Streets as Public Spaces, a Challenge in Urban Planning for Intermediate Cities in Chile

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Abstract. In the past 10 years, the concept of public space has gradually become a new key topic in Chile’s urban planning debate. Most often linked to sustainable urban growth and sustainable mobility, the concept arises in a context of legal changes aiming to reinforce the street as a public space dedicated to all type of mobilities, including active modes of transport (walking and cycling). These recent legal transformations represent an important shift in Chile’s urban planning, establishing guidelines for the future in order to encourage sustainable mobility and increase public space quality and access in Chile’s cities. This integrated approach to urban development represents a clear tendency to promote a more cohesive society in a context of increasing urban complexity and environmental challenges. It recognizes spatial, socio-economic and environmental issues and aims to articulate urban planning with mobility by seeking a balanced distribution of urban functions in Chilean cities. Although at first glance this new approach seems positive, it is important to analyse these changes through the lens of Chile’s urban production, especially in the case of intermediate Chilean cities that, due to their scale, still have the possibility to redirect their development towards a more sustainable growth. We propose a critical analysis of urban public space production in intermediate Chilean cities. By defining streets as public spaces and enabling specific social practices in line with specific urban contexts, we are able to define streets as a social space dedicated to mobilities. From this position, under what type of conditions are these public spaces planned and designed? What social consequences or conflicts emerge through their implementation? These processes will be illustrated through examples of public space projects and policies developed in intermediate Chilean cities these past few years.

1. Introduction

As a result of urban expansion and the increased construction of road infrastructure, distance and travel time have been increasing, along with dependence on the use of private vehicles. In metropolitan areas, this has created a significant rise in road congestion and environmental pollution resulting in socio-spatial segregation and the advent of high-income peripheral condominiums, with private roads and motorized access to urban functions. Gradually, streets have ceased to be accessible and so have places that generated social gatherings and practices. Intermediate Chilean cities are following the same pattern of expansion, income growth, and increased motorization. However, there is still time to reverse these trends by taking advantage of the lessons of the past.

Since the 1990s, environmental concerns, the emergence of local governments, and a more empowered civil society have given place to a renewed perspective of urban mobility in several countries. Transport planning, based on mathematical models without consideration of the relation...
between urban flows and space, has been relegated in a context where cities became relevant actors achieving autonomy from national powers [1]. The new mobility paradigm has radically questioned the utilitarian vision of the development of road infrastructure for motorized transport. It has also recognized the role that different types of mobility play in cities in terms of social inclusion and equity. In this new context, defence of bicycle space on the roadway has been gaining ground throughout Chile and has been accompanied by several legislative changes.

These recent changes provide tangible proof that the street model can be changed in Chile, generating more friendly spaces for everyone. So far, this process has been limited to cycling. It should, however, be based on the perspective of pedestrians. Shifting from the concept of roadway and sidewalk to the concept of integral street requires a cultural turn that defines streets as public spaces dedicated to mobility.

2. The street as public space

2.1. What do we mean when referring to public space?
In its first definition, public space refers to the space for public use as opposed to private use. In Chile, the term “public space” is also used to identify certain private spaces that are accessible to the public. Their status can therefore be measured by the level of accessibility and free movement they provide. These spaces are often characterized by not having a physical enclosure that delineates them and where the path can be restricted. Even though they are private properties, they can also be defined as public spaces in opposition to private spaces that establish a clearly identified enclosure where one “enters”.

This allows us to postulate a delineated definition of public space, conceived as the negative of private space: public space is what remains of urban land when private space is subtracted. Therefore, in this article we will approach public space as an area accessible to all - that is an area that is not delineated by any type of enclosure and in which people can circulate without restrictions. While the generic image of private space is the house, the generic image of public space is the street defined in opposition to private space. We don’t “enter” a street, we “go out” on the street. It is an outward movement towards the experience of otherness. This defines streets as social spaces. Therefore, the street is understood as the social space of encounter and exchange.

2.2. Street as social space
Modern movement and functional urbanism have assumed public space planning from a utilitarian vision, reducing people to commuters moving from one point to another in the city. Street design was consequently based on technical variables such as traffic, connectivity and functional autonomy. In the first half of the twentieth century, an urban model based on spatial and functional separation of activities appeared, in which the street was limited to a space dedicated to circulation [2].

During the second half of the 20th century, a new model emerged in radical opposition to the theories of the modern movement. Streets are rehabilitated as attractive urban spaces, recognizing their social value based on the diverse urban activities they contain [3,4,5]. This movement, which grants importance to streets as shared spaces, is in close dialogue with the sociology and anthropology approach that defines public space as a social space of interaction and co-participation among individuals. Public spaces are therefore perceived as strong vectors for building society [6,7,8]. Directly criticizing functional urbanism and its zoning principles [9] questions the potential of appropriation generated by urban spaces within the framework of the right to the city.

2.3. Street as public spaces of mobility
The concept of mobility emerged as a new approach that questioned strongly the technical aspect of transport studies. The mobility paradigm embraces all forms of movement within the city [10,11] based on urban sustainable development [12], and social integration. Mobility needs to be understood in terms of organizing the city’s functions for the movement of people. It is a social issue that
challenges the multiple factors of individualization and diversification of social practices [13,14]. It also recognizes the complexity of urban areas in the city at different scales [11].

Mobility is tributary to the decisions made in urban planning and is closely linked to urban development. Factors such as spatial distribution of land uses, densities, and urban boundaries directly influence both people’s mobility patterns (in terms of number, distribution and routes) and the use of physical spaces. On the other hand, mobility requirements also have an impact on the use of the street, questioning the previous conceptions.

Interactions between mobility and city are complex and unstable iterations that are closely linked to spatial and socioeconomic contexts. The success of the concept of “Transit Oriented Development” (TOD) [15,16], and the diversification of initiatives that seek to develop integrated planning tools show a willingness to promote a dense and urban development model based on public transport, as opposed to the sprawl model. By incorporating active modes (walking and cycling), mobility planning requires a change of scale and a change in the vision of the role of public space. Public space becomes a key component of a holistic concept of mobility, whose design, quality and maintenance directly affect its integration into the physical spaces of the city.

Streets are therefore understood as a social space in which mobility is one of its components, but not the only one. The street also hosts leisure activities, commerce and cultural practices, among others. It is closely linked to the production of all activities that happen in cities beyond the mere function of organizing flows in the segregated spaces of roadway and sidewalk. These functions, which were lost over time, can still be recovered, especially in intermediate cities that still have the opportunity to reorient their development in a different direction.

3. What kind of urban dynamics do intermediate cities in Chile face today?

3.1. Population growth and urban expansion

According to the National Statistics Institute (INE), urbanization in Chile exceeded 87% in 2017, revealing the growing weight of intermediate cities in this phenomenon. Indeed, apart from the three major metropolitan areas (Gran Santiago, Gran Valparaiso and Gran Concepción), intermediate cities in Chile include urban areas from 150,000 inhabitants to up to 400,000 inhabitants. In addition to its population size, we can also consider cities to be intermediate if they have a functional relationship of transition or intermediation, a traditional urban form, and the perspective of continuing to be an intermediate city in the future [17].

However, in some cases these cities begin to show emerging signs of a metropolitan process, in particular, in terms of their physical expansion, the complexity of their flows and the potential conurbation with small nearby towns. Essentially, they begin to mimic the behaviour of big cities. Some regional capitals, such as Valdivia or La Serena (which has already conurbated with Coquimbo), but also certain provincial capitals that are located far enough from their respective regional capital to not fall into their area of influence, as the case of Los Angeles, strongly maintain the features defined above. Despite their own characteristics, these cities have the particularity of sharing certain growth dynamics and, above all, due to their scale, they are at a turning point in which planning decisions taken today can still reorient its urban development in a more sustainable way towards the future.

Table 1. Average annual population growth rate 2002-2017. Figueroa & Gurdon, 2019.

|                  | Annual population growth rate 2017/2002 | Number of inhabitants in 2017 |
|------------------|----------------------------------------|-------------------------------|
| Los Ángeles      | 1.31                                   | 202 331                       |
| Valdivia         | 1.12                                   | 166 080                       |
Along with the demographic increase during the last decades, these cities are characterized by experiencing, to varying extents, the same phenomena of urban expansion of their peripheral areas based on a significant increase in rural dwellings plots and in closed condominiums. They emerge at the expense of densification of the more central areas, increasing socio-spatial segregation at a city scale. In the case of the La Serena-Coquimbo conurbation, the urban built area expanded by almost a third between 2006 and 2010 [18], demonstrating an acceleration of the phenomenon regarding the two previous decades. Although Valdivia has experienced a certain densification in its center and in the sector of Isla Teja, the city increased its surface area by 25% between 1999 and 2014 [19]. The city of Los Angeles presents more worrying figures, with an urban area that doubled in the last ten years while its population density dropped by almost 50% in 25 years [20].

### 3.2. Constant increase in motorization rate

The growth of the urban footprint has been accompanied by greater motorization and use of private cars in the last 10 years (Table 2), which has generated a growing congestion of streets and increased travel times. Although travel times remain low (30 minutes in intermediate cities versus 50 in Santiago) [21], the dynamics of urban expansion associated with motorization growth will result in a medium-term increase of travel times and in vehicular congestion. This situation shows an absence of integration between city planning and mobility, and also reveals a certain invisibility of non-motorized flows despite constituting between 23% and 53% of modal split in the three cases considered (Table 3).

| Table 2. Motorization rate (vehicles/inhabitants) |
|-----------------------------------------------|
| 2007  | 2017  | Rate 2017/2007 |
| Los Angeles | 0.164 | 0.293 | 1.8 |
| Valdivia | 0.149 | 0.258 | 1.7 |
| Coquimbo | 0.098 | 0.225 | 2.3 |
| La Serena | 0.206 | 0.330 | 1.6 |

| Table 3. Travel modal split |
|----------------------------|
| Coquimbo-La Serena 2010 | Los Angeles 2004 | Valdivia 2013 |
| Walking | 22% | 40% | 52% |
| Non-motorized travel* | 1% | 5% | 1% |
| Public Transport | 38% | 33% | 20% |
| Private car | 39% | 23% | 27% |

*Excluding walking

Figueroa & Gurdon, 2019
Source Table 2 and 3: Encuestas Origen Destino, (Origin Destination Surveys), SECTRA

Although all these cities have implemented urban renewal plans in their center, including pedestrian streets and cyclist paths, the fragmentation of the institutional competencies for supplying streets in Chile does not favour the development of comprehensive projects based on improving the rights of pedestrians.

### 4. How are streets planned, designed and financed in Chile?

**4.1. The Chilean legal framework**

The legal definition of the street is embodied in the ordinance “Ordenanza General de Urbanismo y Construcción” (OGUC) and the traffic law “Ley de Tránsito” (Law N°18.290). Although both legal definitions recognize the street as a public space dedicated to circulation, they clearly identify two
segregated spaces: the sidewalk, intended for pedestrian traffic, and the roadway, intended for vehicles. In every city, the regulation plan “Plan Regulador Comunal” (PRC) establishes a classification of streets according to hierarchical categories that are defined in the OGUC. For every category, the OGUC very precisely predetermines design standards that deal with widths of roads and sidewalks, number of traffic lanes, speed limits and pedestrian crossing typologies. Nevertheless, these standards do not encompass urban functionality principles that enable streets urban integration.

The new law on traffic coexistence “Ley de Convivencia Vial” (Law Nº 21.088), published in 2018, modifies the traffic law and aims to provide more equity between the different modes of transport, legitimizing bike lanes on roadways. Although these legal changes represent a progress in the recognition of urban cycling as a transport mode, they still look at streets as functional spaces dedicated to traffic, failing to recognize them as public spaces that have the potential to generate social practices and encounters.

4.2. Who is in charge of streets in Chile?
The design, construction and maintenance of Chilean streets is extremely fragmented, both at an institutional and sectorial level. On one hand, municipalities have the legal obligation to pave and maintain the city’s streets (Law Nº18.290). On the other hand, according to the law “Ley de Pavimentación Comunal” (Law Nº 8.946), the urbanization department “Servicio de Vivienda y Urbanización” (SERVIU) belonging to the Ministry of Housing and Urban Planning (MINVU) supervises street projects works, and the Regional Government (GORE) is responsible for financing these projects through regional budgets. The GORE, through its organic law (Law Nº 19.175), also has the obligation to build, conserve and maintain urban pavement works on sidewalks and roadways. Additionally, the department of roads, “Dirección de Vialidad” of the Ministry of Public Works (MOP) has authority in terms of construction, conservation and improvement on national public roads that are located within urban areas.

Under this complex system of governance, in practice, street projects depend on multiple actors: municipalities, if they can count on available resources; the GORE that can allocate resources to SERVIU; SERVIU itself that has resources from MINVU; the Ministry of Transportation and Telecommunications (MTT) that can allocate resources to SERVIU to carry out works on roads dedicated to public transport. Although all these organizations have the legal obligation to work in coordination with municipalities, the institutional and sectorial disaggregation makes it difficult not only to make decisions, but also to build a common vision of streets that reinforces specific social practices proper to each local context.

4.3. Recent changes in the legal framework
Under these conditions, certain legal changes have occurred in the past years that aim to reinforce the concept of the street as a public space and to encourage municipalities to adopt a more integrated vision of urban planning. The National Urban Development Policy (PNDU), published in 2014, requires that in the coming years, policies for planning public spaces that promote urban mobility through an efficient and balanced use of public space by all modes of transport in order to achieve an urban integration of mobility in Chileans cities be implemented. This objective requires a deep knowledge of the different social dimensions that define Chilean streets according to every specific local context.

The new law on contributions to public space, “Ley de Aportes al Espacio Público” (Law Nº 20.958), published in 2016, aims to fulfil (in part) this goal by obliging municipalities to elaborate an Investment Plan for public space in which 70% of investments have to be allocated to public spaces dedicated to mobility. This law represents an innovative mechanism in the Chilean context, since it opens the possibility for municipalities to plan and finance their own public spaces autonomously. However, it is important to note that the Investment Plan is funded with financial contributions from new real estate projects in every city. This leads to a privileged situation for attractive cities that can count on a dynamic real estate market that will generate income for their public spaces.
Although these new legal changes represent an advance in the recognition of streets as a priority space in the city, it still does not satisfy the need to redefine the concept of streets as public spaces that attract people for varying purposes.

5. Conclusions: key aspects to transform streets as public spaces

5.1. Mix use and hierarchies
The first central aspect is how space is shared between the different modes of transport. Cars are privileged and have taken up an exponential part of this space. Mobility planning must address this issue, not only recognizing space for cyclists but also for pedestrians, who have not yet seen their space needs redefined. It is however necessary to establish a hierarchy between different types of streets based on every specific local context. Thanks to their scale, intermediate cities offer a potential laboratory where this dilemma of street use can still be rationalized in order to add new functions that enable social practices. Low-speed streets that integrate certain levels of mixed use represents a new challenge for urban planners. This shift requires recognizing a hierarchy in public space, between streets that will inevitably have a certain specialization over others. This ultimately means generating different options dealing with the distribution of space, speed and functions. The Transport for London Street Family categories (2013), as shown in the figure below, represent an interesting example that defines a hierarchy of family streets base on movement and place (speed and mix use levels).

![Figure 1. The implications of street-types for the speed environment](source: Transport for London. The vision and direction for London’s streets and roads, Roads Task Force. London; 2013 p. 93-95.)

5.2. Should pedestrians be considered as a mode of transport among other or as the user of the entire system?
The other main issue associated with street planning from the perspective described in this paper is the predominate technical vision of the street to the detriment of bringing people together: its performance is not measured according to people but according to vehicles. This has led to banish people from public space by widening roadways, reducing sidewalks, prohibiting pedestrian crossings, and increasing traffic speeds. The technical vision has positioned speed as a fundamental attribute throughout the twentieth century causing the loss of street social life in favor of motorized modes. This has culminated in the public debate today, focused on the street fight between cars and bicycles, losing sight of the fact that pedestrians are users of all modes of transport within these public spaces.
Figure 2. Pedestrians as users of all modes of transport in the reverse traffic pyramid

By placing streets as public-social spaces, public policies must go beyond the famous figure of the reverse traffic pyramid: pedestrians, or we might say people, must be considered as users of the entire system. As so, not only are they a non-motorized mode at the top of the system, they englobe the entire system.

In terms of public policy, intermediate cities still have the advantage of relatively short travel times which represents an easier context for promoting more diversity of uses, limiting speed, and designing streets as public spaces based on social practices that include, but are not limited to, mobility practices. The key aspects identified in this paper are an invitation for urban planners and policy makers to open the path to new creative planning solutions in intermediate cities.

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