

## **The Effects of Urban Rail Transit Expansions: Evidence from Sixteen Cities, 1970 to 2000**

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Between 1970 and 2000, 16 U.S. cities constructed significant new urban rail transit infrastructure. During this period, the fraction of metropolitan area commuters using public transit declined from 0.12 to 0.06. This paper assesses the extent to which new rail transit lines in these cities have attracted new riders to transit. Based on estimated ridership gains due to new rail lines, we provide rough estimates of the aggregate reduction in commuting time as a result of new rail transit lines. We find that while new rail transit lines have stemmed declines in transit use, employment and residential decentralization can explain a large part of transit's declining commuting market share. A simple urban model presented in this paper predicts that a new rail line may only attract drivers to transit at distances sufficiently far from the central business district. Consistent with the model, estimated treatment effects of new rail lines on transit use are greater in outlying areas than near central business districts. In addition to varying across space within metropolitan areas, estimated treatment effects vary considerably between metropolitan areas. More centralized metropolitan areas exhibit larger estimated effects of new rail transit lines on ridership. Using data on commute times in each metropolitan area, we demonstrate the existence of wide heterogeneity in commuting time savings due to new rail transit across metropolitan areas. Washington, DC, in particular stands out as a place in which the estimated gains to new rail transit have been especially large.