

The Economic Impact of Remote Work on Urban Transportation Demand: Evidence from U.S. Metropolitan Panel Data, 2019–2024

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Abstract

This study examines the economic impact of remote work on urban transportation demand across ten major U.S. metropolitan areas from 2019 through 2024, a period marked by pandemic disruption and subsequent labor-market restructuring. Leveraging a balanced monthly panel dataset, the analysis estimates two-way fixed-effects models to quantify how fluctuations in remote-work prevalence influence vehicle miles traveled (VMT) and public transit ridership while controlling for fuel prices and employment conditions. The findings indicate that increases in remote work are associated with statistically significant reductions in both VMT and transit usage, with elasticities largest for transit demand, reflecting its stronger connection to peak-hour commuting and central business district activity. The results further reveal that gas prices and employment rates continue to shape mobility patterns, although their marginal effects are moderated by shifts in workplace location. These conclusions highlight persistent structural changes in travel behavior stemming from hybrid work adoption, with implications for transportation planning, infrastructure investment, and fiscal sustainability of transit agencies. The study contributes to an emerging body of literature on post-pandemic mobility by providing real time, multi-city evidence of how remote work reshapes urban travel demand.

