

# What Does the Prevalence of Telecommuting Mean for Urban Planning?

Alex Okashita, Harold Arzate, and Jae Hong Kim  
Department of Urban Planning and Public Policy, University of California, Irvine

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## Issue

While telecommuting has attracted scholarly attention over decades, the COVID-19 pandemic has generated renewed and growing interest in how telecommuting (and other nonconventional work-home arrangements) can reshape our cities and regions. It is often assumed that the rise of telecommuting, also known as “teleworking,” would lead to more sprawl which could mean more and longer automobile trips and greater pollution.<sup>1</sup> On the other hand, some urban planners and academics are starting to see telecommuting more favorably as an opportunity for travel demand management and the reduction of greenhouse gas emissions

Researchers at the University of California, Irvine, are looking into what may become the “new normal” in work and work-related travel and the consequences that could have on traffic conditions, efforts to address climate change, and the future of our urban areas, as well as our daily lives. They find, for instance, that current research is largely equivocal about the consequences of telecommuting on where individuals choose to live, their day-to-day travel, and urban/metropolitan development. Equally unclear is how increased telecommuting may impact efforts to create more sustainable and inclusive communities. In light of this uncertainty, they suggest planners and researchers need to pay more attention to the changing nature of urban commuting and how it can play an important role in shaping a more desirable future.

## Key Research Findings

**How one defines telecommuting is key to better understanding.** Research suggests significant variation in how telecommuting takes place.<sup>2</sup> Full-time, home-based telecommuting is not necessarily the norm. Some forms of telecommuting involve an actual commute trip, such as travelling from home to a satellite office or to a privately run coworking space, known as center-based telecommuting. There is also part-time and part-day telecommuting, where employees spend a few hours a day at work or work in-person a few days a week. This can reduce peak-period or peak-day travel and ease traffic congestion. Telecommuters may also be more likely to use alternative modes of travel when they do work in-person, such as public transit or shared-ride services (or even automated vehicles), as they provide opportunities to telework while commuting. Different forms of telecommuting can thus result in different outcomes since household location choices and travel patterns, including mode choice, may largely depend on how people telework.

**Telecommuting may affect non-work travel.** Some studies suggest that telecommuters may actually make more trips because they engage in less trip chaining (picking up things on the way to and from work) or because they desire more interpersonal interaction, or just need to “get out of the house.” This could, in fact, increase the number of vehicle miles traveled which could add to local traffic and increase automobile emissions. On the other hand, teleworkers may

be more likely to teleshop, making online purchases that reduce the need to drive to a brick-and-mortar store, but also generate more trips by local delivery vehicles.

**Planners can be pro-active in anticipating changes in urban form resulting from greater teleworking.** Planners can make a meaningful difference in shaping the future by increasing opportunities for diversified work-home arrangements rather than passively responding to the rise of telecommuting. For instance, this could involve improving internet access, zoning for remote work sites, and improving public transit options for part-time teleworkers. It could also involve anticipating reduced demand for downtown office and parking space, and its impact on business-serving businesses such as restaurants and office services, and begin planning for the reuse of vacant office space for housing or recreational uses.

**Planners may need to revisit their approaches to travel demand management, parking regulations, and land use planning.** Planners should take a holistic approach to telework, recognizing the connections among land use, transportation, parking, housing, and other planning issues.<sup>3</sup> Planners also need to recognize that not everyone has similar access to the facilities and services that support telework, which could increase the existing digital

divide between communities or lead to more residential segregation as those who can telework may chose to move further from the city.<sup>4,5</sup> Greater interjurisdictional cooperation (or regional initiatives) may also help to ensure that the proliferation of telecommuting will not lead to more segregated cities/regions.

**More research is needed about the possible long-term consequences of telecommuting.** While decades of research have shed some light on the possible future of telecommuting, previous studies have often relied on short-term (or even one-time) observations, small samples, or narrow definitions of telecommuting. More in-depth research is needed to better understand the nature of the changes taking place in home/work arrangements and the effect these may have on the quality of urban life.<sup>6</sup>

### More Information

This policy brief is drawn from the report “Telecommuting and the Open Future” prepared by Alex Okashita, Harold Arzate, and Jae Hong Kim with the University of California, Irvine. The report can be found here: [www.ucits.org/research-project/2022-41](http://www.ucits.org/research-project/2022-41). For more information about the findings presented in this brief, please contact Alex Okashita at [alexoka@uci.edu](mailto:alexoka@uci.edu).

<sup>1</sup>Tayyaran, M.R., & Khan, A.M. (2003). The effects of telecommuting and intelligent transportation systems on urban development. *Journal of Urban Technology*, 10(2), 87 – 100. <https://doi.org/10.1080/1063073032000139714>.

<sup>2</sup>Asgari, H., & Jin, X. (2015). Toward a Comprehensive Telecommuting Analysis Framework: Setting the Conceptual Outline. *Transportation Research Record: Journal of the Transportation Research Board*, 2496(1), 1 – 9. <https://doi.org/10.3141/2496-01>.

<sup>3</sup>Denham, T. (2021). The limits of telecommuting: Policy challenges of counterurbanism as a pandemic response. *Geographical Research*, 59(4), 514 – 521. <https://doi.org/10.1111/1745-5871.12493>.

<sup>4</sup>Chakrabarti, S. (2018). Does telecommuting promote sustainable travel and physical activity? *Journal of Transport & Health*, 9, 19 – 33. <https://doi.org/10.1016/j.jth.2018.03.008>.

<sup>5</sup>Budnitz, H., Tranos, E., & Chapman, L. (2020). Telecommuting and other trips: An English case study. *Journal of Transport Geography*, 85, 102713. <https://doi.org/10.1016/j.jtrangeo.2020.102713>.

<sup>6</sup>Kim, S.-N., Mokhtarian, P.L., & Ahn, K.-H. (2012). The Seoul of Alonso: New Perspectives on Telecommuting and Residential Location from South Korea. *Urban Geography*, 33(8), 1163 – 1191. <https://doi.org/10.2747/0272-3638.33.8.1163>.

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