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Hybrid Cities Briefing Paper 1: The Emerging Geography of Knowledge Work

by **Philipp Rode and Sudeep Bhargava**

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1 Introduction

Hybrid working, one of the most lasting impacts of the COVID-19 pandemic, has led to changes in urban systems across a variety of domains beyond work itself. The impacts of hybrid work, particularly for knowledge industries with a higher share of work that can be conducted remotely, can be critically and inclusively analysed using the Hybrid Cities Lab methodology¹ of mapping key issues across urban domains and sociotechnical arrangements. Depicted in Figure 1 is the ecosystem map for the emerging geography of knowledge work, arising from the proliferation of hybrid technologies in work settings and subsequent developments in norms, cultures and regulations. This review covers some key developments that cities are facing due to increasing remote and hybrid work, utilising three nexuses, as depicted in Figure 2, to address this complex area of urban activity. As shown in the ecosystem map, these developments extend into other urban domains and related sociotechnical systems, and the components highlighted below remain interconnected through policy, technology and citizen behaviour.

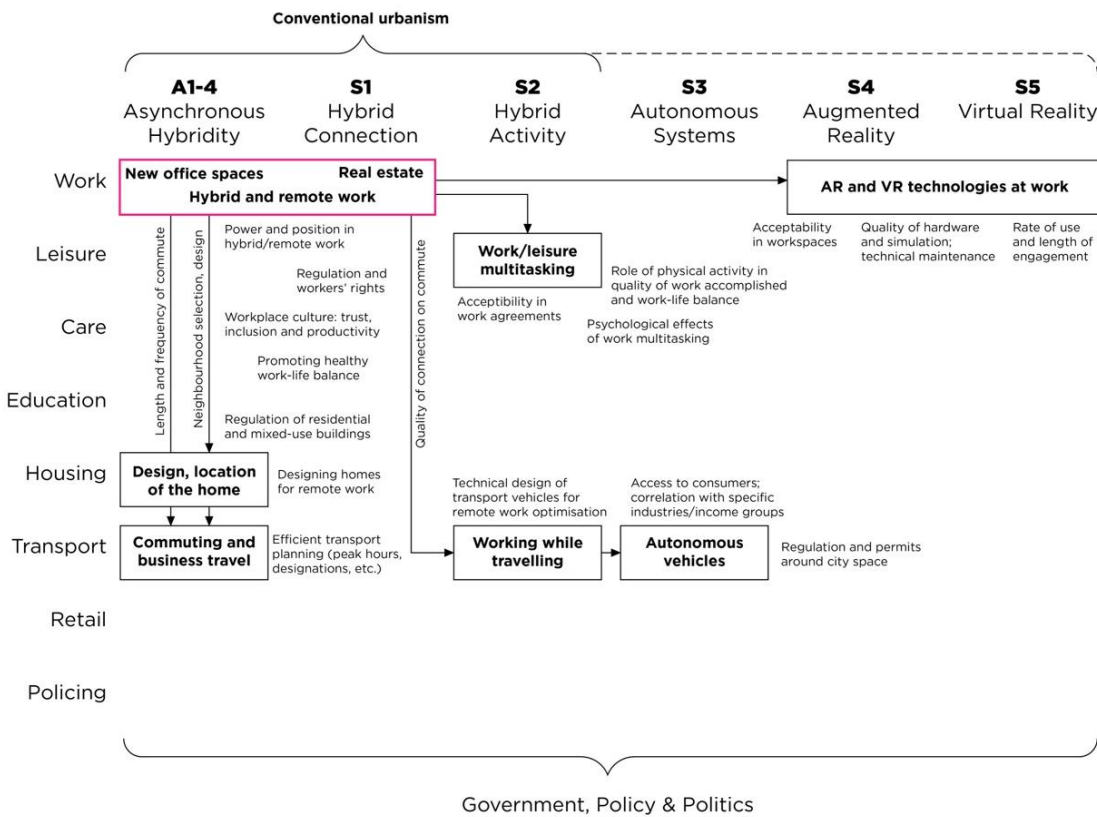


Figure 1. The emerging geography of knowledge work.

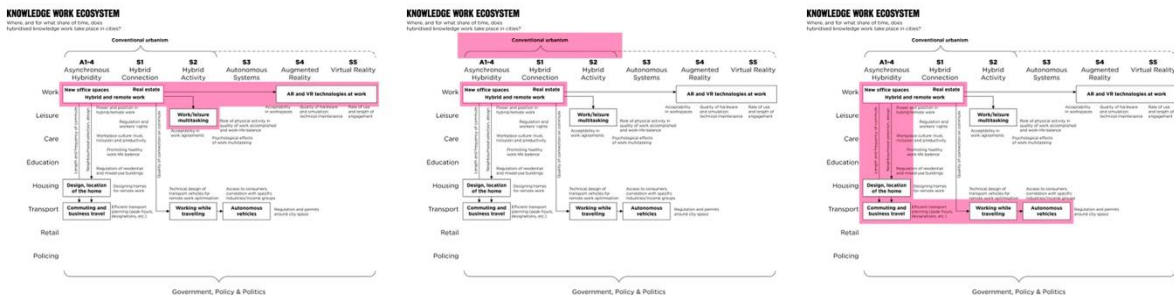


Figure 2. Three nexuses: (A) Remote working agreements, habits and talent retention; (B) New working spaces and the value of real estate; and (C) Changes in commute planning and housing markets.

2 Nexus A: Remote working agreements, habits and talent retention

Urban hybrid activities require new considerations by policymakers. In their briefing paper following the UK Parliament's assessment on hybrid working after the pandemic, Mutebi and Hobbs (2022) state that the reconvened Flexible Working Taskforce is supporting employers and workers on practical and legal issues associated with hybrid working. A report from the Department for Business, Energy & Industrial Strategy (2022) stated the government's intention to support employees' right to request hybrid working agreements from employers, cementing measures to protect that right in the form of policy.

With post-pandemic safety considerations seeming less urgent, there has been a vocal call for 'return to office' (RTO) mandates to make up for the value lost in hybridised work interactions and unused office space. However, a steadily rising cost of living and the loss of the daily conveniences afforded to remote workers make RTO a costly transition for employees (Elgan, 2024). Meanwhile, corporate leadership often advocates for RTO mandates under misled claims that fully in-office work will improve company performance (Ding and Ma, 2023). RTO mandates imposed upon employees are often met with animosity, making them risky moves for companies hoping to retain talent in competitive markets (Doherty, 2024).

Talent retention in the hybridised work environment requires serious engagement with employees' preferences for hybrid or remote work. Besides increasing engagement and productivity, hybrid working gives companies access to larger talent pools (Tsipursky, 2023). Remote work has enabled the rise of the "Meta City" (Florida et al., 2023): a corporate, post-pandemic network in which locational strategy plays a significant and central role. Digitally connected urban areas have similar economic and social functions that follow employee migration patterns, with crucial implications on connected labour markets and talent retention. Flexibility in working arrangements allows co-working space

intermediaries, such as platforms like *Croissant* and *Coworker*, to grant remote workers easy mobility between spaces both within and between cities (Fast, 2022).

Hybrid work has enabled new forms of working, often mediated by location, coworker co-presence or technology. New paradigms apart from productivity have emerged to measure the feasibility and value of such arrangements, such as sustainability, inclusion and satisfaction (Microsoft, 2022). Satisfaction in remote and hybrid jobs is mediated by factors such as development opportunities and flexible work environments, the latter of which are valued for improving employees' work-life balance (Arbana et al., 2023, Probert et al., 2022). However, this is a nuanced relationship; 'presenteeism' is widespread among hybrid and remote workers and is often correlated with low rates of supervisor support and an inability to detach from work (Schmitz et al., 2023). Research into how workers manage their work-life balance has recently suggested that life domains are managed via "hybridity" and "liminality" ie, the improvised use of digital technologies to create sustainable work-life environments (Chamakiotis et al., 2024).

In transitioning to hybrid and remote work settings, Plester and Lloyd (2023) recommend managers to be particularly focused on creating supportive environments to minimise risks to well-being due to decreased informal interactions and an increase in task-oriented behaviour. Fun in co-working spaces, on the other hand, leads to increased creativity and innovation among employees, suggesting that companies and workers take advantage of informal interactions in new workspaces (Wu and Zhang, 2024). Solutions to overworking and burnout among hybrid and remote employees also include more detailed and specific descriptions of working arrangements and the successful execution of supervisor-led health interventions.

3 Nexus B: New working spaces and the value of real estate

There exists an urgent need to determine whether hybridisation is adding to, complementing, or extracting from the value of physical real estate. In knowledge work, information and communication industries, hybrid technology has shifted work from the office to a variety of other locations. The consequences for cities are immense; the city of Boston in the US, for example, is expected to lose US\$1.4 billion in tax revenue over the next five years due to office vacancy (Boston Policy Institute, 2024). Some estimates place the average commercial real estate vacancy rate at 45 per cent (HubStar, 2022). Cities need to be able to address this increasingly urgent issue as the ‘new normal’ of hybrid and remote work rearranges the urban geography of workspace value.

The Urban Land Institute’s 2023 survey on workspace demand found that office design and leasing relationships are changing due to increasing variability in office occupancy. Ideal offices in the hybrid work era are better suited for activity-based working, located in mixed-use developments and which facilitate social engagement (Scott, 2023).

The real estate markets of cities and neighbourhoods are not identical, however; demand will vary depending on office density, housing market and employers (Mischke et al., 2023). Developing mixed-use neighbourhoods could help cities recover both retail activity and office occupancy lost to remote working. Sustainability systems are also increasingly being implemented into workspaces as cost-cutting measures (Kawakami et al., 2023).

One clear effect of increased hybridisation of work on the built environment is the explosion of the market for co-working spaces. As employees are offered greater choices for where work may be conducted, third spaces, neither home nor office, have become desirable options for offering a change of scenery, new co-workers and better amenities. These spaces have also provided solutions for companies facing mounting rent in the traditional commercial real estate market. It is estimated that the total number of global co-working spaces by the end of 2024 will reach about

41,975, a 20 per cent increase from 2023 (Coworking Resources, 2022). The majority of revenue for co-working spaces comes from renting space, whether to individual customers or entire firms (Fu et al., 2023, Foertsch, 2023).

It is necessary to develop a critical understanding of this new market’s impact on neighbourhood structure and the urban domain of work for cities to properly support the remote workforce and companies struggling after the pandemic. Co-working spaces often arise in cities’ business centres (Fu et al., 2023) and “super-gentrified” urban areas (Fast, 2022). These spaces can be simultaneously considered as havens for workers facing precarious conditions and mobility hubs for elite circles; Kojo and Nenonen (2016) define their typology of co-working spaces along axes of profit/non-profit and level of public access. In these contexts, the built environment is offered “more as a service than as a place” (Kojo and Nenonen, 2016, p.311), and differs regarding the type of co-working community cultivated and its impact on the work accomplished. Mobility has become a central aspect of knowledge work industries – flexible conditions facilitating more work-related interactions of better quality – making co-working spaces into fixed nodes in elite networks (Fast, 2022).

Smart monitoring technologies are being increasingly used to measure worker well-being in new workplaces; however, potential harms arise in the misalignment between definitions of ‘well-being’ by workplace actors (Kawakami et al., 2023) as well as privacy loss and operational unpredictability and unfairness (Culture, 2023). Technical limitations, inadequate policies and data taken out of context could also lead to unintended harms. The development of evidence-based standards is crucial for the responsible and effective adoption of monitoring systems (Toro et al., 2023). Monitoring systems should be attuned to employers’ and workers’ needs and not vice versa. The role of data is central to this debate, and users should be informed on the extent of how their data is used (Culture, 2023). A collaborative policymaking process around the adoption of new workplace technologies can minimise the harms posed by risky oversight (Kawakami et al., 2023, Toro et al., 2023).

4 Nexus C: Changes in commute planning and housing markets

With locations of work within the city in a current state of flux, cities face challenges in managing their transport systems and planning for a future in which remote work is a regular aspect of urban life and commutes are unfixed in both time and place (Caros and Zhao, 2023). Public ridership in cities around the world remains well below pre-pandemic levels, ranging from 34 per cent in Sydney to 87 per cent in Los Angeles (UITP, 2024). An increased prevalence of flexible work arrangements has also increased off-peak travel, prompting reconsiderations of logistics and pricing. In London, Transport for London ridership was at 70 per cent of pre-pandemic levels as of June 2023, with weekend activity recovering more than weekday commuting (Centre for Cities, 2023). Along with the economic challenges of falling ridership, cities are considering ways to make their transport systems more sustainable in the long run. While plenty of mobility data exists in large cities around the world, the issue remains of how to make sense of it, who to involve in the decision-making process, and what steps to take.

Cities offer remote workers multiple travel options, but often not in a sustainable nor cost-effective mix. Caros and Zhao (2023) propose an analytical framework to capture location choice and dependencies related to workplace and working environment, and remote workers' subsequent choices regarding sustainable travel. Addressing the issue of mobility and remote work necessitates a collaborative innovation process between existing stakeholders: policymakers, providers, companies and researchers (Krasilnikova, 2024). Some solutions offered by researchers include developing co-working spaces in residential areas, promoting location choice for workers when possible, and taxing car use through road pricing (Caros and Zhao, 2023, Centre for Cities, 2023).

Remote working, and its associated impacts on commutes, have had clear short-term effects on housing market demands, but the medium-term effects remain unclear. Since the onset of the pandemic, the mean distance from employee residence to employer location in the US rose from

10 to 27 miles; the “ZIP Code Shift” has mostly affected high-income earners and employees in their 30s (Akan et al., 2024, Goldberg, 2024). On the other hand, survey data shows that about three-quarters of hybrid workers in the UK would prefer to live within a 30-minute commute to their office (CBRE, 2022). Though workers have started to move back toward city centres in recent years – whether by choice or work pressures – barriers remain in the form of high rents and neighbourhood preferences. Howard, Liebersohn and Ozimek's (2023) model on the effects of remote work uptake on housing market demands indicates that the significant rent increases experienced in the short term will be less so in the long run.

5 Conclusion

These predictions are dependent on the development of mixed-use neighbourhoods and transport systems, the norms of the knowledge work industry, and the regulatory protections provided to both workers and firms in a newly competitive post-pandemic marketplace. A systems approach is necessary to analyse data, trends and behaviours in each component area of the complex ecosystem surrounding the future of work.

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¹ See Rode, P. and Bhargava, S. (2024). Hybrid Cities: Conceptual Framework. LSE Cities Working Paper.