



MEASURING EQUITY

A Guide to Ensuring Equity in Transportation

Includes: Demographics, housing status, disability status, and more.



STREETLIGHT



The Equity Imperative

Equity is an essential element of any transportation planning project.

The Bipartisan Infrastructure Law (BIL) explicitly calls for incorporating equity into transportation projects. Specific grants, such as Reconnecting Communities, are focused on serving disconnected communities, while the Justice 40 Initiative covers a variety of grants and requires that 40% of funding go to disadvantaged communities (DACs). The BIL also makes clear that administrators will prioritize grant applications that show how a proposed investment will improve equity.

Beyond the specific grants at stake, transportation is now widely understood as one of the cornerstones of equity. Transportation is the means by which people access jobs, healthcare, and meet day-to-day needs.

Transportation leaders currently face a historic opportunity to redress long-standing inequities by making equity central in any transportation analysis — and making sure politicians and constituents alike understand how a given proposal positively impacts specific communities.

But that still leaves open the question of *how*.

No single definition of equity exists, governments have limited resources to deploy, and inequity looks different in each locality.

That's why a **demographic lens on transportation behavior** is the key tool for building equity into planning.

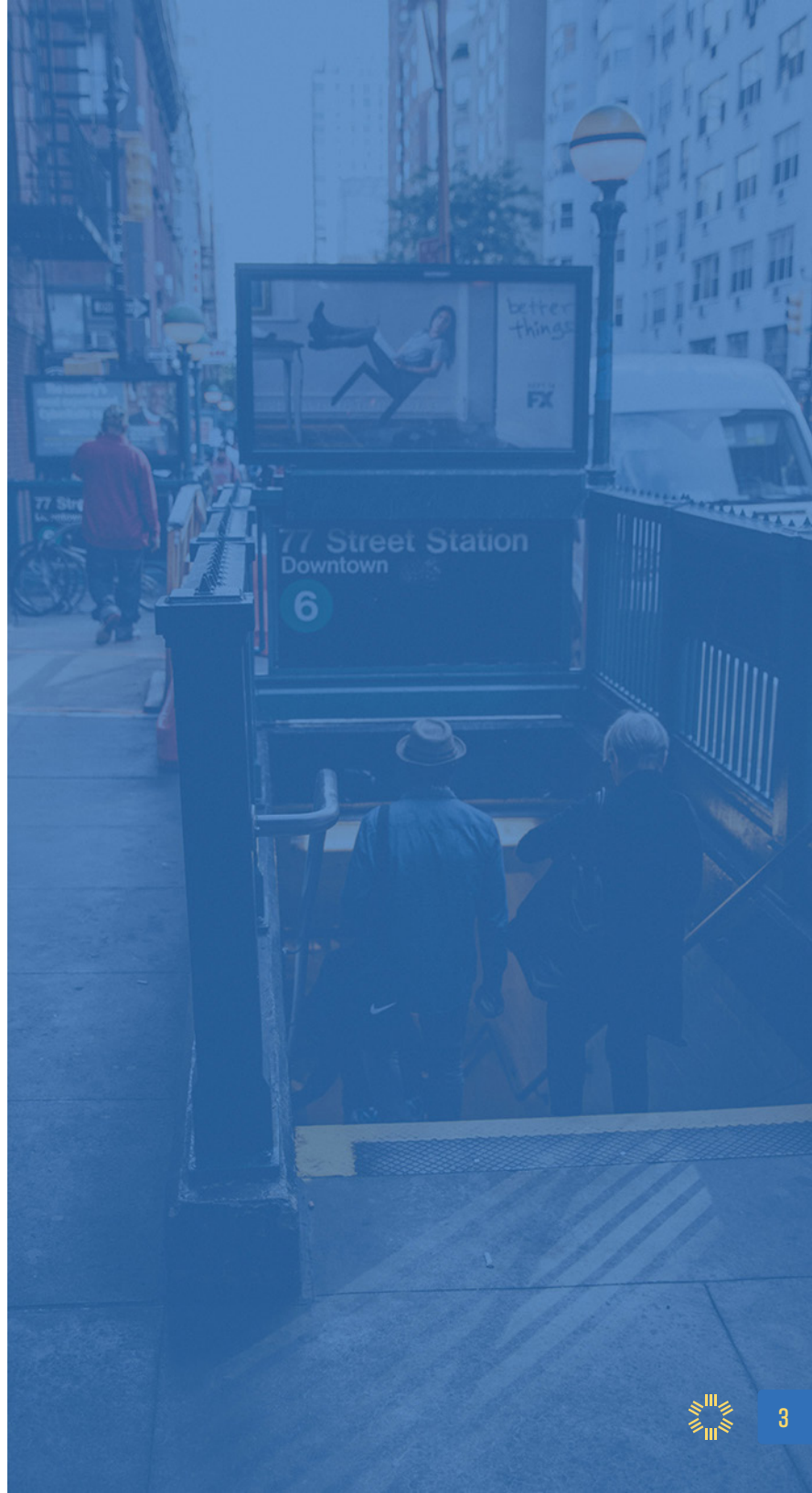
Defining & Prioritizing Equity in Planning

Here are some questions a transportation leader might ask to identify opportunities for equity investment:

- Does the burden of commute time on lower-income families justify a new bus line?
- Would a pedestrian highway overpass help reconnect cutoff communities of color?
- Should we add multilingual signage for non-English speakers?
- Where can we place EV chargers to best serve renters?

Looking across a city, county, or state, the need to lessen congestion and improve air quality, shorten commute times, provide multimodal infrastructure, and offer sufficient EV charging stations is enormous. And when transportation leaders make these improvements, it is critical that benefits accrue in higher scale to historically or economically disadvantaged communities.

Transportation practitioners can use the demographics tied to travel patterns to understand how different groups utilize transportation and then pinpoint investments that will benefit disadvantaged communities. The analysis can help make their case to constituents, politicians, and grant administrators.



StreetLight's Traveler Attribute Metrics, derived from census data in the U.S. and Canada, include a wide array of demographics most recently updated to incorporate the 2020 U.S. Census and 2019 5-year American Community Survey, allowing transportation professionals to understand patterns across **biking, walking, driving, and rail** activity overlaid with a nuanced equity lens.

This allows for more **strategic and prescriptive insights** on where to best target investments in the local community.

In the StreetLight InSight® platform, you can review trends through a wide spectrum of census demographic breakouts, including:

Income

Education status

Race

Foreign-born status

Ethnicity

Household size

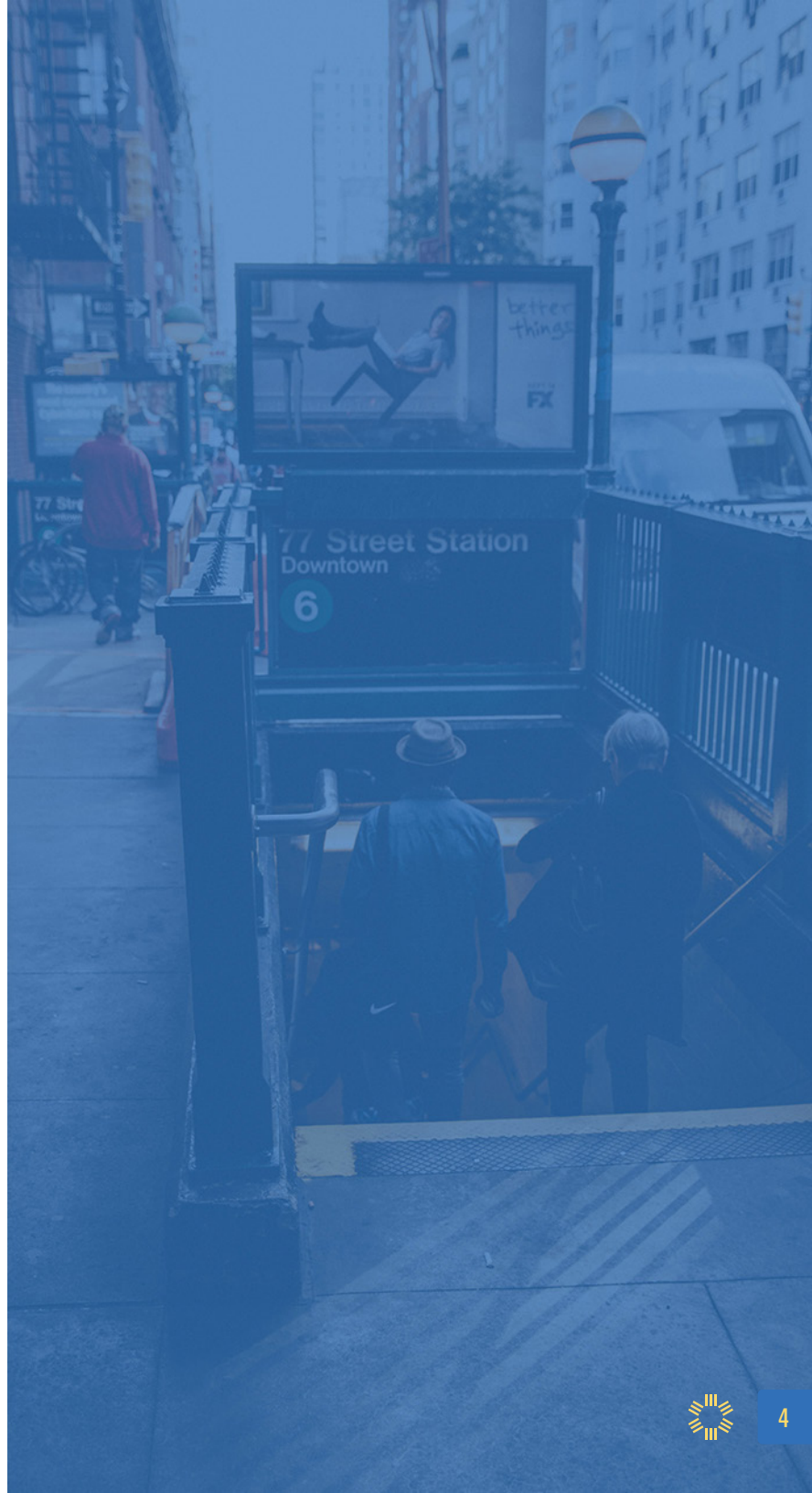
Disability status

Vehicle ownership status

English proficiency

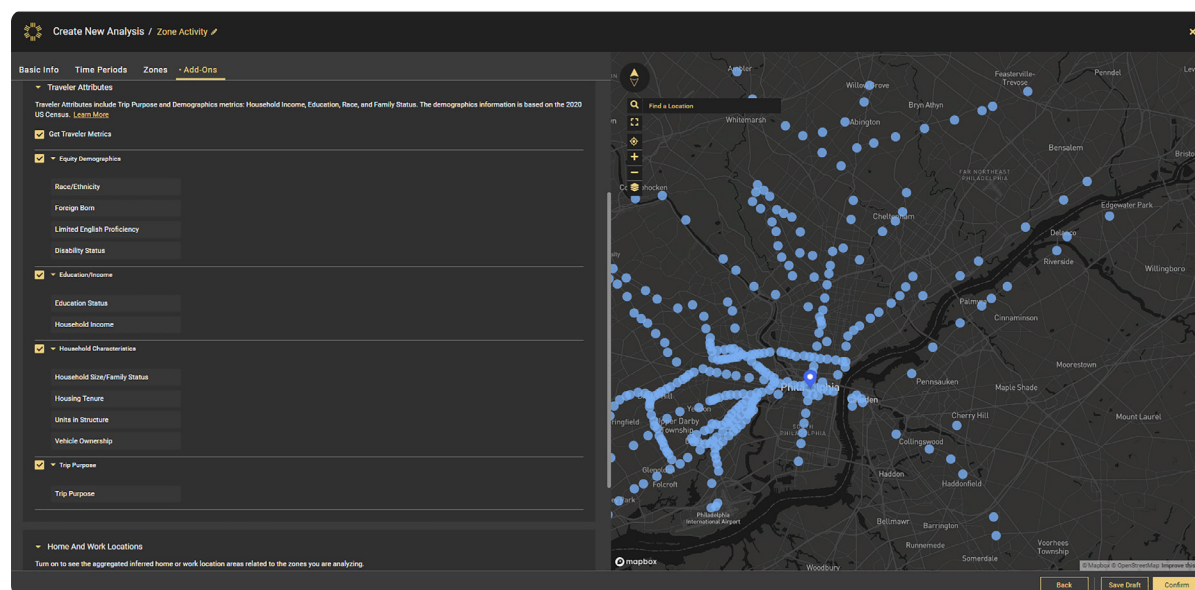
Renter versus homeowner

In the next section, StreetLight uses the StreetLight InSight® Metrics to analyze the demographics of aggregate travel behavior among those accessing the greater Philadelphia region's regional rail system. The analysis illustrates how transportation practitioners can apply StreetLight's demographic Metrics and prioritize equity investments.



Equity Planning in Action — A Philadelphia Transit Example Analysis

Looking at the demographics of trips to greater Philadelphia's SEPTA train stations provides insight on where to prioritize investments for underserved communities. Public transportation access is critical for disadvantaged communities (DACs), according to the TransitCenter's report *Inclusive Transit: Advancing Equity Through Improved Access & Opportunity*¹.



The examples that follow show how aggregate demographics tied to travel patterns can help prioritize neighborhoods and stations for transportation improvements. Philadelphia is a city with a relatively robust train system, as well as significant historical inequality. In a recent analysis, the *Washington Post*² ranked Philadelphia as a top city with high public transit use, where that use is concentrated among low-income riders.

¹ Inclusive Transit: Advancing Equity Through Improved Access & Opportunity, TransitCenter, 2018.

² Amid the pandemic, public transit is highlighting inequalities in cities, Washington Post. May 15, 2020.

High-Priority Transit Stations

Insights identified by demographics tied to travel to SEPTA stations



Tioga station sees a relatively higher share of travelers reporting a disability.

Tioga station, in the Harrowgate neighborhood on the Market-Frankford line, has a relatively higher percentage of travelers to the station that are likely to have a disability compared to other SEPTA stations analyzed. Some common approaches to facilitating accessibility improvements include better ramping, widened pathways, and hearing assistance. This station also sees peak activity in the PM commuting hours, adding another dimension to deploying improvements.



Stops on the #10 trolley route along Lansdowne Avenue in West Philadelphia see a relatively high share of Black travelers, while stops on the #36 trolley line in the Southwest Philadelphia neighborhood along Elmwood Avenue see relatively high shares of low-income travelers.

Stations with low-income and higher percentage Black travelers need investment to redress historic inequity. These neighborhoods are likely to benefit from expanded transit service and multimodal transportation infrastructure, as well as measures to improve street safety.



Huntingdon & Millbourne stations see more travelers likely to speak limited English.

These stations, both on the Market-Frankford line as well, see a higher share of travelers reporting limited English proficiency and may be an area where practitioners emphasize non-English signage. Practitioners can reach out to constituents to identify which additional languages should be added to signage and announcements.

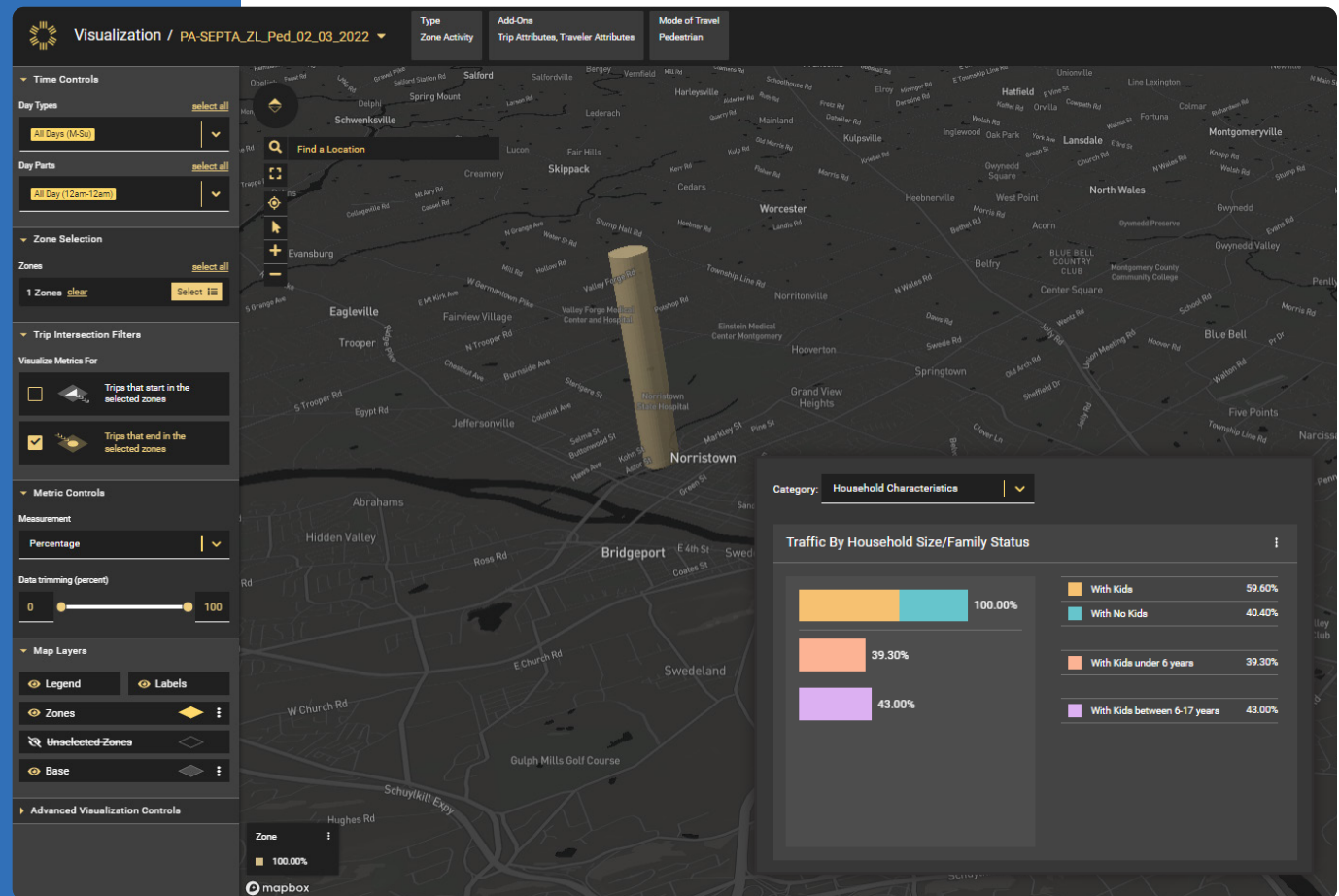


Elm Street, a regional rail stop, is a popular station for travelers with kids under 6.

This Montgomery county station may be an important one for ensuring that infrastructure meets the needs of parents.

Visualizing Demographics (SEPTA analysis)

Demographics tied to travel behaviors make it possible to focus on areas for high-priority transportation equity investment, as well as use the data to make that case to grant administrators, politicians, and constituents.



The visualization from StreetLight InSight® demonstrates pedestrian traffic activity to a SEPTA station visualized with aggregate demographics, including Traffic by Household Size / Family Status.

Methodology

For this study, we ran a Zone Activity analysis with Traveler Attributes in StreetLight InSight® using SEPTA station zones in the Zone Library. The Zone Activity analysis is used to analyze traffic starting in, stopping in, or passing-through specific zones. The Zone Library allows users to grab pre-defined zones for analysis. All Vehicles, Bicycle, and Pedestrian modes were selected for the data periods February and March 2022.



Measure Transportation Equity

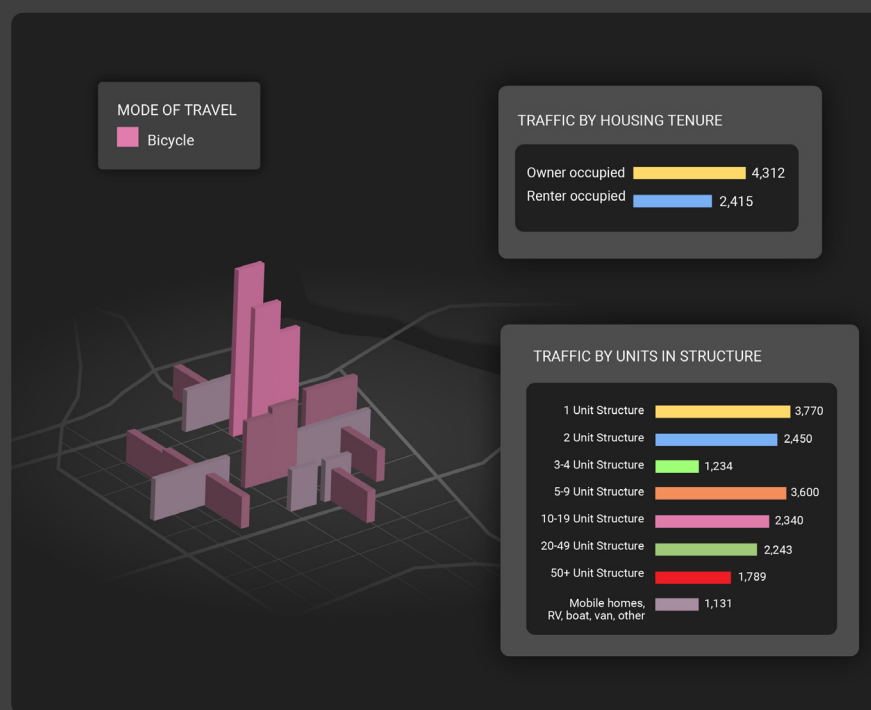
Address critical equity challenges in your region with comprehensive transportation insights that illuminate how diverse populations travel. Leverage a more representative sample without the cost and time required for traditional travel surveys.

Access comprehensive analytics to measure transportation equity.

Get demographic metrics for all analyses, including aggregate race, income, disability status, household characteristics, English proficiency, and more to measure impact across populations and neighborhoods.



streetlightdata.com/social-equity





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