

Management of fee-based services and interjurisdictional cooperation

- Distribution of responsibilities in fee-based service provision across government levels

- Local capacities for regulating and modernizing bus systems

- Challenges faced by subnational governments in providing water and sanitation services

- Mechanisms for interjurisdictional coordination and metropolitan governance in the region

6

Key messages

1 Regional and, especially, local governments play multiple roles in the provision of fee-based services. In urban transport, they are heavily involved in regulation and planning, while in water and sanitation, they are engaged in direct provision.

2 Latin American and Caribbean cities have made strides in formalizing public transport, particularly in larger cities. A key factor in this shift has been the institutional development of local authorities. These successes must be reinforced and extended to other cities.

3 In many countries, the water and sanitation sector is fragmented across numerous operators, including local public administrations. Consolidating services and utilizing more autonomous organizations for provision could lead to efficiency gains.

4 Financial sustainability remains a challenge across various services. Strengthening the capacity to target subsidies effectively and improving transparency around these schemes and service costs are essential.

5 Regulatory uncertainty regarding which level of government has authority over a service undermines service quality. Frameworks should clearly define responsibilities and establish mechanisms for delegating operations.

6 Metropolitan authorities in the region remain underdeveloped. Strengthening these and other mechanisms for interjurisdictional coordination is crucial to addressing challenges stemming from administrative fragmentation.

7 When coordination is required to mitigate externalities, it should be promoted by central authorities. Evidence on the potential of basin authorities is encouraging, but several countries still lack adequate power.

Management of fee-based services and interjurisdictional cooperation¹

Introduction

Fee-based public services, such as water and sanitation, electricity, and urban transport, are essential utilities provided to the public in exchange for a fee. Their coverage and quality have a direct impact on people's well-being and play a crucial role in achieving the Sustainable Development Goals (SDGs).

Subnational governments play a significant role in the provision and governance of some of these essential services, with this chapter focusing on two key sectors: urban transport and water and sanitation. Since the challenges faced by subnational governments in improving service provision are sector-specific, each is addressed in a dedicated discussion.²

In the case of public transport, the discussion focuses on the modernization of bus services

due to their central importance in urban mobility systems. Over the past two decades, progress has been made in this area, particularly in the region's largest cities. However, the trend toward increasing private motorization continues. To counter this, the modernization of bus systems must be further deepened and expanded.

In the water and sanitation sector, while high levels of access to safe drinking water have been achieved, quality deficits and significant sanitation gaps remain. Additionally, climate change poses growing adaptation challenges due to water stress caused by shifting precipitation patterns. In this context, the goal of subnational governments—and the focus of this chapter—is to adopt service provision models that enhance efficiency to tackle the necessary improvements.

¹ This chapter was written by Guillermo Alves and Gustavo Fajardo, with assistance from Pilar Toyos.

² Solid waste management is another service for which subnational governments are often responsible. However, it receives less attention in this chapter due to its comparatively simpler governance and the even more limited availability of data for its analysis than in other sectors.

An overarching element in subnational management of fee-based services is the importance of interjurisdictional coordination mechanisms. Coordination is critical for two key reasons. First, the optimal scale for service provision often exceeds the jurisdictional boundaries of the entities responsible, particularly given the wide variation in size and population among subnational units (as outlined in Chapter 1). Consequently, establishing channels that enable jurisdictions to collaborate or delegate aspects of service delivery to larger-scale organizations is highly valuable. Second, the frequent occurrence of externalities—such as downstream river pollution from wastewater discharge—necessitates intergovernmental governance frameworks to address and resolve such issues effectively.

Coordination is particularly critical in metropolitan areas. As highlighted earlier in this report, Latin America and the Caribbean is a highly urbanized region, with a significant share of the population living in major cities. These urban areas are often administratively fragmented, with multiple

jurisdictions sharing the same urban territory. To address this challenge and efficiently respond to urban needs, it is essential to coordinate the organization of public services, particularly transportation.

Collaboration among subnational jurisdictions goes beyond formal government arrangements and extends to creating spaces for discussing shared agendas and mutual learning. The importance of such forums is reflected in the existence of networks and associations, particularly among local governments, both within individual countries and at the international level.

Interjurisdictional cooperation among subnational governments extends beyond formal government structures. It also involves creating spaces for discussing shared agendas and mutual learning. The importance of these forums is evident in the presence of networks and associations, particularly of local governments, at both national and international levels.

The role of subnational governments in the provision of water, sanitation, and urban public transport

The following sections of this chapter explore how subnational governments can enhance the provision of urban transport, water, and sanitation services. To frame this discussion, it is first necessary to clarify the roles these governments have taken on in these two sectors.

The allocation of responsibilities for providing fee-based services across levels of government is typically tied to the territorial reach of the relevant infrastructure. Urban transport and waste management are primarily local responsibilities. By contrast, sectors with interconnected infrastructure networks, such as electricity, gas,

or telecommunications, tend to favor centralized governance at the national level, leaving local and regional governments with a very limited role. The case of water and sanitation is more nuanced. It is possible to decentralize operations at the local level since these infrastructures are not interconnected across territories. However, concentrating operations among larger providers can offer economies of scale in managing technical, human, and resource inputs.

There is considerable variation across countries in the region—and over time—in terms of which government level is responsible for water and sanitation services.³

³ While water and sanitation services can be provided separately in some cases, the significant complementarities between them typically lead to their joint provision and regulation.

Decentralization efforts during the 1980s and 1990s (see Chapter 2) increased the responsibilities of subnational governments for these services in countries such as Colombia, Ecuador, El Salvador, and Peru, among others. Data from 22 countries in the region reveal a pattern similar to that observed in other sectors discussed in earlier chapters: decentralized responsibilities in federal countries and larger unitary states, with centralized authority in smaller unitary nations. Where decentralization has occurred, it is typically at the local level.⁴ Notably, in nearly all countries, regulatory oversight remains at the national level, except in Argentina and Brazil, where regional regulators exist. In these cases, responsibility for service provision is delegated to local entities.



The allocation of responsibilities among government levels for the provision of fee-based services is linked to the territorial scope of each infrastructure type

The public sector—whether at the national or subnational level, depending on the country—has predominantly taken on the role of providing water and sanitation services, rather than delegating this responsibility to private entities. While past decades saw reform waves aimed at introducing private sector participation, many of these efforts were partially reversed through re-nationalization initiatives. Bolivia, Ecuador, and Uruguay have gone so far as to prohibit private capital in the sector. Conversely, Chile stands out with a model centered on private operators. Other countries fall in between, with a mix of operators of various legal structures. Two characteristics of the water and sanitation sector help explain the high level of public involvement: first, its nature as a natural monopoly due to the networked infrastructure required for service delivery, and second, the recognition of access to this service as a basic right, making universal access a key policy goal.

In urban transport, local governments, and occasionally regional governments, bear primary responsibility since these systems are city-specific. Urban transport encompasses various modes. On one end are rail-based and complex infrastructure systems, such as trains, subways, and cable cars. These systems operate through infrastructure networks that function most efficiently under a single operator, with state-owned enterprises (SOEs) managing most operations. This is the case for 15 of the 22 subway systems in the region. Such modes are almost exclusively found in the largest cities; for instance, 93% of the region's 1,200 kilometers of subway lines are concentrated in cities with a population exceeding 2 million people.

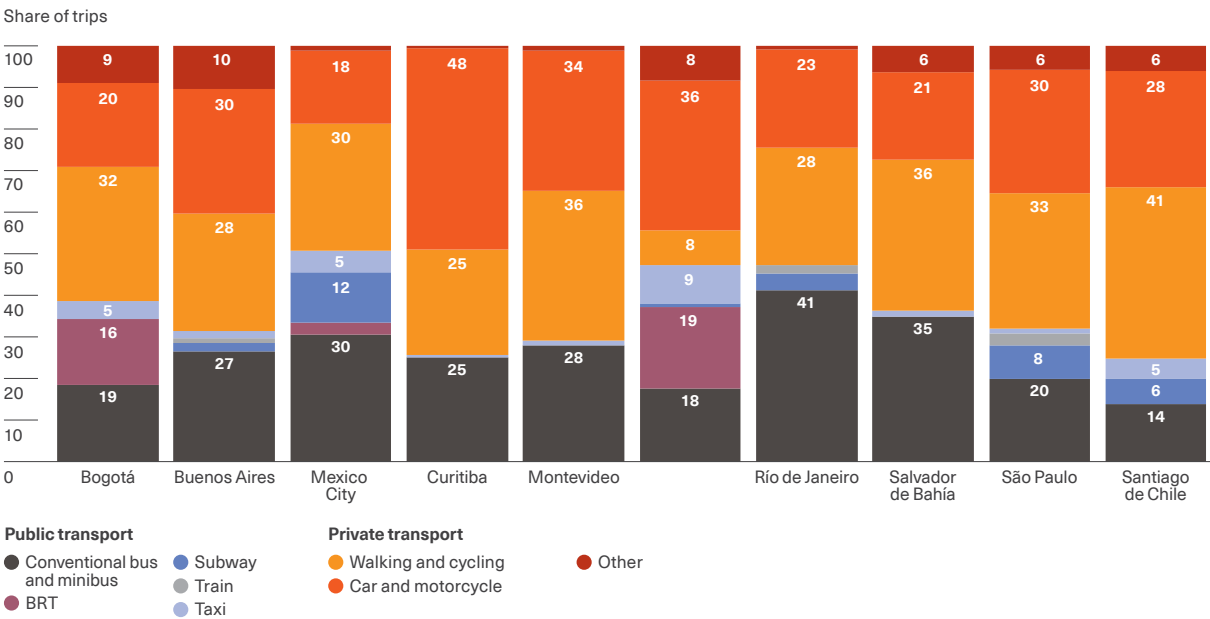
On the other hand, buses operate in all medium and large cities and are the predominant mode of transport, even in cities where other forms of public transit exist. In the ten cities with data on modal share from the Urban Mobility Observatory of Latin America and the Caribbean (OMU), conventional and bus rapid transit (BRT) systems account for a higher percentage of trips than any other public transport mode (see Graph 6.1). Given this prevalence, bus systems will be the focus of the discussion in the following section.

Unlike the water and sanitation sector, subnational governments in this subsector have primarily taken on regulatory and planning roles, with minimal involvement in direct service provision. This is highlighted by a self-conducted survey of transportation services in a sample of 46 cities, encompassing all regional capitals and a selection of other large cities. Graph 6.2 illustrates the predominant type of service provision for each mode within this sample:⁵ private operators dominate bus systems, whereas public participation is more prevalent in other modes.

4 Responsibility for the provision of water and sanitation services falls to national governments in Barbados, Belize, Chile, Costa Rica, El Salvador, Haiti, Jamaica, Nicaragua, Panama, Paraguay, and Uruguay; to local governments in Bolivia, Brazil, Colombia, Ecuador, Guatemala, Honduras, Mexico, Peru, and Venezuela; and to regional governments in Argentina and the Dominican Republic.

5 The predominant type of service provision is not necessarily the only one. For example, in Bogotá, private bus operators are dominant, but some lines in the city's system are operated by La Rolita, a state-owned enterprise.

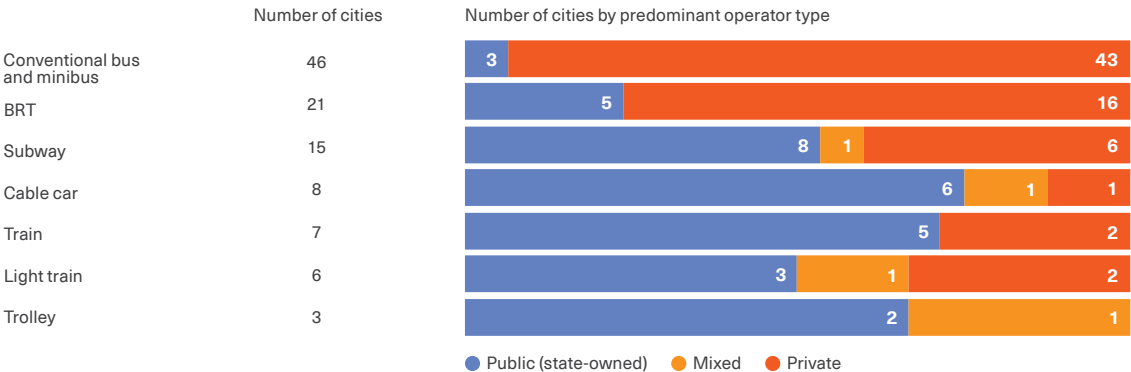
Graph 6.1
Distribution of transport modes in selected cities



Note: The graph shows the percentage distribution of trips by mode of transport in selected cities. The data comes from origin-destination surveys conducted in the cities and processed by the Urban Mobility Observatory (OMU), an initiative of CAF and IDB. The category “walking and cycling” includes trips made using electric scooters. The category “other” includes cable cars, school transport, trips by chartered buses, and informal transport, among others. The appendix to this chapter, available in the online edition of RED, provides more details about the modes included in the “other” category.

Source: Authors based on OMU (2024).

Graph 6.2
Predominant operator type by mode of transport in major cities of the region



Note: The graph shows the public passenger transport modes available in major cities in Latin America and the Caribbean in 2024. A total of 46 cities were analyzed, including all regional capitals and municipalities with over 1.5 million inhabitants (with a maximum of five additional municipalities per country). The full list of cities is available in the appendix to this chapter, which can be accessed in the online edition of RED.

Source: Authors based on the websites of the Mobility and Transport Secretariats in the analyzed cities.

The role of planning and regulating bus systems is critical, given the significant positive and negative externalities they generate. In the absence of adequate capacity to perform these functions, the transport services that spontaneously emerge

in cities lead to poor-quality service. Therefore, strengthening these capacities is key for subnational governments to effectively fulfill their competencies.

Capacities for planning and regulating bus systems

In cities across Latin America and the Caribbean, high rates of informality and semi-formality persist in bus services. Estimates for cities like Bogotá, Mexico City, Panama City, Guadalajara, and Lima indicate that between 30% and 50% of trips are informal (Tun et al., 2020). Informal transport is highly flexible, adapting quickly to demand, which presents certain advantages for users. However, it also comes with significant drawbacks, including uncomfortable and unsafe vehicles, driver competition that exacerbates congestion and accident risks, and higher levels of pollution.

Modernizing the sector to transform informal services into formal systems is a complex and gradual process. Among the many changes required for this transformation, three elements stand out. The first is the corporate formalization of operators, consolidating fragmented ownership and loosely organized cooperatives into structured transport companies. This shift facilitates the establishment of contractual relationships with authorities. The second element is defining and enforcing quality standards for vehicle fleets and services. The third is financial consolidation, which involves centralizing revenues generated by the system and compensating providers based on contractual formulas, rather than allowing direct fare collection from users. This step is crucial for discouraging competition among drivers.

Building the capacity of local authorities in transportation management is essential to enable this transformation. In traditional systems marked by informality and minimal regulation, authorities typically perform only basic tasks, such as granting route permits to individual operators. In modern systems, authorities play

a far more active role. Tasks include designing contracts that specify service parameters, selecting operators—ideally through competitive bidding processes—monitoring compliance with vehicle and service quality standards set out in contracts, implementing centralized fare collection platforms, planning routes, and defining necessary investments.



Developing capacities within local authorities is essential to drive the modernization of urban transportation

This capacity-building process requires substantial government investment in human and technical resources and often involves the establishment of new agencies to take on these responsibilities. Additionally, concurrent infrastructure investments are typically needed to support institutional reforms. BRT (Bus Rapid Transit) corridors have become increasingly popular in cities across the region and are frequently used to reorganize bus systems and encourage their formalization. Examples of this approach include Bogotá, Mexico City, Lima, Quito, and Santiago de Chile, among other cities (Tun et al., 2020). Box 6.1 provides evidence on the impact of BRT systems on service quality and urban development.

Box 6.1

Effectiveness of BRT

BRT corridors are present in 21 of the 46 surveyed cities in the region, as shown in Graph 6.2, although there is considerable variation among them in terms of length, characteristics, and operation. The most notable cases include Curitiba, where BRT began operating in the 1970s, and especially Bogotá's TransMilenio, launched in 2000.

In terms of effectiveness, the results have been positive. González and Silva (2024), analyzing data from 665 bus lines in Santiago, Chile, from 2016 to 2019, found that BRT corridors increase speeds, particularly during peak hours. In contrast, dedicated bus lanes (adjacent to lanes for private vehicle traffic) do not yield speed improvements, even when equipped with monitoring cameras. Additionally, Tsivanidis (2023) highlights that improvements in transportation systems provide benefits to overall well-being beyond reduced travel times. His model, applied to Bogotá, demonstrates that TransMilenio has contributed to both GDP and population growth in Bogotá between 2000 and 2026.

The case of Bogotá exemplifies the role of institutional reforms. Alongside the launch of the first TransMilenio corridors, a state-owned enterprise of the same name was established to manage and administer the system, taking on tasks such as defining routes, stops, and frequencies; conducting tenders for private operators and overseeing those contracts; and monitoring compliance and service levels. At a higher level, the District Department of Mobility, previously responsible for issuing route permits under the old system, now focuses on strategic planning and mobility legislation. At a lower level, there are more than ten private bus operators, each managing various routes. The initial phases were successful, although challenges have emerged in achieving a fully integrated system (Barbero, 2019).

The progress of the energy transition adds an additional investment demand for bus systems (Álvarez et al., 2024). Although the costs of electric mobility have decreased in recent years—partly due to the decline in battery prices—the electrification

of public transport fleets remains a financing challenge, given the substantial upfront investment required for vehicle replacement. According to the digital platform ebusradar.org, as of 2024, there were over 6,000 electric buses in cities across the region, with Santiago de Chile and Bogotá leading the way. In Santiago's case, separating the ownership of electric buses from their operation was key to overcoming the financing challenge (Becerra & Galarza, 2022).

In Mexico City, a similar reform occurred with the establishment of Metrobús, the agency responsible for managing the city's BRT corridors. Unlike Bogotá, Mexico City features multiple transit modes that transport a significant number of passengers and are managed by separate agencies: the Sistema de Transporte Colectivo (STC) oversees rail, while the Sistema de Transporte Eléctrico (STE) manages light rail and trolleybuses. In such cases, coordination is crucial for both strategic and operational aspects, including compensation mechanisms to integrate payment systems and fare structures.



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In smaller municipalities, reforms should be tailored to their specific scale. From an institutional standpoint, governance typically requires fewer layers. However, it is still important for these municipalities to establish dedicated government units specifically focused on managing the transportation system—ideally separate from departments like traffic or public safety—and to strengthen capacity in their core functions, such as planning system parameters, tracking

performance indicators, and managing contracts and concessions with operators. Moreover, in many medium- and small-sized cities, the scale may not warrant BRT corridors, so institutional reforms should proceed without relying on such infrastructure transformations. Nonetheless, other types of operational investments are crucial to support governance reforms and ensure their long-term sustainability, including enhancements to station and stop infrastructure.

The use of technology for modernization

Incorporating technology into public transportation services enables some of the key changes sought through sector modernization. Two tools stand out. The first is GPS (Global Positioning System) units. Real-time tracking of vehicles enables the development of performance indicators for operators (e.g., distance traveled or hours of active service) to assess compliance with contractual agreements. GPS also supports fleet management systems that can address service deficiencies in real time and provide information on arrival times and routes for users (e.g., on information displays at stops or mobile apps). In Brazil, 80% of municipalities with over one million inhabitants report equipping their buses with GPS devices, though this percentage decreases in smaller municipalities (see Graph 6.3).

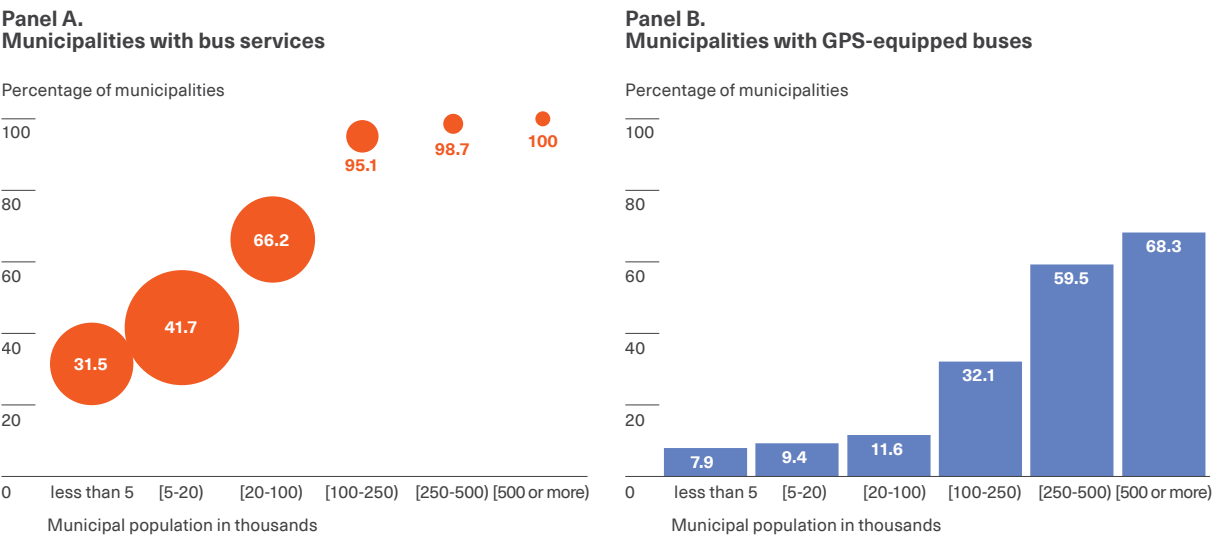
The other essential tool is electronic fare payment platforms. Cash payments are a hallmark of informal services. By enabling individual operators to directly collect fares from passengers, they encourage competition among vehicles along routes, negatively impacting service quality. Implementing some form of electronic payment is often necessary to curb this behavior. An additional advantage of electronic payment is that it enables the integration of fares, even across different subsystems. Naturally, fare and ticket integration also requires institutional coordination. For example, when different entities or companies oversee separate subsystems, a mechanism must be established to handle the corresponding revenue compensation.

In nearly half of the cities surveyed, conventional bus systems still do not accept electronic payments. In contrast, electronic payment is standard on BRT buses and other transportation modes (available only in some cities), primarily through reloadable cards, and to a lesser extent via QR codes or bank cards (see Table 6.1).

An additional benefit of electronic payment systems is their ability to facilitate consolidated financial management by channeling operating revenues into centralized funds. This centralized approach supports the implementation of cross-subsidies between routes or differentiated fares based on user type, time of travel, or geographic zone. It also provides data on usage levels and system-generated operating revenue, which is crucial for relating this information to costs and calculating technical fares—fares that would cover system costs, including vehicle depreciation and capital expenses.

Of course, technical fares do not necessarily align with what users pay. Fare policy also depends on factors beyond the costs of operating the systems.

Graph 6.3
Bus service availability and GPS usage for tracking in Brazilian municipalities by population size



Note: The graph depicts the status of bus passenger transportation in 2020. Panel A shows the percentage of municipalities reporting bus services (including those with intermunicipal buses) based on the Municipal Basic Information Survey (MUNIC), classified by population size. The bubble size corresponds to the number of municipalities within each population range. Panel B illustrates the proportion of municipalities that reported equipping vehicles with GPS devices relative to the total number that declared having buses in operation, according to municipal population size.

Source: Authors based on IBGE (2019, 2020).

Table 6.1
Availability of electronic payment methods by mode of transport

	Number of cities per mode	Percentage of cities with payment method		
		Rechargeable card	QR	Bank card
Bus	46	47.8	10.9	8.7
BRT	21	95.2	33.3	19
Subway	15	100	66.7	46.7
Cable car	8	87.5	12.5	12.5
Train	7	85.7	14.3	14.3
Light rail	6	100	33.3	0
Trolleybus	3	100	33.3	33.3

Note: The table presents the availability of electronic payment methods in public transportation in large cities in Latin America and the Caribbean in 2024. A total of 46 cities were analyzed, including all capital cities of the region and municipalities with over 1.5 million inhabitants (with a maximum of five additional municipalities per country). The full list of cities is included in the appendix to this chapter, available in the online edition of RED.

Source: Authors based on official government websites for mobility and transportation, transportation data from Moovit (2024), news articles, and other publicly available online sources.

Fare policy in public transportation

Modernization reforms in bus systems incur costs for various reasons. Infrastructure investments, fleet renewal, and fare collection system implementation all require amortization. Additionally, operating expenses rise due to the establishment of regulatory institutions, maintenance of fleet quality standards, and compliance with labor and environmental regulations absent in informal services. These higher costs can affect the affordability of services for users.

Subsidies are frequently used in bus systems, as illustrated in Graph 6.4 based on data from Rivas et al. (2020). Their use is not limited to cities in the region; subsidies are also common and of similar magnitude in cities in higher-income countries. Public transportation subsidies primarily aim to improve affordability for low-income groups and encourage public transport use over private vehicles, which generate more negative

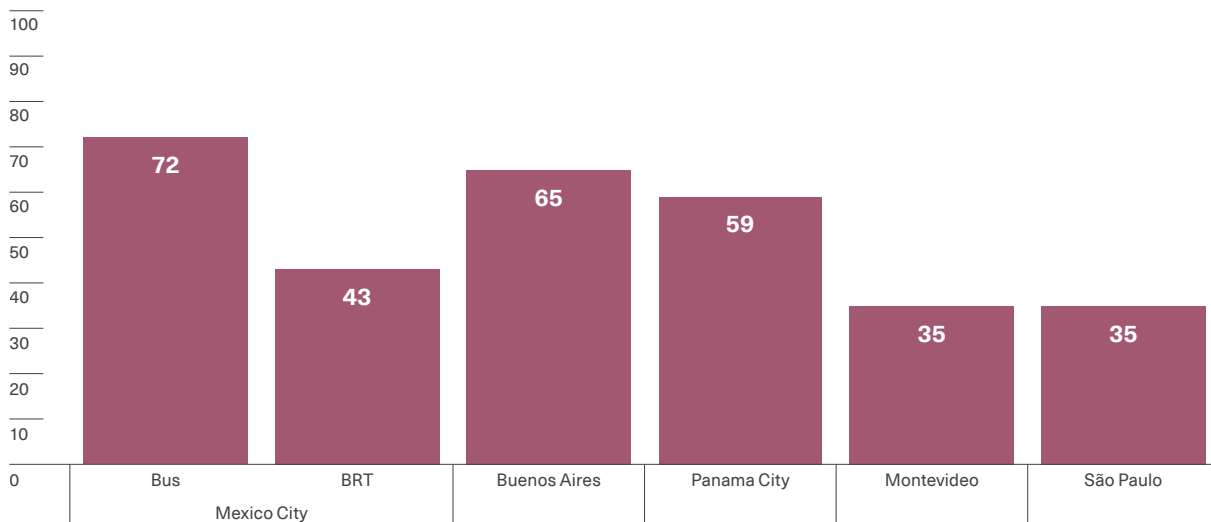
externalities. Given the nature of these objectives, making precise recommendations about optimal subsidy levels is challenging. However, subsidies can burden public budgets, particularly for subnational governments. Therefore, authorities must carefully balance subsidy policies with fiscal sustainability.

Apart from determining subsidy levels, authorities must take into account certain implementation aspects. First, the capacity to target demand-side subsidies effectively, particularly those aimed at low-income individuals, needs improvement. Achieving this requires investment in mechanisms to accurately identify the target group. Contreras et al. (2018) evaluated such schemes in Bogotá and Buenos Aires, finding that the approach in Buenos Aires lacks progressivity, whereas in Bogotá it is progressive, albeit with an exclusion error of around 30%.

Graph 6.4

Operating subsidies for bus systems in selected cities, 2019

Subsidies as a percentage of total operating expenses



Source: Rivas et al. (2020).



The Central District of Honduras is the most populous local government in Central America.

Second, improving targeting capabilities could allow for a rebalance between supply-side and demand-side subsidies. Currently, a large portion of subsidies are allocated to the supply side as transfers to service providers. For example, in the TransMilenio system, supply-side subsidies accounted for 92% of the total

between 2016 and 2019 (Rivas et al., 2020). While supply-side subsidies align with the objective of promoting public transportation use, shifting a greater share toward demand-side subsidies could more effectively address affordability goals.

Organization of subnational governments for water and sanitation provision

The importance of regulatory clarity

Regulatory frameworks decentralizing responsibilities in water and sanitation should meet two key conditions: first, explicitly naming the authorities responsible for decision-making in the matter; and second, establish mechanisms enabling these authorities to delegate operations or partner with others for service delivery.

The first condition is crucial for mitigating uncertainties about responsibilities and reducing the overlap of functions. In a recent study, Kresch (2020) estimates the costs associated with a lack of clarity on these issues in Brazil's water and sanitation sector. A 2005 legislative reform in Brazil granted municipalities definitive authority in this domain, ending decades during which many municipal operators faced the latent threat of expropriation by state-level companies established earlier with the purpose of absorbing municipal services. Eliminating the threat of expropriation led to nearly doubling investment levels. Within two years of the reform, municipal systems saw a 6% increase in connections and a 16% increase in network length, contributing to a reduction in infant mortality.

The second condition is particularly important in areas where local governments are responsible for service provision, as it enables them to choose the most effective method of delivery. For example, they might contract service delivery to a supranational organization if economies of

scale are advantageous. In this regard, Brazil's legislative reform provides an additional lesson. Although the reform introduced a legal mechanism (concession contracts) that allowed municipalities to delegate service provision to state-level entities, most operations remained at the municipal level. The reasons behind this vary, including technical suitability and political dynamics. For instance, residents of wealthier municipalities may oppose integrating their water and sanitation services with those of poorer areas if they anticipate that such integration could lead to higher tariffs to support cross-subsidies. Data supporting this explanation show that municipalities that refused to merge with state providers at the time of their creation tended to have above-average income levels.

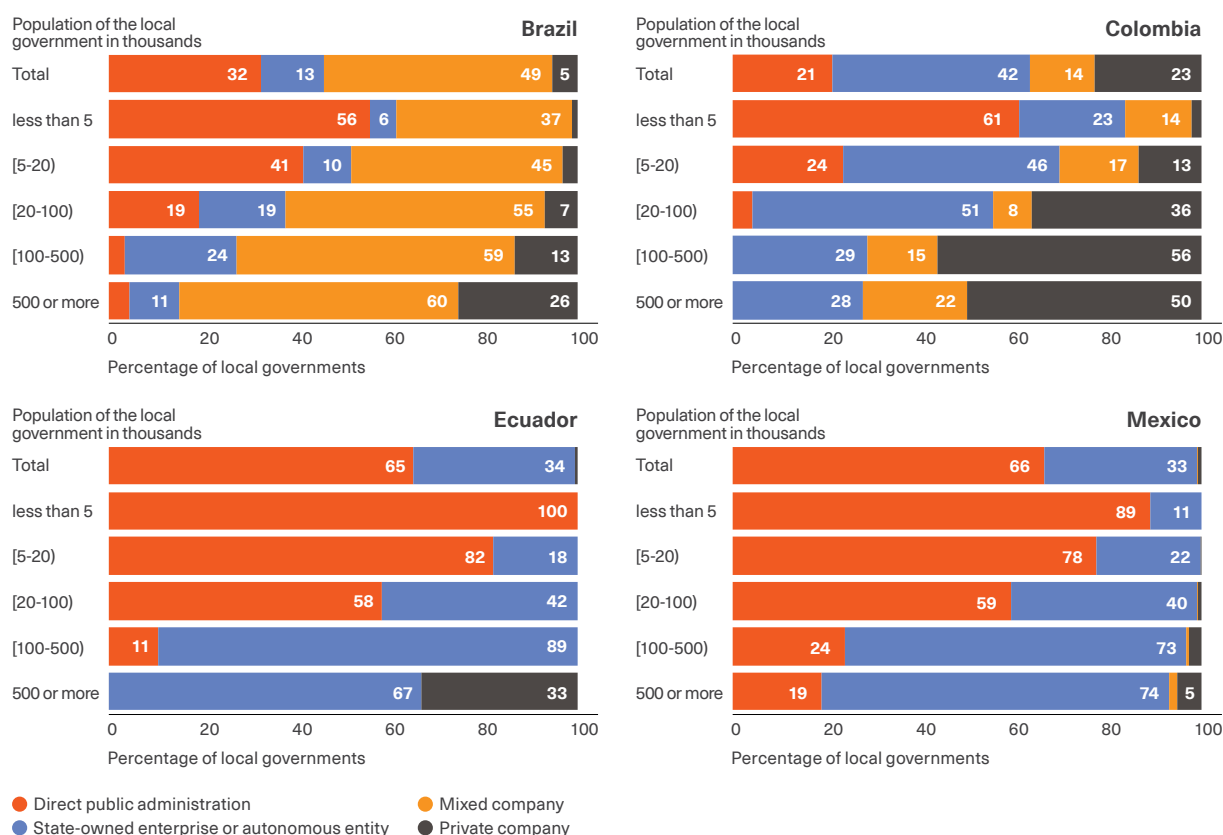
While pinpointing the exact causes is challenging, existing assessments indicate that the water and sanitation sector in many countries in the region is highly fragmented, with numerous small- or medium-scale providers (Arias et al., 2019). This fragmentation often leads to operational inefficiencies. Rud (2019) highlights that municipalities tasked with service provision frequently lack the resources and capabilities to deliver reliable and high-quality services, noting high staffing levels per connection as evidence of low productivity in the region.

The relationship between scale, provider types, and efficiency

To build on the observations from the previous section, it is important to note that the scale of operations is closely tied to the type of organization responsible for service provision. Graph 6.5 illustrates the distribution of sanitation service provider types across municipalities of varying sizes in four countries in the region. While differences exist—for example, private and mixed enterprises are more prevalent in

Colombia and Brazil than in Ecuador (where private capital is prohibited) and Mexico—a common pattern emerges: smaller localities rely heavily on local public administrations (e.g., municipal water departments), whereas autonomous entities and enterprises (state-owned, mixed, and private) become increasingly dominant as municipal size grows, eventually prevailing in larger cities.

Graph 6.5
Legal type of sanitation providers by population category



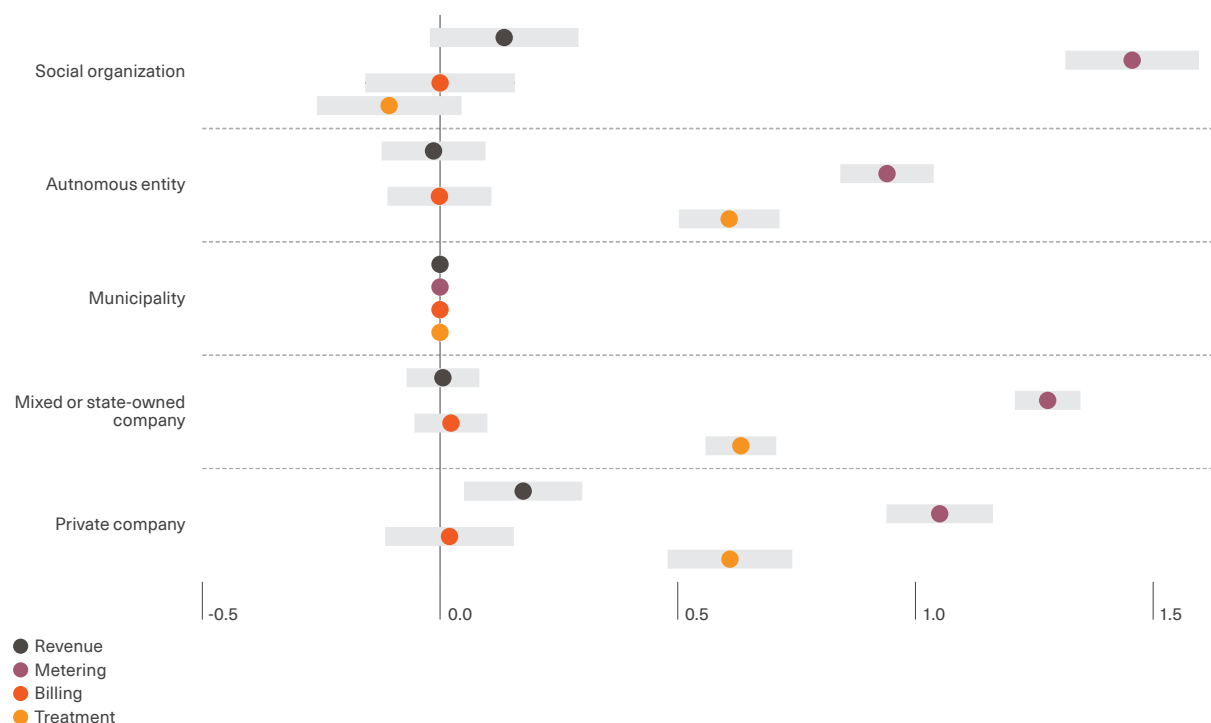
Note: The bars illustrate the distribution of sanitation service provider types by the population category of local governments. Service delivery by social organizations is excluded. Municipalities with more than one operator are counted multiple times; municipalities with no information on providers or where the provider is a social organization are omitted. Population categories are based on census data by municipality for the year of reference. The appendix of this chapter, available in the online edition of RED, includes definitions of provider types by country.

Source: Authors based on the following water and sanitation service provider databases: in Brazil, Ministry of Cities (2024); in Ecuador, INEC (2024); in Colombia, SSPD (2024); and in Mexico, INEGI (2021).

Given this, analyzing quantitative evidence on the relative efficiency of different service provision models is crucial. However, this task is challenging due to the limited availability of standardized and comprehensive data on operational service indicators for meaningful comparisons. The most reliable data source comes from Brazil's National Sanitation Information System (SNIS). Correlation analyses indicate that autonomous entities and

enterprises—state-owned, mixed, or private—tend to achieve higher proportions of metered connections and treated water. Private companies also demonstrate better revenue-to-expenditure ratios. Among the indicators analyzed, billing efficiency is the only one where no significant differences are observed between service provision models (Graph 6.6).

Graph 6.6
Difference in performance indicators by type of water provider



Note: For each indicator, the graph represents the difference between each type of provider and direct municipal provision (the baseline category), along with the confidence interval for that difference. "Revenue" refers to the ratio of revenue to operating expenses; "metering" indicates the percentage of metered connections; "billing" corresponds to the ratio of billed water to produced water; and "treatment" refers to the ratio of treated water to produced water. All dependent variables are expressed in standard deviations.

Source: Authors based on SNIS (Ministério das Cidades, 2024).

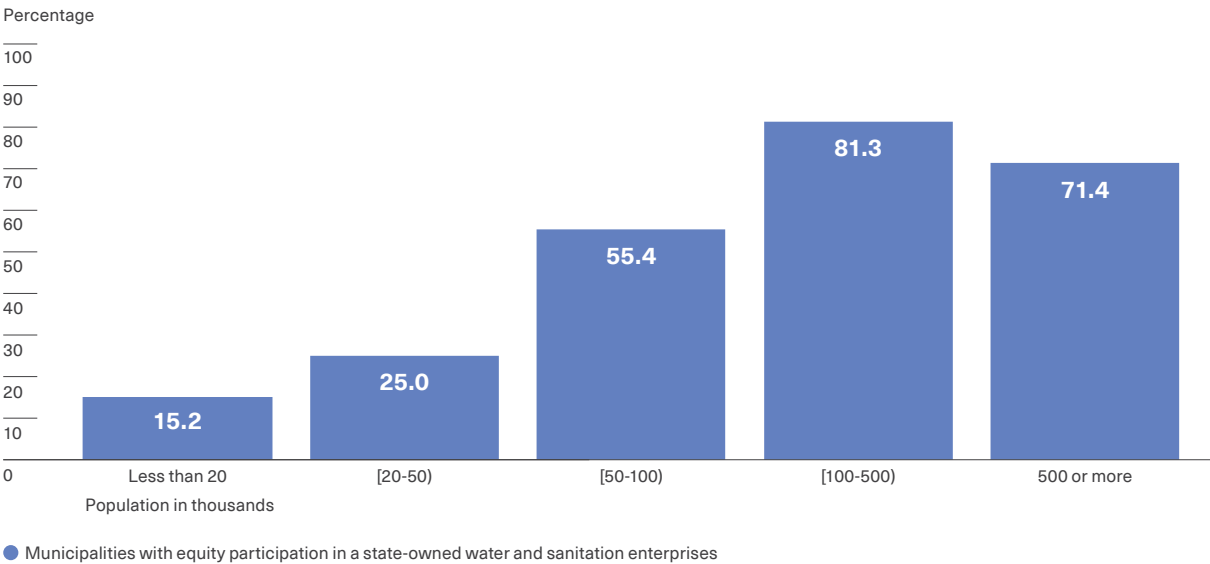
Given the close relationship between service provision models and municipality size, as discussed earlier, it is challenging to determine which of these two factors—operation scale or

operator type—plays a more crucial role in service performance. Sector recommendations suggest working on both fronts: increasing provider size by consolidating smaller services and, in parallel,

developing professional, corporate-style entities to handle operations. Additionally, these two factors are interdependent, as outsourcing operations to SOEs represents an institutional investment that requires certain capacities—capacities that many smaller governments lack, as data from

Peru illustrate. In Peru, provincial municipalities frequently partner to establish state-owned water and sanitation companies. However, as shown in Graph 6.7, the percentage of municipalities with equity participation in these companies strongly correlates with their size.

Graph 6.7
Percentage of Peruvian provincial municipalities with ownership in state-owned water and sanitation enterprises by population size



Source: Authors based on SUNASS (2022).

The reason why direct provision by government agencies tends to be less efficient is partly due to a lack of specific resources and capacities but also to limited budgetary and administrative autonomy. This can lead to political interference in operational and financial decisions, impacting tasks like payment collection, accounting practices, investment decisions, and personnel management, among others.

SOEs offer a greater degree of operational autonomy from political interference, though it is not guaranteed. Ensuring strong corporate governance is crucial. Assessments are particularly unfavorable in the water sector, where the corporate governance quality of SOEs lags behind that of their counterparts in the electricity sector (Andrés et al., 2011). Key deficiencies include a lack of independent directors and the absence of performance evaluation mechanisms. Recommendations on this matter apply to SOEs at both national and subnational levels and are outlined in the corporate governance guidelines

published by CAF — Development Bank of Latin America and the Caribbean — (Oneto and Rojas, 2024).

A specific risk of political interference is that tariff subsidies, which are common in this sector, might be applied at the expense of service provider revenues. The likelihood of this risk materializing increases when political autonomy is constrained. Evidence from Brazil supports this: average water

service tariffs tend to be lower when services are delivered directly by government bodies compared to other types of providers. The cycle of delayed tariff adjustments and tolerance for non-payment, which causes operational deficits, reduced investment, and deteriorating service quality, has been documented in various circumstances and sectors (Burgess et al., 2020; McRae, 2015). Consequently, improving the management of tariff policy is another crucial task.

The application of subsidies in water and sanitation

Like in the transportation sector, governments often subsidize water and sanitation services. However, a key distinction is that subsidies in this sector primarily aim to improve affordability. From an environmental perspective, water consumption subsidies can be counterproductive, as they may incentivize overuse of the resource. This underscores the importance of carefully targeting subsidies to consumers who truly need them, not only to increase efficiency but also to enhance resource management in situations of water stress. This issue becomes even more pressing in the context of climate change, as discussed in the next section.

Chile and Colombia have two of the most widely analyzed tariff segmentation systems in the literature. Chile's system is based on a means-tested household registry, while Colombia employs a geographic stratification of households according to housing characteristics.⁶ Evaluations of these programs indicate that both are progressive, though they experience errors of inclusion that create inefficiencies. This suggests that while there is room for improvement, these programs are preferable to the use of blanket subsidies (Contreras et al., 2018; Meléndez, 2008).

● ●
From an environmental perspective, water consumption subsidies can be counterproductive, as they incentivize overexploitation of the resource

Finally, the territorial scale of providers can support the implementation of cross-subsidies between regions, transferring resources either from wealthier areas to poorer ones or from lower-cost areas to higher-cost ones. While evidence for this mechanism is limited, data from Brazil suggest that states with greater service fragmentation among providers also exhibit higher tariff dispersion, measured as the standard deviation of tariffs across municipalities within the state (see Graph 6.8).

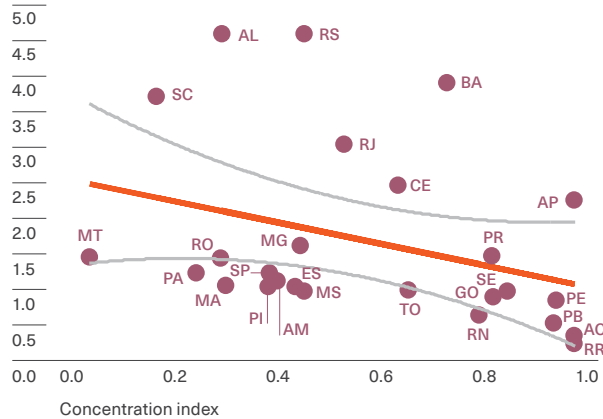
6 In the case of Chile, it is a national government initiative, while in Colombia, the national statistics department is also involved.

Graph 6.8

Service concentration and tariff dispersion by state in Brazil, 2021

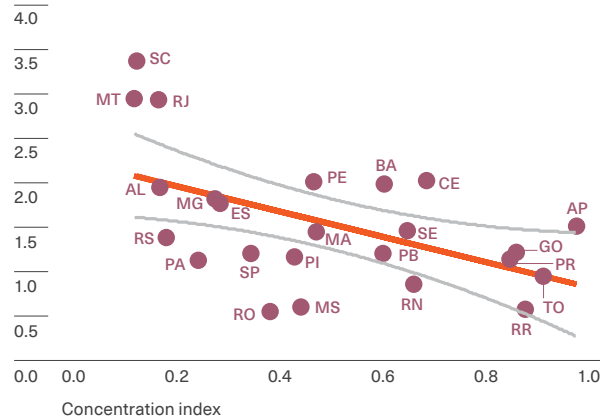
**Panel A.
Water tariff**

Standard deviation
of municipal tariffs



**Panel B.
Sewerage tariff**

Standard deviation
of municipal tariffs



**Panel C.
Average tariff**

Standard deviation
of municipal tariffs



Note: The horizontal axis represents the Herfindahl-Hirschman Index (HHI) of providers in each state, based on the number of connections (1 indicates a single operator). The vertical axis shows the standard deviation of tariffs across municipalities. The orange line shows the results of a linear regression model estimated using ordinary least squares, where tariff dispersion serves as the dependent variable and the fragmentation index as the independent variable. The gray lines are the confidence intervals at 95%. The regression includes all Brazilian states and does not include the Federal District. The average tariff is calculated as the total annual billed amount divided by the total billed volume for water and sewerage services. More details on the implemented methodology can be found in the chapter appendix, available in the online edition of the RED.

Source: Authors based on data from SNIS (Ministério das Cidades, 2024).

Tariff policy and climate change adaptation

Climate change introduces an additional challenge to the already complex water and sanitation sector, with tariff policy serving as a critical tool for adaptive responses. During periods of water stress, raising tariffs becomes essential to signal resource scarcity to users. This underscores the need for well-targeted subsidies to support low-income users during such periods while preserving the ability to adjust tariffs to reflect scarcity. Another critical aspect is the universal implementation of consumption metering to ensure that billing reflects actual usage, allowing prices to act as an incentive.

Just as tariffs can adjust to water scarcity, they can also be used proactively by including special

charges to fund resilience and adaptation projects (e.g., infrastructure for flood or drought management, wetland conservation, etc.). Operators and regulators in several countries throughout the region have begun to integrate these considerations. In Peru, the national regulator (SUNASS) includes climate risk assessments in its tariff-setting process. In certain regions of Chile, charges are added to offset drought-related costs and finance projects such as desalination plants or water reuse systems. In Costa Rica, payments for water services partially fund the country's renowned scheme of payments for ecosystem services, which supports watershed conservation efforts, among other initiatives.

Interjurisdictional coordination and cooperation

Often, the natural area of delivery of a utility service does not align precisely with the administrative boundaries of a local or regional jurisdiction. This is evident, for example, in Brazilian municipalities that delegate water operations to larger-scale providers. Likewise, there are numerous cases where horizontal or vertical cooperation could enhance efficiency, particularly in metropolitan areas where multiple jurisdictions coexist within the same city. These potential efficiency gains are not the sole justification for interjurisdictional coordination. An equally important reason is the externalities that actions in one jurisdiction can have on others.

In some cases, jurisdictions have inherent incentives to cooperate, such as when they identify potential efficiency gains through collaboration. In such cases, the main role of entities encouraging cooperation (e.g., the national government) is to provide the legal framework enabling subnational public institutions to partner. Depending on the importance of the case, financial incentives may also be offered. Conversely, when

addressing externalities, intrinsic incentives for cooperation are typically lacking (due to the nature of externalities), requiring a more active approach to promote collaboration. This could involve establishing entities at a sufficiently broad geographic level to coordinate the decentralized actions of multiple jurisdictions.



Interjurisdictional cooperation is especially beneficial in metropolitan areas where multiple administrative units coexist within a single city

Coordinating to reduce externalities

A common example of interjurisdictional externalities occurs in the management of water resources. These externalities often arise from wastewater disposal or water extraction rates: if upstream localities fail to account for the needs of downstream communities, they may pollute excessively or withdraw unsustainable amounts of water. Basin authorities seek to address these challenges by managing water use at the broader basin level, coordinating and regulating actions across multiple local, regional, and even national jurisdictions. Their objectives include monitoring water quality, preventing floods, protecting the environment, and allocating usage rights. With the growing risks posed by climate change, these organizations are increasingly tasked with reducing water system vulnerabilities to droughts and changing patterns.

Countries in the region usually have some type of basin organization or council. However, the leading authority for these bodies varies by country. In Peru, for example, the National Water Authority has spearheaded their implementation, while in Panama, they are coordinated by the Ministry of Environment. In both cases, these organizations function more as forums for dialogue than as planning and control bodies. This likely limits their impact, as the effectiveness of basin authorities depends largely on their technical capacity and the decision-making power delegated to them.



Basin authorities hold significant potential to enhance interjurisdictional coordination when water and sanitation services are decentralized

Evidence on the impact of these organizations in the region is limited. One of the most relevant studies is by Lipscomb and Mobarak (2017), focusing on Brazil, where sanitation services are decentralized to the municipal level. The study finds that river pollution levels (measured by biochemical oxygen demand) increase by 2% to 3% for every kilometer the river approaches the downstream municipal boundary, with the rate of pollution growth accelerating as it nears the boundary. This is an example of how externalities play out. In contrast, in rivers with active basin committees (153 at the time of the study), this effect disappears, meaning there is no increase in pollution near municipal borders. This finding underscores the significant potential of these organizations to enhance interjurisdictional coordination when water and sanitation services are decentralized. Moreover, it highlights the value of strengthening their roles and technical capacities as worthwhile investments.

Metropolitan governance

Interjurisdictional cooperation is particularly important in metropolitan areas, especially when urban agglomerations span multiple local administrative units. This overlap frequently arises from population growth and urbanization, which drive city expansion and the integration of previously distinct localities.

Administrative fragmentation of cities poses challenges across multiple areas, including territorial planning, operational coordination, and public service financing. Furthermore, depending on the governance models in place, income segregation—common in large cities—can result in disparities in the quality of services provided by different local governments.



Avenida General Paz marks the boundary between the Autonomous City of Buenos Aires and the Province of Buenos Aires, Argentina.

Various approaches have been adopted to address this, as some examples from outside the region show. In some cities, government units have been reorganized to reduce administrative fragmentation. One strategy has been the merger and elimination of preexisting units, as in the creation of the megacity of Toronto in 1998. Another involves establishing metropolitan governments that overlay existing municipalities, adding a layer of governance, exemplified by the Greater London Authority. A third approach is the creation of administrative units that geographically encompass a metropolitan area and hold the legal status of a regional government, as seen in the German city-states of Berlin, Bremen, and Hamburg.

However, such reorganizations are challenging to implement, as they often result in a loss of autonomy for pre-existing units, which tend to resist these changes. In some cases, these reforms are even reversed, as occurred in Montreal at the beginning of the century. Consequently, administrative fragmentation often persists in large cities, with governance challenges addressed either through formal cooperation agreements or informal channels. As will be discussed later, formal cooperation mechanisms can take various forms depending on the legal framework of each area and may be sector-specific or multipurpose.

In Latin America and the Caribbean, administrative fragmentation is predominant. Based on a definition of functional urban areas, the region has 53 cities with more than 1.5 million inhabitants (Moreno-Monroy et al., 2021), only three of which are entirely or almost entirely contained within the boundaries of a single local government: Brasília, Ciudad Juárez, and Manaus. In the remaining cities, at least 10% of the urban population lives outside the core municipality, and none have a politically autonomous metropolitan government above the local level.

The most consolidated cases are the Provincial Municipality of Lima and the Metropolitan District of Quito, whose local governments cover more than 80% of the city's population and hold special responsibilities that exceed those of standard local governments in their respective countries. Also notable is the case of Santiago, Chile, which is highly fragmented into local jurisdictions but has a regional government for its metropolitan area. However,

Chile's regional governments are relatively new and currently have limited powers.

At the extreme end of fragmentation are Mexico City and Puebla, in Mexico, and São Paulo, in Brazil, each of which encompasses over 50 local administrative units. To illustrate, Figure 6.1 depicts the overlap of urban fabric (in orange) with administrative jurisdictions in two of the least fragmented cities (Manaus and Quito) and two of the most fragmented (Asunción and San José, Costa Rica).

On average, the 53 cities in the set are divided across 17 jurisdictions, with one core jurisdiction housing 52% of the population. These levels of fragmentation are not unusual in international terms; in fact, they are lower than those observed in North American and European countries, according to data from the Organisation for Economic Co-operation and Development (OECD, 2024d). Fragmentation is often accompanied by segregation. Differences in income and economic activity also create disparities in the resources available to local governments. For example, within Bogotá, the disparity in municipal tax revenues reaches a ratio of 20:1 between the highest- and lowest-income municipalities.

Regarding the consequences of administrative fragmentation, empirical findings—though limited—tend to point to negative outcomes. Ahrend et al. (2017) analyzed productivity in cities across five OECD countries, including Mexico, and found that administrative fragmentation is harmful. Specifically, they estimate that doubling the number of jurisdictions within a metropolitan area correlates with a 6% decline in productivity. Similarly, Cataldo et al. (2023) reached qualitatively similar conclusions when examining wages and innovation in U.S. cities.

An important finding from these studies is that the impact of fragmentation depends on the institutional framework for city governance. For instance, Beghelli et al. (2020) found that, under similar levels of administrative fragmentation, U.S. cities expand spatially far more than their European counterparts—resulting in a substantial environmental cost—due to more decentralized planning. Overall, the literature indicates that the negative effects of fragmentation are lessened when formal cooperation mechanisms exist among a city's jurisdictions. Thus, the development of such arrangements is essential. One approach to achieving coordination is through the creation

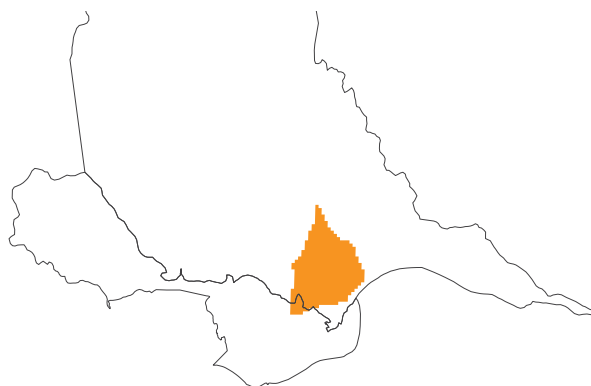
of metropolitan authorities. The characteristics of these authorities—how they are established, their responsibilities, and their governance models—are typically regulated by national or state laws and differ

significantly across countries. These authorities are generally not directly elected but are composed of representatives or delegates from the municipal and state governments involved.

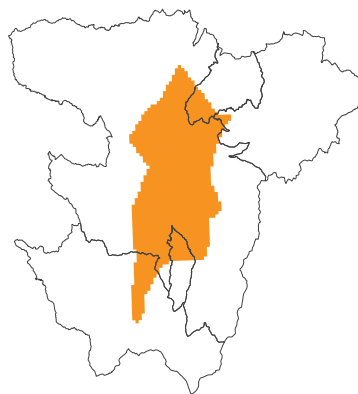
Figure 6.1
Overlap of urban fabric and administrative boundaries in a sample of cities

Panel A.
Less fragmented cities

Manaus, Brazil

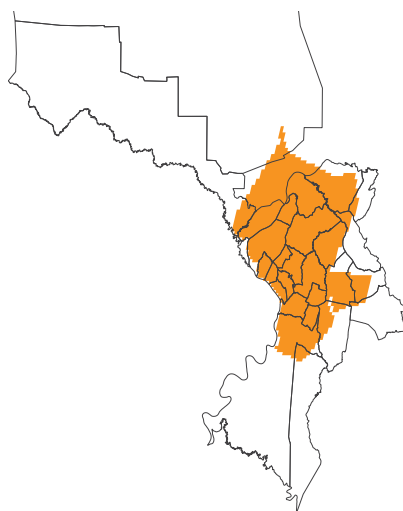


Quito, Ecuador

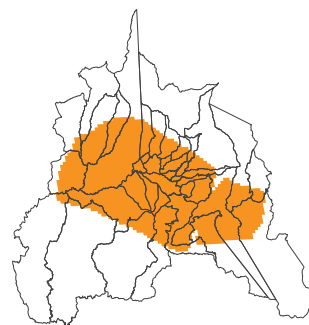


Panel B.
Highly fragmented cities

Asunción, Paraguay



San José, Costa Rica



100 km

Note: The urban fabric is shaded in orange, and the boundaries of subnational governments are marked with black lines. The figure shows two examples from the 10 most fragmented cities in the region (in terms of the number of administrative units within the city) and two examples from the 10 least fragmented cities, within the universe of cities with more than 1.5 million inhabitants. The selection of metropolitan areas is based on the spatial database by Schiavina et al. (2019), which defines functional urban areas in urban centers.

Source: Authors based on Schiavina et al. (2019) and CAF (2025).

Such authorities are common, especially in countries with numerous large cities, such as Brazil, Colombia, Mexico, and Argentina. However, Argentina lacks a national framework for metropolitan management, relying instead on provincial frameworks. Overall, the institution development and operational capacity of these authorities are generally limited, primarily due to their lack of autonomy. For example, these authorities often have responsibilities related to the creation of territorial planning instruments, but municipal governments retain autonomy over land use and perceive mandates to align local planning with metropolitan planning as a loss of political power (Costa et al., 2022).

Another indication of these bodies' relative weakness is their lack of fiscal autonomy. They are funded through contributions from states and municipalities, often without a standardized formula. For instance, in Argentina, each case operates under its own resource distribution arrangement. In contrast, Colombia has more explicit regulations regarding the funding sources for metropolitan authorities, including a 0.2% surcharge on real estate taxes.

The Valle de Aburrá Metropolitan Area (surrounding the city of Medellín) in Colombia stands out as the most successful example of a metropolitan authority's operational capacity. This success is particularly evident in areas such as territorial planning and the management of the metropolitan area's integrated transportation system. A key factor behind the strong performance of this authority is its ability to secure stable funding, particularly through the collection of environmental fees.

This underscores the importance of access to economic resources in building the capacities of metropolitan bodies. Furthermore, it is crucial that funding mechanisms establish the right incentives. In Mexico, a national fund was created to finance projects proposed by metropolitan authorities, but it has been criticized for encouraging the establishment of such jurisdictions primarily as a means to access resources, rather than fostering an authentic mission of metropolitan governance (Costa et al., 2022).

Given the overall underdevelopment of institutional frameworks, political will and leadership are crucial for the consolidation of metropolitan authorities. This is evident in the case of the Metropolitan Entity of Córdoba (Argentina). Established in 2022 by ten municipalities, including the provincial capital city Córdoba, this body has expanded rapidly and now includes 16 jurisdictions. Moreover, it has made significant progress on key strategic initiatives, including environmental management, disaster response coordination, the development of an integrated transportation system, and the creation of new green spaces.

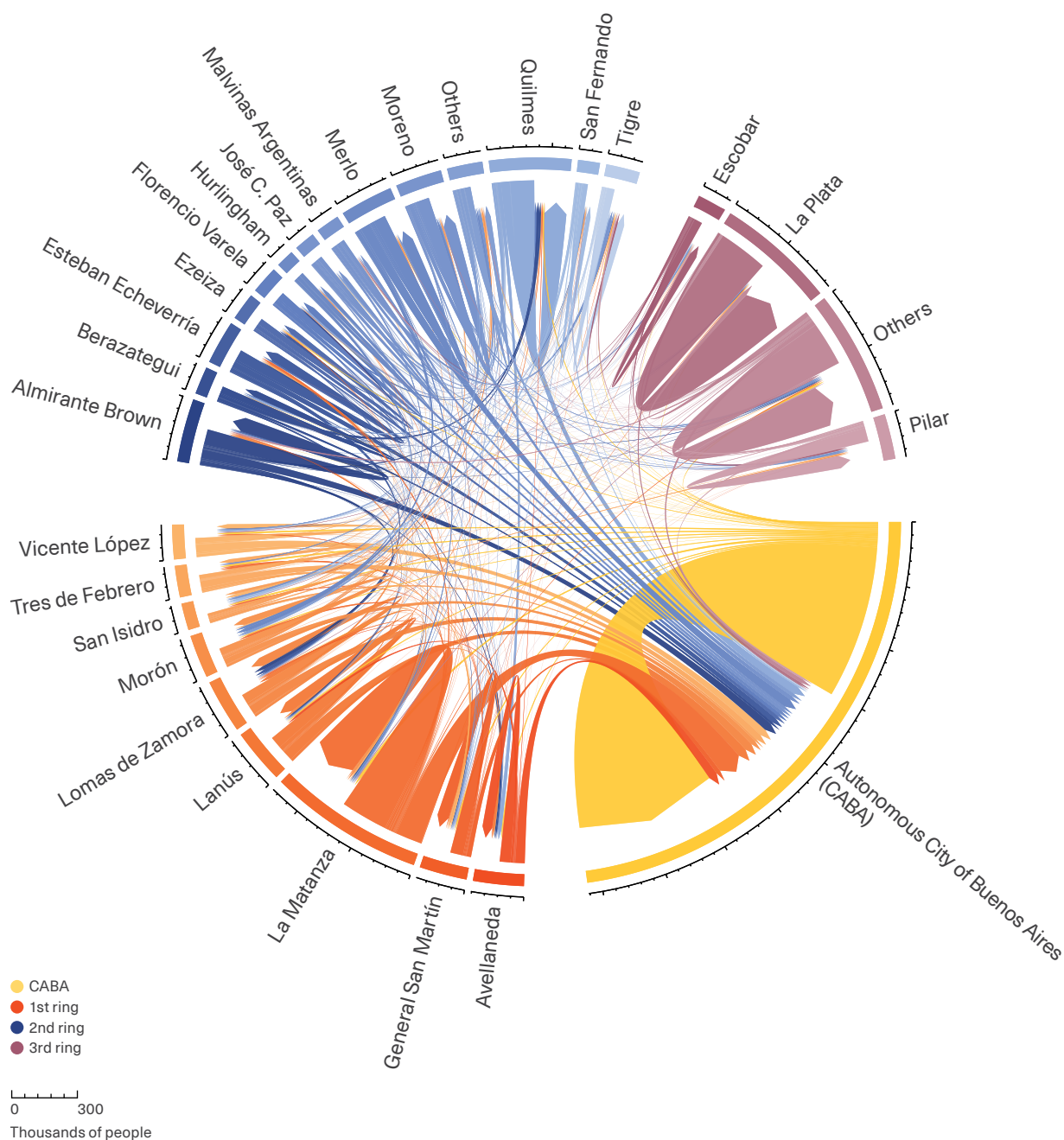
Beyond metropolitan authorities, jurisdictions can collaborate through other coordination arrangements, which are generally more sector-specific. Transportation is one of the critical sectors for urban life in large cities and thus requires particularly strong coordination. Core city jurisdictions typically concentrate economic activity (especially formal employment) and receive daily commuters from surrounding predominantly residential jurisdictions.

Transportation coordination can fall under the purview of metropolitan authorities when they exist, as is the case with the Valle de Aburrá Metropolitan Area mentioned earlier. Alternatively, it can be managed by specific sectoral entities, such as the consortium Grande Recife, a state-owned enterprise created by a state law to oversee the operation of service providers.

In some cities, coordination remains precarious despite high levels of interconnection between jurisdictions within the transportation system. Buenos Aires is a notable example. The Autonomous City of Buenos Aires (CABA), the core jurisdiction of its metropolitan area, receives over 700,000 daily work commuters from neighboring municipalities, as illustrated in Graph 6.9. In this metropolitan area, bus lines are overseen by the national government, the provincial government, and CABA itself (although the transfer of responsibilities for some lines remains incomplete). Nevertheless, the lack of system integration authorities result in inadequate coordination.

Graph 6.9

Travel flows between jurisdictions in the Buenos Aires metropolitan area



Note: The diagram shows daily travel flows between jurisdictions in the Buenos Aires metropolitan area. The color of the line indicates the jurisdiction of origin, while the arrowhead represents the destination jurisdiction. The graph depicts one-way work-related trips made by the employed population, based on the 2018 Household Mobility Survey. A total of 4.5 million trips are represented. The rings refer to the concentric groups of municipalities surrounding the Autonomous City of Buenos Aires, ordered by proximity: the first ring is the closest, and the third is the farthest.

Source: Authors based on data from the Subsecretariat for Mobility Planning of the City of Buenos Aires (2022).

In other sectors, there are also potential benefits to intermunicipal cooperation. One such area is solid waste management, where collaboration is common and facilitates the standardization of recycling policies and certain environmental policies (Daude et al., 2017). In Brazil, the Confederação Nacional de Municípios (CNM, 2023) documents intermunicipal consortium efforts in areas like health and environmental management.

Unfortunately, systematic data on the use of cooperative arrangements is scarce, making it challenging to study their effects comprehensively. Mexico provides a partial exception, as data on the number of intermunicipal agreements is available. Using this data, Depetris-Chauvin et al. (2022) show that homicide rates in a municipality decrease with greater horizontal cooperation in security. Similarly, Muraoka and Avellaneda (2021) present partially positive evidence on cooperative agreements in El Salvador. Specifically, they find that such agreements improve the provision of certain services (such as electricity) but not others (such as water).

The available data does not allow these studies to delve into the specifics of cooperative agreements, making it challenging to fully understand the mechanisms through which they produce effects. As a result, it is difficult to generalize based on these findings. Even so, this literature offers a moderately positive view of the role of intermunicipal cooperation, as it provides flexibility in service delivery and enables subnational governments to pursue the most efficient arrangements.

In this regard, the main recommendation is to establish a clear framework that allows jurisdictions to harness the benefits of collaboration without legal uncertainties. This includes defining the legal forms that cooperation can take (e.g., forming intermunicipal consortia or signing collaboration agreements), the functional scope of these mechanisms, their financing structures and resource access, and the internal governance frameworks for decision-making.

Collaboration beyond formal governance

Cooperation among local and regional governments extends beyond formal governance structures. Association is also valuable in establishing common positions, fostering mutual learning, and seeking solutions. In countries with regional governments, organizations that bring together regional authorities are common, such as Mexico's National Conference of Governors (CONAGO) and Chile's Association of Regional Governors (AGORECHI). Associative activities are even more prevalent at the local government level, with municipal associations

present in nearly every country. The Latin American Federation of Cities, Municipalities, and Municipal Associations (FLACMA) brings these national bodies together and represents them within United Cities and Local Governments (UCLG), a global organization. At the subregional level, there are other initiatives, such as Mercociudades, which is made up of local governments from the Southern Common Market (Mercosur) and the Union of South American Nations (UNASUR).



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The BiodiverCities Network

This network, an initiative led by CAF, seeks to foster the integration of biodiversity into urban planning across cities in Latin America and the Caribbean. In a region that is both highly urbanized and rich in biodiversity, the BiodiverCities Network emerges as a response to the environmental and social challenges faced by cities and as an opportunity to develop and implement nature-based solutions through urban management.

The BiodiverCities Network aims to serve as a platform for knowledge exchange, experience sharing, and the dissemination of best practices among cities in the region. Its vision is to establish an urban management model where biodiversity is a central pillar and to strengthen the capacity of local governments to implement policies and projects that integrate biodiversity into urban planning.

Since its kick-off, the network has achieved significant progress in raising awareness and promoting the BiodiverCity concept. By August

2024, over 180 local governments in 17 countries had committed to integrating biodiversity into their urban planning policies. The network has hosted a series of national, regional, and international meetings to address key topics such as water resource management, green and blue infrastructure, sustainable tourism, and circular economy models. These events have provided participating cities with opportunities to share experiences and develop common strategies to tackle environmental challenges.

The network has participated in international forums, including the 27th and 28th Conferences of the Parties (COP) of the United Nations Framework Convention on Climate Change, as well as COP15 of the Convention on Biological Diversity. At these events, the BiodiverCities vision has been showcased on a global stage, emphasizing the importance of this approach in addressing climate change and biodiversity loss. The network has also progressed in incubating concrete projects aimed at nature-based urban transformation, facilitating the development of financeable initiatives aligned with the principles of sustainable urban development.



City Hall of Montevideo, seat of government of the Department of Montevideo, Uruguay.