The Challenge of Financing Urban Infrastructure for Sustainable Cities

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Abstract

This paper provides a comprehensive estimate of the subnational need for urban infrastructure to meet the growing demands for public services in medium-sized emerging cities in Latin America and the Caribbean (LAC). Based on an assessment of 40 medium-sized emerging cities in LAC, estimates show the cities will require US$23.5 billion in urban investment to meet the growing demands in the region. While such investment demands for urban infrastructure present opportunities to leverage public sector resources to mobilize private investment, this exceeds the financial capabilities of the involved subnational governments. In this context, this paper aims at providing new insights on the urban infrastructure demand and explores other financing mechanisms and instruments available to support sustainable urban infrastructure financing at the subnational level. The paper also provides new insights from the experiences and lessons learned from other international financial institutions (IFIs) in sub-sovereign urban infrastructure financing. Lastly, the document proposes actions for the consideration of the IDB to overcome the constraints faced by the mid-cities and for the long-term financing of urban infrastructure investment.

Table of contents

1. INTRODUCTION 10

Context and objective of the Report 10

2. INFRASTRUCTURE INDICATIVE DEMAND 12

Data Source and Methodology 12
The Big Picture 14
Regional Analysis 15
Sector Analysis 20
City-level Analysis 28

3. POTENCIAL FOR PRIVATE SECTOR PARTICIPATION 30

4. FINANCING SUSTAINABLE CITIES 34

Role of the IFIs 34
Financing trends and mechanisms 36
Concluding remarks 41

5. LOOKING FORWARD 42

Infrastructure demand 42
Financial sustainability and creditworthiness 43
Urban planning and governance 44
Developing bankable projects 44
Financing instruments and mechanisms 45
Promoting private sector participation 45
Next Steps 46

6. BIBLIOGRAPHY 48

1 Introduction

Context and objective of the Report

The Latin America and Caribbean (LAC) region has experienced one of the fastest urban growth rates in the world. Approximately 80% of its population currently lives in cities and this figure is projected to reach 86% by 2050. Research by the McKinsey Global Institute finds the Region's second tier intermediate cities are also rapidly urbanizing, becoming more prominent and accounting for almost one-third of the region's GDP and are likely to generate almost 40 percent of the region's GDP growth by 2025[1].

The rapid growth and unsustainable pattern of urbanization is creating daunting challenges for the municipalities of the mid-sized and emerging cities in the region. These challenges include limited mobility, poor urban planning, pollution, increased vulnerability to natural hazards, inequity, lack of compliance with labor and building regulations, unemployment, crime, and weak institutional and fiscal capacity, among others. These problems are compounded by the limited financing mechanisms and access to capital markets that lead to underdeveloped infrastructure in the provision of public services. These conditions undermine the cities' sustainability and reduce the quality of life of its inhabitants.

The objective of this paper is to estimate urban infrastructure demand based on a sample of 40 medium-sized emerging cities in LAC. This paper aims at providing new insights on the urban infrastructure demand and explores financing mechanisms and instruments available to support sustainable urban infrastructure financing at the subnational level. The narrative will attempt to identify and rank the cities with market opportunities based on the degree of concentration and characterization of the investment stock, and capacity to access capital markets, which varies greatly by country and cities.

1 McKinsey Global Institute, Building globally competitive cities: The key to Latin American growth, 2011.

This paper is not intended to provide a total estimate of the urban infrastructure gap in LAC, but rather to reflect an indication of the relative scale of the different investment needs in varying city and sector contexts. The use of a bottom-up approach provides a comprehensive estimate of the sub-national need for infrastructure services. A database of the pool of cities was developed to record urban interventions which are considered strategic and crucial for achieving sustainability goals of the cities and improving the quality of life of its citizens. Overall, estimates show that the cities will need US$23.5 billion infrastructure investment and pre-investment[2] of US$769.8 million to meet the growing demands.

Aggregate figures present diverse opportunities for project interventions, which vary dramatically across the region. However, these investment opportunities also pose financing challenges encountered by the cities aiming to reach medium-term sustainability and development. Large infrastructure investments can require complex planning and enormous amounts of resources exceeding the financial capabilities of the involved local governments, as well as the underlining contribution the IDB can make through its public and private sector lending.

The IDB recognizes that LAC cities are a major driving force for economic and social development. Over the years, the Bank has launched many programs and initiatives to provide direct support to mid-sized cities in LAC to grow in a more sustainable and equitable way while addressing their existing urban challenges. The IDB, in its role of a multilateral development bank (MDB), is also committed to several international agreements to foster sustainable urbanization, such as its commitment to support the SDG 11 which highlights the challenge of urban inequality and unsustainability promoting cities that are "inclusive, safe, resilient, and sustainable" (UN, 2016); and the New Urban Agenda adopted at Habitat III -a new framework that lays out how cities should be planned and managed to best promote sustainable urbanization (2016). In 2016, the Bank created the Housing and Urban Development Division (HUD) as the organizational unit responsible for providing analytical support and strategic thinking in the areas of urban and rural development, with a forward-look on the cities' sustainability in the areas of Habitat, Urban Development, Urban Tourism and Housing.

This paper is structured as follows: Section II provides an indicative estimate of the urban infrastructure demand based on a sample of 40 medium-sized emerging cities, outlining the methodology, and presents key findings at the regional, sector, and city level; Section III includes the urban interventions with potential for private sector participation either in its financing and/or implementation; Section IV focuses on the lessons of international financial institutions (IFIs) in financing urban projects, and illustrates innovative financing mechanisms; and Section V proposes actions for consideration by the IDB for the long-term financing of urban infrastructure investment.

2 Pre-investment costs include, among others: i) pre-feasibility and feasibility studies, ii) project due diligence (technical, financial, economic, environmental, and legal), iii) financial modeling, iv) transaction advisory and structuring, v) preliminary project designs, vi) contract preparation, tendering and selection procedures; vii) legal frameworks assessments, and other studies required for the preparation of the project.

2 Infrastructure Indicative Demand

A. Data Source and Methodology

This section provides an indicative estimate of the demand for urban infrastructure services based on a sample of 40 medium-sized emerging cities in LAC. The pool of cities was identified under the Emerging and Sustainable Cities Program (ESC) and City Action Plans[3] for the period 2011-2016. The City Action Plans were formulated under the ESC methodology. These contain prioritized project interventions with corresponding pre-investment and cost investment estimates and potential sources of financing for pre-feasibility studies and project implementation, among others. The cost estimates are the results of the methodology guidelines in the preparation of the City Action Plans. The costs were estimated and validated in the field by municipal technical teams, consultants, and/or Bank's sector specialists. The estimated amounts were calculated from lists of market reference prices, comparisons with similar projects, and the knowledge of technical staff and specialists.

3 The Emerging and Sustainable Cities Program (ESC) is a non-reimbursable technical assistance special program of the IDB to provide direct support to mid-size cities in LAC to grow in a more sustainable way while addressing their urban challenges. For more information about the program and data sources of the City Action Plans refer to http://www.iadb.org/en/topics/emerging-and-sustainable-cities/emerging-and-sustainable-cities-initiative,6656.html

A database of urban interventions was developed by the authors specifically for this paper based on data collected from the sample pool of cities. A bottom-up methodology was used to identify individual urban infrastructure interventions and cost estimates for their implementation. The database includes a general description of each urban intervention, level of priority, types of infrastructure (hard and soft), pre-investment and investment cost estimates, potential for private sector participation, sectors and sub-sectors, potential for climate change impact, and other key project characteristics. The compiled project information was then used to obtain the total infrastructure service demand by city, sector, and country. The calculation provided a cost estimate by project and by sector and the cumulative cost at the city and country levels. The data also allowed building infrastructure demand profiles for grouping of the cities by population size in the region.

This paper is not intended to provide a total estimate of the urban infrastructure gap in LAC, but rather to reflect an indication of the relative scale of the different investment needs in varying city and sector contexts. For purposes of this analysis, the database was validated with the Bank's sector specialists in the field, consultants, and in some cases with other strategic financial institutions. Nevertheless, a limitation to this approach may be that in some cities there is a possibility of an upward bias of the project cost estimates due to the lack of pre-feasibility studies and/or the absence of comparable projects within the country. Preliminary cost estimates are not necessarily consistent across all the cities due to different capacities and perspectives of the data-gathering firms. To mitigate these differences, the database was reviewed by the authors to reduce redundancy and improve data integrity.

Overall, the cities require an estimated US$23.5 billion in urban investments, with a pre-investment cost of US$769.8 million to meet the growing demand in the Region. The following section presents an overview and the main findings of the infrastructure needs of the cities in the sample.

B. The Big Picture

The total infrastructure investment requirements consist of 1,404 urban interventions estimated at US$23.5 billion, with a pre-investment cost of US$769.8 million. The range of the relative size of the investments required by the cities is from US$5 million to US$3.8 billion. From the pool of urban interventions, 23% were identified as having potential for private sector participation[4] in their financing and/or implementation. While an effort was made to identify those urban interventions having the potential for private sector participation, this paper is not intended to estimate private investment in public infrastructure, but rather to provide an indication of the types of projects and sectors where private sector participation will be needed to deliver urban infrastructure to the cities.

TABLE 1
Public and Private Sector Participation

TYPE OF PARTICIPATION	PROJECTS (#)	PRE-INVESTMENT (US$ IN MILLIONS)	INVESTMENT (US$ IN MILLIONS)
PUBLIC SECTOR	1,086	401.2	10,377.9
PRIVATE SECTOR	318	368.6	13,149.4
GRAND TOTAL	1,404	769.8	23,527.3

Source: Authors' calculations using HUD database.

The type of urban infrastructure required in the different cities was also assessed. In this respect, *hard infrastructure* (i.e. brick and mortar) mainly refers to tangible assets and is often associated with public works for core services (i.e., urban development, transportation, water and sanitation, solid waste management and energy). On the other hand, *soft infrastructure* refers to specific operations or processes aimed at technical assistance, institutional strengthening, and human capital building (i.e. fiscal management, cadasters, operations control centers and urban governance). While hard infrastructure matters, soft infrastructure is key, given that regulatory mechanisms and other institutional frameworks and substantive policies are critical and must be put in place to facilitate the efficient operation, functioning and sustainability of the hard infrastructure component.

TABLE 2
Hard and Soft Infrastructure

TYPE OF INFRASTRUCTURE	PROJECTS (#)	PRE-INVESTMENT (US$ IN MILLIONS)	INVESTMENT (US$ IN MILLIONS)
HARD INFRASTRUCTURE	548	514.2	21,014.7
SOFT INFRASTRUCTURE	856	255.7	2,512.6
GRAND TOTAL	1,404	769.9	23,527.3

Source: Authors' calculations using HUD database.

4 This includes interventions which have the potential for private sector participation in the execution and/or financing of urban infrastructure projects. The project intervention presents the opportunity for private sector participation through structuring a public-private partnership scheme and/or concession within a regulatory framework, potential sources of financing (private investment or other financial structures and vehicles) and/or a broader expertise and technology transfer that the private sector can bring for the effective implementation of the project.

Overall, hard infrastructure investment represents 89% of the total investment needs, while soft infrastructure accounts for 11%. The data reveals a significant number of interventions required by the cities in the areas of fiscal management, modernization of tax collection systems, property taxes, cadasters, digitalization of citizen services, planning instruments (i.e., urban master plans, mobility plans), capacity building, institutional strengthening, feasibility studies, and integrated operational control centers. This demand reflects the need of improving the cities' urban governance, fiscal and financial management, and willingness to move forward towards smart management to serve its citizens.

C. Regional Analysis

The cities were grouped by population ranges to better understand the investment needs in the region. The population size is significant to define different financial, technical, and coverage strategies for project selection. This also includes different degrees of project complexity, environmental and social risks, institutional capacity response, and creditworthiness. These analyses refer to population ranges presented by UN-Habitat literature (UN-HABITAT, 2012). Table 3 exhibits the amounts needed for urban infrastructure by city size.

TABLE 3
City Group by Population

CITY GROUP	POPULATION	CITIES (#)	INVESTMENT (US$ IN MILLIONS)	% OF INVESTMENT
A	> 1,000,000	9	10,562.9	45%
B	500,000 - 1,000,000	6	3,231.4	14%
C	< 500,000	25	9,733.0	41%
GRAND TOTAL		40	23,527.3	100%

Source: Authors' calculations using HUD database.

In line with the population ranges, Figure 1 ranks the investment needs by city within each group. Overall, the data indicates that the top cities demanding investments of over US$1 billion include: Panama City (US$3.8 billion); Asunción (US$2.9 billion), San José (US$2.1 billion), Santiago de los Caballeros (US$1.1 billion), and Mar del Plata (US$1 billion). Together, these cities represent 46% (US$11 billion) of the urban infrastructure investments needs. Panama City itself accounts for 16% of the total investment needs.

The country of the cities is an important factor in addressing the concentration of investment needs in the Region. Figure 2 shows that the Top 7 countries with the most investment needs estimated at US$18.7 billion (79% of total investment) are Panama, Brazil, Colombia, Paraguay, Argentina, Costa Rica, and the Dominican Republic.

Costa Rica, the Dominican Republic, Paraguay and Panama are countries with a single-city requiring significant amounts of infrastructure investment. In contrast, there are other countries with a significant infrastructure demand attributed to multiple cities and consolidation of investment requirements, such as: Argentina with 5 cities, Brazil (6), Colombia (8), Mexico (3), and Peru (2).

▼ FIGURE 1

City Ranking by Group. Total Indicative Investment Needs

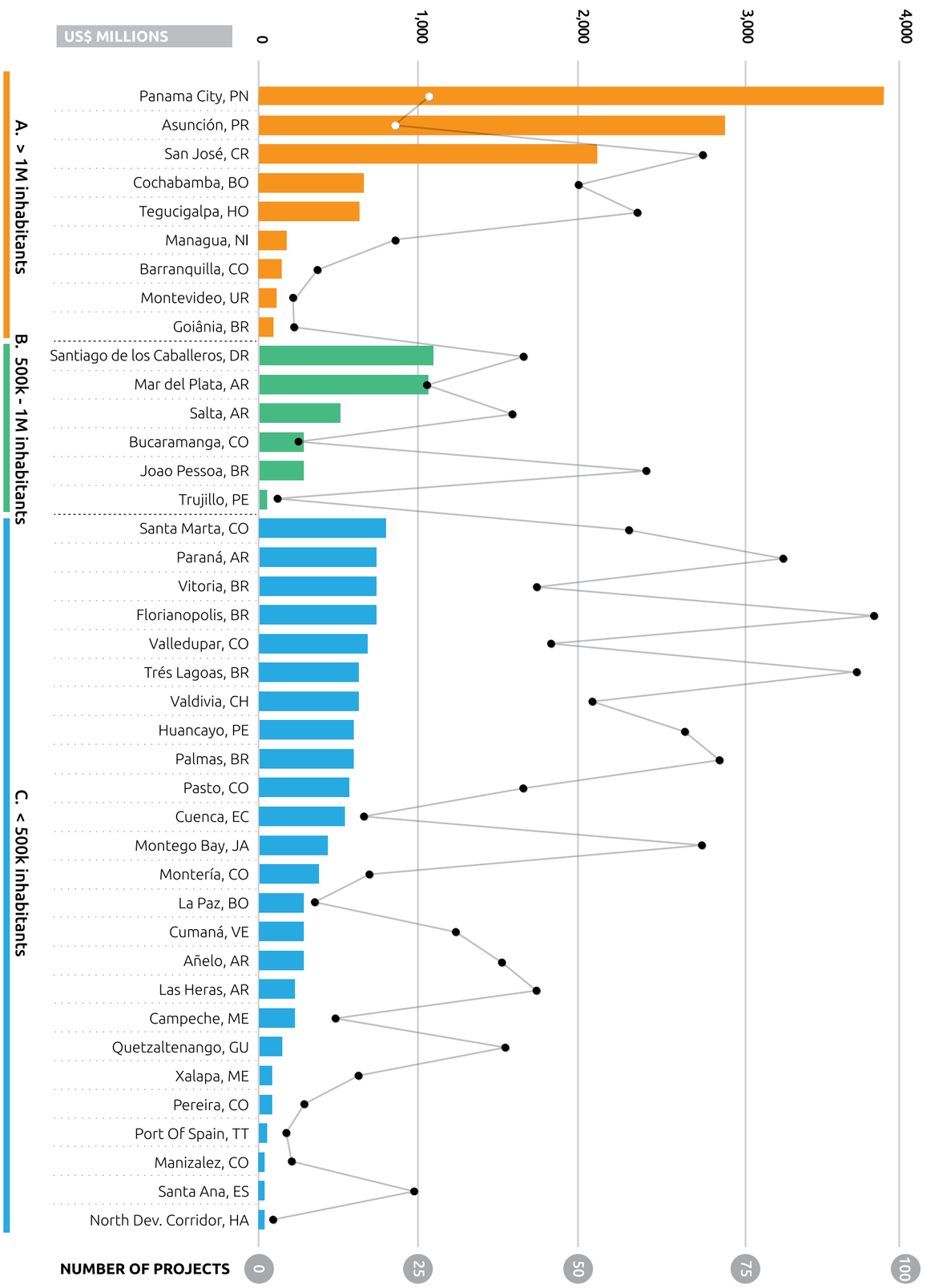
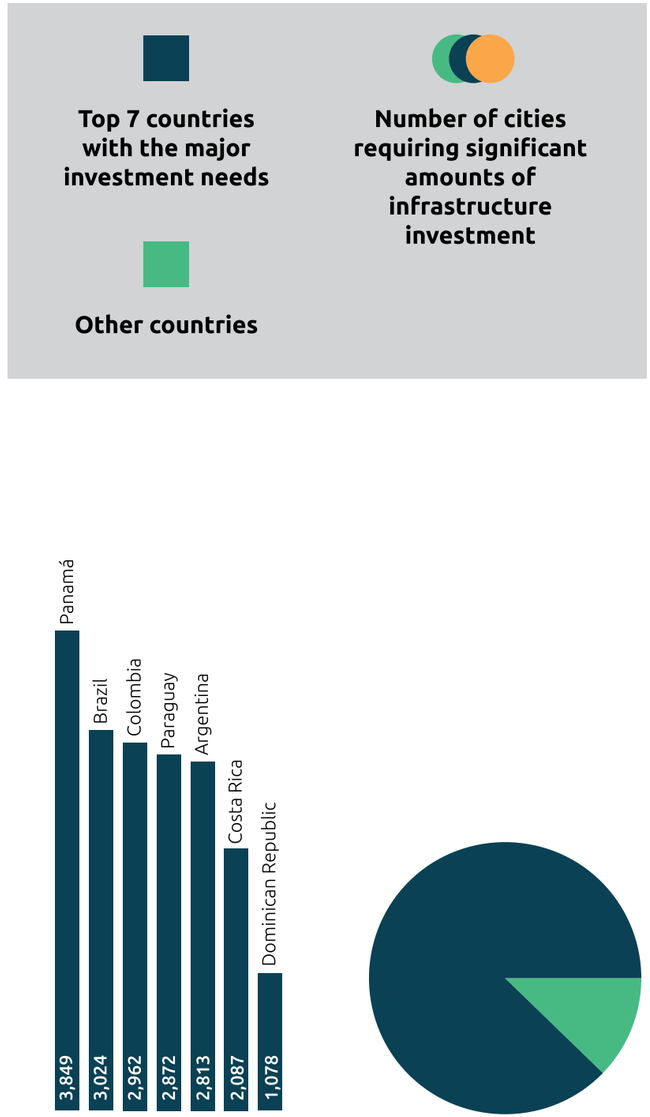


FIGURE 2

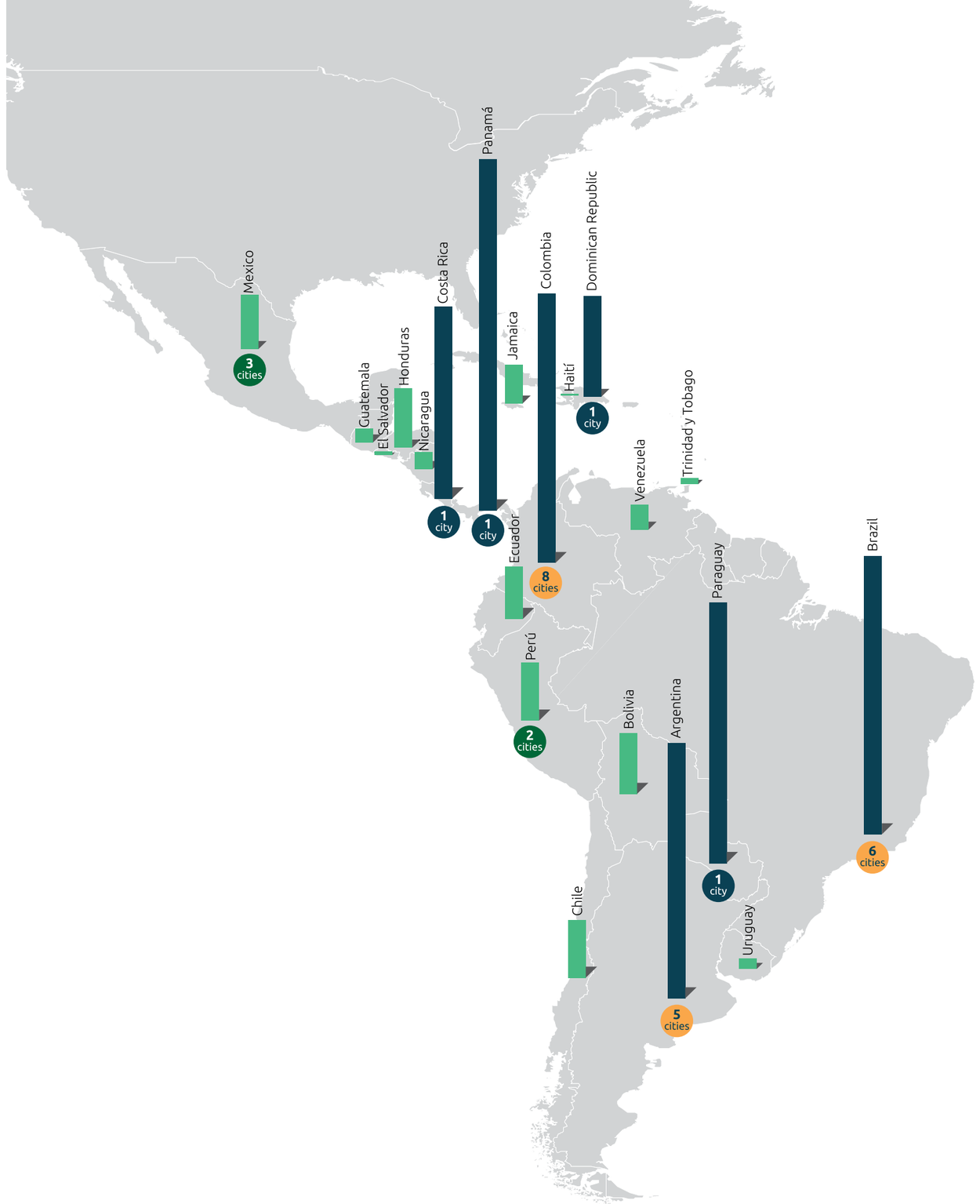
Total Investment Needs by Country (US$ Millions)



Total investment of US$18.7 billion

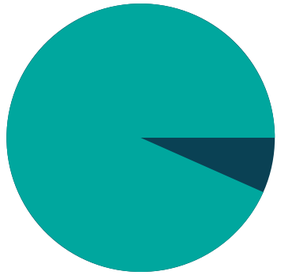
79% of total investment

TOP 7 COUNTRIES



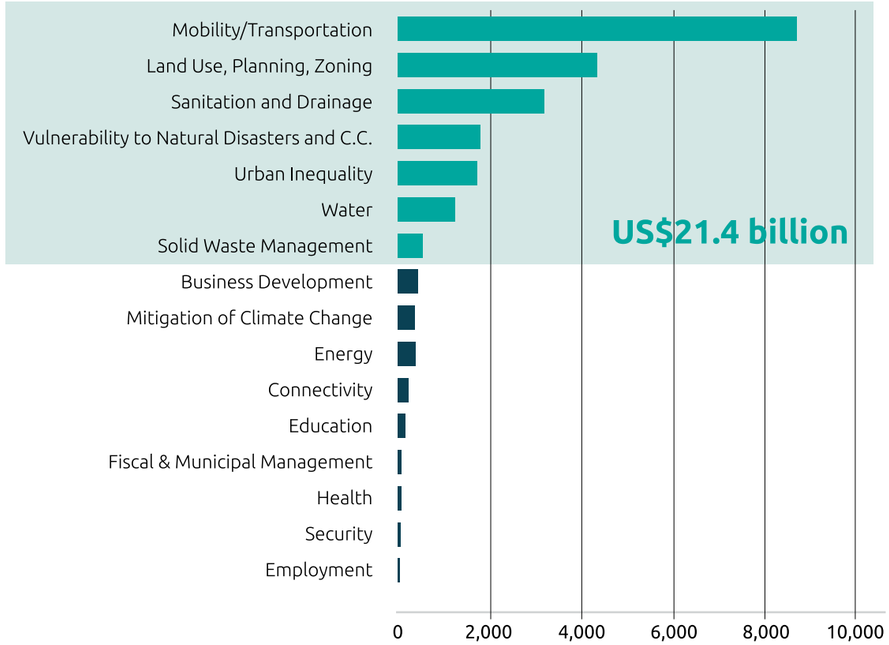
D. Sector Analysis

Figure 3 presents the breakdown of investment needs by sector. The data reveals that the cities consistently exhibit significant infrastructure investment needs in public services ranked as follows: (i) Mobility & Transportation (US$8.7 billion, 37% of total); (ii) Land Use, Planning and Zoning (US$4.3 billion, 18%); (iii) Sanitation and Drainage (US$3.1 billion, 14%); (iv) Vulnerability to Natural Disasters and Climate Change (US$1.8 billion, 8%); (v) Urban Inequality (US$1.7 billion, 7%); (vi) Water (US$1.3 billion, 5%), and (vii) Solid Waste Management (US$539 million, 2%). **These investment requirements amount to US$21.4 billion and account for 92% of the total investment needs.**



Key sectors represent 92% of the total investment

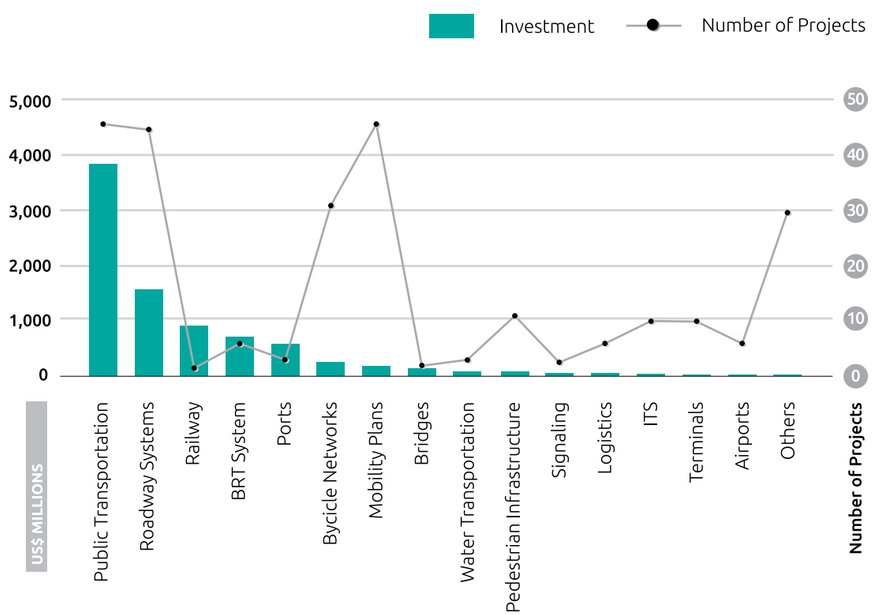
▼ **FIGURE 3**
Total Investment Needs by Sector (US$ Millions)



Some sectors offer a wide range of services and alternatives to solve city needs. An effort was made to further analyze the breakdown of specific sectors given the scale of the required investments, the variety of the investment requirements among the cities, and other sectors which are of interest for the IDB's business development. Thus, the data was analyzed for the following sectors: i) Mobility & Transportation, ii) Land Use, Planning and Zoning, iii) Urban Inequality, iv) Vulnerability to Natural Disasters and Climate Change. In the case of Sanitation and Drainage, the areas of Water, Solid Waste Management, and Energy were excluded given that the detailed data clearly focuses the actions within the main sector. Emphasis was given to Connectivity as it poses a new business development area for the IDB, and there is a notable demand for cities in migrating from traditional management to smart management. Lastly, an effort was made to identify those interventions with potential for climate change impact.

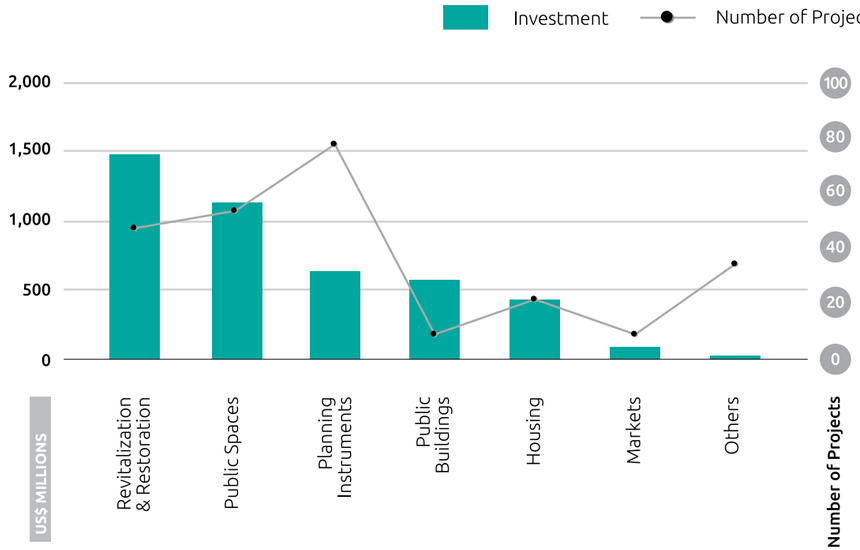
Mobility & Transportation is a crucial sector for social and economic development as it allows people to access services, employment opportunities, education, and social relations. The sector has 260 project interventions estimated at US$8.7 billion. Public transportation concentrates 45% of the investment needs estimated at US$3.9 billion with 46 projects, followed by Roadway Systems estimated at US$1.6 billion with 45 projects. There are railways (2 projects) and Bus Rapid Transit Systems (BRT) (10 projects), requiring high volumes of investment, estimated at US$940 million and US$747.8 million, respectively. Other key urban infrastructure areas with significant investment requirements are bicycle networks, pedestrian infrastructure, mobility planning, signaling, logistics, Intelligent Transportation System (ITS), tram and cableway systems, safety, and institutional strengthening.

▼ **FIGURE 4**
Total Infrastructure Investment in Mobility & Transportation



Land Use, Planning and Zoning is the second largest sector with investment needs estimated at US$4.3 billion for 250 projects. Of this amount, urban revitalization and restoration accounts for 34% of the investment needs comprised of 47 projects estimated at US$1.5 billion, followed by 26% in public spaces (53) estimated at US$1.1 billion, and 15% in Planning Instruments (77) estimated at US$635 million. Other urban infrastructure needs includes public buildings, parks and recreation, markets, sport centers, as well as institutional strengthening interventions.

FIGURE 5
Total Infrastructure Investment in Land Use, Planning and Zoning



The conservation of urban heritage is still on the agenda of local governments. There are 27 cities with historical centers requiring investments estimated at US$662 million. These investments are mainly for Revitalization & Restoration (30%), Housing (24%), Mobility Planning (15%), Roadways Systems (15%), and Markets (8%).

Urban Inequality. The rapid urbanization of the second half of the 20th century is reflected today in urban inequalities and social and special segregation in the region (UN-HABITAT, 2012). The aggregated data identified 35 project interventions to address urban inequality with an estimated amount of US$1.7 billion, mainly for Neighborhood Improvements which account for 54% of the total investment estimated at US$951 million (13 projects), Housing with 35% estimated at US$610 million (13 projects), and Resettlement with 5% at US$94 million (3 projects).

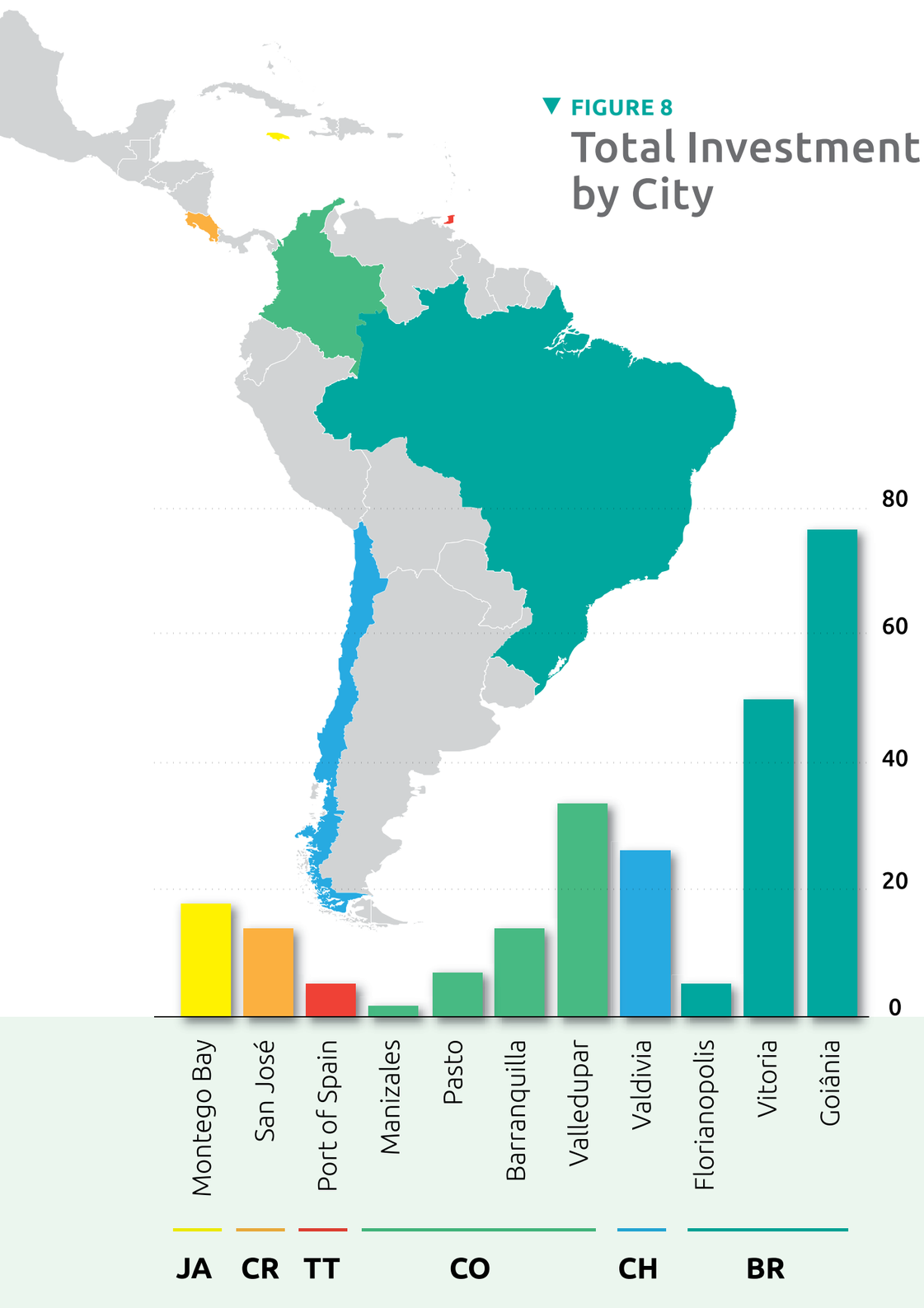
Vulnerability to Natural Disasters and Climate Change. The total investment needs are estimated at US$1.8 billion (73 projects). Figure 7 shows that investment needs are mainly in Drainages (US$892.4 million, 50% of total investment), Flood Control (US$392.8, 22%), and Risk Management (US$258.3, 14%). A significant number of interventions are required for Institutional Strengthening and Planning Instruments (33 projects, 45% of total).

FIGURE 6
Total Infrastructure Investment in Urban Inequality

FIGURE 7
Total Infrastructure Investment in Vulnerability to Natural Disasters and Climate Change

▼ FIGURE 8

Total Investment by City

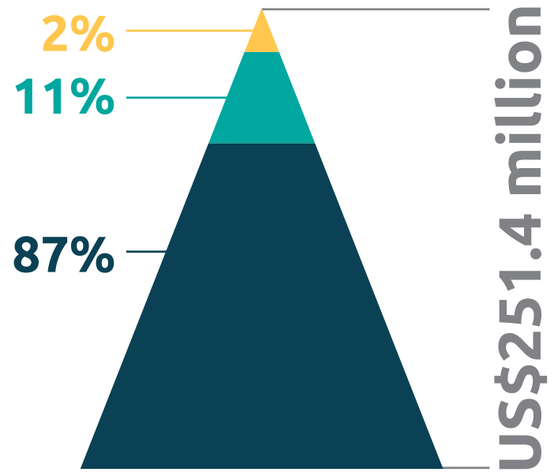


Connectivity was evaluated as a mainstay of Smart Cities Management, which involves the connection of diverse sectors. Developing infrastructure networks and connectivity for cities are essential to integrating core economic activities and basic services in the cities. LAC's smart city market is expected to grow by 19.4% per year, reaching US$758 billion by 2020 (BN-Americas, 2016). The IDB is promoting an approach for migrating to smart urban management. This approach places people at the center of development, incorporates Information and Communication Technologies (ICT) into urban management, and uses these elements as tools to stimulate the design of effective governments that include collaborative planning and citizen participation (Bouskela, 2016).

This analysis identified that at least 40% of the cities have carried out some type of smart city assessment requiring an estimated investment of US$251.4 million, 87% mainly for Integrated Operational and Control Centers (IOCC), 11% for improving Broad Band Internet networks, and 2% for connecting Sensors and Devices. In general, the cities demand integrated solutions for covering different areas in transportation, safety/security, response to emergencies, and disaster management, among others, to improve the quality of life of their citizens.

▼ FIGURE 9

Total Investment in Connectivity Sector



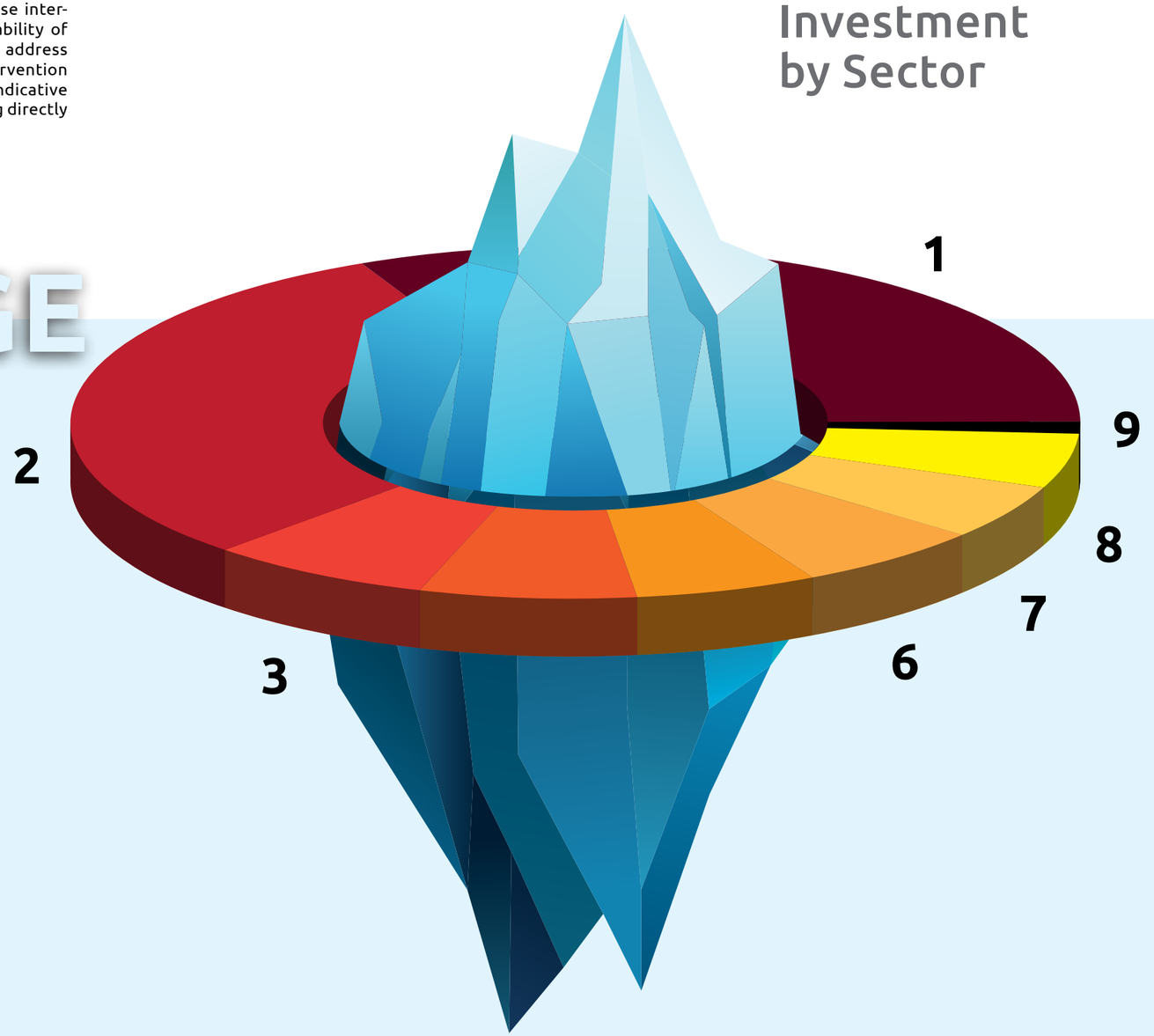
Climate Change. Efforts were made to identify those urban interventions with potential for climate change impact either through adaptation and/or mitigation. The urban interventions expected to contribute to climate change are categorized under Vulnerability to Natural Disasters with an estimated investment of US$1.8 billion, and Mitigation of Climate Change estimated with US$372.8 million.

There are other urban interventions that could have an impact on Greenhouse Gas (GHG) emissions or could be vulnerable to impacts of climate change. For example, interventions in Mobility and Transportation, Sanitation and Drainage, Water, as well as Land Use, Planning, and Zoning include structural and nonstructural measures that could have an impact on climate change. However, further analysis is required to determine if these interventions reflect the context of climate vulnerability of the city, have an explicit statement of intent to address climate vulnerability; and/or if the project intervention impacts climate change. Figure 10 shows an indicative distribution of investment by sector contributing directly or indirectly to climate change.

CLIMATE CHANGE

FIGURE 10

Climate Change: Indicative Investment by Sector



1	Mobility / Transport	**32%**
2	Sanitation & Drainage	**31%**
3	Water	**7%**
4	Vulnerability to Natural Disasters and Climate Change	**7%**
5	Land Use, Planning and Zoning	**6%**
6	Solid Waste Management	**6%**
7	Mitigation of Climate Change	**5%**
8	Energy	**5%**
9	Urban Inequality	**1%**

E. City-level Analysis

The objective of this section is to outline an indicative demand profile of the group of cities. Sector data analyzed for the groups of cities shows that, at first glance, cities have similar infrastructure needs with variations in the number of projects and the estimated investment amounts. However, there are significant differences among the three city groups with the types and size of the investment requirements at the subsector level. For example, a Group A city may need the improvement of an existing BRT for an established public service, a Group B city may require the construction of a new BRT (greenfield project), while a Group C city lacks the capacity for a BRT system and requires an adaptable solution. Figure 11 presents the breakdown of investment needs by sector among the group of cities.

Group A: Cities with more than 1 Million Inhabitants

Group A cities report the highest investment requirements in mobility and transportation, estimated at US$4.3 billion. The investment is mainly focused on Public Transportation (81%), Roadway Systems (11%), and BRT systems (6%). Land Use, Planning and Zoning ranks second with an estimated investment of US$2 billion, concentrated in Public Spaces (35%), Planning Instruments (25%), and Public Buildings (25%). The third key sector is Sanitation and Drainage with estimated investment of US$1.5 billion, followed by Vulnerability to Natural Disasters and Climate Change with US$1.3 billion. These sectors represent 85% of the total investment requirements in Group A.

Group B: Cities from 500,000 to 1 Million Inhabitants

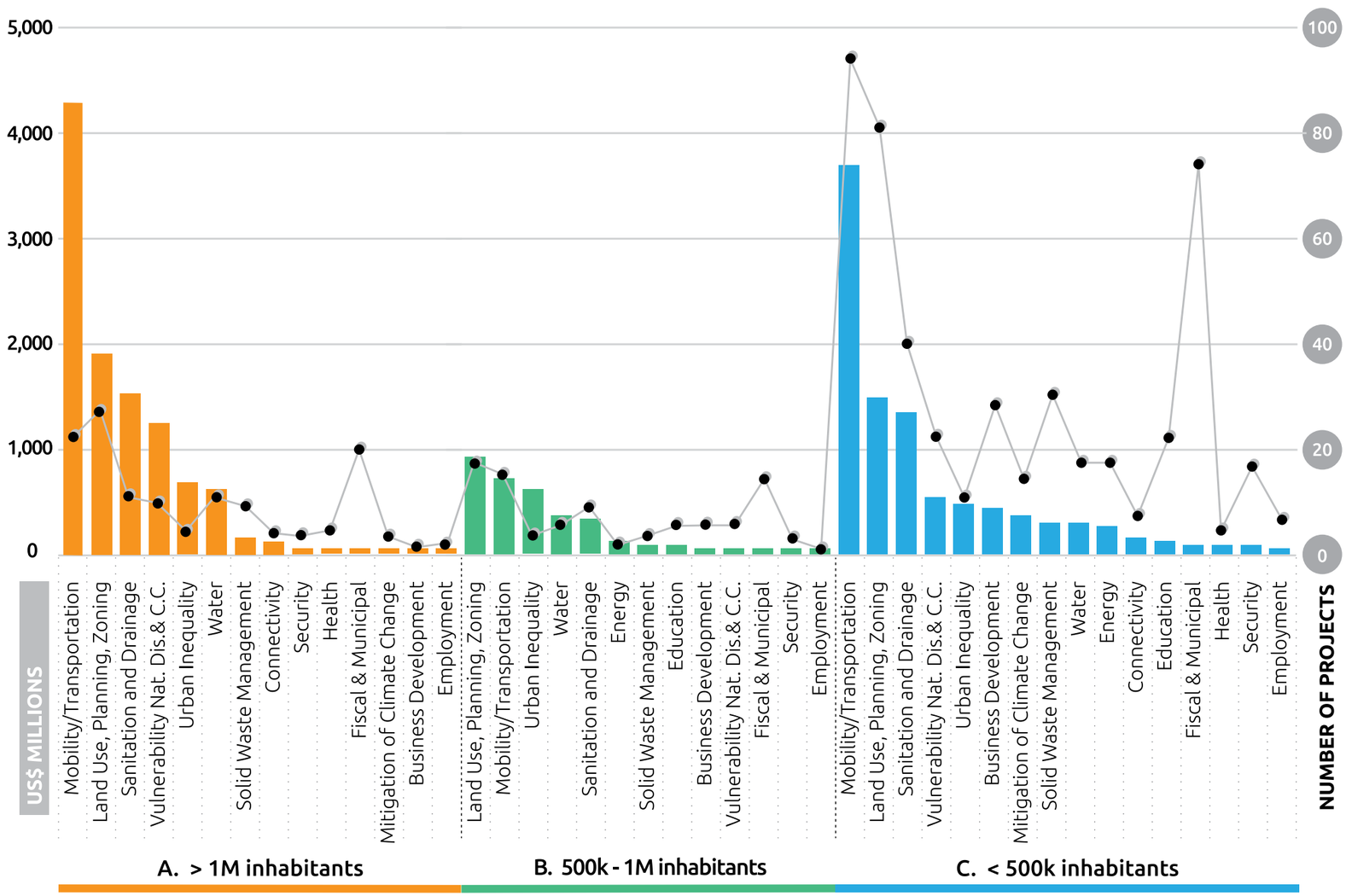
In the case of the Group B cities, the prioritization by sector is led by Land Use, Planning and Zoning with an estimated amount of US$920 million. The investment is centered in Revitalization and Restoration (62%), Public Spaces (20%), and Planning Instruments (8%). Mobility and Transportation ranks second with an estimated investment of US$715 million, mainly in Public Transportation (48%) and Roadway Systems (29%). Urban Inequality ranks third with US$604 million in investment needs, of which 36% is mainly for Neighborhoods Improvements.

Group C: Cities under 500,000 Inhabitants

Group C cities follow the trend described by UN-Habitat- the group is diverse, numerous, and with a considerable range of population among the cities (UN-HABITAT, 2012). The breakdown of the investment requirements is distributed among several sub-sectors, led by Mobility and Transportation with a significant number of projects (187) accounting for US$3.7 billion, mainly for Roadway Systems (32% of total investment) and Public Transportation (26%). This is followed by Land Use, Planning and Zoning with US$1.5 billion, of which 50% is concentrated on Revitalization and Restoration of the cities, Public Spaces (18%), and Housing (14%). These sectors aggregate a significant number of Planning Instruments with low investment amounts. The third key sector for these cities is interventions for Sanitation and Drainage estimated at US$1.4 billion.

The Fiscal & Municipal Management sector merits special attention. Despite being a sector with low investment amounts, the number of interventions required is noteworthy. Aggregate figures show Group C cities have the highest demand for Fiscal and Municipal Management amassing a significant number of projects (147) with an estimated investment of US$89.5 million, accounting for 82% of the total investment needed for fiscal needs of the pool of cities. The cities' investment priorities are centered in the modernization of the cadasters (13 cities), taxes and financial autonomy, modernization of public management, debt management, and subnational credit assessments, among others.

FIGURE 11
Total Indicative Investment Needs by Sector (US$ Millions)



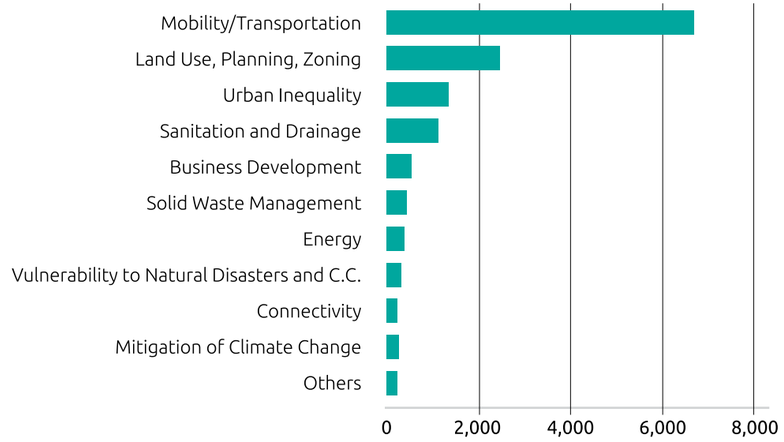
3 Potential for Private Sector Participation

The public sector remains a critical actor in enabling infrastructure solutions to meet basic needs and is central to the delivery of infrastructure services. However, while there may be large expectations that the public sector trend will continue, this must be adjusted within a restricted fiscal space. In this context, the private sector is poised to become a major force in the development of LAC urban areas.

This section presents those urban interventions which the cities identified as having the potential for private sector participation in their financing and/or implementation. Twenty-three percent (318 projects) estimated at US$13.1 billion in investment of the pool of urban project interventions have the potential for private sector participation. While this assessment is not intended to specifically estimate private investment in public infrastructure, it provides an indication of the types of projects and sectors where private sector participation could deliver urban infrastructure in these cities.

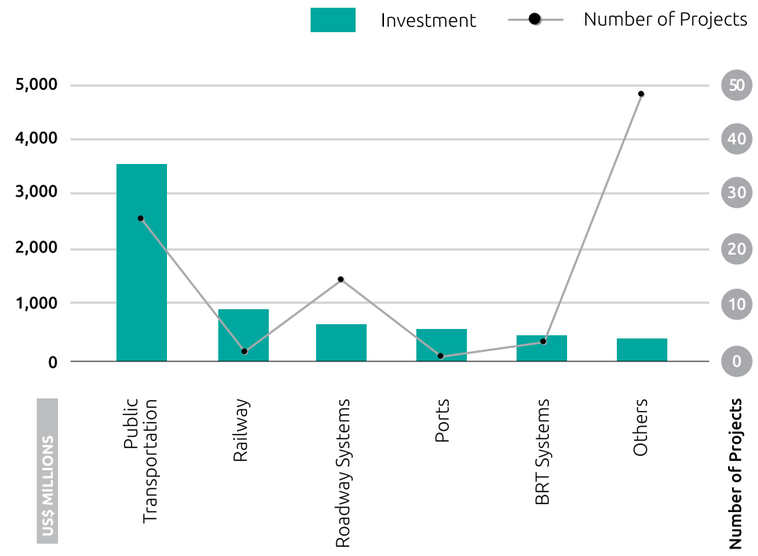
The investment opportunities for private sector participation within the groups of cities are mainly focused in Mobility and Transportation (US$6.7 billion), accounting for 51% of the total investment needs in the cities. Land Use, Planning, and Zoning (US$2.4 billion) ranks second with 18% of total investment, followed by Urban Inequality (US$1.2 billion) with 10%, and Sanitation and Drainage (US$1 billion) with 8%.

FIGURE 12
Total Urban Infrastructure Indicative Investment Needs (US$ Millions)



The **Mobility & Transportation** investment requirement of US$6.7 billion is largely concentrated in Public Transportation with US$3.6 billion (54% of total), followed by Railways with US$940 million (14%), and Roadway Systems US$666 million (10%). Other key urban infrastructure projects at lower investment costs include: bicycle networks, water transportation, pedestrian infrastructure, signaling, logistics, Intelligent Transportation System (ITS), tram and cableway systems.

FIGURE 13
Total Infrastructure Investment in Mobility & Transportation



Land Use, Planning and Zoning ranks second with investment needs estimated at US$2.4 billion. The investment required is mainly for urban Revitalization and Restoration (33%) with US$787 million, followed by Public Spaces (28%) with US$677.2 million, Public Buildings (22%) with US$526.3 million, and Housing (14%) with US$337 million.

FIGURE 14
Total Infrastructure Investment in Land Use, Planning and Zoning

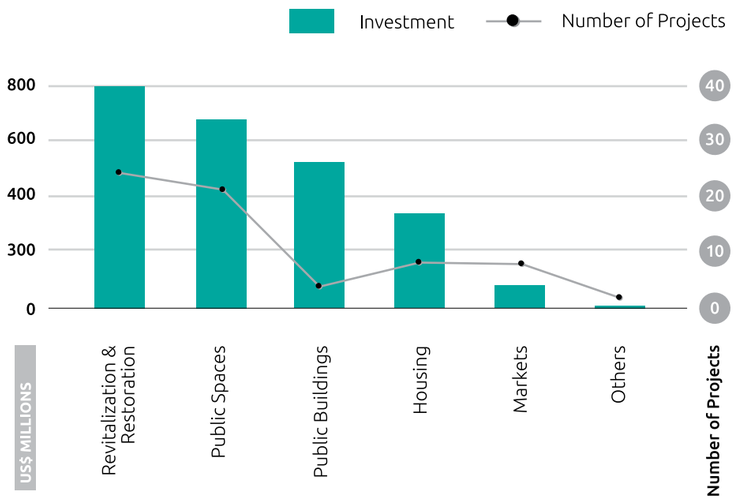
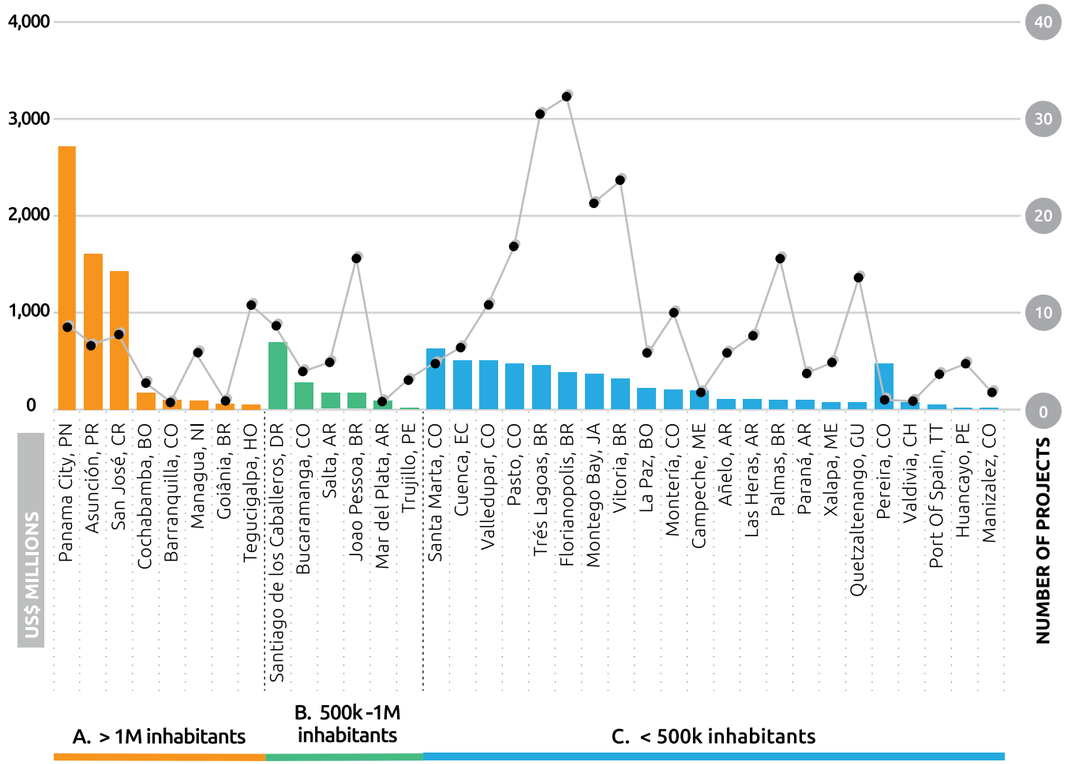


Figure 15 shows that the cities with the highest amounts of investment with potential for private capital are: Panama City (US$2.8 billion), Asunción (US$1.6 billion), San José (US$1.5 billion), Santiago los Caballeros (US$722 million) and Santa Marta (US$654.8 million). These cities account for 55% of the total investment needs of the pool of cities in the Region.

FIGURE 15
Infrastructure Investment Needs by City (US$ Millions)



At the country level, aggregate figures show that urban interventions with potential for private sector participation are mainly in Panama, Colombia, Paraguay, Brazil, Costa Rica and the Dominican Republic with significant concentration and capital-intensive investment needs estimated at US$10.6 billion (80% of the total investment).

4 Financing Sustainable Cities

A. Role of the IFIs

Overall, intermediate-size cities are often faced with fiscal and legal restraints to make the required investments. Some of these restrictions include: low credit rating scores; national/local sovereign ceilings limiting the capacity to provide guarantees; managing off-balance sheet liabilities; credibility in debt management; debt service and repayment capacity; and legislative mandates limiting the managing capacity and flexibility in revenue and expenditures allocations.

Under these conditions, sub-sovereign urban infrastructure financing presents multiple challenges for the cities, local and international financial institutions, as well as the private sector. Nevertheless, these challenges present opportunities to leverage public sector resources to mobilize private investment in urban infrastructure. In this regard, the role of the IDB in financing urban infrastructure and services, and bringing local governments to the point of being able to access capital markets is critical to bridging the gap between the need for infrastructure and the ability of sub-national authorities to deliver public services.

Efforts were made to learn from the successful experiences of other international financial institutions (IFIs) in financing urban infrastructure projects, targeting innovative financing instruments[5] and/or mechanisms that could be adaptable to LAC. This section is not intended to focus on the funding of infrastructure projects, but rather on the financing mechanisms and instruments needed to unlock access to capital markets for the financing of bankable projects. The following IFIs were analyzed: European Bank for Reconstruction and Development (EBRD), Asian Development Bank (ADB), African Development Bank (AfDB), Islamic Development Bank (IsDB), and the World Bank (IBRD). Currently, the IsDB does not offer sub-sovereign lending. The World Bank Group counts with similar directives and financial instruments for sub-sovereign lending as the IDB, except for the International Finance Corporation, which lends directly to municipalities and municipal entities. The following are the main findings and lessons learned from the IFIs:

Globally, all IFIs are faced with similar challenges with local governments in their respective Regions, primarily:

I. ***LACK OF CREDITWORTHINESS.***
Sub-national authorities with limited fiscal, financial, and institutional capacities, which are often less credit-worthy, either lack a credit rating or have a non-investment grade rating;

II. ***LIMITED FUNDS FOR DEVELOPING BANKABLE PROJECTS.***
Lack of funding for project preparation and structuring that will allow municipalities to bring forward bankable projects for the financing of infrastructure investment;

III. ***LIMITED FINANCING INSTRUMENTS AND MECHANISMS.***
Limited financial instruments and mechanisms that would allow the local governments to finance their infrastructure and local development.

In general, the IFIs share a common ground in their role of addressing these challenges and financing urban infrastructure focusing their efforts in the following key areas:

I. ***PROJECT PREPARATION AND DEVELOPING BANKABLE URBAN PROJECTS.***
Providing comprehensive support for project preparation to improve efficiency, focus and quality of project readiness for both the public and private sectors, including public and private partnerships (PPP);

II. ***FUNDING AND FINANCING OF INFRASTRUCTURE PROJECTS[6].***
Structuring funding and financing of municipal infrastructure and services to improve service levels;

III. ***INNOVATIVE FINANCING.***
Providing support that will allow for the structuring of financial arrangements and funding schemes to effectively tap the financial markets for urban infrastructure and local economic development;

IV. ***BUILDING CAPACITY THROUGH TECHNICAL ASSISTANCE.***
Providing support in the areas of institutional capacity building, enhancing sub-national creditworthiness to become financially credible and accountable, and exploring financial vehicles and mechanisms in strategically selected cities;

V. ***PROMOTING PRIVATE SECTOR INVOLVEMENT,***
when appropriate

The following are some of the financial mechanisms, initiatives, and facilities presented by the IFIs to address the sub-national lending challenges and to support municipal infrastructure and services, which have the potential to be replicated and adapted for urban financing in LAC.

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5 The World Bank defines *innovative financing* for development as those that depart from traditional approaches to mobilizing development finance that is, through budget outlays from established sovereign donors or bonds issued by multilateral and national development banks exclusively to achieve funding objectives. Innovative development finance therefore involves non-traditional applications of solidarity, PPP, and catalytic mechanisms that (i) support fundraising by tapping new sources and engaging investors beyond the financial dimension of transactions, as partners and stakeholders in development; or (ii) deliver financial solutions to development problems on the ground" (World Bank 2009).

6 *Infrastructure funding* refers to revenue sources, often collected over a span of many years, which are used to pay the costs of providing infrastructure services (i.e., tax revenues, revenues from user charges, other charges or fees dedicated to infrastructure). Infrastructure financing refer to the financing of long-term infrastructure and public services based upon a non-recourse or limited recourse financial structure, in which project debt and equity used to finance the project are paid back from the cash flow generated by the project.

B. Financing Trends and Mechanisms

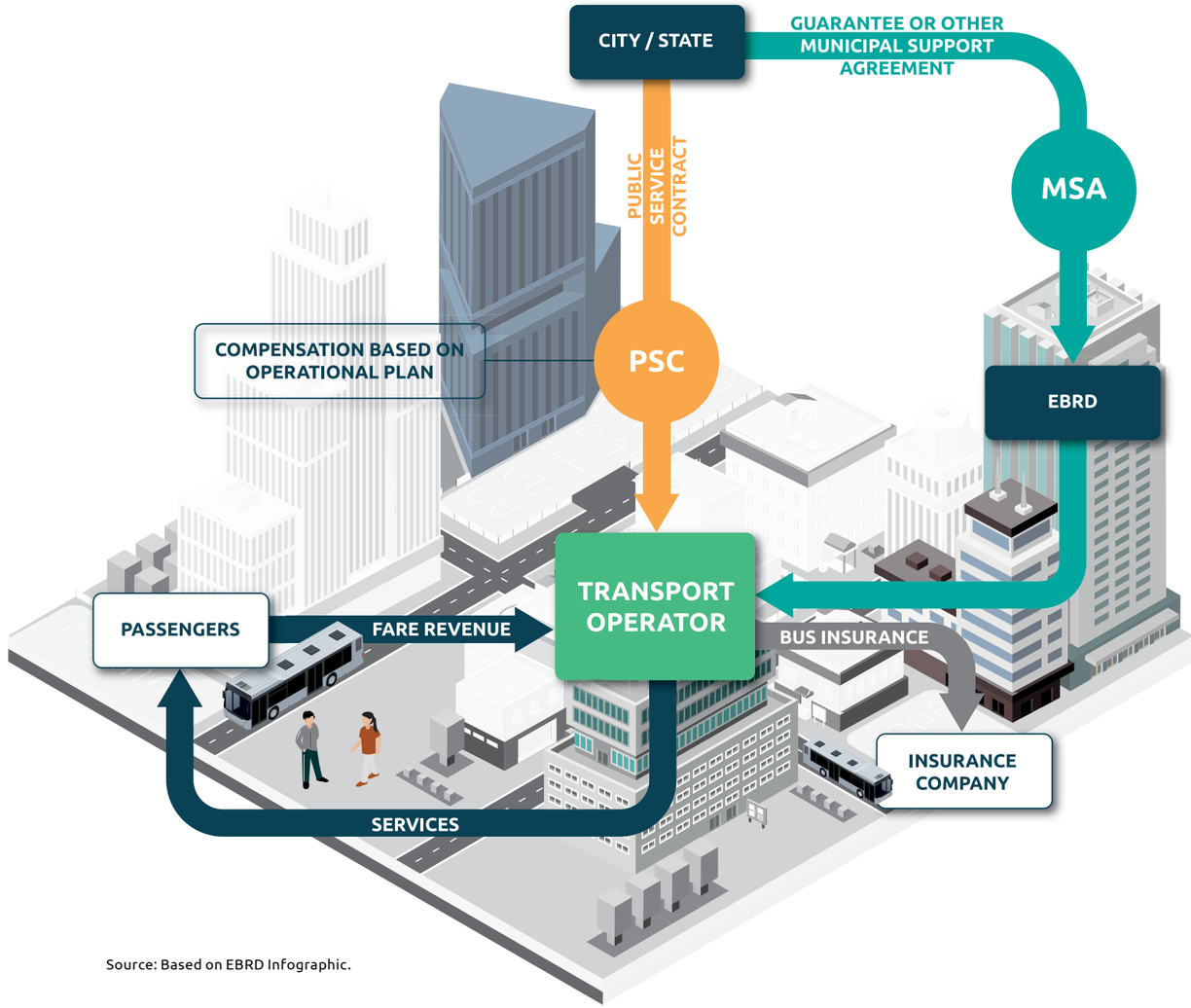
1. Value-Added Approach for Municipal Infrastructure Investment

The EBRD has taken a gradual approach to financing municipal infrastructure and services, bringing clients to the point of being able to access commercial funds in the market. It has successfully achieved this by offering a broad range of financing instruments while supporting financing using technical cooperation and investment grants. The EBRD finances diverse enterprises in key sectors such as: (i) Water and wastewater; (ii), Urban transport; (iii) Solid waste, (iv) District heating/cooling, parking, other municipal services; and (v) Social infrastructure (schools, hospitals) using long-term facilities management PPP models.

The EBRD has developed a financing approach through sub-sovereign direct lending, supported by solid funding contract arrangements and adapting financial and institutional instruments to improve creditworthiness within an off-balance sheet project financing structure. These efforts are supported with technical assistance to build the capacity of their clients.

The EBRD uses a two-pronged strategy based on a public-service contract **(PSC)** backed and reinforced by a municipal support agreement **(MSA)**. The PSC is a multi-year contractual agreement between the service provider (i.e., municipal entity, operator, other) and the municipality (owner) that clarifies the commitments, rights and obligations of all parties involved (city, company, users), with built-in performance standards, incentives and penalties. Public payments are based on delivered services as per PSC agreed operational plan and key performance indicators (KPI) compliance. The PSC acts as a strong risk mitigator that helps lower the overall risk profile of the project, thus serving as a credit-enhancement tool. The MSA is an instrument which backs the PSC and is signed to support and maintain the PSC for the duration of the loan payback period. Box 1 illustrates a typical PSC in urban transport.

BOX 1
EBRD Structure for Urban Transport Operator (metro/LRT/bus)



Source: Based on EBRD Infographic.

The PSC is complemented by EBRD-funded technical cooperation during implementation as a critical element to improve the credit worthiness of any given municipal entity and/or project. The EBRD typically provides a comprehensive package of institutional and regulatory support to both municipalities and operators in the sector. This comes in the form of technical cooperation carried out by expert consultants and provided through grants from donor countries.

Figure 16 exhibits the range of borrowing municipalities with different fiscal, financial and administrative capacities allocated as follows:

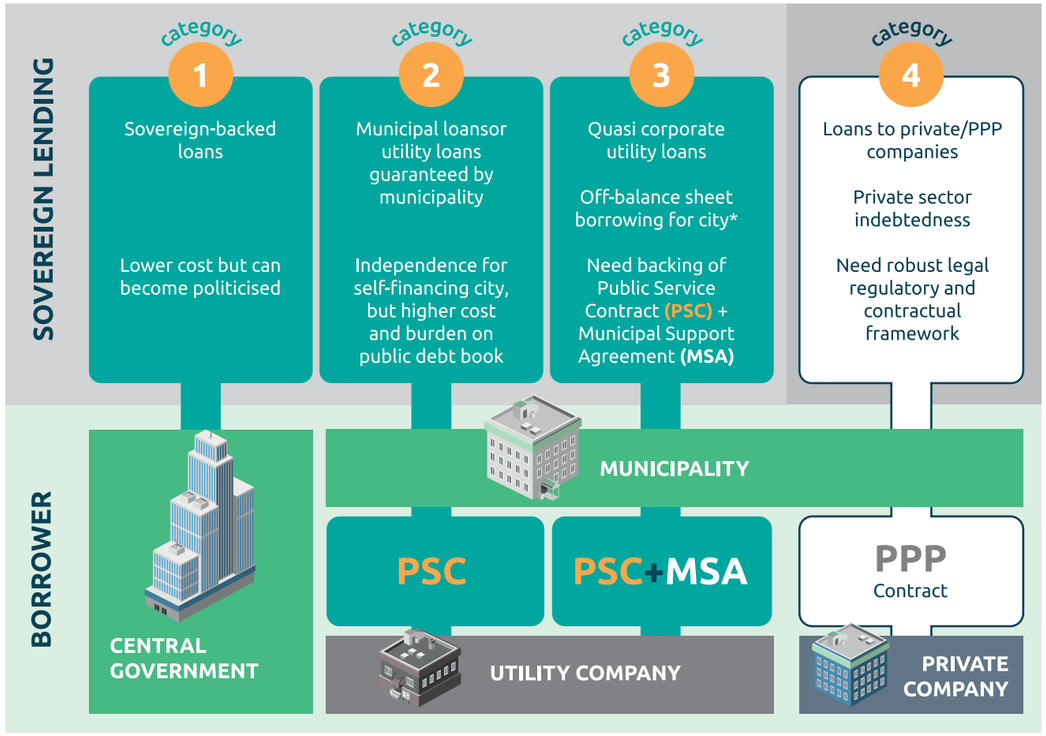
CATEGORY 1 – includes borrowing municipalities which have a high degree of dependence on resources transferred from other levels of government, no acquisition of debt, and are not able to collect taxes or set tariffs. Thus, the delivery of financing modalities for this type of municipality is mainly through the central government (SG loans);

CATEGORY 2 – includes municipalities with access to commercial lending, with a degree of decentralized spending, which have authority to determine duties and taxes, collect taxes and fees, but not quite strong enough to cover public expenditures. The delivery modality is a direct municipal/utility loan with guarantee;

CATEGORY 3 – includes municipalities with solid fiscal and financial management that do not depend on transfers. However, some of these borrowers lack credit ratings. The delivery modality is a direct utility loan with support of the municipality;

CATEGORY 4 – are robust and creditworthy municipalities that can access capital markets and finance their projects with private sector participation, including PPPs.

FIGURE 16
EBRD: Financing Municipal Infrastructure



Source: Based on EBRD Infographic.

* Loan within the balance sheet of the utility company

The PSC approach has allowed the EBRD to serve a diverse client-base in the development of urban infrastructure in emerging markets, essentially by matching client capacity to project needs. The EBRD structures projects across a broad spectrum of clients from sovereign loans, municipal loans, public utility loans backed by municipal guarantee, operational concessions, PPPs to full privatizations. To date, the EBRD supports municipal infrastructure across all sectors, preparing 50 projects per year with an average loan size of US$18 million (US$700 million/year).

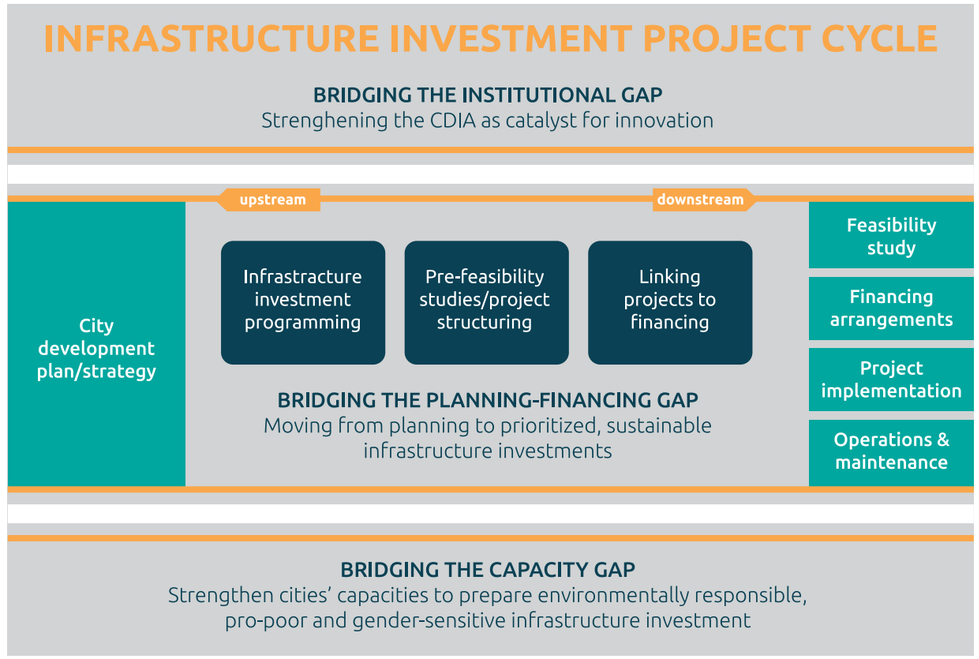
2. Cities Development Initiative for Asia (CDIA)

The CDIA is a regional initiative developed by the ADB with financial support from development partners to help medium-sized cities in the Asia and Pacific region bridge the gap between their development plans and implementation of their infrastructure investments. The CDIA is a unique initiative focused on preparing and developing urban infrastructure projects for financing emphasizing the "linkage to finance."

The CDIA addresses the gap between strategic development plans, which typically present a wish list of projects, and the requirements of financiers for well-formulated infrastructure projects. Thus, the CDIA uses a demand-driven approach to support the identification and development of urban infrastructure investment projects within the framework of existing city development plans that emphasize one or more of the following impact areas: (i) urban environmental improvement, (ii) urban poverty reduction, (iii) climate change mitigation and adaptation, and (iv) improved governance.

The CDIA focuses on Infrastructure investment programming and prioritization, pre-feasibility studies, linking of cities to finance, and city-level capacity development. To date, the CDIA has worked with 125 cities in 17 countries in Asia, having completed 52 prioritization exercises and 67 pre-feasibility studies for 109 project components. More than 50% of these pre-feasibility studies have been linked to about US$6.4 billion in financing from different resources. Box 2 presents an illustration of the CDIA's approach.

BOX 2
ADB Bridging the Institutional Gap



Source: Based on ADB infographic.

3. Urban Financing Partnership Facility (UFPF)[7]

The UFPF is a facility established in 2009 by the ADB aimed at raising and utilizing development partner's funds for investment co-financing in urban environmental infrastructure projects and laying the groundwork for these projects by supporting a wide range of technical assistance. The UFPF prioritizes investments in climate change mitigation and adaptation of urban infrastructure projects by local governments and cities. The UFPF supports public transport, water supply and sanitation, solid waste management and urban renewal projects that are inclusive and benefit the poor, and are environmentally sustainable. The UFPD is composed of the following:

I. ***URBAN ENVIRONMENTAL INFRASTRUCTURE FUND (UEIF),***
a multi-donor trust fund, where the Government of Sweden (Sida) made an initial commitment of US$14 million (and an additional commitment of US$7 million in 2011) for investment co-financing and technical assistance (and a guarantee facility of US$70 million) for urban environmental infrastructure that benefits the poor. The facility has supported the following project categories: climate change adaptation and mitigation; urban transport; inclusive basic water and wastewater services; solid waste management services; and urban renewal.

II. ***URBAN CLIMATE CHANGE RESILIENCE TRUST FUND (UCCRTF),***
a multi-donor trust fund with contributions from the United Kigndom (US$124.8 million), the Rockefeller Foundation (US$5 million), USAID (US$5 million) and Switzerland (US$10 million) that provides grants for components of investment projects and technical assistance. UCCRTF complements the UEIF's mandate of assistance for environmental infrastructure projects as it allows for a whole range of resilience building measures required at the city-level that is specific enough to address the issues related to building climate change resilience. The UCCRTF helps cities plan for, and invest in, reducing the impacts of weather-related changes and extreme events, and natural resource scarcity, on the urban poor in medium-sized cities in Asian countries.

4. Green Bonds

The ADB has issued Green Bonds aimed at channeling more investor funds to ADB projects that promote low-carbon and climate resilient economic growth and development in the Region. Asia has fast-growing cities (i.e. Manila) located on coastlines or low-lying areas, which are a huge risk from climate change. The cost of adapting to climate change in Asia and the Pacific is estimated to be over US$40 billion annually through 2050.

The proceeds of the ADB's 10-year green bonds were used to finance climate change adaptation projects such as climate-proof water, energy, transport, and other urban infrastructure projects. Climate change mitigation projects that could be financed by the bond include renewable energy, energy efficiency or sustainable transport initiatives like rails or bus services. The bonds went to central banks and official institutions (16%), 22% to banks, 61% to fund managers/pension funds/insurance, and 1% to other investors. Geographically the bonds were placed in Asia (31%), Europe, the Middle East and Africa (45%) and the Americas (24%)

5. City Creditworthiness Initiative

Given that access to financing is a major obstacle to sustainable urban development, the World Bank launched the City Creditworthiness Initiative to aid cities in improving financial management and enhancing creditworthiness to secure private investment to finance climate-smart infrastructure and services. World Bank estimates show that "less than 20% of the largest 500 cities in developing countries are deemed creditworthy in their local context, severely constricting their capacity to finance investments in public infrastructure". Therefore, supporting the creditworthiness of cities is crucial to enable direct access to capital markets and to provide the public services required for their citizens. The core founding partners of the Initiative include: Private Public Infrastructure Advisory Facility, Korean Green Growth Partnership, and the Rockefeller Foundation.

The Initiative aims at assisting 300 cities in 60 low- and middle-income countries on the path to green growth and creditworthiness. The activities provided range from creditworthiness training workshops, technical assistance for adaptation or mitigation projects, and fund raising, among others, for selected cities[8]. Over 650 senior financial and urban planning officers have participated in City Creditworthiness Academies, representing a total of 261 local authorities across 30 different countries. Each participant city has completed a creditworthiness self-assessment, highlighted its core creditworthiness challenges and created a detailed customized action plan.

Concluding Remarks

This overview of lessons learned reflects the different financing structures and mechanisms used by the IFIs to address the challenges posed by sub-sovereign borrowers, and to support the development of urban infrastructure in the cities in the respective regions. The IFIs have centered on four critical challenges: (i) Structuring and delivering bankable and sustainable projects; (ii) Access to finance for urban infrastructure projects; (iii) Promoting private sector participation, and (iv) Capacity building. Overall, the IFIs have taken a lead role in exploring and facilitating financial catalytic mechanisms and instruments to meet the cities needs and capabilities to support the development of urban infrastructure. A major lesson learned from the IFI's municipal finance business is that urban infrastructure financing must be accompanied by technical support to strengthen the technical and administrative capacities of the municipalities.

7 The ADB has established financing partnership facilities which allow strategic, long-term, multi-partner cooperation which links various forms of assistance for to support a specific sector. These include trust funds, special funds, risk-sharing mechanisms, or knowledge sharing arrangements that financing partners agree upon. UFPF is one of the facilities established for the development of urban projects.

8 An advisory committee comprised of representatives from The Rockefeller Foundation, 100 Resilient Cities, the World Bank, the Asian Cities Climate Change Resilience Network (ACCCRN) Initiative, and the Public-Private Infrastructure Advisory Facility – Sub-National Technical Assistance Program select the cities which will receive support.

5 Looking Forward

A. Infrastructure Demand

Overall, this assessment reveals that the infrastructure needs of urban areas is significant and critical for the mid-size cities' long-term sustainability and that they exceed the financial capabilities of the involved subnational authorities. The distribution of the investment needs indicates a substantial dispersion of demand across medium-sized cities in LAC. The city profiles of Groups A, B, and C provide an indicative investment demand with a vast range of urban interventions and significant differentiation in the size and types of projects needed. Given the array of cities in LAC, a segmentation strategy is proposed to meet their specific investment needs. The importance of segmenting the cities will aid in matching the depth and level of public services required to the local authority capacity, as well as the identification of the appropriate financial mechanism needed for the effective delivery of services. The use of technical assistance for capacity building and improving creditworthiness of the borrowers is an important lesson learned from the IFIs. Therefore, improving the institutional and financial management capacity of the cities/local authorities is a critical element to consider. The financing of infrastructure or public services should be accompanied by technical assistance as an integral element to support the cities' paths to medium-term sustainability.

Overall, this assessment reveals there is a significant urban investment demand by the mid-size cities to attain long-term sustainability and development in LAC. These investments present opportunities to leverage public sector resources to mobilizing private investment in urban infrastructure. The IDB has the potential to play a key role in strengthening the cities' creditworthiness; structuring bankable projects; mobilizing resources for urban infrastructure; and promoting private sector participation. Based on the findings of this assessment and lessons learned from the IFIs, the following are some proposed actions for consideration by the IDB for the long-term financing of urban infrastructure investment in mid-cities.

B. Financial sustainability and creditworthiness

The assessment indicates the cities have a significant need for Fiscal and Municipal Management interventions, particularly Group C cities. This infers that most municipalities must overcome significant institutional and financial limitations to develop or improve their investments in public services and basic infrastructure.

The fiscal position and creditworthiness of the mid-size cities is relevant for the future development of urban infrastructure. Given the scale of public investment, private sector participation is needed to develop critical projects for the cities; and in some cases, given the financial capacity of the local authorities, central government involvement could be required. Supporting the mid-sized cities in achieving creditworthiness and securing private investment to develop urban infrastructure is a major task to ensure long-term financial sustainability. Some of the cities' investment needs identified are centered in fiscal and financial assessments, modernization of the cadasters, tax administration systems, debt management, and subnational credit assessments, among others. A facility to improve a city's creditworthiness as a regional program in LAC is recommended.

Supporting cities and other sub-national entities responsible for public infrastructure on the path to creditworthiness is a way of achieving long term sustainable investments. A facility to enhance city creditworthiness could take the practical approach of combining the delivery of technical assistance for capacity enhancement with the development of creditworthy infrastructure financing transactions. The technical assistance could support:

I. *The progressive move of the city towards an investment grade rating; and*

II. *Structure financial transactions rated at investment grade using appropriate credit enhancement mechanisms.*

For those cities that already have national scale credit ratings (e.g. a BB+(col) in Colombia) from a reputable credit rating agency, either as a shadow/private rating or a public rating; the facility would provide technical assistance to address fiscal weaknesses identified in the rating report. These could include support actions at the city level or at a higher level of government. When cities do not already have national scale credit ratings, the facility could fund the initial rating by a reputable credit rating agency in order for the city to obtain a rating report that explains the challenges that need to be overcome en-route to an investment grade rating.

In the case of un-rated cities, the facility could support the implementation of financing transactions that could be structured with sufficient credit enhancements to successfully bring a group of less creditworthy small cities to their local financial market. Local market based transactions could be designed to bring long-term local currency financing from the market into possible blended financing arrangements where the IDB's loans support the cities by making the total financing package (IDB + local market) affordable to the cities. Supporting cities throughout the process by delivering technical assistance to sub-national entities to achieve higher creditworthiness through strengthening their financial performance will enable the delivery of more and better services.

C. Urban planning and governance

Complementary to the Fiscal & Municipal Management needs, the assessment reveals that the cities have a significant demand for urban planning instruments and governance. Strengthening the capacity of municipalities to undertake their own urban planning and to secure control and management of their urban resources is critical for the efficient delivery of public investment and basic services. Lessons learned from the IFIs show the importance of the identification and development of urban infrastructure investment projects within the framework of existing city development plans.

Supporting the cities in their efforts to build and strengthen good governance systems and practices is one of the most important areas in the promotion of sustainable urban development. This can be achieved by strengthening fiduciary controls, enhancing financial transparency and accountability, and increasing fiscal self-sufficiency and sustainability of public investment in urban development. In this regard, cooperation agreements with interested donors, partnerships with private entities and academia, and the exchange of experiences and best practices among authorities facing similar development challenges is highly encouraged to support the cities in their urban planning and governance efforts.

D. Developing bankable projects

The IFIs have taken a lead role in guiding their sub-sovereign borrowers (municipalities) in structuring bankable investment projects, which are supported by project preparation facilities. The IFI's facilities have played a crucial role for the successful development of urban infrastructure projects. The lack of resources for project preparation and financial structuring is a major bottleneck for the much need scaling-up of infrastructure investment needed in LAC's mid-sized cities. The completion of the pre-investment cycle is a crucial step in determining the technical and financial viability of a project and creating a bankable investment. Providing support for the preparation and financial structuring of strategic projects in the cities, which are critical for their development, will allow municipalities to bring forward bankable projects.

E. Financing instruments and mechanisms

Despite the different challenges faced by the mid-sized cities and their need to increase access to financing, a broader scope of innovative financing arrangements and schemes for urban infrastructure are needed, from both public and private sector sources. Mobilizing resources to finance investments and services at the municipal level represents a challenge for all the IFIs. However, the IFIs trend appears to be moving towards the role of facilitating financial catalytic mechanisms and instruments to meet the mid-size cities specific needs and capabilities. New financial instruments and mechanisms are required to help the mid-size cities become more self-sustainable in the long-term and ensure access to capital markets.

The Bank already supports subnational lending through sovereign lending and technical assistance, and the Inter-American Investment Corporation (IIC) is also able to support the financing for subnational entities. Like the other IFIs, the Bank has a unique catalytic role to play, including partnering with other institutions and/or investors, for mobilizing domestic resources for long-term infrastructure finance.The review of the IDB's corporate sub-sovereign lending policies and procedures is recommended to move towards supporting innovative financing for sustainable cities and leveraging private investment. The effective use of the synergies between the public and private sector windows is needed to evaluate the subnational lending capacity, credit risks, and financing instruments and mechanisms available to determine appropriate interventions for the sub-national borrowers. Exploring and piloting different financial vehicles, including tailoring some of the IDB's products and services to meet the cities specific needs and to "link to finance" is recommended.

F. Promoting private sector participation

The development of urban infrastructure presents opportunities to leverage public sector resources to mobilize private investment in urban infrastructure, which could be financed and implemented under different financial schemes and procurement modalities, including public-private partnerships (PPP). It is important to point out, that at the sub-national level, local government support is required for small-scale PPPs. Despite having mega-projects present in some of the cities, there is a need for the customization of financial mechanisms and instruments for small urban projects in the mid-size cities. Exploring the establishment of credit enhancement facilities to support urban projects should be considered, accompanied by capacity building at the subnational level focusing on project development, financial structuring, access to finance, project implementation, and legal contract management, among others. Selecting strategic interventions to pilot financial mechanisms that could be replicated in the Region is desirable.

Next Steps

Based on the proposed actions and lessons learned from other IFIs outlined above, the following strategic focus areas are recommended for the short term:

1. Pre-investment resources and financial enhancement

Secure pre-investment resources to help the cities improve the preparation of project initiatives and structure financial arrangements to effectively access the financial markets. Identify sources of financing for the pre-investment of urban infrastructure, including resources for the preparation of climate-smart infrastructure projects.

2. City creditworthiness financing facility

Develop and implement a facility to deliver technical assistance to aid municipalities and/or subnational entities improve their financial performance and creditworthiness, including credit risk rating by external rating agencies, as well as structuring and closing financial transactions with appropriate credit enhancements.

3. Targeted approach

Conduct an assessment of the Bank's transaction costs related to the cities in Groups A and B, based on a segmentation strategy. The Bank could deploy its financing in two targeted cities, thereby concentrating efforts and resources on core strategic interventions to test the proposed operational approach.

4. Urban planning and governance

Pre-investment resources and technical assistance should also help support city corporate governance and managerial capacity of municipal authorities, as well as building capacity for urban planning. Findings show planning instruments are in high demand by cities with less than 500,000 inhabitants.

5. Private sector participation

Support private sector participation in the provision of urban infrastructure and services using appropriate public and private finance instruments. Innovative financing vehicles are needed for leveraging private sector engagement. Promote innovative financial transactions conducive for private sector investment, viable PPPs, and strengthening of local financial markets.

6. Multisector coordination

Sustainable urban development requires that interventions adequately mainstream cross-cutting issues and a multisector approach for the implementation of projects and programs. A close collaboration within IDB stakeholders is critical in the implementation of the proposed actions to contribute to sustainable urban development in the region.

6 Bibliography

African Development Bank Group. (2012). Accessing Local Markets for Infrastructure: Lessons for Africa. AfDB.

African Development Bank Group. (n.d.). The Banks Group's Urban Development Strategy. AfDB.

Asian Development Bank. (2009). Urban Environmental Infrastructure Fund (Contribution of Grant Fund and Guarantee Capacity by Sweden. ADB.

Asian Development Bank. (2012). Subnational Finance for Infrastructure: Potential Roles and Opportunities for ADB. ADB.

Asian Development Bank. (2014a). ADB Products and Financing Modalities for Sovereign Guarantees, Loans, and Grants. ADB.

Asian Development Bank. (2014b). Financial Products. ADB.

Asian Development Bank. (2015). Inaugural ADB Green Bond to Drive More Funds to Climate Change Projects. ADB.

Asian Development Bank. (2016b). Private Sector Operations. ADB.

Asian Development Bank. (2016b). TFP Trade Finance Program. ADB.

Asian Development Bank. (2017a). ADB Sells Second Water Bond to Boost Critical Investment in the Sector. Retrieved from Asian Development Bank: https://www.adb.org/

Asian Development Bank. (2017b). ADB to Issue Inaugural Water Bond. Retrieved from Asian Development Bank: https://www.adb.org/

Asian Development Bank. (2017c). Framework Guarantee Cooperation Agreement. ADB.

Asian Development Bank. (n.d.). Urban Climate Change Resilience Trust Fund. Implementation Guidelines. ADB.

BN-Americas. (2016). Chile: Business News Americas. Retrieved March 2017, from https://www.bnamericas.com

Bonilla-Roth, M. (2015). Mobilizing Private Investment for Urban Infrastructure Projects.

Center for Global Development and & Social Finance. (2013). Investing in Social Outcomes: Development Impact Bonds. The Report of the Development Impact Bond Working Group. Central for Global Development and & Social Finance.

Eguino, H. e M. Provedello. (2016). *Cidades em transformação: experiências de desenvolvimento urbano no Brasil apoiadas pelo Procidades.* Monografia do IADB.

European Bank for Reconstruction and Development. (2017). Presentation to IADB about Municipal Lending Approach, case study on Urban Transport Sector.

European Investment Bank. (2017, 03). A new way of using EU funding to promote sustainable investments and growth in urban areas. Retrieved from European Investment Bank: https://www.eib.org

Gorelick, J. (2016). Funding Capital-Intensive Urban Projects: Enabling cities to Employ Municipal Finance Tools. Sustainable Development Solutions Network.

Gutman, J. e. (2015). Financing African Infrastructure. Can the World Deliver? Global Economy and Development.

IDB. (2016). Urban Development and Housing Sector Framework Document.

M. Bouskela, M. C. (2016). The Road Toward Smart Cities: Migrating from Traditional City Management to the Smart City. Washington, D.C.: IDB.

McKinsey Global Institute. (2011). Urban world: Mapping the economic power cities.

The Economist Intelligence Unit. (2017). Measuring the middle. Quantifying market opportunities in Latin-American's cities. The Economist Intelligence Unit Limited.

The Infrastructure Consortium for Africa. (2016). Infrastructure Financing Trends in Africa. ICA Report 2015. Abidjan 01, Côte d'Ivoire. Retrieved from www.icafrica.org

Thorpe, D. (2017, 03). The Future of Finance for Cities and Urban Infrastructure. Retrieved from Sustainable Cities Collective: http://www.sustainablecitiescollective.com/

UNESCO. (2017, March 07). UNESCO World Heritage Centre. The World Heritage List. Retrieved March 07, 2017, from http://whc.unesco.org/en/list/

UN-HABITAT. (2012). State of Latin American and Caribbean Cities 2012. Towards a new urban transition. Nairobi: UN-Habitat. Retrieved from https://unhabitat.org/

UN-HABITAT. (2016). World Cities Report 2016. Urbanization and Development: Emerging Futures. United Nations Human Settlements Programme (UN-Habitat). Retrieved from https://unhabitat.org

World Bank. (2017). Retrieved from http://www.worldbank.org/en/topic/urbandevelopment/brief/city-creditworthiness-initiative

World Economic Forum. (2014). Accelerating Infrastructure Delivery. New Evidence from International Financial Institutions. WEF.

Inter-American Development Bank (IDB)
Housing and Urban Development Division (CSD/HUD)