Planning for Economic Justice: Learning from Inequitable Service Cuts in RI Public Transit

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Abstract

During the Great Recession, public transit systems around the country saw significant cuts to their funding just as the need for affordable transit rose. Though researchers have offered sophisticated metrics that enable transportation authorities to maintain service where demand is highest, all demand for public transit is not equal. Low-income workers who rely on public transit for their workplace commute may be cut off from employment if their neighborhood's service is reduced or eliminated, causing economic hardship and inhibiting the economy. Those with higher incomes or who don't rely on public transit for their commute would not face these barriers. Using data on the location, frequency of service, and number of routes accessible from each bus stop operated by the RI Public Transit Authority, this paper examines which populations lost and benefited most from changes to bus services between 2006 and 2011 in RI. It utilizes a new measure of access to public transit, the Access to Public Transit Scale (APTS), to measure changes over time. APTS scores are calculated by summing the number of bus stops within a given radius of a block group centroid and multiplying these values by the frequency with which buses arrive per hour and the number of routes they represent. Changes in APTS scores are then combined with demographic data from the US Census to identify block group characteristics most associated with absolute and relative changes in access.

Using ordinary least squares regression, this paper finds that the only neighborhood characteristic statistically significantly associated with absolute losses in access to public transit was the percentage of workers who commuted using public transit. That is, the higher the percentage of public transit commuters, the higher the likelihood that a neighborhood had more of its services cut. Moreover, the only neighborhood characteristic significantly associated with relative losses in public transit access was per capita income. Specifically, the lower a neighborhood's per capita income, the more likely it was to lose a higher percentage of its services (on average, 1.6 percentage points fewer for every $1,000 fewer per capita).

These findings suggest that traditional methods for prioritizing different populations' public transportation needs are insufficient. They call for smarter, more integrated methods for planning transportation that incorporate the economic costs and benefits of public transit access not only for transit authorities but also for the populations they serve.

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