOT examines race, limited English proficiency, and income of neighborhoods to inform investment decisions. PBOT assigns greater priority to serving

neighborhoods that are above/below citywide averages in these areas. PBOT prioritizes race in decisions because “the creation and perpetuation of racial inequities has been baked into government” ... and “racial inequities across all indicators for success are deep and pervasive. We also know that other groups of people are still marginalized ... Focusing on racial equity provides the opportunity to introduce a framework, tools and resources that can also be applied to other areas of marginalization.”

### **Transit Agencies**

- Metro Transit, *Everyday Equity Projects and Initiatives* (2019): Minneapolis–St. Paul’s Metro Transit, working with community organizations, created an *Equity Tool* that Metro Transit uses in planning to help view a decision from an equity perspective. Also available is an *Equitable Development Principles and Scorecard* to make sure “principles and practices of equitable development, environmental justice and affordability are applied in all communities as they plan for economic development and wealth creation that benefits everyone.”
- TriMet, *Equity Analysis: Low Income Fare Program* (2017): TriMet proposed a low-income fare program and evaluated potential designs based on four objectives: sustainability, meaningfully addressing needs of riders with low income, targeting benefits to those who need them most, and administering the program efficiently through existing agency agreements with nonprofits and community-based organizations.
- Chicago Transit Authority, *Ventra Fare Equity Analysis* (2013): As part of the implementation of the Ventra card, CTA conducted an equity analysis that focused on whether communities of color and with low incomes would experience a greater incidence of new fees than the general rider population as a result of transitioning to the proposed new fare medium. In particular, the report looked at the \$5.00 card acquisition fee and the 50-cent limited-use fee.
- Sound Transit, *Subarea Equity* (2018): Sound Transit is required by state law to evaluate “subarea equity,” defined as how transportation services facilities within or benefiting each county and designated corridors compare to the revenues generated within each area.



- San Francisco Municipal Transportation Agency, *Muni Service Equity Strategy* (2018): In 2014, the SFMTA Board of Directors adopted a policy to establish a process for the SFMTA to identify and correct transit performance disparities. Under the policy, which has since been updated, SFMTA uses demographic data to select specific neighborhoods for targeted transit improvements, identify service issues through analysis and community engagement, and invest in strategies to improve these service issues.
- Mountain Line (Missoula Urban Transportation District), “Mountain Line Launches ‘40 for 40’ Campaign to Expand Zero-Fare Partnership” (2017): A three-year, “zero-fare” demonstration project on its fixed-route and door-to-door services began in 2015 and was extended another three years in 2017 as part of a “40 for 40” campaign honoring the transit service’s 40th anniversary.
- Metropolitan Transit Authority Long Island Rail Road, “MTA to Extend Popular LIRR Atlantic Ticket Program for Additional Year” (2019): New York City’s MTA is planning to extend a successful program that increases transit equity by pegging discounts to underserved locations rather than people. See more coverage from CityLab.
- Buffalo Niagara Medical Campus, “Transportation and Parking Programs for the Buffalo Niagara Medical Campus” (2017): For people who work on the medical campus, the BNMC team coordinates the planning, development, and management of a multimodal transportation system that provides safe and efficient access to the campus.
- Michele Mackey, Laura Dresser, and Mariah Young-Jones, *Equity from the Frontline: Worker Voice Leads to a Network of Accessible Apprenticeship Pathways* (2018): The Santa Clara Valley Transportation Authority (VTA) and the Amalgamated Transit Union, Local 265, came together to create the Joint Workforce Investment, a program that provides incoming and current VTA Operations employees—including bus and light-rail operators, mechanics, and light-rail overhead line and track workers—with mentors, apprenticeships, college credit, and career advancement. VTA describes this as a “first-in-the-nation, full-fledged, state-certified apprenticeship program for multiple VTA transit professions.”
- LA Metro Initiatives (2017–2020)
  - The Women and Girls Governing Council (2017) “examine[s] Metro policies, programs and services, as well as make[s] recommendations to the CEO. With consideration of the unique

obstacles faced by women and girls, the council looks for opportunities to remove barriers to success and expand opportunities at, within and on Metro.”

- The Workforce Initiative Now – Los Angeles (2020) encourages employment and training opportunities within career pathways in the transportation infrastructure industry. By harnessing LACMTA’s investments in transportation infrastructure projects, the creation of quality jobs can build the industry’s future workforce and improve equity outcomes for priority communities within Los Angeles County and throughout the United States.
- Maryland Transit Administration, *In-Reach Program* (2018): Following a 2017 bus network redesign, the agency realized its operators needed to be engaged and informed with the same information the agency was providing to its riding public. By engaging operators and other frontline workers in ongoing conversations on a regular basis and bringing these internal workforce contributions to bear on agency operations and management decisions, agency divisions are working together to establish a culture that deeply values the input of its entire agency workforce.

### **General Implementation Guides (not geographically specific)**

- Federal Highway Administration, *Environmental Justice Analysis in Transportation Planning and Programming: State of the Practice* (2019): Most regional transportation agencies’ current methods of conducting required environmental justice equity analysis lack consistent approaches, appropriate interpretation, or meaningful public involvement. For metropolitan planning organizations to ultimately mitigate or avoid inequities, every step should be guided by findings from previous analyses and the entire process should be guided by public engagement.
- Hana Creger, Joel Espino, and Alvaro S. Sanchez, The Greenlining Institute, *Mobility Equity Framework: How to Make Transportation Work for People* (2018): This framework recommends identifying the mobility needs of a specific low-income community of color and conducting mobility equity analysis to prioritize the transportation modes that best meet those needs while maximizing benefits and minimizing burdens. It also advises placing decision-making power in the hands of the local community.

- Transportation Equity Caucus, *Statement of Principles* (2019): Create affordable transportation options, including active and public transit; ensure fair access to quality jobs; promote healthy communities by integrating clean transportation projects with quality housing and safe streets; and invest in equitable transportation that improves mobility and access.
- Jonathan London, Alex Karner, and Dana Rowangould, *We Can Get There From Here: New Perspectives on Transportation Equity* (2016): Analyses informed by significant community involvement have greater potential to improve equity of transportation processes and outcomes than those without, and a range of policies—including housing affordability, agency governance, and funding—are required to advance equity.
- Alex Karner and Richard A. Marcantonio, *Achieving Transportation Equity: Meaningful Public Involvement to Meet the Needs of Underserved Communities* (2017): “Addressing the priority unmet needs of underserved communities [is] a fundamental touchstone of equity ... dedicating a stream of funding [can] meet those needs. Widespread application of this model, at the regional level and elsewhere, would likely result in improvements to both the general welfare and transportation equity conditions.”

## Appendix II: Case-Study Interviews

The project team and advisory committee identified several dozen examples of equity in practice in transportation and other fields. We conducted interviews with more than 40 experts knowledgeable about the work from June to September 2020.

Our sources are practitioners, advocates, and researchers from the fields of public transit, community organizing, racial equity, housing, and more. The case-study selections fall into three categories: best practices to advance internal and external equity at transit agencies and departments of transportation, reviews of emerging tools that feature equity metrics, and lessons from other public service-oriented fields to bolster equity.

Common themes, experiences, recommendations, gaps, and questions were synthesized from the case studies and informed our lessons for transit agencies to advance equity in practice.

Projects and Research Area	Sources	Topics
<b>Miami Bus Network Redesign</b> Agency Best Practice	Azhar Chogle, Former Executive Director, Transit Alliance Miami	CBO outreach, qualitative survey, public-private-CBO partnership, building trust, access to opportunity metrics, political neutrality/independence
<b>Equity Index, Transit Equity Access Advisory Committee</b> Agency Best Practice	Roberto Gutierrez, Senior Project Coordinator of Transit Equity, Inclusion, and Community Affairs, TriMet  Carl Green, Jr., Former Title VI and Equity Programs Administrator, Transit Equity, Inclusion, and Community Affairs, TriMet  Scott Nance, Senior Communications Specialist, TriMet	Leadership buy-in/internal champions, new equity metrics, language access plan, Equity Index to inform equitable planning
<b>Better Bus Project</b> Agency Best Practice	Anna Gartsman, Director of Strategic Research in the Office of Performance Management, MBTA / MassDOT  Laurel Paget-Seekins, Former Assistant General Manager for Policy, MBTA	Location-based data, travel time competitiveness, new data sources
<b>NextGen</b> Agency Best Practice	Conan Cheung, Senior Executive Officer of Service Planning, Scheduling and Analysis, LA Metro	Transit propensity score, location-based data, new data sources, long-range transportation plan
<b>Better Bus Stops</b> Agency Best Practice	Berry Farrington, Senior Planner, Metro Transit Minneapolis–St. Paul  Anna Flintoft, Manager of Facility Planning and Urban Design, Metro Transit Minneapolis–St. Paul  Cyndi Harper, Manager of Route Planning, Metro Transit Minneapolis–St. Paul	CBO-led outreach, compensation, surveys, boardings in areas of racially concentrated poverty, Equity Scorecard, bridging quantitative and qualitative data
<b>FTA-funded Equity Measures Guidebook</b> Emerging Tools	Alex Karner, Assistant Professor of Community and Regional Planning, University of Texas at Austin	Transit equity measures, access to opportunity on transit, STOPS, Title VI limitations



<b>Projects and Research Area</b>	<b>Sources</b>	<b>Topics</b>
<b>Access Across America</b> Emerging Tools	Andrew Owen, Director, Accessibility Observatory	Multimodal access-to-opportunity metrics
<b>Title VI Engine, Jane</b> Emerging Tools	Rachel Zack, Former Policy Director, Remix	Transit access-to-opportunity metrics, Title VI reporting and limitations, analyzing outreach data
<b>TBEST</b> Emerging Tools	Rodney Bunner, Consultant, ServiceEdge Solutions  Chris Wiglesworth, Transit Planner, Florida DOT  Matt Cheng, Former Program Analyst, Northern VA Transportation Commission	Title VI reporting, ridership forecasting, short-term planning
<b>Conveyal Analysis Tool</b> Emerging Tools	Anson Stewart, Project Lead of Analysis and Research, Conveyal	Transit access-to-opportunity metrics, long-term planning, using software for public engagement, Title VI limitations
<b>STOPS</b> Emerging Tools	Jeff Roux, Community Planner, FTA  Jim Ryan, Community Planner, FTA	Fixed-route planning, ridership forecasting, FTA, long-term planning
<b>Racial Equity and Social Justice Initiative</b> Agency Best Practice	Ann Schroeder, Assistant to the General Manager, Metro Transit Madison	Diversified hiring practices, leadership buy-in, white culture, racial equity team, annual reporting
<b>Education Best Practices</b> Lessons from Other Fields	Dan Ryan, Former Director, All Hands Raised	Creative quantitative measurement, leadership buy-in, grassroots data collection
<b>Energy/Utilities Best Practices</b> Lessons from Other Fields	Anna McCreery, Research Manager, Elevate Energy  Caroline Pakenham, Senior Manager of Water Programs, Elevate Energy	Credit (not fee) for service, geographic eligibility, Philadelphia income-based water rates
<b>Public Health Best Practices</b> Lessons from Other Fields	Tiffany McDowell, Community Psychologist and Researcher, Chicagoland Equity Network	Health Impact Assessments, health in all policies, Racial Equity Impact Assessments, Chicagoland Equity Principles
<b>Housing Best Practices</b> Lessons from Other Fields	Miriam Zuk, Former Senior Program Director, Chicago, Enterprise Community Partners	Chicago Qualified Allocation Plan, LIHTC, diversity, equity, and inclusion at housing organizations, Affirmatively Furthering Fair Housing
<b>Housing Best Practices</b> Lessons from Other Fields	Megan Haberle, Former Deputy Director, Poverty and Race Research Action Council	Affirmatively Furthering Fair Housing, role of HUD/federal government, regional governance and fragmentation, litigation as lever for change

<b>Projects and Research Area</b>	<b>Sources</b>	<b>Topics</b>
<b>Energy/Utilities Best Practices</b> Lessons from Other Fields	Anna Wolf, Senior Project Manager of Urban Resilience, Center for Neighborhood Technology	Assistance programs for water bills
<b>Applying Mobility Equity Framework</b> Agency Best Practice	Ezra Kong, Partner and Co-Founder, Reflex Design Collective Rachel Hiatt, Assistant Deputy Director for Planning, SFCTA Paige Miller, Senior Communications Officer, SFCTA Hana Creger, Environmental Equity Program Manager, Greenlining Institute	Co-creation, compensation, CBO-led outreach, participatory budgeting
<b>Service Equity Strategy</b> Agency Best Practice	Sandra Padilla, Former Service Planning Team Lead, SFMTA	Equity advisory group, 311 information as data, district liaison, equity neighborhoods
<b>MBTA Public Engagement Plan</b> Agency Best Practice	Anthony Thomas, Manager of Policy Development and Outreach, MBTA Anna Gartsman, Director of Strategic Research, MBTA / MassDOT	CBO-led outreach, stakeholder group/ advisory, compensation, bridging quantitative and qualitative data, diversity, equity, and inclusion in performance goals
<b>Equity and Inclusion Team, Network Next</b> Agency Best Practice	Sarah Berres, Program Specialist, Equity and Inclusion, Metro Transit Minneapolis–St. Paul Rachel Cagle, Coordinator, Equity and Inclusion, Metro Transit Minneapolis–St. Paul Lesley Kandaras, Senior Manager, Policy Development, Metro Transit Minneapolis–St. Paul	Diverse engagement, internal diversity, equity, and inclusion, bridging quantitative and qualitative data, unified engagement team for agency
<b>North Link, Community Fares, Community Liaison Program</b> Agency Best Practice	Maha Jahshan, Public Engagement Planner, King County Metro	King County Equity Cabinet, community mobility board, compensation
<b>Rainier Valley Transit Oriented Development</b> Agency Best Practice	Hester Serebrin, Policy Director, Transportation Choices Coalition Seattle	Regional engagement, grasstops vs. grassroots groups, best practices
<b>Transportation Equity Work Group</b> Agency Best Practice	Annya Pintak, Manager of Transportation Equity, Seattle DOT Laura Lee Sturm, Transportation Access Program Manager, Seattle DOT	Transit equity advisory, compensation
<b>Oakland Slow Streets, Bike Plan</b> Agency Best Practice	Ryan Russo, Director, Oakland DOT	Staff racial equity training, OakDOT Racial Equity Team, recruitment and retention, data transparency

Projects and Research Area	Sources	Topics
<b>MBTA Night Service</b> Agency Best Practice	Jarred Johnson, Executive Director, TransitMatters, Boston	Best practices, gaps in community engagement, recommendations for improving agency outreach, CBOs
<b>SFMTA Muni Equity Strategy</b> Agency Best Practice	Bob Allen, Director of Policy and Advocacy Campaigns, Urban Habitat	Public outreach practices, community- driven transportation projects, regional advocacy and barriers

