

Denver RTD Bus Rapid Transit Equity Analysis

Data Sources and Methods, August 2019



Background

The Regional Transportation District (RTD) is the regional authority operating public transit services in the Denver Metro Area. RTD serves eight counties including all of Boulder, Broomfield, Denver and Jefferson counties, parts of Adams, Arapahoe, and Douglas counties, and a small portion of Weld County. It operates over a 2,400-square-mile area and serves more than 2.8 million people.

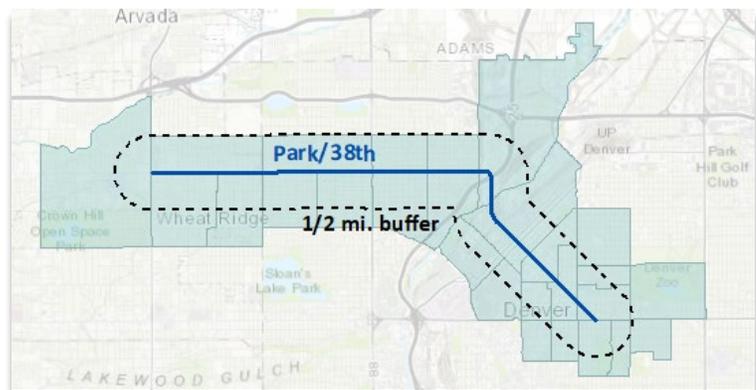
RTD is exploring opportunities to implement bus rapid transit service throughout its region to address growing travel demand. In 2019, the agency is conducting an equity analysis to understand which corridors in the Denver Metro Area are most likely to enhance mobility and equity for a wide range of users, including those living in low-income neighborhoods, older adults, and people with disabilities. In partnership with Felsburg Holt & Ullevig (FHU), Headwaters Economics developed a data-driven tool to visually assess potential Bus Rapid Transit corridors and impacts on vulnerable populations.

The **Denver RTD Bus Rapid Transit | Equity Analysis** is available online:

<https://headwaterseconomics.org/equity/disadvantaged-populations/denver-transit-equity-analysis/>

Corridors & Buffers

The equity analysis maps potential bus rapid transit corridors provided by RTD and FHU. A buffer selected in the equity analysis tool presents data for all residents within the census tracts that overlap the selected buffer. Because census tracts are irregularly shaped and don't perfectly align with the buffers around potential transit corridors, residents are counted who live outside the specified distance.



Potentially Vulnerable Populations

The equity analysis uses census-tract-level socioeconomic data from the latest release of the U.S. Census Bureau's American Community Survey (ACS) 5-year estimates. For each characteristic listed below, the tool provides access to the ACS estimate and reported margin of error, which uses a 90% confidence interval. ACS data on potentially vulnerable populations include:

- Families in poverty
- Households without cars
- People with disabilities
- People 65 years and over
- People in a minority group. This includes people of Hispanic ethnicity and/or people of color, including the ACS classifications Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, or Some Other Race.
- People with language barriers. This includes people 5 years or older who speak English "not well" or "not at all."

Citation:

U.S. Department of Commerce. 2018. Census Bureau, American Community Survey Office, Washington, D.C. <https://www.census.gov/programs-surveys/acs/>.

The equity analysis also uses employment data published by the Bureau of Labor Statistics' Quarterly Census of Employment and Wages. "Low wage jobs" are calculated as the employment within each census tract for those sectors with a higher propensity to use transit. For this analysis, these sectors are: retail trade; arts, entertainment, and recreation; accommodation and food services; and other services (except public administration).

Citation:

U.S. Department of Labor. 2018. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.

Density Map: Homes + Jobs

In the "Explore Results" section of the tool, the map shows census-tract-level density data. Density is calculated as the number of homes plus the number of jobs within each census tract. This measure of density is commonly used in transportation planning to capture the demand for transit based on where people both work and live.

Additional Resources

Detailed reports on potentially vulnerable populations are also available from Headwaters Economics. The *Populations at Risk* reporting tool can be used to generate Excel or PDF documents with detailed data about populations more likely to experience adverse social, health, or economic outcomes due to their race, age, gender, poverty status, or other factors. See:

<https://headwaterseconomics.org/tools/populations-at-risk/>.

Further information about local economies can be found at the Economic Profile System (EPS):

<https://headwaterseconomics.org/tools/economic-profile-system/about/>.

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