

Digital Platforms, Mobility, and Cities

The rise of the digital platform economy and urban mobility requires the reshaping of urban policy.

Digital platforms are reshaping urban mobility and infrastructure, especially through ride-hailing, delivery, and micromobility services.

Urban policymaking must balance innovation and business with considerations for equity, resilience, and cultural vibrancy.

City authorities face challenges related to public spaces, congestion, and labour stemming from unregulated digital mobility growth.



One of the joys of urban living is observing how a city changes over time. Change in cities is a constant and can include the construction of new buildings or entire neighbourhoods, shifts in street design to speed up buses or accommodate bicycles, or the addition of drinking water stations and cooling areas in public parks. While it is relatively easy to ‘see’ physical urban transformations, the past decade has also ushered in significant digital urban transformations in our cities. If you have ever hailed a taxi using a digital app and then waited for it on the street corner, ordered food delivery to your home, or unlocked a bike on a city sidewalk using your phone, then you would have witnessed, and indeed participated in, digital urban transformations.

Digital urban transformations are especially evident in the sphere of mobility, with mobility referring to the ability of people to move from one place to another. On one hand, the digitalisation of mobility options can improve quality of

life in cities. It can also generate opportunities for entrepreneurship, innovation, transportation efficiencies, and sustainability. At the same time, changes precipitated by digital mobility platforms pose great challenges for cities, including congestion and crowding in streets and public spaces, unplanned uses of urban infrastructure, equity concerns, and a reliance on precarious labour.

Below, I expand on the concept of the digital platform economy, and its impacts in and on cities, including growing attention to the notion of platform urbanism. By emphasising the implications of digital platforms with regard to urban mobility transformations, the article then underscores the ways that cities are transforming. Finally, I conclude with suggestions for building urban resilience alongside the urban transformations that coincide with the rise of digital platforms.

THE DIGITAL PLATFORM ECONOMY AND THE CITY

The term ‘digital platform’ refers to an Internet and cloud-based computing system that provides a matching function, and can connect a range of users to one another. For instance, ride-hailing platforms are an example of a two-sided marketplace in which the digital platform firm, such as Grab and Uber, facilitates a connection between an available driver nearby and a passenger looking for a ride. Digital platforms, which are credited with generating significant change, offer opportunities for new market

and business formation, while leveraging algorithmic matching functions to drive revenues and scale.¹ The rise of digital platforms has led to the growth of what is often called the ‘digital platform economy’. In other words, the digital platform economy is an economic system in which digital tools, cloud computing, and most recently, Artificial Intelligence (AI), are leveraged to facilitate (and monetise) business transactions, with transformative impacts on markets, work, and capital along the way.

Incidentally, the digital platform economy is also transforming cities. Research shows that digital platform economy firms are concentrated in cities and they continue to benefit from being there. My own work on the economic geography of ride-hailing² suggests that although the largest of these firms on a global scale grew to serve thousands of cities around the world in a period of less than 10 years, their headquarters are concentrated in a select number of cities. And these cities are those that are already excelling in the knowledge economy, with strong universities, a diverse and well-educated talent pool, and the presence of entrepreneurs and venture capital. This presents a challenge for cities that were hoping that the digital platform economy would trigger a more even distribution of economic benefits. Moreover, with digital platform firms reliant on gig labour, the number of ‘good’ jobs being created remains small.

In essence, the more concentrated people are, the greater the likelihood there is for digital platforms to create new markets, such as by making available a fleet of shared bicycles that is easy to track, use, and relinquish – thereafter to be used again by the next person seeking a bicycle in close proximity. Ultimately, dense urban environments are beneficial to the success of the digital platform economy.

DIGITAL PLATFORMS: TRANSFORMING URBAN MOBILITY

As alluded to earlier, mobility is an area in which the rise of the digital platform economy has led to significant urban transformation. As I have written in *Urban Mobility: How the iPhone, COVID and Climate Changed Everything*, mobility innovation has been both dramatic and disruptive since the early 2000s.³ The platformisation of mobility has powered digital urban transformations, for better and for worse.⁴ Ride-hailing, as well as dockless e-scooter and bike rentals, and food delivery by bike couriers or sidewalk robots are all examples of mobility innovations propelled by digital platform firms that have altered urban life. Yet, while the addition of new mobility services opens up the possibility that users will make more sustainable mobility choices, they have also created new challenges related to how these services are regulated by governments, what urban infrastructures are implicated, and impacts on labour in an environment of uncertainty.



Digital urban transformations are especially evident in the sphere of mobility.

Beginning in 2012, the widespread launch of ride-hailing in cities around the world brought about a near-immediate change in urban mobility options. At the tap of a button on a smartphone, a passenger could quickly be matched with a non-professional driver of a private vehicle, the cost of the ride was known upfront, and details of the ride were tracked through Geographic Information Systems (GIS) with trip details available for both friends and firms to observe. Fast forward to 2025, and ride-hailing has become ubiquitous in most large cities. Travellers can open their preferred ride-hailing app upon arriving in a new city and search for a ride to their destination.

Along with ride-hailing, food delivery is another sector where growth has been massively scaled through the considerable expansion of digital platform firms. During the pandemic, digital platform firms that pivoted their networks of drivers towards food delivery (as well as other types of delivery) succeeded in growing these markets and maintaining a semblance of stability during a time of great uncertainty.⁵

Grab and Gojek, with operations in Southeast Asia, and headquartered in Singapore and Indonesia respectively, were early digital platform economy entrants. Both firms initially began operations in ride-hailing, and were innovators in leveraging their established digital expertise, brand recognition, and networks of drivers and riders to expand firm operations horizontally and vertically.

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Gojek, Indonesia's first unicorn and super-app, was founded in 2010. By 2019, it had expanded from its original offering of motorcycle-based ride-hailing – a common form of transportation in Indonesia – to providing rides in private automobiles, financial services to facilitate payments and loans, and a host of on-demand services including food delivery, as well as the transportation of masseuses or mechanics to places where they are needed. Grab, valued at nearly US\$20 billion as of August 2025, had in fact earned more in revenues from delivery activities than from mobility (ride services) in 2024.

While Grab, Gojek, and other digital platform firms around the world continue to grow their digital footprint, the impact of their business models are visibly changing the physical fabric of cities.

FROM DIGITAL PLATFORMS TO PLATFORM URBANISM

Platform urbanism refers to the ways that digital platform firms draw upon, and reshape, the physical and social infrastructures of cities. A growing body of research and evidence highlights urban transformations that are connected to the presence and operation of digital platform firms in cities with an increasing reliance on urban infrastructures, reorganisation and recalibration of relationships between governments and firms, the exacerbation of socioeconomic inequities, and the prospects for wages and precarious labour.^{6,7}

The physical impacts of digital mobility transformations lead

to new pressures on cities and governments. Cities have been the centres of difficult debates regarding whether and how to regulate digital mobility services such as ride-hailing and e-scooter activities. Initially, regulatory authorities took the position that ride-hailing was similar to taxi services and it should therefore be regulated like taxis. For instance, a focus on licensing drivers, setting fares, establishing guidelines around vehicle conditions, as well as safety requirements aimed at protecting passengers were key areas of concern. As ride-hailing has become a widely accepted and regulated activity, the focus of regulation in North America has shifted to issues such as sustainability, equity, and app-based worker protections.⁸

As for e-scooters, the physical urban impacts of dockless e-scooter rentals, absence of clear local regulations, and littering of sidewalks and public spaces, are all cause for concern. Learning from experience, cities such as Los Angeles, California that permit e-scooters typically require that they are only permitted to operate in specific areas of the city and they must be parked in designated spaces.⁹ Furthermore, cities have learnt to impose limits on the number of e-scooters available for rent on digital platforms – often by choosing to allow only selected digital platform firms to operate in a city's public spaces, through city-led licensing and partnerships.

Other visible impacts of the rise of digital mobility platforms in cities relate to changes in

downtown traffic and congestion, unanticipated increases in the use of bicycle lanes by delivery drivers using e-bikes and e-scooters, vehicles stopping mid-street to pick up or drop off passengers, and groups of delivery drivers gathering in parking areas, and on roadways or sidewalks while awaiting delivery work.

Cities are learning to address these issues by working collaboratively with a variety of stakeholders, and making concerted efforts to ensure that the urban impacts of digital mobility platforms provide opportunities and benefits for cities and neighbourhoods, users, drivers, and other digital platform economy workers *and* firms.

TRANSFORMING CITIES: POLICY AND PLANNING INFRASTRUCTURE

The discussion and examples above illustrate two key areas in which city governments have an opportunity to intentionally direct change: the ongoing rethinking of urban policy, and the intentional facilitation of shifts in urban planning approaches that aid in reimagining the purpose and possibility of how urban infrastructure serves a city.

Rethinking urban policy

Commencing with ride-hailing, digital mobility platform services were often launched in cities around the world at a time when regulations governing their use were either non-existent or still being developed. In relatively rapid succession, cities (and sometimes higher levels of

government) developed regulations to manage and direct their activities. With the scaling of such services, as well as learning about their implications, cities continue to advance their work.

Regulations for rapidly changing sectors need regular reviews and revision, and emerging (or ongoing) issues including guidance around accessibility, equity, labour, and sustainability are increasingly evident in urban policies. For instance, in New York City, where minimum wages for ride-hailing drivers have been in place since 2019, wage increases were implemented in August 2025, along with other protections to support these drivers. An important reminder here is that while digital platforms have garnered significant power in cities, cities have agency too.

Planning transformations and urban infrastructure

Digital mobility platforms visibly impact urban space. This can be seen from the physical presence of vehicles, bikes, e-scooters, and other mobility devices operating on digital platforms, and through the activities of people working to support digital platforms such as drivers, delivery riders, and support workers who relocate (and sometimes recharge) bikes and e-scooters, rebalancing supply and moving them to areas of high demand. This necessitates new thinking about planning and provisioning public infrastructure in cities.

The emergence of digital mobility platforms also changes the demand for public spaces. Digital mobility platforms rely on, and indeed benefit from, public amenities and infrastructure. Growing numbers of delivery workers bring their bikes onto busy subway cars and need shelter in between gigs, especially in challenging weather conditions. They also need access to washrooms and break spaces. Whose responsibility is it to provide access to those services and amenities?

Who should be responsible for providing safe, accessible parking spaces and pick-up or drop-off zones? Increasingly, and perhaps by default, cities are expected to plan for and provide these infrastructures.¹⁰

BUILDING URBAN RESILIENCE IN AND BEYOND THE DIGITAL PLATFORM ECONOMY

With digital platforms becoming pervasive and the expansion of gig work in which digital platform firm workers are classified as contractors rather than employees, policymakers must consider how to better build urban resilience to cater to these challenges.

One area deserving of ongoing attention relates to the footloose nature of delivery drivers and workers, especially those who do not have enclosed, air-conditioned, or heated vehicles, and the implementation of weather-related protections. As average temperatures rise globally, and the number of annual days of extreme heat increases, delivery workers are placed in a predicament. On the one hand, evidence suggests that the number of delivery orders increases during heat events,¹¹ prompting delivery workers to seek work during those times. However, working in extreme heat poses serious risks such as heatstroke and heat exhaustion to these workers. This could potentially lead to hospitalisation, or in the worst cases, fatalities.

Cities – and countries – are beginning to consider and build protections for this growing cadre of people. In China, where 200 million people work in the gig economy,¹² delivery drivers are supposed to receive additional pay from digital platform firms while working under extreme heat conditions. However, enforcement is a challenge, requiring further government intervention, advocacy work, and the collaboration of digital platforms for workers to be better protected.¹³ Cooling stations in cities are another

example of urban infrastructure that benefits delivery workers, even though the infrastructure is not necessarily built for them. Across European cities like Vienna and Ljubljana, public cooling areas with misting water and free water bottle refill stations or fountains are important amenities. Similarly, Singapore is renowned for considering the role of shade in public spaces to protect people against the sun and tropical rains. Wide building overhangs, covered parks, and outdoor entrances to malls offer weather protection for delivery workers. Similarly, plentiful, accessible, and clean public washrooms such as those found in Singapore's Mass Rapid Transit stations benefit all, including workers who do not have a formal workplace and washroom. How cities (and digital platforms) choose to protect and support the delivery workers at the heart of the digital platform economy provides an indication of how they are addressing the human impacts of digital technologies.

Another area that digital mobility platforms have an impact on is a city's food delivery scene. Food delivery activities grew sharply during the COVID-19 pandemic, and continue to remain strong even after the pandemic

The emergence of digital mobility platforms also changes the demand for public spaces.



recovery. Uber, for instance, generated only 11 percent of its revenues from food delivery in 2019. In the first quarter of 2021, food delivery contributed 60 percent of its revenues whereas rides contributed 29 percent. Although ride-hailing revenues once again surpassed food delivery revenues by mid-2022, the proportion of revenues derived from deliveries (primarily food) in 2024 was nearly 32 percent of total revenue.¹⁴

These figures raise three important points. One, digital platform firms primarily focused on connecting drivers to riders are not limited by that focus. Moving relatively seamlessly between transporting people, and delivering food and other goods enabled these firms to not only weather declining activity during downturns like the pandemic lockdowns, but also grow in other areas where demand was stronger. Second, this also shines a light on questions of regulation: much debate, thought, and revision went into the work of regulating ride-hailing, and yet, cities expended little effort in regulating food delivery via digital platforms. Third, in the context of a focus on urban transformation, digital mobility platforms threaten to upend the cultural economy contributions of restaurants and food. While restaurants can benefit from digital platform delivery services, there are drawbacks too. Commissions charged by delivery platforms affect restaurant profits, delivered meals do not always travel well (necessitating changes in menu items served), and a high

number of takeout orders can impact the experience for seated diners. This is an area worthy of further exploration, including a focus on how cities can foster vibrant neighbourhood restaurant scenes that support street life, culture, and socialisation.

FUTURE PLANNING

Cities will continue to be dynamic places, and how we adapt to new technologies and digital transformations will continue to matter. The further integration of AI into cities, and ongoing experimentation with autonomous vehicles and sidewalk delivery robots mean that more change is at our doorsteps. Now is the time for cities to intentionally prepare for a future that prioritises people, liveability, future resilience, and dynamism.

Three specific actions that cities can take to more intentionally build a future that benefits from digital transformation are as follows. First, recognise the uniqueness of place: What works in New York, Hanoi, or Jakarta may not be right for your city. Identify ways to blend best-in-city approaches with best-for-your-city opportunities.

Second, govern intentionally and dynamically. Regulations, data collection, technological adoption, and infrastructure investments need monitoring, analysis, and updating. What worked five or 10 years ago probably needs attention again today.

And third, meet the needs of people and firms. Consider how to prioritise equity and justice, as well as access to public amenities

and public realm infrastructure for multiple users (including delivery workers), and think about how to continue to inspire innovation, so that the digital platform economy works in service of the city and its people.

As digital platforms continue to transform cities physically and culturally, policymakers must engage with both the opportunities and the disruptions they bring. By taking into consideration the interests of platform companies, gig workers, and the city at large, cities can shape a digital future that works for everyone. 



DR SHAUNA BRIL

is Professor and Director,
Institute for Management &
Innovation, University of Toronto

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