Equity Index: Methodology

1. We identified nine focus populations for our equity analysis – Black, Asian, Hispanic, youth (under 18), older adults (over 65), disabled, low income, female, veterans, foreign-born, and limited English proficiency. We chose these groups based on their inclusion in Civil Rights Law, federal Environmental Justice guidance, and best practices from other MPOs. They are meant to represent those that have historically been marginalized by land use and transportation decision-making.

2. We used estimates for each focus population at the census tract level based on the American Community Survey 2015-2019 5-year estimates. Using a census-recommended methodology, we found the standard error (SE) and coefficient of variation (CV) for every estimate and eliminated all data that did not meet a CV quality threshold of 30 percent. Though the Census Bureau does not set a specific threshold percent, they use 30 percent in their analysis examples. Using this CV value eliminated many entries, especially in the race/ethnicity, disability, and limited English categories and primarily in less dense, rural areas. We will update our dataset when the 2020 Census is released and expect the number of omitted entries to decline substantially.
    -   For the foreign-born and limited English populations, which have high margins of error at the tract level, we took estimates from the municipal level and applied them to all tracts within that municipality. For example, the City of Poughkeepsie has an estimated 17.5% foreign-born residents, so each of the eight census tracts in the city was assigned that percentage. We lose some neighborhood-level variation with this method, but we capture regional variation that would be lost if none of the data met our quality threshold.

3. We then compared the focus population's percentage in each census tract to its percentage in the overall county population (the county average) and assigned each entry a score, as follows:
    -   Below county average (or omitted data): 0 points
    -   0-5% above county average: 1 point
    -   5-10% above county average: 2 points
    -   10-20% above county average: 3 points
    -   Over 20% above county average: 4 points

This method differs slightly from the standard deviation method used by some other MPOs. We found that using standard deviations could result in equal weight being given to populations that have a far narrower data spread. For example, a tract with 6% more veterans than the county average could be assigned the same score as a tract with 40% more Black residents than the county average, simply because the number of veterans does

not vary much between tracts. Our chosen method gives more weight to the tracts that show the greatest variation in whole percentage terms.

4. We then summed the scores for each focus population to determine the total score, or Equity Index, for each tract.