

# The Experience of Latin America and the Caribbean in Urbanization

Knowledge Sharing Forum on Development Experiences: Comparative Experiences of Korea and Latin America and the Caribbean

Ezquiaga Arquitectura, Sociedad y Territorio S.L. Knowledge and Learning Sector & Emerging and Sustainable Cities Initiative

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Tegucigalpa, Honduras

### **Executive summary**

The developing region that has experienced one of the greatest urban growth in the world is Latin America and the Caribbean (LAC). More than 80% of its population currently lives in cities and this figure is projected to reach 90% in 25 years. As part of this process, we can identify different urbanization trends across the region: slow growth rates of megacities due to lower levels of rural-urban migration and greater intra-city migration; high growth rates of mid-size cities; and urban footprints growing faster than populations. Therefore, this more contained growth in larger cities, the existence of a "demographic bonus" in the next 30 years, and new poles of development in secondary cities offer new opportunities to grow in a more sustainable and equitable way while addressing existing challenges in cities.

Rapid urban growth in the countries of LAC has posed a series of challenges that cities, especially intermediate cities, must address to ensure their sustainability in the coming years. Those 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 conditions undermine cities' sustainability and reduce the quality of life of their inhabitants.

Given this context, the Bank has developed the Emerging and Sustainable Cities Initiative (ESCI) as a particular approach to help mid-size cities understand their challenges and address them in a more integrated way based upon a model of efficiency in planning and the use of resources that prioritizes sustainability and a higher quality of life for all citizens. The ESCI's actionoriented methodology prioritizes projects in critical areas for sustainability, promoting a better quality of life by strengthening planning, incorporating climate change features, and ensuring citizenship engagement.

From the ESCI's experience in more than 20 cities in LAC, important lessons have been learned: introducing adaptation and mitigation measures is an opportunity to address environmental issues and limit the impact of climate change; urban economic development should be based on dense, compact, efficient cities, with mixed land use, and concrete actions to generate productive employment; planning should be considered a basic tool for sustainable urban development and growth; and finally, fiscal capacity should be strengthened with greater access to financial resources and connectivity.

Cities that cannot provide an adequate quality of live and preserve physical and environmental assets for future generations will not be competitive. These cities will have a tough time attracting investments and generating productive jobs. As a result of ESCI's learning process, we have realized that it is necessary to examine in a more direct and detailed manner the competitiveness of a city proposing concrete actions to increase investments and to generate productive employment. Involving civil society in city planning and engaging the private sector in urban infrastructure services are also key ingredients of a competitive and successful city.

As part of the Bank's knowledge dissemination series, this document exhibits the Latin American and Caribbean experience in terms of urbanization, the identification of the challenges posed by this trend, the IDB's approach to promote the sustainability of LAC mid-size urban centers, the lessons learned from how those challenges are being solved, and their impact on medium-term sustainability of cities and their quality of life.

# **1. Urbanization trends in LAC**

### 1.1 A highly urbanized region with decreasing growth rates in megacities and constant growth rates in mid-size cities

### 1.1.1 The demographic transition at work: a demographic bonus resulting from a moderation in the population growth rate

As education and healthcare in developing countries improve, mortality and fertility rates tend to decline, resulting in a period of time in which a larger portion of the population is of working age, with a smaller portion of dependent children and elderly. This "demographic bonus" creates a window of economic opportunity for increased savings, lower absolute spending on primary education (or the potential for higher spending per pupil while

**FIGURE 1 -** Share of urban dwellers in the world and in Latin America.

maintaining absolute spending levels), and greater fiscal space for investment. LAC, where the annual population growth rate decreased from 2,6% in 1965-1970 to 1,1% in 2005-2010, currently finds itself in this window of opportunity. However, this demographic phase is limited in time. As the current population ages, the reduced fertility rate will result in a greater portion of the population being 60 and older, and a relatively smaller portion being of working age. By the second half of this century, LAC is likely to face demographic sustainability challenges similar to those now faced in developed regions such as Europe.

### 1.1.2 A decreasing rate of urbanization in a continent already 80% urban: less ruralurban migration, greater intra-city migration

Although the absolute population in rural LAC has remained fairly constant since the 1950s, the region's urban population is now five times what it was then. The intensity of the rural-urban migration has declined and has been displaced as the main migration feature; today spatial movements predominantly occur as urban-urban flows or international migrations. A poverty gap persists between urban and rural areas, which could sustain a rural-urban migration flow, but in many countries the size of the rural population will limit the extent of this movement.



FIGURE 2 - Mid-sized cities growth in LAC since 1950. MID-SIZED cities grow faster WOSTECHES HOOK - 2M MID-SIZE CITIES 900% 800% 700% 600% **MEGA** CITIES MEGA CITIES 122MI 500% 400% 300% 200% 100% 0% Source: UN, World Urbanization Prospects, 2014.

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### FIGURE 3 Urban footprint rates for selected cities of the ESCI (2015).



Source: Urban Footprint Analysis from the Base Studies conducted in Cities in the ESCI Program (conducted in 2012-2014)

### 1.1.3 Mid-sized cities have replaced megacities as the fastest growing settlements

Large cities, characterized by populations of over six million, were the fastest growing urban centers in the 1990s. Since then, slightly smaller cities have taken the lead as the fastest growing, while the larger ones have stabilized their populations.

This population growth pattern has been accompanied by economic growth, contributing to a growing share of GDP; these mid-size cities now produce 30% of the region's GDP, and are expected to contribute 40% by 2025. (McKinsey, 2011)

### 1.2 Urban sprawl: Densities decrease as urban footprints grow faster than the population

# 1.2.1 Urban footprint grows at a greater rate than population growth

Urban footprint growth is triggered by different elements. Some of the most important ones include: housing needs, the local real estate market, planning regulations, and the availability or scarcity of land fit for urban development. Urban planning enforcement is a key variable in growth dynamics; unfortunately, its performance in the region's cities has been poor.

According to available data from the ESCI, most cities have higher urban footprint growth rates than population

growth rates. Although the corresponding decline in density has not yet resulted in exceedingly low densities in most ESCI cities, it may become a significant problem as urban sprawl continues to increase. The decrease in density is usually not evenly distributed over the territory, which can lead to greater inequity and inefficiency. Sprawl can result in limited access to basic services for those at the periphery, and the high costs of provision usually affect lower income areas more severely. Furthermore, in the context of rising household income, this phenomenon is accompanied by higher rates of motorization.

According to ESCI data, Asunción is forecasted to grow from 2,5 million residents in 2012 to 5,6 million in 2050. If current

building and land use patterns continue, the urban footprint will double as a result of that growth. However, the current city has a low density and many opportunities for urban infill. If the city took advantage of these opportunities following an optimal "smart model" pattern, it could limit its urban growth to just 5%. Even if an "intermediate model" were applied, an urban footprint increase of 32% would be enough to house that population growth.

At current urban growth rates (see figure 3), a city like Xalapa doubles the size of its urban footprint every five to six years. This situation creates a very difficult environment for adequate planning and the provision of public services impacting directly quality of life and sustainability standards.

The costs of urban growth would be proportional: a better growth model would release large financial resources for other public-interest uses. A similar situation can be observed in all ESCI cities: a better use of the current urban land could provide a substantial part of the land required for the projected growth.

### 1.2.2 Lack of planning has led to uncontrolled, low density sprawl with concomitant higher infrastructure provision costs

Urban planning is a crucial instrument for the development of a sustainable city. In LAC, this instrument has often been thwarted by limited public institutional capacities, overwhelmed by strong stakeholders, and constrained by few resources, resulting in plans that have not been implemented or enforced. FIGURE 4 The implementation of strategic planning will allow the construction of inclusive and compact cities.



Source: Neighborhood inequality: Petare (left) and La Urbina (right) in Caracas, Venezuela (1990).

Most municipalities in LAC have planning responsibilities but they are regularly limited to a basic road layout and land use regulation, aspects that do not encompass a more holistic urban growth model. They lack a central element to real planning: a vision of the future of the city based on an analysis of its assets and liabilities, instruments for sustainable development, and resources to attain concrete results.

The lack of planning reflects several challenges, starting with the lack of information and poor coordination among different levels of planning as well as the absence of a conceptual understanding of the metropolitan region. Because many cities have outgrown their original politicaladministrative boundaries, there is a growing need for a regional vision and coordination while developing a regional authority to implement a more complex planning framework that encompasses actions beyond borders.

In some cases, private developments proliferate without effective control to ensure they are consistent with

environmental and social standards and that the costs that they imply for the city are captured and put to optimal use. Low-density sprawl has proven to be a costly option in high revenue countries, and even costlier in much less affluent Latin American and Caribbean societies. The provision of physical infrastructure related to power and water supply, distribution, and treatment are often tied to subsidized tariffs that do not cover the cost to provide and maintain these services.

# 1.2.3 Low density growth has led to high transportation costs (in time and income)

Rapid urbanization has also led to inadequate mobility systems to provide service to the citizens of Latin American and Caribbean cities. The limited provision of formal transportation has allowed the proliferation of informal forms collective transport, which is often characterized by low capacity units and inefficient routes. Therefore transportation costs are increasing, as people spend more time in traffic and the municipality has to allocate increasing resources to this area. For example, increased private motor vehicle ownership has contributed to greater congestion. In addition, in some areas population densities are too low to justify public transportation. In these cases, frequencies are reduced and/or fares increased, and the distances to be travelled are longer. The four of five family members who must take buses to work and school must travel longer hours, many more miles on different transportation modes, paying an increasing amount of money out of the household income.

Citizens using public transportation find themselves, in most cases, spending an average of 3 to 4 hours commuting from home to work (and back), and spending an average of the equivalent to 2 hours of a minimum salary to cover the fare. This situation creates huge incentives towards informality (staying close to home and working in informal jobs) impacting inequality in peri-urban areas (Survey conducted by IDB's Research Department in selected LAC cities, 2013)

# 1.2.4 Inequality: economic growth has not led to a decrease in poverty

For most of the last decade, demographic change paralleled economic growth, but the additional income has not benefitted all dwellers. Slums persist and are often incubators of crime, a persistent problem in many cities. Between 2005 and 2012, Argentina, Brazil, Colombia, and Peru have more than doubled their per capita GDP, but the Gini index, measuring inequality, has improved by only 0, 04 points in the best performing countries, Brazil and Peru. This inequality is visible not only in terms of income, but extends to access to public services and job opportunities, hampering the ability of large parts of the population to fully access and participate in the city's services and opportunities. Informal settlements embody the poverty and inequality that exist in many Latin American and Caribbean cities.

### 1.2.5 Low productivity means weak competitiveness

According to the Global Competitiveness Index (World Economic Forum), countries in LAC have increased their overall competitiveness between 2006 and 2014 by 6%, while emerging economies as a whole experienced a 14% rise. Despite recent growth, regional productivity is still low and below the level of other emerging or advanced

economies, due to a lack of investment in infrastructure, education, and innovation.

Although cities can have a more diversified economy than their countries in terms of sector job share, they still depend on the overall national economies. Cities not only have problems of access to markets and ports and adequate human capital and innovation necessary for greater competitiveness but they are subject to poor infrastructure provision, low environmental quality, long commute times, high insecurity and other conditions that result in limited efficiency, quality of life, ability to attract investments.

### 1.3 Limited planning systems can't cope with growth and climate change challenges, and weak enforcement further limits their capacity

### 1.3.1 Plans are obsolete, lack a climate change adaptation approach, and need to be updated and integrated

Planning instruments, in the cities that had them, quickly became obsolete because of fast growth that outpaced the provision of services and expanded past official boundaries. Furthermore, those plans did not incorporate the adaptive measures necessary to address the effects of climate change. The relatively recent development of climate change adaptation methodologies means that former forecasts related to risk prevention now require new studies that address down-scaled climate change models with concrete solutions to increase the city's resilience. Plans need to incorporate new analysis and other elements related to climate in infrastructure and building codes.

Obsolete plans need an update to take into account the cities' new growth, formal and informal, and the way in which they will address climate using short, medium and long-term perspectives.

# 1.3.2 Weak inter-administrative information and coordination

Planning requires several layers of internal and external coordination. National, regional, and municipal governments coordinate among themselves, as do the various agencies that comprise the different levels of government and determine the development and growth of cities. Planning requires coordination between different administrative levels involved in the definition of norms and provision of services, as well as fiscal and institutional aspects of land regulation. Generally, national stakeholders build national highways, own public lands, rights of way, and public facilities. Therefore regulations regarding urban planning that affect municipalities are defined at a national level. A consistency check process is necessary by which national or state/province governments can ensure that local plans comply with national regulations and plans, and national plans need to incorporate local and regional needs into their decision-making.

Along with the national or subnational government, other non-municipal administrations can exist: water boards, utilities or public facilities districts, as well as supramunicipal governance bodies in a limited number of cases.

This multiplicity of actors requires an additional effort of collaboration and communication among all stakeholders so as to ensure the compliance and the consistency of visions and regulations over time.

A similar situation happens inside the municipal administrations, in which each department has its own regulations, a situation that strategic planning must help to inform and take into account to ensure positive synergies and consistency.

### 1.3.3 Planning enforcement is not effective or even present in many cities

Effective enforcement of planning instruments and regulations is not operational in most cities. When observing limited tax collection rates or losses in infrastructure cost recovery, planning enforcement usually follows a similar pattern of limited implementation. As cities grow and go beyond the established administrative limits, previous planning exercises become obsolete limiting the possibilities of enforcement. Scarce public resources, limited transparency, corruption, and a lack of commitment to planning decisions also represent obstacles to planning enforcement.

Lack of planning enforcement can be observed in buildings that are erected beyond the authorized height, construction beyond lot limits, and the proliferation of slums. Nonetheless each problem requires specific and different levels of solutions. Enforcing building codes requires a more limited action while addressing the growth of informal settlements not only requires frequent inspections but also, and more importantly, social and economic policies to address the inherent problems.

### 2. Sustainability challenges in Latin American and Caribbean cities

Structuring and organizing the urban habitat should start with a holistic vision, which is not just the sum of thematic issues such as housing, mobility or infrastructure, but takes into account the complementarities and interrelationships as well as efficiencies in the allocation of scarce public goods and resources. However, many Latin American and Caribbean cities lack that type of vision when creating plans. Their plans may establish building rights without considering social, environmental or economic objectives.

The plans, actions, institutions and resources required to address efficient, equitable, productive and sustainable growth of megacities (2 million inhabitants and larger), mid-size cities (from 100.000 to 2 million inhabitants) and smaller cities (fewer than 100.00 inhabitants) vary.

The IDB'S ESCI program deliberately focuses on midsize cities that show rapid demographic and economic growth. About 170 cities correspond to this definition. These cities are at a stage where they are making fundamental decisions with respect to their models of growth and must define priorities and alternative policies, programs and projects as they address critical challenges and seek to strengthen opportunities.

In this section we will present some of the main challenges facing midsize Latin American and Caribbean cities as identified by the ESCI methodology—the base studies and indicators of 20 ESCI cities. These cities belong to the four sub-regions: the Caribbean, Central America, the Andes and the Southern Cone. The cities used for this analysis are: Trujillo, Port of Spain, La Paz, Campeche, Paraná, Santa Ana, Manizales, Quetzaltenango, Xalapa, Pereira, Cuenca, Bucaramanga, Mar del Plata, Joao Pessoa, Managua, Barranquilla, Goiânia, Montevideo, Cochabamba and Asunción.

The information is presented according to the three areas of the ESCI's analysis: environmental and climate change sustainability; integrated urban sustainability; and fiscal sustainability and governance.

### 2.1 Fragile, threatened environment with increasing natural disasters and resource depletion

ESCI cities have been subject to specific risk and vulnerability studies, which focused on their most relevant threats. For a majority of the cities, the main threats are: i) sea level rise, ii) changes in the precipitation patterns with increased flooding, and increased landslides, and iii) earthquakes.

Cochabamba, Cuenca and Goiania face flooding as well as drought/water shortages. This complex characteristic points the need to address the issues of natural resource management.

### 2.1.1 Critical infrastructure and informal settlements are located in vulnerable areas

Informal settlements are located in areas less prone to eviction actions. In many countries, these zones correspond to public lands near riverbeds, or other public domain spaces, as local administrations have limited capabilities and resources to ensure consistent zoning enforcement. Although most riverbeds and banks officially have a protected status, many landless tenants settle there, endangering human lives (due to flood risk) and the environmental quality of the basin.

**FIGURE 5** Cities' vulnerability to extreme natural disasters will increase givent he consequences of climate change.



Source: Photograph of the effects of Hurricane Odile in La Paz, BCS, Mexico (September 2014). This city is included in ESCI's program. The potential impact of such natural disaster risk was included in the vulne-rability analysis of the Action Plan for the City (November 2012).

Critical infrastructure can also be found in vulnerable public lands, as the limited resources of local administration may limit its ability to acquire more expensive, appropriately located land.

Urban resilience is compromised by this situation, as large numbers of citizens either live in risk areas or depend on facilities at risk for their basic services.

### 2.1.2 Natural resources under pressure

Cities rely on their surrounding ecosystems for water provision. Latin America is, according to World Bank data, a region in which the renewable water resources are much higher in per-capita terms than in the developed countries. But this overall positive general condition masks:

- Wide differences between countries and cities, as many urban centers are located along the Pacific coast in semi-arid areas where water resources are limited, and depend on groundwater or water from glaciers.
- Limited proper waste water treatment, which would allow the reuse of water as these treatment plants represent an additional utility cost that can be quite high for local economies.
- Water pollution, a common problem. Even if there is an adequate quantity, the quality can be an issue.
- Cities located in areas with scarce water access which require transfers of water between river basins. This is a complex issue in terms of sustainable development in any country and the economic costs limit the viability of transfers in LAC.
- The pressure on local water resources, which can compromise the environmental quality of the areas that surround cities.
- The occupation of land needed to ensure the replenishment of aquifers by urban sprawl and informal settlements. The lack of effective planning or consistent enforcement implies a serious threat to the water provision.

Land is subject to similar issues. It is a non-reproducible good, as both its environmental and structural qualities cannot be easily replicated, and its location also implies an economic value. As an environmental asset it is being put to test in various ways:

- Deforestation due to urban sprawl has increased the vulnerability of urban settlements as well as reducing natural carbon sinks. Deforestation of natural spaces surrounding cities deprives citizens of areas that can be fundamental for recreational uses and also provide more resilience to the city to the phenomena associated with climate change.
- Solid waste management is also an issue. Appropriate treatment plants are not the norm; most cities have open landfills that do not comply with regulations preserving aquifers nor do they include proper disposal of hazardous material.

The pressure put on natural resources by a growing urban population with increasing revenue is high, and its management is far from being in line with good practices.

# 2.1.3 Pollution and inadequate management of air, solid waste, wastewater, land

- Pollution is a persistent problem in most Latin American and Caribbean cities for several reasons:
- The enforcement of environmental quality rules, when those exist, is limited; data from the ESCI suggests that recent regulations have been put in place in cities but it has not implied additional data collection or enforcement actions because of the related costs to have environmental monitoring systems and staff. When considering air quality, higher rates of motorization have had an important impact on health issues and regulations have been issued, however sanctions are scarce.
- Industrial air pollution regulations are in general less stringent than those currently applied in higher revenue countries, developing countries invoking their right to develop with common but differentiated responsibility.
- The limited urban infrastructure and culture in terms of waste disposal, sewage and sanitation also contributes to water quality problems. Connection to water supply systems is growing, but the effective treatment of wastewater is in a more complex situation. Additionally issues of water quality and service persist.
- Garbage is collected, but even in large cities in the region'swealthiest countries, landfills lack elementary conditions to prevent water contamination.

- Land pollution is a problem in industrial areas as the obsolescence of plants creates brownfields with diverse pollutants; this problem can also appear in smaller sites, such as abandoned gasoline stations, and it can create high de-contamination costs in any land re-use scheme.
- Facilities with higher environmental quality standards imply, along with higher construction costs, more operational costs during their life cycle. Efficient wastewater treatment requires high electric costs, the use of expensive chemical products, and qualified staff. These are hard to provide in cities where the costs of service provision are not recovered.

### 2.1.4 Inadequate mobility policies and habits aggravate the challenges

Mobility policies in Latin American and Caribbean cities over the last decades have had to address the higher car ownership related to upward income mobility. Facing this reality, many cities have given priority to road construction, trying to provide more roads to attend vehicle growth instead of intensifying public transit policies. Unfortunately, this has resulted in several problems:

• Overwhelming car occupation of public spaces affects spatial qualities for urban life and may impinge on trees and parks in the city.

- Family budgets are strained by the cost of transportation, as many low income households are more and more subject to longer commutes with more deficient and expensive access to public transport. Car ownership for the majority is still not an option and is a very expensive solution with high costs for all.
- Congestion is common because:
  - Road building is limited because it often must rely on funding also needed for common public works in non-arterial roads, many countries do not have value capture schemes that could finance these works.
  - higher motorization rates

Congestion is a cost for businesses; the time lost in transportation has consequences on GDP growth.

Public transportation policies exist, but they are often afflicted by problems between the public administration and existing private operators with low quality standards. The fact that they have to work in dispersed cities, in which low densities compromise operation, is an additional problem.

**FIGURE 6** Productivity loss is closely related to time spent in traffic.



Source: (Centro de Transporte Sustentable. Mexico, 2012).

**FIGURE 7** Urban congestion is increasing in Latin America given the high motorization rates, inefficient public transportation and limited planning.



Source: Mexico City, Mexico

# 2.2 Urban growth with high levels of informality, deficient social services and low competitiveness

### 2.2.1 Low density urban growth and distant settlements lead to increased transportation requirements with inadequate public transportation systems and high infrastructure provision costs

The urban fabric built during recent years is inefficient in social, environmental and economic terms, as reduced densities deprive cities of many of the advantages of the urban life.

- Resources, both financial and environmental, needed to ensure that cities can work are much higher than what would result from more compact growth patterns.
- Longer distances imply higher transportation costs for residents, both in monetary terms and in longer commute times that reduce their quality of life.
- Building low-density cities requires high infrastructure investment. Maintenance costs for the new low density urban fabric can become a real burden for cities over time and make the initial construction costs small in comparison.

# have experienced social decay as the middle classes have moved to the suburbs.

 Poor construction quality in general, which is aggravated by recurrent risk episodes such as storms or floods

In ten of the twenty ESCI cities analyzed, the percentage of substandard homes is over 30%. Over the last years, as both rural-urban migration and overall population growth have slowed, fewer new slums have emerged, though existing ones persist. After a period during the 1970s, in which attempts were made to channel housing demand through conventional social housing programs largely failed, the general approach to housing has been slum upgrading, a solution that is less traumatic in social terms and allows a gradual improvement of the existing housing stock.

Even when slum upgrading schemes are implemented, ensuring that their population leaves poverty is a more complex issue, as it requires long term social policies that go beyond the capital investment expenditure associated to urban and housing improvement.

The introduction of new approaches to housing policies such as incremental housing programs may lead to improvement in housing stock, but they depend on the family economy and investment to attain an adequate quality level, so the effective improvement of living conditions can take years.

### 2.2.2 Deficient housing with continued growth of slums, low levels of social services and growing costs of infrastructure provision due to urban sprawl

Housing in the region is an issue in the region due to the following reasons:

- Strong flows of migration to cities by low-income groups unable to pay the price of formal housing has led to the appearance of slums and self-built units that have severe problems in terms of structural stability, thermal insulation and other weather and environmental issues, resulting in health problems and economic inefficiencies.
- Poor maintenance of housing in many historical cores that

**FIGURE 8** Violence and insecurity in Latin America and the Caribbean remains one of the main concerns of urban dwellers.



Source: "Avoiding crime in Latin America and the Caribbean", Inter-American Development Bank (2014).

### 2.2.3 High levels of violence

Latin America is the most violent region in the world, with homicide rates that are more than 3 times the world's average. Violence results from various factors; insecurity in different countries responds to differing specific factors. Some countries have experienced long conflicts that have led to the displacement of substantial portions of the population; drug trafficking generates violence in production and transit areas; inequality itself can also be a trigger for violence, and all the previously mentioned factors reinforce one another. This implies a reduced quality of life for all as security is basic to human life and development. Public space is seen as insecure and people do not feel safe while transiting through their city.

Urban violence also stigmatizes large parts of the city, as informal or substandard areas are often associated with crime. It can also have deep generational effects: homicide rates, in the age group of 15 to 24 years old, are much higher than overall rates in six of the ESCI cities. This impacts young men, and diminishes their chances to get a job and integrate in society.

## 2.2.4 Low productivity affects competitiveness and the creation of productive jobs.

When cities are highly segregated in social and economic terms, and slums are a permanent feature in the landscape, such things as "post-code discrimination" appear. Equal opportunities are not guaranteed for everyone, so some groups can never develop their full potential and escape poverty through integration in the formal economy. This is reinforced by high unemployment, which fosters the development of an informal economy, undermining the fiscal base of the cities. The low productivity that characterizes the LAC economies as a result of the low presence of high added value sectors is undermined by these factors, as the formal economy that finances quality infrastructure and services is deprived of sizeable proportions of the human capital in cities.

### 2.2.5 Problems of social cohesion and limited access of quality social services and education

All the previous elements go against social cohesion. The reduced fiscal performance of these cities and low GDPs converge to reduce the chances to create quality social services and educational systems that could ensure a way out of these dynamics in a mid-term scenario. School enrollment is becoming universal, but some cities as Cochabamba still lag behind. As access to primary and secondary school increases, quality of the education is still an issue. Furthermore, there are additional requirements to implement to provide access to preschool education and university and technical education if society is going to create equal opportunities for all of their citizens.

# 2.3 Managing cities: governance and financial issues

### 2.3.1 Governance: transparency and smart cities

Many cities still have relevant deficits in terms of transparency; although there are countries in Latin America that have achieved high marks in terms of low corruption, most are still lagging behind, and this observable in city governance. In eight out of 20 ESCI cities, the data shows that municipal accounts are not entirely audited. Participatory budgeting is absent in eight of twenty ESCI cities, and only in eleven are there full multiannual budgets. Electronic administration tools, such as management tracking or open procurement systems, are still far from being universally implemented.

Transparency can be attained through connectivity and the implementation of technology information systems in order to ensure a more accountable administration with online services with more efficient procedures and diminished opportunities for corruption.

**FIGURE 9** The use of information and communication technologies will increase transparency and allow for more efficient governance.



Source: Santa Ana, El Salvador, Public Sector Files Section, 2014.

### 2.3.2 Fiscal: income and investment

Many LAC cities are highly dependent on national governments to cover their financial needs, as is shown by the fact that fifteen out of 20 ESCI cities have more than 50% of their income resulting from transfers. And in eight cities these transfers are ear-marked beyond 50% of their amount. External donations are of limited relevance for ESCI city incomes. When it comes to taxes collected as a

percentage of taxes billed, just six cities collect more than three quarters of the taxes billed; creating a context in which what is already a reduced tax base is furthermore undermined.

Seven ESCI cities lack clear performance indicators and goals for tracking the execution of the budget. Total municipal debt is on average slightly under 20% of total income.

#### **BOX 1** Financing urban infrastructure in Latin America and the Caribbean.

International development agencies estimate that about five percent of the region's GDP is required to respond to the annual needs of investment in infrastructure and ensure an annual economic growth of four percent. During the period 2010–12, an average of only 24% of the region's GDP was invested, including public and private investment. Of this total investment in infrastructure, the needs of the subnational governments of LAC represent approximately 60% (US\$150.000 billion, base GDP, 2012).

Municipal governments have different sources of revenue to finance urban infrastructure, , including charging for the provision of public services. Based on the work of the ESCI in the cities, we have inferredsome important lessons about the challenges faced by our municipalities in financing infrastructure.

Collection of charges, except for sectors such as energy (where cost recovery through charges is relatively high) and telecommunications (where investment is largely private and requires attractive returns), barely covers on average 40% of the costs of providing the services. This is particularly notable in the water, sanitation, solid waste and urban transport sectors.

Source: ESCI Methodology, 2014.

It is true that not even in developed economies can sectors such as urban transport levy charges that recover all costs. However, in these countries, the subsidy system is explicit and has multiyear budgetary sources. With only a few exceptions, this is not the case in the municipal service provider companies in our cities. Most of the region's cities have less-than-transparent subsidy systems and no source of multiyear funding.

This creates a kind of vicious circle: We do not recover the costs, spending cuts are made with respect to the maintenance and expansion of the service, and the quality of the service deteriorates, which reduces citizens' inclination to pay, resulting in lower cost recovery. This makes it very difficult to attract private investors to provide urban infrastructure services; meanwhile, the city's public finances deteriorate.

As a result, it is extremely important to improve the fiscal capacity of our cities and to work on different fronts to optimize the credit quality of a municipality. Among other tasks, tariff policies that promote better cost recovery must be designed, while at the same time ensuring coverage of the less-favored segments through explicit and transparent subsidies.

### 3. ESCI as IDB's response to the LAC urban challenges in mid-sized cities

# 3.1 Working with midsize cities to promote more sustainable growth

Working with midsize cities (broadly the 100.000-2 million residents) implies addressing the needs of the fastest growing group of urban settlements in LAC. They keep increasing their weight in the total regional population while larger cities have stabilized that figure at around 15% since the 1980s, and they are still in time to avoid most of the problems that megacities are facing in the region. Ensuring a sustainable growth pattern in the fastest growing settlements will deliver improved living conditions for a substantial group of citizens.

### 3.2 An action -oriented methodology to prioritize projects in critical areas

### 3.2.1 Getting from red to green: a paradigm to improve the quality of life

ESCI indicators are a tool toward an action-oriented methodology that aims at creating a simple understanding and description of complex urban realities. Beyond their qualities as a visualization tool, the set of 117 to 130 indicators for each city, provides a basic portrait of the current situation of the city. Then by relating each indicator to a benchmark of best regional practices, as each is valued as either green (good level) yellow (acceptable but needs improvement) and red (critical level) it is possible to define priorities and goals that initiate a collective debate on the fundamental elements of an action plan for the city. The priorities are further refined through evaluations according to public opinion, climate change, economic and technical evaluations from Bank experts.

The indicators system is structured along three dimensions:

- > Environmental sustainability and climate change
- Integrated Urban sustainability
- > Fiscal sustainability and governance
- A set of 23 topics in each dimension, which are further divided in 59 sub-topics and then into 117 indicators.

According to the performance of the city prior to the Action Plan, a value is attributed according to the traffic light scheme: green means good performance against a benchmark based upon national and/or regional averages, yellow implies an intermediate situation and red means a low to critical performance level.

# 3.2.2 Strengthening planning and incorporating climate change features: three basic studies

Along with the indicators, other key inputs for the definition of the components of the action plans include baseline studies about the city:

- A local inventory of greenhouse gas (GHG) emissions, to identify the main sources of GHG emissions as well as a roadmap to concrete actions to reduce them over time. This study leads to a local climate mitigation strategy.
- A risk and vulnerability assessment of the city in terms of the effects of climate change, that can constitute the basis for a climate adaptation strategy; and
- A study of the historic development of the urban footprint and a forecast of its organic future growth, leading to an assessment of at least two scenarios; one of them based on a premise of "business as usual", with no planned changes to the existing growth pattern trends, and an alternative premise, based on a "smart growth scheme", which allows an evaluation of the costs and benefits of both trends.

These three studies as well as the analysis of the indicators are the basic elements for the definition of the action plan. As the ESCI experience has increased as it is applied in more cities, a new set of studies which address the most common problems has been developed so that cities may rapidly gain further knowledge and implement programs to address problems related to public space, mobility, citizen security, etc.

# 3.2.3 Indicators, filters, public opinion and prioritization: from data to actions

The diagnostics provided by the set of indicators and their comparison with the baseline indicators based on Bank standards, plus evaluation from four different perspectives, four "filters" (public opinion, climate change and disaster risk, economics and technical) provide the basis for the action plans. Application of these instruments helps FIGURE 10 The implementation of the ESCI Methodology involves a set of phases.



Source: ESCI Methodology, (2014). The ESCI Program is delivered via two very different components. The first one is the development of the City's Action Plan, a knowledge product. The second component is execution related and consists of mobilizing the long term financing to be able to implement at least one or two of the prioritized interventions (urban infrastructure projects).

identify strategies, areas of action and interventions, of the Action Plan. Normally, this first stage of application of the methodology rand resulting definition of the action plan is carried out in a period of 12 months, with some variance depending on the particular circumstances of each city. The Action Plan includes the implementation timetables, identifies the responsible actors, and the possible sources of financing for the strategic interventions defined in the plan.

### 3.2.4 From detailed action plan to feasibility studies

Action plans define a provisional budget for the proposed set of actions to be implemented, but most of these projects and programs require further and more detailed feasibility studies. In addition to being an indispensable requirement for accessing long-term financing and being the first step in the execution of a project, the pre-investment studies help define the feasibility executing an intervention, based on evaluation of its technical, financial, legal, institutional, environmental and social characteristics. They also help to reduce the project's risks and to foresee obstacles that can occur during implementation. In the specific case of the provision of public services, these studies also determine the mechanism(s) of cost recovery (charges and subsidies).

Pre-investment studies can be prepared with varying levels of depth. Studies at the pre-feasibility level are mainly based on secondary information and determine the preliminary feasibility of the intervention, considering the aspects previously mentioned. They include initial estimates of costs and investments, general technical characteristics, identification of benefits, among other elements. The studies are prepared with primary information sources and determine the final feasibility of the project, based on detailed technical, financial, environmental, legal, institutional and social evaluations.

# 3.2.5 Sustainability and citizenship engagement through monitoring systems

Action plans are not meant to be just a set of proposals; they also include a monitoring system to be led by all the residents in the city. It entails the monitoring of indicators recorded at the start of the process and publishing periodical updates.

Strengthening citizen involvement through a monitoring system ensures the sustainability of all the projects as they will not rely on the commitment of the actual administration but on the participation of a civil society committed with a long-term vision.

The proposed monitoring scheme by ESCI is founded upon similar principles to those of the *"Cómo Vamos"* Cities Network, which brings together a group of independent citizens (academia, press, chambers of commerce, and other sectors) dedicated to their city. They lead a citizen exercise of monitoring and evaluation regarding the actions undertaken for the quality of life in the city. BOX 2 "Cómo Vamos La Paz" a successful case of citizen involvement.

One of the additional cities in the ESCI started its Citizen Monitoring System under the name "Cómo Vamos La Paz" (www. comovamoslapaz.com).

The structuring, start-up and operation of the system is seen as a process in which civil society (citizens, academia, the private sector) play a highly relevant role. This is considered necessary for two basic reasons: (i) it links the local population to the topics of sustainability in their city, which in turn makes the execution processes of the Action Plan more visible; and (ii) the link with society develops the local government's accountability, resulting in better levels of governability and increasing the possibilities for achieving the targets proposed in the Plan.

The following institutions participate in the system: the International Community Foundation (ICF), the Universidad Autonoma of Baja California Sur (UABCS) and the Municipal Planning Institute (IMPLAN).

The monitoring system measures performance in three areas of study: (i) sustainability; (ii) citizen perception; and (iii) compliance with the Action Plan. It is headed by a Managing Committee, formed, in its first year, by a representative from each of the following levels:

- La Paz City Government
- Banamex
- Inter-American Development Bank
- Femsa Foundation
- International Community Foundation

The Managing Committee is advised by experts from the IDB, UABCS, the Biological Research Center of the Northwest and the Mario Molina Center.

Source: ESCI Methodology, (2014).

### 3.2.6 Implementation

Implementation of the action plan depends on the resources of the city, national programs and public private partnerships among others. The Action Plan must be programmed for adequate implementation and follow-up, projecting its execution from a macro point of view. The objective is to facilitate the management and monitoring of the Plan's execution.

### 4. Lessons learned

### 4.1 An integrated approach to city planning and management yields greater impact

Cities are more than the sum of their parts. Historically urban planning in the region has followed a silo approach, in which agencies at work have each pursued their goals, irrespective of a broader, global picture. This has led to less effective policies, more inefficient expenditure of scarce public funding and competitiveness gaps. Addressing challenges with an integrated and multi-sector approach and not as a sum of different sectors yields better results, and has become a pressing need as both climate change and the growth in size of cities aggravates problems.

Cities usually present opportunities of multi-sectoral interventions with multiple influences in the lives of its citizens, and the capacity to make a quality of life changing impact (e.g., the development of the coastal areas of the river Parana in Rosario, Argentina, the development of an urban environmental corridor in river Choluteca in Tegucigalpa, Honduras, or the rail corridor urban integration in Xalapa). Any of these projects address through a consistent project several issues at a time, involving areas such as environmental quality, public space and infrastructure. These experiences have shown that the value added of these projects relies on their transformative capacity, from a singular experience to a broader vision for the whole city, becoming a structural element of an integrated urban plan.

The indicators based methodology used by the ESCI results in a transversal vision that calls for an integrated response of the municipal offices; to ensure it is beneficial for the city; continuous monitoring is essential, as it creates a background to measure policy performance and allow for corrections to be made over time. In this sense ESCI tries to promote change through a transformation in the way cities work; city planning is not just a matter of urban development planning, or budget planning, it needs a consistent integrated

# **BOX 3** The value-added of a multi-sectorial intervention: The urban environmental axis of Río Choluteca, in Tegucigalpa, Honduras

Tegucigalpa comprises the "twin" cities of Tegucigalpa and Comayagüela, which constitute the Central District Municipality (MDC). The MDC is located in the upper basin of the Choluteca river in a mountainous area. Due to its topography, the city is spread out over valleys, slopes, foothills and even gullies. This pattern of urbanization exposes the population to risks such as landslides and flooding. Such vulnerability is magnified by the lack of an appropriate drainage system in parts of the city, as well as by the presence of settlements on hillsides and in degraded areas that lack environmental buffers. According to World Bank studies, the economic cost of the deficiencies in managing rainwater, sanitation, water services and solid waste in Tegucigalpa exceeds US\$160 million a year, a figure that is close to 2.5% of the country's GDP.

Tegucigalpa is the most populated urban area of the country and produces about 20% of Honduras's GDP. Although the city has areas of high density, the current growth pattern is marked by rapid expansion of the urban area, often toward areas unsuitable for settlements. Expansion of the urban footprint has led to fragmentation and "carbonization" of the transport and mobility systems, and has also been accompanied by the deterioration and neglect of the city's historical heritage, especially in the historic center of Tegucigalpa and the center of Comayagüela. Although this context presents great challenges, Tegucigalpa offers opportunities for resilient and inclusive development. The city government and the IDB have promoted important initiatives in different sectors, such as the construction of a new Bus Rapid Transit system (BRT), barrio improvement and citizen security programs, along with institutional support for water resources management and risk management. However, through an inter-sectoral dialog almost without precedent in the context of Honduras, the ESCI has succeeded in linking these initiatives with new proposals for action at the territorial level in the expanded center of the city. Examples of this are: the development of a corridor park, along with green infrastructure works to clean Río Choluteca and control flooding in its urban basin; public-private development of the urban riverside fabric; revitalization of the historic heritage center; improved mobility options for the city center; and improved citizen security in the area in general. This proposal will transform the city, because it will address current problems, thereby creating new opportunities for the development of urban infrastructure in the Choluteca Urban Environmental Axis and promoting continuous and consistent investment over time. Through truly multi-sectoral coordination, the ESCI has created a model of integrated intervention that is capable of organizing solutions at the territorial level and developing a vision for the city based on a long-term investment commitment.

Source: Development of the Action Plan in Tegucigalpa (2014).

perspective in everyday management. Urban strategies become central guidelines for such management.

### 4.2 Climate Change needs to be integrated into city planning and management to address adaptation and mitigation challenges

Climate change transforms city planning as it reinforces the need for a long-term approach and for planning enforcement. An effective climate strategy implies increasing urban resilience through more than a mere control of land use change, and addressing the infrastructure needs and the way in which land should be used, in terms of resource consumption and flows. It requires updated data on the urban reality and the means to implement changes that often imply a cost to the public administrations.

Climate change adaptation poses the greatest challenges to city planning. Investments are needed both in formal and informal urban tissues, but the most vulnerable parts of the city are usually informal settlements, as they occupy flood plains and unstable slopes. This is one of the most important sustainability challenges of our cities, and will have a clear impact on budgets, as the cost of disaster remediation can be much higher than prevention.

Climate change mitigation requires a multi-sector strategy. The greenhouse gas inventories and mitigation strategies defined in ESCI studies and action plans show that urban transportation, energy efficiency and waste are the main areas for emissions reduction:

- Waste treatment facilities can deliver substantial reductions in GHG emissions and alongside provide energy by burning methane gas.
- Public lightning and public sector buildings can play an important role, as improvements to their efficiency can quite quickly reduce energy use and pay for themselves and more through electricity savings.
- The control of urban growth can be a substantial element, reducing the need for fuel both through lesser miles travelled and increased feasibility for public transportation.
- Along these improvements in GHG emissions, improvements provide health cost savings, which

can be up to a third of the economic savings derived from the energy efficiency measures, as shown in the case of Barranquilla.

### 4.3 Making cities for people

Citizens should be the epicenter of city planning and management. Providing adequate quality of life to all citizens and access to better services will generate greater social cohesion and will improve equity.

Urban planning, public space and public transportation should be part of the same policies and actions with the citizen as the most relevant actor. Cities should grow more amicable to pedestrians and integrate them more in the use of public space. This implies:

- The central element in the city is the person, not the car. And pedestrians prefer to living in walkable spaces with good design conditions and an attractive set of amenities, as retail or public facilities. So mixed land use in urban planning provides better results.
- Improving security in the public space. Every public transportation trip starts with a walk, even if it is just from a parking lot, so if people don't feel safe in their city streets they will be less willing to use public transportation systems. In this sense, it is also important to remind that the users' area in vehicles is also used as a public space, so its quality and security are also as relevant.

#### FIGURE 11 Cities must be built for people.



Source: Gehl's (Architectural Firm from Denmark) work in Mar de Plata, Argentina . This was a urban redistribution work of public space at cross road of commercial avenue Guemez (September 2013).

#### FIGURE 12 Urban Interventions in Montego Bay, Jamaica.



Source: Development of the Action Plan for Montego Bay (2014). Montego Bay is Jamaica's tourism capital. The city today is disconnected from the use and enjoyment of its most important environmental asset, the beaches. This intervention, a linear park along side of the all- inclusive hotels development, will connect the city with the beaches allowing for easier access and interaction for citizens.

• Urban design increase life quality with basic, therefore transport stations should shelter people from wind, rain or excessive traffic, a chance to rest by sitting, seeing an open landscape, chatting with other people: the ways in which people are willing to use the city should guide urban design

Finally, citizen's activism is key to ensure the sustainability of a positive change in a city. Their increased participation can be ensured through greater connectivity, which will permit the integration of society in the planning and management of city affairs. Such participation can improve the quality of urban policy and projects, and provide support for those shared visions; it is also a central element in monitoring the implementation of strategies, as it can ensure more sensitivity not just to the previously defined targets, but also to the evolution of what citizens expect from their shared space.

### 4.4 Order in the fiscal accounts, increased digitalization of city management and strong governance and transparency makes for a credible partner

LAC mid-size cities have a set of management problems that can be summarized as the lack of both a mid and longterm vision of the city and of the tools to deliver that vision through specific projects.

Cities need to manage better their public finances, in terms of fiscal resources as well as in the ability to conduct mid and long-term financial planning, and this requires both action on the local scene and, in some cases, rewriting national laws that define the municipal responsibilities. Property taxes in LAC cities correspond to less than a sixth of the OECD average, contributing to a reduced investment capacity; in some LAC countries, as El Salvador, where there is no regulation for property taxes. FIGURE 13 Internet Coverage enhances the competitiveness of a city.

#### Internet connection speed in Latin America



Source: International Telecommunication Union, 2002.

Nine out of 20 ESCI cities have no multi-annual budgets, so the ability to implement long-term projects is compromised. Low credit quality, usually limited to BBB condition, will inhibit access to financial markets and more importantly will discourage private sector participation in needed sustainable investments.

The degree of fiscal autonomy in public utilities management entails improvements; consequently it requires setting adequate tariffs and increasing billing efficiency. Data shows that cities which fail to recover the cost of service undermine the service provision. For example they fail to provide water on a 24h basis or face frequent power cuts. The goal should be not just to recover the cost of the service provided, but also to get funds for future improvements and investments in the quality of service and reliability of the networks, a long term goal that is needed in cities that have problems in their current infrastructure coverage areas.

The decision made on investment allocations is usually taken by municipalities and limited exercises of citizen involvement exist in the region. Participatory budgets are still rare, as only 8 of the 20 ESCI cities have implemented them fully, and although planning participation processes exist there is a general perception of the difficulty of ensuring an adequate access of the citizens to decision taking in societies with high inequality levels.

This context is currently aggravated in many cities by a lag in the adoption of ICT in municipal management. Experience in ESCI cities - and the comparison between cities with and without an effective digitalization of administrative

services - shows that ICT implementation, along with effective transparency methods, provide better management quality, and foster bigger citizen participation in public affairs. Technology can also provide a consistent framework to improve the delivery of municipal services, integrating a vision of a Smart City that combines transparency, good management, participation and sustainable infrastructures and services. This vision creates a virtuous circle that seeks to ensure a better environment for investment and therefore allows potential opportunities

for public- private partnerships. Still most of the cities in the sample (20 intermediate cities) consistently show a lack of adequate levels of ICT infrastructure (i.e., broadband and fiber optics) to be able to run (download and load) smart applications for the provision of public services.

### 4.5 Efficient management of solid waste and water resources will preserve cities' environmental assets for future generations while improving quality of life

The concept of urban metabolism brings a clear image of how the city works; it is not just a matter of getting resources from the land, as water, food or energy, but also taking care of what happens with the replenishment of those resources and the disposal of the by-products once they are used. Most LAC mid-size cities are still experiencing the effects of fast growth; they have solved to a certain extent the challenges regarding the provision of basic services but the treatment of wastewater and solid waste is still lagging.

Its effects are dramatic on the urban landscape through the presence of garbage and other pollutants in rivers and aquifers, which see their quality degraded.

Migrating from polluted rivers and aquifers to a clean water environment in cities and their surroundings requires both a general environmental quality policy and a specific **FIGURE 14** Contamination undermines a city's environment and diminishes its development path towards sustainability. A holistic approach for all environmental issues is required to attain a long-term solution.



Source: Quetzaltenango's Action Plan, ESCI, 2014. Given the poor level of integrated solid waste management systems, the four rivers that run through the city's urban sprawl are usually flooded during the rainy season. Unless the situation is reversed, the city, according to the vulnerability analysis, has a high chance of being 4 to 5 meters under water during the next 25 years (picture above).

infrastructure to process all kinds of waste, coupled with sound policy enforcement. This implies costs, but it can preserve precious environmental assets, reduce health risks, and allow the creation of public spaces prompt to better social cohesion, and urban life. It can also reduce the need for raw materials if consistent recycling strategies are adopted taking into account the local consumption patterns. And it can ultimately help urban productivity, as health problems can be reduced and nuisances that prevent the development of activities in some urban areas can be suppressed.

### 4.6 Integrating mobility into the urban planning exercise and investing service quality public transportation will drive productivity and will create citizen friendly cities

Spatial planning and transportation require to be implemented through a common lens to ensure synergies and co benefits. Mix land use, a compact city and an efficient mobility system are a set of concepts that require to be implemented as a single package. Therefore, a good public transportation system must target the following criteria:

• Be integrated in the present and future structure of the city, so both can grow in a coordinated way and

**FIGURE 15** Efficient and low carbon urban transportation will allow cities to limit their carbon footprint.



Source: Development of the Action Plan for Cuenca, Ecuador, 2014.

be efficiently used with a reduced environmental impact.

- Provide a convenient alternative to private transport use both in cost and in travel time; this requires that the coordination extends to linking intensity of land use and intensity of transportation means offered to citizens.
- Operate with a climate-friendly technology; any public transport is already less GHG intensive than various individual cars when operating at high ridership levels, but the use of special fuels or electricity can further help.
- Take into account that any trip by public transport starts and ends by walking, so pedestrian connections are crucial.
- Consider vehicles and transit space for riders as

public spaces, deserving a quality design fit to that standard.

 Integrate tariffs to ensure that public transportation is an economically sound alternative for families. Combined tariffs over entire metropolitan areas, monthly fares, and other policies can be implemented using smartcards or other technologies, making travel cheaper and more convenient. This sometimes requires a rearrangement of transportation companies.

Transportation policies do not stop at public transportation, as they must integrate the use of bicycles, pedestrian spaces and electric vehicles, which may prove more convenient for some users, and even ease the coexistence with the conventional car; it is not a matter of forbidding car use, but rather of giving it a place adapted not just to its convenience, but also to its impact on environment and society. Less GHG emissions support climate mitigation

#### BOX 4 Improvements in urban connectivity: The case of integrated centers

In 2012, with the support of the Government of the Republic of Korea and through the Knowledge Sharing Program (KSP), KRIHS (the Korean Research Institute for Human Settlements) developed a technical study and Action Plan for constructing an Integrated Operation and Control Center (IOCC) for Goiânia as part of its transformation into a smart city.

The Center will improve city management in the areas of mobility, security and disaster prevention, through the combined use of closed-circuit cameras and a computer and software center. The collection of information from different sources in a unique center allows authorities in charge of citizen security to provide real time solutions for emergency management, learn from current trends and have a 360° vision of their city. Crimes are no longer isolated events but a compound on information treated by specialized staff to bring concrete solutions.

The design of the IOCC was based on a diagnosis of the municipality, and the opportunities for integration, and taking into consideration successful experiences in Korea. Additional "Intelligent Monitoring Centers" in cities that are part of the ESCI are under design as the security issue is increasingly relevant for municipalities and their inhabitants.( Barranquilla, Montego Bay, Montevideo, João Pessoa and Vitoria).



Source: ESCI Methodology, (2014).

action and commitments, and less pollution also reduces health problems in cities.

### 4.7 Security is basic to citizen well-being, social cohesion and improving chances of attracting productive investments

Urban security has two faces: an objective element, it is a statistically measurable issue analyzed through the number of larcenies, homicides and other punishable acts, and on the other side, it is a subjective element that relies on the perception of security by citizens.

Effective security policies must address both dimensions so it is central to ensure public participation in their definition; in such unequal cities, this requires taking into account the opinion of the varied social categories, as confidence in formal security bodies as the police is reduced among poorer citizens.

They also need to balance the need for transparency in policy definition with the prevention of violence through more police and technological systems. The use of closed circuit TV in public spaces, controlled through monitoring centers has usually implied a substantial reduction in crime rates, but other "softer" means as urban mediation can also be useful in preventing anti-social behavior that can reinforce the feeling of insecurity in public space.

An adequate implementation of such measures requires that citizens trust their city Government. Governance and accountability must improve at all levels, so citizens can be confident that their complaints will be addressed.

### 4.8 Evolution towards a path of sustainability in given city has a tremendous impact on its competitiveness, its ability to attract investments and to generate productive jobs

The attraction of individuals and firms will drive growth and competitiveness in the foreseeable future in LAC cities. These elements can be influenced by the action of local governments in their constituencies:

• Ability to keep attracting migrants from rural areas. Even if the population share of rural areas has decreased substantially over the last half century, in some countries there is still room for these flows to be substantial. These populations are still mainly migrating due to economic reasons, and they move because, despite substantial losses in environmental quality, cities still represent an economic and social advancement for their families.

Attraction of new economic agents in innovative sectors, or an evolution of those already located in the cities. When these agents expand their operations, their location choices can be quite relevant for cities, not only by direct job creation but also by the innovation they can bring. This brings in the debate on which are the main drivers of firm location, tax benefits and a low labor cost or a quality of life supported by an economic context that provides a sustainable market for products. The answer may vary according to the conditions in each city, but elements that are usually considered in the "quality of life" section have a certain weight in attracting business, and therefore jobs.

While these are not the only drivers of growth and competitiveness, they are relevant, and they all depend substantially on quality of life. Individuals moving into cities will breathe their air and suffer its crime rate, and the productivity of firms moving there will be affected by the quality of life of their employees.

These factors can also be analyzed the other way around: as migration between cities will remain, the ability to retain the current population and firms will also be influenced by the ability to provide them with an attractive environment. So it is not just a matter of migration, but of making cities more sustainable on an environmental (cleaner and leaner), social (inclusive and secure) and economic (competitive and efficient) terms, which requires a more accountable, transparent and efficient local governance framework.

All those factors are influenced by local government performance. In the end, a more accountable, transparent and efficient local administrative framework can help make cities more sustainable in environmental (cleaner and leaner), social (inclusive and secure with sufficient employment) and economic (competitive and efficient) terms; when these conditions are met, growth and urban improvement are easier.

### **Urbanization in LAC**

Latin America and the Caribbean (LAC) have experienced an intense urbanization process for at least the last six decades. The urban planning process has been highly decentralized and has copied several models from different parts of the world. So far, with few exemptions, the region lacks an urban planning model that can deliver good quality of life standards to citizens while preserving physical and environmental assets for future generations. Intermediate cities, which at present are showing higher growth rates as a result of increasing urban to

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urban migration flows, have an important opportunity to develop a more socially cohesive and sustainable urban model. Such model will increase their productivity and competiveness. These cities can create an environment more attractive to investments and generate productive jobs with positive effects on poverty reduction and inequity. There is still time to initiate the road to a path of sustainability in our cities. The challenges ahead are not minor but with the active participation of all stakeholders involved, it is a possible scenario.



Source: Xalapa's Action Plan, ESCI 2014

### Acronym Glossary

CTS	Centro de Transporte Sustentable –Embarq
ESCI	Emerging and Sustainable Cities Initiative
GDP	Gross Domestic Product
GHG	Greenhouse Gas
ICT	Information and communications technology
IDB	Inter-American Development Bank
ICF	International Community Foundation
IMPLAN	Instituto Municipal de Planeación
1000	Integrated Operation and Control Center
KRIHS	Korea Research Institute for Human Settlements
KSP	Knowledge Sharing Program
LAC	Latin America and the Caribbean
MDC	Municipal Center District
OECD	Organization for Economic Co-operation and Development
UN	United Nations
UABCS	Universidad Autónoma de Baja California Sur



# THE EXPERIENCE OF LAC IN URBANIZATION

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