

THE INSTITUTIONAL CONSTRUCTION OF METROPOLITAN GOVERNANCE

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Abstract

The complexity of urban centers has increased. Cities have been transformed into territories that present important governance, inter-jurisdictional coordination, and financing challenges. Approximately 47% of the population of Latin America and the Caribbean live in 180 urban centers with a population of more than 100,000 inhabitants, equivalent to about 265 million people. Metropolitan Areas are a great part of these urban centers. Considering the need to define a new way to deal with the problems derived from the growth of urban areas involving more than one municipality or district, it becomes relevant to discuss various visions and experiences to understand how metropolitan management can be approached in a coordinated and collaborative way. This publication presents a collection of experiences, voices, and territories, in order to become a document that can allow for reflection and proposals for the governance of Metropolitan Areas.

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THE INSTITUTIONAL CONSTRUCTION OF METROPOLITAN GOVERNANCE

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PROLOGUE

Chile, like the rest of Latin America and the Caribbean (LAC), is undergoing a process of rapid urbanization and expansion of its cities. The 87% of the population lives in urban areas, and 63% in eight agglomerations with more than 250,000 inhabitants, usually considered Metropolitan Areas. If we aspire to improve lives, several challenges need to be addressed: mobility, air quality, innovation, wastewater management and land use are key in the achievement of an effective metropolitan governance. This requires the definition of new metropolitan boundaries and institutional structures to manage shared domains of multiple jurisdictions.

Over the last years, the IDB has devoted important efforts to add value through innovation in the decentralization process of the Chilean government, to allow a balanced development of their territories. This report summarizes the work done in conjunction with the regional and municipal governments and the Undersecretary of Regional and Administrative Development of the government of Chile. We hope that this publication and the multisectoral dialogue, consultation and capacity building developed during its formulation, can be a contribution for the country in the institutional construction of metropolitan areas.

The success of the publication *Construyendo Gobernanza Metropolitana* encouraged us to translate this document to an English version: *The Institutional Construction of Metropolitan Governance*. This publication allows us to expand the knowledge and lessons learned to a broader audience, and hopefully contribute new insights to a global discussion on metropolitan governance.

Yolanda Martínez
Country Representative for Chile
Inter-American Development Bank

In Latin America and the Caribbean (LAC), cities are experiencing an intense process of expansion linked to economic and social changes, which has resulted in an accelerated increase in urban population and a sustained expansion of the size of cities that in many cases, have exceeded their administrative limits. A metropolitan view, therefore, is key to understanding the challenges and opportunities of more complex territories not only in extension but also in their economic, social, environmental, institutional and political structure.

This process of urban expansion is often beneficial for the population centers involved, mainly because it responds to complementarity in functions that, together, make them competitive in relation to other city systems. Nevertheless, expanded urbanization also tends to result in negative externalities that affect living conditions. In these cases, solving these problems requires an overview of the entire agglomeration that is not limited to political-administrative or jurisdictional divisions. Thus, issues such as traffic congestion or mobility, the management of water and river basins, the final disposal of waste, air pollution, public security, green areas, among many others, require an overarching metropolitan scale vision.

The Inter-American Development Bank (IDB), through its Housing and Urban Development and Division (HUD), accompanies countries in the Latin American region in the development of programs that face these challenges and support the development of more sustainable cities improving the access of its residents to better living conditions.

This document summarizes the effort made in Chile to understand the various metropolitanization processes that are occurring at different scales. It is a pleasure for the Housing and Urban Development Division to make available "Building Metropolitan Governance: the case of Chile", where principles, alternatives and best practices are explored towards effective metropolitan management, in the context of unitary countries. We hope that this publication can be useful in the search for solutions during the metropolitanization process of Chile.

Tatiana Gallego Lizon
Division Chief Housing and Urban Development IADB

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INTRODUCTION

Francisca Rojas / Felipe Vera

Along with sustained growth in urbanization rates, the complexity and intensity of urban agglomerations have increased. Cities have not only grown in size, but there has also been an increase in functional dependence between the various urbanized areas. These factors have led cities to become dynamic spaces with growth patterns that often exceed administrative boundaries, absorbing inhabited centers that belong to multiple jurisdictions. It has thus become increasingly common to see inter-jurisdictional urban continuities supported by stable networks of economic, functional, and social relationships, which constitute what we call Metropolitan Areas.

This process of urban expansion is usually beneficial for the population centers involved, mainly because it responds to complementarity in functions that, together, make them competitive in relation to other city systems. Nevertheless, expanded urbanization also tends to result in negative externalities that affect the living conditions of the population and make its governance more complex. This scenario evidences how the expansion of activity and the scope of urban problems exceed administrative limits and configure metropolitan dynamics that challenge existing governance structures and the institutional architecture designed to manage cities and their processes. To encourage the coordinated action of the various local actors requires both a vision for the whole of the agglomerate, as well as room for metropolitan governance to ensure coordination between the various local stakeholders. Therefore, metropolitan governance presents several challenges in areas as varied as sectoral adaptation, power distribution, and strengthening of local leadership, to name but a few.

In this scenario, it is important to advance in the installation of politically legitimized metropolitan governments that ensure that decision-making occurs within the metropolitan area with sufficient representation of the key stakeholders of the territory. Chile has begun to move forward in this process by opening a series of questions to which this publication intends to be useful. Questions such as: What is the role that the central government must fulfill in order to give political legitimacy to metropolitan authorities? How should roles and responsibilities be established that allow these authorities to implement their own policies, define revenue streams and effectively promote territorial transformations in a decentralized manner? How is it possible to elaborate financial incentives that promote the coordination of the different actors of the Metropolitan Areas? How is the election of representatives of civil society effectively done, and does it take advantage of the opportunity to have metropolitan governments closer to their territories? How is a capacity building process managed in metropolitan governments in order to ensure that more complex

processes can be managed effectively? How can metropolitan governments be granted greater fiscal autonomy, matching in some way revenue and expenditure within the territorial units?

Building Metropolitan Governance in Chile explores principles, alternatives, and opportunities that may be useful in answering these questions, and start thinking about ways to formulate a model aimed at fostering effective metropolitan governance in unitary countries, bringing a new perspective to a fascinating and ongoing debate whose focus has mostly been placed on the establishment of metropolitan governance in decentralized countries. This publication corresponds to the joint compilation and editing of the work done by the IDB Division of Housing and Urban Development (HUD) and the Government of Chile, through the Secretariat for Regional Development and Administration (Subsecretaría de Desarrollo Regional y Administrativo, SUBDERE) of the Ministry of Interior, as part of the consultancy project “Development of Strategic Guidelines and Training for the New Metropolitan Functions and Competencies of Regional Governments, in the context of the Recently Approved Amendment to the Constitutional Organic Law for Regional Government and Administration N° 19,175. This publication is mainly devoted to the case of Chile where, like the rest of Latin America and the Caribbean, cities are undergoing a process of expansion tied to economic, social, and industrial changes, which has resulted in accelerated growth in the urban population and sustained increases in the size of its cities.

Today, over 87 percent of Chile’s population lives in urban areas (INE,2017), and nearly 63 percent lives in the eight conurbations or large urban agglomerations with populations greater than 250,000 inhabitants, considered Metropolitan Areas. Metropolitan issues in Chile pose an additional challenge, given the on-the-ground performance of various sectoral authorities for centralized governance that are responsible for managing both regional and local issues. Likewise, municipal governance units do not match the functional reality of metropolitan territories. As a consequence, and due to the need to define a new way of tackling issues resulting from the expansion of large urban areas involving more than one municipality or territory, it is important to stimulate debate on different views and experiences in order to understand how to approach—using the public apparatus—the multiple challenges that metropolitan governance must face to gain a better grasp of planning and territorial governance in our regions.

This publication is divided into five large chapters:

First, in the chapter “Metropolitan Chile” the reality of Chile is analyzed from its metropolitan context, characterizing and comparing the eight Metropolitan Areas from diverse angles, to then deepen the incremental process of decentralization that the country has carried out in the last 40 years. Luis Eduardo Bresciani and Arturo Orellana reflect on what this new stage of establishment of a model of metropolitan governance means for the country,. Francisca Rojas and Cristian Robertson review

in greater detail the implications of thinking territorially Chile from a metropolitan lens. Understanding this process and what it means for the national context, Sebastián Alcayaga, gives us a characterization of the different Metropolitan Areas of Chile placing their dimensions and characteristics in a comparative manner. Luis Valenzuela shows us through georeferenced evidence how certain territorial dynamics of a metropolitan nature have shaped the different metropolitan areas of the country, highlighting some of the greatest challenges related to processes of territorial inequity and access to urban services. Finally, Ignacio Cienfuegos and Esteban Valenzuela refer to the process of incremental decentralization that Chile has experienced in the governments since the return of democracy, describing a process that has been progressive, but with substantive advances in terms of decentralization.

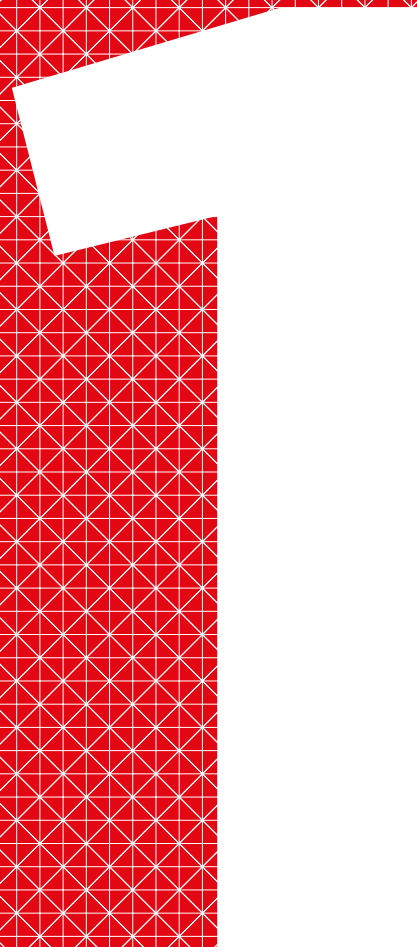
In the second chapter "Metropolitan Governance", the conceptualization of the Metropolitan Areas understood as a phenomenon on a global scale is deepened. The chapter begins with Francisca Rojas and Cristian Robertson contributing insights on how to apply learning and disciplinary knowledge to this process and then continues with Enid Slack and Eduardo Carvalho placing the discussion in a broader context, regarding the importance of having effective mechanisms of metropolitan governance.

The third chapter, "Case Studies" seeks to provide lessons learned and aspects to be considered for the implementation of metropolitan governance both in Chile and in other contexts through the description and analysis of national and international case studies. Here, Enid Slack and Eduardo Carvalho explore 4 international cases: the United Kingdom, New Zealand, Colombia and South Korea, extracting principles and useful lessons to feed the discussion. Then, Pablo Allard and Pia Bettancourt show us examples in which metropolitan management has developed in Chile in the absence of a formal institutional framework, referring to the mechanisms and relationships between actors that have already proven to work in the national context. The cases of CREO Antofagasta, PRBC18 and the Resilience Strategy of Santiago are reviewed, each of them with emphasis on the driver that made the territorial articulation and between actors possible.

The fourth chapter, "Metropolitan Agendas" reviews the experience of four pilot initiatives developed in Chile for the creation of Metropolitan Agendas. These agendas present proposals from regional and local governments for the construction of a roadmap at the metropolitan level, including prioritized initiatives for each pilot Area. Finally, the book identifies general recommendations for solid metropolitan governance, aspects to be considered in unitary contexts, and specific suggestions for the case of Chile that could facilitate the process of establishing metropolitan governance units—units capable of articulating and managing the different government levels participating in the metropolitan discussion—within the regional governments.

The publication is crossed by a series of photo essays that aim to visually show the potential of an effective metropolitan management, provoke the imagination, as well as short vignettes where intellectuals and practitioners who were involved in the development process of this project offer their visions on specific topics. Alfredo Ramírez, Diane Davis, Alaina Harkness, Alfredo Rihm, Juan Carlos Muñoz, Benoit Lefevre and Jorge Ducci explore topics as varied as transport, environment, housing, among other sectoral opportunities to advance in metropolitan coordination.

We have compiled a wide collection of experiences, voices and territories hoping that this publication becomes a document for reference and discussion that can help promote profound ideas and concrete proposals for the implementation of new Metropolitan Areas, a process in which Chile and other Latin American and Caribbean countries can contribute a great deal.



METROPOLITAN

CHILE

A NEW PHASE OF NATIONAL GOVERNANCE

Luis Eduardo Bresciani / Arturo Orellana

A new phase of national governance has begun. On February 22, 2018, Law N° 21,073 was passed, which, in addition to allowing the direct election of regional governors for the first time, introduces fundamental changes to the Constitutional Organic Law for Regional Government and Administration N° 19,175. Along with facilitating the transfer of powers and resources from the national government to regional governments—paving the way for a real decentralization—this law establishes new ways of defining and managing large cities with inter-district characteristics that have more than 250,000 inhabitants, which will be able to become Metropolitan Areas.

Besides the Metropolitan Areas of Santiago, Valparaíso, and Concepción, the country must address the need and urgency to govern, plan, and manage at least a dozen emerging Metropolitan Areas in the coming years, which will involve the following regional and/or provincial capitals: Arica, Iquique–Alto Hospicio, Antofagasta, La Serena, Rancagua, Talca, Chillán, Los Ángeles, Temuco, and Puerto Montt. The quality of life of nearly 70 percent of the national population will depend on how they are developed.

This challenge will require political will to transfer power and regional capacities to these Metropolitan Areas with the aim of building long-term development visions. To do so, a National Urban Development Policy (PNDU) has already been established with the goal of providing these Metropolitan Areas with exclusive authority, powers, and competencies to resolve basic metropolitan issues such as transport and mobility, solid waste disposal and management, and land-use regulation for equipment and infrastructure on a metropolitan scale. In that same vein, with the aim of progressing with the implementation of the PNDU, the CNDU has underlined the urgency of approving integrated guiding plans for our cities—particularly for Metropolitan Areas—that force the different sectoral plans to converge more efficiently to contribute better to urban development.

In parallel, as part of the decentralization agenda promoted by the government, the SUBDERE defined the first steps of the process to transfer competencies and strengthen human capital for regional governments through the creation of three new divisions: Promotion and Industry, Infrastructure and Transport, and Social and Human Development. These new divisions will have the corresponding management

and support positions, and will contribute to improving the regulatory capacity for metropolitan development by way of a specific unit within the Planning and Development Division (División de Planificación y Desarrollo, DIPLADE).

Despite the significant legislative and institutional advances, the agreements reached through the PNDU and within the CNDU, and the work carried out by the SUBDERE, the work is just beginning. There are still important pending challenges that are expected to define the priorities of the public agenda in the coming years regarding the development and consolidation of the governance of Metropolitan Areas. The challenges the country will have to face include the following:

There will be a need for articulated visions of metropolitan development that break away from decades of ministerial sectoralism and municipal fragmentation. Emerging Metropolitan Areas in Chile are a result of disarticulated processes of urban growth and expansion that have appeared amid fragmented public investments and regulatory instruments that are obsolete and insufficient. Thus, these units will require plans that articulate the various specific agendas through a new type of governability to adjust planning and improve the focus and focalization of public policy.

Regional centralism should be avoided by simultaneously strengthening municipal planning, management, and association capacities. Municipalities are essential for the delivery of governability in a Metropolitan Area. However, a significant proportion of the municipalities comprising these cities do not have the professional, technological, and financial capacities to take on the planning and management tasks for their territories. Hence, the advisory role of mayors is not sufficient for a Metropolitan Area, as it is also crucial to advance with greater decentralization of resources towards local governments, as it has been suggested by the CNDU and SUBDERE.

Finally, there must be greater public participation to legitimize metropolitan governance, as the election of governors is merely the first step. The growing demand and interest of civil society (including the private sector) to participate in decision-making processes regarding urban development and land-use planning requires the definition of formal and permanent platforms for participation and representation, as well as definition of the scope of the binding nature of this participation. Some regions have made strides in this regard online, creating advisory bodies and other forms of public-private discussion, but it is evident that there will be a need to provide technical-professional teams with the hard and soft tools to assume a challenge that requires listening to the community and mediating between its demands and the actions of the state.

METROPOLITAN CHILE

Francisca Rojas / Cristián Robertson

Currently, more than 87% of the population of Chile lives in urban areas (INE, 2017) and approximately 63% of them live in the eight agglomerations with populations greater than 250,000 inhabitants, considered Metropolitan Areas. In the largest metropolitan areas of Chile - Santiago, Valparaíso and Concepción - there are around 8 million people, equivalent to 46% of the country's population. In turn, 77% of the population lives within the 26 urban functional areas, of which 15% reside in small urban areas, 19% in urban areas of medium size, another 15% in Metropolitan Areas and 51 % in large Metropolitan Areas (SUBDERE, 2017).

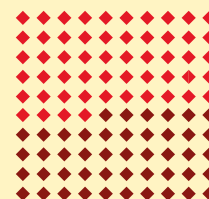
With those issues in mind, and in the context of Chile's ongoing process of decentralization, in 2017 the country has passed a law that aims to strengthen regionalization, allowing for the direct election of regional intendants (who will be known as regional governors according to the new law) and the transference of competencies and functions to this government entity.

In the modification and updating of the Constitutional Organic Law Number 19,175 on Government and Regional Administration, it was established that in each region one or more Metropolitan Areas may be constituted, understood as a territorial area formed by two or more districts in the same region, connected by an urban continuum where built-up areas share the utilization of various elements of infrastructure and urban services, and which together exceed 250,000 inhabitants. Minimum requirements for the creation of Metropolitan Areas will be established through a set of rules issued by the Ministry of Interior and endorsed by the ministries of Housing and Urban Planning, Transport and Telecommunications, Public Works, Environment, and Finance. The law also states that Metropolitan Areas will be constituted by passing a Supreme Decree from the Ministry of Interior and Public Security, endorsed by the Minister of Finance and the heads of the corresponding ministries associated with the competencies granted.

The President of the Republic will have the power to legally constitute such Areas, assigning the competencies that will be transferred to the regional governments. While the specific competencies have yet to be defined, those considered most likely to be transferred are: mobility and transport, housing, environment, and public works. The resources allocated will only be assigned to the Metropolitan Area.

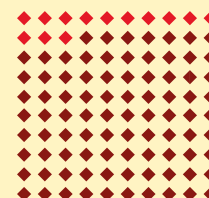
46%

of the country's population lives in only 3 Metropolitan Areas (Santiago, Valparaíso and Concepción)



+ than 87%

of Chile's population lives in **urban localities**



61,5%

of that population lives in conurbations or agglomerations with **more than 300.000 inhabitants**

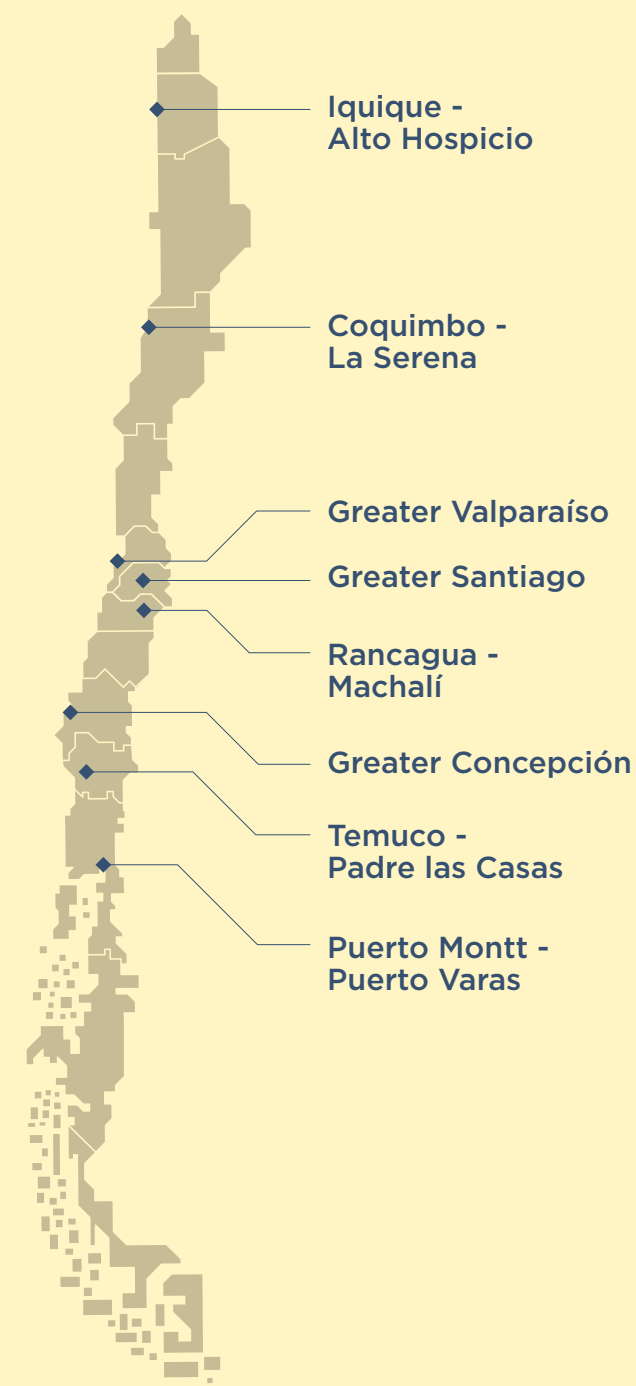
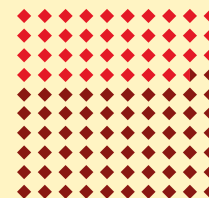


Figure 01
Source: SUBDERE, 2017.

A **Metropolitan Area** is a territorial area formed by two or more districts in the same region, connected by an urban continuum where built-up areas share the use of various elements of infrastructure and urban services, and which together exceed **250,000 inhabitants**.

The great challenge for these Areas in the coming years will be to constitute Metropolitan Area Departments (Departamentos de Áreas Metropolitanas, DAM) that are capable of effectively executing inter-jurisdictional and multi-sectoral actions that improve citizens' quality of life in the various areas of metropolitan governance. By implementing the law, competencies such as creation and approval of plans, operation of certain metropolitan public services (transport and waste), and management of air quality, among others, would be transferred to the DAMs.

The Secretariat for Regional Development and Administration (Subsecretaría de Desarrollo Regional y Administrativo, SUBDERE), an entity under the authority of the Ministry of Interior through its Regional Development Division, is responsible for setting in motion the decentralization process described in the law. To do so, pilot projects have been set up to provide the regions—in a collaborative, gradual, and inter-sectoral manner—with the competencies, knowledge, and methodologies currently available at sectoral level and which should be transferred to the regional governments according to the time limits that have been specified.

Along with the Metropolitan Region, where its capital Santiago is located, Chile has seven other urban areas that will be considered as such for presenting the conditions established by the law. These Metropolitan Areas are: Iquique - Alto Hospicio, La Serena - Coquimbo, Gran Valparaíso, Rancagua - Machalí, Concepción, Temuco - Padre Las Casas, Puerto Montt - Puerto Varas. In general terms—and although each of them have their own inherent characteristics—they all have issues related to the high level of administrative and territorial fragmentation, because several municipalities are responsible for managing adjoining urban territories, leading to inefficiencies in the provision of urban services and uneven conditions of access.

Commonly, this process of urban expansion is often beneficial for the population centers involved, mainly because it responds to complementarity in functions that, together, make them competitive in relation to other city systems. Nevertheless, expanded urbanization also tends to result in negative externalities that affect the living conditions of the population and do not respect territorial boundaries. In these cases, solving the problems requires an overview of the entire agglomeration that is not limited to political-administrative or jurisdictional divisions, as well as room for metropolitan governance to ensure coordination between the various local stakeholders. Thus, issues such as traffic congestion or mobility, the management of water and river basins, the final disposal of waste, air pollution, public security, among many others, require an overarching vision.

POPULATIONS OF EMERGING METROPOLITAN AREAS IN CHILE

Area	Region	Intermediate Cities in Conurbation	N° of Inhabitants per District 2017	N° of Inhabitants per Metropolitan Area 2017	% of Inhabitants in Relation to Regional Total	% of Inhabitants per Metropolitan Area in Relation to Regional Total	Regional Total
NORTH	Tarapacá	Iquique	191.468	299.843	57,92%	90,71%	330.558
		Alto Hospicio	108.375		32,79%		
	Coquimbo	La Serena	221.054	448.784	29,18%	59,24%	757.586
		Coquimbo	227.730		30,06%		
CENTER	Valparaíso	Valparaíso	296.655	951.311	16,34%	52,39%	1.815.902
		Viña de Mar	334.248		18,41%		
		Concón	42.152		2,32%		
		Villa Alemana	126.548		6,97%		
		Quilpué	151.708		8,35%		
	O'Higgins	Rancagua	241.774	294.279	26,44%	32,18%	914.555
		Machalí	52.505		5,74%		
	Biobío	Concepción	223.574	985.034	10,97%	48,35%	2.037.414
		Talcahuano	151.749		7,45%		
		Hualpén	91.773		4,50%		
		Hualqui	24.333		1,19%		
		Penco	47.367		2,32%		
		Tomé	54.946		2,70%		
		Chiguayante	85.938		4,22%		
		San Pedro de La Paz	131.808		6,47%		
		Coronel	116.262		5,71%		
		Santa Juana	13.749		1,40%		
SOUTH	La Araucanía	Temuco	282.415	358.541	29,50%	37,46%	957.224
		Padre Las Casas	76.126		7,95%		
	Los Lagos	Puerto Montt	245.902	290.480	29,67%	35,05%	828.708
		Puerto Varas	44.578		5,38%		

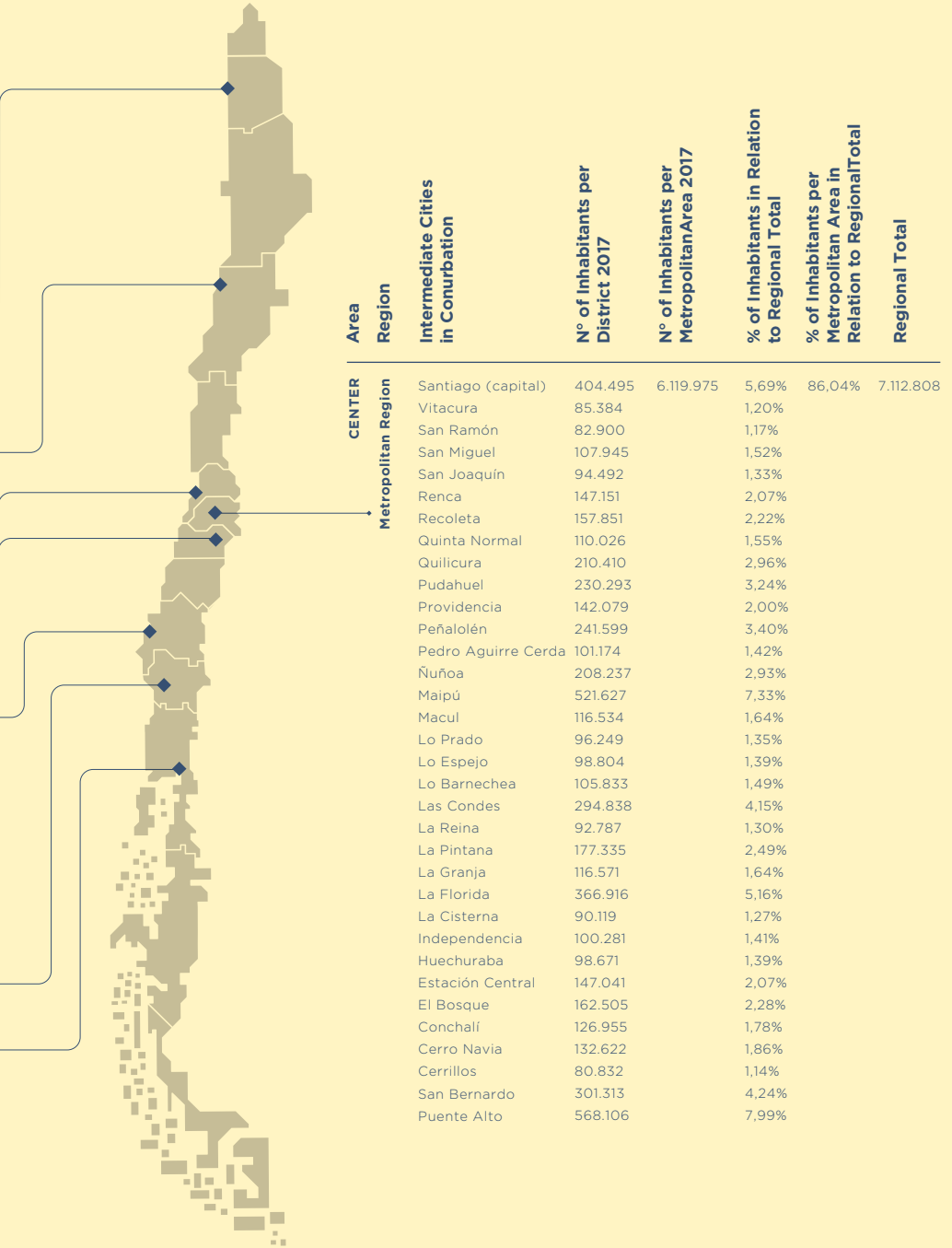


Figure 02
Source: Compiled by author based on 2017 Census, INE.

CHARACTERIZATION OF METROPOLITAN AREAS IN CHILE

Sebastian Alcayaga

Historically, the development dynamics of Chile, and particularly that of its human settlements, has been directly related to the discovery and development of natural resources or the needs of specific policies, such as the conquest enterprise, colonization of new territories, or the strengthening of sovereignty. The location and exploitation of resources is what has generated favorable environments for the development of human settlements, socio-cultural and economic fact that is projected in time and in space¹. It is perhaps this factor that has determined the location of the main cities in the central zone of the country. Outside this area, the urbanization process developed from the needs of colonization and expansion of the agricultural frontier, and the incorporation of new spaces to national economic activity (Arenas and Hidalgo, 2002), such as large-scale mining in the northern zone.

This is how, from the point of view of spatial distribution, three quarters of the country's population is now located in around 15% of the territory, in the so-called central nucleus of the country, between the regions of Valparaíso and Biobío, with currently about 75% of the population. It is precisely in this area, where the 3 most densely populated and productive urban conglomerates of Chile, Greater Santiago, Greater Valparaíso and Greater Concepción are located.

However, this situation has been changing. In recent decades the development achieved by Chile has resulted in profound changes in economic, social, cultural, political and mainly territorial aspects. This has generated a strong dynamic in the functional structure of the territory, especially in terms of movements and concentration of population, activities and productive infrastructure, flow of investments and functional changes product of physical integration².

The aforementioned changes not only occur in the large metropolises just mentioned, but are observable in the great diversity of urban contexts that the country presents,

highlighting regional capital cities, such as Iquique, La Serena, Rancagua, Temuco and Puerto Montt; which show clear signs of metropolization.

These "regional metropolises" are in different phases of the metropolitan life cycle, with some already showing a low density expansion in their peripheries, while others have begun at the same time to consolidate new secondary urban centers, developing projects that aim to improve mobility and intra- and interurban accessibility, due to the large number of interactions with their surrounding territory and with other cities. This situation reveals the diverse economic, jurisdictional and territorial realities that exist in the potential metropolitan areas throughout the country, which implies a challenge for their local governments, as well as to regulations on institutionality and metropolitan governance.

In the following segment, eight areas which could be considered Metropolitan Areas according to the Law N ° 21.074 on "Strengthening of the Regionalization of the country" will be characterized, elaborating on its current situation and identifying the main challenges and opportunities presented by each of these territories.

¹ R. Hidalgo, C. A. de Mattos, F. Arenas. "Chile: Del País Urbano al País Metropolitano". Pontificia Universidad Católica De Chile. 2009.

² Methodology for Territorial Structuring of Urban Districts, División de Políticas y Estudios. SUBDERE, 2011

METROPOLITAN AREA OF IQUIQUE-ALTO HOSPICIO
TARAPACÁ REGION

Comprised of the cities of Iquique and Alto Hospicio, this Metropolitan Area is located in the north of the country and is part of Iquique Province, in the Tarapacá Region. This conurbation is characterized by being divided by the imposing Dragón Hill. The city of Iquique stretches over a long and narrow shoreline, while the city of Alto Hospicio is located on a large plateau at more than 600 meters above sea level¹. The only connection between these cities is currently the Ruta A-16 highway. Historically, Iquique's particular situation, being a port city and free economic zone (since 1975), has significantly influenced its urban development. The port of Iquique is an important exit point for products from central South America and entry point for products from Asia-Pacific countries, which has boosted economic expansion in the region and accelerated urban growth, given its ability to generate employment.

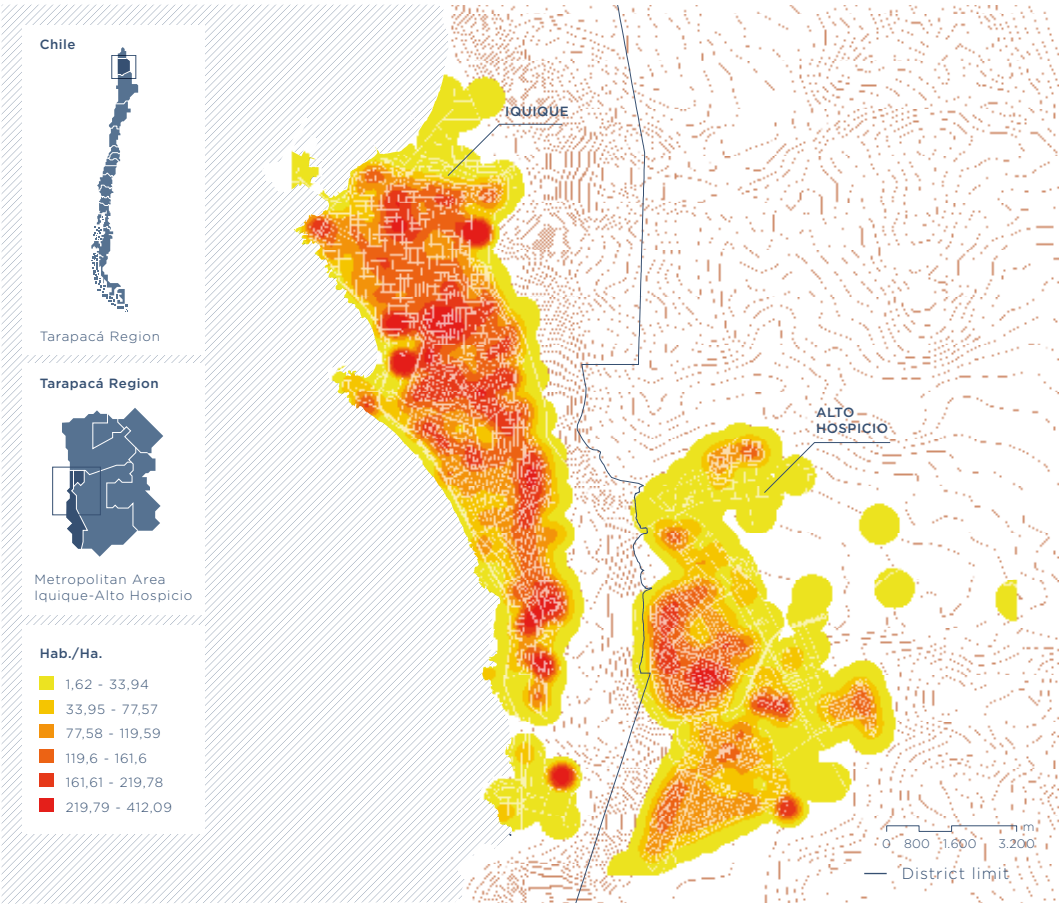
Therefore, the process of metropolization in this region has been particularly relevant in recent years through the explosive growth of the city of Iquique. Due to the restrictions of its geographic location, this expansion has been directly influenced by the lack of land for the poorest inhabitants of the urban system, which is why Alto Hospicio developed as an unplanned satellite of Iquique. This initially took place through large-scale illegal settlement of tracts of land lacking basic infrastructure by people in extreme poverty and later through mass housing solutions built to regularize the existing situation².

For these reasons, this conurbation experienced demographic growth of 42.5 percent in the intercensal period between 1992 and 2002. During these years, Alto Hospicio saw the greatest increase, as the population rose from 5,520 in 1992 to 50,190 in 2002, corresponding to growth of 809.2 percent. According to the 2017 census, this Metropolitan Area currently has 299,843 inhabitants, which is 90.17 percent of the total population of the region (Instituto Nacional de Estadísticas [INE], 2017).

Given the high population concentration, inhabitants of both cities currently have to face daily problems of significant growth in terms of demography, area, vehicle stock, connectivity, and accessibility, among others.

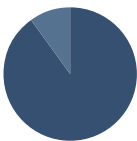
1 Estimation and analysis of residential renting prices for the regional capitals Iquique - Alto Hospicio, MINVU
2 Figueroa, O. & Fuente, L. (2009). "Expansión urbana y desarrollo económico: El caso del sistema urbano Iquique - Alto Hospicio". In Hidalgo, Mattos, & Arenas. (Ed). Chile: Del país urbano al país metropolitano. Chile: Ediciones UC.

Metropolitan Area
IQUIQUE - ALTO HOSPICIO
Tarapacá Region



2.835 km²
METROPOLITAN AREA Total Surface

2
DISTRICTS Iquique, Alto Hospicio



91 %
Of total regional population inhabits the Metropolitan Area
299.843 hab
Total Population of the Metropolitan Area

Figure 03
Source: Own preparation based on information from Centro Inteligencia Territorial de la Universidad Adolfo Ibañez (CIT, UAI)

AREA OF LA SERENA-COQUIMBO
COQUIMBO REGION

The cities of La Serena and Coquimbo are part of the Coquimbo Region and are located in the geographic area known as El Norte Chico, between Chile’s desert (El Norte Grande) and Mediterranean (Central Area) areas. Given its relative proximity to the Metropolitan Area of Santiago and large-scale mining in the north, the location of this urban system is privileged and strategic. At a regional and international level, it has become a significant territorial articulator, since it is located at the entrance and exit of inland valleys through the axis comprised of the port of Coquimbo and the Agua Negra border crossing (to Argentina). These characteristics place this conurbation within a great bi-oceanic corridor, in a more competitive scenario than other metropolises in the country.

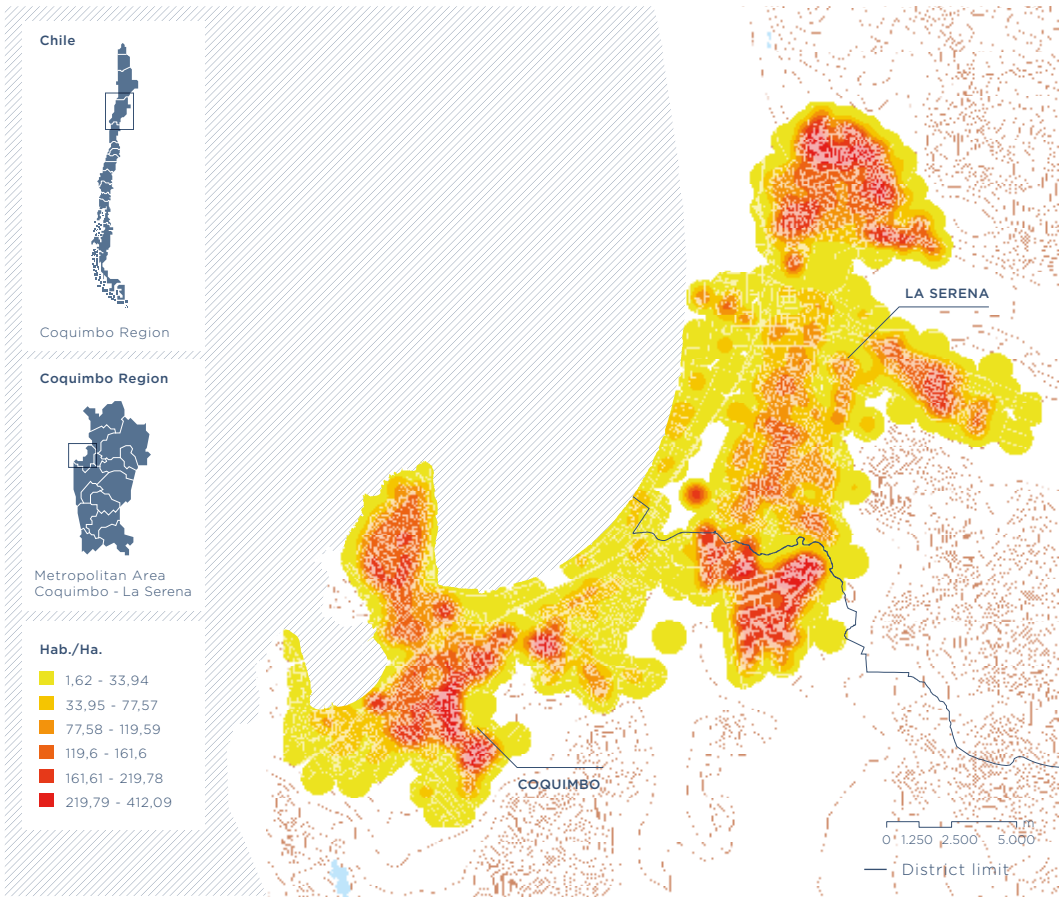
This series of favorable conditions has led the urban system of La Serena–Coquimbo, by way of the complementary functions and productive economic activities between both cities, to become the most highly populated in the region—with 60 percent of the total population—the largest urban conurbation in the northern area and the inter-district urban system with the fourth largest population in the country. According to the 2017 census, the urban population in the conurbation is close to 448,748 inhabitants, due to the constant rise in the demographic growth rate of both cities (INE, 2017).

The accelerated demographic growth of the two cities has produced a model of territorial occupation characterized by dispersed expansion, occupying large areas of rural and natural land and urbanizing the interstitial areas between districts, thus creating an urban continuum that has shaped the Metropolitan Area of La Serena–Coquimbo. Evidence of this growth is the annual increase in occupied urban area in both cities, which expanded from 58 hectares¹ in 1980 to 382 hectares in 2010. Urban occupation in La Serena and Coquimbo has extended significantly over the territory, reaching an area of 7,488 hectares (Dirección de Extensión y Servicios Externos [DESE PUC], 2016).

In recent decades, this process of expansion has persisted due to the speed of urbanization and the lack of an inter-district vision in terms of territorial planning and governance. Thus, the conurbation of La Serena–Coquimbo has become a shared territory facing the complexities of a growth rate that is higher than the national average, which has led to a multitude of negative consequences for its inhabitants due to the excessive use of urban land. These issues are related to road connectivity and transport, threats to the ecological balance of areas of natural value, and spatial segregation, as well as other conditions that have directly affected one of the attributes that has historically separated these cities from others: the quality of life.

¹ A hectare is equivalent to 10,000 square meters.

Metropolitan Area
COQUIMBO - LA SERENA
Coquimbo Region



3.322 km²

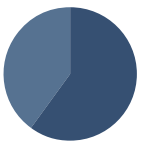
METROPOLITAN AREA Total surface

2

DISTRICTS La Serena, Coquimbo

60 %

Of total regional population inhabits the Metropolitan Area



448.784 hab

Total Population of the Metropolitan Area

Figure 04
Source: Own preparation based on information from Centro Inteligencia Territorial de la Universidad Adolfo Ibañez (CIT, UAI)

METROPOLITAN AREA OF GREATER VALPARAÍSO
VALPARAÍSO REGION

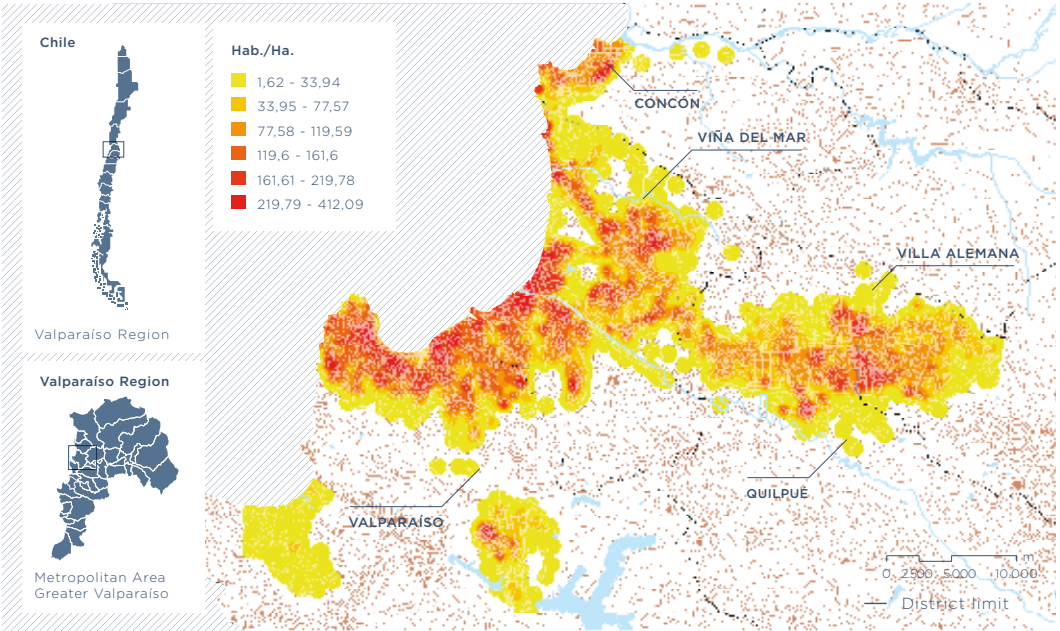
Greater Valparaíso is a five-district Metropolitan Area comprised of Valparaíso, Viña del Mar, Concón, Quilpué, and Villa Alemana, and it is part of the Valparaíso Region. It concentrates 52 percent of population of the region, with 951,311 inhabitants, according to the 2017 census (INE, 2017).

In terms of its relevant geographic context, the Metropolitan Area of Valparaíso (Área Metropolitana de Valparaíso, AMV) is located between the central Mediterranean coast and the mountain range. On the coast, Valparaíso and Viña del Mar are located on a bay and surrounded by a chain of mountains. The standout feature in Concón is the dunes, which contain great biodiversity and are a natural landmark in the area. The inland districts of Quilpué and Villa Alemana are closer to the Chilean Coastal Mountain Range, where the mountainous relief allows the existence of environments favorable for the development of vegetation and various agricultural activities, making this area valuable in terms of landscape and productivity (Gobierno Regional de Valparaíso, 2012).

The Greater Valparaíso conurbation began to take shape after the unification of Valparaíso and Viña del Mar, followed by other commuter towns located near the Marga-Marga Estuary and the Aconcagua River. The urbanization of the AMV has always been characterized by spontaneous development, which has had dramatic results in terms of urbanization given the lack of both formal and informal control. The pattern of growth of this metropolis has developed by way of the accumulation of residential layers expanding towards the periphery and spreading at the center. The urban structure is thus defined by a longitudinal pattern of urban growth through a system of communication routes and adaptation to the territory's geographic features. Consequently, two axes are established: across the Marga-Marga Valley, towards the interior; and across the coast, towards the north, thus gaining ground towards the sea (Muga & Rivas, 2009).

Today, the policentrality of the AMV and the extension of urban land have resulted in significant connectivity problems given the high flow of movement from commuter towns to the urban centers that concentrate employment and services. As a result, a series of transport projects and plans have been developed at a metropolitan level—such as the Metrotren, highways, and TransValparaíso—to address the accessibility issues caused by the model of expansion of this urban system.

Metropolitan Area
GRAN VALPARAÍSO
Valparaíso Region



1.234 km²
METROPOLITAN AREA Total Surface

5
DISTRICTS
Valparaíso, Viña del Mar, Concón,
Quilpué y Villa Alemana

52 %
of total regional population inhabits
the Metropolitan Area

951.311 hab
Total Population of the Metropolitan Area

Figure 05
Source: Own preparation based on information from Centro Inteligencia Territorial de la Universidad Adolfo Ibañez (CIT, UAI)

METROPOLITAN AREA OF GREATER SANTIAGO
METROPOLITAN REGION

The Metropolitan Area of Santiago (Área Metropolitana de Santiago, AMS) belongs to the Metropolitan Region of Santiago (Región Metropolitana de Santiago, RMS) and is the main urban, economic, and cultural center of Chile. In geomorphological terms, it is mostly located on the plains of the Maipo River basin, at an altitude ranging from close to 400 meters in the western areas to over the 1,000-meter mark (known as cota mil) in the Lo Barnechea district. It is also surrounded by isolated hills (Santa Lucía, San Cristóbal, Blanco, Calán, Lo Aguirre, and Renca), and is crossed by two rivers: Maipo and Mapocho, which constitute important urban and environmental assets in the city. The AMS is comprised of 34 districts, which concentrate a total of 6,119, 975 people, which accounts for 86 percent of the regional population and over 35 percent of the country's total population (INE, 2017).

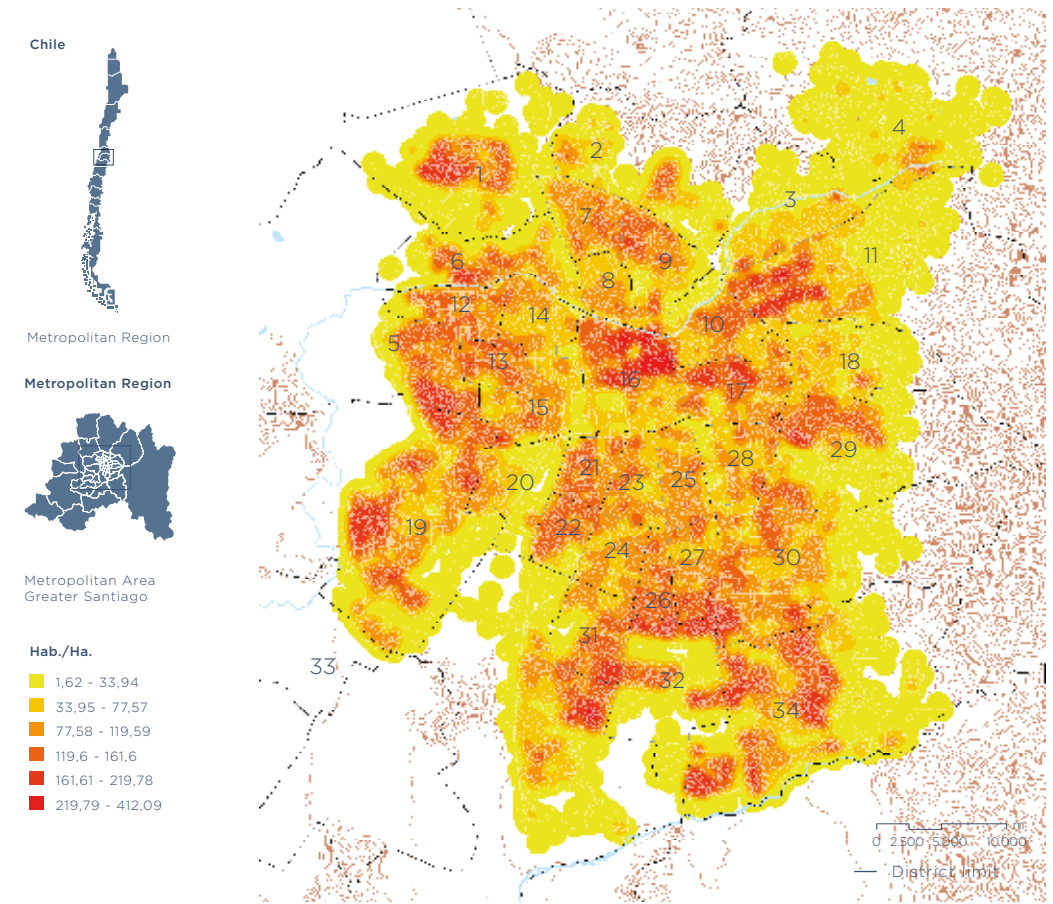
The RMS produces 46 percent of Chile's gross domestic product (GDP) (Banco Central, 2015) and nearly two thirds of its economy is driven by activities concentrated in the Metropolitan Area, particularly the financial, retail, and professional service sectors (UDD, 2016). The Area's economic relevance is reflected in a concentration of 50 percent of the country's technicians and professionals and the significant presence of the headquarters of public and private companies, which also explains the ongoing influx of people from other regions of Chile and other Latin American countries. Moreover, and according to various projections, the Valparaíso Region and the RMS have the largest copper reserves in the country, making them the areas with the greatest copper mining potential in the world (Valor Minero, 2017), substantially influencing the growth of Chile's economy.¹ Nevertheless, this reality poses great challenges at a regional level, due to the territorial complexity in which the copper reserves are located and the presence of physical, natural, and cultural features that must be preserved.

Since the AMS contains the capital city of Santiago, it hosts both the country's political-administrative capital (where the central level of public administration and the seat of government are located) and the headquarters of the two most important Chilean universities, thus concentrating 47 percent of undergraduate enrollment in higher education and 80 percent of graduate enrollment. In addition, the AMS concentrates most of the cultural activities in the country—the major exhibitions, musical, sports, and artistic events in the country—and it is where almost all of the artistic disciplines in Chile are developed.

Given that it is the country's epicenter, the AMS is a highly complex and relevant territory for the development of Chile. The growth of an extensive and segregated city due to the lack of land for the development of social housing has led to a series of problems that have been managed by this Metropolitan Area, which for some time has had to address the challenges generated by an urban agglomeration of this size.

¹ With only 3 percent of the mining resources of the RMS and the Valparaíso region, the Chilean economy could grow by 0.75 percentage points annually (Valor Minero, 2017).

Metropolitan Area
GRAN SANTIAGO
Metropolitan Region



34
DISTRICTS

- | | | | |
|------------------|----------------------|-------------------------|-------------------|
| 1. Quilicura | 10. Providencia | 19. Maipú | 28. Macul |
| 2. Huechuraba | 11. Las Condes | 20. Cerrillos | 29. Peñalolén |
| 3. Vitacura | 12. Cerro Navia | 21. Pedro Aguirre Cerda | 30. La Florida |
| 4. Lo Barnechea | 13. Lo Prado | 22. Lo Espejo | 31. El Bosque |
| 5. Pudahuel | 14. Quinta Normal | 23. San Miguel | 32. La Pintana |
| 6. Renca | 15. Estación Central | 24. La Cisterna | 33. Padre Hurtado |
| 7. Conchalí | 16. Santiago | 25. San Joaquín | 34. Puente Alto |
| 8. Independencia | 17. Ñuñoa | 26. San Ramón | |
| 9. Recoleta | 18. La Reina | 27. La Granja | |

86 %
Ff total regional population
inhabits the Metropolitan Area

6.119.975 hab
Total Population of the
Metropolitan Area

Figure 06
Source: Own preparation based on information from Centro Inteligencia Territorial de la Universidad Adolfo Ibañez (CIT, UAI)

METROPOLITAN AREA OF RANCAGUA-MACHALÍ
O'HIGGINS REGION

This conurbation, comprised of the cities of Rancagua and Machalí, corresponds to the closest significant urban center located to the south of Greater Santiago, in the Libertador Bernardo O'Higgins Region. According to the 2017 census, this Metropolitan Area has a population of 292,279 inhabitants, accounting for 32 percent of the regional population (INE, 2017).

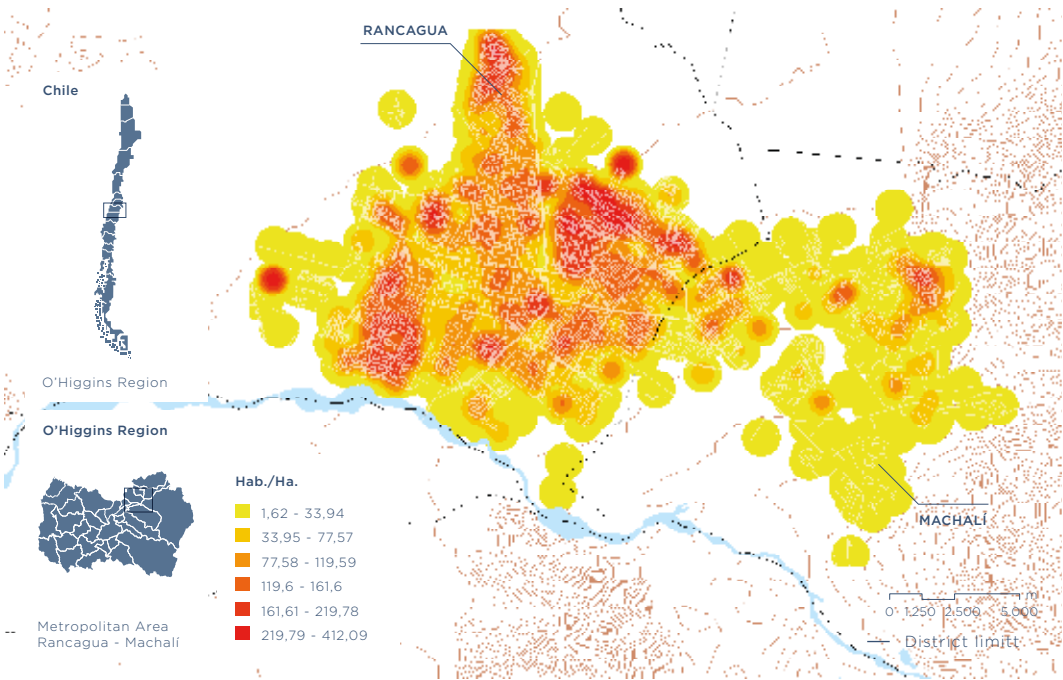
This urban system has experienced strong growth as a result of two independent processes related to its location. The first is associated with its proximity to Santiago and the fact that it functions as a service hub for the whole region. Consequently, the Area has historically expanded in a north-south direction, with the blurred boundary of the Cachapoal River to the south and the railway and bypass to the west. The second process leading to the growth of this urban system is related to its proximity to the El Teniente mine, which has resulted in demand for new urbanizations for the medium- and high-income sectors of the population in Machalí, which have developed inorganically vis-à-vis the neighboring district.

The latter has resulted in differentiated urban growth, stemming from the creation of mining villages and the exodus towards Machalí of a portion of the population looking to leave Rancagua and lead a more rural lifestyle, but within reach of the facilities of a regional capital city. As a consequence, the expansion of the city has concentrated mainly in the northern and eastern sectors, where development has spilled over district boundaries, leading to the conurbation of the limits of the cities of Rancagua and Machalí (Hidalgo et al., 2009).

The trend of territorial dynamics in the Rancagua-Machalí urban system suggests that this phenomenon will increase in the future, incorporating new areas of nearby towns. Examples of this include the case of Gultro in the neighboring district of Olivar, which has practically become part of the Rancagua conurbation, and the city of Graneros, which soon could end up becoming an urban agglomeration or Metropolitan Area of the O'Higgins Region.

In summary, the Rancagua-Machalí conurbation has stopped developing as separate cities and has become a single territory that is currently facing the difficulties associated with major growth in demography, area, and vehicle stock, among others. Likewise, these consequences of growth are causing increasing problems of socio-spatial segregation, connectivity, mobility, environmental pollution, and lack of infrastructure to grow.

Metropolitan Area
RANCAGUA - MACHALÍ
Rancagua Region



2.846 km²

METROPOLITAN AREA Total surface

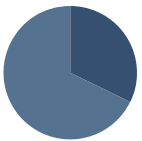
2

DISTRICTS

Rancagua, Machalí

32 %

Of total regional population inhabits the Metropolitan Area



294.279 hab

Total Population of the Metropolitan Area

Figure 07
Source: Own preparation based on information from Centro Inteligencia Territorial de la Universidad Adolfo Ibañez (CIT, UAI)

METROPOLITAN AREA OF CONCEPCIÓN
BIOBÍO REGION

The Metropolitan Area of Concepción (Área Metropolitana de Concepción, AMC) is located in the central-south region of Chile—nearly 500 km south of Santiago—and is part of the Biobío region. From a geomorphological point of view, the location of this urban system is characterized by the presence of the Nahuelbuta Mountain Range, the BioBío River, the coastline, wetlands, cliffs, lakes, and isolated hills, all of which add complexity to the relationship between the city and its surroundings.

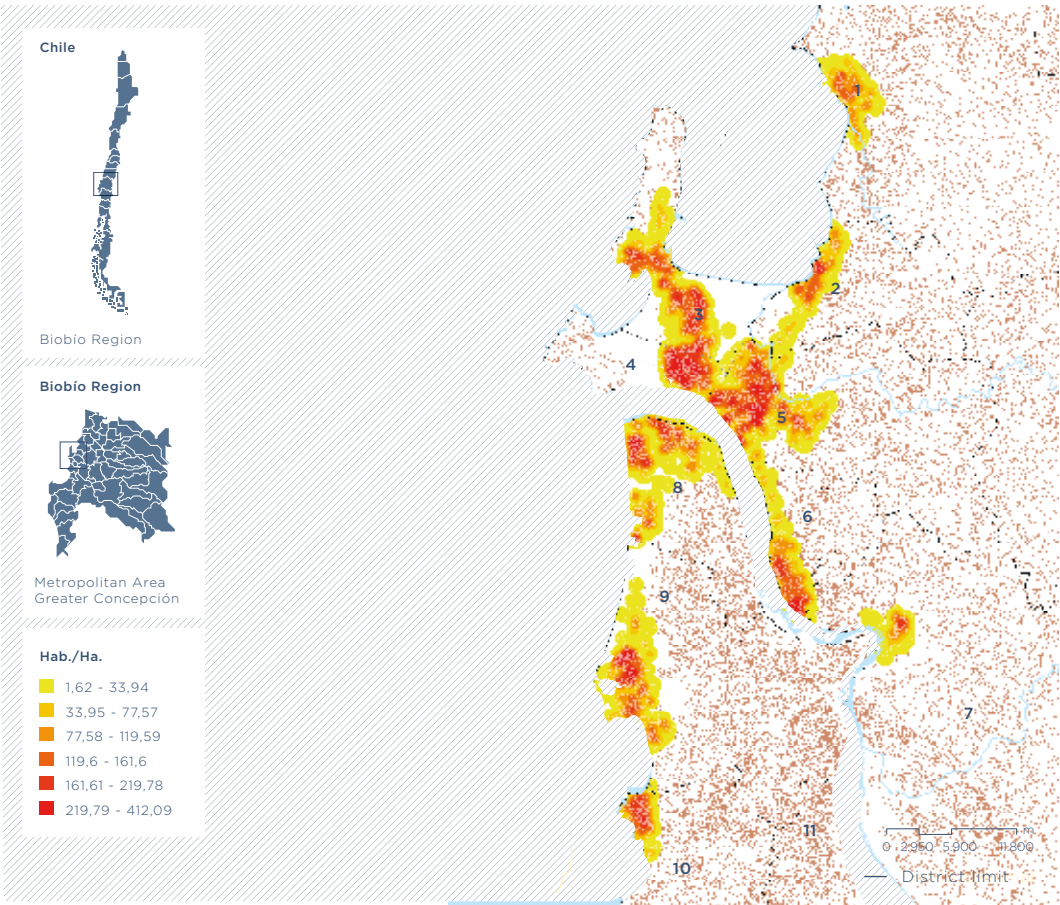
Greater Concepción is a functional territory that spans over a 60-kilometer coastline and covers a total area of 2,830 square kilometers. It is comprised of 11 districts according to the Metropolitan Regulatory Plan of Concepción (Plan Regulador Metropolitano de Concepción) (Gobierno Regional del Biobío, 2002). The districts that comprise this Area are: Tomé, Penco, Talcahuano, Hualpén, Concepción, Chiguayante, Hualqui, San Pedro de la Paz, Coronel, Lota, and Santa Juana.

According to the 2017 census, the AMS has a population of 985,034 inhabitants, of which most of lives in urban areas (97 percent). The current population density is 319 inhabitants per square kilometer and most of that population is dedicated to commerce (19.24 percent), manufacturing (14.69 percent), real estate and entrepreneurial activities (8.83 percent), construction (8.12 percent), and teaching or education (7.92 percent) (INE, 2017). In terms of its urban development, the centrality of the Area was first determined by Talcahuano’s industrial and port development. However, the latter has become less relevant and its centrality has thus shifted towards Concepción.

The growth pattern of the AMC is complex. Hualpén and Penco have experienced growth characterized by the successive addition of new urban land around the preexisting urban area (Zang, 2011), usually associated with new residential areas, and Penco’s urban area has almost doubled in size in the last 15 years thanks to such residential areas. Concepción, Talcahuano, and Chiguayante have experienced predominantly elongated growth around axes of transport. Finally, the urban area in San Pedro de la Paz has grown significantly due to the proliferation of segregated “urban islands,” demanding the creation of connecting infrastructure.

Given its exponential growth rate, the process of metropolization of the AMC has led to a series of issues. Today, for instance, 10 of the 11 districts are saturated by concentrations of particulate matter (PM 10 and PM 2.5). This is coupled with high demand for areas available for urbanization, which threatens ecosystems, deteriorating functions and reducing biodiversity in the area. For example, large areas of the wetlands in Coliumo, Andalién, Los Batros, Boca Maule, Paicaví, and Lengua have suffered degradation.

Metropolitan Area
GRAN CONCEPCIÓN
Biobío Region



2.833 km²

METROPOLITAN AREA Total surface

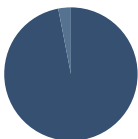
11

DISTRICTS

1. Tomé
2. Penco
3. Talcahuano
4. Hualpén
5. Concepción
6. Chiguayante
7. Hualqui
8. San Pedro de la Paz
9. Coronel
10. Lota
11. Santa Juana

97 %

Of total regional population inhabits the Metropolitan Area



985.034 hab

Total Population of the Metropolitan Area

Figure 08

Source: Own preparation based on information from Centro Inteligencia Territorial de la Universidad Adolfo Ibañez (CIT, UAI)

METROPOLITAN AREA OF TEMUCO-PADRE LAS CASAS
ARAUCANÍA REGION

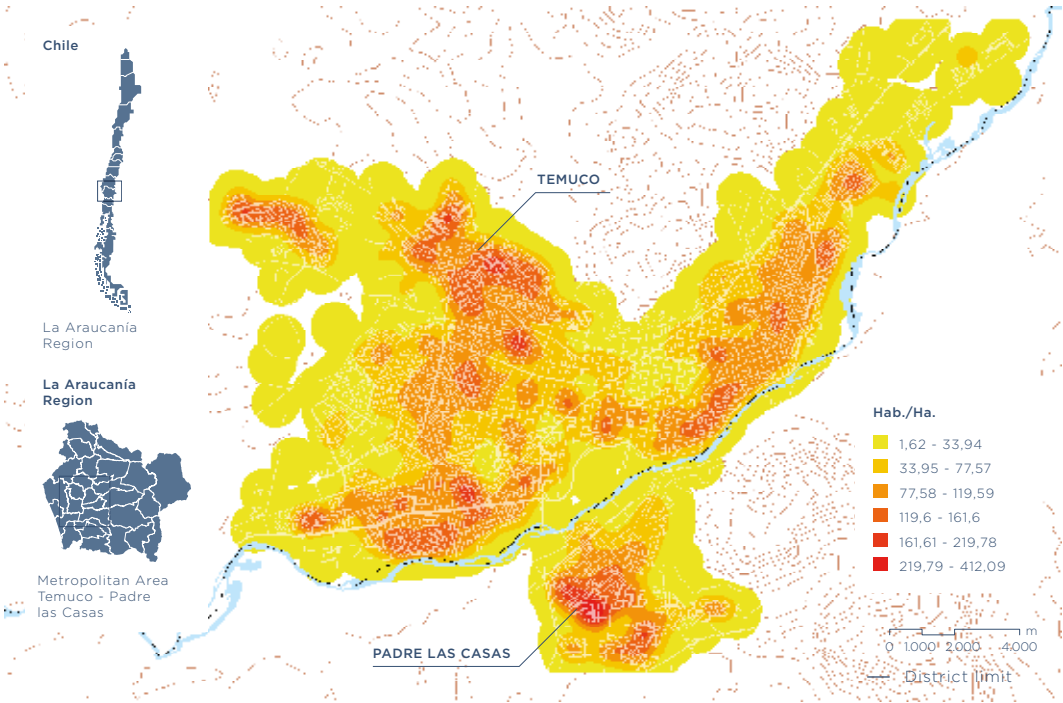
The Metropolitan Area of Temuco, otherwise known as Greater Temuco, is a two-district urban agglomeration comprised of Temuco and Padre Las Casas, located in southern-central Chile, in the Araucanía Region. In morphological terms, it is located on the fluvial terraces of the Cautín River, between the Ñielol and Conun Huenu hills within a central plain formed by moraines and cones, close to the foothills of the Andes.

The metropolitan denomination of the Temuco-Padre Las Casas conurbation came about in 1995 after the division of one of the city neighborhoods and the creation of the Padre Las Casas district. This district still relies heavily on Temuco, so both districts function as a single urban system. According to the 2017 census, the total population of this Metropolitan Area is 358,541, which represents 37.46 percent of the regional total (INE, 2017). The growth pattern of this conurbation is characterized by expansion towards rural areas, increasing social conflict due to the occupation of land in a highly rural territory and the presence of Mapuche communities. This trend has been caused mainly by the rise in real estate activity, as supply is usually located on the urban boundaries of both cities and the focus is placed, to a lesser extent, on rehabilitating the central areas of the cities (Escalona & Peña, 2009).

Due to the increased pressures to use rural land because of the growing trend towards urbanization, changes caused by high-impact activities have begun to proliferate within the new urban area. These negative effects have mostly affected the environment through the presence of garbage dumps, micro-dumps, irregular lot division, and wastewater treatment plants, among others.

This situation has also been compounded by the fact that the current Territorial Planning Instruments (Instrumentos de Planificación Territorial, IPT) are solely aimed at safeguarding activities developed within the urban limits and do not regulate activities in rural areas. This facilitates the construction of homes in peripheral and inter-district areas, exacerbating the development of high-impact activities with barely any regulation. On the other hand, while there is land available in the city of Temuco to relocate a large portion of the peripheral population, its high cost (resale value) strongly restricts this possibility. Likewise, the creation of new centralities in peripheral areas that do not have the necessary basic infrastructure to sustain the population increases the cost of building social housing. This dynamic creates imbalances in interurban spaces, pushing the most vulnerable population into peripheral and rural areas.

Metropolitan Area
TEMUCO - PADRE LAS CASAS
La Araucanía Region



865 km²

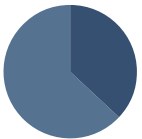
METROPOLITAN AREA Total surface

2

DISTRICTS Temuco, Padre las Casas

37 %

Of total regional population inhabits the Metropolitan Area



358.541 hab

Total Population of the Metropolitan Area

Figure 09
Source: Own preparation based on information from Centro Inteligencia Territorial de la Universidad Adolfo Ibañez (CIT, UAI)

METROPOLITAN AREA OF PUERTO MONTT-PUERTO VARAS
LOS LAGOS REGION

Comprised of the cities of Puerto Montt and Puerto Varas, the Metropolitan Area is part of Llanquihue Province in the Los Lagos Region, with a population of nearly 408,052, which accounts for 49.2 percent of the region's total (INE, 2017). Its strategic position as the entryway to and exit from southern Chile makes this urban system the epicenter of the region's economic-productive activities, as well as that of all the other isolated parts of Patagonia.

Puerto Montt and Puerto Varas share similar territorial features and purposes, which over the years have become more specialized, sophisticated, and differentiated. Historically, and due to its geography, the city of Puerto Montt has stood out as a port city, serving as a key location for trade, exports and tourist traffic, along with its complementary industrial, commercial, and service development. In the case of Puerto Varas, its main economic activity is tourism, as it is located in a beautiful area, making the district one of the most visited destinations in the south of Chile.

While tied to its location and geographical context, the importance of this emerging southern metropolis is mainly associated with the functional connection between both cities, which has fostered a highly dynamic process of expansion in demographic and urban terms. This territorial interrelation has made it possible to integrate the job market and has promoted greater flexibility for residential locations, without hindering the specific attributes and objectives of each of the districts.

The sustained growth of this urban system in recent decades has led to an expanding growth model, characterized by the dispersed occupation of rural land on the urban periphery for the main purpose of social housing or vacation homes. This process has resulted in a new periphery that is more removed and disconnected from the urban centers, giving way to new urban areas within the inter-district area that are less compact and more fragmented, as can be seen in the case of the Alerce area.

The way in which the territory has been occupied has not been a consequence of strategic planning, but the direct and immediate result of the sustained demographic growth seen in recent years. As a consequence of this model of urban development, the division between work areas and residential areas has become more pronounced, as well as the concentration of the tertiary sector in the center of the city and the displacement of residential and industrial functions towards the periphery. All of these phenomena have ultimately led to strong urban and social segregation.

Metropolitan Area
PUERTO MONTT - PUERTO VARAS
Los Lagos Region

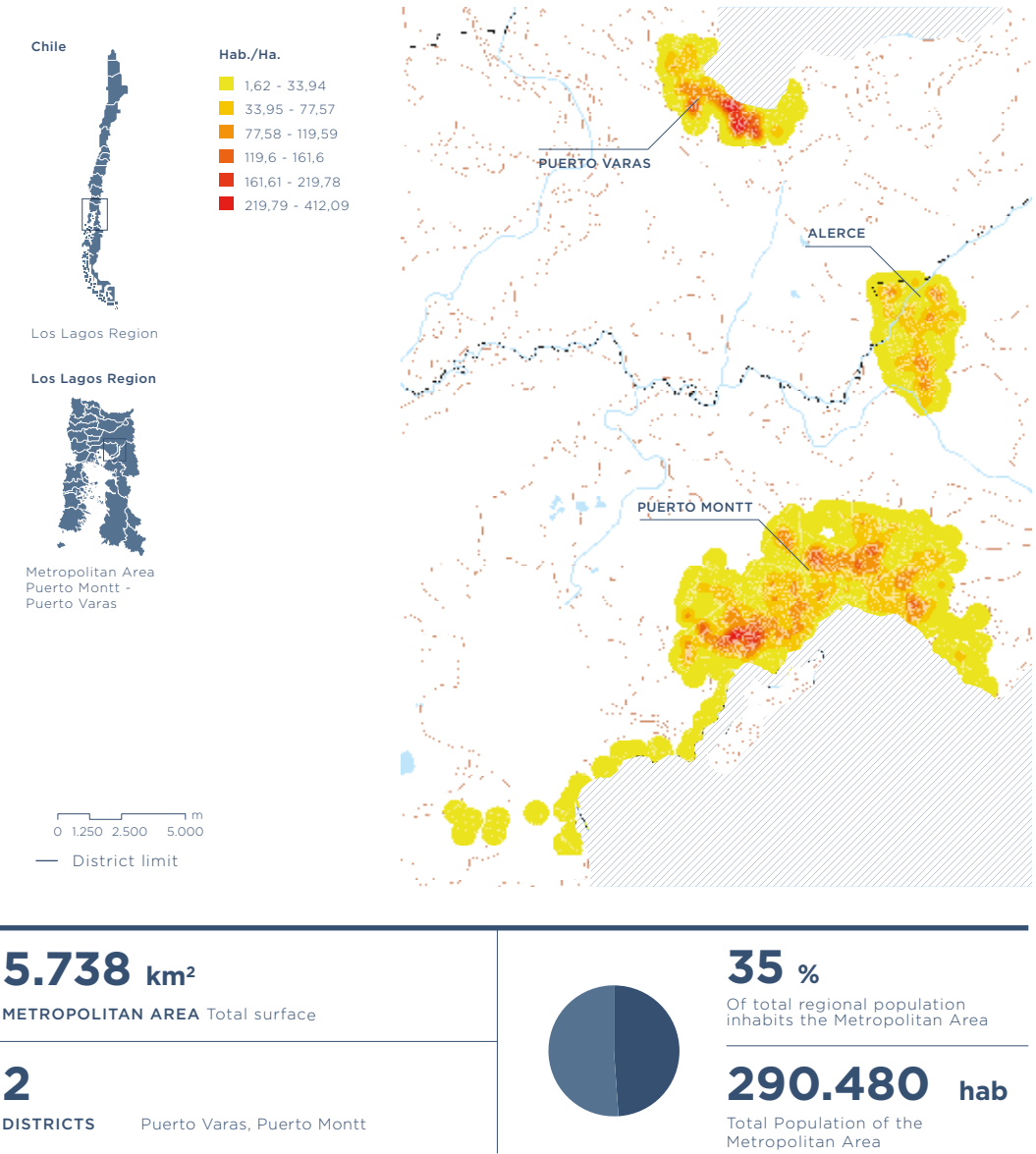


Figure 10
Source: Own preparation based on information from Centro Inteligencia Territorial de la Universidad Adolfo Ibañez (CIT, UAI)

METROPOLITAN ECOLOGIES: BEYOND THE DEFINITION OF BOUNDARIES

DOMINIQUE MASHINI

Metropolitan areas have become, de facto, an emerging phenomenon: 47% of the Latin America and the Caribbean (LAC) population is concentrated within 180 urban conglomerates with more than 100,000 inhabitants, equivalent to approximately 256 million people. Despite little formal acknowledgement, metropolitan areas have been steadily increasing in number, scale, complexity, and competitiveness.

Some LAC countries have advanced in efforts for decentralization and thus they have tried to reframe the definition of their metropolitan boundaries in order to manage shared domains of multiple jurisdictions. However, the boundaries prescribed lack a comprehensive consideration for cross-border challenges. The way we describe metropolitan areas will determine the way we take a course of action towards metropolitan governance. This requires designing new descriptive models of metropolitan landscapes to trace their effective boundaries and domains of action.

The definition of metropolitan boundaries will determine their governance policies and bodies, including the involved actors, key stakeholders and the role of society

(OECD, 2015). Therefore, metropolitan governance must trace effective boundaries and domains of action, expanding built-up criteria towards broader domains with socio-environmental considerations of landscape and the dynamics related to metropolitan growth.

Metropolitan systems are not fixed, instead they represent socio-environmental issues that transcend jurisdictional limits, such as food production, energy, water resources, waste management, climate change, poverty, labor markets, human health, and wellbeing (McDonnell, 2018). For example, the volume of flow the River Plate watershed (across three jurisdictions in Argentina) has increased as precipitation levels rise and evapotranspiration declines due to changes in land use, requiring integrated measures beyond district segregations (IPCC, 2014; ECLAC, 2015). Among different disciplines, landscape ecology provides an acute framework for encountering new functional boundaries that recognize systemic linkages and flows within metropolitan areas. Over the last years, the conceptual and operative framework of landscape ecology has evolved and generated methodological tools that can be transposed to observe and manage metropolitan areas. Nowadays its concepts, theories and methods have matured and acquired other domains of use, expanding its application on urban scenarios with high complexity and spatial heterogeneity (Turner

& Gardner, 2015). In metropolization processes, it allows us to describe and analyze territories, ecosystems, and infrastructures that transcend administrative restrictions (García & Borobio, 2012).

From the landscape ecology approach, metropolitan areas are complex and adaptive systems, forecasting two important principles: the functionality of urban ecosystems and the indicators of territorial equity. Territorial equity represents a balanced allocation of resources and opportunities, set from a politics of redistribution that transcends fragmented government systems (Kübler & Rochat, 2018). While traditional planning provides services and equipment according to local assessments and dissimilar administrative budgets, the focus of landscape ecology allows for the valuation of the comprehensive needs of people and their environment. In this context, descriptive models that reveal the territorial attributes, such as the infrastructures for production, land use patterns and water resources, allow for the identification of opportunities that have the potential to equally benefit society and improve quality of life.

Metropolitan systems are ecologically, economically, and socially highly interdependent (OECD, 2013; URBACT, 2017). The critical observation of the linkages between landscape and society can inform new mechanisms

of governance for metropolitan areas through the assembling of morphological, functional and socio-environmental boundaries. Likewise, the observation of landscape can contribute towards consolidating a form of expansion of metropolitan areas, harmonizing the imbalances within the urban, rural and natural interface. These principles can fit into the definition and creation of metropolitan areas, providing a cross-border approach to promote an effective metropolitan governance.

INDICATORS OF TERRITORIAL WELL-BEING

Luis Valenzuela

Nowadays, two conditions are deemed necessary for the governance and management of the complexities linked to Metropolitan Areas. On the one hand, assessment, planning, and building must be done considering data-based evidence and, on the other, the development of our metropolises must be sensitive to the territorial dimension of space. These requirements are all aimed at facilitating the design of territorial conditions that make it possible to reduce inequality and thus become an efficient planning tool. The following section presents a comparison of the eight Metropolitan Areas in relation to their Indicators of Territorial Well-being (Indicadores de Bienestar Territorial, IBT). The goal of this section is to display the particularities of each Metropolitan Area and to serve as support for the process of assessment, planning, and construction of cities that are sensitive to their spatial realities, taking data-based evidence into consideration.

The Intelligence Center of Universidad Adolfo Ibáñez has developed 10 IBTs for 23 Chilean cities, which include nearly 70 percent of the country's population. These indicators are tied to accessibility; green areas; ranges of temperature variation; vegetation cover; socioeconomic level; segregation; and cultural, sports, health, educational, and public service infrastructure.

IBTs have proven to be an essential tool for the design and prioritization of public policies and investments¹, which are aimed at improving quality in sustainable and inclusive environments and providing new infrastructure where there seems to be a deficit. The system of territorial indicators and analysis, through multi-criteria analysis, makes it possible to address the difficult task of transforming the poor and problematic conditions in large portions of cities.

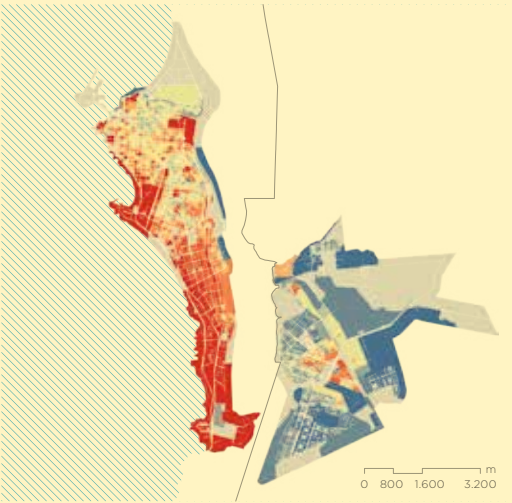
IBTs evaluate the functional accessibility to infrastructure and services according to the environmental and socioeconomic conditions of the territory, and are constructed for each urban block, enabling a detailed spatial analysis that is currently inexistent and that can be extrapolated to greater scales as needed. These tools take into consideration the distribution of infrastructure in relation to the population, use the concept of accessibility as a fundamental factor for equality in cities, and show the relationship between the load capacity of infrastructure and the services that are physically available to the population. On the other hand, IBTs are complemented by the environmental and socioeconomic conditions of the settings of the different areas of analysis.

¹ Indicators of Territorial Well-being have previously been put into practice in applied studies carried out with the Chilean Chamber of Construction (Cámara Chilena de Construcción) in 23 cities and 74 districts in Chile, and have been employed in decision-making processes by the technical teams of the Ministry of Housing and Urban Planning (Ministerio de Vivienda y Urbanismo, MINVU).

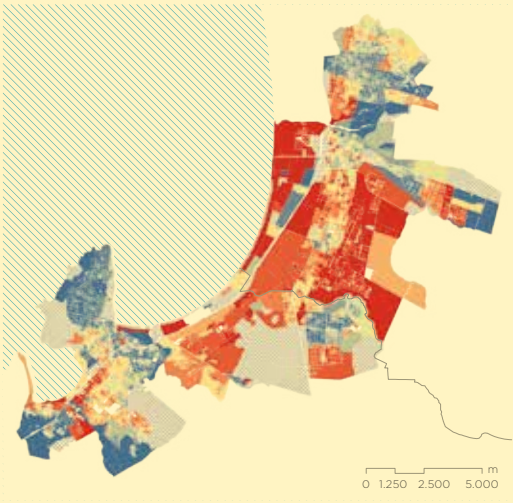
Indicators of Territorial Well-being evaluate the functional accessibility to **infrastructure** and **services** according to the environmental and socioeconomic conditions of the territory, and are constructed for each urban block, enabling a detailed spatial analysis that is currently inexistent and that can be extrapolated to greater scales as needed.

NSE - SOCIOECONOMIC LEVEL INDICATOR:

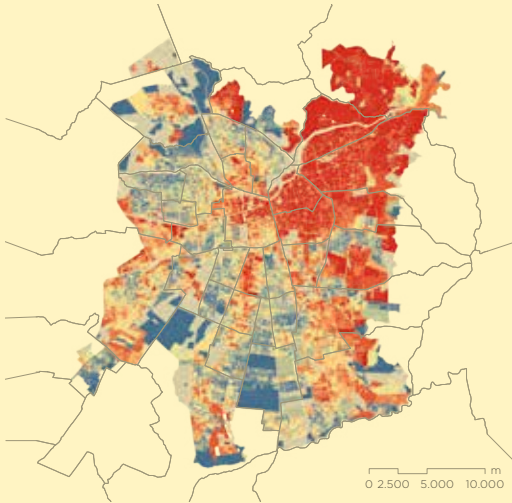
This indicator shows the socioeconomic level of households at the census block scale, measured in centiles. This was calculated from the allocation of values for each household, obtained through the goods that this possesses and its penetration in the market, added to educational and employment data of the head of household. These values are hierarchical and assigned to centiles of households.



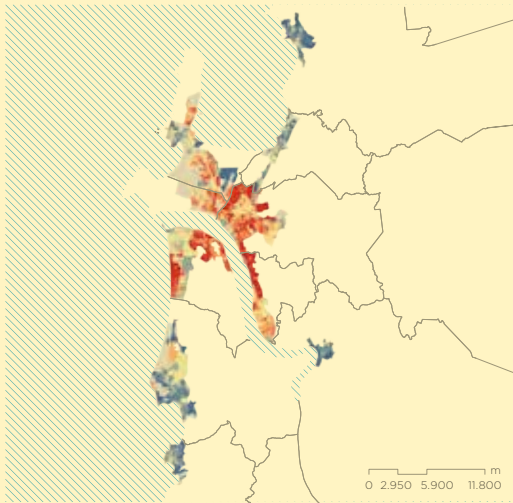
IQUIQUE - ALTO HOSPICIO



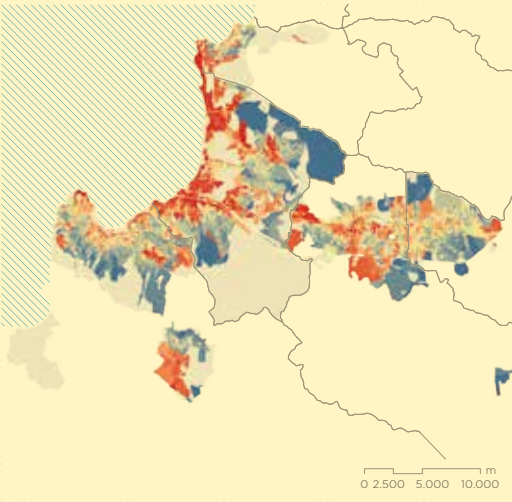
LA SERENA - COQUIMBO



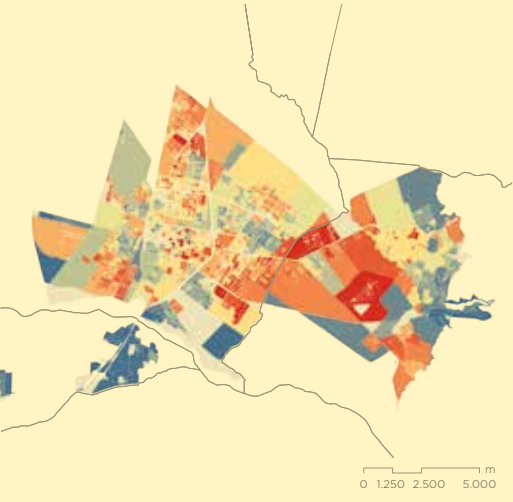
GREATER SANTIAGO



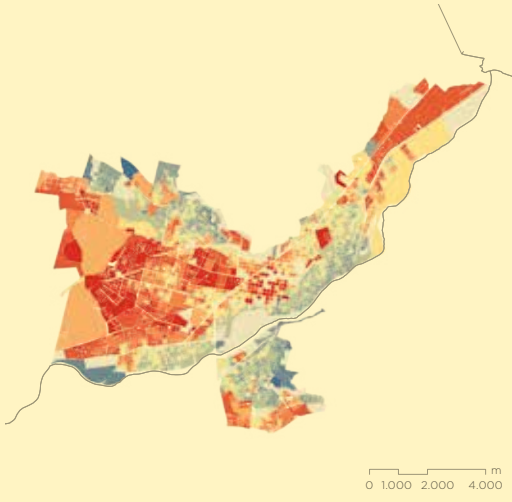
GREATER CONCEPCIÓN



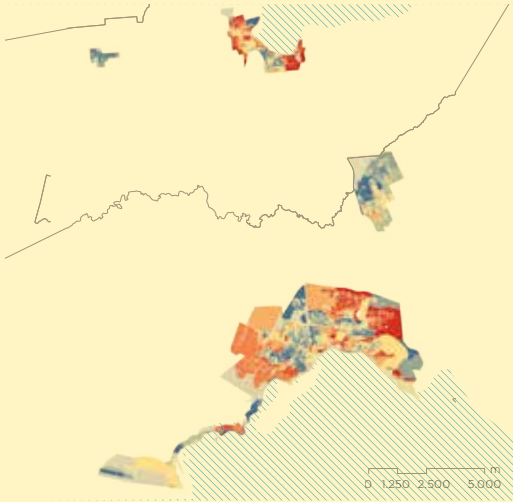
GREATER VALPARAÍSO



RANCAGUA - MACHALÍ



TEMUCO - PADRE LAS CASAS



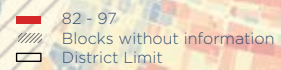
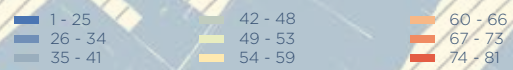
PUERTO MONTT - PUERTO VARAS



Figure 11
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

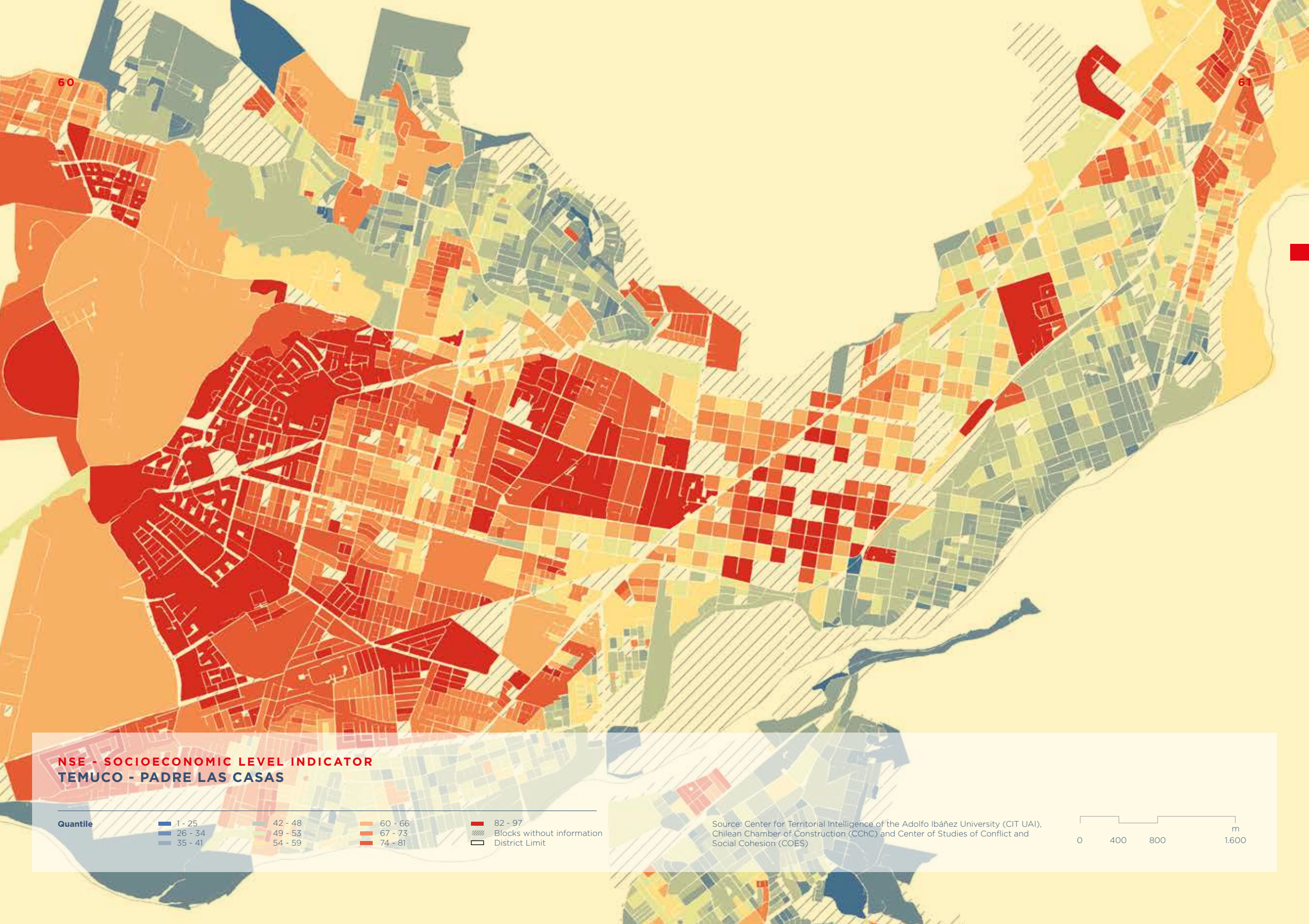
NSE - SOCIOECONOMIC LEVEL INDICATOR GREATER SANTIAGO

Quantile



Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UIA), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)





NSE - SOCIOECONOMIC LEVEL INDICATOR
TEMUCO - PADRE LAS CASAS

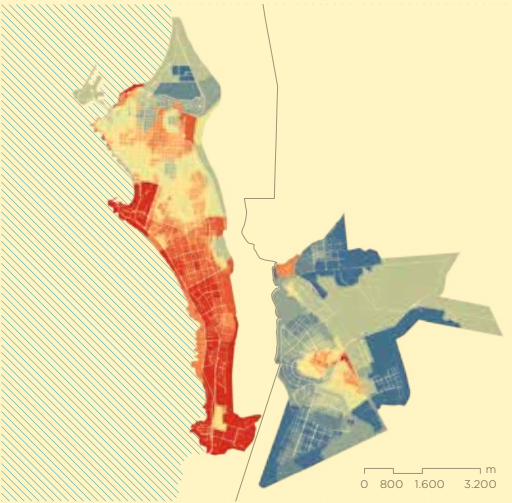
Quantile	1 - 25	42 - 48	60 - 66	82 - 97
	26 - 34	49 - 53	67 - 73	Blocks without information
	35 - 41	54 - 59	74 - 81	District Limit

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

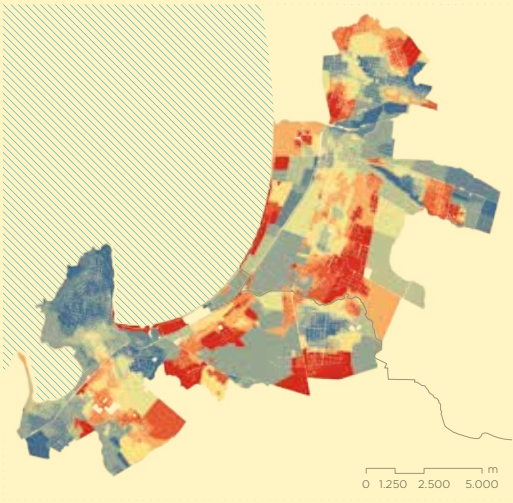


ISEG - SEGREGATION INDICATOR

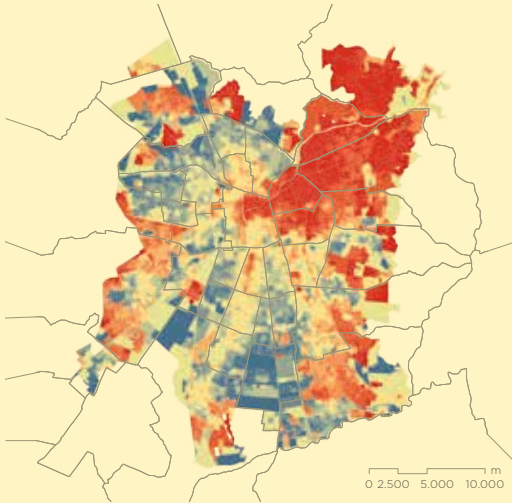
This indicator shows the homogeneity and socioeconomic heterogeneity observed for each block and compared with blocks that are within a radius of 300 meters. The values vary between -1 and 1, where values close to 1 indicate a high segregation of the groups with high income. A value -1 shows a high segregation of low income and the values close to 0 indicate a low segregation or high social mix.



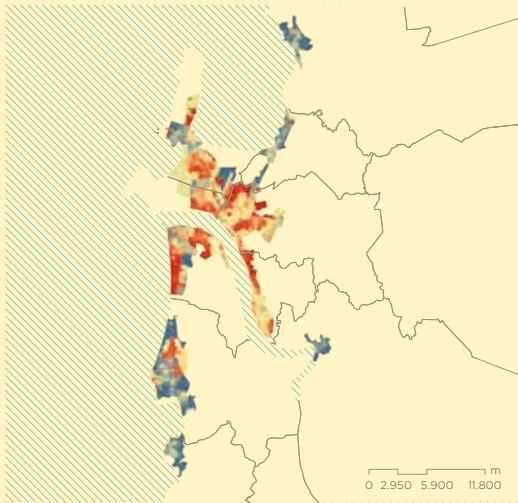
IQUIQUE - ALTO HOSPICIO



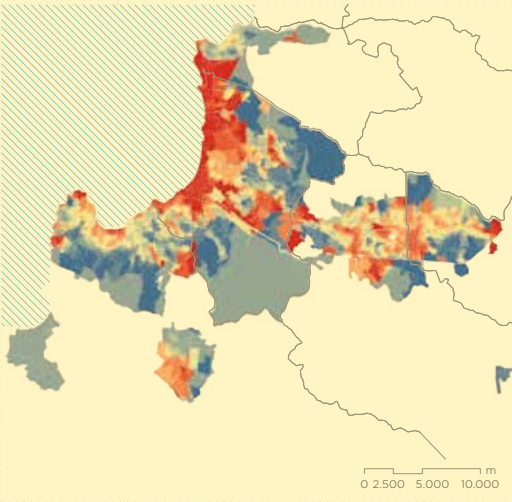
LA SERENA - COQUIMBO



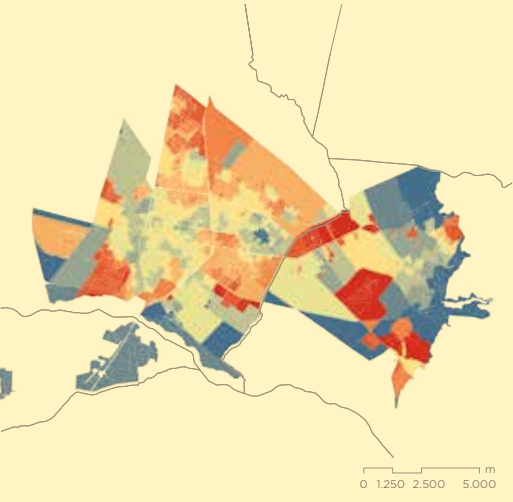
GREATER SANTIAGO



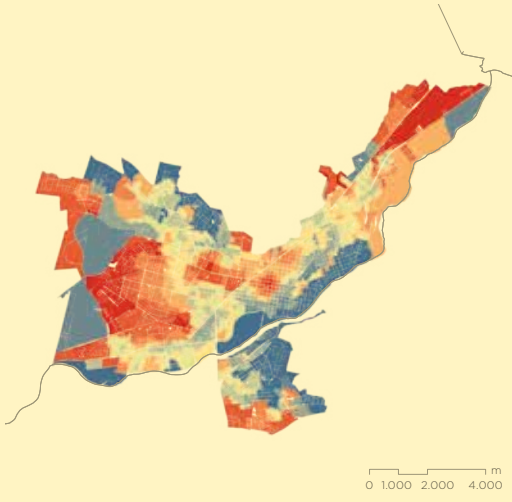
GREATER CONCEPCIÓN



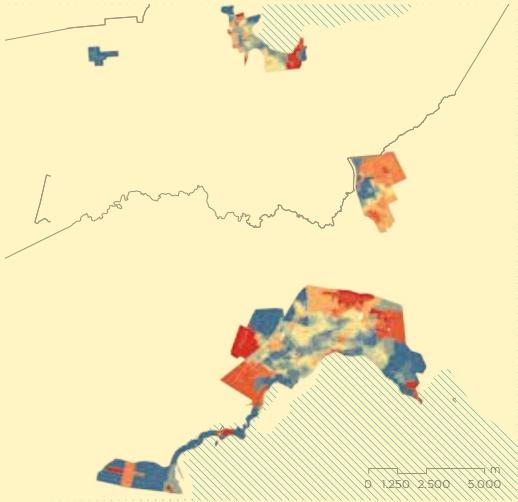
GREATER VALPARAÍSO



RANCAGUA - MACHALÍ



TEMUCO - PADRE LAS CASAS



PUERTO MONTT - PUERTO VARAS

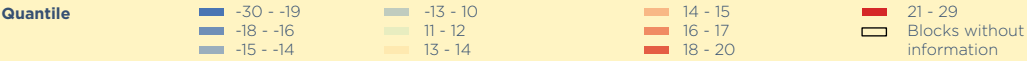


Figure 12
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

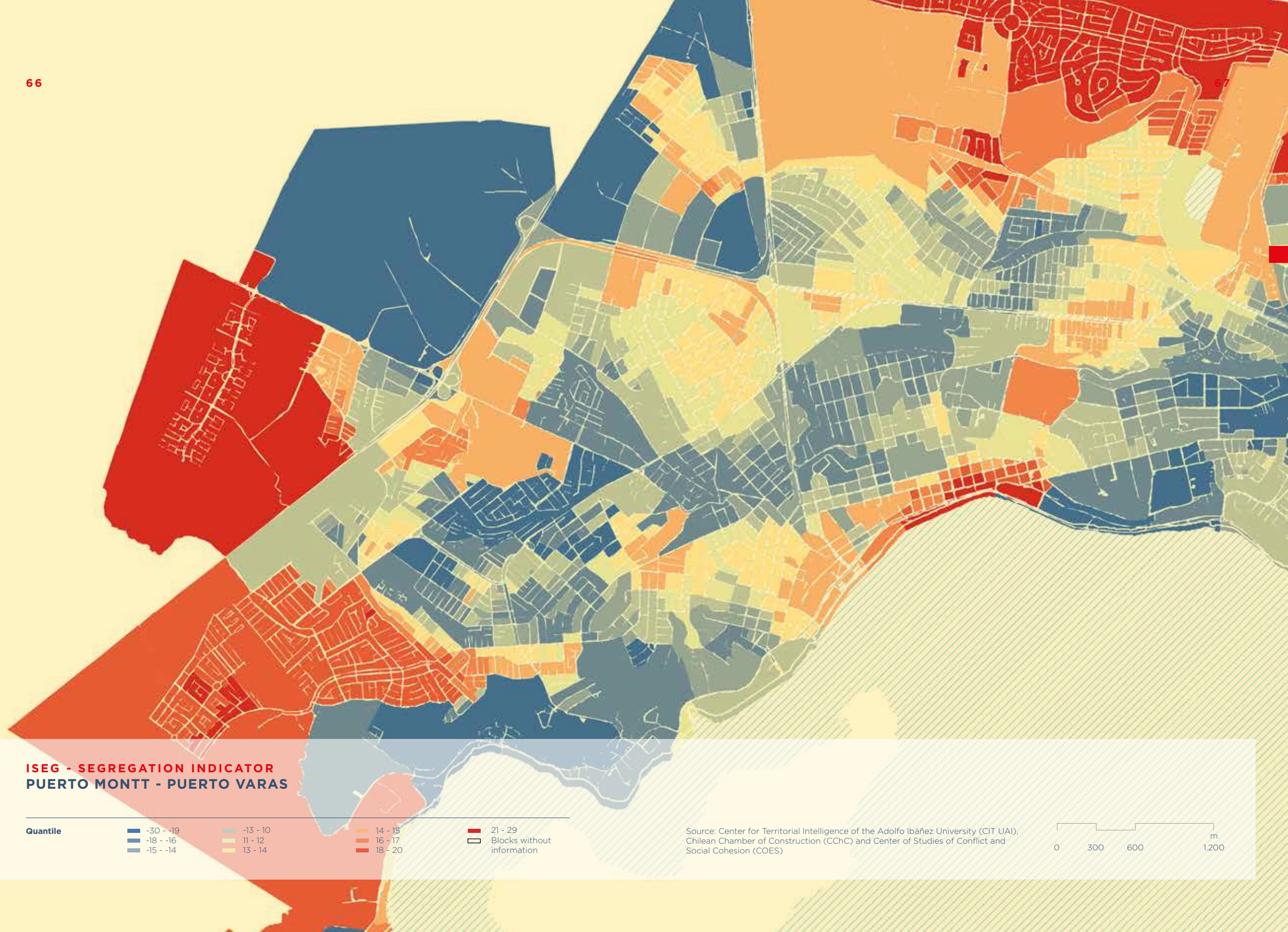
ISEG - SEGREGATION INDICATOR COQUIMBO - LA SERENA

Quantile



Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)





ISEG - SEGREGATION INDICATOR
PUERTO MONTT - PUERTO VARAS

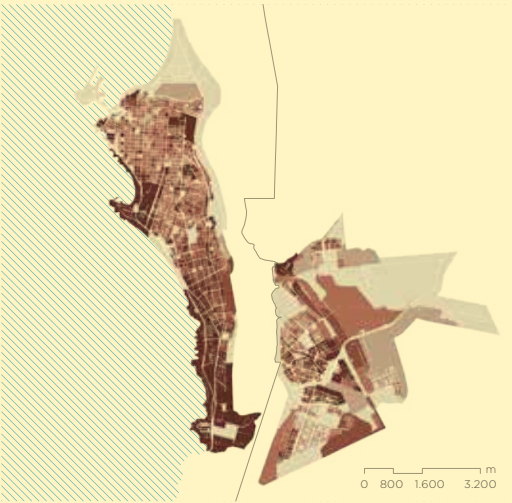
Quantile	-30 - -19	-13 - 10	14 - 15	21 - 29
	-18 - -16	11 - 12	16 - 17	Blocks without information
	-15 - -14	13 - 14	18 - 20	

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)



IIV - INFRASTRUCTURE INDEX OF HOUSING

This index shows the average infrastructure of the houses in the blocks, assigning them values depending on the stability and quality of the construction materials. For its construction consideration was given to the materiality of ceilings, walls and floors, which was provided by the population and housing census.



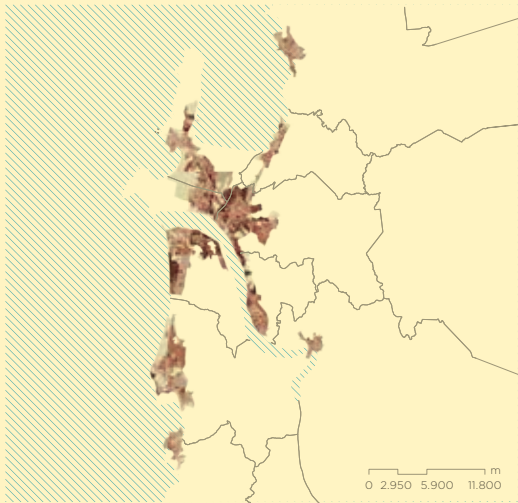
IQUIQUE - ALTO HOSPICIO



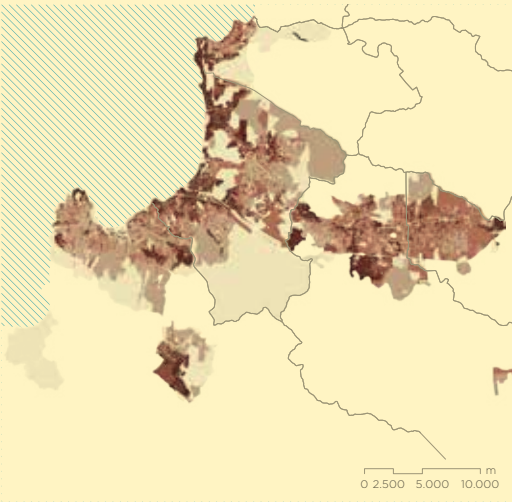
LA SERENA - COQUIMBO



GREATER SANTIAGO



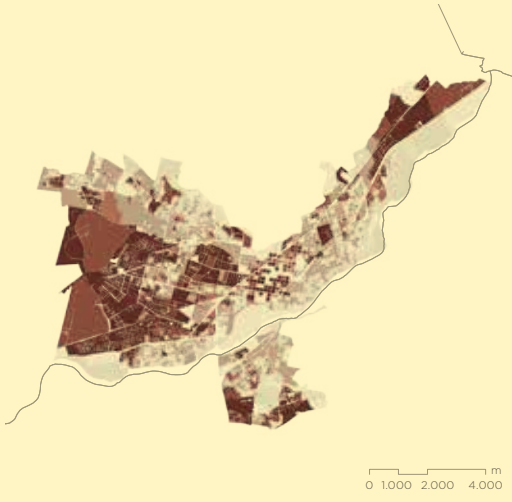
GREATER CONCEPCIÓN



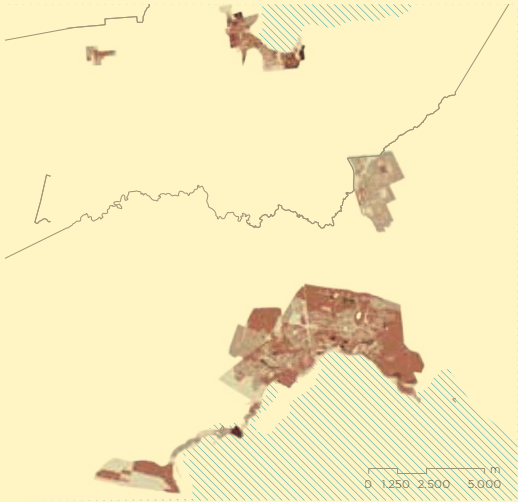
GREATER VALPARAÍSO



RANCAGUA - MACHALÍ



TEMUCO - PADRE LAS CASAS



PUERTO MONTT - PUERTO VARAS



Figure 13
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

IIV - INFRASTRUCTURE INDEX OF HOUSING RANCAGUA - MACHALÍ

Index Value



□ District Limit

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UIA), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)



IIV - INFRASTRUCTURE INDEX OF HOUSING GREATER CONCEPCIÓN



Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

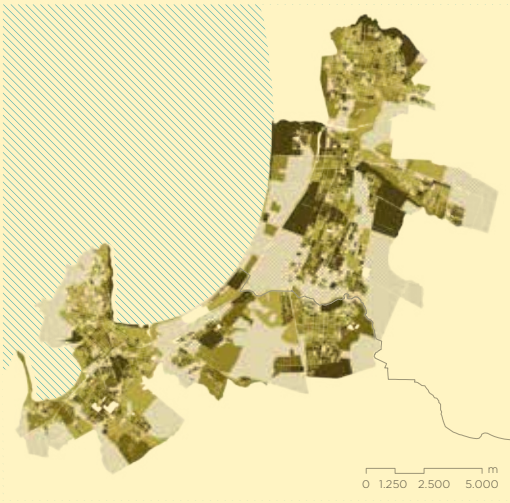


IIB - BASIC INFRASTRUCTURE INDEX

This index shows the existence and quality of the infrastructure and equipment of the cities. It compiles seven priority elements at the level of urban infrastructure: street status, state of sidewalks, public lighting, signals, roofed transport stops, green areas and garbage dumps, each one weighed equally. The maximum values indicate the existence of all the elements in each block and that these are of good quality.



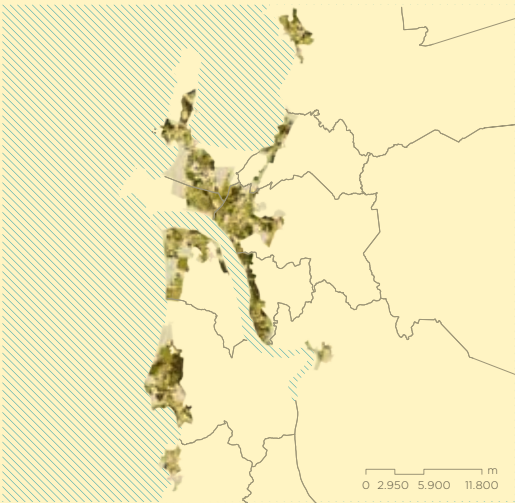
IQUIQUE - ALTO HOSPICIO



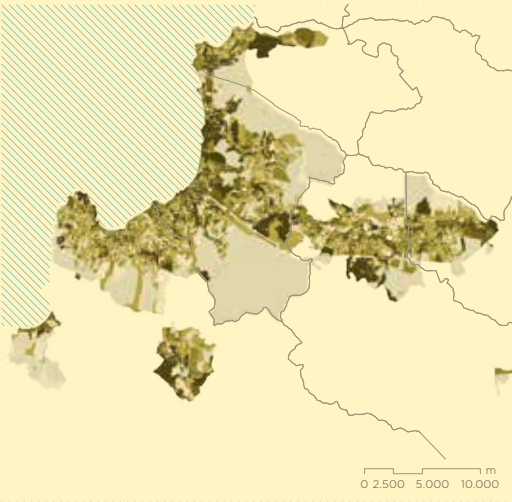
LA SERENA - COQUIMBO



GREATER SANTIAGO



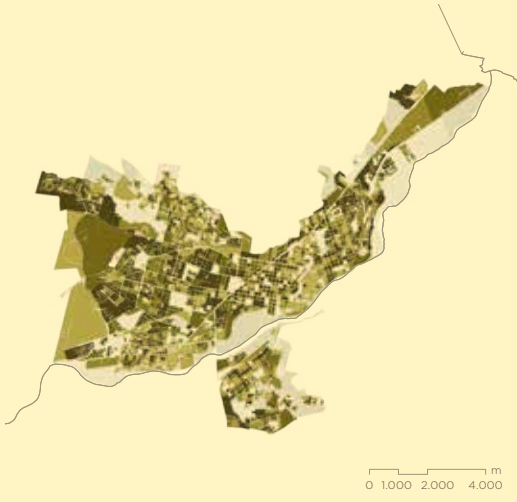
GREATER CONCEPCIÓN



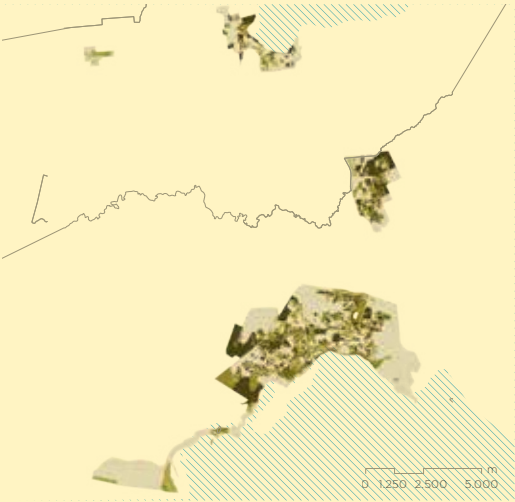
GREATER VALPARAÍSO



RANCAGUA - MACHALÍ



TEMUCO - PADRE LAS CASAS



PUERTO MONTT - PUERTO VARAS



Figure 14
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

IIB - BASIC INFRASTRUCTURE INDEX COQUIMBO - LA SERENA



Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)





IIB - BASIC INFRASTRUCTURE INDEX
PUERTO MONTT - PUERTO VARAS

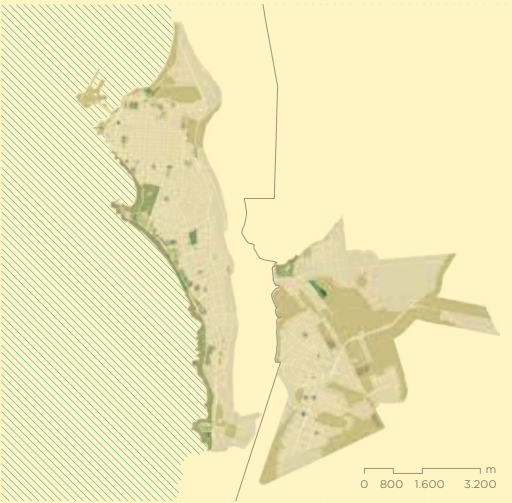
- Index Value**
- | | | |
|-------------|----------------------------|----------------|
| < 0,58 | 0,92 - 1,14 | District Limit |
| 0,59 - 0,81 | > 1,15 | |
| 0,82 - 0,91 | Blocks without information | |

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

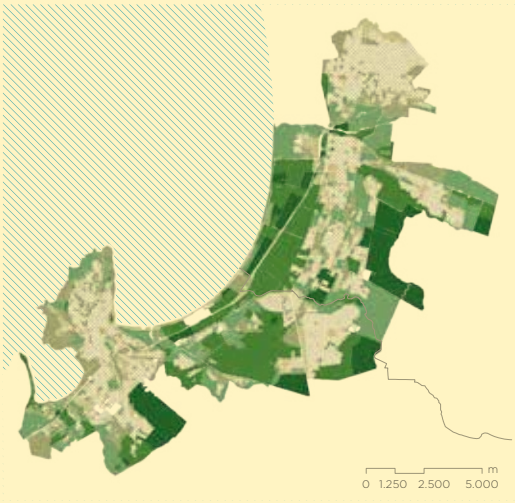


ICV - VEGETABLE COVERAGE INDICATOR

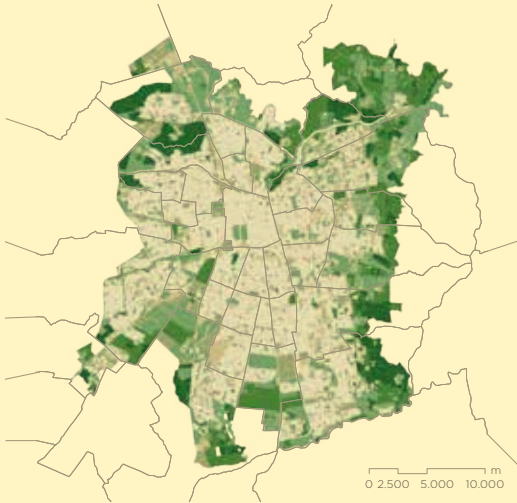
The Vegetation Coverage Indicator shows the percentage of surface of each block that is covered by vegetation. This indicator was generated by processing satellite images from which the amount of plant biomass was estimated.



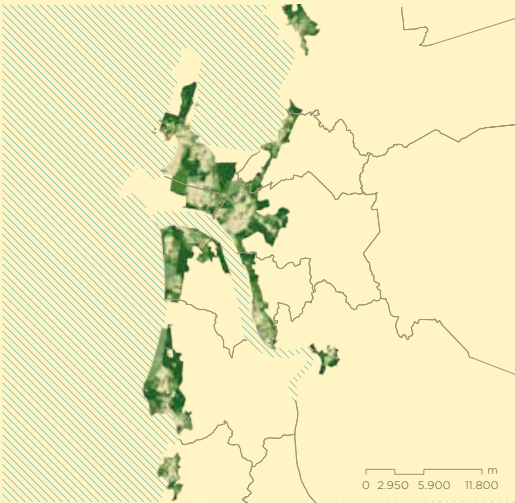
IQUIQUE - ALTO HOSPICIO



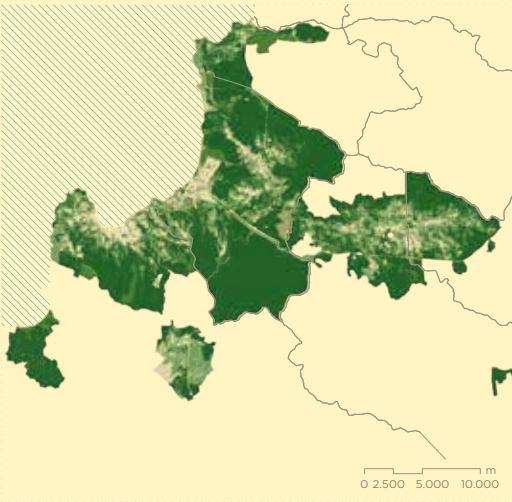
LA SERENA - COQUIMBO



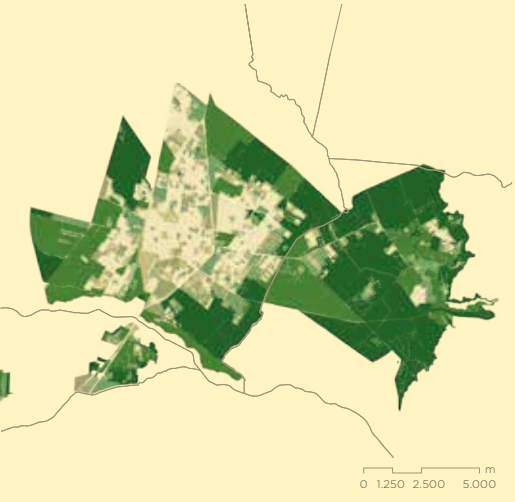
GREATER SANTIAGO



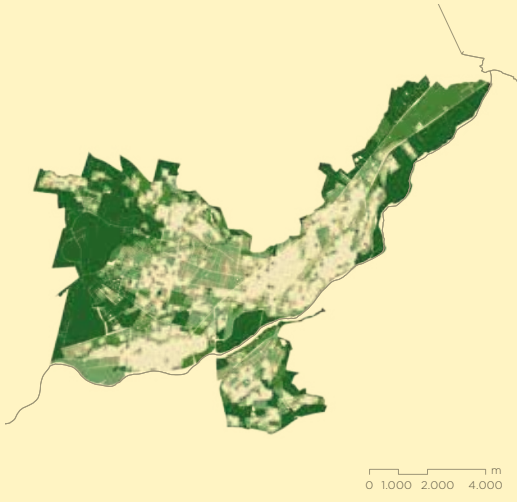
GREATER CONCEPCIÓN



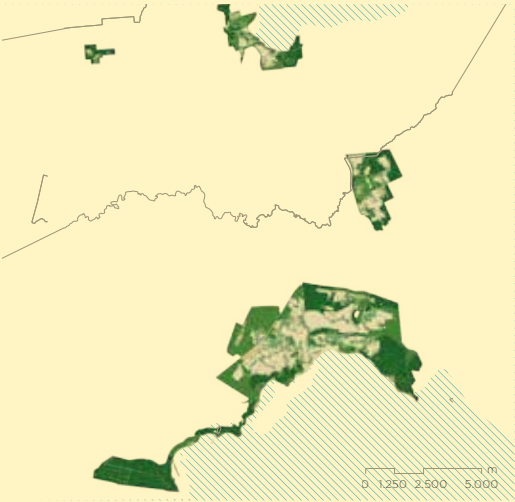
GREATER VALPARAÍSO



RANCAGUA - MACHALÍ



TEMUCO - PADRE LAS CASAS



PUERTO MONTT - PUERTO VARAS

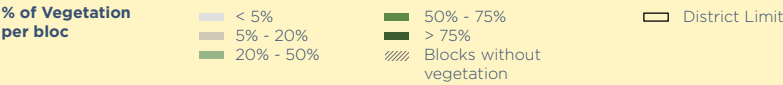


Figure 15
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

ICV - VEGETABLE COVERAGE INDICATOR GREATER VALPARAÍSO

% of Vegetation
per bloc

< 5%
5% - 20%
20% - 50%

50% - 75%
> 75%
Blocks without
vegetation

□ District Limit

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI),
Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and
Social Cohesion (COES)

0 900 1800 3.600 m

ICV - VEGETABLE COVERAGE INDICATOR GREATER CONCEPCIÓN

% of Vegetation
per bloc

< 5%
5% - 20%
20% - 50%

50% - 75%
> 75%
Blocks without
vegetation

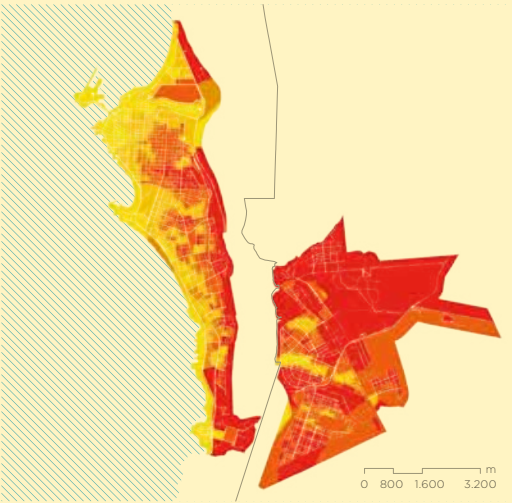
District Limit

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

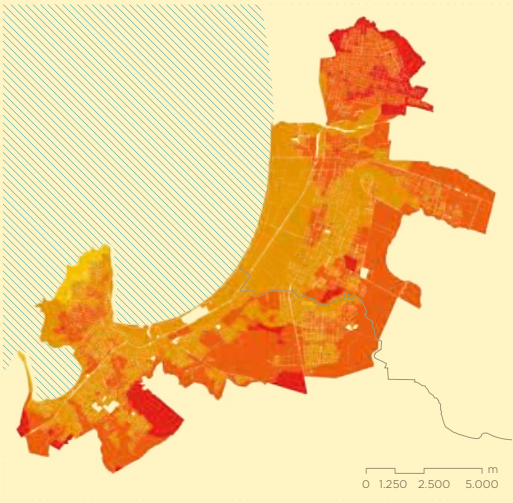
0 737 1.475 2.950 m

IATA - ANNUAL THERMAL AMPLITUDE INDICATOR

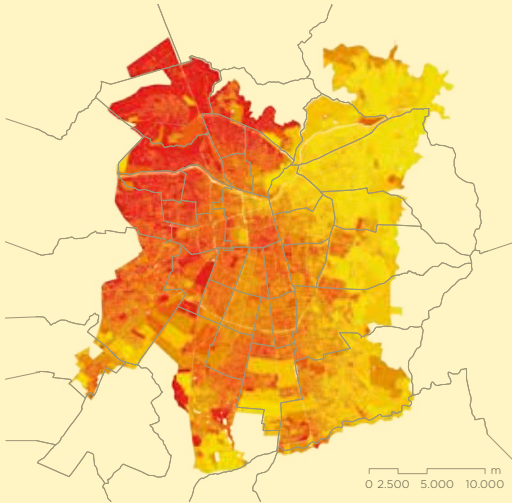
This indicator shows the thermal amplitude given by the difference of the surface temperature between summer and winter (extreme annual temperatures). This indicator is generated from the processing of satellite images and is presented at the census block level. It is one of the best tools for estimating thermal comfort in urban areas.



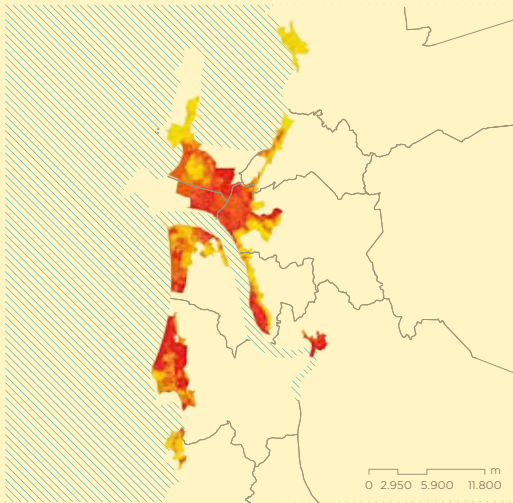
IQUIQUE - ALTO HOSPICIO



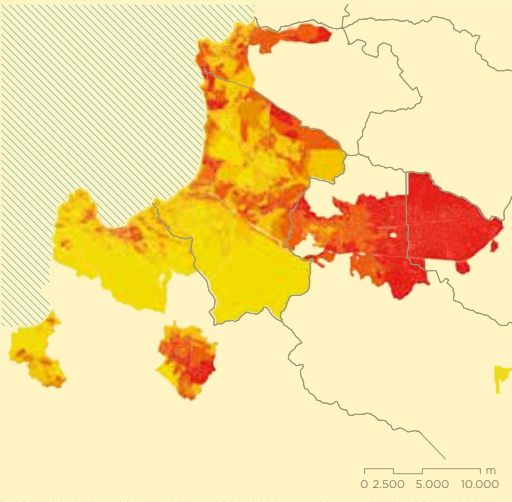
LA SERENA - COQUIMBO



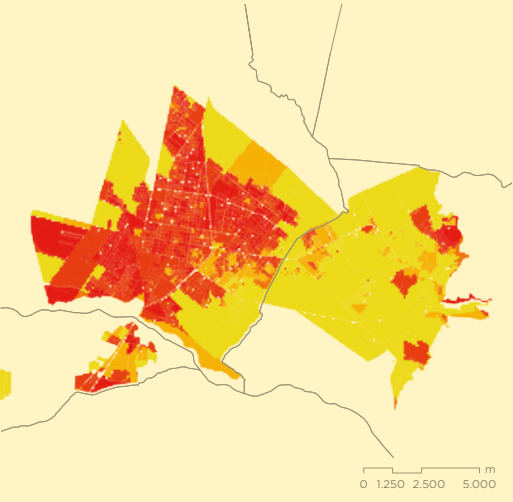
GREATER SANTIAGO



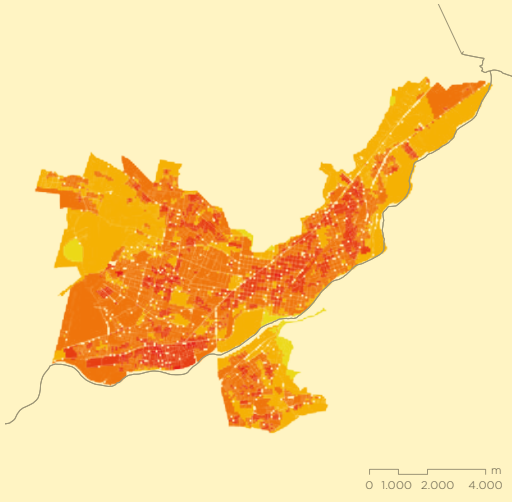
GREATER CONCEPCIÓN



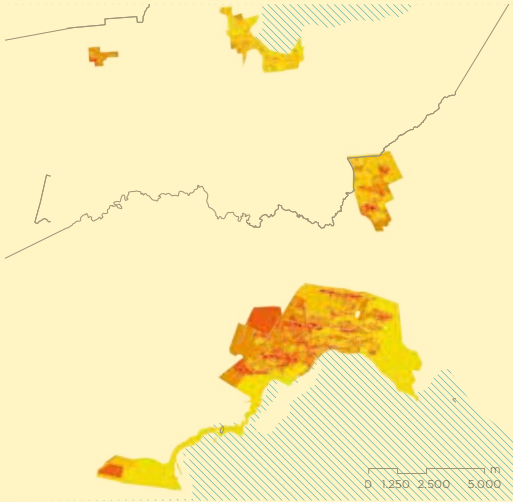
GREATER VALPARAÍSO



RANCAGUA - MACHALÍ



TEMUCO - PADRE LAS CASAS



PUERTO MONTT - PUERTO VARAS

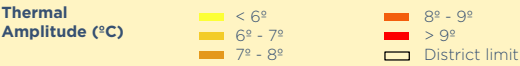


Figure 16
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UIA), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

IATA - ANNUAL THERMAL AMPLITUDE INDICATOR IQUIQUE - ALTO HOSPICIO

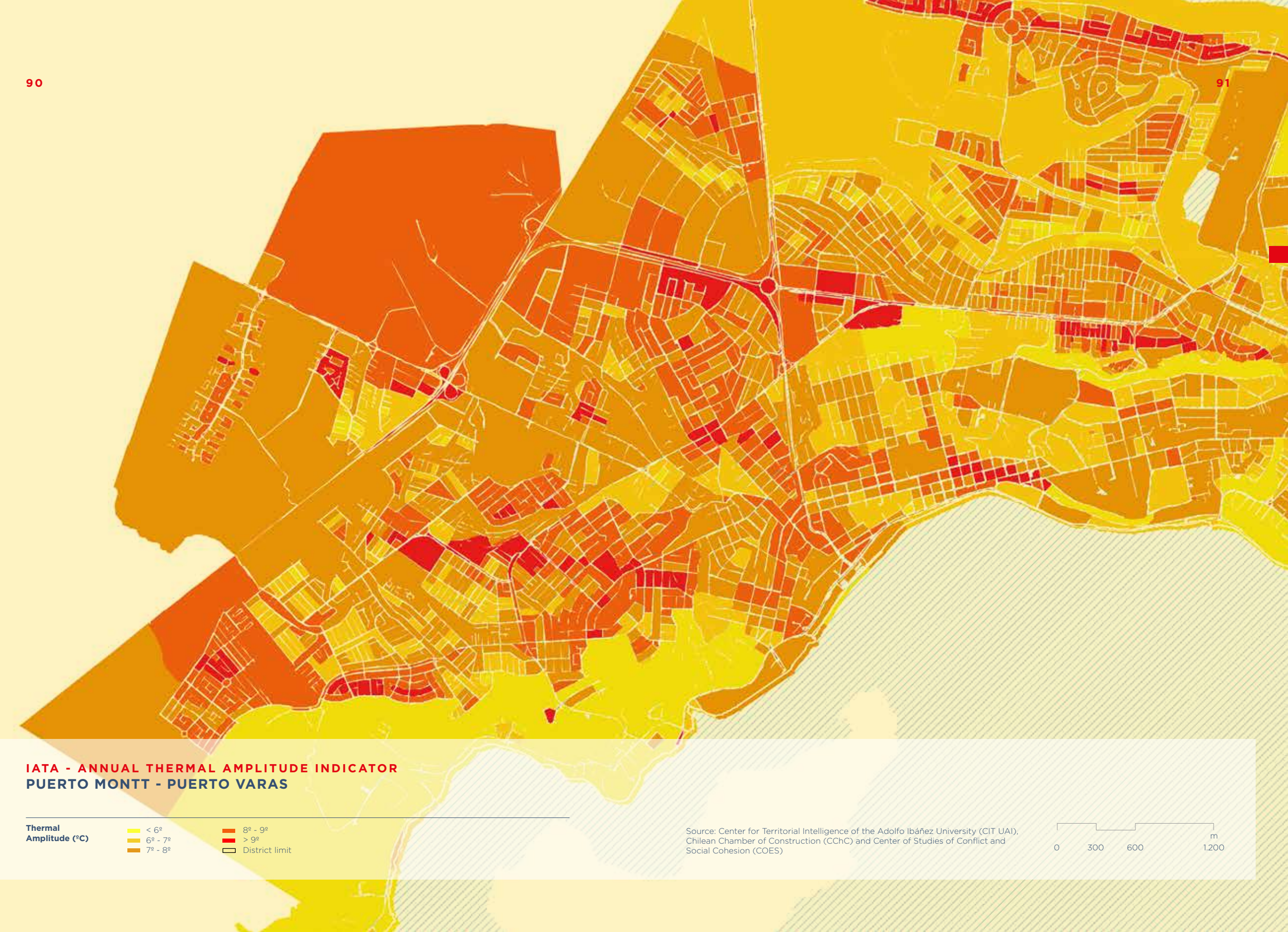
Thermal
Amplitude (°C)

< 6°
6° - 7°
7° - 8°

8° - 9°
> 9°
District limit

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI),
Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and
Social Cohesion (COES)

0 350 700 1.400 m



IATA - ANNUAL THERMAL AMPLITUDE INDICATOR
PUERTO MONTT - PUERTO VARAS

Thermal Amplitude (°C)

< 6°	8° - 9°
6° - 7°	> 9°
7° - 8°	District limit

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

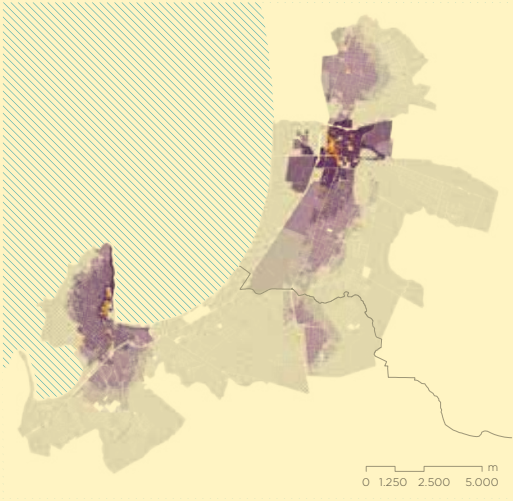
0 300 600 1.200 m

ISER - INDICATOR OF PUBLIC SERVICES

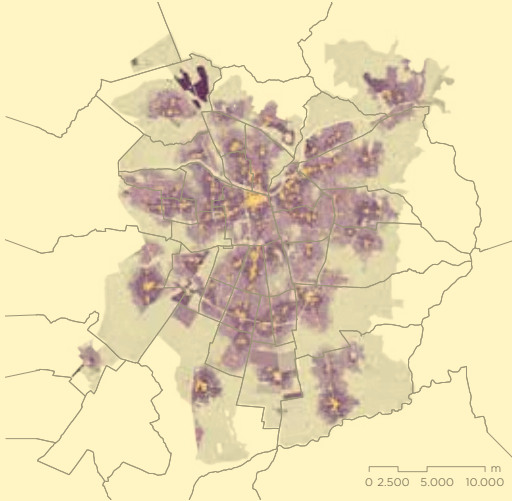
This indicator shows the rate of accessible equipment per inhabitant. Public services Considered are those that attend to public needs continuously and permanently and that are administered, provided, audited and / or concessioned by the State.



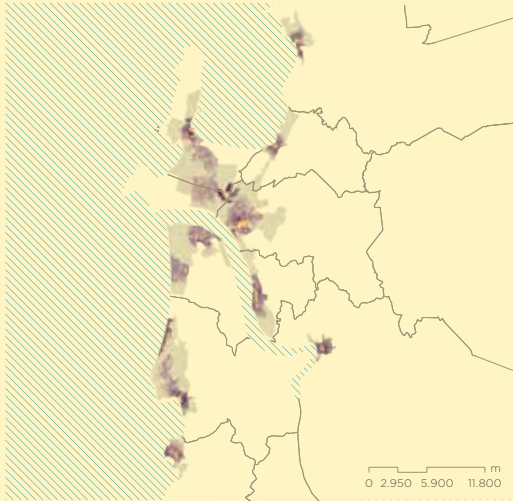
IQUIQUE - ALTO HOSPICIO



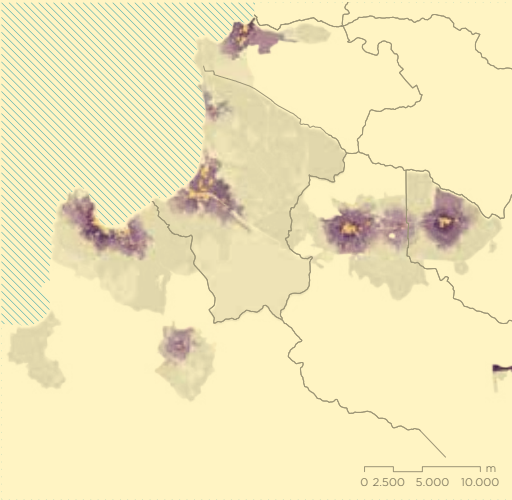
LA SERENA - COQUIMBO



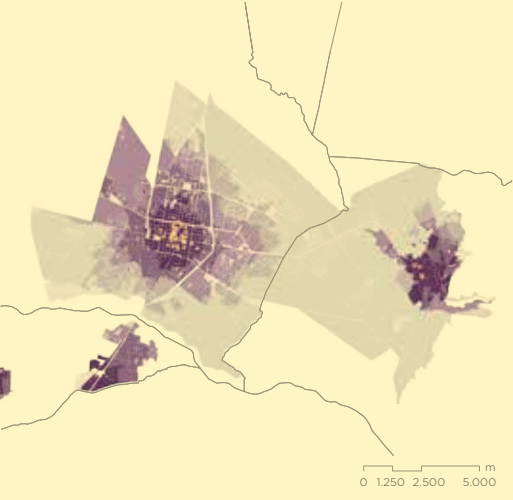
GREATER SANTIAGO



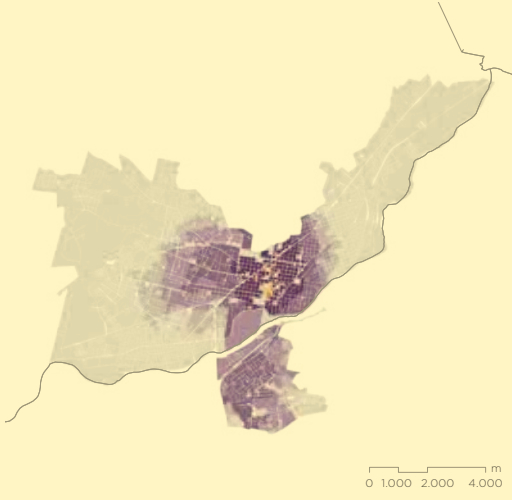
GREATER CONCEPCIÓN



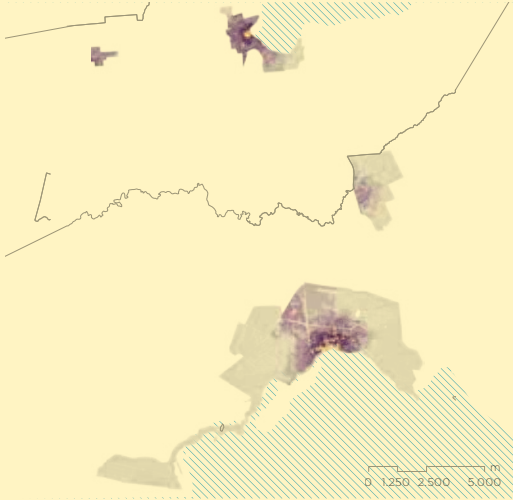
GREATER VALPARAÍSO



RANCAGUA - MACHALÍ



TEMUCO - PADRE LAS CASAS



PUERTO MONTT - PUERTO VARAS



Figure 17
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

ISER - INDICATOR OF PUBLIC SERVICES GREATER SANTIAGO

Public services per
10.000 inhabitants

0
< 0,08
0,09 - 0,27

0,28 - 0,94
> 0,95

Blocks without population

District Limit
Public Services

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

0 900 1800 3.600 m

ISER - INDICATOR OF PUBLIC SERVICES TEMUCO - PADRE LAS CASAS

Public services per
10.000 inhabitants

0
< 0,08
0,09 - 0,27

0,28 - 0,94
> 0,95

Blocks without population

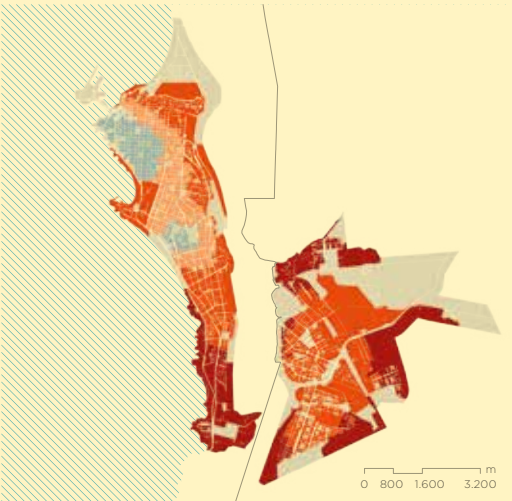
District Limit
Public Services

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

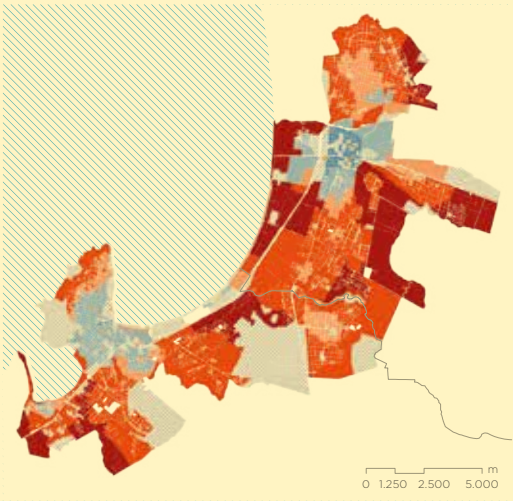
0 400 800 1.600 m

ISE - INDICATOR OF EDUCATION SERVICES

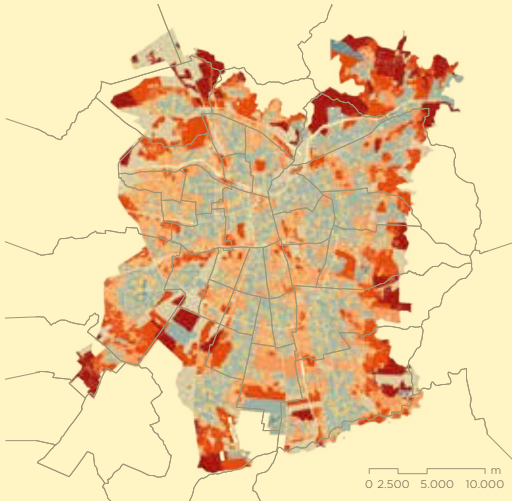
This indicator corresponds to the relationship between the educational offer available in an isochrone of 30 walking minutes with decreasing weighting (the probability of assistance to the establishment decreases as the time of displacement increases) and the effective demand (population in age school in the census apple).



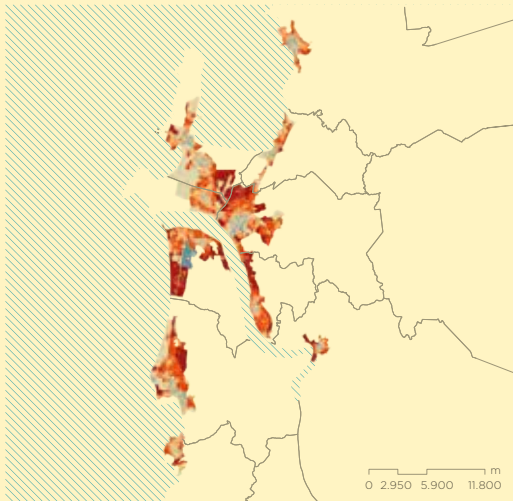
IQUIQUE - ALTO HOSPICIO



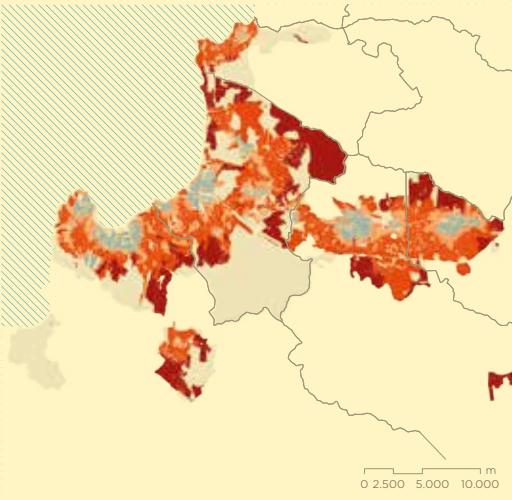
LA SERENA - COQUIMBO



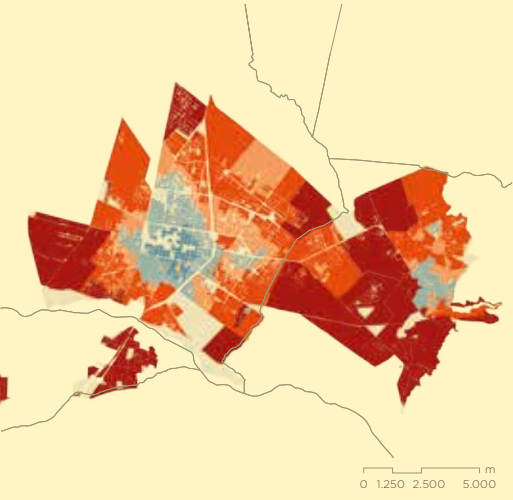
GREATER SANTIAGO



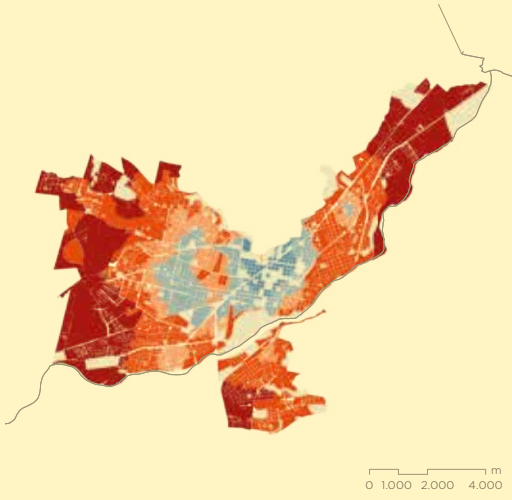
GREATER CONCEPCIÓN



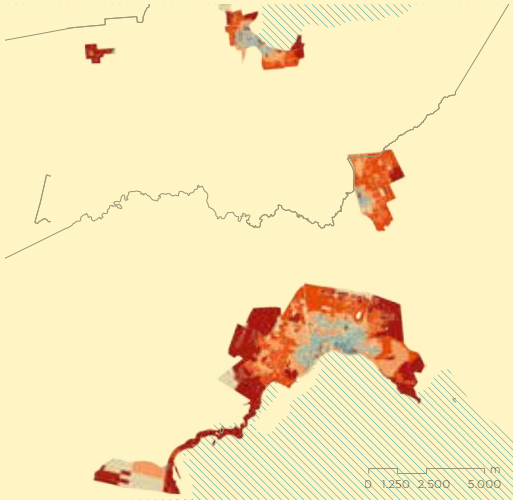
GREATER VALPARAÍSO



RANCAGUA - MACHALÍ



TEMUCO - PADRE LAS CASAS

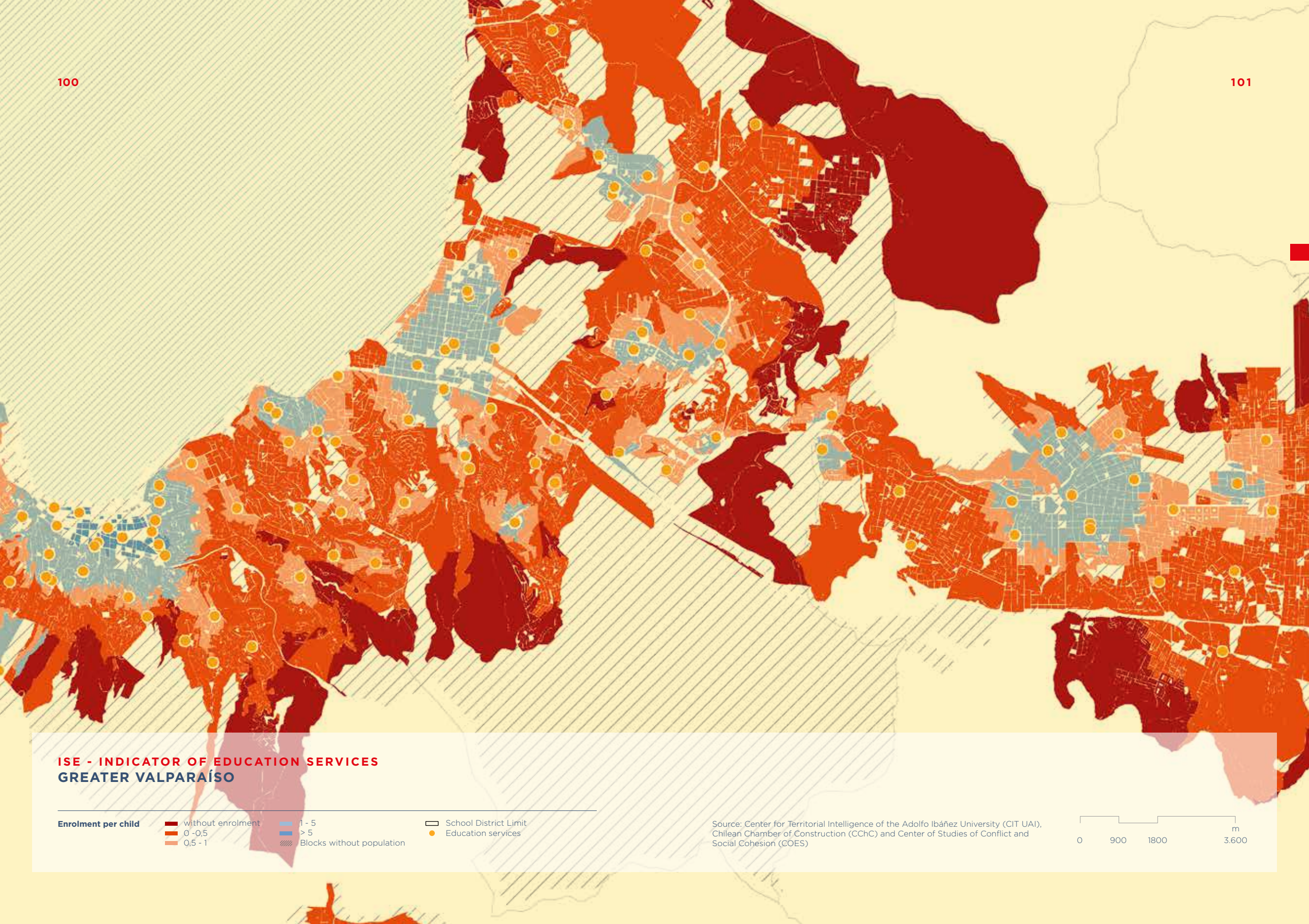


PUERTO MONTT - PUERTO VARAS

Enrolment per child

without enrolment	1 - 5	School District Limit
0 - 0,5	> 5	Education services
0,5 - 1	Blocks without population	

Figure 18
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)



ISE - INDICATOR OF EDUCATION SERVICES
GREATER VALPARAÍSO

Enrolment per child

- without enrolment
- 0 - 0,5
- 0,5 - 1
- 1 - 5
- > 5
- Blocks without population

- School District Limit
- Education services

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

0 900 1800 3.600 m

ISE - INDICATOR OF EDUCATION SERVICES
GREATER CONCEPCIÓN

Enrolment per child

- without enrolment
- 0 - 0,5
- 0,5 - 1

- 1 - 5
- > 5
- Blocks without population

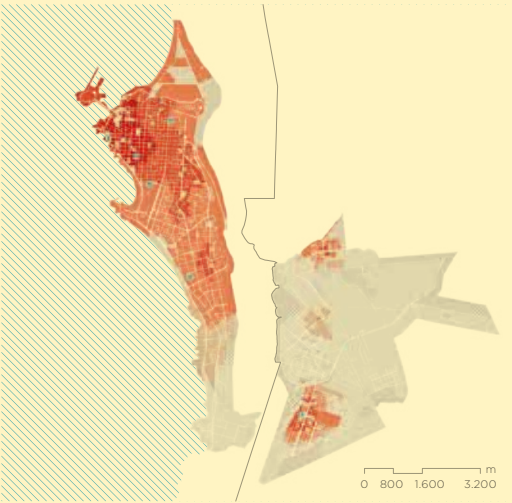
- School District Limit
- Education services

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

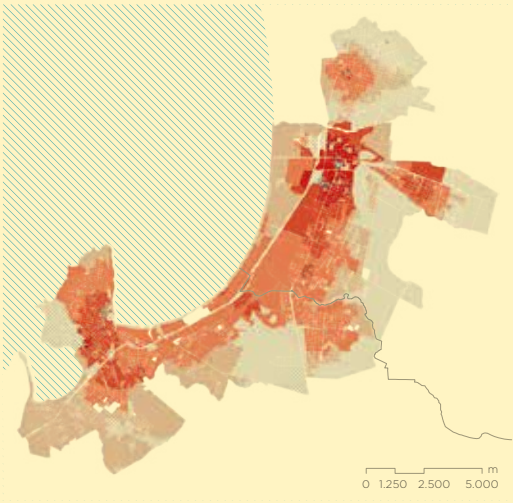


ISAL - HEALTH EQUIPMENT INDICATOR

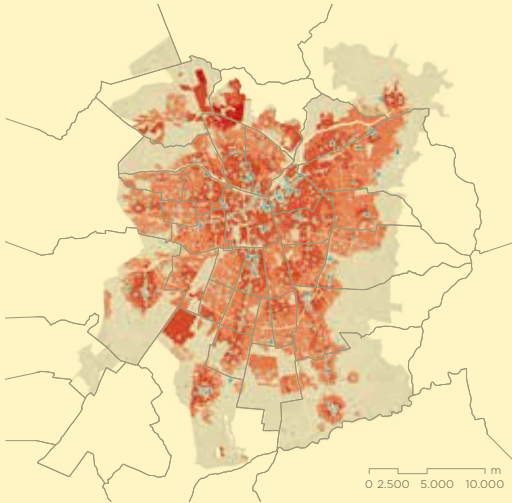
This indicator establishes the ratio of square meters per inhabitants of health establishments that exist in the city, using as a basis the information provided by the Department of Statistics and Health Information of the Government of Chile. As the previous indicators, the pedestrian accessibility to local facilities and those of metropolitan importance is estimated, such as clinics and hospitals to which all the population of the city can access.



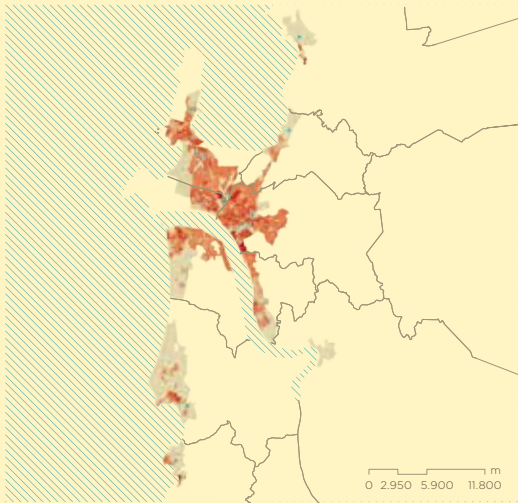
IQUIQUE - ALTO HOSPICIO



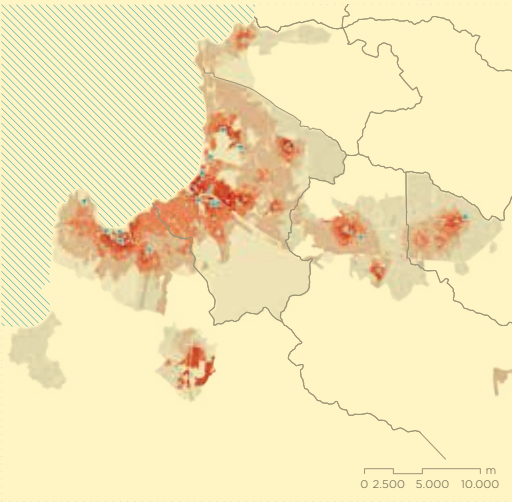
LA SERENA - COQUIMBO



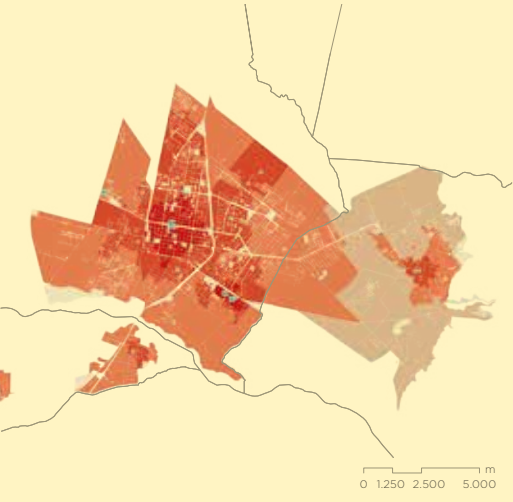
GREATER SANTIAGO



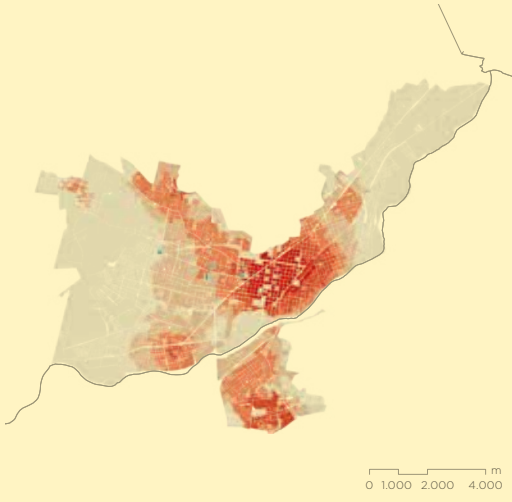
GREATER CONCEPCIÓN



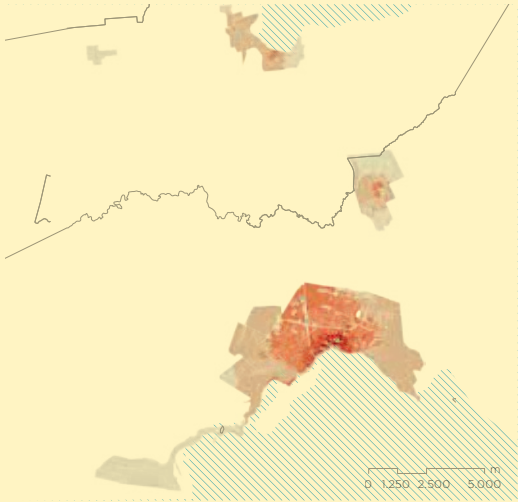
GREATER VALPARAÍSO



RANCAGUA - MACHALÍ



TEMUCO - PADRE LAS CASAS



PUERTO MONTT - PUERTO VARAS



Figure 19
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

ISAL - HEALTH EQUIPMENT INDICATOR IQUIQUE - ALTO HOSPICIO

m² per inhabitant

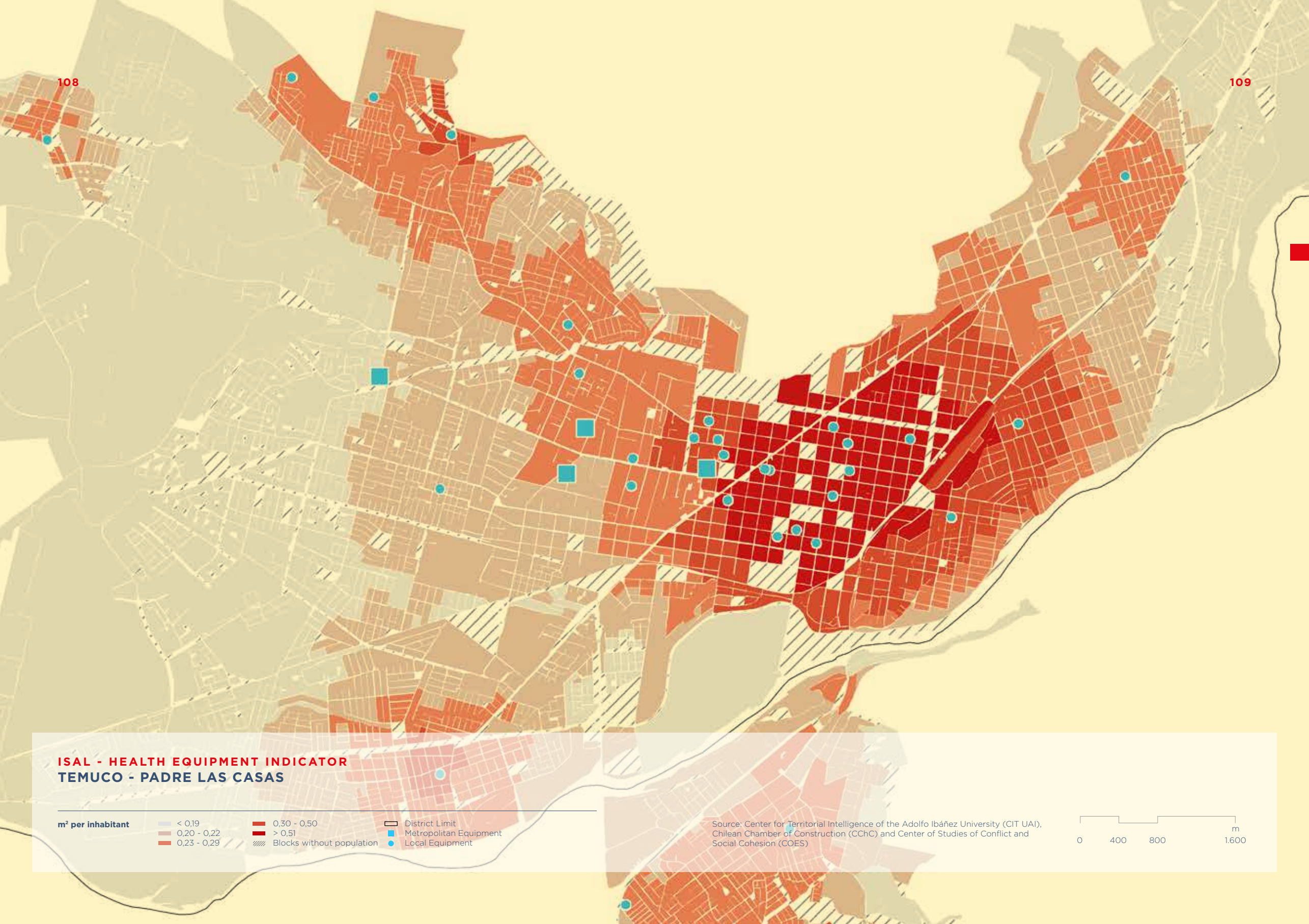
< 0,19
0,20 - 0,22
0,23 - 0,29

0,30 - 0,50
> 0,51
Blocks without population

District Limit
Metropolitan Equipment
Local Equipment

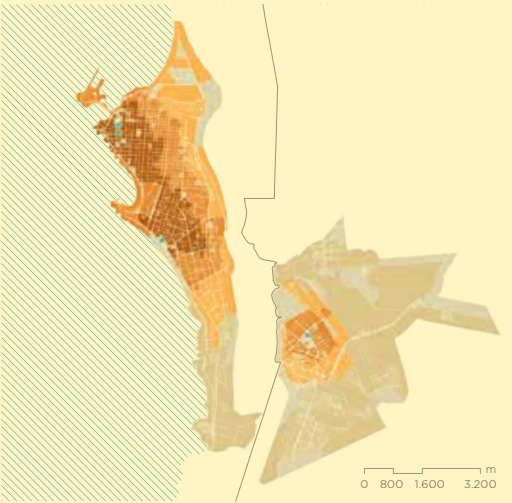
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

0 350 700 1.400 m

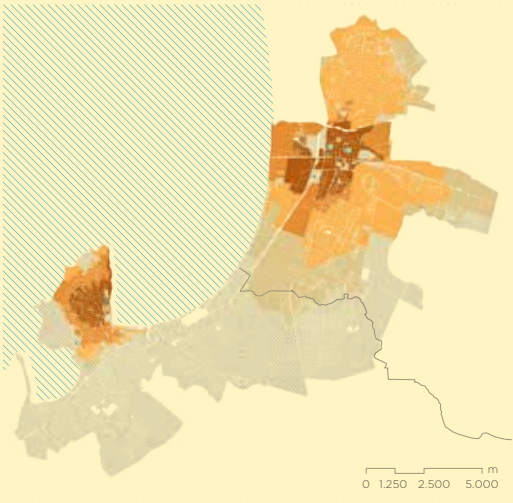


ICUL - INDICATOR OF CULTURAL EQUIPMENTS

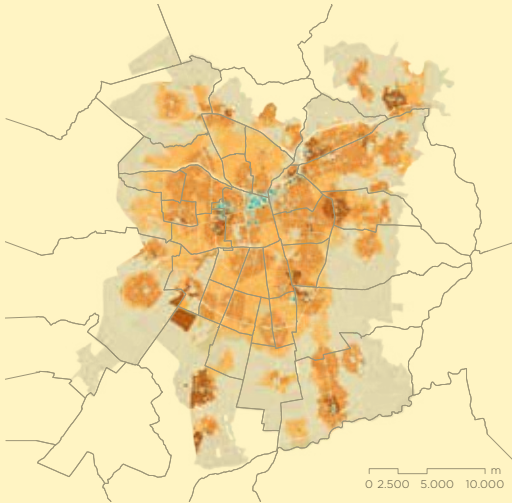
The Cultural Equipment Indicator shows the surface per capita of cultural facilities, registered by the National Council of Culture, to which a person can potentially access. It is estimated with pedestrian accessibility to local facilities and equipment of metropolitan importance to which the population of the entire city can access.



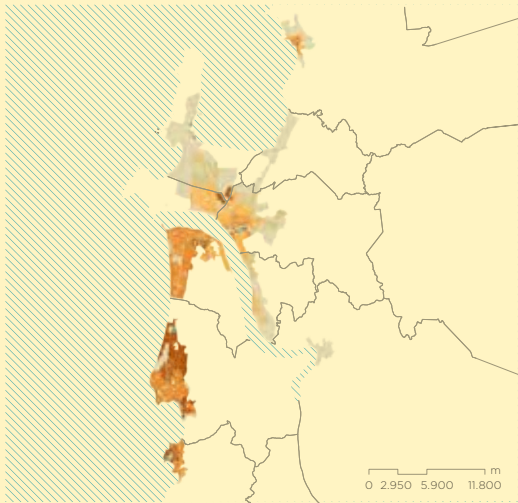
IQUIQUE - ALTO HOSPICIO



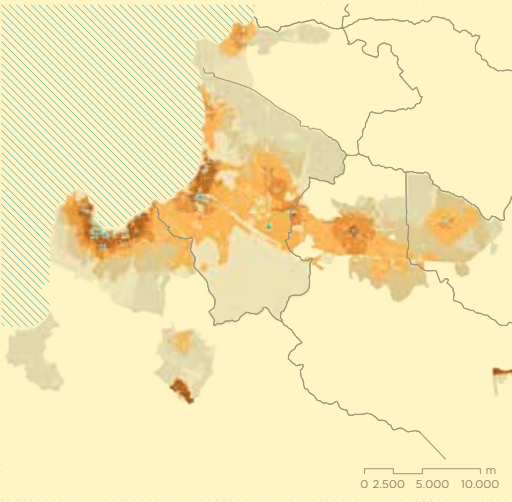
LA SERENA - COQUIMBO



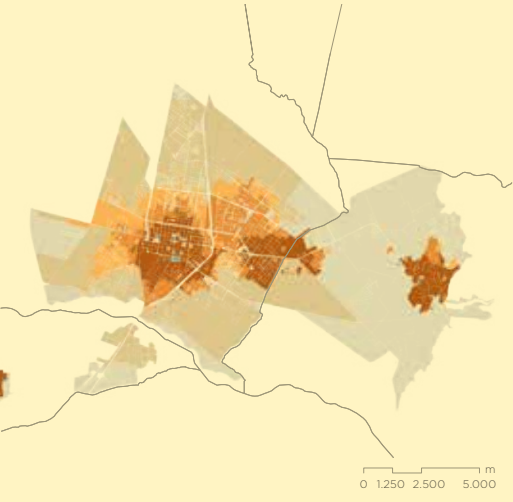
GREATER SANTIAGO



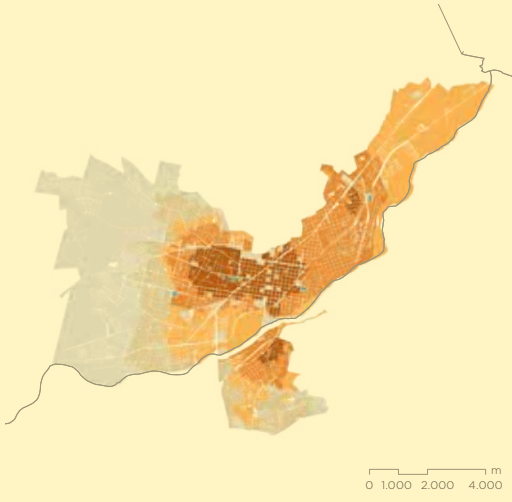
GREATER CONCEPCIÓN



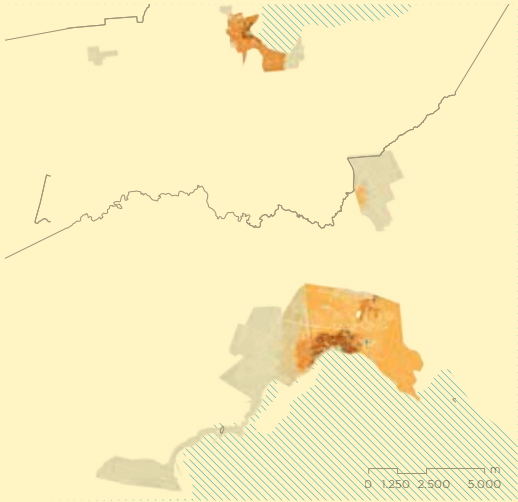
GREATER VALPARAÍSO



RANCAGUA - MACHALÍ



TEMUCO - PADRE LAS CASAS



PUERTO MONTT - PUERTO VARAS



Figure 20
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

ICUL - INDICATOR OF CULTURAL EQUIPMENTS COQUIMBO - LA SERENA

m² per inhabitant

< 0,01
0,02 - 0,03
0,04 - 0,07

0,08 - 0,15
> 0,16

Blocks without population

District Limit

Metropolitan Equipment
Local Equipment

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

0 625 1.250 2.500 m

114

115

ICUL - INDICATOR OF CULTURAL EQUIPMENTS GREATER VALPARAISO

m² per inhabitant

< 0,01
0,02 - 0,03
0,04 - 0,07

0,08 - 0,15
> 0,16

Blocks without population

District Limit

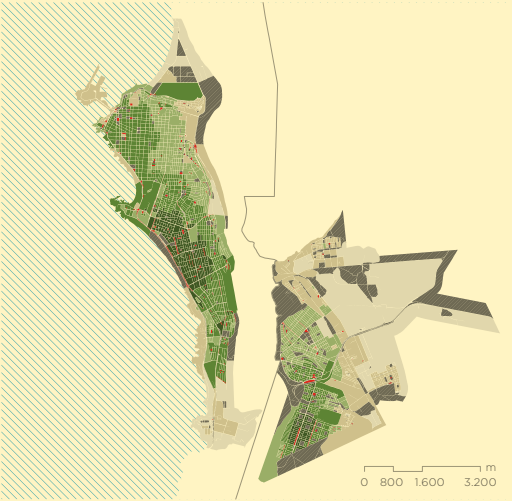
Metropolitan Equipment
Local Equipment

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

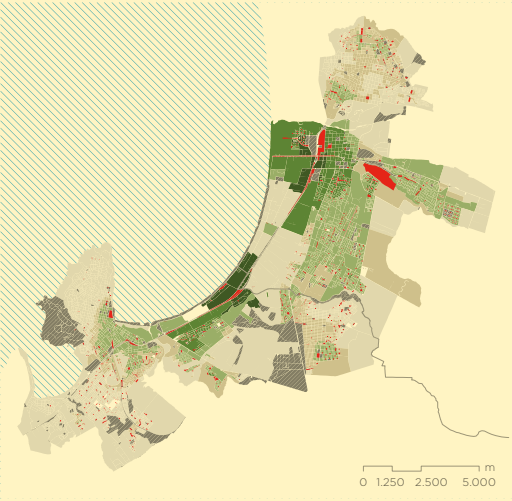
0 900 1800 3.600
m

IAV - GREEN AREA INDICATOR

The indicator shows the surface per inhabitant of public green areas that can be accessed by an individual who lives in a census block. The IAV is built with accessibility as a fundamental factor, which is estimated in two ways: On the one hand, pedestrian accessibility is simulated to the green areas that serve the population in a limited time and, in a complementary manner, the accessibility to green areas of a metropolitan nature.



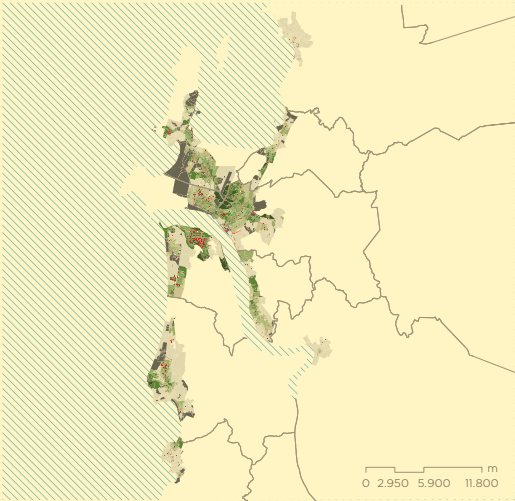
IQUIQUE - ALTO HOSPICIO



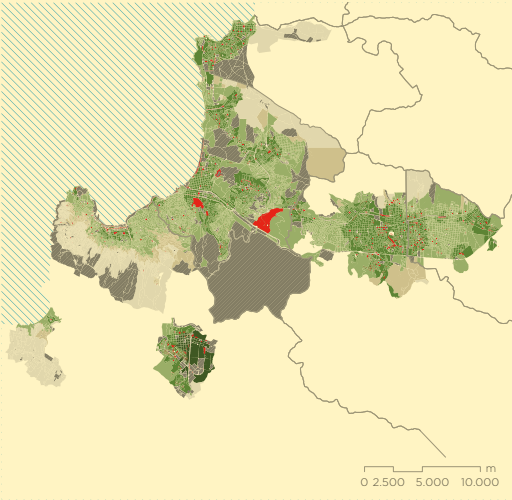
LA SERENA - COQUIMBO



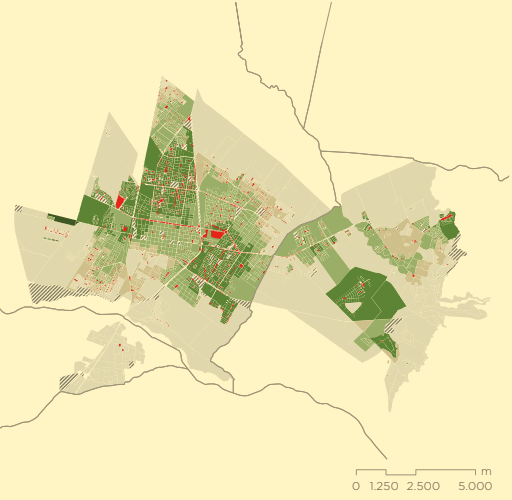
GREATER SANTIAGO



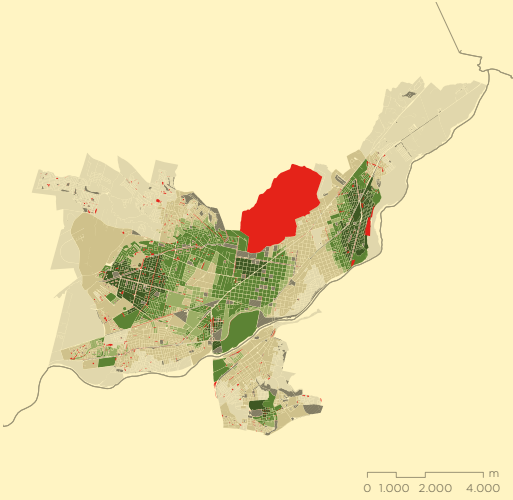
GREATER CONCEPCIÓN



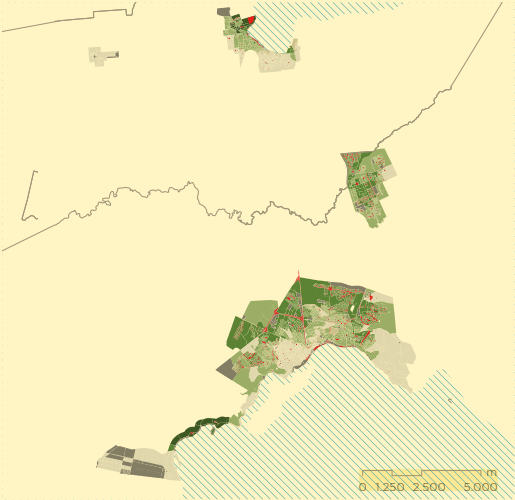
GREATER VALPARAÍSO



RANCAGUA - MACHALÍ



TEMUCO - PADRE LAS CASAS



PUERTO MONTT - PUERTO VARAS



Figure 21
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

IAV - GREEN AREA INDICATOR
COQUIMBO - LA SERENA

m² per inhabitant

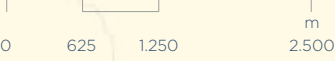
- < 0,48
- 0,49-0,85
- 0,86-1,33

- 1,34-1,96
- > 1,97

Blocks without population

- District Limit
- Green Areas

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)



IAV - GREEN AREA INDICATOR RANCAGUA - MACHALÍ

m² per inhabitant

< 0,48
0,49-0,85
0,86-1,33

1,34-1,96
> 1,97
Blocks without population

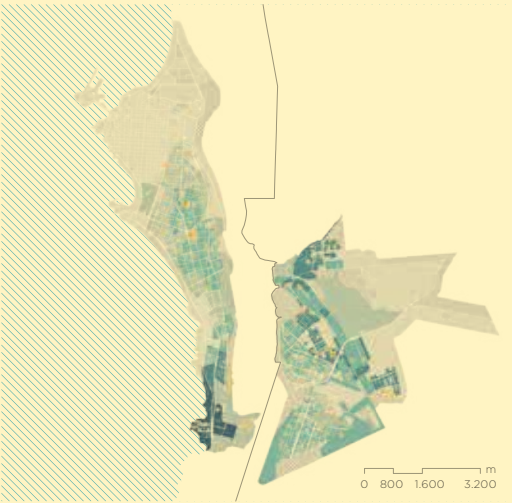
District Limit
Green Areas

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

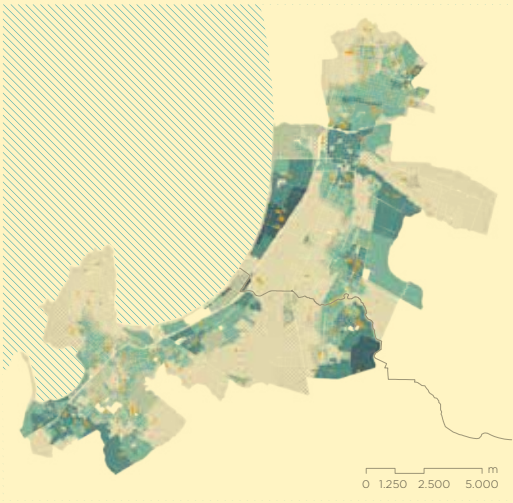
0 500 1.000 2.000 m

IDEP - SPORTS EQUIPMENT INDICATOR

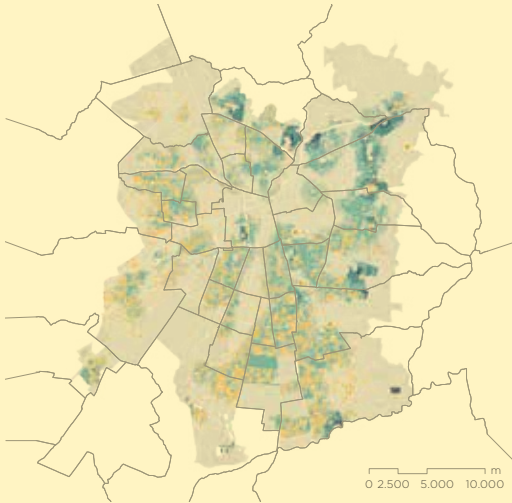
This indicator shows the surface per inhabitant of public sports equipment to which a person who lives in a census block can potentially access. It is built with the accessibility as a fundamental factor, which estimates the time it takes walking to access the multi-sports and large sports venues that can be accessed by the entire population of the city.



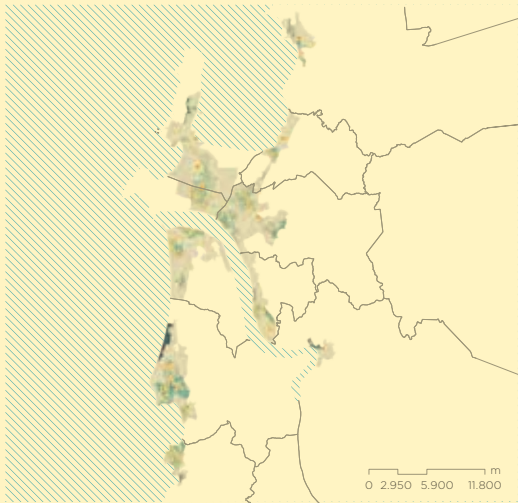
IQUIQUE - ALTO HOSPICIO



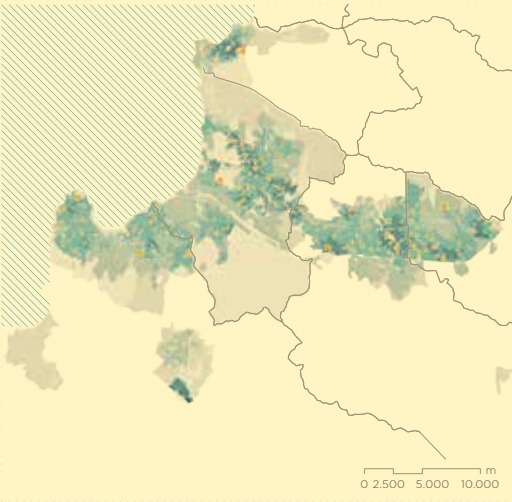
LA SERENA - COQUIMBO



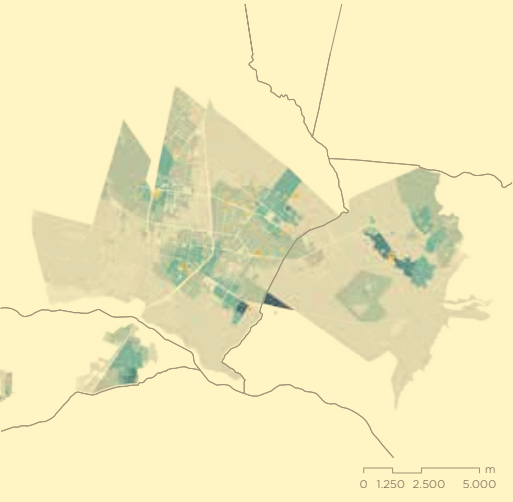
GREATER SANTIAGO



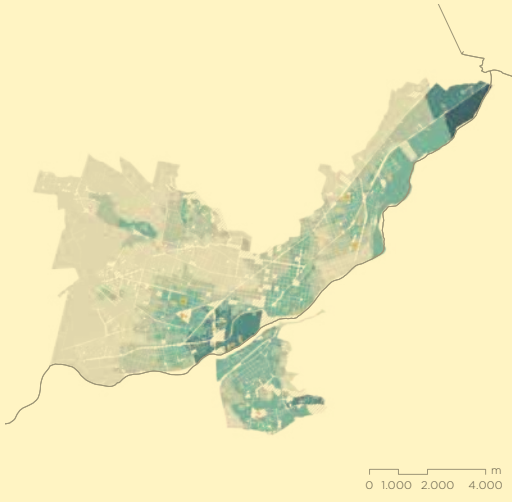
GREATER CONCEPCIÓN



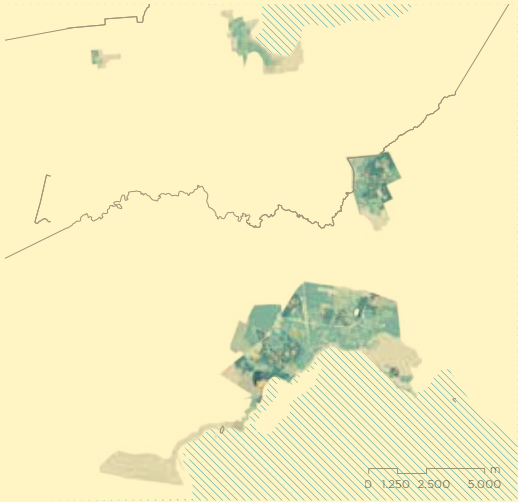
GREATER VALPARAÍSO



RANCAGUA - MACHALÍ



TEMUCO - PADRE LAS CASAS



PUERTO MONTT - PUERTO VARAS



Figure 22
Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

IDEP - SPORTS EQUIPMENT INDICATOR IQUIQUE - ALTO HOSPICIO

m² per inhabitant

< 0,46
0,47 - 0,56
0,57 - 0,89

0,90 - 1,89
> 1,90
Blocks without population

District Limit
Metropolitan Equipment
Local Equipment

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

0 350 700 1.400 m

126

127

IDEP - SPORTS EQUIPMENT INDICATOR GREATER SANTIAGO

m² per inhabitant

< 0,46
0,47 - 0,56
0,57 - 0,89

0,90 - 1,89
> 1,90
Blocks without population

District Limit
Metropolitan Equipment
Local Equipment

Source: Center for Territorial Intelligence of the Adolfo Ibáñez University (CIT UAI), Chilean Chamber of Construction (CChC) and Center of Studies of Conflict and Social Cohesion (COES)

0 900 1800 3.600 m

INCREMENTAL DECENTRALIZATION PROCESS

Ignacio Cienfuegos / Esteban Valenzuela

During the years 2014 - 2018, a intergovernmental system proposed in order to generate a better management of the affairs of the macro cities with a unique responsible entity: the Regional Government (GORE), which is currently headed by the Intendant and which, after the approval and implementation of the Decentralization Law (2018), will be led by the position of Regional Elected Governor.

This new system did not require the creation of a special law. Instead, a project to strengthen GOREs was set in motion during Sebastián Piñera government (2010–2014), which included new directions that were key to defining a viable model for the election of regional governors. This model assigns new powers and instruments to regional governors: 1. The democratic election of the Regional Governor; 2. A system for the transfer of competencies; 3. New divisions in the GOREs; and 4. Metropolitan governance for the GOREs.

The Decentralization Law model focuses on the integration of three presidential commissions: the Presidential Commission for Decentralization (Comisión Presidencial para la Descentralización, CPD, 2014), the Pro Urban Mobility Commission (Comisión Pro Movilidad Urbana, CPMU, 2014), and the National Council of Urban Development (Consejo Nacional Desarrollo Urbano, CNDU, 2016). Each of these commissions proposed different alternatives: the CNDU suggested the creation of a government of their own, the CPMU stressed the importance of inter-sectoral coordination, while the CDP supported the idea that the GORE and an Advisory Committee of mayors should be responsible for taking decisions regarding key plans (Valenzuela & Toledo, 2017).

Ultimately, the proposal consisted of the creation of a Metropolitan Area Department (Departamento de Administración Metropolitana, DAM) under the GORE, an Advisory Committee of mayors, and a high level of intergovernmentalism, as the system as a whole requires reaching agreements with state agencies—the Ministry of Housing and Urban Planning (Ministerio de Vivienda y Urbanismo, MINVU), the Housing and Urban Development Agency (Servicio de Vivienda y Urbanización, SERVIU), the Ministry of Environment (Ministerio de Medio Ambiente, MMA), and the Ministry of Transport and Telecommunications (Ministerio de Transporte y Telecomunicaciones, MTT)—

grouped together to function as interlocutors with the GORE in the Inter-ministerial Commission for City, Housing, and Territory (Comisión Interministerial de Ciudad, Vivienda y Territorio, COMICIVYT).

Table O1 summarizes the proposals of the three commissions and compares them with the legal framework approved.

PRESIDENTIAL COMMISSION AND METROPOLITAN GOVERNANCE

	Presidential Commission for Decentralization (CPD) 2014	Pro Urban Mobility Commission (CPMU). 2015	National Council for Urban Development (CNDU). 2015	Newly-Approved Legal Framework. 2017
Type of Metropolitan Governance	Empowerment of regional executive elected by a Council of mayors and a Regional Council.	Pro Urban Mobility Committee to govern the Metropolitan Area. Single-city authority with capacity to manage and govern the city.	Democratic election of authority at a metropolitan level, along with a collegiate body of mayors, a regional council, and a civil society advisory council.	Elected Regional Governor chairs the Advisory Committee of mayors and coordinates with the DAM.
Resources	Law on regional revenues, convergence fund for territorial equity, and empowerment of the GOREs for the promotion of economic development and management of natural resources. Municipal Solidarity Fund (Fondo Solidario Municipal).	Land taxes applicable to empty lots (surtax on vacant land).	Compensations or devolutions for districts with vulnerable families. Change of the Municipal Common Fund (Fondo Común Municipal, FCM) into a Municipal Solidarity Fund.	Laws on regional revenues have yet to be created, but a Metropolitan Investment Fund has been incorporated into the state budget.
Powers of the GORE	Exclusive constitutional competencies: 1. Land-use and planning 2. Regulation of urban and intraregional rural transportation 3. Approval of environmental decontamination plans 4. Capacity to establish, modify, or eliminate the staff and the wages of their employees by way of regional public service agreements 5. Election of the chair of the Regional Council	N/A	1. More encompassing metropolitan urban planning 2. Planning and regulation of public transport system 3. Planning and management of public infrastructure works 4. Regulation and management of metropolitan urban transit 5. Planning and management of urban parks 6. Planning and management of housing and land 7. Regulation and management of waste disposal 8. Environmental management and risk management 9. Public security	1. Planning in accordance with ministries 2. Waste disposal agreed upon with municipalities 3. Approval of transportation plans 4. Capacity to request new competencies from 2022 onwards and to receive them through a presidential order
Definition of Metropolitan Areas	Mononuclear city or territorial area, formed by two or more population centers, linked by built-up areas that share the use of various elements of infrastructure and urban services. Population must be higher than 250,000.	Cities or conurbations reaching metropolitan proportions.	N/A	Urban continuum to be determined by regulation via presidential decree.

Table O1
Source: Cienfuegos & Valenzuela, 2017

Metropolitan governance thus strengthens the incremental process of regional empowerment and decentralization in Chile, a process that began in 1974 with the creation of the regions, and which was later reinforced by the gradual creation of Regional Ministerial Secretariats (Secretarías Regionales Ministeriales, SEREMIs) and the National Fund for Regional Development (Fondo Nacional de Desarrollo Regional, FNDR). Both the creation of the SEREMIs and the FNDR were aimed at contributing to the decentralization of powers and access to funding. In this vein, the FNDR was created as a funding system aimed at municipalities and public services to improve basic social infrastructure.

In 1993 the GORE was created with its own powers and legal status, along with the Regional Council (Consejo Regional, CORE), elected directly by district councilors since 2012. Since 2015, the COREs have incorporated other funds into the FNDR, such as the Innovation Funds for Competitiveness (Fondos de Innovación para la Competitividad, FIC) and others associated with culture, public security, and social participation.

Over the years, the GOREs have become better at prioritizing investment in regions through concepts such as the Regional Investment for Regional Allocation (Inversión Regional de Asignación Regional, ISAR). They have also improved their negotiating skill to influence multi-year Programming Contracts (Convenios de Programación) with ministries and have made progress regarding agreements and pacts with municipalities.

The process of incremental decentralization experienced by Chile in recent decades illustrates a flexible governance model, where all GOREs are able to request more competencies in accordance with their context and to receive them gradually depending on how they are evaluated or by way of an official order.

The reasoning behind this process involves the following:

- The value of a unitary tradition with regional decentralization that guarantees the state presence of its main agencies in every territory, combined with a process aimed at higher levels of autonomy and regional initiative, along with the articulation of plans agreed upon with those national agencies.
- The deepening of instruments that prompt dialogue and the coordination of central agencies with regions and municipalities.
- A sense of efficacy and efficiency to co-finance and participate in larger projects, including endeavors in metropolitan and rural areas.
- Evolution towards regional predominance in the management of complex competencies, such as competitive economic development, social development, infrastructure and transport, and integral land-use planning through Regional Land-Use Plans (Planes Regionales de Ordenamiento Territorial, PROT).

The process of incremental **decentralization** experienced by Chile in recent decades illustrates a **flexible governance** model, where all GOREs are able to request more competencies in accordance with their context and to receive them gradually depending on how they are evaluated or by way of an official order.

EVOLUTION OF DECENTRALIZATION IN CHILE AND NATIONAL-REGIONAL-MUNICIPAL COORDINATION DURING 1980-2017, BY PRESIDENTIAL TERM

Period	Milestones	Processes	Outcome
1973 - 1989 Regional Decentralization	<ul style="list-style-type: none">• Law for the creation of regions (1974).• Creation of the FNDR and the Integrated Project Bank (Banco Integrado de Proyectos).• Basic education and primary health become municipal.• Creation of FCM.• Approval of law on municipal revenues.• Appointment of mayors and intendants.• Decentralization via the creation of the SEREMIs and regional governments for major services.	<ul style="list-style-type: none">• Municipalities and sectors present infrastructure projects to the FNDR for development: potable water, sanitation (sewage system), electrification, expansion of schools and secondary roads.• Education is financed based on enrollment.• Simplification of revenues into contributions, licenses, and vehicle registrations.• Outsourcing of cleaning services and maintenance of green areas.	<ul style="list-style-type: none">• Progress was made regarding a fund for physical investment, boosting projects tied to national priorities.• Improvement in access to education.• Dependence of municipalities on FNDR investment.• Represents 8% of subnational spending.
1990 - 1994 Municipal Democratization and Creation of GOREs	<ul style="list-style-type: none">• Constitutional reform.• Creation of GOREs and COREs.• Municipal elections and democratization.• Enactment of the Constitutional Organic Law for Regional Government and Administration (N° 19,175).• Democratization of municipal elections (via a Council), including 25 districts previously assigned by the president.	<ul style="list-style-type: none">• Creation of basic heritage structures, integral plans, executive secretariat of the COREs, and regulatory powers for GOREs.• Election of mayors depends on formation and discipline of political coalition to ensure their candidate is elected.• COREs are elected by assemblies of councils by province.• Educational subsidies improve due to agreement with teachers.	<ul style="list-style-type: none">• Municipal democratization takes two years due to agreement with greater structure.• Innovation in revenues decreases due to focus on extreme poverty.• Represents 10% of subnational spending.
1995 - 1999 Investment Agreements between GOREs and Ministries	<ul style="list-style-type: none">• Creation of Programming Contracts between GOREs, ministries, and ISAR), along with Regional Contracts for Regional Investment.• Creation of Regional Investment for Regional Allocation (Inversión Regional de Asignación Local, IRAL).• Creation of permanent staff for GOREs (Law N° 19,379).• Contracts between regions and regional universities are permitted.• MINVU promotes inter-district plans as a first draft for metropolitan planning.• A goal to reach public investment of 42% with regional input is established.	<ul style="list-style-type: none">• Sectors are required to have the ISAR approved by COREs, while COREs are expected to agree on the IRAL together with municipalities.• Mutual support agreements begin to be established with regional public universities.• Inter-municipal planning is set in motion, empowering the three stakeholders: municipalities, COREs, and the MINVU, making it possible to look at connectivity between districts collaboratively.	<ul style="list-style-type: none">• Autonomous subnational spending does not increase, but the percentage of public investment involving coordination and consultation from the GORE doubles.• Room for more ambitious programs through long-term agreements with a regional focus: education in the Maule Region; health in the O'Higgins Region; connectivity in the Aysén Region and Tarapacá Region; among others.• Represents 12% of subnational spending.
2000 - 2005 Greater Planning Responsibilities with Central Authority and New Regional Revenues	<ul style="list-style-type: none">• Law on municipal revenues increases property tax exemption, but begins central contribution to FCM.• New competencies law (N° 19,778) aimed at strengthening the role of regional planners in urban and metropolitan areas, and in development (article 1-39).• 25% of tax revenues from Specific Mining Tax (Impuesto Especifico a la Minería, IEM) or mining royalty (4%) is allocated to the FICs.• Aggressive plan for concession-operated infrastructure and creation of first integrated transport system (Transantiago).• Removal of section in the Constitution referring to 13 regions, opening up possibilities for the creation of new regions and, theoretically, mergers.	<ul style="list-style-type: none">• Due to the infrastructure emphasis of six-year presidential term, long-term contracts increase in education, health, housing, and public works.• FICs are created thanks to mining royalty, allocated by the CORE, which created instruments for innovation and strategic plans.• Regional connectivity improved.	<ul style="list-style-type: none">• Thanks to pressure from the parliament, the new regional casinos law and the mining royalty were established, allowing regional revenues to be raised, despite lower municipal revenues resulting from the increase in property tax exemption, which limited the collection of waste-related fees (the rate was initially at 40% of properties, but was reduced to 20%).• FICs gave way to a new perspective on regional management, complementing infrastructure.• Represents 13% of subnational spending (8% municipalities and 5% regions).
2006 - 2009 New Regions and Constitutional Reform	<ul style="list-style-type: none">• Creation of the Arica y Parinacota Region (with Arica as its capital) and Los Ríos Region (with Valdivia as its capital).• Constitutional Reform to allow the election of regional governments is approved.• The SUBDERE, Social Development Ministry, and GORE reach agreement regarding regional planning.• Mirror law on subsidies is approved for transport and projects in regions.• The Plan for Stadiums for regions is set in motion.	<ul style="list-style-type: none">• The procedure began under the government of Ricardo Lagos. The Los Ríos Region is implemented and the Arica y Parinacota Region was created in this period.• While direct election of regional councilors was not achieved, the Constitutional Reform was passed.• Funds for culture, sports, and public security managed by the COREs are increased.	<ul style="list-style-type: none">• New laws aimed at improving educational subsidies and new health programs allow municipal revenues to rise. The Transantiago compensatory law allows increased investment in regions, raising subnational spending to 15% (10% municipal and 5% regional).
2010 - 2013 Increase of the FNDR and First CORE Election	<ul style="list-style-type: none">• Law N° 20,500 regarding partnerships and civil participation in public governance is passed.• Funds allocated to the FNDR are doubled and regional own-income transfers are separated from the FNDR.• Implementation of first democratic election of COREs (Law N° 20,678).• Bill to strengthen GOREs is sent to Congress.• MINVU starts program for the creation of mega-parks in regions.	<ul style="list-style-type: none">• After the 2010 earthquake, the reconstruction forced the SERVIUs and GOREs to strengthen their operational capacity by adding new work teams and additional resources for housing and infrastructure.• The comptroller general interpreted that the Intendant was no longer in charge of the CORE, so councilors began choosing their president.• The bill for the creation of a District Councils of Civil Society Organizations (Concejo Comunal de la Sociedad Civil, COSOC) is made compulsory for municipalities.	<ul style="list-style-type: none">• Election of COREs is implemented along with presidential and parliamentary elections.• In order to speed up the reconstruction process, and due to the surge in the price of minerals, the FNDR grows significantly, increasing subnational revenues to 16% (9% municipal and 7% regional).
2014 - 2017 Bases for the Election of governors and Greater Competencies	<ul style="list-style-type: none">• Creation of a State Decentralization Commission (Comisión de Estado para la Decentralización) with consensus report.• Approval of Law to Strengthen Regional Governments that allows the transfer of competencies, creation of new divisions, and metropolitan governance.• Constitutional reform for the election of regional governors.• Pilot decentralization projects for the creation of the following divisions: Promotion and Industry, Infrastructure and Transport, and Social and Human Development. The pilot project for the creation of the DAM was also carried out.	<ul style="list-style-type: none">• The Decentralization Commission reached a consensus between 33 commissioners and 15 regional councils' in its report.• Elected Governor takes on metropolitan governance in urban areas with 250,000+ inhabitants.• GOREs expected to form DAMs.• Council of mayors is incorporated.• Creation of the Promotion, Social, and Infrastructure and Transport divisions.	<ul style="list-style-type: none">• Metropolitan governance is concentrated in future elected Governor.• The system of gradual transfer of competencies is set in motion with intergovernmentalism.• Subnational spending remains at 16%.• The most significant pilot decentralization initiatives were the creation of the Promotion and Industry division in the Antofagasta Region, and the creation of the DAMs in the Metropolitan, BioBio, Los Lagos, and Coquimbo Regions, added to the pilot creation of infrastructure divisions in the O'Higgins, Magallanes, and Arica and Parinacota regions.

Table 02 - Evolution of the Decentralization in Chile between 1980 - 2017
Source: Analysis by Esteban Valenzuela. Fiscal data from studies by Mario Rosales, ECLAC, and reports from the SUBDERE. As regards legal milestones, information was taken from part of Osvaldo Henríquez's presentation for the seminar entitled "24 Years since the Creation of the Constitutional Organic Law for Regional Government and Administration" (A 24 años de LOCGAR), Universidad Autónoma, Chile, 2017.

1. Known in Chile as cabildos.

EVOLUTION OF THE DECENTRALIZATION IN CHILE BETWEEN 1980 - 2017

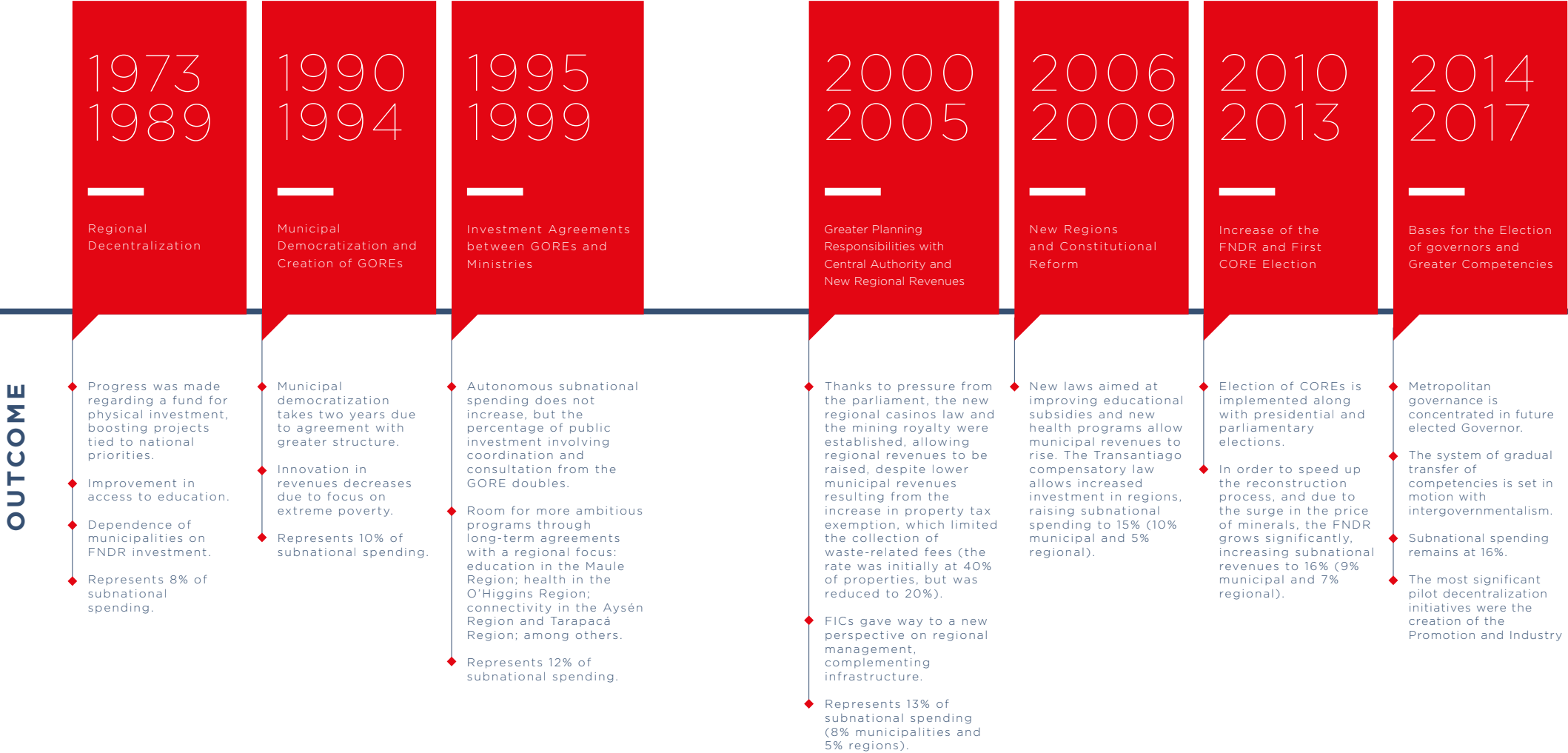


Table 03
Source: Analysis by Esteban Valenzuela. Fiscal data from studies by Mario Rosales, ECLAC, and reports from the SUBDERE. As regards legal milestones, information was taken from part of Osvaldo Henríquez's presentation for the seminar entitled "24 Years since the Creation of the Constitutional Organic Law for Regional Government and Administration" (*A 24 años de LOCGAR*), Universidad Autónoma, Chile, 2017.

METROPOLITAN LANDSCAPES, SCIENCE FICTION, AND THE FUTURE OF THE METROPOLIS

ALFREDO RAMÍREZ

In his science fiction novel *New York 2140*, Kim Stanley Robinson imagines a New York that has been partially submerged after two large floods caused by global warming. The city turns into a more exaggerated version of Venice and its geography is radically transformed, thus altering social, political, financial, and ecological relationships among its inhabitants, the metropolis, and the planet. While extreme, this scenario is plausible, and it serves as the background on which Kim builds an alternative project for the future of New York, where his extensive knowledge of science and his ability to visualize this project through written fiction are intertwined.

Robinson views science fiction as an area for planning the genre of the novel, and his ability to describe future visions—based on believable principles—is fundamental to creating alternatives to current situations. Science fiction’s visionary role is an approach that is replicable for architects/designers/planners as part of metropolitan teams that work to provide alternatives to the problems and challenges of today’s world.

Along these lines, the efforts involved in the creation of Metropolitan Units in Chile present an outstanding opportunity, as they require the coordination of different stakeholders to establish effective governance and management mechanisms that allow goals to be established for the future. Hence, the role of architects, designers, and planners is crucial here, as they can help visualize, spatialize, and formulate those policies, rules, and regulations that could make a difference in future scenarios. In other words, they can turn the visionary fiction of design into a scientifically rigorous process that is in constant dialogue with metropolitan governance.

Therefore, I propose three principles that would allow for design to operate in Metropolitan Units in an imaginative manner:

1. Integrate Landscape and Ecological Models

Understanding the geographical scale to which Metropolitan Units belong is crucial, as is defining the position of each of the landscape systems that encompass it: water cycles, local ecologies, predominant climates, tendencies, and geomorphological and climatic forecasts. To write his novel, Kim Stanley Robinson systematically studied plausible future scenarios, always bearing in mind climate change and its possible effect on New York City. In the same way, it is both viable and

desirable to develop proposals that take into account the intimate interconnection between the landscape and ecological systems to which the metropolis belongs today and its possible future footprint.

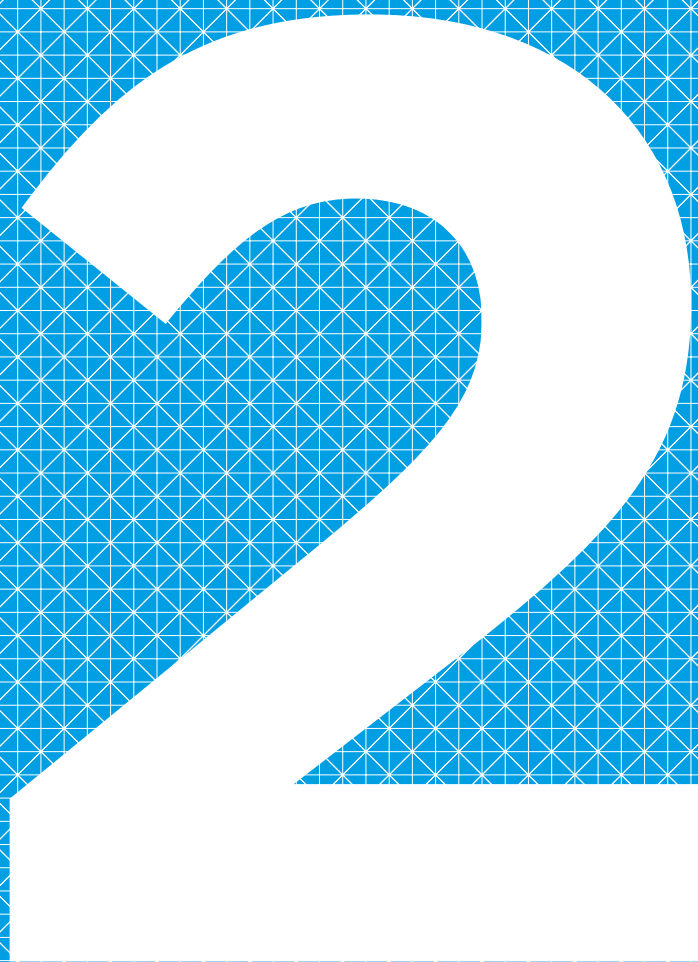
2. Favor the Design of Prototypes that Have Metropolitan Impact

Whether it is neighborhoods, streams, rivers, pedestrian boulevards, or transport corridors, metropolitan regions are built through the consolidation of spatial patterns made up by the coherent and varied repetition of environmental and urban prototypes. New York 2140 takes place in the MetLife Building. Life in the tower—and the way in which its inhabitants are organized—is the prototype that the author uses to create a coherent, specific and accessible narrative for all. The tower functions as a prototype for community organization that is replicable on the scale of New York. Thus, planning and designing prototypically could help build a new metropolitan narrative that responds in a concrete way to specific short-term issues, but which also has a long-term metropolitan impact.

3. Consolidate Participatory Platforms for Community Engagement

Gathering collective ideas and visions to give communities and local stakeholders a voice and a chance to participate is key, whether it is in the realm of science fiction or the metropolitan vision. Creating digital or analog tools, while keeping that in mind, would ensure the development of metropolitan projects without relying so heavily on political agendas or the collective consensus.

Similar to science fiction, design is equipped to understand the social, economic, and political conditions and issues, and to shape them into a space in the future. The contribution of design to the creation of Metropolitan Units prompts us to ask ourselves about and visualize the type of metropolis we want, how we imagine it, and how we could implement those new, innovative, and radical—but plausible—ideas to address the challenges of the 21st century metropolis.



2

METROPOLITAN

GOVERNANCE

BUILDING METROPOLITAN GOVERNANCE

Francisca Rojas / Cristián Robertson

METROPOLITAN AREAS

In the 21st century, Metropolitan Areas have morphed into complex and relevant territories that present important challenges in terms of governance, inter-jurisdictional coordination, and financing. While an agreed-upon definition of the concept of a “Metropolitan Area”¹ does not exist, for the purposes of this publication, we will use the term to refer to urbanized spaces that extend over the territory of more than one subnational jurisdiction.

These Areas have gained importance in demographic terms, because they comprise 47 percent of the population of Latin America and the Caribbean in 180 urban agglomerations of over 100,000 inhabitants, totaling nearly 265 million people (Inter-American Development Bank, IDB, 2012). Metropolitan Areas are also economically relevant, as their GDP usually represents up to a quarter of GDP in member countries of the OECD (Bahl et al., 2013) and even higher percentages in developing countries. Thus, such Metropolitan Areas in Chile generate over 80 percent of national GDP.²

The most serious issues of contemporary cities must be addressed on a metropolitan scale from the beginning. The challenges derived from traffic congestion, air pollution, natural disasters, and urban inequality in terms of access to basic services, among others, are tackled more effectively and efficiently when they are seen as indivisible and dependent urban systems. River basins, for instance, do not respect municipal boundaries, and every individual and collective decision on how to deal with the use of land in that territory inevitably affects the way in which our water systems function, defining both runoff and absorption of water, as well as its levels of pollution. The same is true in the case of transport, where planning and investing in multimodal mobility systems end up being subpar when ignoring its interdependence with the city's economic activities and the impact of transport emissions on air pollution. Nevertheless, despite having identified the multi-sectoral and multi-jurisdictional nature of metropolitan issues, we still have been unable to develop the necessary institutional structures to manage both dimensions simultaneously.

¹ The various definitions present substantial differences in demographic, morphological, functional, proxemics, and political-administrative terms, among others.

² This calculation includes the nine Metropolitan Areas identified according to the definition of the Secretariat for Regional Development and Administration (Subsecretaría de Desarrollo Regional y Administrativo, SUBDERE): Iquique-Alto Hospicio; La Serena-Coquimbo; Gran Valparaíso; Rancagua-Machali-El Olivar; Chillán-Chillán Viejo; Gran Concepción; Temuco-Padre las Casas; Puerto Montt-Puerto Varas-Llanquihue-Frutarillal; Santiago Metropolitana Area.

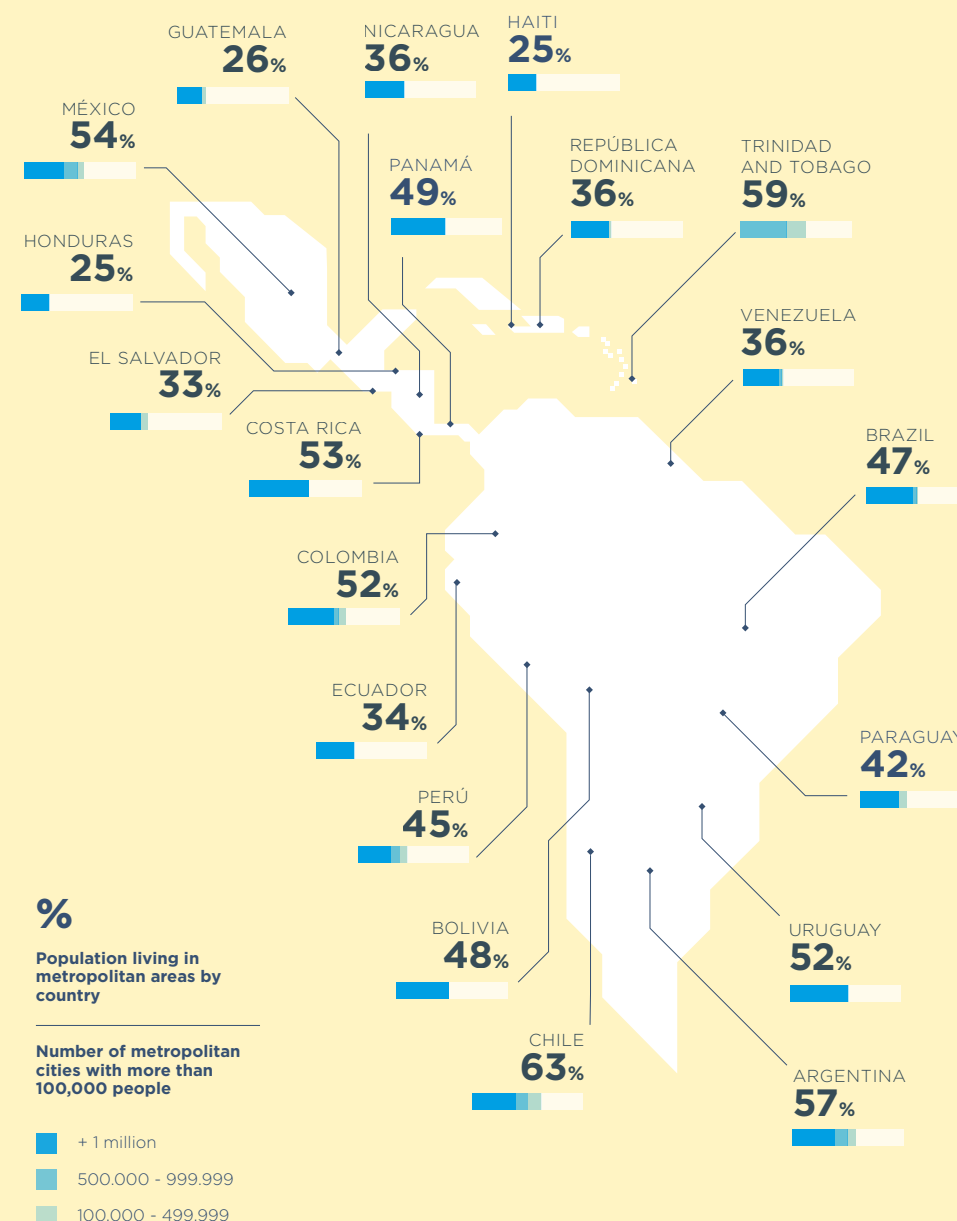


Figure 23
Source: ONU, 2010

The benefits of being capable of mitigating the effects of urban and sectoral fragmentation through institutional structures for metropolitan coordination can be understood in terms of urban productivity. A study of the OECD member countries (Ahrend et al., 2014) identifies a positive relationship between urban productivity and the size of cities. However, in OECD countries metropolitan governance mechanisms have managed to counteract the productive deficit that arises by administrative fragmentation in Metropolitan Areas.

Metropolitan coordination contributes to urban productivity by providing urban services more efficiently and at a lower cost. For example, Prud'homme and Lee (1999) show that a good urban transport system increases the size of job markets. Using Paris as one of their case studies, they estimate that a worker commuting on public transport has access within 45 minutes to the areas in which 80 percent of jobs are concentrated. The same calculation for Buenos Aires shows that workers, also using public transport, have access to only 55 percent of the jobs available in the Metropolitan Area (Prud'homme et al., 2004). In the case of Paris, it is more likely for the skills of the worker to match the job opportunities in the city. Consequently, when the worker is more productive, companies produce at a lower cost and the worker earns and consumes more. Similarly, having an integrated system for the collection, sorting, recycling, and final disposal of solid waste for all municipalities in a Metropolitan Area produces economies of scale that allow it to carry out these functions at lower unitary costs and causing less environmental damage than fragmented systems. A more efficient coordinated system saves resources that can be allocated to other productive uses or services.

In order for metropolitan management to be effective and efficient in administratively fragmented urban territories, mechanisms for inter-jurisdictional coordination are essential. However, as Lefèvre (2008) points out, metropolitan governance is not produced spontaneously, but it is built jointly between stakeholders relevant to development and city management. By analyzing the international metropolitan governance case studies presented in *Steering the Metropolis* (IDB, 2017) and *Governing the Metropolis* (IDB, 2005), it seems that the effectiveness of this approach depends on a structure based on a sequence of actions meant to be developed in stages. The process of construction of a metropolitan institutional structure must be incremental and participatory, and it should be implemented patiently over time.

Using this knowledge, the IDB elaborated a work methodology that has been applied in Argentina since 2012 through the Development Program of Metropolitan Areas Outside the Capital, and in Chile by means of the consultation process conducted for the Secretariat for Regional Development and Administration (Subsecretaría de Desarrollo Regional y Administrativo, SUBDERE) compiled in this book. This approach is aimed at fostering and strengthening metropolitan mechanisms for horizontal and vertical coordination to support decision-making processes on investment priorities and the capacity to provide services along with the corresponding territorial entities. This

approach is carried out in four stages, all of which are applied flexibly depending on the background and needs of each Metropolitan Area.

PHASE 0 – BASELINE SCENARIO

The baseline scenario consists of institutional fragmentation, which results in a lack of coordination between territorial entities with jurisdiction over the Metropolitan Area. As a result, there is little public awareness about metropolitan issues and there is no consensus regarding possible solutions.

PHASE 1 – VOICE

For metropolitan issues to be recognized as such, and to define progress towards coordinated action between relevant territorial entities, it is necessary to create “metropolitan awareness.” During this first phase, workshops and participatory forums are held to facilitate dialogue, consultation, and the exchange of experiences. Additionally, metropolitan diagnostic studies are conducted to help governments and communities gain a clearer vision of the obstacles they must overcome. Expectations are that, through the execution of first-phase activities for the construction of metropolitan governance, metropolitan issues are given a “voice,” that is, they become part of the public debate and the political agenda of territorial entities.

PHASE 2 – POLITICAL LEGITIMACY

Phase 2 picks up from the previous stage and attempts to find agreements between the parties interested in solving metropolitan issues efficiently and identifying the stakeholders and institutional arrangements necessary for the implementation of the solutions identified. For this purpose, stakeholders from the political arena and from various areas of the private sector and civil society collaborate to create and agree on a Metropolitan Agenda expressing the city's main challenges and the opportunities available for the improvement of the population's quality of life. Based on the Metropolitan Agenda, authorities create Metropolitan Execution Plans, where investments to be made are identified. By defining and agreeing on the priorities, and by reaching agreements regarding the institutional arrangements necessary to solve metropolitan issues, metropolitan governance gains political legitimacy.

PHASE 3 – FUNCTIONAL LEGITIMACY

Based on the agreements established, the goal is for institutional arrangements to gain functional legitimacy. The objective of the third phase is thus to formulate and execute metropolitan investment projects so they are validated by the population and leaders by means of the efficient provision of services. The challenge here is to ensure that these investment projects—which function as trust-building endeavors for the legitimation

Metropolitan Areas represent close to **47** percent of the population of Latin America and the Caribbean in **180** urban agglomerations of over **100,000** inhabitants, totaling nearly **265** million people.

of coordination mechanisms—are designed from a metropolitan perspective and that the relevant stakeholders involved in their execution are clearly identified. Some of the measures to achieve this include investments to develop and strengthen institutions, such as staff training. This stage is a kind of dress rehearsal for metropolitan stakeholders to develop a metropolitan perspective of urban problems and their solutions, as well as to exercise their inter-jurisdictional coordination capacities.

PHASE 4 - OPERATIONAL LEGITIMACY

Once the institutional arrangements have been created and are in operation, and the coordination entities have begun to solve metropolitan issues and provide services efficiently and sustainably, metropolitan governance gains operational legitimacy. This operational legitimacy implies that coordination entities have political and institutional support from the territorial jurisdictions, secure and programmable resources, and the support of the community thanks to the quality of the services they provide.

This metropolitan governance-building process begins with the identification of issues from a sectoral perspective and it is aimed at promoting a flexible strategy that can be adapted to the existing characteristics of the state's administrative organization. By addressing concrete issues within each Metropolitan Area, this sectoral approach simplifies and facilitates the implementation of specific institutional arrangements that are defined locally and adapted to the managerial models of the different types of urban agglomerations and legal frameworks. The coordination of territorial stakeholders between these various sectoral areas is expected to show the benefits of using these same coordination mechanisms to solve other metropolitan problems. Over time, as the operational legitimacy of institutional structures developed through the sectoral investments of each Metropolitan Area becomes more consolidated, this approach should create a multiplying effect that allows these agencies, consortiums, or councils to include other complementary metropolitan issues, such as the joint treatment of transport planning and land use. That being the case, metropolitan institutions will be in a better position to access the financing available for investment projects and will be able to promote not only sectoral or municipal projects, but also metropolitan projects.

Considering the multiple obstacles involved in urban management in the 21st century, we hope that the lessons learned through the experiences described in this book will help to improve metropolitan governance in other countries. The gradual and incremental approach to creating metropolitan institutions is sufficiently flexible to be applicable to both federal and unitary government systems, which is worth noting (Lefèvre, 2008). The support of the national government plays an important role in promoting the development of these coordination mechanisms in Metropolitan Areas, both in terms of resources for institutional strengthening and financing resources for coordinated projects, thus rewarding the pioneers on the path towards metropolitan governance.

WHY IS METROPOLITAN GOVERNANCE IMPORTANT?

Enid Slack / Gustavo Carvalho

Metropolitan governance is the process by which governmental bodies (at all levels) and non-governmental actors (such as civil society, business associations, unions, etc.) collaborate to deliver services and formulate public policy for the entire Metropolitan Area. It refers to the capacity of Metropolitan Areas to “establish tools, mechanisms, instruments, and arrangements to make these territories governable” (Lefèvre, 2008, p. 137). In short, metropolitan governance plays a critical role in how well Metropolitan Areas function. It determines how services are delivered and coordinated across local government boundaries and how costs are shared throughout the Metropolitan Area. Metropolitan governance also determines where and how decisions are made for the entire Metropolitan Area. Ultimately, by determining how well the Metropolitan Area functions, metropolitan governance will also have an impact on productivity and economic growth.

ENHANCING PRODUCTIVITY AND ECONOMIC GROWTH

The ultimate impact of not having an adequate metropolitan governance structure is lower productivity and reduced economic growth. A recent study of Metropolitan Areas in five countries in the OECD—Germany, Mexico, Spain, the United Kingdom, and the United States—found that cities with fragmented governance structures (measured by the number of municipalities in the Metropolitan Area) tend to have lower levels of productivity (measured by wage premiums) (Ahrend et al., 2014). The authors explain this finding by suggesting that fragmentation can have a negative impact on transportation investment and land use planning, with the result that congestion is increased and a city’s overall attractiveness is reduced. Moreover, fragmented governance structures can impede growth because they discourage firms that have to face the additional bureaucracy associated with overlapping business and environmental regulations across a number of local governments in the Metropolitan Area.

Evidence from OECD countries also suggests that where there is a metropolitan organization, Metropolitan Areas perform better than fragmented local governments. A Metropolitan Area with twice the number of municipalities was associated with approximately 6 percent lower productivity. That impact was reduced by half where there is some form of governance body at the metropolitan level. Another study found

that metropolitan structures have denser developments, higher per capita GDP, attract more people, have a higher level of satisfaction with public transport, and are subject to lower levels of pollution (Ahrend, Lembke, & Schumann, 2016).

EFFECTIVE PLANNING AND DECISION-MAKING

Metropolitan-wide consensus on goals related to the delivery of effective public services, economic development strategies, land use planning, and other issues is difficult to achieve when there is a large number of local governments and no metropolitan decision-making body. This situation is particularly acute in regions where there is a mismatch between land use planning decisions and service delivery. For example, new housing is often located in areas with poor infrastructure because service delivery and land use planning are not coordinated on a metropolitan basis. A metropolitan body tasked with both land use planning and service delivery could help alleviate these problems.

COORDINATING SERVICE DELIVERY

Both the quantity and quality of local public services and the efficiency with which they are delivered in a Metropolitan Area depend, to a considerable extent, on how its governance institutions—especially its formal governmental structures, but also civil society, business associations, and non-profit organizations—function (Slack & Côté, 2014). Decisions made by one local government will have consequences for other local governments (Ayuso & Coll, 2016). In the absence of a metropolitan structure, for example, the provision of transportation will likely be delivered by several different local governments rather than being coordinated across the Metropolitan Area. The result will be poorer services (transit that is not seamless across local boundaries, a fare system that is not integrated across local jurisdictions, as well as other problems), and possibly higher costs for each of the constituent local governments.

Coordination across municipal boundaries is critical for other services as well. For example, inadequate maintenance of storm drains in one municipality can result in flooding in other municipalities and will not easily be addressed if there is no decision-making body that covers all of the municipalities involved. Governance also matters for economic development because the quality of the business environment affects investment and economic growth. Coordination of economic development activities reduces harmful competition within the Metropolitan Area where each local government is trying to attract the same businesses. Without a coordinated land use policy throughout the Metropolitan Area, people may locate in environmentally protected areas that fall under multiple jurisdictions (such as watersheds and flood-prone areas) with the result that the water supply for the region may be threatened.

SHARING COSTS FAIRLY

The geographic boundaries of many cities often do not coincide with the boundaries of the entire economic region. One consequence is that workers who live in smaller communities outside the central city commute to the central city for work every day and use local services (such as roads, hospitals, and so forth) but do not pay taxes in the central city. Central cities not only have to pay for these services, but are left to deal with the traffic congestion, air pollution, and other problems that result from the higher daytime population. Without a metropolitan governance structure there is no mechanism for sharing the costs. As a result, central cities often do not want to provide these services to the standards that people want.

METROPOLITAN COORDINATION AND THE HOUSING-TRANSPORT NEXUS

DIANE DAVIS

In an era of rapid urbanization and ongoing metropolitan sprawl, there is near unanimity among urbanists about the importance of metropolitan coordination. The real question is how best to achieve it. On occasion, visionary political leaders have been willing and able to advance plans for formalizing new metropolitan governance institutions empowered with the authority to coordinate urban servicing and infrastructure policies across scales larger than a single municipality. Although not always necessary, support from national level in authorities has proven to be key in advancing such aims and, when successful, these actions can go a long way towards achieving more equitable and sustainable metropolitan areas.

But empowering new metropolitan institutions whose authority may appear to override that of any single municipality is easier said than done, largely because it can be perceived as undermining local democracy. This is no small dilemma in those countries where the hard-fought battle for democratization has produced greater decentralization, as in much of Latin America. In those settings metropolitan governance may be interpreted as undermining the democratic will of the local citizenry

by rescaling the authority to make policy decisions to political institutions that are distant from the lived experience of individuals. It is thus incumbent upon advocates for metropolitan governance or coordination to underscore both the equity gains and the individual as well as collective public goods that can be achieved when urban policy-making moves to a scale higher than the municipality, but smaller than the nation.

With this dilemma in mind, it is no surprise that transportation has been one of the first sectors to be targeted for action by advocates of metropolitan governance. Even to the average citizen, lack of coordination and/or insufficient regulation of transport services across metropolitan municipalities is understood to produce negative externalities and exacerbate inequality in service provision. Some of this owes to land market dynamics in metropolitan areas. Sprawling urban growth tends to be accompanied by rising property values in more central areas of the city, thus pushing poorer populations to the periphery where housing is cheaper. In those settings, transport is also likely to be more costly and less reliable. The fact that much of the transport services in Latin American cities lie in the hands of small-scale operators has further contributed to fragmented and irregular transportation servicing. When citizens in distant areas of the metropolis have little recourse but to accept second-rate transportation services, they

may turn to private automobile ownership, thus further exacerbating sprawl and reinforcing unsustainable and inefficient urbanization patterns. For all these reasons, the importance of coordination in transport servicing and other basic infrastructural needs is frequently a key rationale for metropolitan governance.

Focusing on streamlined, equitable, and well-networked transport services will be absolutely critical to generating public support for metropolitan governance. But to a large degree, this is low hanging fruit. Housing is a much more difficult sector to address, particularly affordable housing, the supply of which is perhaps even more contingent upon land market dynamics than transportation. In many sprawling Latin American metropolises, social housing is located on low-cost land increasingly distant from the central city, particularly when private developers are asked to provide an affordable housing stock and also bear the brunt of land costs. All this means that any efforts at achieving equity at the metropolitan scale must also address the housing question. In an ideal world, the best way to ensure a well-coordinated and efficiently served city is to keep the transport-housing nexus at the forefront of action. A well-located and dense supply of affordable housing will reinforce compact spatial arrangements that can reduce capital investments in expanding urban infrastructure.

We thus end with a plea: that advocates for metropolitan governance and coordination also be prepared to address the housing question alongside the transportation question, difficult as this may be. Rather than giving the green light to housing produced only through market logics, and then struggling to ensure that coordinated, equitable, and sustainable transportation and urban infrastructure follows, or vice versa, metropolitan governing authorities must engage the housing-transport nexus from the start. This is no small task. Both the housing and the transport sectors are affected by competing and overlapping agencies with mandates to focus on either housing or urban infrastructure, but rarely on these domains simultaneously. But that is precisely where metropolitan coordination comes in. Using governance capacities scaled at the metropolitan level to coordinate these previously fragmented relationships is a priority if cities are going to be built and governed more sustainably.

3

CASE

STUDIES

METROPOLITAN GOVERNANCE

Enid Slack / Gustavo Carvalho

The first part of this chapter presents four case studies on international metropolitan governance experiences relevant to the Metropolitan Areas of Chile, with the aim of drawing a set of lessons from the processes of institutional creation, transfer of competencies, and structuring of implementation mechanisms for metropolitan governance.

To begin with, the criteria used for the selection of the four cases of international studies is defined and the reasons behind that choice is describes.. The following section describe and evaluate metropolitan governance in the four case studies: United Kingdom, New Zealand, Colombia, and South Korea. For each case study, information on decentralization and metropolitan governance is provided. At the end of each section, there is a summary of the main findings for each of the countries. Finally, the chapter closes with a section that summarizes a number of global topics derived from the cases analyzed.

The following criteria were used to select four international case studies:

- *Unitary countries.* Chile is a unitary country, which means that most of the governing power resides in the central government. In a unitary system, the central government generally delegates authority and policy decisions to subnational units to implement. In a federal system, by contrast, the division of powers between the federal government and subnational governments is usually set out in the country's constitution. Because these different systems will have a different impact on the creation and role of metropolitan units as well as intergovernmental relationships, the case studies focus on the experience in unitary countries.
- *Different regions of the world.* The decision was made to look at countries in different parts of the world rather than focusing on one continent, in order to gain a wider range of experiences.
- *Centralized countries that are undergoing decentralization.* Chile is a centralized country that is proposing decentralization in legislation that is currently being considered by its Congress. At the same time, it is interested in the creation of metropolitan units. It is thus useful to look at other countries that are also undergoing or have undergone the two processes at the same time.

- *Metropolitan Areas similar in size to the four participating Metropolitan Areas in Chile.* The four pilot Metropolitan Areas in Chile have a range of populations. The Santiago Metropolitan Region has a population of 6.5 million, Biobío has 1 million people, Los Lagos has more than 315,000, and Coquimbo has almost 440,000. For this reason, the countries chosen need to have experience with the creation of metropolitan units for different-sized cities.
- *Areas that have experienced recent municipal restructuring.* To create metropolitan units in Chile may require some form of municipal restructuring, such as amalgamation (merger), creation of a two-tier structure, or joint authorities, for example. Looking to countries that have experience with municipal restructuring is critical to understanding how this process could work in Chile.
- *Transfer of transport, waste management, and land use/metropolitan planning to the regional level.* Since the government of Chile is proposing to devolve these responsibilities to metropolitan units, it is useful to look at international experiences of countries that have transferred these specific competencies.
- *Documentation and analysis of reforms.* Of course, it is important to find case studies that have been documented, not only with a description of what happened, but also with an analysis of what worked and what did not.

SELECTION CRITERIA INTERNATIONAL CASES



Figure 25
Source: Own elaboration

THE CASE OF THE UNITED KINGDOM

The United Kingdom is one of the most centralized countries in the developed world. In terms of taxation, for example, approximately 95 percent of all taxes are raised by the central government, compared to the European Union (EU) average of about 50 percent (Storey & Farrar, 2009). The country has a long history of local governance reforms and reversals dating back to the 1960s. It is currently going through two simultaneous processes: a decentralization (devolution) process, along with the creation of combined authorities (essentially metropolitan governments). Devolution involves the transfer of new powers to local authorities, but also the transfer of funds, enhanced power over local taxes, additional taxation powers, and more flexibility for borrowing. On the other hand, the creation of combined authorities entails a governance reform. While establishing a combined authority and signing a city deal (devolution agreement) with the central government are linked, they are separate processes. Nevertheless, the transfer of powers and funding from the central government has taken place partly because of the strengthening of local authorities through the creation of combined authorities. Some efforts are being made to devolve revenue-raising powers to local authorities and there may be some lessons here for Chile. There remains the question of whether devolution has gone far enough in granting local authorities the fiscal autonomy needed to match their expanded service responsibilities.













► Portland Street Manchester - Tim Green

DEVOLUTION IN THE UNITED KINGDOM

Enid Slack / Gustavo Carvahlo

DEVOLUTION AND METROPOLITAN GOVERNANCE IN THE UNITED KINGDOM

The history of devolution in the UK began in the mid-1960s, when the government embarked on local governance reform, and it has continued to the present. The following discussion, which looks at the history of devolution, the introduction of city and devolution deals, and the creation of combined authorities, show how policies can evolve and change over time, and how they can even be reversed. This discussion also highlights the link between the two different, but related processes of decentralization and metropolitan governance restructuring.

HISTORY OF DEVOLUTION, 1960S TO 1990S

In the UK in the 1960s there was growing recognition that local governance arrangements were fragmented and that geographic boundaries needed to be adjusted. The first major reform, undertaken by a Labour government in 1965, replaced the London County Council with the Greater London Council (GLC), an upper-tier government that encompassed 32 newly created London boroughs. In 1968, Passenger Transport Authorities (PTAs) were introduced under the Transport Act in six areas of England (and one in Scotland).

In 1974, a Conservative government established two-tier systems of counties and districts across the rest of England. In six other large cities (Birmingham, Leeds, Liverpool, Manchester, Newcastle upon Tyne, and Sheffield), upper-tier metropolitan counties were created with 36 lower-tier metropolitan districts. At that time, PTAs were integrated into the metropolitan county councils.¹

In 1986, the upper-tier GLC and metropolitan counties in England's major city-regions were abolished and transport powers were returned to PTAs. The politics of the time were, of course, a central factor in the abolition of the upper tiers, but the government also saw the GLC and the metropolitan counties as unaccountable financial managers and as having an uncertain strategic role. The reforms effectively left the London boroughs and the district councils in other cities as fragmented single-tier administrations.

¹ In smaller and more rural areas, shire counties were introduced (39) with lower-tier districts (296). Two-tier county-district structures were also adopted for Scotland and Wales, with enlarged local authorities. In Northern Ireland, reform went in the opposite direction, as eight two-tier county-districts were replaced by 26 local councils, with the Northern Ireland government assuming regional functions.

Some GLC functions were transferred to the City of London and the boroughs, while others were shifted to special purpose agencies.²

Metropolitan planning for London was essentially done through the central government and a series of agencies. A "bottom-up" push to reintroduce the metropolitan government came from business leaders who were concerned about the gap in area-wide planning and cooperation and threats to Greater London's economic competitiveness. Business leaders partnered with borough representatives and civic organizations to create London First, a planning and advocacy body. In other Metropolitan Areas, voluntary arrangements through joint authorities and cooperation with agencies (often called quasi-autonomous non-government organizations or "quangos") and among district council leaders were somewhat effective, most notably in Manchester, Birmingham, and Leeds. Nevertheless, as political leaders changed, it was a challenge to maintain local partnerships without more durable governance structures (Goldsmith, 2005).

This period also saw the beginning of a long process of consolidation of two-tier county-district structures into single-tier Unitary Authorities (UAs). From 1995 to 1998, 26 UAs were created, in most cases with combined fire authorities and special arrangements for other functions.³

THE LATE 1990S TO EARLY 2000S

The brisk pace of local governance reform continued under the Labour Government, elected in 1997. The Greater London Authority (GLA), an upper-tier government with a directly elected Mayor, assembly and modest administration, was inaugurated in 2000. The GLA works in conjunction with a series of agencies, including the Mayor's Office for Policing and Crime (formerly the Metropolitan Police Authority), the London Fire and Emergency Planning Authority, Transport for London, and GLA Land and Property (formerly the London Development Agency).

Frequent interventions to restructure local governance institutions were accompanied by reforms that diminished local authority powers by further centralizing control and oversight. During the 1980s, the Thatcher government encouraged contracting out for the provision of education, housing, and garbage collection, among other services, while also imposing council tax (residential property tax) rate-capping and tighter restrictions on local finances. Throughout this period, the responsibilities of local authorities also shifted significantly, with reduced direct local control over education, housing, social services, police, and transit. A vast array of special purpose agencies, nearly 5,000 across the UK, was created to manage local functions. These new 'local

² Similarly, metropolitan functions outside of London were passed to the lower-tier districts, to metropolitan authorities for waste (in Merseyside and Greater Manchester), and to joint authorities for police, fire, and transport that coordinated across local districts (Department for Communities and Local Government, 2010).

³ The two-tier arrangements in Scotland and Wales were also abolished and replaced with the UAs that still exist today. More than a decade later, the Labour government created 10 more UAs.

quangos' have been called "agents for the center", because they were appointed directly or indirectly by the central government and are responsible to and influenced by their 'sponsoring' departments (Wilson & Game, 2011).

2000 TO THE PRESENT

By the mid-2000s, the centralization of authority was considered to be a barrier to effective and representative local government. The interim report of the Lyons Commission, an inquiry into the role and funding arrangements of local government, noted that although certain aspects of governance had been improved, "the gravitational pull of government grants, targets and performance management has created an unhealthy situation where local councils are too often focused on the wishes of ministers and their departments rather than their own citizens' needs and preferences" (Lyons, 2006, p. 3).

In 2008, the Local Transport Act renamed PTAs as Integrated Transport Authorities and expanded their responsibilities. It also allowed them to change their geographic boundaries. Multi-area agreements were introduced—these are cross-boundary agreements between neighbouring authorities and regional bodies to strengthen local government involvement in regeneration across functional economic areas.

In 2009, the Labour government passed the Local Democracy, Economic Development and Construction Act, which provided for the creation of combined authorities. The Conservative Party's 2010 election manifesto outlined an agenda to redistribute power from the central state to individuals and communities, and open up service provision to third sector and private operators. Central to the vision were proposals to reverse the creeping centralization by decentralizing services significantly and devolving powers (Conservative Party, 2010). The proposals reflected a growing sense that central government was too big and controlling. A "new localism" theory embodied four broad principles: decentralization of power, better local decision-making, strengthened local democracy, and civil and community renewal (Storey & Farrar, 2009).

In the wake of the financial crisis in 2008, local government reform was also seen as key to national economic growth and wealth creation. This idea was reflected in a landmark report in 2012, titled *No Stone Unturned in Pursuit of Growth*, in which Lord Heseltine declared that "government must now reverse the trend of the past century and unleash the dynamic potential of our local economies" (Heseltine, 2012, p. 6). The report recommended giving new powers for specific policy areas to local authorities along with the transfer of funds, enhancing the taxation powers of local authorities with respect to the council tax (residential property tax) and business rates (non-residential property taxes), more flexibility over borrowing and financial management, and the creation of combined authorities and/or directly elected mayors.

The outcome of this decentralization agenda was a flurry of local government reform initiatives. The Localism Act, passed in 2011, granted local authorities the 'general power of competency,' shifting away from the highly prescriptive traditional legislative relationship to one that provides more flexibility for local action. It allowed more local decision-making for planning and housing. The legislation did not grant access to new local taxes, but provisions did allow local authorities to offer tax incentives through discounts on the centrally-set business rate. Perhaps most significant were provisions for directly elected mayors in the 11 largest cities outside London, subject to local referenda (Department of Communities and Local Government, 2011a).

CITY DEALS FOLLOWED BY THE "DEVOLUTION REVOLUTION"

Starting in 2012, the central government negotiated a series of 'city deals' to support local economic development in the eight "core cities"—Bristol, Nottingham, Leeds, Liverpool, Manchester, Newcastle upon Tyne, and Sheffield. In conjunction with the city deals, the central government encouraged local authorities and businesses to team up to form Local Enterprise Partnerships (LEPs), partnerships between public and private sector bodies formed across a functional economic area for regional growth, development, and infrastructure investment.⁴

In 2014, the Chancellor of the Exchequer introduced a new devolution program with the goal of devolving powers to cities in the north of England (the "northern powerhouse") to stimulate growth and productivity and tackle the north-south divide (Randall & Casebourne, 2016). Devolution deals transfer powers, resources, and accountability from the central government to local authorities. The first devolution deal (and probably the one with the greatest degree of devolution of any combined authority) was signed with Greater Manchester in 2014 and included the provision for a directly elected Mayor. This deal was followed by an agreement with Sheffield City Region without provision for a Mayor.

A second wave of city deals with 20 other cities was subsequently launched. These arrangements, negotiated individually to reflect the unique needs and context of each city, were designed to spur growth by providing more powers and financial tools, unlocking economically transformative projects, and strengthening local governance. These deals became the main vehicle for decentralization in the UK. The deals have created local infrastructure funds and some deals have granted access to financial tools such as tax increment financing, or devolved transport funding and infrastructure. They have also been linked to governance changes, such as the creation of Combined Authorities in Greater Manchester, Leeds, Sheffield, and other cities (to be discussed further below).

⁴ A local authority is allowed to be part of more than one LEP, so LEPs can overlap. LEPs can apply to create Enterprise Zones, geographic areas in which incremental growth in business rates (non-residential property taxes) can be captured by the LEP and local authorities and a range of incentives can be offered to attract business investment. There are currently 38 LEPs in England and 48 Enterprise Zones.

In 2015, the government invited bids from city regions that wanted to enter into a devolution deal in return for agreeing to a directly elected Mayor. Mayor devolution deals, as they were called, were agreed with combined authorities in Sheffield City Region and Liverpool City Region, and the Tees Valley and West Midlands “shadow” combined authorities. A non-Mayor deal was agreed with West Yorkshire Combined Authority. In 2016, the Communities and Local Government Committee in the House of Commons issued a report that evaluated the city deals between 2012 and 2014. The report expressed concern regarding the lack of public engagement and consultation throughout the devolution process, the lack of rigour in a process which has no clear, measurable objectives for devolution, and the lack of transparency in the deal negotiations (House of Commons Communities and Local Government Committee, 2016). It pressed for greater fiscal devolution, specifically allowing local authorities to retain all business rate revenues.

In 2016, the government passed the Cities and Local Government Devolution Act, which provided for combined authority mayors and simplified the process for establishing combined authorities in England and Wales. It also extended the functions of combined authorities beyond economic development and transport to include housing, planning, and policing powers. At the end of 2016, devolution deals were signed with 11 areas and discussions were ongoing for further devolution to London. As of 2017, there were nine combined authorities in the UK. Six combined authorities held mayoralty elections in May 2017, and a further election will be held in Sheffield City Region in May 2018.

Devolution deals have been described as a “menu with specials” (Sandford, 2016b). In other words, core powers are devolved to local authorities, but each deal is unique and may also include a number of other special powers. Powers over business support services, adult skills funding, transport budget and buses, and land management can be found in most deals, but involvement in health services and policing were only devolved in a few areas (Sandford, 2016b). Many deals include an investment fund, but the division of the fund into capital and revenue elements varies between Metropolitan Areas. Moreover, the power to retain 100 percent of growth in business rates appears in some deals and some areas are piloting full retention of business rates in advance of the rollout across England in 2020. Elected mayors have the power to add a 2 percent business rate supplement with the agreement of the LEP.

The stated purpose behind bottom-up city deals was to ensure that nationally-led projects reflect local strategies and priorities and that they empower local authorities to make the case for their specific needs (O’Brien & Pike, 2015). One of the main advantages of city deals is that they bring local authorities together to focus on integrating their city-region infrastructure and economic development needs and priorities (O’Brien & Pike, 2015). City deals have also enabled and encouraged governance reform, which will be discussed further below.

O’Brien and Pike (2015) identify a number of disadvantages to city deals, however. They describe city deals as a process of deal-making which engenders competition among local authorities and requires negotiation with central and local actors that are not equally endowed with information and resources. The result is inequitable outcomes across the UK. Moreover, they argue that the closed approach to these deals raises questions about accountability and transparency (this point is also raised by Sandford, 2016b). There has also been an asymmetry with respect to funding. For example, city deals with a strong transportation infrastructure component have generally received more funding than those with other types of infrastructure. Although the central government promoted evidence-based decision-making for the choice of infrastructure projects, many of these deals were driven more by politics than evidence (O’Brien & Pike, 2015).

COMBINED AUTHORITIES

Under the Local Democracy, Economic Development and Construction Act 2016, combined authorities are a legal structure that may be established by two or more local authorities in England with or without a directly elected Mayor⁵. The Secretary of State for Communities and Local Government formally establishes a combined authority through a Parliamentary Order at the request of the local councils concerned.

Combined authorities are more than an informal partnership because member councils can be more ambitious in working together and can take advantage of the powers and resources devolved from the central government (Local Government Association, 2016). They may take on statutory functions transferred to them by the central government or any functions that the constituent local authorities agree among themselves to share. Combined authorities comprise either one representative from each member authority or one representative from each member authority plus a directly elected Mayor. Combined authorities can exercise functions over a greater geographic area than a single local authority, which is important for economic development and transportation, two functions with spillover local boundaries (Department for Communities and Local Government, 2017). Over the period from 2014 to 2016, the central government negotiated devolution deals with each of the combined authorities.

The following sets out the procedure to establish a combined authority (Local Government Association, 2016):

- Local authorities work together to determine the geographic area that the combined authority should cover and set out the economic rationale for its creation. They are required to complete a review, which evaluates a number of options for the governance of transport, economic growth, and regeneration.

⁵ If local areas choose not to elect a Mayor they are required to come up with another government arrangement, such as a reduction in the number of councilors, district council mergers, or the creation of unitary authorities. The central government has expressed its preference for directly elected Mayors.

- They then need to publish a scheme, which recommends the creation of a combined authority and the functions to be performed. Publication of the scheme requires the consent of the local authorities that are included. It is essential to consult stakeholders and the public on the governance review and scheme. The Secretary of State for Communities and Local Government introduces a statutory instrument in Parliament to establish a combined community.
- The case for creating a combined authority needs to reflect the interests of the affected local authorities. Constituent local authorities are required to vote unanimously in favour of forming a combined authority.
- If the local authorities opt for a mayoral combined authority, it is necessary to prepare for a mayoral election. It is also necessary to put together a budget and staffing model.
- Lastly, it is necessary to appoint additional staff to deliver the devolution agreement with the Mayor and members of the combined authority. Combined authorities are required to have an officer responsible for financial administration, scrutiny officer, monitoring officer, head of paid service, and independent auditors.

Council leaders, in consultation with Local Economic Partnerships (LEPs), put together the devolution deal to submit to the central government after which there is a period of negotiation. Local authorities decide how to agree on the terms with their members.

Figure 1 shows the funding and accountability for combined authorities with elected mayors. The combined authority comprises the constituent local authorities and receives funding from the central government (Department for Communities and Local Government, plus other departments such as Transport and Education) and from constituent local authorities. The Mayor is directly accountable to citizens. Local Enterprise Partnerships that are not members of the combined authority are accountable to the central government and to constituent local authorities; those that are members are accountable to the combined authority.

UNITED KINGDOM COMBINED AUTHORITIES

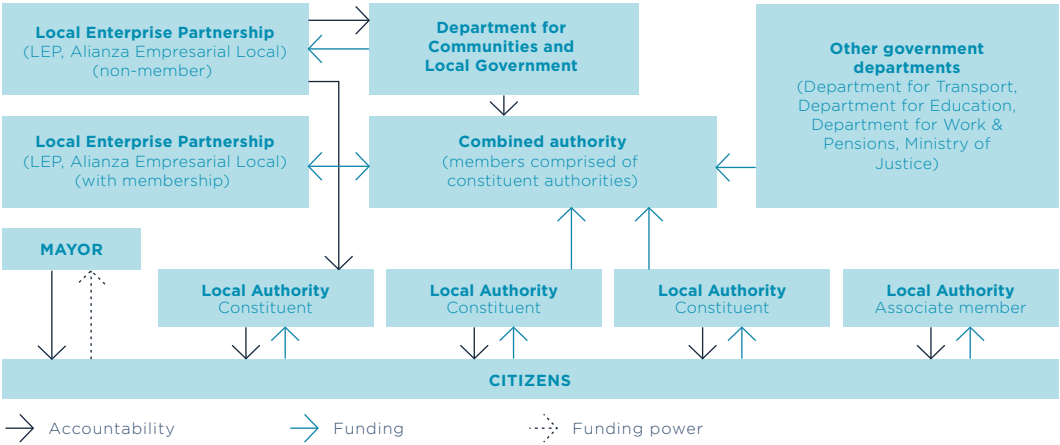


Figure 26
Combined authorities are accountable to the Department for Communities and Local Government via an external panel, for the 30-year investment fund, subject to a five-year 'gateway review' process.
Source: National Audit Office, extracted and adapted from the Report by the Comptroller and Auditor General, Progress in setting up combined authorities. July 2017

Funding for combined authorities comes from a number of different sources. Mayors can raise a levy on the tax bills of the constituent local authorities. Combined authorities can also raise a levy on their members but these funds are not new money. Rather, the funding is simply shifted from the local authorities to the combined authority. Many devolution deals permit the local retention of central business tax rate growth above an agreed-upon baseline. Elected mayors also have the power to raise a supplement (2p on the pound) on business tax rates subject to an agreement with the LEP. Combined authorities have the power to borrow money under the local government prudential borrowing regime. Lastly, many devolution deals provide combined authorities with an investment fund.

Greater Manchester Combined Authority

Greater Manchester is a city-region with over 2.7 million people. The Greater Manchester Combined Authority (GMCA) was created in 2011 by Order of Parliament. The GMCA was the result of regional negotiations and was approved by Greater Manchester's 10 district councils. The 10 councils have had a long history of working together voluntarily on transport, regeneration, and investment attraction. The GMCA is a regional planning and decision-making body with major responsibilities including transport, housing, skills, planning, and economic policy. It is governed by an indirectly elected 10-member board, with each district council nominating a member from among their elected councillors. The first election for Mayor was held in 2017. The next election will be in 2020 and then every four years after that.

The Mayor has the power and resources for the consolidated multi-year transit budget; bus services, railway stations, and smart ticketing in Greater Manchester; housing investment fund to make loans to house builders; power to produce a statutory spatial strategy subject to unanimous approval by the combined authority's cabinet; and enhanced form of the Manchester "earn-back" agreement¹. The Mayor is also the Police and Crime Commissioner for Greater Manchester. Other powers have been granted with respect to business supports, education, works programs, housing investment, and integration of health and social care. Further proposals in the July 2015 budget transferred the functions of the Greater Manchester Fire Service to the Mayor; called for the establishment of the Greater Manchester Land Commission to rationalize the management of public properties; and gave the power to the Mayor to introduce Mayoral Development Corporations. There was further discussion on children's services and employment programs and the central government agreed to pass control of EU structural funds to GMCA.

Further powers were devolved in the 2015 Spending Review, such as the power to impose a community infrastructure levy on new properties, and clarity that the Mayor could set a business rate supplement with the agreement of the LEP and the 2016 Budget (see Sandford, 2016a for more details). In April 2017, Manchester piloted 100 percent retention of business rates in advance of being extended to all of England by 2020. The GMCA also intends to absorb the Manchester waste disposal authority, which is currently a free-standing body covering most of the boroughs. Powers associated with justice are also to be devolved. In 2017, Greater Manchester was to receive funds to develop a new Work and Health Program, co-designed with national government.

1. The earn-back mechanism allows Greater Manchester to invest local funds in transportation infrastructure, retain a share of the proceeds of the tax yield that comes from economic growth, and then re-invest the revenues in further infrastructure. This model was not replicated elsewhere, however.

Not all areas have been able to establish combined authorities. For example, local authorities in Greater Lincolnshire and East Anglia agreed to a devolution deal, but could not agree on a combined authority, a necessary component for signing a devolution deal. A number of local authorities could not agree on having an elected Mayor—the North East and West Yorkshire are combined authorities without elected mayors. A further issue arises for many combined authorities when the UK leaves the European Union. Many combined authorities receive EU funding and without that funding it will be considerably more challenging to deliver economic growth (Department for Communities and Local Government, 2017). Finally, combined authorities add another layer of local government to an already complex local government system in the UK. The result is that there is considerable overlap between combined authorities and other bodies including the central government, upper tier local authorities, tier 2 councils, LEPs, police and crime commissioners, and other bodies (Department for Communities and Local Government, 2017).

LOCAL FISCAL AUTONOMY

As noted earlier, local authorities in the UK have very limited local fiscal autonomy. Tables 4 and 5 provide information on expenditures and revenues in Greater Manchester. To gain a true picture of the municipal finances in Manchester, it is necessary to look at the 10 councils plus the Greater Manchester¹ Combined Authority and the other region-wide authorities (Fire and Rescue Authority, Police and Crime Commissioner and Chief Constable, and the Waste Disposal Authority). Table 1 shows that, within Greater Manchester, 80 percent of all expenditures are made by the local councils with only 20 percent of expenditures by the Combined Authority and other authorities. The largest expenditures, by far, are for education, followed by adult social care and policing.

The distribution of revenue sources in Table 5 shows that the Greater Manchester Combined Authority and the 10 district councils receive the largest share of their revenues from central government grants – 74 percent overall. Although user fees pay for most of the costs of waste disposal, they represent a small proportion of local revenues overall. The council tax only accounts for 17 percent of total revenues. In short, local authorities depend very heavily on grants and have limited local fiscal autonomy.

1. This report provides financial information for the four international case studies. Unfortunately, it is impossible to compare the information across the cities because sources, definitions, context, etc. are all different. Nevertheless, the information does allow us to provide some notion of the amount of local fiscal autonomy.

SERVICE EXPENDITURES, GREATER MANCHESTER, 2016-17
(THOUSANDS, GBP)

	Ten Local Councils	Greater Manchester Combined Authority	Greater Manchester Fire and Rescue Authority	Greater Manchester Police and Crime Commissioner and Chief Constable	Greater Manchester Waste Disposal Authority	Total Greater Manchester (incl. district councils)	Distribution of Expenditures
EDUCATION	2,111,462	0	0	0	0	2,111,462	42,1
HIGHWAYS/TRANSPORT	60,128	142,313	0	0	0	202,441	4,0
CHILDREN SOCIAL CARE	437,599	0	0	0	0	437,599	8,7
ADULT SOCIAL CARE	665,977	0	0	0	0	665,977	13,3
PUBLIC HEALTH	229,870	0	0	0	0	229,870	4,6
HOUSING SERVICES	62,280	0	0	0	0	62,280	1,2
CULTURAL/RELATED SERVICES	123,691	0	0	0	0	123,691	2,5
ENV'L/REGULATORY PLANNING/DEVELOPMENT	132,734	0	0	0	181,878	314,612	6,3
POLICE	0	0	0	593,591	0	593,591	11,8
FIRE AND RESCUE	0	0	98,962	0	0	98,962	2,0
CENTRAL SERVICES	117,437	566	1,010	163	212	119,388	2,4
OTHER	2,557	0	0	0	0	2,557	0,1
TOTAL SERVICE EXPENDITURES	3,997,832	137,287	99,972	593,754	182,090	5,101,935	100,0
PERCENTAGE OF TOTAL	79,8%	2,7%	2,0%	11,8%	3,6%	100,0%	

Table 04
Source: UK Department for Communities and Local Government, Revenue Outturn (RO) 2016-17

DISTRIBUTION OF REVENUE SOURCES, GREATER MANCHESTER, 2016-17 (%)

	Ten Local Councils	Greater Manchester Combined Authority	Greater Manchester Fire and Rescue Authority	Greater Manchester Police and Crime Commissioner and Chief Constable	Greater Manchester Waste Disposal Authority	Total Greater Manchester
COUNCIL TAX	17,0	0,0	37,2	18,4	0,0	17,4
USER FEES AND LEVIES	6,5	0,0	0,0	0,0	92,3	5,7
INTEREST AND INVESTMENT INCOME	2,2	19,2	0,1	0,1	2,1	2,1
OTHER INCOME	0,3	0,0	4,9	0,4	0,0	0,4
TOTAL OWN-SOURCE REVENUES	26,1	19,2	42,1	18,8	94,4	25,6
TRANSFERS	73,9	80,8	57,9	81,2	5,6	74,4
TOTAL REVENUE	100,0	100,0	100,0	100,0	100,0	100,0

Table 05
Source: UK Department for Communities and Local Government, Revenue Outturn (RO) 2016-17

UNITED KINGDOM LESSONS

The UK case study provides a good example of a highly centralized country with low levels of local fiscal autonomy that is taking modest steps towards decentralization and devolution of powers to local authorities (Slack, 2017; London Finance Commission, 2017). The remainder of this section summarizes the overall findings of the UK case study:

1. The UK has experienced a high frequency of local governance reforms and reversals over the last 50 to 60 years and the process of devolution is still ongoing. Devolution was originally designed to give local authorities greater responsibility for economic development, but was later expanded to include other functions. In 2015, these powers were expanded to include local transport, housing, skills, and health care. Local authorities have also been granted the power to make compulsory land purchases and create mayoral development corporations.
2. Devolution not only involves the transfer of new powers to local authorities in particular policy areas, but also the transfer of additional funds, enhanced power over local taxes, additional taxation powers, and more flexibility for borrowing. It has also meant the creation of combined authorities. A push by the central government for directly elected mayors was a critical part of the devolution process.
3. Devolution is not “one size fits all,” but rather unique deals have been agreed in each local area. Although individual city deals allow local authorities to make deals that reflect their individual needs, the asymmetric nature of these deals means that some local authorities are able to negotiate better deals than others due to greater knowledge and capacity. There has also been an asymmetry with respect to funding. For example, city deals with a strong transportation infrastructure component have generally received more funding than other types of infrastructure.
4. Devolution deals often lack accountability and transparency because they are negotiated between the central government and local authority leaders in private. Although the deals have to be ratified by each council, councillors do not generally have information about the deal until the final document is published.
5. The success of devolution deals, compared to earlier efforts at decentralization, can be attributed in part to the strong bureaucratic and political leadership at the central level. The process was led by the Treasury, which has the clout to lead change, and the initiative was associated with the Chancellor (Randall & Casebourne, 2016). Unlike the city deals that preceded them, the devolution deals also showed that the central government recognized that devolution requires strong local governments.

6. Combined authorities involve a bottom-up procedure initiated by local authorities. Local authorities work together to determine the geographic boundaries and the economic rationale for the creation of a combined authority and are required to follow a set of procedures set out by the central government. Areas with a long history of working together have been most successful at establishing a combined authority. Greater Manchester is an example of a combined authority that had established a good working relationship with neighbouring local authorities over many years (Department for Communities and Local Government, 2017). It is not clear that this model can be easily replicated in other areas with a different history, however.

7. Establishing a combined authority and signing a devolution agreement are linked, but they are separate processes. Nevertheless, the transfer of powers and funding from the central government has happened, in part, because of the strengthening of local authorities through the creation of combined authorities. City and devolution deals in the UK have enabled and encouraged governance reform.

8. Devolution has been justifiably criticized for not going far enough, particularly in granting local authorities the fiscal autonomy to match their expanded service responsibilities (Pipe, 2013). Many devolution deals permit the local retention of central business tax rate growth above an agreed-upon baseline. Elected mayors also have the power to raise a supplement (2p on the pound) on business tax rates subject to an agreement with the LEP. Combined authorities have the power to borrow money under the local government prudential borrowing regime. Tony Travers has argued, however, that all the promises of localism “will come to nothing unless Britain can transfer a significant proportion of tax-raising power away from the Exchequer” (Travers, 2011). The London Finance Commission, an advisory body convened by the Mayor, highlighted London’s low levels of fiscal autonomy compared to other major international cities and recommended new taxation and borrowing powers (London Finance Commission, 2017).

9. Capacity is often an issue for the newly created combined authorities, in part, because the central government does not provide resources for planning, management, or the operating costs of the mayors’ offices (Department for Communities and Local Government, 2017). Rather, it is expected that mayors and combined authorities will share offices and staff with constituent local authorities and use staff from the transport authorities and LEPs.

THE CASE OF NEW ZEALAND

New Zealand is a small, unitary country that is relatively centralized compared to other OECD countries. The country has a two-tier system of local governments, 11 regional councils, and 67 municipalities. With a population of 1.5 million, Auckland is the largest city in New Zealand, accounting for a third of the population of the country. In 2010, the city experienced a major restructuring, when one regional council and seven territorial authorities were merged into the Auckland City Council. Although the creation of the Council added political legitimacy to the process, a more bottom-up approach might have been better at generating political support (especially from the former local authorities) and maintaining greater identification with local communities. The overall impact of the restructuring is mixed. Although it improved transportation and land use planning, it may have reduced the ability of the Auckland Council to be locally responsive because of its size. It is not clear if the efficiency of service provision was improved. Moreover, in the somewhat novel co-governance model, local boards have few powers and no resources of their own and have to rely on the Auckland Council. This brief discussion reviews the history of restructuring reform with a focus on the amalgamation of the city of Auckland in 2010. It emphasizes the process undertaken to implement the amalgamation and the subsequent evaluation of how well it is working.



► View of Auckland harbor - Ronnie Macdonald



► Wind Tree Sculpture, Auckland - D Coetzee









RESTRUCTURING IN NEW ZEALAND

Enid Slack / Gustavo Carvahlo

HISTORY OF RESTRUCTURING REFORM

The first local government body in New Zealand was created in Wellington in 1842, but was abolished shortly thereafter¹. In 1852, the constitution established six provinces which were responsible for setting up their own local governments. By 1867, there were 21 local governments. Responsibility for local governments shifted to the central government in 1876 when the provinces were abolished.

A series of reforms to local government were introduced in New Zealand in the late 1980s and early 1990s. Municipal restructuring was an important part of a reform package that also included the separation of policy-making and policy implementation functions at the local level, a move to privatize local public services, and greater local accountability (OECD, 2017). In 1989, there was a major reform, which included a large restructuring of municipal governments and special purpose bodies. The Local Government Commission did away with most single-purpose bodies by consolidating their powers into 86 new multipurpose authorities. The consolidation reform reduced the number of local bodies in New Zealand from 850 entities (200 local and regional authorities and 650 elected special purpose bodies such as drainage boards, harbour boards, etc.) to 12 regional councils (later reduced to 11) and 75 city and district councils (later reduced to 67). Many of the special purpose bodies were also eliminated at that time. In Auckland, the region's 44 local authorities were merged into 11 and the Auckland Regional Authority (which was the first multi-functional regional body in New Zealand, created in 1963) was succeeded by the Auckland Regional Council and assigned additional functions (Royal Commission on Auckland Governance, 2009). A number of local boards were abolished at the same time. An important point to note is that there was no provision in the legislation for those affected by the consolidations in any part of the country to vote on whether they wanted it or not.

The purpose behind the 1989 restructuring was not only to reduce the number of local authorities, but also to improve the management and technical capacity of the newly created local authorities, create coherent entities for service provision not corresponding to historical communities of interest, create efficient and effective

¹ The information in this paragraph comes from New Zealand Parliamentary Library (2014).

entities as well as multipurpose capacity entities, and create entities that would result in lower costs and potential benefits (OECD, 2017). The Local Government Commission that oversaw the reform was not restricted by existing local authority boundaries. In other words, it could disregard old communities in the restructuring reform. Other local government reforms at the same time were designed to improve local accountability; for example, the move to accrual accounting from cash accounting, the requirement to draft extensive annual plans, the adoption of a new consultation process, and a move to privatization or the creation of public or semi-public corporations (OECD, 2017).

Further reforms were introduced in the Local Government Act (LGA) in 2002 and through successive amendments. In particular, the LGA increased the powers, roles, and responsibilities of local authorities. The LGA increased local autonomy by providing local authorities with the general power of competency (similar to the provisions of the Localism Act in the UK in 2011). Local authorities were free to select the activities that they would undertake, in consultation with the local community. Not unlike city deals in the UK, it has been suggested that the ability of local governments to select what they want to do will result in asymmetries in service provision across local authorities (OECD, 2017). At the same time, new requirements were set up for strategic planning and accountability, as well as communication and coordination across local authorities. A process to resolve inter-municipal conflicts was also established. Amendments were introduced in 2014 to encourage municipal cooperation and shared services between local authorities, along with certain other measures.

PROCESS FOR MUNICIPAL RESTRUCTURING

Since the imposition of restructuring in Auckland in 2010 (see below), the New Zealand government has been hesitant to impose a similar reform on the rest of the country. Nevertheless, it amended the Local Government Act in 2012 to make it easier for local councils to propose a restructuring (Local Government Forum, n.d.). The following sets out the process for municipal restructuring in New Zealand (Local Government Forum, n.d.):

- Local councils send an application to the Local Government Commission, the body responsible for considering reorganizations.
- The Commission decides if the application has sufficient information and determines whether there is community support for the application and if it should proceed.
- The application is made public and alternative applications are solicited.
- The Commission identifies reasonably practicable options, one of which must include the status quo.

- The Commission decides its preferred option and drafts a proposal to be made public.
- Submissions on the proposal are made to the Commission. The Commission considers the submissions and may hold hearings.
- The Commission decides whether a final proposal is to be issued. If yes, it goes to the next step. If no, the application is declined.
- If at least 10 percent of affected electors sign a petition within 60 days of public notification, a poll of electors of the entire affected area is held. A final proposal will be implemented if more than 50 percent of the votes are in favour of the final proposal. If there are fewer than 50 percent of the votes in favour, the status quo continues.
- If there is no petition within 60 days or it fails to get the required signatures, the Commission may go directly to preparing a reorganization scheme. The Commission submits its final proposal to go into effect through an Order in Council.

Unlike the restructuring in Auckland in 2010, as shown below, there is a lot of public input into the restructuring process and, in particular, the public has an opportunity to vote on the proposal.

RESTRUCTURING IN AUCKLAND, 2010

The city of Auckland experienced a major restructuring in 2010. The rationale for the restructuring was that the central government believed that the large number of councils and their difficulty in working well together, combined with a weak regional government with few powers, was compromising the economic success of the city. Fragmentation and lack of engagement from local communities were also cited as reasons for reform (Fathimath, 2017).

The process of restructuring commenced in 2007 when the government set up a Royal Commission on Auckland Governance comprising an appointed Chair and two Commissioners. To provide political legitimacy for the reforms, the central government delegated the authority over the restructuring of local authorities to this independent Local Government Commission that reached across party lines—the Chair of the Commission was in a different political party to the Minister in charge of the reforms. The Commission worked closely with the association of local authorities (Local Government New Zealand) and consulted civil society. The report, entitled “Making Auckland Greater”, led to the introduction of reforms, which were implemented quickly after the report was released. Some commentators have suggested that the speed at which the

restructuring took place may have resulted in less opposition to the change than would have occurred had the process gone more slowly (OECD, 2017).

The two options on the table at the time were (1) the creation of a stronger regional government or (2) an amalgamation of all local councils into one authority. As part of its work, the Commission published a number of research papers, did study tours around the world, and engaged in extensive public consultation. It submitted its report in 2009. The newly elected government subsequently announced the creation of a “super city” to include all of the Metropolitan Area under a single Auckland Council (the second option). In terms of the process for setting up the new authority, there were several pieces of legislation and an Auckland Transition Agency.

With a population of about 1.5 million people, Auckland Council is a unitary authority, created by the merger of one regional council and seven territorial authorities. The new Council combines the functions of the former Auckland regional council and the seven territorial authorities. The single, region-wide unitary authority recommended by the Commission was designed to overcome problems of fragmentation and lack of coordination among the local councils (Making Auckland Greater, 2009).

The governance model for Auckland Council is set out in Figure 2, which shows the unique structure comprising two elected bodies: the governing body, which is responsible for region-wide decision-making, and 21 local boards, which provide input into region-wide matters, address their own particular areas, and provide leadership for communities. The governing body comprises a Mayor elected across the city and 20 councillors (eight elected at large and 12 elected on a ward basis). It focuses on decisions that affect the council area as a whole. The 21 local boards have 149 members in total. Members are elected by voters in each local board area. The boards focus on local issues, activities, and facilities as well as provide input into regional decision-making by the governing body and the Council-Controlled Organisations (CCOs), which are discussed further below. The Independent Māori Statutory Board was created instead of having separate Māori seats on the governing body and is independent of the Auckland Council. It assists the Council in making decisions and performing functions by promoting issues that affect the Māori population (Auckland University of Technology).

GOVERNANCE MODEL FOR AUCKLAND COUNCIL

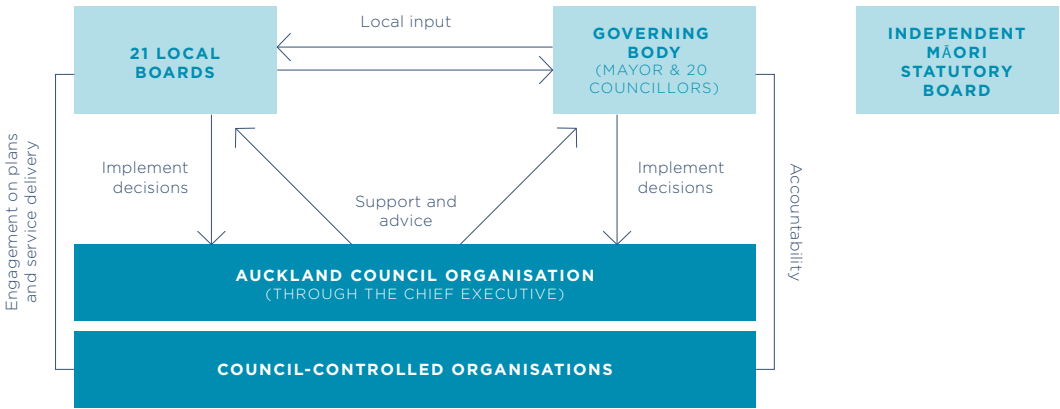


Figure 27
Source: Auckland Council, April 2014, p.1, extracted and adapted from a report commissioned by The Committee for Auckland. The Governance of Auckland: 5 years on, from The Policy Observatory. Auckland University of Technology

The model that was implemented diverged from the recommendations of the Royal Commission in a number of ways. Although the Royal Commission envisaged a unitary council, it recommended the creation of six local councils with powers similar to the existing community boards and functions similar to the existing territorial authorities. In other words, local councils would focus on community engagement and service delivery. The government, however, recommended local boards, which it felt would have a strong local voice and truly local functions (New Zealand Cabinet Office, 2009). The reason for this decision was that the government felt that local councils would not deliver on local preferences and local democracy or provide a coherent allocation of functional roles and responsibilities between the two tiers. It noted that local boards would be smaller and would do a better job of reflecting communities of interest and be more closely connected to their communities (New Zealand Cabinet Office, 2009).

The governing body is responsible for transportation; parks, communities and lifestyle; environmental management and regulation; planning and development; economic and cultural development; governance and support; and water supply and wastewater. Local board responsibilities include local parks, sports, and recreation; local planning and development; local environmental management; and governance and support. Local boards can set policy but do not have staff or operate services.

In terms of funding, a local board agreement is developed each year between the governing body and each local board (Auckland Council Annual Budget 2016/17). The agreement takes account of local board priorities as well as reflecting decisions of

the governing board, such as city-wide priorities, budget constraints, etc. Funding is allocated to local boards through asset-based services (for local activities based on region-wide service levels such as building a new swimming pool or library), locally driven initiatives (allocations based on a formula), and governance services (allocation based on the number of elected members and associated administrative costs of each board) (Auckland Council Annual Budget 2016/17).

Another interesting feature of the new Auckland Council is the transfer of public assets to CCOs for services such as transportation and water. CCOs are organizations in which the council controls at least 50 percent of the votes or has the power to appoint 5 percent or more of the directors or trustees. CCOs are governed by a board of directors or trustees and operate at arm's length from the council.

A “substantive” CCO is either responsible for the delivery of a significant service (such as transportation) on behalf of the Auckland Council or owns or manages assets exceeding NZD 10 million in value. The six substantive CCOs in Auckland are: Auckland Council Investments Limited; Panuku Development Auckland; Auckland Tourism, Events and Economic Development Limited; Auckland Transport; Regional Facilities Auckland; and Watercare Services Limited. As an example, Auckland Transport has taken over all of the transport functions and operations for Auckland. It is responsible for planning and funding public transport, promoting alternative ways of getting around the city, and operating the local road network. It is also responsible for preparing the Regional Land Transport Plan, which sets out the projects and services to be funded by the Auckland Council and the New Zealand Transport Agency. It will also help implement the Auckland Plan. Several issues have been raised with respect to CCOs, including the lack of understanding between municipal councillors and local board members regarding the management, ownership, and governance of CCOs (Fathimath, 2017). In response to these concerns, Auckland Council initiated a review in 2014.

Prior to the introduction of the new Auckland Council, the government appointed an independent Establishment Board to be responsible for the reforms and monitor the activities of the existing councils, which were constrained during the transition period. To support the work of the Establishment Board, a Transition Management Group was created, comprised of the chief executives of the existing councils, Watercare Services Ltd., and Auckland Regional Transport Authority. This group was responsible for managing the day-to-day operations of the councils and implementing change management processes (Auckland Council Annual Budget 2016/17).

After seven years, there is some literature that evaluates the successes and failures of the amalgamation. Some authors, for example, argue that it has created a unified regional vision and more integrated transportation and land use planning for the Metropolitan Area. There is greater clarity about the future direction of the city and improved collaboration across the Metropolitan Area (Fathimath, 2017). On the other hand, it has

been suggested that services have deteriorated and the size and complexity of the new government makes it too centralized and unresponsive to local needs. The sheer size of the council (one government with 8,000 employees) makes it unapproachable and bureaucratic (Fathimath, 2017). Indeed, some of the municipalities on the periphery have shown an interest in leaving the amalgamated city because they feel that all of the focus is on the center. Others have suggested that the CCOs are not sufficiently transparent and, finally, one of the major problems with the Auckland model is said to be the lack of cooperation with the central government, notwithstanding the size of Auckland City.

Local boards have no resources of their own. Staff and advisory services to the local boards are provided by the Auckland Council. This form of co-governance is still evolving as the Auckland Council and local boards figure out who is responsible for which functions (Fathimath, 2017). Nevertheless, it does bring into question the ability of local boards to do anything and may actually hinder collaboration.

MUNICIPAL FINANCES OF AUCKLAND

Tables 6 and 7 set out the expenditures and revenues of the city of Auckland in the budget for 2017-18. Expenditures and revenues include Auckland City as well as the CCOs, associates, and joint ventures. The largest expenditures (both capital and operating) are for transportation, followed by water supply and wastewater, and parks, community and lifestyle.

EXPENDITURES (OPERATING AND CAPITAL), CITY OF AUCKLAND, 2017-18 (NZD)

	OPERATING EXPENDITURES		CAPITAL EXPENDITURES	
	\$millions	%	\$millions	%
TRANSPORT	1.324	34,8	844	41,8
PARKS, COMMUNITIES & LIFESTYLE	578	15,2	279	13,8
ENVIRONMENTAL MANAGEMENT & REGULATION	494	13,0	117	5,8
AUCKLAND DEVELOPMENT	204	5,4	202	10,0
ECONOMIC AND CULTURAL DEVELOPMENT	189	5,0	57	2,8
GOVERNANCE AND SUPPORT	482	12,7	160	7,9
WATER SUPPLY & WASTEWATER	536	14,1	358	17,7
TOTAL EXPENDITURE	3.807	100,0	2.017	100,0

Note: Expenditures are for the Auckland Consolidated Group, which includes the council, its CCOs, associates and joint ventures.

Table 06
Source: Auckland Council Annual Budget, 2017/18. Volume 1.

In terms of revenues, the city relies most heavily on rates (property taxes), accounting for almost 40 percent of total revenues, followed by user fees, and then grants and subsidies. In terms of reliance on grants versus own-source revenues, Auckland appears to have some local fiscal autonomy. In terms of the number of tax sources, however, it can only levy property taxes.

REVENUES, CITY OF AUCKLAND, 2017-18 (NZD)

	\$millions	%
RATES	1.324	34,8
USER FEES	578	15,2
GRANTS AND SUBSIDIES	494	13,0
DEVELOPMENT & FINANCIAL CONTRIBUTIONS	204	5,4
VESTED ASSETS	189	5,0
OTHER REVENUE	482	12,7
FINANCE REVENUE	536	14,1
TOTAL REVENUE	3.807	100,0

Note: Revenues are for the Auckland Consolidated Group, which includes the council, its CCOs, associates and joint ventures.

Table 07
Source: Auckland Council Annual Budget, 2017/18. Volume 1.

The **Auckland merger** improved its ability to plan for a regional approach **integrating planning and transport infrastructure**.

NEW ZEALAND LESSONS

The restructuring of Auckland in 2010 suggests the following:

1. The role of an independent commission to study metropolitan governance in Auckland and make recommendations for reform was considered important to the success of the reform. It established political legitimacy for a process that was independent from the central government. Nevertheless, a more bottom-up approach might have generated greater political support, especially from the former local authorities, and helped to maintain greater identification with local communities. There was no opportunity for the community to vote on whether they wanted the amalgamation or not. The restructuring process introduced in 2012, however, allows for a public vote.
2. Municipal restructuring reform was part of a package of reforms to local authorities that was designed to improve the efficiency and accountability of local governments. In other words, it was not a stand-alone reform.
3. Studies suggest mixed results about whether restructuring increased the efficiency of service provision either by reaping economies of scale or improving technical efficiency.
4. It has been suggested that the amalgamation of Auckland improved its ability to conduct regional planning and have a more cohesive approach to planning and transportation infrastructure. The city also has greater resources with the unified tax system.
5. Some have argued that the municipal restructuring in Auckland has created a city that is too big to be locally responsive, however. Moreover, in the somewhat novel co-governance model, local boards have few powers and resources. Some local boards, particularly on the outskirts of the city, have suggested that they would like to de-amalgamate.
6. Others have suggested that the outsourcing of functions to non-elected CCOs has significantly reduced transparency in decision-making.

CASE STUDY: COLOMBIA

Colombia is a unitary country that is facing the consequences of fast-paced and unplanned urban growth, resulting in the concentration of population and economic activity in a few major cities. It has a complex governance structure comprising three levels: the national government, departments, and municipalities. It has 32 departments, 7 districts (the most important being the capital district of Bogotá) , and more than 1,000 municipalities. Colombia's experience with decentralization and the creation of Metropolitan Areas (going back to 1980) has resulted in more powers for municipalities. However, fiscal decentralization has lagged the transfer of functions from the national government to municipalities and Metropolitan Areas. Metropolitan Areas in particular are characterized by a lack of funding, insufficient institutional capacity, and low levels of political participation. The process of decentralization has mainly been directed from the top down, particularly with respect to fiscal autonomy, but it did not preclude the creation of voluntary or bottom-up governance arrangements. It is not clear whether these voluntary forms of association will weaken Metropolitan Areas or serve as a stepping stone towards a more formal metropolitan governance model.

This brief discussion reviews the history of decentralization in Colombia and the country's current institutional framework, focusing on metropolitan areas and the current legal process for their creation.





► La Caldelaria, Bogotá - Reg Natarajan







► Bicentenario Park, Medellín - Iván Erre Jota



DECENTRALIZATION IN COLOMBIA

Enid Slack / Gustavo Carvahlo

OVERVIEW OF THE DECENTRALIZATION PROCESS IN COLOMBIA

Although a detailed description of the process of decentralization in Colombia is beyond the scope of this report, the existing metropolitan governance arrangements in Colombia are a direct consequence of decentralization. In other words, it is hard to imagine the creation of Metropolitan Areas in Colombia without such a process. This section provides a brief overview of decentralization and its main milestones. It is important to note that the decentralization process in Colombia was mainly directed from the top and was implemented in a trial and error fashion, with phases marked by increased decentralization followed by attempts at recentralization (OECD, 2013). Nevertheless, its top-down nature, particularly with regard to fiscal autonomy, did not preclude the creation of voluntary or bottom-up governance arrangements. Metropolitan Areas and associations of municipalities form an important part of that space.

The first attempts at decentralization in Colombia were in the late 1960s, with the enactment of a law mandating the national government to share revenue with sub-national governments. The process intensified in the 1980s following a wave of popular protests demanding an increase in the quantity and quality of public services from the Colombian state (Sanín, 2010; OECD, 2013). Mayoral elections were introduced in 1986 (Sanín, 2010). Coincidentally, the World Bank and other international organizations played an indirect role in the process of decentralization in Colombia and other Latin American countries by supporting decentralization as a way to increase efficiency in the provision of public services at the local level (Sanín, 2010).

The Colombian constitution of 1991 deepened the process of decentralization and enshrined the political autonomy of local governments in the constitutional text, introducing elections for departmental governors and creating or elevating to a constitutional level a host of local/regional governance entities and forms of association (Díaz et al., 2011; Nisimblat, 2010; OECD, 2013; and Sanín, 2010). The constitution also created a system for the sharing of royalties (Sistema General de Regalías, SGR) and established a formal system with mandatory levels of fiscal transfers to local governments.

The international financial crises of the late 1990s and early 2000s motivated the national government to enact a “fiscal responsibility law” (law 617/2000) and to create a General System of Transfers (SGP, by its acronym in Spanish), which replaced the

previous fiscal transfer system (Sanín, 2010; Nisimblat, 2010; OECD, 2013). According to some critics, these measures represented the “recentralization” of Colombia, mainly due to the reversal of the fiscal decentralization set out in the constitution. The SGP is seen as a tool used by the central government to limit the level of transfers to local governments and, thus, to control its own budget deficits; these critics also point out that the SGP prioritizes few sectors (mainly healthcare, education, and basic sanitation infrastructure) and restricts the ability of local governments to set their own priorities (Nisimblat, 2010). By curbing expenditures at all levels of government, the fiscal responsibility law strengthened the pull of the policies set nationally through the SGP (Nisimblat, 2010).

Notwithstanding the problems with the SGP, local governments in Colombia generally have low revenue capacity and rely on transfers from the central government (whether through the SGR, the SGP, or both). The fiscal weakness of local governments and governance arrangements predates the SGP or the fiscal responsibility law. Some critics argue that the central government failed to address this weakness because it failed to help local governments develop their own service provision capacity (OECD, 2013; Sanín, 2010).

THE CURRENT INSTITUTIONAL FRAMEWORK

The process of decentralization in Colombia opened the space for bottom-up and voluntary forms of association, such as the creation of Metropolitan Areas and associations of municipalities (Díaz et al., 2011). These governance forms are prescribed in the Colombian constitution and regulated by the Territorial Organization Law (Ley Orgánica de Ordenamiento Territorial, LOOT) and specific laws and regulations.

Departments, districts, and municipalities are still the most important forms of local government. In legal terms, these entities possess three characteristics that distinguish them from other governance arrangements: they are self-governing (political element); they have the competency and autonomy to act within their own jurisdictional limits (administrative element); and they have the right to receive transfers from the national government and, within constitutional and legal limits, to create and collect their own taxes (fiscal element) (Díaz et al., 2011).

Municipalities were the main beneficiaries of the decentralization process. In principle, all municipalities have the same responsibilities and powers; they can collect their own taxes and their tax base, broader than that of departments, includes a property tax and a business tax (impuesto de industria y comercio), which is a tax on commercial and industrial activity. They are also responsible for public works and the provision of most services at the local level, even if in practice they may not have the capacity to provide them in the required quantity or quality.

The Colombian system allows for different treatment of municipalities based on their characteristics or capacity. Article 320 of the constitution states that the national

government may create special administrative regimes for municipalities based on their distinctive characteristics (population size, fiscal resources, economic importance, and geographic location) although none have been created so far (Bogotá and other districts have their own administrative regimes). Finally, the central government does take the different needs and characteristics of municipalities into account when providing financial support in the form of equalization transfers and special development funds (Colombia, 2011). For example, the SGR shares royalties among municipalities and departments by means of sectoral and development funds that give priority to less developed areas (Díaz et al., 2011; Nisimblat, 2010; OECD, 2013).

Districts are a special case. They are two-tier systems that combine the characteristics of departments and municipalities. Each district has its own special administrative regime. Bogotá is the most important district and it has considerable fiscal autonomy. Box 2 provides details that may be of interest in the Chilean context in view of the similar importance that Santiago has as the political and economic center of Chile, along with its legal status as a regional government. Figure 64 provides a simplified overview of the district's administrative organization.

Bogotá, Distrito Capital

The District of Bogotá is a two-tier system. The Superior Mayor of Bogotá (Alcalde Mayor) and the district council (Consejo Distrital) function as the executive and the legislative branches, respectively, at the district level. Both are popularly elected. Districts are further divided into different localities (localidades), each with its own local Mayor (Alcalde Local) and council (Junta Administradora Local). The members of the local councils are elected, while the local mayors are appointed by the Superior Mayor from a list of potential candidates prepared by the local councils.

Expenditures in 2015 were COP 11.6 billion, with approximately 16 percent pertaining to general government and operations and 82 percent pertaining to capital investments (Bogotá, 2016). Of the total capital investment, 50.5 percent represent direct investments by Bogotá and 49.5 percent were transfers to local agencies or other entities for investment purposes (Bogotá, 2016). The biggest transfer was for Transmilenio, the public transit system in the capital, which received 23.8 percent of the total (COP 1.1 billion) (Bogotá, 2016).

Total revenues in 2015 were COP 10 billion, with 61.5 percent corresponding to tax revenues and approximately 21 percent corresponding to transfers (Bogotá, 2016). Bogotá can collect different taxes, including a property tax, a business tax, a vehicle tax, a renovation and building tax (tied to construction licenses), a surtax on gasoline, a tax on imported cigarettes, and a beer tax. Bogotá can also borrow within the limits set by the fiscal responsibility law.

SIMPLIFIED SUMMARY OF THE ADMINISTRATIVE ORGANIZATION OF BOGOTÁ

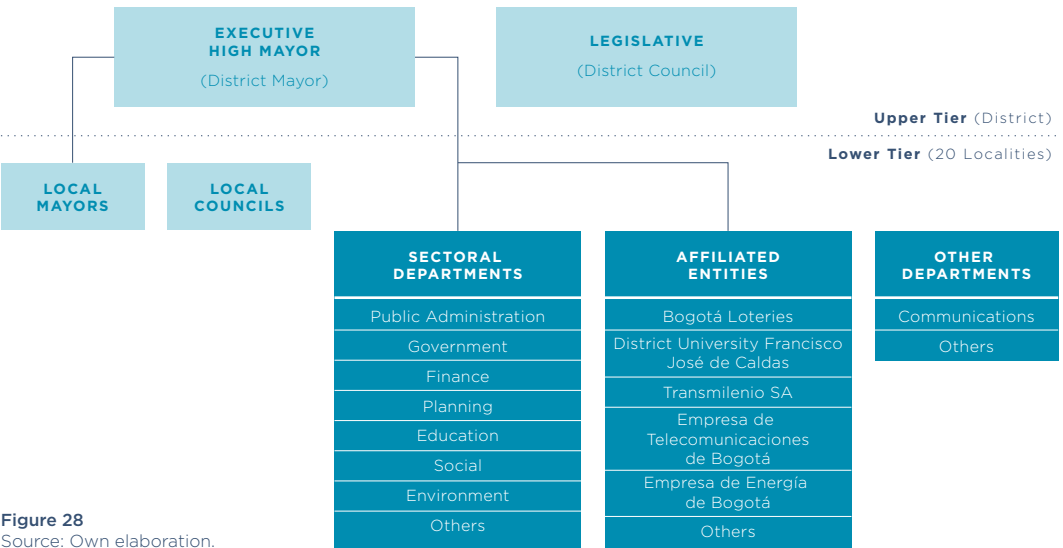


Figure 28
Source: Own elaboration.

Tables 8 to 11 also show expenditures and revenues for Bogotá in 2015. The capital relies most heavily on the business tax and on the property tax, both representing approximately 78 percent of its tax revenues in 2015. Moreover, own-source revenues made up two thirds of its total revenues, with only 21 percent coming from transfers from the central government. It should be noted that since Bogotá is the capital of Colombia and the rules may change for each district depending on its administrative regime, it is difficult to generalize any comments on fiscal autonomy to other contexts.

BREAKDOWN OF EXPENDITURES, DISTRICT OF BOGOTÁ, 2015

Expenditures

SECTOR/FUNCTION	%
DIRECT INVESTMENTS	41,0
TRANSFERS FOR INVESTMENT	41,0
OPERATING EXPENDITURES	16,0
INTEREST PAYMENTS	1,0
OTHER CURRENT EXPENDITURES	1,0

Table 08
Source: Bogotá DC, 2016, p. 39.

BREAKDOWN OF CAPITAL EXPENDITURES BY SECTOR/FUNCTION, DISTRICT OF BOGOTÁ, 2015

Direct Investments

SECTOR / FUNCTION	%
SECRETARY OF EDUCATION	61,3
SECRETARY OF SOCIAL INTEGRATION	20,4
OTHER	18,3

Table 09
Source: Bogotá DC, 2016, p. 42.

DISTRIBUTION OF REVENUE SOURCES, DISTRICT OF BOGOTÁ, 2015

Revenues

TYPE	%
TAX REVENUES	61,0
TRANSFERS	21,0
CAPITAL INVESTMENTS	12,0
NON-TAX REVENUES	6,0

Table 10
Source: Bogotá DC, 2016, p. 31.

METROPOLITAN AREAS

Metropolitan Areas are described in the constitution and mainly regulated by the Metropolitan Areas Law (law 1,625/2013). There are currently six Metropolitan Areas in Colombia, defined as governance entities created by two or more municipalities that are physically, economically, and socially linked, but which may not be located in the same department. The most developed and economically prominent municipality in the area must become its metropolitan center.

Metropolitan Areas are governed by a collegiate body called the metropolitan board (Junta Metropolitana). The board comprises the mayors of each municipality in the Metropolitan Area, a representative from the municipal council of the main municipal center, a representative from the municipal councils of the other municipalities in the Metropolitan Area (to be elected from among their respective presidents), a representative from the central government (who has no voting rights), and a representative elected from among non-profits and civil society organizations dedicated to environmental issues. The Mayor of the main metropolitan center, also known as the “Metropolitan Mayor” (Alcalde Metropolitano), is the chair of the metropolitan board. The board may invite other observers, if and when necessary.

Metropolitan Areas can perform the following functions:

- Planning and coordinating metropolitan development in accordance with national plans (through the creation of a Metropolitan Development Plan, or Plan Integral de Desarrollo Metropolitano)
- Creating and implementing a Metropolitan Land Use Plan (Plan Estratégico Metropolitano de Ordenamiento Territorial), ensuring coordination between the different municipal land use plans
- Formulating regional mobility policies, and designing and implementing regional mass transit plans
- Designing and implementing plans for the creation and preservation of green and public spaces
- Rationalizing the provision of public services (including by directly or indirectly providing services, through publicly-owned companies or private concessionaries)
- Managing and conducting infrastructure work in the metropolitan interest
- Acting as the environmental authority/regulator in the metropolitan territory
- Acting as the transit authority and determining transit tariffs in their territory

Although limited, metropolitan regions in Colombia have clear revenue sources and expenditures. They have the right to collect a special surtax of 0.002 percent on the assessed value of the real estate located in their territory (also referred to as an “environmental surtax”, a term that reflects the main role Metropolitan Areas play in environmental regulation and oversight). They also receive transfers from municipalities

(and other entities) and may collect charges and fees related to the use of renewable natural resources in their territory, betterment levies (contribuciones de valorización), user fees, other fees related to the operation of mass transit, rents from their own assets, fees related to any services they provide to residents, and a land value capture tax (plusvalía). The agreement that creates the Metropolitan Area must specify the contribution of each municipality. It is binding and municipalities must provide for the transfers in their own budgets. Metropolitan Areas can also borrow in capital markets.

Metropolitan Area of the Aburrá Valley

The Metropolitan Area of Aburrá (Área Metropolitana del Valle de Aburrá) includes the city of Medellín (the metropolitan nucleus) plus nine municipalities. It was the first Metropolitan Area in Colombia and its original purpose was to support land use planning throughout the region. Over time, it incorporated other functions, particularly in relation to environmental and transit regulation and oversight (Aburrá, 2016).

Aburrá does not use all of the powers assigned to Metropolitan Areas by the law. Its mandate is restricted to land use planning and coordination, acting as the environmental and transit authority in the Metropolitan Area, and managing and conducting infrastructure work in the metropolitan interest.

The main revenue source for Aburrá is the 0.002 percent environmental surtax, corresponding to approximately 46 percent of its total revenue in 2016 (Aburrá, 2016). Municipal transfers amounted to approximately 23 percent of the total, with the rest being comprised by fees, fines, capital gains, and others types of income (Aburrá, 2016). Medellín, the metropolitan center, was responsible for 83 percent of the transfers in 2015 (Aburrá, 2016).

Operational costs and capital investments represented respectively 15.44 percent and 80.06 percent of the total expenditures in 2016, respectively. Aburrá’s capital spending is concentrated in three major areas (Aburrá, 2016):

- Territorial planning and development (approximately 35 percent of the total)
- Environmental management and risk control (approximately 34 percent of the total)
- Public transit, mobility, and metropolitan connectivity (approximately 22 percent of the total)

The proceeds collected by the environmental surtax have to be invested in environmental projects and policies, limiting Aburrá’s range of activities. The proceeds from municipal transfers can be used for other projects (Aburrá, 2014).

SIMPLIFIED SUMMARY OF ADMINISTRATIVE ORGANIZATION OF ABURRÁ

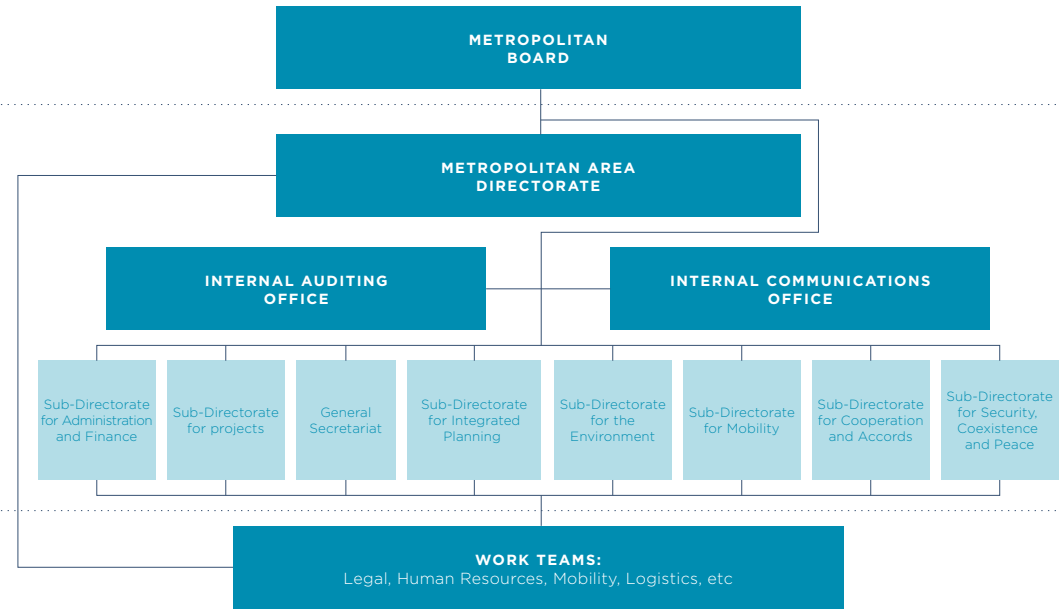


Figure 29
Source: Own elaboration.

PROCEDURE FOR THE CREATION OF METROPOLITAN AREAS IN COLOMBIA

Although citizens and local governments can take the initiative to create Metropolitan Areas in Colombia, they must follow the procedures prescribed by the Metropolitan Areas Law. Ultimately, the Colombian Congress has the final say in authorizing the creation of new Areas.

- Metropolitan Areas can be created at the request of the mayors of the respective municipalities, one third of their councillors, 5 percent of their voters, or the Governor(s) of the department(s) where the municipalities are located.
- The interested parties must present a project describing, at a minimum, the municipalities that will be part of the Metropolitan Area, the municipality that will become the metropolitan center, and the justification for its creation.

- The project must then be sent to the National Civil Registry, which verifies whether it fulfills the legal requirements.
- If it does, the next step is a popular referendum in which the creation of the Metropolitan Area must be approved by a majority of the voters in each affected municipality with at least 25 percent voter turnout.
- The mayors and the presidents of the municipal councils then sign the act for the creation of the Metropolitan Area and submit the documents to a special commission of the Colombian Congress which will analyze whether its creation is justified, as well as other aspects of its organization.
- New municipalities may be annexed to the Metropolitan Area at the request of their Mayor(s), the president(s) of their municipal councils, one third of their councillors, or 5 percent of their voters. The proposal must be approved by a majority of the voters in each municipality with at least 5 percent turnout.
- Metropolitan Areas may be converted into districts with the approval of a majority of the voters in each municipality with at least 25 percent voter turnout. In a district, municipalities lose their territorial status (their status is “demoted” to that of localidades). Districts, and their relationship with the localidades, must follow the same rules applicable to Bogotá.

MUNICIPAL ASSOCIATIONS

Municipalities and Metropolitan Areas in Colombia may create their own associations (Diaz et al., 2011; OECD, 2013). Two or more municipalities situated in one or more departments may sign an association agreement in order to provide public services, make capital investments, and carry out administrative functions in common. They require coordination and the integration of the respective municipal development plans into a common development framework.

Associations of municipalities have their own legal personality and assets, and have the same rights and privileges conferred to municipalities under Colombian law. They have a flexible governance structure, with at least a general assembly, an administrative board appointed by the general assembly, and an executive director appointed by the board. Associations of Metropolitan Areas follow the same rules.

Finally, local governments may also enter into contracts and agreements called *Contratos-plan* and *Acuerdos para la Prosperidad*, (OECD, 2013) and territorial pacts and alliances (OECD, 2013). Those contracts and agreements effectively bypass the formal governance structures created by the constitution, the LOOT, and other laws, promoting ad hoc cooperation between the national government and specific sub-national entities

for the delivery of services to a specific region or local community. They are public agreements and are the subject of consultations with local stakeholders. Territorial Pacts and Alliances are instruments that promote coordination between sub-national governments without requiring the creation of new institutional arrangements. They are also ad hoc arrangements and bypass the formal governance structures created by the constitution, the LOOT, and other laws.

SPECIAL PURPOSE BODIES - THE EXAMPLE OF TRANSMILENIO

Transmilenio (the first Bus Rapid Transit system in Colombia) is an interesting example of the transfer of some functions from the national government to local governments through the creation of a special purpose body. Transmilenio is credited with decreasing average travel time by 32 percent, increasing property values between 15 and 20 percent, increasing tax revenues, and improving health and safety (reductions in traffic fatalities and lower emissions and pollution) (SUSC, 2012; Turner, Kooshian, & Winkelman, 2012). Although it was initially hailed as a success story, it has been the focus of increased criticism and some legal problems with the bus operators (Transmilenio, 2017).

Transmilenio was implemented in the broader context of the Colombian National Urban Transport Program (NUTP), which promoted mass transit and integrated transportation systems in the larger Colombian cities (Turner, Kooshian, & Winkelman, 2012)¹. Political leadership was also important in its initial phase; some analyses of Transmilenio credit Bogotá's Superior Mayor Enrique Peñalosa (1998-2001) with a crucial role in quickly implementing phase 1 of the system (SUSC, 2012; Turner, Kooshian, & Winkelman, 2012). Nevertheless, leadership can also be detrimental to the future development of a mass transit system, particularly when succeeding local governments are politically opposed and are unwilling to further a project that is associated with a previous administration (Turner, Kooshian, & Winkelman, 2012).

A crucial element of the NUTP is its co-financing of transit infrastructure, with the national government responsible for between 40 and 70 percent of the financing (Turner, Kooshian, & Winkelman, 2012). However, the first phase of Transmilenio was funded by a 25 percent fuel surcharge (amounting to 46 percent of the investment), local revenues (28 percent), a grant from the national government (20 percent), and a loan from the World Bank (6 percent) (SUSC, 2012; Turner, Kooshian, & Winkelman, 2012). Interestingly, the project has been able to sell carbon certificates (Voluntary Emission Reductions and Certified Emission Reductions) and was the first mass transit system to be registered with the UNFCCC Clean Development Mechanism (Turner, Kooshian, & Winkelman, 2012).

The system is structured as a public-private partnership (PPP). Responsibilities are divided as follows (SUSC, 2012; Turner, Kooshian, & Winkelman, 2012):

¹ Its initial plan included a subway system that was never built.

- The government is responsible for delivering the transit infrastructure (bus stations, dedicated bus lanes, etc.). The Urban Development Institute, an agency of the government of Bogotá, is responsible for the construction work (SUSC, 2012), but different district and national ministries and entities are also involved in both planning and investing (SUSC, 2012).
- Transmilenio S.A. is the manager of the system. It operates the system's control center, awards contracts to private bus operators, and has monitoring/oversight responsibilities.
- Private companies buy and operate the buses, hire and manage the drivers, and collect fares (trunk operators and feeder line operators are remunerated in different ways).

As part of the NUTP, the national government must also assist and train local governments to create capacity so that they can take responsibility for planning, managing, and regulating transit and traffic at the local level (Turner, Kooshian, & Winkelman, 2012).

COLOMBIA LESSONS

1. The process of decentralization privileged municipalities, weakening departments. Yet, it transferred the provision of services equally to all municipalities, independent of their institutional capacity. The central government has failed to help local governments to develop their own service-provision capability and capacity has remained an issue.
2. Metropolitan Areas and municipal associations in Colombia struggle to be effective. They are characterized by a lack of funding and financing, insufficient institutional capacity, and low levels of political participation. Metropolitan Areas may collect the property tax surcharge and receive transfers from municipalities, but these funds may not be sufficient to pay for bigger, more expensive investments in public transportation.
3. There is some flexibility built into the system (e.g. municipal associations). It remains to be seen, however, whether voluntary forms of association will weaken Metropolitan Areas or serve as a stepping stone towards a more formal metropolitan governance model.
4. The current framework for transfers (SGP and SGR) concentrates more power in the national government. Sub-national entities would benefit from more revenue sources at their disposal.

THE CASE OF SOUTH KOREA

South Korea is a unitary, centralized country in the early stages of decentralization. Centralized control is reflected, at least to some extent, in planning and policy-setting for transportation, which remains a central government role, and in public transit, which is heavily subsidized by earmarked grants from the central government. The process of decentralization is ongoing, but fiscal decentralization has not advanced very far. Local government associations and administrative sub-units struggle to be effective and have pressed for more fiscal and administrative autonomy from a central government that only allowed for directly elected mayors in 1995. The country has a history of treating different local authorities differently, based on population size. For example, there is tension between sending central government resources to Seoul—the “special city” that concentrates 20 percent of the population and generates nearly 24 percent of the country’s GDP—versus other regions of the country. Public participation is limited, but Seoul is experimenting with some innovative e-government tools for civic participation.



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REGIONAL DEVELOPMENT IN SOUTH KOREA

Enid Slack / Gustavo Carvahlo

OVERVIEW OF THE DECENTRALIZATION PROCESS IN SOUTH KOREA

The process of decentralization started in the late 1980s and continued into the early 1990s, in the wake of the larger movement pushing for the end of the military regime and the democratization of South Korea (Choi, Choe, & Kim [n.d.]; Snyder et al., 2012). The first decentralization measures introduced local autonomous councils and elections for local positions (councillors and heads of government, such as Provincial governors and city mayors); mayoral elections were introduced in 1995 (Choi, Choe, & Kim [n.d.]; Snyder et al., 2012). Cities that had the status of “directly governed cities” at the time (Busan, Daejeon, Incheon, Gwangju, and Ulsan), along with Seoul, were elevated to the status of metropolitan cities (OECD, 2015). After repeated criticism from experts and local governments about the pace of decentralization, the South Korean government created a “Presidential Commission for Decentralization” in 1999 and passed an act for the “Promotion of Decentralization” in 2004 (Choi, Choe, & Kim [n.d.]).

Notwithstanding these efforts, however, decentralization remains very limited in scope (Choi, Choe, & Kim [n.d.]). The national government is the dominant actor in the Korean administrative framework (OECD, 2005). Relations between the upper and lower levels of government remain hierarchical (OECD, 2005; Snyder et al., 2012) even in metropolitan cities. As the OECD has noted, “[...] like the administrations in the hierarchy above them, mega-cities tend to be less enthusiastic about decentralisation when it means devolving authority or finance to the administration within them” (2005, p. 124). Even with some measure of decentralization, the central government still has power and influence over local governments (Choi, Choe, & Kim [n.d.]). Local government associations and administrative sub-units also struggle to be effective. Public participation is limited, even at the neighborhood level, although there are formal mechanisms for public participation and local governments such as Seoul are beginning to explore civic ways to incentivize participation through websites, social media, and mobile apps.

THE CURRENT INSTITUTIONAL CONTEXT

In South Korea, the constitution and the Local Autonomy Act of 1949 (the “LAA”) set the ground rules for the functioning of local governments. All local governments have a “chief executive-council” administrative structure (a Governor in the case of the provinces, a Mayor for the metropolitan cities and other lower-level units). The chief executive officer is popularly elected for a four-year term with a limit of three terms; a majority of the councillors at all levels are also elected, while a number of seats are reserved for “proportional representatives” from opposition parties (Choi, Choe, & Kim [n.d.]).

Local governments in general perform functions that are local in nature, and any other functions delegated by the central government (Choi, Choe, & Kim [n.d.]). Local functions include:

- Functions pertaining to the territorial organization and administration of local governments
- The promotion of the welfare of residents
- Local and regional development
- The construction and management of environmental facilities
- Education and the promotion of cultural or artistic activities
- Civil defense and fire protection services

According to the LAA, provinces and metropolitan cities have important powers of coordination across their territories; they are the intermediaries between lower-local level governments and the national government; they have jurisdiction over “issues” that must have the same standard or must be uniformly managed in more than one lower-local level government; and they have the power to build and manage facilities that cover two or more lower-local level governments (Choi, Choe, & Kim [n.d.]). However, the LAA also restricts local autonomy by reserving to the central government the power to perform or control any local function if any law describes them as a function of the central government, something that is frequently done (Choi, Choe, & Kim [n.d.]). For example, the central government may suspend or revoke local decisions (Choi, Choe, & Kim [n.d.]). Another problem is the overlap between local government levels; according to Choi, Choe, and Kim, “the scope of responsibilities among [upper and lower-level local governments] is blurred and complex” (n.d., p. 30).

Figure 30 shows how history is reflected in practice in a relatively complex taxonomy of local governments and different administrative subunits, although the potential benefits of that differentiation are silenced by the predominance of the central government and the lack of autonomy of the levels of administration.

SOUTH KOREA SYSTEM OF LOCAL SELF-GOVERNMENT

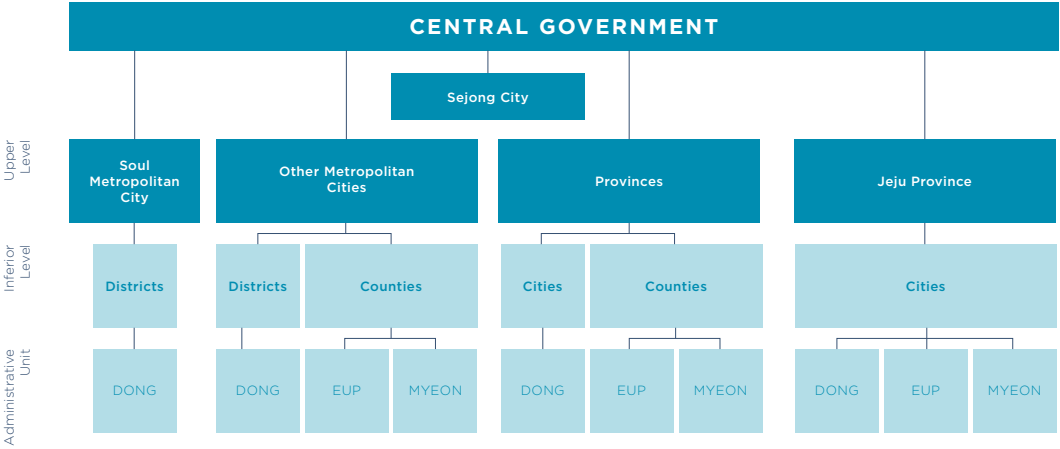


Figure 30
Source: (Choi, Choe and Kim s.f., p 24).

MUNICIPAL FINANCES IN SOUTH KOREA

From a fiscal and administrative perspective, there is a clear difference between the metropolitan cities (including Seoul), which have more fiscal autonomy and benefit from more sources of revenue, and the other cities in South Korea (OECD, 2005). Indeed, there is a clear fiscal benefit to being a metropolitan city. While regular cities are confined to six taxes, metropolitan cities are assigned 13 different taxes, four of which are earmarked for specific purposes, such as the regional education tax (OECD, 2005; 2017). The other nine include property taxes, different types of excise taxes, and a motor fuel tax (OECD, 2005). An interesting feature of the South Korean tax system is that the central government also sets the range of acceptable tax rates for the majority of local taxes. Local governments have the option of adjusting the effective rate up to a maximum of 50 percent of the base rate, although in practice not all of them make use of this option (OECD, 2005).

Among the metropolitan cities, Seoul enjoys a higher level of fiscal autonomy (OECD, 2005), although the degree of autonomy has been a constant source of tension with the central government. The dependence of Seoul (and other Metropolitan Areas) on property and property-based taxes is seen as a vulnerability, although the alternatives are politically sensitive. For example, if Seoul were to receive a share of VAT or income tax, such a move could undermine the regional development strategy of the central government, as the capital city concentrates the majority of the economic activity in the country (OECD, 2005). Moreover, Seoul is so far the only city in South Korea that has experimented with congestion charges; it created such charges for two urban tunnels in 1996, but has not expanded the system since then (OECD, 2017).

Table 12 shows a breakdown of expenditures in Seoul by function. By far, the largest expenditures are for social welfare and education, together accounting for 60 percent of expenditures.

BREAKDOWN OF EXPENDITURES BY FUNCTION, METROPOLITAN CITY OF SEOUL, 2017

Expenditures

SECTOR / FUNCTION	%
SOCIAL WELFARE	34,0
EDUCATION	26,0
ROADS AND TRANSPORTATION	8,0
ADMINISTRATIVE EXPENSES	7,0
PARKS AND ENVIRONMENT	7,0
PUBLIC SAFETY	5,0
FINANCIAL ACTIVITIES	4,0
CULTURE AND TOURISM	3,0
INDUSTRIAL ECONOMY	2,0
GENERAL ADMINISTRATION	2,0
URBAN PLANNING AND HOUSING	1,0
CONTINGENCIES	1,0

Table 12
Source: Seoul Metropolitan Government, 2017.

The central government is in charge of planning and policy-setting in different areas (Kim, 2014). Through the Ministry of Land, Infrastructure and Transport, it is responsible for setting urban and transportation policies (OECD, 2017). For environment and green growth, strategic planning is also concentrated at the national level; according to Kamal-Chaoui et al., “the role of sub-national governments has primarily been to comply with the instructions of the central government to implement local green growth projects with considerable, if not exclusive, financial support

of the central government” (2011, p. 39). The main exception is Seoul, which also has devised a set of green growth and environmental policies, such as improvements to the public transit system, acquisition of electric buses and hybrid taxis, and subsidies for motorists driving electric cars (Kamal-Chaoui et al., 2011). Even so, the green growth action plans of metropolitan cities and provinces must be approved by a national body, the Presidential Committee on Green Growth (Kamal-Chaoui et al., 2011). Local governments are responsible for managing the provision of services such as transit, but even then they usually rely on financial subsidies to cover operational costs (Kamal-Chaoui et al., 2011).

Local governments, and even the metropolitan cities, are dependent to a considerable extent on fiscal transfers from the central government. These transfers include a local shared tax (a national equalization scheme to equalise vertical and horizontal imbalances according to an equalisation formula), national subsidies (conditional grants provided in support of local and national projects, but focusing on health care and financial assistance for low-income households), and a local transfer fund, also dedicated to fund projects by the central government (OECD, 2005).

The OECD estimates that the independent revenues of local governments comprised, on average, between half and two thirds of their total revenues in 2004, while the remainder consisted of different types of grants and subsidies (OECD, 2005). There are also disparities among local governments. Seoul and other metropolitan cities have access to a broader range of fiscal resources and also transfer resources to their administrative sub-units. Most provinces, however, rely on the central government for two-thirds to three-quarters of their budgets (OECD, 2015); similarly, non-metropolitan and smaller cities may depend more on the central government or on the provinces (Jong-seok, 2016). In other words, South Korea is characterized by a low degree of fiscal autonomy at the local level, but metropolitan cities do have more revenue options under their control than regular cities.

Public transit is heavily subsidized, with funding coming mostly from earmarked grants from the central government or direct subsidies provided by public companies (Kim, 2014). For example, funding for the construction of subway lines in metropolitan cities is usually split between the central government, which provides 60 percent of the funding, and the local government, which must co-finance the rest. Seoul is an exception, with a 40/60 percent breakdown (Kamal-Chaoui et al., 2011).

Metropolitan City of Daejeon

Daejeon is a metropolitan city that illustrates the horizontal disparities currently existing in South Korea. It is a major road and rail intersection located at least two hours away from anywhere in the country. However, it suffers from traffic congestion problems and inadequate public transit. Indeed, the city has the second-lowest use of public transit in South Korea, with only 15 percent compared to 54 percent for car use (OECD, 2015). Transportation links to neighboring cities are underdeveloped and there is no coordination mechanism for the harmonization of tariffs (OECD, 2015). One of the main obstacles to the improvement of transit is Daejeon's relatively low level of fiscal autonomy. Recently, it had to suspend its plans to build a second subway line in the city in favor of light rail, and the project is still being funded mostly by the central government pursuant to the 60-40 percent formula (meaning that Daejeon is responsible for 40 percent of the funding for the project).

The Bus System in Seoul

In 2004, Seoul introduced changes to its bus system by adopting a public-private partnership model for the operation of bus routes. The system was later replicated in other five Korean metropolitan cities (OECD, 2017).

The bus system in South Korean cities was completely privatized; the role of the public sector was limited to distributing licenses for the routes and setting tariff ranges (OECD, 2017). In practice, private bus operators had monopoly rights to the lines they operated (OECD, 2017). In the 1990s, in response to growing deficits experienced by bus operators and deterioration in the quality of the service, governments started subsidizing the companies (OECD, 2017). Thus, the 2004 reforms did not revolutionize public transit in Seoul but fine-tuned the existing system, achieving a compromise that was acceptable to the major stakeholders.

The city government agreed to compensate bus operators for their operating costs in exchange for having more planning and management authority over the routes (OECD, 2017). These costs are calculated by the metropolitan government as a way to incentivize operating efficiency in the companies. In addition, any routes created after 2004 are licensed to operators through a bidding process for a six-year term and are property of the city, not the companies operating them (OECD, 2017). Revenues are collected in a metropolitan fund and distributed to operators according to the number of vehicles used and the distance travelled (OECD, 2017). The new system also added an incentive mechanism for the better operators (an extra share of the total revenue).

SEOUL VERSUS OTHER CITIES

It is important to note that the South Korean government has for decades pursued a development policy that attempts to shift economic growth away from Seoul. This official policy may be of interest in the context of Chile, especially in view of the economic and political weight of Santiago as the capital region in the country. In South Korea, the central government places restrictions on the creation of new businesses and building projects in Seoul. The first measures were introduced in the 1960s and included the relocation of government institutions and university branches to other cities, as well as financial incentives for firms to relocate (OECD, 2005). Today, the Capital Region Readjustment Planning Act of 1982 is one of the main legal instruments underlying the policy of regional balancing. It divides the Metropolitan Area into three zones: a congestion restraint zone, a growth management zone, and a nature conservation zone. In each zone, the central government forbids or controls the construction of factories, buildings, and new universities, or levies an overconcentration charge (OECD, 2005).

Regional development projects comprise another way through which the national government promotes regional development and funds local governments. Projects are adapted to the local circumstances and may have different characteristics depending on the economic, industrial, and demographic profiles of the target communities, in addition to the amount of fiscal support available from the national government, its ministries, and local governments (Kim, 2014). For this reason, the fiscal capacity of local governments is a crucial element in the analysis of each project (Kim, 2014). Between 80 and 90 percent of the regional development funds are allocated to regions outside of Seoul (Kim, 2014), and regional development is the second largest area of public spending in South Korea (social welfare being the largest) (Kim, 2014). A considerable part of the funds used for development is provided by the central government, in part earmarked to projects led by national ministries, partly destined to locally-led projects that benefit from co-financing schemes involving local governments, and partly provided as a “block-grant” to shore-up the accounts of local government (Kim, 2014).

PROCESS FOR THE CREATION OF METROPOLITAN CITIES

Local governments in South Korea may change their legal status if they fulfill conditions set by the Local Autonomy Act of 1949 (Choi, Choe, & Kim [n.d.]). For example, local administrative sub-units may change from rural to urban units when they cross a population threshold and urbanize. Similar changes may happen with regular cities and their internal administrative divisions. Moreover, cities with more than a million inhabitants that fulfill criteria such as fiscal capacity can apply to become metropolitan cities (Choi, Choe, & Kim [n.d.]).

ASSOCIATION MECHANISMS

South Korea has some association mechanisms in place for local governments. Many of them are focused on the capital region, but remain unexplored or unused (OECD, 2005). For example, local governments may create associations comprised of independent administrative bodies to perform specific tasks or provide specific services. Such mechanisms have been largely ineffective though—the Administrative Council for the Capital Area, a high-level political mechanism for cooperation in the capital region, was created in 1988, but has only conducted a few meetings since then (OECD, 2005).

CITIZEN PARTICIPATION

Since the 1990s, the South Korean government has created opportunities for broader public monitoring and control over policy and decision-making. The formal and institutionalized mechanisms include petitions, audit and investigation requests, lawsuits, referenda, and recalls (Choi, Choe, & Kim [n.d.]). Some local governments encourage public participation in many committees and have also enacted ordinances regulating information disclosure at the request of citizens. More recently, some local governments introduced participatory budgeting initiatives.

Citizen participation is not restricted to formal initiatives such as lawsuits or referenda. The national and local governments have relied on technologies that have become widely available in South Korea in the last decade to promote participation and transparency. Indeed, the national push towards the use of online and technological platforms dates back to the late 1990s, with the creation of a Special Commission of E-Government by the central government (Choi, Choe, & Kim [n.d.]).

Among local governments and metropolitan cities, Seoul has the most experience with innovative e-government tools for outreach and political participation. These tools include a website for open access to data and information pertaining to the metropolitan administration and a “voting app” for mobile phones (called mVoting), which allows residents to vote on which policy initiatives and issues they think should be prioritized by the government, while giving public officials the opportunity to conduct opinion surveys in a quicker and cost-effective way.¹

¹ See the Seoul Solution website (<https://www.seoulsolution.kr/en>) for information on these and other initiatives by the Seoul Metropolitan Government.

Regional development projects comprise another way through which the national government promotes regional development and funds local governments. **Projects are adapted to the local circumstances** and may have different characteristics depending on the economic, industrial, and demographic profiles of the target communities, in addition to the amount of fiscal support available from the national government, its ministries, and local governments.

SOUTH KOREA LESSONS

1. Notwithstanding some decentralization efforts, the central government remains the dominant actor in the South Korean administrative framework. Relations between upper and lower levels of government remain hierarchical. The process of decentralization is ongoing and fiscal decentralization in particular has not advanced very far.
2. The central government places many restrictions on the creation of new businesses and buildings in Seoul in an attempt to balance growth and direct development to other areas of the country. These restrictions and close control over Seoul may help economic and social development in other regions, but may also work as a drag on Seoul's potential as a global city.
3. The central government is in charge of planning and policy-setting in the area of transportation (provincial and city plans must conform to national plans). Public transit is heavily subsidized in South Korea, with funding coming mostly from earmarked grants from the central government. The space for local innovation in the area of transit is limited.
4. Local government associations and administrative sub-units struggle to be effective. Public participation is also limited, even at the neighborhood level, despite the existence of formal tools for public oversight and participation such as petitions or recalls. However, Seoul has experimented with some innovative e-government tools for outreach and political participation. These tools could be replicated by other cities and regions, provided that the population has easy access to internet and mobile phones.

TAKEAWAYS FROM THE FOUR INTERNATIONAL CASE STUDIES

Although the overall findings from each case study have already been presented, this section draws together a number of overarching themes.

DIFFERENT TREATMENT OF DIFFERENT LOCAL AUTHORITIES

The first theme concerns the different treatment of different types of local authorities within a country. Large cities and city-regions differ from other cities with respect to size and density, financial and administrative capacity, and the complexity of the challenges they face. In the context of Colombia and South Korea, a large proportion of the countries' populations, jobs, and GDP is concentrated in Bogotá and Seoul, respectively. In both countries, the special status of these cities as political centers and economic powerhouses is backed by more autonomy (which is also the case with other major cities in South Korea) and different legal and institutional characteristics.

The city deals in the UK reflect differences between local authorities by signing different (bespoke) deals with different local authorities. The advantage of different deals is that each one can reflect the unique characteristics of each local authority. A "one size fits all" approach, which results in uniformity across local authorities, is much less responsive to local needs and preferences. Different treatment, however, can result in inequitable treatment of local authorities, especially where some authorities have more information and resources, and stronger bargaining power with the central government.

TENSION BETWEEN THE LARGEST, MOST PROSPEROUS CITY AND THE REST OF THE COUNTRY

In all of the countries studied, there is one city that dominates the national economy; London in the UK, Bogotá in Colombia, Seoul in South Korea, and Auckland in New Zealand. In each of these countries, there is also a clear tension between the importance of the largest and richest city for the economy of the country and the need to equalize economic disparities that separate them from their poorer counterparts. For example, Seoul has aspirations to become recognized as a competitive global city and a prime destination for foreign investment, but those goals are partly put in check by policies adopted by the South Korean government to support development in other regions (OECD, 2005). The situation is similar in Colombia. Although Bogotá benefits from its

special political and fiscal status as the country's capital district, the central government uses its fiscal transfer system to invest in regional development projects and to ensure that underdeveloped cities receive a larger share of national funding. The city deals in the UK are designed to strengthen the economies of Northern England (the "northern powerhouse"), in contrast to giving more funds to London and the Southeast.

Ultimately, whether to focus on a major city (or cities) or to promote a more balanced regional development approach is a political decision that is beyond the scope of this paper. As shown in all of the case studies in this paper, however, there have been debates in each of the countries regarding the importance of investing in cities that are engines of the economy versus providing assistance to other cities. It is possible to marshal arguments on both sides and countries have used different approaches at different times.

BOTTOM-UP VERSUS TOP-DOWN PROCESS FOR CREATING METROPOLITAN GOVERNANCE STRUCTURES

The process for implementing a metropolitan structure is critical to its success. The creation of metropolitan governance structures can be bottom up, driven by local authorities and the community, or top down, driven by the central government, or it can have elements of both. Generally, metropolitan governments are established through a top-down process and local actors have to deal with a structure that they did not ask for and do not want (Lefèvre, 2008). In many cases, local actors are not even consulted; in others, they are consulted but their views are not followed. As Klink notes, the political economy of changing institutional and financial structures requires bringing together stakeholders at the initial stages (Klink, 2008). Incremental bottom-up changes will be more successful than top-down proposals.

Even in a bottom-up process, however, the central government needs to be involved because it can give legitimacy to the process and the outcomes (Lefèvre, 2008). Rarely have metropolitan governance reforms derived from purely local initiatives (OECD, 2006). The support of stakeholders (such as civil society and business associations) is important because the backing of economic and social interests is critical. Local governments in the Metropolitan Area need to be on board, especially the core city, which delivers a disproportionate amount of services in the Metropolitan Area. The population needs to be involved because, in a democratic system, public support is needed for the metropolitan arrangements to last.

Support is also needed from the central government. Legislation should promote, not discourage, the creation of a metropolitan governance model. Moreover, financial incentives would encourage buy-in of local governments who might otherwise feel that they are giving away some of their authority (and resources) to another level of government. One needs to be careful with incentives, however, if they simply result in the creation of metropolitan governments with no real powers, no ability to improve

service delivery and public policy, and no power or incentive to raise their own revenues. Financial incentives need to result in real coordination of service delivery and policy formulation and not simply a new institutional structure that has inadequate powers and resources, both human and financial.

In New Zealand, the approach was very much top down, with the central government initiating the creation of a metropolitan government in Auckland. The major restructuring in New Zealand in 1989 and the reform in Auckland in 2010 had no provision for those affected to vote on whether or not they wanted amalgamation. Although the creation of a metropolitan government is rarely initiated at the local level because local authorities do not want to cede power to another level of government, a more bottom-up approach helps to generate more political support for the new structure. In the case of Auckland, reviews of the municipal restructuring felt that there would have been more support from the old political structures, and it would have been easier to maintain a greater identification with local communities if they were more involved in the process. Indeed, in 2012, legislation was changed to include an optional poll, which would only occur if a petition is signed by 10 percent of electors in any of the affected council districts requests it (New Zealand Parliamentary Library, 2014).

The process of decentralization in both Colombia and South Korea was partly in response to popular demands for better public services and more accountability at the local level. Ironically, it was implemented from the top down. Governance is still very hierarchical in both countries, three decades after the first decentralization measures were implemented. Nevertheless, the Colombian system allows municipalities and other territorial entities to create their own associations and Metropolitan Areas. Although the process of decentralization was directed from the top, local metropolitan and municipal association is a more dynamic process emerging from below, potentially responding to the needs of local governments. Finally, there are also ad hoc cooperation mechanisms, such as the *contratos-plan* and the territorial pacts or alliances, which promote coordination without the need for the creation of new institutional arrangements or governance structures.

In the UK, the creation of combined authorities is largely a bottom-up process. Yet, the impetus for combined authorities has been the city deals, which necessitate governance changes. In order to sign a city deal whereby the national government devolves powers, responsibilities, and some revenues to local authorities, some form of governance change is required. In the past, some local government reforms were very much top down (for example, the elimination of the Greater London Council), but others were definitely bottom up (such as the push by the business community to create the Greater London Authority).

VOLUNTARY COOPERATION VERSUS A FORMAL GOVERNMENT STRUCTURE

Voluntary cooperation takes different forms in different countries, ranging from informal arrangements between municipalities to more formal inter-municipal agreements, to the creation of special purpose bodies. Informal arrangements rely on trust among municipalities and involve a lot of flexibility, but lack the legal protections that come with more formal contractual arrangements (Spicer & Found, 2016). Generally, voluntary cooperation implies some degree of administrative integration as well as some political linkage because member local governments each have some form of representation in decision-making. Although the voluntary model does not include an elected, area-wide government, it is an alternative method of recognizing the interrelationship of local authorities within a region through some form of area-wide arrangement. Voluntary cooperation is popular, at least in part, because cooperation agreements are easy to create politically and can just as easily be disbanded. Of course, the lack of permanence may also be a downside if businesses, for example, do not like the uncertainty about the future of these bodies.

With voluntary cooperation, municipalities retain their autonomy with respect to expenditure and tax decisions, but at the same time have the ability to reap economies of scale in service delivery and address externalities associated with service provision for specific services. Problems of accountability may arise, however, when services are provided by another jurisdiction. Citizens are often unable to get the information about services from their locally elected officials because they do not have direct access to these functions; there can be a “democratic deficit” as a result (Dafflon, 2012).

When policymakers in the various local governments have the same objectives, the voluntary model can work well, but it does not work as well when different governments have divergent objectives (Bird & Slack, 2008). Cooperation usually involves bargaining, and some municipalities in a region may not have much with which to bargain. Some degree of redistribution may or may not be accepted by the municipalities involved. Moreover, the problems faced by many Metropolitan Areas—global competition, fiscal disparities, and sprawl, for example—are so great that any real solution likely requires a governance structure that has a more permanent institutional status.

In some cases, such as Greater Manchester, successful cooperation among local authorities provided a good starting point for the eventual creation of a two-tier metropolitan government. Indeed, it has been suggested that the creation of combined authorities in the UK works best where there is a sense of common purpose among the local authorities affected, a history of working together, a good relationship among local authorities, and where the geographic areas are clear and aligned.

In the Colombian context, on the other hand, it is an open question whether voluntary cooperation can lead to the formation of a Metropolitan Area. The Colombian system

allows municipalities to either create formal government structures, in the form of the Metropolitan Areas, or to associate voluntarily and cooperate through ad hoc instruments such as the *contratos-plan*. One obstacle to moving to a metropolitan structure is legal; Metropolitan Areas must fulfill some legal requirements before they can be officially implemented (for example, municipalities must demonstrate the existence of functional ties between them). The use of *contratos-plan* in Colombia also raises some issues. As they directly link the national government to municipalities, they can create negative incentives for cooperation at the local level. Why associate with other municipalities to jointly provide services when you can get the resources you need directly from the national government with a *contrato-plan*?

On the other hand, South Korea has some association mechanisms in place, but nothing to the extent of the formal and informal mechanisms that exist in Colombia. For example, local governments may create associations comprised of independent administrative bodies to perform tasks or provide particular services. Since metropolitan cities have a narrower governance mandate and the main effects of their creation are mostly fiscal and benefit only the cities being elevated to metropolitan status, the main challenge for South Korea will be to strengthen the existing association mechanisms and ensure they can be more effective in solving region-wide problems. Even so, it is highly unlikely that voluntary mechanisms will become an important stepping stone in the creation of truly regional governance institutions in Korea.

LINK BETWEEN DECENTRALIZATION AND METROPOLITAN GOVERNANCE

Decentralization and the creation of metropolitan governance structures are distinct processes, but they are often aligned. Perhaps the best example from the case studies is the UK, where devolution through city deals has coincided with municipal restructuring. As noted earlier, the devolution process has required that cities join together to form combined authorities to deliver services and the central government has even gone so far as to suggest the need for directly elected mayors.

To a lesser extent, the series of reforms to local government that were introduced in New Zealand in the late 1980s and early 1990s included some municipal restructuring. These reforms were intended to reduce the number of local authorities, improve management and technical capacity of the newly created local authorities, create coherent entities for service provision not corresponding to historical communities of interest, create efficient and effective entities as well as multipurpose capacity entities, and create entities that would result in reduced costs and potential benefits.

In Colombia, the creation of Metropolitan Areas was part of the broader process of decentralization that had started in the 1960s. However, unlike the UK and New Zealand, they were not formally linked to decentralization; for example, the *Área Metropolitana*

del Valle de Aburrá was originally intended to be a mechanism for local coordination on a narrow set of issues, such as urban planning and the environment. Only after the Constitution of 1991 deepened the process of decentralization was the creation of Metropolitan Areas formally regulated. Even so, they are not designed to rationalize the structure of local governments or decrease their numbers.

It is still early to say whether South Korea will renew the process of decentralization or provide more autonomy to local governments. The country is the exception in this report. Metropolitan cities do have more fiscal autonomy than regular cities, but they are legally and institutionally different to Metropolitan Areas (similar to the Colombian districts). Moreover, the current mechanisms for coordination are still insufficient and not designed to be autonomous or to exercise power over local governments. At the present time, there is no indication that South Korea considers Metropolitan Areas as an integral part of its decentralization process.

BALANCING REGIONAL AND LOCAL INTERESTS

Metropolitan Areas everywhere face the challenge of how to balance regional and local interests. As the world becomes more urbanized and metropolitan economies evolve, there is a need for a regional vision and for many services (such as transportation, land use planning, and economic development) to be delivered on a regional basis. At the same time, some services are very local (such as parks and recreation) and benefit from more local provision and local responsiveness. The choice of an appropriate governance structure for a Metropolitan Area depends upon how one weighs conflicting considerations; efficiency, access, and accountability point to smaller local government units, whereas economies of scale, externalities, and equity suggest larger governments. Different countries have used different governance models to balance regional and local interests reflecting the different weights attached to each of the criteria set out above.

One way to resolve the conflict between regional and local interests is through a two-tier government structure, along the lines of Greater Manchester or the Greater London Authority. A two-tier structure is able to realize desirable economies of scale and scope at the upper-tier level, while the continued existence and vitality of the lower tiers permits responsiveness to local variations in preferences. Any desired degree of regional redistribution can be achieved within a two-tier structure at the upper-tier level.

In the case of Colombia, local interests are better promoted and protected than regional interests, whether being those of Metropolitan Areas or departments. Municipalities are stronger than metropolitan and departmental governments. There are also differences between the municipalities themselves and some local groups may also feel that municipal governments are unresponsive to their needs and interests.

In South Korea, the main conflict is between metropolitan cities (which are autonomous from provinces) and the national government, as the latter is still responsible for setting urban and transportation policies or developing strategic plans in the area of the environment and green growth. The main exception is Seoul, which also has devised green growth and environmental policies, but the national government retains a considerable level of influence even over its capital and most important metropolitan city.

The creation of the new city of Auckland tips the scale towards the regional vision, possibly at the expense of local autonomy and responsiveness. Indeed, some of the suburban municipalities have expressed interest in leaving the consolidated structure.

ADEQUATE FISCAL RESOURCES - MATCHING REVENUES TO EXPENDITURES

For a metropolitan structure to succeed, it needs to be clear to each tier of government and the public what functions it is responsible for and it is essential to have adequate financial resources to perform those functions. The services that local governments in Metropolitan Areas provide and how they pay for them are inextricably linked to the question of governance (Bird & Slack, 2013). Viable solutions to the problems of Metropolitan Areas can be attained only when those who live there have to make the critical decisions about service delivery, how to pay for the services, and then live with the consequences (Bird & Slack, 2007; Martinez-Vazquez, 2014). The fragmentation of the governmental structure of Metropolitan Areas means that it is often both technically and politically difficult to make appropriate decisions on expenditures when benefits and costs spill over municipal boundaries. How to share costs fairly within the Metropolitan Area is also a controversial issue, always and everywhere. What is needed to improve service delivery is thus, first, to design some form of effective metropolitan governance and, second, to set out an appropriate fiscal structure.

A challenge in many countries has been the failure to devolve revenue-raising tools to pay for new responsibilities, resulting in local fiscal imbalance. London has few revenue-raising tools compared to most major cities around the world (Slack, 2017) and other UK cities have even less fiscal autonomy. They rely heavily on central government transfers. They can raise residential property taxes (council rates) but, until very recently, the non-residential property tax (non-domestic rates) was levied at a uniform rate across the country by the central government and distributed to local authorities on a per capita basis. A recent move to allow local governments to retain some or all of the non-domestic rates will provide more local autonomy.

Local authorities in New Zealand rely heavily on own-source revenues, with only a small portion of their funds coming from central government transfers. There are few sources of revenue at the local level, however. The largest own-source revenue

is the property tax, followed by user fees. There are few other own-source revenues at the local level.

Although municipalities and Metropolitan Areas in Colombia have clear sources of revenue, their revenue capacity is usually low and many depend on transfers from the national government to fund local public services. According to critics, the fiscal responsibility law passed by the Colombian government in 2000 and the restructuring of the fiscal transfer system (with the creation of the SGP) further reduced the capacity of local governments to implement their own policies. Still, Colombian Metropolitan Areas do have independent sources of revenue at their disposal in the form of the property tax surcharge and they have the capacity to enforce the agreements that establish the level of transfers due by the municipal governments under each area.

Local governments in South Korea are more dependent on fiscal transfers from the central government than their Colombian counterparts. Seoul and other metropolitan cities, however, enjoy more fiscal autonomy than other local governments. On the other hand, voluntary forms of association do not have any clear revenue sources and may depend on transfers from the governments involved to an even greater extent.

ADEQUATE HUMAN RESOURCES

The decentralization process is often more successful at transferring functions to local authorities than it is at ensuring that there is an adequate number of qualified staff with proper training to ensure the capacity to deliver services and undertake policy formation at the local level. Decentralization in Colombia provides an example of a process that was better at guaranteeing political autonomy than ensuring that local governments had the fiscal and administrative capacity to perform their new functions and provide the public services required of them. According to some observers, the national government transferred responsibilities to sub-national governments without providing technical assistance, helping them to develop their own internal capacity, or putting in place mechanisms for the monitoring and evaluation of the services being provided (OECD, 2013).

South Korea suffers similar problems with lack of capacity at the local level. As an example, local governments are required to collect data on emissions to create their own emission inventories, but many of them do not have the technical and financial capacity to develop reliable inventories (Kamal-Chaoui et al., 2011). Since South Korea is still in the early stages of decentralization, there is still time to consider measures to strengthen local capacity before transferring functions or even revenue sources to local governments.

In the case of the UK, capacity has been an issue for the newly created combined authorities. It has been a problem in large part because the central government does not provide resources for planning, management, or the operating costs of the

mayors' offices. It is expected that mayors and combined authorities will share offices and staff with constituent local authorities and use staff from the transport authorities and LEPs. Local boards in Auckland have no resources of their own, as their staff and advisory services are provided by the Auckland Council. This form of co-governance makes it unclear whether the local boards have the ability to do anything independent of the governing board.

Metropolitan Areas everywhere face the challenge of how to balance regional and local interests. As the world becomes more **urbanized** and metropolitan economies evolve, there is a need for a regional vision and for many services (such as transportation, land use planning, and economic development) to be delivered on a regional basis.

METROPOLITAN GOVERNANCE IN THE ABSENCE OF A FORMAL INSTITUTIONAL STRUCTURE IN CHILE

Pablo Allard / Pia Bettancourt

As stated in the introduction to this book, Chile is undergoing a process of decentralization that is giving way to the creation of governance and planning structures and mechanisms to fit the needs of its major cities on a metropolitan scale. In this context, the results of the last census show that the country presents the highest urbanization rates in Latin America, even surpassing those in European countries. Today, nearly 90 percent of the population lives in cities where basic needs such as access to education, housing, transport, health, and basic services are widely covered and subsidized. The social demands of Chile's urban population are no longer related to quantity regarding the number of homes, schools, or hospitals, but to their quality and the level of equality that access to them allows. All of these factors result in new demands associated with issues related to the quality of life that must be addressed from a metropolitan perspective, on which Chilean cities will have to work in order to remain competitive and sustainable.

Addressing these challenges with the current urban and territorial governance structures is not easy, as ministries and national agencies are still making large sectoral investment decisions, while land-use planning instruments—such as Municipal Regulatory Plans (Planes Reguladores Comunes, PRC)—are defined at a district level in a disperse manner. This lack of planning and governance capacities in existing Metropolitan Areas has forced local stakeholders to redefine themselves, which is reflected in a series of public and private initiatives aimed at encouraging all stakeholders to think about their city and its challenges comprehensively, so as to guide its development and envision its future.

This section involves the presentation and analysis of three national case studies in which ad hoc metropolitan coordination, planning, and governance structures were created to

provide room for the installation of capacities and competencies to complement the existing subnational government structures on a metropolitan scale. The goal here is to learn about three different experiences and create recommendations that can contribute to establishing the structure, functions, and financing model to be implemented by future Metropolitan Government units.

For the sake of this publication, the case studies were selected based on how effective they were in terms of inter-jurisdictional and inter-sectoral coordination in a metropolitan context. By identifying their origins, structure, ways of operating, and results, the objective was to establish the foundations necessary for the coordination of actions in national Metropolitan Areas and to draw lessons that could have a positive impact on decision-making relating to laws on governance in Metropolitan Areas.

The selection of the three primary case studies was also based on the fact that all of them were created and implemented within administrative structures that already existed. While the cases originated under exceptional circumstances leading to “windows of opportunity,” the most important aspect of each of these cases is that they all took place as a complement to and within existing institutions, and did not require the creation of special laws or decrees to function.

The initiatives and associative strategies displayed here reveal the importance of advancing towards a more balanced vision of urban/metropolitan territories that addresses the need for capacity generation and/or governance to plan, design, coordinate, and implement multi-sector plans, projects, and programs on a metropolitan scale.

The selection criteria also included the following:

- Tangible achievements and progress on a metropolitan level
- Channels of public, private, and mixed financing
- Diversity regarding the territory and structure of the Metropolitan Area (whether they are multi- or mono-district areas)

The cases were organized according to what led to their creation, with the aim of enriching the sample and providing lessons and challenges specific to each example. In addition to the three main case studies, references to secondary examples were included to provide a wider scope on this topic. Therefore, the cases will be presented from the perspective of their institutional design, implementation (or launch of the plan or initiative), and the execution of policies, plans, and projects considered to be a part of them.

In this context, the cases are classified according to three types of initiatives:

- **Public-private partnerships:** Initiatives originating from the coordination of public and private stakeholders based on voluntary and complementary agreements built around common interests, regardless of the particular positions
- **Response to a specific event:** Initiatives stemming from the need to innovate or adjust already existing structures of local or regional governance to address particular projects or events, such as natural disasters or megaprojects
- **Local leadership:** Initiatives that were born out of the capacity of a given authority or relevant stakeholder within the structure of local or regional governance who capitalized on an opportunity to promote change

Case studies have been selected to represent a varied range of initiatives that allow us to generate recommendations for different scenarios, not only in terms of their geography and urbanization patterns but also regarding what drives them and the context in which they originate.

SELECTION CRITERIA INTERNATIONAL CASES

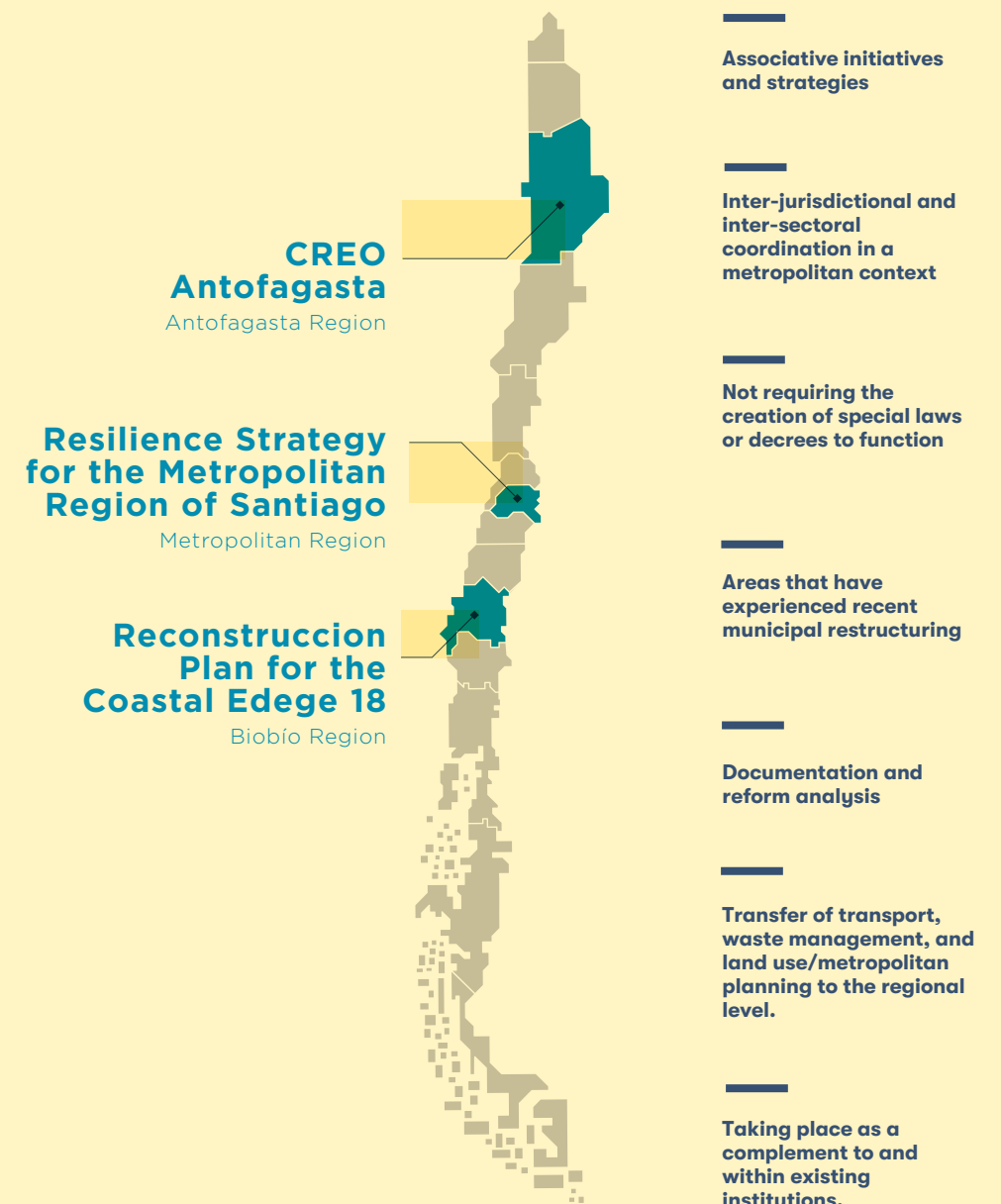


Figure 31
Source: Own elaboration.

THE CASE OF CREO ANTOFAGASTA

Given that the accelerated economic growth driven by copper mining was not being tapped into by the city of Antofagasta (Antofagasta Region), local authorities and a series of civil society stakeholders identified the need to improve the city's quality of life to attract human capital and diversify its economic base. Thus, the CREO Antofagasta initiative was created in 2012.

This initiative resulted from a public-private partnership backed by Minera Escondida BHP with the objective of coordinating and articulating the different investment projects in the region to improve the quality of life. The plan was to establish a common vision for the area's urban development through a Master Plan promoting the sustainable urban growth of Antofagasta until 2035.

CREO Antofagasta is a case in which the private-productive sector has worked in coordination with local authorities and communities to define a common vision and organization to advance in the implementation of metropolitan plans and investments. With this and the sustainable development of the city in mind, the organization created a Master Plan as a tool to guide investment, including mechanisms for public-private participation that allow for the definition of recommendations to modify land use, economic, and social planning instruments in the city. The initiative also entails the creation of a long-term public-private institutional structure, an urban Master Plan with strategic initiatives, and the promotion of local capacities to engage people in participation processes.









► Participatory Painting, Creco Antofagasta



► Community-organized dinner, Creo Antofagasta

THE CASE OF CREO

ANTOFAGASTA

Pablo Allard / Pía Bettancourt

1. DESCRIPTION OF THE CONTEXT OF INSTITUTIONAL DESIGN AND IMPLEMENTATION¹

The city of Antofagasta is the capital of the Antofagasta Region, and it is located in Antofagasta Province and district. Antofagasta Province is also comprised of the districts of Mejillones, Taltal, and Sierra Gorda.

Antofagasta is a port city located on a coastal plain, surrounded by the Chilean Coastal Mountain Range and the Pacific Ocean. It has an area of 6,813 hectares, defined by the urban limit (Plan Regulador Comunal Antofagasta, 2002), which makes it the largest city in the region, occupying 45 percent of the province's total territory. As the regional capital, it concentrates the main public and administrative services and has highly developed communications and energy infrastructure (Plan de Desarrollo Comunal, 2011).

The population of the district is estimated to be 361,873 (INE, 2017) according to the 2009 National Socioeconomic Characterization Survey (Encuesta de Caracterización Socioeconómica Nacional, CASEN), making it one of the largest districts in the country. Given that the population represents 64 percent of the regional total, Antofagasta is a key territorial unit for the region's economic and social development.

Mining is its primary economic activity, accounting for around 65 percent of GDP in the region and 9.1 percent of national GDP (PLADECO, 2011). The city of Antofagasta has the highest per capita income in Chile—close to USD 37,000 a year—and is considered to be one of the country's most expensive cities in which to live, along with Santiago and Punta Arenas.

The mining industry has seen strong growth in recent decades, resulting in booming urban development of the city, which has led to significant patterns of territorial inequality. The lack of land-use planning and regulatory instruments has given rise to disjointed connectivity and transport systems; lack of urban facilities and public space; a deficit in social housing provision; and severe segregation linked to land values (PLADECO, 2011).

¹ Information obtained from studies used as the basis of the initiative to offer an overall view of the context in which the proposal originated and how it was modeled in relation to the conditions identified by the Municipal Development Plan (Plan de Desarrollo Comunal, PLADECO) and a study carried out by the OECD.

Economic growth derived from mining is reflected in the city's accelerated demographic growth, leading to a rise in new residential construction: as of 2008, the authorized area had increased 260 percent compared to 2002 (INE, 2002). This increase in real estate development is correlated to the demand from middle and upper-middle socioeconomic segments, which is reflected in the larger size of newly built homes. The new socioeconomic groups are distributed unevenly: the former group has a density of 26 inhabitants per hectare, while the second has a density of only 169 inhabitants per hectare, revealing significant spatial segregation (PLADECO, 2011).

The distribution of the socioeconomic segments is related to accessibility to and quality of the city's public spaces, which are mostly concentrated in the southern area and are scarcer towards the north. This socio-territorial segmentation also causes serious problems in the perception of distrust among the population. Public spaces are associated with crime and are perceived as dangerous, deterring social cohesion and a sense of community.

Another aspect that influences the lack of a sense of community and belonging is the absence of a city identity, which is affected by high immigration associated with the constant flux generated by the mining industry (53 percent immigrants, CASEN, 2009). Along with issues related to coexistence and identity, public participation is weak and organized communities are scarce. According to the CASEN survey (2009), only 12 percent of civil society is estimated to participate in such an organization, with neighborhood councils (Juntas de Vecinos) being their main link to the municipality. Consequently, opportunities stemming from the accelerated economic growth driven by mining are not being capitalized upon by the city.

It is in this context that local authorities have identified the need to guide urban development to make Antofagasta the main city in the north of Chile, which requires the urgent diversification of other economic sectors and the improvement of living conditions to attract human capital to the city.

According to the perception survey carried out in 2010 by Pulso Consultores for the 2011 study for the Municipal Development Plan (Plan de Desarrollo Comunal, PLADECO), Antofagasta is seen as a city in which to work but not to live. This situation poses a great problem for the development of the mining industry, which is finding it progressively more difficult to hire and retain human resources willing to move to the region.

One of the main challenges suggested in the study is the need to consolidate Antofagasta's identity through urban projects that promote a long-term vision of the city, improve the conditions of public space to encourage social engagement, and foster a participatory culture, along with proposals for the smart development of the city.

CREO ANTOFAGASTA

Antofagasta Region

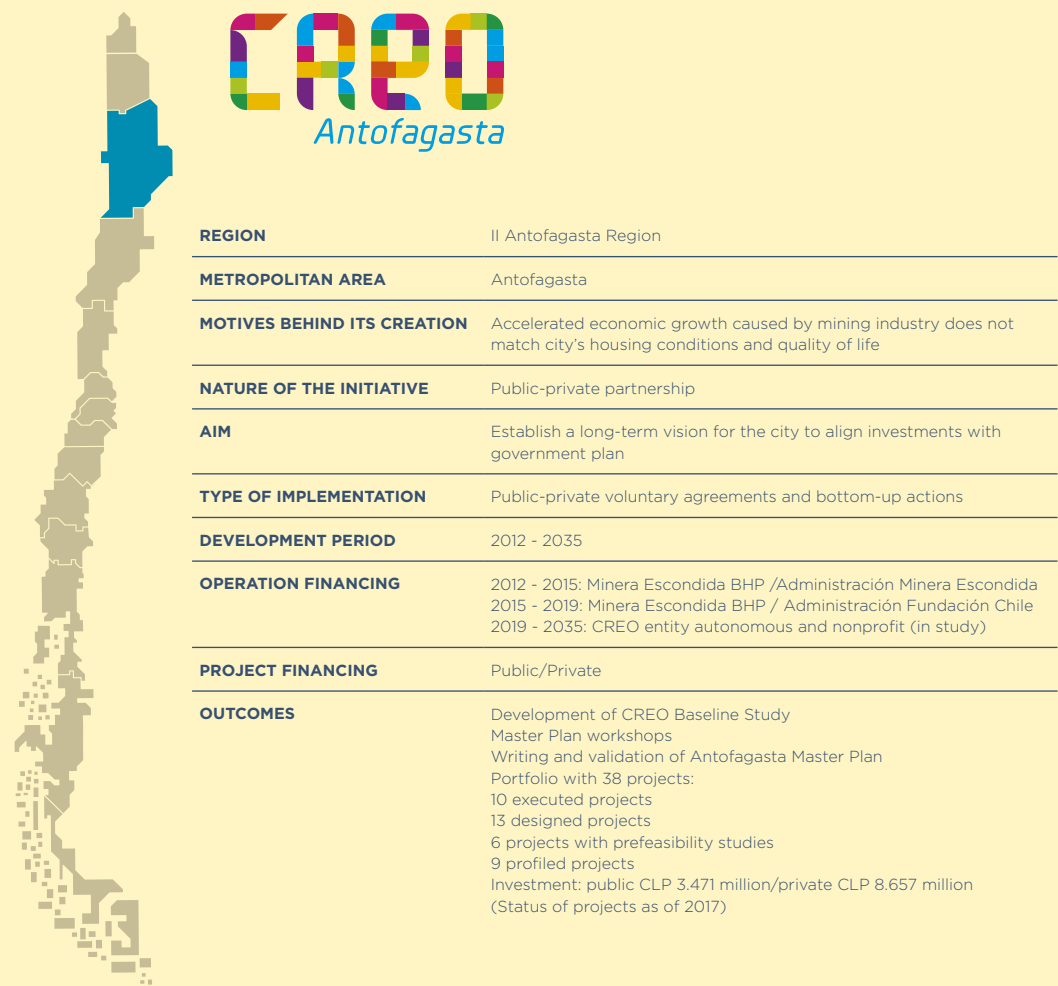


Figure 32

2. INSTITUTIONAL FORMATION PROCESS FOR THE INITIATIVE

The mining industry has a projection horizon of 100 years. Environmental and urban conflicts and living conditions all represent a sustainability issue, making it difficult to attract human capital, which is progressively less willing to live in the city of Antofagasta. Bearing in mind all of these factors, CREO Antofagasta was created to promote the sustainable development of the city through the construction of a shared, long-term vision.

The initiative began in 2012 with the development of an associative strategy comprised of Antofagasta's public and private sectors, as well as civil society. The strategy was set up as a collaboration mechanism for the creation of a Master Plan for the city of Antofagasta that would serve as a tool to guide investments in strategic initiatives that fostered sustainable development, considering aspects of the city's territorial, economic, and social planning.

It should be noted that Master Plans are not considered land-use planning instruments according to Chile's urban legislation, which tends to define land use, density, and building conditions at the regulatory level in PRCs or Inter-Municipal Regulatory Plans (Planes Reguladores Intercomunales, PRI) or directly in urban and landscape designs in Sectional Plans (Planes Seccionales). Despite the successful implementation of the Reconstruction Master Plans (Planes Maestros de Reconstrucción)—Coastal Rebuilding Plans (Planes de Reconstrucción del Borde Costero, PRBC), Sustainable Strategic Rebuilding Plans (Planes de Reconstrucción Estratégicos Sustentables, PRES), and Urban Regeneration Plans (Planes de Regeneración Urbana, PRU) after the 2010 earthquake—and the creation of Strategic Urban Plans (Planes Urbanos Estratégicos, PUE) supported by the Ministry of Housing and Urban Planning (Ministerio de Vivienda y Urbanismo, MINVU) for cities that were not affected by the earthquake, Master Plans have yet to be legally acknowledged as IPTs. One of the proposals being made by the National Council of Urban Development (Consejo Nacional de Desarrollo Urbano, CNDU) is to validate Metropolitan and Urban Master Plans as part of the IPTs recognized by the law.

3. GOVERNANCE STRUCTURE

CREO Antofagasta is made up of three institutions: the Public-Private Council (Consejo Público-Privado, CPP), the Executive Committee (Comité Ejecutivo, CE), and the Executive Secretariat (Secretaría Ejecutiva, SE).

The CPP was first formed with nearly 40 members, comprised of representatives of local and regional authorities from the public sector, civil society organizations in a Citizens' Council (Consejo Ciudadano, CC), specialists from universities and foundations, and entities from the region's economic and productive sector. The CPP is led by the Intendant and the Mayor with the aim of aligning the initiatives with the public agenda of the city. Its main function is to ensure that the vision, which is outlined in a Master Plan, is carried out according to the objectives established at the strategic political level.

The CPP is a voluntary entity that acts as a bridge between the community and social organizations, and it is responsible for representing and communicating the Master Plan, channeling the needs and interests of the community.

The CE, which represents the interests of the CPP and whose goal is to guide and facilitate the definition and implementation of initiatives, was then created to provide a basis for the city vision. The CE consists of 15 members, of which four are representatives of the CC.

Development and execution of the initiatives are carried out by the SE, an operational, permanent, and professional entity commissioned by the CPP for the execution of the Master Plan. The SE is in charge of coordinating the Master Plan initiatives with the regional government (Gobierno Regional, GORE), the municipalities, the private sector, and civil society, incorporating the city vision and the international experience that can be applied to Antofagasta. The SE identifies and promotes existing initiatives that are coherent with the Master Plan so they are successfully implemented, and it defines and implements the institutional structure, the financing mechanisms, and the strategic mechanisms under which the Master Plan will operate in the long term. The entity also functions as the technical representative of the Master Plan.

The SE is advised by a panel of experts consisting of professionals selected according to their national and international expertise, to assist in the implementation of the Master Plan. The entity also functions as an ambassador and promoter and is responsible for advising on the selection of the implementation teams and reviewing the progress and contents of the consultancies carried out for the Master Plan.

It was initially stipulated that financing for the operation of the SE would come from the Council of Contributors (Consejo de Aportantes), an entity comprised of companies and institutions that would make financial contributions for the implementation of the Master Plan. The Council of Contributors would have the task of engaging companies and institutions with the Plan's stakeholders to collaborate on the creation of investment agendas for the city, thus aligning investments with the goals of CREO Antofagasta. Finally, the Council of Contributors, which was going to be represented in the CE by three members, was never created, probably due to the budget restrictions of companies as a result of the economic slowdown suffered in the copper industry at the time. Consequently, operational financing for the CREO Antofagasta was assumed by Fundación Minera Escondida during the first three years and the initiative was subsequently adopted by Fundación Chile starting in 2015. These entities are currently responsible for managing and channeling the initiative's resources.

For 2018, CREO Antofagasta plans to present a new institutional and financing structure that allows the continuity of the initiative to be guaranteed, thus ensuring supervision, follow-up, and assessment of the implementation of the projects and programs included in the Master Plan.

CREO ANTOFAGASTA STAKEHOLDERS

	Public-Private Council (CPP)	Executive Committee (CE)	Executive Secretariat (SE)	Panel of Experts	Council of Contributors
PUBLIC SECTOR	GORE-Office of the Intendant	Mayor			Not created
	Municipality	Intendant			
	II Region Senator	1 Municipal Council			
	II Region Senator	1 Regional Council			
	District 4 Deputy				
	District 4 Deputy				
	1st Army Division				
	5th Air Brigade				
	Maritime Governance				
	II Zone Police				
PRIVATE SECTOR	Antofagasta Industrial Association (AIA)	1 Antofagasta Industrial Association (AIA)			
	Chilean Construction Chamber (CChC)	1 Chilean Construction Chamber (CChC)			
	Chamber of Commerce	1 Chamber of Commerce			
	Productive Development				
	Minera Escondida	1 Contributor Minera Escondida			
	Ferrocarril de Antofagasta (FCAB)	1 Contributor Ferrocarril de Antofagasta			
	Xstrata Copper	1 Contributor Asociación de Inmobiliarias			
	Antofagasta Minerals				
	Puerto Antofagasta				
	Aguas Antofagasta				
	Casino Enjoy				
	Mall Plaza				
	Almagro				
	Empresa ABB				
	3M				
	Angloamerican				

Table 13
Source: Own elaboration.

	Public-Private Council (CPP)	Executive Committee (CE)	Executive Secretariat (SE)	Panel of Experts	Council of Contributors
CIVIL SOCIETY	Municipal Union of Neighborhood Councils	4 Citizen Councils			
	Senior Municipal Union				
	Corporación Andrés Abella				
	Asociación Rugby Antofagasta				
	Agrupación Sueños Trazados				
	Cultam				
	Federación Estudiantes UCN				
	Corporación Gen				
	Agrupación Tejido Humano				
	School of Architects				
	School of Engineers				
	School of Journalists				
	Antofagasta Runners				
	Antofacleta				
	Agencia cultural Retornable				
	Club Budeo				
	Agrupación Filzic				
	Colectivo Se Vende				
	Ov. Amplio Acción				
	Ciudadana				
	Club Skate Antofagasta				
	C. d. skaters p.				
	Bicentenario				
	Límite Vertical				
	ARPEVIH				
UNIVERSITIES AND NGOs	Universidad de Antofagasta	President of U. de Antofagasta		OCDE	
	Universidad Católica del Norte	President of U. Católica del Norte			
	Corporación PROA				
	Fundación Ruinas de Huanchaca				
	Fundación Minera Escondida				
PROFESSIONAL TEAM		Executive Secretary	Executive Secretary		
			Strategic Coordinators		
			Technical Coordinators		
FUNCTION	Development of Vision	Bringing Vision to Public Agenda	Technical Services	Technical Advisory	Financing

Table 14
Source: Own elaboration.

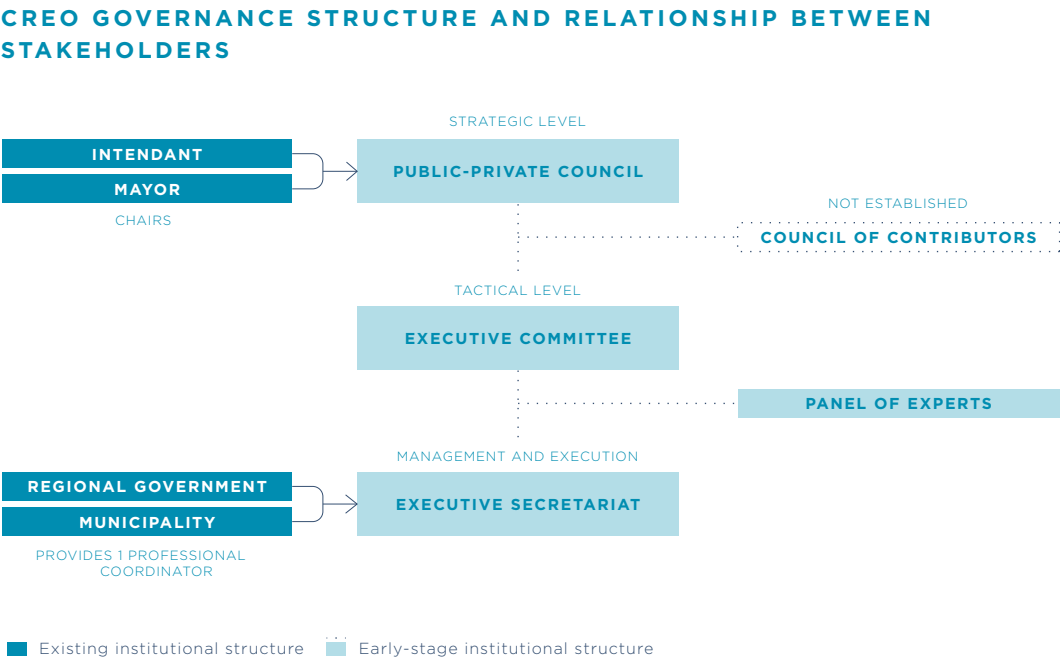


FigurE 33
Source: Own elaboration.

4. MECHANISM OF IMPLEMENTATION AND LAUNCH OF CREO ANTOFAGASTA PLAN

The institutional structure of the CREO Antofagasta Plan was implemented through an agreement established in September 2012 by the GORE, the Municipality of Antofagasta, Minera Escondida Limitada, and Ferrocarril de Antofagasta (FCAB). The agreement signed by the institutions established the commitments, monetary contributions, and institutional support until December 2016, kicking off the Plan.

By way of this agreement, the GORE of Antofagasta agreed to support the work of the SE, providing it with one technical professional to act as a coordinator and information channel at a tactical level between the Council, the Regional Ministerial Secretariats (Secretarías Regionales Ministeriales, SEREMIs), and the various entities of the GORE. Moreover, with the aim of incorporating the projects resulting from the Plan to the different decision-making arenas—such as the National Fund for Regional Development (Fondo Nacional de Desarrollo Regional, FNDR) and the Regional Council (Consejo Regional, CORE)—the GORE assists with the development of the project portfolio and the ongoing initiatives, based on research and access to public information from the various stakeholders and sectoral services.

The Municipality of Antofagasta assigned a team of professionals for the development and implementation of the Master Plan and a professional to coordinate between the different municipal departments and act as a communication channel between them and the CREO agency. Just like the GORE, the municipality assists with research and gathering of public information and is committed to promoting the integration of the Master Plan into instruments such as the Regulatory Plan, Sectional Plans, and PLADECO.

As part of the initial financing, Minera Escondida Limitada agreed to guarantee the SE's operating costs, as well as the studies and consultancies that it commissioned. This financing agreement is still in force, but the creation of a new institutional and financing structure is expected to take place in 2018 to diversify funding sources and ensure the sustainability and autonomy of CREO for a next period. Finally, FCAB facilitates the physical space for the operation of the SE for the programme duration period.

The agreements and commitments—such as contributions of money and time, the support of institutions and companies, and the institutions and organizations established during the development of the Master Plan—have been defined in bilateral or multilateral agreements between the CREO Antofagasta Plan and the entity involved.

5. DEVELOPMENT AND EXECUTION OF CREO ANTOFAGASTA

The starting point for planning the initiatives promoted by CREO Antofagasta is the master plan, which is conceived as a strategic tool to translate a integrated city vision to a horizon of 20 years. The preparation of the Plan contemplates mainly five phases: an initial preparatory phase; a second phase, which raise the CREO Base Line; then, work in technical tables; a fourth phase in which strategic initiatives are identified; and, finally, the preparation of the draft master plan for its validation and further development.

The CREO Baseline is an assessment based on data from PLADECO Antofagasta; the OECD's Territorial Review of Antofagasta; and information gathered through participatory processes contained in the Civic Baseline (Línea Base Ciudadana). The latter was developed with Fundación Ciudad Emergente, which held four urban assemblies (malones urbanos) in different parts of the city. Urban assemblies are tactical urbanism events in which residents of a street or neighborhood are invited to a dinner party to learn about the community's views on the quality of life in their neighborhoods and their needs and interests. After the assemblies, four territorial forums were held in each residential association within the territory of the Master Plan, with the aim of creating a more in-depth discussion with the communities about strategies to resolve the issues identified. The results of these forums were recorded in the "Citizens' Declaration on Quality of Life" ("Manifiestos Ciudadanos de la Calidad de Vida").

A citizens' forum was subsequently held, in which the "Antofagasta Citizens' Declaration" ("Manifiesto Ciudadano Antofagasta") was produced. This document contained the main

issues raised in the forums, and its goal was to communicate and create a debate on the guidelines on which the Master Plan was going to be modeled.

Based on this assessment, technical roundtables were held to shape the initiatives and strategies to be included in the Master Plan later on. These roundtables were held on four occasions and addressed the following topics:

- Land use and growth
- Public and green spaces
- Identity and culture
- Transport and mobility
- Environmental sustainability
- Participation and civil society
- Economic diversification

The idea behind the roundtables was to set the priorities regarding the topics and strategies to be addressed through the Master Plan for each of the challenges presented. Professionals from the CREO, the Municipality of Antofagasta, the GORE, and representatives of civil society and private companies participated in this stage of the process.

The first draft of the Master Plan was created in 2013 using the information gathered in the CREO Baseline and the products created by the technical roundtables. In mid-2014 the draft was presented to the involved stakeholders for their validation, but it was not until November of that year that the definitive Master Plan was validated and publicly presented.

Once the Master Plan was created as a roadmap, the SE identified the existing projects and initiatives aligned with the Plan's vision and added them to the project portfolio. Then, the CE prioritized the portfolio of initiatives according to a study of social impact and feasibility of execution.

Thus, the SE is responsible for expediting the project documentation and supporting its formulation, design, the respective permits, and the terms of the tenders. It also operates as an incubator of public projects, facilitating the development of projects when public entities do not have the resources or time for their elaboration. An example of the way in which the SE works is the case of the Antofagasta Bike Path Plan (Plan Ciclovía de Antofagasta), where the GORE had the resources for its execution, but the project had yet to be formulated. By channeling private contributions and its own resources, the SE was able to design the initiative.

As of December 2017, CREO Antofagasta had been able to put together a portfolio of 38 public-private investment projects to be carried out between 2015 and 2021, with a private investment of CLP 85.974 million (65 percent of the total investment) and CLP

TIMELINE AND STAGES PLANNED FOR THE IMPLEMENTATION AND EXECUTION OF CREO ANTOFAGASTA

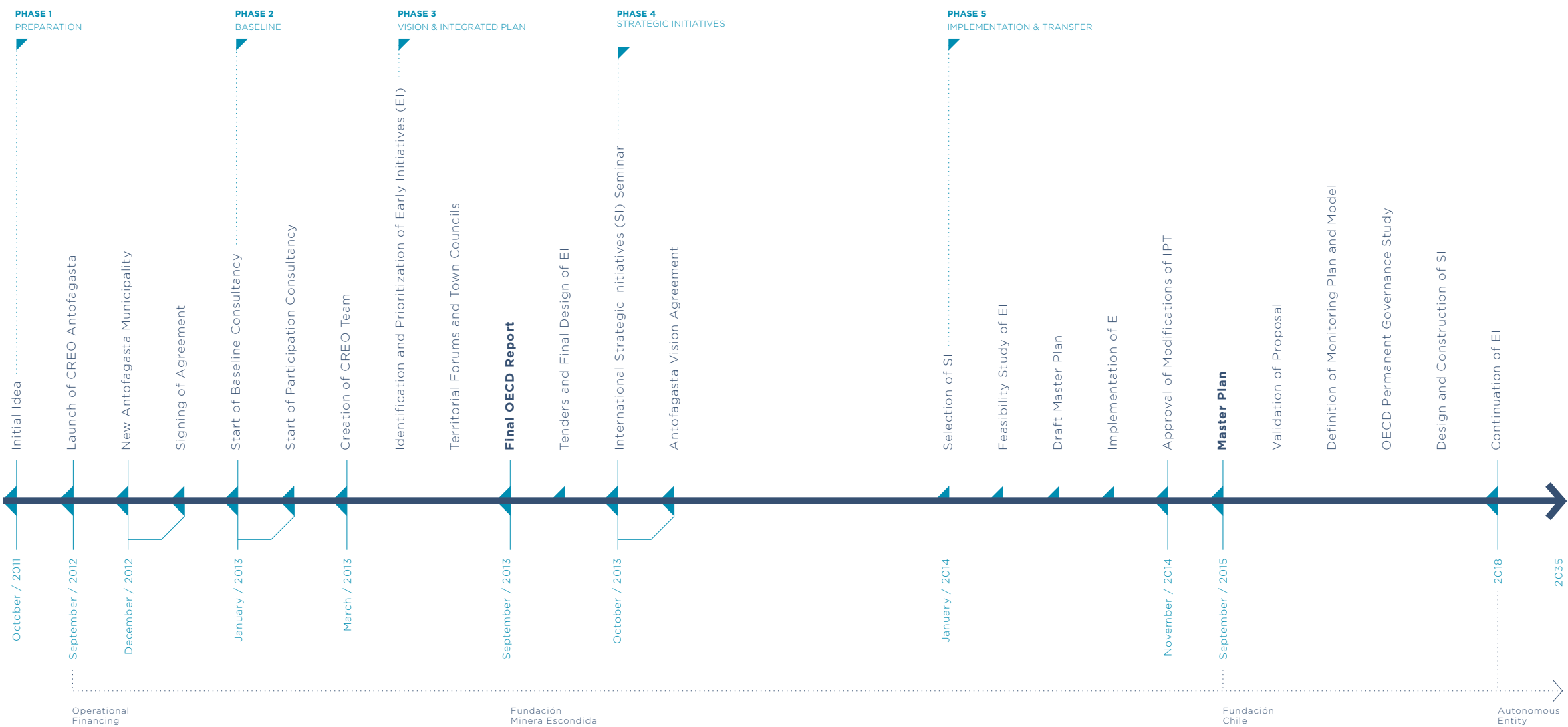


Figura 35
Own elaboration.

47.119 million in private contributions (the remaining 35 percent). The total investment is thus CLP 133.093 million, most of which will be executed between 2019 and 2021.

The 38 investment projects to be developed between 2018 and 2021 are spread among the following territories or areas of the city:

- Coastal area: CLP 64.084 million (48 percent)
- North central area: CLP 13.069 million (10 percent)
- Central area: CLP 13.397 million (10 percent)
- Autonomous: CLP 15.482 million (12 percent)
- Mobility: CLP 17.530 million (13 percent)
- Sustainability: CLP 6.444 million (5 percent)
- Activation: CLP 3.087 million (2 percent)

As of December 2017, the portfolio of 38 projects has progressed 9 percent, which corresponds to CLP 8.657 million in private investment and CLP 3.471 million in public investment, amounting to CLP 12.128 million that has already been executed. These projects are at the following stages of progress: 9 at the profile level, 6 in the prefeasibility study phase, 13 in the design stage, and 10 are being implemented.

Among the projects included in this first execution phase, the following stand out: the Corvallis Recycling Center (Punto Limpio Corvallis); two pilot community painting initiatives in problematic neighborhoods; Plaza Rendic's Solar Rooftop (Techo Solar) pilot; and coastal area projects such as El Park, Beach, and Fishing Harbor La Chimba, on which works began in late 2018.

It should be noted that the CREO project portfolio allows the addition of new proposals made after the launch of the Master Plan, provided that they are evaluated by the CE, which is responsible for incorporating and prioritizing them. Once the project has been defined, a collaboration agreement is developed where the roles and functions of each of the stakeholders involved and the design modality are established. The various modalities include development within the CREO team, a public bidding process, or a tender. The latter modality is the one most often promoted, due to the quality of proposals received and the great impact it has on society.

All of the decisions on the project portfolio are made in a collegial manner with the public institution. Once the project has been formulated and designed, the public entity is responsible for its execution, whether it is at a local or regional level.

The **CREO Antofagasta** Plan is possibly the most serious and persistent attempt to create a shared vision and a metropolitan governance structure that makes it possible to implement an **Urban Master Plan** based on the voluntary collaboration of public and private stakeholders in Chile.

Calama Plus and Vive Quintero

CREO Antofagasta is not the first public-private initiative to have been created in Chile to design an Urban Master Plan (Plan Maestro Urbano) with a governance structure capable of developing a project portfolio to improve the quality of life in the city. Similar initiatives—which have emerged at the same time as CREO Antofagasta—include Calama Plus in the city of Calama (Antofagasta Region) and Quintero Vive in the city of Quintero (Valparaíso Region).

Calama Plus came about as a result of the demands of the people of Calama for an improved city in urban terms and one that matched the contributions made by the area to national public revenues. Calama has historically been tied to the copper mining economy of the Chuquicamata mine. As a result of public marches and protests for a better quality of life in 2011, in October of that year, the Calama Plus consortium was established with the mission of designing and implementing a Sustainable Urban Plan (Plan Urbano Sustentable) under the same name. While the initial impetus and financing came from Chile's state-owned copper company Corporación Nacional del Cobre de Chile (CODELCO), Calama Plus is comprised of various stakeholders from the public and private sectors, who make collaborative decisions for the formulation, management, financing, and implementation of the projects included in the Master Plan. Their goal is to carry out initiatives with the purpose of improving the quality of life in Calama and making the city sustainable in accordance with its economic context. Through the formulation, management, and/or financing of projects, the different consortium members make their contributions for the implementation of the Calama Sustainable Urban Plan (Plan Urbano Sustentable de Calama). During 2011 and 2012—with the support of architectural and urban design firm ELEMENTAL—they were able to elaborate a Master Plan and project portfolio that were presented to and validated by the community through a series of public participation forums. Along with the Master Plan, a new executive management division was created to implement and oversee its progress.

Unfortunately, and despite the quality of the projects and initiatives, Calama Plus was unable to establish a governance structure that would provide sustainability despite the efforts of CODELCO and was criticized by council members and local stakeholders regarding the suitability and expectations created by the Master Plan. In June 2013, CODELCO decided to change the executive director of the project, reduce the budget for the Master Plan, and restrict its scope. For more information, visit www.calamaplus.cl.

Quintero Vive is a platform of urban projects promoted by eight companies located in the Quintero Bay area in the Valparaíso Region. Due to the presence of industrial activity and hazardous industries and the impact they have had on the environment and society in the area, this bay is considered a sacrifice zone. Although the bay extends beyond the Quintero district, companies located in Quintero decided to elaborate a plan to revert the damage caused. These companies are AES Gener, CODELCO Ventanas,

Empresa Nacional del Petróleo (ENAP), Enel Generación, GNL Quintero, Gasmar, Melón, and Oxiquim, which have worked together with the Municipality of Quintero to design a series of projects intended to rescue the city's urban heritage, showcase its history, and project it into the future.

The development of this initiative was a process that took place over several years, in which a group of architects—along with the municipality and with the financial support of GNL Quintero—spent a long time studying the city, its history, its main urban landmarks, and the areas with the greatest potential for renovation. This phase led to the creation of an initial portfolio of 20 projects that was presented to the community of Quintero and various stakeholders in the area, who were also invited to collaborate and contribute to its development. Quintero Vive currently comprises 30 projects—involving urban renovation and the creation of new public spaces—aimed at modernizing the city's urban center and improving and building community parks, fishing harbors, and sports infrastructure, among other things. It also involves initiatives intended to improve neighborhoods by contributing to the cleanliness of the city and environmental issues through the use of renewable energy. For more information on the significant progress made by the initiative, visit www.quinterovive.cl.

Despite the complexity of the territory and the environmental challenges it faces, Quintero Vivo has been able to move forward with its implementation thanks to the small size of the city and the commitment of the companies involved. Just like CREO Antofagasta, continued financing of technical teams has been of key importance thanks to the commitment of GNL Quintero. However, given the scale of the Master Plan, Quintero Vivo has not created new structures or technical bodies but has instead financed studies and projects to reinforce the installed capacities of the municipality, which still acts as the governance body for the project.

In the case of Calama Plus, CODELCO's initial impetus allowed the creation of a Master Plan with an extensive project portfolio, which raised high expectations against a backdrop of social tension in which the community was demanding that the resources generated by copper extraction be translated into investments to improve the poor quality of life in the city. Unfortunately, once the portfolio was defined, tensions diminished and CODELCO decided to shift its focus away from the initiative. Today, Calama Plus is still underway, and it has a portfolio of newly created projects to be implemented by 2025.

CREO ANTOFAGASTA

LESSONS

The CREO Antofagasta Plan is possibly the most serious and persistent attempt to create a shared vision and a metropolitan governance structure that makes it possible to implement an Urban Master Plan based on the voluntary collaboration of public and private stakeholders in Chile. While there are similar initiatives—such as Calama Plus, led by state mining company CODELCO, or Quintero Vive, coordinated by GNL Quintero—CREO Antofagasta has managed to persist over time and build capacities and an institutional structure, addressing a portfolio of projects and initiatives on a metropolitan scale.

The following section involves the evaluation of key aspects and lessons from the CREO Antofagasta initiative.

POLITICAL LEGITIMACY

A crucial element for the success of a public-private initiative is the building of trust, both on the part of citizens and the public and private teams. In the case of CREO Antofagasta, trust was associated with an initial mission statement developed by the stakeholders involved in the initiative: a long-term vision conceived not as an impact mitigation strategy, but as a portfolio for the public agenda aimed at the sustainable development of the city. The capacity of the Master Plan's vision and project portfolio to persist over time guarantees to the stakeholders that economic contributions will continue and that there will be new ones. In fact, to protect the collective interests established for this project, making economic contributions to projects outside of the Master Plan's project portfolio is prohibited.

The creation of the project portfolio has been a collaborative effort that always involves the current Intendant or Mayor—or in their absence, their representatives—ensuring convergence between the portfolio and government plans.

Another important aspect related to the legitimacy of the initiative is the significance given to public participation and engagement throughout the development of the Master Plan. The initial steps concerning the assessment included open-invitation local endeavors to communicate the initiative and identify the major issues affecting the municipal territory. Later, the process of defining and prioritizing the initiatives in the technical roundtables was also a collaborative effort. Citizens are actively involved throughout and are represented in the CPP by the CC, and in the CE with four members—of a total of 14—thus having a direct impact on the decisions made on the Plan.

As regards financing, private companies can make direct contributions to the operation of the CREO team, but they cannot influence how it is run. In June 2015, Fundación Chile took over incubation of the operations of CREO, which were previously financed by Fundación Minera Escondida. Fundación Chile acts as the receptor and manager of the funds, complying with anti-corruption laws and a compliance system, thus avoiding conflicts of interest associated with contributing entities.

Despite the fact that CREO relies heavily on contributions from Fundación Minera Escondida, there is an attempt to communicate each decision and state where resources are being allocated in a transparent manner. This factor will be essential in retaining the levels of credibility and legitimacy achieved by CREO Antofagasta during the new stage between since 2019, where the goal is to monitor and implement the Master Plan as an independent institution.

CLEAR ALLOCATION OF FINANCING AND SPENDING RESPONSIBILITIES

Another crucial aspect of CREO Antofagasta is the clear distribution of responsibilities and commitments, particularly concerning the financing of initiatives and the spending associated with them. As agreements are established, and projects begin to be executed with a long-term horizon, it is fundamental to have a clear financing strategy for the sustainability of the initiatives and projects. While contributions and commitments vary depending on the nature of the project, having a mechanism that guarantees financing creates a greater sense of certainty, which also encourages contributions.

In the case of public contributions for long-term project financing, the most effective arrangement is that of the Programming Contracts (Convenios de Programación). According to article 81 of the Constitutional Organic Law for Regional Government and Administration N° 19,175, the Programming Contracts to which section four of article 104 of the Political Constitution of the Republic of Chile (Constitución Política de la República) refers consist of formal agreements between one or more regional governments and one or more ministries that define the actions related to the investment projects that they agree to carry out in a given period. These contracts must specify the project or projects to which the responsibilities and obligations of the parties involved will apply, as well as the objectives, assessment procedures, and revocability rules. They may also include clauses that allow the redistribution of resources between projects, when appropriate. Private, public, national, regional, or local entities may subscribe to such contracts whenever their participation or contribution is deemed necessary to increase the efficiency of the execution of the corresponding Programming Contract.

Therefore, Programming Contracts are formal collaboration agreements, that is, they are direct agreements with public entities. This feature is an advantage, as it ensures

their viability over time by having public leadership backing each project. Another of the advantages is that the contracts require the projects to be feasible and socially profitable.

For all these reasons, the portfolio created by CREO Antofagasta has been shaped through this type of agreement and is included within this framework. However, once the portfolio of prioritized projects has been created, it is advisable to strengthen the Programming Contracts during the development stage of the Master Plan, as they are key instruments to guarantee medium-term financing for complex projects.

Programming Contracts for the Financing of Complex Projects – The Case of Biovías in Concepción

A textbook case of project management on a metropolitan scale in Chile, and one which shows the potential of Programming Contracts, is the Greater Concepción Multimodal Transport Plan (Plan de Transporte Multimodal del Gran Concepción) developed during the administration of President Ricardo Lagos. Called Biovías, this plan employed a similar model to that developed for the Valparaíso Metropolitan Train (Tren Metropolitano de Valparaíso, Merval). On both occasions, the initiative originated in Chile's state-owned rail company, Empresa de Ferrocarriles del Estado (EFE), which provided a team of professionals to lead the project, which fine-tuned initiatives that already existed, in addition to establishing contracts with government entities involved in the works. The three key elements for the development and implementation of Biovías are listed below:

1. Presidential Instruction

On May 20, 2004, the President of the Republic issued a presidential instruction which created the Executive Committee (Comité Ejecutivo) of the Biovías Project (Proyecto Biovías). This committee was chaired by the Ministry of Transport and Communication and was comprised of the Ministers of Housing and Urban Planning and Finance. It also included the Undersecretary of Transportation, the Intendant of the BioBío Region, the executive secretary of the Viability and Transport Program of the Secretariat for Transport Planning (Secretaría de Planificación de Transporte, SECTRA), and the presidents of EFE and Ferrocarriles Suburbanos de Concepción (FESUB) as permanent guests. The instruction stated that EFE was responsible for providing technical and administrative support to the committee. Despite not being established in the instruction, a Regional Coordination Committee (Comité Regional de Coordinación) was put in place, chaired by the Intendant and composed of the Regional Ministerial Secretariats of the ministries of Public Works (Ministerio de Obras Públicas, MOP), Transport and Telecommunications, Housing and Urban Planning, the director of the Housing and Urban Planning Service (Servicio de Vivienda y Urbanización, SERVIU), and FESUB.

2. EFE's Three-Year Plan

EFE's three-year plan for 2003–2005 was modified to incorporate the Biovías works and ensure state contributions to finance them. This mechanism was first established with the Budget Office of the Ministry of Finance (Dirección de Presupuestos del Ministerio de Hacienda, DIPRES). The amendment to the three-year plan was approved by way of Supreme Decree N° 72 (2004), signed by the Ministers of Transport and Communications and Finance, and later by the President of the Republic. This Supreme Decree was acknowledged by the Comptroller General of the Republic (Contraloría General de la República, CGR).

3. Inter-institutional Agreement Protocol (Programming Contract)

An inter-institutional agreement protocol was created, consisting of a joint Programming Contract between the ministries and the GORE, defining the contribution model for each ministry. Subsequently, the contributions made by each ministry each year were annotated in the respective budget law, along with Supreme Decree N° 72 and examples of the annotations of the 2005 budget law, applying what was established in the Programming Contract.

The Biovías Plan has allowed the provision of commuter rail, bus, and collective transportation services in Greater Concepción to be integrated as a system. Although it had to face various challenges in the first few years of operation, today the public transport system of Greater Concepción is one of the best rated in the country. Additionally, the expansion of the commuter rail service to the town of Coronel has significantly reduced travel times and socio-spatial segregation in the Metropolitan Area of Greater Concepción. Merval has shown a similar level of success.

The idea behind the implementation of Biovías and Merval is to use existing organs and—under presidential instruction—coordinate them to develop joint plans led by a state entity (e.g., EFE in the case of transport projects or the responsible SERVIUs in the case of other cities), along with creating the necessary technical teams. Approval and validation of the plans and Programming Contracts were carried out in the Committee of Ministers for Spatial Planning and Urban Development (Comité de Ministros de Ciudad y Territorio), along with the instructions for their respective SEREMIs.

THE CASE OF PRCB18 BIOBÍO

The Plan for the Reconstruction of the Coastal Border of the Region del Biobío (PRBC18) was born in response to the destruction of coastal settlements caused by the tsunami that accompanied the earthquake on February 27, 2010. The magnitude of the event revealed the vulnerability of the 36 coastal towns that make up the region, making the immediate reconstruction a necessity, but also the need to rethink the urban structure in order to direct investment in reconstruction with a resilience focus. With this objective, the GORE del Biobío created the Commission of Reconstruction of the Coastal Edge of the VIII Region (CRBC), whose main function was to develop the PRBC18.

The commission was made up of a team of professionals and specialists, led by Sergio Baeriswyl -a recognized local urban planner- as executive secretary. The Plan addressed 18 localities located in an extension of 260 kilometers, approximately: Talcahuano, Cobquecura, Perales, Dichato, Coliumo, Caleta del Medio, Los Morros, Penco - Lirquén, Tumbes, Lo Rojas, South Port, Tubul, Llico, Lebu, Quidico, Tirúa and Isla Mocha.

Ten of these locations are part of the Metropolitan Area of Greater Concepción and, for purposes of this study, constitute the main focus of analysis. The localities are: Purema - Cocholgue, Dichato, Coliumo, Caleta del Medio, Los Morros, Penco - Lirquén, Talcahuano, Tumbes, Lo Rojas e Isla Santa María.









THE CASE OF PRCB18 BIOBÍO

Pablo Allard / Pía Bettancourt

1. DESCRIPTION OF THE CONTEXT OF IMPLEMENTATION

The epicenter of the 27F earthquake was located on the coast of the BioBío Region, 150 kilometers northeast of the city of Concepción. Thirty-five minutes later, the earthquake was followed by a tsunami that hit the coastal towns and cities in the region, leaving 335,466 people affected and 164,141 homes destroyed (Oficina Nacional de Emergencia del Ministerio del Interior, ONEMI, 2010).

The Metropolitan Area of Greater Concepción (AMC) is at the center of the region's coastline. It encompasses a total of 10 districts, of which four are located on the coast: Tomé, Penco, Talcahuano, and Coronel. The towns and cities that make up the coastal area of Greater Concepción vary in size and complexity, with small fishing harbors of less than 300 inhabitants—such as Coliumo, Caleta del Medio, and Los Morros—and areas such as Dichato and Talcahuano, which, due to their size and diversity of activities and stakeholders, presented a more challenging reconstruction scenario.

Talcahuano, the largest population center in the PRBC18, was the city that suffered most from the tsunami. Waves rose nearly 5 meters, damaging close to 80 percent of the city's maritime infrastructure and leaving only 45 percent of the companies located there operational (MINVU, 2010), significantly affecting the region's economic activity as a major commercial and export port.

PRCB18 BIOBÍO

Biobío Region

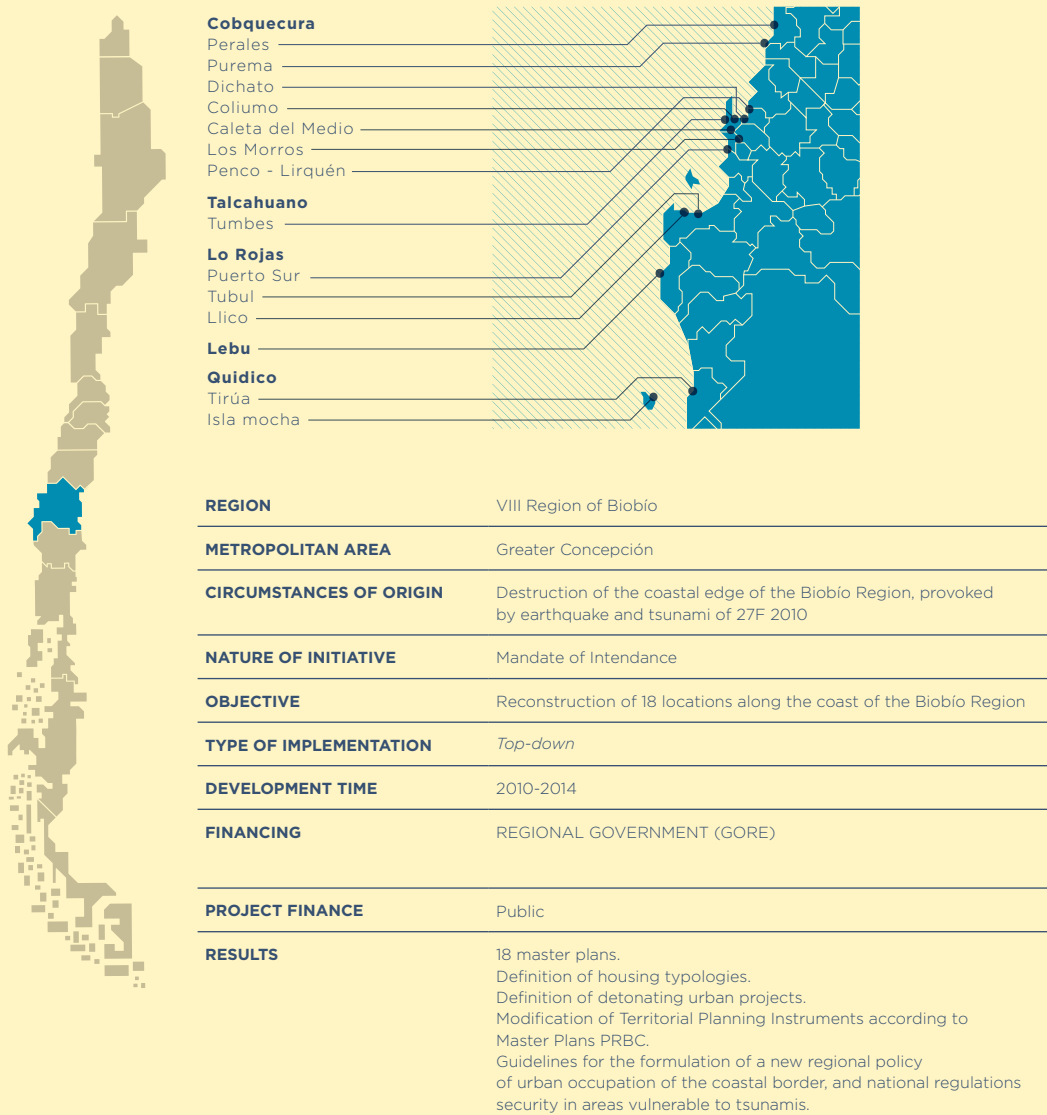


Figure 35

TOWNS INCLUDED IN PRBC18

REGIÓN	PROVINCIA	COMUNA	LOCALIDADES	HABITANTES	SUPERFICIE ÁREA URBANA	SUPERFICIE AFECTADA POR TSUNAMI (HA)	GRUPOS PRBC18
VIII Región del Biobío	ÑUBLE	Cobquecura	Cobquecura	1.493	184 ha	0	ZONA NORTE
		Coelemu	Perales	522	122 ha	56,65 ha	
	CONCEPCIÓN	Tomé	Purema – Cocholgue	120	sin info	sin info	ZONA CENTRO
			Dichato	3.488	122 ha	80,34 ha	
			Coliumo	367	171 ha	45,40 ha	
			Caleta del Medio	320	26 ha	5,4 ha	
			Los Morros	214	122 ha	4,01 ha	
		Penco	Penco - Lirquén	33.780	777 ha	85,42 ha	
		Talcahuano	Talcahuano	163.626	4.030 ha	1.072,15 ha	
			Tumbes	1.344	26 ha	4,91 ha	
		Coronel	Lo Rojas	400	sin info	sin info	
			Isla Santa María	490	200 ha	0	
	ARAUCO	Arauco	Tubul	2.031	20 ha	77,05 ha	ZONA SUR
			Llico	320	26 ha	42,17 ha	
		Lebu	Lebu	20.838	sin info	sin info	
			Isla Mocha	584	2825 ha	281,42 ha	
		Tirúa	Quidíco	1.013	350 ha	8,3 ha	
			Tirúa	2.508	51 ha	54,69 ha	

Table 15
Source: PRBC18 Master Plans (MINVU, 2010).

2. PROCESS OF INSTITUTIONAL FORMATION OF THE INITIATIVE

The characteristics of the destruction caused by the earthquake and tsunami exposed the vulnerability of the constellation of coastal population centers in the BioBío Region. This scenario forced the authorities to lead a process that consisted not only of the replacement of the homes and buildings destroyed, but also the modification of the urban structure, applying criteria associated with sustainability and resilience to natural disasters. In this sense, the reconstruction was seen as an opportunity to establish a long-term comprehensive development vision in the localities involved.

In first place, the Intendant of the BioBío Region, Jacqueline Van Rysselberghe, called on architect and urban planner Sergio Baeriswyl to create the CRBC. He also took on the role of executive secretary of the Commission and drew up the operational structure of the reconstruction office. The main goal was to plan the reconstruction of the 18 localities affected by the earthquake and tsunami, ensuring a quality, inclusive, and comprehensive reconstruction process, which led to the creation of 18 Master Plans with an associated project portfolio.

The specific objectives of the PRBC18 can be summed up as follows:

- 1 High-quality remedial reconstruction that allows urban appreciation agents to be incorporated where none previously existed. The aim was that the reconstruction works should not only replace the existing infrastructure, but also incorporate a development vision, adding value to the communities impacted.
2. An inclusive reconstruction reflecting the wishes of the residents in an authentic and participative manner.
3. A reconstruction that promotes the highest safety standards possible and enables the recovery of coastal urban habitability, protecting both the lives of residents and the residential heritage, thus contributing to urban resilience.
4. A reconstruction that integrates advanced urban sustainability indicators to promote more efficient use of resources and build a better relationship with the environment.
5. A reconstruction that strengthens identity, acknowledges local features, and capitalizes on both tangible and intangible values.
6. A reconstruction that taps into more diverse platforms of economic activity to add more value to the city and allow new activities to be undertaken.
7. An integrated reconstruction that ensures coordinated actions between public and private stakeholders.

3. GOVERNANCE STRUCTURE

In order to carry out the PRBC18, a locally centralized management model was proposed, whereby the Office of the Intendant assumed responsibility for taking strategic and political decisions, advised by a technical execution office and in coordination with the services and municipalities involved.

The first step of the plan involved the creation of a PRBC Board, composed of stakeholders from the municipalities involved, universities, private associations, GORE representatives, and public services. The aim of the board was to:

- Advise on inter-sectoral decision-making
- Facilitate coordination in the work and for the development of the Plan
- Support corporate management in the consolidation of relevant projects
- Strengthen decision-making by taking into account the different realities and needs, locally and regionally
- Ensure the participation of relevant stakeholders directly related to the Plan's actions
- Promote agreements and consensus on the prioritization of actions and projects derived from the Plan

Despite the structuring of this entity, it had no effect in practice because of how complex it was to make decisions in a scenario of extreme urgency, where works had to be defined, designed, and executed within a short period of time or immediately. The number and diversity of the political stakeholders that comprised the board made it impossible to reach agreements rapidly. This was an obstacle for the urgent development of the Master Plans, so the Office of the Intendant decided to coordinate directly with the municipalities, communities, and services involved in each territory. Consequently, as the main advisor for decision-making, the PRBC18 Office (Oficina PRBC18)—an executive body of a technical-professional nature comprised of nine professionals from different disciplines, including a geodata specialist and three professionals from the SEREMI of Housing and Urban Planning were added to the team to provide services. This team was empowered to ensure convergence with the ministry's public agenda. Another aspect that was key in establishing the PRBC18 Office was the support it received from the Central Government. Here, the role of the MINVU was crucial, as—through the National Coordinator for Urban Reconstruction (Coordinador Nacional de Reconstrucción Urbana)—it validated and supported the work by holding meetings and maintaining constant communication between the PRBC18 Office, the ministerial cabinet, and the Central Government.

The PRBC18 Office functioned directly under contract with the GORE, which financed the team's fees. Its main objective was to develop the guidelines to direct reconstruction investments through the design and implementation of a Master Plan for each population center with specific associated projects. The office became a multifunctional body, concerned with participation, management, design, inter-sectoral and cross-scale coordination, and monitoring of the execution of the plans, programs, and projects.

After identifying the difficulties involved in setting up the PRBC Board, the PRBC18 Office was established as the entity concerned with focusing the efforts of the different sectors to build a joint vision for the reconstruction. Its technical nature, along with the local reputation of the team, allowed the political conflicts typical of post-disaster recovery processes to be overcome.

The functions of the PRBC18 Office included the execution of six specific deliverables:

1. Elaboration of Master Plans for the urban reconstruction of 18 coastal localities
2. Definition of housing and neighborhood typology according to their needs and local identity
3. Definition of triggering urban projects and the strategic character of each locality
4. Proposal of amendments to the Territorial Planning Instruments according to the new design standards derived from the Master Plans to be included by municipalities in their updated Regulatory Plans
5. Creation of guidelines for the formulation of a new regional policy of urban occupation of the coastline that promotes safety as an avenue for development
6. Creation of guidelines for the formulation of national safety rules in tsunami-prone areas

As regards its methodology, the PRBC18 Office grouped the localities into three areas, according to geographic and urban features:

- Northern area, which concentrates small- and medium-scale population centers
- Central area, seen as the most complex area due to the size of the localities and the damage suffered
- Southern area, which concentrates small vacation towns and artisanal fishing harbors

Each area had one coordinator, who was responsible for coordinating the work with the local stakeholders, both from the public sector and citizens.

PRBC18 STAKEHOLDERS

	Regional Board	PRBC18 Office	Municipalities	International Cooperation
SECTOR PÚBLICO	Not created Mayors GORE MINVU SERVIU MOP Production Development Corporation (CORFO) District Planning Secretariat (SECPLAC)	3 professionals MINVU	Cobquecura Coelemu Tomé Penco Talcahuano Coronel Arauco Lebu Tirúa	
SECTOR PRIVADO	Chilean Construction Chamber (CChC) Chamber of Production and Commerce School of Architects			
ACADEMIA Y ONGS	U. de Concepción U. del Biobío U. del Desarrollo U. San Sebastián U. de las Américas			Universitat Frankfurt, Germany The University of Cardiff, UK Florida International University, USA
EQUIPO PROFESIONAL		1 Executive Secretary 5 Specialists 1 Geodata Specialist		
FUNCIÓN	Development Vision	Technical Services		Technical Advisory

Table 16
Source: Own elaboration.

PBRC18 GOVERNANCE STRUCTURE AND RELATIONSHIP OF DIFFERENT STAKEHOLDERS

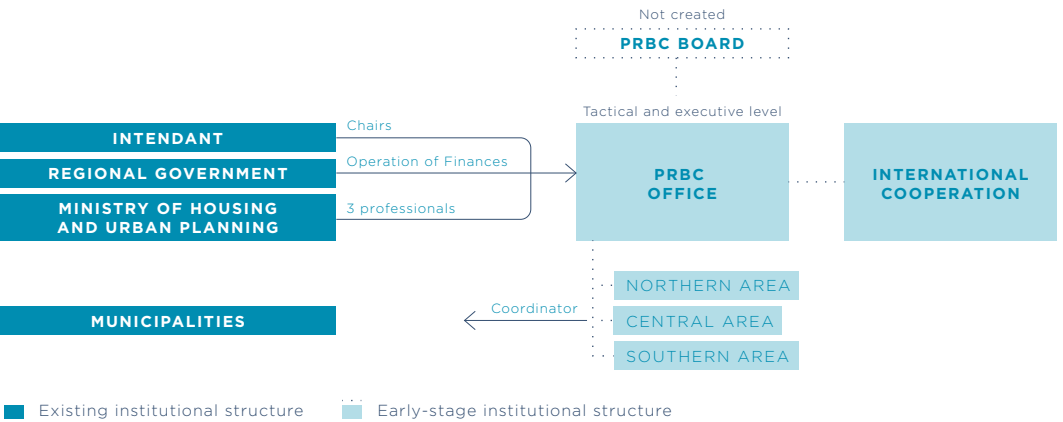


Figure 36
Source: Own elaboration.

4. MECHANISM OF IMPLEMENTATION AND LAUNCH OF PRBC18

The PRBC18 was created through a direct mandate from the Intendant to organize the reconstruction process, particularly in the coastline area impacted by the earthquake and subsequent tsunami.

Under Sergio Baeriswyl's Executive Secretariat (ES), a technical-professional office was set up within the existing regional governance structures to carry out the process. The role of this office is to operate as an expeditor and coordinator of the functions of local and sectoral bodies for the reconstruction.

As its first strategy, the PRBC Office established a partnership with the SEREMI MINVU, which provided the team with three professionals, whose goal was to guarantee the flow of interaction for decisions and facilitate the insertion of projects into the public agenda, aiding with the model of presentation, the methodology for application, and the management of public projects

On the other hand, the support and trust deposited by the Central Government and MINVU in the Plan, as well as the direct mandate of the Mayor and the financing of the GORE for its operation, lay the facultative foundations of this office to operate symmetrically with the existing organisms. The empowerment granted by the Mayor is a key aspect that allows the PRBC18 Office to influence decision-making and directly influence the sectoral public agenda.

5. DEVELOPMENT AND EXECUTION OF PRBC18

In general terms, the formulation of the PRBC18 consisted of three stages:

The first stage, which focused on assessment, involved gathering basic technical background information for the reconstruction, such as collecting digital mapping sources; identifying key territorial stakeholders; creating an inventory to identify the areas affected and levels of impact; and determining the state of infrastructure in terms of connectivity, services, and facilities.

After this came the planning and coordination stage, which involved the creation of visualizations including the core ideas that would shape the Plan's founding charter; design guidelines; key projects; and the prioritization of the initiatives. For almost three months—of back and forth and modifications hammered out with the local communities—the final Master Plan that served as a roadmap for the reconstruction projects was developed.

Lastly, the reconstruction stage took place, which entailed incorporating the Master Plan into the IPTs, defining risk areas, land use and functional vocation, connectivity and transport, and densities and typologies. The Disaster Law (Ley de Catástrofes) allows

for, as an exception, the acceleration of the modification or update of regulatory plans in districts considered to be within a disaster area. As a transparency policy and to avoid real estate speculation during the process, the MINVU established strict conditions to justify such amendments, limiting them to the redefinition of risk areas and their construction restrictions. To do so, the MINVU provided the PRBC18 team with tsunami risk and risk mitigation studies, as well as geological and seismic risk studies that helped narrow down amendments to what was strictly necessary for the resilient recovery of the communities affected.

The elaboration of the Master Plans took into consideration both the role of each locality as part of a regional system and the local vision expressed through the identity and vocation of each of those towns or cities. The process of participation was crucial to the establishment of these foundations and became an element without which it would have been impossible to create and validate the proposals included in each Master Plan.

The first step consisted of preparing surveys, designed with the help of local stakeholders and addressed to the population that was directly impacted by the tsunami, prioritizing families who had lost their homes. The instrument covered issues that were specific to each locality and its goal was to establish reconstruction guidelines considering the needs of the population prior to the earthquake and their expectations and future desires for their town or city.

Issues raised through the surveys were then processed by the municipalities and respective District Planning Secretariats (Secretarías Comunes de Planificación, SECPLACs), and later validated by the community through meetings including stakeholders from the public and private sector. The definition of projects involved meetings with the entities responsible for their execution, and they were then established in the National Investment System (Sistema Nacional de Inversiones).

After being presented to the community, the Master Plans were approved by the Municipal Council (Concejo Municipal) and validated by the signature of the various sectoral entities, thus securing the commitment of each of the parties to align their investments according to the vision created by this instrument. Despite initial differences and tensions, the technical capacity and transparency of the PRBC18 Office allowed the 18 Master Plans to be approved by the Municipal Councils involved and receive the backing of various sectoral agencies and services.

In August of that same year, a portfolio of 240 projects was determined with their respective data sheets, which were prepared to be introduced into regular channels of regional and sectoral financing.

TIMELINE AND STAGES PLANNED FOR THE IMPLEMENTATION AND EXECUTION OF PRBC18

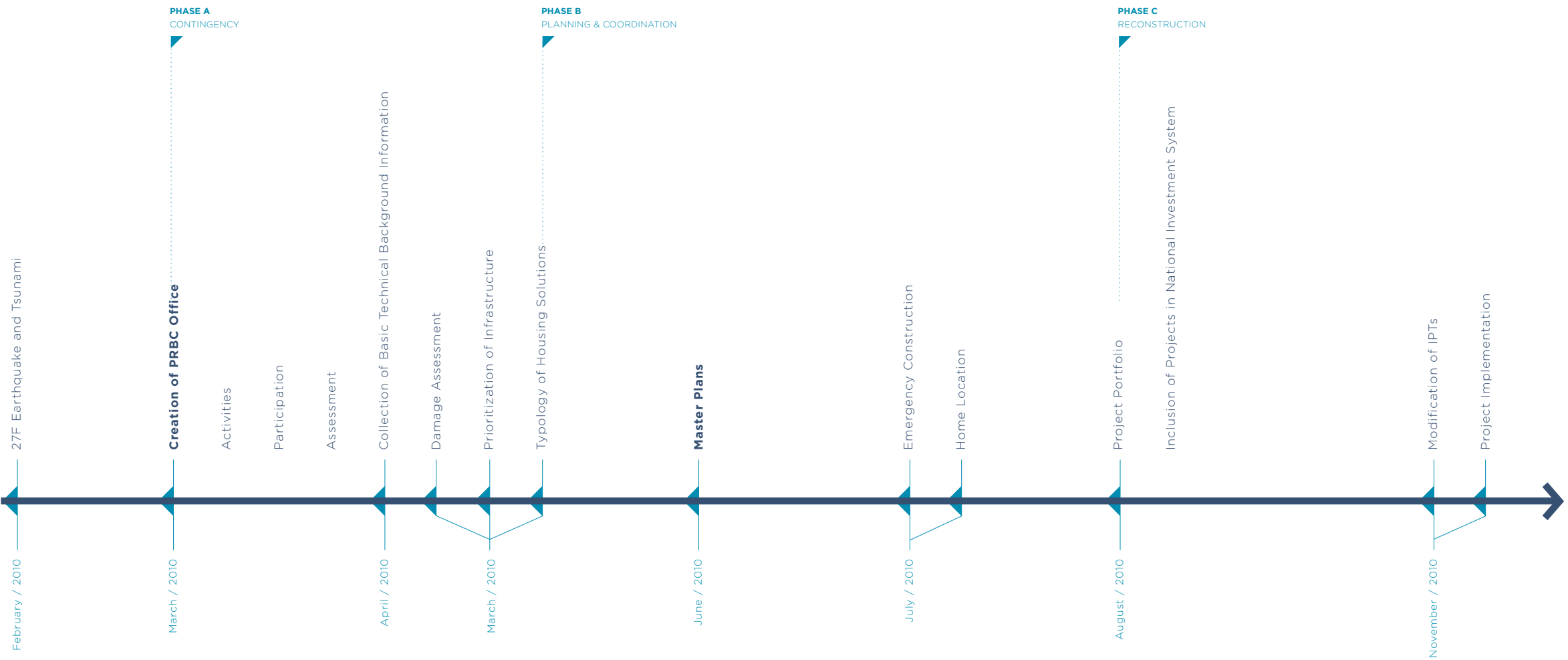


Figure 37
Source: Own elaboration.

PRCB18 LESSONS

POLITICAL LEGITIMACY

The strong technical-professional nature of the PRBC18 Office guaranteed the continuity of the plans and projects regardless of electoral changes resulting from the 2011 municipal elections. As it did not represent the political ideology of the government in office, the entity was able to operate in the long term, even after the exit and replacement of the Intendant in mid-2011. This goes to show that there is agreement when it comes to technical aspects, and thus it is important to have quality plans and teams for this type of initiative.

The power granted to the PRBC18 Office by direct mandate from the Intendant, as well as the support received from the Central Government, gave the entity legitimacy with central and local-level bodies and had a direct impact on decision-making processes, leveling the field for negotiations.

INVOLVING STAKEHOLDERS FROM THE BEGINNING OF THE PROCESS

Anxiety levels of local stakeholders and population increase significantly during a crisis. Emergencies require immediate responses and there is usually no room to worry about anything else but basic needs and creating a development vision, making it harder to develop an all-encompassing plan.

In this sense, and while there is no authorized participation protocol for emergencies, the PRBC18 tried to enable different instances of limited participation. Local universities were invited to participate in the assessment phase, gathering information and developing preliminary proposals and surveys, and open presentations and focus groups were held in each locality with the aim of communicating the scope of each Master Plan.

Certainly, it would be ideal to have access to more comprehensive methods of participation, such as holding referendums to make crucial decisions or setting up training and information facilities so that citizens understand what the reconstruction process entails. However, these types of practices require time and resources that were unavailable at the time due to the magnitude and extent of the catastrophe.

It should be noted that the experience of the Constitución Sustainable Reconstruction Master Plan (Plan Maestro de Reconstrucción Sustentable de Constitución, PRES Constitución) could shed some light on this scenario. Coordinated and financed by forestry company Arauco, this hybrid experience between CREO Antofagasta and the PRBC18 had the resources to create a structure of governance and implementation for

the plan, as well as a project portfolio that has guided the reconstruction process in a city that did not have the technical capacities of the PRBC18.

CLEAR ALLOCATION OF FINANCING AND SPENDING RESPONSIBILITIES

- The PRBC18 Office operates with direct funding from the GORE, which covers wages but does not have resources for projects.
- The financing model did not suffer any changes. Funding and mechanisms for the execution of projects stem from formal instruments such as the National Fund for Regional Development or Sectoral Funds (Fondos Sectorales) through the National Public Investment System (Sistema Nacional de Inversión Pública).

CONSISTENCY IN RESOURCES AND EXPENSES

The PRBC18 Office operates as a filter and control:

- Filter: It ensures that public projects are consistent with the Plan, identifying those initiatives that correspond to a vision that has been agreed upon by the different parties.
- Control: It identifies and prevents the execution of projects that are not in line with the Plan.

After the 27F earthquake and tsunami, one of the main innovations in the recovery process was the incorporation of Reconstruction Master Plans (Planes Maestros de Reconstrucción) for large urban and coastal areas, and the PRUs for intermediate towns. These plans made it possible to coordinate and expedite the reconstruction of critical infrastructure, facilities, and public spaces with a more comprehensive, participative vision that considered the recovery as a chance to improve the quality of life and resilience of the communities.

Just as in the case of CREO Antofagasta, while Master Plans are not considered to be a planning instrument under the law, their implementation in over 150 towns and cities impacted by 27F enabled the creation of a prioritized project portfolio for each community, which is currently being implemented.

In the case of the PRBC18 and PRES, as of 2014, 27 works had been completed for a total of approximately CLP 80 million, including innovative examples such as Dichato,

Coliumo, or La Poza de Talcahuano. For the 2015–2018 period, the programming of both Plans included the implementation of 46 projects for a total investment of around CLP 133 million.

Contrary to what some of the critics stated about the slow pace of the process, this level of progress is as planned. In fact, according to the MINVU's Gantt chart for the Reconstruction Plan (2010), the execution of works under PRES and PRU was expected to last beyond 2018 due to the high level of complexity of the projects, such as the flood mitigation park for tsunamis being built in Constitución. Although the PRBC18 was set up to function during the four years of emergency and recovery after the earthquake, before its dissolution in March 2015, the team transferred the project portfolio to the Office of the Intendant, along with the various systems for monitoring and follow-up so they would be implemented properly.

The efficacy of the PRBC, PRES, and PRU lies in their decentralized nature, such as in the case of the BioBío Region, where a Coastline Reconstruction Agency (Agencia de Reconstrucción del Borde Costero) was established within the Office of the Intendant to coordinate the 18 plans, and which led to Concepción architect and PRBC18 Office director, Sergio Baeriswyl, receiving the National Urbanism Award in 2014. This award speaks to the value of urban design in the construction of resilient communities, so this experience has been adopted by the National Urban Development Policy (Política Nacional de Desarrollo Urbano, PNDU). Hopefully, new legislation will soon include master plans for the development of better cities both in times of crisis and peace.

The efficacy of the **PRBC**, **PRES**, and **PRU** lies in their decentralized nature, such as in the case of the **BioBío Region**, where a Coastline Reconstruction Agency (Agencia de Reconstrucción del Borde Costero) was established within the Office of the Intendant to coordinate the **18** plans, and which led to Concepción architect and PRBC18 Office director, Sergio Baeriswyl.

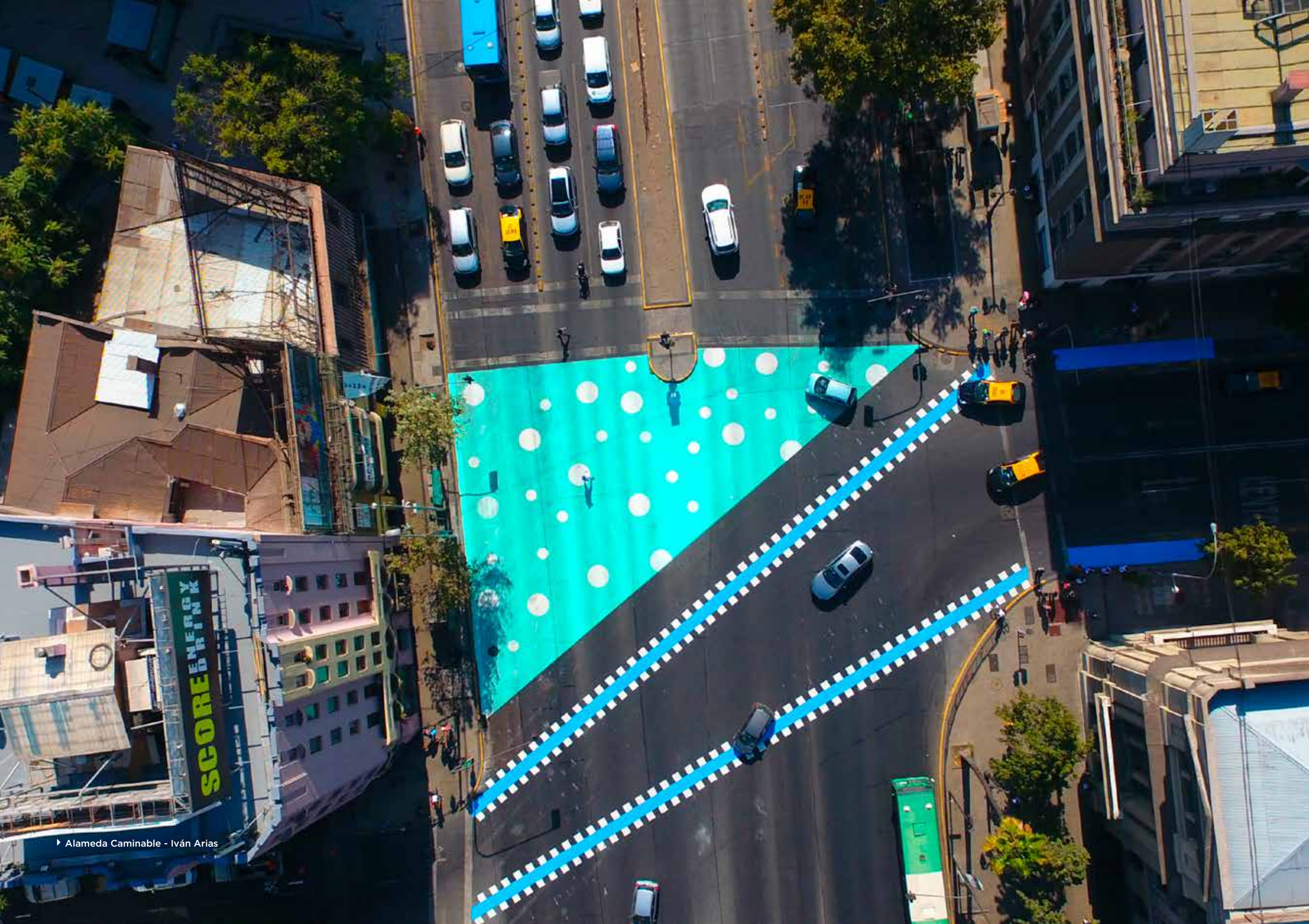
THE CASE OF SANTIAGO RESILIENCE STRATEGY

In 2014 Santiago became part of the 100 Resilient Cities network, a program promoted by the Rockefeller Foundation to help cities “become more resilient to physical, social, and economic challenges, not only in the face of natural disasters but also to tensions that weaken the structure of a city” (GORE, 2017).

This program presented an opportunity to address the city’s crisis of inequality and sustainability, which was seized by the Intendant of the Santiago Metropolitan Region, Claudio Orrego, who assumed the responsibility for leading development of the Santiago Resilience Strategy.

In the case of Santiago, the initiative began to take shape after the creation of a City Resilience Officer (CRO), functioning within the Office of the Intendant and responsible for coordinating metropolitan initiatives and organizing actions according to a strategic vision agreed upon by various social and political stakeholders. In this sense, the Resilience Strategy has become a kind of roadmap to guide the plans, programs, and projects towards a long-term horizon, fulfilling specific development objectives for the city.











THE CASE OF THE SANTIAGO RESILIENCE STRATEGY

Pablo Allard / Pía Bettancourt

1. DESCRIPTION OF THE CONTEXT OF INSTITUTIONAL DESIGN AND IMPLEMENTATION

Located in the Santiago Metropolitan Region, the city of Santiago has 7.36 million inhabitants and concentrates most of the country’s population (INE, 2017). Of the total population, 96.6 percent lives in this urban area, and its main productive activities include industrial production, and financial and business services, the latter of which accounts for 77 percent of national GDP.

Santiago embodies the country’s high level of centralization, concentrating most of the political, economic, and intellectual capital, as well as almost half of its population (OECD, 2009). However, this significant economic growth has come with an increase in levels of inequality. The OECD identifies Santiago as the most unequal city in the country, presenting greater segregation of wealthy groups concentrated in the best equipped areas. Urban inequality results in major differences in terms of access to and delivery of services such as housing quality and location, quality education and health care, gender gaps, etc.

These differences have come about against a backdrop of limited territorial planning instruments, amid great political fragmentation of the urban area, where urban development has followed market dynamics with barely any control from the state. Urban growth and the development of real estate have not prioritized ecological and social values, thus causing the degradation of ecosystems and territorial fragmentation.

In recent decades, Santiago has become an extensive city, comprised of 34 of the 52 districts that make up the RMS. In administrative terms, the region is led by the GORE, which is chaired by the Intendant and the CORE. Functions such as planning, transport, or security are distributed at a central or local level, making it difficult for the 34 municipal authorities participating in the city to coordinate the formulation and implementation of policies or programs on a metropolitan scale.

SANTIAGO RESILIENCE STRATEGY

Metropolitan Region



Figure 38

2. INSTITUTIONAL FORMATION PROCESS OF THE INITIATIVE

Appointed by President Michelle Bachelet, Claudio Orrego took over as Intendant of the GORE in 2014. Amidst fragmented metropolitan governance, both on a sectoral and territorial level, the Intendant's main goal was to work towards metropolitan coordination to make governance more efficient.

Intendant Orrego's motivations to push the capital's urban agenda had to do with both political and personal reasons. On the one hand, he was appointed Intendant after having been a presidential candidate in the primary election of the center-left coalition and, on the other, his term covered the period just as Congress was discussing the Decentralization Law and the election of governors. The latter meant that he would possibly have to face the challenge of being the last appointed Intendant and the first elected Governor, should the law be passed during his mandate. Additionally, his experience as Minister of Housing and Urban Planning and Mayor of the Peñalolén district worked to his advantage. Finally, his personal motivation was to emulate the work of one of his ancestors, Intendant Benjamín Vicuña Mackenna, who was renowned for the great works and urban transformations that he championed in Santiago in the early 20th century.

And so began an administration marked by a more inter-sectoral approach, coordinating actions with SEREMIs prior to the rendering of accounts to their respective ministries. The Office of the Intendant expanded its cabinet to prioritize regional investment according to guidelines to organize projects applying for funds from the FNDR. Consequently, the FNDR went from being merely a distributive bank to a mechanism capable of pressing both municipalities—which have to align their supply with the established guidelines—and the Office of the Intendant's in-house team to elaborate programs and coordinate with each government sector.

It is in this context that the Santiago Resilience Strategy was established. This initiative gave shape to a series of guidelines that the Office of the Intendant had already been developing intuitively and that were supported by a network of national and international experts, as well as the addition of Santiago to the 100RC global network of cities.

The Santiago Resilience Strategy required this work to be structured and conceptualized, and validated the prioritization of a project portfolio, establishing a solid foundation for its continuation. It should be noted that the 100RC program is mostly focused on cities whose governance structures are limited to urban areas. Nevertheless, Orrego tried to use this tool and apply it at a metropolitan level and although it was not originally designed to function on such a large scale, it was successfully applied and adapted to Santiago's more complex territory.

The vision of the Strategy shows its main objective clearly:

"We want Santiago's development model to be one that functions on a human scale, where neither cars, nor buildings, nor economic interests predominate over people. We want the people who inhabit and experience the city to feel that Santiago is being dreamed of, planned, and built keeping each and every one of them in mind." (GORE, 2017).

3. GOVERNANCE STRUCTURE

As part of the 100RC program, the Rockefeller Foundation provided the funds for the recruitment of a CRO, who is responsible for the city's resilience initiatives. Additionally, it finances the support of a network of experts and services offered by strategic partners for the development of the strategy.

In the case of Santiago, the program's governance was established within the structures of the GORE, and the regional coordinator, Gabriela Elgueta, was appointed CRO. Consequently, empowerment developed within the Office of the Intendant, enabling the methodological development proposed by the program for the effective coordination of the different public agendas. The CRO has the support of a Deputy Resilience Officer, Cristián Robertson, and the Santiago Resilience team, comprised of four high-level professionals, who function as the operational body of the initiative.

As a methodological suggestion from the 100RC program, a Resilience Council was created with the aim of legitimizing and validating the pending agenda. In the case of Santiago, the Council merged the 27 roundtables in which the Intendant was already participating to match the city's themes with the agenda of the program. Comprised of stakeholders from the public and private sectors, these roundtables contributed to the creation of a strategy through work sessions and discussions and the production of deliverables in specific consultations. This Council does not solely coordinate, but also proposes a specific methodology to delve more deeply into thematic areas, compiling recommendations for the short, medium, and long term based on the expertise of the stakeholders involved so they can later be incorporated into the strategy.

In addition, the Rockefeller Foundation set up a platform of international experts to be made available for the strategy as part of the 100RC network and provided USD 5 million in nonpecuniary contributions for the City Exchange initiatives, in which cities exchange experiences and good urban practices. International consulting firm ARUP also contributed to the project by supporting the city of Santiago as a strategic partner for three years with a fund of USD 300,000, providing the necessary technical deliverables to structure the strategy. To optimize its support, ARUP hired local consultants for each of the needs expressed by the Office of the Intendant.

SANTIAGO RESILIENCE STRATEGY STAKEHOLDERS

	Resilience Council	Resilience Office	SeCRO ¹	Partners
PUBLIC SECTOR	<div><ul style="list-style-type: none">SEREMI of Housing and Urban PlanningSEREMI of Public WorksSEREMI of EconomicsSEREMI of EnvironmentSEREMI of EnergySEREMI of TransportONEMIMetropolitan Public Transport Division (DTPM)CORE</div>	<div><ul style="list-style-type: none">City Resilience Officer (CRO)Regional CoordinatorDeputy Resilience Officer4 Professionals</div>		
PRIVATE SECTOR	<div><ul style="list-style-type: none">SeCROMetro de SantiagoCChCManufacturers' Association (SOFOFA)Santiago Chamber of CommerceSchool of Architects of Chile</div>		<div><ul style="list-style-type: none">Aguas AndinasseCRO (Servicio de Gestión de Crisis y Resiliencia de las Organizaciones compuestas por CGE, Telefónica, TRansbank, Albertis, Autopistas de Chile, COPEC, GNL Quitenro, MetrogasCGETelefónicaTransbankAbertisAutopistas de ChileCOPECGNL QuinteroMetrogas</div>	
ACADEMIA & NGOS	<div><ul style="list-style-type: none">Research Center for Integrated Disaster Risk Management (CIGIDEN)Sustainable Urban Development Center (CEDEUS)Center for Global Change UCCenter for Public Policy UCU. Alberto HurtadoCenter for Climate Science and Resilience (CR)2Territorial Intelligence Center UAIUDDU. Diego PortalesFaculty of Physical and Material Sciences of Universidad de ChileFundación Mi ParqueAvinaAdapt ChileCiudad EmergenteCiudad VivaNGO Inclusiva</div>			<div><ul style="list-style-type: none">Rockefeller FoundationARUP: Strategic PartnerErnst & YoungFundación Urbanismo SocialPacífico, Laboratorio de RiesgoJunto al Barrio</div>
FUNCTION	Validate Agenda	Resilience Strategy Project Agenda		Technical Advisory

Table 17 Source: Own elaboration. 1 A network of companies concerned with crisis management and resilience, known in Spanish as Servicio de Gestión de Crisis y Resiliencia de las Organizaciones (Chile).

GOVERNANCE STRUCTURE OF SANTIAGO RESILIENCE STRATEGY AND RELATIONSHIP BETWEEN DIFFERENT STAKEHOLDERS

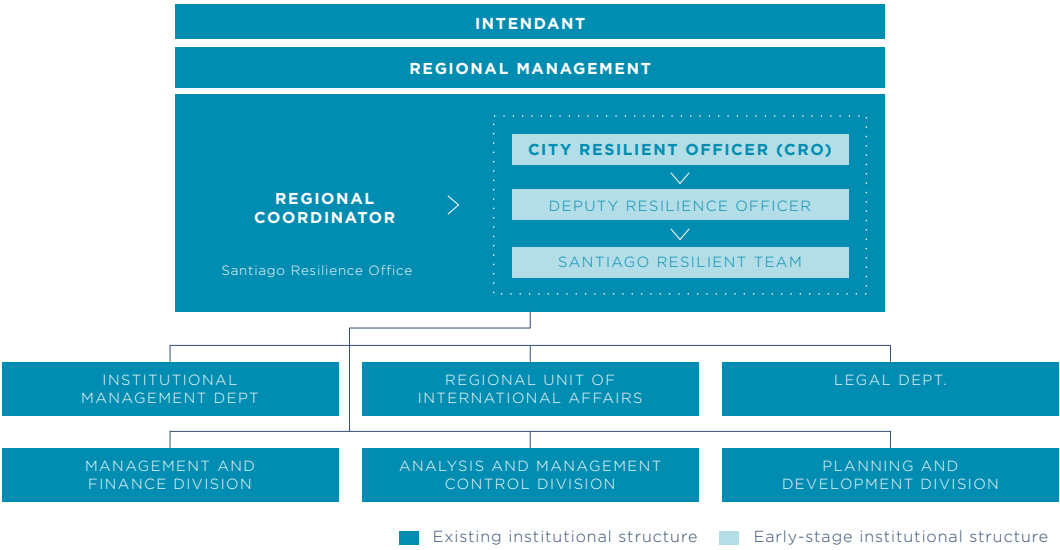


Figure 39 Source: Own elaboration.

4. MECHANISM OF IMPLEMENTATION AND LAUNCH OF SANTIAGO RESILIENCE STRATEGY

The design and implementation methodology used in the initiative were based on two instances: a participatory process that gathered various key stakeholders and a bibliographical review whose objective was to integrate existing products and fill gaps through consultancies with specialists in different areas.

The bibliographical review consisted of the following steps:

1. Review of official regional documents
2. Analysis of existing plans and programs
3. Review of existing actions and initiatives
4. Review of resilience strategies from the 100RC network
5. Identification of best practices from the 100RC network

The participatory process involved the following actions:

1. Technical roundtables
2. RMS perception surveys
3. Interviews with experts
4. Academic reports for each pillar
5. Pilot project in communities
6. Workshops with the government for each pillar
7. Consultancy with international experts
8. Private sector resilience report
9. Work sessions with Resilience Council
10. Metropolitan governance reports

Both processes ended with the elaboration of the Santiago Resilience Strategy (GORE, 2017), a document that compiles plans, programs, and projects corresponding to six pillars of action: urban mobility, environment, security, risk management, economic development, and social equity.

5. STRATEGY DEVELOPMENT

The initiative was carried out in three development phases. The first involved the selection of the CRO and the identification of existing priority issues in Santiago to elaborate a Preliminary Resilience Assessment (Evaluación Preliminar de Resiliencia, PRA). To create the assessment, in 2015 the program held a workshop to identify the main shocks and stresses in Santiago and determine the key stakeholders necessary for development of each theme. In June 2015, an introductory assembly was held with the participation of 140 people, followed by three work sessions in which 96 stakeholders took part, representing the national, regional, and local governments, as well as the private sector and civil society.

In 2016, the CRO began working within the GORE, and the first thing they did was to compile existing public and private actions by interviewing renowned professionals and analyzing documents based on strategic planning and citizen perception. A total of 659 initiatives resulted from this process, along with an assessment of the state of the city's resilience.

In May of that year, the data collected in this compilation was analyzed over the course of two work sessions in which the priority themes were identified, resulting in the first deliverable: the PRA, which was launched in August 2016.

Phase two consisted of an in-depth analysis of the themes raised in the PRA and involved the participation of strategic partners for each theme and the creation of a public-private Resilience Council, comprised of 35 experts meant to advise on decisions in the process. Given the large number of experts, the council established an effective participation model by narrowing down the discussion around each issue to a specific case study, giving everyone sufficient room to contribute.

That year ended with the Field of Opportunities Workshop (FOO), in which the guiding pillars and objectives of the strategy were established. Finally, between January and March 2017, the Santiago Resilient Team led the task of structuring and developing content, integrating the information obtained through this process and later validating the document developed with key stakeholders and members of the Resilience Council.

The final phase, which is currently underway, consists of the implementation of the strategy and its associated projects, which have been prioritized and channeled according to the various financing channels. The latter will depend on the type of project, ranging from the FNDR, the National Public Investment System, or even other more innovative financing channels, such as the one used for the Stgo + B project, which was financed with international funds and included the coordination of key stakeholders. Another example is the Mapocho Limpio Project, in which private companies and other similar stakeholders participated.

TIMELINE AND STAGES PLANNED FOR THE IMPLEMENTATION AND EXECUTION OF THE SANTIAGO RESILIENCE STRATEGY

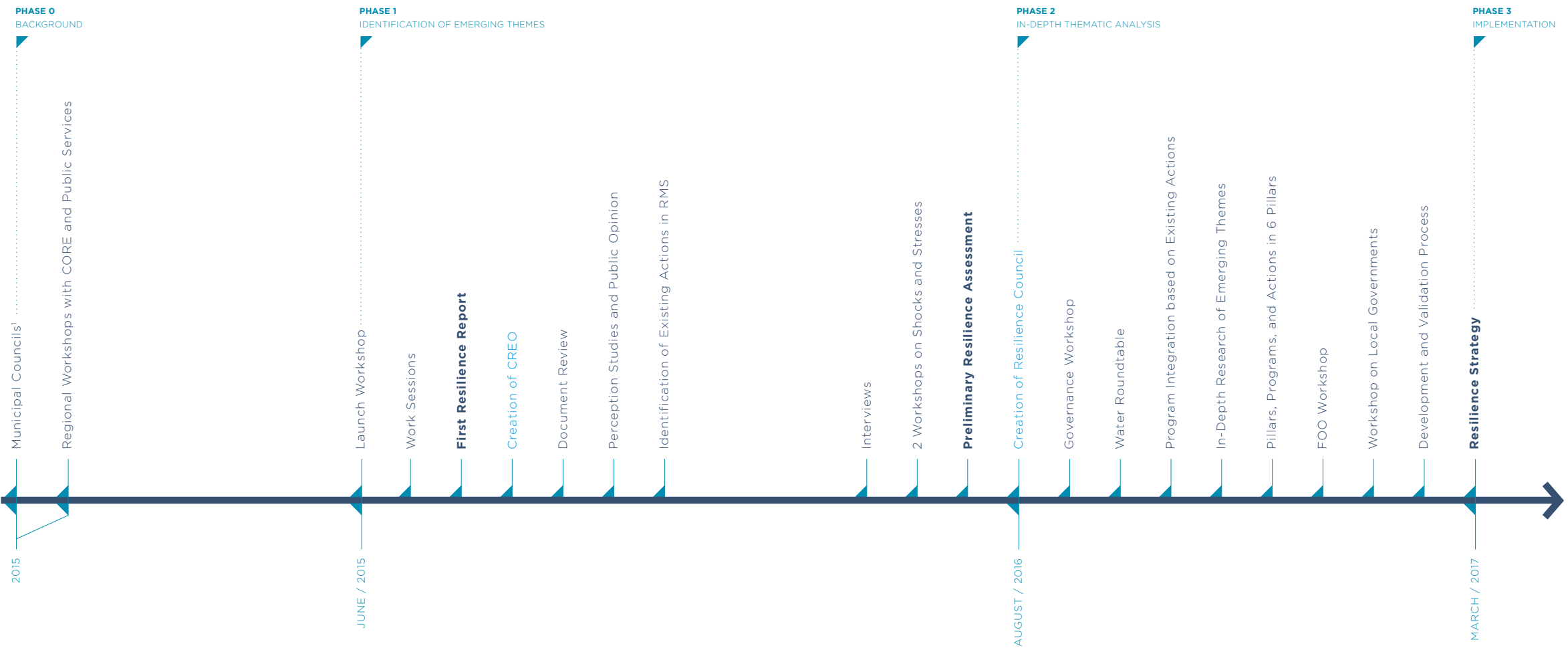


Figure 40
Source: Own elaboration.

1 Known as Cabildos Municipales in Spanish.

With the aim of making the transfer of the program to the new administration as smooth as possible, the strategy involves the creation of a Cities Unit aimed at considering the city from the perspective of resilience and intelligence, taking into account climate change, with a focus on metropolitan governance. The Rockefeller Foundation has been asked to finance the unit for one more year to guarantee the continuation of its operations.

In regards to the strategy's project portfolio, investment figures, and financing sources, it should be noted that the "Human and Resilient Santiago" Strategy is not a specific project, but a program that created a roadmap for the region looking at 2041 (when the 500th anniversary of the foundation of Santiago will be commemorated). This program seeks to strengthen coordination capacity and promote an institutional framework that is capable of coordinating all the stakeholders and communities to learn from past lessons, learn about risks and their causes, reduce and mitigate their impact, and strengthen recovery capacity to build the Santiago of the future.

Regarding the coordination and articulation of stakeholders and communities, many of the projects, programs, and plans in the "Human and Resilient Santiago" Strategy are of mixed or sectoral origin and have similar funding, so they are not the sole responsibility of the GORE or Resilience Office.

Among the projects, plans, and programs that have been integrated and identified as part of the six pillars of the Strategy, and for which information is available on the investment figures, the following stand out:

Pillar 1. Mobility: Connected Santiago (Estimated total investment: CLP 134.449 million)

- Plan to consolidate a mass transport system: GORE financing to open new metro lines. Transfer during 2014-2017: CLP 37.038 million
- Nueva Alameda Providencia Project: Remodeling of the structural axis of the city. Design: CLP 5.9 million. Execution: CLP 38.5 million (Pajaritos Node)
- Santiago Pedaleable-Mapocho Pedaleable Project: Bike lanes, a pedestrian boulevard, and a 5.2-kilometer floodable park. Investment: CLP 6.232 million
- Ciclovía de la Infancia: 11-kilometer network of bike lanes that will cross six districts of the RMS. Investment: CLP 2.965 million
- Paseo Metropolitano Bike Route: Bike lane that will go around the base of San Cristóbal Hill, following the trail of the old Canal del Carmen where the Vitacura, Providencia, Recoleta, and Huechuraba districts converge. Length: 14.5 kilometers. Investment: CLP 1.634 million

- Construction of new bike lanes: 15 kilometers of new bike lanes, adding up to a total of 53 kilometers in the whole of Santiago. Investment: CLP 1.755 million
- Santiago Camina Program: Improvement and replacement of sidewalks in 34 districts of the RMS. Investment: CLP 40.475 million

Pillar 2. Environment: Green and Sustainable Santiago (Estimated total investment: CLP 37.527 million)

- Construction of the Cerro Chena Metropolitan Park: Total area of 58 hectares. Total investment: CLP 34.364 million
- Puntos Limpios: Construction of 24 recycling centers in 18 districts of the RMS. Total investment: CLP 2.787 million
- "Casa a Casa" Study: Door to door assessment of the model of management of segregated collection of valuable household waste in the RMS. Financing from the GORE: CLP 307 million
- Waste-to-Energy Plan: Elaboration of stage II of the analysis of local conditions. The study and its final results were presented during an international seminar on January 17, 2018. Financing from the GORE: CLP 33 million. Financing from the Ministry of Energy: CLP 36 million. Total investment: CLP 69 million

Pillar 3. Security: Safe Santiago (Estimated total investment: CLP 752 million)

- Recovery Plan for Empty Lots and Public Spaces for Pocket Parks: To date, over 14 pocket parks have been built in eight districts of the RMS. These parks were originally empty lots, which were turned into new recovered urban spaces for the community. In October 2017, the Regional Metropolitan Council (Consejo Regional Metropolitano) approved an investment of CLP 374 million to build 15 pocket parks in nine districts of the RMS. This will translate into 7,688 square meters of new public spaces
- Integrated Teleprotection Network Pilot Plan: A pilot program consisting of the integration of video surveillance systems along the capital's main artery through coordinated operation of 400 cameras operated by public and private institutions, such as municipalities, the Traffic Control Operations Unit (Unidad Operativa de Control de Tránsito, UOCT), urban and interurban highway concessionaires, and Carabineros (Chilean police force), among others. Total Investment: CLP 378 million. Duration: 18 months. The goal is to expand this to other sectors of the city

Pillar 4. Risk Management: Prepared Santiago (estimated total investment: CLP 277 million)

- Fire Prevention and Control Program for the Metropolitan Region and Campaign for the Prevention and Control of Forest Fires: Stakeholders involved include the Regional Planning Department with support from “Human and Resilient Santiago” and 10 municipalities. Financing: Fondo 6% for sports, cultural, and safety projects of the GORE. Total investment: CLP 97 million
- Community Strengthening for Foothill Multi-Hazards: Plan jointly executed with Mexico City. To date, work has been done with municipalities to develop a risk perception methodology and school communities have been identified for its implementation. The Chilean-Mexican fund “Hacia una comunidad resiliente, Estrategias de Gestión de Riesgos y Vulnerabilidades en laderas en Santiago y Ciudad de México” (Towards a resilient community, Strategies for Management of Risk and Hillside Vulnerabilities in Santiago and Mexico City) has the objective of contributing to the development of resilient communities exposed to threats, risks, and/or disasters of natural origin in the Macul (Peñalolén and La Florida) and San Ramón (La Reina) ravines in Santiago and Cerro El Peñón in Itzapalapa in Mexico City. Direct recipients: 540,000 inhabitants. Investment in each city: CLP 180 million

Pillar 5. Economic Development: Global and Innovative Santiago (Estimated total investment: CLP 604 million)

- Regional Tourism Corporation: In May 2017 the Regional Tourism Corporation (Corporación Regional de Turismo) was launched with the objective of positioning tourism in Santiago as a driving force for economic development in the region and to promote it as a global city. Annual investment from the GORE: CLP 566 million
- Impacta Santiago Co-creation Program: “Human and Resilient Santiago” competition for students studying architecture, consisting of six micro urban interventions responding to challenges derived from the six pillars of the Resilience Strategy. These projects will be built in different districts of the RMS. A bidding process for CLP 27 million is currently underway
- National Transport Hackathon for Sustainable Mobility: The event was held in November 2017 with the aim of finding answers to metropolitan challenges associated with sustainable mobility. This initiative was co-organized by Youth for Public Transport (Y4PT), the IDB, and the RMS GORE through the “Human and Resilient Santiago” Strategy. The event attracted more than 150

entrepreneurs, mentors, and jury members from Santiago and two other regions, and it took place in two stages: first, a boot camp that lasted a whole morning and then a hackathon that lasted 36 hours, during which the participants developed ideas and prototypes for websites and apps to tackle the challenges presented. These included: active mobility (bicycles), regional mobility (emerging cities), and mobility in large cities (Metropolitan Areas). A total of 20 teams participated and four of them won awards worth over CLP 11 million.

Pillar 6. Social Equity: Inclusive Santiago (Estimated total investment: CLP 28.039 million)

- Comprehensive Neighborhood Recovery Plan: Transformation of high-complexity neighborhoods, including Mena, La Legua, and El Castillo. The interventions address community, urban, coexistence, and economic and social development aspects. Total investment: CLP 28.039 million.

As of March 2017, the “Human and Resilient Santiago” Strategy has been able to coordinate 75 public-private investment plans, actions, and programs. The programs described here were selected based on the fact that their financing has been declared. The total investment in these projects is over CLP 201.698 million, which will mostly be executed between 2017 and 2019.

SANTIAGO RESILIENCE STRATEGY LESSONS

The Santiago Resilience Strategy has been made possible thanks to the convergence of various factors, intentions, and stakeholders, who have worked together with one common vision in mind. First, thanks to the healthy balance between its private, academic, and civic society stakeholders, the Resilience Council has been able to neutralize bias or personal interest, finding common ground and providing room for debate regarding the reform in governance. In practice, this Council has become an advisory council for city issues, where the role of academics has been crucial in identifying existing research and finding a way to weave it into the program.

Another determining factor in the creation and implementation of the strategy has been the leadership of Intendant Claudio Orrego, who, given his special interest and expertise in territorial issues—due to his experience as a Minister and Mayor—was able to drive the initiative and facilitate its management from the GORE.

In addition, the process of integrating the city agenda into the Strategy was also successful. The latter enabled the Development Regional Strategy to be set in motion, which, while establishing general guidelines, does not have the conceptual scope to operate or implement projects.

Finally, it should be noted that the existing scenario served as a foundation for the Resilience Strategy and enabled the introduction of projects associated with the objectives and six pillars identified during the early stages. If the Strategy had needed to begin from scratch, developing the project portfolio would have taken longer and exceeded the current presidential term, thus putting the initiative at risk.

TAKEAWAYS FROM THE THREE CASE STUDIES

The following lessons and recommendations have been drawn based on the analysis of these local case studies, where structures or capacities complementing those already in existence have been created in regional governments for the planning and implementation of plans and programs on a metropolitan scale. In general terms, the cases analyzed tend to fill three gaps present in the current institutional structure:

1. The importance of creating a long-term vision or metropolitan plan that is validated locally and across the board by the main technical, political, and social stakeholders.
2. The need for that plan to enable the prioritization of a portfolio of sectoral and local programs and projects according to the metropolitan vision or plan, identifying gaps, redundancies, and financing and leveraging opportunities within the projects.
3. The need to have stable human resources and technical capacities devoted to the elaboration, development, implementation, execution, and assessment of plans and projects that are part of the metropolitan plan.

The biggest lesson to be drawn from the national case studies of metropolitan governance is that, despite the challenges identified, it is possible to innovate and generate complementary capacities within existing structures, provided there is political will and consensus among the different stakeholders.

ESTABLISHING A LONG-TERM VISION:

- The entity in charge of defining the vision must promote the participation of as many stakeholders and entities from the public and private sectors and civil society as possible.
- Due to the electoral system, the development outlook is restricted to four-year periods, but the city needs to be able to withstand changes in political governance to be able to achieve long-term planning.
- The vision must be established by means of an instrument that guides investments towards “what should be done” and is not limited to what “can” and “cannot be done,” as happens in the current PRC. An example of this is the creation of Master Plans or the Santiago Resilience Strategy.

- Given how complex it is to reach agreements rapidly in this type of entity, participation could be more difficult in emergency situations.
- Programming Contracts have proven to be key in the establishment of long-term commitments. Therefore, there should be greater consequences for failures to fulfill them, which would help prevent these contracts from being canceled after changes in political governance.

STRENGTHENING OF TECHNICAL SERVICES:

- Often there are sufficient funds available for the execution of projects but not enough projects.
- The entity responsible for providing services on a metropolitan level must be of a high caliber. It must have a professional—not political—team that guarantees the quality of the services provided and operates on a long-term basis, independently from the political cycles of the elected territorial administrations and pressures from stakeholders.
- The operation of projects depends on stable funding.
- If the authority behind the strategy were to change, perhaps the best idea would be to make that transition coincide with election periods to ensure the continuity of the strategy. In addition, the main authority must be highly empowered to influence decision-making processes.
- It is easier to achieve consensus by debating technical aspects.
- Technical services must function as a coordinating entity both in sectoral and interscalar terms, addressing the different levels of governance in a city: civil society, municipalities, private stakeholders, academics, etc.

PRIVATE FINANCING:

- Private entities are currently interested in contributing to local development, but there is no established mechanism that allows direct contribution to projects in the public agenda, unless it is via mitigation or compensation.

- Creating an entity to receive funds from the private sector to fund specific projects in the portfolio could entail tax benefits through the Donation Law (Ley de Donaciones). To avoid any conflict of interest, the entity receiving the funds should be different from the one providing services.

MONITORING:

- Monitoring and assessing the initiatives developed is crucial to ensure the quality of the services provided on a metropolitan level.
- The monitoring entity must be independent to avoid conflicts of interest. Study centers or universities—preferably local ones—can act as urban observers, being neutral and highly technical units capable of evaluating urban and territorial operations.

PERSPECTIVE. NETWORKED GOVERNANCE AND INTERMEDIARY INSTITUTIONS

ALAINA HARKNESS

There is truth to the description of cities and metropolitan areas as political units that are complex and interconnected, nested within the broader geopolitical context of states and nations. In these times of rapid change, a sharp and clear understanding of the underlying institutional and fiscal dynamics that shape relationships between and division of responsibilities among cities, states, and nations is a useful starting point for any prescription to improve them. Yet a narrow focus on untangling the administrative and de jure boundaries of cities misses the even messier reality that cities are de facto networks: countless public, private, and civic institutions and actors, connected more or less formally, that together produce the economy, shape the physical landscape, and weave the social fabric of urban life.

The vast majority of metropolitan challenges do not respect the political boundaries of the cities, states, and even nations that define them. The origins of pressing Chilean problems like declining air quality and deepening inequality—and also their solutions—are rarely confined to a single sector of the economy and society. Shifting power arrangements, from devolution

and decentralization to consolidation of metropolitan governments, are one long-term structural solution to this challenge, while improved public sector coordination and capacity to plan, finance, and implement more forward-looking, integrated metropolitan agendas are another.

These public sector adaptations, while essential, are typically slow moving, under-resourced, and ill-equipped to fully leverage the tremendous problem-solving powers of the private sector and individual citizens. In cities around the world, intermediary institutions and networks that build bridges across sectors and segments of society are helping to drive improvements in land use and economic development, human capital, and even the public policy process. A clearer, comparative understanding of how they work—organizational structures, leadership, finances—in different contexts will help make them feel less like one-off innovations and more like a clear set of solutions.

Europe's successful experiments with publicly-owned, privately-managed development intermediaries contain important lessons about capturing the value of underutilized land and using it to finance essential public infrastructure and services. The Copenhagen Port and Harbor and the Lyon Confluence districts both utilized slightly different forms of these development

intermediaries to blend private sector management discipline with long-term public planning and purpose. The proceeds of Copenhagen's development financed an expanded metropolitan transit system; while Lyon's development will contribute to the city's stock of affordable housing and create a neighborhood that aims to be carbon neutral.

There are also many examples of successful intermediary institutions in the United States, where nonprofit and private provision of public services is a common and defining feature of city life. Strive Together is a national network of metropolitan areas that have launched formal collaborations to ensure that children and young adults have seamlessly connected services and development opportunities throughout their lives. In Louisville, Kentucky, Mayor Greg Fischer's visible public leadership of the Cradle to Career initiative has been one important component of success, but the real work is done by a coalition of public, private, and civic actors. In Minnesota's Twin Cities, the Central Corridor Funders Collaborative worked to ensure that neighborhoods and residents saw the benefits of a major expansion of light rail and avoided the displacement that often accompanies infrastructure improvements.

As cities and metropolitan areas continue to grow, so will their importance as the economic drivers of their surrounding states, regions, and countries. This will create increasing demand for infrastructure development and restoration to support housing, transportation, and the economy, and meet the needs of the growing population. In cities and metropolitan areas, the public sector will not be able to go it alone. Well-designed intermediary institutions can help bridge political, sectoral, and financial divides, and harness the full power of cities as the networks they are.

4

METROPOLITAN

AGENDAS

METROPOLITAN GOVERNANCE PILOT PROJECTS IN CHILE

Sebastián Alcayaga

CONTEXT

In 2014, with the aim of addressing the country's historic debt with the regions and districts regarding equality of opportunities for the growth and development of their territories, the Chilean government decided to push forward with its Decentralization Agenda. This permanent and irreversible state policy is comprised of a set of initiatives, the objective of which is to reinforce the current role of regional governments and their highest-ranked authorities. It is organized based on five major pillars:

1. Constitutional reform on the election of intendants
2. Transfer of competencies from the central government to the GOREs
3. Changes to the current staff of municipalities
4. Reform to the financing system for regional and municipal governments
5. Pilot projects for decentralization

Regarding the fifth pillar—and considering the complexity implied in applying these reforms—the government requested the analysis and implementation of those transfers of competencies that could be carried out by way of administrative measures in order to prepare the regional authorities for subsequent changes, as well as to create management capacities in the regional teams.

As part of this requirement, the SUBDERE, as Executive Secretariat, pushed a series of actions through the pilot projects mainly to provide regions with the competencies, knowledge, and methodologies that are currently established in sectoral terms and which must be transferred to the GOREs.

Specifically, in regard to regulations on the administration of Metropolitan Areas, the pilot projects helped foster—through municipal, provincial, and regional associations—the conditions and formalities necessary to resolve common issues inherent to metropolitan governments.

ACCIONES

The program Pilot Project for the Establishment of Planning and Coordination Capacities for Metropolitan Areas (Pilotaje para la Instalación de Capacidades de Planificación y Coordinación de Áreas Metropolitanas), created in accordance with the planning guidelines and territorial management suggested in the new reform, incorporated—at the various levels of governance applicable to the territory—new methodologies of analysis and territorial planning to advance towards the creation of a metropolitan vision. This process took place in two phases between 2015 and 2017 and was carried out in four Chilean regions, which were selected as pilots to demonstrate and address the different morphological, functional, and population differences present in Chile's emerging Metropolitan Areas. These were: Coquimbo Region: La Serena-Coquimbo, Metropolitan Region: Greater Santiago, BioBío Region: Greater Concepción and Los Lagos Region: Puerto Montt-Puerto Varas

The methodology used to support the process of regional strengthening during the first phase was Emerging and Sustainable Cities (ESC), which was developed along with the IDB in two of the emerging pilot Metropolitan Areas: La Serena-Coquimbo and Puerto Montt-Puerto Varas.

This territorial assessment instrument allows for the identification, prioritization, and structuring—through a Metropolitan Action Plan (Plan de Acción Metropolitano)—of projects to improve urban, environmental, and physical sustainability in a Metropolitan Area in the short, medium, and long term. This initiative also served to guide the work prior to the establishment of capacities for the management and governance of the Metropolitan Area, which was done by coordinating the planning competencies necessary to address the issues associated with territories in the conurbation at various levels of governance.

Phase two of the pilot program was carried out in the BioBío and Metropolitan regions, where the projects for the Installation of Capacities in the Regional Government for the Governance of Metropolitan Areas (Instalación de Capacidades en el Gobierno Regional para la Administración de Áreas Metropolitanas) were carried out. These initiatives helped the GORE establish the capacities necessary to coordinate between sectoral and territorial aspects in order to address and resolve issues related with the overlapping of administrative jurisdictions, typical of large and complex Metropolitan Areas.

In order to support the development of both initiatives, the SUBDERE financed the hiring of two professionals for each of the pilot GOREs for the duration of the program, who, in addition to being responsible for implementing the methodologies of analysis and territorial planning, were also responsible for creating the administrative structure for metropolitan governance in accordance with the law. The latter consisted of setting up the basic conditions to form a future DAM within the Planning Division and beginning to carry out the political-administrative tasks to create the Advisory Committee of mayors for the districts that comprise the Metropolitan Area. The aim of these tasks was to

pave the way so that the GORE, the municipalities, and local and central administrative entities would have the capacities necessary to manage and govern the Metropolitan Area, as well as to develop Metropolitan Action Plans defining the portfolio of strategic projects with a vision that is metropolitan, comprehensive, and sustainable.

These actions were constantly accompanied by a series of training events for professionals from the GOREs, municipalities, and public institutions involved in land planning through a series of courses, workshops, and diplomas. The process also included a series of international conferences and seminars, the objective of which was to discuss with other institutions and members of civil society various views and experiences on how to address the multiple challenges involved in metropolitan governance.

Consequently, this training program is a crucial contribution to establishing capacities in management and administration in pilot Metropolitan Areas, as it strengthens the essential trained human capital to tackle issues associated with conurbations in a more holistic manner, incorporating the views, rights, and responsibilities of all the entities involved in land-use planning at regional and local level.

CONCLUSION

The implementation of these pilot experiences has significantly aided the advances in strengthening the GOREs in terms of territorial management and planning. Moreover, the newly implemented methodological tools will make it possible to address the territorial planning and governance and management of our regions more efficiently thanks to the focused determination and efforts of the different levels of government and the constant participation of citizens.

Some of these outcomes can be seen in the Metropolitan Agendas of the pilot regions included in this publication. These Action Plans—which were created in coordination with the regional teams—recommend that territories be developed harmoniously, taking into account the particularities of each region. The Metropolitan Agendas address the prioritization of actions, plans, and programs of regionally validated strategies and plans that have already been established (La Serena–Coquimbo Action Plan, Santiago Resilience Strategy, Concepción Metropolitan Area Department Plan, and Puerto Montt–Puerto Varas Action Plan).

We hope the Metropolitan Agendas described here serve as a roadmap to plan the metropolises of the future in a more holistic and sustainable manner, helping us to face the challenges that come with promoting the well-being of all their inhabitants.

IMPLEMENTING A CAPACITY BUILDING PROCESS

Luis Eduardo Bresciani / Arturo Orellana

The process of implementing the Pilot Program for the Establishment of Planning and Coordination Capacities for Metropolitan Areas (Pilotaje para la Instalación de Capacidades de Planificación y Coordinación de Áreas Metropolitanas) involved identifying the need to develop a capacity building plan to exchange experiences and lessons learned regarding metropolitan governance for professionals of the GOREs in the pilot regions of Coquimbo, Los Lagos, BioBío, and Metropolitan, the municipalities involved, and professionals from the SUBDERE.

It was with that goal in mind that the diploma program in Management of Metropolitan Areas was designed and taught by Pontificia Universidad Católica de Chile. The program's general objectives were to: continue strengthening the capacities of the professionals responsible for the management and administration process of emerging Metropolitan Areas to implement a metropolitan governance model; develop basic capacities required in the areas of governability, planning, and management of Metropolitan Areas, with an special emphasis on topics such as transport, environment, and land-use planning; and generate, through study groups, a concrete product synthesizing the theoretical and practical lessons of this program in the form of an agenda that considers the various types of Metropolitan Areas in Chile and which serves as a reference point for the future creation of Metropolitan Agendas.

The diploma program was comprised of three theoretical-practical courses carried out in the various Metropolitan Areas, which were organized as follows:

- **Course 1:** *Governance and Metropolitan Areas. The Challenge of a New Urban Scale.* The first part of this course is dedicated to the introductory theoretical concepts necessary to begin looking at metropolitan topics, which is done in classroom lectures. The second part consists of theoretical and practical lessons on Geographic Information Systems (GIS). Students are assessed on a project developed in class.
- **Course 2:** *Strategic Guidelines for Planning and Coordination of Metropolitan Areas.* This course examines theoretical concepts—mobility, environment, and land-use planning—and their operational implications in Metropolitan Areas. Classes are structured in lessons taught by professors specialized in

each of the topics, and assessment consists of a summarized presentation analyzing the various Metropolitan Areas.

- **Course 3:** *Applied Metropolitan Agenda Workshop*. This course is devoted to the creation of the Agenda for Metropolitan Areas, which is organized in practical terms and based on the content of the theoretical and technical concepts from previous courses (assessments) as well from this course itself. The objective is to guide students in the development of proposed Metropolitan Agenda for each of the Metropolitan Areas addressed in this diploma program.

Along with this, a second course was developed by The Center of Territorial Intelligence (Centro de Inteligencia Territorial-CIT) of the Universidad Adolfo Ibáñez (UAI), with the aim of providing professionals with tools and knowledge for the creation of methodologies to help understand and use the Indicators of Territorial Well-Being (IBT) associated with the analysis of networks, making it possible to apply them in different situations through the integration of processes based on the use of GIS. This course takes an in-depth look at the use of indicators related to access to Green Areas (Indicador de Áreas Verdes, IAV); Cultural Infrastructure (Indicador de Equipamiento Cultural, ICUL); Sports Infrastructure (Indicador de Equipamiento Deportivo, IDEP); Public Services (Indicador de Servicios Públicos, ISER); Health (Indicador de Salud, ISAL); Education (Indicador de Educación, IAE); Public Transport (Indicador de Transporte Público, ITP); and Concentration and Dispersion of Socioeconomic Groups (Indicador de Concentración y Dispersión de Grupos Socioeconómicos, IGSE).



► International Seminar Metropolitan Areas



► Visit to the Puerto Montt Metropolitan Area - Puerto Varas. Diploma in Metropolitan Areas Management.



► Diploma in Metropolitan Areas Management.



► International Seminar Metropolitan Areas



► International Seminar Metropolitan Areas



► Field visit Metropolitan Area La Serena - Coquimbo.
Diploma in Metropolitan Areas Management.

PRESENTATION OF METROPOLITAN AGENDAS

Cristián Robertson / James Robinson

The Metropolitan Agendas presented below present a metropolitan vision for each pilot Metropolitan Area, identifying and prioritizing the actions that will be carried out in cooperation with relevant metropolitan actors. These agendas aim to become a concrete roadmap comprised of a series of specific actions, plans, and programs to be implemented in territories in the short, medium, and long term, while advancing in the process of developing Metropolitan Each Metropolitan Agenda begins with a review providing a thematic summary of the Metropolitan Area's key information. The following sections consist of a series of images of the case study, a description of the context of the Metropolitan Area, and the challenges identified for it. The four Agendas propose a vision aimed at guiding the series of objectives and the initiatives to be carried out.

Of all the initiatives described, there is a prioritized initiative that has a different status due to its complexity and potential impact on a metropolitan scale, with the goal of promoting its implementation. Finally, the last section in the Agendas is the proposal of a series of political, associative, and organizational actions aimed, on the one hand, at systematizing the successful experiences that the different GOREs have carried out for the implementation of initiatives of this size and, on the other, proposing the development of a series of key actions to address the main gaps and achieve the effective implementation of a future Metropolitan Agenda.

Although the thematic pillars referred to in the Decentralization Law for the first stage of implementation will initially be examined in depth (mobility and transport, environment, and land-use planning), in the case of each GORE they will be addressed to complement other problems and themes identified, which, given their relevance at regional level and their impact on a metropolitan scale, should be addressed in a subsequent stage of implementation and transfer of competencies to the regional units.

The following documents have been used as a basis for the elaboration of Metropolitan Agendas to be presented in this chapter:

- La Serena-Coquimbo Action Plan (ESC/GORE), Santiago Resilience Strategy (Santiago Human and Resilient Strategy) (100RC/GORE), Concepción Metropolitan Area Plan, and Puerto Montt-Puerto Varas Action Plan (ESC/GORE)
- Workshops carried out in November 2017 in the pilot Metropolitan Regions across the country
- Joint selection of actions, plans, and programs, as well as priority actions designed by the GOREs
- UC Diploma Program on Metropolitan Agendas. An academic course developed by professionals from the Metropolitan Areas and students participating in the diploma program in Management of Metropolitan Areas taught at the Pontificia Universidad Católica de Chile, the SUBDERE, and the Inter-American Investment Bank (IDB) in 201

METROPOLITAN AGENDA

LA SERENA - COQUIMBO

The La Serena-Coquimbo Metropolitan Area has undergone an accelerated process of urban and economic growth, accompanied by a rise in the urban population and the size of the cities comprising it. Historically, Coquimbo has been a port city with complementary development in the service and tourism industries, while La Serena has been more oriented to services, particularly those related to government, tourism, and education. The growth of these two cities has led to increased functional complementarity between them (Dirección de Extensión y Servicios Externos, DESE, 2016), generating an urban continuity and stable network of economic and social interrelations that, in practical terms, shape the Metropolitan Area (IDB, 2018). These dynamics make it essential to consider this Metropolitan Area as an urban unit, both in order to analyze its challenges and opportunities, as well as to promote actions providing a unitary solution to current urban problems.

Source:

Action Plan CES Coquimbo - La Serena (IDB, SUBDERE, GORE Coquimbo, Municipality of La Serena, Municipality of Coquimbo); Final delivery Diploma in Metropolitan Areas 2017 (Andrés Bodini, Romina Canihuante, Tatiana Cárdenas, Lyzette György, Bruno Henríquez, Claudia Maturana, Erika Rojas, Eduardo Ubal)

General coordination:

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Editing of texts:

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Planimetry and schemes:

Center of Innovation of Cities. UDD (Francisca Astaburuaga, Jeannette Orozco, Consuelo Roldán)

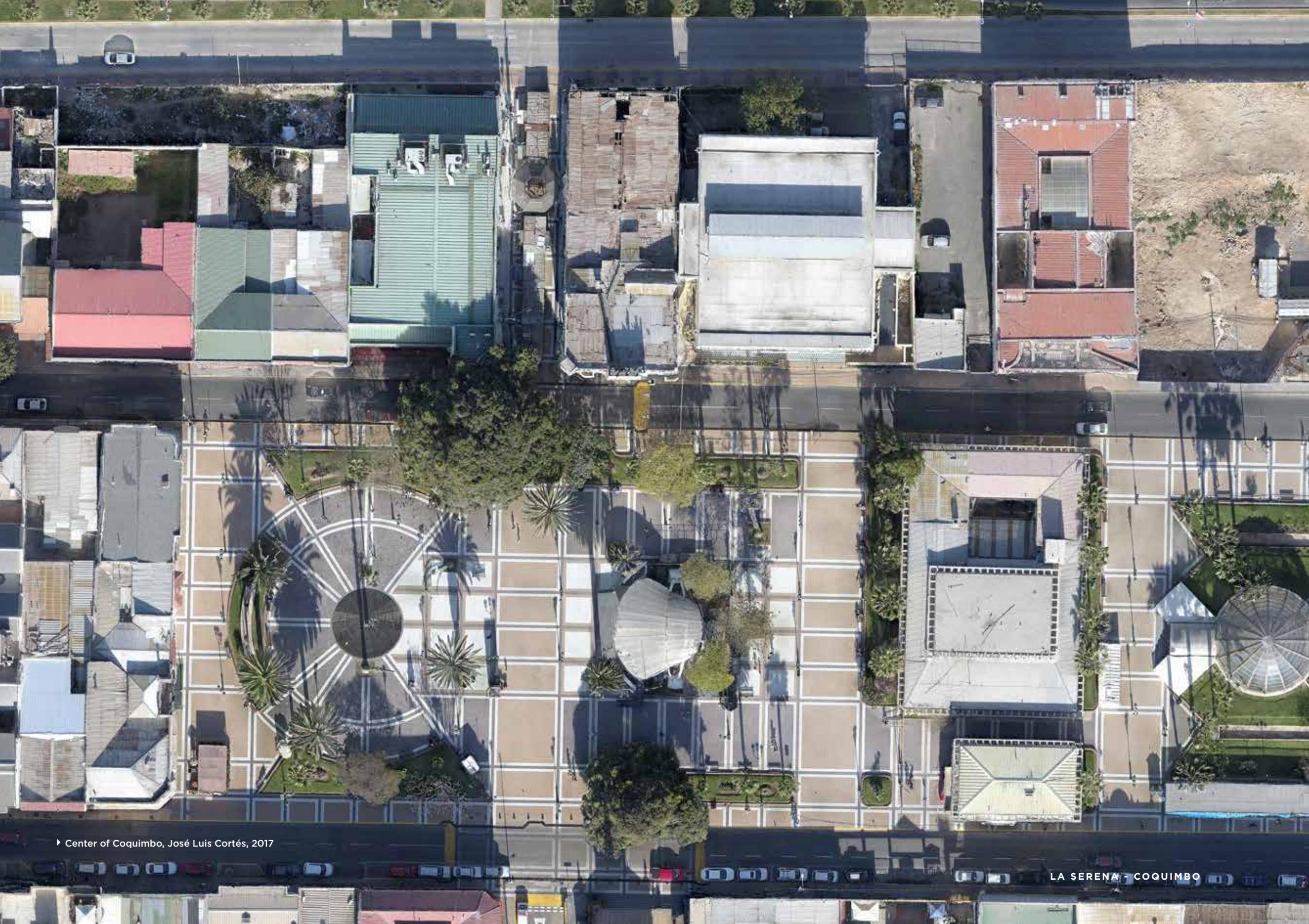
Image:

Carla Olivares



► Fiesta de la Pampilla, Municipality of Coquimbo, 2010.





► Center of Coquimbo, José Luis Cortés, 2017





► Plaza de Armas La Serena, Paula Martínez Vega, 2017



► View of Pedro Pablo Muñoz to sector mirror of Water, Paula Matinez Vega, 2017

Political and Administrative Division Map for La Serena - Coquimbo Metropolitan area

- Highways
- Road Axis
- Comunal Limit
- Level Curves
- - - Railway
- Rivers
- Consolidated Urban Area
- Urban Zone
- Water Bodies

Source: Own elaboration based on OCUC maps.

LA SERENA-COQUIMBO METROPOLITAN AGENDA

DESCRIPTION OF THE METROPOLITAN AREA

The cities of La Serena and Coquimbo are located in the Coquimbo Region, a geographical area called El Norte Chico, between the desert area (Norte Grande)¹ and the Mediterranean area (central area) of the country. The urban population of the conurbation is estimated to be 438,844, with a growth rate of 3 percent (vis-à-vis the national 1 percent), with around 60 percent of the inhabitants concentrated in the Coquimbo Region. Consequently, the La Serena-Coquimbo Metropolitan Area is the fourth largest inter-district urban system after Greater Santiago, Greater Valparaíso, and Greater Concepción.

Comprised of these two cities, this Metropolitan Area has a privileged location due to being between the Santiago Metropolitan Area (Área Metropolitana de Santiago, AMS) and the mining centers in the north, thus playing an important role as a territorial link at national level. This area is also important on an international scale, as it functions as an entryway and exit for the inland valleys that connect the port of Coquimbo with the Agua Negra border pass, constituting a key node within the bi-oceanic corridor, making the metropolis well positioned in terms of development and competitiveness.

The growth of both cities has been expansive, taking over large portions of rural and natural land and urbanizing the interstitial areas between both districts, creating an urban continuum that shapes the current conurbation. While there is no metropolitan regulatory instrument, both districts are identified as a conurbation by the Inter-district Regulatory Plan of Elqui Province (Plan Regulador Intercomunal (PRI) de la Provincia de Elqui), which is pending approval. Transcending the scale of both cities, the PRI will regulate urban areas (over 95 percent of both districts' territory is rural), areas of urban expansion, highways, productive and industrial areas, and inter-district green areas and parks.

At a local level, both cities have a District Regulatory Plan (Plan Regulador Comunal, PRC) in force. While La Serena's PRC was created in 2004, Coquimbo's PRC, drafted in 1984, is currently being updated. These regulatory plans have become fundamental instruments given the increase in the rate of urban growth in terms of area in Coquimbo (75,9 percent) and La Serena (66,5 percent) compared with the national average (34,9 percent). This trend has led to a model of land expansion with a low density that is currently at 64,8 inh/ha (IDB, 2018).

¹ The Norte Grande Area is one of five natural regions into which Chile was divided in 1950 and it comprises the Arica y Parinacota, Tarapacá and Antofagasta regions, and the northern part of Atacama Region.

Figure 41

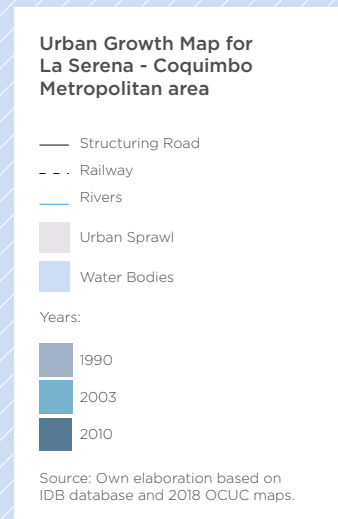


Figure 42

Demographic growth in this Metropolitan Area is mostly the result of the arrival of new inhabitants from the four regions of the Norte Grande area, specifically those coming from the south of the Atacama region, who have settled around the coastline, pericentric neighborhoods, and peri-urban towns. The economic fabric of the Norte Chico² area has developed mainly around the primary sector, where mining stands out. However, the urban conglomerate formed by La Serena and Coquimbo has seen significant development in the services, business, and tourism areas. As a port city, Coquimbo has always channeled regional production to other parts of the region and country, but it has also seen the development of the services and tourism industry. La Serena, on the other hand, is characterized by its services-related activities, which have diversified towards tourism and education. The region's GDP per capita is close to USD 9,400 (IDB, 2018). La Serena-Coquimbo is one of the main touristic centers on the coast of northern Chile, particularly in summertime, positioning it as a priority area for vacationing and a location to purchase a second home. Nevertheless, a lot can be done and improved in terms of management. The average stay is 3.47 days, with 33 percent of tourist visits taking place in the low and medium seasons.

It should be noted that the relationship between employment and tourism is significant, as general unemployment is at 8 percent in the region, with the rate at 6.8 percent in La Serena and 9.9 percent in Coquimbo (GORE Coquimbo, 2016). However, this indicator is highly seasonal, granting these cities economic prosperity during high season. Employment related to tourism includes a high rate of informal jobs as a total percentage of employment. Although exact figures are not known, given the nature of the data, experts suggest that it could reach 50 percent or more of employment during high season (IDB, 2018).

There is a broad and diverse spectrum of education provision, particularly at higher technical and university level, concentrated specifically in La Serena, thus making it a university city. As a result of this, the region has over 1,700 technical and 5,000 university places for every 100,000 inhabitants (IDB, 2018).

Social dynamics in the Metropolitan Area are tied to the territory where the population is settled. Areas such as Las Compañías, La Antena, Tierras Blancas, the hills of Coquimbo, and San Juan are highly socially vulnerable areas, belonging to the first and second income quintiles. La Pampa, El Llano, Vista Hermosa, and Sindempart are middle class zones, while the areas located southwest of La Serena and south of Coquimbo, specifically those located on the coastline, are considered to be upper-income.

In spatial terms, these areas tend to be homogenous, that is, it is hard to find censal blocks in a district that contain inhabitants from the ABCI and D or E strata living within a close radius. The most vulnerable areas in the conurbation are still Las Compañías, with

² The Norte Chico Area is another of the five natural regions into which Chile was divided in 1950 and it comprises Coquimbo Region and the southern part of Atacama Region.

Socioeconomic Distribution Map for La Serena - Coquimbo Metropolitan area

- Comunal Limit
- Structuring Road
- Level Curves
- Railway
- Rivers
- Urban Sprawl
- Water Bodies

Groups:

- ABC1
- C2
- C3
- D
- E

Source: Own elaboration based on IDE OCUC database and OCUC maps.

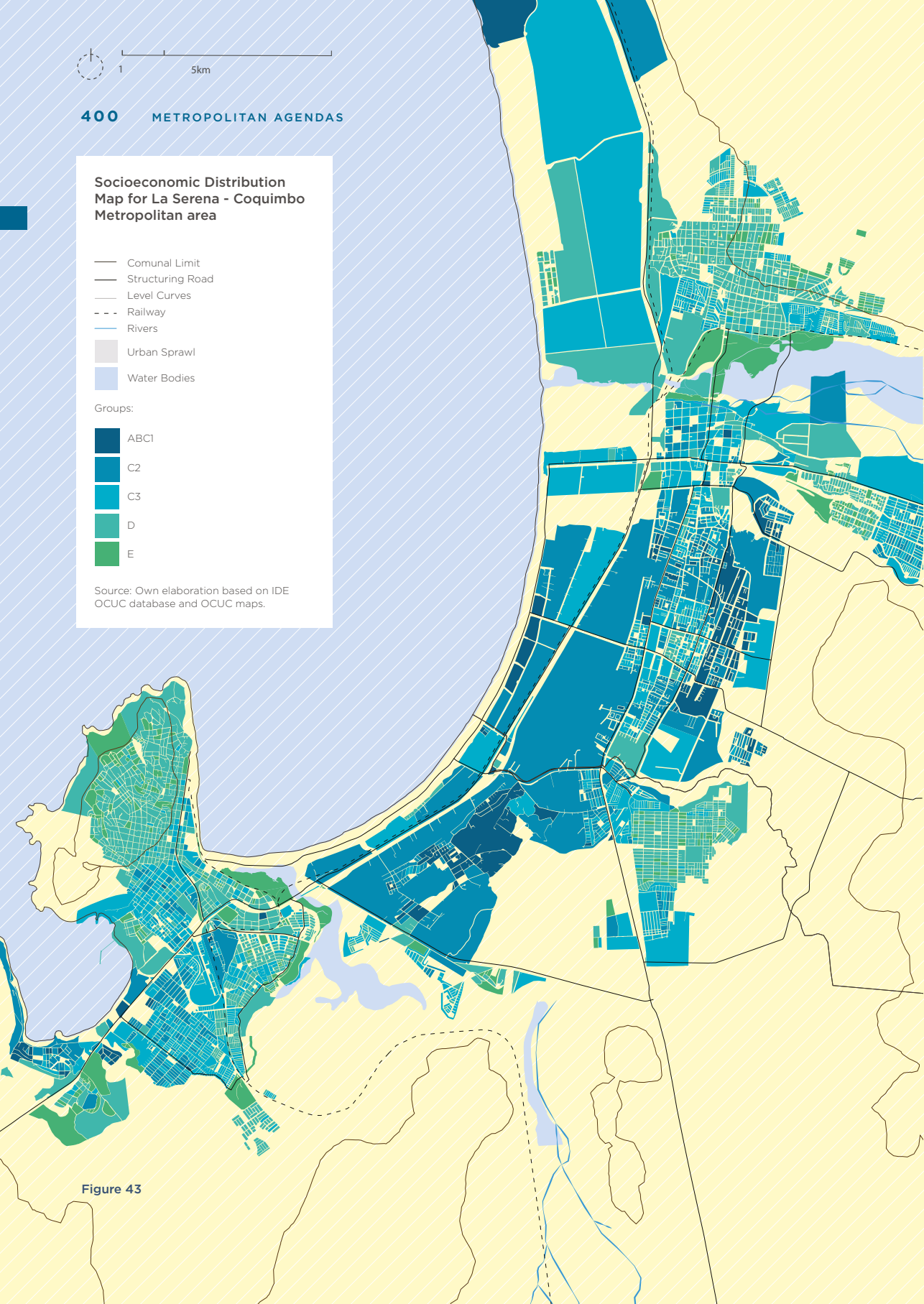


Figure 43

72 percent of households belonging to lower-income groups (especially in the north of the area), and La Antena, both of which are in La Serena. In addition, a lower-income population (D and E) is concentrated in the Tierras Blancas and Lord Cochrane areas, both of which are in Coquimbo. As regards to the concentration of middle- and upper-income areas, the trend alters between assessments, where the areas of La Herradura and the Coquimbo coastline are gradually starting to appear. The development of upper-income realtors in northern La Serena and Cerro Grande in the La Serena district have a high proportion of the ABC1 and C2 strata (IDB, 2018).

Both districts are settled on highly fragmented land, forming a series of longitudinal terraces that increase in altitude towards the east and are crossed by ravines and fluvial valleys. This formation favors the existence of ecosystems rich in biodiversity, such as wetlands and the desert coastline. However, the presence of significant areas of natural value in a region whose resources are scarce leads to highly fragile environments. Similarly, the urban area is located in a zone prone to natural disasters associated with geophysical events such as earthquakes and tsunamis, geological events such as landslides, and hydrometeorological events such as extreme precipitation, storm tides, and droughts (DESE, 2016).

In environmental terms, this Metropolitan Area is facing significant challenges associated with the size and characteristics of the conurbation. One of the most pressing issues is the all-around management of waste: collection capable of including highly segregated areas, comprehensive recycling systems, and collection and final disposal of waste in a new sanitary landfill, as the one that is currently in operation is at the limit of its capacity.

Some of the other issues that need to be addressed include treatment of wastewater and management of rainwater, as well as greenhouse gas emissions, of which the port contributes most, accounting for 41 percent (IDB, 2018). These challenges are directly related to the rise in population and an improved economic context, which results in higher waste generation and an increase in the purchase of motor vehicles.

The La Serena-Coquimbo Metropolitan Area plays a strategic role as a link between the country's northern and central areas. The concentration of activities such as services, retail, mining, and tourism, has generated an urban hub that attracts both residents and tourists during the vacation season, as the territory provides particularly good living quality conditions to settle there either temporarily or permanently. However, this growth comes with a series of challenges at a metropolitan level that have to be identified and addressed.

IDENTIFICATION OF ISSUES

The La Serena–Coquimbo Metropolitan Area has experienced various urban phenomena, one of them being growth with strong components of segregation, fragmentation, and inequality in a context of economic growth that has resulted in an increase in vehicle congestion and growing pressure on transport systems. Other problems include environmental degradation and waste management, as well as an increase in overall urban vulnerability in the face of climate change.

For the purposes of this Metropolitan Agenda, we will begin this section by taking an in-depth look at the problems associated with the issues indicated by the Decentralization Law in its first stage of implementation: mobility and transport, environment, and land-use planning. This section will also address some of the topics presented in the La Serena–Coquimbo Metropolitan Area Action Plan, The Potential of an Integrated and Sustainable Metropolitan Area (El Potencial de un Área Metropolitana Integrada y Sostenible), developed using the IDB's Emerging Sustainable Cities (ESC) methodology and organized into governance and economic development topics.

The Metropolitan Area of La Serena–Coquimbo Metropolitan is comprised by the cities of La Serena and Coquimbo. The urban population of the conurbation is estimated to be **438,844**, with a **growth rate of 3 percent** (vis-à-vis the national 1 percent), with around **60 percent of the inhabitants** concentrated in the Coquimbo Region.

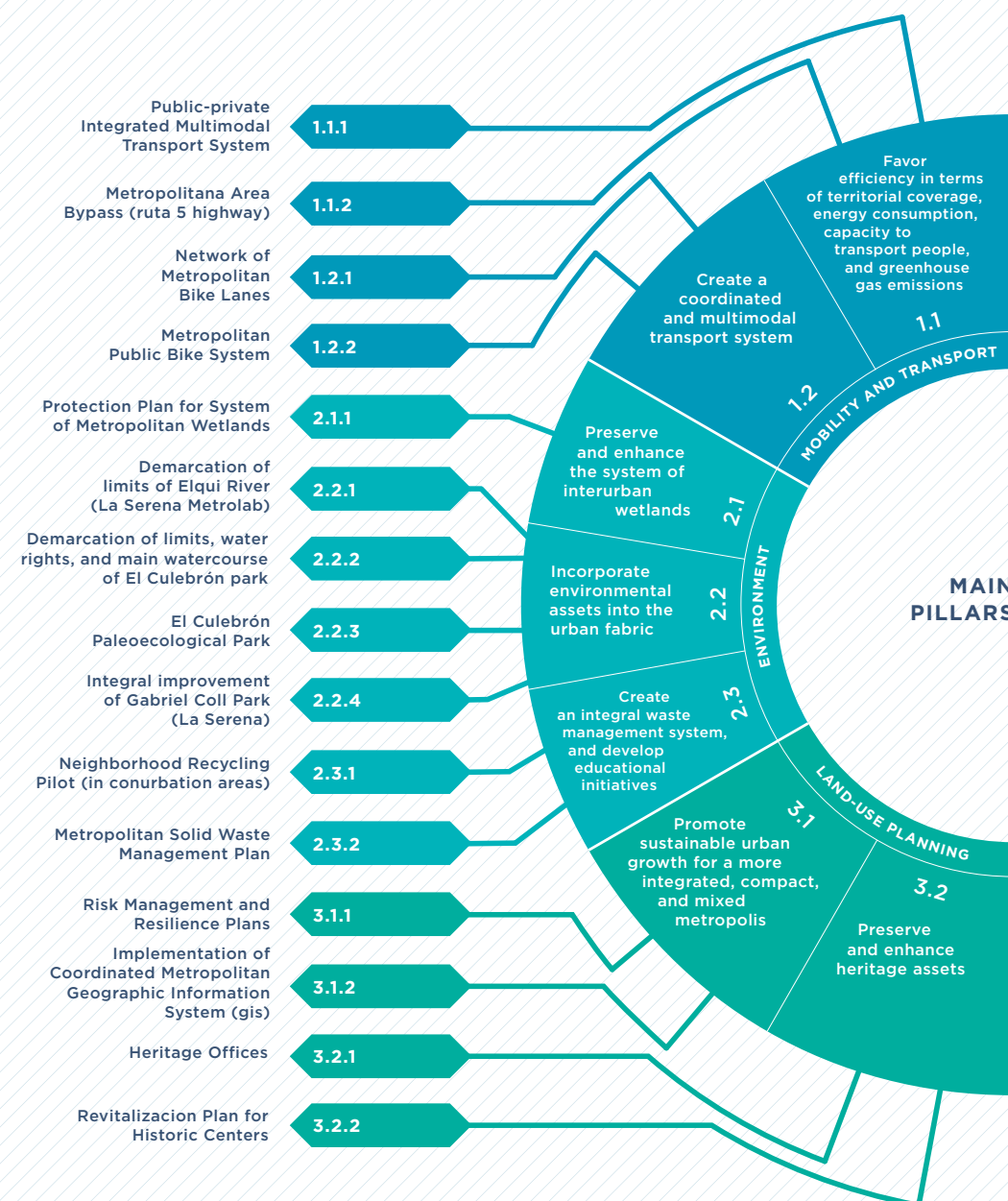
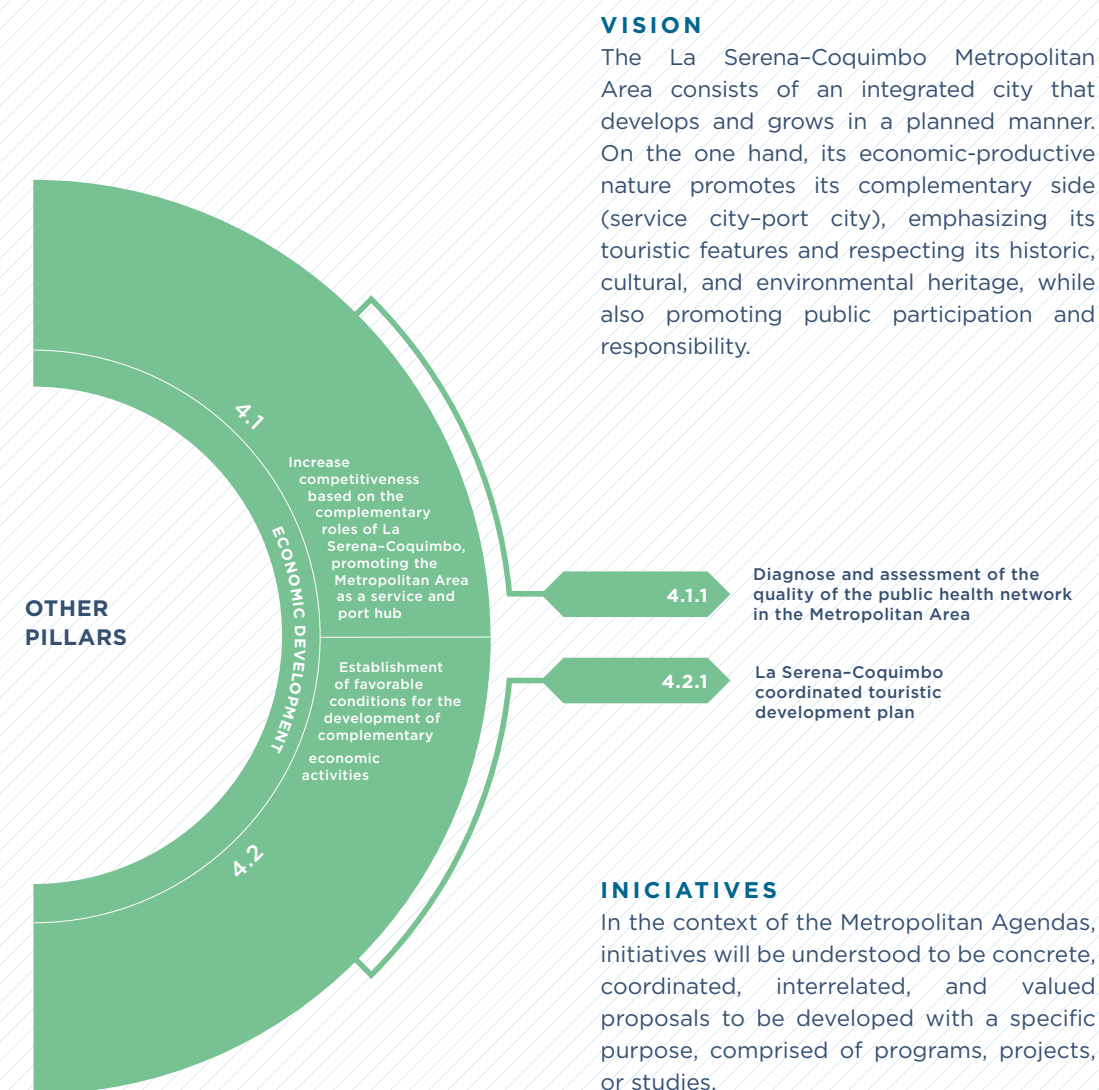


Figure 44

**VISION**

The La Serena-Coquimbo Metropolitan Area consists of an integrated city that develops and grows in a planned manner. On the one hand, its economic-productive nature promotes its complementary side (service city-port city), emphasizing its touristic features and respecting its historic, cultural, and environmental heritage, while also promoting public participation and responsibility.

INITIATIVES

In the context of the Metropolitan Agendas, initiatives will be understood to be concrete, coordinated, interrelated, and valued proposals to be developed with a specific purpose, comprised of programs, projects, or studies.

Of the 79 initiatives presented in the La Serena-Coquimbo Metropolitan Area Action Plan (IDB, 2018), 15 were selected for the purpose of this section. These initiatives are described below, grouped by topic and their corresponding objective, with the respective implementation horizons and the parties responsible for them

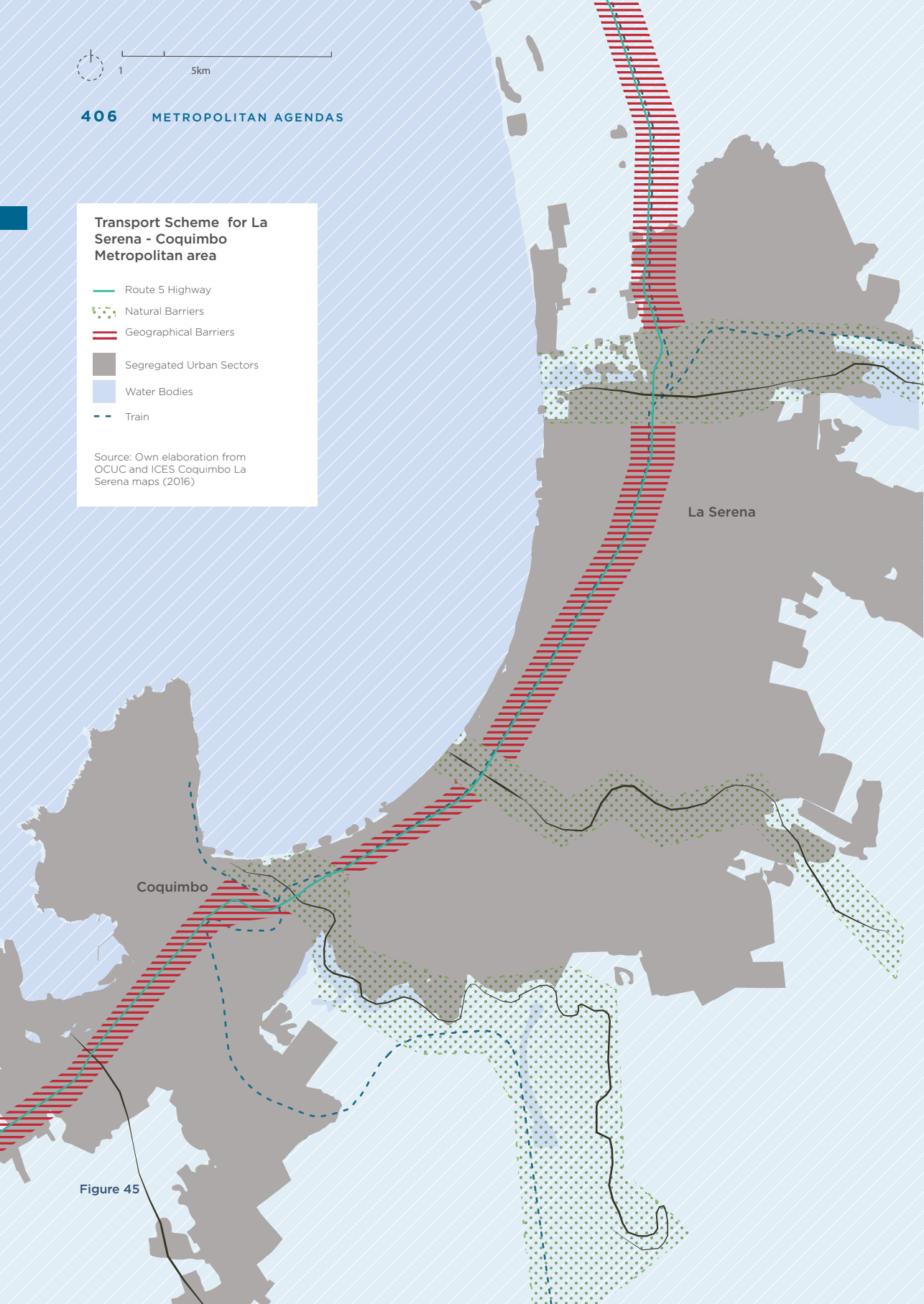
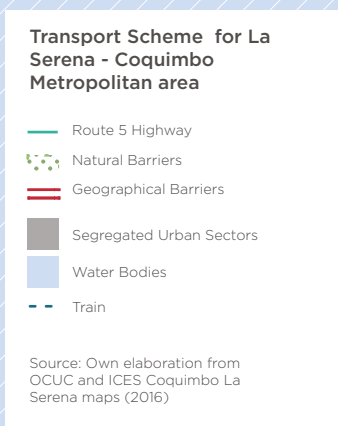


Figure 45

1. MOBILITY AND TRANSPORT

IDENTIFICATION OF ISSUES

Mobility is a priority issue, due to the centralization of the state, the scarcity of resources for infrastructure, and the lack of structural planning, which have led to an insufficient road network and its constant saturation.

Due to the functional dependence between both districts, a large number of residents from La Serena and Coquimbo are forced to commute between the two cities to meet their basic needs regarding education, health, or work.

According to the 2010 Origen-Destination Survey (Encuesta Origen-Destino, 2010) (Secretaría de Planificación y Transporte, 2012), the total number of trips generated for the La Serena-Coquimbo conurbation in 1999 on an average weekday was estimated at 558,433, while surveys carried out in 2010 and 2011 show that the number of trips rose to 928,433. This translates into an annual rate of 5.2% in 11 years. Both this trend and the long distances to cover lead to friction in certain critical areas, which suffer from high levels of road saturation and poor availability of public transport services during peak times. These effects undoubtedly affect the quality of life of the population, particularly those settled in areas more distant from the historic centers and who do not have access to private vehicles as an alternative means of transport. It is therefore evident that there is a need to implement sustainable mobility and intermodal strategies involving the metropolitan system (IDB, 2018).

The main issues in this Metropolitan Area are i. Deficient accessibility and connectivity emphasized by the presence of geographical elements and longitudinal road discontinuity; ii. Insufficient public transport capacity to meet both the demand and coverage of the Metropolitan Area with low coverage of peripheral sectors; and iii. Existing road saturation and congestion accentuated by the increase in the number of trips within the Metropolitan Area by 5.4% per year (IDB, 2018), added to the functional dependency between both communes.

1 It is necessary to address mobility and transport issues in a coordinated and multimodal manner, promoting the use of non-motorized means of transportation within the urban area.

1.1 Create a coordinated and multimodal transport system that prompts a change in the trend of dispersed urban growth and resulting socio-spatial segregation.

1.1.1 **PUBLIC-PRIVATE INTEGRATED MULTIMODAL TRANSPORT SYSTEM**

Elaboration of a study aimed at analyzing alternatives to build a multimodal system that is consistent with integrated and compact urban development. The study should take into account modes of transport that guarantee accessibility, capacity, regularity, and a variety of mobility options, including bike lanes and pedestrianization, as well as multimodal transfer stations, among others.

Term: Short
Stakeholders: GORE, MTT, Municipality of La Serena, Municipality of Coquimbo

1.1.2 **METROPOLITANA AREA BYPASS (RUTA 5 HIGHWAY)**

This consists of the construction of an alternative expressway to the Ruta 5 highway that, unlike the one currently crossing the conurbation, is located outside the Metropolitan Area's urban areas.

Term: Long
Stakeholders: MOP, MINVU

1.2 Favor non-polluting modes of transport as a first option and then motorized modes that are most efficient in terms of territorial coverage, energy consumption, capacity to transport people, and greenhouse gas emissions.

1.2.1 **NETWORK OF METROPOLITAN BIKE LANES**

With the goal of supporting the implementation of a Network of Bike Lanes in the La Serena-Coquimbo Metropolitan Area, this initiative is aimed at diversifying means of transport within the conurbation and includes a cycle-touristic route on the coastline and in central areas. These will be associated with points of interest, transitioning towards their pedestrianization.

Term: Short
Stakeholders: GORE, MOP, MINVU, Municipality of La Serena, Municipality of Coquimbo

1.2.2 **METROPOLITAN PUBLIC BIKE SYSTEM**

Implementation of a metropolitan public bike system that allows citizens to use this means of transport to travel to central areas, the coastline, and other points of interest. Focused on residents, the aim of this system is to promote bike use, connecting residential areas with commercial areas or workplaces. This is intended to facilitate a rapid and efficient means of transport and contribute to care for the environment and quality of life.

Term: Short
Stakeholders: GORE, Municipality of La Serena, Municipality of Coquimbo

Environment Scheme for La Serena - Coquimbo Metropolitan area

- Illegal Dumps
- Threatened natural areas
- Water Bodies
- Urban Sprawl

Source: Own elaboration based on map from the diploma program in Management of Metropolitan Areas, based from OCUC maps.

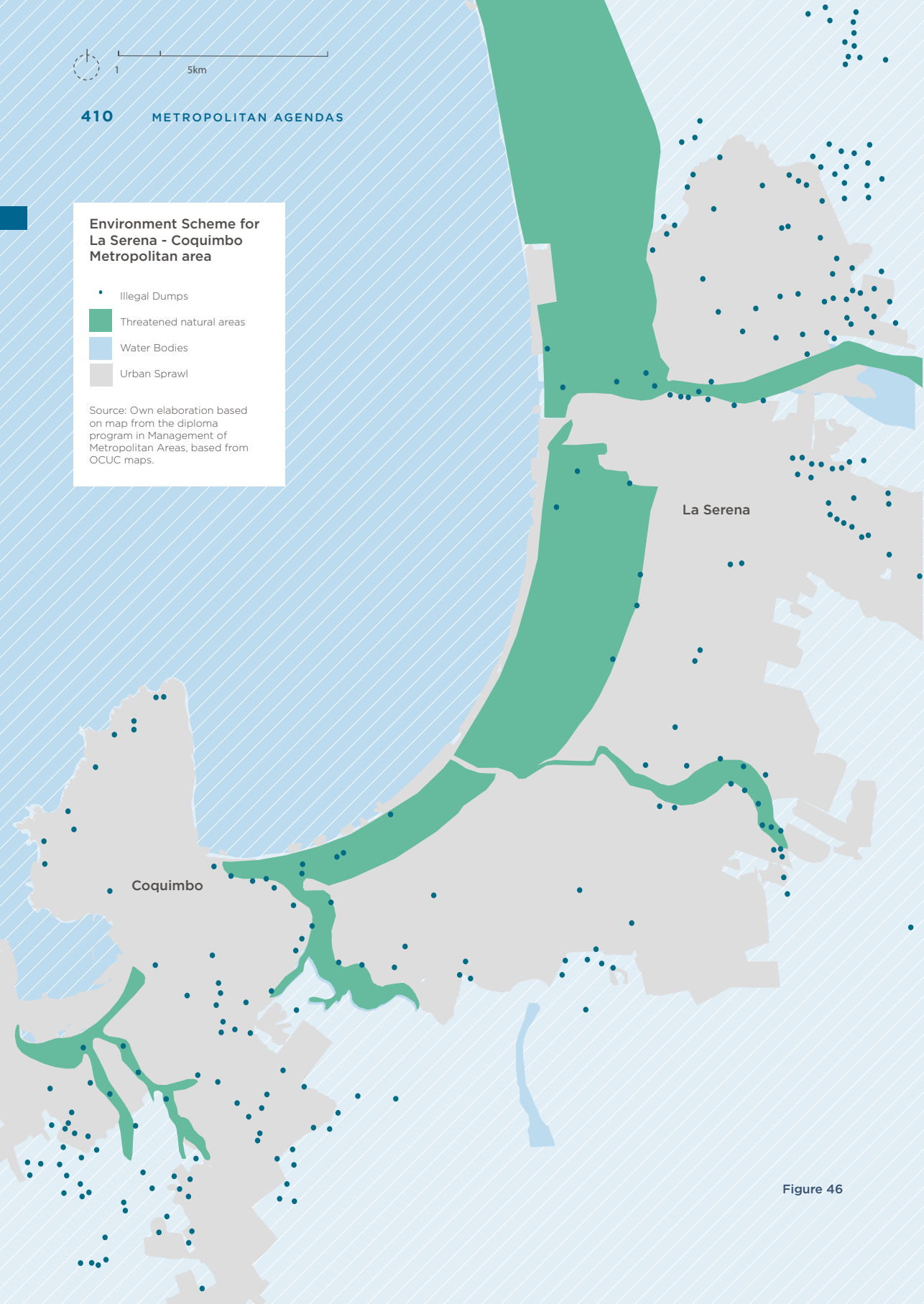


Figure 46

2. ENVIRONMENT

IDENTIFICATION OF ISSUES

The steady growth of the population has not only led to high demand for housing, infrastructure, and better connectivity, but has also resulted in a rise in volumes of waste and requirements for collection, and the need to expand the coverage of the water and sanitation network, which has caused the following problems:

DEFICIENT WASTE MANAGEMENT

The Metropolitan Area relies on the El Panul sanitary landfill, which receives 100 percent of metropolitan waste and 64 percent of regional waste (municipal solid waste, sludge from wastewater and industrial waste treatment plants) and is operating at the limits of its capacity. In fact, complaints associated with bad odors have increased significantly over the last five years. As a consequence, there has been an increase in micro-dumps, zoonosis, and collection difficulties during summertime.

DETERIORATION OF HERITAGE AND ENVIRONMENTAL AREAS

In both La Serena and Coquimbo there are heritage areas protected by Law N° 17,288 of the National Monuments Council (Consejo de Monumentos Nacionales) and other associated regulations, and areas that have been declared Typical Areas and historic monuments. On the other hand, those cases protected by the General Law of Urban Planning and Construction through the PRC are referred to as Historic Conservation Properties (Inmuebles de Conservación Histórica, ICH) or an Historic Conservation Area (Zona de Conservación Histórica, ZCH). These areas are commonly visited by residents and attract large numbers of tourists all year round, thus leading to deterioration related to the high demand. This situation is aggravated by the presence of rundown buildings, informal trade in public spaces, and the presence of stray dogs, which represent a hazard to the public. The worst affected areas include the town of Guayacán and those areas or buildings that, while not being protected, fall under the category of heritage due to their identity value, high social value, or historic importance.

In terms of natural heritage, within the Metropolitan Area there are a series of environmentally valuable areas such as the coastline, the system of wetlands (Punta de Teatinos, Río Elqui, El Culebrón), basins, freshwater bodies, dunes, and meadows that are being put under pressure by urban development, mainly in the area located on the first terrace of the Metropolitan Area, parallel to the Ruta 5 Norte highway. Part of the Coquimbo and Guayacán bay is polluted due to the direct disposal of wastewater with primary treatment and waste from port and fishing activities, threatening the health of the population. The three discharge areas are: La Pampilla, the side of the Elqui River, and the Guayacán area.

2 Natural areas within the Metropolitan Area have great environmental and identity-related value that should be preserved. It is especially pressing to protect the system of wetlands that contributes to the preservation of biodiversity and the mitigation of climate change effects and their impact on the coastline. Waste management should focus on minimizing its environmental impact, working towards education and efficiency in the sustainable management of waste.

2.1 **Preserve and enhance elements with great environmental and identity-related value, legally protecting the system of inter-urban wetlands.**

2.1.1 **PROTECTION PLAN FOR SYSTEM OF METROPOLITAN WETLANDS**

The aim of this study is to define strategies to provide appropriate legal regulation and protect the wetlands within the La Serena-Coquimbo Metropolitan Area. This plan will allow official recognition of these areas of high environmental value, as well as the creation of management plans to promote their qualities and favor their preservation.

Term: Short
Stakeholders: GORE, MMA, Municipality of La Serena, Municipality of Coquimbo

2.2 **Carefully incorporate environmental assets into the urban fabric as integrating features with environmental and ecological functions.**

2.2.1 **DEMARICATION OF LIMITS OF ELQUI RIVER (LA SERENA METROLAB)**

This consists of a study to define the legal limits of the land ownership on both sides of the course of the Elqui River within the urban area, differentiating between private and public properties. It will therefore become clear which areas have the potential for future projects and will also be the basis for prefeasibility studies for the Río Elqui Hábitat Verde Park initiative included in the ESC Action Plan.

Term: Short
Stakeholders: GORE, Municipality of La Serena, La Serena Metrolab

2.2.2 **DEMARICATION OF LIMITS, WATER RIGHTS, AND MAIN WATERCOURSE OF EL CULEBRÓN PARK**

This involves a study aimed at defining the legal limits of land ownership, differentiating between private and public properties; water rights, the results of which will allow the definition of water volumes available for irrigation; and the main watercourse, which will shed light on areas prone to flooding or rises in estuary water levels. This legal information will be crucial to all future initiatives planned for the El Culebrón Park.

Term: Medium
Stakeholders: GORE, Municipality of Coquimbo

2.2.3 **EL CULEBRÓN PALEOECOLOGICAL PARK**

Construction of free access urban park that includes a paleoecological center, terraces, equipped areas, pedestrian trails, and bike routes.

Term: Medium
Stakeholders: GORE, Municipality of Coquimbo

2.2.4 **INTEGRAL IMPROVEMENT OF GABRIEL COLL PARK (LA SERENA)**

Recovery of a public space that is part of the local identity and which is highly significant in terms of its size, location, geography, and the public activities carried out there. Therefore, the project focuses on the recovery, maintenance, and promotion of this urban park. Among other things, it should involve landscaping, equipment, infrastructure, illumination, and integral reforestation works.

Term: Long
Stakeholders: GORE, MINVU, Municipality of La Serena

2.3 Create an integral waste management system focused on minimizing its impact on the environment on a local and global scale, and develop educational initiatives to involve and engage the community, and thus guarantee long-term environmental sustainability.

2.3.1 NEIGHBORHOOD RECYCLING PILOT (IN CONURBATION AREAS)

Along with the implementation of a larger waste management program, the aim is to engage the community with two pilot projects—one in La Serena and one in Coquimbo—to educate people about waste management on a neighborhood scale. The following objectives must be fulfilled in order to do this:

- Identification of priority neighborhoods for each municipality so the pilots are viable and can be replicated to begin a territorial education process
- Evaluation of the investment necessary for the two pilots to operate. This takes into consideration initial educational workshops, creation of a plan of collection routes, staff, and physical locations

Term: Short
Stakeholders: GORE, MMA, Municipality of La Serena, Municipality of Coquimbo

2.3.2 METROPOLITAN SOLID WASTE MANAGEMENT PLAN

On a metropolitan scale, it is essential to promote an integral plan for waste management that develops environmental management, education, and regulations, among other aspects, to promote a change in current urban waste management dynamics. There is also a need to create a proposal for management and technology for treatment, recycling, and final disposal of waste, which includes the following steps:

- Waste collection, recycling, and reuse programs and strategies
- Development of environmental educational programs for the community
- Creation of municipal regulations focused on minimizing waste generation and providing appropriate treatment
- Providing the Metropolitan Area with a system that is appropriate and matches the sustainability parameters that have been transversally established for the treatment, recycling, and final disposal of waste

Term: Medium
Stakeholders: GORE, MMA, Municipality of La Serena, Municipality of Coquimbo

The La Serena–Coquimbo Metropolitan Area plays a **strategic role** as a **link between the country’s northern and central** areas. The concentration of activities such as services, retail, mining, and tourism, has generated an urban hub that attracts both residents and tourists during the vacation season, as the territory provides particularly good living quality conditions to settle there either temporarily or permanently.

Land Use Scheme for La Serena - Coquimbo Metropolitan area

- Services
- Equipment
- ▨ Segregated residential zones
- Urban Sprawl
- Water Bodies

Source: Own elaboration based on OCUC maps and ICES Coquimbo La Serena (2016)

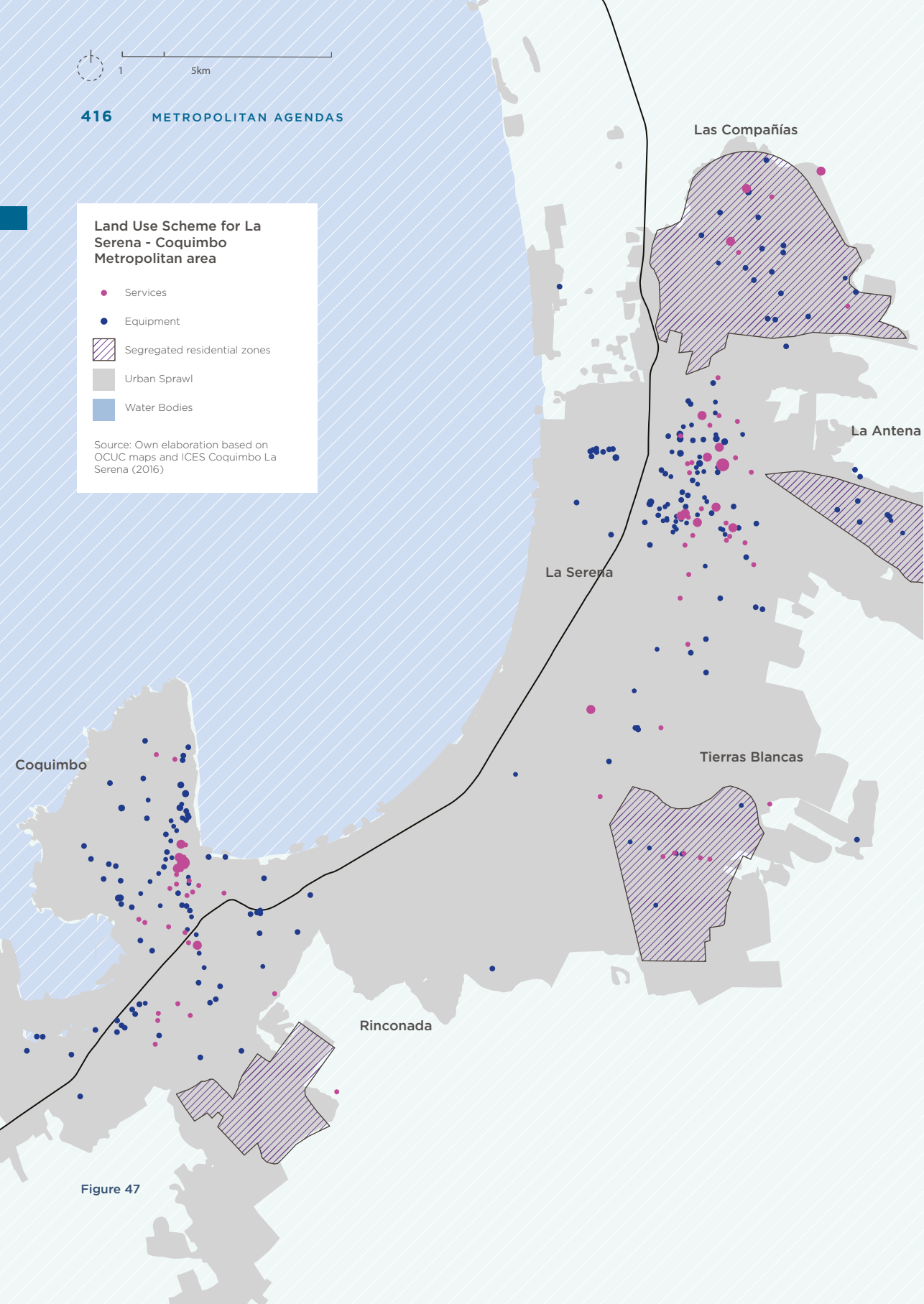


Figure 47

3. LAND-USE PLANNING

IDENTIFICATION OF ISSUES

The territorial structure and function have changed significantly over the last two decades, causing the following problems:

SOCIO-SPATIAL SEGREGATION WITHIN AND OUTSIDE THE URBAN LIMITS

New social housing areas are located on the outskirts of town, on land that is outside the current urban limit, and there is also irregular occupation (recreational plots), perpetuating a phenomenon of expansion based on settlements that lack or have very little access to services, connectivity, and infrastructure. Examples of this are the Las Compañías and La Antena areas in La Serena, and the Tierras Blancas, Rinconada, and Punta Mira areas of Coquimbo.

FRICITION DUE TO DEMAND FOR USE OF COASTAL LAND

One of the main causes of the friction is the overlap of activities (port, fishing, tourism, services, housing, and recreation) and competencies in the administration, protection, and management of this territory, on which several entities operate—port operating companies, the navy, municipalities, public agencies, the National Monuments Council, permanent and temporary concessionaries, real estate companies, and private owners—commonly causing decision-making to be done partially and without coordination or a common, coherent, and sustainable vision in the long term.

PROLIFERATION OF SETTLEMENTS IN ENVIRONMENTALLY VALUABLE AND RISK-VULNERABLE AREAS

Due to the patterns of segregated growth, the lack of coordination between legal entities, updated protection and planning instruments (defining, for instance, areas vulnerable to risk), as well as ineffective oversight agencies, part of the population has settled in areas with great environmental value that are vulnerable because they are highly exposed to risk. It is in this context that areas in the ravines and historic watercourse of the Elqui River have been settled, mainly through informal land division and settlements, and along the coastline, through real estate projects lacking appropriate mitigation measures.

3 Land management of the Metropolitan Area should focus on reversing the tendency towards territorial dispersion and the resulting socio-spatial segregation. This type of land management should incorporate dynamic phenomena related to extreme natural events to guarantee the safety of the population and to incorporate urban resilience.

3.1 Promote sustainable urban growth and planning instruments aimed at the construction of a more integrated, compact, and mixed metropolis, that; recognizes its territory, protects its natural and heritage areas, involves the community, safeguards the community from risks and vulnerabilities, and guarantees equal access to services and infrastructure.

3.1.1 RISK MANAGEMENT AND RESILIENCE PLANS

The objective of the study is to develop a metropolitan plan to adapt to the effects of climate change. This plan should allow safety and prevention protocols to be established and planning of the modus operandi and implementation of urban dynamics after the event. The plan will have to enhance the value of the integrated system of wetlands, streams, estuaries, and other features of the landscape, as well as establish an action plan for emergencies caused by extreme natural phenomena or events caused by man.

Term: Long
Stakeholders: GORE, Municipality of La Serena, Municipality of Coquimbo

3.1.2 IMPLEMENTATION OF COORDINATED METROPOLITAN GEOGRAPHIC INFORMATION SYSTEM (GIS)

A transversal tool will be developed for the two municipalities and the Coquimbo GORE to support decision-making by creating Municipal GIS units. These will have to gather and systematize data provided by the different internal municipal departments and link them to the territory in association with the Planning Department of the Coquimbo GORE (División de Planificación del Gobierno Regional de Coquimbo) and its Metropolitan Area Unit (Unidad de Área Metropolitana, UAM).

Term: Short
Stakeholders: GORE, SUBDERE, Municipality of La Serena, Municipality of Coquimbo

3.2 Preserve and enhance heritage assets in order to promote a Metropolitan Area that has a dynamic identity and cultural environment, capable of supporting an innovative and diversified economy.

3.2.1 HERITAGE OFFICES

The creation of a heritage office in Coquimbo, and the strengthening of the La Serena office are proposed, with the purpose that both work in coordination with each other and with the Council of National Monuments, in order to improve and expedite the procedures for interventions in typical zones and national monuments in the metropolitan area.

3.2.2 REVITALIZATION PLAN FOR HISTORIC CENTERS

Reinforcement of the urban - patrimonial and identity role of the La Serena Typical Zone and the Historical Conservation Zones in Coquimbo, which are in charge of the Project and Heritage Units of these municipalities. In order to preserve the heritage values and contribute to the improvement of the urban image of these foundational areas, a revitalization plan of historical centers of the Metropolitan Area of La Serena - Coquimbo is proposed. The program of Revitalization of Neighborhoods and Emblematic Heritage Infrastructure that takes place in Guayacán, Coquimbo, is taken as a reference for intervention.

4. ECONOMIC DEVELOPMENT

IDENTIFICATION OF OTHER REGIONAL/METROPOLITAN ISSUES

Economic cycles can profoundly affect the development of the Metropolitan Area and employment. The diversification of economic activities has not been fully established, especially in the case of services and tourism, which are characterized by being highly seasonal.

Indicators associated with education have revealed the need to increase competitiveness, as that is one of the key components in increasing productivity and moving towards development.

To achieve an innovative and diversified economy it is essential to improve graduate, research, and specialty programs in order to generate local capacities. In addition, growth of the Metropolitan Area requires higher-quality services, particularly in the health area, demanding more medical specialists and the development of coordinated management.

CHALLENGES

4 Consolidated socioeconomic roles should be preserved and their strengths prioritized, so that both cities complement each other and drive the area's economic, port, touristic, and productive development on a national scale.

OBJECTIVES

4.1 Increase competitiveness based on the complementary roles of La Serena-Coquimbo, promoting the Metropolitan Area as a service and port hub, turning it into an economic, touristic, and productive center on a national level.

INITIATIVES

4.1.1 **DIAGNOSE AND ASSESS THE QUALITY OF THE PUBLIC HEALTH NETWORK IN THE METROPOLITAN AREA**

The study involves a diagnosis and assessment, and recommendations that should be applied to improve aspects such as attention, relations with the target public, availability of specialists, and reservation of appointments in the public health system. It should

be noted that health was the issue assigned most value by public opinion in a study conducted in the conurbation in accordance with the ESC methodology.

Term: Short
Stakeholders: GORE, Ministry of Health, Coquimbo Health Service

4 Consolidated socioeconomic roles should be preserved and their strengths prioritized, so that both cities complement each other and drive the area’s economic, port, touristic, and productive development on a national scale.

4.2 Reduce the vulnerability of the metropolitan economic system by establishing favorable conditions for the development of complementary economic activities with a special emphasis on tourist and service activities, incorporating vacation, cultural, and niche tourism.

4.2.1 LA SERENA-COQUIMBO COORDINATED TOURISTIC DEVELOPMENT PLAN

Study that will define metropolitan touristic standards with sustainability certification to ensure that aspects such as efficient water use, waste management, clean energy use, and others to be defined, placing emphasis on the development of niche tourism and a model of touristic metropolitan governance based on coordination and collaboration between La Serena and Coquimbo.

Term: Short
Stakeholders: GORE, Municipality of La Serena, Municipality of Coquimbo

5. GOVERNANCE

IDENTIFICATION OF OTHER REGIONAL/METROPOLITAN ISSUES

Given the lack of metropolitan authorities, it is crucial to establish an institutional structure for metropolitan governance that allows for the coordinated management and the ability to group institutions and entities that plan, administrate, manage, and have an impact on the territory under a shared vision and with coordinated actions. This can improve internal processes and promote public participation and transparency for the community.

5 It will be necessary to foster a greater level of horizontal and vertical collaboration between all stakeholders to lead to a real urban transformation. This collaboration should strengthen the correlation between planning and management instruments—mainly the Regional Development Strategy (Estrategia Regional de Desarrollo, ERD), inter-district and district regulatory plans, and the district development plans—and create opportunities and mechanisms to facilitate healthy governance.

POLITICAL, ASSOCIATIVE, AND ORGANIZATIONAL ACTIONS

As a result of the cumulative experience of the GORE in planning, design, and implementation of metropolitan initiatives, the following section describes the political, associative, and organizational actions that have been crucial for their effective implementation and which could help guide the implementation of future metropolitan initiatives.

POLITICAL ACTIONS

Context:

- Implementation of the ESC methodology dates back to the second half of 2014, after the debate on the Decentralization Law and the pilot projects subsequently proposed. This initiative was sponsored by the mayors of La Serena and Coquimbo and supported by the GORE.
- The process of elaborating the ESC Metropolitan Action Plan involved the broad participation of municipal teams and the advances were presented to the mayors and municipal councils of both districts in one of their regular meetings. Progress on the metropolitan plan was also presented in a regular meeting to the Land-Use Planning and Infrastructure Commission (Comisión de Ordenamiento Territorial e Infraestructura) of the Coquimbo CORE.

Proposals:

- The aim is to move towards a public management model that involves effective public participation, where organizations from civil society play a key role in the establishment of partnerships for development, promoting social control and providing services complementary to those delivered by the government. The following actions are aimed at validating proposals on a metropolitan scale: i. Hold public consultations, ii. Present advances to municipal councils and Coquimbo CORE

ASSOCIATIVE ACTIONS

Context:

- On July 7, 2017, during the forum The Future of Cities in the Coquimbo Region Where Are We Heading? (Futuro de las ciudades de la Región de Coquimbo ¿Hacia dónde vamos?), organized by the Coquimbo GORE and the CNDU, the agreement constituting the Metropolitan Committee (initiative N° 68, ESC) was signed. This act was made official in accordance with Resolution N° 872 of October 30, 2017, from the Coquimbo GORE.
- The signing of this agreement was meant to anticipate the actions included in the Decentralization Law regarding metropolitan issues, specifically the transfer of competencies concerning the administration of Metropolitan Areas from the central government to regional governments to continue the collaborative work developed in the context of the ESC.
- During its pilot stage, the Metropolitan Committee will be comprised by the Intendant and mayors of the La Serena and Coquimbo districts and three regional councilors, and may include the different SEREMIs, depending on the issues addressed.
- The first session of the committee took place on March 5, 2018, where national, regional, and municipal authorities and technical teams were presented with the state of progress of the ESC action plan.

Proposals:

- In addition to the creation of the Metropolitan Committee, the creation of an advisory board is proposed, comprised of the SEREMIs, public offices, civil society, and the private sector, to be summoned by the Metropolitan Committee depending on specific topics.

ORGANIZATIONAL ACTIONS

Context:

- The Metropolitan Area Unit (UAM) of the Coquimbo Regional Government (Unidad de Área Metropolitana del Gobierno Regional de Coquimbo) (initiative N° 69, ESC) was created to set in motion, coordinate, and monitor the Metropolitan Action Plan. In accordance with the Decentralization Law,

Territorial governance in the **Metropolitan Area of La Serena–Coquimbo** should focus on reversing the tendency towards territorial dispersion and the resulting socio-spatial segregation. This type of land management should incorporate dynamic phenomena related to extreme natural events to guarantee the safety of the population and to incorporate urban resilience.

this unit was established within the Regional Planning and Development Division (División de Planificación y Desarrollo Regional) in the Land-Use Planning Department (Departamento de Planificación Territorial). This agency is responsible for coordinating and monitoring the execution of the initiatives contained in the ESC Metropolitan Action Plan, the coordination and interaction of the GORE with administrative entities from the central government regarding metropolitan issues for La Serena–Coquimbo, and acting as Executive Secretariat of the Advisory Committee of mayors.

- This unit's main responsibilities are as follows: 1. Continue the action plan defined by the ESC methodology for La Serena–Coquimbo; 2. Manage metropolitan initiatives and actions with the various sectors; 3. Promote periodic analysis of the behavior of strategic sustainability indicators that are crucial to preserving the quality of life of residents of the conurbation and in the framework of implementing the law; 4. Adapt gradually and periodically to the regulatory and functional changes associated with metropolitan management that will determine the amendments to laws and regulations to be implemented.
- In order to realize the creation of the UAM, the ESC Metropolitan Action Plan was presented to the Land-Use Planning and Infrastructure Commission of the Coquimbo CORE and it was approved in accordance with CORE agreement N° 9,031 on December 19, 2017.

Proposals:

- Along with the creation of the UAM, it is also recommended to create a Metropolitan Technical Committee, which will be constituted by the head of the Land-Use Planning Department of the Coquimbo GORE, the heads of district planning for both districts, and their technical teams. The aim of this committee is to implement and oversee the agreements reached in the Metropolitan Committee. The creation of a Metropolitan Observatory (initiative N° 55, ESC) is also proposed.

PRIORITIZED INITIATIVE LA SERENA - COQUIMBO

METROPOLITAN CYCLE- MOBILITY NETWORK

One of the goals of this initiative is to promote cycle mobility on a metropolitan scale as an alternative to the existing transport options through a strategy involving two lines of action: infrastructure and management.

In infrastructure terms, the project to Construct a Network of Metropolitan Bike Lanes (initiative N° 15, ESC) is aimed at consolidating a high-standard network that allows two objectives to be achieved: first, the improvement of metropolitan connectivity, using alternative roads to those for vehicles, for which priority routes will be selected to favor greater accessibility and connectivity within the conurbation; and second, the inclusion of routes to support tourism on the coastline and central areas associated with points of heritage and cultural interest as a way of promoting a change towards pedestrianization.

The goal of the initial studies is to create a Master Plan for the Network of Metropolitan Bike Lanes that defines the necessary infrastructure and complementary initiatives required to build an efficient and inclusive network of bike lanes. This process should involve mapping of cyclists to identify the roads that should make up the network and thus enable evaluation of the social and economic profitability of implementing it.



► Source: Elaboration by Carla Olivares

In terms of management, the initiative proposes a Metropolitan Public Bike System (initiative N° 16 ESC) that can be executed in parallel with the design of the metropolitan plan in areas and on routes that have inclusive bike lanes or in areas shared by pedestrians and cyclists. The first part of this plan involves defining the routes, strategies for their incorporation to the existing network, and a management model to study its financial viability.

In the medium term, the Metropolitan Public Bike System should consider an implementation process consisting of at least four stages: profile, economic sustainability study, pre-investment and investment studies, and implementation of a pilot project and its follow-up.

The studies will also make it possible to identify the actions required to educate and socialize the positive effects that a public bike system has on mobility, health, and the city's touristic image, and to prepare users for the use of shared traffic spaces and validate the system with them.



► Source: Elaboration by Carla Olivares

PERSPECTIVE. GOVERNANCE IN METROPOLITAN TRANSPORT

JUAN CARLOS MUÑOZ

The governance of transport systems in Chilean cities is extremely fragmented in terms of their territory, financing, and the regulations for the modes of transport serving them. Many cities are divided into districts with powers that affect the infrastructure and operation of the transport systems in their own areas and which also define their own regulatory plan for land-use. Throughout Chile it is common to see how local authorities apply a local logic that affects those who have to cross the entire metropolis. The prohibition of public transport routes in certain areas to protect residents from the inconvenience caused by buses, discontinuous bike lanes between neighboring districts, and the implementation of a system of public bikes by a more affluent municipality that is incompatible with the regional system are all examples representing the lack of a holistic metropolitan vision that puts prioritized initiatives with regional impact ahead of the administrative boundaries of districts and sectors.

Another example that has a strong impact on the transport system is the fragmentation of land-use planning. Santiago is an example of this, as 63 percent of the square meters allocated to services (significant reason behind work commutes) are located in the east of the city, which only accounts for 12 percent of the total area. Consequently, the commutes of people who live in other parts of the city are longer and the costs

of the transport system increase. This phenomenon of expansion from the center toward more wealthy areas ends up feeding itself, as it causes this socioeconomic group to seek areas that are even more distant in which to settle, forcing the implementation of new transport infrastructure for cars in the city. It is therefore crucial to create incentives and regulations that promote the densification of high-connectivity areas and the creation of urban sub-centers.

It is not good for a city to have a single unit investing in highways, a different one managing buses, another regulating taxis, another dealing with street lights, and yet another promoting bike lanes. Modern metropolises have learned that it is necessary to have an entity that directs a city in terms of its investments, coordination, operation, and the information provided to users. These are the cities whose stance on sustainability is most consistent with their actions and which have actually seen progress in terms of services, externalities, and the options offered for the different modes of collective and non-motorized transport.

Large Chilean cities need metropolitan transport authorities. While it is important for these authorities to have political legitimacy, it is also essential for urban planning not to be encumbered by the immediacy of electoral cycles, but rather to promote a long-term vision.

It is therefore essential to find a balance between the plan and focus of the elected authority through a long-term vision regarding the city we want for the future.

METROPOLITAN AGENDA

METROPOLITAN AREA OF SANTIAGO

The Santiago Metropolitan Area (Área Metropolitana de Santiago, AMS) is part of the Santiago Metropolitan Region (Región Metropolitana de Santiago, RMS), concentrating 6,119,975 people, which is equivalent to 97% of the regional population and more than 35% of the population. While the final composition of the AMS is under discussion, it is comprised of at least 34 districts that make up the urban area and concentrates 97 percent of the region's total population. The AMS presents various challenges and complexities due to its metropolitan nature, which is reflected in its territorial and administrative fragmentation and resulting institutional overlap. Its accelerated process of urban growth and expansion—almost devoid of any planning—has established the bases for the urban problems the city is now facing: urban segregation, land inequity, inequality in access to high standards of goods and services, and exposure of the population to natural risks.

Source:

Santiago Human and Resilient Resilience Strategy (GORE Metropolitano de Santiago, 100RC Rockefeller Foundation); Final delivery Diploma program in Management of Metropolitan Areas 2017 (Jaime Gallardo, Luis Hidalgo, Daniela Ramírez, Cristián Robertson, Natalia Rodríguez, Ignacio Saffirio, Jimena Valdebenito, Darío Vergara); Metropolitan Regional Government (Gabriela Elgueta, Luigi Brignardello, Cristina Huidobro)

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Objective Image:

Carla Olivares













► Plaza de Armas, Santiago Metropolitan Regional Government

SANTIAGO METROPOLITAN AGENDA

The Santiago Metropolitan Area (AMS) is part of the Santiago Metropolitan Region (RMS), and it constitutes Chile's main urban, economic, and cultural center. It is comprised of at least 32 districts of the Santiago Province, plus the districts of Puente Alto and San Bernardo, and it accounts for 6,119,975 people, which is equivalent to 97 percent of the region's total population and over 35 percent of the country's total population¹.

On an administrative level—and unlike other large cities around the world—the AMS does not have its own level of governance, creating tension due to the overlap of different government levels, both national and local.

The centralization with which decisions are made contrasts with the fragmented governance to administer a Metropolitan Area comprised of 34 urban districts that are associated with another 18 rural districts² that make up the region. Each of these districts is territorially represented by popularly elected authorities (mayors) (RMS GORE, 2017a).

On the other hand, regional administration is the responsibility of the Metropolitan Regional Government, an entity headed by the Intendant, who is appointed by the President. This reality complicates decision-making, limiting the harmonious and coordinated development of the region. Many of the national policies, programs, and definitions do not take into consideration the regional context, and many other decisions are taken locally and without coordination, leading to fragmented metropolitan governance (Orellana, 2009).

In economic terms, the RMS produces 46 percent of the country's GDP and almost two thirds of its economy is driven by activities concentrated in the Metropolitan Area, particularly the financial sector, commerce, and professional services (Universidad del Desarrollo, 2016). This economic importance is reflected in the concentration of 50 percent of the country's technicians and professionals, along with the presence of the headquarters of large public and private companies. In addition—and according to various projections—the regions of Valparaíso and the Santiago Metropolitan Area have the largest copper reserves in the country, which makes them the regions with the greatest mining potential in the world (Valor Minero, 2017), significantly influencing the

¹ For the purposes of this text, we have included the 34 districts that have traditionally been considered part of Greater Santiago.

² Rural districts are those that do not form part of Greater Santiago, even though in practice they might not have significant weight in terms of rural population. It is more of a default term than a concept on its own or a pertinent one.

Figure 48

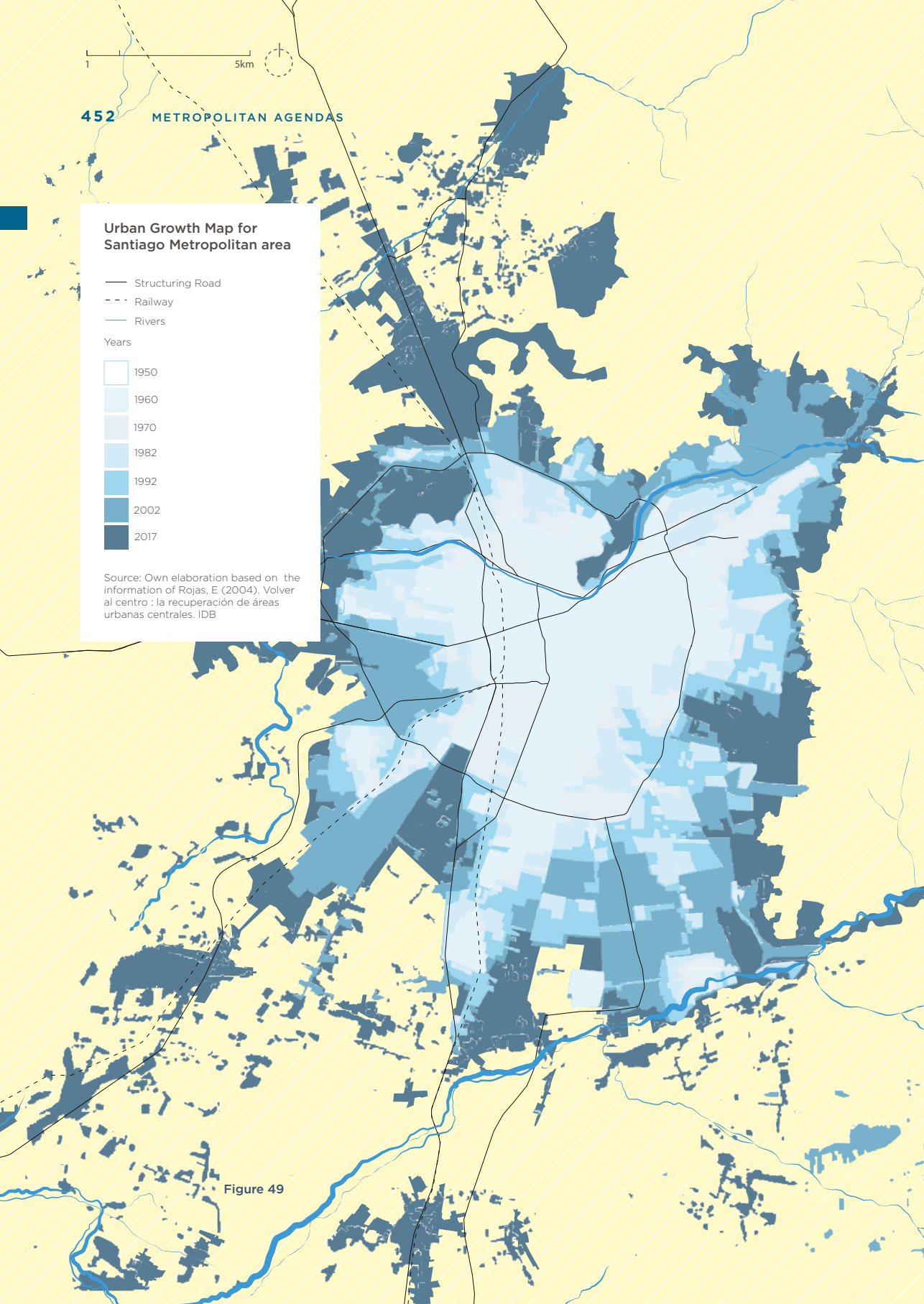


Figure 49

growth potential of Chilean economy³. This reality poses great challenges at a regional level, due to the territorial complexity in which those reserves are located and the presence of physical, natural, and cultural features that must be preserved.

According to the 2015 National Socioeconomic Characterization Survey (Encuesta de Caracterización Socioeconómica Nacional, CASEN), the region concentrates the highest levels of monetary income in the whole of Chile, surpassing the national average by almost 30 percent (Instituto Nacional de Estadísticas [INE], 2015). However, Santiago's socioeconomic context is heterogeneous and highly unequal. The Ministry of Social Development (Ministerio de Desarrollo Social) states that—if considered together—income, education, and health indicators show the different degrees of social vulnerability between the AMS districts and their populations. One of the aspects that stands out is the low level of social priority of districts in the eastern and northeastern areas comprising the 'high-income cone' (Las Condes, Lo Barnechea, Vitacura, Providencia, Ñuñoa, and La Reina) (Ortiz, 2013) and how that contrasts with 11 other medium-high priority level districts, and 6 high-priority districts (Cerro Navia, Conchalí, La Granja, La Pintana, San Ramón, and San Bernardo), which experience serious problems related to housing, segregation, and violence.

The AMS is located in the Santiago basin at an altitude of 400 meters in the western most parts of the area, reaching an altitude of more than 1,000 meters (known as cota mil) in the Lo Barnechea district. There are also isolated hills (Santa Lucía, Blanco, Calán, Chena, Lo Aguirre, and Renca, among others), which constitute important urban and environmental assets in the city. There are also two rivers: the Maipo River in the south and the Mapocho River to the north.

Given that it is situated in a tectonic depression surrounded by mountain ranges (Andes Mountain Range and Coastal Mountain Range), Santiago is closed in and suffers from the phenomenon of lower tropospheric temperature inversion, resulting in poor conditions of ventilation during the fall-winter months. These factors have led to serious episodes of poor air quality, which has become one of the main problems the Metropolitan Area in recent decades.

The Santiago basin has become a receptacle for environmental pollutants from various sources, such as transport, industry, and housing. All of these sources create a toxic cloud composed of particulate matter (PM 2.5), which are the particles most hazardous to people's health, hence making it necessary for greater regulation to reduce emissions from the main sources in the AMS (RMS GORE, 2017a).

The central public administration is located in Santiago—including the government headquarters—employing nearly 8 percent of the region's total workforce. This political

³ With just 3% of the mining resource in the RMS and Valparaíso Region, the Chilean economy could grow by 0.75 percentage points per year (Valor Minero, 2017).

Socioeconomic Distribution Map for La Serena - Coquimbo Metropolitan area

- Structuring Road
- - - Railway
- Rivers
- Urban Sprawl
- Comunal Divisions

Groups

- ABC1
- C2
- C3
- D
- E

Source: Own elaboration based on IDE OCUC, 2002 database and OCUC maps.

centralization increases its symbolic relevance, as it concentrates the coverage of national media and even that of the other regions.

The AMS hosts the headquarters of the two biggest universities in the country, concentrating 47 percent of undergraduate enrollment in higher education and 80 percent of graduate enrollment. This has a significant effect on its ability to attract students from the other 14 regions in the country and from other Latin American countries. In addition, the AMS concentrates most of the cultural activities in the country—the major exhibitions, musical, sports, and artistic events in the country—and it is where almost all of the artistic disciplines in Chile are developed.

In summary, the AMS is a highly complex and important territory for the development of Chile. The creation of a medium- and long-term Agenda will allow metropolitan challenges to be addressed, which could lead to relevant political, social, and cultural effects in the whole country. The development of such an Agenda also has the potential of becoming a milestone for the management of the challenges that Santiago is facing, paving the way for future territorial public policies that could also be applied to other regions.

IDENTIFICATION OF ISSUES

The city of Santiago has always been exposed to the different effects of its geography and climate (earthquakes, mudslides, storms, floods, inversion, and droughts). These effects have impacted urban and rural areas in the region and have threatened physical assets and basic systems of subsistence. The city has thus had to recover and rebuild itself systematically and, in doing so, has been forced to develop new parameters to cope with these phenomena.

On the other hand, the explosive development and urbanization that the city has undergone, along with limited planning instruments and great predominance of market dynamics (Green & Soler, 2004), have paved the way for a highly segregated, dispersed, and fragmented urban structure that directly affects the quality of life of its residents.

This section takes an in-depth look at the issues associated with the topics specified in the Decentralization Law in its first phase of implementation: mobility, environment, and land-use planning. However, it should be noted that topics related to risk management, security, equity, and economic development are also priority areas for the Regional Government and should be addressed in a coordinated manner by an authority with regional powers.

Figure 50

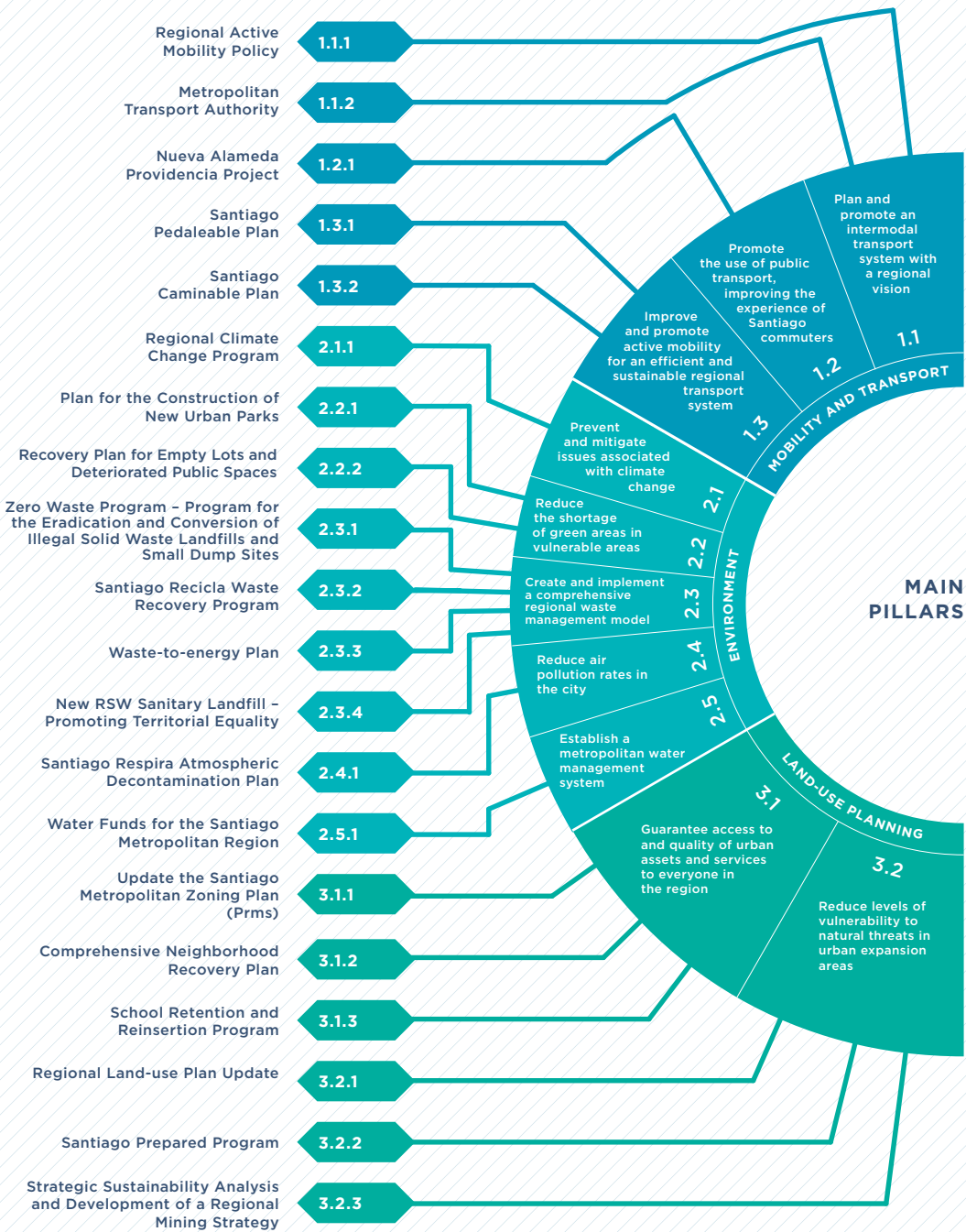


Figure 51



VISION

A Metropolitan Area constructed on a human scale, in which people predominate, rather than vehicles, buildings, or economic interests. That the people who live in the city and experience it feel that Santiago dreams, plans, and builds with each of them in mind (Resilient and Human Santiago Vision-Resilience Strategy).

1. MOBILITY AND TRANSPORT

IDENTIFICATION OF ISSUES

The population of the Santiago Metropolitan Region has seen significant growth in recent times, particularly in the urban population, resulting in undesirable effects such as the development of an extended and segregated city.

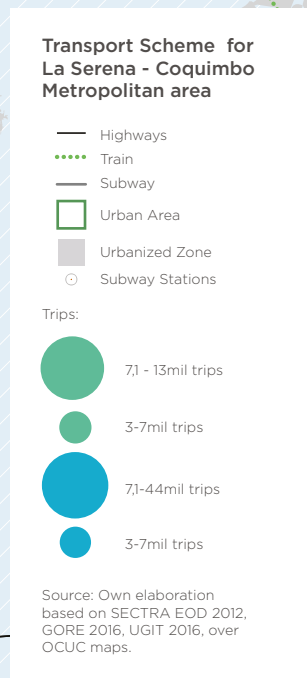
In a manner contrary to the expansion of the city, the lack of efficacy of urban planning has meant the continued concentration of the main economic activities or provision of goods and services in the region, which are mostly located along the Alameda-Providencia axis. This situation has accentuated a clear territorial imbalance, hindering the access that most of the population has to the infrastructure, goods, services, and opportunities offered by life in the city.

These territorial imbalances add more pressure to existing infrastructure and networks, increasing commuting distances and times, travel costs (fares), and the levels of social exclusion and inequality affecting residents' quality of life. This situation has become even more critical since the implementation of the Transantiago public transport system, which, 10 years after having been implemented, is still facing various challenges: systemic disapproval of users, high levels of fare evasion, insufficient infrastructure to guarantee travel times and appropriate transfers, and the need to access unplanned subsidies through special laws (Centro de Desarrollo Urbano Sustentable, CEDEUS, 2016).

This has discouraged use of public transport, while use of cars has increased, leading to associated traffic congestion. According to origin-destination surveys carried out in Santiago, the percentage of motorized trips on public transport fell from 83 percent in 1977 to 70 percent in 1991, 53 percent in 2001, and 47 percent in 2012 (CEDEUS, 2016).

It is thus necessary to create new infrastructure for public transport that includes new metro lines, overground trains, and segregated corridors. This would allow for rapid, comfortable, and reliable trips, which is now taking place with the 50 percent expansion of the metro network and the inauguration of the Santiago-Nos express train. Bus corridors are also being built (on Dorsal, Vicuña Mackenna, Independencia, and Rinconada avenues) to compete against car commutes during peak times (CEDEUS, 2016).

On the other hand, weather, geography, infrastructure, and density conditions, as well as the reality of public transport, make the Metropolitan Area an ideal place for active mobility. On a workday, over six million commutes are made on foot or by bike (Encuesta



ORIGIN DESTINATION

Figure 52

Origen Destino, EOD, 2012), presenting an opportunity to shift the prioritization of transport modes towards sustainable mobility.

Finally, the concentration of services and job sources in the central-eastern area of the city, as well as the increase in residential neighborhoods (many of which function as commuter neighborhoods), has led to a strong functional dependency of residents that requires better-quality transport, especially during peak times. Building more suburban railways could help meet that demand, increasing the quality, efficiency, and sustainability of services and using existing infrastructure. This is the case of the Santiago-Nos line, which addresses demand towards the west (Melipilla) and north (Batuco-Til Til).

The **Metropolitan Area of Santiago** belongs to the Metropolitan Region of Santiago and is the main urban, economic, and cultural center of Chile. It is comprised of at least 32 districts in the Santiago Province, as well as the districts of Puente Alto and San Bernardo, which concentrate a total of 6,119, 975 people, which accounts for 86 percent of the regional population and over 35 percent of the country's total population.

1 Prioritize public transport, cyclists, and pedestrians over cars, and provide a reliable, safe, sustainable, and smart integral transport system.

1.1 Plan and promote an intermodal transport system with a regional vision

1.1.1 REGIONAL ACTIVE MOBILITY POLICY

The Regional Active Mobility Policy will allow investment in infrastructure and equipment for the promotion of walking and cycling to be planned, managed, and coordinated. This policy will define strategic standards and guidelines that will help address mobility from a regional, strategic, and inter-sectoral perspective, as opposed to a sectoral and fragmented vision of the territory.

Term: Short term
Stakeholders: GORE
Co-Stakeholders: Metropolitan Public Transport Department (Directorio de Transporte Público Metropolitano, DPTM), Empresa de los Ferrocarriles del Estado (EFE), GORE, Metro, MINVU, Social Organizations, Secretariat for Transport Planning (Secretaría de Planificación de Transporte, SECTRA), MTT SEREMI

1.1.2 METROPOLITAN TRANSPORT AUTHORITY

Ever since the implementation of the Transantiago Plan, there has been public debate about the management of public transport in the capital. Despite countless proposals over the last 10 years, nothing has changed significantly, mostly due to the complexity involved in reforming the management of metropolitan transport, which has to consider buses, the metro, vehicles, taxis and shared taxis, cyclists, and pedestrians. An all-encompassing policy requires the coordination of different levels of government, including ministries and municipalities, public companies (such as Metro and EFE), private companies (urban and interurban bus companies, and highway and road concessionaries), and civil organizations of motorists, cyclists, and pedestrians, among others.

Term: Medium
Stakeholders: GORE
Co-stakeholders: Metropolitan Public Transport Division (Directorio de Transporte Público Metropolitano, DTPM), MTT SEREMI, Municipalities, Social Organizations, SECTRA

1.2 Promote the use of public transport, improving the experience of Santiago commuters

1.2.1 NUEVA ALAMEDA PROVIDENCIA PROJECT

The Nueva Alameda Providencia Project is intended to renew the most emblematic structural axis in Santiago, and it has been presented as a comprehensive urban recovery project that prioritizes public transport, and has cultural, social, historic, urban, and mobility implications. In 2015, an international public competition was held to select the best option to conduct the study of the project—a 12 kilometer route leading from Pajaritos to Tobalaba, connecting the districts of Lo Prado, Estación Central, Santiago, and Providencia. The Nueva Alameda Providencia Project stands out for having included a regional process of public participation from its design stage, acknowledging the particularities of each territory and the complexity of the city's dynamics.

Term: Long
Stakeholders: RMS GORE, MTT SEREMI, SECTRA, DTPM, MINVU, SERVIU, MOP, Municipalities of Lo Prado, Estación Central, Santiago, and Providencia

1.3 Improve and promote active mobility for an efficient and sustainable regional transport system

1.3.1 SANTIAGO PEDALEABLE PLAN

In recent years, Santiago has shown a sustained increase in the use of bikes as a means of transportation. According to an IDB study, the city is ranked second in Latin America in use of bicycles, with nearly 510,000 trips a day, despite its somewhat precarious infrastructure for this mode of transportation. Trips by bicycle currently account for 4 percent of total commutes on a regular day. According to the MTT, Santiago has seen a significant increase in everyday use of bicycles, especially on routes where there are bike lanes, which is why the construction of new lanes and their interconnection could contribute significantly to the adoption of this means of transport.

The Santiago Pedaleable Plan is aimed at promoting the use of bicycles as a sustainable and clean means of transportation, through investments, programs, projects, and interdisciplinary workshops carried out throughout the Metropolitan Region. This program consists of several related actions, listed below:

- Strengthening of inter-district public bike system
- School Mobility Program
- Implementation of Santiago Bike Lane Master Plan, using high-quality design
- Recovery of spaces for pedestrians and cyclists through strategic routes in the city

Term: Medium
Stakeholders: GORE
Co-Stakeholders: DTPM, MINVU, MOP, Municipalities, SECTRA, MTT SEREMI, SERVIU, NGOs, Academia

1.3.2 SANTIAGO CAMINABLE PLAN

In 2015, 25 percent of Santiago's occupational accidents were due to falls resulting from the poor conditions of sidewalks. In the context of a city where 56 percent of people who travel around the city do so by walking at some stage, it is essential to have a standard of sidewalks that improve the experience of pedestrians. On the other hand, in 2016, 2,919 people were hit by vehicles in the RMS and a large proportion of those accidents were the result of sidewalks and road infrastructure that were not designed with users in mind.

The Santiago Camina Plan is aimed at improving the quality of life of the region's inhabitants through projects linked to pedestrians and their walking experience. This program consists of various related actions, which are listed below:

- Sidewalk Construction Plan with universal accessibility
- Sidewalk Design Manual to ensure regional standard
- Intervention plan for hazardous crossings

Term: Short
Stakeholders: GORE
Co-Stakeholders: DTPM, MINVU, MOP, Municipalities, MTT SEREMI, SERVIU, NGOs, Academia

Environment Scheme for Santiago Metropolitan area

- Comunal Divisions
- Rivers
- Urbanized Zone

Green areas per
inhabitant (m²/hab):

- 1 - 5
- 5 - 12
- 12 - 20
- 20 - 57

Source: Own elaboration based on
Ministry of Environment's State of
the Environment Report (2011)
based on OCUC maps.

2. ENVIRONMENT

IDENTIFICATION OF ISSUES

The Santiago Metropolitan Region suffers from environmental pressures associated with air pollution, inequality in the distribution of green areas, and climate effects, which have intensified in recent years due to climate change. Waste management and water resource management also pose challenges.

According to the Fourth Public Perception Study (Cuarto Estudio de Percepción Pública) (RMS GORE, 2017b), 37 percent of the people surveyed state that air pollution is the city's main environmental issue, which has an impact on respiratory diseases and leads to severe risks for infants and senior citizens, causing around 5,900 deaths per year. In 1994 the region was declared an "Area Saturated with Suspended Particles, Ozone, and Carbon Monoxide and a Latent Area for Nitrogen Dioxide," a status which culminated in the definition of an "Area Saturated with Fine Breathable Particles (PM 2.5)," which led to the start of the "Atmospheric Decontamination Plans" (MMA, 2014).

On the other hand, territorial inequality is also reflected in the distribution of green areas. The RMS has an average of 3.4 square meters of green area per inhabitant, well below the 9 square meters recommended by the World Health Organization (WHO). This average conceals significant differences between lower-income (0.4–2.9 square meters/inh) and higher-income (6.7–18.8 square meters/inh) districts (Figueroa, 2009).

According to the State of the Environment Report (Informe del Estado del Medio Ambiente) (MMA, 2011), the region is also the largest generator of waste in the country, accounting for 43 percent of waste generation. Difficulties in standardizing regulations in small and medium-sized districts, the lack of regulation and control of final disposal of waste, the absence of a regional recycling network, and a weak system of segregated recollection have prompted the proliferation of illegal garbage dumps and small dumps, posing a great sanitary challenge for the city.

In regards to water resources, the RMS supplies water to one third of the Chilean population. It also supports agricultural activity, as it is the main producer of vegetables in the country. With 136,000 hectares of irrigated agricultural land, the region sustains the activity of 22 vineyards, 11 hydroelectric plants, and mining activity. However, among the issues identified, water supply for livestock is not sustainable and global warming is affecting water security. In this context it is therefore crucial to address the issue of water resources with a long-term, inter-sectoral, and collaborative view that involves every stakeholder of the water basin.

Figure 53

Finally, it should be noted that the effects of climate change represent new challenges for the region. Among the environmental changes seen in the last years are heat islands, alterations in the water cycle, and worsening ventilation conditions, among others (RMS GORE, 2017a). On top of that, the region's water landscape is being threatened by lower average annual precipitation rates, an increase in average temperatures, the desertification process coming from the northern area, and the overexploitation of water resources due to productive and extractive agents, as well as household consumers.

CHALLENGES

2 Foster development in the region that is in harmony with the environment, using natural resources responsibly. Reduce the impact of its residents and economic activities through sustainable management of waste and water resources. Include equity criteria in access to green areas and incorporate the challenges to the city associated with climate change across the board.

OBJECTIVES

2.1 Prevent and mitigate issues associated with climate change.

INITIATIVES

2.1.1 REGIONAL CLIMATE CHANGE PROGRAM

The Regional Climate Change Program is aimed at promoting the integration of this issue into regional public policies, seeking points of agreement with national policies, regional development strategies, and regional sectoral policies and activities. For this reason the Regional Climate Change Committee was formed in 2017, based on a framework of the actions proposed in the 2014 National Climate Change Adaptation Plan. On the other hand, since 2016, Santiago has been part of C40, a group

of leading world cities in the reduction of carbon emissions and climate change adaptation. Being part of this network allows for collaborative work with other cities, transfer of knowledge, and support for the preparation of plans, programs, and projects, which will ultimately serve as inputs for the program.

Term: Short
Stakeholders: GORE, MMA SEREMI, MINVU-Water Works Department (Dirección de Obras Hidráulicas, DOH), Water Department (Dirección General de Aguas, DGA), Municipalities, Civil Society Organizations, Private Organizations, Academia

2.2 Reduce the shortage of green areas in vulnerable areas through high-quality projects

2.2.1 PLAN FOR THE CONSTRUCTION OF NEW URBAN PARKS

The metropolitan region has an average of 3.4 square meters of green areas per inhabitant, far below the 9 square meters/inh recommended by the World Health Organization (WHO). In addition to this, the region has significant territorial inequality, reflected in the concentration of consolidated green areas in higher income areas. The plan is aimed at building new high-quality urban parks in vulnerable areas, taking into account design components that can enable the sustainability of these spaces over time. This plan consists of various related actions, which are listed below:

- Add new urban parks to the city's network of parks
- Parque Metropolitano Sur-Cerro Chena
- RMS Isolated Hills Network
- Define the criteria for the design of urban parks for the RMS, taking into account aspects such as environmental sustainability, tree species, and water management

Term: Medium
Stakeholders: GORE
Co-Stakeholders: MINVU, SEREMIs, MMA and Ministry of Energy, MOP, Municipalities, SERVIU, NGOs, Academia

2.2.2 RECOVERY PLAN FOR EMPTY LOTS AND DETERIORATED PUBLIC SPACES

There are over 4,000 empty lots in the Metropolitan Region which account for nearly 6,500 hectares. At least 400 of them are owned by the state. These abandoned spaces are fire hazards, small dump sites, and areas for potential criminal activity and alcohol consumption, among other things. The habilitation of empty lots located in the middle of the city as temporary public spaces allows the promotion of pedestrian flows, transformation of the urban image, provides security, encourages citizen participation, and diversification of local commerce by creating meeting places. Additionally, incorporating citizen participation methodologies to recover deteriorated public spaces activates community networks and improves the perception of security. This plan consists of various related actions, which are listed below:

- Pocket parks (Plazas de bolsillo). Transitory and temporary use of empty lots
- Pocket sports areas (Canchas de bolsillo). Transitory and temporary use of empty lots through sports
- Program for the recovery of residual spaces

Term: Short
Stakeholders: GORE
Co-Stakeholders: Municipalities, Empty Lot Owners, Economy SEREMI, Academia

2.3 Create and implement a comprehensive regional waste management model

2.3.1 BASURA CERO - PROGRAM FOR THE ERADICATION AND CONVERSION OF ILLEGAL SOLID WASTE LANDFILLS AND SMALL DUMP SITES

According to the inventory carried out by the Metropolitan Health SEREMI, there are 77 illegal dumps in Santiago, along with another 700 small dump sites in different areas around the city. All of them pose a health risk to people and also give rise to various negative externalities such as fire risks and pockets of insecurity, among others. Creating a comprehensive program that tackles this problem from all angles is necessary, from the illegal handling and transportation of waste to reconvert the use of the spaces allocated for waste disposal. This program consists of various related actions, which are listed below:

- Increase the capacity of municipal oversight of illegal handling and transportation of debris and waste
- Projects to reconvert the use of spaces allocated for waste through private-public coordination systems

Term: Short
Stakeholders: MMA, SEREMI
Co-Stakeholders: GORE, Municipalities, NGOs, Private Sector

2.3.2 SANTIAGO RECICLA WASTE RECOVERY PROGRAM

Deficient waste management and its final disposal in landfills generates high environmental and health costs (soil, air, and water). In addition, it creates high economic costs for municipalities, which, through private companies or by self-management, merely collect, transport, and carry out final disposal of waste in landfills, with no waste management involved. According to the OECD's Second Environmental Performance Review (2016), waste generation in Chile rose 30 percent during the first decade of this century, being one of the few countries that do not have a recycling industry. Moreover, the RMS is responsible for 43 percent of the country's waste production, of which 50 percent could be recovered. Results from the Second National Environmental Survey (Segunda Encuesta Nacional de Medio Ambiente, 2015) revealed that the second environmental issue identified in Chile is "garbage and filth in the streets," and that 43 percent of those surveyed do not recycle because "there is nowhere to recycle," 13 percent because "they are not used to it," and 12 percent due to "lack of information". This program consists of various related actions, which are listed below:

- Clean Infrastructure: Expansion, improvement, and reconditioning of a network of recycling points located in strategic locations in the RMS
- Basic Recycling Network: Institutionalization and modernization of the basic recycling network
- Public Dissemination, Promotion, and Education Campaign: This campaign is aimed at raising awareness about the importance of recycling at home, along with training and follow-up in the process of waste recovery
- Incentives for Recyclers: This is aimed at promoting tax incentives and economic charges among the various stakeholders of society for the promotion of recycling and the reduction of waste generation
- Innovate Recycling: This initiative seeks to create research, innovation, and development by academia and study centers to promote new initiatives focused on the recovery of waste

Term: Short
Stakeholders: MMA SEREMI
Co-Stakeholders: GORE, Municipalities, Existing Recyclers, Private Sector, NGOs, Academia

2.3.3 WASTE-TO-ENERGY PLAN

The Waste-to-Energy Plan is aimed at promoting energy generation by capturing gases produced by the breakdown of organic matter (biogas) in waste, thus generating a sustainable energy system. The aim is to expand and replicate the experience of the Loma Los Colorados landfill in Til Til, which since 2009 has had a biogas plant that generates electricity that is later injected into the Central Interconnected System. It has consequently become a Small Distributed Generation Medium (Pequeño Medio de Generación Distribuida, PMGD).

Term: Medium
Stakeholders: Energy SEREMI
Co-Stakeholders: GORE, Municipalities, Social Organizations, MMA and MOP SEREMIs, Renewable Energy Companies, CORFO

2.3.4 NEW RMS SANITARY LANDFILL - PROMOTING TERRITORIAL EQUALITY

The RMS produces nearly 2.8 million tons of household solid waste a year, of which close to 98 percent is disposed of in five sanitary landfills: Loma Los Colorados, Santa Marta, Santiago Poniente, Cerros La Leona, and Popeta. Of these landfills, two are close to reaching the end of their useful life; Santiago Poniente (2024) and Santa Marta (2028), which together receive 50 percent of the region's waste. Considering that building a sanitary landfill can take 7-10 years, debate about the location of the new sanitary landfill will soon become part of the public agenda.

Selecting the location of this new landfill is an opportunity to propose a new management model, introduce new technologies, and also to promote territorial equality. Today, all of the landfills and environmental liabilities are located outside the AMS, whether due to geographic conditions, current regulation, or the density of the population. This has had a toll on the creation of sacrifice zones to ensure smooth operations in the rest of the city in the short term.

Horizon: Medium
Stakeholders: GORE
Co-Stakeholders: MINVU, MMA, and Ministry of National Assets SEREMIs, Municipalities

2.4 Reduce air pollution rates in the city

2.4.1 SANTIAGO RESPIRA
ATMOSPHERIC
DECONTAMINATION PLAN

Environmental pollutants at metropolitan level come from a number of sources, such as transportation, industry, and housing, among others. These sources generate emissions with various harmful components, including particulate material, including PM2.5. This is the most hazardous to human health, since it can penetrate airways all the way into the lungs. The Santiago Respira Atmospheric Decontamination Plan addresses structural emissions from all emission sources and is aimed at reducing overall PM emissions by 60%. It also promotes the use of clean and sustainable means of transport and establishes better emission oversight and control mechanisms.

This program consists of various linked actions, listed in the Santiago Respira Atmospheric Decontamination Plan, such as measures to reduce industrial, household, and transport emissions.

Term: Short
Stakeholders: MMA SEREMI
Co-Stakeholders: GORE, MTT, NGOs, Academia, Private Sector

2.5 Establish a metropolitan water management system

2.5.1 WATER FUNDS FOR THE
SANTIAGO METROPOLITAN
REGION

Water funds are collective impact mechanisms aimed at contributing to the water security of metropolitan areas through investment in natural infrastructure. They also contribute to strengthening the integrated management of basins and the governance of water resources by financing long-term conservation actions and bringing together relevant stakeholders in water management. These funds provide companies, governments, and civil society with an effective solution to influence and promote the conservation of natural capital in a sustainable way.

Water funds are financed by way of a cooperative public-private model, with the option of linking other existing funds or projects from non-associated institutions that benefit the water basin.

The Water Fund for the RMS is intended to:

- Contribute to the region's water security, ensuring the appropriate amount and quality of water availability and the management of associated risks, to achieve the well-being of humans and enable socioeconomic development, and guarantee water supply for people and the conservation of ecosystems (The Nature Conservancy, 2018).

Term: Medium
Stakeholders: GORE

Co-Stakeholders: MMA, MINVU, MOP, and Agriculture SEREMIs, DGA, Superintendency of Sanitary Services (Superintendencia Servicios Sanitarios), Canal Association (Asociación Canalistas), Private Companies, The Nature Conservancy, NGOs, Academia, Municipalities

3. LAND-USE PLANNING

IDENTIFICATION OF ISSUES

Land-use planning in Chile is currently supported by regulations and definitions of areas in which certain activities are or are not allowed (usually mixed and very permissive), rather than by a definition of land suitability and the promotion of specific activities in the territory. It is thus structured around a series of sectoral ordinances, laws, and regulations that are intended to regulate land in accordance with its multiple scales: national, regional, inter-district, and district. However, the political-administrative structure allows various entities to intervene, making it complicated to develop a coordinated policy with articulate plans and effective instruments (Bustos, 1998). This lack of coordination leads to several issues related with land-use planning, such as the segregated distribution of activities or social groups, difficulties in distinguishing the causes and effects of many location decisions, and, most of all, great problems in defining common strategies and actions to solve issues and seize the opportunities the city has to offer.

The region is also regulated by the Santiago Metropolitan Regulatory Plan (Plan Regulador Metropolitano de Santiago, PRMS 100), a land-use planning instrument that regulates land use and which has undergone various amendments aimed at establishing strategic guidelines for the development of the region. Given its scale of approximation, it is a generic and permissive plan for land use, which allows urbanization to take place on the periphery of Santiago, concentration of harmful or bothersome activities without regulating compensation or measuring synergies, and the lack of definitions of suitability for the different types of land. Curiously, the PRMS covers the entire territory of the region, so it stops being an urban planning instrument and becomes a land-use regulatory instrument, but not a land-use planning instrument. The PRMS includes the District Regulatory Plans (Planes Reguladores Comunes, PRC), which create more specific regulations on constructability, permitted heights, and density, all within the sphere of urbanization and the construction of buildings. Nevertheless, nearly a third of the capital's districts do not have a PRC (CChC, 2017), which means that the manner of building in the region is not subject to urbanization criteria that favor the community and quality of life over market forces.

There has recently been debate about the National Land-Use Planning Policy (Política Nacional de Ordenamiento Territorial), which includes, among other topics, the need and the mandate to create the PROT. Through this instrument, it will be possible to define the opportunities and limitations that the territory offers and imposes and, from there, determine the areas that are suitable for certain uses. According to this policy, this instrument will have higher priority than inter-district plans. This endeavor will be very challenging for the RMS, considering that the PRMS covers the entire territory of the region to be planned, which will likely lead to complications in the creation of the PROT,

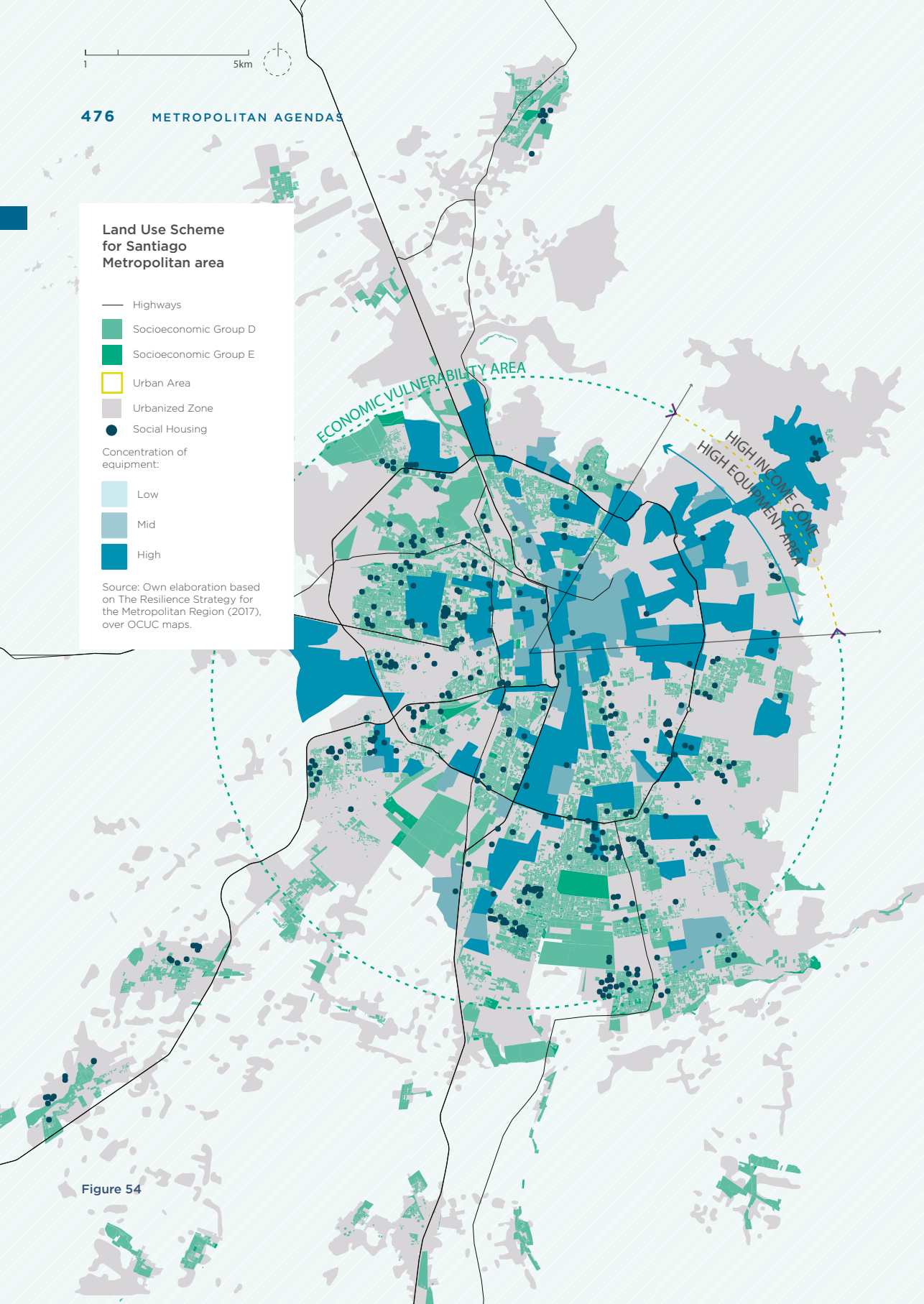


Figure 54

without taking into account interests that usually have an effect on the creation and modification of regulatory instruments. It should be noted that the PROT includes more important processes that involve public participation in decision-making compared to other regulatory instruments.

All of the above has resulted in multiple impacts on the quality of life of the population, where the following land-use planning issues stand out:

- Territorial inequality regarding the location of environmental liabilities, which is reflected in their concentration in peripheral areas of the region, rural areas, and areas that are mostly poor and/or fragmented
- Occupation of high-risk areas and/or areas with environmental attributes for the location of infrastructure and housing in the foothills and mountains
- Concentration of social housing neighborhoods on the periphery that show a high level of deterioration and marginality
- Lack of instruments to identify land that is appropriately located for the construction of social housing

The Santiago Metropolitan Region suffers from **environmental pressures** associated with air pollution, inequality in the distribution of green areas, and climate effects, which have intensified in recent years due to **climate change**. Waste management and water resource management also pose challenges.

3 Reduce territorial inequality among Santiago’s residents through the promotion of integral urban development—coordinated with various stakeholders—allowing access to the benefits and opportunities that city life offers to everyone, preventing exposure to threats of disasters, taking into account the magnitude of the risk and threat of natural disasters.

3.1 Guarantee access to and quality of urban assets and services to everyone in the region

3.1.1 UPDATE THE SANTIAGO METROPOLITAN ZONING PLAN (PRMS)

The PRMS is the metropolitan territorial zoning plan that guides, regulates, and promotes the urban development of the Metropolitan Region. Its provisions include the identification of urban boundaries, metropolitan zoning, land use, metropolitan and inter-district facilities, the determination of exclusive areas with bothersome uses, restriction areas, areas of protection of metropolitan infrastructure, and intensity of land occupation. It also establishes urbanization and building requirements where appropriate. This zoning tool is key in the promotion of spatial equity due to its relevance in the distribution of and equitable access to infrastructure, and should be reformulated in accordance with the new law N° 21,074.

Term: Medium
Stakeholders: GORE
Co-Stakeholders: MINVU, SEREMI, Municipalities

Term: Medium
Stakeholders: Comprehensive Plans Department (Departamento Planes Integrales)
Co-Stakeholders: Ministry of the Interior, GORE, MINVU, SEREMI, MTT, SEREMI, Energy SEREMI, MMA, SEREMI, SERVU, Municipalities, NGOs, Community Organizations, Academia, Private Sector

3.1.2 COMPREHENSIVE NEIGHBORHOOD RECOVERY PLAN

The development model of our cities has led to a significant group of people being excluded from the country’s economic benefits, due to living in macro urban areas with high segregation and social exclusion. The Comprehensive Neighborhood Recovery Plan is aimed at contributing to territories that, due to their history, location, and complexity, have characteristics that make specialized interventions necessary. These territories face local problems that must be addressed from various approaches: the community, urbanization, neighborhood coexistence, and social and/or economic aspects. Doing this will require the coordination of public institutions, government programs, and private organizations that exist in the neighborhood to avoid over-involvement in the territories and stressing the social fabric.

3.1.3 SCHOOL RETENTION AND REINSERTION PROGRAM

In the Metropolitan Region there are about 36,000 children and teenagers—most of whom come from the lowest income quintiles—who have dropped out of school for various reasons and have therefore been excluded from development opportunities (Universidad Alberto Hurtado, 2016). This group suffers vulnerabilities ranging from physical and social problems to addictions and criminal activity. This results in a complex social problem that requires expert professionals and specific public policies. The scope of this program ranges from prevention of school dropout through the work on school coexistence and early risk warnings to school reinsertion of those who have dropped out of the system, providing them with a new opportunity. This program consists of various related actions, which are listed below:

- Aquí Presente Program (early detection of dropouts and a support hotline)
- Second Chance Schools

Term: Medium
Stakeholders: Education, SEREMI
Co-Stakeholders: GORE, Municipalities, Ministry of Social Development (Ministerio de Desarrollo Social, MIDESO), SEREMI, Ministry of Justice, SEREMI

3.2

Reduce levels of vulnerability to natural threats in urban expansion areas (for residential, commercial, industrial, and basic service uses, among others)

3.2.1

REGIONAL LAND-USE PLAN UPDATE

The Regional Land-Use Plan (PROT) is a regional land-use planning method that allows the specific economic, social, cultural, and ecological objectives of society to be addressed, all of which are included in the Regional Development Strategies (ERD). This indicative instrument addresses physical-environmental, economic-productive, and socio-territorial aspects, allowing all of the complexities of the territory to be integrated into one long-term regional vision.

Between 2006 and 2011, this instrument was the basis for the formulation of the regional policies on green areas and isolated localities, and the study of natural risks (RMS GORE, 2017a). Updating the PROT for the RMS, considering the new laws and updates to the PRMS, would allow the different variables that make up a region, such as geographic, economic, productive, and sociocultural aspects, to be incorporated into an integrating vision.

Term: Medium
Stakeholders: GORE
Co-Stakeholders: MINVU SEREMI, Municipalities

3.2.2

SANTIAGO PREPARADO PROGRAM

The Santiago Preparado Program (Santiago Prepared) is intended to anticipate the impacts of events associated with earthquakes, hydrometeorological risks, and fire, in order to be able to react in a coordinated and effective manner. The program addresses five components aimed at preparing the region and taking preventive measures, which are as follows:

- Monitoring: Invest in seismic, hydrometeorological, and fire monitoring systems that allow measures to be taken to prevent and/or predict emergencies through early warnings. Constant monitoring also allows the generation of crucial information for the development of prevention strategies and action protocols
- Protocols: Create and update protocols at regional level to address threats and establish bodies for systematic revisions with all the stakeholders involved
- Public education and dissemination: Carry out educational activities on risk management, adaptation to climate change, and building resilience with the communities that are most exposed to seismic, hydrometeorological, and fire hazards

- Studies: Carry out studies to evaluate preventive measures that are not being applied in the region, from the financial side (insurance) to risk inventories and mapping to incorporate the results in the region's planning
- Investments: Create an investment and budget portfolio associated with the purchase of crucial equipment and infrastructure that allows preemptive measures to be taken in the face of different types of threats (seismic, hydrometeorological, and fire) and which also reduce the impact and costs on infrastructure and people in the case of an emergency

Term: Medium
Stakeholders: GORE
Co-Stakeholders: National Emergency Department of the Ministry of the Interior (Nacional de Emergencia del Ministerio del Interior, ONEMI), MINVU and MOP SEREMIs, Municipalities, Social Organizations, Academia

3.2.3

STRATEGIC SUSTAINABILITY ANALYSIS AND DEVELOPMENT OF A REGIONAL MINING STRATEGY

As of January 2018, the GORE was allowed to finance—through 2 percent of the FNDR—a shared assessment to be carried out through a process of dialogue, participation, and dissemination of critical and environmental factors to promote sustainable mining in the territory, with the aim of building the foundations for the future development of a strategic sustainability analysis. In addition, an advisory council of 20 leaders and strategic stakeholders will be created, along with a technical roundtable formed by representatives of the Ministry of Mining, the GORE, and public-private association Alianza Valor Minero, which will function as a Technical Agency for the process and participation.

4. RISK MANAGEMENT

IDENTIFICATION OF OTHER REGIONAL /METROPOLITAN ISSUES

The increase in extreme weather phenomena due to climate change in recent years, coupled with new information on existing threats in the region and the persistence of vulnerabilities contributing to risk, all indicate that planning and preparation for possible threats is a pressing task that must be addressed regionally. According to historic and projected evidence, the following events could cause the most disruption in the RMS: 1) geophysical phenomena, such as deep-focus earthquakes (subduction of tectonic plates) or cortical earthquakes (the presence of the San Ramón Fault) and volcanic eruptions; 2) extreme climatic phenomena, such as pluvial-fluvial flooding and drought cycles, which affect most of the RMS; 3) landslides arising from hydrometeorological events in urban areas built in risk areas; and 4) wildfires in rural areas of the RMS.

CHALLENGES
OBJECTIVES
INITIATIVES

4 Learn about the history of the city and the experience of its residents to be better prepared for future disasters and thus reduce associated damage and impacts.

4.1 Design smart systems to mitigate risks and deal with emergencies

4.1.1 REGIONAL RISK MANAGEMENT POLICY AND ESTABLISHMENT OF PROTOCOLS TO DEAL WITH EMERGENCIES

In 2016, the National Committee for Natural Disaster Resilience (Comisión Nacional para la Resiliencia frente a Desastres de Origen Natural, CREDEN), under the National Council of Innovation for Development (Consejo Nacional de Innovación para el Desarrollo, CNID), proposed the creation of a national research, development, and innovation (R+D+I) strategy to improve resilience in the case of natural disasters. This action is aimed at the regional implementation of the Committee's recommendations through the coordinated work of the different stakeholders and institutions related to resilience issues, such as universities, ONEMI, the public and private sector, and civil society. These include a territorial data and information integration system for public access, which would allow the integration of existing but fragmented information, often in incompatible formats. It would also allow decisions to be taken for planning and prioritization of re-

gional investments, in addition to being an important input in times of emergencies and disasters.

Term: Medium
Stakeholders: GORE, ONEMI, National Geology and Mining Service (Servicio Nacional de Geología y Minería, SERNAGEOMIN), CORFO, CNID, Municipalities, Civil Society.

4.1.2 CITY INSURANCE PROGRAM

Due to its geographic features, the RMS is highly exposed to hazards, which is why it is essential to adapt an approach to resilience that takes into account the phases of the risk cycle (mitigation, prevention, reaction, and reconstruction). As part of the Seismic Risk Program, the objective is to articulate the different seismic risk management strategies for the region in an integrated and coordinated way. These strategies include generating a city insurance system for critical equipment and structures in the case of possible disasters.

Term: Medium
Stakeholders: GORE, ONEMI, MINVU and MOP SEREMIs, Municipalities

4.2 Identify and anticipate existing hazards in the Metropolitan Area

4.2.1 INTEGRATED EMERGENCY AND RISK MONITORING

Managing emergencies and disasters requires inter-institutional coordination between the city's multiple services and agencies responsible for responding based on real-time protocols and information. The integrated emergency and disaster management center would allow monitoring, collection, analysis, and sharing of information between institutions at a single operational point, in order to prioritize actions in times of crisis and disaster, aimed at making effective and timely decisions. This would be the operation center of the Regional Emergency Committee.

Term: Medium
Stakeholders: GORE, ONEMI, MTT ONEMI, Traffic Control Operations Unit (Unidad Operativa de Control de Tránsito, UOCT), Civil Society

4.3 Prepare citizens for threats and disaster hazards

4.3.1 PREVENTION AND STRENGTHENING PLAN FOR FOOTHILL COMMUNITIES

The piedmont is the area of the Andean foothills, or precordillera, close to Santiago, located between the Maipo and Mapocho rivers, consisting of six districts of the RMS. In this area, there are various ravines and watercourses, with the principal ones being the Quebrada de Ramón and the Quebrada de Macul. In 1982, 1986, 1993, 2005, 2008, and 2016 there were heavy floods and mudslides in this area. This area also has a combination of hazards, since the geologically active San Ramón fault can also be found there. Strengthening community networks through citizen participation, communication, and education are crucial for risk prevention and risk information in this area. The plan is aimed at developing and implementing a community strategy to collect information on risk perception in the area to create a protocol to define neighborhood and local actions for the community to participate in responses to future impacts in the area.

Term: Short
Stakeholders: GORE, ONEMI, MMA, MINVU, and MOP SEREMIs, Municipalities, Association of Municipalities, Parque Cordillera, Civil Society

Land-use planning in the region is structured around a series of sectoral ordinances, laws, and regulations that are intended to regulate land in accordance with its multiple scales: national, regional, inter-district, and district. However, **the political-administrative structure** allows various entities to intervene, making it complicated to develop a coordinated policy with articulate plans and effective instruments.

5. SECURITY

IDENTIFICATION OF OTHER REGIONAL /METROPOLITAN ISSUES

Although Santiago is considered to be Latin America’s safest city (Economist Intelligence Unit, EIU, 2015), Santiago’s residents believe this issue to be their biggest problem, mainly in terms of crime and drugs. While it is true that victimization rates fell from 40% in 2003 to 26.4% in 2015 (Subsecretaría de Prevención del Delito and INE, 2015), the feeling of insecurity has increased.

In the RMS, 27.9% of police reports relate to antisocial behavior in public spaces, resulting in impairment of these spaces, dirtiness, lack of minimum agreed standards, abuses, and vandalism. To combat these types of acts, the Chilean system has two separate and centralized police structures in place, but lacks community policing. Carabineros, the main police force in the country, seems to lack a territorial policy that takes into account the diversity of the RMS’s social context and local governments have severe restrictions in creating and implementing municipal police capabilities.

As regards urban security, significant advances have been made in recent years through actions in High-Risk Neighborhoods (Barrios de Alta Complejidad, BAC). These interventions allow the implementation of strategies and address antisocial behavior and violent conditions that occur in these targeted neighborhoods in an integral and inter-sectoral manner. These conditions are the result of social exclusion experienced by communities, which is worsened due to difficult access to public services; the presence of drug and arms dealing and shootings; the lack of police presence; isolation and lack of connectivity; public infrastructure deficits; and deterioration of public and community spaces, which causes residents to remain in their private spaces. These neighborhoods also display interior and exterior overcrowding, poor housing quality, and deteriorated relationships between the residents that live in them. It is therefore necessary to implement long-term and coordinated state policies aimed at the progressive improvement and inclusion of these neighborhoods (Vandershueren & Guajardo, 2016).

Finally, the endurance of a certain degree of insecurity in public spaces can be perceived in people’s intolerance to one another, the stigmatization of the behavior of youths, and the inability to assume and creatively resolve conflicts associated with the presence of street vendors, marches, protests, etc. (Ibid.).

CHALLENGES
OBJECTIVES
INITIATIVES

5 Promote peaceful coexistence between residents, taking into account the multi-causal nature of crime and addressing it in a collaborative, coordinated, strategic, and smart manner.

5.1 Promote initiatives that address antisocial behavior

5.1.1 INTEGRATED TELEPROTECTION NETWORK PLAN

In the Metropolitan Region, there are different teleprotection systems and surveillance cameras operated by public and private institutions, such as municipalities, the traffic control operations unit, urban and interurban highway concessionaires, and Carabineros, among others. These systems operate independently, using different operational supports and technologies. The Integrated Teleprotection Network Plan is aimed at the integration and interoperability of teleprotection cameras to allow better response to major events and the reinforcement of crime prevention and control tasks.

Term: Medium
Stakeholders: GORE, Regional Public Security, Crime Prevention Subsecretariat (Subsecretaría Prevención del Delito), Municipalities, Police Forces

6. ECONOMIC DEVELOPMENT

IDENTIFICATION OF OTHER REGIONAL /METROPOLITAN ISSUES

Los Efforts should be made to generate regional coordination strategies between different stakeholders with clearly defined areas of productivity, as well as to position Santiago as a global city, linking productive sectors concentrating the largest number of companies with the productive capacity of the region to promote greater economic autonomy. It is also necessary to foster coordinated actions between municipalities and their networks to support productive promotion in a strategic manner.

This is justified considering the large number of micro, small, and medium-sized enterprises (MSMEs) that, along with large national and multinational companies, have created a highly diversified business framework. Therefore, there is a pressing need to promote the sustainability and autonomy of regional business development, especially if the RMS continues to be the most competitive region of the country. Although the region has public institutions such as CORFO, Foundation for Agrarian Innovation (Fundación para la Innovación Agraria, FIA), National Commission for Scientific and Technological Research (Comisión Nacional de Investigación Científica y Tecnológica, CONICYT), and Technical Cooperation Service (Servicio de Cooperación Técnica, SERCOTEC), among others) and instruments to enhance economic growth and business competitiveness, they have not produced sustainable or incremental results (RMS GORE, 2017a).

The agriculture sector is an important feature of the region, with 150 hectares of intensive production, making it the biggest regional producer of vegetables and the third largest producer of fruit, standing out due to the quality of its soils. It is also the largest producer of pigs (Ibid.).

Mining is also an important activity in the region, as it accounts for 30 percent of Chile's resources and 10 percent of total world copper resources. However, its significance is not reflected in regional planning instruments available for decision-making. Therefore, it is crucial to create a robust framework for the elaboration of land-use planning and decision-making instruments regarding the development of mining projects. The framework should be validated with broad participation, information concerning critical topics related to the sustainable integration of mining, and a regional strategy that makes it possible to plan mining works at a territorial level.

It should be noted that Santiago has become a safe destination for global tourism, with good connectivity and a diversified and innovative supply. However, efforts carried out by the public and private sectors are dispersed due to the lack of a common policy to promote tourism in Santiago in Latin America and the rest of the world.

CHALLENGES

6 Promote the economic development of the region in both urban and rural areas, creating new opportunities for people and businesses within an environment of innovation, entrepreneurship, and circular economy that is also capable of positioning Santiago on a global scale

OBJECTIVES

6.1 Strengthen business resilience on a metropolitan level

6.2 Position Santiago as a global city

INITIATIVES

6.1.1 SANTIAGO + B: PUBLIC-PRIVATE COORDINATION FOR REGIONAL INITIATIVES

The Santiago + B project is aimed at encouraging companies (with a focus on SMEs) to self-evaluate and become aware of their social and environmental impact in order to increase the participation of the private sector in the region's resilience agenda. The project uses world-renowned instruments and certification processes for corporate environmental impact assessment—such as B Certification—and invites SMEs to join a business network that connects businesses with the needs of the city.

Term: Short
Stakeholders: GORE, Economy SEREMI, CORFO, Universities, Sistema B, SME Associations, Santiago Chamber of Commerce (Cámara de Comercio de Santiago), Civil Society

6.2.1 SE.SANTIAGO: SANTIAGO SMART CITY PROGRAM

Technological development and related progress can significantly contribute to the development and construction of the best use of land, strategic vision, and priorities that cities have defined for themselves, facilitating relationships and communication between authorities and citizens, as well as rendering management and planning processes of the city's different systems more efficient. It also allows the improvement of services and the use of infrastructure, while also making progress in coordinating territorial management integration. Thus, this program seeks to address failures of coordination and promote local economic development in these areas of the city.

Term: Short, medium, and long
Stakeholders: CORFO, GORE, MTT, MMA, Sustainability and Climate Change Agency (Agencia de Sustentabilidad y Cambio Climático), Regional Public Security, Crime Prevention Subsecretariat, Universities, Municipalities, Private Companies, Civil Society

7. SOCIAL EQUITY

IDENTIFICATION OF OTHER REGIONAL /METROPOLITAN ISSUES

Santiago is a highly segregated and unequal city compared with other cities in Chile and Latin America. The groups with the highest income are located in six districts, which means there is a concentration of quality services, infrastructure, and equipment, while the rest of the city has areas with a concentration of poverty, crime, violence, overcrowding, and school dropouts. Moreover, rising migration from various other Latin American countries has concentrated in Santiago, representing 61.5 percent of the total immigrants entering Chile, with highly vulnerable and segregated conditions.

CHALLENGES

7 Promote territorial equality and create inclusion opportunities for those at social risk or threatened by violence, while also guaranteeing access to and standards for urban assets and services for all inhabitants of the region.

OBJECTIVES

7.1 Guarantee quality and access to urban assets and services to everyone in the region

INITIATIVES

7.1.1 COMPREHENSIVE MAPOCHO RIVER PROJECT – MAPOCHO LIMPIO

The Mapocho River is a key element in the region’s collective imaginary, due to its significant presence in the history of the city and that of its citizens. It crosses a heterogeneous territory made up of 16 districts, shedding light on the regional scale from a geographical approach. The Comprehensive Mapocho River Project is aimed at providing a new meaning to the river as a common space and support for activities and multiple projects, promoting urban development and fostering public-private partnerships to build a city with standards that support the regional approach.

Term: Medium
Responsible parties: GORE, MINVU, MI-DESO, and MOP SEREMIs, Municipalities

7.1.2 SANTIAGO ES MÍO CULTURAL PROGRAM

The Santiago es Mío initiative brings culture and heritage closer to different neighborhoods of the Metropolitan Region. The program includes cultural activities in public spaces, as well as the training of cultural managers and free provision of art to the community. The project has three fundamental pillars: a network of cultural centers, cultural management and regional identity and formation of audiences. The proposal makes apparent the cultural richness and diversity of the region and also promotes participation and integration that can empower communities.

Term: Medium
Stakeholders: GORE, Ministry of Culture

POLITICAL, ASSOCIATIVE, AND ORGANIZATIONAL ACTIONS

As regards the experience of the RMS GORE in the planning, design, and implementation of metropolitan initiatives, the political, associative, and organizational actions that have been crucial for their implementation and which could serve as blueprints for future metropolitan initiatives are listed below.

POLITICAL ACTIONS

Context:

- The RMS GORE project manager of the Nueva Alameda Providencia Project was appointed a board member of Metro, allowing the coordination and integration of initiatives.

Initiatives:

- A. Metropolitan Area Contract. A contract signed by the GORE, civil society, the private sector, and the central government aimed at harmonizing and coordinating national priorities with the priorities of the AMS through territorial management tools intended to bridge gaps (collaboration agreement). This contract seeks to prevent lack of coordination and differences in the implementation of public policies in order to achieve greater social and economic development.

Stakeholders: Ministry Secretariat General of the Presidency (Ministerio Secretaría General de la Presidencia, SEGPRES), DIPRES, GORE, Civil Society, Private Sector
Co-Stakeholders: SEREMIs, Regional Agencies, Council of mayors, RMS Councilors
Collaborators: Academia, Study Centers, Research Institutes, NGOs

- B. Strengthening of the Regional Commission for City, Housing, and Territory This body is intended to coordinate public entities for the implementation of the Metropolitan Agenda.

Stakeholders: Intendant, SEREMIs of the MOP, MTT, MMA, MIDESO, National Assets, Agriculture, Economy, Promotion and Tourism, Mining, and Energy, Presidential Delegate (if applicable)
Co-Stakeholders: Sectoral ministries involved
Collaborators: RMS COREs

ASSOCIATIVE ACTIONS

Context:

- As part of the methodology to create the Resilience Strategy, an advisory council of metropolitan governance—which held meetings once a month—was summoned, involving various key stakeholders of the city in decision-making for issues associated with shocks and stresses. This council was comprised of representatives from the public sphere (SEREMI, local government, and the Office of the Intendant), the private sector (basic services companies, the Chamber of Commerce, and Chilean Construction Chamber, CChC), academia, unions, and social organizations.

Initiatives:

- A. Formation of a Council of mayors of the Santiago Metropolitan Area. The Council of mayors will be an advisory entity representing the AMS locally. It will be responsible for the execution of projects to address specific issues associated with the implementation of the city agenda. This body also considers the incorporation of regional municipal associations whose associative objectives are aligned with the Agenda.

Stakeholders: GORE, DAM
Co-Stakeholders: mayors, Presidents of Municipal Associations
Collaborators: GORE Divisions, SEREMIs, RMS Regional Councilors

- B. 2041 Santiago Monitoring Council This entails the creation of an inter-sectoral roundtable involving key stakeholders from the public sector (SEREMIs, COREs), the private sector, academia, and civil society, to monitor and assess the implementation of the Agenda, as well as oversee the completion of objectives, deadlines, and tasks.

Stakeholders: GORE, DAM
Co-Stakeholders: SEREMIs, Council of mayors, Regional Civil Society Council (COSOC), Representatives of the Private Sector and related sectors
Collaborators: Universities

ORGANIZATIONAL ACTIONS

Context:

A. Development of the Resilience Strategy and active participation in the 100 Resilient Cities Network. The GORE proposed Santiago as part of the 100 Resilient Cities Network, a Rockefeller Foundation program aimed at helping cities to develop a resilience strategy that allows them to identify a set of initiatives and actions to deal with chronic stresses and specific tensions more effectively.

As a result of this initiative, a Resilience Unit was created within the GORE to develop a strategy in which the main guidelines of Resilient and Human Santiago could be merged and synthesized, along with the results of a collaborative research process to create an agenda promoting a more sustainable and better-prepared city.

The process lasted almost two years and it became a coordinating tool, both in terms of the stakeholders and the city initiatives, and it brought together sectoral motivations into a single, concrete agenda and action plan.

- B. Creation of the Department of Public Spaces (Departamento de Espacios Públicos). Created as part of the DIPLADE, this unit is responsible for developing and implementing policies, plans, programs, projects, partnerships, and actions regarding public spaces and non-motorized mobility in the region, in coordination with other associated services and public and private stakeholders. It is also in charge of formulating regional initiatives associated with public spaces and mobility investment, and conducting or participating in public-private roundtables on public spaces and mobility in the region. Propuestas:

Initiatives

- A. Signing of technical and financial cooperation contracts. These contracts will allow the monitoring, systematization, and technical adjustment of the Agenda's various contents and management models.
- B. Support for the establishment of the new organizational structure of the GOREs: SUBDERE-UNPD. This action is aimed at strengthening the organizational capacities of the GORE for the implementation of new functions and competencies included in the decentralization agenda, with a sustainable idea of territorial development in mind.

PRIORITIZED INITIATIVES

MAPOCHO LIMPIO

Mapocho Limpio (Clean Mapocho) is a pilot public-private initiative led by the Metropolitan Office of the Intendant, which seeks to transform the southern bank of the Mapocho River in the western part of the region, an area that is currently abandoned and deteriorated. The project proposes the recovery of these abandoned spaces through coordinated work between all the stakeholders involved: districts, authorities, the community, and the private sector. In this vein, the plan is to convert illegal micro dumps and waste dumps stretching over 9 kilometers of the river into a new active, quality, clean, and safe public space to continue with the green belt that has been consolidated in the eastern districts (Lo Barnechea, Vitacura, Las Condes, Providencia, Santiago, and Recoleta), thus changing the appearance of the entryway to Santiago and adding new high-quality green spaces in vulnerable areas.

In this first stage, the project has managed to gather and coordinate the following stakeholders: the Office of the Intendant, the Environment, Public Works, and National Assets SEREMIs, Manufacturers' Association (Sociedad de Fomento Fabril, SOFOFA), Confederation for Production and Commerce (Confederación de la Producción y del Comercio, CPC), Megacentro, Banco Santander, Fundación Urbanismo Social, the municipalities of Cerro Navia and Quinta Normal, and over 30 community social organizations in both districts.

The first stage of the project is structured around three trigger pilot projects: Puente La Máquina, Puente Carrascal, and Puente Petersen.



► Source: Elaboration by Carla Olivares

Puente la Máquina: An illegal solid waste dump located 15 minutes from the center of Santiago with a heterogeneous composition of solid waste. The project entails the removal of over 1,000 cubic meters of waste and a follow-up and control program, along with the closure of warehouses where informal recycling is carried out. After the modification of the PRC, affordable housing could be built on the recovered lots.

Puente Carrascal: A 6,500 square-meter park that links the Cerro Navia and Quinta Normal districts, which will involve over 30 social organizations, the company Megacentro, and regional and municipal authorities and departments. The project involves existing initiatives such as 42K, Mapocho Poniente, Costanera Sur, and Nuevo Punto Limpio. The estimated cost of the project is CLP 490 million.

Puente Petersen: A 40,000 square-meter park located in the Cerro Navia district, and which, due to its size and complexity, has been divided into three successive stages of construction. The total cost of the project is estimated at CLP 2.3 million.

Mapocho Limpio is an innovative project involving the coordination of the public and private sectors and the community, and it is a strategic project at regional level. Its size and complexity transcend district limits, and its consolidation could change the face of the Mapocho River as a structuring geographic element of the city, promoting territorial equality, tackling social and environmental vulnerability, and changing the entryway to Santiago from the airport.

Term: Medium
Stakeholders: GORE
Co-Stakeholders: MMA, MINVU, MOP, and National Assets SERE-Mis, NGOs, SOFOFA, CPC, Private Sector, Municipalities, Social Organizations



► Source: Elaboration by Carla Olivares

PERSPECTIVE. HOW DOES METROPOLITAN GOVERNANCE BRING TOGETHER CLIMATE AGENDAS AND THE SDGS FOR BETTER HEALTH FOR EVERYONE?

BENOIT LEFÈVRE

Dealing with the challenges of air pollution and the fight against climate change is crucial for sustainable and connected development on a metropolitan scale. Metropolitan political solutions must therefore be created.

The pollution we emit and breathe has harmful effects on human beings and the environment. The challenges and solutions for air pollution are mostly urban-related. Hence, in order to achieve the level of ambition of the Paris Climate Agreement and the agenda of the Sustainable Development Goals (SDGs)¹, the focus should be put on the environmental management of cities.

One of the key messages from the Habitat III Summit² held in Quito in 2017 is that urban pollution, air pollution, and greenhouse gases are dealt with more efficiently at a metropolitan level than at a municipal level. In this sense, metropolitan authorities are the appropriate interlocutor for the local implementation of their nationally determined contributions (NDCs) within the Paris Climate Agreement.³

Let's take the transport sector as an example. In the Greater Mexico City area, 40 percent of the population crosses at least one municipal border to reach work

¹ For more information on the Sustainable Development Goals, see: <https://www.un.org/sustainabledevelopment/>

² For more information on the Habitat III Summit, see: <https://unhabitat.org/experts-meet-on-role-of-metropolitan-development-in-new-urban-agenda/>

³ For more information on the Paris Climate Agreement and its implementation in cities, see: <https://www.un.org/sustainabledevelopment/blog/2016/11/cities-striving-to-play-key-role-in-implementing-paris-agreement/>

daily, as is the case of the Mexico–Puebla corridor, which sees the movement of around 760,000 people each day. In these types of cases, the alternative challenges and solutions escape the individual capacity of each municipality, and thus it makes sense to have a metropolitan entity capable of dealing integrally with a phenomenon such as this.

Addressing climate change and achieving the targets of the SDGs is not solely a matter of financing. Establishing an efficient structure for metropolitan governance, transferring the necessary competencies, and creating technical capacity are also key elements in increasing and unlocking investment in sustainable infrastructure.⁴

As a result of ongoing urbanization, cities become more interdependent on surrounding settlements and end up creating metropolitan regions with only one economy and job market, functional relationships tied to the cycle of resources, and a community with common interests and benefits from joint actions in different sectors.

The creation of a metropolitan government is a complex process. These are some of the key principles based on international experiences:

- There is no such thing as silver bullets: There are many alternative models of government and none of them are ahead of the rest.
- Focusing on the process: The process of implementation of a metropolitan structure is essential to its success.
- Adapting to the circumstances: What is most appropriate in terms of metropolitan governance depends on the circumstances, both at national and local level.
- Flexibility: The different governance models not only work in different cities, but can also evolve over time in any city.
- Sources of resources: Fiscal resources must match responsibilities.

⁴ For more information on investment in sustainable infrastructure, see: <https://www.iadb.org/en/news/news-releases/2017-04-20/report-on-sustainable-infrastructure,11787.html>

METROPOLITAN AGENDAS

METROPOLITAN AREA OF GREATER CONCEPCIÓN

Source:

Strategic Action Plan for the Greater Concepción Metropolitan Area (GORE Biobío);
Final delivery Diploma in Management of Metropolitan Areas 2017 (Claudia Toledo,
Juan Sandoval, Pablo San Martín, Claudio Isla, Pedro Beltrán, Fernanda Tapia, María
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Center of Innovation of Cities, UDD (Francisca Astaburuaga, Jeannette Orozco,
Consuelo Roldán)

Objective Image:

Carla Olivares

The Metropolitan Area of Concepción (AMC) is the most important development hub in the country's central-southern area and it is comprised of 11 districts that concentrate almost one million inhabitants. This multi-center area stretches over a functionally interdependent, but geographically fragmented coastal area. The conurbation has become larger and more complex, concentrating a diverse set of port, industrial, commercial, service-related, health, and university education activities, among others. Due to the scale and dynamism of these activities—and the steady rise in population—this territory is facing multiple challenges that must be addressed from a comprehensive metropolitan perspective, such as traffic congestion, a mobility system that is fragmented and insufficient, lacking infrastructure for the development of port logistics, environmental deterioration, socio-spatial segregation, and inequality in terms of access to services and social infrastructure.













Political and Administrative Division Map for Concepción Metropolitan area

- Highways
- Comunal Limit
- Road Axis
- - - Railway
- Rivers
- Urban Area
- Urban Zone
- Water Bodies

Source: Own elaboration based on OCUC maps.



Figure 55

GREATER CONCEPCIÓN METROPOLITAN AGENDA

The AMC is comprised of 11 districts: Tomé, Penco, Concepción, Talcahuano, Hualpén, Chiguayante, Hualqui, San Pedro de la Paz, Santa Juana, Coronel, and Lota, which account for a total of 985,034 inhabitants (INE, 2017) and 63 percent of the population of the region (GORE Biobío, 2017). According to the report of the 2017 Urban Quality of Life Index (Índice de Calidad de Vida Urbana, ICVU), the AMC scored a global Urban Quality of Life Index of 47.1, positioning it above the national average of 42.9 and in third place in the national ranking of metropolitan areas, after Puerto Montt–Puerto Varas, and Greater Valparaíso.

From a geomorphological point of view, the AMC is characterized by significant natural features, such as the Nahuelbuta Mountain Range, the BioBío and Andalién rivers, the coastline, wetlands, cliffs, lakes, and isolated hills. These geographic features entail a great level of complexity and a large challenge in terms of the relationship between the city and its surroundings, with the case of the National Nonguén Reserve in the Concepción district standing out. It covers an area of 3,037 hectares and is the last remaining deciduous forest in Concepción and an important source of quality water for the metropolis.

Regarding urban development, the centrality of this Area began developing as a result of Talcahuano's industrial and port activity, although the relevance of this city has waned, with the Concepción district becoming more important. The AMC has developed around six urban centers: Tomé, Penco, Concepción–Hualpén–Talcahuano, San Pedro de la Paz, Chiguayante, and Coronel–Lota.

This Area presents a complex growth pattern. Hualpén and Penco have seen growth that is characterized by the successive addition of new urban land around an already existing urban area, generally associated with residential areas. Penco district stands out in this regard, given that its urban area has doubled in the last 15 years, mainly due to the incorporation of areas for residential use. As for Concepción, Talcahuano, and Chiguayante, growth has taken place predominantly around transportation routes, following a tentacle-like pattern. Finally, the area of San Pedro de la Paz has also increased significantly in size due to the proliferation of “urban islands” that are detached from the perimeter, which has required the provision of connecting infrastructure.

Land use is regulated by the Metropolitan Regulatory Plan (Plan Regulador Metropolitano, PRM), which dates back to 2003. This regulatory plan is currently being modified

Urban Growth Map for Concepción Metropolitan area

- Highways
- Railway
- Rivers
- Water Bodies

Years:

- 1943
- 1955
- 1961
- 1976
- 1998
- 2006
- 2016
- 2017

Source: Own elaboration based on information from Aliste et. al. (2012), on OCUC maps.

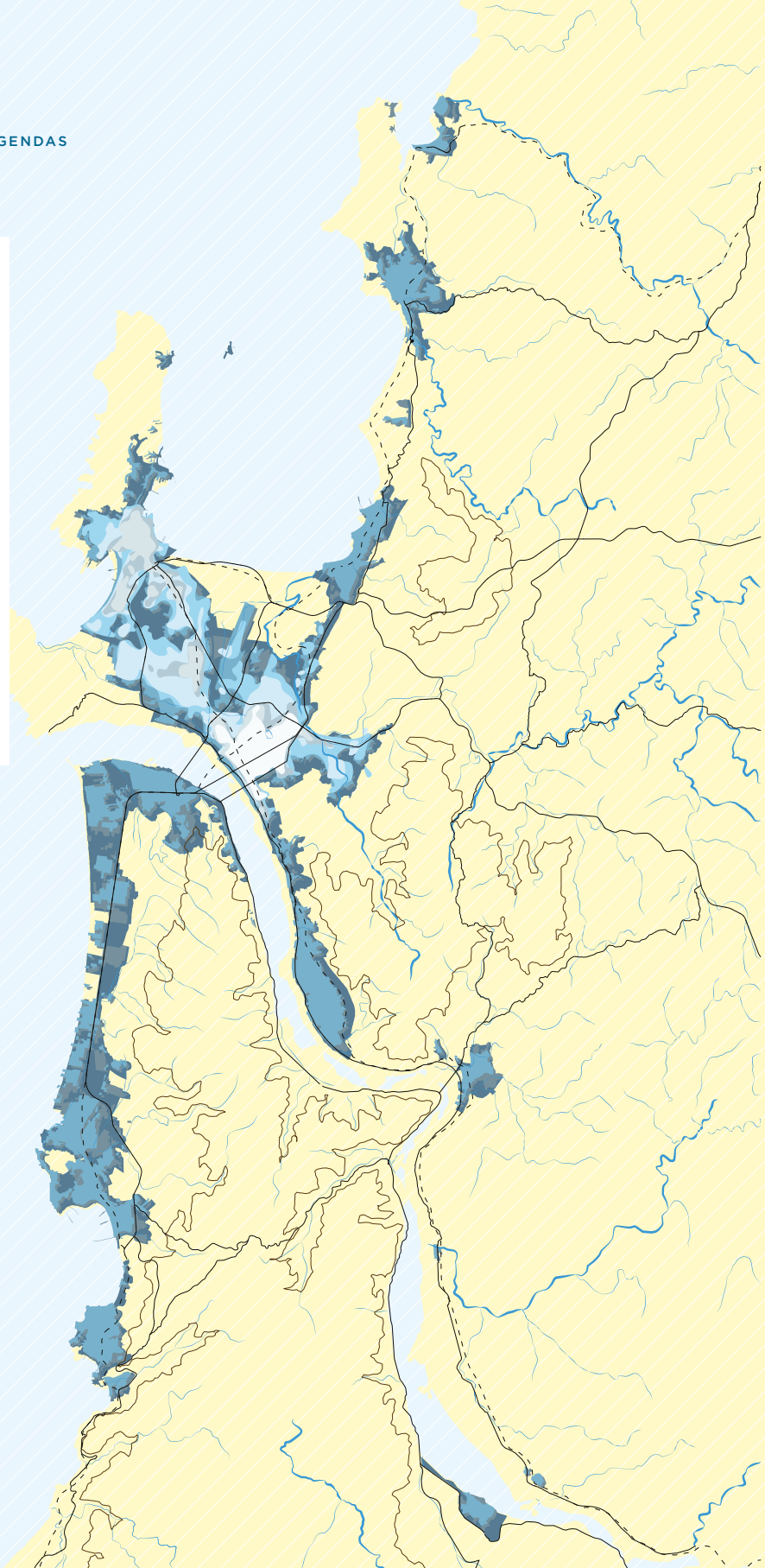


Figure 56

(2013), mainly around three aspects: natural and built environment, infrastructure and productive activities, and inter-district connectivity. This modification has sparked a strong debate, and there is still room for possible changes as civil society and private sector groups reach agreements (GORE Biobío, 2017).

In terms of mobility, and specifically public transport, there are various modes of transport, such as the urban rail system (Biovías), which connects Chiguayante, San Pedro de la Paz, Talcahuano, Hualpén, Concepción, and Coronel; four lines of urban, rural, and interurban microbuses (Tomé, Lota-Coronel, 7 Comunas, and Santa Juana networks); and shared taxis (GORE Biobío, 2017). The Sustainable Mobility Plan for the AMC is currently in preparation to incorporate and strengthen alternative modes of transport, such as walking or the use of bicycles. The latter is being promoted particularly in the city of Concepción with the creation of a network of bike lanes.

From an economic-productive perspective, due to the effect of deindustrialization, the AMC is currently seeing a transformation of its productive structure, incorporating emerging economies such as the creative industries, biotechnology, and business tourism. In addition, given the presence and relevance of San Vicente, Talcahuano, and Coronel ports, there is an interest in strengthening port logistics associated with the implementation of a service mix that can position it as the basis of the economy in the region.

On the other hand, due to Concepción being a university city given the concentration of higher-education establishments—especially considering the relevance of Universidad de Concepción—a significant floating population activates commerce and services in the metropolis, resulting in a large boost in real estate, especially in the Concepción district.

Regarding social integration, one of the main issues is the increased socio-spatial segregation resulting from the geography of a fragmented territory. Practically all of the districts comprising the AMC display this characteristic to some degree, such as San Pedro de la Paz, around the Ruta 160 highway; the Cerros Area in Talcahuano district; and the Hualqui district, with the strong presence of new housing complexes.

Environmentally speaking, Greater Concepción is a saturated area in terms of air quality, due to excessive use of firewood and agents produced by industry and transport, which led to the creation of the Conce Respira Decontamination Plan (Plan de Descontaminación Conce Respira). In addition to this measure, the area is also taking actions to diversify its energy sources by incorporating clean energy and raising consumption efficiency levels, both in households and companies.

Finally, the most significant natural and manmade threats affecting the AMC—and which have impacted the area significantly—are tsunamis (2010), floods (2006), and forest fires (2017). Mass movement phenomena also pose a generalized threat given the area's geographic characteristics.

Socioeconomic Distribution Map for Concepción Metropolitan area

- Comunal Limit
- Structuring Road
- Railway
- Rivers
- Urban Sprawl
- Water Bodies

Groups:

- ABC1
- C2
- C3
- D
- E

Source: Own elaboration based on IDE OCUC database (2002), on OCUC maps.

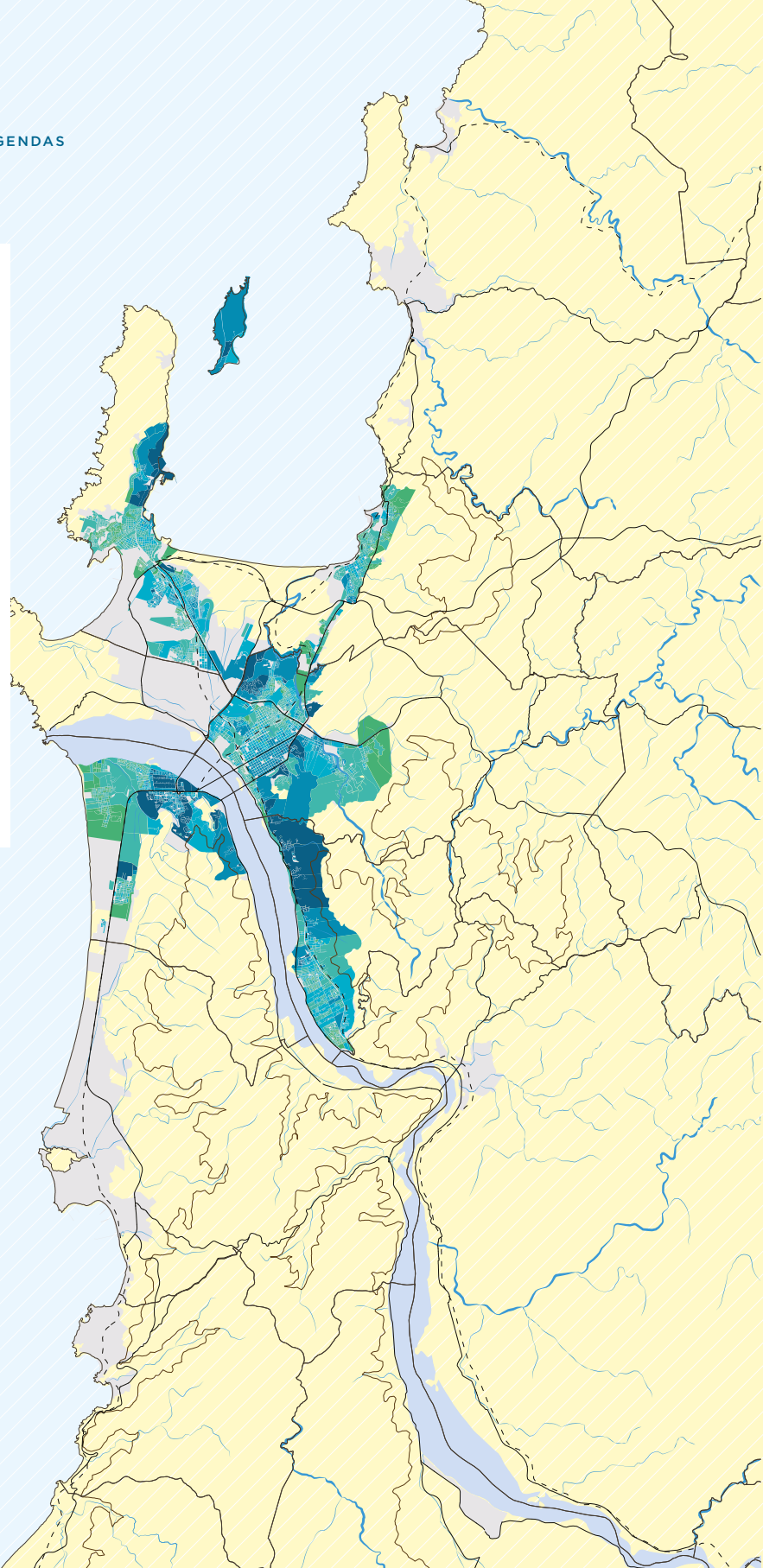


Figure 57

From the perspective of public management, and considering the characteristics of the AMC and its most pressing issues—some of which have been discussed since 2015—the GORE, through the Regional Planning and Development Division and, later, with the creation of the Metropolitan Area Unit (UAM), has been working with the municipalities and public services to create a Strategic Action Plan for the AMC, which has also involved the participation of the private sector and citizens. This strategic planning process has been aimed at defining a vision and prioritizing the actions to be implemented in the Metropolitan Area by 2030, addressing the historical wishes of the metropolis and future challenges.

This Metropolitan Agenda has been structured based on the contents of this plan, addressing the assessment and the proposals associated with the three areas prioritized by the law for the transfer of competencies: mobility and transport, environment, and land-use planning. However, the issues and proposals identified in these three areas will be complemented by the topics of competitiveness and governance to reflect the comprehensive and long-term view prepared for this Metropolitan Area.

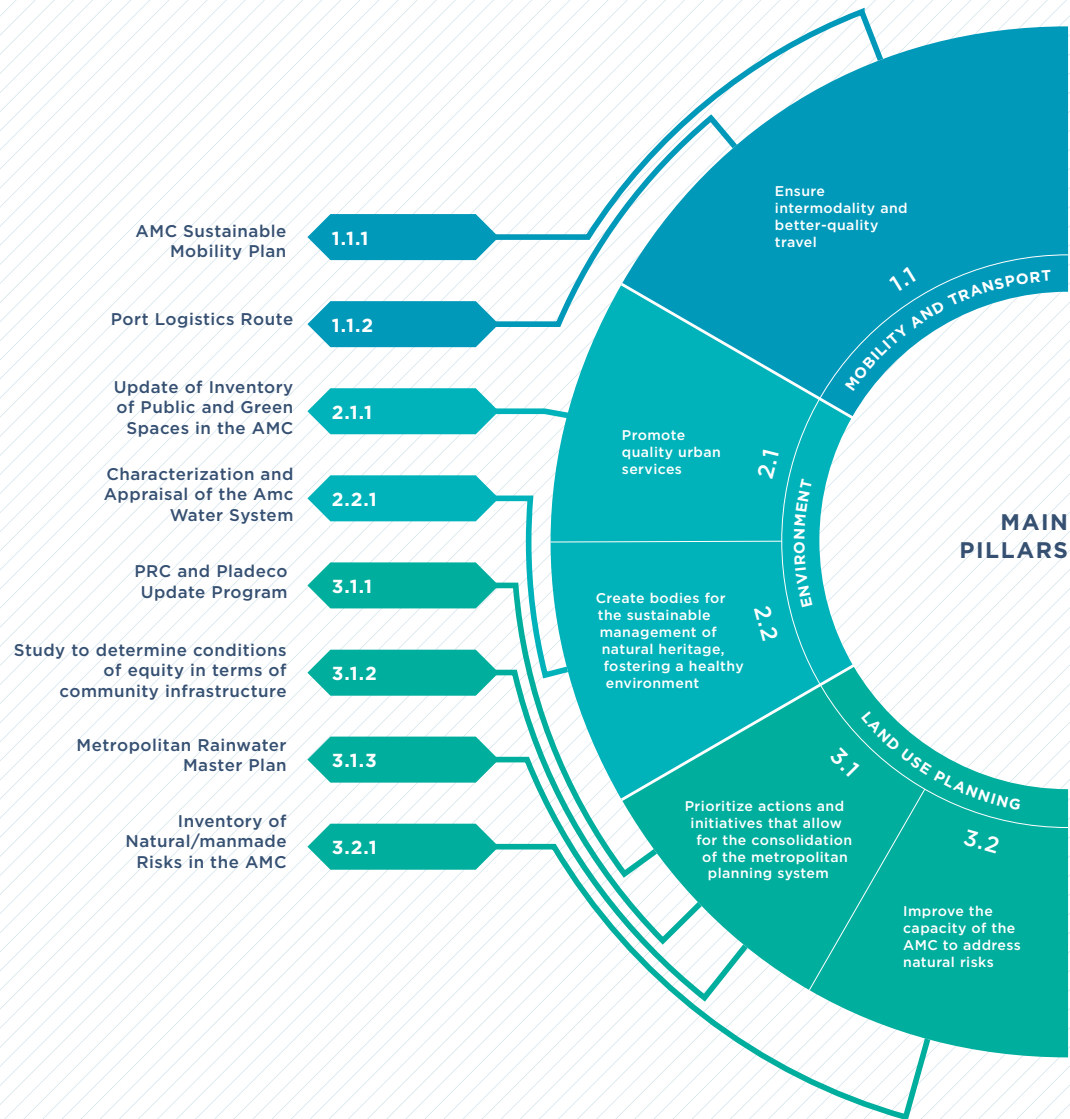


Figure 58



VISION
To become a friendly and pleasant metropolis worth visiting, with citizens who are engaged with its future in a natural and diverse environment. To also become a science and innovation powerhouse, with human capital that generates value from the southern end of America to the world, with an emphasis on sustainability, resilience, integration and inclusion, and a concentrated and coordinated governance.

INICIATIVAS
Of the 32 initiatives formerly presented in the AMC action plan, the following 12 were prioritized:

Transport Scheme for Concepción Metropolitan area

- Strategic cargo network
- Public transport network
- Public transport collector
- Railway
- Service Centers
- Ports
- Urban Area
- Water Bodies

Source: Own elaboration based on Metropolitan Regulator Plan of Concepción on OCUC maps

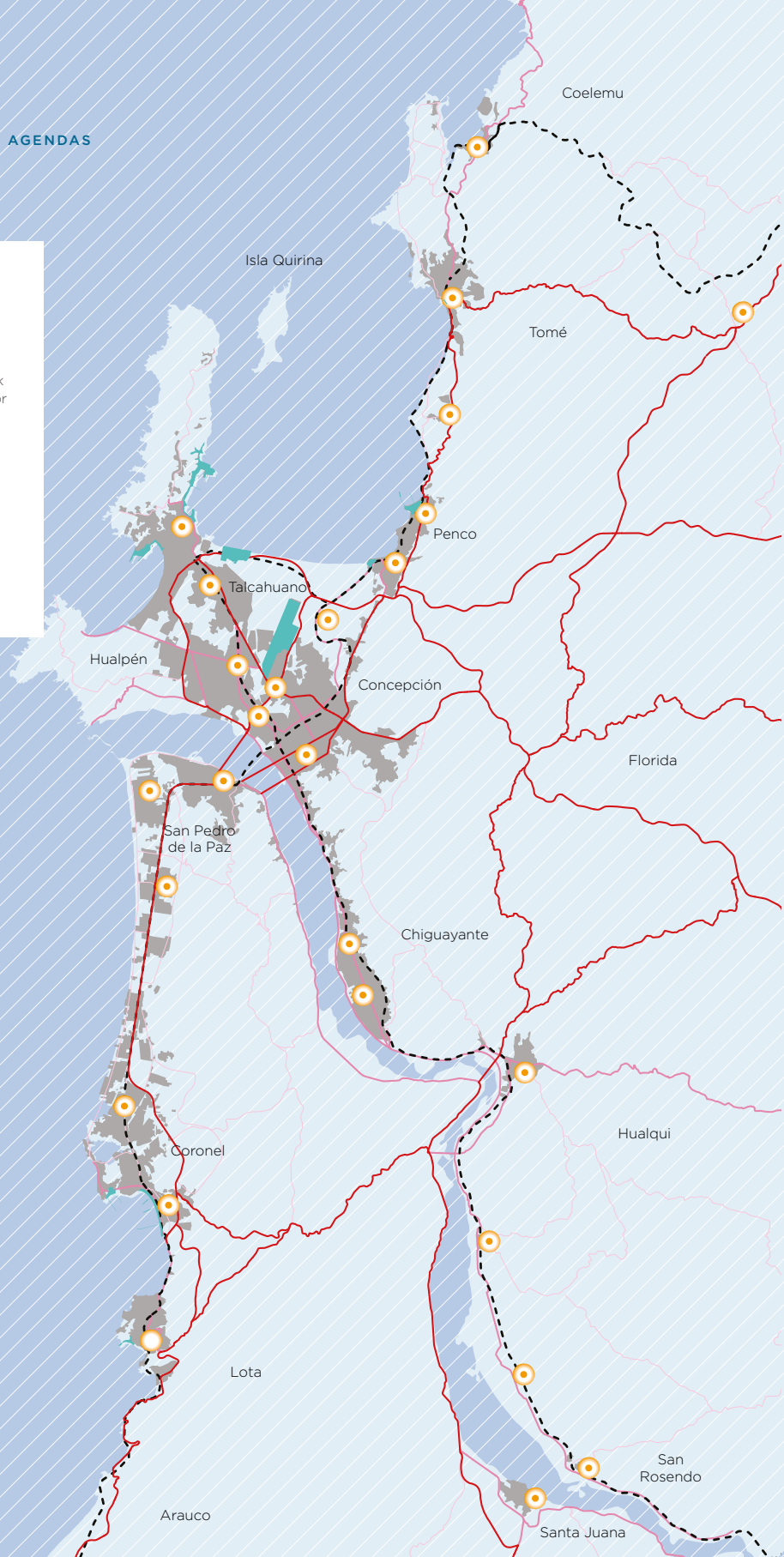


Figure 59

1. MOBILITY AND TRANSPORT

IDENTIFICATION OF ISSUES

Mobility and transport are one of the central issues of the AMC, especially in terms of three fundamental aspects: infrastructure, management, and technology, which directly affect the experience of people when traveling. Some of the specific issues associated with these areas are the following:

PLANNING AND PROVISION OF METROPOLITAN TRANSPORT THAT DOES NOT MATCH THE CITY'S GROWTH:

In general terms, there are deficiencies in terms of infrastructure provision for the different modes of transport (stations, stops, terminals, etc.); the quality of services (overcrowding, frequency, reliability, etc.); and coverage of the network vis-à-vis the growth of the urban footprint.

LIMITED INTERMODALITY DUE TO LIMITED MANAGEMENT:

There is a lack of coordination between the different modes of transport in the AMC. There is a fairly extensive network of minibuses and urban trains, but they are not interlinked, hindering mobility in the Area. A systemic vision is lacking for the network to include all of the available modes of transport.

INCOMPATIBILITY BETWEEN FREIGHT LOGISTICS AND PASSENGER TRANSPORT:

A complex system of military, commercial, fishing, and industrial ports and shipyards has developed in the AMC, of which the eight most relevant port terminals are located in the districts of Penco, Talcahuano, and Coronel. The presence of freight transport accessing AMC ports—which currently share urban road space—creates friction between cargo and passenger transportation, causing deterioration and congestion and increasing the rate of road accidents in the AMC, which also damages the productivity of port logistics.

1	Have a multimodal, integrated, inclusive, modern, and efficient mobility system that includes non-motorized modes of transport.		
1.1	Ensure intermodality and better-quality travel		
1.1.1	AMC SUSTAINABLE MOBILITY PLAN	1.1.2	PORT LOGISTICS ROUTE
	<p>Creation of a guiding tool to direct public and private actions in terms of mobility, defining a sustainable metropolitan mobility vision and a shared and agreed-upon agenda of programs and projects addressing the specific issues and challenges of the AMC. This plan should be aimed at promoting non-motorized modes of transport, improving the quality of travel of AMC residents, and implementing a metropolitan public transport system. These efforts will entail creating the Sustainable Mobility Center (Núcleo de Movilidad Sostenible), a work team comprised of all the stakeholders involved.</p> <p>Term: Short (2018) Stakeholders: UAM (mobilization), Sustainable Mobility Center (execution)</p>		<p>The aim of this initiative is to implement a logistics route allowing coordination between cargo associated with the port and the mobility and habitability of the city. Given the large scale of the initiative, the first step will be to create an institutional structure to define that route and a Gantt chart for the works, identify solutions that have not yet been developed, and to contribute to the promotion and implementation of the set of projects making up this comprehensive program.</p> <p>Term: Long (2032) Stakeholders: UAM (mobilization) - MOP (execution)</p>

The **AMC** is comprised of 11 districts: Tomé, Penco, Concepción, Talcahuano, Hualpén, Chiguayante, Hualqui, San Pedro de la Paz, Santa Juana, Coronel, and Lota, which account for a total of **985,034** inhabitants (INE, 2017) and **63** percent of the population of the region.

**Environment Scheme for Concepción Metropolitan area**

Source: Own elaboration based on Metropolitan Regulator Plan of Concepción on OCUC maps

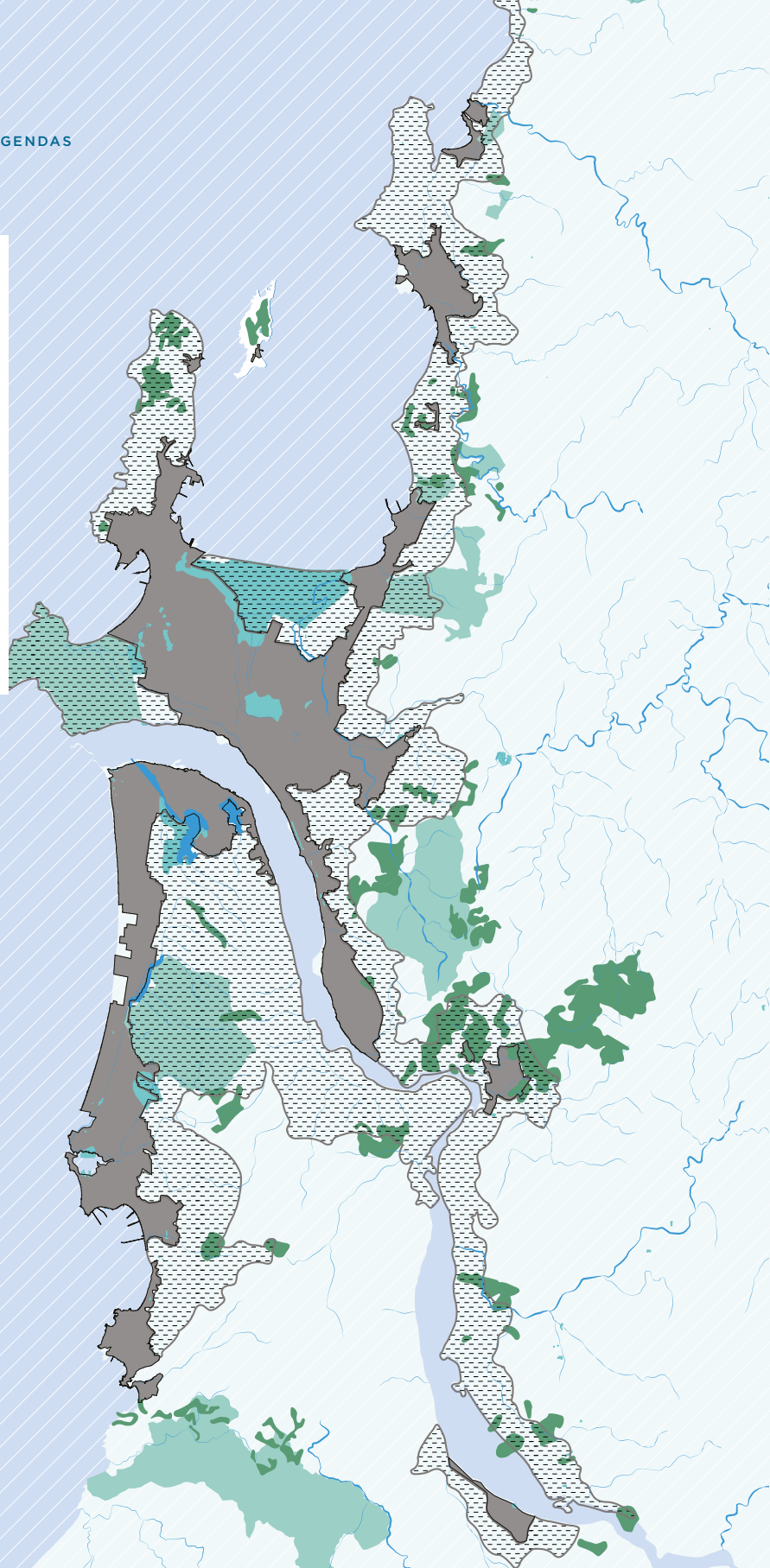


Figure 60

2. ENVIRONMENT

IDENTIFICATION OF ISSUES

The dynamics of demographic growth and urban expansion in the AMC—with particular patterns determined by its geography—have exerted pressure and had negative effects on the environment, increasing pollution levels of water bodies and the air, along with a hike in the volume of household solid waste, which surpasses the capacity of existing systems. Some of the specific issues in this area are the following:

POLLUTION OF WATER BODIES:

The contamination of wetlands and lakes is the result of household and construction waste, causing eutrophication (increase in algae due to lower oxygen levels) and the reduction of biodiversity. The proliferation of dumps due to the pressure of urban land use is also an issue. These are problems that affect almost all districts in the AMC (Lota, Coronel, San Pedro de la Paz, Hualpén, Penco, Talcahuano, Tomé, and Concepción).

The BioBío River has also received waste from various sources, such as industrial waste (forestry), and illegal residual and effluent waters from agricultural activity (pesticides and others), which has particularly affected the districts of Hualpén, San Pedro de la Paz, Concepción, Chiguayante, Coronel, Santa Juana, and Hualqui.

Moreover, pollution of the coastline associated with port activity, the navigation route (petroleum, oils, and others), and liquid industrial fishing waste have affected the districts of Tomé, Penco, Talcahuano, Hualpén, San Pedro de la Paz, Coronel, and Lota.

AIR POLLUTION:

There are several sources of pollution that affect air quality, the greatest of which is the uncontrolled use of wet and/or green firewood for home heating, followed by emissions from public and private transport, and industrial activity. These issues are distributed throughout the 11 districts of the AMC.

STEADY INCREASE OF HOUSEHOLD SOLID WASTE VOLUME:

The lack of a comprehensive vision regarding the treatment and/or final disposal of waste—especially in terms of promoting recycling—has led to different and particular measures to tackle the issue, all of which lack specific actions for implementation and future treatment.

2 Incorporate environmental protection regulations into planning, focused on safeguarding, adding value, and allowing equitable access to green infrastructure as metropolitan ecosystem services (wetlands, hills, rivers, coastline, sea, lakes, native forests, urban parks).

2.1 Promote quality urban services

2.1.1 UPDATE OF INVENTORY OF PUBLIC AND GREEN SPACES IN THE AMC

In order to start developing a metropolitan-scale plan for public spaces and green areas, it is necessary to define the current status or baseline to be able to calculate the size of the issue and the opportunities and start from a solid foundation to prioritize investment in public and green spaces. This initiative's specific goals include: building an updated inventory, creating a model for continuous update of the inventory, and communicating the need to intervene and improve public and green spaces in the AMC.

Term: Short (2019)
Stakeholders: UAM (mobilization), Ministry of National Assets, MINVU (execution)

2.2 Create bodies for the sustainable management of natural heritage, fostering a healthy environment

2.2.1 CHARACTERIZATION AND APPRAISAL OF THE AMC WATER SYSTEM

This initiative is aimed at preserving bodies of water—especially wetlands—on a metropolitan level, which implies recognizing, preserving, and/or positioning these ecosystems as part of the territory's identity. The first stage involves the study and assessment of the current state of the AMC's metropolitan wetlands system, to later identify the bodies of water that—given a lower degradation level and better accessibility—could be incorporated into the city's public space, and create an inventory and monitoring system for the most vulnerable bodies of water in the AMC's water system.

Term: Medium (2025)
Stakeholders: Municipal Wetlands Roundtable (Mesa Municipal de Humedales) (mobilization), UAM (execution)

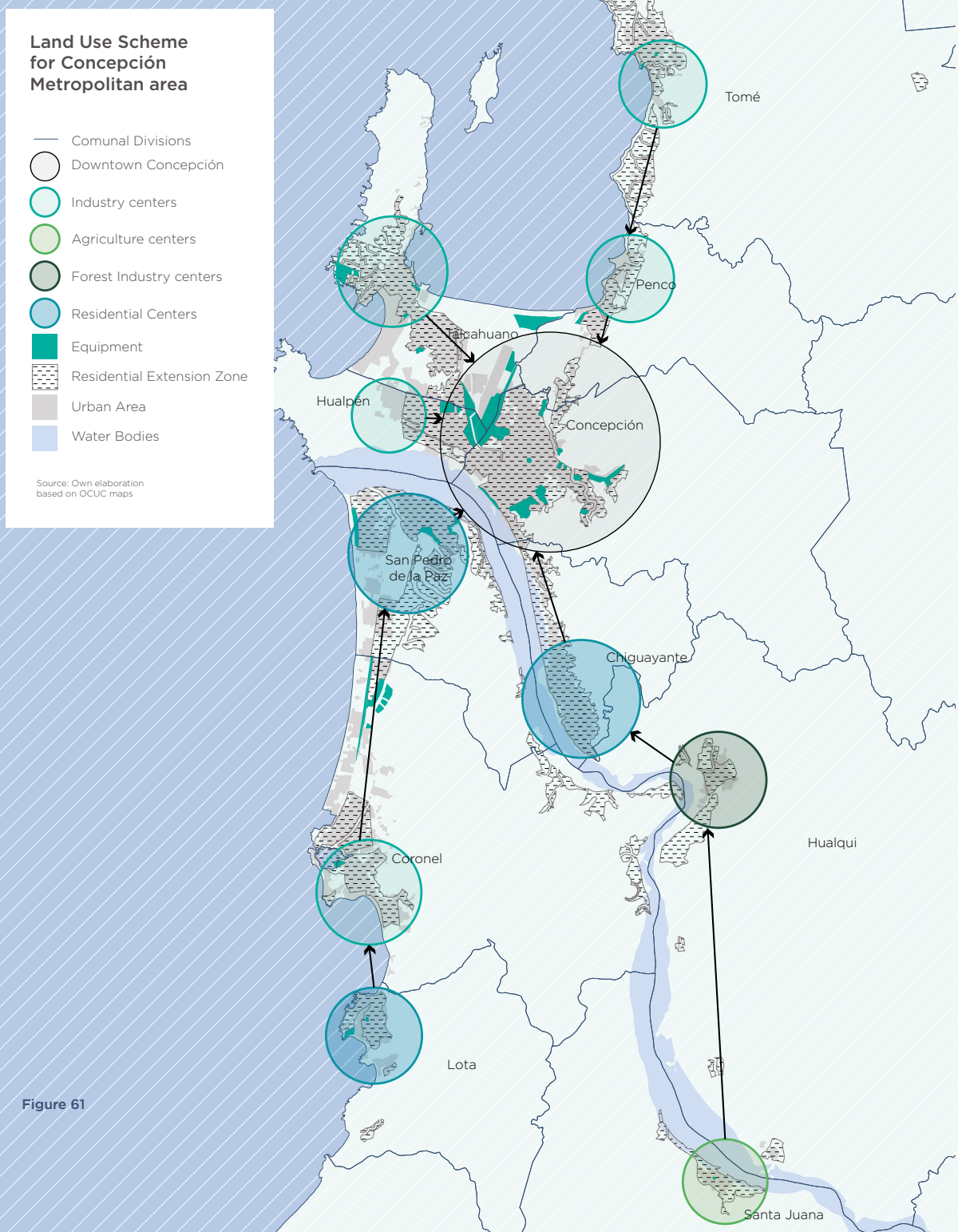


Figure 61

3. LAND-USE PLANNING

IDENTIFICATION OF ISSUES

Land-Use Planning in the AMC is weak, with friction caused by the relationship between industrial and residential areas, non-integrated residential expansion, the lack of coordination between municipalities, and the loss of environmental heritage.

FRICION BETWEEN PRODUCTIVE-INDUSTRIAL USE AND RESIDENTIAL USE:

This is a situation that is repeated throughout the Metropolitan Area—and specifically in Coronel district—and it is caused mainly by the presence of hydrocarbon fuel-based electricity generation located in residential areas. Their location is due to the proximity of the port (economy of scale), water (raw material for energy generation), and transmission infrastructure (reduction of investment costs), and it is caused by the current undefined land-use requirements associated with energy activity.

RESIDENTIAL EXPANSION OF THE METROPOLIS INVOLVING NON-INTEGRATED SOLUTIONS THAT LEAD TO URBAN FRAGMENTATION:

Current urban development is disconnected from the rest of the city, sometimes due to the attempt of the real estate industry to profit from large lots that do not have sufficient provision of urban services associated with the project. On the other hand, public housing policies require low-cost lots, which, generally speaking, are located in areas that are more distant from service centers, resulting in socio-spatial segregation. This is the case of the districts of San Pedro de la Paz, Coronel, Concepción, Penco, and Hualqui.

LOSS OF ENVIRONMENTALLY-VALUABLE AREAS (E.G. WETLANDS) DUE TO LAND-USE PRESSURE FOR REAL-ESTATE AND INFRASTRUCTURE-RELATED PROJECTS:

Drainage and filling in of wetlands is a reality in various areas of the AMC, given the lack of land appropriate for future urbanization and an increase in the value of land per square meter. That is particularly the case of districts that have bodies of water, such as Lota, Coronel, San Pedro de la Paz, Hualpén, Penco, Talcahuano, Tomé, and Concepción.

3 Consolidate a metropolitan planning and management system aimed at developing strong and integrated neighborhoods that consider the environmental and cultural identity of the AMC and reduce the physical and urban vulnerability of the Metropolitan Area.

3.1 Prioritize actions and initiatives that allow for the consolidation of the metropolitan planning system

3.1.1 **PRC AND PLADECO UPDATE PROGRAM**

Give the various development visions and planning tools, it is crucial to implement a comprehensive metropolitan planning system in the AMC that is capable of laying the foundations to create a set of planning instruments that make sense for the entire territory. The aim is to develop a Municipal Development Plan (Plan de Desarrollo Comunal, PLADECO) methodology incorporating the metropolitan concept and its scale, aligning district plans with the Metropolitan Strategic Action Plan (Plan de Acción Estratégico Metropolitano). This program also seeks to update the PRCs accordingly, so that they also become part of a comprehensive planning system for the AMC.

Term: Medium (2025)
Stakeholders: UAM, MINVU (mobilization),
Municipalities (execution)

3.1.2 **STUDY TO DETERMINE CONDITIONS OF EQUITY IN TERMS OF COMMUNITY INFRASTRUCTURE .**

As a way of promoting greater territorial equity in terms of access to community infrastructure, it is necessary to incorporate the development of new sub-district centers that can provide these services into the planning and management of the AMC. The first stage of this initiative involves analyzing the current situation or baseline and identifying those areas that have the potential to become sub-district centers capable of together structuring greater coverage and decentralization of urban services. This endeavor is aimed at establishing a metropolitan equity standard for community infrastructure.

Term: Short (2020)
Stakeholders: UAM (mobilization),
Municipalities (execution)

3.1.3 **METROPOLITAN RAINWATER MASTER PLAN**

Create a rainwater evacuation master plan through a joint effort—including all of the districts in the AMC—that sets the standard in this area, which implies incorporating the districts that are outside the network due to having less than 50,000 inhabitants. The main objective is for this plan to lead to the implementation of a metropolitan rainwater system so that every district has the appropriate infrastructure.

Term: Long (2029)
Stakeholders: Municipalities (mobilization),
MOP DOH, MINVU (execution)

3.2 Improve the capacity of the AMC to address natural risks

3.2.1 **INVENTORY OF NATURAL/ MANMADE RISKS IN THE AMC**

The purpose of this inventory is to obtain a more precise record and complement existing technical information on a district level regarding natural and manmade threats to incorporate them as crucial input for metropolitan planning and management. This initiative implies collecting detailed information about natural and manmade risks on a metropolitan level, and matching the different information sources associated with disaster hazards.

Term: Short (2019)
Stakeholders: Municipalities (mobilization),
ONEMI (execution)

4. INNOVATION AND COMPETITIVENESS

IDENTIFICATION OF OTHER REGIONAL / METROPOLITAN ISSUES

Considering the dynamics of economic activities in recent times, the participation of the traditional fishing sector in exports has decreased, but there has been growth in industrial activity. A more structural problem is the fact that the productive structure is concentrated in areas with low potential and poor added value, requiring the diversification of the productive structure towards emerging economies and the strengthening of port logistics in the AMC.

CHALLENGES

- 4** Develop new value chains associated with science and innovation, creative industries, new economies, agribusinesses, the food industry in terms of marine resources, and business tourism. Become a competitive and innovative metropolis capable of boosting the emerging economic sectors.

OBJECTIVES

- 4.1** Manage to transform new economic development areas into competitive ones

INITIATIVES

4.1.1 PROGRAM TO STRENGTHEN THE LOGISTICS CHAIN

Set of actions aimed at improving the port logistics chain in the Metropolitan Area, an activity that characterizes the AMC and which is at the basis of its economic potential in international terms. The purpose of the program is to foster a port logistics system that is competitive in terms of infrastructure and is efficient regarding cargo transit time through the Metropolitan Area.

Term: Medium (2022)
Stakeholders: CORFO Center-South Meso Regional Logistics Program (Programa Meso Regional Logístico Centro Sur de CORFO) (mobilization), GORE (execution)

4.1.2 MICE¹ TOURISM STRENGTHENING PROGRAM

The purpose of this initiative is to define a strategy to position Greater Concepción as an ideal area for conventions and business tourism, offering the necessary infrastructure for events, as well as touristic and urban attractions that persuade participants to stay in the city. This entails the creation of the Concepción Convention Bureau, comprised of hotel businesspeople and commercial and tourism services, with the support of the National Tourism Service (Servicio Nacional de Turismo, SERNATUR) and the GORE.

Term: Medium (2022)
Stakeholders: Concepción Convention Bureau (mobilization), SERNATUR (execution)

¹ Meetings, incentives, conferences, and exhibitions

5. GOVERNANCE

IDENTIFICATION OF OTHER REGIONAL / METROPOLITAN ISSUES

The administrative fragmentation of the AMC makes it impossible to establish comprehensive metropolitan initiatives. Management on a metropolitan level becomes difficult due to the imbalance between the technical capacities of the 11 districts and the many public services that have the power to intervene, resulting in a set of partial visions of the metropolitan territory, a lack of coordination between stakeholders, individual agendas, and differing interests.

CHALLENGES
OBJECTIVES
INITIATIVES

5 Create an inclusive, democratic, and participatory metropolitan governance system, capable of incorporating stakeholders with different roles and views.

5.1 Encourage the participation of all stakeholders in planning and management.¹

5.1.1 PROGRAM FOR THE IMPLEMENTATION OF METROPOLITAN GOVERNANCE

Set of actions aimed at establishing the importance of addressing the metropolitan scale of the Area at different levels of society, promoting a counterpart that is informed and trained in metropolitan topics and generating social capital around them. Some of the actions include conducting the annual metropolitan forum, and information and training sessions for politicians, technical teams, private teams, municipalities, and social organizations, etc.

Term: Short (2019)
Stakeholders: UAM (mobilization and execution)

5.1.2 AMLAB PROGRAM

A formal body of participation and interaction between relevant public stakeholders from the AMC whose purpose is to systematize and exchange good practices, create formal training spaces to develop regional human capital (diploma programs, technical tours, etc.), and promote more profound understanding of metropolitan topics in the GORE's technical teams, municipalities, and other public services.

Term: Long (2032)
Stakeholders: UAM (mobilization and execution)

POLITICAL, ASSOCIATIVE, AND ORGANIZATIONAL ACTIONS

Regarding the experience of the BioBío GORE in the planning, design, and implementation of metropolitan initiatives, the following are the political, associative, and organizational actions that have been crucial to their implementation and could serve as blueprints for future metropolitan initiatives.

POLITICAL ACTIONS

Context:

- Work meetings during 2017 to present the Action Plan and receive feedback from the mayors of the municipalities making up the AMC
- Approval of the Metropolitan Strategic Action Plan by the CORE (January 2018)

Initiatives:

- Implementation of governance for the administration of the Strategic Action Plan for the AMC. This will require the creation of the Council of Mayors, to be directed initially by the Regional Intendant until a new head is elected by popular vote
- The implementation of governance will require the creation of a program enabling this implementation, using funds from the FNDR

ASSOCIATIVE ACTIONS

Context:

- As a result of these actions, and taking advantage of the installed capacities and networks formed, seven municipalities and the MMA SEREMI formed the Wetlands Roundtable to promote initiatives associated with these bodies of water in the AMC, which were added to the management plan

Initiatives:

- Creation of strategic roundtables related to the main themes comprising the Action Plan. There will probably be no more than three roundtables at most and some of their members will also be part of the Metropolitan Management Center

ORGANIZATIONAL ACTIONS

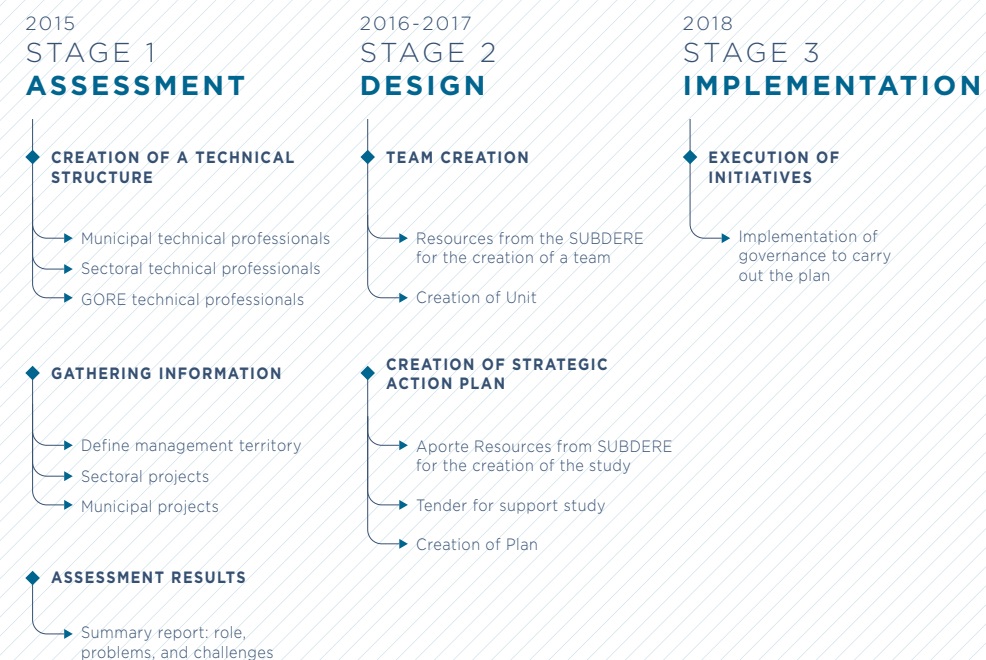
Context:

- Creation of a technical work body regarding metropolitan topics comprised of municipal and sectoral technical professionals (initially from four sectors). These are mostly urban advisors or staff or professionals working under the SECPLAC, appointed by the respective mayors and representing the 11 districts comprising the Metropolitan Area. In terms of sectors, as of 2017, participants include the SEREMIs of Housing and Urban Planning (Urban Development Department), Public Works (Planning Agency), Environment, Transport, Agriculture, and Social Development. This forum for technical debate was created in 2015 and, since then, it has functioned regularly through activities associated with technical discussion, workshops, and others that contribute to the metropolitan debate, helping to develop the plan. According to the future governance model, this body will be called the Metropolitan Management Center (Núcleo de Gestión Metropolitana)
- Creation of the UAM and incorporation into the organizational structure of the GORE. It comprises one head coordinator and two support professionals. Its creation was made official through a resolution

Initiatives:

- Consolidation of the Metropolitan Management Center, which will be comprised of the Technical Municipal Office (Gabinete Técnico Municipal) (municipal representatives) and the Sectoral Technical Office (Gabinete Técnico Sectorial) (sectoral representatives), and coordinated through the UAMs (future departments)
- Creation of an annual body called the Metropolitan Forum (Foro Metropolitano), where stakeholders engaged in the Metropolitan Area can share their concerns and progress regarding the plan, as a kind of accountability report

SUMMARY OF ACTIONS EXECUTED TO DATE



PRIORITIZED INITIATIVE CONCEPCIÓN

URBAN WETLANDS NETWORK FOR THE AMC – WATER ROUTE

The 2017–2030 Regional Policy for the Conservation of Biodiversity in the BioBío Region is aimed at strengthening native biological diversity on different levels, for which it promotes the protection of 20 priority sites. These areas are relevant both for being in or adjacent to urbanized areas in Greater Concepción and for suffering from strong anthropic pressure, leaving them exposed to deterioration.

Taking into account the environmental, historic, cultural, and landscape value of urban wetlands, the land-use planning challenges that cities are facing, the decline in water resources, and the mitigation of hazard risks, the mayors of the respective districts have agreed to work together and promote the protection and valorization of urban wetlands as an interconnected system of the AMC.

The Water Route proposal, stage I, seeks to protect and elevate the value of urban wetlands in the AMC, creating accessibility and visitable areas, linking them through a route that considers ecology, to promote them as urban spaces for recreation, conservation, and the promotion of the ecosystem services they provide.

The proposal consists of a continuous sequence of recreational areas associated with the landscape, corresponding to areas of natural intervention and transit zones called Green Access Corridors (Corredores Verdes Acceso). The former will have green spaces with public access and renaturation areas with restricted access. The latter will correspond to transit routes, preferably non-motorized, with native natural coverage that allows them to function as an ecological corridor between each prioritized natural area.



► Source: Elaboration by Carla Olivares

The Water Route also entails an economic assessment of ecosystem services provided by wetlands to urban life. Quantifying them will make it possible to appraise them not just in terms of their biodiversity, but also their role as water buffers in the face of floods during wintertime; landscape diversity and scenic beautification; buffers in case of tsunamis, tidal swells or surges; conservation of specific endangered species; and environmental education, to name their principal roles. All of this will raise public awareness regarding this issue and will allow the centralization of economic, technical, and political efforts in favor of their conservation and/or recovery.

The proposal defines the following elements:

- **Natural intervention spaces:** Set of urban wetlands that, as part of the 2017–2030 Regional Policy for the Conservation of Biodiversity in the Bio-Bío Region, have been selected to be part of the Water Route.
- **Prioritized Areas:** Set of natural spaces that, as part of the Water Route, have been prioritized for intervention during the first stage of the initiative.
- **Green Access Corridors:** Network of public road spaces that will allow access to natural intervention areas. They can be existing or future corridors.
- **Renaturation area:** Section of the prioritized area that, due to its environmental characteristics, will be earmarked for environmental recovery or conservation.
- **Green space associated with wetlands:** Section of the prioritized area that, given its physical characteristics, is fit for visits by people and recreational or sporting activities that are compatible with the preservation of the areas set for renaturation.

Term: Medium (2025)
Stakeholders: AMC, Municipal Wetlands Roundtable (comprised of the municipalities of Concepción, Coronel, Huallepén, Lota, Penco, San Pedro de la Paz, and Talcahuano)



► Source: Elaboration by Carla Olivares

PERSPECTIVE. WATER RESOURCES AND METROPOLITAN GOVERNMENTS

JORGE DUCCI

The management of water resources in urban agglomerations must take into account a global vision of the city as a whole, regardless of the administrative divisions that might exist within them. The delivery of services and protection of the city must therefore be planned integrally and in unison so that initiatives are effective and efficient.

In the case of potable water and sanitation services in Chile, there are regional concessionaries covering entire large urban centers, allowing great efficiency in investments terms of location and size of water catchment sources, pumping stations, water treatment plants, storage tanks, and potable water distribution networks, among others. The planning of these investments is tied to physical aspects (topography, source location, etc.) and mainly the configuration of the city in terms of housing density, socioeconomic levels, industrial areas, and elevation. A central aspect for planning is being able to anticipate new growth areas in the city and future land use, with a horizon of at least 15 years, therefore giving room for the necessary investments to be designed in a timely manner and at as low a cost as possible. It is therefore essential to have supra-municipal entities that are capable of formulating and effectively applying regulations regarding how cities will grow and in which directions.

Likewise, management of rainwater requires an overall understanding of the physical aspects of the bodies of water that cross cities (location, flow, environmental aspects, etc.) that allows the development of intervention proposals that mitigate potential damage to people and assets caused by intense rains. In Chile, the Ministry of Public Works (MOP) is responsible for the design and construction of the so-called primary drainage networks, while secondary networks are the responsibility of the MINVU.

It is clear that good planning in these areas requires knowledge of the different levels of ground impermeability in the city and the new areas of expansion and future land uses and their location in the basin (particularly in higher areas), among other aspects. This impermeability factor allows the surface runoff (water that flows on the surface and does not infiltrate into the ground) to be determined, which must be correctly calculated in order to propose mitigation solutions. These solutions involve both physical works (channels, pipes, etc.) and the utilization of the natural conditions of evacuation channels (preventing people from settling there or blocking works that threaten to affect the free flow of water). These solutions are also aimed at promoting the incorporation of so-called green infrastructure and regulations that allow the natural conditions of water basins to be improved for the appropriate management of water. From a supra-municipal point of view, this

overall vision is vital for incorporating effective and efficient solutions.

Collection of urban solid waste should also be taken into account. It is not unusual to see some cities' ravines or natural or artificial channels converted into illegal waste dumps, which restricts the evacuation capacity of such channels and increases negative impacts associated with pollution even further. Thus, due attention to the problem of urban solid waste is also crucial for the management of water resources in Metropolitan Areas.

METROPOLITAN AGENDAS

PUERTO MONTT - PUERTO VARAS METROPOLITAN AREA

The cities of Puerto Montt and Puerto Varas are located in the Los Lagos Region in southern Chile, around 1,000 kilometers from Santiago. The location of this area is strategic in national terms, as it is the point of transition between continental and insular Chile, an area with unique geographic features and high landscape value. The Puerto Montt-Puerto Varas urban system has 290,480 inhabitants (INE, 2017) and it is comprised of two shoreline settlements with radial growth around two bodies of water: Llanquihue Lake to the north and Reloncaví Sound to the south (IDB, 2018a). Puerto Montt is a port city and capital of the salmon industry, concentrating commerce, services, and tourism transit, while Puerto Varas is a touristic city that is growing at a rapid pace due to external and internal migration, the latter coming mostly from Santiago. This Metropolitan Area has seen steady population growth and the accelerated expansion of its area, resulting in pressure on its existing urban systems and a disjointed growth pattern that reveals the need to seek solutions and plan future development, addressing development dynamics on a supra-district scale.

Source:

CES Action Plan Puerto Montt - Puerto Varas (IDB, SUBDERE, GORE Los Lagos, Municipality Puerto Montt, Municipality Puerto Varas); Final delivery Diploma Management of Metropolitan Areas 2017 (María José Alcaíno, Juan Sebastián Alcayaga, Rodrigo Candia, Aldo Herrera, Noemi Parcet, Daniel Reyes, Fabián Rutte, María Ester Sepulveda)

General coordination:

Urban Development and Housing Division, IDB (Cristián Robertson, James Robinson)

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Center of Innovation of Cities. UDD (Francisca Astaburuaga, Sergio Ortega)

Planimetry and schemes:

Center of Innovation of Cities. UDD (Francisca Astaburuaga, Jeannette Orozco, Consuelo Roldán)

Objective Image:

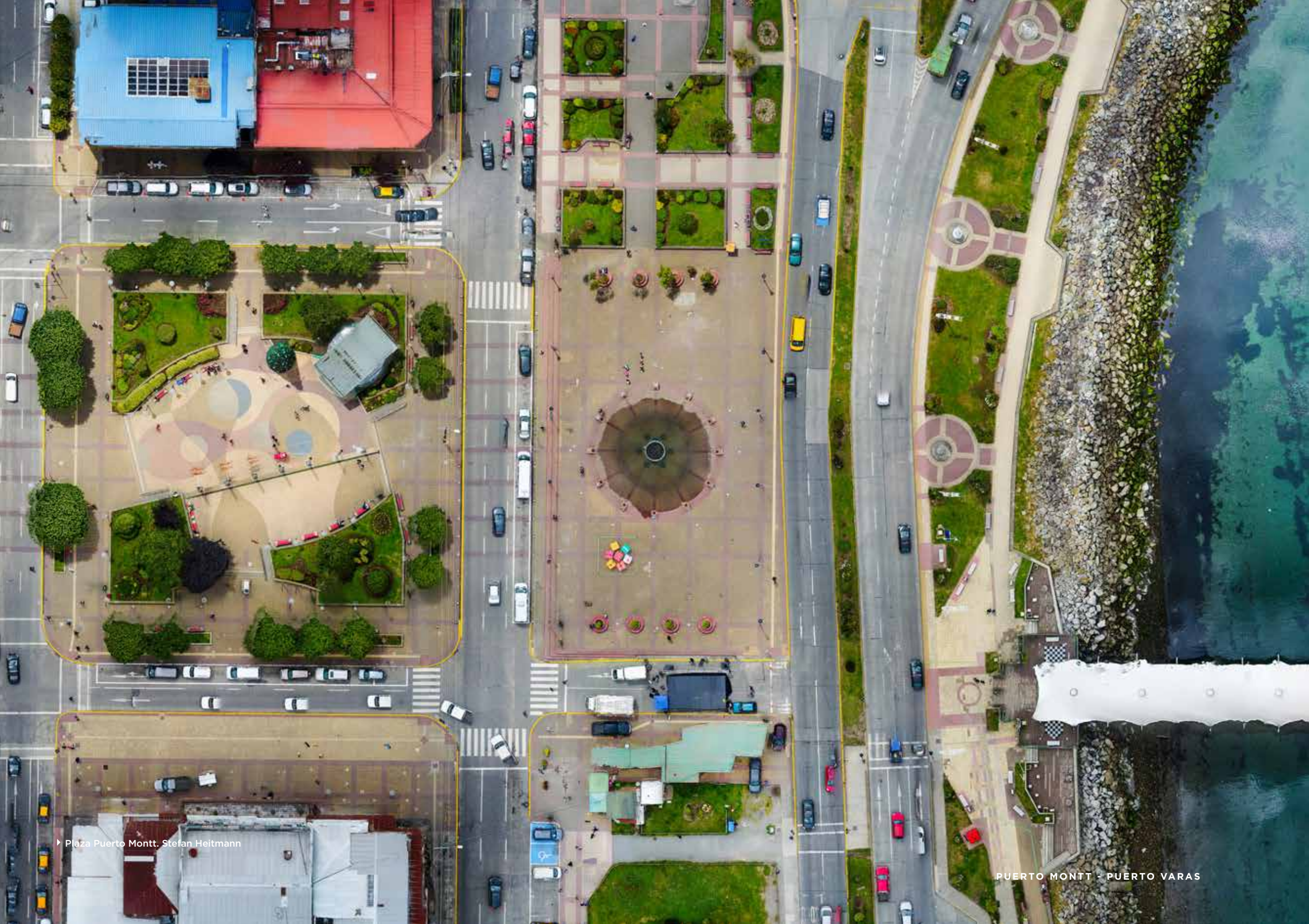
Carla Olivares



► Puerto Montt Bay. Stefan Heitmann



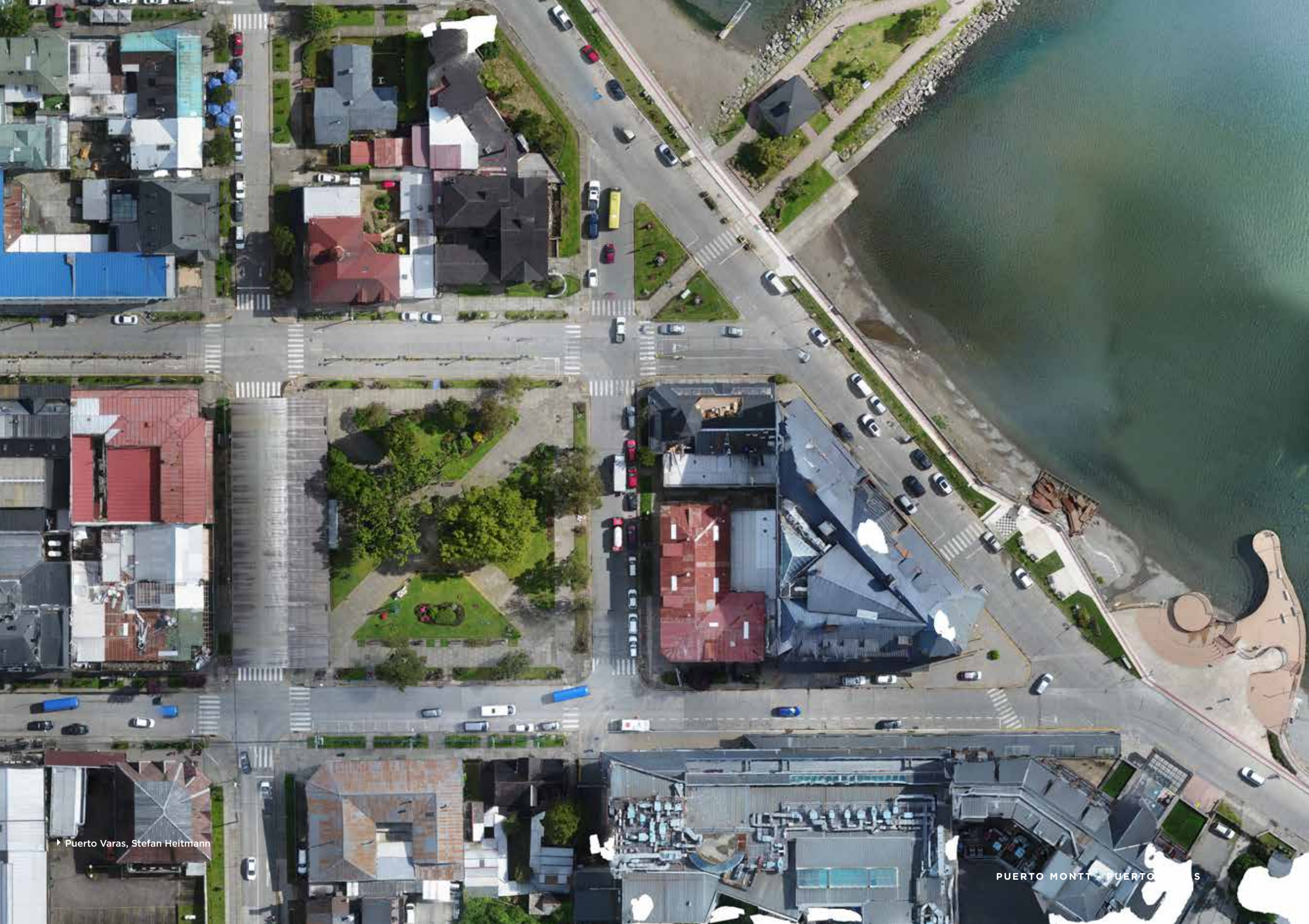
► Puerto Varas view. Stefan Heitmann



► Plaza Puerto Montt. Stefan Heitmann







LOS LAGOS METROPOLITAN AGENDA

The Los Lagos Region Puerto Montt–Puerto Varas urban system is located in Llanquihue Province, which has an area of 14,876 square kilometers, accounting for 30 percent of the region's total area, and a population of 408,052 inhabitants (INE, 2017). In administrative terms, the province is divided into nine districts: Calbuco, Cochamó, Fresia, Frutillar, Llanquihue, Los Muermos, and Maullín, as well as Puerto Montt and Puerto Varas.

Over the last two decades, the development of the Puerto Montt–Puerto Varas Metropolitan Area has been accelerated, with an urban footprint growing at an annual average growth rate (AAGR) of 4.2 percent, which, along with an AAGR of 2.3 percent in the population, reveal a low-density expansion process (IDOM, 2016). This phenomenon is associated with the construction of social housing outside the consolidated urban limits (mainly Alerce), the emergence of areas occupied by rural residential properties (especially in Puerto Varas), and a rural area presenting peri-urban developments with various characteristics (IDB, 2018a). Currently, the metropolitan system has 290,480 inhabitants, with Puerto Montt accounting for 245,902 and Puerto Varas 44,578 (INE, 2017).

The above is associated with the lack of an existing and binding metropolitan or inter-district land-use planning tool that regulates urban development and its relation to the natural and rural environment. In addition, the PRCs of each city are out of date and are a long way from being regulatory instruments that meet current needs, and even further from being structuring territorial instruments that plan for the future. However, they are all in the process of being updated (IDB, 2018a).

Both cities share a similar foundational logic, with many territorial and vocational similarities that, over the years, have become more specialized, sophisticated, and differentiated. Nevertheless, they continue to share an element that is essential: they have common geomorphological traits that have made them grow in a terraced fashion towards a body of water (Reloncaví Sound and Llanquihue Lake). Despite this similarity, these cities have started to differentiate themselves due to having experienced different urban growth phenomena.

In economic terms, and thanks to its geographic features, Puerto Montt is characterized by being a port city, functioning as a key location for exchange, exports, and tourism transit, along with having developed industrial, commercial, and service areas. Puerto Varas' main economic activity, on the other hand, is tourism, as it is located among sites of natural beauty that have made it into one of the most touristic districts in southern Chile.

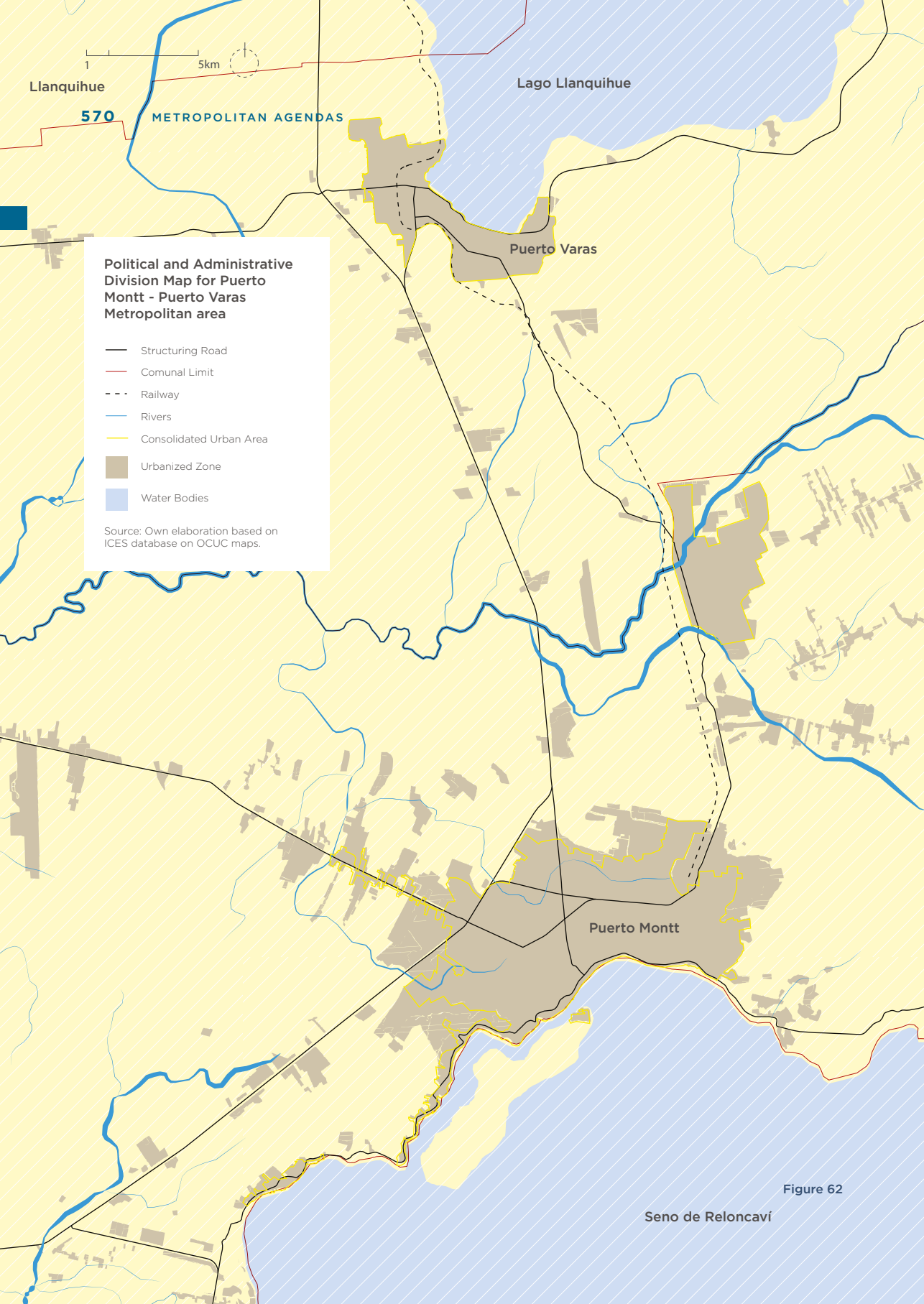


Figure 62

Seno de Reloncaví

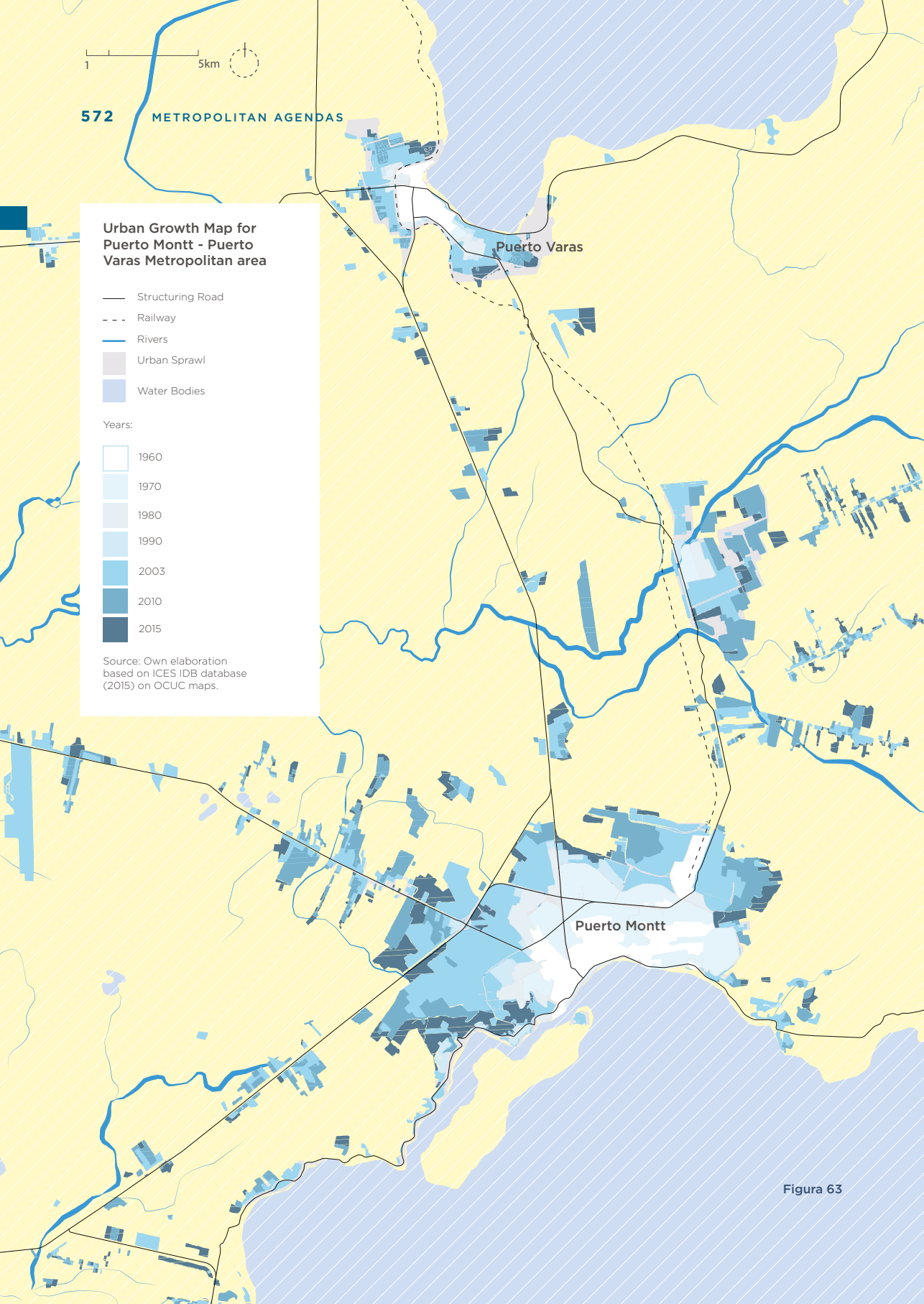


Figura 63

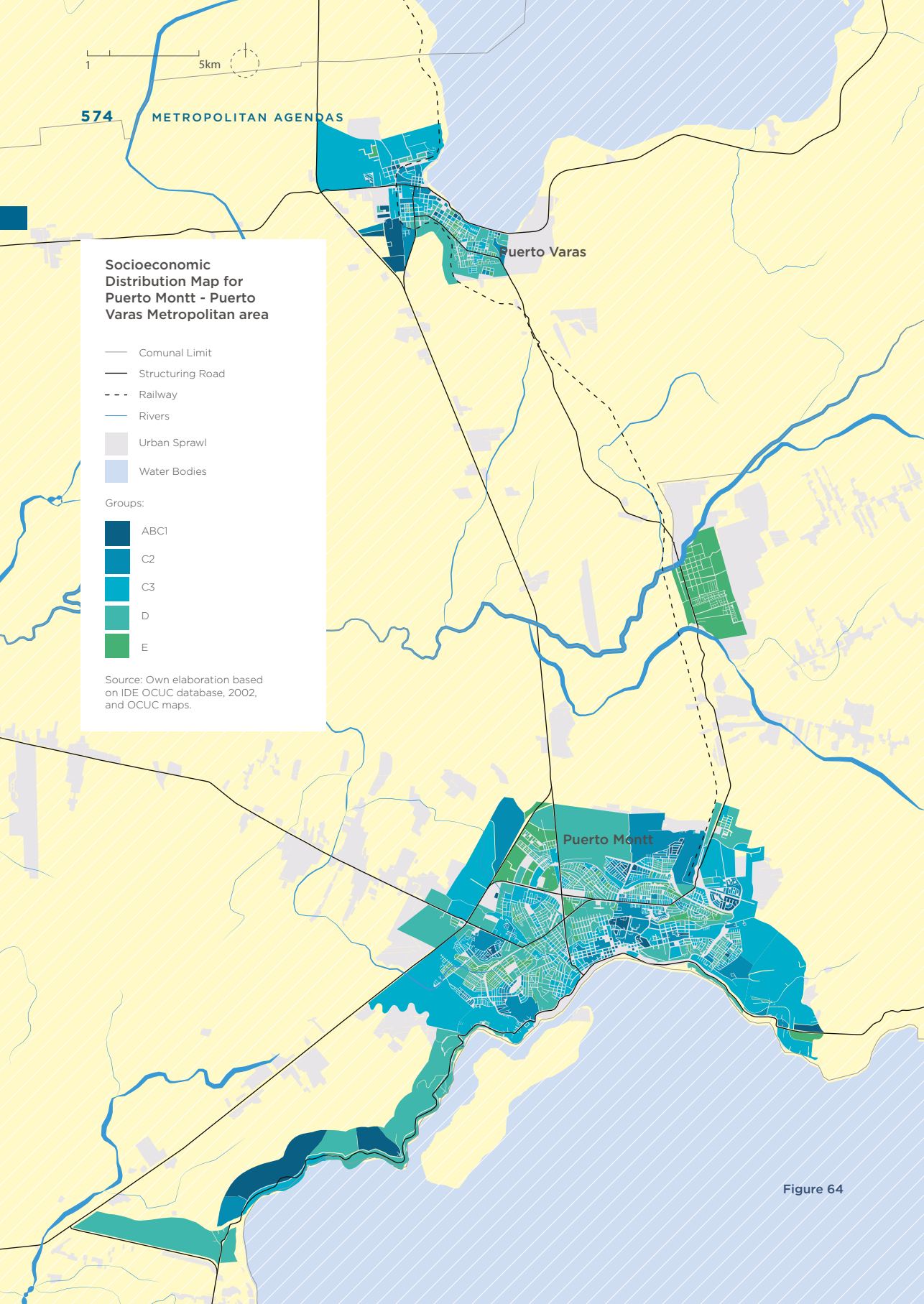
As regards income, employment, and productive infrastructure, the Puerto Montt–Puerto Varas Metropolitan Area is around the national average, with a per capita GDP of USD 3,464. The economy of these cities is mostly based on aquaculture, services, and tourism (IDB, 2018a). According to data from the INE (2014) regarding salmon production in harvest centers, the Los Lagos Region accounts for 47 percent of total national production, which makes it the second largest producer after the Aysén Region, with Puerto Montt being the logistics center for its development (IDB, 2018a).

Puerto Varas, in turn, is one of the most attractive touristic centers in Chile, with iconic places such as Llanquihue Lake and the Vicente Pérez Rosales National Park. One of the indicators demonstrating the capacity for the attraction and permanence of a touristic destination are overnight stays, which in the case of Puerto Montt average 1.6 days and Puerto Varas 1.4 days. It should be noted that touristic activity has high seasonality—as in the rest of the national territory—with 71 percent of tourist visits taking place during the summer, which constitutes high season, from December to February (IDB, 2018a).

Due to the progressive increase in the economic-productive activities of both cities, this urban area has seen steady population growth in recent decades, turning it into the most populated area in the Los Lagos Region, accounting for 33.5 percent of its total population. These figures make it one of the largest inter-district urban systems in Chile. It is estimated that 85 percent of the Metropolitan Area corresponds to the C3, D, and E socioeconomic sectors, while less than 15 percent belong to the ABC1 and C2 strata. In terms of spatial distribution, high-income residents are concentrated in the Puerto Varas district and the central and northern areas of Puerto Montt, while areas such as Alerce or the new poles of development in Nueva Braunau, concentrate a lower-income population for the most part (IDOM, 2016).

The cities in the Puerto Montt–Puerto Varas Metropolitan Area have declared that they have incorporated risk management measures for natural disasters into the formulation of their urban development planning instruments, specifically in the PRCs (currently being updated). Some of the potential risks that could affect the Metropolitan Area include the threat of volcanic eruptions (Calbuco and Osorno volcanoes), risk of tsunamis, mass movement phenomena, exposed infrastructure and equipment (educational, health, police, and firefighter centers, etc.), susceptibility to liquefaction, and increases in sea level (IDOM, 2016).

Environmentally-speaking, there are serious issues regarding air pollution and contamination of water resources. Puerto Varas has low air pollution indicators, but that is mostly due to lack of monitoring; that is, there are no monitoring or controlling systems in place to measure air quality in the city. In the case of Puerto Montt, there is information on this as the city has two monitoring stations (Mirasol and Alerce), although they have yet to be certified. As for the pollution of water resources, the two



cities dump waste into Reloncaví Sound and Llanquihue Lake, respectively, through industrial and wastewater emissions.

The Puerto Montt–Puerto Varas Metropolitan Area thus constitutes a mono-centric urban system, with a main city that concentrates the region’s workforce and services, while maintaining a functional connection between both districts, prompting a highly dynamic process of urban expansion in demographic and urban terms. This has led to the structure and functioning of an emerging metropolis, which has established itself as the hub of the region and the south of Chile. Thus, the metropolitan system is now at the threshold of qualitative and quantitative changes regarding the behavior of the territory, where territorial interaction has made it possible to integrate the job market and has promoted greater flexibility in residential location, without erasing the specificities and vocations of each of the districts in a non-conurbated Metropolitan Area

IDENTIFICATION OF ISSUES

The Puerto Montt–Puerto Varas Metropolitan Area has presented problems similar to those of other metropolitan areas in the country, having experienced strong growth with characteristics of segregation, fragmentation, and inequality.

This section takes an in-depth look at the issues associated with the topics specified in the Decentralization Law in its first phase of implementation: mobility, environment, and land-use planning. However, it should be noted that themes presented in the Puerto Montt–Puerto Varas Metropolitan Area Action Plan—developed in the context of the IDB’s ESC methodology and grouped into issues of governance and economic development—will also be addressed.

Figure 64

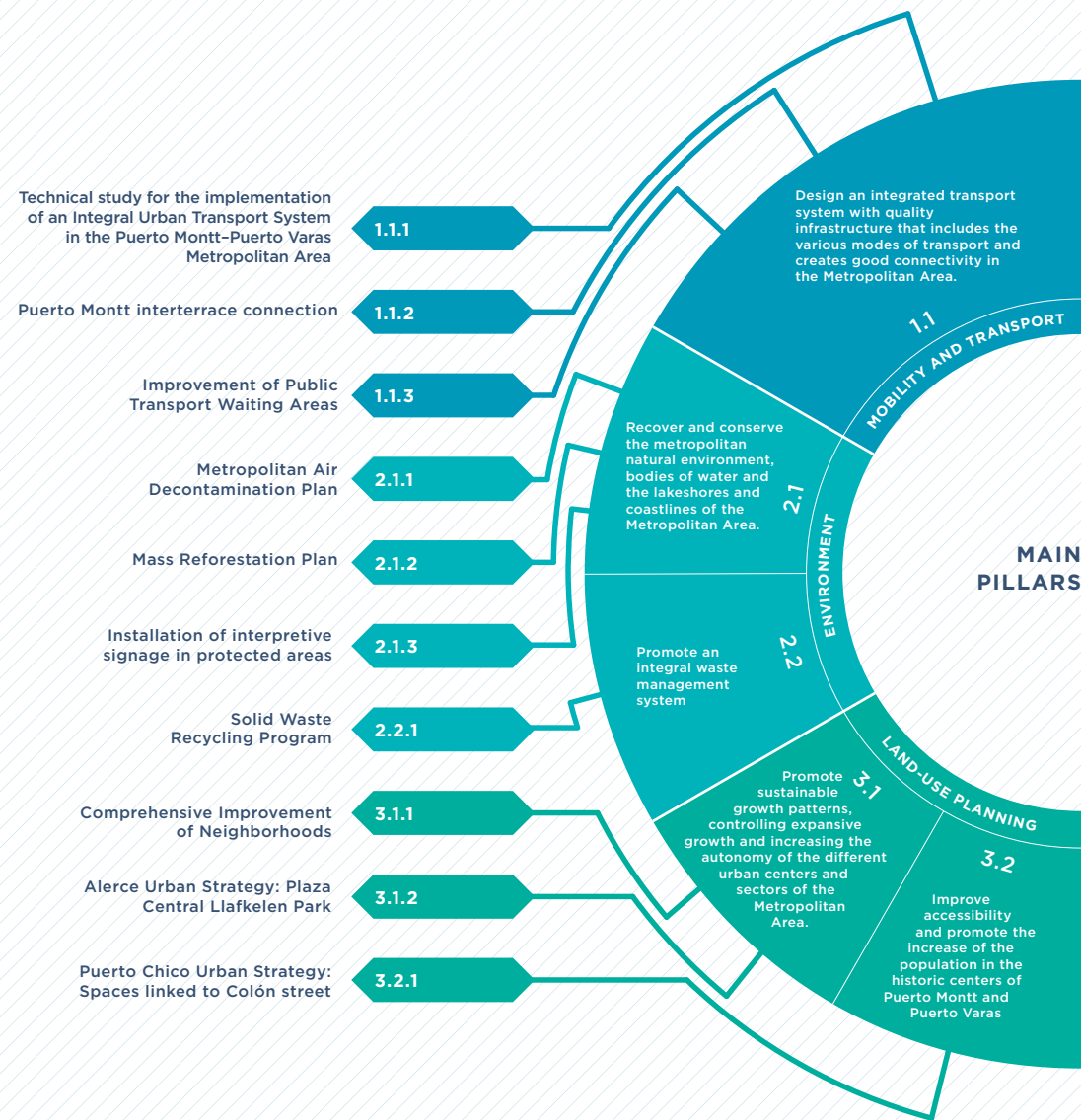
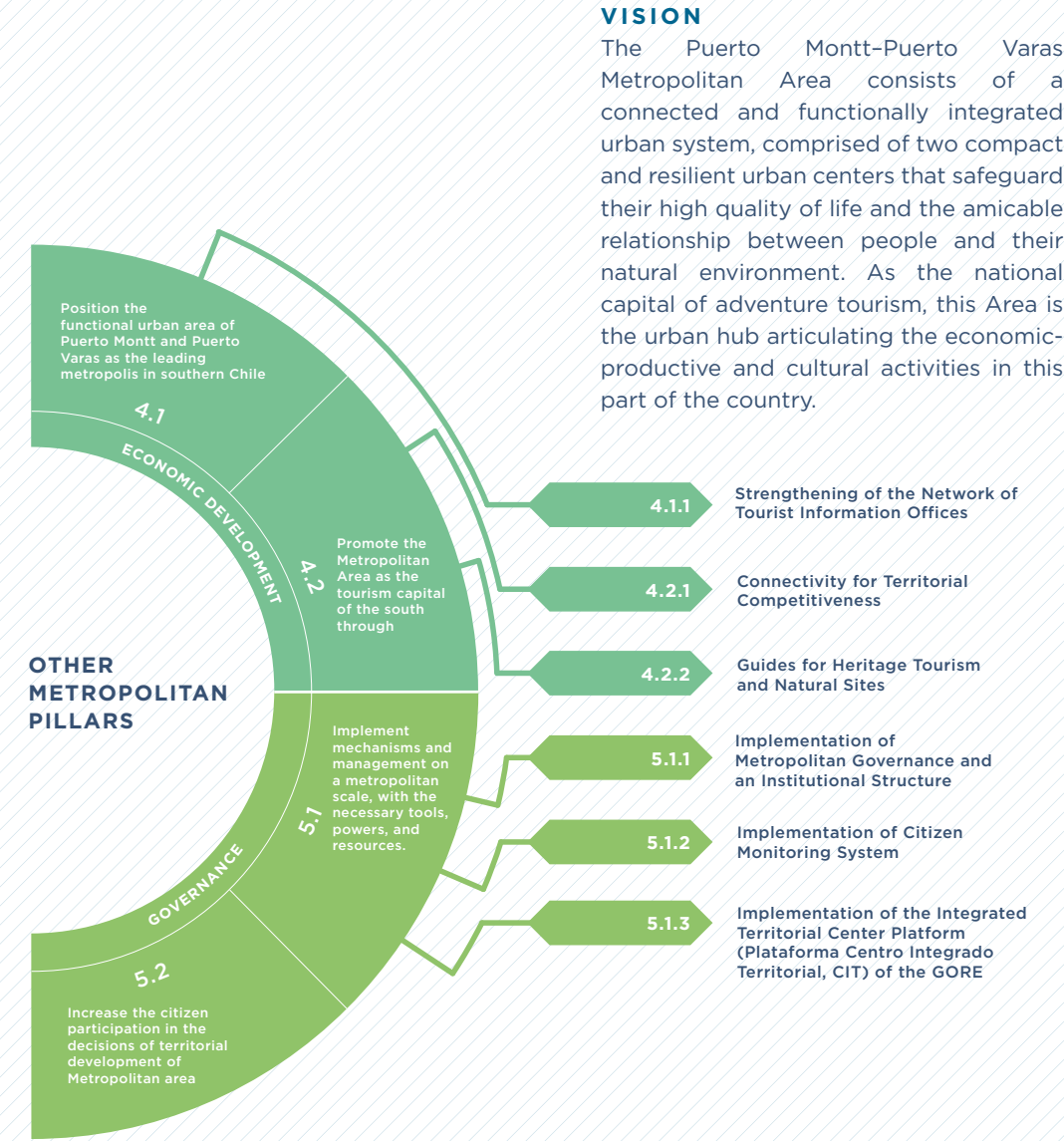


Figure 65



VISION

The Puerto Montt-Puerto Varas Metropolitan Area consists of a connected and functionally integrated urban system, comprised of two compact and resilient urban centers that safeguard their high quality of life and the amicable relationship between people and their natural environment. As the national capital of adventure tourism, this Area is the urban hub articulating the economic-productive and cultural activities in this part of the country.

1. MOBILITY AND TRANSPORT

This Metropolitan Area has seen an increase in traffic congestion, and there is great demand for quality public transport in areas where the environment is deteriorating incrementally and where planning tools do not function on a metropolitan scale.

EXCESSIVE FUNCTIONAL INTERDEPENDENCE BETWEEN EXTERNAL AREAS—PERI-URBAN AND INTERURBAN AREAS—IN THE CENTRAL AREAS OF PUERTO MONTT AND PUERTO VARAS:

There is little functional autonomy in external areas, either peri-urban or interurban. The Area's low-density urban extension prevents it from having enough population to deliver services and equipment.

HIGH CONGESTION LEVELS AROUND LARGE-SCALE INFRASTRUCTURE AND EQUIPMENT LOCATED IN AREAS WITHOUT ADEQUATE ROAD CAPACITY:

Growth in the Metropolitan Area results in greater urban mobility requirements, specifically those associated with public, private, or cargo transport. Current road conditions exceed their actual capacity, where interconnecting and collector roads have a local and/or service profile, saturating high-demand areas such as the Chinchihue regional stadium, Mall Paseo Costanera, the port area, etc.

DIFFICULTIES IN ACCESSIBILITY OF HISTORIC CENTERS CONCENTRATING MOST OF THE METROPOLITAN AREA'S INFRASTRUCTURE AND SERVICES:

The complex and singular topography and urban structure (plots and blocks) of the historic centers makes the development of mass public transport difficult. On the other hand, high provision of parking lots in central areas promotes the use of private vehicles, while there is a lack of integration between connectivity infrastructure and parking lots. This situation underlines the lack of diversity in terms of means of transport.

LACK OF FUNCTIONAL AND CONNECTIVE INTEGRATION BETWEEN LARGE TRANSPORT INFRASTRUCTURE ON AN URBAN, REGIONAL, AND NATIONAL SCALE:

There is little clarity in the planning, coordination, and management of large-scale transport infrastructure that considers ports, airports, train stations, airdromes, bus terminals, and main public transport roads, among others, as part of the same system.

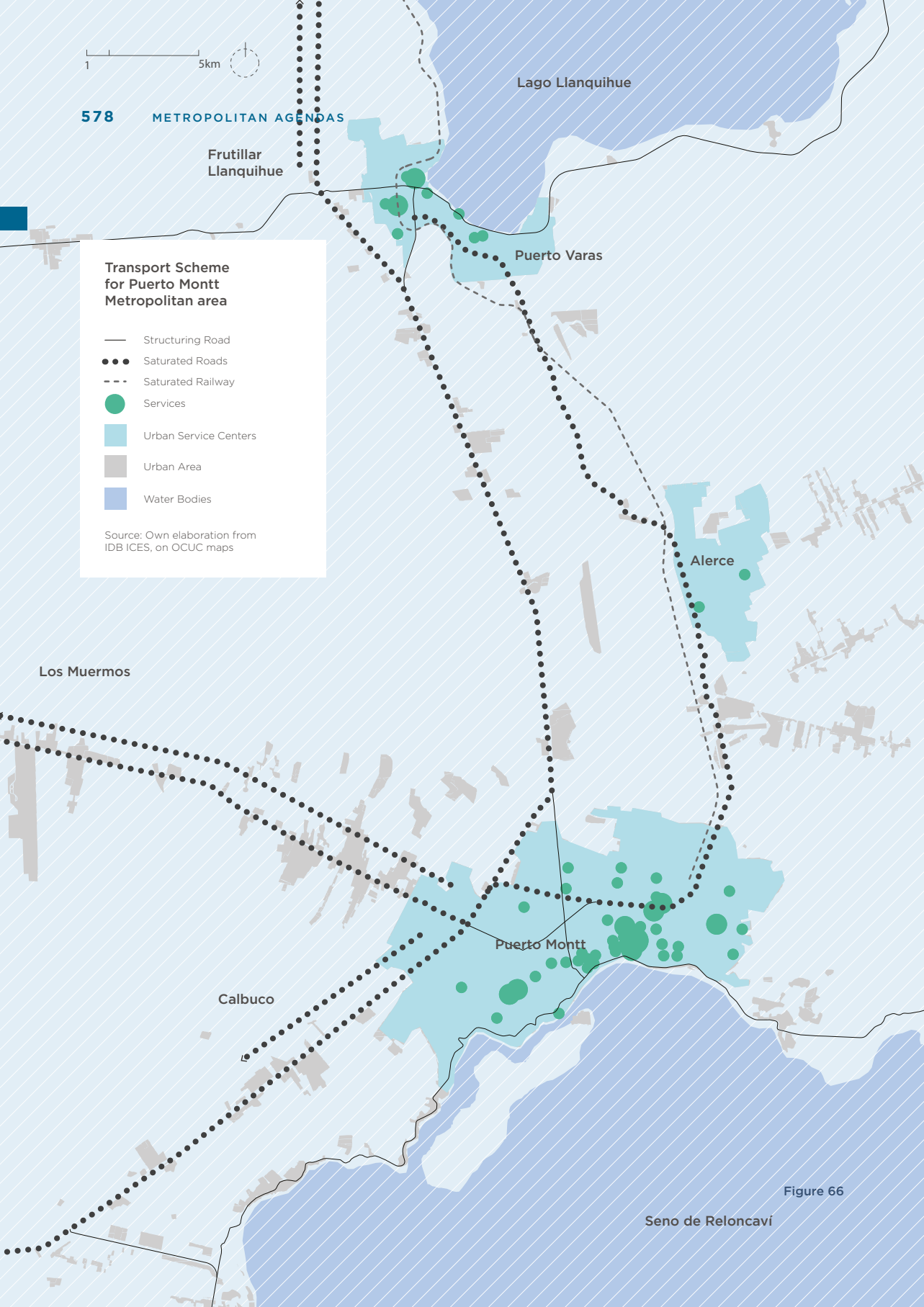


Figure 66

Seno de Reloncavi

1

Increase the supply and coordination of transport systems, both on a regional and national scale, incorporating various urban and interurban modes of transport, as well as national and international maritime routes, considering airport flows and the potential of the railway.

1.1

Design an integrated transport system with quality infrastructure that includes the various modes of transport and creates good connectivity between the different urban centers and sectors of the Metropolitan Area.

TECHNICAL STUDY FOR THE IMPLEMENTATION OF AN INTEGRAL URBAN TRANSPORT SYSTEM IN THE PUERTO MONTT-PUERTO VARAS METROPOLITAN AREA

It is necessary to conduct a series of technical studies that allow identification of the gaps and problems, and opportunities available in the territory, as well as in the cities themselves. Puerto Montt's urban transport plan has just been updated, but Puerto Varas does not have this type of study available. It would therefore be useful to carry out a comprehensive assessment of the Metropolitan Area associated

with transportation and conduct a technical study for the city of Puerto Varas that can prepare the city for the development and implementation—a posteriori—of an integrated transport system for this Metropolitan Area.

Term: Short
Stakeholders: GORE, MTT, Municipality of Puerto Varas

1.1.2

PUERTO MONTT INTER-TERRACE CONNECTION

The topography of Puerto Montt creates inter-terrace spaces which represent significant barriers to access the center of the city, while also making it difficult for movement of pedestrians. As in other Chilean cities, road investment has been mostly focused on favoring private transport, while investment associated with public transport, pedestrians, and cyclists has lagged behind.

Thus, the plan is to make physical changes that improve mobility between the various terraces to improve mobility and accessibility to public and non-motorized means of transport going to the city centers.

The MTT is currently promoting an initiative in Puerto Montt aimed at designing and socially evaluating a series of measures focused on public and non-motorized means of transport to improve connectivity between terraces for residents. Those measures should make up a plan that is comprehensive and consistent with the objectives and the assessment of the city.

Term: Medium
Stakeholders: MTT SEREMI, GORE, Municipality of Puerto Montt

1.1.3

IMPROVEMENT OF PUBLIC TRANSPORT WAITING AREAS

At present, the poor condition of waiting areas at bus stops and the lack of availability of information regarding services leads many people to choose to travel by car. Therefore, one way of incentivizing the use of public transport is by improving the conditions of bus stops.

This action entails three measures:

- Improve waiting times for buses and shared taxis by formalizing and paving public transport turnouts. This initiative would entail applying acrylic paint to sidewalks and streets, selecting an appropriate pattern and color palette, and the incorporation of street furniture, such as roofed areas to protect passengers from rain and a pedestrian-scale lighting system.
- Implement signage communicating bus routes to promote the use of public transport and reduce car use among tourists over the summer, reducing congestion.
- Use adjacent lots to create public spaces that are connected to the bus stops, thus improving the quality of waiting times.

Term: Short
Stakeholders: MTT SEREMI, GORE, Municipalities of Puerto Montt and Puerto Varas

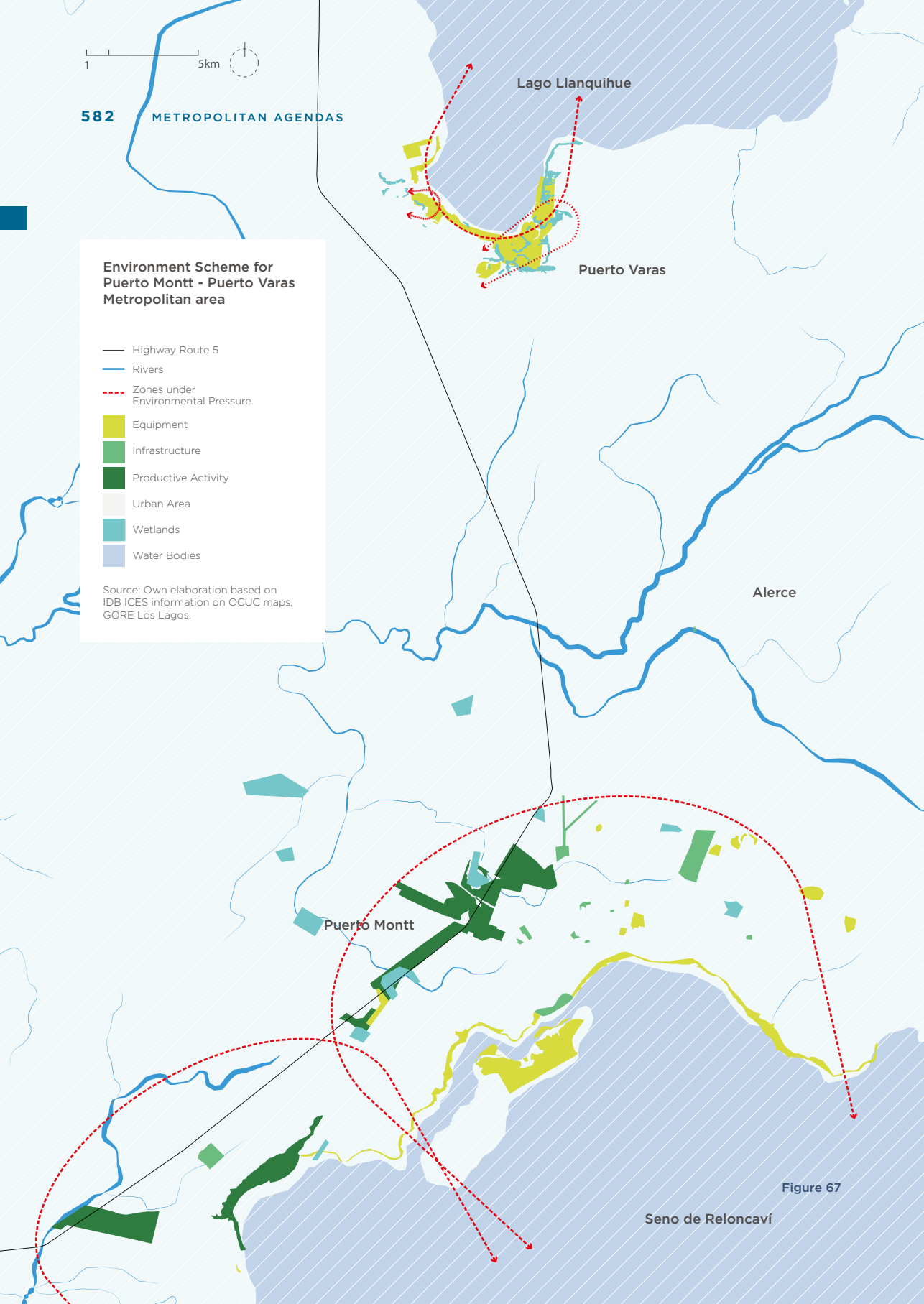


Figure 67

2. ENVIRONMENT

Demand for land suitable for urban development has added pressure on the Metropolitan Area's natural heritage, directly affecting water and atmospheric resources, leading to the following issues.

CONTAMINATION OF WATER RESOURCES, PARTICULARLY OF WATER BODIES AND AQUIFERS, WHICH ARE ONE OF THE MAIN STRATEGIC ASSETS OF THE REGION AND SOUTHERN CHILE:

The pressure of urban growth has in turn affected wetlands and polluted the environment. There is also a deficient system of collection and treatment of rainwater and wastewater, along with issues in the handling of industrial waste. In the case of wastewater, water in the city of Puerto Montt receives primary treatment with disinfection and effluents are subsequently discharged into the sea through a submarine pipeline. In Puerto Varas, water is treated at the Llanquihue plant and the receiving body of water is the Maullín River.

AIR POLLUTION DUE TO EMISSIONS FROM FIXED HOUSEHOLD SOURCES:

The use of wet firewood for domestic heating has had a great impact on air quality at a metropolitan level. Therefore, the entire Metropolitan Area should have systems for monitoring and control of emissions, both to track air quality, leading to warnings and prevention measures for citizens, as well as to evaluate, measure, and generate the necessary mitigation plan.

2 Increase the capacity to manage and conserve environmental assets in the Metropolitan Area, focusing on larger bodies of water, such as Llanquihue Lake and Reloncaví Sound, along with smaller ones, such as lagoons, rivers, and wetlands.

2.1 Recover and conserve the metropolitan natural environment, bodies of water and the lakeshores and coastlines of the Metropolitan Area.

2.1.1 METROPOLITAN AIR DECONTAMINATION PLAN

The Puerto Montt-Puerto Varas area is the main source of pollution in the Los Lagos Region after Osorno, which already has an Air Decontamination Plan. As in other cities in the country, the main source of pollution comes from households, due to burning of firewood, and transportation, which results in the emission of toxic particulate matter and exposure patterns that increase the risk of negative effects on the health of the population.

Therefore, it is necessary to take immediate action to reduce pollutants through a Metropolitan Air Decontamination Plan. The following are some of the measures that should be part of the plan:

- Restrict the use of firewood for heating
- Restriction on fixed sources of emission
- Provision of public information about health risks
- Implementation of a multi-sectoral control program

Term: Short
Stakeholders: GORE, MMA SEREMI, Municipalities of Puerto Montt and Puerto Varas

2.1.2 MASS REFORESTATION PLAN

There are an estimated 1.5 million hectares of native forest in Llanquihue Province, accounting for 22 percent of its area. This low percentage partly reflects the vulnerability of this resource and the great deforestation that has taken place, mainly in the last 100 years. The native forest generates a series of ecosystem-related benefits, ranging from landscape to tourism, to soil conservation, aquifer recharge, thermal equilibrium, slope stabilization, and erosion control.

Urban and agricultural expansion, and the development of rural residential properties are threatening this resource, so it is necessary to protect, reinforce, and increase native forest areas. This action entails protecting and increasing native forests through the following measures:

- Establish native forest areas and areas adequate for replanting with native forest
- Transform belts of rural residential properties into green belts of native forest through regulations and fines
- Intensive reforestation with native species, favoring deteriorated and vulnerable areas such as slopes, eroded areas, and riverbanks.

Term: Long
Stakeholders: National Forest Corporation (Corporación Nacional Forestal, CONAF), MMA SEREMI, GORE, Municipalities of Puerto Montt and Puerto Varas

2.1.3 INSTALLATION OF INTERPRETIVE SIGNAGE IN PROTECTED AREAS

There must be information available on the ecotourism sites that the destination has to offer visitors through the creation of various informative tools. Such is the case of signage in protected areas, as it helps the interpretation of environmental phenomena, determining the behavior of the local ecosystem and complementing the background information that tourists have previously acquired during their journey. This action consists of the installation of environmental interpretive signage on the trails in Vicente Pérez Rosales National Park, which will be accompanied by a system of QR codes associated with the database of the destination's touristic information system. This project is aimed at: increasing the level of knowledge about the natural heritage of the National System of State-Protected Wild Areas (Sistema Nacional de Áreas Silvestres Protegidas del Estado, SNASPE), providing information to national and international tourists; increasing the touristic use of urban space; increasing the supply of touristic circuits; and contributing to the dissemination of knowledge regarding the history and architecture of the destination.

Term: Short
Stakeholders: CONAF, SERNATUR, GORE, Municipalities of Puerto Montt and Puerto Varas

2.2 Promote an integral waste management system

2.2.1 SOLID WASTE RECYCLING PROGRAM

While the La Laja sanitary landfill is responsible for collection and treatment of waste within the study area, there is an opportunity associated with recycling. At present, 56.3 percent of household waste in terms of weight corresponds to organic matter (IDOM, 2016), all of which is disposed of in the La Laja sanitary landfill due to a lack of alternatives for final disposal that meet current environmental regulations.

There are no facilities in Puerto Montt and Puerto Varas for the treatment of the biodegradable portion of the waste. Therefore, this action proposes composting as the preferable management system for organic waste. The association of Llanquihue municipalities is currently developing a recycling management study in Llanquihue Province.

Term: Short
Stakeholders: MMA SEREMI, GORE, Municipalities of Puerto Montt and Puerto Varas

During the last two decades, the development of the **Puerto Montt - Puerto Varas Metropolitan Area** has been accelerated, with an average annual growth rate (TMCA for spanish acronym) of 4.2% of its urban sprawl which, in conjunction with the TMCA of the population (2.3%), indicate an expansion process in low density.

► Source: IDOM, 2016

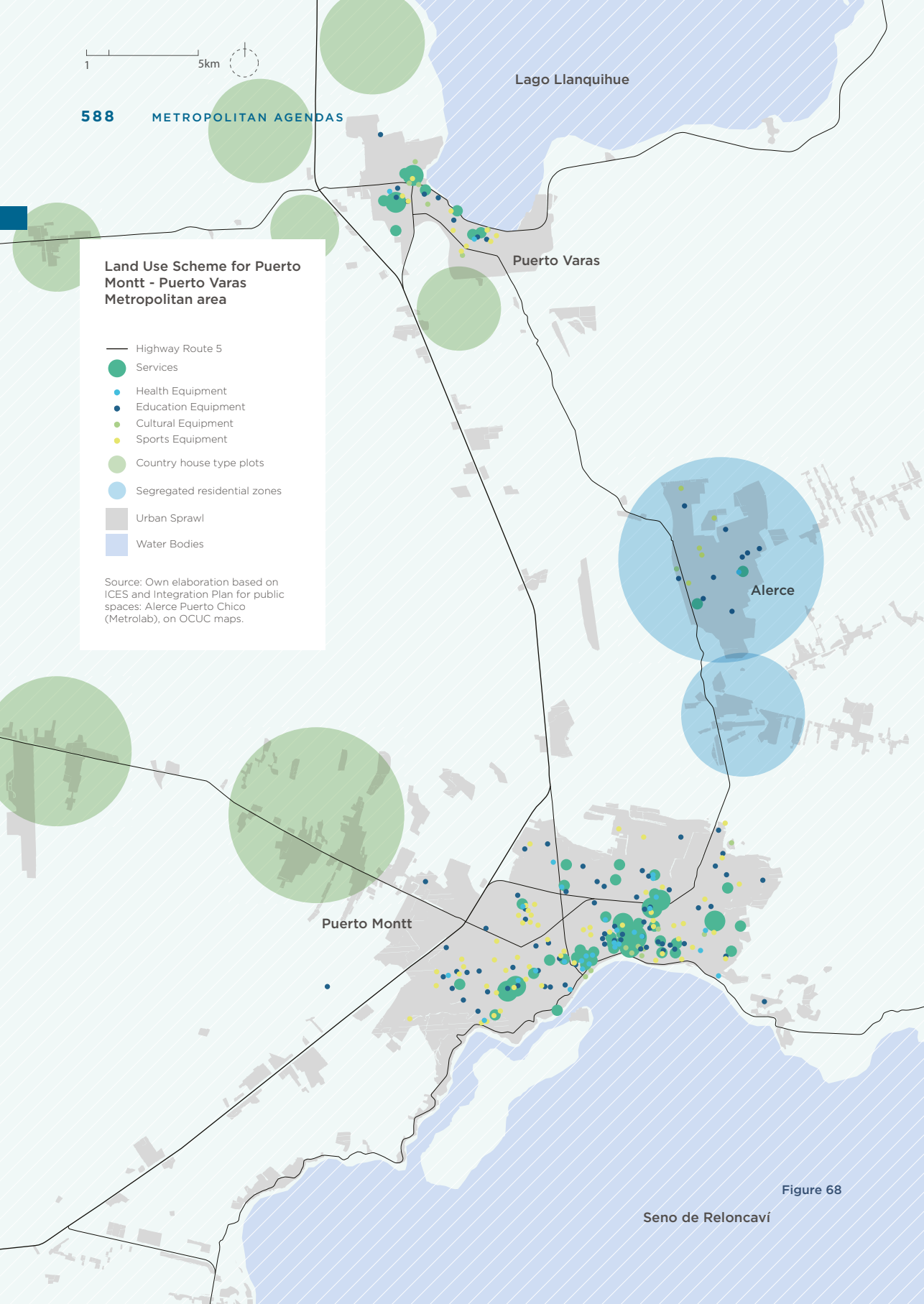


Figure 68

Seno de Reloncavi

3. LAND-USE PLANNING

A fast-growing urban footprint can have a negative impact on the environment, deteriorating existing infrastructure, exacerbating or creating traffic congestion, and affecting access to basic and public services. Accelerated growth also tends to require certain types of infrastructure to support the city, especially if the current land-use planning instruments, ordinances, and regulations do not control the occupation of land efficiently (IDB, 2018a). The main issues associated with land-use planning in this Metropolitan Area are listed below.

MISMATCH BETWEEN THE PRODUCTIVE STRUCTURE, URBAN GROWTH, AND PUBLIC INVESTMENT IN INFRASTRUCTURE:

Since the 1990s, there has been a mismatch in territorial development around three main axes that are not coordinated or considered in strategic terms. First, productive industries were moved from structuring express roads located on the coastline of Puerto Montt Bay, which is an ideal location for the new aquaculture industry. At the same time, the Alerce satellite city project was developed, which entailed the confirmation of large investments in road infrastructure, such as the expansion of the Ruta 5 highway concession. The return to an economic structure that existed prior to the salmon boom has led to new changes in infrastructure requirements, making evident the need to align real estate development, investment in infrastructure, and productive systems. However, coordination between the dynamics of the productive sector and public decisions on infrastructure investment (public-private and public-public) is insufficient. There are no channels for institutional coordination between productive and infrastructure policies. Finally, housing development has mainly been in response to the territorial structure of land value and has not been considered in terms of access to the labor market or proximity to connectivity and transport infrastructure.

FRAGMENTED AND SOCIALLY DISINTEGRATED GROWTH IN THE METROPOLITAN AREA:

Highly socially segregated areas lacking the necessary equipment and services, and presenting connectivity issues have proliferated in this Metropolitan Area. This has resulted in areas that concentrate social and urban issues that exacerbate the inequality and fragmentation of urban growth patterns. In addition, the lack of land-use planning regulations in the peri-urban area has resulted in increasingly disperse urbanization. In general terms, Puerto Varas has better access to urban assets and services, which is supported by an appropriate relationship between urban size and density compared to Puerto Montt, whose development is more expanded and lacks sufficient coverage of assets and services. On the other hand, Alerce, which was initially created to eradicate informal settlements, has the highest levels of urban segregation due to its scale and high degree of social uniformity compared to other parts of the Metropolitan Area where there is a more diverse social mix (IDB, 2018a).

- 3** Establish a coordinated system of territorial planning and management instruments that help to harmonize the use of land and urban development needs to promote an integrated and resilient Metropolitan Area suited to its social and economic development.

- 3.1** Promote sustainable growth patterns, controlling expansive growth and increasing the autonomy of the different urban centers and sectors of the Metropolitan Area.

3.1.1 COMPREHENSIVE IMPROVEMENT OF NEIGHBORHOODS

It is essential to reinforce and integrate the existing plans (Mejoramiento Barrio and Quiero mi Barrio plans, among others) aimed at improving neighborhoods. This action consists of creating an integrated metropolitan neighborhood improvement plan that coordinates multi-sectoral efforts and involves a long-term vision. Activities include:

- Creation of a permanent working group for neighborhood improvement
- Integrated inventory of deteriorated neighborhoods and creation of a prioritization system
- Creation of platforms to show the progress of the initiatives
- Creation of public-private collaboration bodies
- Development of sectional plans for the specific urban improvement of identified areas

3.1.2 ALERCE URBAN STRATEGY: PLAZA CENTRAL LLAFKELEN PARK

The improvement of Plaza Llafkelen Park is aimed at consolidating it as a central meeting point with which everyone in the Alerce community can identify. The main challenge in terms of its design is its scale, which, with an area of one hectare, is hard to manage and in which it is difficult to host attractive spaces. With appropriate design, the size of the park can be used to develop various activities to complement the activity of the neighborhood. The design proposals make special emphasis on work around the edges of the park, which are key to its integration into the urban context. Since work has already been done on the park, some design features could be preserved and enhanced, such as the diagonal paths, the amphitheater, lighting, and part of the urban furniture.

Residents emphasized the idea of creating a community center that is not affiliated with any particular organization and that is managed by the municipality, guaranteeing its maintenance and availability to all of those who want to carry out workshops or other activities. The architectural structure proposed is that of a Ruka, so the design of the community center will re-interpret that archetypal shape as a way of showcasing the Mapuche symbols currently present in Plaza Llafkelen. The location of the structure takes advantage of the existing diagonal to position the most important façade on the north side, facing the sun (Puelmapu).

Finally, and considering the lack of job opportunities in Alerce, the plan includes mixed-use facilities located on the east side of the park that can be used as areas for commerce or creative development. During the participatory assessments, the historic value of the Alerce community as craftspeople was highlighted, which is why the initiative proposes that the ground floor of the facilities be used as open workshops that can be associated with commercial spaces in order to position and showcase this activity.

Term: Medium
Stakeholders: MOP and MINVU SEREMI, GORE, Municipalities of Puerto Montt and Puerto Varas

3.2 Improve accessibility and promote the increase of the population in the historic centers of Puerto Montt and Puerto Varas

3.2.1 PUERTO CHICO URBAN STRATEGY: SPACES LINKED TO COLÓN STREET

The Linked Spaces (Espacios Vinculados) Project is aimed at connecting the existing public spaces that are highly significant to the neighborhood in order to maximize their activities and benefits. The current projects that this initiative seeks to activate are:

- The main entrance to the Municipal Coliseum
- Juan Soler Square
- The square on Los Lirios Street

These three urban areas represent a potential system of public spaces where certain uses and activities have been generated that would contribute to the activation of a community sub-center. Therefore, it is necessary to develop an interconnected network of quality public spaces, showcasing existing uses and creating new opportunities for services, infrastructure, and activities.

In order to create a visually unified space, the design entails a basic element (module) that frames all of the squares. Its basic functions are to delimit the spaces and provide urban furniture, such as benches (that could potentially be covered with roofs), plant pots, fences, and bases to install lighting.

Term: Short
Stakeholders: MINVU SEREMI, SERVIU, GORE, Municipalities of Puerto Montt and Puerto Varas

4. ECONOMIC DEVELOPMENT

IDENTIFICACIÓN DE OTRAS PROBLEMÁTICAS DE CARÁCTER REGIONAL / METROPOLITANO

Identificación de otras problemáticas de carácter regional / metropolitanoTerritorial competitiveness in the Metropolitan Area should be based on complementarity rather than competition. Puerto Varas, for instance, provides Puerto Montt's service area with trained human capital, while Puerto Montt attracts visitors and tourists to the area by providing transport infrastructure for the entire conurbation, in addition to promoting more sophisticated derivative industries.

4 Boost the attributes of both cities, promoting their complementarity as the center of the productive, economic, and touristic development of southern Chile.

4.1 Position the functional urban area of Puerto Montt and Puerto Varas as the leading metropolis in southern Chile

4.1.1 STRENGTHENING OF THE NETWORK OF TOURIST INFORMATION OFFICES

This action consists of improving and modernizing the facilities and services of the tourist information offices in the area. At present, the state of the various tourist information offices varies (budget, staff, and infrastructure) and they are crucial to provide guidance to tourists. It is thus necessary to provide them with a professional team and informative and promotional material. It is also essential to have staff that is suitable to provide services to tourists, training them through

seminars, training workshops (face-to-face or virtual), technical documents, etc. The offices should have technical support for the various functions, such as tourism market intelligence, information, promotion, and planning. The aim of this action is to increase users' level of satisfaction and improve capacity to provide attention.

Term: Short
Stakeholders: SERNATUR, Municipalities of Puerto Montt and Puerto Varas

4.2 Promote the Metropolitan Area as the tourism capital of the south through the development of infrastructure and the organized management of the assets with potential in the area

4.2.1 CONNECTIVITY FOR TERRITORIAL COMPETITIVENESS

Connectivity is crucial for the functioning of the Metropolitan Area and its development. Table 17 shows the connectivity initiatives aimed at providing general solutions for transport.

TERRITORIAL CONNECTIVITY PROPOSALS

Field of Analysis	Proposal
Urban Roads	<ul style="list-style-type: none">• Construction of Puerto Montt Beltway• Construction of Puerto Varas Beltway• Solution to metropolitan connectivity
Connectivity Network Interurban Logistics	<ul style="list-style-type: none">• Construction of Alerce-Ruta 5 connection• Improvement of Puerto Montt-Tepual connection• Puerto Varas-Tepual connection• Improvement of Chiquino-Tepual connection• Improvement of Chiquino-Calbuco Route
PORT Development	<ul style="list-style-type: none">• Transfer of cargo activity from Puerto Calbuco• Overhaul of Puerto Chacabuco for the transportation of passengers and vehicles• Design of the Unified Port Development Plan in the Chiquino-Panitao area
Information on Metropolitan Mobility	<ul style="list-style-type: none">• Conduct Origin-Destination survey integrating the Puerto Montt and Puerto Varas districts
Railway Connectivity	<ul style="list-style-type: none">• Feasibility study on cargo railway connectivity with the rest of the country• Alerce Railway Logistics Area: intermodal cargo station for the Chiquino and Panitao ports
Development of Logistics and Industrial Areas	<ul style="list-style-type: none">• Study on the location and characteristics of new metropolitan logistics areas• Design and set up logistics and industrial areas in places like Chiquino, Tepual, Las Lajas-Ruta 5, Chiquihue Alto, and Alerce Poniente

Table 17

Term: Long
Stakeholders: MOP, MINVU, MTT, GORE,
Municipalities of Puerto Montt and Puerto
Varas

4.2.2 GUIDES FOR HERITAGE
TOURISM AND NATURAL SITES

The development of adventure travel and ecotourism—which are usually of interest to tourists with a high educational level and motivation to visit natural sites, particularly protected areas with high ecological value—requires quality material to provide environmental interpretation on the site.

In order to reach this level of development, this initiative entails the implementation of actions that allow the creation of a set of themed informative posters about the heritage tourism and ecotourism trails along the coastline of Puerto Montt-Puerto Varas. These posters include:

- Llanquihue Lake scenic route
- Architecture of Puerto Varas
- Birdwatching
- Observation of native flora

This project is aimed at educating tourists regarding the practice of ecotourism and adventure tourism, installing the essential infrastructure to improve visitors' experiences, promote awareness about the cultural heritage and natural resources of the destination, and contribute to the protection of the environment.

This action is expected to increase the offering of tourism products and the stay and expenditure of adventure travelers, as well as to position the Puerto Montt-Puerto Varas Metropolitan Area as a touristic destination, looking to increase tourism during low season.

Term: Short
Stakeholders: SERNATUR, CONAF, Municipalities of Puerto Montt and Puerto Varas
Financing Source: GORE

5. GOVERNANCE

IDENTIFICACIÓN DE OTRAS PROBLEMÁTICAS DE CARÁCTER REGIONAL / METROPOLITANO

Coordination between planning and investment in housing, infrastructure, and development of productive activities should improve, strengthening leadership with tools, powers, and resources to guide the development of the Metropolitan Area.

Public participation should increase in decision-making processes for the development of the Metropolitan Area, so that the culture of this southern part of South America is showcased.

CHALLENGES
OBJECTIVES
INITIATIVES

5 Push regional public interventions that promote a positive dynamic of actions by public, regional, sectoral, and private bodies, matching the integration and development objectives of the Metropolitan Area.

5.1 Implement mechanisms and management on a metropolitan scale, with the necessary tools, powers, and resources.

5.1.1 IMPLEMENTATION OF METROPOLITAN GOVERNANCE AND AN INSTITUTIONAL STRUCTURE

The challenge of consolidating a Metropolitan Area requires the administration of the territory to be re-engineered, creating new bodies, improving the relationships between those that already exist, and perfecting the mechanisms for planning and implementation of public policies in the territory.

In this sense, the role of regional authorities should be strengthened so they can become leaders of the Metropolitan Areas in terms of power regarding the planning instruments and the execution of projects, and also in establishing the administrative and technical team.

It is also necessary to improve and strengthen inter-institutional relationships, both regionally and locally, creating permanent bodies for inter-institutional collaboration to be managed by the metropolitan authority.

Term: Long
Stakeholders: GORE, Municipalities of Puerto Montt and Puerto Varas

5.1.2 IMPLEMENTATION OF CITIZEN MONITORING SYSTEM

The aim of the monitoring system is to follow up on the progress of the commitments and goals established and to make them sustainable over time. It also seeks to provide elements to evaluate progress in the quality of life of the city and the perception of citizens regarding these matters. The goal is to develop basic standardized measurements that allow cities in the region to be compared. In the same vein, the initiative proposes the periodic measurement of technical indicators that are relevant to the city and which allow the results of programs and projects to be assessed. In addition, a public opinion survey should be carried out every year to study the impact of the actions on the perception of citizens.

The goal behind the implementation of this system is to strengthen a culture of accountability and public participation that promotes transparency and efficiency in public administration, and encourages the use of public resources in priority areas for the development of the city.

It is important to legitimize citizen participation and oversight, as they allow for continuous evaluation of the results derived from the implementation of initiatives. A legitimate citizen monitoring system—based on technical, shared, and transparent information—simplifies the management of the political sensibilities that usually arise as a result of monitoring actions such as this.

Term: Medium
Stakeholders: Participating citizens in Puerto Montt and Puerto Varas

5.1.3 IMPLEMENTATION OF THE INTEGRATED TERRITORIAL CENTER PLATFORM (PLATAFORMA CENTRO INTEGRADO TERRITORIAL, CIT) OF THE GORE

The consolidation of the Metropolitan Area as an integrated planning system requires a customized information platform. This poses an institutional challenge, as the metropolitan territory is divided into more than one district. Despite the institutional complexity, integration can be carried out using technological tools and agreements between the municipalities, anticipating the consolidation phases of the metropolitan entities.

This action entails the creation of a territorial information platform that is unique to the Metropolitan Area, managed by the SECPLACs. The integration will require the standardization and systematization of existing information in a single interface, accessible to both municipalities. This challenge is mostly bureaucratic, as it does not require large technological investments.

Term: Short
Stakeholders: GORE, Municipalities of Puerto Montt and Puerto Varas

POLITICAL, ASSOCIATIVE, AND ORGANIZATIONAL ACTIONS

As regards the experience of the Los Lagos GORE in the planning, design, and implementation of metropolitan initiatives, the political, associative, and organizational actions that have been crucial for their implementation and which could serve as blueprints for future metropolitan initiatives are listed below.

POLITICAL ACTIONS

Context:

- Implementation of ESC in the Puerto Montt–Puerto Varas Metropolitan Area
- Design and formulation of a Puerto Montt–Puerto Varas Metropolitan Area Action Plan between the GORE and the municipalities
- Signing of the creation of the Metropolitan Committee and Technical Secretariat by the mayors and the Intendant
- Presentation of the ESC to the Regional Council

Initiatives:

- Signing of a collaboration and implementation agreement for the Metropolitan Area (Intendant, SEREMI, and mayors)
- Approval of the Metropolitan Strategic Plan (Regional Council)
- Creation of a “Metropolitan Area” provision in the regional budget (Regional Council)

ASSOCIATIVE ACTIONS

Context:

- Inter-sectoral ESC Roundtables, across the institutions
- Discussion of topics in the Inter-Ministerial Regional Commission for City, Housing, and Territory (Comisión Regional Interministerial de Ciudad, Vivienda y Territorio, CORECIVYT)

Iniciativas:

Mechanism:

- Participation and creation of a series of work tables for the diagnosis, preparation of plans and implementation of proposals associated with metropolitan issues. Among them are: CORECIVIT internal table for Metropolitan Areas, Regional Climate Change Committee (CORECC), Energy Table, Wetlands Table, Establishment of the board of Directors and Technical Secretariat of plans (citizen monitoring systems), CChC - GORE - SUBDERE table.

ORGANIZATIONAL ACTIONS

Context:

- Constitution of a City and Metropolitan Area Management Unit (Unidad de Gestión de Ciudades y Áreas Metropolitanas) in the Studies and Land-Use Planning Department of the DIPLADE

Initiatives:

- Creation of a City and Metropolitan Area Management Unit
- Design and definition of operational rules of the DAM as part of the implementation process
- Design of legal spaces for Metropolitan Areas in accordance with what is permitted in the legislation and regulations
- Establishment of the Internal Committee of Metropolitan Areas within the GORE

PRIORITIZED INITIATIVE PUERTO MONTT - PUERTO VARAS

SYSTEM OF PUBLIC SPACES FOR DRAINAGE

The territory of the Metropolitan Area has specific distinctive features in terms of water resources and their future management. In geomorphological terms, it is composed of three autonomous, contiguous micro-water basins that are form an interrelated system.

It is essential to highlight water drainage and its management within urban areas, as well as the urban, economic, and social benefits associated with carrying out this initiative, such as: reducing rainwater-related runoff, reducing sediment in surface runoff, lowering the risk of floods, reducing water pollution, minimizing the economic costs associated with rainwater management, and improving the urban landscape, among others.

The first step should involve evaluating the spatial configuration of the strategic elements that constitute the system to establish the priorities that dictate and define other relevant and pertinent locations in the territory, as well as the logic behind the articulation and integration of both the territorial coverage and the mechanisms that could facilitate drainage.

In this regard, representative features of the topography, such as ravines, riverbeds, and riverbanks will be defined, as well as the mechanisms that will be carried out, such as conservation and recovery



► Source: Elaboration by Carla Olivares

of wetlands, separation of rainwater and wastewater systems, rainwater absorption, and permeable pavements, among others.

The stakeholders responsible include the GORE, the municipalities, the corresponding inter-sectoral committees, and private and social stakeholders involved in the locations, all of whom will have to work in coordination for a period of 1-10 years.

This inclusive, participative, and multi-sector dynamic will entail addressing financing from that same angle, promoting the participation of sectoral entities like the MINVU and its urban park programs, the municipalities and GORE's own funds, in addition to international funds promoting these types of interventions. Impact measurements will be addressed in relation to the execution of actions and sub-actions and the reduction of floods.



► Source: Elaboration by Carla Olivares

PERSPECTIVE. ENVIRONMENT AND WASTE MANAGEMENT

ALFREDO RIHM

The problems in management and handling of municipal solid waste come up repeatedly as an important topic in national, regional, and municipal agendas (where it usually has an exclusive role). It should therefore be addressed by aiming for the creation of efficient systems in terms of quality and opportunity of service, as well as economic, financial, social, and environmental aspects.

There have undeniably been significant advances in recent years in the management of urban solid waste: service coverage rates have improved throughout the region in terms of street sweeping, waste collection, and final disposal, doubling over the last decade compared to population growth rates. The urban population with access to adequate sanitary landfills in Latin America and the Caribbean has also doubled; and valorization, despite being a much smaller component, has increased several times, although not always through fully formal schemes. Population growth, along with increased income, has led to a sustained rise in waste generation per capita, so demand for services, infrastructure, and institutional capacity will continue to climb in the coming years.

In recent decades, formulas for joint management have been taken into account and implemented in the region on several occasions with various levels of success and failure. This approach could facilitate the identification and promotion of economies of scale for the management

of municipal solid waste when this is permitted by the administrative, geographic, and economic settings. Hence, there is undeniable potential to explore, both in terms of investments and operations.

In spite of this promising scenario, the design of any scheme has to consider the intrinsic difficulties in the sector. For instance, many districts are unable to achieve financial sustainability in these services, hindering development of the sector and leading to high deficits to the detriment of quality and efficacy.

As a consequence, these are some of the elements that should be present for joint or metropolitan schemes to be put into effect:

- A sustainability scheme guaranteeing the flow of resources for the provision of services
- A clear governance scheme defining those responsible for planning resource management for investment in infrastructure, operation, and monitoring/supervision
- Monitoring of fee structuring, use of service provision resources, and investment
- Clear establishment of the social and environmental responsibilities involved in the initiatives and actions carried out

All of these factors must coexist with the operation of a national regulatory entity. While there is no ideal solution that applies to all countries, for all of the cities in a single country, or even all of the districts in a city, the design process should start from scratch in order to take decisions based on local research.

LESSONS LEARNED AND AGENDAS OF THE METROPOLITAN PILOT PROJECTS

Ignacio Cienfuegos / Esteban Valenzuela

The executive roles granted to the elected Governor, three in total—GORE, president of the CORE, and responsible for the Metropolitan Areas starting in 2021—and the incremental transfer of competencies and pilot projects that have been agreed in the bill that will go into force in 2019 all favor intergovernmentalism, focusing their actions on Metropolitan Areas with pragmatism.

The planning role of the GORE—which includes policy design and, in some cases, more regulatory autonomy in accordance with national policies—will be strengthened. This leading role in regional development involves competencies around the new divisions. For example, in the comprehensive garbage cycle and especially in its final disposal; in mobility and transport plans; and in the PROT, in which an agreement is made with the central agencies and key ministries in the COMICIVT.

In addition to the power to plan and guide policies, both the legislation and the metropolitan pilot projects reveal countless opportunities of centrality with the GORE in the design of territorial policies, without this necessarily implying the transfer of services. That is, the GORE/CORE is expected to play a crucial role in making decisions regarding resources and the focusing of programs and policies, as well as having power in intergovernmental commissions on key issues such as transport, public spaces, rural and urban roads, and parks, among others.

From the analysis of the experience of the pilot projects in the Metropolitan Areas of La Serena-Coquimbo, Greater Santiago, Greater Concepción, and Puerto Montt-Puerto Varas, it seems that the biggest facilitator in the implementation of the pilot projects is the leadership and commitment of the top regional authority (Intendant). This is evident in the case of Concepción, where the leadership of the Intendant translated into validating and empowering the coordinator of the pilot projects in the internal structure of the GORE, the related services, and the metropolitan municipalities.

A second common denominator of the pilot projects that have been the most effective has been taking strategic regional issues and leading them. This has helped consolidate the work of the future metropolitan departments as new technical and coordinating units. In this sense, the DAMs should advance towards the appropriation of existing powers, the request of new competencies, and preparation of technical-political teams.

APPROPRIATION OF EXISTING COMPETENCIES

Regions have Regional Development Strategies (Estrategias Regionales de Desarrollo (ERD) which can result in plans for promotion, mobility and transport, environment, and/or the social integration of areas that are lagging. They also have regulatory capacities when they form part of plural committees with other institutions (from the coastline to public security). On the other hand, they can more proactively promote and guide various areas of competency with the FICs, development corporations, cooperation agreements, their work with municipal associations, cultural funds, and agreements with universities, among others. The case studies of national associative experiences outline metropolitan initiatives created and executed within the existing administrative structures in Chile.

REQUEST OF NEW COMPETENCIES

In this regard, the Metropolitan Area pilot projects have been useful to the GOREs, anticipating the process of transfer of competencies that started in 2018. Some GOREs have already requested powers associated with transport (RMS), indigenous policy (Araucanía), metropolitan matters (BioBío), or internationalization (Coquimbo). Moving forward, there is potential to work on productive promotion; regional guidance of secondary roads and urban paving; transport management (subsidies and systems); and decontamination plans and management of water basins and the coastline (which can be seen in the aims of various PROTs).

TECHNICAL-POLITICAL TRAINING

Drawing from the experience of the pilot projects, there is a lack of technical capacity in the design of projects to obtain the support of strong investment sources, as well as professional teams in mobility, environment, and social development, which is where the biggest metropolitan gaps lie. This deficiency can be strengthened with professional capital and alliances with the social, private, and university worlds, which requires the GORE to work alongside the CORE (which should be considered as key to the metropolitan governance system).

Alongside the new divisions of the regional governments, the SUBDERE developed pilot projects on productive promotion and social development that show there are opportunities for the GOREs and suggest the incorporation of talks, debates, and policies on metropolitan issues given the urgency of the competitiveness of global and emerging metropolises, along with their issues of inequality, social integration, and public security.

EXAMPLE CASE: METROPOLITAN MANAGEMENT EXPERIENCE IN GREATER CONCEPCIÓN

In 2016, the BioBío GORE—using the declarations from the new ERDs as a basis—began to experiment with the installation of metropolitan competency within its administration. It thus created the first DAM, based on the current functions of law N° 19,175 (art. 109 and 110) and supported by the SUBDERE to finance the hiring of human resources. Through this process, capacities were developed for coordinated, multilevel governance and management that was received positively by the regional representatives of the ministerial agencies and the technical teams of the municipalities of Greater Concepción. Currently, the DAM is responsible for the creation of a Strategic Action Plan, which will result in a prioritized, integrated, and coordinated investment portfolio (Toledo, 2017).

The BioBío Region has prior experience with environmental issues, resulting in lessons learned and the installed capacity to coordinate following the logical leadership of the GORE. Particularly, in local terms, the technical levels of the 11 municipalities have built ties, allowing for the creation of shared priorities between the different stakeholders. During this process, the leadership of the GORE has been essential to boosting efforts of inter-sectoral and multilevel coordination through the provision of instruments such as the ERD, the PROT, and the Strategic Action Plan for the AMC, among others. The GORE has also been helpful in promoting management tools aimed at improving public efficiency through the establishment of the CORECIVYT and the Technical Committee for Regional Planning (Comité Técnico Regional de Planificación).

In this regard, its proposal for metropolitan governance recognizes and involves—in its municipal or local management processes—the regional or subnational level and the national level, represented in the regions by the various sectors. On the other hand, it considers citizen representation comprised of formally constituted organizations, academia, NGOs, and relevant productive sectors. Therefore, the metropolitan governance model proposed by the region establishes a diverse and multilevel space where important aspects of the law are incorporated. This is where the role of the elected Regional Governor (Metropolitan Governor) is key, as well as the role of the future DAM—as part of the DIPLADE—in articulating technical management (Toledo, 2017).

In addition, BioBío proposes a model of participative metropolitan management by creating a City Council. This body will be responsible for taking the concerns of the city to the political level, creating space for interaction between the two. It is recommended that it include three members of academia, three members of business organizations, two members of the COSOC, and three members of NGOs and/or professional associations. On the other hand, the model takes into consideration a technical level, which should be aimed at creating a space to consider and solve issues, in which municipalities and sectors coordinated by the DAM (in relation to the functions established in the law) interact and where the coordination of the agendas is key (Toledo, 2017).

Along with the technical level, the creation of three strategic roundtables—sustainability and environment, mobility, and competitiveness—is recommended, with the aim of following up, monitoring, and promoting each of the initiatives and projects. This governance structure also proposes a broad space for interaction, called Metropolitan Forum, which is intended to provide a meeting point between the entities that have interests in the Metropolitan Area. Finally, the design of this structure includes an execution level, where all of the stakeholders that will be responsible for executing the projects included in the Action Plan can contribute (Toledo, 2017).

GOVERNANCE MODEL OF METROPOLITAN AREA OF GREATER CONCEPCIÓN

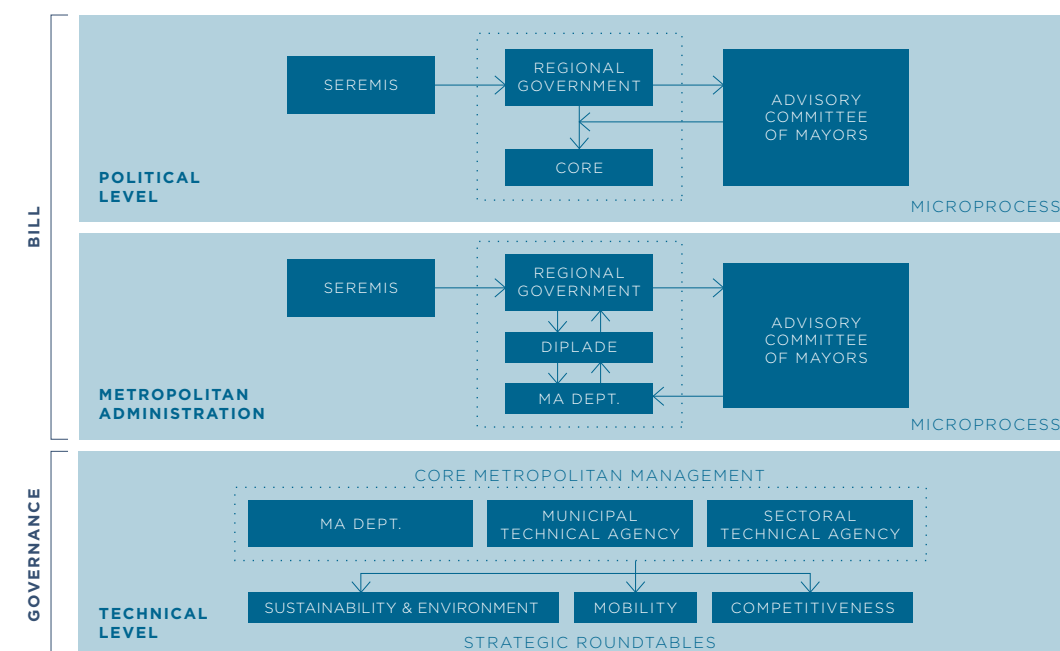


Figure 69
Shows the governance model proposed by the metropolitan team of the BioBío Region, which could serve as a practical governance model to be considered.
Source: UAM Team (Sandoval, Toledo, & Zapata)

5

RECOMENDATIONS

FOUNDATIONS OF STRONG METROPOLITAN GOVERNANCE

Enid Slack / Gustavo Carvalho

The appropriate governance structure for any Metropolitan Area depends on the legal context, the roles and responsibilities of local governments, sources of revenue, the intergovernmental context, the political strength of local leaders, the capacity of the civil service, and many other factors. Nevertheless, based on the findings from the four international case studies, plus the literature on metropolitan governance, the following basic ingredients need to be taken into account for any metropolitan governance model to succeed:

- **Metropolitan structures require political legitimacy.** Indeed, the lack of political legitimacy of metropolitan bodies has been said to be the biggest obstacle to metropolitan governance (Lefèvre, 2008). Without it, decision-making takes place outside the metropolitan structure (at the local and state or national level) because Metropolitan Areas lack an identity of their own. Direct election of municipal councilors and mayors is probably the best way to provide political legitimacy and make elected officials directly accountable to their constituents, but few examples of direct election exist around the world. The UK government has recognized the importance of directly elected mayors, for example, for cities that want to sign a city deal.
- **In unitary countries, the central government has to play a key role in giving legitimacy to metropolitan authorities.** Legislation is needed to establish the roles and responsibilities (including regulatory powers) of each level of government and their revenue sources. Legislation is also needed to ensure that metropolitan authorities have the legal capacity to implement their own policies, such as the ability to raise revenues and borrow, for example. In each of the case study countries, national legislation sets out the roles and responsibilities of metropolitan authorities.
- **As much as possible, geographic boundaries need to match the boundaries of the economic region.** If they do not, there will still be a need to coordinate service delivery and policies with neighboring jurisdictions. Moreover, the

metropolitan governance structure has to be large enough to allow it to levy taxes and user fees on a metropolitan-wide basis. The amalgamated City of Auckland, in particular, matches the geographic boundaries to the boundaries of the economic region.

- **The process of reforming the government structure needs to include all of the relevant stakeholders in the early stages of restructuring for the reform to be accepted.** Metropolitan governance arrangements have to be acceptable to the local governments involved, as well as to the central government and civil society. If they are not, it will be difficult to take on expenditure responsibilities at the metropolitan level and even more difficult to collect revenues from the constituent municipalities. Cooperation will be also problematic. Combined authorities in the UK, for example, require a process that includes public consultation and the agreement of the affected local authorities to establish it. After imposing a municipal amalgamation on Auckland, subsequent legislation calls for a referendum on future restructuring.
- **Adequate staffing and training are required to ensure the local institutional capacity that is needed to deliver services and formulate policy for the Metropolitan Area.** It is one thing to create structures to make policy decisions and deliver services and another to be able to implement these decisions. This requirement is one that has not been particularly well met in the case studies because central governments have generally not provided the resources necessary for adequate staffing and training.
- **It has to be clear to all parties who is responsible for what and how they pay for it.** There needs to be clear assignment of expenditure responsibilities and revenue sources between federal, state, and local governments, and also between the metropolitan tier and local tiers in a two-tier system.
- **Revenues need to match expenditure responsibilities at the metropolitan level.** For example, user fees are appropriate to pay for services that have characteristics of private property, where it is possible to identify the beneficiaries and exclude those who do not pay (e.g. water, garbage collection, transit); property taxes are appropriate for services that have collective benefits, but where it is difficult to identify individual beneficiaries (e.g. parks, street lighting, policing); income taxes are called for where services are redistributive in nature (e.g. social assistance, social housing); and intergovernmental transfers are appropriate where services extend beyond the boundaries of the Metropolitan Area (e.g. cultural facilities, roads). In most of the case studies, depending on which services the metropolitan level delivers, it may be possible to levy user fees and collect taxes directly or from

the lower tiers. The property tax is the only source of tax revenue at the local level in the UK and New Zealand, while metropolitan governments in Colombia and South Korea have access to other tax sources as well.

- **Metropolitan Areas need fiscal autonomy (responsibility and ability to manage local services and to levy taxes and other revenues).** The ability to self-finance is a critical factor in determining which metropolitan institutions succeed and which end up bickering between competing financial supporters. Fiscal autonomy for a Metropolitan Area means that it will be able to raise revenues on its own as much as possible and rely less on intergovernmental transfers. Only with fiscal autonomy will the metropolitan structure be able to control its own destiny and not have to rely on transfers from other levels of government, transfers that are generally not stable and predictable and which often come with strings attached. Local authorities in the UK and South Korea depend heavily on transfers from the central government, which limits their local fiscal autonomy, while local authorities in New Zealand and Colombia rely more heavily on local taxes.

RECOMMENDATIONS FOR GOVERNANCE IN METROPOLITAN AREAS

Research Team

The following recommendations arise from the analysis of the international, national, and pilot case studies of metropolitan governance presented in this publication. They take into account the fact that the creation of metropolitan governance is a process that is built over time with the participation of multiple stakeholders and that there are inherent tensions involved in the governance of complex and fragmented cities whose main challenge is to foster the best possible conditions for their citizens' quality of life. These recommendations are aimed at contributing to a more effective, efficient, and coordinated governance of Metropolitan Areas in Chile, which—as from 2018—will have the chance to work on more integrated views about their territories.

1. GENERAL PRINCIPLES FOR METROPOLITAN GOVERNANCE MECHANISMS

1.1

By establishing a legal and regulatory framework, the central government plays a key role in granting legitimacy to metropolitan authorities. The government should set the roles and responsibilities (including regulatory powers) of metropolitan authorities, allowing them to implement their own policies and increase their own revenue sources, including access to different types of debt¹.

1.2

Central government legislation must promote—or, at least, not discourage—the creation of metropolitan authorities. Financial incentives can be used to encourage their acceptance within local governments that may feel they are losing something by becoming part of a metropolitan authority.²

1.3

Central government legislation must include holding elections for metropolitan council members and mayors (whether elected directly by voters or chosen indirectly among council members and mayors) to provide political legitimacy and make the elected candidates report directly to their electors.³

1.4

Local authorities interested in coordinating the delivery of services across municipal boundaries should work together on a proposal to create a metropolitan authority.⁴

1.5

The central government should establish the requirements for the process of creating Metropolitan Areas. Local authorities interested in forming a Metropolitan Area must comply with the process established by the central government. The regional government (GORE) must guarantee that the proposal meets the requirements and follows the correct process.⁵

1.6

Local authorities must submit a written proposal giving solid reasons for the creation of a Metropolitan Area. This proposal should also suggest a new government structure, among other options, along with the respective pros and cons. Carrying out public consultations with all the parties involved is advisable at this point. The proposal must be modified to reflect the results of the consultations. Consensus between the local authorities that will constitute the Metropolitan Area must be reached to move forward with the creation of a metropolitan authority.⁶

1.7

The central government must help provide metropolitan authorities with adequate staff and training to guarantee local institutional capacity that is sufficient to deliver services and formulate policy for the Metropolitan Area.⁷

1.8

There needs to be a clear assignment of expenditure responsibilities and revenue sources between the national government, regional governments, Metropolitan Areas, and local authorities. In short, it has to be clear to all parties who is responsible for what and how they pay for it.

1.9

The central government must ensure that Metropolitan Areas have sufficient fiscal autonomy (responsibility and ability to manage local services and levy taxes and other revenues)⁸

2. RECOMMENDATIONS FOR THE IMPLEMENTATION OF THE METROPOLITAN AREA LAW IN CHILE

2.1

Regional governments, by way of their new Metropolitan Area Departments (DAM), will be responsible for promoting the Integrated Metropolitan Plan (Plan Integrado Metropolitano, PIM) that will serve as a metropolitan agenda, unifying different visions and existing project portfolios in the various jurisdictions and sectors, and identifying and creating a regional instrument that is validated and consolidated.

DAMs should take charge of the necessary coordination to create a PIM that becomes a work plan that is locally and transversally validated by the main technical, political, and social stakeholders. This instrument should allow the organization of a prioritized and previously validated project portfolio in different spheres of decision (public and private). On the other hand, considering that planning instruments such as Regional Development Strategies (Estrategias de Desarrollo Regional, EDR) are often non-binding, it is important to integrate these instruments in a long-term vision that is coherent and shared. In Chile, it is now possible to identify various examples that can be used as a basis for the creation of a PIM.⁹ These cases of coordination have been particularly successful in reacting to specific situations or demands. Therefore, this underlines the need to have a clear metropolitan governance structure that assigns responsibilities and facilitates this type of process.

2.2

Regional governments should institutionalize metropolitan governance through specific bodies responsible for the design, monitoring, and implementation of the PIM.

It is advisable to establish a set of entities that address different levels of the metropolitan vision, decision-making, and management. These three bodies could be coordinated by the GORE by way of its DAM, and are as follows:

Metropolitan Technical Committees (Comités Técnicos Metropolitanos): Technical work authority for metropolitan management, coordinated by the DAM with a specific sectoral focus on the GORE's divisions, together with municipal technical teams of the Metropolitan Areas. Technical committees will be able to converge in sectoral task teams such as infrastructure and transport, urban planning, environment, social development and security, promotion and industry, and risk management, among other metropolitan topics. These committees could focus on planning and financial management. Regional management, through the DAM's head, should ensure that the heads of division within the GORE lead the metropolitan technical committees, assigning human resources, technical and political mandates, and budgetary disposition for the joint management of plans, policies, and projects.¹⁰

Metropolitan Governing Board (Directorio Metropolitano): Authority through which the Regional Governor, in his or her role as the metropolitan authority, brings together the technical and political directors to supervise the progress of the different plans and assess the daily work reports of the Metropolitan Technical Committees. The Metropolitan Governing Board could hold monthly meetings to reach agreements and conduct negotiations regarding specific topics between the GORE/CORE, mayors, and central agencies or ministries.¹¹

Metropolitan Council (Consejo Metropolitano): This Council must be led by the Regional Governor and comprised of representatives from the GORE, the municipalities and central ministries involved, social stakeholders organized in civil society councils, universities and research centers, the private

sector, NGOs, and civic associations. The Council should hold meetings at least every three months, as it is crucial in the process of participation and legitimation for the creation of the PIM, its supervision, follow up, and promotion.

2.3

The institutionalization of metropolitan governance will facilitate the creation of a PIM through platforms for multi-stakeholder and effective participation.

The PIMs should seek the participation of as many of the stakeholders as possible who have powers and key interests in the Metropolitan Areas. It is also advisable to summon all the authorities that are related to and interested in delivering services that extend beyond administrative boundaries at national, regional, and district level, through platforms for effective participation. Creation of PIMs should allow the prioritized requirements of the Metropolitan Areas to be met through specific projects and with provision of services. Participation of local stakeholders should be promoted in the identification, planning, and implementation stages. To facilitate this process, it is advisable to set up a specific place of governance for its design, implementation, and monitoring, such as the proposed Metropolitan Council.¹²

2.4

During the process to create a PIM, the DAM should identify and select a portfolio of specific programs and projects to be implemented in the short, medium, and long term to promote a coordinated governance model that has a metropolitan impact.

One of the advantages of having an institutional structure (GORE, through its DAMs) capable of promoting the creation of a vision and a PIM is that it makes it possible to identify both public and private sectoral projects that require coordination

and integration to achieve the vision established. The creation of this portfolio should entail collecting information about existing plans and projects in the public sector and identifying private sector projects from service companies (sanitation, electricity distribution, etc.) and information about prioritized urban initiatives and interventions at regional level, such as ports, business centers, universities, etc. For the creation of PIMs, it is suggested that the project agendas and portfolios that have already been validated be integrated into the National Investment System with the objective of initiating actions and specific short-term investments, demonstrating the value of coordinated management on a metropolitan scale, through works designed to inspire trust and confidence.

2.5

DAMs must be formed by proficient technical teams that have experience in metropolitan governance with stable operational resources.

It is advisable for DAM teams to be comprised of professionals who have experience in disciplines related to the specific area and in the design, management, and implementation of projects. Teams must be technical, guaranteeing the quality of the services and operational tools at the metropolitan scale, with long-term management skills and independence from electoral changes. The addition of three designated sectoral representatives is recommended to support the work assigned to the Metropolitan Technical Committees (infrastructure/transport, planning, environment, social development/security, economic development/promotion, risk management). The teams may be complemented with a mix of professionals from other public service areas. The advantage of having a technical office for these purposes is that it can become an inter-sectoral and multi-level coordinating entity that does not compete, but complements existing functions due to the fact that it generally produces convergence and consensus at the technical level.

2.6

The GORE should promote the continuity of technical teams responsible for the implementation of projects.

Given that these are complex projects that will require implementation periods exceeding the four-year governmental terms, it is essential to ensure the continuity of each initiative and project despite changes in government. One way of doing this is by guaranteeing the continuity of technical teams and maintaining the social and political legitimacy of the projects.¹³

2.7

Incentives and conditions for training and capacity-building for metropolitan issues must be created by the central government.

Considering the experience gained in the diploma program in Management of Metropolitan Areas and the course on Indicators of Territorial Well-being, throughout this project it is recommended to create continuous training and education programs related to metropolitan issues, aimed at public officials in the different levels of metropolitan coordination. It is also advisable to develop a capacity-building program for metropolitan management to be taught in SUBDERE, ministries, GOREs, and municipalities with the aim of recruiting or maintaining a staff that guarantees the quality of the services provided. These initiatives should be focused on the technical staff, but also on the executives who are responsible for making decisions regarding Metropolitan Areas.

2.8

Through the Committee of Mayors (Comité de Alcaldes), the GORE must explore and ensure different forms of municipal representation in the institutionalization of metropolitan governance.

It is advisable to go into depth on the forms of representation and regulations guaranteeing municipalities' participation in the creation of agendas and plans, prioritization of investment, provision of professionals, and co-management of services.¹⁴ Para lo anterior, y considerando la heterogeneidad de las Áreas In order to do this, and considering the heterogeneity of Chilean Metropolitan Areas, where there are examples of bi-district, multi-district (three or more districts), and pluri-district areas (highly complex, such as Greater Santiago), the following is suggested:

Bi-district Metropolitan Areas: In Chile, the districts that will comprise future Metropolitan Areas (La Serena–Coquimbo, Puerto Montt–Puerto Varas, Iquique–Alto Hospicio, Temuco–Padre Las Casas, and Chillán–Chillán Viejo) have great influence. Therefore, it is important to recognize that, in these cases, it is crucial to promote a transversal relationship for interaction between the elected Regional Governor and the Mayor/s.

Multi-district Metropolitan Areas: This concept refers to those areas that contain three or more municipalities. It is suggested that the Regional Governor work in coordination with the chair of the Committee of mayors and bring together the municipalities depending on the specific metropolitan issues addressed in the Metropolitan Area.

Pluri-district Metropolitan Areas: It is advisable to employ municipal association mechanisms as governance and management instruments for multi-district Metropolitan Areas. It is possible to point to instrumental municipal association initiatives—the objective of which is to make delivery of services more efficient—as well as experiences aimed at the promotion of strategic links between municipalities that share common issues.¹⁵ These municipal associations could focus on reaching agreements on agendas, priorities, programs, and investments, and could have a rotating representative at the political and intergovernmental levels, such as the district director, to attend metropolitan technical committees. This would allow the optimization of the use of inter-municipal associations through agreements.

2.9

Voting powers for mayors with no specific veto.

Although the law considers a Consulting Committee of mayors, the participation of mayors must be strengthened and promoted, as they are key stakeholders for metropolitan governance. It is essential to protect the governability of the spaces for association defined in the proposed metropolitan model, avoiding scenarios in which a Mayor could veto key policies, such as inter-district macro planning, infrastructure and transport investment plans, possible shared waste and recycling policies, or something as simple as the interconnectivity of bike lanes or basic inter-district roads.

A pragmatic model that might work is one that proposes that a two-thirds majority of the mayors could mandate the elected Governor and the Regional Council to consider the district recommendations. This implies, for example, that in the case of Greater Santiago, 20 out of the 30 potential mayors of the Metropolitan Area would have to be in opposition to produce a veto or, in the case of Greater Valparaíso and Greater Concepción, six out of eight districts could agree to reject a measure or demand that the inter-district position be taken into consideration.

A system of checks and balances like that proposed would imply the obligation to hold joint meetings between the Committee of Mayors and the Regional Council until a controversial plan or policy can be approved by simple majority, in order to avoid a veto from both councils.

2.10

Metropolitan management of services.

Despite the fact that the law explicitly describes the planning roles and project approvals for metropolitan structural improvements, it is essential to ensure the flexibility and powers

of the metropolitan government in managing, improving, and increasing the coverage of services. The following measures are suggested for metropolitan management at regional level:

- A. Ensure, by regulation via supreme decree, the compulsory nature of key public agencies by working regularly with municipalities and the GORE, reaching agreements on the main plans and programs. Accordingly, the role of the Housing and Urban Planning Service (Servicio de Vivienda y Urbanización, SERVIU), urban road administration, and river basin management (Dirección de Obras Hidráulicas, DOH), among other authorities, is crucial.
- B. Achieve subnational equity in the boards of directors of public companies and transport authorities (subways and trains in the areas surrounding Santiago, Valparaíso, and Concepción, and those that could be created in the future).
- C. Create an explicit system of guaranteed municipal services—such as that proposed by the Presidential Commission in 2014, which was standardized by the SUBDERE in February 2018—setting a deadline for the system to transfer responsibilities at a metropolitan level when the municipality is incapable of providing the service. This would allow for a flexible and effective system capable of acting in the public interest. The creation of this system is essential for the waste cycle (refuse, garbage dump, final disposal), public lighting, and maintenance of streets, sidewalks, and parks.
- D. Allow for the creation of new services or metropolitan companies with broad expertise to explore areas such as environment, public safety, transport, publicity and major events, and integrative social programs.

3. RECOMMENDATIONS RELATED TO FINANCING¹⁶

3.1

Explore the strengthening of Programming Contracts¹⁷ as medium-term financing instruments for complex projects.

Once the prioritized project portfolio has been created for the development stage, it is recommended that the Programming Contracts be strengthened to guarantee the medium-term financing of complex projects¹⁸

3.2

Programs could be merged in the case of governance of Metropolitan Areas, giving more importance to coordination and seeking systems of co-responsibility in the sustainable financing of plans and policies to improve Chilean metropolises.¹⁹ In order to do this, it is proposed that the three levels of government (central, regional, and municipal) should be co-responsible for the costs of metropolitan governance and management, thus opening up new spaces for mixed funding through public and private partnerships. The following elements should converge in order for metropolitan governance and management to work:

Central contributions: Contributions from the central government could be institutionalized by a law on regional income, the formalization of a metropolitan section in the Annual Budget of the Republic, or by a multi-annual fund from the SUBDERE. This could be complemented in the regulations for the operation of the GOREs, obliging the central agencies to agree and transfer resources for metropolitan governance, particularly in the cases of the ministries of Housing, Public Works, and Transport. This should be incremental and

financially sustained by the system to transfer responsibilities in effect in 2018-2022 and thereafter based on the new requests for powers by the regions, most with urban areas with populations of more than 250,000.

Regional contributions: Currently, GOREs already allocate significant resources to intermediate road management in cities and pre-investment studies in transport, and even contribute to the expansion of the subway system through Programming Contracts, as in the case of the Regional Council (CORE) in Santiago Metropolitan Region. If a regional income law is created, these contributions could grow in parallel with investment in rural and isolated areas.

Inter-district contributions:²⁰ Municipalities could agree on developing megaprojects and services with resources that are proportional to and in line with their revenues in order to generate convergence of standards in infrastructure and metropolitan services (such as parks, public lighting, waste collection and treatment, and bike lane systems, among others). This could be possible through: 1. Economies of scale with current district services to promote their efficiency and efficacy; 2. Municipal contributions, reassigning priorities by agreement; 3. Greater municipal revenues through better collection of land tax and waste recollection fees; 4. The implementation of better and more timely fees for empty lots and zones affected by subway stations, or other gains in the value of urban land.

Contributions from companies and public-private partnerships: Chilean metropolises have seen significant improvements in their mobility systems through the system of user fees for urban highways: Costanera Norte and Américo Vespucio in Santiago, the Marga-Marga highway between Villa Alemana and Viña del Mar, and the Lota-Coronel bypass in Greater Concepción. In this context, there could also be exploration of other areas of public-private cooperation by creating efficient and transparent mechanisms to make respectful transformations to the agreed plans and which allow improvements in infrastructure and services.

These mechanisms are used in various parts of the world with positive results. Examples include the private contributions for significant improvements made by municipalities and/or GOREs; the mitigation agreements for the environmental and traffic impacts of megaprojects or shopping malls; the possibility of improving specific densities in zones with relevant infrastructure projects for development; or co-management or co-financing of new transport systems, recycling schemes or convention centers in urban areas.

In this regard, the four-part financing system that is proposed could be complemented with contributions from private companies through the law of donations, as well as by the law on public space contributions and law N° 20,958, which establishes a contribution system replacing the impact studies on the Urban Transport System (Sistema de Transporte Urbano, EISTU) with a new system based on mitigations considering that all real estate projects, whether private or public, generate external effects in their surroundings.

3.3

Move forward in the creation of integrated management of the property tax

As a first step for the fiscal adjustments required for effective metropolitan management, it is recommended to move toward integrated management of the property tax in metropolitan zones, including the Internal Tax Service (Servicio de Impuestos Internos, SII), the GORE, and the municipal records office in this management.

Notes

1 Without the necessary mandates or powers to design and implement policy decisions at a metropolitan level and without adequate resources, the metropolitan authority will not be able to provide the services requested. In Colombia, for instance, the law allows and encourages metropolitan governance agreements.

2 Incentives are a good way of promoting cooperation, but they should not be used to create metropolitan authorities that have no powers, responsibilities, or the capacity to generate revenues. Financial incentives should be used for the real coordination of service provision and the formulation of policies. In the UK, for example, local authorities that form combined authorities can reach agreements with the national government. These transactions allow them to collect additional own-source revenues and receive investment funds from the national government.

3 Direct election is crucial to providing metropolitan structures with political legitimacy and accountability. In the UK, the central government is strongly promoting the election of Mayors for combined authorities that want to subscribe to city deals. In Colombia, Metropolitan Areas are governed by a metropolitan council formed by Mayors and representatives of the municipal councils. Locally-elected politicians are responsible for selecting their expenses and revenues.

4 There is a high likelihood of a bottom-up process driven by the local authorities and the community being more successful than a top-down approach pushed by the central government. The support of the interested parties, including local authorities, the business community, civil society, among others, is crucial to the success of a metropolitan authority. The process for the creation of the Auckland Council in New Zealand was very hierarchical and received little political and local community support. Although in Colombia the decentralization process started from the top down, Metropolitan Areas can be created by local initiatives to address local needs. However, the participation of the central government is still necessary, even when the process has been promoted by local communities and authorities.

5 In the case of the UK and Colombia, the central government is responsible for establishing the process for the creation of metropolitan authorities. Although citizens and local governments in Colombia are allowed to create a Metropolitan Area, they must comply with the steps prescribed by the Law of Metropolitan Areas.

6 The process of reforming the government structure is almost as important as the result itself. It must include all of the relevant stakeholders in the early stages of restructuring for the reform to be accepted. Metropolitan governance arrangements must be acceptable to the local governments involved, as well as to the central government, regional government, and civil society. If they are not, it will be difficult to take on expenditure responsibilities at the metropolitan level and even more difficult to collect revenues from the constituent municipalities. Cooperation will also be problematic. See the UK and Colombia case studies for details about the process.

7 It is one thing to create structures to make policy decisions and deliver services and another to be able to implement these decisions. Capacity is usually a problem for metropolitan authorities, partly because the central government does not provide resources for planning, management, or operative costs of the new roles. Institutional capacity has been a problem in Colombia and other international case studies. For example, in the

case of New Zealand, co-governance means that the local councils do not have resources of their own. It is the Auckland Council that provides staff and advisory services to the local councils. Co-governance calls into question the capacity of local councils and it may obstruct collaboration. In the UK, combined authorities must rely on the staff of lower tiers. It is expected that mayors and combined authorities share offices and staff with the local authorities and transport authorities and local economic associations.

8 The ability to self-finance is critical in determining which metropolitan institutions succeed. Fiscal autonomy for a Metropolitan Area means that it will be able to raise revenues on its own as much as possible and that it will depend less on intergovernmental transfers. Only with fiscal autonomy will the metropolitan structure be able to control its own destiny and not have to rely on transfers from other levels of government. These transfers are generally not stable or predictable, and often come with strings attached. Compared to most major cities in the world, London, for example, has few sources of revenue, and other cities in the United Kingdom have even lower local fiscal autonomy. They rely heavily on subsidies from the central government. Local governments in New Zealand, on the other hand, depend largely on self-financing and less on subsidies.

9 Examples of this are: CREO Antofagasta, Calama Plus, Santiago Resilience Strategy, Plan Regulador Intercomunal de Rancagua (1993-1995) or the PRBC18 Concepción.

10 For its creation, it is advisable to implement decree N° 34 of the Ministry of Housing and Urban Planning (Ministerio de Vivienda y Urbanismo, MINVU), which proposes the creation of an Interministerial Commission for City, Housing, and Territory (Comisión Interministerial de Ciudad, Vivienda y Territorio, COMICIVYT). This decree states that Regional Commissions for City, Housing, and Territory (Comisión Regional de Ciudad, Vivienda y Territorio, CORECIVYT) can be established to work in coordination on the development of the topics and definitions that affect urban and territorial development in Chile. Although this mechanism has been available since 2015, it has yet to be implemented for metropolitan governance and planning issues.

11 Decree N° 34 states that it is possible to create a technical secretariat to implement plans and programs arising from the COMICIVYT.

12 The CREO Antofagasta, Santiago Resilience Strategy, and the PRBC18 case in BioBío provide examples of the coordination of different key stakeholders.

13 In the cases of CREO Antofagasta and PRBC18, a highly empowered and independent technical office was effectively established. This office was able to guarantee the continuity of plans and programs regardless of sectoral or political changes or transitions.

14 The Law for Strengthening the Regionalization (Ley de Fortalecimiento de la Regionalización, N° 21.074) of the country considers a Committee of Mayors that would primarily be consulted for the development of plans.

15 This way, Santiago, for example, could create inter-district municipal associations to send representatives to the metropolitan governance instances proposed (council, board of directors, and committees). In the case of the Metropolitan Region, the Ciudad Sur association is already operating. Additionally, many ministries have municipalities gathered as intervention spaces. Besides this administrative instance, there are parliamentary representation spaces and COREs.

16 Details of the financing component exceed the scope of this study. However, it is considered relevant to provide recommendations on this topic as it is essential for the success of metropolitan governance.

17 According to the Constitutional Organic Law for Regional Government and Administration N° 19,175, Programming Contracts are formal agreements between one or more regional governments and one or more ministries that define the actions related to the investment projects that those authorities agreed to carry out within a certain period of time. These contracts should specify the project/s in which the responsibilities and obligations of the parties apply, along with the goals to be achieved, evaluation procedures, and rules for revocation. Where appropriate, Programming Contracts could include clauses that allow the re-allocation of resources between projects. Other public or private, national regional, or local entities could be incorporated into the contracts if their contribution is considered necessary for greater efficiency in implementing the Programming Contract.

18 For instance, in the case of the PRBC, as well as other successful examples of implementation of complex projects, such as the Valparaíso Metropolitan Train or the Greater Concepción Multimodal Transport Plan, Biovías, Programming Contracts were key to making their design and implementation viable. This is why it is advisable that projects, groups of projects, or prioritized services have this tool available and that it be respected by the different participating stakeholders.

19 Chile does not have a regional and/or metropolitan revenue law, which results in a very low autonomous subnational taxation, at just 0.9% of GDP, basically comprised of municipal taxes, primarily property tax—from which 80% of homes are exempt—, vehicle registration certificates, and business licenses. Some regions receive low percentages of casino taxes, and mining and fish-farming permits, with both their administration (of own resources) and investments depending on the national budget and ministerial funds.

20 In this area, it is recommended to consider the Decentralization Presidential Commission proposal that in 2014 suggested that municipalities could assign a percentage of their incomes. This can be possible in an incremental way to make quality convergence in inter-district services.

6

ANNEXES

APPROVED LAWS IN SUPPORT OF METROPOLITAN GOVERNANCE

Ignacio Cienfuegos / Esteban Valenzuela

The election of the first generation of regional governors was set for 2020 after the final processing of Law N° 20,990, which took place in December 2017. It also established a three-year term for regional councilors elected in 2021. The idea behind this is that the four subnational elections—for mayors, councilors, governors, and regional councilors—coincide in 2024. The new legal framework differentiates between the role of regional governors and presidential delegates. Additionally, the Law to Strengthen Regional Governments (N° 19,175) was approved in December 2017 and enacted in February 2018, allowing the creation of new divisions, a system to transfer competencies, and metropolitan governance at a subnational level.

Law N° 20,990: Popular Election of GORE Executive Body

Law N° 20,990, which introduces the popular election of the GORE's executive body, establishes in its single article a series of amendments to the Political Constitution of the State that mainly address three aspects:

- It introduces the election of a Regional Governor by direct universal suffrage. The elected Governor must have a majority of at least 40 percent of valid votes
- It modifies the administrative political structure of the region and its bodies to prepare the new regional organizational structure for the subsequent inclusion of the new process to transfer competencies
- A phrase in article 114 of the Political Constitution of the State is changed from “will be able to transfer” to “will transfer,” resulting in a constitutional mandate to move forward in the process transferring competencies

The new regional structure is organized as follows:

Administration and governance of the region is the responsibility of the GORE, comprised of the Regional Governor and the Regional Council, which will have legal status under public law and its own assets. The Regional Governor will be the executive body of the GORE, chairing the council and performing the functions and powers assigned by the Constitutional Organic Law. The Regional Governor will also be responsible for the coordination, monitoring, and oversight of public services depending on or related to the GORE. Additionally, once in office, the Regional Governor will acquire the same functions and powers assigned by the law to the Intendant as the executive body of the GORE.

The Regional Council has a regulatory, decision-making, and controlling role within the GORE's scope of power. It is responsible for enforcing regional public participation and exercising the responsibilities assigned by the Constitutional Organic Law (this definition was established during the 2009 Constitutional Reform, Law N° 20,390). Meanwhile, the reform introduced in Law N° 20,990 sets oversight powers for the Regional Council regarding the GORE's actions and states in article 113 that:

In order to exercise out this power, the Regional Council, with a third of the votes of the regional councilors present, will be able to adopt agreements or suggest observations to be communicated in writing to the Regional Governor, who must provide an informed response within 30 days. The remaining controlling responsibilities of the Regional Council and how they are exercised will be determined by the respective Constitutional Organic Law. Notwithstanding the foregoing, any regional councilor may request the necessary information from the Regional Governor or regional presidential delegate for this purpose (2017).

Each region will have a Regional Presidential Delegation (Delegación Presidencial Regional), chaired by a regional presidential delegate who will be responsible for carrying out the functions and responsibilities of the President of the Republic in the region. The delegate will also represent the President of the Republic in the territory under their jurisdiction and will be appointed and removed freely by him or her. The regional presidential delegate will carry out his or her functions in accordance with the laws and the orders and instructions of the President of the Republic. Additionally, they will be responsible for coordinating, overseeing, and controlling public services created by the law for the fulfillment of administrative functions operating in that region that depend on or are related to the President of the Republic through the ministries. There will be a Provincial Presidential Delegation in each province, which will be an entity territorially independent of the Regional Presidential Delegation. These entities will have non-executive functions, as executive functions belong to the GORE.

Law N° 19,175: Strengthening the GOREs

This law strengthens the GOREs by establishing new divisions and scopes of management and governance (Promotion and Industry, Infrastructure and Transport, and Social and Human Development). In regions with Metropolitan Areas—with 250,000 or more inhabitants distributed in two or more districts in a single territorial area—the law establishes DAMs within the GORE, along with an open and flexible system of delivery of new competencies by way of a presidential act or the request of the GOREs themselves. As a decentralization measure, the law establishes a first stage of transfer, aimed at generating capacities and expertise in the region, and a second in which the relevance of the creation of public services mandated by law will be evaluated on a case-by-case basis, according to the needs and particularities of each territory.

Mechanism to Create Metropolitan Areas

One or more Metropolitan Areas may be formed in each region. They will be administered by the GORE and their task will be to coordinate public policy in an urban territory. Metropolitan Areas will be constituted ex officio or by request from the GOREs after prior consultation with the mayors. Metropolitan Areas will be constituted by via a Supreme Decree from the Ministry of Interior and Public Security, and must be endorsed by the Minister of Finance and the heads of the corresponding ministries associated with the competencies granted. The GORE may request that the Budget Department (Dirección de Presupuestos, DIPRES) create a Metropolitan Investment Fund, whose financing will come from the regional investment budget program.

Metropolitan Competencies of the GOREs

It will be possible to request metropolitan competencies from two sources: the GORE or the President of the Republic. In the case of the GORE, among other aspects, it will be necessary to specify, along with reasons for its formation, the districts that will constitute the Area, the number of inhabitants, and a description of the shared areas that will be part of it.

When requesting competencies from the President of the Republic, it will be necessary to specify which competencies will be transferred to the GOREs, temporarily or definitely, in areas such as transport, investment, housing, environment, and public works, which are fundamental for the effective administration of the Area being formed. The resources provided according to the transferred competencies can only be delivered to the Metropolitan Area administered.

Before March 2022, competencies will only be transferred via presidential order. After that, for every competency transfer requested, it will be necessary to conduct a one-to-two-year trial, overseen by the ministry or central public system.

After the trial has been completed, the transfer process will be assessed and an assessment will be carried out. If the report shows negative results, the sector and the region will work on the necessary corrections and rectifications to achieve the goal of the transfer. The transfer process will be reported to the Chamber of Deputies and the Senate every six months.

Basic Competencies of the GOREs in their Metropolitan Areas

The new metropolitan competencies are aimed at strengthening the planning and guiding role of the GORE and its territorial development policies around three main sectors: transport, land use, and environment. Specifically, by sector, GORE's will be able to:

Transport: Approve the Metropolitan Urban Transport Master Plan (Plan Maestro de Transporte Urbano Metropolitano) and its amendments as proposed by the SEREMI of Transport and Telecommunications, as well as the direction of traffic on inter-district urban roads in coordination with the SEREMI of Transport and Telecommunications.

Land use: Approve the metropolitan or inter-district regulatory plan and amendments, and the inter-district investment plan for mobility and public space, and amendments, which will be prepared by the SEREMIs of Housing and Urban Planning and Transport and Telecommunications, in accordance with the provisions of the General Law of Urban Planning and Construction (Ley General de Urbanismo y Construcciones). The Regional Governor will have to send the aforementioned instruments to the Regional Council after prior consultation with the Committee of mayors.

Environment: Prior to the approval of the prevention or decontamination plans involving a Metropolitan Area, the Ministry of Environment will have to consult with the GORE. The law also established that the GORE can take on—totally or partially—the collection, transport, and/or final disposal of waste in Metropolitan Areas, as long as it is agreed upon by the Area's respective municipalities. The GORE will also need authorization from the Regional Secretariats of Housing and Urban Planning, Environment, and Health.

In these cases, the Area's municipalities will transfer to the regional government the cleaning fees collected that correspond to the tasks undertaken by it—either totally or proportionally—in accordance with what is established in the respective agreement. If a Mayor fails to comply with this duty, he or she faces the possibility of being sanctioned by the regional electoral board for abandoning their duties or by the enforcement of other disciplinary measures.

Finally, if the municipalities involved fail to reach an agreement, a transitory measure is recommended, in which the regional government will have to define—before the Regional Land-Use Planning Plan comes into force—the location of sanitary landfills, after a study is conducted in coordination with the Regional Secretariats of Housing and Urban Planning, Environment, and Health.

Advisory Committee of Mayors

The law proposes the formation of an Advisory Committee of mayors, chaired by the Regional Governor, which will have to hold a meeting at least once every six months to go over the administrative status of the Metropolitan Area. The respective mayors will be able to formulate proposals for the corresponding administration through this body.

The agreements and proposals formulated by this Committee will have to be approved by a majority of votes of the mayors or their representatives. Attendance will be compulsory for mayors of the districts that are part of the Metropolitan Area. If they cannot attend, they will have to appoint someone from the respective municipality to attend in their place. Attendance of the Advisory Committee will not give a right to an allowance.

The Regional Government will be responsible for issuing the rules for the summoning and functioning of the Committee, among other topics.

Metropolitan Area Departments (DAM)

The DAM will support the regional government in the governance and management of Metropolitan Areas by coordinating and interacting with the administrative bodies of the central administration and the metropolitan municipalities. For example, this capacity will involve coordination with the SEREMI of Transport and Telecommunications to create the Metropolitan Urban Transport Master Plan and define the direction of inter-district urban roads, issuing reports regarding their consistency with other metropolitan plans. The DAM also acts as an executive secretariat to the Advisory Committee of mayors, which implies providing support for the analysis of plans that have an impact on the Metropolitan Area, the delivery of public services on a metropolitan scale—such as housing, transport, and waste management—and actions related to air quality and local resilience.

Key Stakeholders in the System for the Transfer of Competencies

The central government, by way of the Regional Development Secretariat (Subsecretaría de Desarrollo Regional, SUBDERE), is the entity that coordinates the transfer of competencies. The SUBDERE is responsible for coordinating the Inter-ministerial Commission of Competencies, chaired by the Ministry of Interior and Ministry of Finance, along with the sectoral ministry or ministries from which regional governments request the transfer of competencies. That entity carries out an evaluation and makes a decision regarding the competencies requested and has the ability to assess the possible decentralization of a power if a GORE performs poorly.

Each GORE, with the agreement of the Regional Council, formalizes with its executive body (current Intendant and future elected Governor) the request for the transfer of competencies according to its context and policies, conducting the technical studies of management and costs in each case. With that in mind, a joint study commission is formed between the central and regional government to evaluate management aspects and the costs involved in the requested transfer of competencies. The Ministry of Finance, through the DIPRES, compares the cost studies and assigns financing in the national budget.

Sector ministries (including their collegiate bodies, such as the COMICIVYT) and the GORE discuss, agree, and supervise plans, and finance common and essential projects to fulfill the joint plan of national and regional policies. Finally, the controlling agency ensures that the agreed transfer of competencies and plans is carried out in accordance with the law and administrative regulations.

GLOSSARY

AMS: Santiago Metropolitan Area
 AMV: Valparaíso Metropolitan Area
 ARI: Regional Draft Budget
 ARPEVIH: Regional Group of People Living with HIV
 BAC: High-Risk Neighborhoods
 BBNN: National Assets
 BID: Inter-American Development Bank
 CASEN: National Socioeconomic Characterization Survey
 CC: Citizen Council
 CChC: Chilean Construction Chamber
 CCO: Council-Controlled Organisations (New Zealand)
 CE: Executive Committee
 CEDEUS: Sustainable Urban Development Center
 CES: Emerging Sustainable Cities Methodology
 CIT: Integrated Territorial Center Platform
 CNDU: National Council of Urban Development
 CNID: National Council of Innovation for Development
 CONICYT: National Commission for Scientific and Technological Research
 CORE: Regional Council
 CORECC: Regional Committee for Climate Change
 CORECIVYT: Inter-Ministerial Regional Commission for City, Housing, and Territory
 CORFO: Production Development Corporation
 COSOC: District Councils of Civil Society Organizations
 CPD: Presidential Commission for Decentralization
 CPMU: Pro Urban Mobility Commission
 CPMU: Pro Urban Mobility Presidential Commission
 CPP: Public-Private Council
 CRBC: Coastal Reconstruction Commission
 CREDEN: National Committee for Natural Disaster Resilience

CRO: City Resilience Officer
 DAM: Metropolitan Area Departments
 DIPLADE: Planning and Development Division
 DIPRES: Budget Office of the Ministry of Finance
 DOH: Water Works Department
 DTPM: Metropolitan Public Transport Division
 EFE: Chile's state-owned rail company
 EISTU: Urban Transport System
 ENAP: National Petroleum Company
 ERD: Regional Development Strategy
 FCM: Municipal Common Fund
 FESUB: Suburban Railway of Concepción
 FIA: Foundation for Agrarian Innovation
 FIC: Innovation Funds for Competitiveness
 FNDR: National Fund for Regional Development
 FOO: Field of Opportunities Workshop
 GLA: The Greater London Authority
 GLC: Greater London Council
 GMCA: Greater Manchester Combined Authority
 GORE: Regional Governments
 IAE: Education Indicator
 IAV: Green Areas Indicator
 IBT: Indicators of Territorial Well-being
 ICH: Historic Preservation Building
 ICUL: Cultural Infrastructure Access Indicator
 ICVU: Urban Quality of Life Index
 IDEP: Sports Infrastructure Indicator
 INE: National Institution of Statistics
 IPT: Territorial Planning Instruments
 IRAL: Regional Investment for Regional Allocation
 ISAL: Health Indicator
 ISAR: Regional Investment for Regional Allocation

ISER: Public Services Indicator
 ITP: Public Transport Indicator
 IVA: Added-Value Tax
 LAL: Law of Local Autonomy
 LEPs: Local Enterprise Partnerships
 LGA: Local Government Act
 LOCGAR: Constitutional Organic Law for Regional Government and Administration
 Merval: Valparaíso Metropolitan Train
 MIDESO: Ministry of Social Development
 MINVU: Ministry of Housing and Urban Planning
 MSMEs : Micro, small, and medium-sized enterprises
 MOP: Ministries of Public Works
 MTT: Ministry of Transport and Telecommunications (Ministerio de Transporte y Telecomunicaciones)
 OECD: Organisation for Economic Co Operation and Development
 SDG: Sustainable Development Goals
 WHO: World Health Organization
 GDP: Gross Domestic Product
 PIM: Integrated Metropolitan Plan
 PLADECO: Municipal Development Plan
 PMGD: Small Distributed Generation Medium
 PNDU: National Urban Development Policy
 PNTU: National Urban Transport Program
 PRBC: Coastal Rebuilding Plans
 PRBC18: Coastline Reconstruction Plan of the BioBio Region
 PRC: Municipal Regulatory Plans
 PRES: Sustainable Strategic Rebuilding Plans
 PRI: Intercomunal Regulatory plan
 PRM: Santiago Metropolitan Regulatory Plan
 PRMS: Santiago Metropolitan Zoning Plan
 PROT:
 PRU: Urban Regeneration Plans

PTA: Passenger Transport Authorities
 PUE: Strategic Urban Plan
 SMEs: small, and medium-sized enterprises
 RMS: Santiago Metropolitan Region
 RSD: Solid Household Waste
 SE: Executive Secretary.
 SECPLAC or SECPLAN: District Planning Secretariat
 SeCRO: A network of companies concerned with crisis management and resilience
 SECTRA: Secretaría de Planificación de Transporte
 SENADIS: National Disability Service
 SENAMA: National Seniors Service
 SERCOTEC: Technical Cooperation Service
 SEREMI: Regional Ministerial Secretariats
 SERNAGEOMIN: National Geology and Mining Service
 SERNATUR: National Tourism Service
 SERVIU: Housing and Urban Development Agency
 SGP: General System of Transfers
 SGR: System for the sharing of royalties
 SIG: Geographic Information System
 SNASPE: National System of State-Protected Wild Areas
 SOFOFA: Manufacturers' Association
 SUBDERE: Secretariat for Regional Development and Administration
 TMCA: Annual Growth Rate.
 UAM: Metropolitan Area Unit
 UAs: Unitary Authorities
 UE: European Union
 UOCT: Traffic Control Operations Unit
 ZCH: Historic Conservation Area

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Jorge Ducci

Economist of the Universidad Católica de Chile and Cornell University. Senior Economist in the Water and Sanitation Division of the Inter-American Bank (IDB). Previously, he worked at the IDB between 1983 and 1990 as a project economist at PRA's Infrastructure Division. Between 1990 and 1993 he was National Director of Planning of the Ministry of Public Works of Chile. Since then, until 2008, he was a partner and general manager of the consulting

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Alfredo Rihm

Civil Engineer, with specialization in environment, from the Universidad de Chile, Master in Urban Engineering, University of Tokyo, Japan. With 25 years of experience in Management of Solid Municipal, Industrial and Hazardous Wastes, as well as in related topics such as chemical substances management, waste and soil sampling and analysis of contaminated sites, in the field of advising, management and design projects, audit; as well as teaching and training. He has worked as an independent consultant in the public and private sector. He has been a professor of Hazardous Waste Management and Solid Waste Management at the Universidad de Chile and the Universidad de Santiago. Since 2011, he has been a senior solid waste specialist at the Washington DC headquarters of the Inter-American Development Bank for Latin America and the Caribbean.

Benoit Lefevre

Senior climate change specialist at the Climate Change division of the Inter-American Development Bank. His work focuses on transport, cities and efficient use of concessional finance. Previously, Benoit worked for the World Resources Institute (WRI) as Director of Energy & Climate & Finance of the Center for Sustainable Cities. In this role, he led activities on capacity-building (lead of the Transport Working Group of LEDS-GP), alternative business models and municipal finance (manager of the C40/Citi bank/WRI Financing Sustainable Cities Initiative), upstream project preparation (GEF project on "Climate Technology Transfer in LAC"), urban energy modeling, integrated land-use and transport policies. Prior to joining WRI, Benoit was director of the Urban Fabric Program at IDDRI, and visiting scholar at Berkeley. Trained engineer, he holds a PhD in economics and finance and did his Post-doctorate at Columbia University. Benoit was Lead-Author for the chapter "Cross-cutting Investment and Finance Issues" of the 5th Assessment Report (AR5), IPCC.

Alaina Harkness

Community and economic development expert with broad interests in inclusive growth, institutional design and governance, organizational networks, and civic engagement. She is a managing director at RW Ventures, an economic development firm specializing in market-based inclusive growth, and founder of Civicana, a strategic advisory consultancy. She has published research and commentary for Brookings, CityLab, and the San Francisco Federal Reserve. She has a decade of foundation experience, serving as senior program officer for cities at the John D. and Catherine T. MacArthur Foundation and program officer for two civic collaborations at the Chicago Community Trust: the Partnership for New Communities and the 2016 Fund for Chicago Neighborhoods. Prior to her career in philanthropy, her research focused on cultural policy, including a collaborative study of arts participation and audience engagement for the University of Chicago's Cultural Policy Center and independent research on an international network of community museums headquartered in Oaxaca, Mexico. She lives in Chicago and serves on the advisory boards of the Global Parliament of Mayors, the CityTech Collaborative, Urban Initiatives, and Margaret's Village.

José Alfredo Ramirez

Architect. Co-founder and director of Groundlab and currently director of the Landscape urbanism MA at the Architectural Association. He studied Architecture in Mexico City and graduate from the AA Landscape Urbanism graduate programme in London 2005. Alfredo has worked and developed projects at the junction of architecture, landscape and urbanism in a variety of contexts such as China, Mexico, Spain, among others. He concentrates mainly in large scale developments like the Olympic Master Plan for London 2012 or the International Horticultural Exhibition in Xian China 2011. He has lectured on the topic of Landscape Urbanism and is Director of the AA Visiting School in Mexico City. Has published several articles and the book 'Critical Territories.'

Diane Davis

Is the Charles Dyer Norton Professor of Regional Development and Urbanism and Chair of the Department of Urban Planning and Design at Harvard's Graduate School of Design. Before to moving to the GSD in 2011, Davis served as the head of the International Development Group in the Department of Urban Studies and Planning at MIT, where she also had a term as Associate Dean of the School of Architecture and Planning. Trained as a sociologist, Davis's research interests include the relations between urbanization and national development, comparative urban governance, socio-spatial practice in conflict cities, urban violence, and new territorial manifestations of sovereignty. Her books include *Transforming Urban Transport* (with Alan Altshuler) (Oxford University Press, 2018), *Cities and Sovereignty: Identity Conflicts in the Urban Realm* (Indiana University Press, 2011), *Discipline and Development: Middle Classes and Prosperity in East Asia and Latin America* (Cambridge University Press, 2004; named the ASA's 2005 Best Book in Political Sociology), *Irregular Armed Forces and their Role in Politics and State Formation* (Cambridge University Press, 2003), *Urban Leviathan: Mexico City in the Twentieth Century* (Temple University Press 1994; Spanish translation 1999).

Luis Valenzuela

Director of the Territorial Intelligence Center (TIC) at Universidad Adolfo Ibáñez and Associate Professor at the Universidad Adolfo Ibáñez DesignLAB. Associate Researcher with the COES Geographies of Conflict Line. He holds an undergraduate degree in Architecture, a magister in Architecture from Universidad Católica de Chile and a doctorate in Design from the Harvard University Graduate School of Design. In 2014 and 2015 he was a visiting professor at the Harvard Graduate School of Design. In 2011 he founded the Center for Territorial Intelligence. From 1997 to 2011 he was an academic of the Faculty of Architecture, Design and Urban Studies of the Catholic University, where he led the area of urbanism of the School of Architecture and created the Master in Urban Project, was academic of the Master in Construction Administration with the School of Engineering in the Universidad Católica de Chile. He was also Executive Director of Extension and External Services of the Faculty of Architecture, Design and Urban Studies at the Catholic University of Chile, and Director of the

Cities Observatory of the same University. Has led research projects on new methodologies for spatial measurement of inequalities, explorations around extraction territories in northern Chile, and studies about accessibility of education in cities.

Juan Carlos Muñoz

Professor at the Department of Transport Engineering and Logistics of the Pontificia Universidad Católica de Chile. His research areas are transport networks, traffic, logistics and public transport. Lead the Across Latitudes and Cultures Bus Rapid Transit Center of Excellence funded by the Volvo Research and Educational Foundations. Subdirector of the Center for Sustainable Urban Development (CEDEUS). During the years 2003 and 2004 he served as an advisor to the Minister of Transport and Telecommunications for Transantiago and in 2008 he was member of the expert committee to suggest a line of action for the Transantiago project. He was also member of the Board of the Regional Metro of Valparaíso from 2007 to 2010 and advisor to the President of Metro de Santiago in the same period. He also works in the design of flexible work shifts for public transport drivers and retail workers. Currently, he co-directs the company Shift-UC providing quantitative solutions to human resources problems. He has been a consultant in planning and logistics operations for companies such as Embotelladora Andina, ENAP and Bazuca.com. He is a member of the editorial board of several scientific journals.

Luis Eduardo Bresciani

Architect of the Pontificia Universidad Católica de Chile and Master in Urban Design of the University of Harvard. He has worked in studies and formulations of urban norms, plans and public and private urban projects in Chile and the United States. Between 2014-2018 he was appointed President of the National Council for Urban Development in Chile. He has been Head of the Urban Development Division of the Ministry of Housing and Urban Development (2003-2010), responsible for the dictation of national urban regulations and the management of investment in urban infrastructure, and Metropolitan Secretary of Housing and Urban Development (2001-2003). He has been member of the Public Works Concession Council (2010-2014), the Presidential Promotion Commission (2014-2015), the Consultative Council of the National Territorial Planning Policy (2016-

2017) and the Council of the Superintendence of Casinos (2016-present). For his contribution to national public policies, in 2009 the Chilean Architects Association awarded him the "Alfredo Johnson Prize". In parallel, he has been an associate professor at the Faculty of Architecture of the Pontificia Universidad Católica de Chile for more than 20 years.

Arturo Orellana

Associate professor. Doctor in Human Geography, University of Barcelona 2006, Master in Urban Development, Pontificia Universidad Católica de Chile (2000). Commercial Engineer and Bachelor in Economics, Universidad de Chile (1994). Teacher, researcher and consultant in matters of planning and territorial and strategic management (regional, metropolitan and local), design of instruments and public policies, productive development and local development, governability and territorial institutionality. Coordinator of the Research Network on Metropolitan Areas of Europe and Latin America (RIDEAL) and Coordinator of the Nucleus of Metropolitan Studies (NEM). He directs the Rings SOC1106 project on metropolitan areas, institutionality and quality of urban life in Chile. Former researcher of the Institut d'Estudis Territorials de Barcelona. Has worked in the public sector, as Advisor to the Mideplan Cabinet 1997-2004, Head of Study of Transantiago 2004-2005, as Urban Planning Advisor of the Ministry of National Defense between 2006-2010 in charge of the Interministerial Technical Secretariat of the GAM cultural project, as well as Chief Advisory Team of the Mayor of the Metropolitan Region of Santiago, Igor Garafulic Olivares, between 2008-2010.

Dominique Mashini

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Along with the sustained growth of urbanization rates, the complexity and intensity of urban agglomerations have increased. Cities have been transformed into territories that present important governance, inter-jurisdictional coordination, and financing challenges. It is becoming increasingly common to see urban continuums that present strong economic, functional and social interrelations which make them work as Metropolitan Areas. Approximately 47% of the population of Latin American and Caribbean live in 180 urban agglomerates with more than 100,000 inhabitants, which is equivalent to 265 million people. A large part of these urban centers could be defined as Metropolitan Areas. In this context, Chile has initiated the institutional construction of governance models for these territories, suggesting a series of questions for which this publication is intended to be useful. Questions such as: Which is the role that the central government must fulfill to deliver political legitimacy to metropolitan authorities? How are roles and responsibilities defined to allow these authorities to effectively promote decentralized territorial transformations? How can incentives promote the coordination of different stakeholders involved in Metropolitan Areas? Before the definition of a new approach to deal with problems derived from the growth of urban areas that involve more than one municipality, it becomes relevant to discuss various visions and experiences to understand how to address metropolitan management in a coordinated and collaborative manner. Therefore, this publication presents a wide collection of experiences, voices and territories to become a document that effectively allows the institutional construction of metropolitan governance.

