



Maximizing Micromobility

UNLOCKING OPPORTUNITIES TO INTEGRATE MICROMOBILITY
AND PUBLIC TRANSPORTATION

EXECUTIVE SUMMARY



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COVER PHOTO
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MICROMOBILITY AND THE COVID-19 PANDEMIC

The COVID-19 pandemic forced cities to rapidly rethink their transportation networks, and **micromobility has emerged as a critical mode for moving people and goods** while minimizing physical contact. Many cities identified shared micromobility as an essential service and are implementing infrastructure and policies that support micromobility use in the short term.^{1,2} Globally, cities continue to fast-track cycling and other micromobility infrastructure as a response to COVID-19 travel restrictions and to demand for more flexible transport options.

Indeed, **cities can proactively reclaim space and adopt policies that better integrate micromobility and public transport while vehicle volume is low** due to the pandemic. Doing so could lay the foundation for micromobility to operate at scale, initiate a shift away from vehicle use, and improve resiliency in the face of future crises. Without well-integrated micromobility options, cities may face a marked increase in personal vehicle use, resulting in congestion, air pollution, and greenhouse gas emissions at even higher levels than before the pandemic.



SOURCE:
ITDP Indonesia

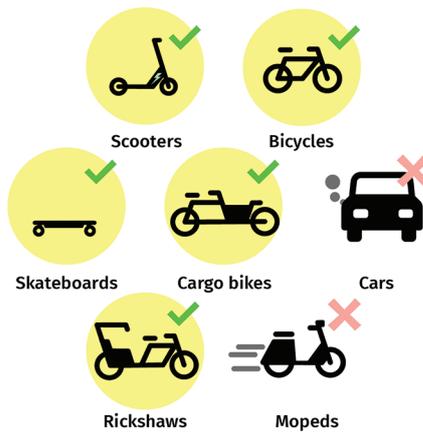
1 [Bike Share & Car Share Companies Step Up Cleaning Practices Since Onset of COVID-19.](#)
2 [Milan Announces Ambitious Scheme to Reduce Car Use After Lockdown.](#)

Micromobility is an efficient, low-carbon transportation option that has become an attractive alternative to private vehicles for short trips.

To maximize the benefits of micromobility, cities must integrate these modes with public transportation.

Micromobility can be:

- Human-powered or electric
- Privately owned or shared
- Most commonly low speed (25km/h top speed) or moderate speed (45 km/h)

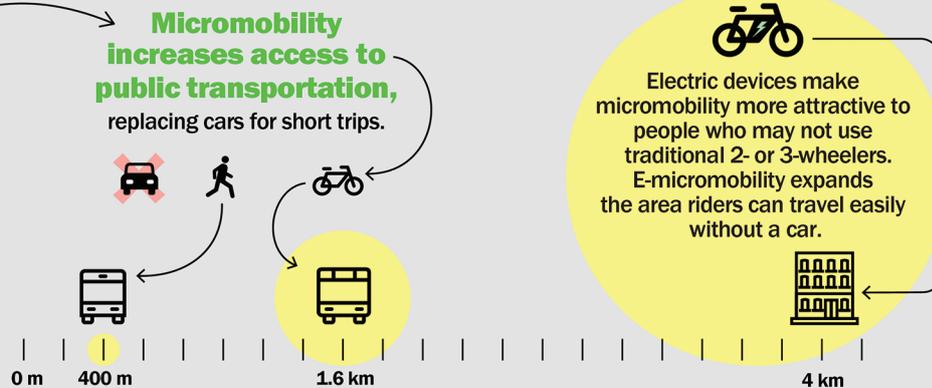


Micromobility cannot be:

- Internal combustion engine powered
- High speed (exceeds 45km/h top speed)

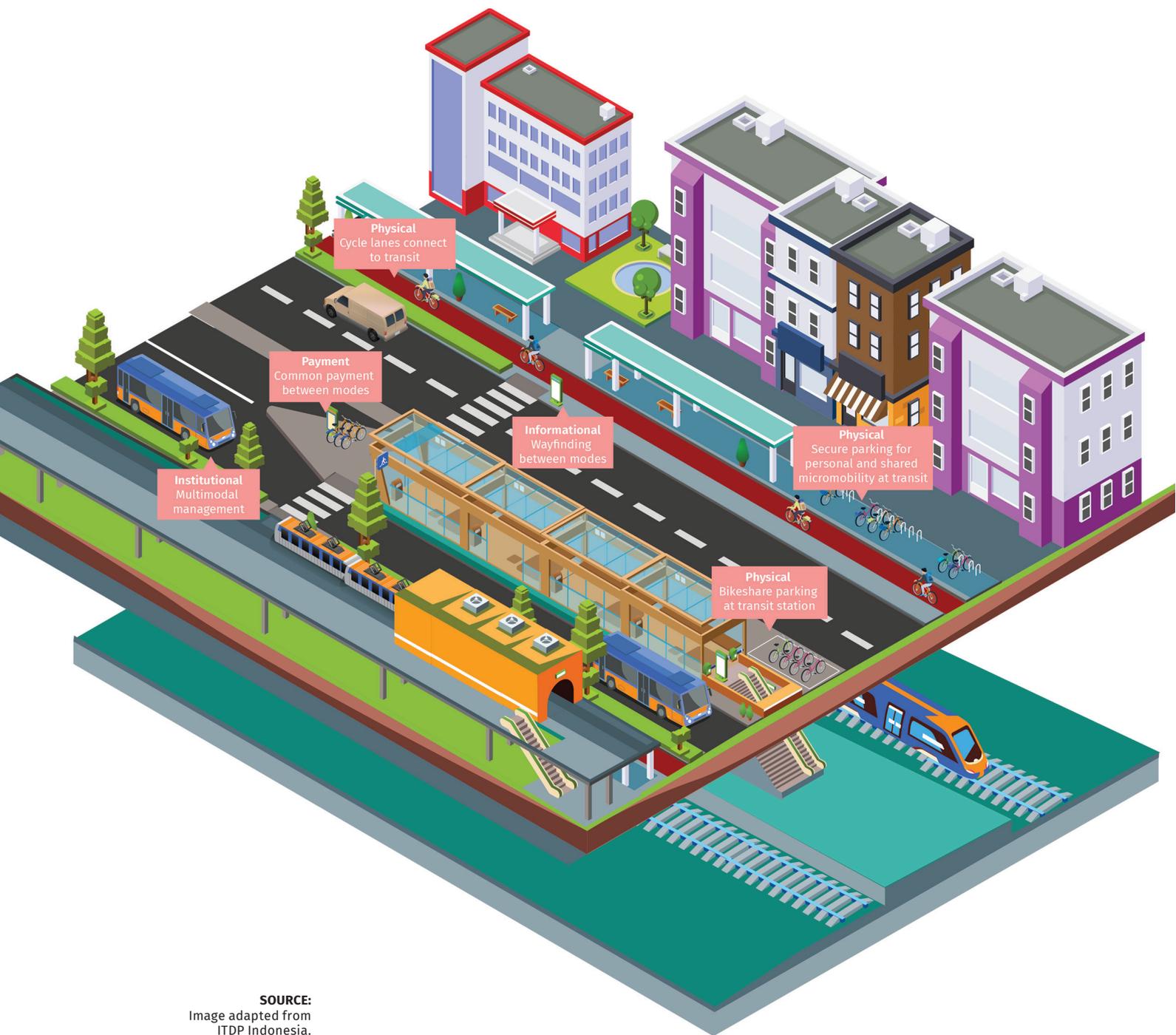
Most people in cities do not own cars.

Micromobility unlocks more city for more people.



WHAT IS MULTIMODAL INTEGRATION?

Multimodal trips are characterized by the use of multiple modes of travel to reach a destination. Multimodal integration brings together physical infrastructure, payment, information, and/or institutional management across multiple transport modes to improve the multimodal trip experience for users. Integrating micromobility with public transportation can improve trip efficiency and provide more diverse travel options for people.



SOURCE:
Image adapted from
ITDP Indonesia.

Widespread micromobility use can improve air quality and health outcomes, reduce pollution, and enable last-mile connectivity and economic development. However, despite these potential benefits, many cities have not significantly integrated micromobility into larger sustainable transportation plans. Since the explosion of privately operated shared micromobility in 2017, most cities have opted to strictly regulate micromobility, only loosely in alignment with—or, in some cases, completely separate from—local transportation objectives. Adoption and management of shared micromobility in many cities has not considered how the system may be most effective, convenient, and reliable for users. In other words, integration with other transport modes and within the broader transportation system has not been a priority. This may prevent scaling that would improve the quality and reliability of shared micromobility services.

PHYSICAL	PAYMENT AND FARE	INFORMATIONAL	INSTITUTIONAL
Infrastructure and access points for different modes are in close proximity to facilitate convenient transfers	A single platform or system enables users to reserve, transfer between, and pay for multimodal trips	Information about fares, times, and transfers between modes is clear and easily accessible so users can make well-informed decisions	Improved cooperation between agencies or levels of government increases operational efficiency and standardization

EXAMPLES

<ul style="list-style-type: none"> Protected micro-mobility lanes that connect to transit Secure micro-mobility parking at transit stations Bicycle repair stations at transit hubs 	<ul style="list-style-type: none"> Mobile wallets and payment platforms RFID/smart cards for multiple modes Simplified fares Free/reduced-fare transfers between modes 	<ul style="list-style-type: none"> Multimodal trip-planning apps Wayfinding directions across modes Maps with integrated modes 	<ul style="list-style-type: none"> Multijurisdictional public bikeshare Single entity manages multiple transport modes
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BENEFITS

- Users** - more convenient and faster trips; simpler payment, reduced wait times, reduced confusion, and easier system use
- Operators** - higher revenue from increased user demand and optimized usage (reduced costs)
- Government** - increased demand for public transport, walking, and cycling; reduced duplicated services; increased operations/planning efficiency
- Environment** - reduced emissions as vehicle trips decline, reduced low-density development

MAXIMIZING MICROMOBILITY: HOW CAN CITIES IMPROVE INTEGRATION WITH PUBLIC TRANSPORT?

1. PHYSICAL INTEGRATION

Physical integration is viewed as the foundation for other types of integration and refers to siting infrastructure for different modes in close proximity so that transferring between modes is physically convenient. This helps to reduce major barriers to multimodal trips, including added time, which can help to make multimodal trips more competitive with the ease of driving.³ The scale of physical integration can range from small (bicycle parking at transit stations) to large (multimodal mobility hubs). With increasing scale come increasing benefits; however, more complex mobility hubs also present higher costs and capacity requirements. Examples of physical integration include:

SHARED MICROMOBILITY
PARKING AT PUBLIC
TRANSPORT STATIONS

PROTECTED
MICROMOBILITY LANES
THAT CONNECT TO
TRANSPORT STATIONS

BICYCLE LOCKERS,
COVERED PARKING,
E-BIKE CHARGING AT
PUBLIC TRANSPORT
STATIONS

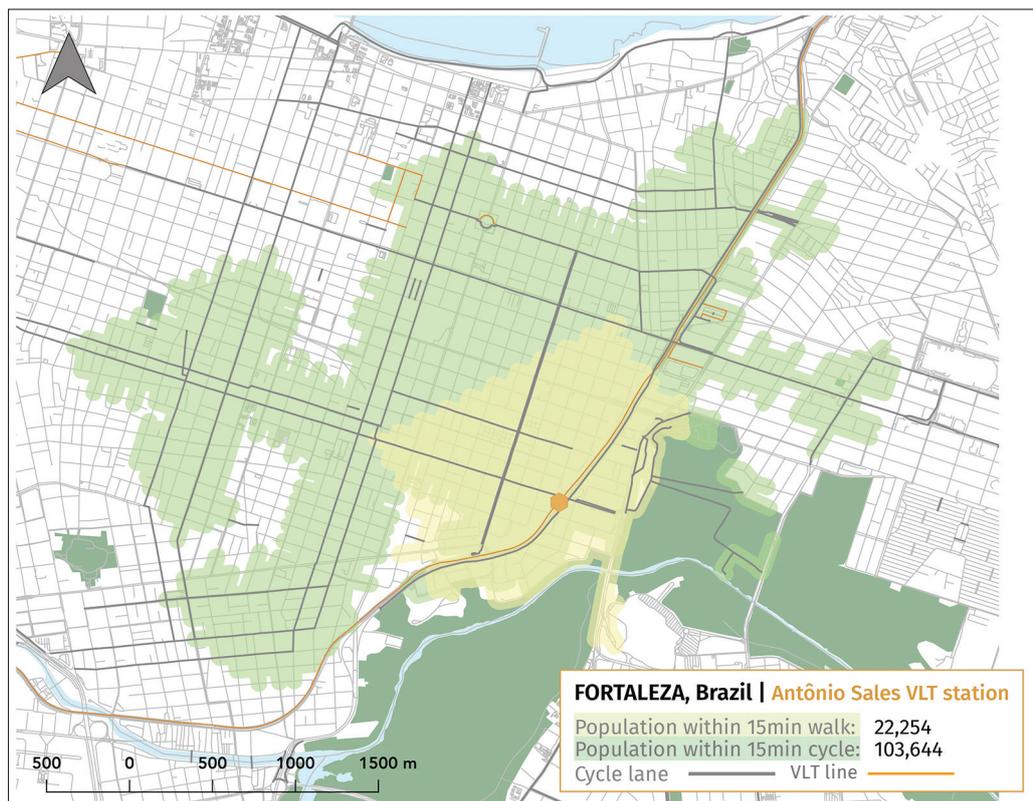
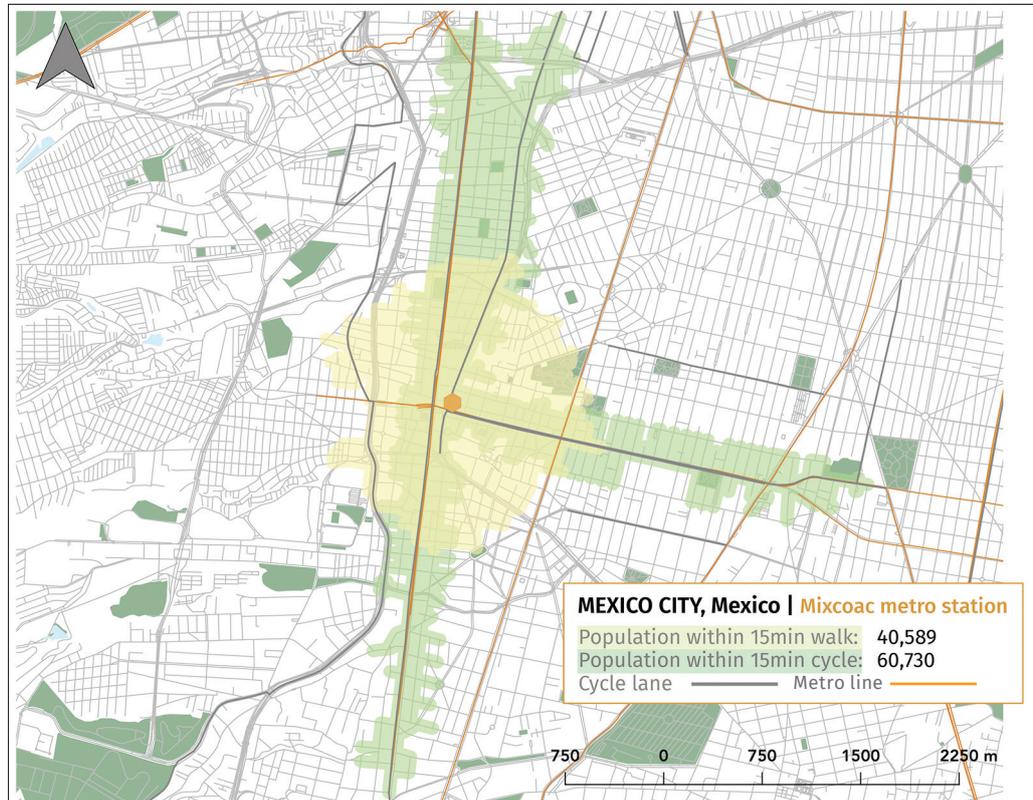


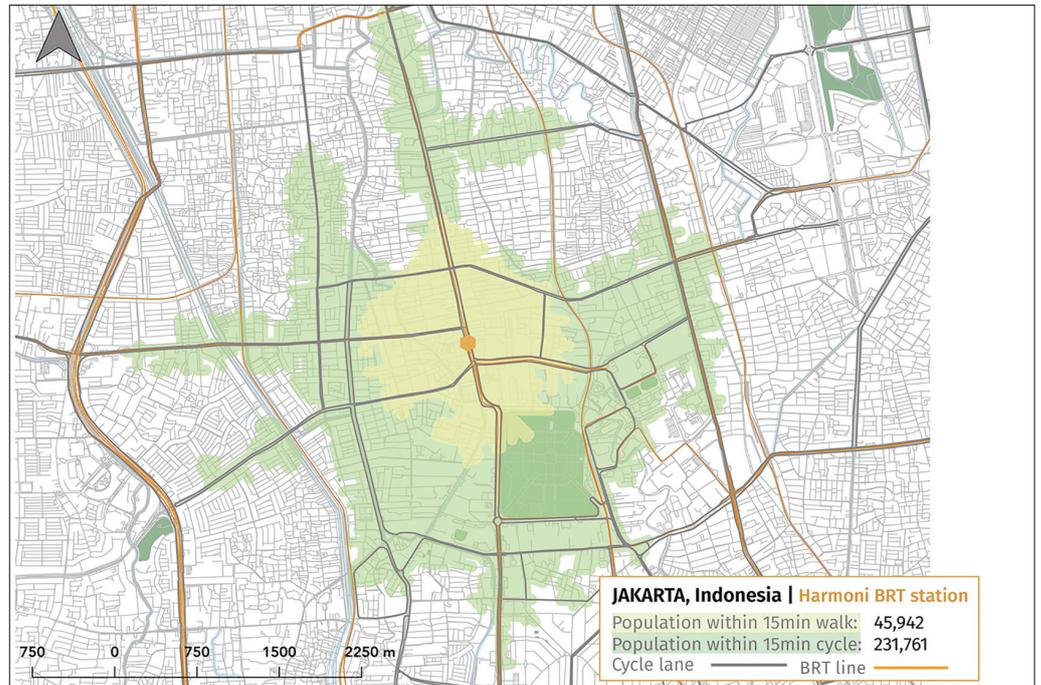
SOURCE:
ITDP India



SOURCE:
Joe Flood, Flickr

People are more likely to use public transportation if stations are a short distance from their home and accessible by a safe and convenient path. While living within walking distance of public transport is ideal, including the population that could cycle to public transport expands the catchment area of stations. In other words, most people can cycle a much farther distance than they can walk: A 15-minute cycle trip enables someone to travel three times farther than a 15-minute walk. Therefore, physical integration between micromobility lanes and transit stations expands access to transit for more people, as shown in the maps below. For each, the population that can reach the station is greatly expanded with cycle lanes (shown in light green).





2. PAYMENT AND FARE INTEGRATION

Payment integration lets users reserve, transfer between, and pay for multiple transport modes. This allows for more seamless multimodal travel (enabling users to pay for travel using a common method) and lays the foundation for fare integration (where users are not penalized by paying two fares for needing to make a multimodal trip). Together, payment and fare integration makes multimodal trips more affordable and attractive. Examples include:



LEFT
SOURCE: MNXANL,
Wikicommons

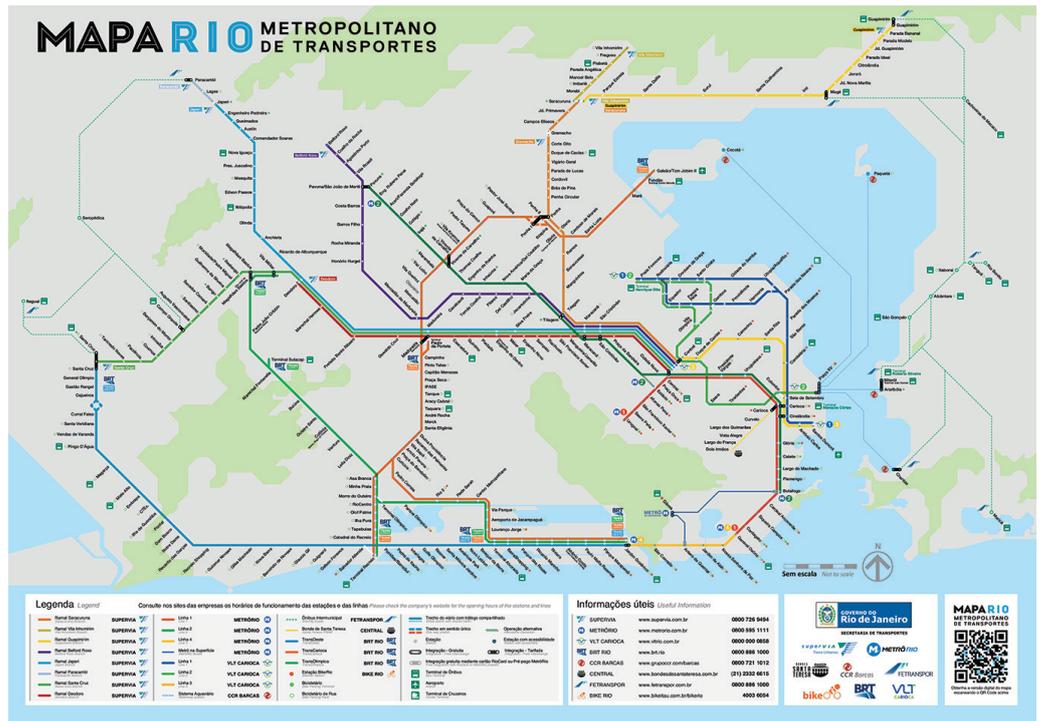
RIGHT
SOURCE: Protoplasmakid,
Wikicommons



3. INFORMATIONAL INTEGRATION

Informational integration focuses on providing users with clear, easily accessible information necessary for making multimodal trips. It helps users feel more comfortable relying on multiple transport modes because the information they need to make decisions about their trip is reliable, easy to understand, and, potentially, housed in one place. Examples include:





SOURCE:
 Governo do
 Rio de Janeiro

4. INSTITUTIONAL INTEGRATION

Institutional integration refers to improved cooperation between different agencies, levels of government, or external partners to increase efficiency and institutional capacity to support multimodal transport. Coordination between different government bodies allows for improved implementation of sustainable urban transport and can encourage its use by the public.⁴ Improved cross-jurisdictional cooperation, such as between municipalities or counties, can reduce barriers presented by arbitrary boundaries and foster a more cohesive, integrated service for users. Examples include:



KEY TAKEAWAYS

Key Takeaway 1

Ignite momentum for integration and develop strong working relationships with private operator(s)

Cities must take the first step in planning for integration and ensuring that operators—both public and private—work with the public sector to provide reliable, convenient, affordable transportation services for all.

Key Takeaway 2

Move beyond operational regulation and toward intermodal integration

Cities will need to broaden their focus from operational regulation of micromobility to integration with public transportation. Regulation alone has not been enough to foster widespread adoption of micromobility modes, nor has it enabled operating structures that work particularly well for cities, operators, and users.

Key Takeaway 3

Explicitly link integration to a goal of expanded access, especially by sustainable transport modes

Integration itself is not the end goal. Instead, integration is a means of expanding access to destinations and services without relying on a private vehicle.

Key Takeaway 4

Consider integration in steps, starting with physical integration

Some forms of integration may be easier or quicker to implement than others, depending on existing infrastructure, capacity, and resources. This may be especially true in small and mid-size cities.

Key Takeaway 5

Identify shifts in travel demand (due to COVID-19 or other major events), internal factors such as contracts up for renewal, or similar opportunities that could help facilitate integration

As cities consider making temporary infrastructure implemented in response to the COVID-19 pandemic permanent, there is an opportunity to bolster physical infrastructure build-outs with informational or payment integration. Similar opportunities may arise in response to other, more limited changes, such as the end of a contract period with an existing service or payment provider.

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