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## Memorandum

**Date:** October 6, 2020  
**To:** Andrew Bemis and Patrick Hartley, City of Tucson  
**From:** Alta Planning + Design  
**Re:** Move Tucson: Equity Analysis Methodology

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### Introduction – Why Consider Equity?

**Studies from across the country routinely find that some demographic groups typically face greater barriers than others in getting to the places they need to go, especially in communities designed primarily for motor vehicles.**

These demographic groups include (but are not limited to): people who identify as black, indigenous and people of color; youth; older adults; people with low incomes; people without a high school diploma; people with limited English proficiency; people without access to a motor vehicle; and people with disabilities.<sup>i,ii,iii</sup> Some barriers faced by these groups relate to historic patterns of injustice that have shaped the physical environment and negatively affected people's ability to reach jobs, services, and education, among other destinations. For example, highways and high-stress roadways have often been built through communities of color and through low-income communities, displacing residents and cutting people off from jobs and services. People in these demographic groups may also face barriers directly related to their age, disability, income, education level, and more. For example, someone with limited English proficiency may feel stressed by navigating an unpredictable network while relying on signs in English; someone without a high school diploma who works multiple part-time jobs to make ends meet may not have access to a direct, reliable bus route after a late shift; and someone living below the poverty line may be further burdened by the high cost of owning and maintaining a car.

Improving transportation options is critical to overcoming these barriers and responding to the needs of all Tucson residents. Transportation options, including traveling by car, public transit, walking, or biking, provide connections to opportunity, allowing people to access jobs, services, education, and recreation.

**This analysis seeks to discover where people with the highest need for transportation options live within Tucson to inform the Mobility Master Plan.** Understanding where these individuals are most densely located will help to prioritize transportation improvements to address historic inequities and meet basic needs. These equity priority areas may also be areas with poor health outcomes. Investing in active and public transportation in these areas also helps meet community goals for improvements in mental and physical health.<sup>iv</sup> Working towards equity may mean prioritizing active and public transportation funding in areas with a greater concentration of disadvantaged populations instead of distributing funding equally based on geography.

# Methods

## Data Sources and Definitions:

The project team conducted an equity analysis to determine areas of high need for transportation options using existing demographic information from the US Census Bureau at the block group level. All data was obtained from the 2017 American Community Survey (ACS) 5-year estimates. The data considered include:

- **Race:** the percentage of the population that identifies as non-white and/or Hispanic/Latino.
- **Youth:** the percentage of the population under the age of 18.
- **Older Adults:** the percentage of the population that is 65 years of age and older.
- **Income:** the percentage of the population of working age living at or below 200% of the Federal Poverty Level, which is a threshold set by the U.S. Census Bureau and updated annually.
- **Educational Attainment:** the percentage of the population over 25 years of age that does not have a high school diploma or equivalent.
- **Limited English Proficiency (LEP):** the percentage of the population that identifies as not speaking English well or at all.
- **Access to a Vehicle:** the percentage of households without regular access to a vehicle.
- **Disability:** the percentage of the population identifying as having a disability.

## Scoring

Each indicator is assessed at the block group level based on the percentage of the population representing the indicator definition (e.g., percentage of population under the age of 18). To allow for comparison among indicators as well as provide for an understanding of the magnitude of difference between areas, block groups are scored<sup>1</sup> relative to all block groups in the city.

This means that areas with a higher proportion of the population meeting the indicator's criteria compared to other block groups would receive a higher score, while areas with a lower percentage would receive a lower score. A composite score is then determined by overlaying each of the eight indicators to determine areas with high concentrations of multiple demographic indicators.

## Identification of Equity Areas

Identification of equity areas are determined based on the composite equity score. For the purposes of this plan, block groups with a composite score in the top quintile (top 20%) is considered an area of highest need. The composite scores are shown in Figure 1 on the next page.

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<sup>1</sup> Scores are assigned based on the standard deviation for a specific indicator.

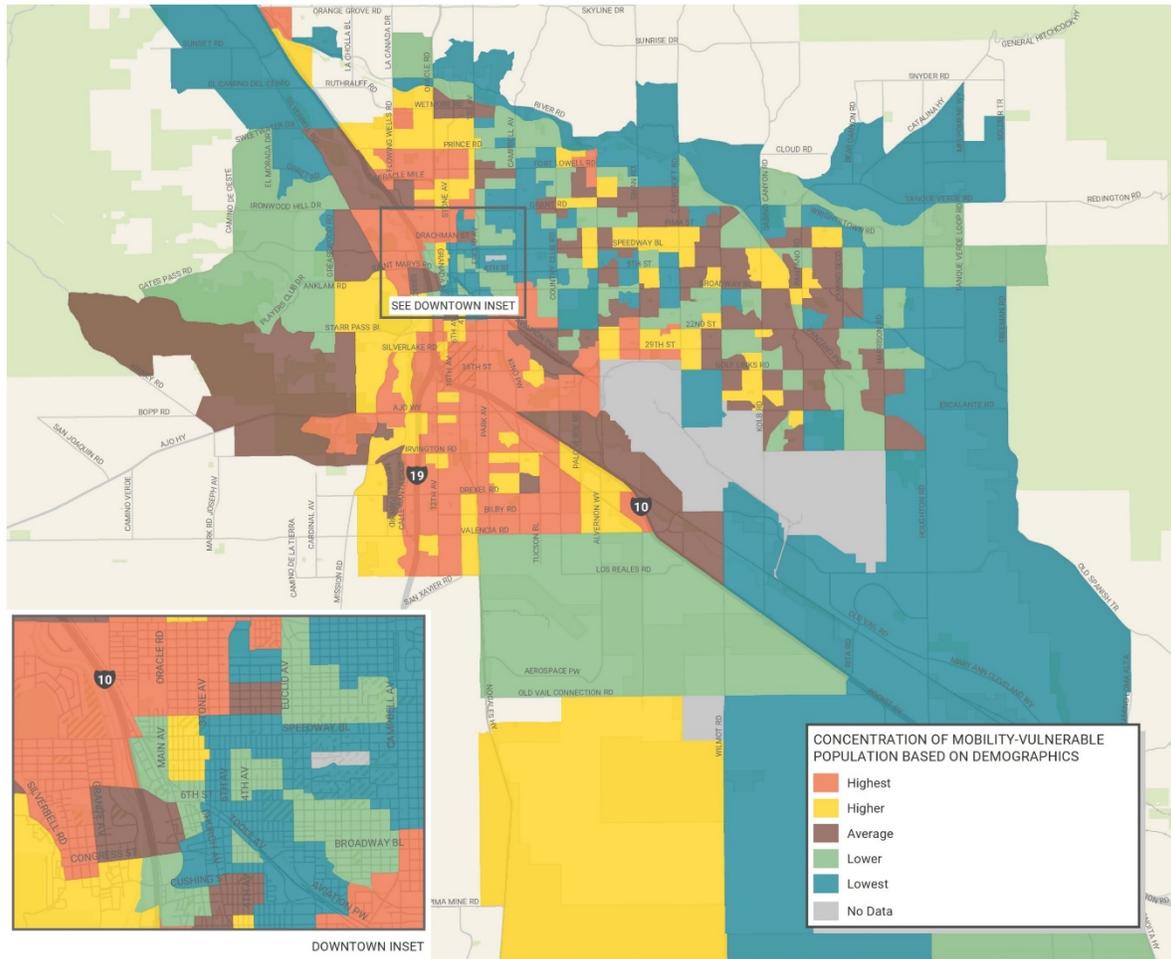


Figure 1: Concentration of Mobility-Vulnerable Populations Based on Demographics

<sup>i</sup> Dannenberg A, Frumkin H, Jackson R. *Making Healthy Places*. 1st ed. Washington D.C.: Island Press; 2011.

<sup>ii</sup> International City/County Management Association. *Active Living for Older Adults: Management Strategies for Healthy & Livable Communities.*; 2003. [http://www.ca-ilg.org/sites/main/files/file-attachments/resources\\_\\_Active\\_Living.pdf](http://www.ca-ilg.org/sites/main/files/file-attachments/resources__Active_Living.pdf). Accessed February 22, 2020.

<sup>iii</sup> McKenzie B. Modes Less Traveled—Bicycling and Walking to Work in the United States: 2008–2012. *Am Community Surv Reports*. 2014.

<sup>iv</sup> Center for Infrastructure Equity. Transportation Equity. *PolicyLink*. 2016. <http://www.policylink.org/focus-areas/infrastructure-equity/transportation-equity>.