Engaging Socio-Spatial Fragmentation Through Public Domain

Gated Communities in the Greater Metropolitan Area, San Jose, Costa Rica

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EMU – European Post-master in Urbanism

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Contents

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Finally, to my family back home, those who have played an important role in my life guiding and shaping me into the person I am today, for their constant love, support and giving me the tools and opportunities to be here. Proving that distance means so little when the bond is strong.

Preface

San Jose has been my home for most of my life, I lived my childhood in the city centre and moved to the suburbs in high school. Therefore, I have lived in the two conditions, not in a gated community though, and in both have experienced what it is like to live in fear behind fences of different sorts. Initially it was a natural condition for me as I did not know what it was not to have the fences as my parents and grandparents did, but it was while studying architecture that I started questioning their need. I realized I didn't know what it was like to live without them. Others were questioning our gated condition as well, it was discussed in design classes, a documentary came out and some articles on the news mentioned the issue. However, they all sited the problem with no solution in mind. With the appearance of gated communities, people commented how nice it was to be able to leave the house without fear and the need to 'close the door' but that did not last long and soon they were installing alarm systems and locking their doors. As an architect working on residential complexes I encountered not only the preoccupation for security but one for privacy as prospective buyers would ask about the divisions between dwellings and how visible it would be for neighbours to see their terrace.

Later, as I got involved in urbanism I realized that in Costa Rica many of the issues in urban planning were not being addressed, amongst them the proliferation of gated communities. My EMU studies and experience living outside showed me that the importance of strategic planning that provides a cohesive vision all actors can agree with -'Urban Region Networks' semester. During the 'Constructing the sustainable Delta City' semester I learned the value of working with nature within the urban fabric and how a rich network of public spaces no matter the size can aid in the provision of ecosystem services and the improvement of liveability and quality of life. Likewise, my time in Venice during the 'Territories of Dispersion' course provided me with rich insight of the citta difussa and the understanding that periphery requires a different perspective. Together EMU curses and the experience living in the Netherlands, where gates are scarce, made me revisit again the idea of gates and gated communities in my city. Therefore, I decided to conduct my EMU thesis regarding the proliferation of gates, specifically gated communities, in Costa Rica. With the aim to search from an urban point of view possible transformations for the already built complexes that would allow for more interaction that would hopefully maintain the feeling of security and privacy that residents search for without the obtrusive and segregating barriers that are now the norm.

FIG. 1.1 Entrance to Office Park La Lima. Source: Google Maps, image uploaded by Caro Umana, 2015

PART 1

Introduction

| Problem Statement | Privatization of Public Space | Relevance | Methodology | Aim and objectives | Hypothesis | Research Question | Research Structure | Methodology Scheme |

FIG. 2.1 Entrance to Gated Community Hacienda Belen. Source: Google Maps, image uploaded by D Blomgren, 2017

1 – Problem Statement

In the recent years there has been an increase in the privatization of public space. Specially with the appearance of Privately Owned Public Spaces (POPS), which are spaces that are privately owned but are legally required to be open to the public. However, this type of privatization first came through interior spaces built in the suburbs for social interaction as substitution of street life, like the shopping mall, that was later paired with its residential homologous, gated communities. What is common of privatized public spaces is that these are places that are highly surveilled, controlled, have different mechanisms to reserve the right of entrance and come with rules and norms of behaviour.

Gated communities exist in most urbanized contexts around the world and San José, Costa Rica is not the exception. Following the discourse of insecurity and the claim of building community with-in the confinement of the gates, new developments are constructed with a peripheral wall. Additionally, existing neighbourhoods have found ways to implement gated characteristics like eliminating all but one, now, surveilled entry point. As gated communities diversify to all available markets they have self-segregated from the city. Working as close exclusive typologies, these housing dominated forms fragment the urban fabric and interrupt the social life demanding separated isolated areas for socialization as are social clubs. The result, is a city composed by clusters of enclaves separated by functions thus, car dependent and in detriment of the public space. The available public space is stale and does not encourage social activity, but is to be found in-between walls, and predominantly used for transit. Under this condition this thesis research will focus on possible spatial strategies to modify public spaces with the aim to allow for and facilitate social interactions in areas that are dominated by gated communities.

> A combination of the need for safe investment returns and safe public environments has led to the demand for total management of space, thus undermining its public dimension. [...] new urban spaces are increasingly developed and managed by private agencies in the interest of particular sections of the population. (Madanipour, 1999 pg 10)

1.1 – **Privatization of Public Space**

The distinction between private and public life has determined patterns of spatial behaviour and socialization. The city has then been shaped by the organization of such spaces and their interrelations. Private spaces are those in which through different significants like spatial codes and social arrangements demonstrate a reduce in accessibility dependent on permission. On the other side of the spectrum, public spaces are expected to be accessible to everyone. In this was public spaces mediate between private ones, which are predominant in the city. As the city has evolved, the public sector and its role have been transformed. The increased involvement of the private sector has shifted the balance in the development of cities, manifesting as the privatization of space. (Madanipour, 1999) Along this scheme privatization of public space has existed since the second half of the twentieth century. These spaces consist of privately owned land developed by its owner nonetheless still accessible, to a certain degree, to the public. These areas were initially developed through different incentive mechanisms given by municipalities to developers with the aim to provide different public goods without further straining the municipal budget. (Schmidt, 2012) In this way privatized public spaces has taken many forms, like the shopping centres that emulate commercial streets of the city centre; privately owned public spaces (POPS) that provide cities with more publicly accessible space, and gated communities which provide a confined area with the necessary services as water, electricity etc.

Never the less, this increase in developed space has not necessarily resulted in high quality of space. Since these spaces are designed according to the developer's interest, they aim to maintain a certain control over the use. As a result, privatized public spaces have integrated several measures of surveillance, and norms of behaviour, attracting the appropriate and expected target users for those spaces manifesting as more exclusive and less democratic spaces. (Schmidt, 2012, Madanipour, 1999) This characteristic is independent of utilization, for some provatized areas have been developed to include amenities and encourage a more active use of the space. As a consequence of the increase in activity surveillance is increased and behaviour norms become more restrictive further excluding those social groups deemed not wanted. (Schmidt, 2012)

This restriction of use to only those seen as suitable as well as permited behaviour is the main problematic of privatization of public space, since it evidences the developer's objective of making profit and not necessarily providing a public good. In this way privatized public spaces become spaces that enhance exclusion practices in detriment of public domain. Sets of regulations on permitted and restricted behaviour or even proper attire, as well as more disruptive measures like spikes to avoid sitting on a specific surface go against the public character of these places. Public spaces, with disregard on ownership, should not be so restrictive but instead provide settings for different degrees of interaction that might lead to social cohesion. (Madanipour, 1999)

China

Argentina

Colombia

United States (Florida)


Guatemala


Honduras

India


Costa Rica


Mexico

Pakistan


Panama


Spain

Gated communities as privatized public space

> *"Gates and fences around our neighborhood represent more than simple physical barriers. Gated communities manifest a number of tensions: between exclusionary aspirations rooted in fear and protection of privileged and the values of civic responsibility; between the trend toward privatization of public services and the ideals of the public good and general welfare; and between the need for personal and community control of the environment and the dangers of making outsiders of fellow citizens." (Blakely, 1997)*

The expansion of the city to the suburbs lead the way to the appearance of gated communities. These are **monofunctional communities,** not restricted only to residential use but can also include office and leisure complexes, that have **self-segregated** inside a peripheral wall and a guarded entry. In the residential case these types of communities followed the suburban promise of a good life away from the city, in an area providing quality houses, a more direct relation with nature, amenities and security. Under this physical composition, streets, infrastructure such as electrical and open green areas are now privatized public space.

One of the reasons why people seclude to gated communities is the search for a true community and a feeling of being at home (Blakely, 1997). **Community implies sharing**: territory, experiences and social interactions, traditions, institutions, goals, political or economic structure; not just feeling, but participation in social life of a place. However, **do gated communities actually enable a stronger community?** Inside the gated complex, rules and regulations on physical composition and social conduct govern. These are further mechanisms of control that give the qualities of a state with in a state therefore, **ruling by legal contract not a social one**. This condition is enhanced when the gated compound is managed by a third-party actor in charge of enforcing the statutes and reducing the need of direct interaction between its members (Blakely, 1997). This presents a further threat to the social configuration of gated communities and is that of **anonymity**. Within them, each house is a cell on its own, the same way that the gated community is a cell in the city fabric; exacerbating isolation and exclusion issues and reducing the feeling of belonging. (van Dorst, 2018) Furthermore, home owners associations provide opportunities for the enrichment of communal values; though in reality are means of protecting private property rights and not the communal. In some cases, such organizations create a degree of indifference as people are more careful with their possessions and assume someone is looking over the communal ones (Delanty, 2003); which evidences the social individualization and higher emphasis on the private over the communal. (Madanipour, 1999)

It is said that 'good fences make for good neighbours,' which is true when their character is of the symbolic order, maintaining and evidencing the demarcation of place or behaviour and to a certain degree protecting it (Hajer, 2001). **Fences can therefore take different meanings** in poor neighbourhoods, they work as means for protection, cohesion and solidarity; in gentrified urban neighbourhoods as ways to protect and secure property and in the suburbs as forms of exclusion, status, social control and protection from physical intrusion. (Blakely, 1997) It is when fences and walls are constructed as means of controlling and separating completely that the dynamic of exclusion and isolation are heightened adding to the problematic

FIG. 2.2 Gated Communities around the world. Depicting the same scale variations in size, morphology and typologies are evidenced. Source: google earth, 2018

(Hajer, 2001). Gates came to appear as part of the social transformation in which the difference between public and private rights and the fear of insecurity has evolved in a growing fortress mentality. *"As mentiones for example by Blakely (1997): This is reflected in an increasing fear of crime that is unrelated to actual crime trends or locations, and in the growing number of methods used to control the physical environment for physical and economical security."* (Blakely, 1997. pg1) Gates are thus said to reduce the problems of today´s neighbourhoods. They work as forms of both physical and territorial control.

In addition to the problematic of physical and social exclusion gated communities create other morphologican and social problems. Since most gated complexes are constructed in the outskirts of the city and have a monofunctional character they generally have a reduce access to public transport thus, depend heavily on car mobility. This generates congestion on arterial roads which in turn augments travel time having a negative effect on the quality of life of inhabitants. Additionally, with the development of privatized public spaces and infrastructure civic responsibilities are privatized as well; resulting in the super importance of the private over the communal which reduces civic life. Moreover, expansion to the periphery requires more infrastructure and land consumption affecting unfavourably the environment. Furthermore, mono-functionality and the homogenization of physical form and regulations attracts people of similar social condition to inhabit them, thus homogenizing the population and further reducing the social interaction with others; allowing them to be self-contained and self-focused in detriment of public domain.

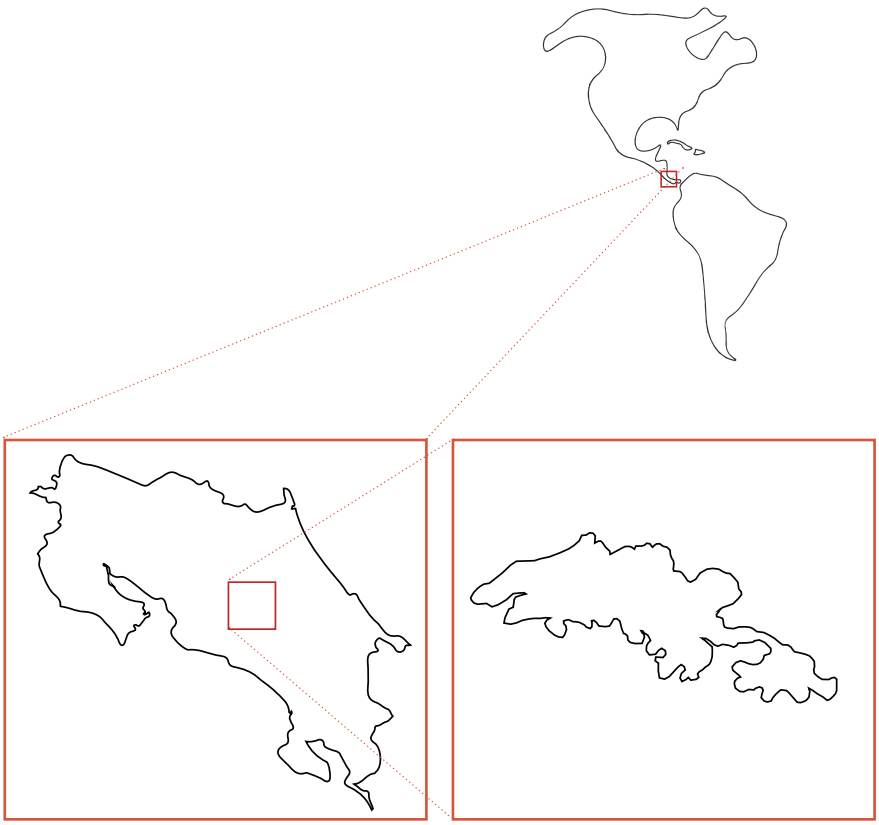


FIG. 2.3 Location of the Grater Metropolitan Area of Costa Rica. Source: Author's own

The case of the Greater Metropolitan Area, Costa Rica

Costa Rica's Greater Metropolitan Area (GAM) is not unfamiliar to the privatization of public space, more specifically gated communities. GAM is the major urban and economical centre found in the country, located in a valley on the geographical centre of the Costa Rica. (FIG.1.2) It comprises the urban centres of four of the seven provinces, and 31 municipalities. Half of the country's population, around 2,500,000inhabitants, lives and works in this area of 204,400km2 with an average density of 11inhab/Ha.

Recently the GAM has experienced rapid urban growth, as a result gated communities have spread throughout the urban area, involving all social strata and housing typologies. With the growth of these enclave settlement typologies much of the discussed problems appeared are the socio-spatial segregation, mono-functionality, car-based mobility and congestion. Over the past ten years car ownership has grown an almost constant 5%yearly, higher than the average 3% population growth during the same period (Martinez,2014). On average a person living in the GAM spends two hours commuting a distance between 20-50km. This rise of car ownership is attributed to the low density and unorganized urban growth evidenced by the large amount of construction of gated communities, free zones and shopping malls. According to the construction regulation agency CFIA in 2016-2017 50% of all national construction were residential gated community projects, followed by commercial centres (CFIA, Colliers, Banco Central 2017). Most of the housing offer is being developed in the municipalities where the population with higher purchasing power reside, oversaturating this market and leaving the lower strata areas with a housing deficit. This has consolidated social exclusion tendencies organized the territory through market value and the economic capacity of the residents of each municipality. In this way enforcing the trend of higher social strata settling and searching for places with higher security and exclusivity. (Martinez,2014)

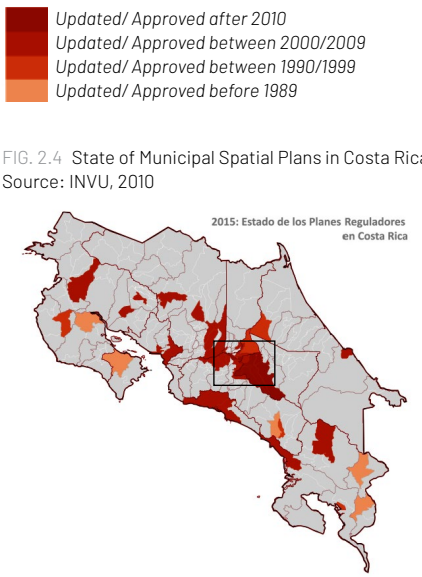
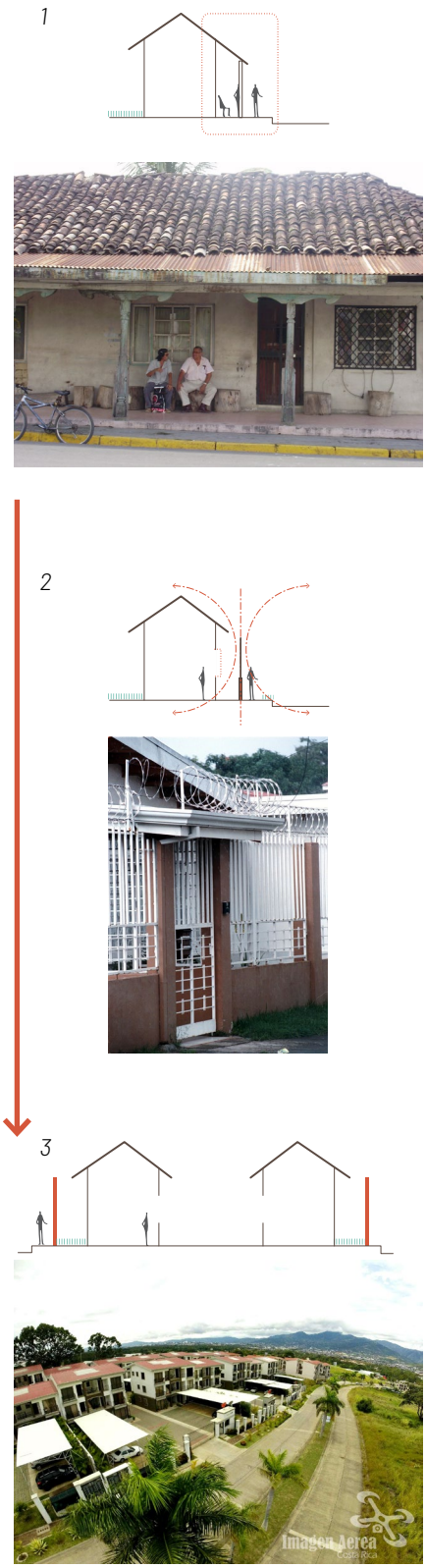


FIG. 2.4 State of Municipal Spatial Plans in Costa Rica
Source: INVU, 2010

This disproportionate growth in residential construction is seen by the public sector in different ways. National institutions in charge of infrastructure pertaining roads, electricity, water supply and waste water management, see gated developments as a positive way to save budget given that the constructions of such infrastructure inside the gates is now responsibility of the developer. At the regional level it is understood that the form of urban growth is not optimal and exacerbates problems of mono-functionality, congestion and socio-spatial exclusionary practices (PRUGAM, 2009). However, they can only provide recommendations and at the municipal level these developments are promoted because they bring the image of economic growth and tax revenues. Specially since 12 out of the 31 municipalities don't have any spatial plan developed and only 6 municipalities have an up to date plan (FIG.1.4.)(INVU, 2010). Developers take advantage of this situation, which facilitates getting the construction permits. They have found development solutions that work and have oversaturated the market in profitable regions. Civic society is highly concerned with security issues, buying with in their means and what is offered in the market. The predominant factor for choosing a gated complex is therefore the protection of private property, the tranquillity of being able to leave ones' house alone while at work and the "competitive" market prices available compared to the hassle of individual construction. While amenities are highly marketed, such



development types are only available to the more economically solvent areas of the population, and though they might be considered as a plus in most cases after the first months of intense activity they remain underutilized. Finally, most gated complexes are administered by third-party actors, thus most neighbours don't even know each other. When home owner associations are in place these meetings are considered a hassle, attendance is poor and with the aim to resolve issues as quickly as possible in order to shorten the meeting. In this way the level of social interactions with in the communities is low. The exception to this are organized neighbourhoods who have advocated to protect their neighbourhood and have created strong associations in order to make this happen.

The popularity of gated communities in Costa Rica is not surprising, since the feeling of insecurity has been progressively growing, and living within gates became normal in the urban areas. Houses that initially had a front porch that allowed sociability started gating their property. Fences that still allowed visibility and sociability through the bars, became higher and denser until they were transformed into a wall. (FIG.1.5.) In his documentary about gates in Costa Rica Hernan Jimenez opens by stating: *"I think someone put a double lock to Costa Rica. That is my explanation, because in no time spearheads fell in front of my eyes; locks turned, and padlocks creaked. The door closed, my country was left outside as I stayed inside. [...] And everything remained outside: my streets, my school, the neighborhood, the corner shop and almost everything, except my garden"* (Jimenez, 2004). Even an expat real estate website has an article on the gates of the country *"They build the gates, walls and fences before they build the house. Local residents figure that as long as they have more security bars and razor wire than their neighbor, they are safe"* (Henfling, 2017). The logical progression then was instead of gating each dwelling individually to gate several at the same time; a solution that took many forms from exclusive gated communities with extensive large plot free standing houses, row houses, condominiums, gated vertical apartment building complexes to social housing and organized neighbourhoods that have managed to block all entrances but one and have invested in security measures. According to status claims, these developments can provide extensive common areas with pool and sports facilities, be restricted to a specific design or implement a set of design regulations. In this, though not explicitly, the more exclusive communities preform a social selection of their inhabitants, through market value, location, leisure services, design and the additional costs that come with these.

FIG. 2.5 The transformation of the gated condition in Cost Rica. Form a semi-public front porch to gated communities 1-*Traditional adobe house Liberia Costa Rica. Source: Publicdomainpictures, 2018 2-Gated House Costa Rica. Source: Gretel Alfaro 3-Gated Community Alto Cariari, Belén, Heredia. Source: Imagen Aerea Costa Rica*

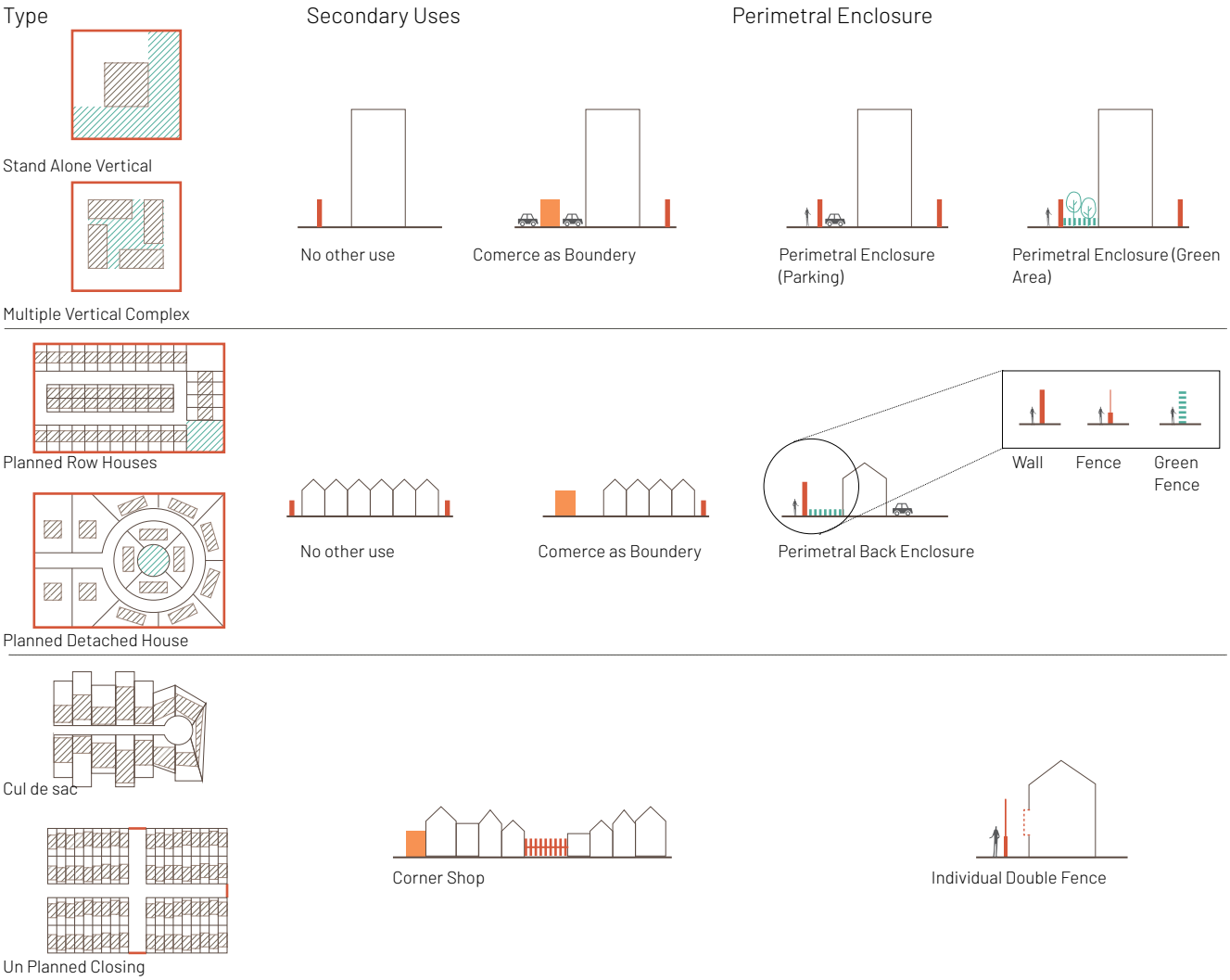


FIG. 2.6 Initial survey of the current gated communities configurations and their type of border. In some selected cases commercial use is located at the front of the community as a more active and accessible border, that allows for mixed use. In the majority of the cases the border consists of walls, fences or green fences. Source:Author-s own

FIG. 2.7 Gated Community Wide Road. Source: Google Maps, image uploaded by Mariana Scasso, 2016

FIG. 2.8 Dead end street Santo Domingo, Heredia Source: Google Maps, image uploaded by Annia Valverde, 2017

The majority of these gated configurations have developed outside the historic urban centres in the dispersed urban fabric that connected these centres converting them in the current Greater Metropolitan Area. In this regard the areas outside of the historic urban centres have low to no investment in the production of public spaces by the public sector, thus creating further spatial segregation between the new residential complexes and public spaces for socialization. Consequently, there is a higher demand for commercial and gated leisure centres and social segregation is heightened in detriment of public domain.(FIG.1.7) Further on, when mapping the development of gated complexes two major spatial configurations become visible. The first is developed along a predominant connecting infrastructure like highway and consists of bigger grain, monofunctional and higher confinement complexes (FIG.1.8). The second trend is the development around consolidated urban centres, in which grain varies according to the proximity to the urban centre and mixed uses appear when in close relation to the more regular urban grid structures (FIG.1.9). Given their position in the urban system and different spatial and morphological conditions in the urban fabric, these two typologies of development would require different strategies for the configuration of public spaces and aiding public domain.

FIG. 2.9 Gated Communities in the Greater Metropolitan Area. 1-Public spaces are directly related to the Historical orthogonal grid urban centres. 2-Residential gated communities located outside the urban centres. 3-The Residential mono/ functionality of gated communities comes with the appearance of productive and commercial gated compounds. Source: OSM, function layer

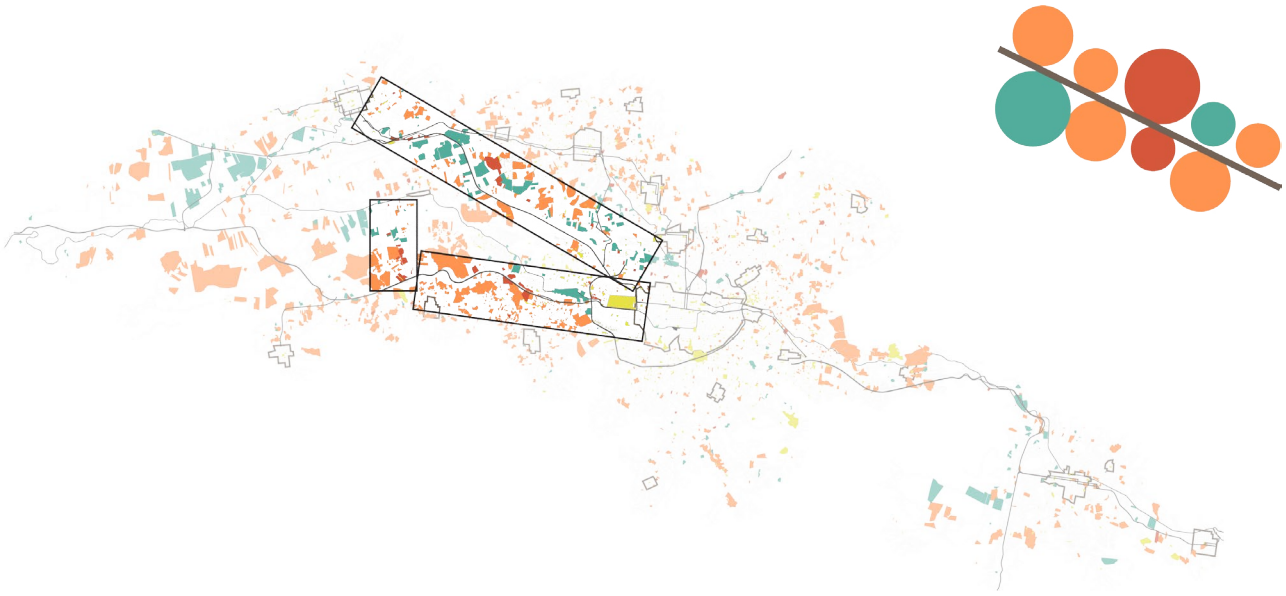
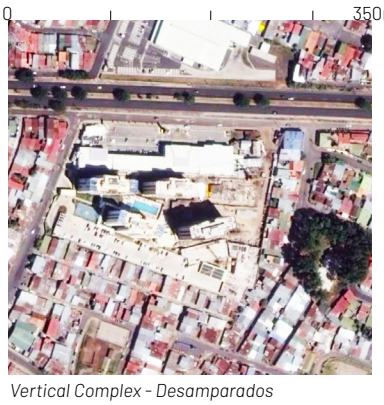


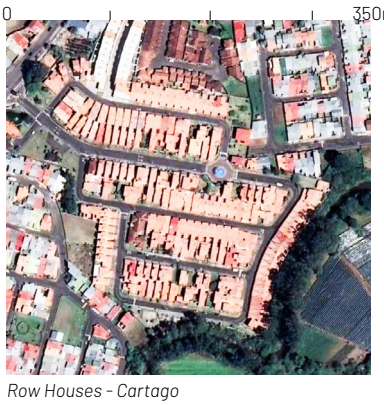
FIG. 2.10 Gated development along a predominant connecting infrastructure as highway, consisting of bigger grain, mono-functional and higher confinement complexes Source: OSM, function layer

FIG. 2.11 Gated development around consolidated urban centres, in which grain varies according to the proximity to the urban centre and mixed uses appear when in close relation to the more regular urban grid structures. Source: OSM, function layer

Row Houses - Alajuela

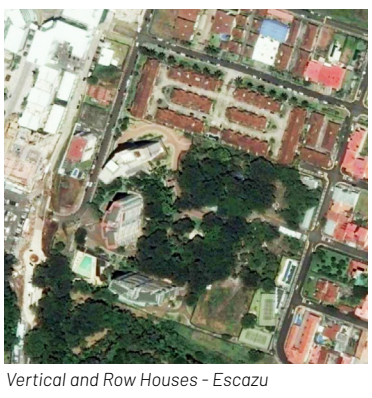


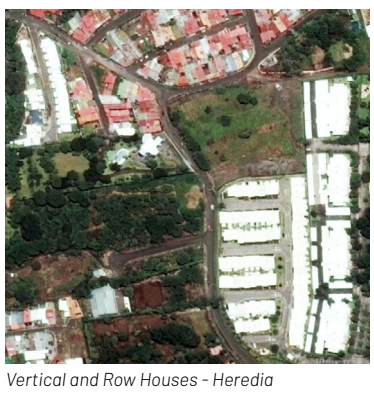
Vertical Complex - Desamparados



Row Houses - Cartago

Row Houses - Desamparados


Vertical and Row Houses - Escazu


Vertical and Row Houses - Heredia


Free Standing Houses - Heredia


Free Standing Houses - Paraiso


Vertical Buildings - Sabana

Row Houses - Sabanilla


Free Standing Houses - Sabanilla


Row and Free Standing Houses - Valle del Sol

2 – Relevance

Societal

The Greater Metropolitan Area of Costa Rica has recently experienced greater involvement of some sectors of civic society in the urban debate. This involvement has predominantly been about passive transport modes or the low quality and underutilization of public space. Likewise, urbanists, academics and developers have engaged a debate on the urban expansion, the development of gated communities and saturation of the real estate market. Additionally, some areas of San Jose's centre are starting to undergo urban regeneration generating much activity specially with temporal events and festivals which attract the attention of all actors. In other words, civic society is actively searching for new and better ways to experience the city, due to the lack of spaces for socialization, which has resulted in the creation of some bottom up initiatives dealing mostly with the available parks and plazas. On the other hand, the private and public sectors continue in the discussion on how to manage new development, to what point restrict urban growth and what are the proper means to develop a residential offer that is diverse and accessible to all social groups, where the private deems expansion as economic growth and the public is concerned with protecting the resources. Parallelly, all sectors are preoccupied with the growing congestion and low efficiency of the public transport. However, there is only some academic interest in the interrelation between these aspects, how the created urban morphology of enclaves relies on car mobility and the fact that there is a low quality and area of public spaces outside city centres.

The relevance of this thesis in this aspect is to explore how the relation between the enclaves and public spaces has resulted in the current urban condition. The city has practically left the urban growth to the private interests, resulting in the privatization of space, lower production of qualitative urban space and socio-spatial fragmentation. These combined effects pose serious threats for the future of the city. This thesis will argue that the reconfiguration of public spaces and their relationsto the gated communities can function as nodes for social integration therefore enabling public domain.

Academic

This thesis is embeded in the urban morphology and environmental behaviour field of knowledge debate. It intends to contribute in the study of public domain as mediator between the private in the urban fabric, the dimensions it involves and the methods to enable it, especially in the developing countries context. In the context of the EMU the research is placed under the theme of territories of dispersion, dealing with urban expansion and the new enclave configurations that have emerged as well as re-thinking these configurations and creating new relations between them. Finally, this research is also aligned with studies of the research group 'Design of the Urban Fabric' as it studies how the morphological composition of public spaces and enclaves can be reconfigured in order to create quality spaces that enable public domain.

FIG. 2.12 Gated Communities in the Greater Metropolitan Area. Depicting the same scale variations in size, morphology and typologies are evidenced. Source: google earth, 2018

3 – Methodology

3.1 – **Aim and objectives**

The aim this thesis is to explore possible spatial strategies to adapt public space in order to enable public domain in areas dominated by gated communities in the Greater Metropolitan Area of San Jose, Costa Rica. Through design explorations a set of recommendations can be given to aid urban planners and designers, as well as localactors in dealing with the socio-spatial fragmentation created by the proliferation of enclaves in the urban areas. The objective is to translate the concept of public domain into comprehensive references that can be shared by those responsible for planning, developing and using the city.

The starting point of the research is the assumption that the production of daily small public spaces and spaces for interaction has been left to the private developer; while the government is involved in punctual grand scale metropolitan parks. Followed by a second assumption that this privatization of public areas through gated communities has becomed a mittigating factor for the demand of such spaces on the urban fabric. The analysis of the context and processes of gating will contribute to the understanding of possible process and spatial modifications that can aid in providing conditions for public domain in the city and the different implications concerning the actors involved.

Research Question

Understanding that public spaces mediate between the private spaces, thus having an important role in the confronting process of socio-spatial fragmentation and understanding that the promotion of public spaces can address the imbalance manifested by the privatization of public spaces. (Madanipour, 1999). This thesis will research the possibility of enhancing public domain in areas dominated by gated communities as a way to address the socio-spatial segregation of these complexes and improve their relation to the urban fabric and public space network.

What has been described earlier as the problematic of privatization of public space and the socio-spatial fragmentation it creates reinforces the notion of the deminishing social life as explained by Sennett and Habermas (Sennett, 2002; Susen, 2011). This problematic also contradicts the observations Jacobs made on city life. (Jacobs, 1961)

Public domain, public realm, public sphere, public and private spaces, privatization of public space are concepts commonly used, in some cases as synonyms. However, public domain entails the interaction with others, public realm consist of spaces were people meet independent of ownership while public space are those spaces of

FIG. 3.1 Communal efforts to soften the walls in Barrio Cuba, San José, Costa Rica Source: Munguia, 2018

interaction publicly owned (Hajer & Reijndorp, 2001). In this way, the transformation of the public realm is relevant for the creation of conditions for public domain.

The context of a city where living, working and enjoyment is most probably carried out in a gated compound, where the role public institutions through planning is reduced and the construction market continuous to construct enclaves outside the urban centres is the base for the main research question:

How can the configuration of public realm be adapted to develop public domain for gated communities and areas dominated by this typology?

Sub-Questions:

In the development of sub-questions four main categories were established with the aim of balancing and developing all areas of the research equally. These categories are: What can be done?, How does it work?, How is it applied?, What can be learned? The first category provides information on previous theories and knowledge available on the area of study. How does it work, has to do with the understanding of the context and its characteristics. The following questions deal with design explorations on the research in order to gain further knowledge and reflect on these findings.

What can be done?

- What is the potential of reconfiguring urban space to enable public domain for areas dominated by gated communities?
- How does the understanding of privacy, control and territoriality can help determine the potential of reconfiguration of public space to enable public domain?

How is it applied?

- What area the possible morphological, territorial and spatial transformations that can enable public domain?
- What are the capacities and implications of each transformation? What do they mean for the actors involved?

How does it work?

- What is the configuration of gated communities in the urban fabric? How do they play a role in the evolution of the city?
- What are the interactions between gated communities and public space? What is the quality and meaning of publicness and of the border?

What can be learned?

- What are the determinants and restrictions of the spatial transformations studied? When and where is a transformation possible?
- What recommendations can be given, from the transformations studied, to those involved in the planning and developing process?

3.2 – **Research Structure**

This thesis uses knowledge from morphological, environmental behaviour and socio-urban studies in order to achieve the aim it proposes. The structure here presented follows several reiterative loops that enable adjustments and improvement of all parts throughout the process.

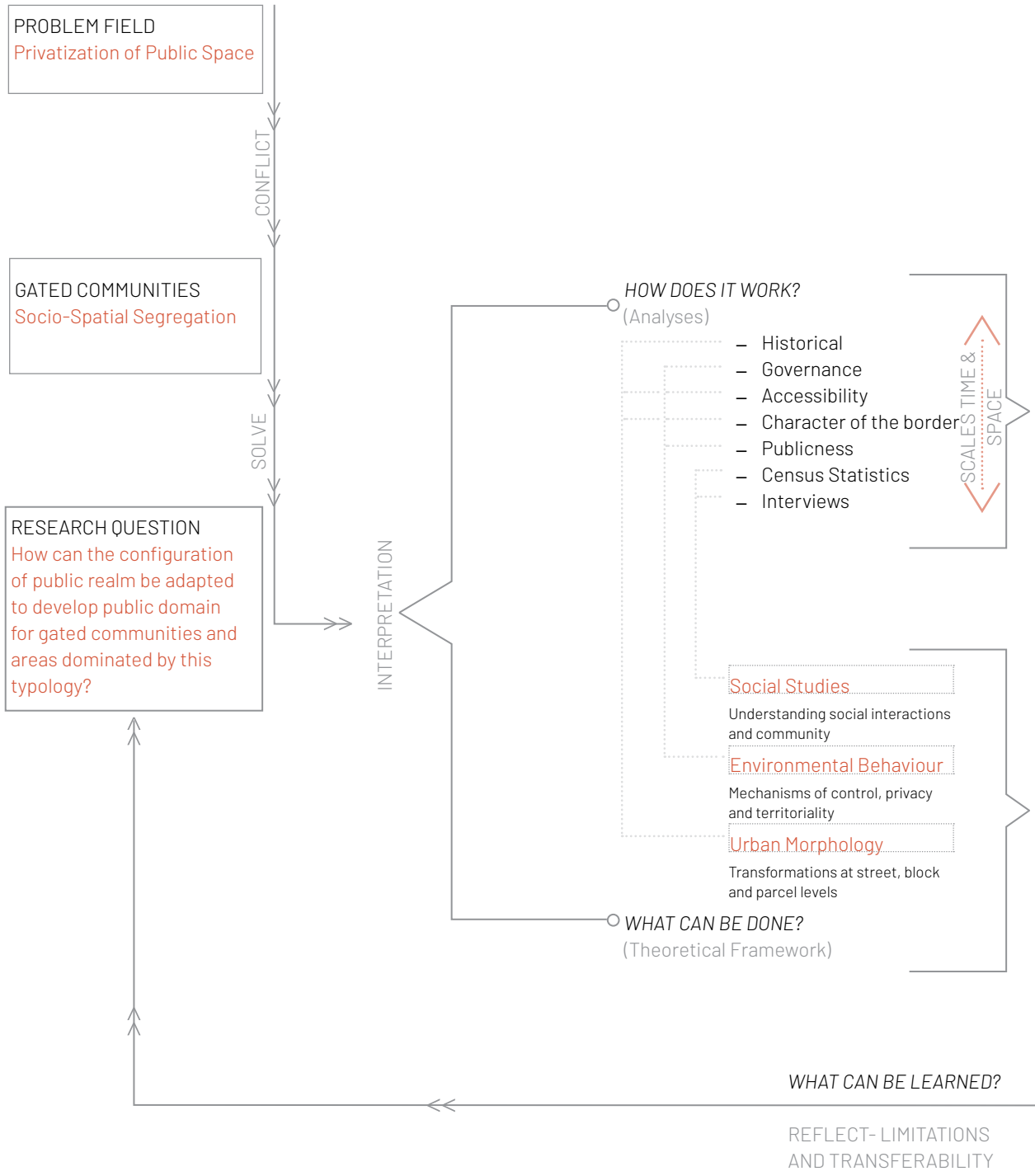
The first part is dedicated to the review of concepts and relations between the public and private. The method is to identify and interrelate concepts and scales pertaining public domain and privatization of public space. The task is carried out with the objective to produce a conceptual and theoretical framework which is used in the following analyses. The product of Part 2 is the understanding of the interrelations between relevant concepts, principles and studies that guide analysis.

The following step is to analyse the context of the Greater Metropolitan Area in Costa Rica using the lessons learned form the first part. The objective is to identify the restraints and potentials for enabling public domain in areas dominated by gated communities. As a product Part 3 will elaborate an overview of the conditions that have shaped the city. Understanding these dynamics results in the identification of possible spatial transformations to enable public domain.

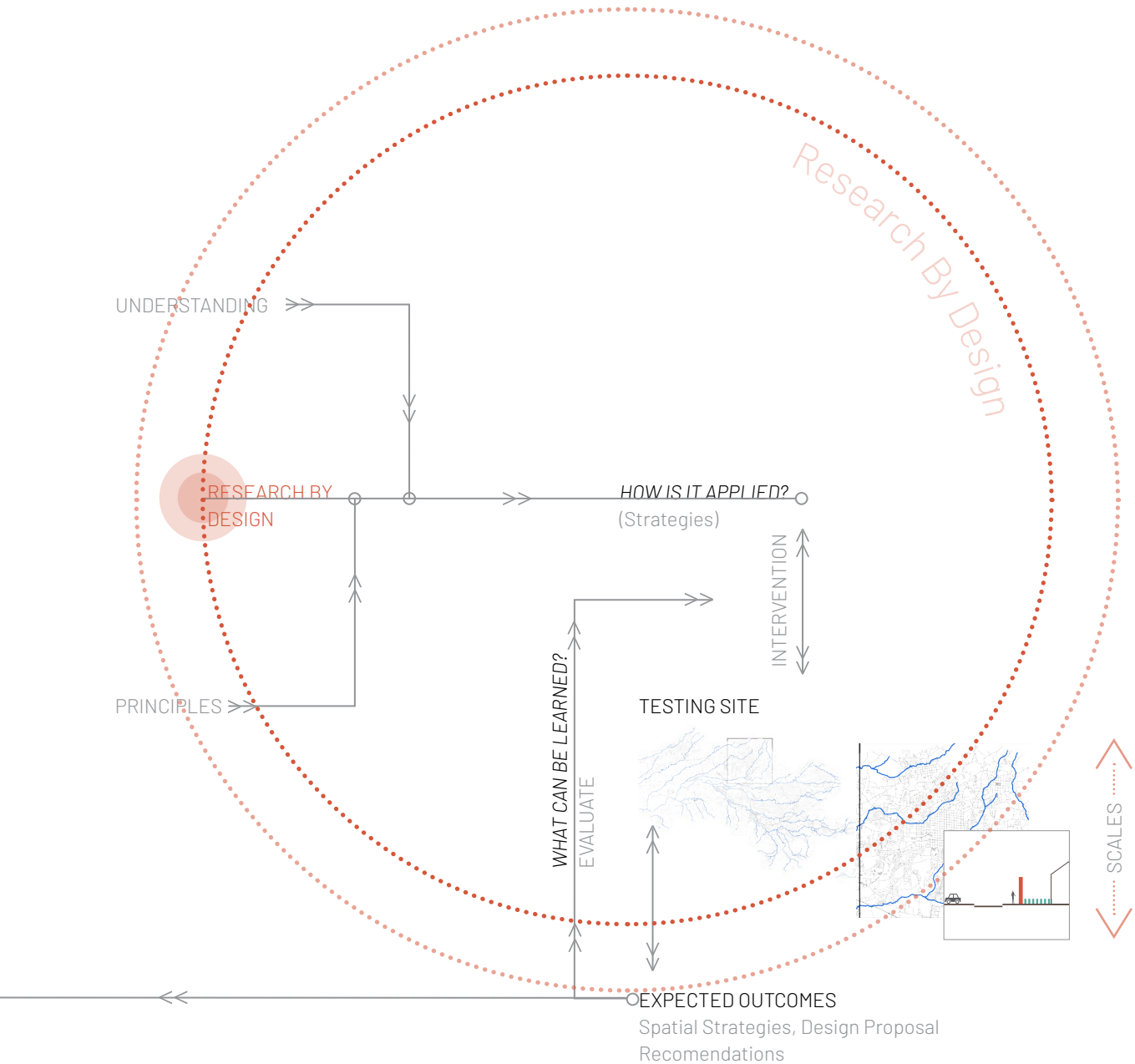
The subsequent section develops and tests through design separately each transformation identified in the previous part. The aim is to understand its operationalization, what changes it allows for and shortcommings. As a product each transformation will be evaluated following a standard criteria, drawing from this relevant recomendations for design and planning guidance that can be derived form the knowledge gained.

The fifth section continues to test through design how the individual transformations work together in creating the potential for public domain by the implementation of them in a specific test area. In this way testing how different changes in urban form, specially the character of the border, improve the public domain condition. This part's main objective understand the interrelations between strategies and the spatial qualities they bring forth.

Finally, there will be a reflective part which will explore to what extent the gained knowledge can be implemented and the possible further developments in this area of study.

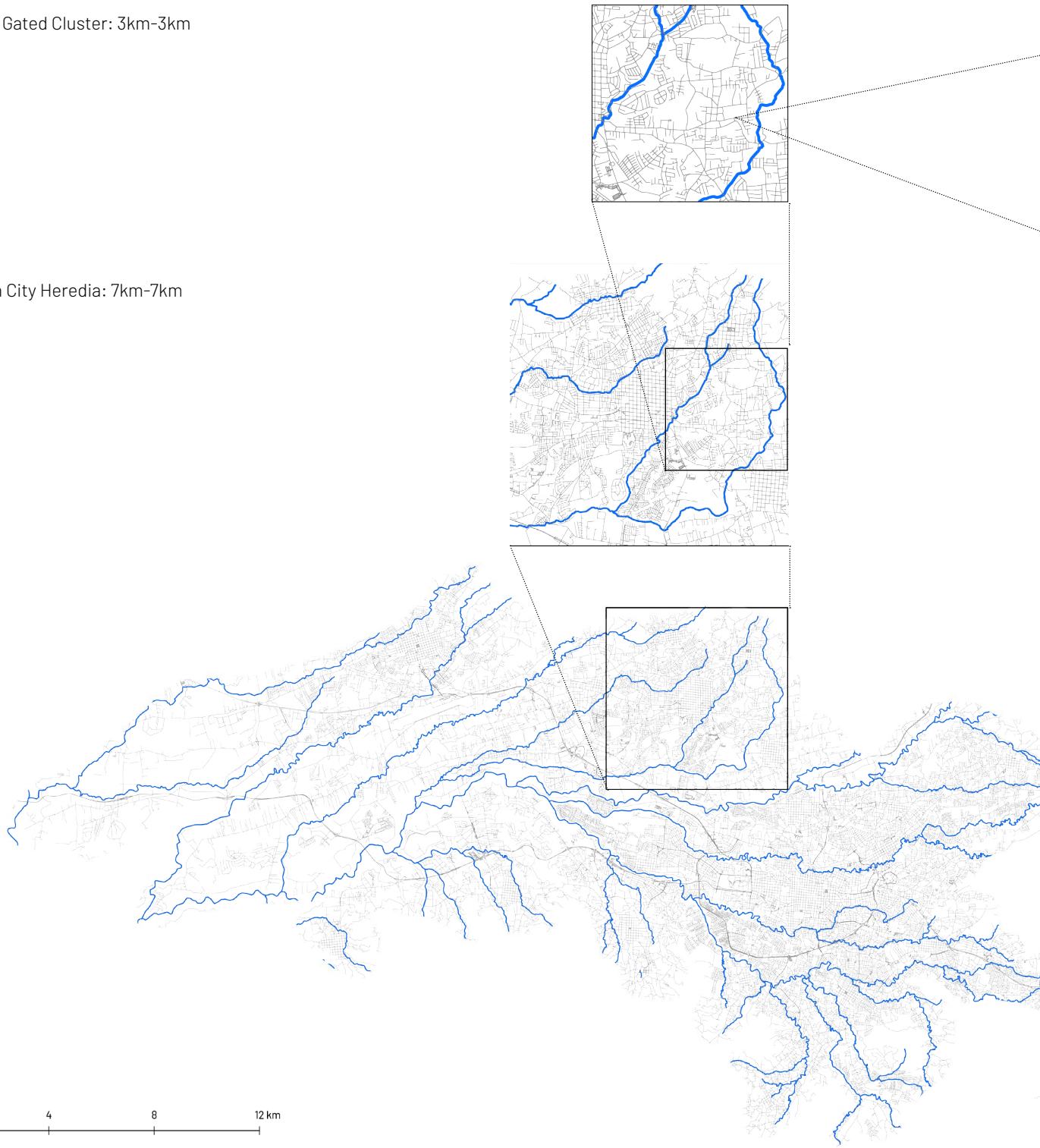

PROBLEM FIELD
Privatization of Public Space
CONFLICT
GATED COMMUNITIES
Socio-Spatial Segregation
SOLVE
RESEARCH QUESTION
How can the configuration of public realm be adapted to develop public domain for gated communities and areas dominated by this typology?
INTERPRETATION
HOW DOES IT WORK?
(Analyses)
– Historical
– Governance
– Accessibility
– Character of the border
– Publicness
– Census Statistics
– Interviews
SCALES TIME & SPACE
Social Studies
Understanding social interactions and community
Environmental Behaviour
Mechanisms of control, privacy and territoriality
Urban Morphology
Transformations at street, block and parcel levels
WHAT CAN BE DONE?
(Theoretical Framework)
WHAT CAN BE LEARNED?
REFLECT- LIMITATIONS AND TRANSFERABILITY

3.3 – **Methodology Scheme**

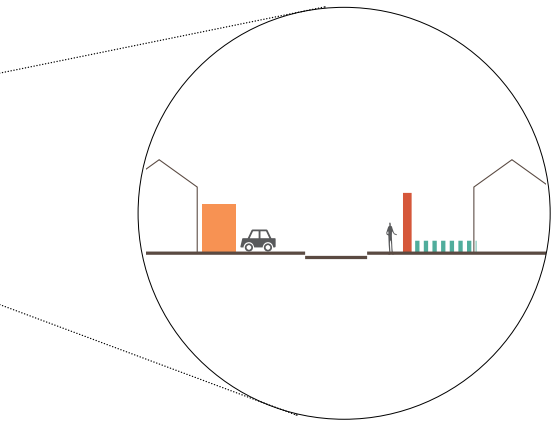


Zoom In Gated Cluster: 3km-3km

Zoom In City Heredia: 7km-7km



Grater Metropolitan Area Costa Rica



3.4 – **Multi-Scalar Approach**

The proposal is developed at three scales that interact. The first scale comprises the whole urban footprint of the Greater Metropolitan Area (GAM) of San José, Costa Rica, as defined by the Urban Regional Plan of the GAM (PRUGAM). As stated before this is the largest urban area of the country which contains four of the main cities, amongst them the country's capital. It is an area consisting of 204,400km2 that houses around half of the country's population on an average density of 11inhab/ha. At this scale it is important to generate an understanding of the whole: its performance and the possibilities of system modification.

The next scale deals with a seven by seven square kilometre area comprising one of the main cities - Heredia - historic centre and its surrounding expansion. This area presents the second configuration of gated communities already defined, in which gated development is located around consolidated urban centres, with various grain sizes according to the proximity to the urban centre. Concentrating in this condition is advantageous because this configuration presents the most potential in the generation of links between the gated communities and urban condition, given the proximity to the centre and diversity of gated configurations in both size and built fabric. It is also a relevant case for it deals, not only diversity in the gated typologies, but also in the relationship between the historical centres and expansion areas as well as with the periphery of the region. Thus, this area represents a further understanding of a relevant part of the whole in which more detail analysis of how the urban and gated configurations work is presented. This results in a more precise and spatial reading; as well as the development of strategic spatial operations required that can be carried on to further improve the relation between gated communities and the public. The findings at this scale can be interrelated with all other scales by further informing the regional strategy and generating guidelines for the following scale.

The smallest scale consists of a three by three square kilometre area on a illustrative sample of the previously selected urban area. It consists of an area that contains high presence of gated clusters as well as the main characteristics of the previous scale, the gradient form urban to periphery in a densely built fabric. At this scale the different operations previously identified are combined and tested through design. The creation of more detail and design proposals that deal with the morphological transformations as well as the spatial quality helps on the evaluation of the proposed operations as the restrictions and benefits of each become apparent. In doing so this scale includes smaller more in detail explorations at smaller scales to explore the interaction between the built and the public.

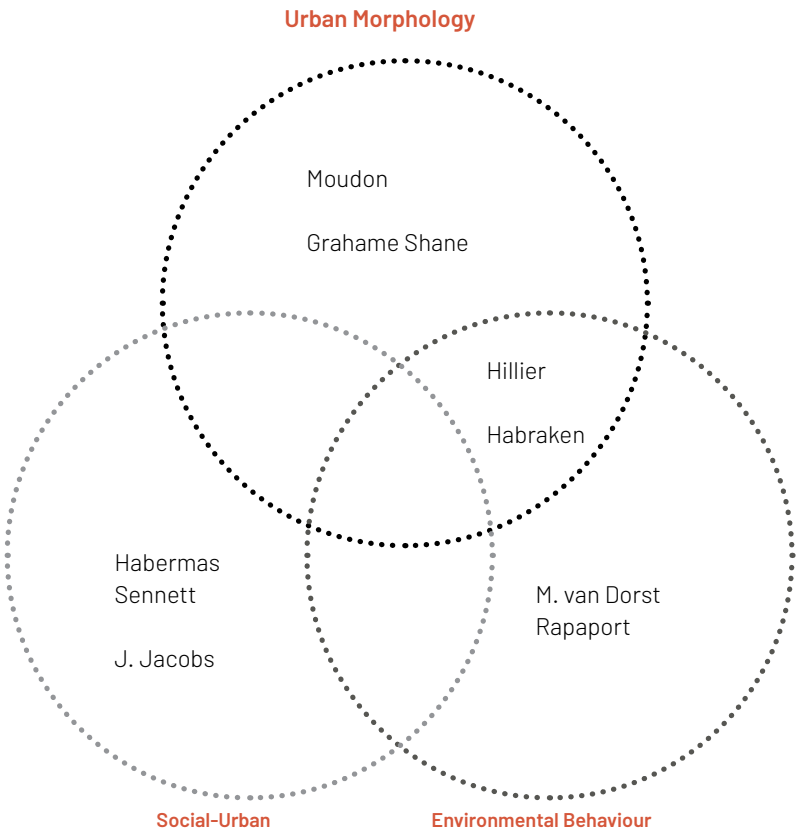
Working through scales provides a cohesive reading of the territory which helps to move from the systematic to operational to design. Each step helps to gain more insight in the territory that can then inform the other scales. Though it is presented here as a linear consecutive method it is actually a reiterative approach carried out throughout the thesis process.

FIG. 3.3 San Jose, Costa Rica. Source: W. Peraza 2008

PART 2

Theoretical framework

| Defining public domain | Understanding the historical interrelations between the public and private | Identity and community in the era of privatization of space | Security and control in a socio-fragmented condition | The potential of public space to enable public domain | Transformation of the built environment |



4 – Defining public domain

This thesis is based on knowledge from morphological, environmental behaviour and socio-urban studies in order to understand the dynamics of urban growth, social interactions and physical characteristics present in enclave developments such as gated communities; along with knowledge on the possible modifications that can be carried out in order to enhance public domain.

Throughout its evolution the city has grown around the interactions between the public and the private, where the public has had the role of mediating between the private realms. As the evolution of the city is understood, it is important to clarify that public and private are not a dichotomy but a spectrum that is often difficult to separate. Another relevant distinction is the difference between public space, public realm and public domain. Public space is publicly owned freely accessible space; however, these might not necessarily correspond to public domain. Public realm are those spaces were people meet others outside their circles. It is therefore, a human construction and temporary phenomenon that includes daily activities and special events as a process of place making. Finally, public domain are places were an exchange between different social groups is possible and does occur. Exchange implies a dialogue on values and the decision to maintain or alter them. Therefore, public domain is considered an informal manifest for diversity that does not necessarily occur in all public spaces, neither is it only pertaining public spaces for it can occur in private spaces as well (Hajer, 2001). This is an important argument to make since this thesis is centered in the facilitation of public domain in gated community areas, hence in the modification of spaces to allow for social interaction between others.

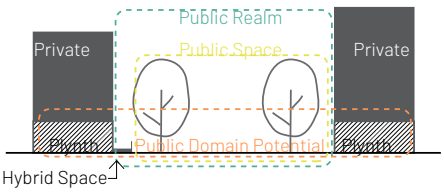
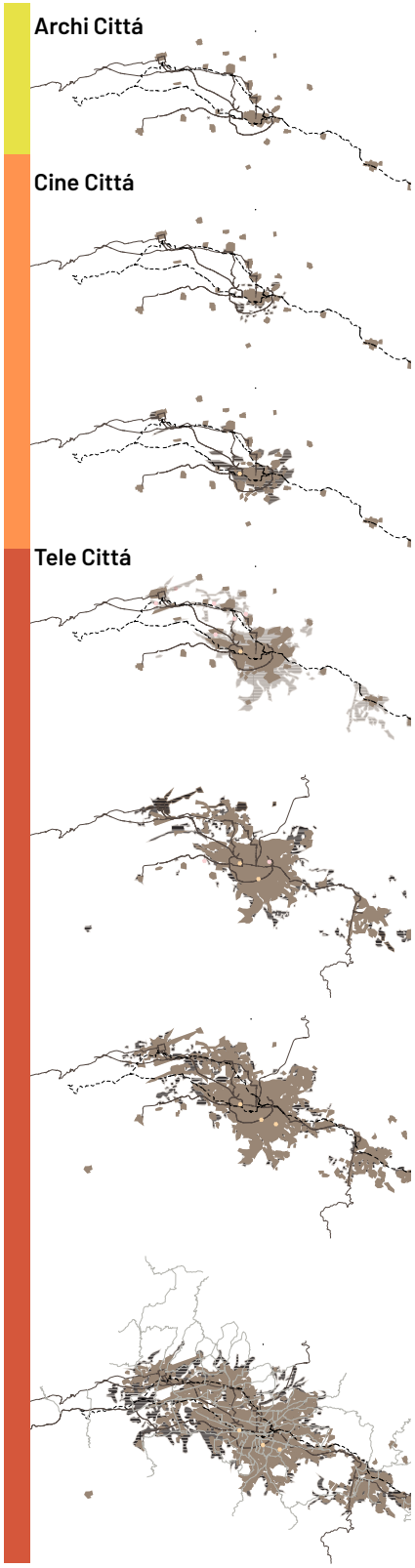


FIG. 9.2 Understanding the Public Concepts. Public space is publicly owned freely accessible spaces. Public realm are those spaces were people meet others outside their circles. Finally, public domain are places were an exchange between different social groups is possible and does occur. Source: Author's modification form The City at Eye's Level.

FIG. 9.3 Author's Interpretation of the different publics in the Costa Rican context. Source: CRvisoron panoramio.com

FIG. 9.1 The evolution of the Greater Metropolitan Area according to Grahame Shane. Source: Author's own based on Google Earth



5 – Understanding the historical interrelations between the public and the private

As stated before, the city is a configuration of relations between the public and the private, but these relations have been modified through history. It is relevant to understand these physical and social changes in order to recognize the existing conditions, its characteristics and the possibilities of modification. Grahame Shane posits that the city has evolved through the configuration of enclaves and armatures. In which there are three major stages the Archi Cittá, Cine Cittá and the Tele Cittá. **Archi Cittá** corresponds to a single centering urban structure generally ordered around the temple or plaza. It's road network is organized from the central point and possessing a walkable armature (Grahame Shane, 2005). Most historical centers follow this enclave configuration. **Cine Cittá** deals with supplementary systems of communication. It corresponds to the Modernist period where technologies and car travel made it possible to segregate and specialize enclaves into monofunctional uses of production, consumption and storage as satellite cities. Flows become of high importance, thus armatures are enlarged and accommodated to car movement (Grahame Shane, 2005). At this point the relation between open spaces and buildings weakens in favour of vast open spaces in between the built resulting in much free-standing space with no connection to other spaces in the city (Madanipour, 1999). Finally, **Tele Cittá** is the multicenter urban form in constant draw of power. It is configured by thematic subcenters of privatization mega malls and gated communities. It is focused on thematization and imagery, new urbanists develop their projects around image the romanticized public life of the past town squares, schools, sports facilities. Historic centres are thematized and developed into nodes for tourism (Grahame Shane, 2005). **It is a city of bubbles in which people can easily choose which areas to avoid and which specific groups to engage with, moving from one enclave to another creating the polycentric region of their own preferences and in this superposing the private over the public.** Rapoport describes this type of city as one where urban space is regarded as waste space to be traversed 'in route' to other places and in contrast with a ideal city where urban spaces are used for diverse activities (Raoport, 1977. pg301) .

The physical configuration of the city does correlate with what the social studies of Sennett and Habermas have pointed out; the erosion of the public sphere. Sennett states that today's society suffers of public erosion that comes from the shift made in through secularized and capitalistic society, terminating in the end of the public culture (Sennett, 1974). This shift is reflected in the change from an outer directed society to a much inner directed one. **Generating tensions between the universal, or communal, and the particular interests** (Susen, 2011). In consequence narcissism has taken a principal role in society; which helps erase the sense of meaningfulness of the social encounter. Now social interaction is determined as a market exchange or a mirror for self-concern.

As capitalism and mass production took force, it eroded the moral aspect of public life. The rise of secularity also contributed to the necessity of understanding the meaning of things and most importantly self-discovery (Sennett, 1974). Thus, allowing for tensions between the communicative function of social life and the more instrumental market utility driven interests, as Habermas would state. Capitalism also lead to the tendency towards commodification and mass media as means for class antagonism (Susen, 2011),

Current society operates under the pervasion of fraternity, which is concerned with the need for a sense of community and bounding over common ground generate close groups that alienate the "others". Each group could then be further subdivided into subgroups leading to fratricide (Sennett, 1974).

As society turns inward and individualistic it is fragmented form social life technological changes, growing population and specialization of activities have contributed to the disintegration and de-spatialization of the public sphere (Madanipour, 1999). In this way the significance of public space as mediator between the private is lost, it is no longer the node of integration of different social networks; however, it still holds the potential of playing an active role in public life once again contributing in this way in the creation of public domain.

Though the writings from Grahame Shane, Sennett and Habermas have a different cultural and historical context, Costa Rica does follow to a certain degree the urban and social evolution here described. Archi Cittá, Cine Cittá and Tele Cittá features can be found in the evolution of the city. Likewise, society is undergoing an individualization that comes with the disregard for public spaces and better interests in maintaining the private. The further understanding on the transformation of the public and its relations to the private will be critical for understanding the potential of public spaces to once again foster public domain.

6 – Community in the era of privatization of space

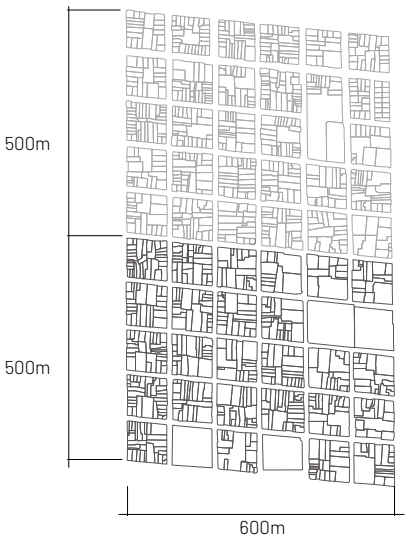


FIG. 9.4 Ideal size of a homogeneous neighbourhood is condition by the socio-cultural context but might range between 30-60Ha but is also dependent on density as 200,000 inhabitants is already an heterogeneous group according to Rapoport (1977)

FIG. 9.5 Organized Community of Merced, Costa Rica which searches for the improvement of the public parks in the neighbourhood. One example of communal participation in the country, however Costa Rica is the country with least civic participation in the continent. (PNUD, 2013) Source: CRHoy

The decline in the social life indicated by Sennett and Habermas and justified spatially by Grahame Shane brings along a decline in the sentiment of identity, community and belonging to a specific neighbourhood. As seen in the introduction gated communities and housing associations do not necessarily aid in building a sentiment of community, but in some cases might contribute to the sentiment of anonymity. Delanty in his book Community coincides that the rise of capitalism produced a disenchantment with community. He further posits that the city was initially an expression of civic community as a place of social interrelations. As cities are absorbed by the state they loose autonomy therefore, identity is shaken (Delanty, 2003). In this way the city has lost its connection to community and lost the remnants of locality with the aid of globalization and privatization of space including gated communities.

In his description of the human interactions in the urban Rapoport does provide helpful insight in the creation and organization of neighbourhoods and communities. Stating that neighbourhoods and communities appear due to the need and natural tendency of clustering in small, homogeneous groupings; Rapoport argues that homogeneity is not a problem and that in some cases forced heterogeneity can be as bad as segregation. In this way homogeneity through voluntary association provides a comfortable environment of similar preferences in which it is easier to agree and self-govern; while additionally providing the necessary critical mass for specific services. **The distinction is that inner neighbourhood homogeneity does require surrounding heterogeneity** (Rapoport, 1977). This hints on the scale at which community functions, as the city grows diversity increases making the sense of belonging possible in smaller localities. This is not to say that unity through diversity is not possible, some conflict can become the base of integration and lead to a stronger ties (Delanty, 2003). Cities are therfore, composed of a rich and varied sampling communities arranged side by side in which the degree of separation depends on the compatibility between them and the **provision of social services** serve as means for interaction and symbolism (Rapoport, 1977).

With this regard Blakely shares a list of elements that play important roles in building communities like **sharing territories** both tangible and intangible, shared values and commonalities, **shared public spaces**, shared experiences, shared support structures for aid and **bringing together through activity** and finally shared **mechanisms for future guidance** in which home owners associations can play a relevant role (Blakely, 1997; Delanty, 2003). The reclusion to the suburbs and gated communities does entail a longing for community, to a certain degree. Therefore, **local communities can be strengthened by strategies that enhance participation and self-sustainment and providing spaces where such activities can take part**. The improvement through such strategies would help in the development not just of community but of public domain as well.

Along side these strategies to strengthen community the **provision of neutral spaces** of interaction is important, because people from different communities meet in such spaces and retire to their homogeneous neighbourhoods. Though different groups have different definitions and requirements for a neutral space, interactions in these type of public spaces are commonly considered less agressive than in their home turf allowing for more receptiveness of others (Rapoport, 1977). Delanty names such interactions 'Liminal communities' or temporary communal links that emerge from the daily interaction with others therefore,much of the urban experience is carried out through these interactions (Delanty 2003). Furthermore, as homogeneous neighbourhoods cluster, their areas of influence can overlap creating **common meeting grounds** of significance to both which provide more opportunities for public domain (Rapoport, 1977).

In this way mapping those neutral and common spaces of interaction currently available and accessible in the research area is of importance for the understanding of the social interactions present. Additionally, can provide insight on the areas that lack such spaces and the possible opportunities for creating them. It is important to highlight that though gated communities do provide recreation areas and interaction within them, due to the rigidity of the border areas of influence are limited and common eeting grounds might be difficult to encounter.

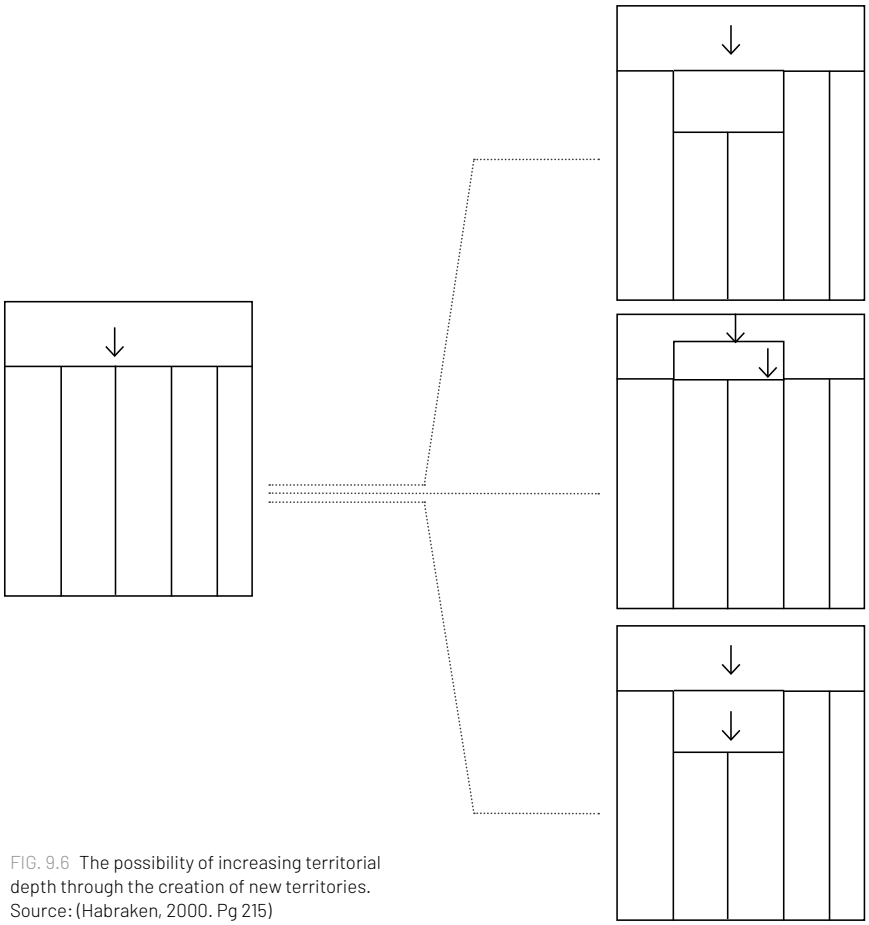


FIG. 9.6 The possibility of increasing territorial depth through the creation of new territories. Source: (Habraken, 2000. Pg 215)

7 – Security and Control in the age of socio-spatial fragmentation

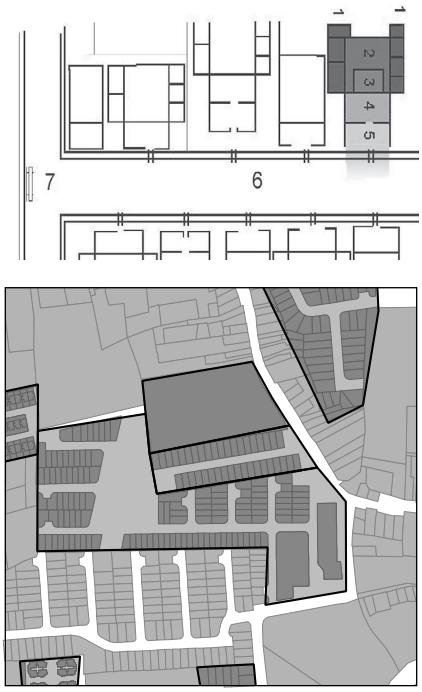


FIG. 9.7 Above Privacy Zoning of Tunjungan. (Dorst, 2005, p. 107) Bellow the author's adaptation to a gated community environment. First observation is that the transition between the more private to the public is not so seamless as in Tunjuan, in Costa Rica people do not enter of interact with private property unless invited, this is further accentuated inside the gates.

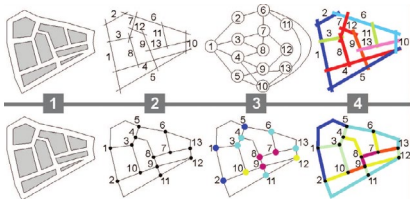


FIG. 9.8 Space Syntax conceptual formulation of relations Source: https://www.researchgate.net/publication/7179558_Centrality_in_Network_of_Urban_Streets/figures?lo=1 (accessed: 12/06/2017).

The previous section deals on how community has been degrading and the possibilities to recuperate it. The loss of community has left new spatial structures as system of social control through surveillance and fragmentation. (Delanty, 2003) Environmental behaviourists and urban morphologists have studied these interactions between people and spaces, as well as the mechanism for control and surveillance to understand the inner functioning and opportunities for change available.

In the Structure of the Ordinary Habraken (2000) studies the organization of the physical built forms and territory. He explains control through the system of 'live configurations' each of which corresponds to a self-organizing entity that is under the control of one agent. The different sets of live configurations are arranged through levels and hierarchies, each allowing a defined degree of control. Throughout the hierarchical levels equilibrium is sought and mechanisms of dominance and dependence are set in place to allow for such equilibrium to be reached. The **territorial explorations made further give insight on the relations between the agents as processes of controlling spaces** (ibid.). Adding to this it is possible to understand how through the mechanisms of control different 'live configurations' can overlap at the same territory with particular identities and meanings, hence creating diversity (Read, 2009).

Diverse s**paces provide spaces for interaction**, but the type and level of interaction should be also addressed. M. van Dorst has identified the spatial component that socially indicates the interactive capacity of a space, in doing so he explains the relevance of the privacy and **control, which is the relation between the expected privacy and the perceived one.** He contends that the spatialization of such control methods are territories in which a clear demarcation of space contributes to the legibility of the environment. This translates in practice to what he calls 'privacy zones' defined as the model of zones with **different meaning for privacy and social interaction. Ideally privacy zones should be present as a gradient through all scales**. Therefore, these become a social code that lets the user decide who they want to meet and the degree of interaction they want (Dorst, 2005; Rapoport, 1977). It is important to mention they are cultural dependent for it is not easily read by visitors form other cultures. If this balance is not achieved, or if it is disturbed, the result is social stress (crowding) or loneliness (Dorst, 2005).

Hillier and Hanson (1984) also made relevant contributions to the mechanisms of control through the relationship between people and buildings, for they contend that the spatial order of buildings relates directly to the ordering of social relations. In this way Hillier and Hanson set to develop a spatial classification that with help of anthropological evidence allow them to specify the requirements for the theory of space. By understanding the different types of relations in the urban patterns

(topological distance, geometrical and metric distance) according to the possition on the network. In doing so they shed light into the structure of flows and street integration at different levels, which reveal main routes, centralities and commercial axis of a network. In this way they could understand degrees of activity, privacy and security on an area according to the positioning and connectivity in relation to the network. Rapoport also links **network and accessibility as key factors on the location of neutral spaces,** permanent routes and activities in this way the more specific a space or activity is to a certain neighbourhood the less accessible it should be; activities and public spaces therefore also should behave as a gradient (Rapoport, 1977). Drawing from this research Read states that neighbourhoods in the urban fabric are connected by segments to the supergrid, being these the most public and active streets in the neighbourhood. Place value and access to public spaces is thus related to the distance to such segments (Read, 2009).

The understanding of the control mechanisms here described is important for the thesis, since they give hints on the possible effects different types of strategies could bring to the project. The understanding of the 'live configurations' gives insight on the level and scale that actions need to carry out, which are the sub-levels and actors that would be affected and in which way. Likewise, privacy zones are relevant to comprehend where the potential for public domain exists and what types of interactions could be expected according to the level of privacy a space is at. This goes in hand with Hillier's teachings which can help identify missing links in the configuration as well as the level of segregation of a particular area to the rest of the urban fabric.

8 – The potential of public space to enable public domain

On the previous sections it has been explained how public spaces are mediators between private spaces and are used for variety of activities according to physical access, the levels of agency. Total separation between public and private realms leads to privatization, which can be interpreted as the decline of community. (Susen, 2011) In this way the promotion of public spaces can be seen as a method to confront fragmentation, "by creating areas in which people intermingle, it is hoped that different people can be brought together and a degree of tolerance be promoted" (Madanipour, 1999, pg7).

With her observations on the Greenwich Village, Jane Jacobs comes to valued recommendations of the character of public spaces to ensure they continue to function as spaces for social interaction. From her we learned the importance of eyes on the streets for security, the need for multifunctionality to attract liveliness to the street, pedestrian friendly urban grid characteristics, higher densities to ensure people on the streets, the importance of social mix, among others (Jacobs, 1961).

It is clear that **to develop monofunctional areas into public domain a change perspective needs to occur**. *"We must rekindle the lost relationship between the social and the physical space, between form and meaning, with an eye to differences and relationships as well as bear in mind the demands of a mass culture in flux"* (Hajer, 2001, p. 117). In doing so **liminal spaces** are potential key meeting points capable of becoming public domain. Hajer points that possible strategies for public domain are the theming of spaces, compressing activities and actors and connecting.

"*...we must focus much on the design of transitions, the crossings, the connections and the in-between spaces than in the past. It is here that we can imagine public domain experiences...the design task for the public domain does not rest on the intermingling but in once again making structures that connect those dissected worlds in the design of the in-between spaces*" (Hajer, 2001, p. 129).

FIG. 9.9 Plaza de la Cultura a very accessible and active plaza in the centre of San Jose, demonstrates the hability of such spaces to allow for public domain. Source: thecrazytourist.com

9 – Transformation of the built environment

So far the section has explored the urban evolution of cities its relation to social behaviour, as well as the diverse mechanisms for control and privacy that exist. In doing so potential areas and network relationships that foster interaction have been indentified however, in oder to modify such spaces morphological transformations and operations in the urban fabric need to take place. By understanding the 'live configurations' and agencies of control on the territorial level it is possible to read the degree of change and transformation each level allows and the further effects those will have on other levels. As Habraken states (2000) the only permanent factor of urban environments are continual change and adaptation.

In this matter V. Moudon (1986) has significant insight on urban transformation. She suggests that **gradual transformations are characteristic of time and resources.** Generally, the smaller the scale the more continuous and imperceptible the change and at a larger scale the slower and more radical. Still more importantly, transformations are results of necessary interactions between people and surroundings. It is because of this behaviour and through the acknowledgement of the existing form that the results become context specific. For, the insertion of new elements into the existing setting results in a special blend of buildings and spaces that is different form neighbourhood to neighbourhood (ibid.).

Likewise, **the rate and way change occurs is directly related to the urban form**. **Moudon suggests three units of transformation: the parcel, the block and the street**. The **parcel** is set to be the strongest and most rigid determinant of urban form, if it is not for demolishing or the restructuring of landholding, interventions are forced to follow the organizing force of parcel ownership and form (ibid, p. 134). It is only through concentrated and strong proposals that the original scheme can be disrupted and for the most part such actions are punctual and limited to strategic interventions in selected city areas. Hence, parcellation becomes the 'hard rule' that remain in evidence after many decades in which a small plots configuration is equivalent to high control for residents, slows rate of change by large scale real estate development, promotes ownership independence, identity, and caters to pedestrian. However, the 'soft rules' also play a key role in transformation, setbacks can be appropriated and extensions usually find their way into them (ibid.). Therefore, front setback and gardens become a key spaces for the enforcement of social interaction, while additionally aiding with the provision of ecosystem services.

At a **block leve**l change must do with block size; big blocks reduce permeability of the network, distort distances and allow for fewer route alternatives therefore, promote a car based living condition. On the contrary, small blocks give a more permeable network and allow for more route choices with shorter distances, thus favouring pedestrian mobility (Harvey & Aultman-Hall, 2015). At the same time the transformative capacity of blocks deals with scale of open space and its degree of

appropriation (Moudon, 1986). These configurations provide large opportunities for transformation in which the inner block condition can be developed, densification strategies can be applied, the green can be programmed and the diverse levels of privacy zoning can be addressed to eliminate the anonymity. In short and relating to other block conditions the available open spaces at a block level can be treated to enable public domain.

Streets on the other hand function as a social interaction facilitator, which has been diminished by traffic priority. As the amount of through traffic increases the social interaction diminishes (Dorst, 2005). In this way "while wide streets may seem at first a waste of public resources, they often present tremendous opportunities for recapturing public open space in the city" (Moudon, 1986, p. 160). A wide street therefore can include the social interaction component as: visual setting, entryway for each house, pedestrian circulation, meeting place and play area (Ben-Joseph, 2007). Thus, it can be concluded that the public realm of streets and blocks provide more opportunities for transformation and the enhancement of public domain. As such interventions should prioritize and gain on this condition.

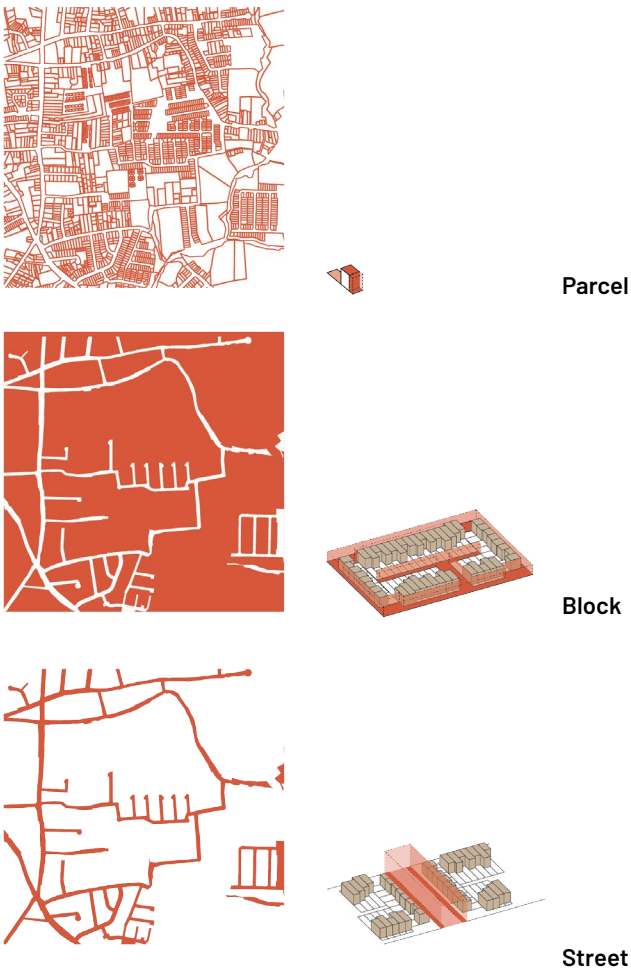


FIG. 9.10 Author's interpretation of the space available for change according to Moudon

"To ***use*** built form is to excercise some ***control***,

and to control is to ***transform***." (Habraken, 1998)

10 – Framework Synthesis

Habermas_ the demise of bourgeois social life due to tensions between the individual and universal, commodification and the communicative functions

Sennett_ The inward shift of society due to secularization and capitalism

Jacobs_ on good practices that ensure use: mix use, community parks, concentration, eyes on the street, neighbourhoods

Neighbourhoods Community

Delanty_ Shared aspects of community, the small scale character and importance of communication and participation

Rapoport_ Neightbourhood as homogeneus unit linking individuals to city, neutral spaces of socialization link neighbourhoods

Habraken_ Control according to *Live Configurations* through levels and hierarchies and the possibility of change at each level.

Van Dorst_ Privacy Zones

Hillier_ On network location related to integration and commercial activity. On security through studies on inter-visibility, topological depth and density of entrances

Rapoport_ On the interaction between the public and private. The importance on the networks position which reflect on the intensity of activity and privacy.

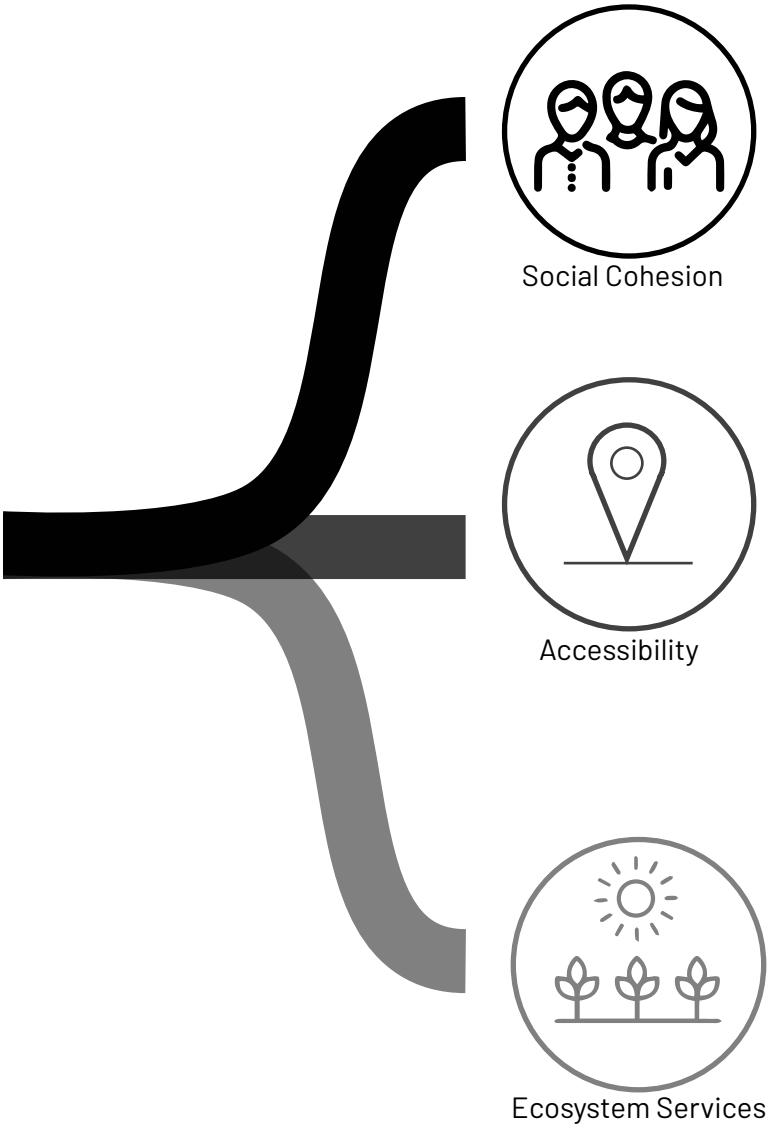
Moudon & Habraken_ Units of transformation and the different temporal cycles of transformation.

Grahame Shane_ Character of the border through the configuration of enclaves and armatures

Hillier_ Network transformations

Quality of Life

(Reduction Socio-Spatial Fragmentation)



The theoretical framework has indicated different possibilities in the reduction of the socio-spatial fragmentation and transformation of available spaces to enable the interaction with others. All together, reducing socio-spatial fragmentation and providing more spaces for socialization, will allow for an improvement of the quality of life of the city's inhabitants.

There are a set of principles that influence the physical environment on quality of life. This set of main spatial principles can be divided in three main categories here described: social cohesion, accessibility and ecosystem services.

For this thesis social cohesion and accessibility principles come from the social and environmental behaviour studies revised, while the ecosystem services are a consequence of the previous two.

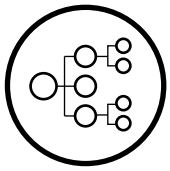
Therefore, social cohesion deals with the concepts derived from Habraken, Rapoport, Delantly, Van Dorst and Jacobs

11 – Design Principles

Neutral Places of interaction

Territoriality and control

Multifunctionality



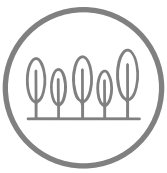
Hierarchy

Community

Access to transportation

Access to Services

Access to green



Ecological enhancement

Recreation

Health

Urban benefits (heat island, water retention)

as are: provision of neutral spaces for interaction, the modification of territoriality and control and the importance of hierarchies and gradients of activity and publicness, multifunctionality and community.

The accessiblity principles adress the network characteristics described by Hillier and the importance of combining the network hierarchies with the different services to provide access to them.

As a consequence of a more dense network of public spaces and green areas ecosystem services can be enhanced. In this way improving the ecology of the region, reducing the negative environmental effects of urbanization like heat island and impermeable surfaces and finally reducing stress by the provision of leisure, green areas for recreation and sports.

PART 3

Reading the Territory

| Region Overview | Urban Growth and Transformation of the Public and Private | Governance | Census Mapping | The character of the border | Publicness Levels | Network Analysis | Accessibility to public transport | Accessibility to Public Spaces | Synthesis |

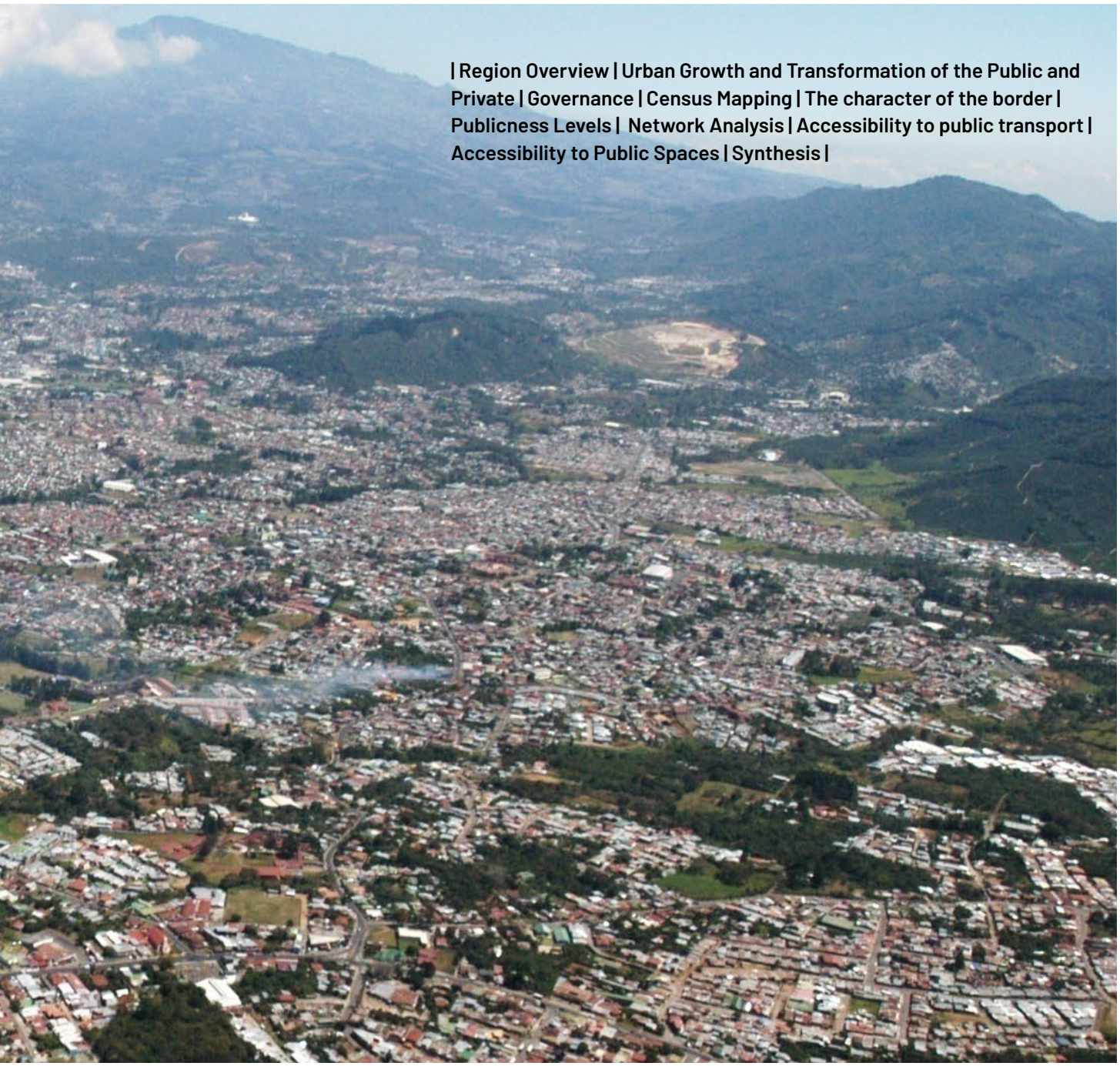
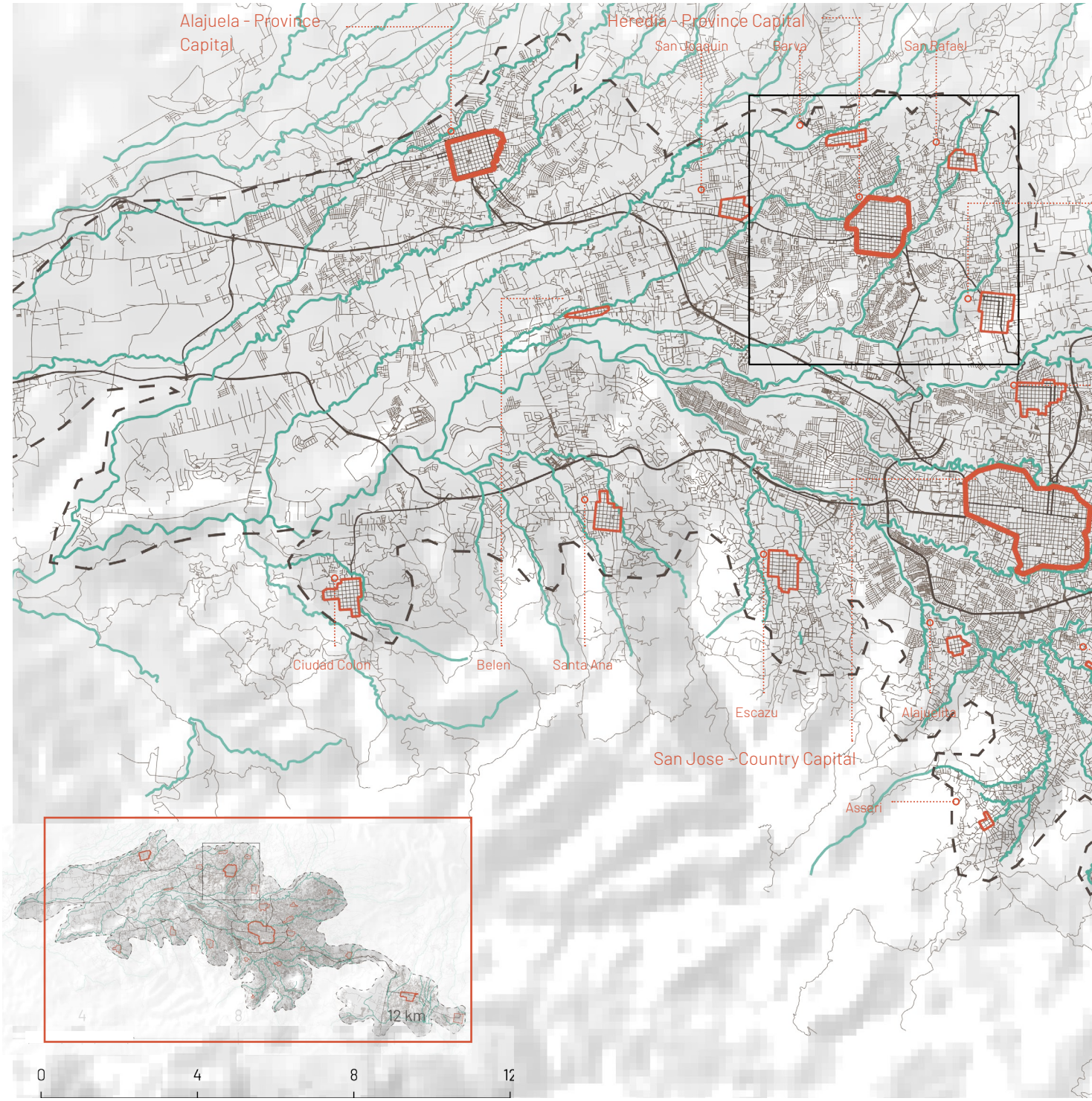


FIG. 11.1 Southern area of San Jose. Source: PRUGAM, 2004


Alajuela - Province Capital
Heredia - Province Capital
San Joaquin
Barva
San Rafael
Ciudad Colon
Belen
Santa Ana
Escazu
Alajuelita
San Jose - Country Capital
Assari
12 km
0
4
8
12

12 – Region Overview

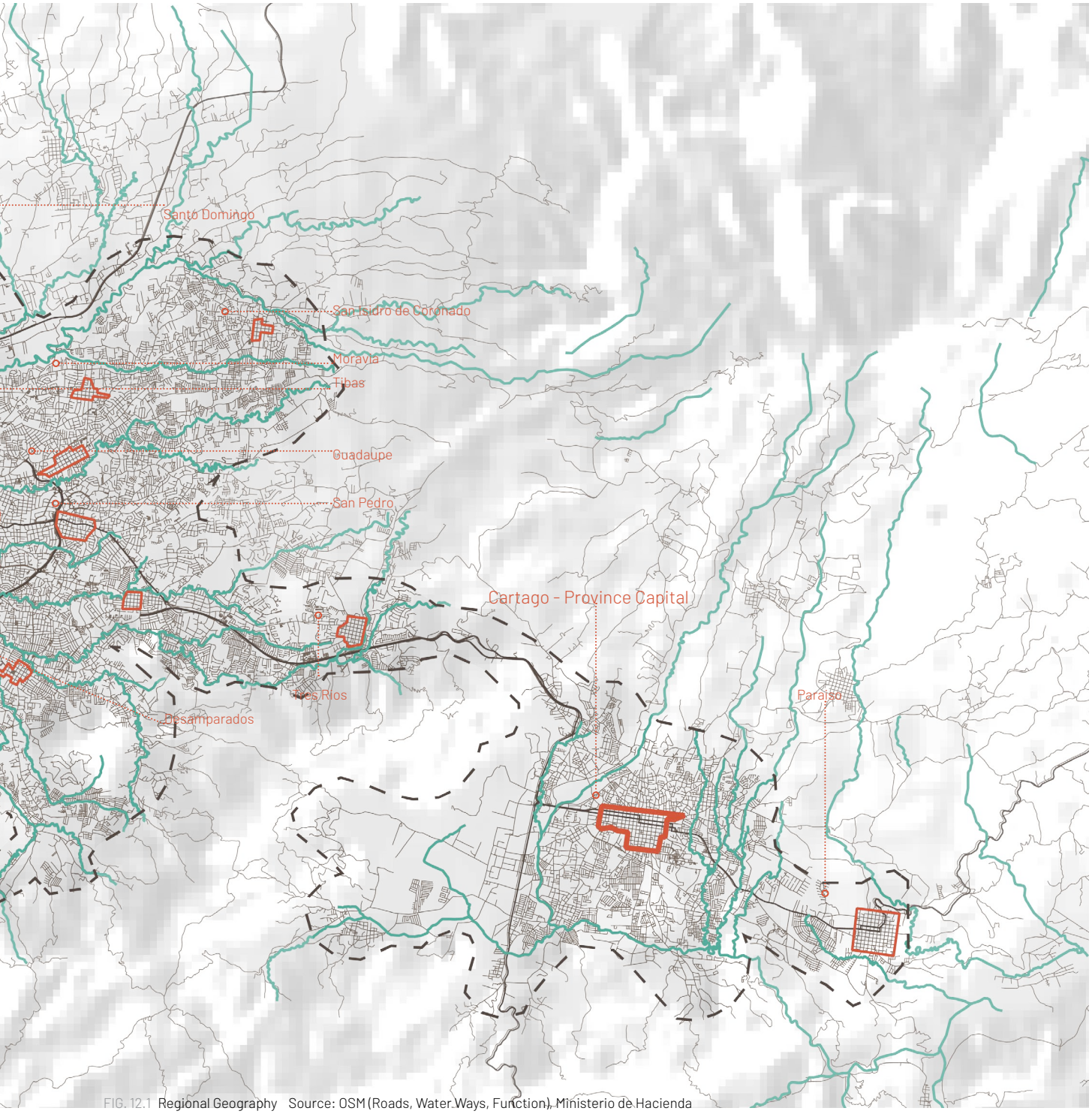
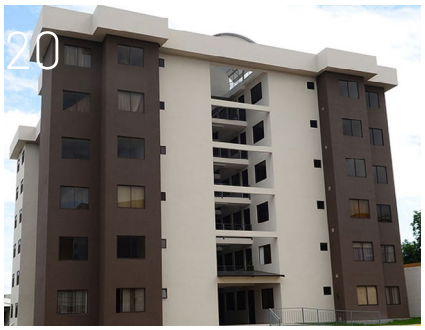


FIG. 12.1 Regional Geography Source: OSM (Roads, Water Ways, Function), Ministerio de Hacienda

FIG. 12.2 Different gated complexes in the region. 1-Condominio San Marino, Tres Rios. Source: costarica.amervivienda.com 2-Condominio Brisas del Oeste, San Jose Source: surplusre.comcom 4- Rincon de las Brisas, San Pablo Source: encuentra24.com 5- Condominio Fenicia, Alajuelita Surce: desarrollosmetro.com 6- Condominium in Santa Ana Source: surplusre.com 7- Condominio Hacienda Flores, Heredia Source: qcostarica.com 8- Condominio Montesol, Santa Ana Source: surplusre.com 9- Valle del Sol, Santa Ana Source: costaricaluxuryestates.com 10- Concasa, Alajuela Source: condominioscostarica.com 11- Condominio Rincon de las Brisas, San Pablo Source: encuentra24.com 12-Condominium in Escazu Source https://www.encuentra24.com 13-Condominium in Belen, Source: sucasacr.com

Overview of Gated Complexes in the region



14-Condominio Andares, Heredia Source: commons.wikimedia.org, by Andres Velarde 15-Valle del Sol, Santa Ana Source: costaricaluxuryestates.com 16- Hacienda Los Reyes, Alajuela Source: losreyescr.com 17- Condominio Residencial Los Diamantes, Alajuela Source: losreyescr.com 18- Condominio Montesol, Santa Ana Source: surplusre.com 19- Condominio Fenicia, Alajuelita Surce: desarrollosmetro.com 20- Condominio Torres Monterrey, Hatillo Source: http://qcostarica.com 21- Condominio Montealondra, Moravia Source: http://search.vivilat.com 22-Condominio Bellavista, Heredia Source: condovitabellavista.com

The reading of the territory will follow the lessons learned from the theory with the aim to understand its composition and functioning and identify the potentials to address the socio-spatial fragmentation.

The first reading is carried out through looking at the chronological development of the city, its residential structures and public realm. The objective is to identify the why and how; identify the different spatial structures present and determine the space available for social interaction

FIG. 12.3 Vertical Gated Communities in Escazu, Costa Rica. Source: PRUGAM 2004

13 – Urban Growth and Transformation of the Public and Private

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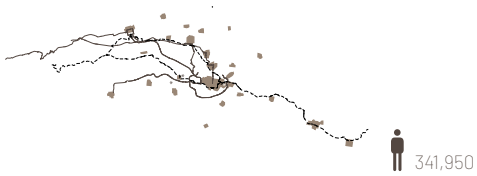
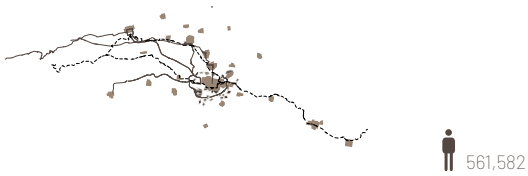
Cine Cittá

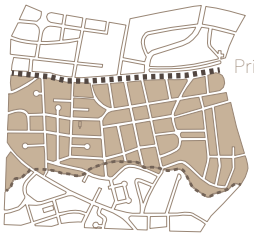




1955

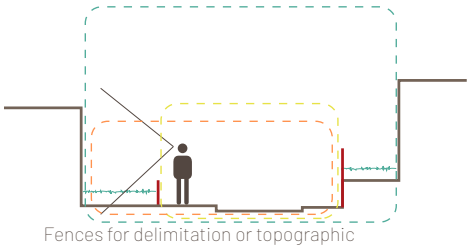
1965

First Sub-Urbs

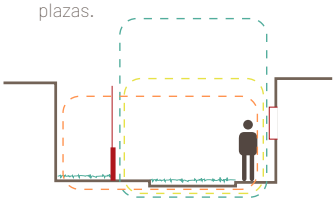


Welfare state- Stallite
Residential City

High density 1story single family housing on a network of parks and plazas.



Fences for delimitation or topographic purposes



Defensive Fences and Fenced windows due to dense environment and narrow streets

ne Cittá

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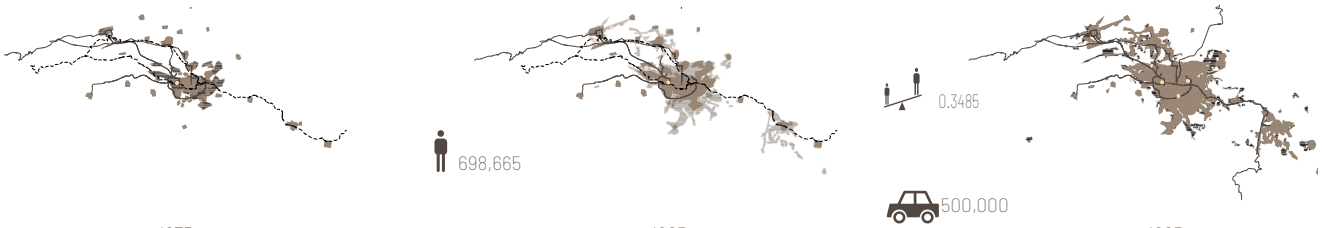
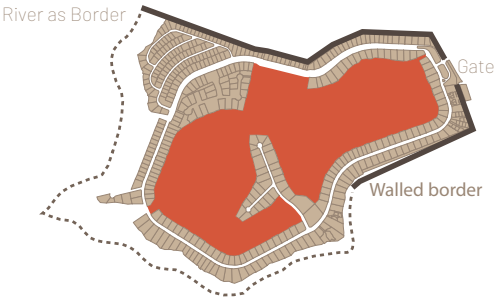


Airport relocated-Metropolitan Park
First Amusment Park
Plan GAM 82
Freezones Law
Land Fractioning and Urbanization Law
First Gated Office Complexes
Parque de la Paz
First Shopping Mall
Abolution Rail Transport

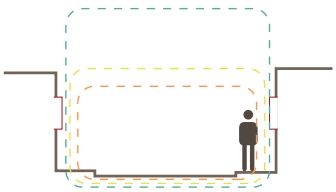
Cul de Sac- Deformation of the traditional grid

Morphologial shift the traditional grid adapts to topography and creates mechanisms of control and segregation as cul de sacs and dead end streets with high topological choice.

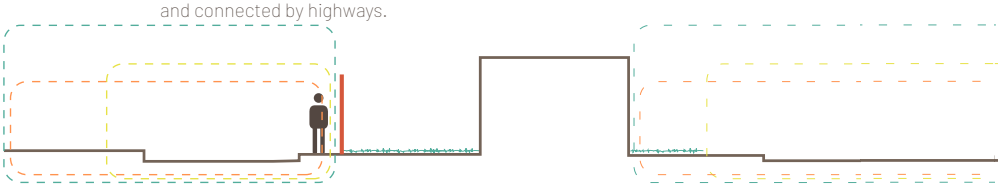


First Gated Communities- Disconnected form urban structures

Exclusive communities of detached high priced single family houses with big leisure ameneities. Located far form the urban centers and connected by highways.



Due to size of parcels front yard is eliminated to maintain backyard. Fenced windows prevail.



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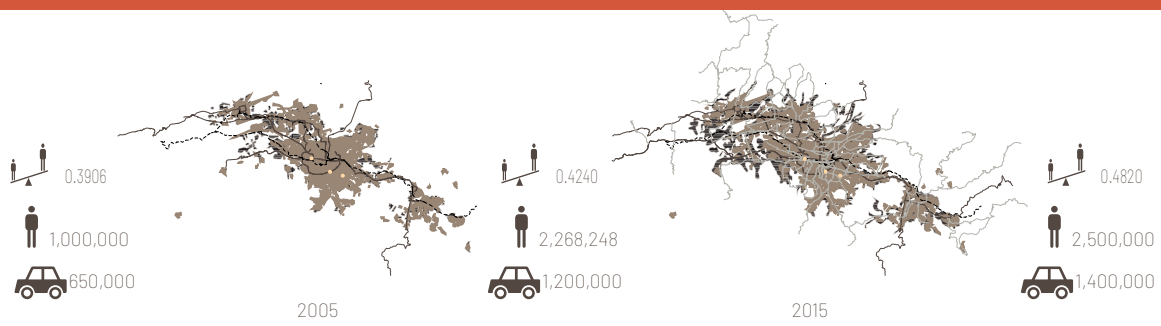
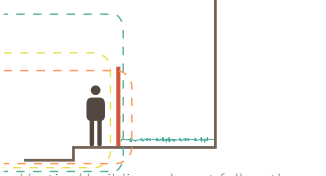
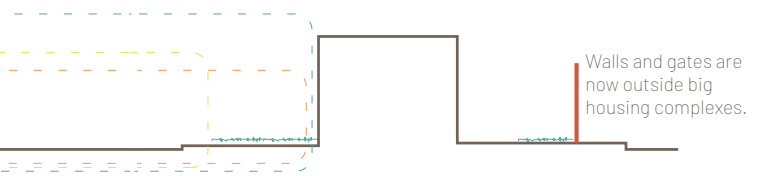




Vertical buildings do not follow the streetscape composition but set back and are protected by peripheral walls



The time-line shows how as the city grew following major infrastructure, so did car ownership and inequality. The shifts in residential configuration shows how the public space and public realm have been reduced to the street and sidewalks, however the potential for expanding the public realm and creating the conditions for public domain exist in actively engaging setback areas to provide spaces for interaction and not hiding them behind a wall of fence. Likewise, gated complexes usually contain broad and underutilized streets that can be considered to generate public domain from within.

"I don't believe we like to like behind walls, but that we have been forced to under the circumstances and lack of urban vision from both the authorities and the population. Vary true to the Costa Rican character having low official public response solutions come individually, thus the gates. However, in my research for PRUGAM studies were carried out that show that there are still traditional neighbourhoods at a district level that have a heterogeneous social mix but they are being threatened by gated communities that support socio-spatial segregation."

"From an urban point of view, we can all agree on the negative effects gated communities bring, in Costa Rica they are developed under the 'Condominium Law' which is a good mechanism if it is used to generate density in urban centres that require it; but not as it is used in our context which is the opposite, low dense urban expan-sion. I am afraid the structural damage is done. Though, our urban strategy should prioritize compact city models, having such extensive development in suburban areas would require an investment strategy. Such strategy should complement the already built by recreating smaller more compact nuclei around the existing. Still the pub-lic policy is first and foremost the existing consolidated urban centres."

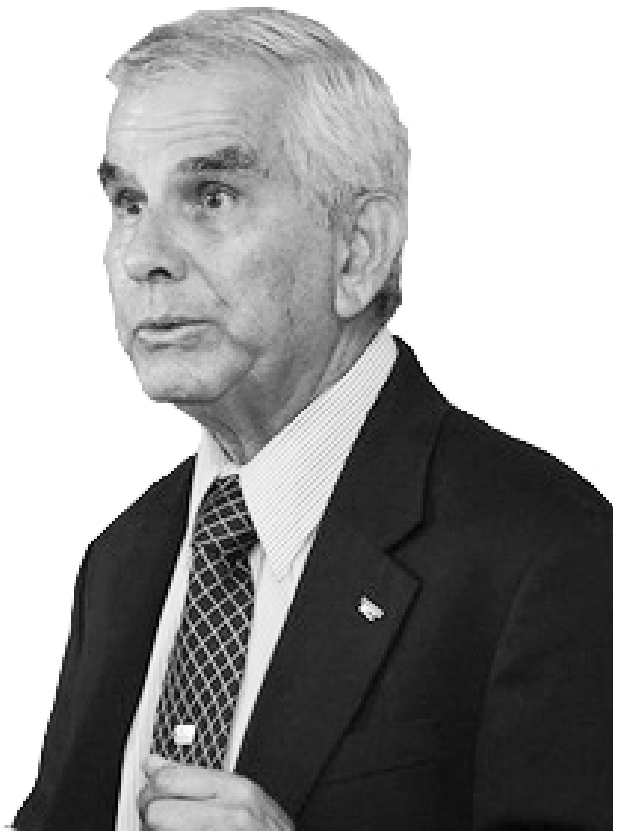
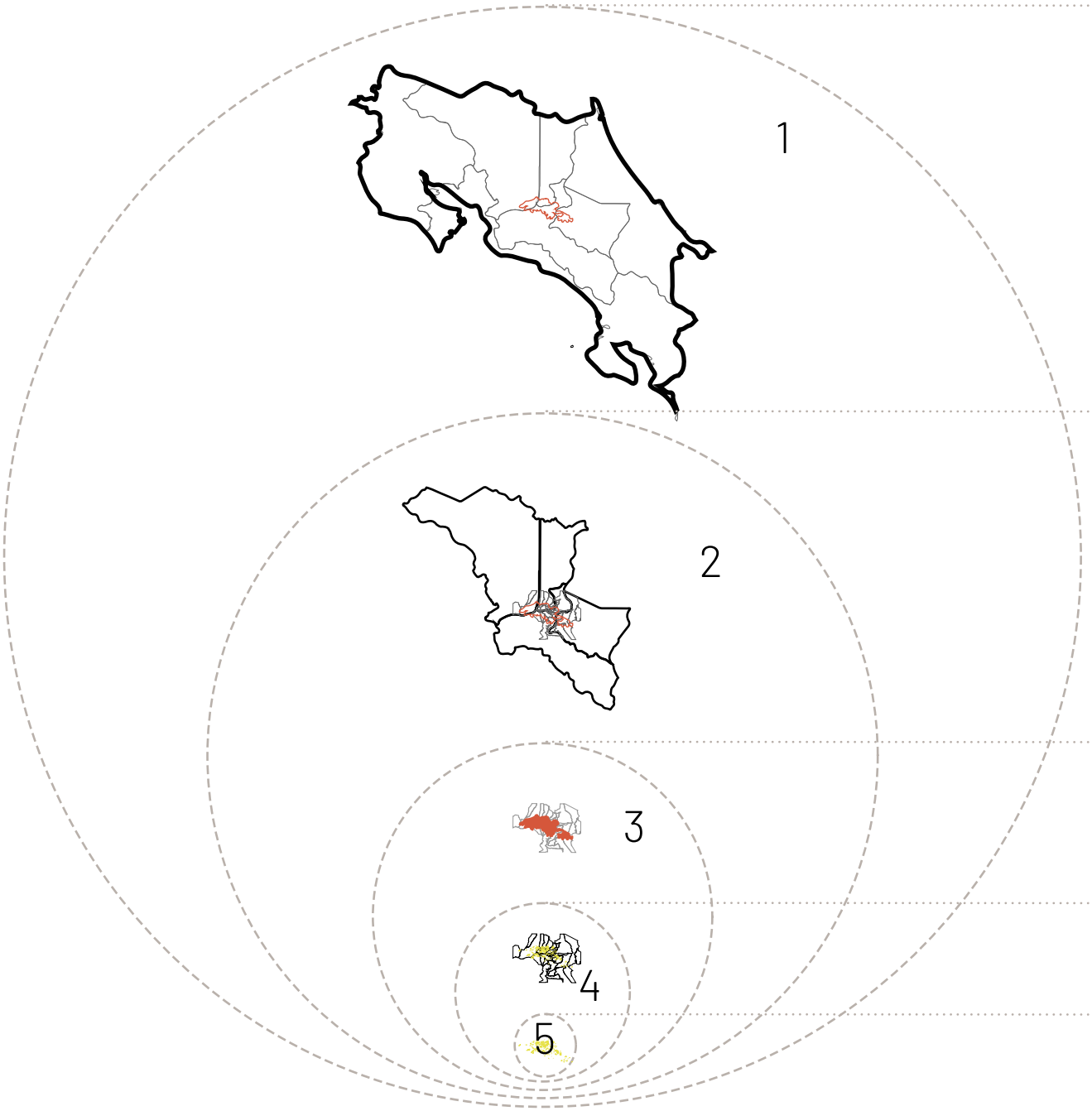


FIG. 13.1 MArch. Eduardo Brenes architect and urban designer in charge of PRUGAM, UCR professor and BM Architects president. Interview carried out through e-mail 03/05/2018. Image Source: Interviewee's personal Linkedin page

Hierarchical composition of governance competences.



14 – Governance

There is a gap of governance or competences between the national and the local government levels.

National

- Electricity - telecommunications (ICE- semi autonomous entity)
- Urban Potable Water (AYA)
- Urban Rain Water Management (AYA)
- Urban Waste Water Management (AYA)
- National Roads (Primary and Secondary) (MOPT)
- River Protection, Environmental Impact (MINAE)
- Studies, National Parks, big conservation areas (MINAE-SINAC)
- Museums and Regional Sports fields (MCJ)
- Building codes, gated community and free zone laws (INVU and MIVAH)
- Social Welfare and Health Care (BANHVI)
- Public Transport (MOPT-CNPT-ARESEP for pricing)
- Law Enforcement (MJP) Law generation and modification - National congress

Province

- National Level divides resources on each subject according to each province and their needs

Region

- Sets recommendations and strategic plans for dealing with urbanisation along 4 provinces and 31 municipalities. These are not binding.

Municipal

- Parks
- Waste
- Roads
- Build Permits
- Security
- Spatial Plan
- General Maintenance

Private

- Side Walks
- General Maintenance
- Waste Water Management when unavailable

Gated Community

- Besides private responsibilities all physical infrastructure inside the compound (Electric, Water, Roads, Telecom) and Security

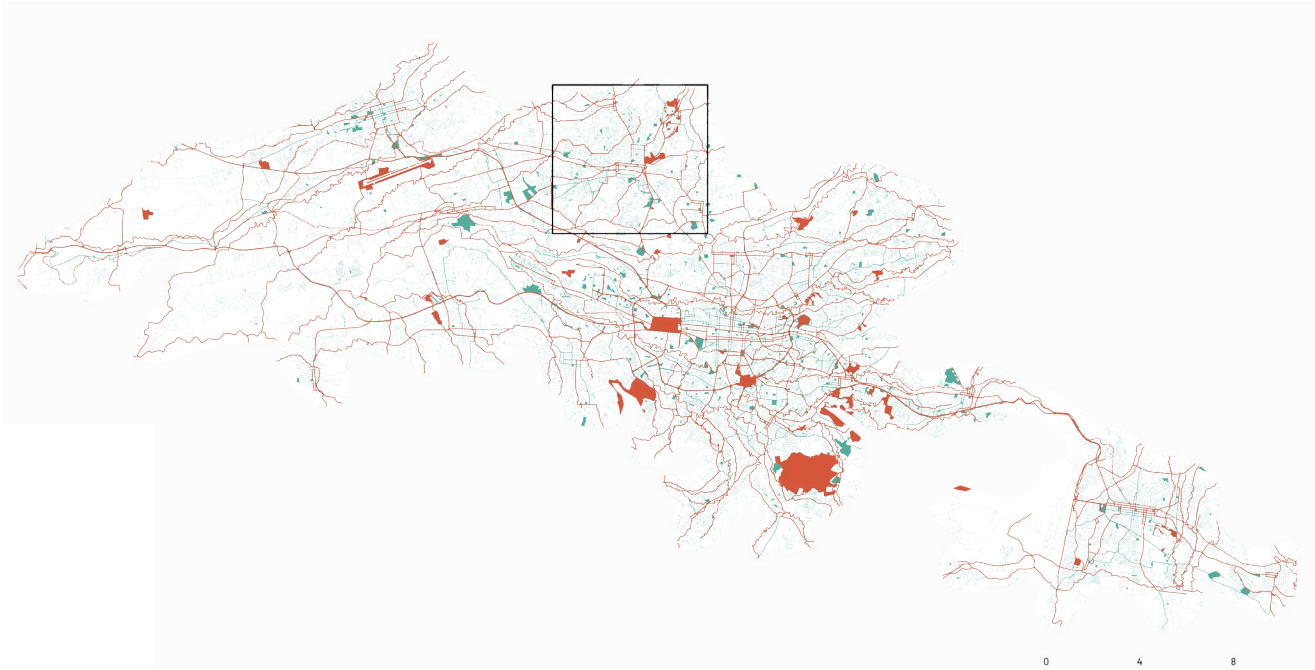


FIG. 14.1 Spacialization of national and municipal areas. Source: OSM-Roads and Functions

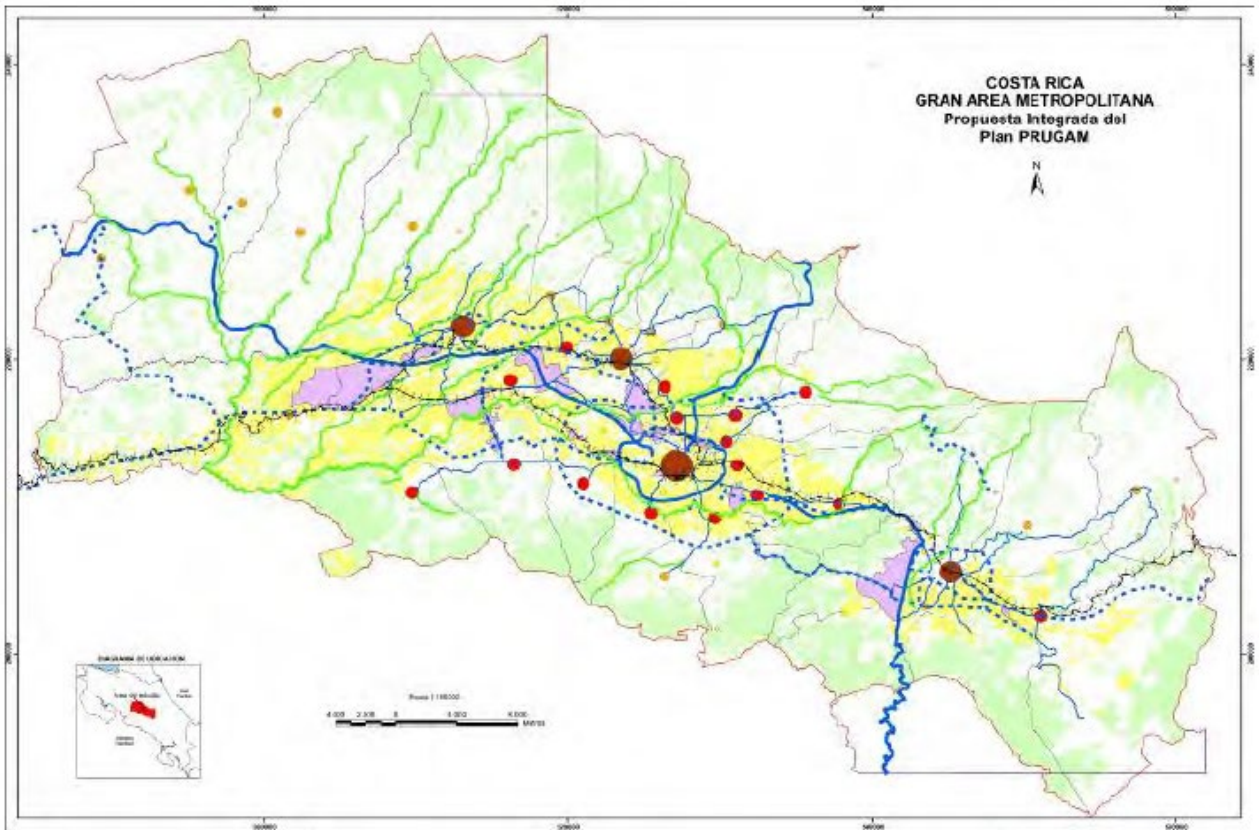


FIG. 14.2 Proposed Regional Structure plan 2008-2030. Source: PRUGAM 2009

Governance Levels Gap

Planning and regulation in Costa Rica relays predominantly on two levels the national and municipal therefore, there is a large gap between the two. Subsequently, public land ownership is divided between these two levels as shown by figure 13.1. The country does have further subdivision in provinces, regional metropolitan areas and districts however, form the planning perspective the possess no entities that regulate them. At most they are used by the national or municipal entities to collect information, generate statistics to manage and distribute resources accordingly. Nationally, most of the services, planning and regulations are handled through the respective ministry, in most cases the is a lack of communications between agencies even within each ministry's organization creating redundancy and in some cases contradictions when it comes to governance and the interpretation of the laws. The same lack of coordination and communication is found amongst municipalities, where in some cases contrasting zoning and permits are found in either side of the municipal border. For example, the division between Montes de Oca and Curridabat once permitted six stories on one side and one story on the other side of the dividing road. Furthermore, most of the municipal planning is done using zoning maps and as mentioned before only 6 out of the 31 municipalities that conform the region have up to date plans (INVU, 2010).

Municipal Roads

National Roads and Rivers

Municipal Areas

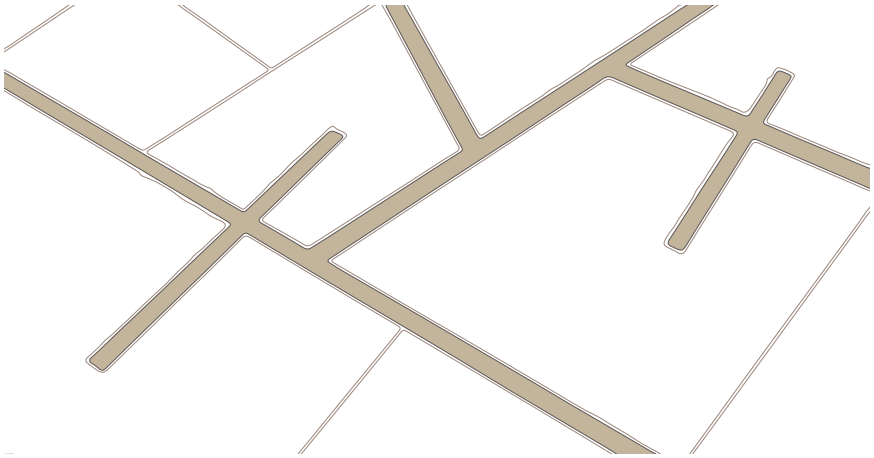
National Areas

Regional Planning - Attempts failures and Critique

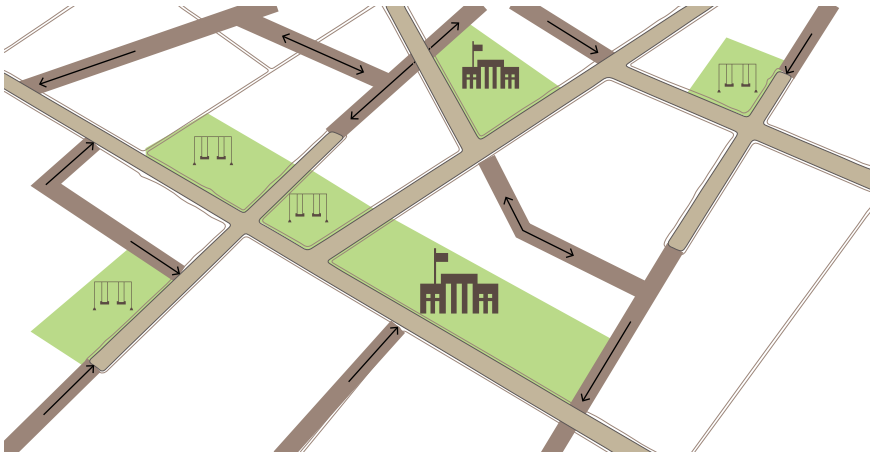
Given the planning levels gap does not mean there is no regional planning however, as in the municipal level it is obsolete, being the Plan GAM 1980. Recent attempts on generating a current version have failed. In 2009 a complete study on the region was carried out with the integration of the different entities involved in planning, the result was the project PRUGAM 2008-2030. Though PRUGAM was supposed to be an integral plan that had the agreement of all governmental entities, once it was released it faced much critique from several entities resulting in it never being enforced. Several attempts on revising and modifying it have been made but so far, no valid result has emerged.

Although PRUGAM makes an effort on proposing a spatial strategy that includes relevant variables as nature and resource protection, evaluating risk areas, urban character, mobility, densities, ecosystems and governance. The proposal and most of the discussion is centred on the existing urban centres to further consolidate them as compact cities. (FIG. 13.2) The proposal states little on the expansion areas, other than the creation of a limit border for urban growth. Therefore, the planning of peripheries, expansion areas of low densities are left to each municipality, these are the areas that have become dominated by gated communities. As stated before there is little municipal planning at the moment in the region, hence market conditions and private developers are the ones currently developing these areas. Concentrating on urban centres and compact city does have its benefits, nevertheless relaying so strongly on it and not acknowledging the peripheral and gated condition does not solve its problems and might generate more issues in the future. A regional mobility plan alone does not solve car dependency if it is not combined with changes in the urban structure and habitation of the area. Moreover, attracting growth and development back to the urban centres will reduce

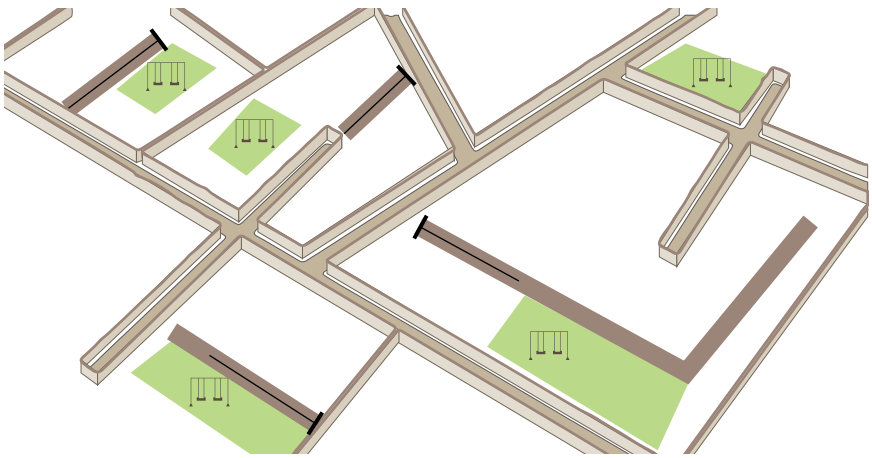
**legend to be developed*



Initial Condition



Spirit of the law



Current Interpretation of the law

FIG. 14.3 Spirit of urbanization law vrs the reality. Source: Jimenez, 2016 Images taken form urbe21blog to be reworked by author

investment in these areas, but what will happen then with the existing? The current problems will still be in place plus if this shift towards the centres gains force and is occurs at a rapid pace it might result in shrinkage for the peripheral areas, how will the region handle these issues then? A regional strategy should have priorities while still saying something about all issues so that the whole remains always in sight.

Existing Policies - Stuck in between the spirit of the law and its interpretation

Existing national policies come to rule if there is no municipal planning or if the current plan does not address the issue. When it comes to gated communities three urban laws are of interest: law on urban planning, the law on urbanization and parcellation and the law on condominium. These correspond to land tenancy and urbanization and are implemented at a national level. Currently there is a debate amongst the spirit of these laws and the interpretation of them. Both the lay on urban planning Art. 40 and the Art 3 and 4 of the law on urbanization and parcellation state that new urban development must give a percentage of land to the public for construction of new roads, public space and service provision. The confusion came with the development of the condominium law in 1999, which allowed a private property to be further subdivided into smaller parcels without eliminating the private condition of the initial larger parcel. This law requires certain amount of land to be allocated for communal use of the smaller parcel owners. Developers therefore interpret that having the destined land for inner communal use exempts them from allocating land to the public. In this way the spirit of the law is not followed in favour of an interpretation that supports the privatization of public spaces or lack of production of it. (FIG. 13.3) The issue is further clarified by Mario Arce, planning lawyer who differentiates the condominium law one that regulates ownership only and not urbanization which is managed under the planning and the urbanization and parcellation laws. With this clarification the consolidation of gated communities does not exempt them from providing public land (Arce, 2015). However, practice prevails and a shift towards enforcing the spirit of the law is required. The challenge is then to arrive to one which does not generate further addendums and laws that only create more confusion and give way for incorrect interpretations. In this way municipal incentives that allow tax reduction, lowered area given or higher land coverage if the recreational areas are developed publicly can help.

"Gated communities respond to market strategies that have not had urban planning control but on the contrary regulations have been adapted to promote their construction. So public actors should return to their role of ensuring the correct urban development. Likewise, initiatives in urban regeneration are important in order to remind the population of the benefits in quality of life that can be provided by the public working on the common good."

"From public policy perspective we should transcend planning through zoning to promote mix use. Street front needs to be a threshold that invites interaction. Zoning is a myth that needs to be broken in our society. Municipalities should be further empowered to develop their own city and participation models."

"I also believe that gated communities should be of reduced area following the urban block tissue of 1-2Ha maximum. The problem comes when big extensions of land are privatized and impede network continuity, public space provision and the appearance of mix use."

"Finally, the provision of communal areas by gated communities as public areas is a discussion that if done open-ly could make a difference. However, the attempts made by INVU in 2015 were shut down by powerful agents. This had much negative consequences and evidenced the political character of the problem."

FIG. 14.4 MArch. Roy Allan Master in strategic planning, architect at INVU (National institute of housing and urbanism), President of Latinoamerican asociation of urban planners. Interview carried out through e-mail 17/05/2018. Image Source: Interviewee's personal Linkedin page

15 – Demographics

FIG. 15.1 Density Map. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 15.2 Average Age. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

As expected gated communities are located in the peripheral less dense areas of the metropolitan region, especially in the West. There seems to be a correlation between the size of the gated complex and density, in which the lower the density the grater the development areas and vice versa. This could also be a reflection of the parcel size and new development of previous agricultural plots into residential complexes.

The fact that gated complexes are located in areas with low density also affects car dependency and could also imply that those areas lack the critical mass for the provision of certain urban services, like public transport, enough pedestrian traffic to provide eyes on the street or attract commercial activity along secondary streets.

The zoom-in area selected is composed with mixed densities -excluding the extreme- providing a sample of different densities and gated qualities that accompany them. This condition gives the area higher complexity, but at the same time a potential of devising strategies that can be applicable to other sectors of the greater metropolitan area.

Density

Gated Community

17 - 1264
1264 - 3456
3456 - 6174
6174 - 10067
10067 - 17292

The average age of the whole area is within the working population, which then is further subdivided. Lower age groups 27-34 locate mostly on the peripheral areas of major gated development. The older section 34-44 seems lo locate near historical centres of importance, specifically the country's capital and the first suburbs developed around this historical centre. This could be a reflection of gated community tendencies as are the market trends and a preference to live outside city centres.

Correlating to the previous map all age groups seem to occupy areas with different densities, so there is no indication of a preference of certain groups to a specific density. This is correlated by the similar mapping of the other age groups infants and elderly located in the appendix.

The area selected for the zoom in reflects a homogeneous average of 30yrs old surrounding the historical centre with an average age of 34-36yrs

Average Age

Gated Community

27 - 30
30 - 31.9
31.9 - 34
34 - 36.6
36.6 - 44

16 – Car based Mobility

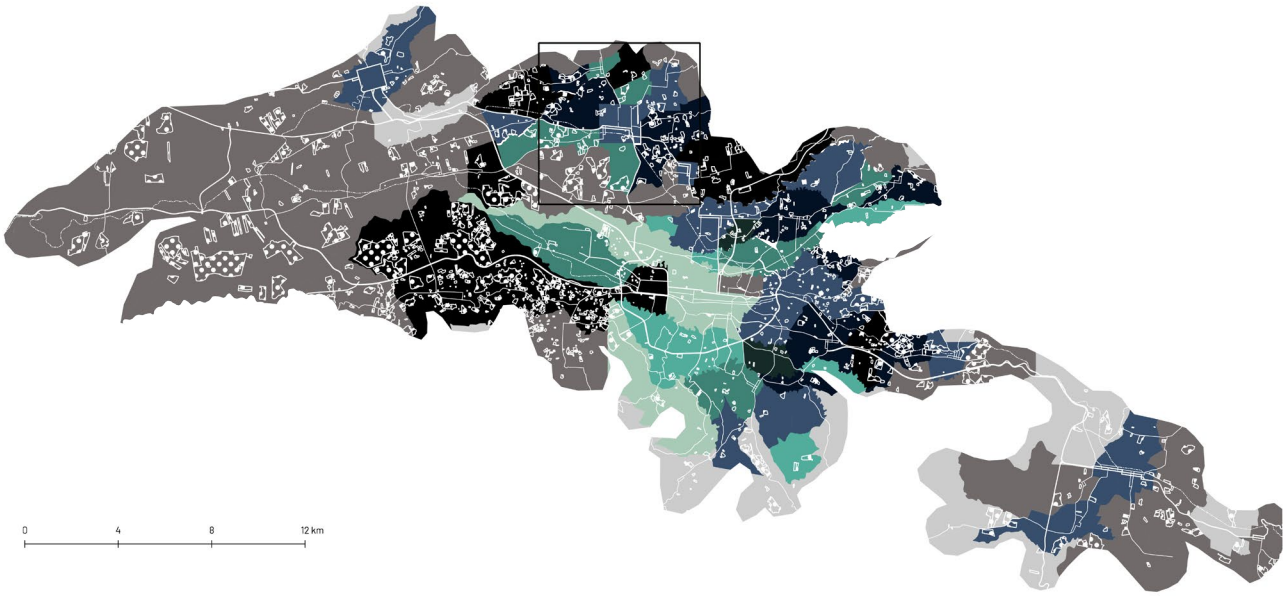


FIG. 16.1 By-variate of population density and car ownership . Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

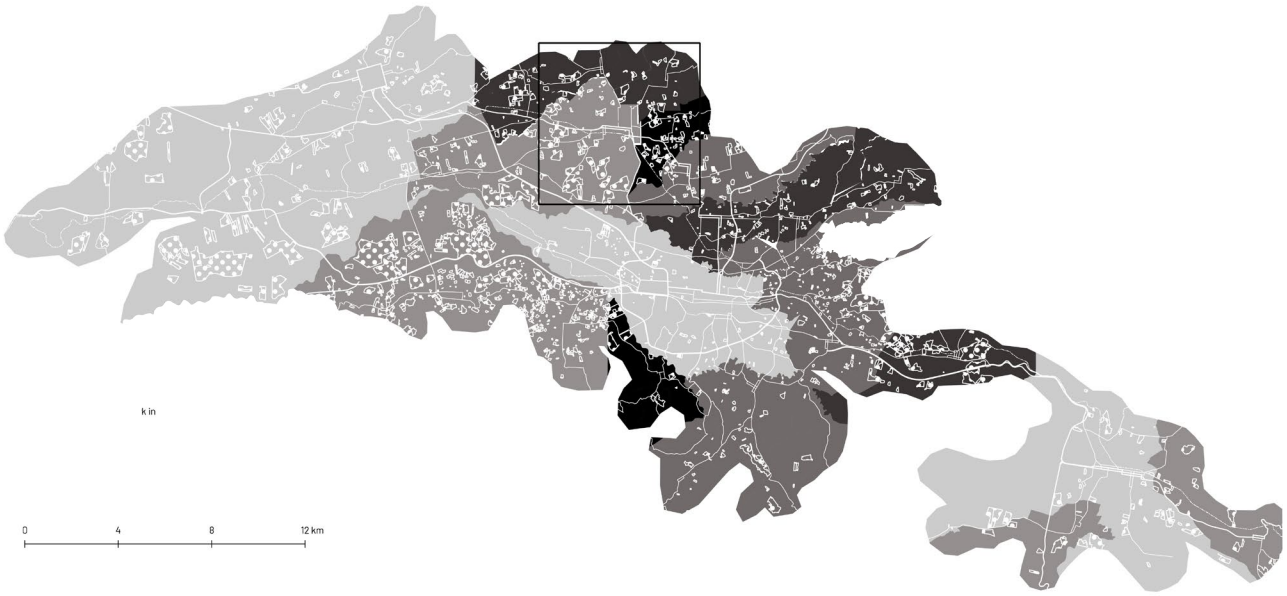
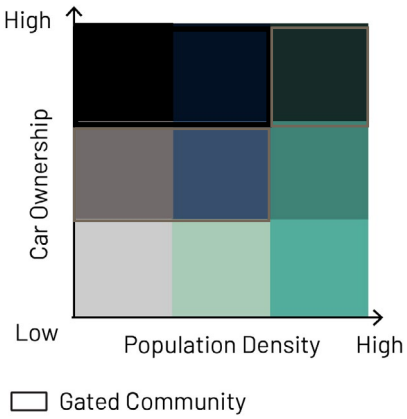


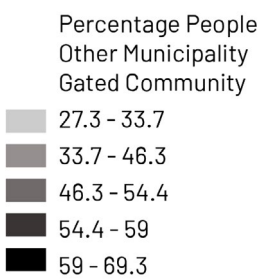
FIG. 16.2 Percentage of people working outside the municipality of residence. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth



As seen before the Costa Rican metropolitan area has in its majority low density. When combined with the car ownership the lower density areas with higher car ownership (black and dark blue selected in black on the legend) are critical areas for car dependent travel and the negative effects that come with it specially in the ecological and quality of life areas. Likewise, areas selected in grey on the legend are also problematic. It is evident that gated communities cluster in these types of areas. Those the integration of gated communities into the urban fabric has to entail a shift into less car dependent mobility. At the same time the betterment of public transport infrastructure is an urban service that has the potential for public domain, as it provides a neutral place of encountering others.

The map also evidences that the major exception to car dependency at the metropolitan region is the capital San Jose and some areas to the south, predominately those developed as social housing in the 1960 as shown in the urban evolution previously elaborated.

With this in mind the selected zoom area is within the higher car dependency areas with some variance in density. This provides a sample of the different conditions the region presents



The percentage of people working outside their municipality of residence further evidences the car dependency for daily commute distances are increased. In general, more than 30% of the population travels across municipal borders suggesting there is a disproportionate distribution of residence, work and services along the territory. As evidenced by previous maps the country's capital continues to be the exception to the tendency In this case accompanied by Cartago to the East, which evidences its isolation from the rest of the region due to geographical conditions. The West areas also have lower need to travel between different municipal borders, suggesting this area works in a more independent matter from the whole region.

Given this the selected zoom area includes one of the most critical sectors where over 50% of its population works outside the municipal border. In fact, this whole area of Heredia is considered a dormitory city by the population of the region.

17 – House Typology

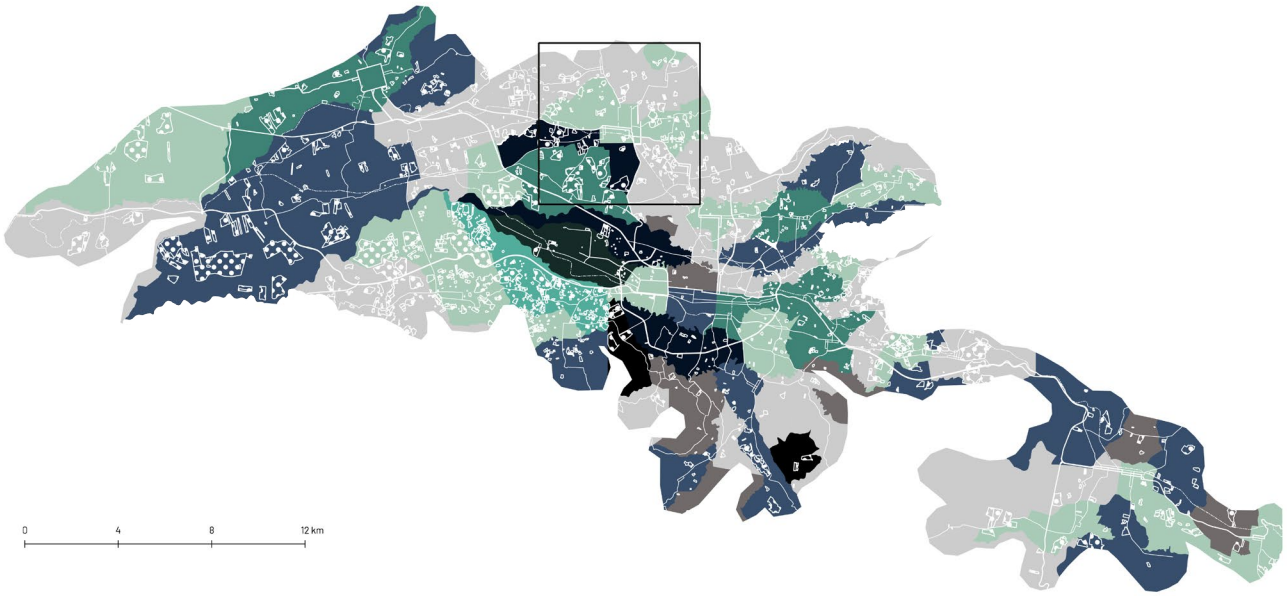
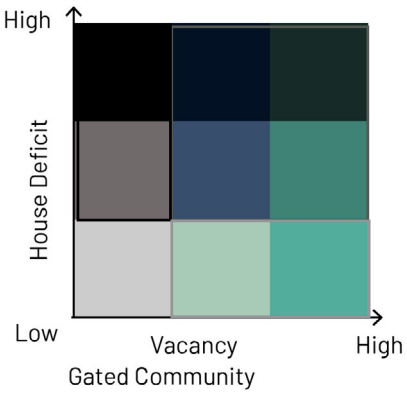


FIG. 17.1 By-variate of deficit and house vacancy . Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 17.2 Vacant Houses due to construction or remodel. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth



Understanding the dynamics of housing deficit and vacancy market trends can be made evident. Where higher vacancy and low deficit (light grey selected categories in legend) can imply over saturation of the market. The high vacancy and high deficit (dark grey selected categories in legend) can indicate an unbalance between the market offer and the actual demand in the area. This could be due to the provision of incorrect typology or prices for the area. Likewise, low vacancy and higher deficit (black selected categories in legend) could indicate low market offer.

For the most part the region presents a quite heterogeneous mix of all these conditions. Gated communities seem to appear in those areas that have either market over saturation or present an imbalance between offer and demand. In this way evidencing that even though the residential market seems to be thriving it is not fully satisfying the region's needs. Housing development should not be left only to the private and the public entities should direct development towards the meeting the population's necessities and not the market's.

The area selected for the zoom includes different conditions: a core with some oversaturation surrounded by quite stable condition to the north and south-east and an unbalanced sector to the south-west.

To further evidence market trends this map on construction areas highlights the preference for the periphery. Most areas with higher construction activity are on areas with either market saturation or an imbalance in the offer as shown by the previous map. In these cases, more construction could further exacerbate the issues already present. Furthermore, areas apparently stable with regards to deficit and vacancy also present higher number construction sites. This could either maintain the balance and attract more residents to those area or recreate some of the aforementioned issues.

The selected zoom in area reflects the region-s tendency, with a heterogeneous construction activity in diverse areas and an inactive historic centre.

Houses Under Construction or Renovation
Gated Community

- 2 - 12
- 12 - 17
- 17 - 23
- 23 - 35
- 35 - 54

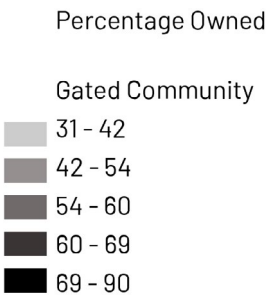
18 – House Ownership & Land Value

FIG. 18.1 Percentage of Land Ownership. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 18.2 Land Value Source: OSM-Roads, Ministerio de Hacienda, author's mapping of gated communities using Google Earth

The region presents a house ownership between 40-60%out of which most gated areas are located in the 40-50% range. Ownership of the property reflects direct control over it, However, the inverse percentage represents mostly diverse forms of occupancy as rentals or bank loans. In these cases, an extra level of control is present. This condition further complicates the transformation process, as more actors are included. In this case the capital is also the exception; however, in this case negatively for ownership is lower than the region.

The zoom in area selected shows a homogeneous ownership in the 40-50% range as most of the suburban areas and a slightly higher ownership in the historic centre.



As expected land value is higher on the historic centres and along main roads. More relevantly the influence of gated communities on land value is reflected. Most gated communities are located in lower value areas; however, a significant value raise can be identified with in the gated compounds. This tendency is more evident when the gated development is larger and more isolated. This speaks to the perception of value and prestige through distancing from the centres.

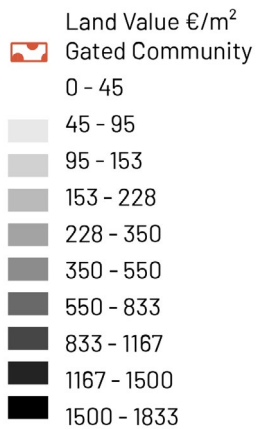
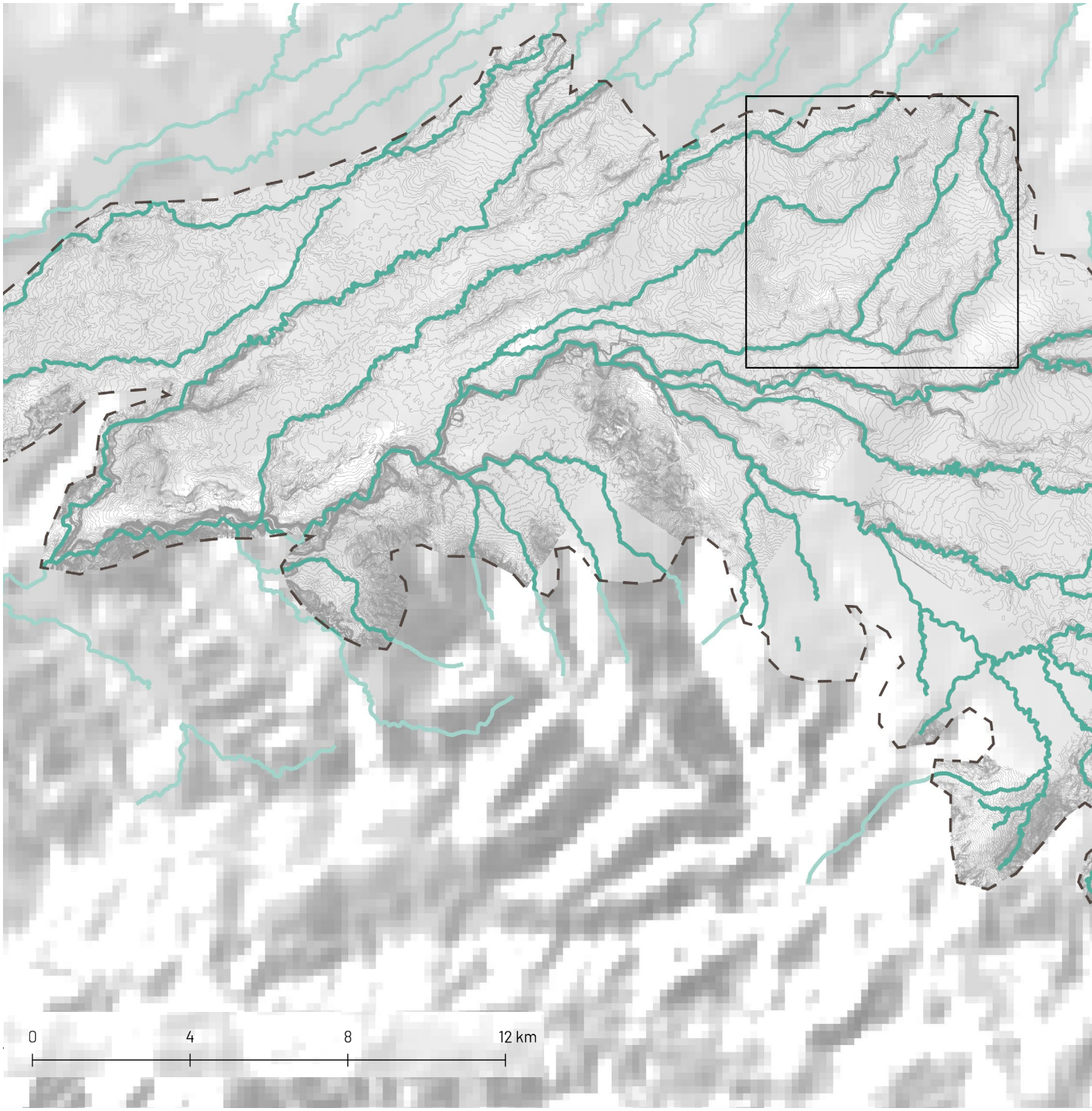


FIG. 18.3 Gated Property and topography, Los Yoses Road. Source: Author's Own

FIG. 18.4 Gated Porperty and topography, Los Yoses. Source: Author's Own


0
4
8
12 km

19 – Landscape

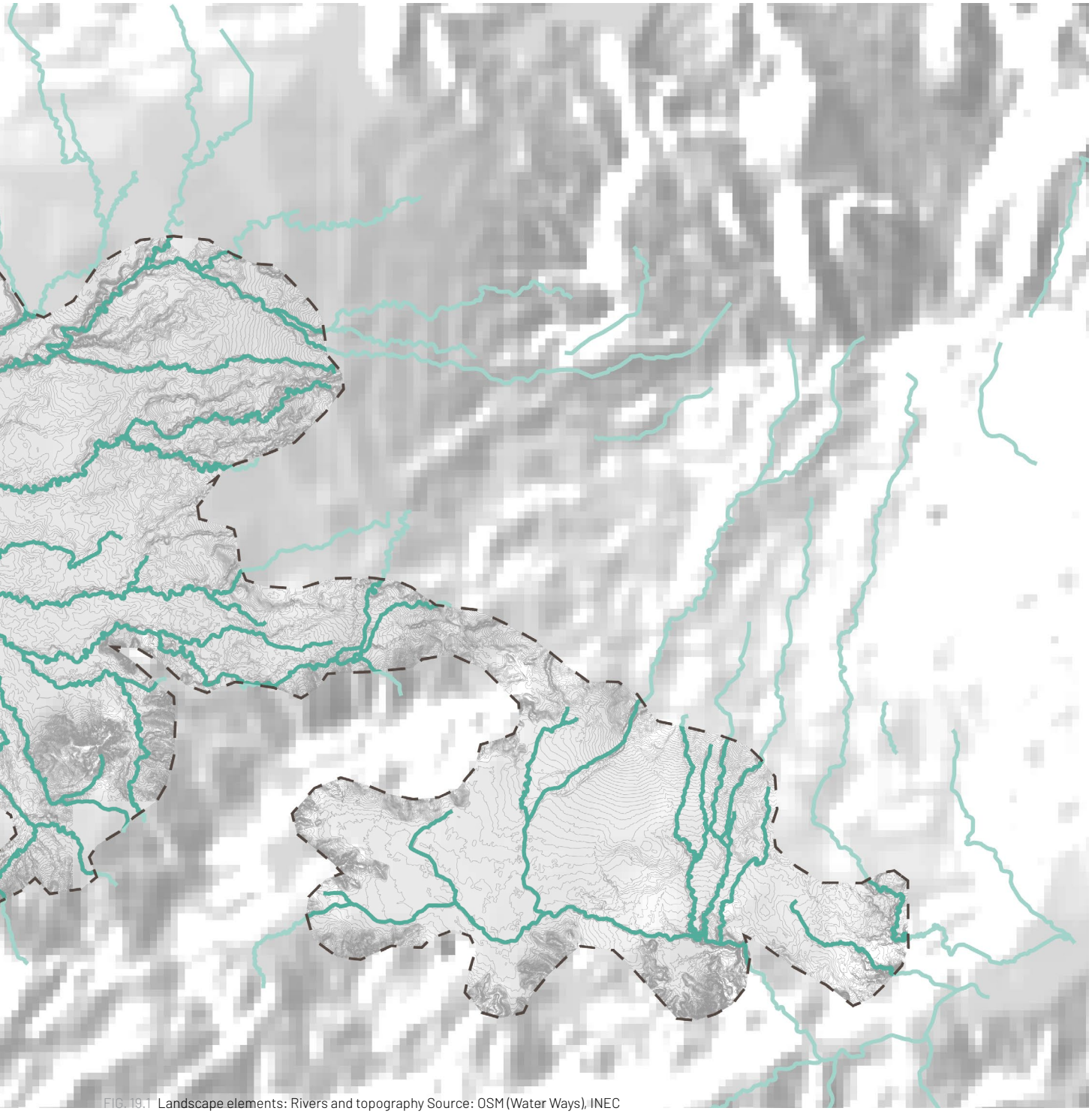


FIG. 19.1 Landscape elements: Rivers and topography Source: OSM (Water Ways), INEC

FIG. 19.2 Brige over the Virilla River. Road. Source: Q Costa Rica, 2018

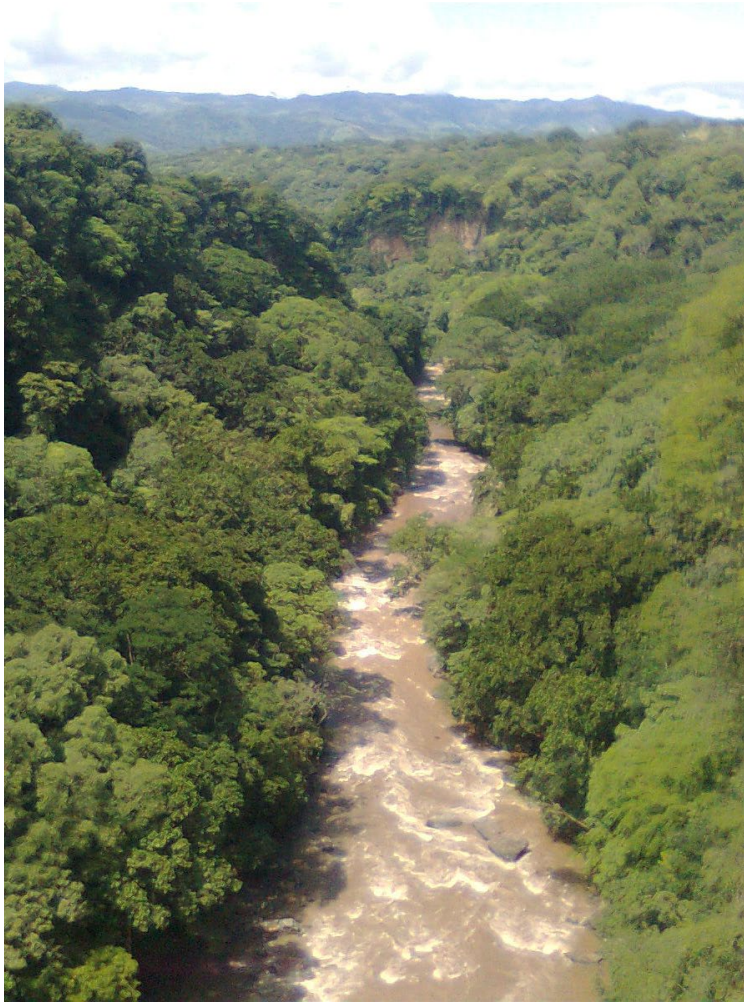
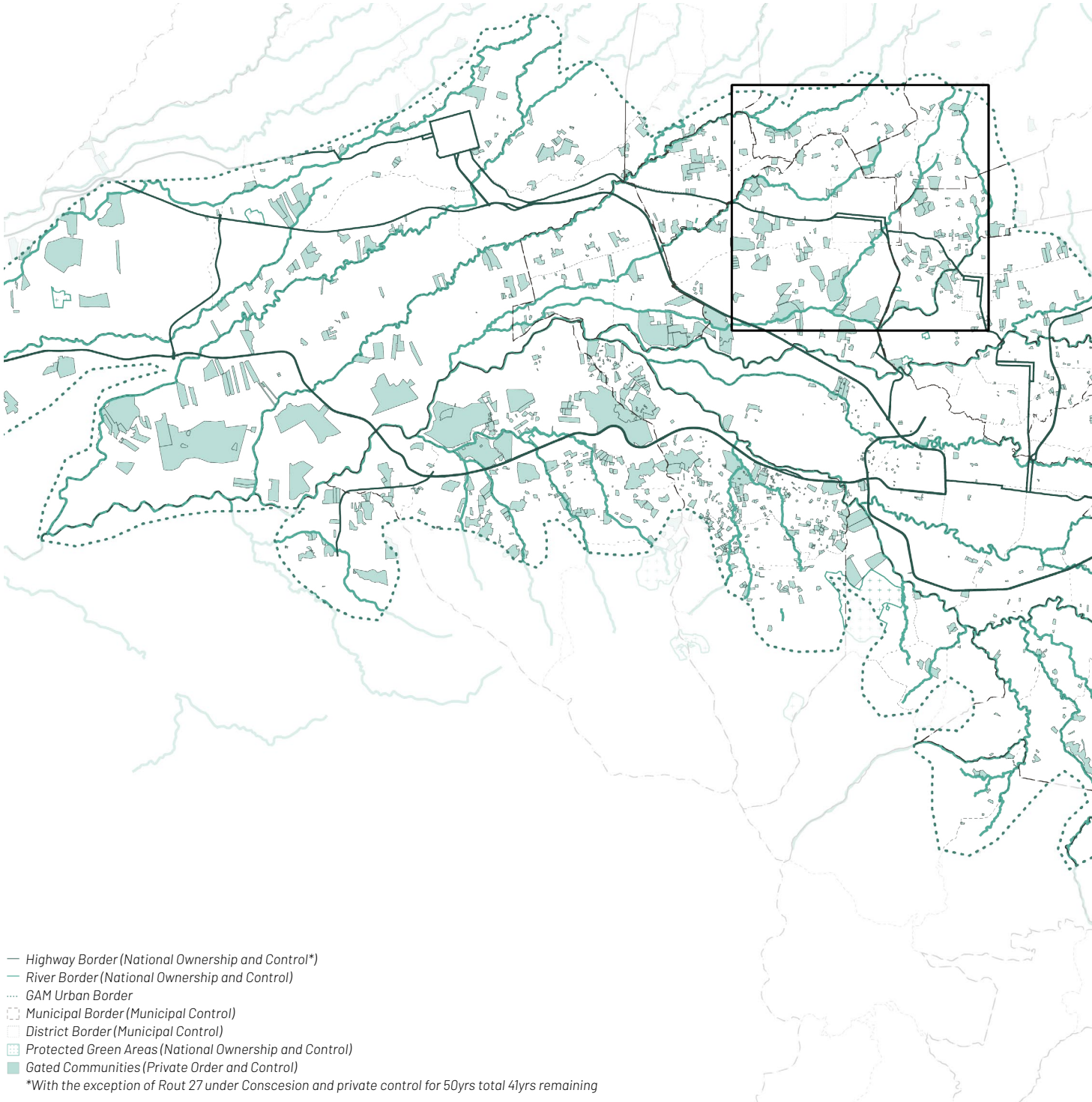


FIG. 19.3 Grande de San Ramon River. Source: CR Trenes Blogspot, 2010



Highway Border (National Ownership and Control)*
River Border (National Ownership and Control)
GAM Urban Border
Municipal Border (Municipal Control)
District Border (Municipal Control)
Protected Green Areas (National Ownership and Control)
Gated Communities (Private Order and Control)
**With the exception of Rout 27 under Conscesion and private control for 50yrs total 41yrs remaining*

20 – The Character of the Border

On a daily basis the mayor borders at the regional level are the highways, impenetrable for pedestrians and only possible to cross through scarce pedestrian bridges. Rivers are also major borders, they are public land with protection buffers but due to topography and lack of accessibility from the road network remain inaccessible and are an underutilized natural asset of the region.

As represented the territory is highly fragmented into municipalities and further on districts. Municipal borders do contribute to the built configuration through the spatial and zoning plans which are not always coordinated. This results in contrasting allowances and built permits in either side of the borders. District borders serve for municipal organization and allocation of resources which again can lead to great contrasts in a short distance.

The built structure presents constant borders the most representative of which the perimetral borders surrounding gated developments. Though the national government has competence over most of the public services and goods provided, the built form it pertains constitutes isolated buildings, underground infrastructure and primary roads. (FIG. 17.1)

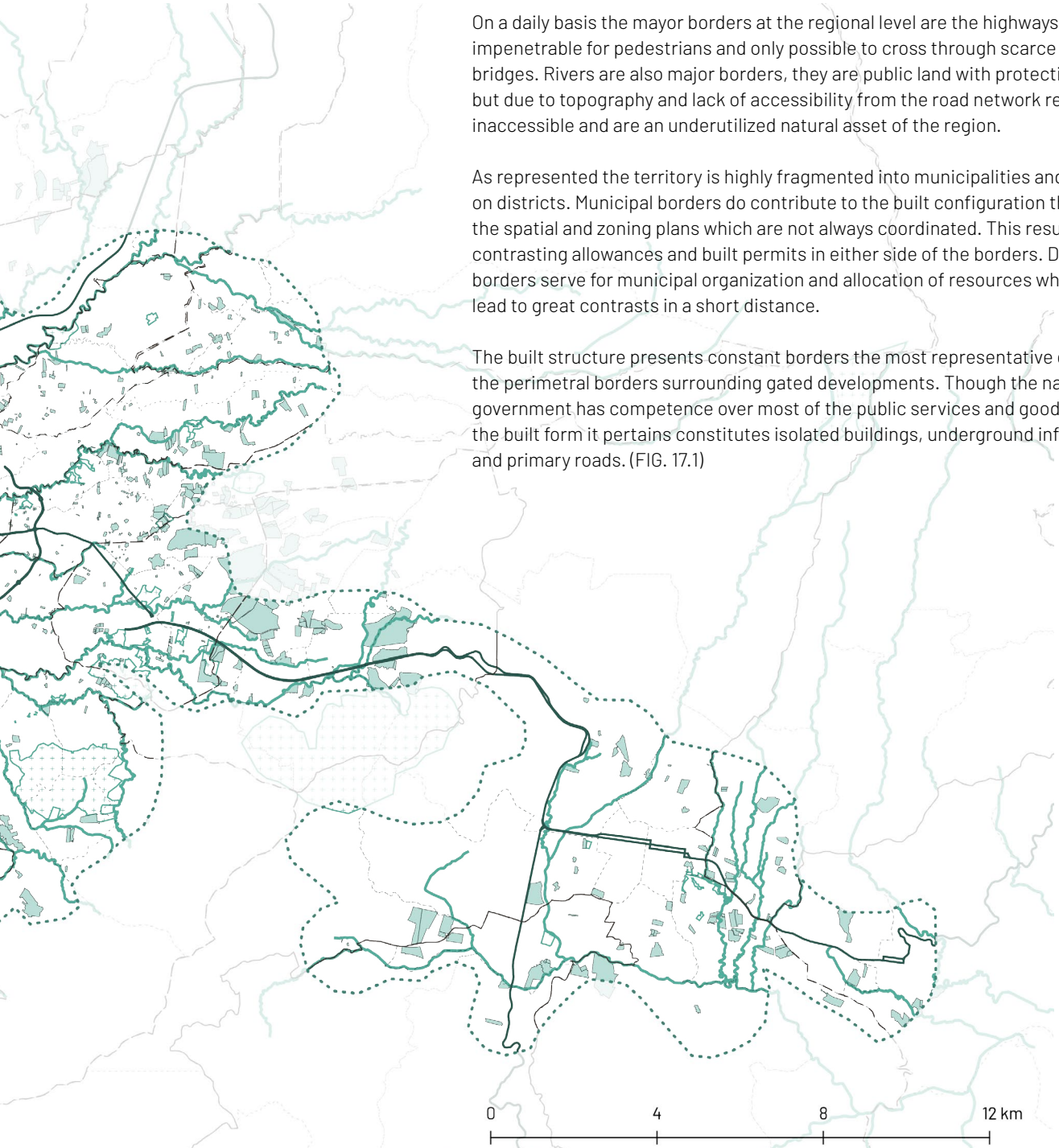


FIG. 20.1 General Borders at the regional scale. Source: OSM (Roads, Water Ways, Function), Ministerio de Hacienda, Author's mapping of gated communities using Google Earth

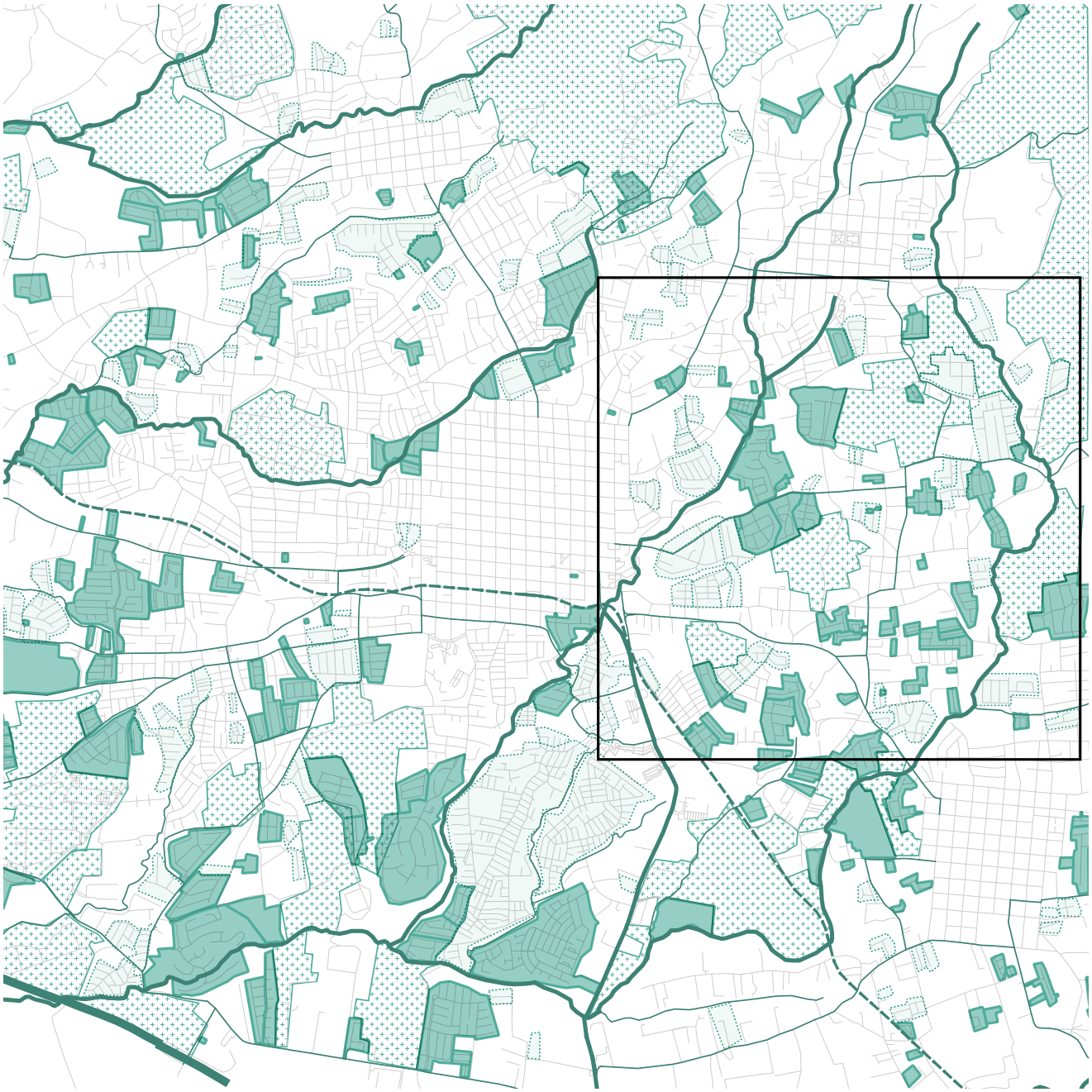


FIG. 20.2 Borders at a city scale, Source: OSM (Roads, Water Ways, Function), Author's Gated Mapping

Gated communities seem to organize next to a border condition. This has two forms one based on flows and movement with little permanence, being highways and secondary national roads. as shown on the zoomed area. The other alongside rivers, providing nice views, a quiet and static character that has extra security added to it. (Lower left corner of the zoomed area (FIG.17.2)

Parcellation provides further division of borders, being the border between parcel and road the most important one for public domain since it clearly demarcates

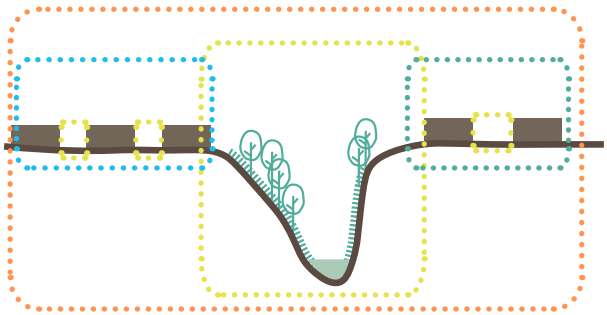
FIG. 20.4 Borders at a gated community cluster, internal roads are controlled by private agency. Parcelization provides further subdivision of the territory. Source: OSM (Roads, Water Ways, Function), Ministerio de Hacienda, Author's mapping of gated communities with Google Earth

FIG. 20.3 Borders at a gated community. Sidewalks become a border between different modes of mobility. Perimetral walls allow for internal borders to be softer or more permeable than in the outside, however they are still highly respected. Inner roads and facades are controlled by HOA. Source: OSM (Roads, Water Ways, Function), Ministerio de Hacienda

- *Porous Border - Municipal*
- *Porous Border - National*
- *Secondary Border Limited crossing - National*
- *Primary Border Infrequent crossings - National*
- *Parcels - Private*
- *Neighbourhood with Limited Access - Municipal*
- *Green Areas - Private*
- *Residential Gated Communities - Private*

0 250 500 750 1000m

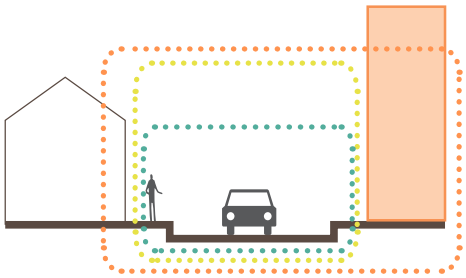
accessibility. At this level gated communities stand out as big borders that are further subdivided. (FIG.17.3) The parcel border inside the gated communities is most cases softer as it can be maintained by low fences of vegetated ones. In the case of row houses walls are shares all of which is not that case outside a gated community. (FIG.11.4) When located in a high flow street the possibility exists of generating perma-nence by including diverse activities. (FIG.17.4)



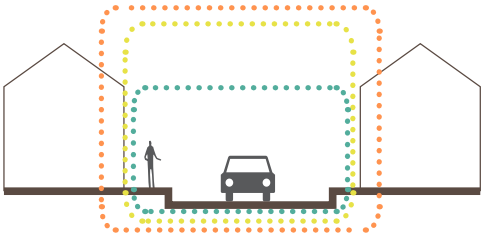
River as a physical border

Highway as a physical border

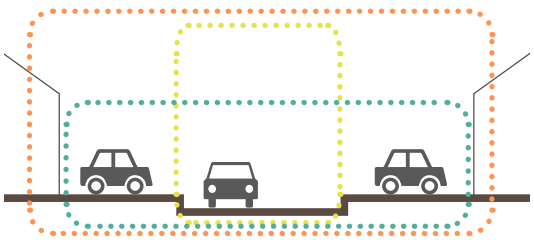
FIG. 20.5 River and Highway Borders. Source: PRUGAM, 2004



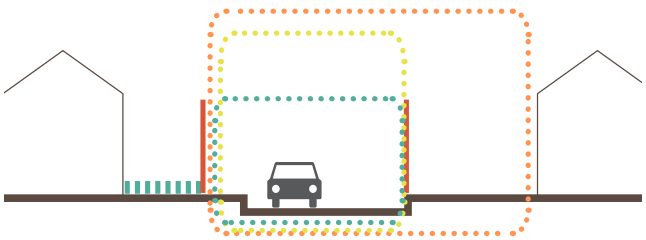
Political border



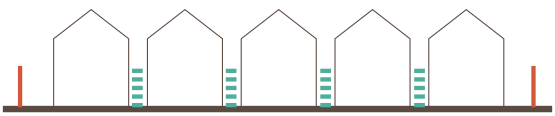
Non Gated street border



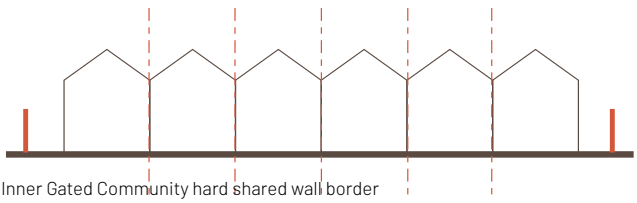
Non Gated street border



Non Gated street border



Inner Gated Community soft green border



Inner Gated Community hard shared wall border

The quality of the border allows for different configurations of the public, specially the potential for public domain. This last one is dependant on the space available and the possibility of this space to be permeated by allowing for different uses and more sociability.

FIG. 20.6 The quality of the border and its potential for public domain Source: Author's own

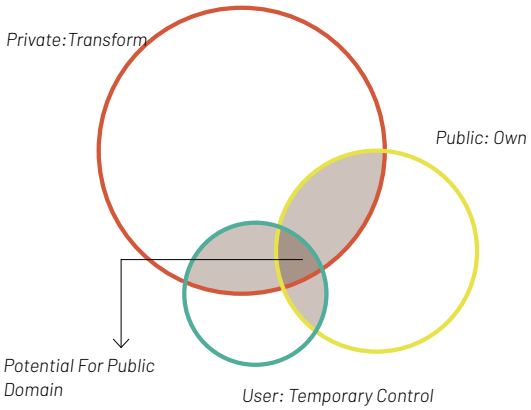
FIG. 20.7 Live Configurations at a gated community. Third Party or HOA manage roads and open spaces, Regulations are set on facades.Source: OSM (Roads, Water Ways, Function), Ministerio de Hacienda, Author's mapping gated communities form Google Earth

Borders - Control - Live Configurations

The majority of the built form and its configurations is under the municipal competence. Rules and regulations order the construction of these spaces, nonetheless on a daily basis the control over those areas is exerted by the inhabitants and passers by using it. (FIG.10.2)

Private owners are in charge of developing and maintaining their property, while ascribing to municipal and national norms. At the gated community level, though and extra level or actor is included that is in charge of the communal spaces inside the complex. This can be a home owner's association or a third-party actor. In most cases changes in the property, especially those visible, as facade remodel and additions need to undergo acceptance form this entity. In those where individual designs are allowed, such design should be approved before the construction starts. (FIG.17.7)

Sidewalks are a special configuration case. They are public property that is required to be built by the owner of the adjacent parcel and later controlled by the pedestrians. This has created discontinuous sidewalks of different quality and materials quite in detriment of public space. However, this condition of contested space - involving many actors with different forms of control - can be a potential for enabling public domain. (FIG.17.8)



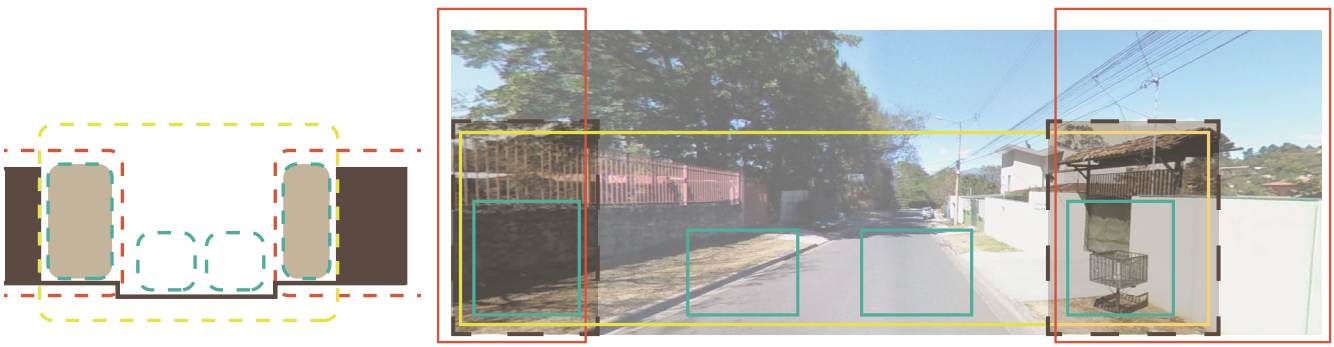


FIG. 20.8 Sidewalks as Contested Spaces in relation to ownership, transformation and control. Source: Author's interpretation, google street view

FIG. 20.9 Automercado, Lindora. Road. Source: Google Maps, image uploaded by Edgar Adrian Viquez Solano, 2018

FIG. 20.10 Commercial Centre. Source: Google Maps, image uploaded by Tiyamike Mkanthama, 2017

Private Property
Gated Communities
Private Leisure and Commerce Spaces (OSM Function- Retail, Recreation, Commercial, Stadium, Gym, Theatre, Restaurant, Pub, Bar, Cafe, Pharmacy, Kindergarten, Hotel, Fast Food, Doctor, Child Care, College, Attraction, Bank)
Underutilized Public Spaces (OSM Function-Rivers, Meadows, Green Fields, Grass)
Public Spaces with Restricted Access (OSM Function-Forest, School, Reservoir, Cemetery, Religious, Social Facilities, Community Centre, Clinic, University, Court House, Post Office, Police, Hospital, Fire Station, Library, Museum, Municipal, Market)
Public Spaces (OSM Function- Parks, Plaza)

21 – Publicness

The map evidences the predominance of the private over the public. Public spaces are reduced to the street network, park plazas and sports fields. However, the majority of public property is dedicated to service provision, which entails regulations and schedules: a higher degree of privacy. There is a great potential in underutilized public spaces, of which the rivers are the most significant.

In this way spaces for socialization are truly public near the plazas and squares of the historic centres, any other leisure need is provided by the private. Hence the region is extremely private, not only by the amount of privately owned property but by the predominance of private services and leisure.

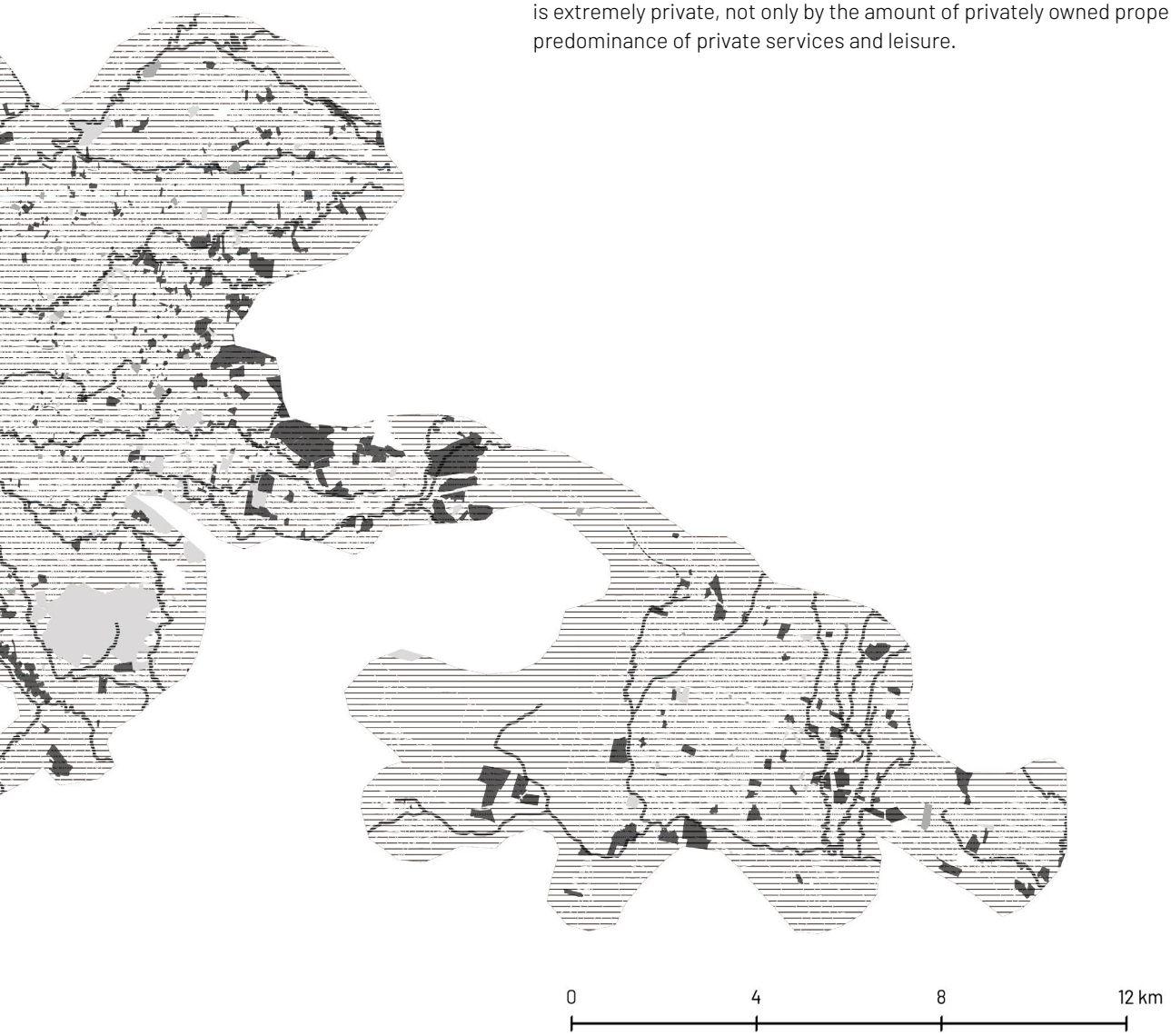


FIG. 21.1 Public and Private levels at the regional scale. Source: OSM (Roads, Water Ways, Function), Ministerio de Hacienda, Author's mapping of gated communities using Google Earth

FIG. 21.2 Public and Private levels at a city scale, indicating the strength of the atractor Source: OSM (Roads, Water Ways, Function), Author's Gated Mapping using Google Earth

As stated before the amount of truly public spaces is low. The zoom-in area does present a variety of publicly owned services that act as regional attractors being a university and hospital. In general, regional attractions are located surrounding the historic centres. City attractions locate themselves punctually all over the territory and neighbourhood / daily attractors are encountered clustered in the historic centres, some small centralities or along main streets. As expected gated communities, being

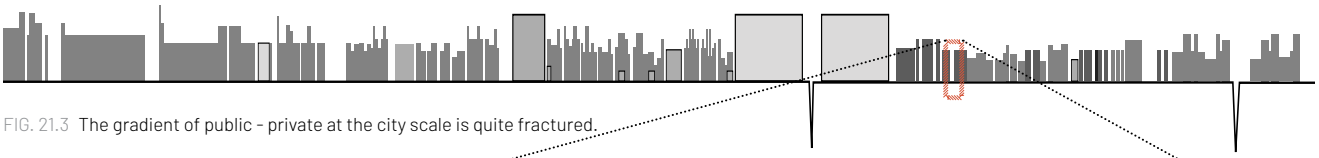


FIG. 21.3 The gradient of public - private at the city scale is quite fractured.

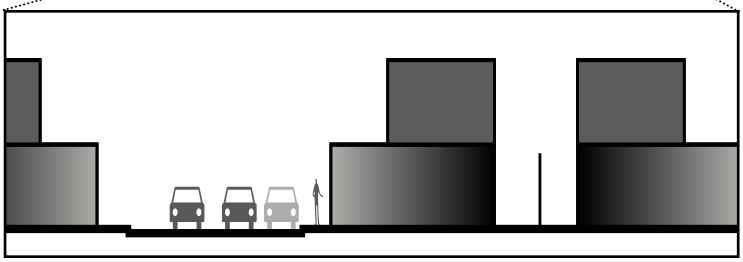


FIG. 21.4 The gradient of public - private inside a gated complex. Hoses are distributed with social areas to the front and on the ground floor if multiple levels are involved

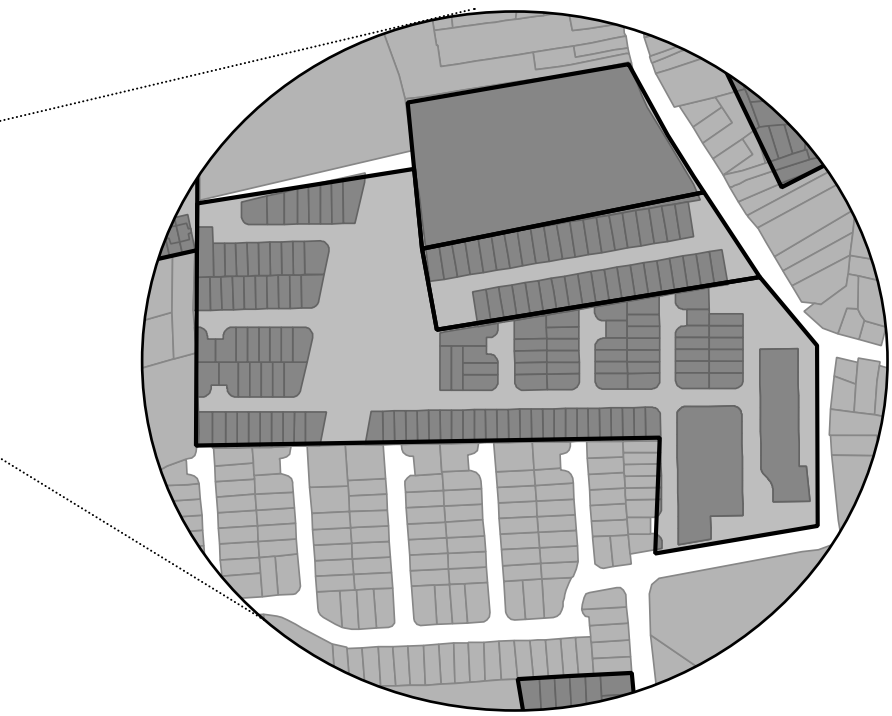


FIG. 21.5 Gated communities provide an extra level of privacy and private, where all open space is private and parcels with-in are private spaces inside this already private area.

in the outskirts, are not in proximity to small daily attractors. (Fig. 19.2) Thus, both the public-private and activity gradients are not clearly stablished, as shown by section 19.3.

In terms of privacy gated communities add an extra level to the already highly privatized urban condition. (Fig. 19.5) Likewise, within the built residences the more public areas are located near the entrances and ground floor. Private areas as rooms are placed on the inside or first floor. (Fig.19.4)


Gated Community
Low
High

22 – Network Analysis

The analysis evidences the importance of the three main highways of the region, connecting the main province centres in the GAM. All of which are highly congested areas and link important areas were considerable investment is being made in residential complexes

Regionally communities are located all over the angular integration spectrum suggesting different necessities. Still some tendencies can be determined as the predominant need is to be closer to local centres and in the vicinity of a consolidated urban centres. The other tendency is the proximity of gated complexes to mayor infrastructures, as highways, that connect urban centres to the whole region. These characteristics combined with their positioning on lower local roads indicate higher car dependency.

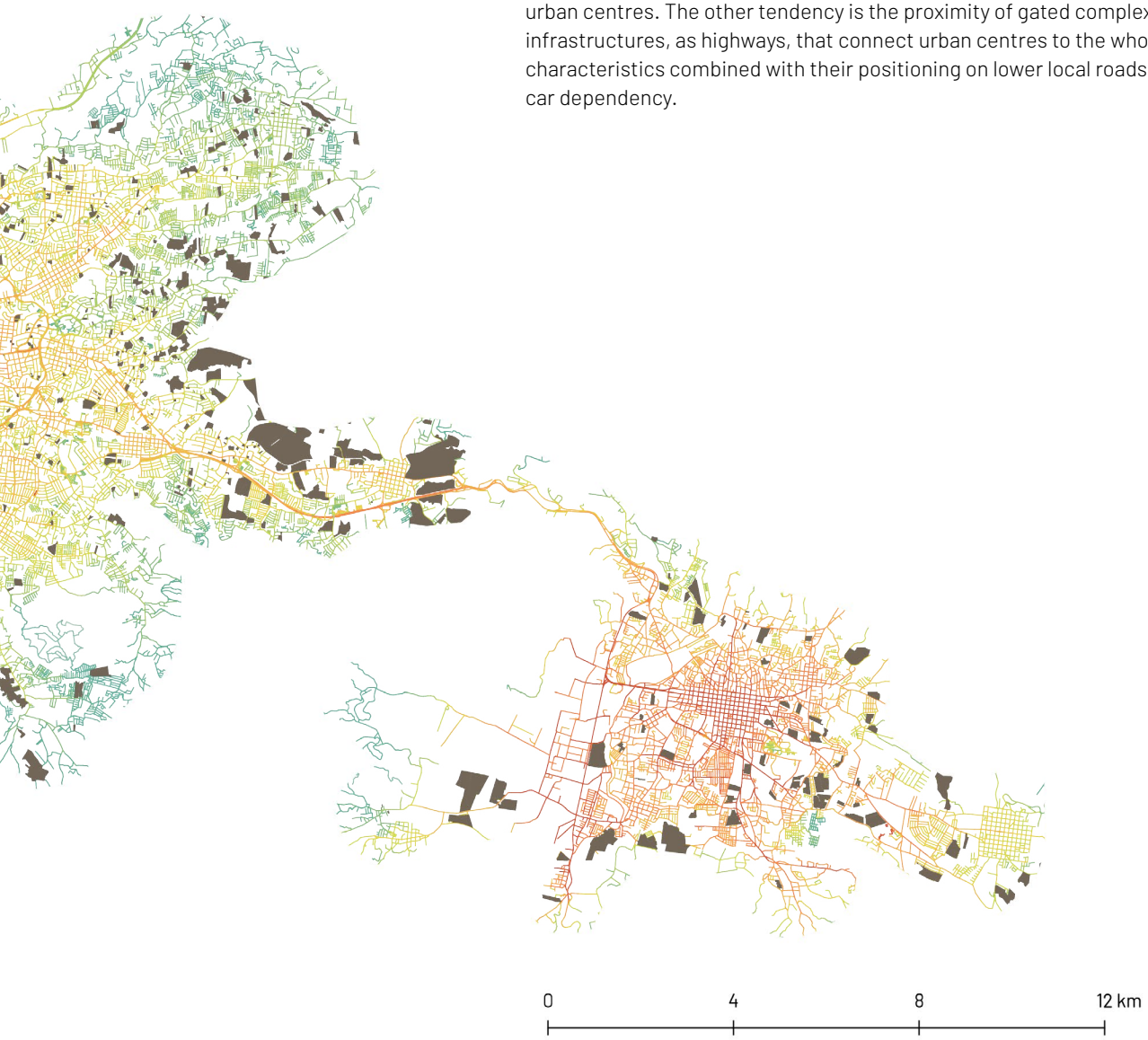


FIG. 22.1 Regional Angular Integration Analysis PST 10Km distance Source: OSM (roads)

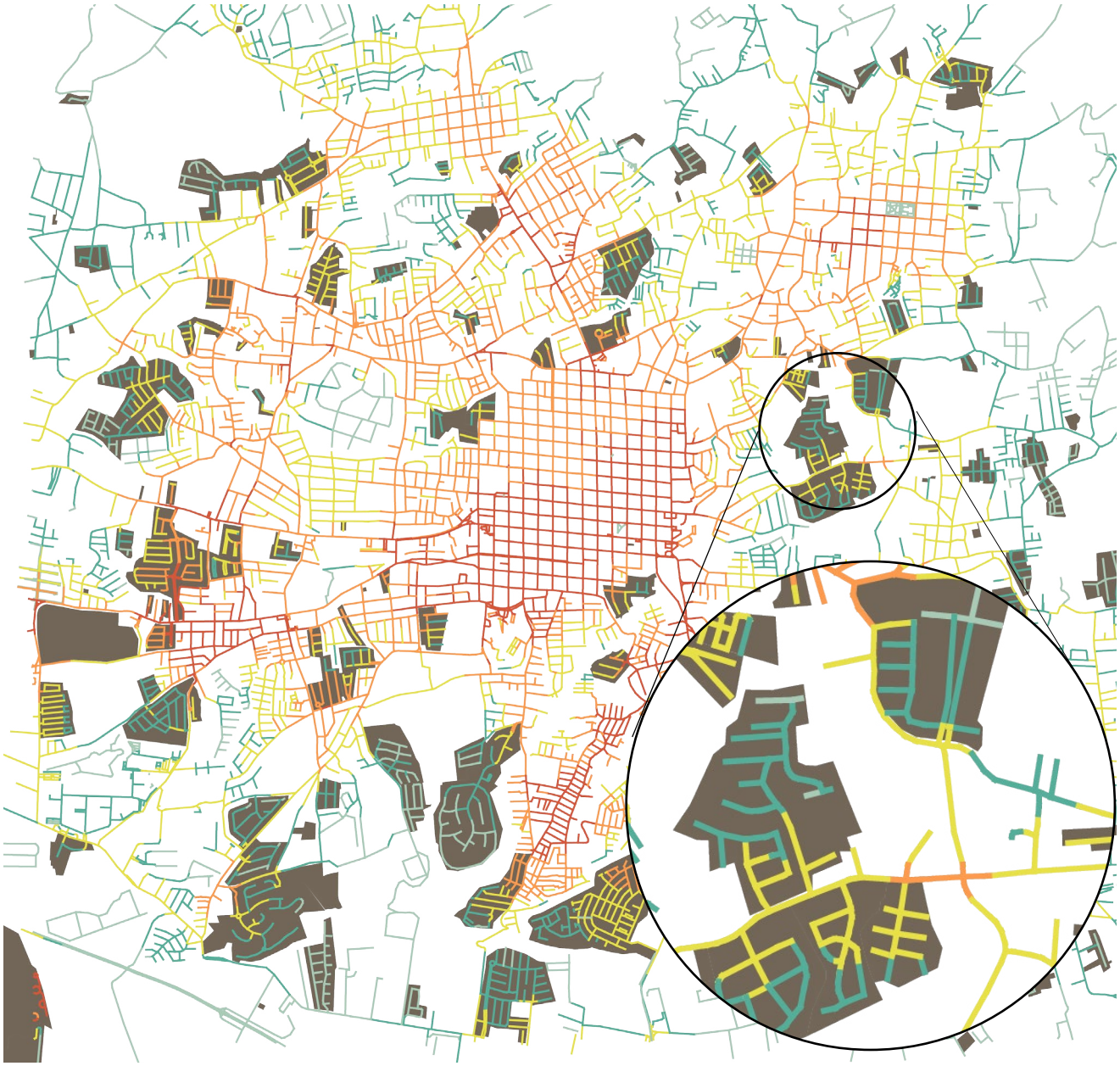


FIG. 22.2 Local Angular Integration analisis 800m
Source: OSM (Roads), Author's Gated Mapping

The map shows as walkable the historic urban grid, as the grid mutates into an organic and tree like structure, that characterizes the gated community areas, the angular integration lowers. As expected gated communities are located on the roads with lower integration but do share some relation to smaller centralities.

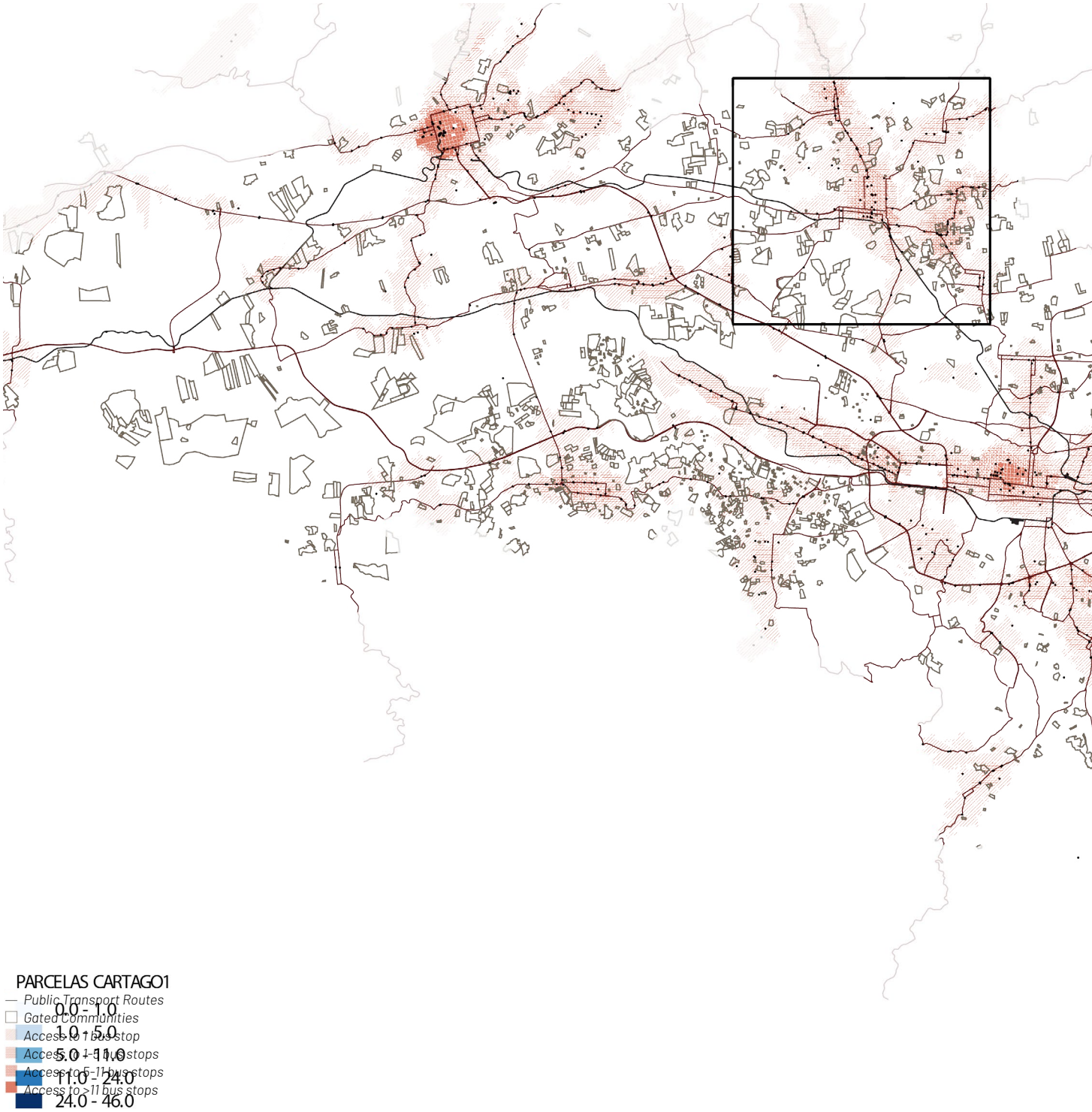
Inside gated complexes the integration tends to be low due to the fact that streets are integrated to the network at just one point.

FIG. 22.3 Network permeability - Block and network relations. Source: Ministario de Hacienda

Though development has continued to grow outside of the historic centre the network remains of rural character. Roads constructed are for inside gated developments, so they maintain a cul de sac, close circuit character without actually dividing the territory. This has resulted in the maintenance of large block units that do not encourage soft mobility. The network then is characterized by being impermeable and rigid. In this way relaying heavily on the few existing roads which easily become oversaturated. At the same time distances become distorted since adjoining parcel owners might require travelling long distance to access the other's property, as shown by the zoom in area

FIG. 22.4 Bad Pedestrian infrastructure on primary road. Source: Q Costa Rica, 2016

FIG. 22.5 Everyday Mobility Scene Urban Centres. Source: Amelia Rueda, 2014


PARCELAS CARTAGO1
Public Transport Routes
Gated Communities
Access to 1 bus stop
Access to 2-5 bus stops
Access to 5-11 bus stops
Access to >11 bus stops
0.0 - 1.0
1.0 - 5.0
5.0 - 11.0
11.0 - 24.0
24.0 - 46.0

23 – Accessibility and Public Transport

The analysis evidences the lack of accessibility to public transport in areas dominated by gated communities. This further incentive the use of private cars. These areas as analysed before are characterized by low permeability, reducing accessibility to transport lines on a walkable radius of 800m. In this way not only should the network be altered to allow for more permeability but another secondary layer of public transport on a local level is required in order to transport inhabitants towards the main bus lines.

Additionally, the public transport of the region functions well when it comes to connecting centres between them-selves and traveling any distance as long as it is on main streets- It works primarily in a radial configuration connecting secondary or tertiary centres to the country's capital. This results in most cases in oversaturating the primary roads with multiple bus lines traveling through them.

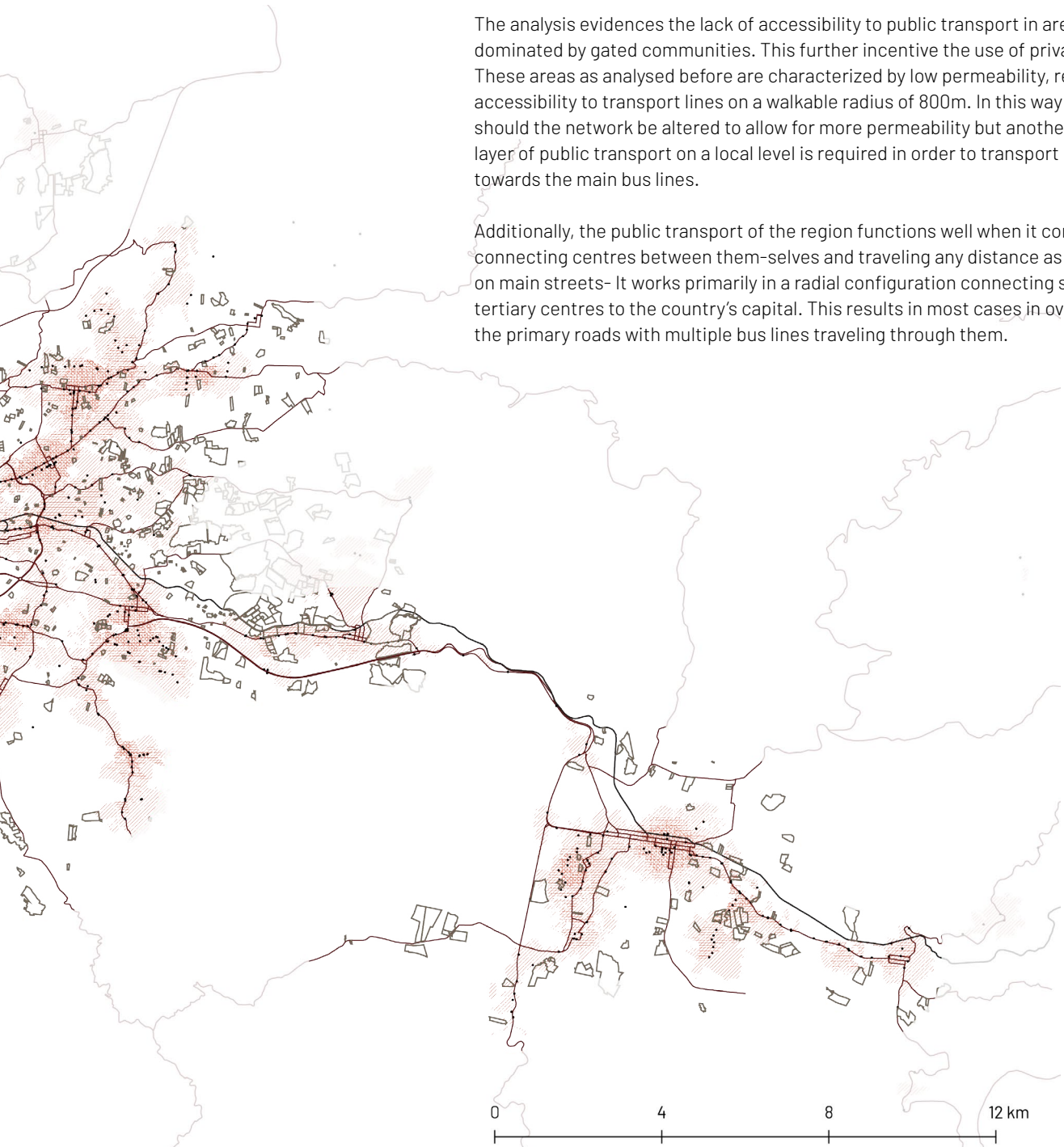


FIG. 23.1 Access to public transport within a distance of 800m at the regional scale. Source: OSM (Roads, Water Ways, Function), Ministerio de Hacienda, Author's mapping of gated communities using Google Earth

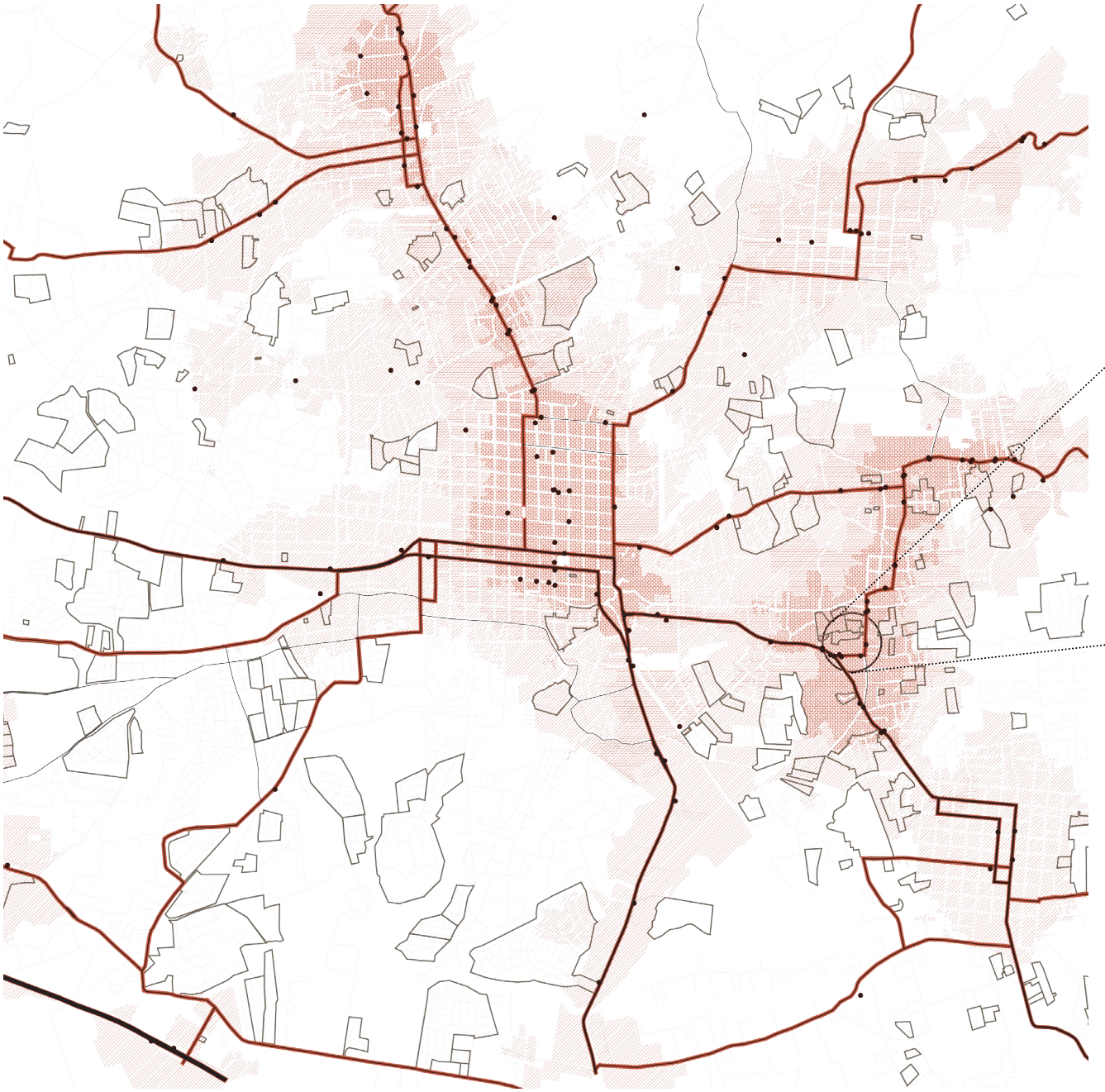


FIG. 23.2 Accessibility to public transport with in 800m at a city scale, Source: OSM (Roads, Water Ways, Function), Author's Gated Mapping using Google Earth

Public transport travels predominantly on primary, secondary and tertiary roads which works well on a regional scale. However, as stated before supporting lines are needed to move within the local areas since there are large areas not served by the current lines. These unserved areas are predominantly low density residential areas. In this way an improvement of public transport coverage, combined with densification can help reduce car dependency.

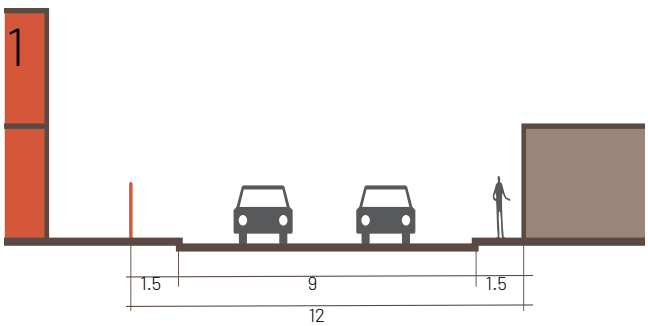


FIG. 23.4 Section of secondary street, lanes are wide allowing for bus circulation as well as private cars. Sidewalks are narrow and often interrupted by parked cars.

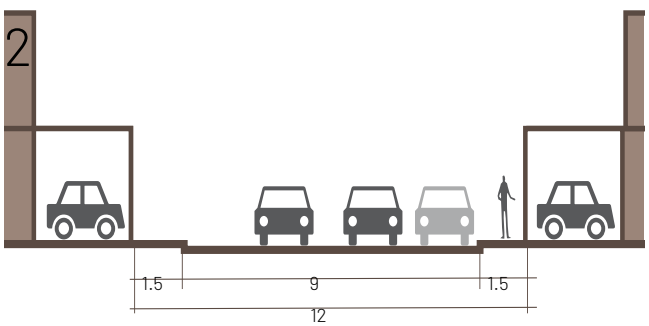
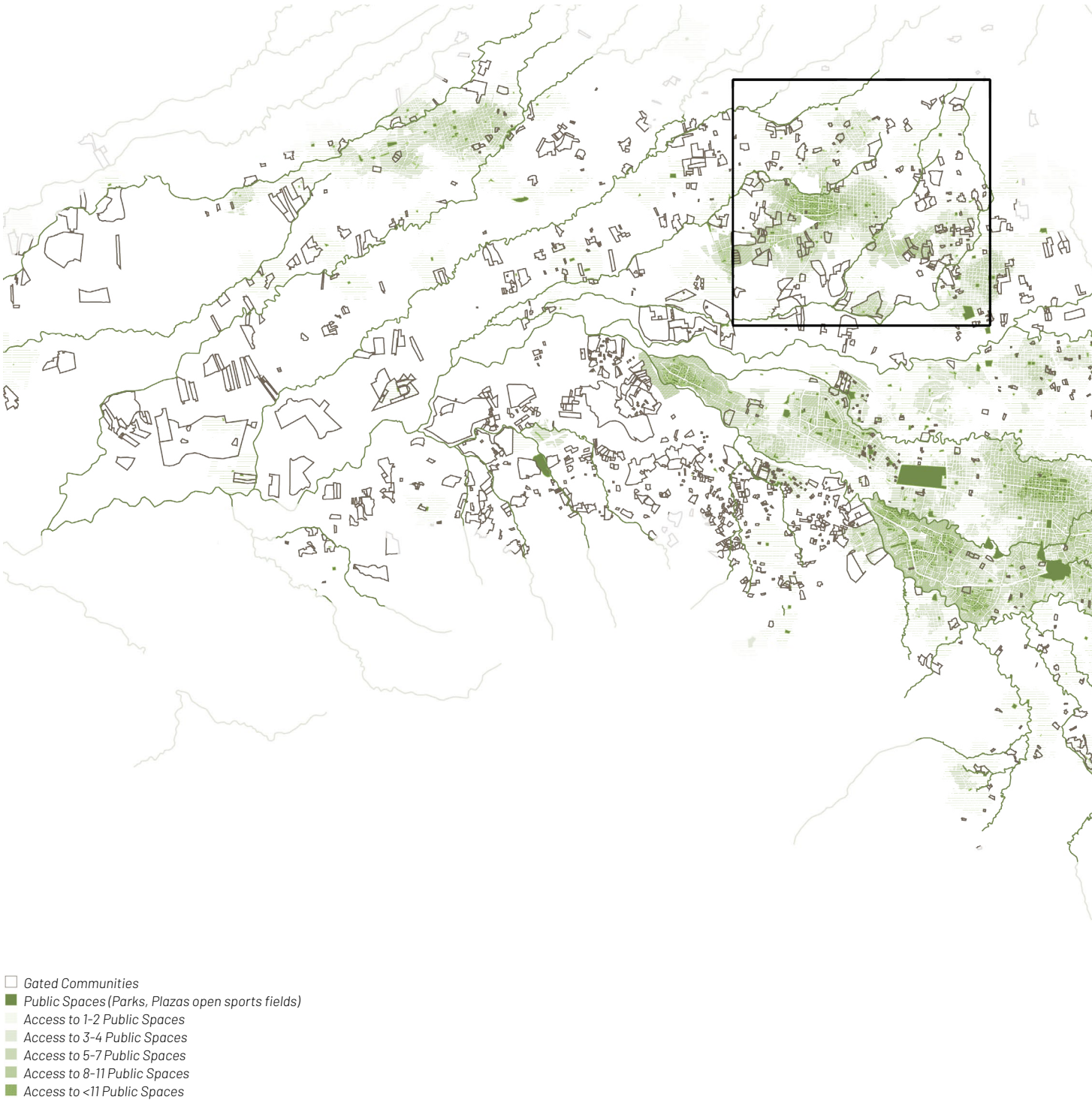


FIG. 23.3 Section of typical street within a gated community. There is excesive space dedicated to the car. Street is as wide as secondary road, allowing for parallel parking, sidewalks also maintain the same width as main city roads.

There is an imbalance on the street hierarchy with in gated complexes. In most cases the road network of a gated community has widths comparable to tertiary or even secondary streets in the city network. (Fig. 21.4-21.5) Therefore, there is extra space dedicated to the car in these developments. Streets inside the gated complexes should maintain a residential character and present a hierarchy according to their distribution. The extra space available is now a benefit for it provides space for transformation.

FIG. 23.5 Parque Nacional Park. Source: Google Maps, image uploaded by Julian Cascante, 2017

FIG. 23.6 Communal Park La Bandera. Source: Google Maps, image uploaded by Fernando Escobar, 2017


Gated Communities
Public Spaces (Parks, Plazas open sports fields)
Access to 1-2 Public Spaces
Access to 3-4 Public Spaces
Access to 5-7 Public Spaces
Access to 8-11 Public Spaces
Access to <11 Public Spaces

24 – Accessibility to Public Spaces

The lack of available public spaces has already been demonstrated in previous publicness mapping, adding to this the accessibility to public space mapping reflects not only the lack of space but that it is clustered with-in historical centres and the peripheral areas where gated communities are located do not have a healthy provision of public space that is accessible at a walking distance (800m). This supports the conclusion that such areas relay heavily on the private to provide spaces for interaction.

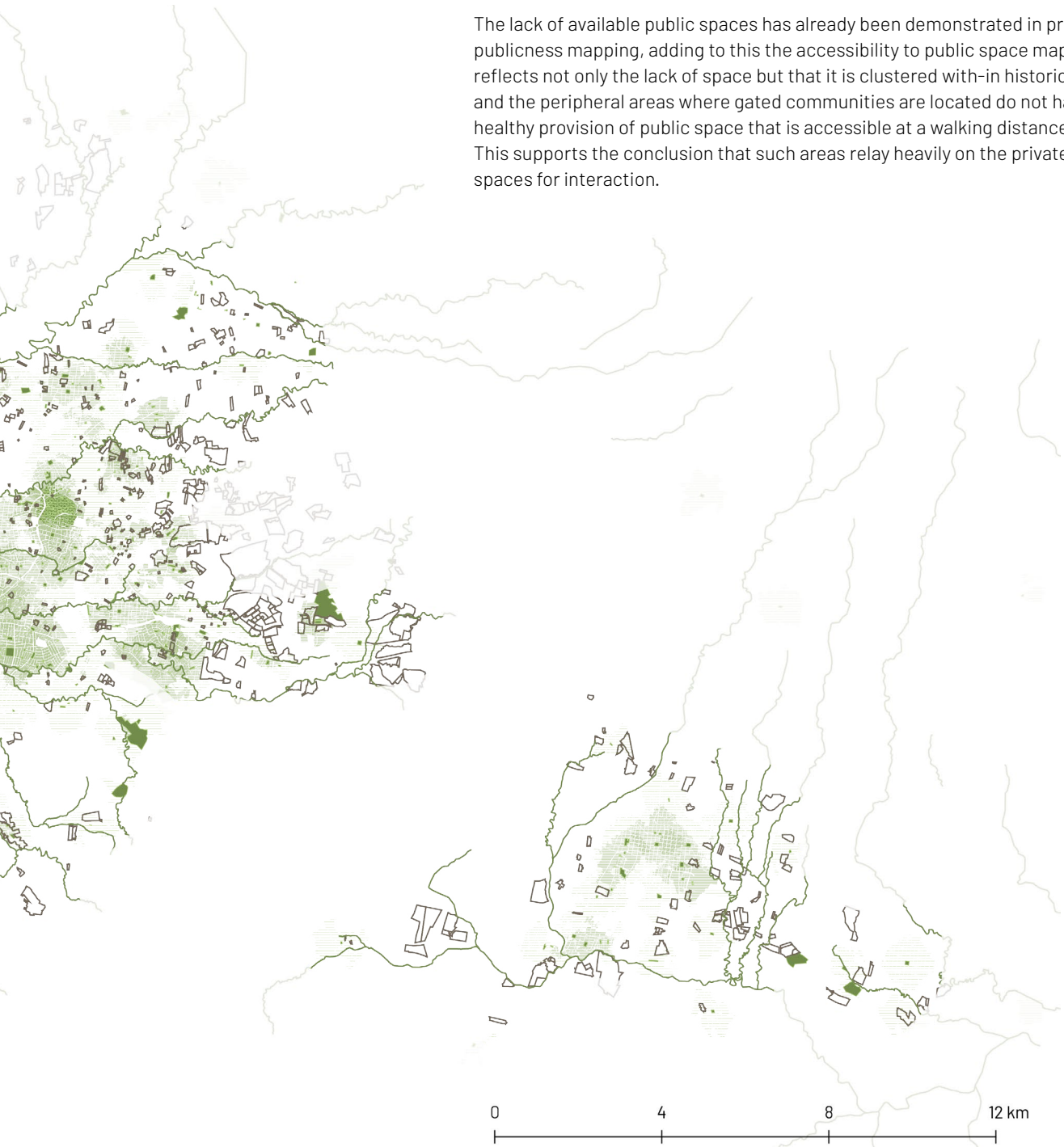


FIG. 24.1 Access to public spaces with in a 800m distance at the regional scale. Source: OSM (Roads, Function), Ministerio de Hacienda, Author's mapping of gated communities using Google Earth

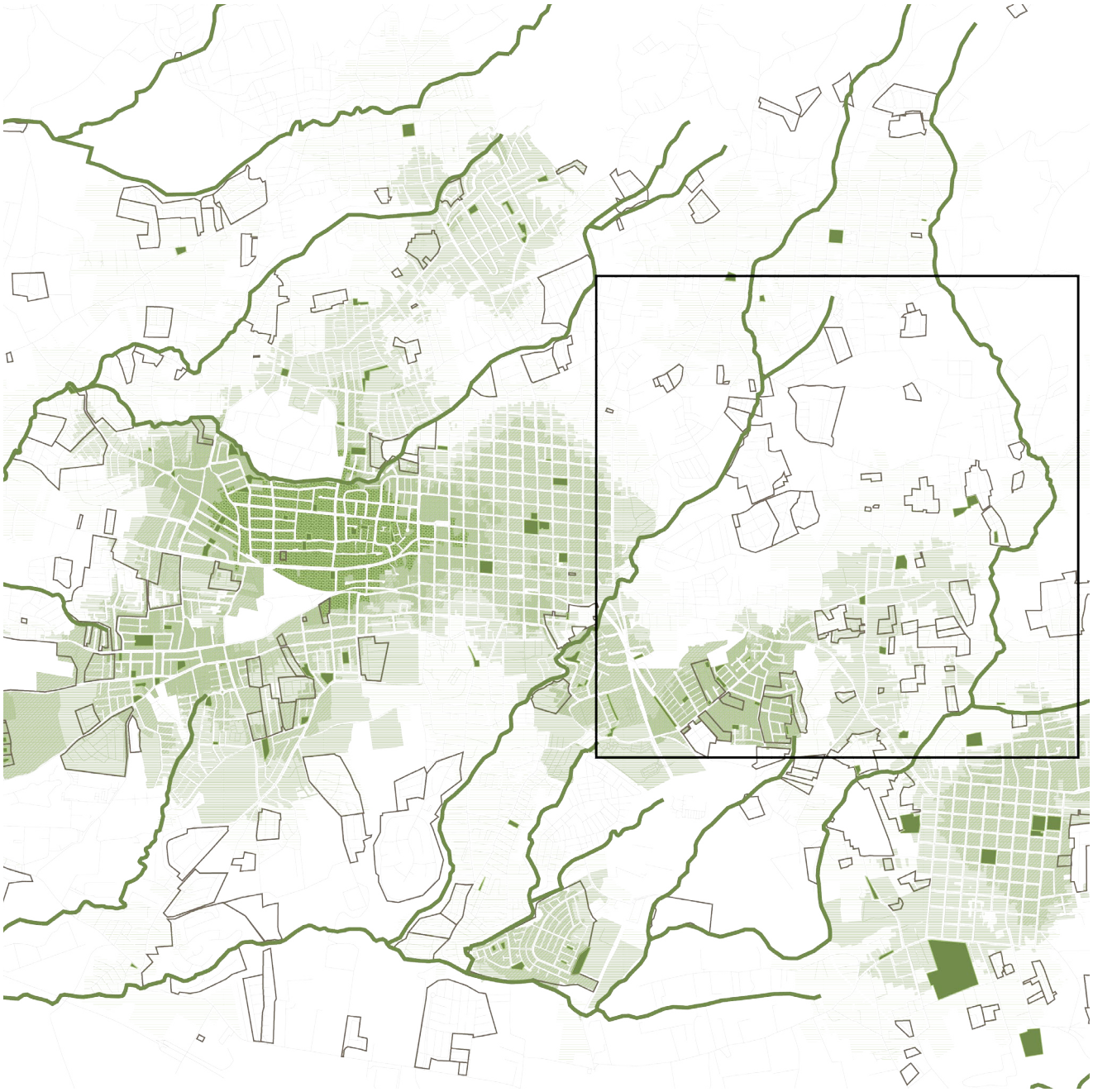


FIG. 24.2 Accessibility to public spaces within 800m at city scale, Source: OSM (Roads, Function), Author's Gated Mapping of gated communities using google earth

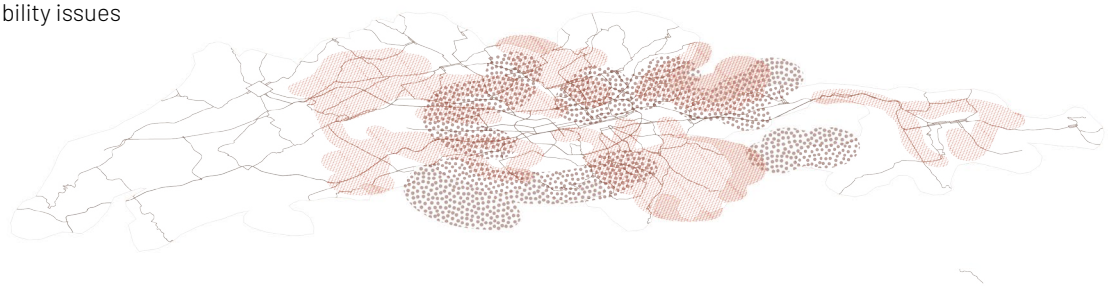
Though at a regional scale it is evident that gated communities have low accessibility to public spaces there seem to be some exceptions to this tendency. Punctual small parks might locate in the vicinity of gated complexes as shown in Fig.22.2 When these exceptions appear they seem to be located in close proximity to historical centres.

FIG. 24.4 Accessibility to public spaces within 800m at on gated communitiy clusters. Source: OSM (Roads, Function), Ministerio de Hacienda, Author's Gated Mapping of gated communities using google earth

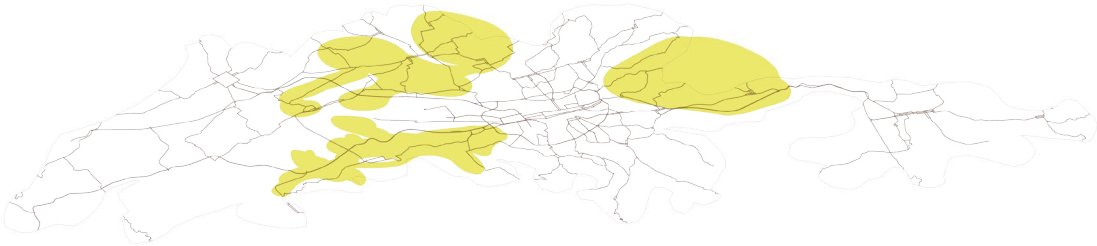
FIG. 24.3 Recreation areas with in gated complexes, accessible only to those inside the community or who are invited for a specific event. Source: OSM (Roads, Function), Ministerio de Hacienda, Author's Gated Mapping of gated communities using google earth

Private spaces then help compensate for this lack of public space. Commercial centres might appear in strategic areas near the gated community clusters. However, the most relevant private compensation is the provision of communal open areas within each gated community. These are spaces required by law and because of a different interpretation of it have remained in the private ownership, use and control of the gated complexes. Though they do provide open spaces for leisure in close proximity they are not a part of the public network, reducing the interaction with others; hence do not facilitate public domain.

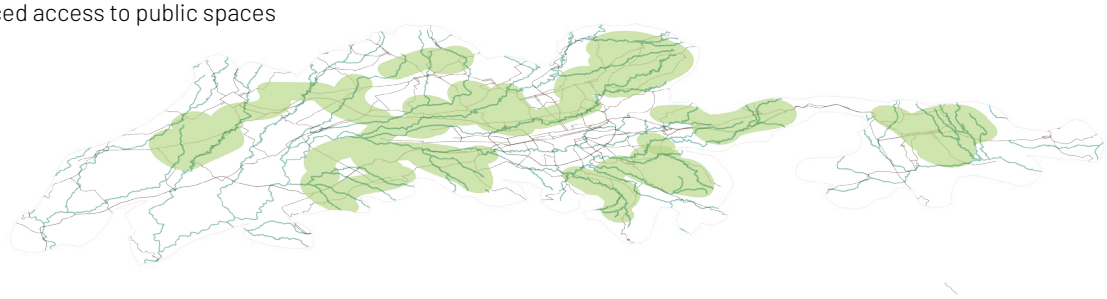
Areas with mobility issues



Areas with high cluster of gated communities



Areas with reduced access to public spaces



Areas with low density

FIG. 24.5 Synthesis of the main regional problems and potentials Source: Author's own

25 – Synthesis

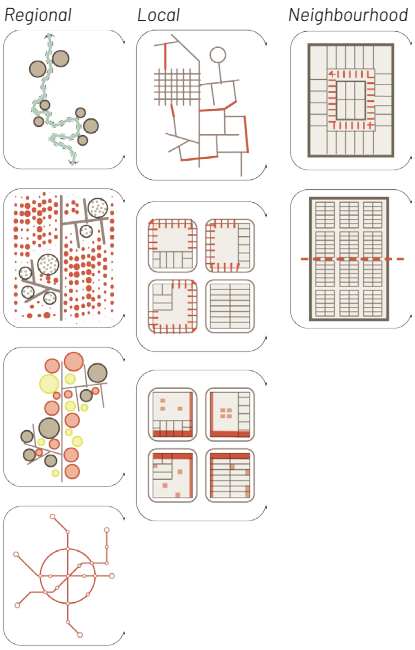


FIG. 25.1 Strategies at a regional, local and neighbourhood scales. Source: Author's own

The territorial reading gave important insight towards the definition of strategies. There are vast areas with low densification, high car dependency, and poor public transport. That would benefit form the improvement of public transport service and densification. Likewise, the lack of public spaces and accessibility to those existing also reflects on the need to provide a regional, and local network of such spaces. Areas that are characterized by large clusters of gated communities are highly privatized areas that relay on the private attractors as places for interaction, these areas would benefit from the proposed public spaces as well as the introduction of mix uses. (Fig. 22.5) Likewise the evident lack of permeability of the road network and the excessive number of borders due to the small size of some gated communities are some of the other points that need to be addressed. With these insight in mind and combined with the lessons learned from the the theoretical framework some strategies at all scales start to emerge. (Fig. 23.1)

Regional:

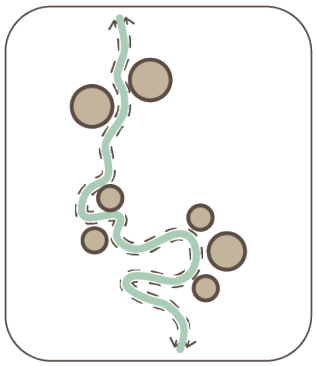
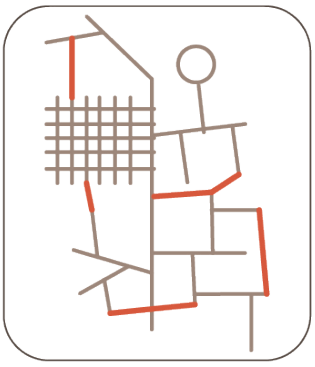
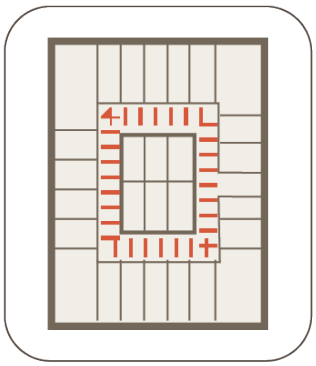
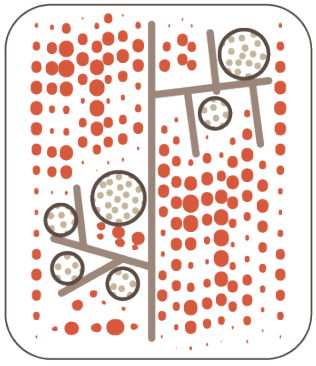
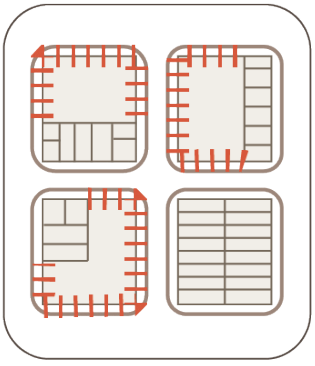
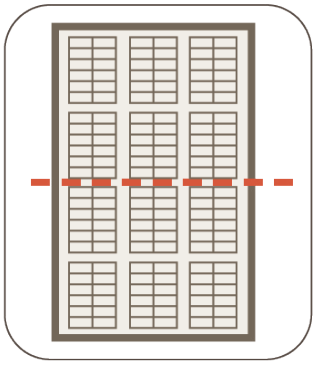
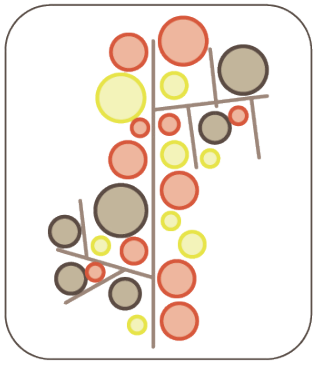
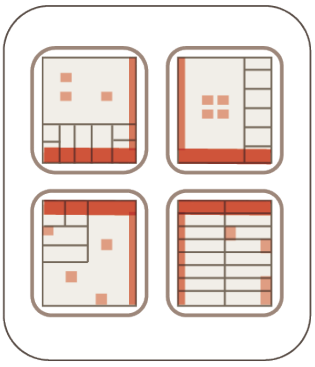
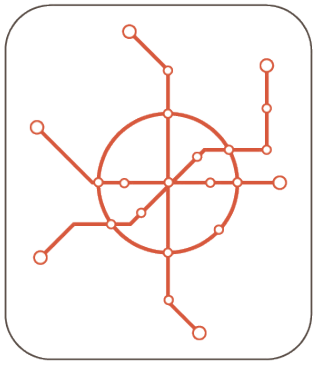
1 Rivers as public land have the potential of becoming parkways and connectors of the different gated complexes.
2 Those gated complexes that are isolated can benefit from densification as means to connecting
3 Allowing for mix uses to be introduced in areas where gated communities are clustered can add vitality and spaces for socialization.
4 The need to improve the public transport network

City:

5 Introducing new links in the network can further connect the complexes, increase the permeability of the network and allow for new centralities to appear.
6 Activating the border, taking advantage of the setbacks and providing spaces for interaction that can include diverse uses, leisure, commerce amongst them
7 Allowing for a gradient of publicness and activities can provide a network of places of interaction of different types giving inhabitants choices of type and level of interaction they want to engage in.

Gated Community:

8 Re-conceptualizing the privatized public space inside the community as well as the potential of allowing other uses to be included inside the complex
9 Resizing the gated complexes to enable more interaction

PART 4

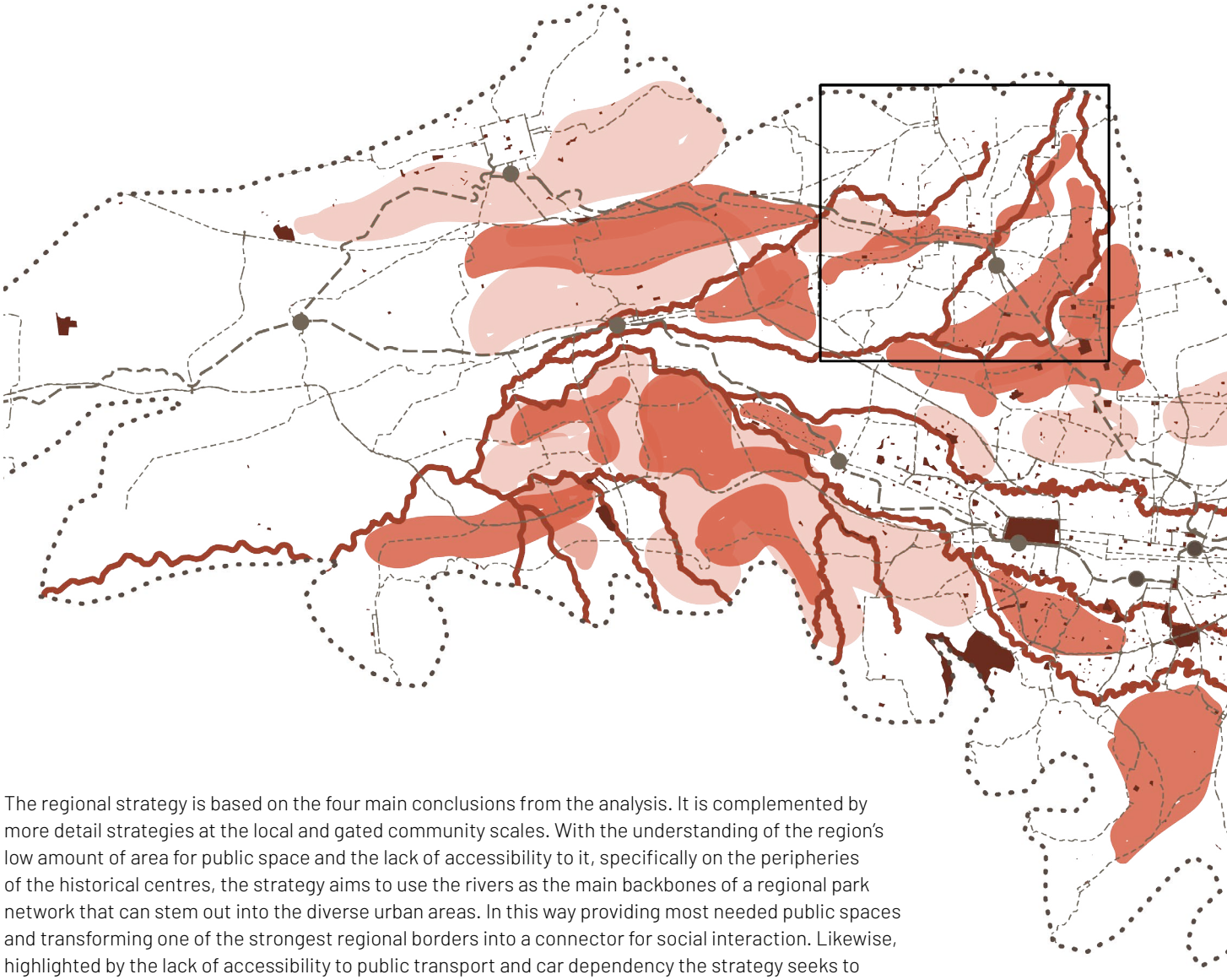
Multi-Scalar Design Strategies and Mechanisms

| Section Overview | Regional Strategy | River Park | Densification | Multifunctionality | Improving Public Transport | Local Strategy | Accessibility and Permeability Increase | Activating the Border | Using Liminal Spaces | Creating an Activity and Public Gradient | Introducing Multifunction into the Gate | Resizing the Gates | Towards 'woonerf' | Combining Strategies and Methods |

FIG. 25.2 Southern area of San Jose. Source: PRUGAM, 2004

FIG. 25.3 Metropolitan Park La Sabana. Source: Google Maps Image Uploaded by Norma Aguilar, 2018

FIG. 25.4 Development around Escalante. Source: Goolgle Maps Image loaded by Jose Duarte, 2017



The regional strategy is based on the four main conclusions from the analysis. It is complemented by more detail strategies at the local and gated community scales. With the understanding of the region's low amount of area for public space and the lack of accessibility to it, specifically on the peripheries of the historical centres, the strategy aims to use the rivers as the main backbones of a regional park network that can stem out into the diverse urban areas. In this way providing most needed public spaces and transforming one of the strongest regional borders into a connector for social interaction. Likewise, highlighted by the lack of accessibility to public transport and car dependency the strategy seeks to improve public transport network, providing travel choices, intramodality and the integrations of the diverse means of transport. The premise is not only in improving mobility but in comprehending that public transport has the potential for public domain in which a service of quality can provide a neutral place for the encounter with others. Finally, densification and diversification of use strategies help provide the critical mass needed for the public transport network and might help reduce the commute distance; but most importantly are key factors in dealing with the socio-spatial fragmentation generated by gated communities. Densification aids in the encounter with others as more development of different character can bring various groups in closer proximity, while at the same time making areas more vital and attractive for other functions. Allowing for mix-use provides different spaces and activities where public domain can take place.

26 – Regional Strategy

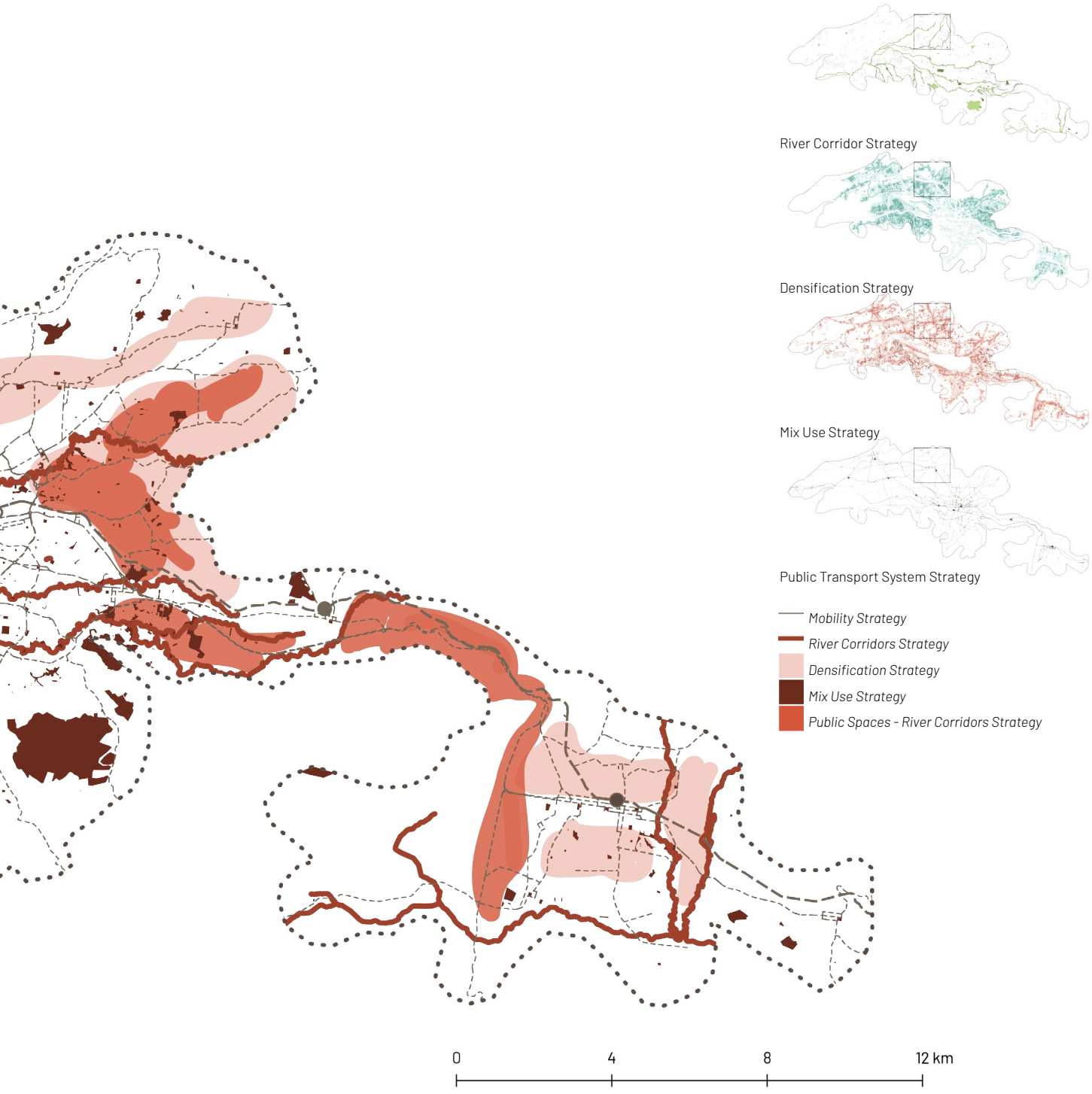
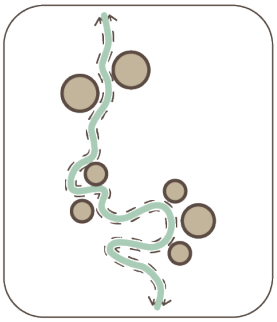


FIG. 26.1 Regional Strategy. Source: OSM (Roads, Water Ways, Function), Ministerio de Hacienda, INEC, Author's mapping of gated communities using Google Earth

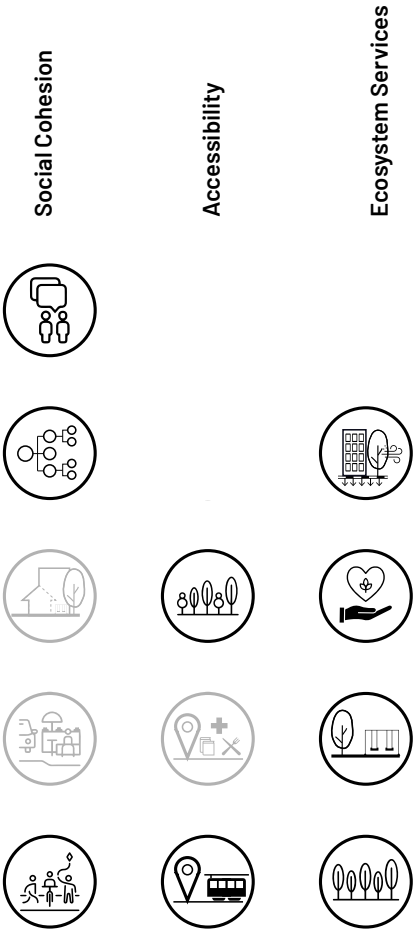
FIG. 26.2 Virilla River. Source: Wikipedia image by Mariordo, 2013

27 – River Park - Connector and enabler of public domain



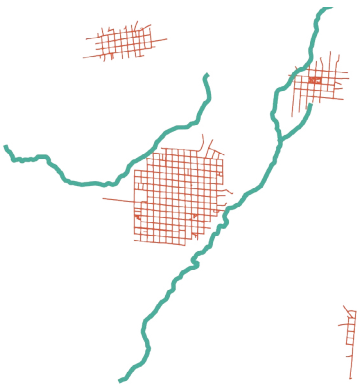
Principles applied and Expected outcomes

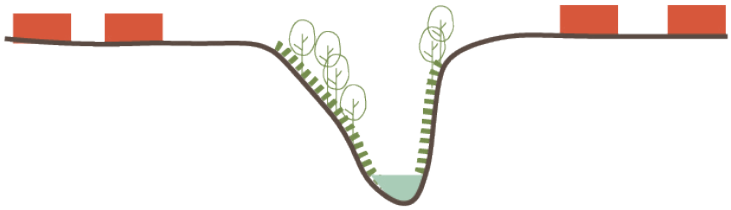
By running through diverse territorial occupations in distinctively rivers do provide a true neutral space which according to Rapoport provides ideal space of interaction between different communities. Additionally, utilizing this often-liminal space the characteristics for public domain explored by Hajer, theming, compressing activities and connecting can be put in place (Hajer, 2001) In this way providing a hierarchical system of river corridor and parks it would constitute one of the lower privacy zones in the city, becoming more private as it enters the urban condition towards inner neighbourhoods. (van Dorst, 2005) These small parks along the way can foster community and improve accessibility to green and leisure areas. Likewise, the network has the capacity to include pedestrian and cycle paths which aids accessibility and encourages soft mobility. As a consequence, this green network provides a strong basis for the provision of ecosystem services serving as an ecological corridor that will aid in urban water management and heat island effects as well as provide spaces for leisure, activity and stress release which benefits inhabitants health.



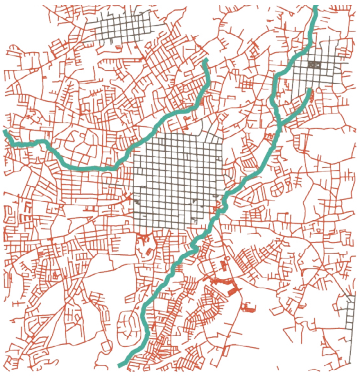
The creation of such a network benefits to all actors, the public will be providing the much-needed public space that they have not been able to, with combine efforts with the community they can ensure maintenance as well as en-force education campaigns on nature and resources. Additionally, the slow mobility network can be strengthening, thus improving accessibility, which might lead to the reduction on short distance car travel. Civil society can reorganize along these areas fomenting new associations with different interests and aims, which can strengthen and create new community ties. The private sector can collaborate with the public in the development and maintenance of these are-as, making sure that the public character of the network is not lost. In return this will increase the land value and activi-ty making surrounding areas more attractive and profitable for development. However, a balance needs to be main-tained, protection areas should be respected. The increase of attractivity in these areas should be carefully guided so that new development does not disrupt their ecological value. All actors should be aware that the success of the pro-ject is dependent on the systems ecology and its benefits thus, extensive development should be avoided. In this way both public and civic actors have the power to restrict and demand ecologically sound developments. In this way stud-ies should be carried out to determine more strict buffer areas and development restrictions, as well as terrain stabil-ity, water resource management and the health state of the ecological system.

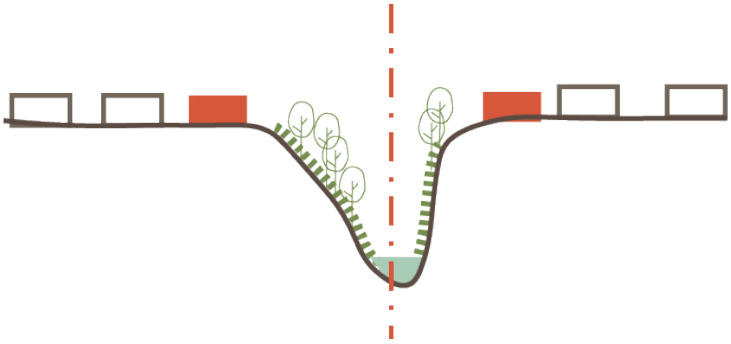
Development



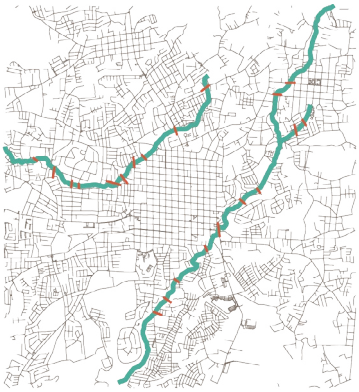


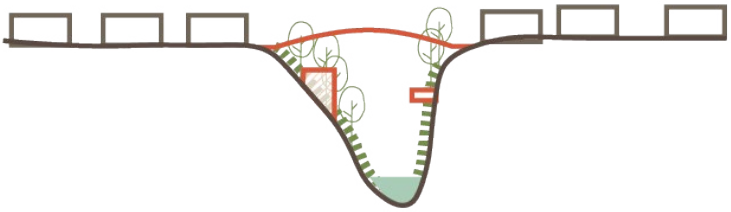
Past: Cities located separated form rivers. Due to the steep slope topography, rapid flow and curving nature of these rivers navegability is reduced so they broughtno benefit to the urban.



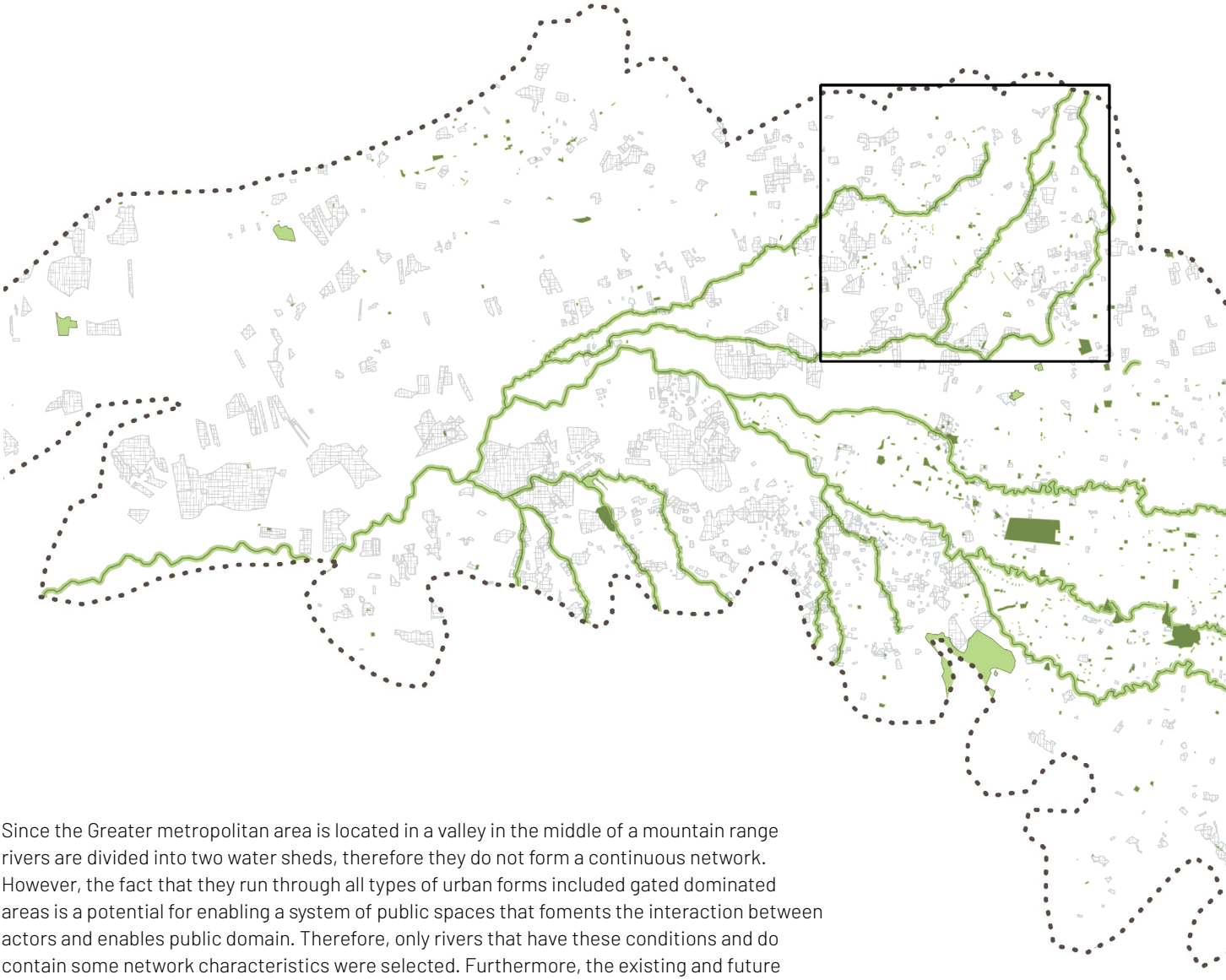


Present: Rivers a physical borders and forgotten land. As cities grew rivers became embeded in the urban fabric, however in most cases due to the topography they are considered a border and are crossed only on few ocations. The urban fabric maintained its broken relation to rivers , pressenting not onlu low accessibility to them but also being located in the back of properties they possess no other function than as an ecologica corridor which is ignored by most inhabitants.





Proposed Future: Integrating rivers into the urban condition. Providing more accessibility and functions along the river corridors will transform them into a lively park along the region that will possition them in the urban imagery in a possitive way, no longer being part of a neglected landscape.



Since the Greater metropolitan area is located in a valley in the middle of a mountain range rivers are divided into two water sheds, therefore they do not form a continuous network. However, the fact that they run through all types of urban forms included gated dominated areas is a potential for enabling a system of public spaces that foments the interaction between actors and enables public domain. Therefore, only rivers that have these conditions and do contain some network characteristics were selected. Furthermore, the existing and future parks and natural areas located in proximity of the river course can be included in the network, and with this having the additional benefit of enhancing the green connectivity in the urban condition.

This strategy is closely linked to all other regional and local strategies. For in order for the river parks to work properly they requires a critical mass of users, to provide security, these would be provided by the introduction of diverse activ-ities, the integration in the soft mobility network and densification of the areas in question. As well as the improve-ment of the relation with the immediate fabric through the creation of new accessible points, and the development of pocket communal parks along the way.

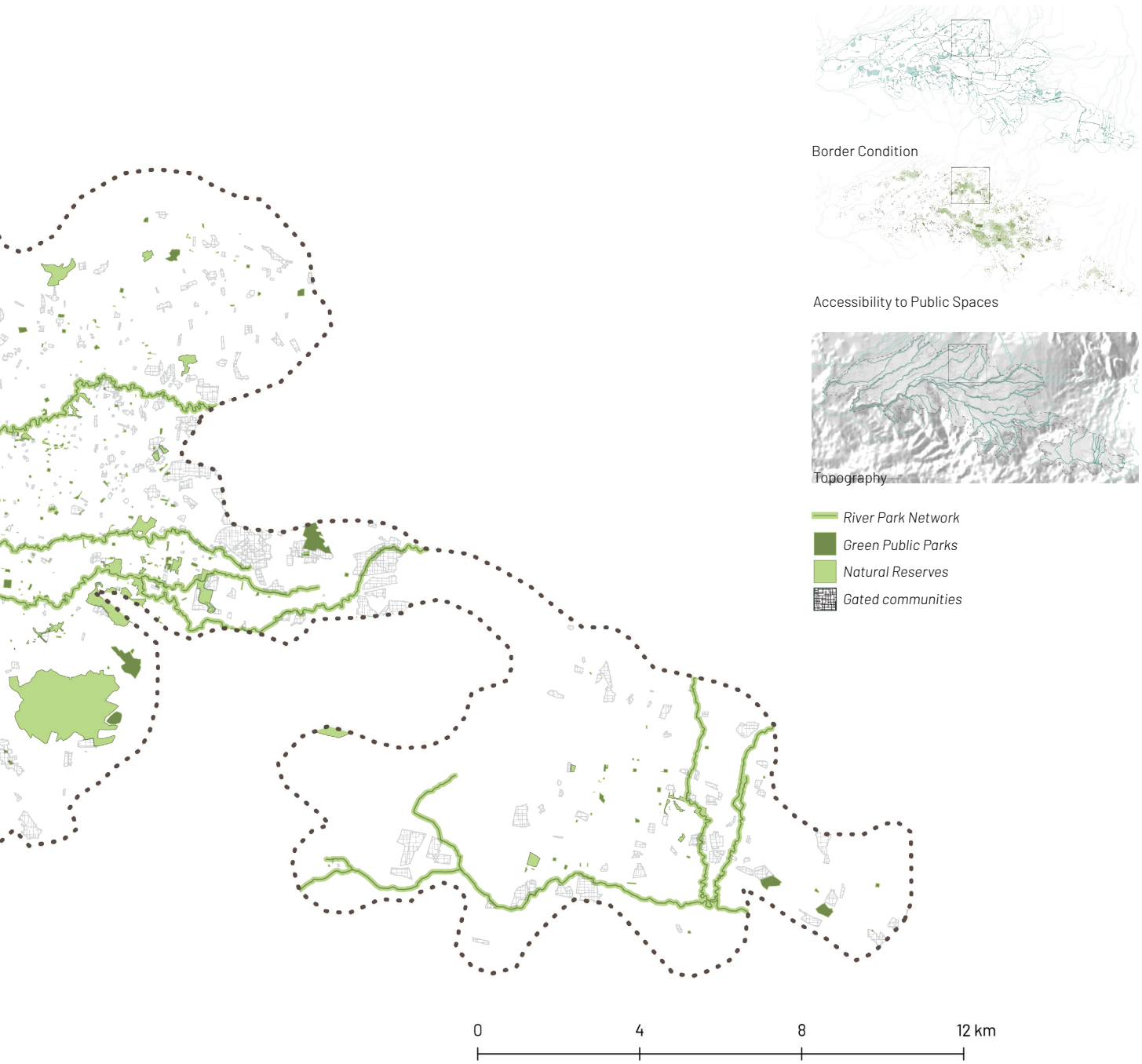
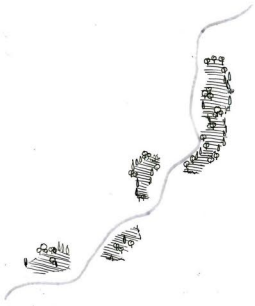


FIG. 27.1 Regional Strategy - River Park. Source: OSM (Roads, Water Ways, Function), Ministerio de Hacienda, INEC, Author's mapping of gated communities using Google Earth

Capacity of Change

Current Condition



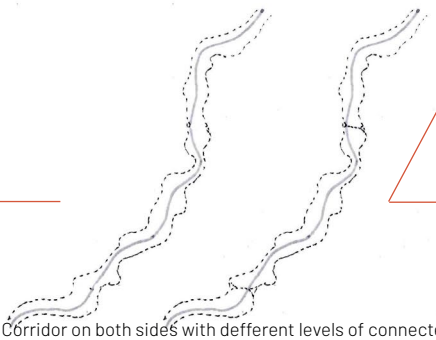
River as Park

Punctual Interventions

Multiplel Interventions

River as Corridor

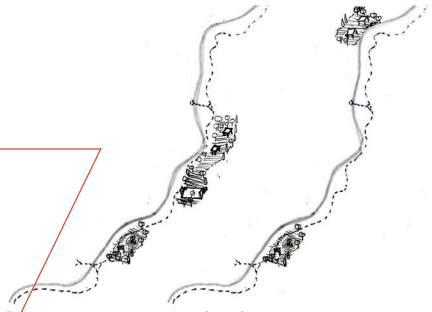
Corridor on one side with defferent levels of connectedness



Corridor on both sides with defferent levels of connectedness

Initial Development

Ample Development



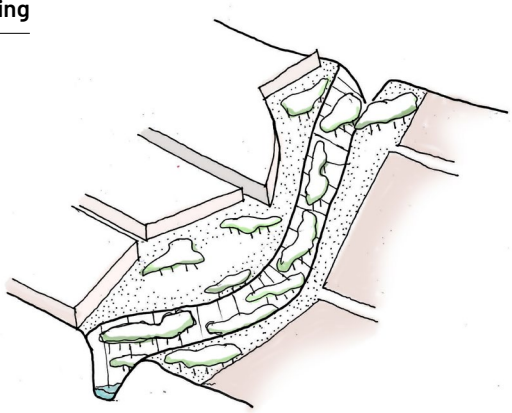
Punctual Interventions -One Corridor

Punctual Interventions -Two Corridors

Multiplel Interventions -One Corridor

Multiplel Interventions -Two Corridors

Phasing



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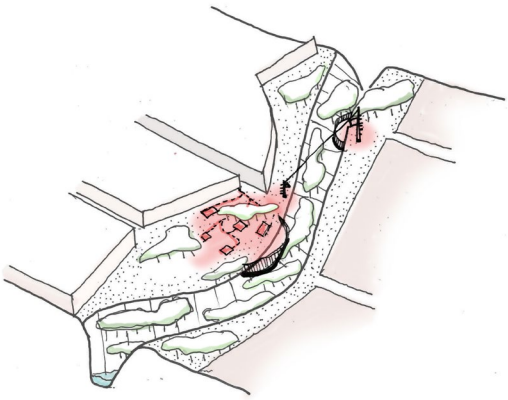

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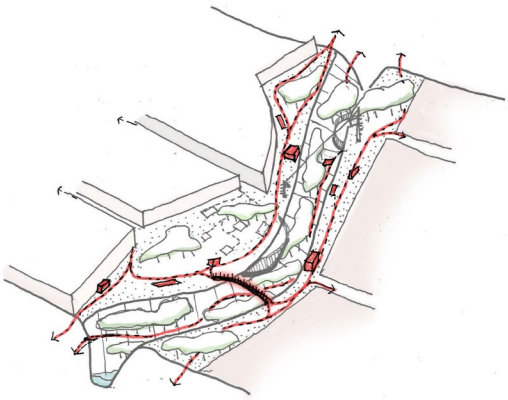

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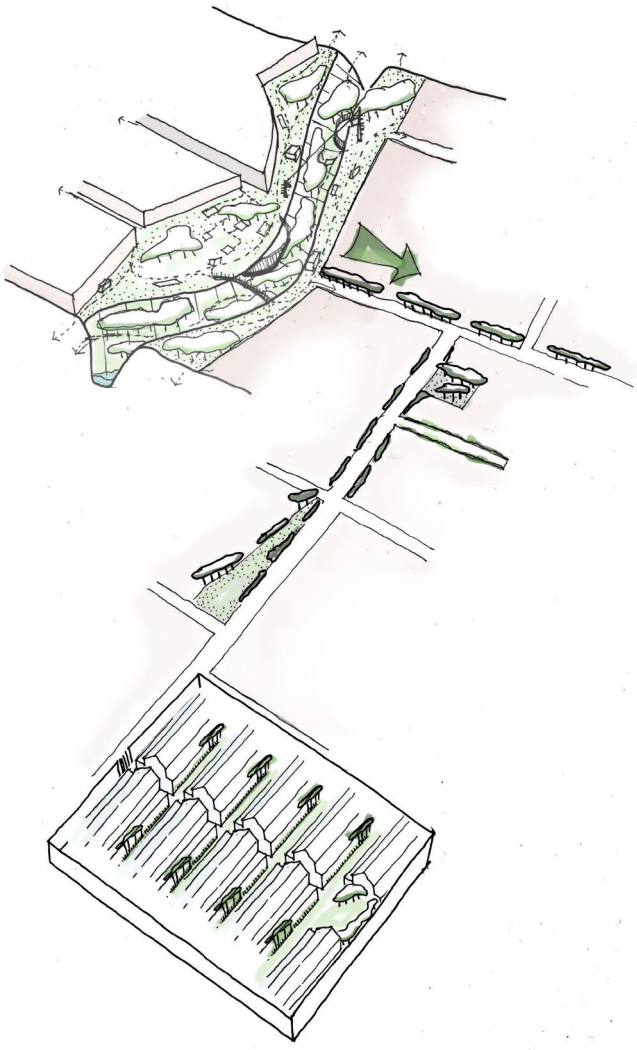

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The Capacity of change is inheriting in the current situation as no much morphological (block, street, parcel) changes are required for the transformation. The proposed can be seen as the different components of the system that can be developed as phases to achieve the whole or as a series of alternatives from which the possibility of choice exist. By developing these through phases adjustments can be easily incorporated to ensure the success of the project. The current condition of rivers and available underutilized space as potential for public domain

10 The development of accessible activity points along the route, to allow for initial use and introspection in the urban life
11 Building a connecting infrastructure along the curse that links between the existing parks and the urban fabric.
12 Enhancing the natural character of the corridor by inserting the green into the built fabric creating a secondary natural network.

Evaluation -

Actors

Public

-Municipalities

-Environmental Protection - MINAE

-Cultural Ministry - MCJD

Private

-Developers

-Interested Companies for Sponsoring as social responsibility programs

Civil

-Communal Associations

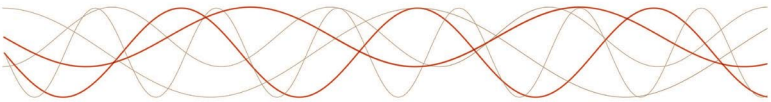
-Nature / Environmental Associations

-Soft mobility Associations

Adaptability

Given the explorations it is clear that many possible configurations can take place, varying from the number of parks developed along the way to the consolidation of the corridors and later infiltration of the green towards the urban. In this way this strategy is confined to a specific area and availability of extra space for parks, but the development of each section can be altered, speeded up or down according to changes in the urban necessities as well as outside stresses like economic growth or decline.

Rate of Change



Communal parks along the river can take faster to execute 1-2 yrs. for they require the agreement from community members, and construction permits, providing there is space available. Financing can be an issue but in general these can come from small bottom up instinctive that start taking advantage of the river's natural beauty. However, the completion into a corridor will prove a decades long process from the planning to completion given the number of public agencies involved the need to get founding, bringing in interested private parties to cooperate.

Unit of Change

Parcel

Block

Street

Lessons Learned - Governance

It is the easiest transformation given that there is no major legal alteration required it is a big project that will need coordination between different municipalities and institutions. Therefore, it requires careful planning, phasing and strategic projects to be in place. As stated before it is important to combine it with other strategies to ensure users and activity, if not it might be regarded as dangerous and unsuccessful.

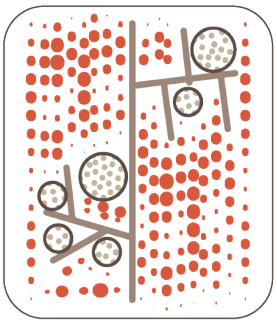
Future development though needs to be highly regulated environmental protection law need to be strengthen and enforced, too much activity can generate unwanted stress to the ecosystem present. In this way any intervention should not be taken lightly. Moreover, not all adjacent areas to the river can be considered identifiable or urbanized land, buffer areas should be revised and new protected areas that help the ecosystem rest and breath should be determined, all of which should not relay on municipal assessment but MINAE should work ideally together with a regional authority that seeks for the benefits of the system and ecosystem as a whole. The risk is that municipalities see the profitable to urbanise all these lands with disregard to the system and how it can affect neighbouring municipalities.

Though there is openness to this type of project as similar ones being discussed in some areas of the region as Rutas Naturbanas. These have also proven that the rout from acceptance and planning to execution is long, especially when it entails financing. The financial factor will require cooperation from the different agents in different degrees, but it is clear that if it is left solely to the public sector it will lengthen the process.

FIG. 27.2 Condominio Brisas del Oeste, San Jose Source: surplusre.comcom

FIG. 27.3 Condominio San Marino, Tres Rios. Source: costarica.amervivienda.com

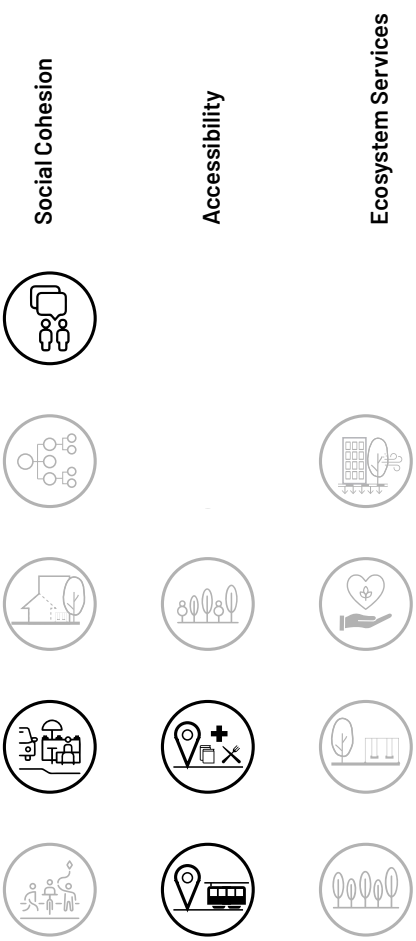
28 – Densification - providing critical mass



Principles applied and Expected outcomes

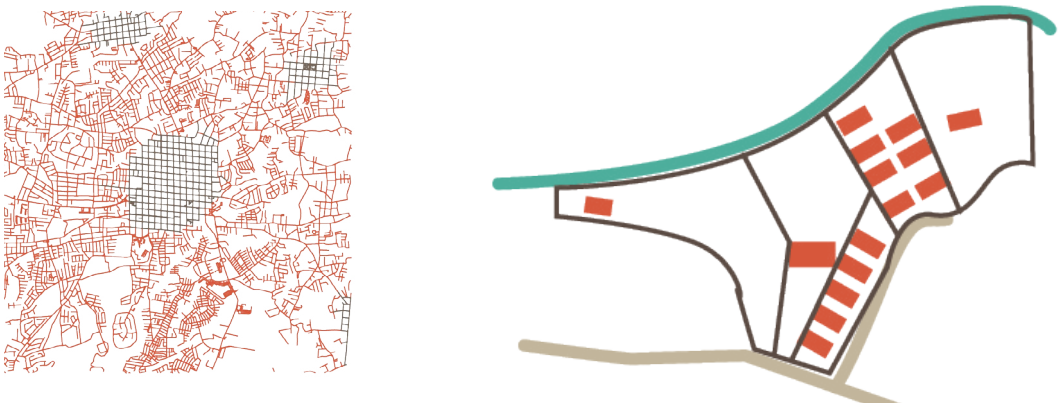
Through densification the provision of eyes on the streets will be increased as there are more residents in the area. Also, it will benefit inhabitants as it aids in generating the critical mass needed to improve or provide certain services such as public transport therefore, improving the accessibility to them as they are closer. Following Rapoport's concept of homogeneous neighbourhoods in close proximity to neighbourhoods of other characteristics can allow for the possibility of diversifying the social composition of the area as new developments can take other forms and attract new different social groups that those already in place; strengthening the inner communal ties and requiring more areas of interaction between different groups. This will shift the territorial composition by allowing diverse parcel grains but most importantly allowing a closer experience with others and the different ways in which each group experience and claim the city. However, this social diversification needs to be carefully monitored for gentrification might start to emerge in some sectors.

However, excessive densification can mean a significant reduction of porous surface and an increase on the urban in detriment of the environment. Therefore, densification rarely comes with an increase in ecosystem services. Higher densities make areas more profitable for developers in this way municipalities can better enforce urban requirements by allowing higher densities if urban services, like roads that allow through movement and public spaces, are provided by the developers. In this was new developments should not continue urbanizing as it is currently carried out but ef-forts between the public and private need to come in place in order to ensure future developments are carried put with careful considerations of the implications on the public and road networks.



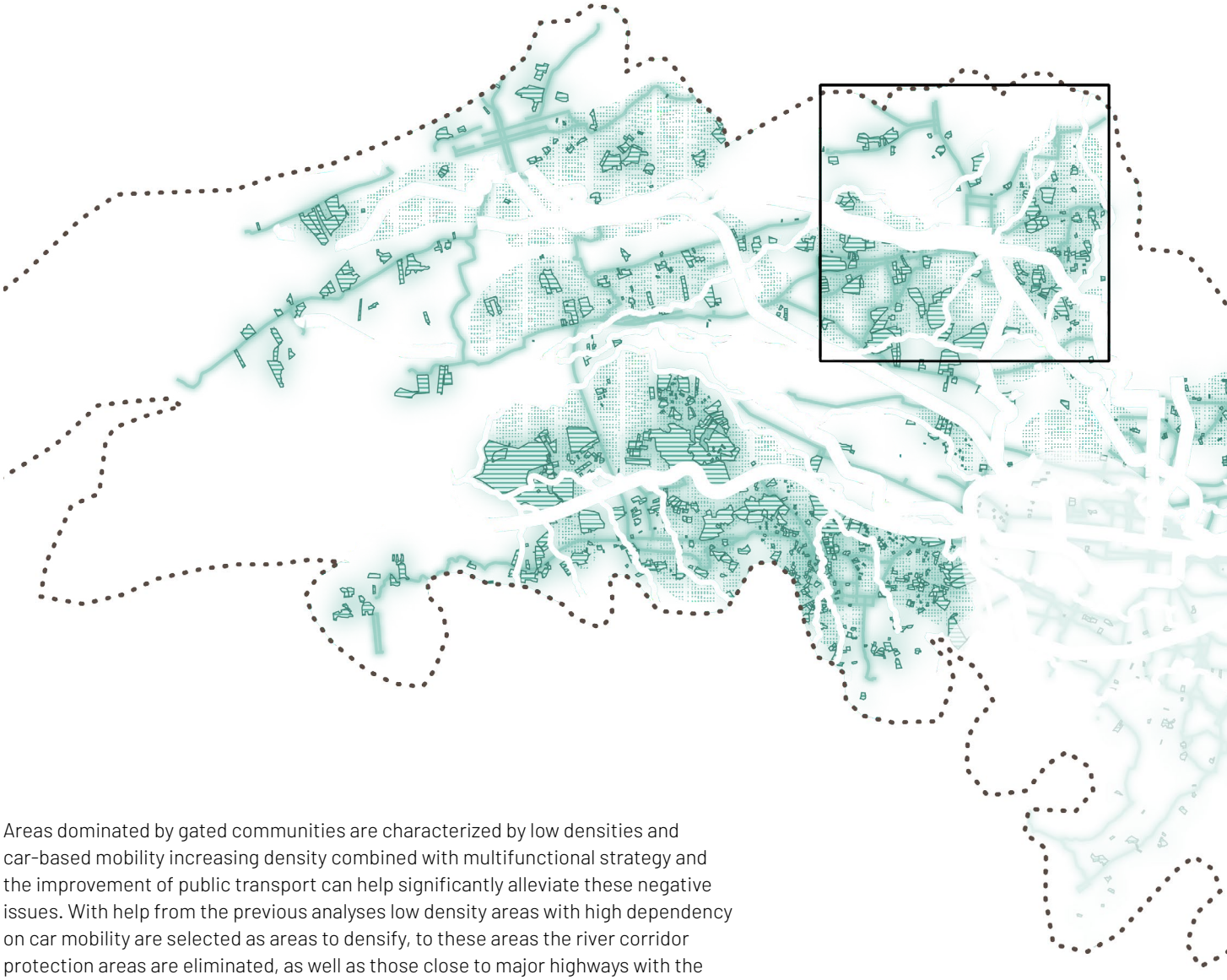
Development

Past: Urban and agricultural dichotomy. While the urban fabric had a higher density and smaller parcel grain, the remaining areas destined to agriculture where characterized by extensive parcels of extremely low density and built.



Present: Urban Expansion, Suburbanization and gated communities. As cities grew and expanded the agricultural lands where subdivided and new gated developers made use of the parcel size to generate low density residential complexes withou altering the existing public space and road network.

Proposed Future: Increasing density without repeating past mistakes. While densifying can help in the reduction of the negative effects of gated communities, future development should ensure the continuation and permeability of the network as well as privide public spaces fo different character.



Areas dominated by gated communities are characterized by low densities and car-based mobility increasing density combined with multifunctional strategy and the improvement of public transport can help significantly alleviate these negative issues. With help from the previous analyses low density areas with high dependency on car mobility are selected as areas to densify, to these areas the river corridor protection areas are eliminated, as well as those close to major highways with the aim to avoid unwanted noise and pollution. A secondary strategy of densification along quieter but still connected streets is also devised. The aim of this strategy is to allow for further densification without encouraging urban expansion, guaranteeing access to services and mobility. Finally, low dense gated communities can allow for a subtle increase in density through slow transformation process that can include either the replacement of existing and introduction of new dwelling typologies or simple additions and modifications to the already in place.

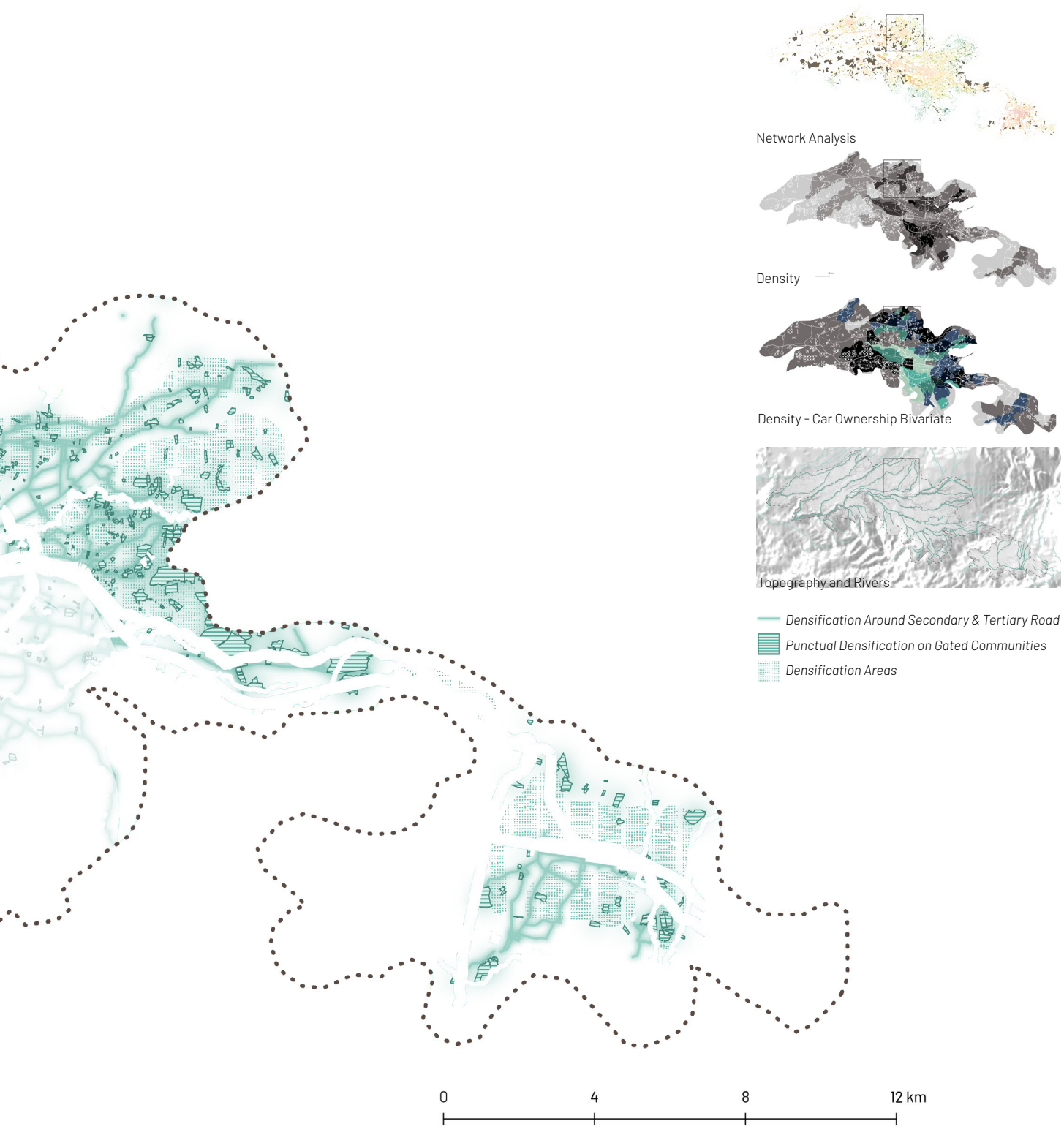
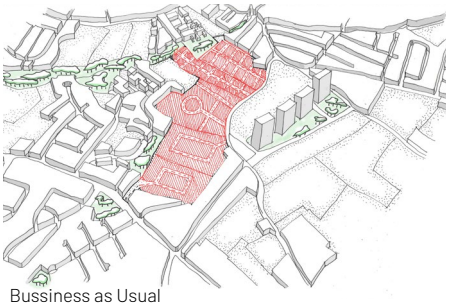


FIG. 28.1 Regional Strategy-Densification Areas. Source: OSM (Roads, Water Ways, Function), Ministerio de Hacienda, INEC, Author's mapping of gated communities using Google Earth

Capacity of Change

Using the existing Built

Current Condition



Bussiness as Usual

Building New

Includiong Public New Public Roads

Includiong Public Spaces and Roads

Infill vacant parcels

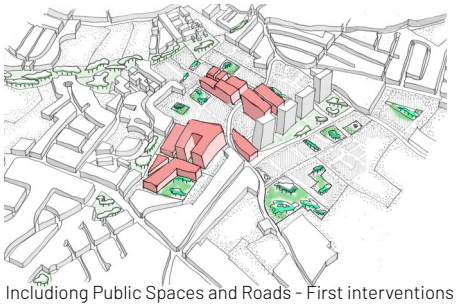
Transformation fo extixting

Transformation of Existing -Extreme Scenario

Bussiness as Usual- Gated communities

Includiong Public New Public Roads - First Interventions

Includiong Public New Public Roads- Extreme Scenario



Includiong Public Spaces and Roads - First interventions

Includiong Public Spaces and Roads - Extreme Scenario

Phasing

1 There are still many undeveloped parcels in the peripheral areas of the cities, those dominated by gated communities, as well as isolated small plots of land either inside or outside gated developments. Small transformation on this fabric can be developed as additions to the existing built and in fill of the still vacant small plots. Such densification methods are the fastest and first to take place.

2 For bigger plot densification the priority should lie on those who have already some development in them as well as parcels that are in close relation to main roads in urban centres. These should also provide complementary public roads to increase the accessibility of the network as well as the provision of parks and public spaces creating blocks that can be developed in different combinations

3 Densification is a slow process of building diverse projects through time. By allowing for different block configurations and plot grain sizes the diversity of development typologies can be fomented helping to facilitate social heterogeneity either amongst different developments or ideally within the same one.

1

2

3

Evaluation -

Actors

Public

Municipalities

Environmental Institute -MINAE

Service Agencies electricity and water- ICE, AYA

Private

-Developers

-Management Agencies of gated communities

Civil

-Interested individuals

Adaptability

Providing that regulations are enforced to ensure that new densification includes public spaces and roads that fully integrate them in the existing network. Housing development adapts quickly to the need s and requirements of the population while at the same time responding to outside forces, as it has done in the past by introducing new typologies of dwelling units and verticality.

Rate of Change

As evidenced by past experience densification of an area can come at quite a constant rate where individual projects can take 1-2years for completion and considerable transformation can be noticeable between 5 to 10 years. This is due to the fact that most construction is carried out by private parties where construction is programmed to be as short as possible. Clearly this rate corresponds to a period of abundance where construction market is constant and is susceptible to alterations given a change in the current dynamic.

Unit of Change

Parcel

Block

Street

Lessons Learned - Governance

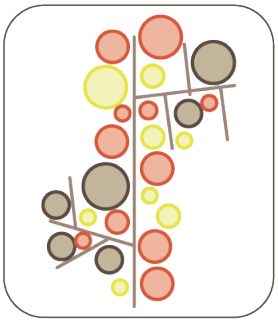
As stated before densification is a tool that can serve to delay urban expansion and provide critical mass to areas already built up that are characterised with low density. Nonetheless, it is not a simple solution firstly because density means differently in different contexts. Secondly because it should be carefully guided and regulated. Development of this sort should not be left to market forces as. Specially since the explorations show that extreme densification without regard for the creation of public space will oversaturate the area creating more urban problems, this without mentioning the negative impact in the environment. While the public sector determines general guidance especially with regard to environmental impact and mobility projections where regulations need to be more demanding for it is common that such measures are just handed in order to meet with the requirements. Additionally, areas of lower and higher densities should be more explicit and carefully marked, taking into account resource protection, availability of services. Furthermore, while densification incentives are efficient in motivating the private to conduct other actions in favour of the public they should not be over used. Likewise, though the spirit of the law does search for the provision of public space and integration of the road networks this need to be clarified, modified to ensure enforcement avoiding development that does not provide those urban services. A successful measure taken in Honduras (Mezger, 2018) was the lowering of the recreational area required by law if the condominium allowed it to be public instead of providing it exclusively to the residents of the development.

"I do believe that there is a possibility of developing housing offers without gates, but this would imply a new model that includes other uses not just housing, therefore offering security through the configuration of the diverse uses. In my opinion, this would require more than just an architectonic solution but on that is social inclusive, works economically that complements people's lives. There is something that has not been tested here and that has been lost; it is the creation of heterogeneous housing complexes including diverse social mix, like we had in our neighbourhoods of the 50s and 60s."

"The possibility of joining small developments through transition areas is an interesting concept but I believe the laws today do not permit it. Laws are too strict and require an explicit territorial division. If it is through the open-ing of already existing private communal areas is an extremely difficult proposal. A similar transformation was proposed by the municipality of Montes de Oca was presented and was rejected by both developers and popula-tion. Furthermore, who would propose such transformation municipalities or the developers? That is an important question to research. It could be done by incentivizing private donation of infrastructure to the public through tax reduction or mechanisms of the sort because today policies are centred in draining as much as possible the pri-vate while the public is inefficient."

FIG. 28.2 Arch. Alberto Castillo Leon Co-owner of ACL architecture and engineering developing company. Interview carried out through e-mail 15/05/2018. Image Source: Interviewee's personal facebook page

29 – From Mono to Multi-Functional



Social Cohesion

Accessibility

Ecosystem Services

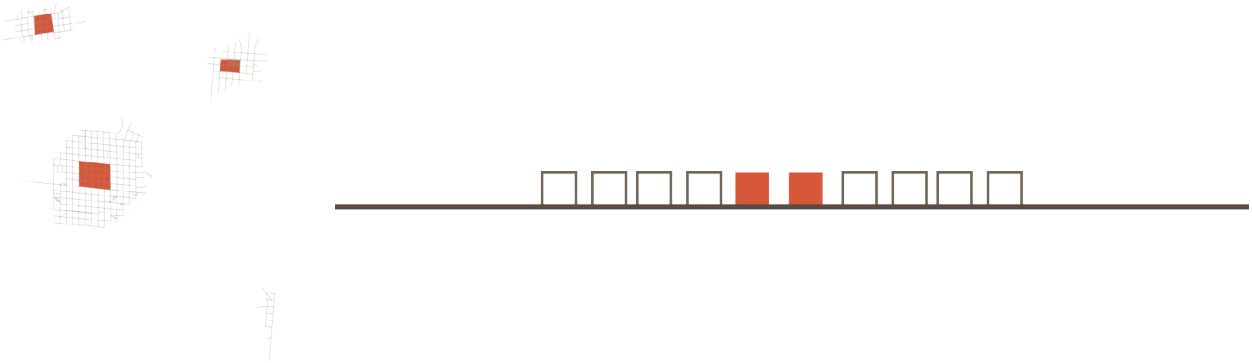
Principles applied and Expected outcomes

Multifunctionality helps in supplying heterogeneity both social and of uses to a determined area. The provision of different uses can bring these closer to an otherwise mono-functional area therefore, reducing travel distance and diversifying the active intervals of the area which help in the reduction of dormitory character of mono-functional residential areas. In this way improving mobility and allowing for access to service in a closer proximity than currently.

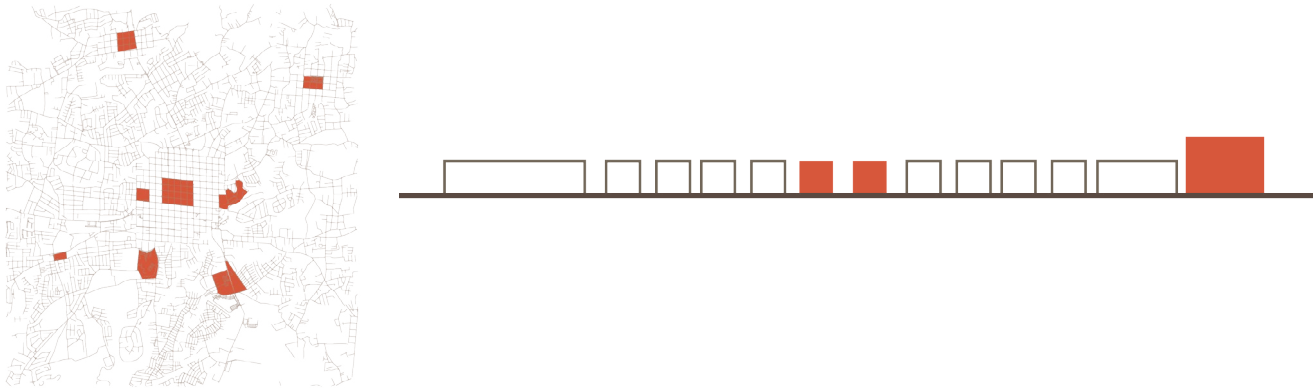
The introduction of new and different uses will attract other users too. Weather it is work, productive or leisure activities this diversification will allow for the interaction with others of different background but that share interests. In this way bringing others closer together. Certain uses, indifferent of ownership, can be considered neutral spaces for interaction as are some communal, commercial and leisure activities as they aid the interaction with others without any party feeling it their territory has been trespassed. However, multifunctionality does entail a degree of complementarity between the uses; as not all uses go well together not only for their purpose but also for the degree of activity and by products that might not be accepted (noise and pollution for example). As mentioned before diversification of uses can bring more people to an otherwise desolate area, this can increase the sense of security, nonetheless an incongruence in the amount of people and the character of the area can once again bring forth the sentiment of discomfort and insecurity. For example, an urban centre does thrive with many types of activity, but residential areas aim for a different type of activities which are calmer. At the same time not, all urban centres or residential areas are the same. While a family neighbourhood would welcome play areas, and schools, and uses such as loud bars might be discouraged, it might work the other way around for a neighbourhood composed by young adults. In this way the introduction of multifunctionality needs to correspond to the character of each area and its positioning in the urban fabric.

Finally, it is important to emphasize that diversification of uses relies on public sector and private. Cooperation need to emerge so that it is attracting for developers to introduce diverse uses in their developments as well as in a establish monofunctional area. However, public sector must constantly regulate and enforce the uses allowed in order to as-sure their appropriateness. Additionally, it is relevant to emphasis that multifunctionality does also regard the provi-sion of public services like parks, communal areas, clinics amongst others, therefore it is not the sole responsibility of the market to provide other activities.

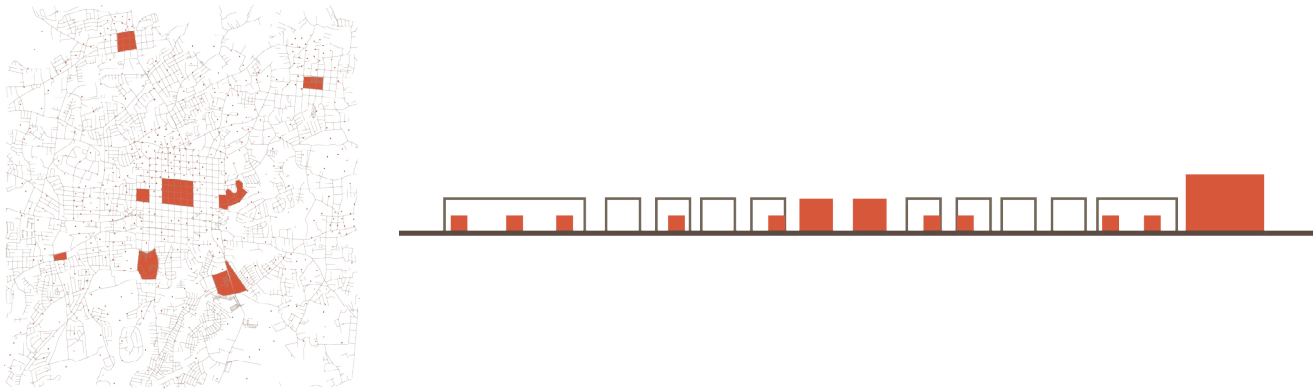
Development



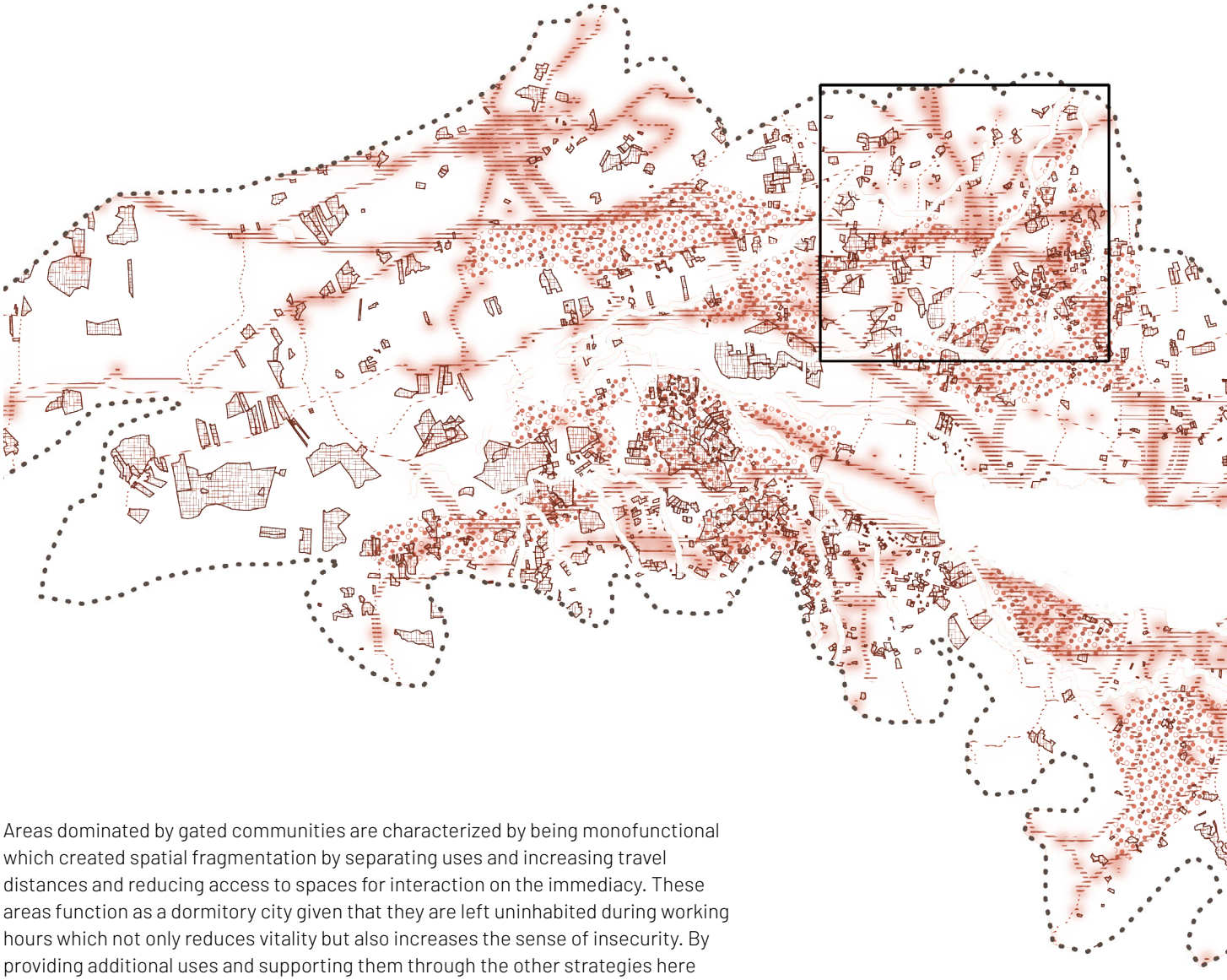
Past: In the past services and other activities were located in the core of the historic centre. These were the blocks surrounding the central plaza and church. Outside this area residences were organized according to social status; the higher status where located closer to the centre.



Present: Urbanization has expanded. Services are maintained in the historic centres, specially the public ones. Other services have been centralized in commercial centres locted near highways and main connecting corridors. Residential use has expanded to the outskirts in the form of gated communities. Now the social organization tendency has inverted: the more solvent search housing outside the urban centres, with the exception of some highrises in strategic areas.



Proposed Future:Local small services start to permeate the residential fabric, bringing diversity and reducing travel distance for dayly needs. The development of big monofunctional complexes is reduced and mix used developments are favored instead.



Areas dominated by gated communities are characterized by being monofunctional which created spatial fragmentation by separating uses and increasing travel distances and reducing access to spaces for interaction on the immediacy. These areas function as a dormitory city given that they are left uninhabited during working hours which not only reduces vitality but also increases the sense of insecurity. By providing additional uses and supporting them through the other strategies here presented the negative effects of monofunctionally and spatial separation of uses can be improved. In this way monofunctional areas were recognized through the presence of gated community clusters and the areas where most people work outside their municipality. As with the densification strategy protected areas and river corridors where subtracted from the intervention areas. Areas with higher network integration and public transport routes are selected as complementary areas that can house more diverse activity. Lastly, gated communities, and their surrounding areas can benefit of the introduction of daily uses and a different array of more calm activities.

FIG. 29.1 Regional Strategy- MixUse. Source: OSM (Roads, Water Ways, Function), Ministerio de Hacienda, INEC, Author's mapping of gated communities using Google Earth

Capacity of Change

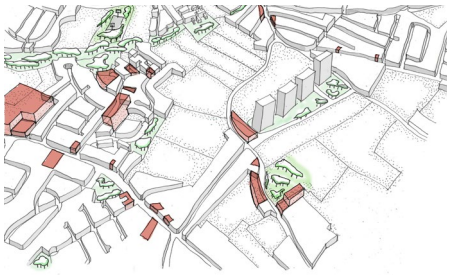
Using the existing Built

Current Condition

Building New

Includiong Public New Public Roads

Includiong Public Spaces and Roads



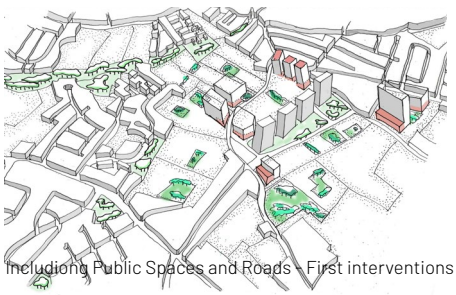
Infill vacant parcels

Transformation fo extixting

Transformation of Existing -Extreme Scenario

Includiong Public New Public Roads - First Interventions

Includiong Public New Public Roads- Extreme Scenario



Includiong Public Spaces and Roads - First interventions

Includiong Public Spaces and Roads - Extreme Scenario

Phasing

1 The current condition is of extensive monofunctional areas composed by residential complexes.

2 In an initial stage diverse uses can be introduced into the residential fabric through the transformation of existing buildings to accommodate other uses as well as the construction of new small facilities to house services. Given the fact that there are few public areas these are also considered as part of the diversification of uses and the development of such spaces is welcomed.

3 As residential areas become more diversified new mix use developments start to emerge, ones that make sure they include public areas and do not segregate themselves form the urban fabric (as shopping malls usually do)

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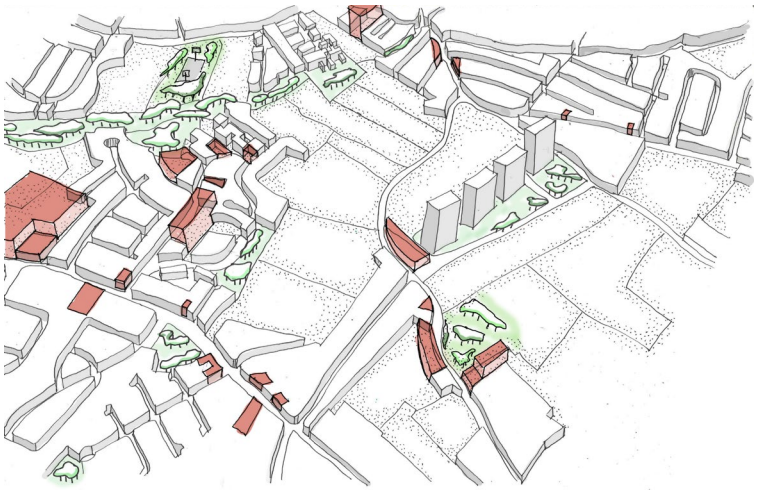

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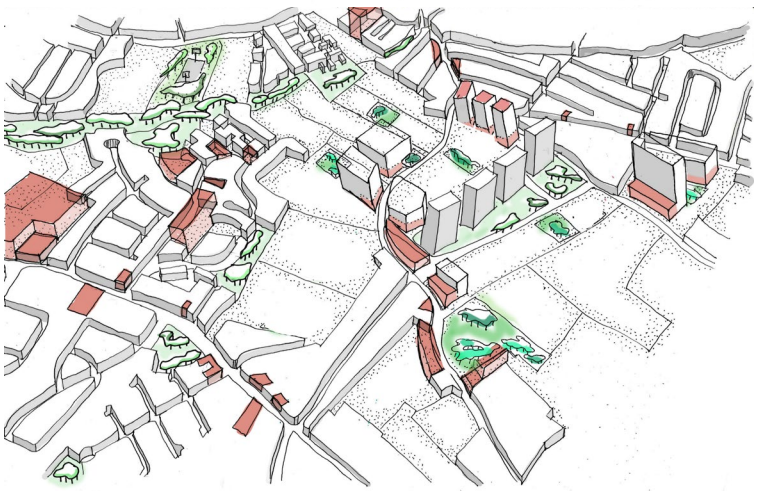


Evaluation -

Actors

Public

-Municipalities

-Road infrastructure entity MOPT

-Services entities- AYA, ICE

Tourism and economy ministries

Private

-Any leisure, commerce or productive party

-Developers and construction Chambers

_Small business cooperatives

Civil

-Interested individuals and entrepreneurs

-Communal associations

Adaptability

As with densification mix use adapts easily to the needs of the surroundings. If a determined use is not a good match for the area it will shortly move out and soon enough renovations and alterations are made for a new business of use to occupy the space. There are rare locations where after several different failed attempts the buildings are left abandoned. Moreover, new mix development is in constant search to keep up with market tendencies and innovate in order to attract customers, or office tenants.

Rate of Change

Similar to densification the rate of change for mix use corresponds to the rate of construction in Costa Rica, given that most of these developments would be constructed by private parties which usually are fast during the building process. Therefore, noticeable change in an area can come within the first decade or even a few years before depending on the attractiveness of the area for developers.

Unit of Change

Parcel

Block

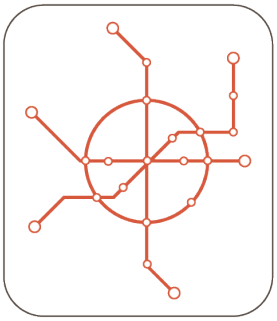
Street

Lessons Learned - Governance

Current planning in Costa Rica resorts to zoning which clearly separates uses. Though regulations do state that compatible uses are allowed this has not been enough to encourage mix use. Therefore, the city is currently polarized between dormitory areas and the productive and leisure ones. A shift towards mix use is required and with this a distance from the traditional zoning plan to a more flexible strategy that allows for new unforeseen mixes to emerge. Moreover, big mixed developments should also be required to provide public space to the city with the understanding that will aid both the city and development because if carried out in an attractive matter can help bring occupants to their project. As with densification the most important area to revise and enforce is the environmental impacts, for mix use of different kinds can be beneficial to activate areas but if new construction and land coverage is abused it might bring forth further urban issues as flooding due to the reduction of permeable areas, heat island effect, air and noise pollution amongst others. The GAM is lucky enough to still occupy a quite healthy environment, with some localized exemptions but it is important to remember that this could change if new development is not regulated and, in some cases, decelerated to safeguard the resources available.

FIG. 29.2 Oversaturation of bus lines on main streets. Source: La Republica, 2015

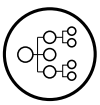
30 – Multimodal System- Public Transport Improvement

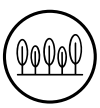


Social Cohesion

Accessibility

Ecosystem Services





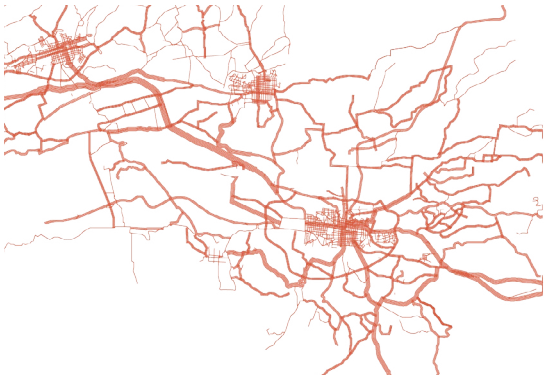
Principles applied and Expected outcomes

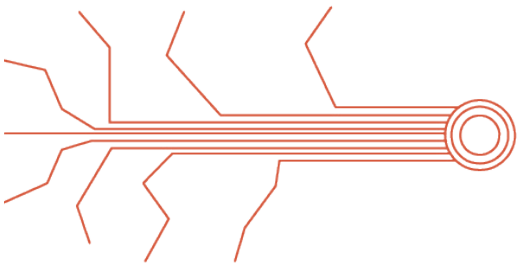
It is quite clear that an improvement in the public transport will allow for an increase in accessibility of all types, by increasing a citizen's mobility choices those who are dependent on public transport will have access to more areas of the city. Additionally, a public transport service of excellent quality and efficiency can incentivize those who travel by car to choose to shift towards the utilization of public transport. In order for this to happen the current transport system needs to be modified to allow for better conditions of slow mobility, provide a coordinated service between local and regional mobility and provide the integration of the different transport modes. Therefore, working in a hierarchical configuration in search for efficiency and a true system operation. An improved transport system combined with the possible technological shifts in mobility (self-driving cars) can transform the mobility hierarchy currently in place and move towards one where the car is not at the top. Additionally, the by the reduction of the importance of the car its territorial claim can be modified to allow for other uses both in the reduction of parking and lanes. Altering therefore public space and allowing for more spaces of interaction and urban green which brings further ecosystem services.

Most importantly all citizens have the necessity to mobilize around the city, therefore public transport provides a true neutral space of interaction and an increase in its use will only increase the range of diversity and interaction in can allow. In this way investment in public transport serves many purposes. It can reduce travel time which benefits inhab-itants providing them with extra time to use as they wish. It can increase the attractivity of areas surrounding im-portant nodes, which enforces multifunctionality and attracts investment of the private sector. It can reduce conges-tion, contamination and all the diseconomies that can accompany it which will benefit the region as a whole. All these positive aspects related to public transport are practiced in major cities around the world, nonetheless in the Latin American context they are still contested, and major opposition comes from private and high-income population which still regard the car as a status marker. Thus, education campaigns with examples that stress the benefits such a strategy can bring to these sectors (mainly economical and productive) need to be devised. Additionally, even though mobility is a theme constantly in the political agenda and public transport projects as well as cycle lanes are in the works the strongest investment of the public sector remains on car-based mobility. It is clear then that important shifts need to take place in order for this strategy to be implemented correctly that will entail a long process.

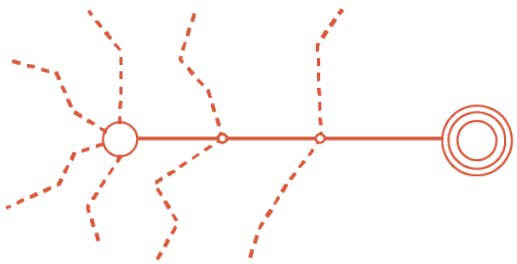
Development

Past: Public transport was provided for intercity mobility. Local transportation was done indicidual slow mobility alternatives. Car transportation was a luxury left for those who could afford it.

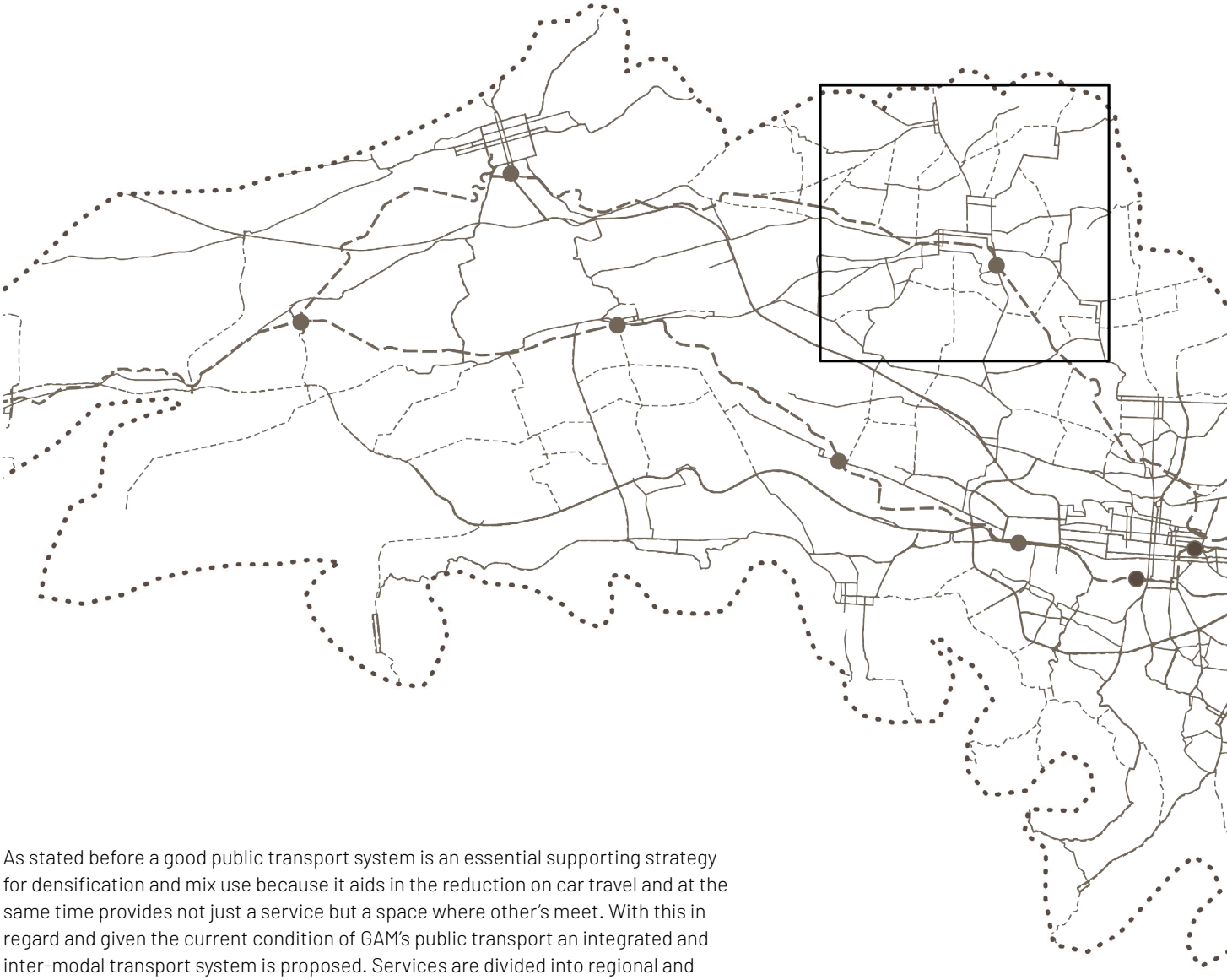




Present: Car ownership has risen however, it is used by 40% of the population, the remaining 60% does travel using public transport. This service is inefficient, though. Routes are planned by the service provider, the state regulates the fares. Therefore, the quality of the system suffers: each mode of transport is considered separatedly and there is an oversaturation of lines runing through the same routes.



Proposed Future: An intermodal and efficient transport system is devised. One in which different transport modes work together according to the type of mobility they serve (local, regional, supra regional). In this way routes are simplified and organized improving efficiency, travel time, quality of the service and reducing presure on the existing infrastructure.



As stated before a good public transport system is an essential supporting strategy for densification and mix use because it aids in the reduction on car travel and at the same time provides not just a service but a space where other's meet. With this in regard and given the current condition of GAM's public transport an integrated and inter-modal transport system is proposed. Services are divided into regional and local. For the regional mobility areas with higher travel distances are selected: those with car dependency and where people commute daily outside their municipality and would be served by a combination of the existing rail line and BRT system. Those areas with low accessibility to public transport can benefit from a local bus network that can make short trips easily achieved and at the same time help feed the major regional and extra regional transport. In this way the system can provide better coverage while at the same time reducing the oversaturation that characterizes today's system.

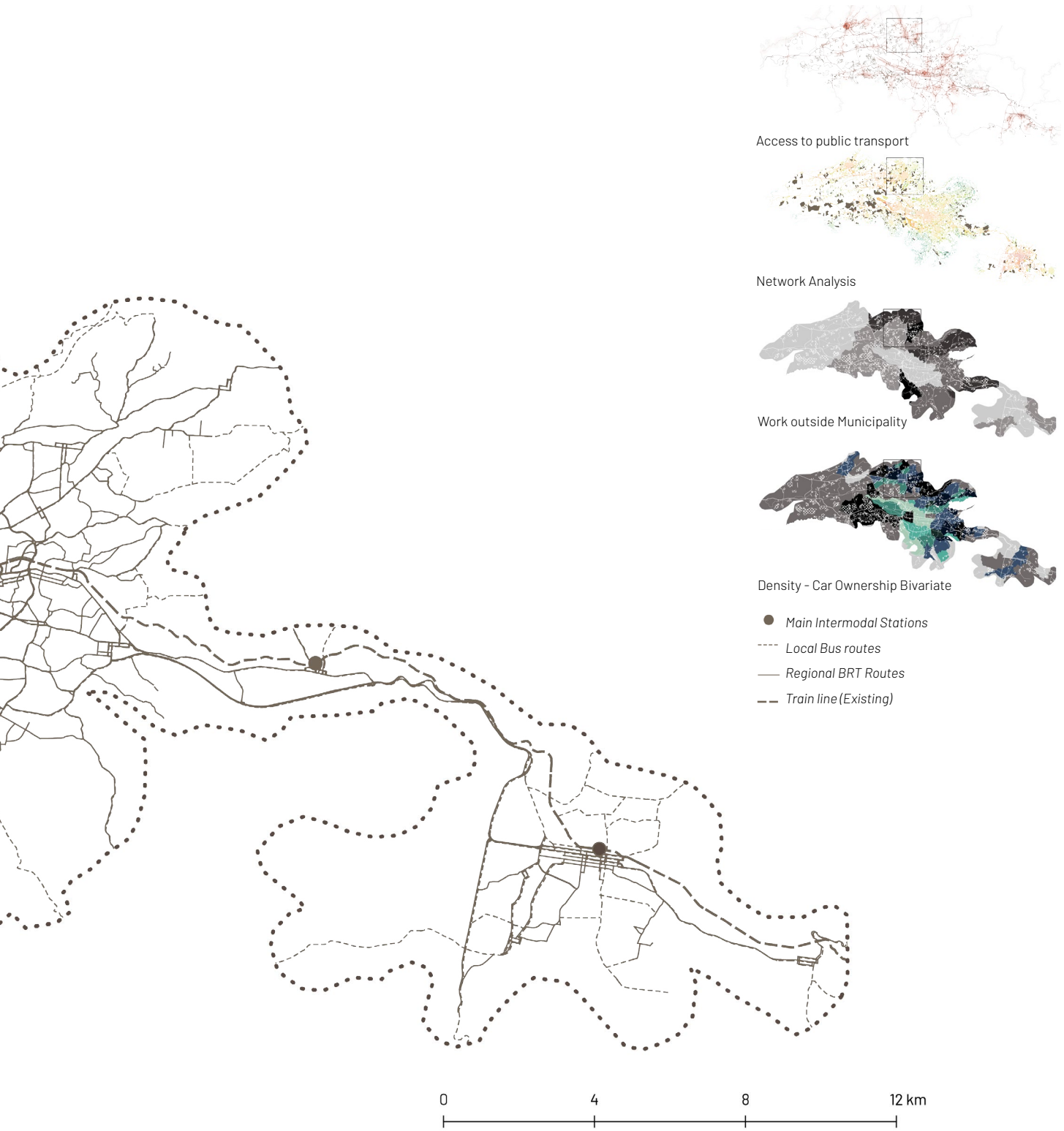
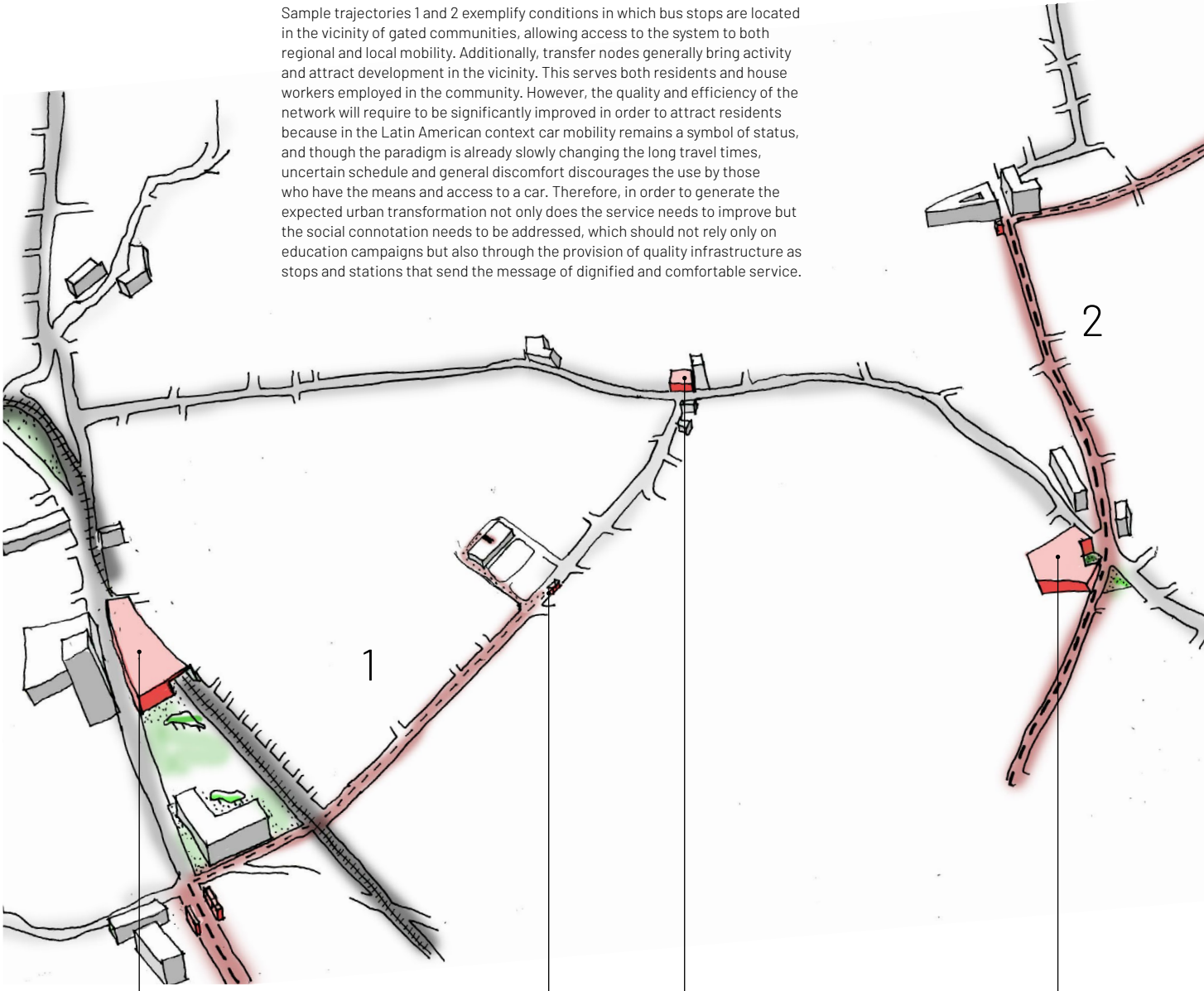


FIG. 30.1 Regional Strategy- Multimodal transport system. Source: OSM (Roads, Water Ways, Function), Ministerio de Hacienda, INEC, Author's mapping of gated communities using Google Earth

System Functioning

Sample trajectories 1 and 2 exemplify conditions in which bus stops are located in the vicinity of gated communities, allowing access to the system to both regional and local mobility. Additionally, transfer nodes generally bring activity and attract development in the vicinity. This serves both residents and house workers employed in the community. However, the quality and efficiency of the network will require to be significantly improved in order to attract residents because in the Latin American context car mobility remains a symbol of status, and though the paradigm is already slowly changing the long travel times, uncertain schedule and general discomfort discourages the use by those who have the means and access to a car. Therefore, in order to generate the expected urban transformation not only does the service needs to improve but the social connotation needs to be addressed, which should not rely only on education campaigns but also through the provision of quality infrastructure as stops and stations that send the message of dignified and comfortable service.

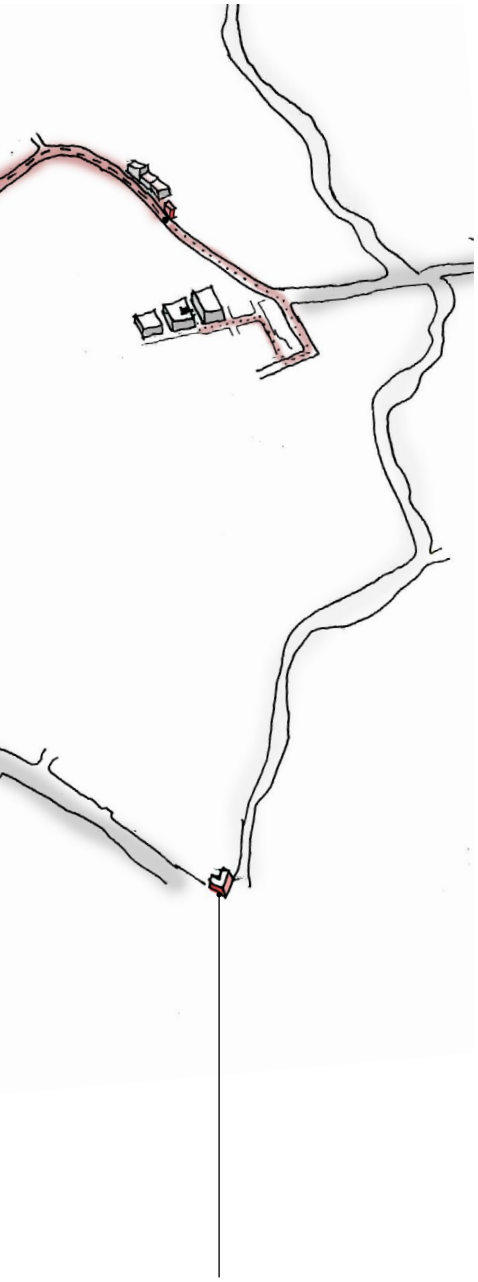


Major intermodal train station for regional and extra regional transport. Giving its importance in the mobility of the region and the amount of flow it receives the surrounding areas attract major investment and developments. Public space should be included in such strategic areas.

Neighbourhood bus stop the local services and corner stores strategically locate in this surroundings.

Local bus stop small commercial activity is developed in its immediacies.

Bus terminal does receive considerable flows. Usually attracts more temporal activities for the travellers. Complementary parks and plazas are appreciated by its users



Bike parking and bus stop provides a link between the soft mobility network at the river corridor and the public transport system. small snack kiosks are associated with these.

Evaluation -

Actors

Public

-Transport infrastructure entities MOPT, CNT, ARESEP, INCOFER

-Local Municiplaities

Private

-Big building companies in charge of building concessions

-Housing developers

-Transport companies

Civil

-Soft mobility associations

Adaptability

Even though the transport modes proposed do allow for adaptable system as are BRT, buses and soft mobility due to the character of the region's network route choices are limited. In this way modification in the route and system configurations can require new infrastructure to be constructed, therefore limiting the flexibility of the system.

Rate of Change

Current efforts to improve the public transport system have proven that it is a long and slow process. Currently the private sector has much influence in the matter making negotiations and concessions very complex and reaching to an agreement difficult. In this matter though the necessary construction and reordering of the system can be rapidly carried out the whole process will take decades.

Unit of Change

Parcel

Block

Street

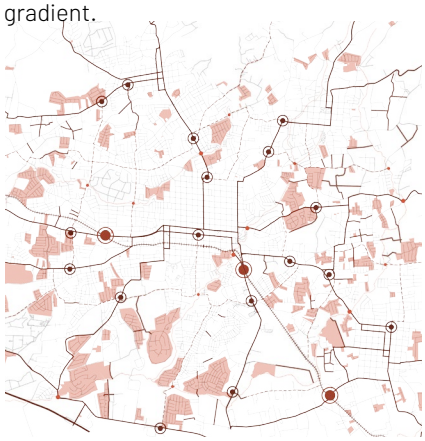
Lessons Learned - Governance

There is an unavoidable need to reorganize public transport in the region, to include more system qualities. In order to do this the administrative distribution of responsibilities needs to shift. Currently public entities regulate rates and to some extent the quality of the service. Routes, and schedules are left to the transport companies, this has oversaturated some roads given that most routes are projected to work independently and not in a hierarchical system manner where secondary routes feed primary ones. Therefore, public entities need to regain the responsibility of designing and distributing routes so that they work together as a system combining different operators and including other modes of transport. Moreover, a shift from car-based mobility and the abundance of surface car parking needs to happen so that there is more interaction at the street level. This requires parking reduction campaigns, changing regulations from minimum to maximum amount of spaces and introducing city wide parking strategies that not only regulate street parking but provide nodes of car parks where necessary.

FIG. 30.2 Replica of Heritage Site in Las Flores Shopping Mall, Heredia. Source: Academia Superior de Lenguas, 2005

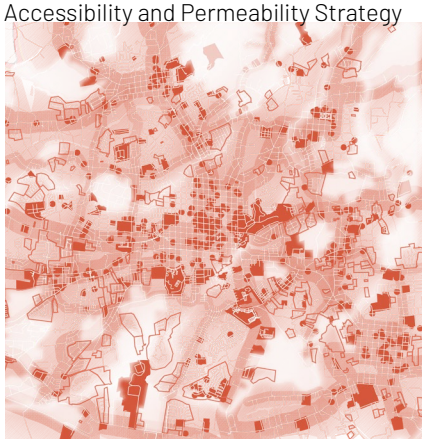
FIG. 30.3 Heritage Site Heredia. Source: Patrimonio Arquitecura Blogspot, 2010

Through the change of scale three more in detail strategies are devised. Each strategy draws from one of the previous regional strategies adding not only more detail but also further supporting actions that will benefit the local areas. It is important to highlight that while the direct impact of these strategies might be locally through the combination of many local enforcements the whole region will be benefited. In this way the accessibility and permeability strategy draws from the regional transport strategy while encouraging other road network modifications to allow for more permeability. The river corridor strategy provides the backbone for the activation of borders and public spaces strategy through the understanding for the need of diverse privacy levels and areas for leisure. Finally, the activity gradient strategy is supported by the mix use regional strategy and now determines areas of more intense activity and mix, while the inner neighbourhoods are quieter. The interaction between the active and inactive areas is developed therefore as a gradient.

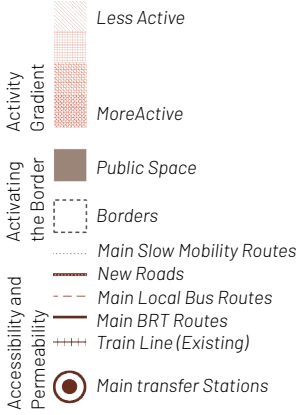


Accessibility and Permeability Strategy

Activating the border and public space Strategy



Activity Gradient Strategy

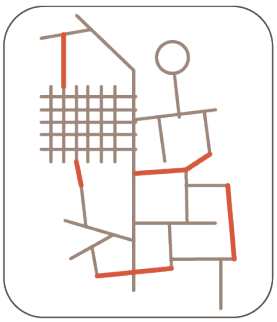


31 – Local Strategy

FIG. 31.1 Local Commerce and Centralities at Heredia urban centre. Source: Google Maps Image uploaded by Dean Cayasso, 2017

FIG. 31.2 Local Commerce and Centralities at Heredia urban centre. Source: Google Maps Image uploaded byEsteban Vargas, 2017

32 – Increasing Accessibility and Permeability



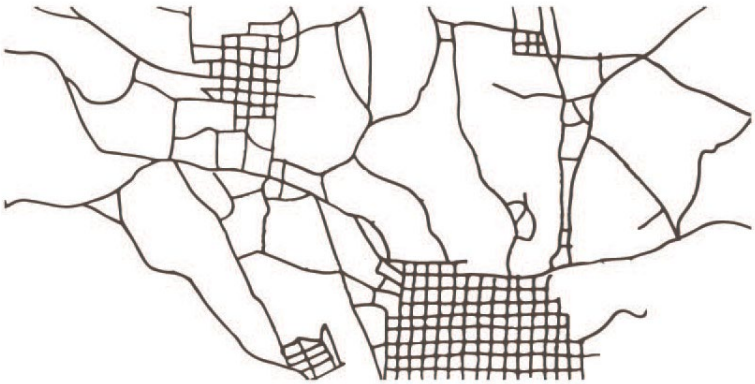
Principles applied and Expected outcomes

The improvement of accessibility and permeability benefits the reduction of travel distances at a local level and allowing for more route choices. In this way incentivizing soft mobility transport. The increase in pedestrian and bicycle traffic will add vitality and attractiveness to the street as well as easier accessibility to services and immediate surroundings.

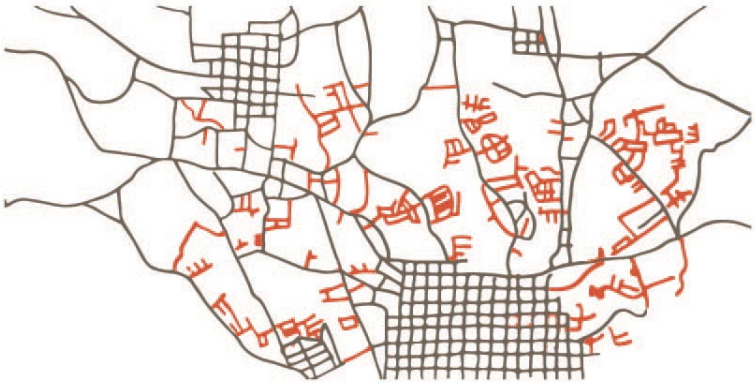
New through movement streets can integrate further the neighbourhoods into the city and regional networks allowing for the creation of new corridor lines that can connect to a bigger network. Thus, allowing the creation of new centralities for inter neighbourhood services, which will provide spaces for interaction with inhabitants of surrounding areas, and so enabling public domain. In this matter new roads can help create a denser network that will enforce the role of streets as spaces that allow the vertical movement in the hierarchy of privacy and control; by providing more area for such interactions to take place. In this way the new roads can provide new space for interaction while at the same time allowing for street greenery which can help link bigger green urban areas. This can have diverse effects through the provision of ecosystem services as sun micro-climate adaptation, rain water collection, small animal habitats like birds and squirrels, improving the quality of life of inhabitants amongst others.

The creation of new centralities can bring closer daily services and strengthen communal ties through the appearance of new organizations as well as different types of public spaces which benefits civic society. As these areas thrive they are better integrated in the network and introduce other daily services they become more attractive for develop-ment, shifting the market tendencies which provides diverse opportunities for the private sector. Finally, public sector will mostly benefit from the increase in accessibility and its influence in mobility. However, this sector does acquire most of the responsibility for the construction of such new roads, deciding which are the most beneficial routes, and ensuring that new development includes through movement roads. All of which can be negotiated and managed us-ing public-private partnerships. The major threat to this strategy is that the development of new roads remains as that and no new interaction between the public and private is set in place, therefore instead of increasing the areas of in-teraction it increases the areas of segregation by maintaining and continuously constructing walls between the private and sidewalks. Thus, it can be concluded that this strategy is dependent on other strategies as the activation of the borders to be successful.

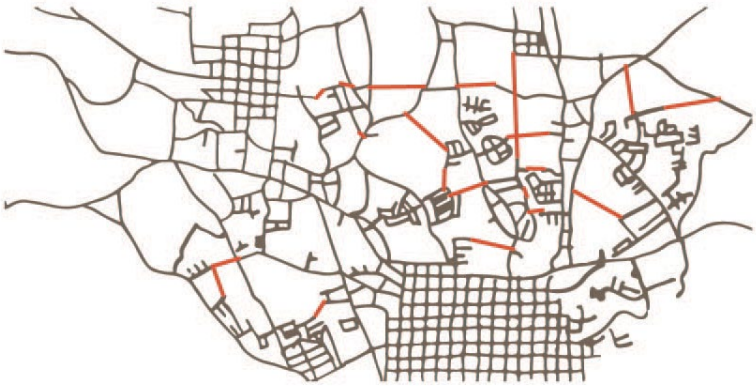
Development



Past: City centres had dense and accessible urban networks, while outside these a dispersed rural agricultural network existed. This rural network was developed to connect between urban areas and distant agricultural parcels. Therefore, it is characterized by reduced route choice and density.

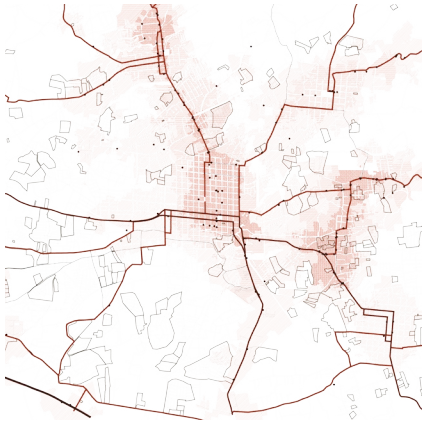


Present: As urbanization expanded there was low investment in the improvement of the road network. New roads created are part of private investment and gated development. Therfore, new infrastructure was carried out only as cul de sac or unconigious sections. Consequently the actual mobility network maintains the same permeability and density from the past which does not meet the current needs.



Proposed Future: The investment in the creation of new roads that allow for more route choice nd permeability will allow to improve accessiblity and therefore, reduce travel distance and time; this in turn can help in incentivizing slow mobility.

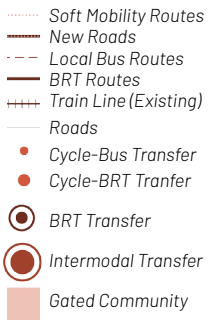
With the understanding of the absence of accessibility to public transport specially on highly residential areas and the lack of permeability of the road network due to large block size; this strategy builds up on the regional transport strategy. This strategy therefore, determines up on the intermodal system proposed elaborating the routes and supporting them with slow mobility and transfer infrastructure. The first should be carried out by a continuous network of sidewalks and bike lanes through the urban tissue that is supported by the main backbone that runs along the river corridors. While the transfer infrastructure and secondary stops provide important nodes of interaction and activity. Finally, to address the lack of permeability and with it the reduction of route choices new roads are proposed, in an effort to reduce block size and provide more continuity of the road and urban network.

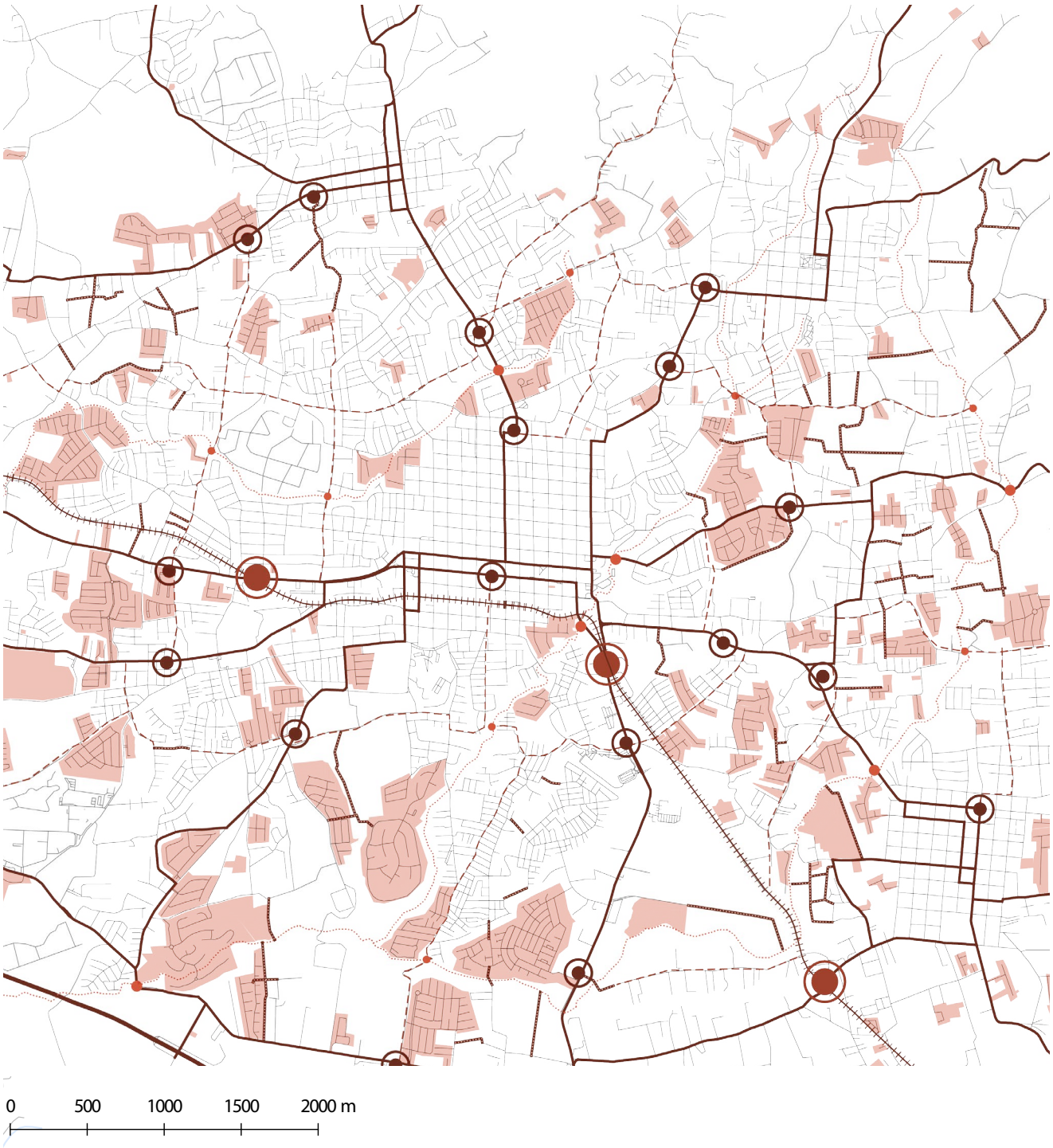


Accessibility to Public Transport Analysis

Network Analysis

Permeability of the Network Analysis




0
500
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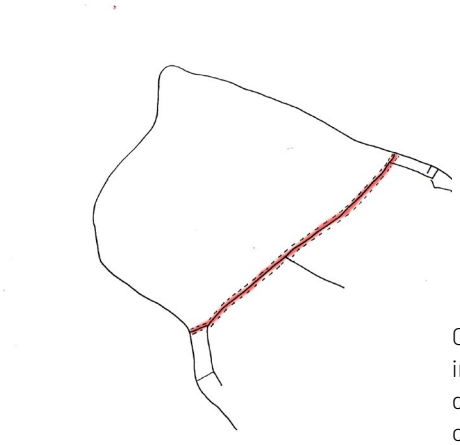
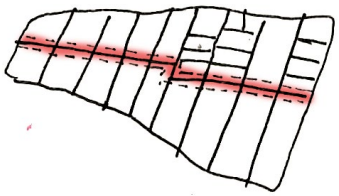
1500
2000 m

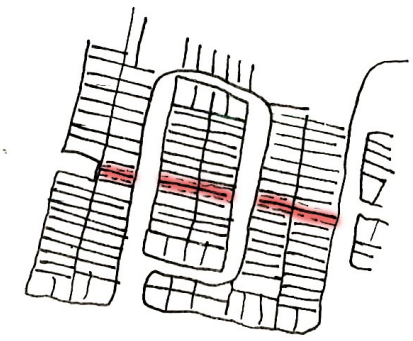
Capacity of Change



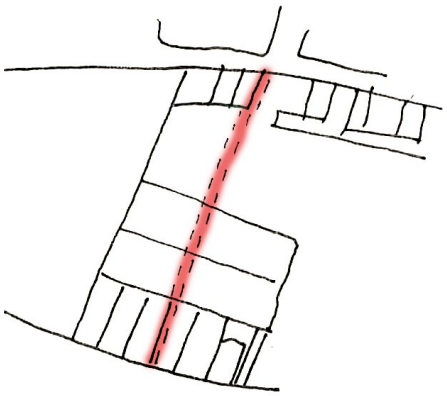
Complete parcel alignment and considerable parcel size and few number of parcels involves is the easiest configuration in the creation of new roads for parcellation is done with minimum change, availability of space is ensured and the limited number of actors helps in the negotiation process



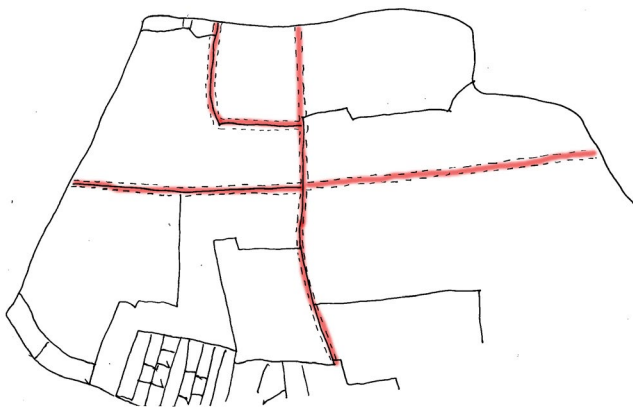
Partial alignment is not ideal but a desirable condition as long as the alteration is small and can be solved without adding topological depth. I this case parcel size might present a challenge in the availability of space but due to the proportions and the direction of the proposed road re-parcellation is still possible without altering much the parcels. However, the amount of parties involved can complicate the process through extensive negotiations.



Though alignment exist the size and configuration of the parcel do not allow for change to occur as it would considerably reduce the parcel size in halve leaving a parcel size too small and complicated for construction. Additionally, it is likely that the required space is not available. If such road is deemed of high priority to construct it would be more likely that a row of existing houses would need to be displaced. Such transformation though possible is only merited if the benefits exceed the costs of displacement and construction.

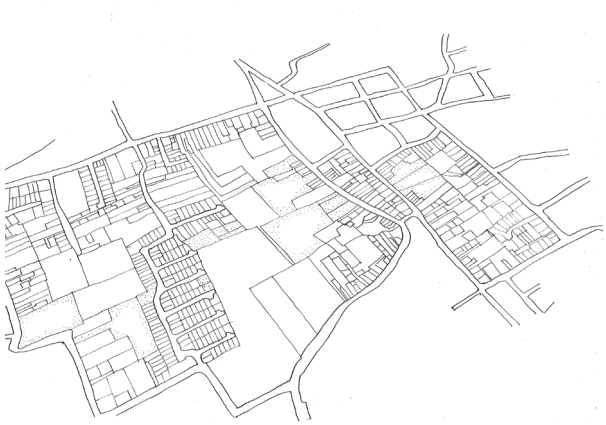


Separate alignment is possible if the divided parcels have the space available and the division does not segregate important relations within the parcel, as well as ensuring that both remaining parcels have size and proportions that are appropriate for future uses. These solutions should be considered if there are no other possibilities or in the case that it is more beneficial as if ensures the continuation of the existing network by aligning the new road with existing one allowing for the possibility of creating new centralities.

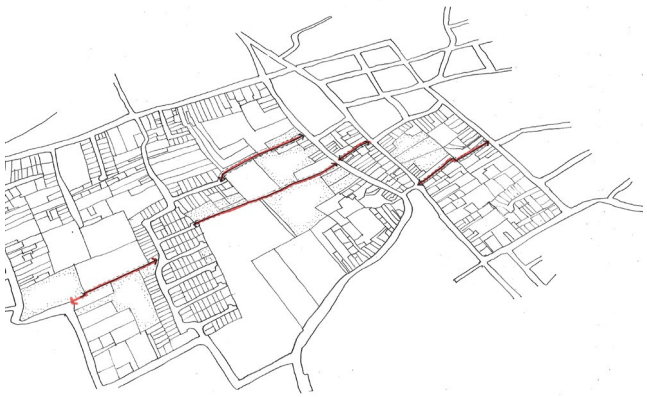


Where multiple possibilities exist, priority should be given to those that allow for more continuity, and integration to the existing network. Though a change in directionality of the road can be proposed it should be left as a last resort given that it adds topological depth.

Phasing-



1

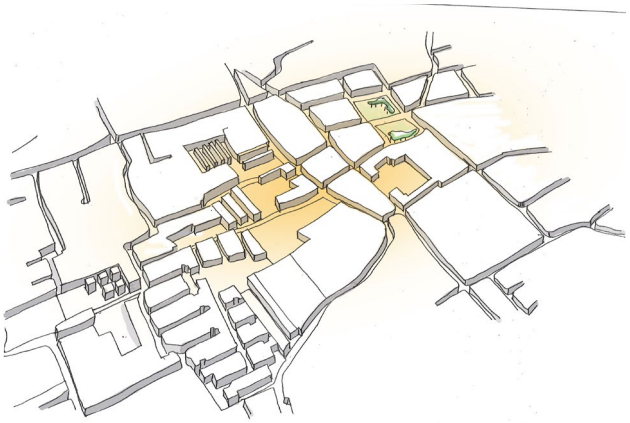


1 Identifying the existing parcel alignment at the possibilities each choice brings on integration to the network, and subdivision of the block.

2 The creation of the new roads allows for a reconfiguration of the road network and interrelations that can lead to the creation of new centralities. These new roads should include sidewalks with provision of green areas that can further connect to other roads creating a system and providing ecosystem services.

3 New developments, uses, public spaces can be created along the new infrastructure, therefore the increase in road surface represents an increase in possible areas of interaction. Where new connections are made along gated communities perimeters provides an opportunity to include new activities and make the border less strong allowing for spaces of interaction. This also provides opportunities to open new entry points and increase accessibility. However, as mentioned before if this strategy is not complemented by others the risk of extending the walled perimeter to in-clude the borders with the new road is a probable possibility.

2



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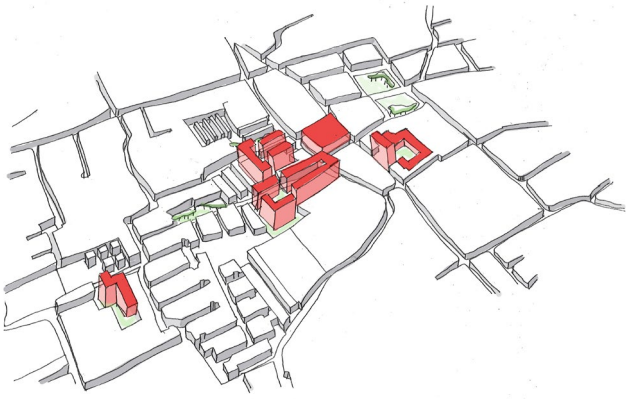


Evaluation

Actors

Public

Municipality

Street Authority-MOPT

Private

Parcel Owners

Home Owner Associations

Civil

Adaptability

The possibility of creating new roads exists, and governance permits it, however the location of the new roads is quite rigid. Trajectory is set by proximity and alignment of parcellation in order to disrupt the least possible the parcel composition specially when it is composed by fine and small size parcels. Resulting in the adaptation of the optimal trajectory into the most possible. None the less, due to the rate of change and construction requirements, once the construction process initiates there is little room for modifying the trajectory or width therefore making this strategy quite rigid and dependent of different factors.

Rate of Change

The rate of change is slow since it requires legal and financial agreement between the public entities and each parcel owner, in addition to the construction time. The requirement of individual agreements for each parcel owner slows the process and suggest that where less parcels are involved will encounter more ease in the resolution.

Unit of Change

Parcel

Block

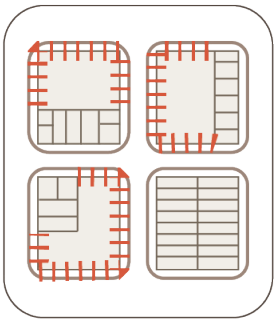
Street

Lessons Learned - Governance

This strategy is more easily developed when parcel limits align, separating a parcel in two is much more complicated and might be only possible when the original parcel area and built form allows the resulting parcels to have an area and proportions that can be developed in the future.

The permeability of the network is important in an urban environment, helping with mobility but also augmenting the areas available for interaction. Municipalities should aim to develop a more porous network on those areas where significant development has been allowed. In this way the process of reconfiguring the network in already developed lands will rely on municipal initiatives where public-private partnerships can be developed in order to claim the needed land. Thus, policies on public payment for private land needs to be modified to include more flexible payment periods and methods that could include payment through tax reduction for the agreed amount. Likewise, for future develop-ments municipalities should take a closer look at the accessibility and mobility implications and develop mechanisms of ensuring the construction of new public roads that could be achieved through the correct implementation of the land cession law, incentives on increasing construction areas or tax reduction in order to encourage developers to develop the necessary roads.

33 – Activating the Border

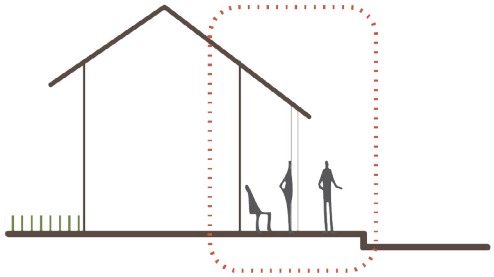


Principles applied and Expected outcomes

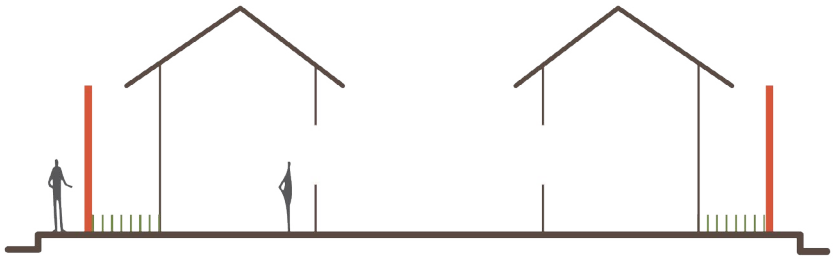
Modifying the interaction between the public and the private requires a shift in the territorial composition. The wall is replaced by an area that now can have a different occupation, thus a modification of the temporal territorial claim by its users, with no necessary shift in ownership. This transformation of space will allow for the creation of new spaces for interaction adjacent to the gated communities, while still providing the separation its inhabitants value. In this way these new spaces have the potential to become neutral spaces for interaction, aiding in the provision of areas where neighbouring communities can interrelate. These areas can then be occupied by different uses, such as public parks and plazas, communal and educational spaces, health facilities, daily need services like corner shops and even some commerce. In this way increasing accessibility to such by means of proximity. Likewise, the additional active green areas can help with different ecosystem services including but not restricted to: augmenting porous surface for infiltration and water management, controlling micro-climate and heat island effect, air pollution, as well as the health benefits linked to accessibility to green like stress reduction amongst others.

These new areas of interaction will provide much needed public spaces serving civic society and the public sector. The private can also benefit since the activation of such spaces can increase attractivity and market value if they are han-dled correctly and the inhabitants do not feel their security and privacy has been invaded. Interventions of this type can also benefit the gated communities for they are given the possibility of transforming a underutilized area that ele-vated maintenance cost into an active area that can even under certain circumstances bring revenue. However, if this last point is the prevailing factor for change, which is likely the case, caution and guidance needs to come from the public sector for there is the possibility of either enforcing segregation through the restrictive characteristics of privat-ized public spaces or building up all these areas in search for profit in which case the contributions to ecosystem ser-vices would not occur but on the contrary exacerbate the negative characteristics these help with.

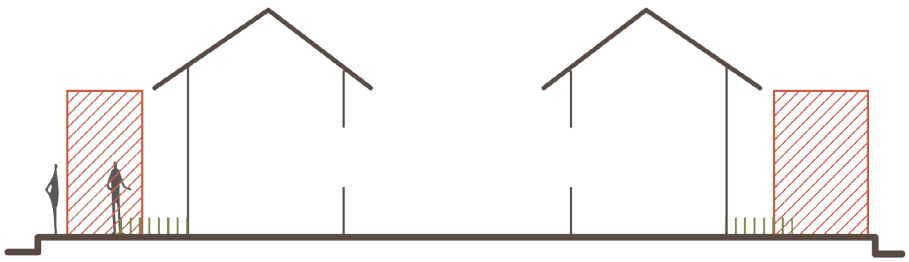
Development



Past: Houses had an intermediate area called *"zaguan"* which was a shaded corridos in direct relationship witht he sidewalk. It provided different benefits including a transition area for interction between the public and private.

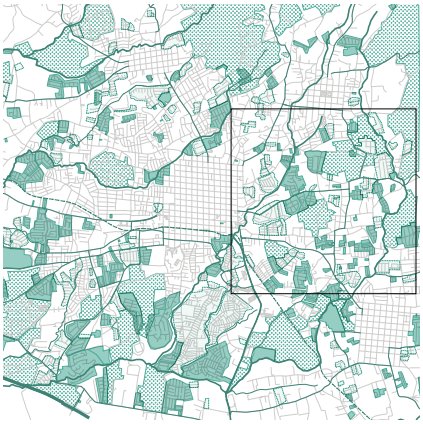


Present: Now days gates, fences and walls divide between public and private. In this way breaking their interaction given that even visual contact is impeeded.

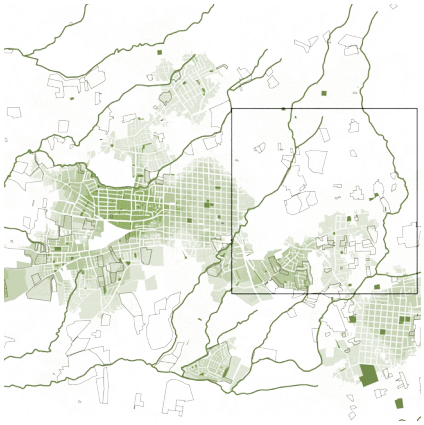


Proposed Future: Treating this interaction between the public and private as a space in which a new territorial hierarchy can help in reducing the spatial segregation. These new transitioning spaces can foster interaction while maintaining the inner privacy of the residential that is so valued by the inhabitants.

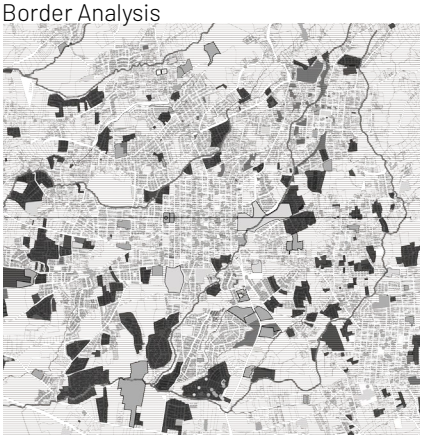
The border and public space activation strategy has as a starting point the regional river strategy which acknowledges the rivers as the main potential for public space. Furthermore, with the reading of the gated condition as one of lower access to public space, highly privatized areas with constant borders this strategy aims to transform the border condition and search for opportunities to create new or activate existing public spaces. In this way adjoining gated borders can be transformed, especially if they divide between communal areas. Similarly borders towards the public areas, being the river or important streets can be modified to provide new activities and public spaces when there is available space. In this way a constellation of public spaces can start to grow not only providing for more areas of interaction but also corresponding to different needs and privacy levels according to their positioning in the urban network,



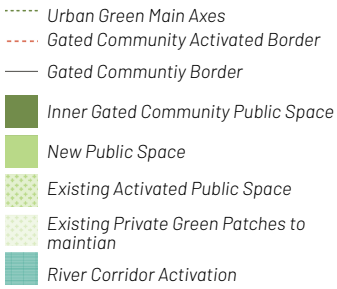
Border Analysis

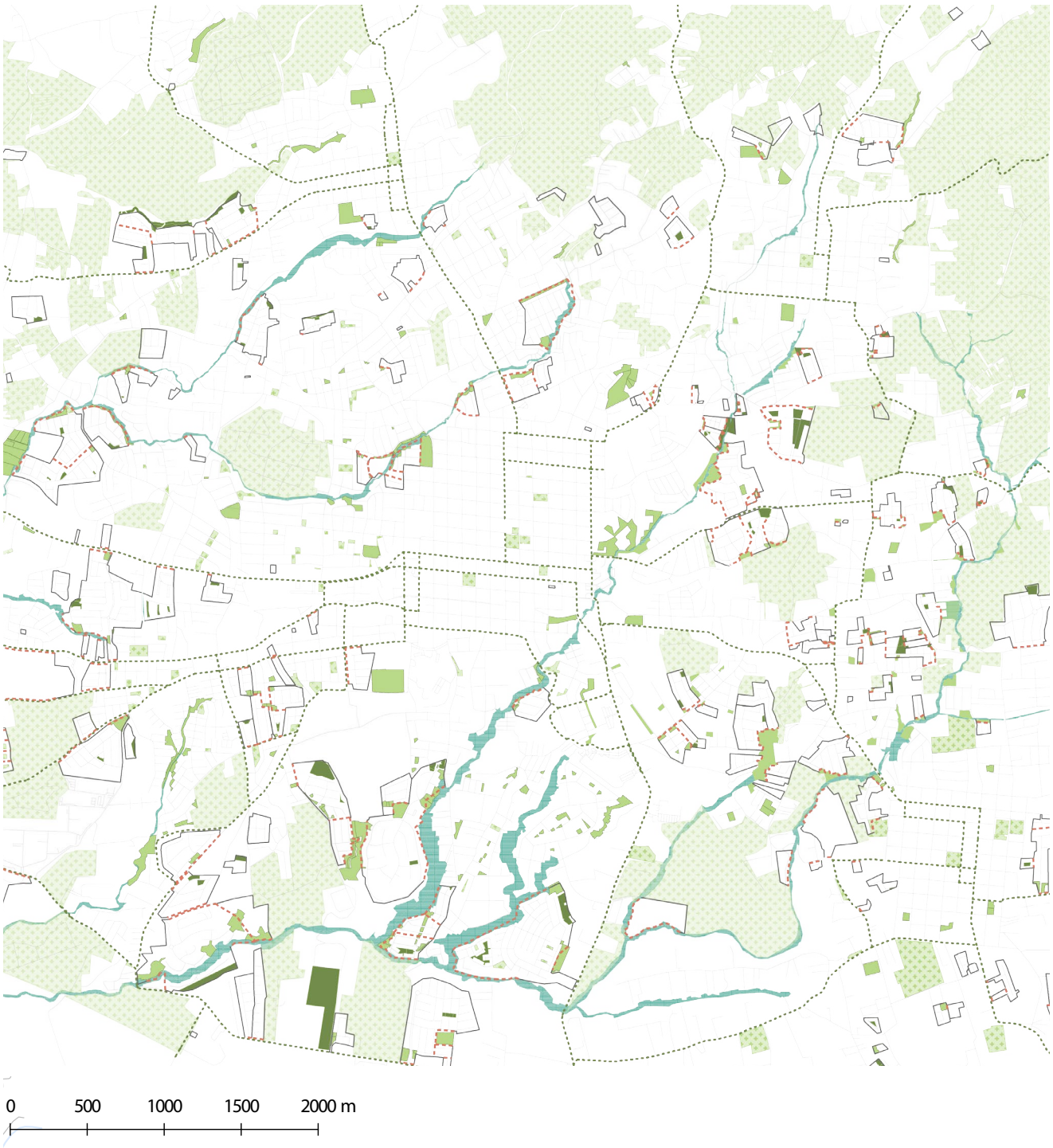


Accessibility to Public Spaces Analysis



Publicness Analysis

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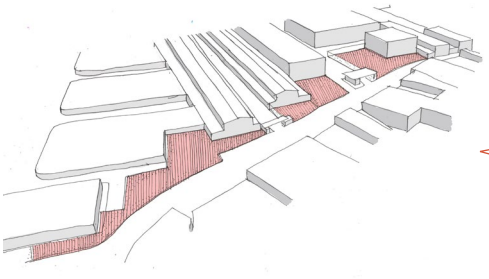
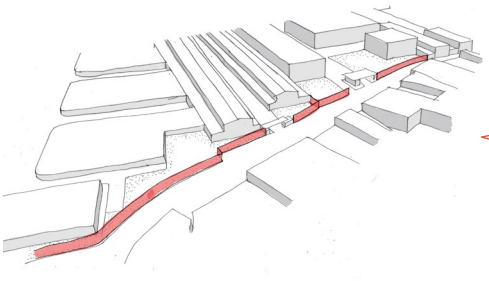
2000 m

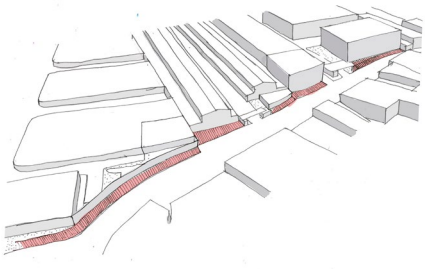
Capacity of Change



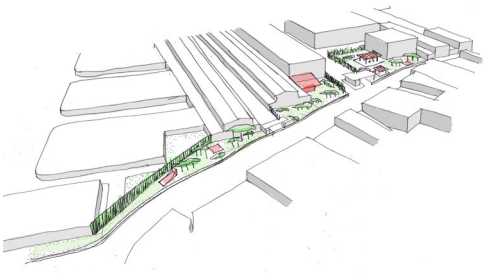
Space Available



Current Condition



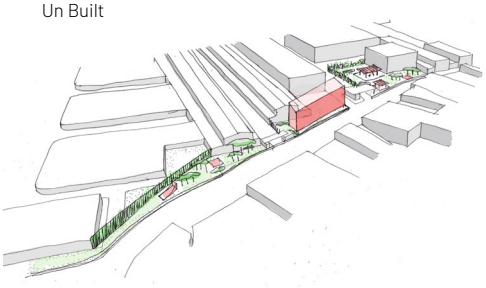
Restricted Space Available



Un Built

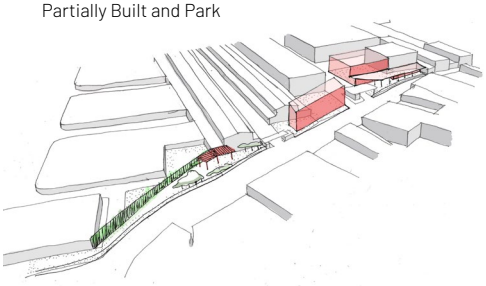
Possible Uses

- Park
- Plaza
- Skate park
- Kids playground
- Urban Farming
- Sports activities (yoga for example)



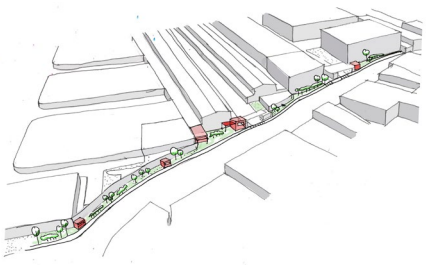
Partially Built and Park

- Park
- Plaza
- Skate park
- Kids playground
- Urban Farming
- Commercial Activities
- Restaurants, Bars, Caffees
- Offices
- Shared flexible work spaces
- Communal facilities, clinics
- Small Appartments



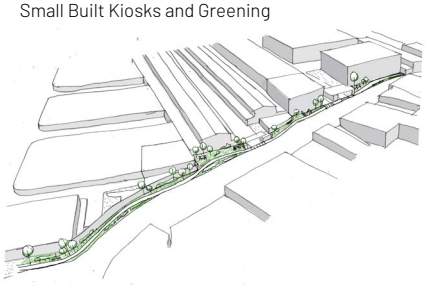
Built

- Commercial Activities
- Restaurants, Bars, Caffees
- Offices
- Shared flexible work spaces
- Communal facilities, clinics
- Small Appartments
- Kindergardens



Small Built Kiosks and Greening

- Small kiosks
- Food truck mobile services
- Newspaper stand
- Sitting areas, gazebos



Greennign

- Small urban farming
- Sitting areas, gazebos

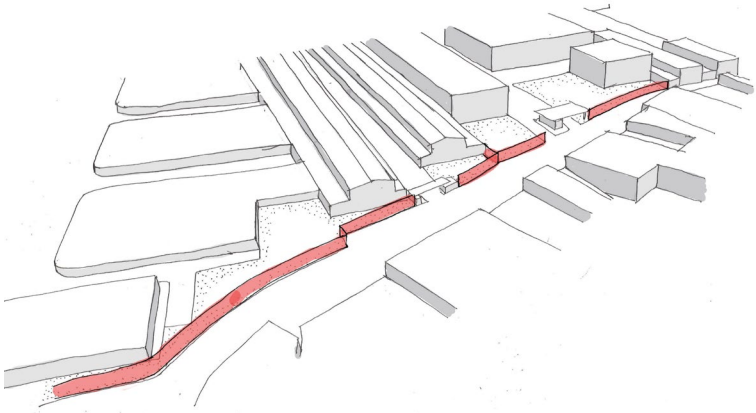
Phasing-

1 Gated complexes surrounded by peripheral walls leave minimum amount of space towards the public while available green areas remain inside the complex. These green areas generally are underutilized green that serves aesthetic purposes and generates maintenance costs

2 The border is activated by ceasing all or some of the free area to the public and introducing new uses to it. Uses and degree of possible transformations will depend on the amount of space available. Such transformation can be carried out by the gated complexes themselves as privately owned public spaces in which the risk exists of these spaces becoming restrictive. Or by public management using different mechanisms to acquire the land from the complex. In an initial stage it is possible that some fences and separation mechanisms are still in place dividing the area ceased to the public and the inner part of the gated complex.

3 As acceptance grows such separating devises can be eliminated making all the area available to the public as a true neutral space for interaction with the possibility of enabling public domain.

1



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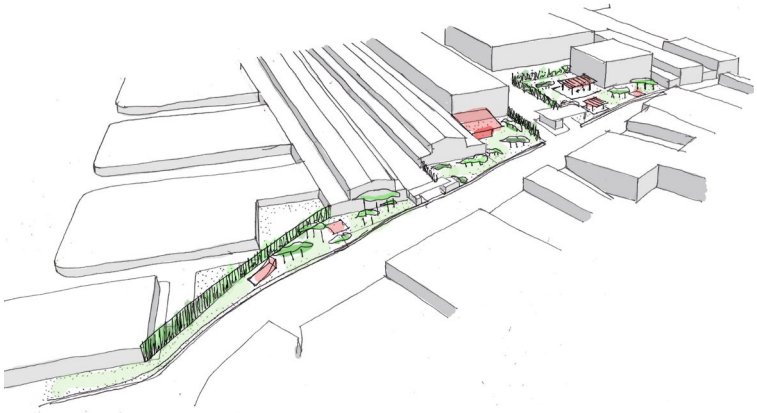

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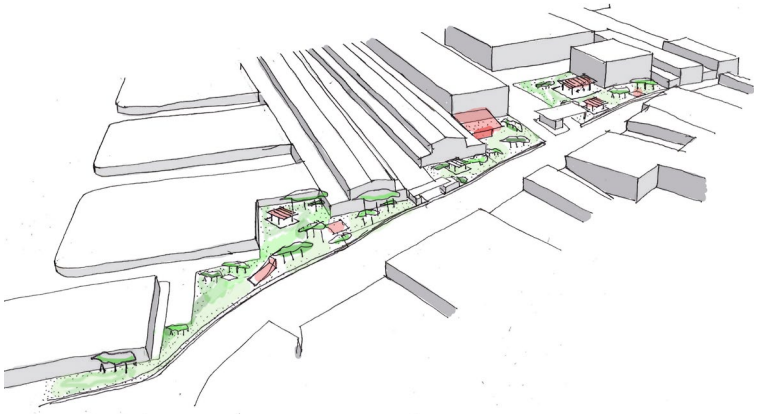


Evaluation -

Actors

Public

-Municipalities

-Road Authoritiy MOPT

Private

-Gated Community Management Companies

-Developers

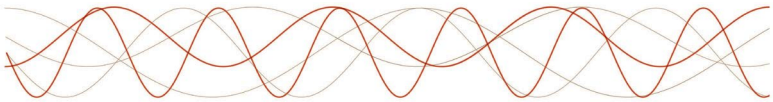
Civil

-Home Owners association

Adaptability

This strategy is dependent on availability of space, so it is restricted by this defined area, therefore though multiple uses can emerge adaptation is quite restricted to the previous mentioned morphological conditions and the willingness of the gated complexes to transform the available space.

Rate of Change



The actual transformation and building process can be a very fast process taking several months to complete. However, the general acceptance of this strategy in particular from the residents of the gated complexes might prove difficult thus a slower process of information and education needs to take place.

Unit of Change

Parcel

Block

Street

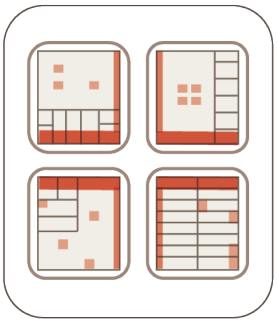
Lessons Learned - Governance

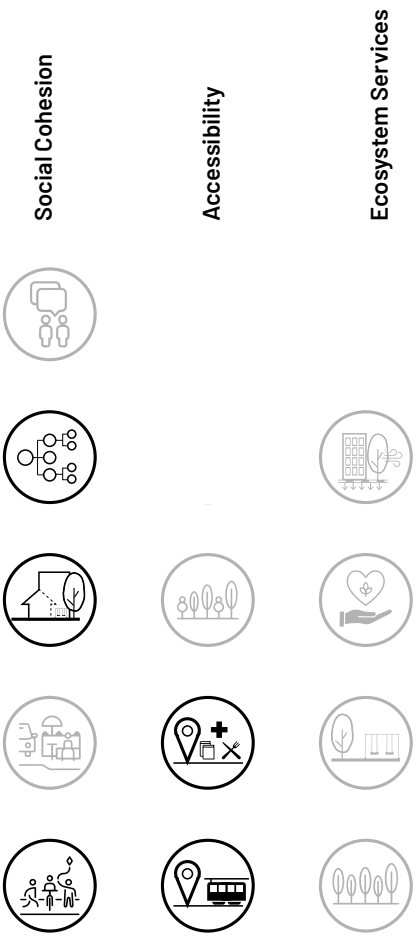
It is clear that talking exclusively form the spatial and morphological perspective there are several possibilities both built and un-built that this strategy can entail. Nonetheless as mentioned before acceptance is the main issue to be dealt with in the implementation of this strategy. If municipalities become involved and promote these transformations, they will require not only information and education campaigns to shift the cultural preconceptions but should complement these through incentives that can come in the form of tax reduction or a search of mechanisms that allow the public to manage the available land through a legal figure similar to renting that can allow for future purchase. Furthermore, if the residents see the benefit in utilizing this underutilized area by exploiting the possibility to profit from such there is a risk of them having the fragmenting character of privately owned public spaces, thus a balance between publicly acquired land and POPS should be aimed for. Finally, there should be measure put in place so that new developments treat the border between the gated complex and public roads in a different matter restricting the traditional wall and entrance. Multiple uses can be permitted with the objective to develop and active border that serves as transitioning into the inner residential fabric.

FIG. 33.1 Public Kinder Garden. Source: Google Maps Image uploaded by Walter Garro Mena, 2017

FIG. 33.2 Mega Store, Heredia. Source: Google Maps Image uploaded byJose Francisco Azofeifa Cubero, 2017

34 – Generating an activity and public gradient



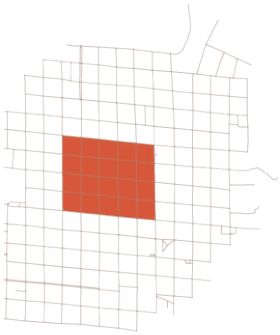


Principles applied and Expected outcomes

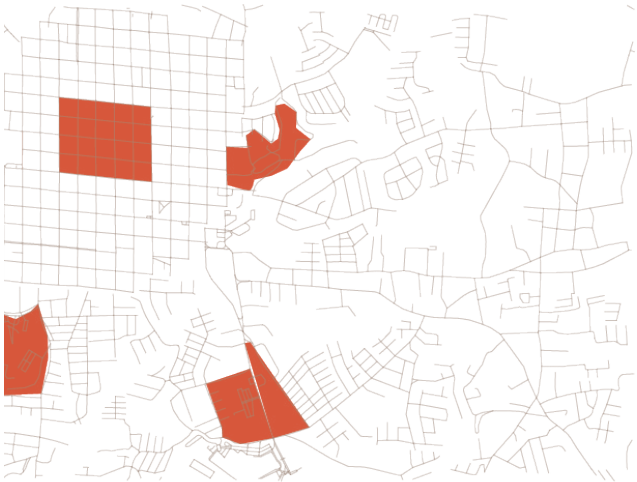
As mentioned before in the mix use strategy not all uses, and activities are compatible amongst each other. Therefore, activities need to correspond to the context they are located in, which is the main aim of this strategy. The idea is to complement the necessity of introducing mix use to otherwise homogeneous areas with a systemic approach that relates the type of activity with the positioning in the network and typology of neighbourhood in the area. This strategy thus has the benefits of the mix use strategy as are the increase in accessibility to services and neutral spaces of interaction while adding the complexity of identifying typologies that are compatible where. In this way it links to the concepts of privacy zones and gradient of activities. Thus, it can be closely linked to the transportation network and the current attractors of the areas. As regional transport hubs and regional attractors such as universities attract people from a wider area and social composition these areas tend to be much more public and active. While the inner most local bus stop probably sees transit from residents and selected visitors where it has a lesser degree of publicness and activities are more local and neighbourhood oriented. In this way a gradient can be set in place where the transition between such areas is not a drastic one but an incremental process. In this way territories and uses are organized accordingly making the reading of the territory easier and enabling an array of diverse activities and spaces of interaction in different areas of influence where inhabitants can choose from depending on their needs and wants.

This strategy is highly linked to the context and in this way the incorrect reading of the character of the area can lead to unwanted development which can have negative consequences as the increase in the feeling of insecurity, threat and unpleasantness. All of these can lead to further socio-spatial fragmentation and even end in the displacement of a certain social group form an area because it is no longer compatible with the types of activities. Currently, this gradient does not exist, and activities are located in the region following market tendencies and car-based travel. In this way the combination of different strategies like, public transport, densification, allowance of mix use and creation of new public spaces can aid in the appearance of such a gradient. However, it should not continue to be left to the market forces to be defined but should include guidance in form of regulations and incentives from the public sector to aiming to avoid gentrification or other types of displacement to happen.

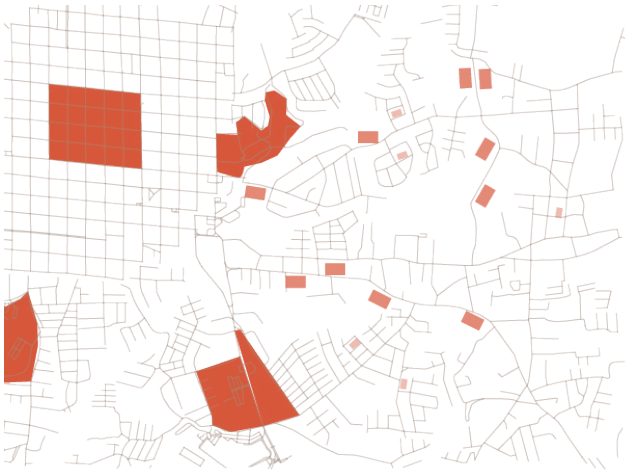
Development



Past: Services and activities where concentrated in one area. Streets were active and palyed an important role in socialization as pedestrian mobility was still a part of daily life.



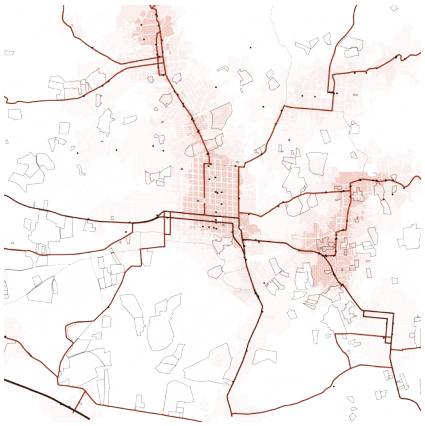
Present: Services and activities are still concentrated in specific areas, therefore there is a dichotomy between active and inactive areas. Due to car based mobility and the concentration of activities inside comercial centres streets have lost vitality, specially outside the historic centres.



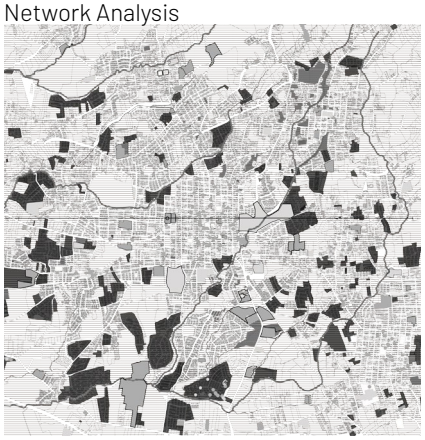
Proposed Future: By allowing diverse uses and activities to be introduced in the residential fabric streets can regain vitality. Activities allowed should correlate to the position on the network and the character of the area in such a way that a gradient of activity and privacy is in place.

The activity gradient strategy understands that in an urban environment there are focuses of more activity and other quieter areas, however there should be an interaction between these and not exist in a dichotomy but the transition from one to another should resemble a gradient. In this way different types of activities are organized according to their character and reach in the network. This strategy supports the search for a more mix and multifunctional environment. The gradient is therefore derived by the network composition, as well as the proposed transport network and current active areas. Private green patches as agricultural lands are subtracted from the main map, due to the consideration that they should remain as such and that suggesting to activate these might lead to build up on them increasing the impermeable surface and eliminating much needed green areas.

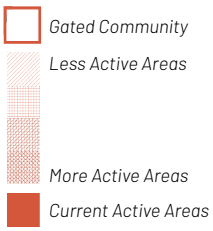
Network Analysis



Accessibility to Public Transport Analysis



Publicness Analysis

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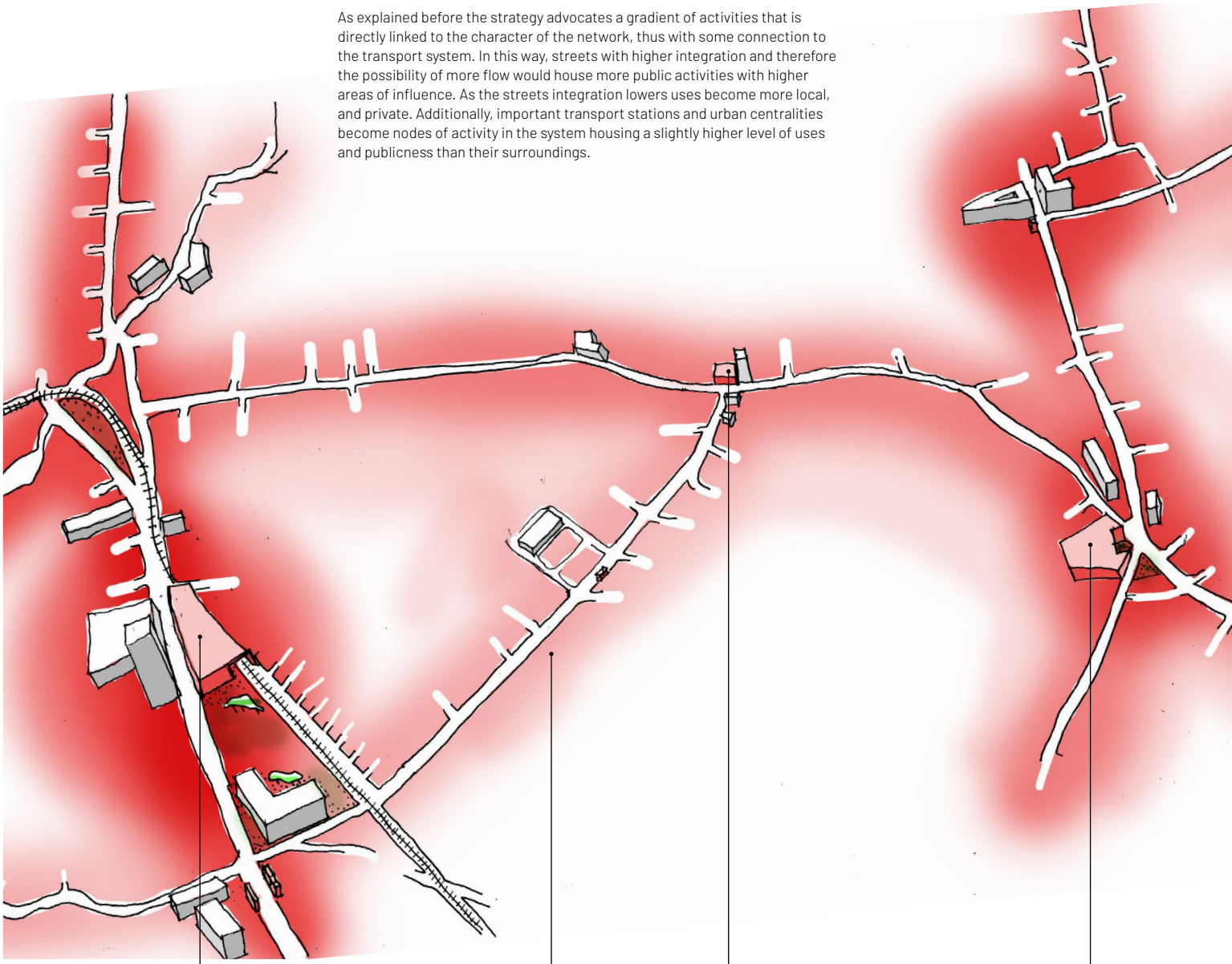
System Functioning

As explained before the strategy advocates a gradient of activities that is directly linked to the character of the network, thus with some connection to the transport system. In this way, streets with higher integration and therefore the possibility of more flow would house more public activities with higher areas of influence. As the streets integration lowers uses become more local, and private. Additionally, important transport stations and urban centralities become nodes of activity in the system housing a slightly higher level of uses and publicness than their surroundings.

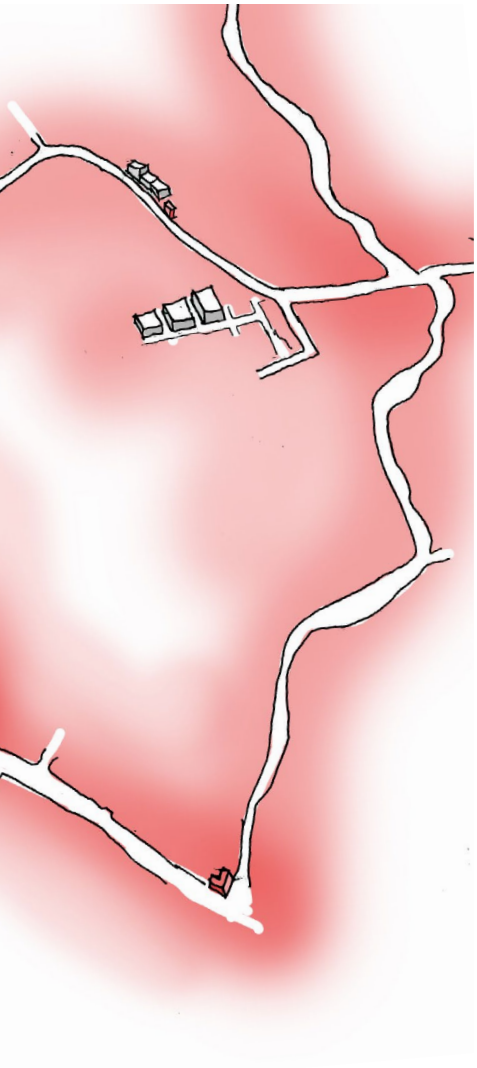


Regional integrated roads, and important transport stations can be the setting for diverse activities with regional and local influence such as universities, office centres, convention centres, bussiness incubators and other big attractors.

Inner tertiary low integration roads provide services for the surrounding neighbourhoods. Small clinics, communal areas, schools, religious facilities would be encountered in these areas

Inner neighbourhood roads would be served by daily needs like the corner shop and neighbourhood park, as well as small home offices, and kindergardens.

Integrated roads at the city level as well as centralities can house an array of local services, like public service office branches, theatres and cultural attractors, flexible work areas, commerce amongst them



Evaluation -

Actors

Public

-Municipalities

-Ministry of economy and comerce MEIC

-Entities that work close to the communities

Private

-Any leisure, commerce or productive party

-Developers and construction Chambers

-Small business cooperatives

Civil

-Communal associations and bottom up initiatives that empower different social sectors to start their own productive activities

Adaptability

The adaptability of this strategy is directly linked to the positioning on the system more active areas are easily adaptable for receive high influx of people as well as attract investment. More local areas have a more private character and due to its local character, there might be resistance to change and founding for necessary changes might be difficult to obtain.

Rate of Change

As with adaptability the rate of change varies according to the position on the system. More integrated and active areas might evidence a rapid constant change in the occupation of the buildings or faster development growth due to influx of economical investment. However, these areas are prone to require bigger infrastructure that more likely will be developed on a slow process. Lower active areas with a more consolidated character would be more resistant to change thus slowing down the process. However, new housing development in this area is usually attractive for investors and is likely to have a higher rate of transformation.

Unit of Change

Parcel

Block

Street

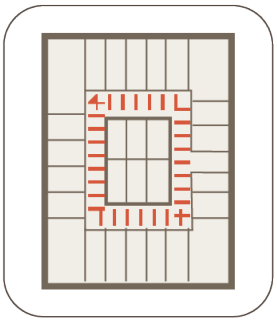
Lessons Learned - Governance

As with mix use a change from a zoning plan method to a more flexible strategy can aid in this regard. Market conditions will surely guide development in this direction as there is less profit in the local quieter neighbourhoods leaving the activities that locate there to smaller local businesses. Additional, incentives from the public sector can be set out to attract different activities in certain areas. Major cultural and strategic projects as a contention centre can be, could be carried out through public- private partnerships. At a local level municipal and governmental institutions that work together with the communities to empower and incentive the rise of small and medium productive activities can devise initiatives to locate flexible coworking facilities in the vicinities.

FIG. 34.1 Ave. Escazu, Isolated Mix Use Residential Development Source: Real Estate Costa Rica, 2018

FIG. 34.2 Ave. Escazu, Isolated Mix Use Residential Development Source: RArchiLovers.com, 2018

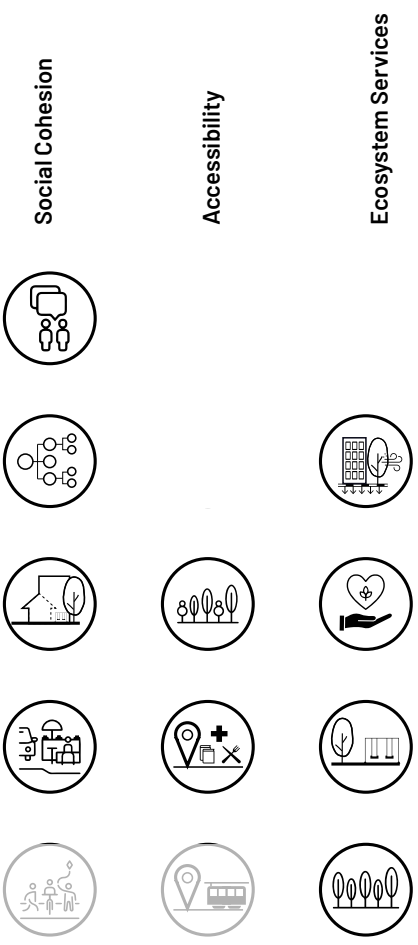
35 – Introducing Multifunctionality into gated complexes



Principles applied and Expected outcomes

This strategy aims to introduce mechanisms to make gated communities less monofunctional while at the same time allowing some permeability in the control mechanisms that separate the inside the gate from the outside. By allowing other uses to be included inside the complex there is opportunity for new interactions and relations to grow. The introduction of home offices, small entrepreneurship and productive enterprises to more commercial corner stores and shops that supply services for the daily needs will allow for different degrees of interaction and in some cases call for the allowance of outsiders to enter frequently as they visit these new uses. In this way offices and enterprises can be visited constantly without undermining the security checks.

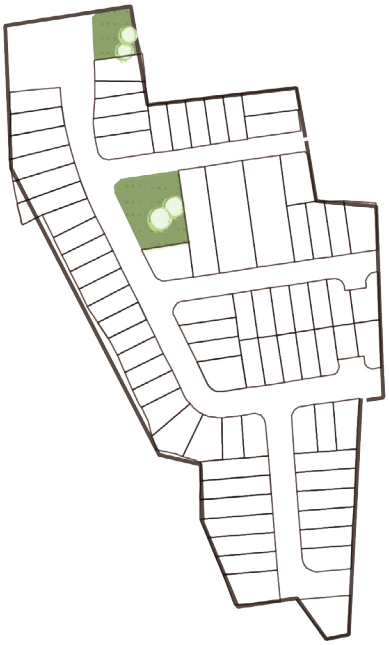
The improvement of public transport and new transport technologies can bring forth a reduction in the car presence thus parking and roads can start transforming to include other uses and more greenery thus enhancing ecosystem services. This will lead to a reconfiguration of the territoriality inside the gates, through the appropriation of the spaces previously occupied by the car, which can take for of diversifying uses in the case of individual home parking to the creation of a bigger communal areas that can provide the conditions to strengthen interaction within community and enhancing communal ties.



The strategy can also be seen as an incremental process in the opening of the gates. Since new uses can bring a flow of outsiders in the gate, making residents more receptive to these. Additionally, due to the size of the majority of Costa Rica's gated communities corner stores and shops will not be profitable only living out of each gate's residents, so they will only be solvent if there is a considerable degree of openness to the outside that can only be achieved through a slow transformation of recognition and acceptance of others and willingness to open the gates, densification and increase interaction with the surrounding.

In order to accomplish this major obstacles, need to be addressed, being an inner gate strategy it deals mainly with the private and individual residents of each complex and their willingness to change might be quiet low. It might require some incentives and educational campaigns with examples of the benefits it proposed. Addressing each personal benefit as the possibility of having a work, productive space in their home can be profitable can help with immediate response. However, at the end the strategy does relay in the genuine interest and motivation of each community.

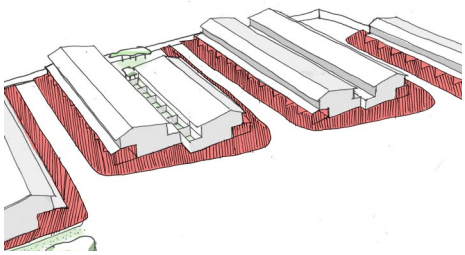
Development



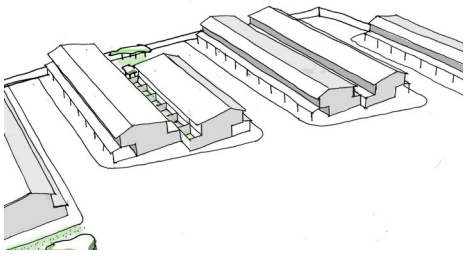
Present: Gated communities are a monofunctional development that contains only one typology of housing and a recreation area thain some cases requires an extra membership or scheduling for its use. In most cases inhabitants keep to themselves and due to their work schedule a great percentage of residences can remain empty during working hours, reducing the vitality of such areas.

Proposed Future: Allowing other uses compatible with the residential character of gated communities can help with fostering diferent interactions inside such complexes. It is also a way in which people living outside the gates can gain more frequently and easier permition to enter. Additionally, small entrepeneurships, offices and even shops open during work hours which will bring activity to the area in this time period.

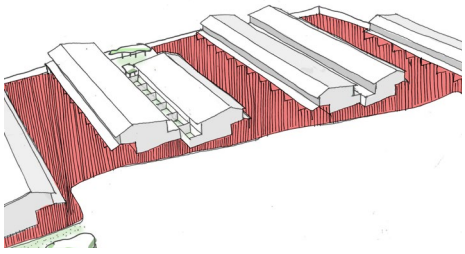
Capacity of Change



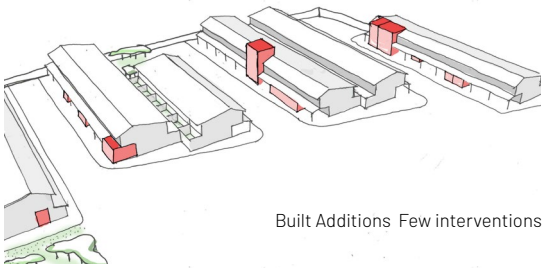
Car Lane Reduction



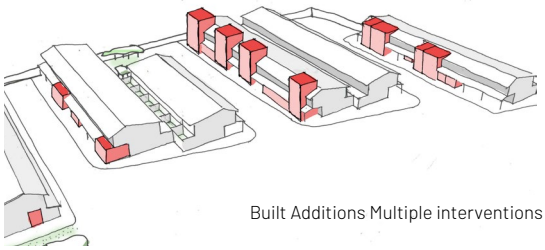
Current - Condition



Significant Mobility Shift

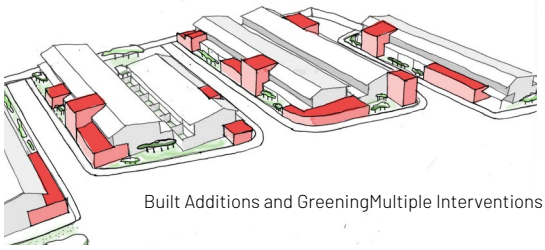


Built Additions Few interventions

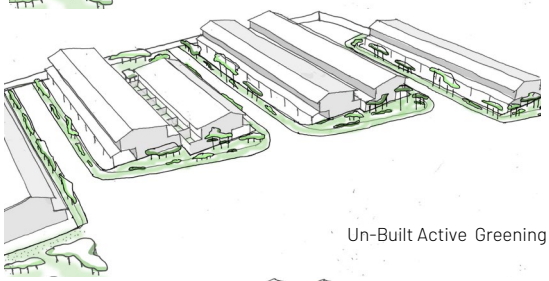


Built Additions Multiple interventions

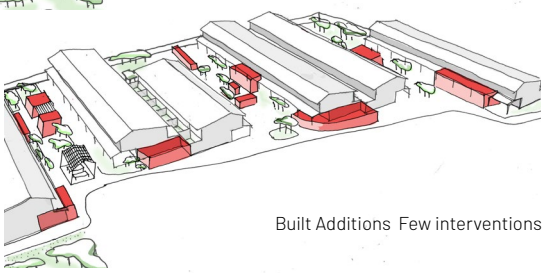
Built Additions and Greening Few Interventoins



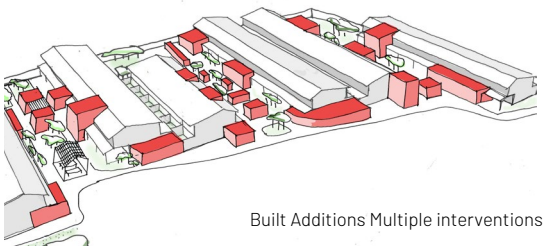
Built Additions and GreeningMultiple Interventions



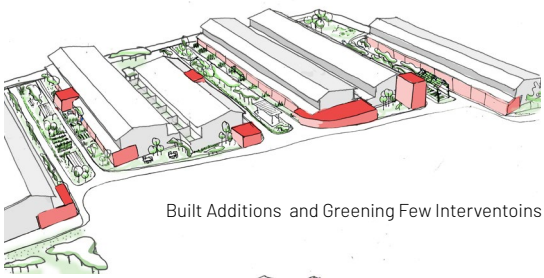
Un-Built Active Greening



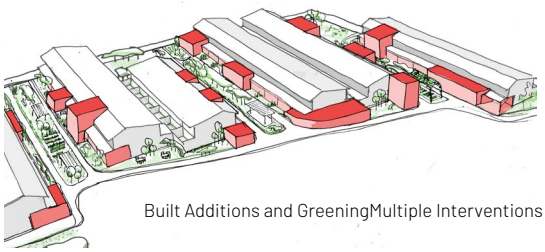
Built Additions Few interventions



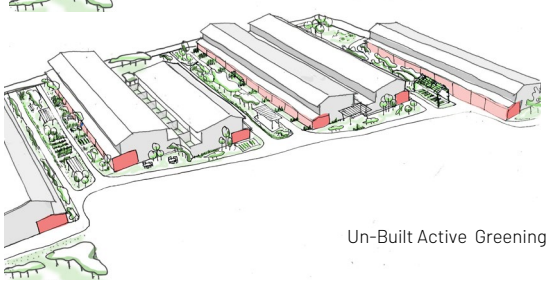
Built Additions Multiple interventions



Built Additions and Greening Few Interventoins



Built Additions and GreeningMultiple Interventions



Un-Built Active Greening

Possible Activities According to Phases and Location

Activities through Phases

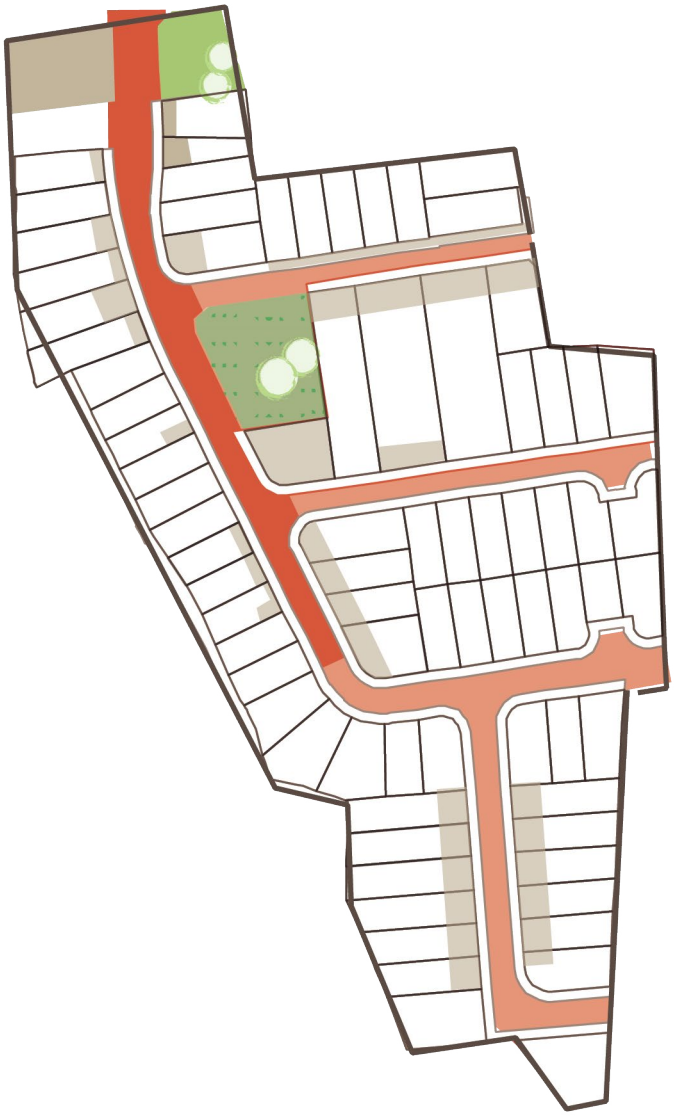
1 Initially acceptance of other uses within the gated complex would entail a calmer character that requires punctual scheduled access of outsiders. These activities include home offices and practices of different sorts, small productive industries that do not generate any disturbance, entrepreneurships and start-ups as well as home-based services like catering.

2 As acceptance grows and in coordination with other strategies as resizing the complexes and densification other more commercial activities can start to appear like corner shops, pastry, beauty parlours and boutiques. These would cater to the inhabitants of the complex but would also be accessible to costumers from outside the complex enabling the interaction with others. In this way allowing the entrance of the gates to become more permeable.

3 As access to the gated increases a future in which inhabitants do not deem necessary the gates and security points could be imagined though it would require a prolong period of time in which other factors might come to influence and alter the logical progression.

Location of Activities According the Gated Street Network

As the activities in the gated complex diversify they would probably organically organized according to the inner street hierarchy, where more commercial activities that bring and require much flow would locate along the principal distributing roads while the home offices and entrepreneurships prefer the quieter secondary or cul-de-sac axes. The area next to the entrance would be occupied by corner stores, cafe of daily service prone to receive much traffic from both residents and neighbouring inhabitants.



Evaluation

Actors

Public

Private

-Developers

Gated Community Administration Companies

Civil

-Home Owner's Association

Adaptability

This strategy is extremely adaptable as it relays on small individual interventions. The strategy allows for each individual resident to modify and transform their property according to their needs. Further adaptations can be revised and carried out as needed.

Rate of Change

As the adaptation the individual character of this strategy can allow for a faster rate of change. While in some scenarios communal infrastructure reconfiguration might need to be carried out this is a fast change as it entails mostly change in materiality and not major morphological reconfiguration.

Unit of Change

Parcel

Block

Street

Lessons Learned - Governance

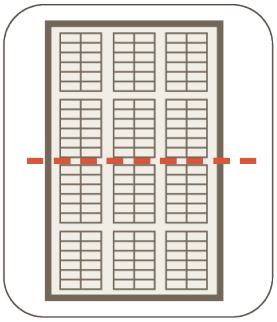
Though this strategy can be carried out directly by the initiative of each gated complex there might be a necessity of informing of the possibility and searching for such possible uses to be included in the regulations of the complex. This could come from the Ministry of Economy and the institutions that foment small entrepreneurships given the tendency of new job typologies that are more creative, and less office bound. It is a strategy that can gain acceptance easily as it appeals directly to the individual and immediate gain, at least when it deals with small productive activities as home offices and start up workspaces. The shift towards more commercial uses might require more time. Likewise, lane reduction is probable to be easily accepted as once again remains underutilized space for most of the day, however the shift to eliminating the car from secondary streets will depend predominantly on the improvement of the public transport and future shift in mobility.

"Your proposal of sharing spaces between gated communities is a 'quimera' because market strategies are centred providing enclosure and security. The spaces for socialization that you proposed should be provided by what is called 'third spaces' like services, not by residential projects. In this way public clinics should be open spaces and not surrounded by gates. What is viable is what I have achieved in some of my developments which is include mix use from the start. Allow for sufficient amount of commerce to exist in order to provide critical mass for the ground floor. This way it will become active, open space is given a program supported by the occasional events. So much that people think of those projects as commercial centres when they are actually housing developments in their essence."

"The urban regeneration of neighbourhoods that is happening now in some of our urban centres is good, but it is not the norm and in order for it to become truly successful evolution needs to continue. Now it changed from an area of law offices to a active gastronomic sector for socialization but needs to continue transformation and in-clude housing. This is the type of places where opportunity lies, where new non-gated developments should ap-pear; not in the periphery full of horizontal development."

FIG. 35.1 MSc. Marlo Trejos owner of MTA Architects which have developed several mix use projects of great area. Interview carried out through skype 02/05/2018. Image Source: marlotrejos.com

36 – Resizing the Gates



Principles applied and Expected outcomes

As mentioned before gated communities in Costa Rica have a limited size, the majority of them include less than 100 families, with some exceptions clearly. Therefore, a resizing strategy can be beneficial in aiding the provision of services and introduction of other uses as explained in the previous strategy. By identifying that such small gated communities are usually clustered the opportunity to resize them into a larger complex emerges. This merging can be carried out through the re-territorialisation and integration of adjoining recreation areas to the interconnecting the road network between the adjoining complexes in this way ensuring some flow amongst them.

The joining through recreation areas can allow for a phasing process of integration where initially each gated community can maintain a portion of recreational grounds for their private use, while another portion can be conformed into a new shared territory which would add to the territorial hierarchy and enable a space for interaction and creation of ties amongst members of the different communities. This can allow for the sharing and reduction of maintenance costs while allowing for new associations and group activities to emerge since there is a bigger audience of possible interested parties. Furthermore, underutilized areas can gain activity, giving the possibility of all the area becoming an open shared space between the communities in the future, thus fully joining the communities together. On the other hand, the possibility of joining communities through their road network does not present a transitional phase but can create a bigger impact in the configuration, flows of the communities as well as provide a stronger aid in the introduction of multifunctionality explained in the previous strategy.

Once again this is a much more concentrated strategy that deals with the private sector and the willingness of differ-ent communities to interact with their neighbours. The same restrictions and considerations as the previous strategy apply as the need for some incentives and information campaigns with examples of the benefits it proposed. Again, addressing each personal benefit can be advantageous. At the end the strategy does relay in the genuine interest and motivation of each community with the complexity of dealing with different communities therefore some might be willing others might not and the levels of commitment might differ.

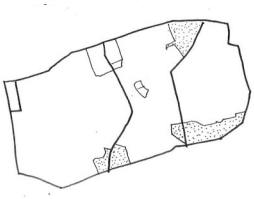
Development

Present: There are areas in which gated communities have clustered and in most of these cases they are low dense small communities. In these cases each gated community has its own recreation area and independent street network.

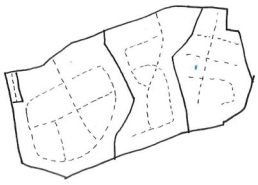
Proposed Future: Clustered gated communities can be reconfigures and resized by using the recreation areas and reconfiguring the street network to create new spaces for interaction within previously separated areas.

Capacity of Change -

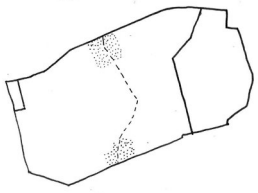
Linear gated cluster/Current condition

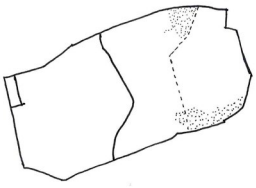


Joining through open communal spaces

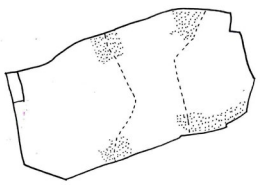


Joining through road network

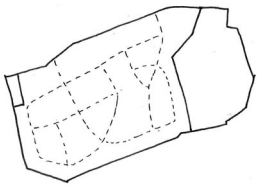


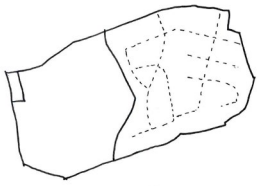


Joining 2 Complexes

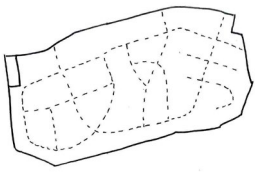


Joining all Complexes





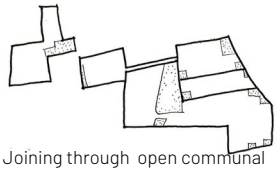
Joining 2 Complexes



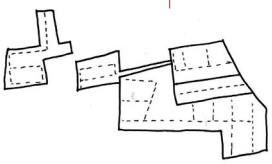
Joining all Complexes

While linear clusters present more ease for transformation as the location and alignment of communal and roads is likely to coincide, this type of cluster presents less transformation possibilities that grouped ones. Additionally, in such configuration joining is determined by the willingness of the central complex, such dependence in not as strong in grouped clusters that can adjust more easily if there is unwillingness from one part.

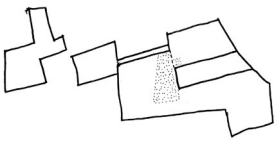
Gruped gated cluster/Current condition

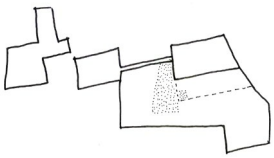


Joining through open communal spaces

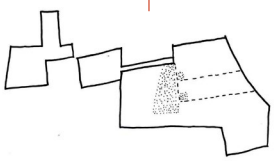


Joining through road network

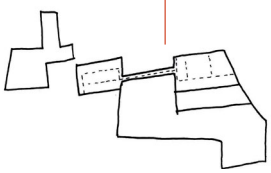


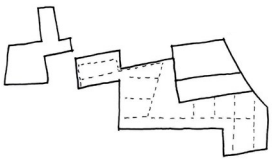


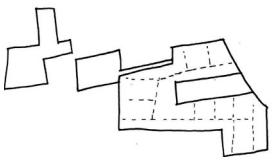
Joining 2 Complexes



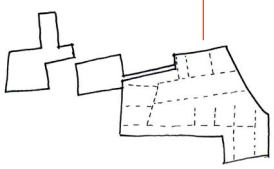
Joining 3 Complexes according to the adjoining character of the open areas which limits the joining of the other two

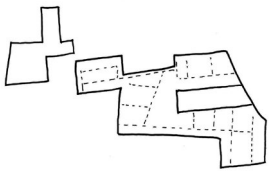






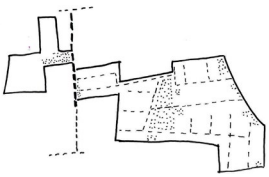
Joining 2 Complexes

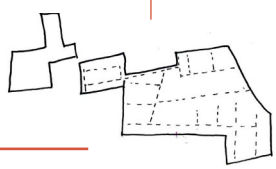




Joining 3 Complexes

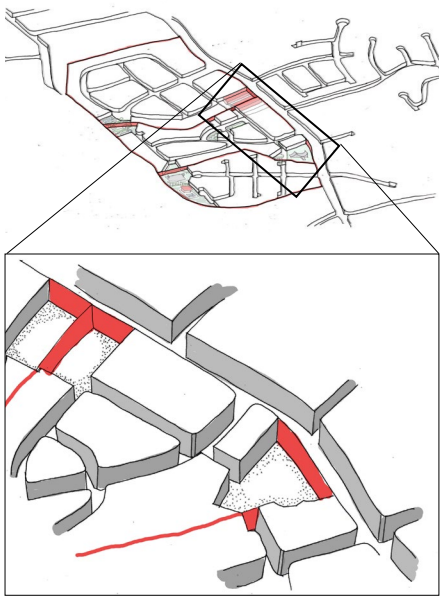
An external road and combination of road and communal areas is required in order to include gated compleses that are in close proximity but not adjoinign to other complex

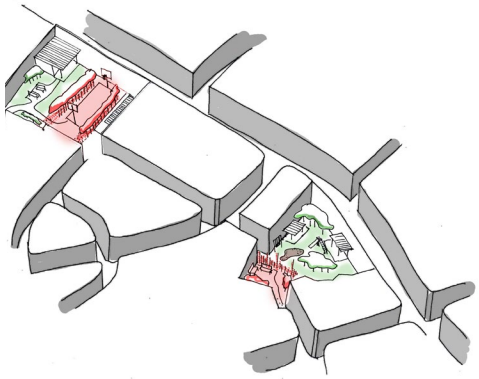




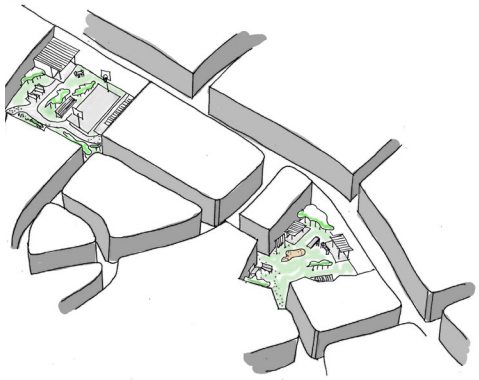
Joining most Complexes through alignment of the network

Phasing-





1



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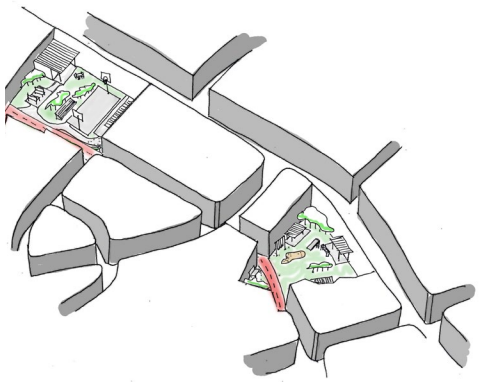

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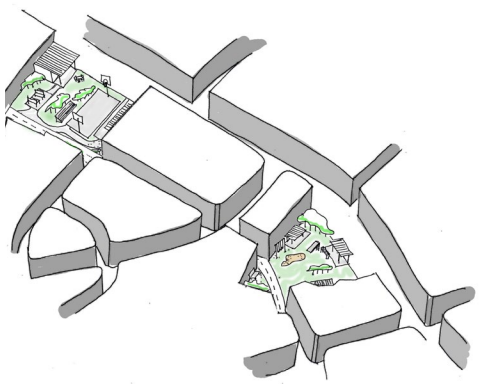


4

1 Elimination of the dividing wall dividing the open areas into private spaces for each original gated complex and the creation of a new territorial level through a shared space between both gated communities. (Red areas)

2 To further join the gates the elimination of the shared space to conform a whole recreational area that is now used equally by all the gated complexes.

3 The completion of the join between complexes comes through the integration of the road network between gates, facilitating further the flow through the complex and multiplying access points to the urban network.

4 If the location of the communal areas is favourable and the experience is deemed positive it is possible to consider making such spaces public, therefore opening them to the neighbouring areas allowing for the interaction with others that live outside the initial complex. This could be carried out through phasing as well in which a separation between the open area and the inner gated residences is provided and can eventually be eliminated.

Evaluation -

Actors

Public

Private

-Developers

Gated Community Administration Companies

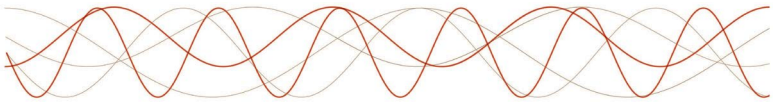
Civil

-Home Owner's Association

Adaptability

This strategy is highly dependent on proximity, cluster configuration, positioning and alignment of communal areas and roads and availability of space. The amount of restrictions make adaptation difficult. When the conditions are favourable the implementation of the strategy through phasing can help adjust the proposal according to the conditions and needs that can become apparent. This strategy does entail an added complexity of reaching an agreement between different complexes, for depending on the cluster configuration the inclusion of certain compounds is crucial for the success of the strategy.

Rate of Change



Once again, the implementation of the first phase can be carried out quickly, the rate at which phases advance can be managed by the inhabitants of the communities involved upon their satisfaction with the results. Acceptance will continue to prove a slower process than the actual physical transformation, with the added time for negotiation and agreement within and between each complex.

Unit of Change

Parcel

Block

Street

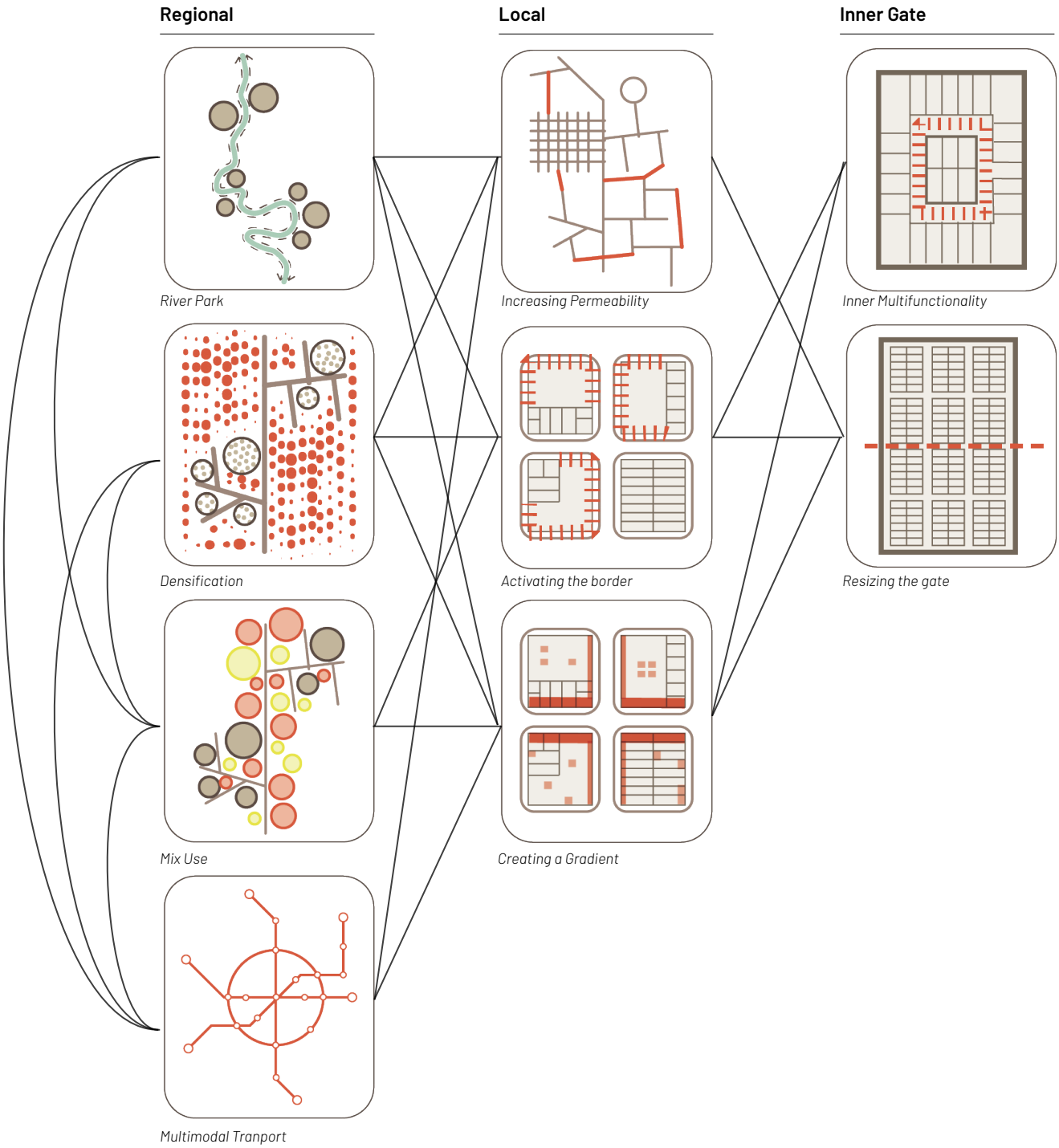
Lessons Learned - Governance

The size and clustering of gated communities does provide for a potential of integrating, therefore reducing the number of borders in the city. This can through a governance perspective not require any actions but can be carried out through the initiative of the own gated complexes and if necessary dealt by a transformation of ownership. However, campaigns informing of this possibility can be introduced and to incentive such a transformation pilot projects, examples and willing test beds might be required. As for future development the size of the complexes should be assessed in search for methods that incentive small developments to be more open and linked to the surrounding neighbourhoods

"Changing any social construct in Costa Rica is a slow process. In my experience with slow mobility it has taken 8yrs since I started talking about cycle routes. From which the discourse has changed from its crazy and will never work in Costa Rica to major urban centres starting plans and constructions for different types of bicycle lanes."

"The case of gated communities is the same, we have become used to them and will resist change. It is sad that I have friends living in such developments and describe them as: 'very nice, everybody keeps to themselves'. This should not happen you should know your neighbours! My experience with Chepecletas has taught me that with time, education campaigns, data and examples slowly the paradigms can be shifted. Examples of un-gated gated communities already exist in the country, Ave Escazu is one, it's just a matter of getting people to acknowledge it as such and start opening to the idea of opening up. Meanwhile you should also look for different alternatives, for the activation of underutilized private parcels, diverse financial mechanisms for lower strata to acquire proper housing. In any case I believe that if you target the young and educated you will have a better reception and pos-sibility of success."

FIG. 36.1 MSc. Roberto Guzman master in micro-biology, civil activist founder and executive director of Chepecletas organization that works towards the urban rehabilitation and inactivating soft mobility. Interview carried out through skype 18/05/2018. Image Source: CR Hoy


Regional
Local
Inner Gate
River Park
Increasing Permeability
Inner Multifunctionality
Densification
Activating the border
Resizing the gate
Mix Use
Creating a Gradient
Multimodal Tranport

37 – Combining Strategies and Methods

Strategies combine different methods in order to achieve their aim. The combination of methods would vary according to the context, however there are certain methods that are constant to each strategy. For example, the increase in accessibility and porosity of the network will always require a modification of the street system as well as the parcels.

Similarly, as methods and strategies work together, strategies are not isolated from each other. In fact, the application of just one strategy will have an effect on public domain but would not be that relevant for dealing with gated com-munity dominated areas. In this way strategies work side by side to generate a bigger impact on the area. Each strategy has a scale of implementation and reach where it is more relevant, however they generate impact through the scales and between each other. For example, the River Park can create a network of public spaces at the regional level. This area is also available for the provision of soft mobility transport, which supports the transport improvement strategy. At a city level having the river activated can be linked to adjoining public spaces as well as available liminal spaces. In this way the River Park strategy works locally with the Activating the Border and Public Spaces and Creating an Activity Gradient strategies. Taking a look at the gated community scale when such developments locate bordering a river their communal areas are usually adjoining to the river bank providing the opportunity of opening the area and transforming it. In this way the regional river strategy can also work together with the introduction of multi-functionality into the gated complexes. Therefore, though strategies were discussed separately for structure and simplification methods they should not be considered as isolated parts but as a system as a whole working in synchronism to enable public domain and reduce the socio-spatial fragmentation generated by gated communities.

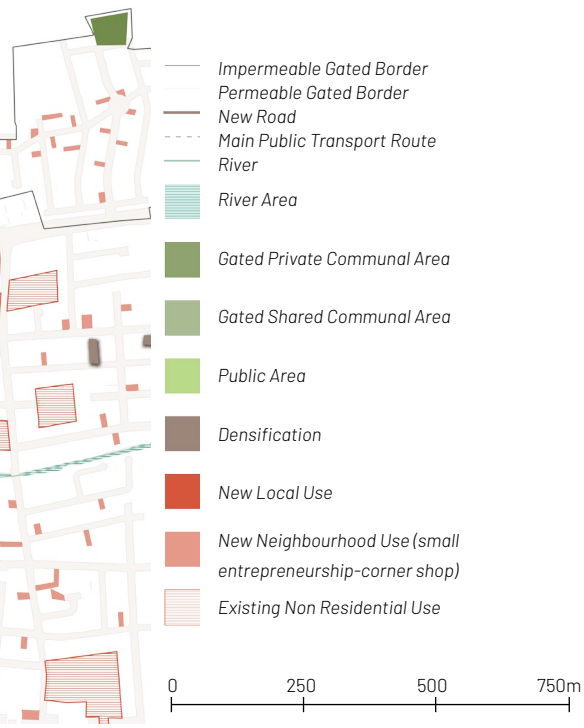
PART 5

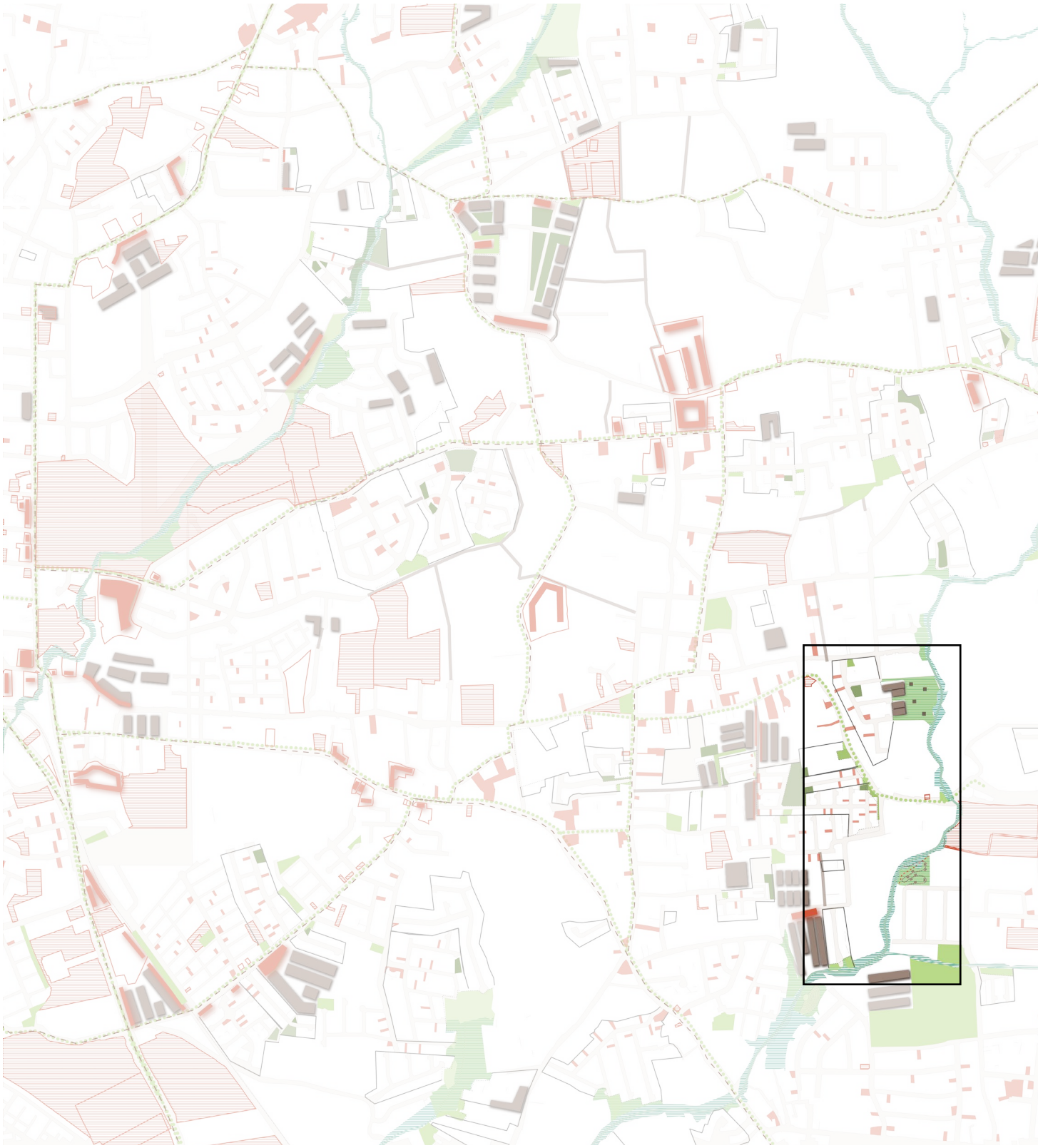
Integrating Multi-Scalar Strategies: Designing the Micro-Scale

FIG. 37.1 Residencial Los Lagos, Heredia. Source: Youtube, video uploaded by Mytanfeet Travel Blog, 2014

38 – Design Area System of Strategies

The design here presented develops an initial conservative approach to combining all strategies in a cohesive system. It presents the first stage of an ongoing process of transformation in which the rigid structures of the private most specially gated communities are still easily read, however a significant transformation has come in place one that can trigger further and more drastic change. In this way by working together the benefits and restrictions of the system become evident. As the three by three-kilometre exploration shows strategies interact with each other on all cases, proving that they work as a whole and that each has a specific role to play in the creation of new public domain. Two zoom-in areas will be further detailed in order to exemplify more clearly the interrelation and cooperation between strategies as well as the restrictions made evident.





38.1 – **River Park Design Zoom**

This zoom will explore the relationship between the river as a park and the adjoining gated communities and neighbourhoods and the ease to integrate it into the system.

River Park - Current Condition

Current Public spaces (Red) and Use diversity (Yellow)

Current network condition (angular integration 800m)

Currently the rivers are characterized by being underutilized public land that is neglected in the urban fabric. They are read as borders since the canon is crossed infrequently, contributing to the low permeability and accessibility of the network. Gated communities and neighbourhoods of all typologies do organize themselves in close proximity of rivers usually destination some communal area to this relationship a to take advantages of the views which provide potential areas to integrate to the river corridors.

Current Built

Current Permeability of the Block tissue

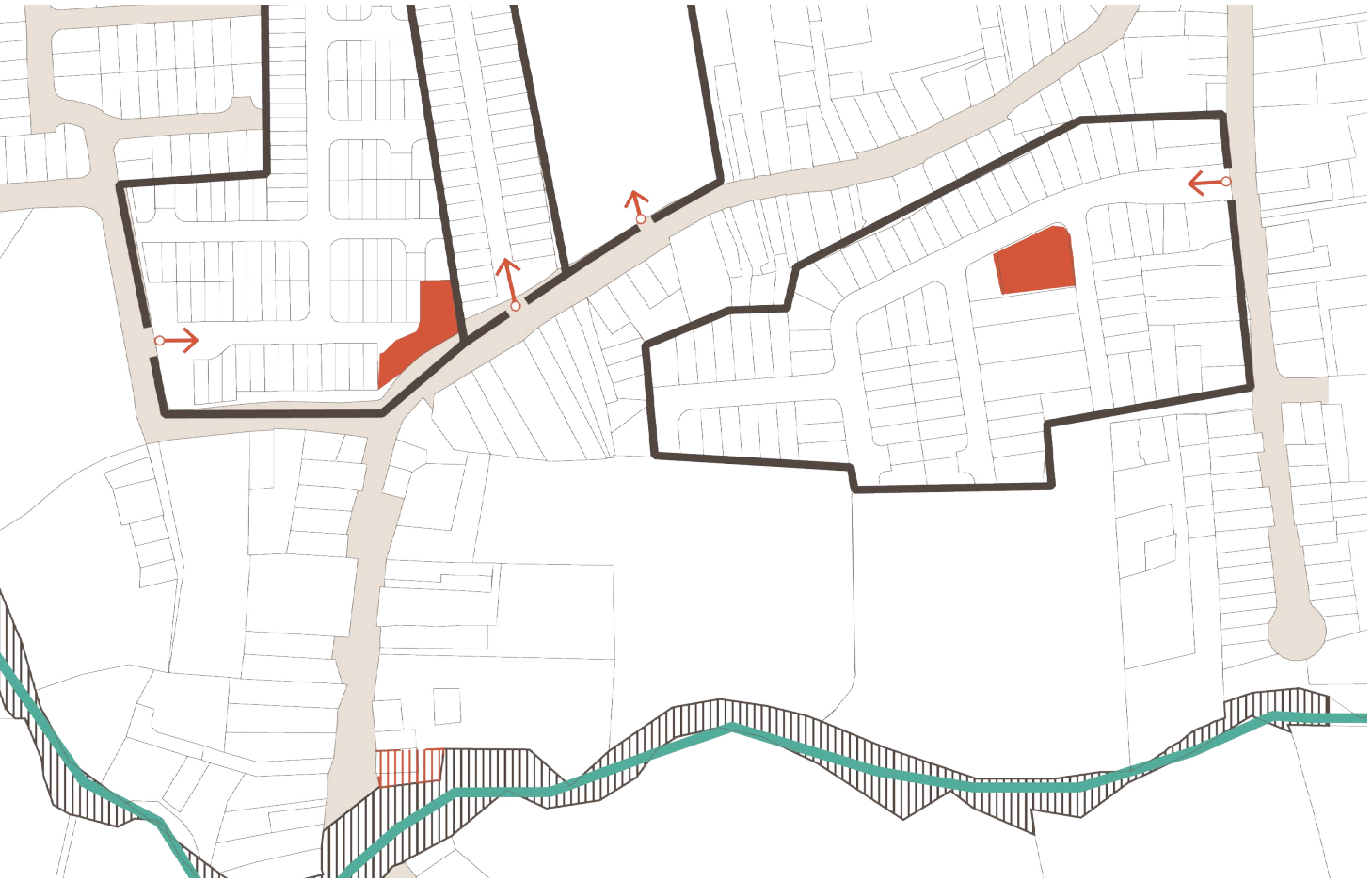


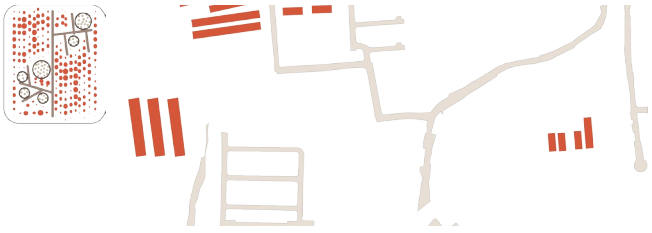
FIG. 38.1 Pirrio River Source: diarioextra.com

FIG. 38.2 Pirrio River Source: nacion.com

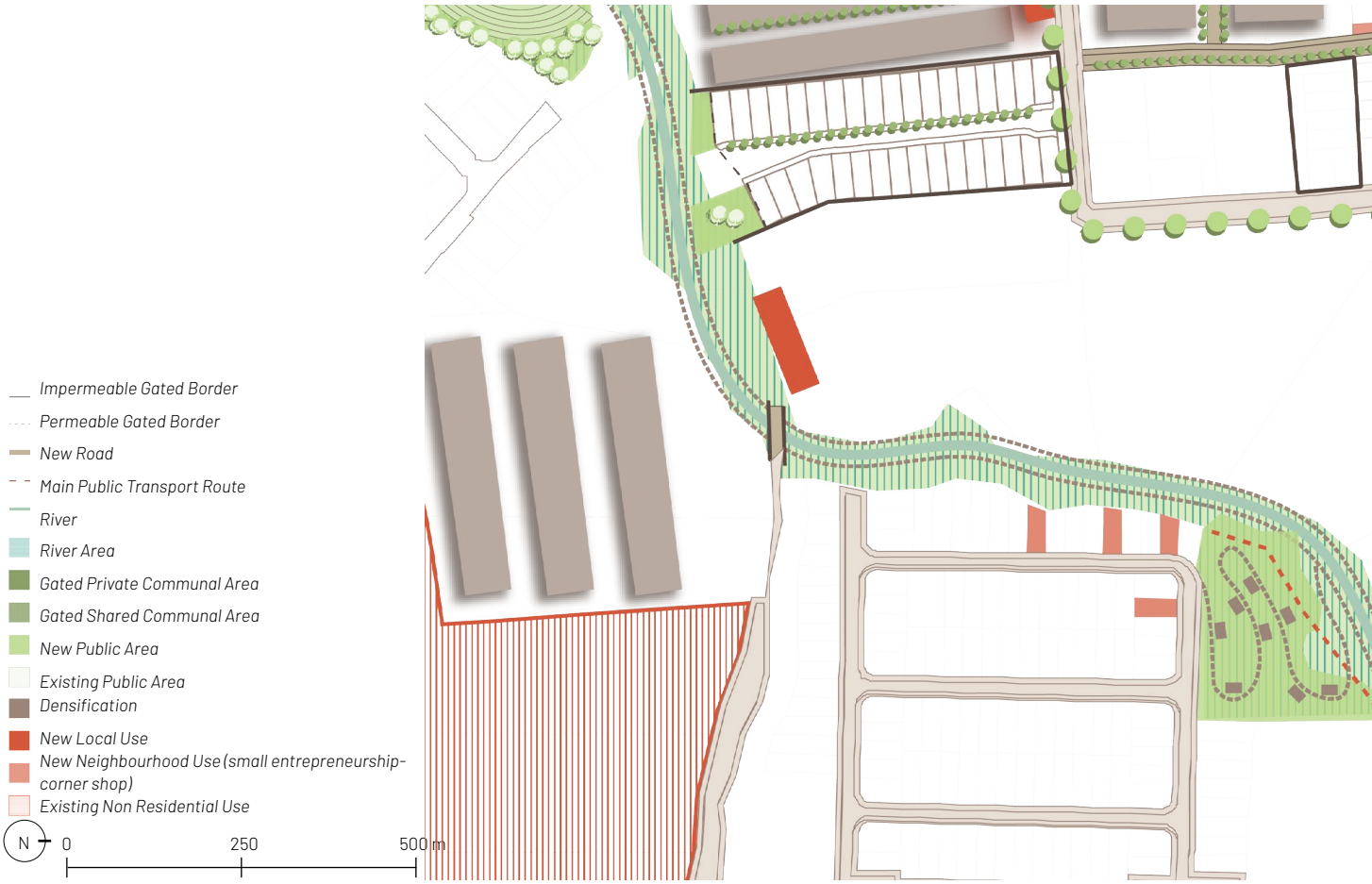
River Park Strategies and Design

Rivers prove to have a significant amount of liminal spaces adjacent to them, that are further complemented by gated recreation areas. These present the opportunity of creating pocket parks all along the corridor. Adding in this way different activities, uses and privacy levels to the trajectory. The combination of these with slow mobility network along the course, allowing for bridges to increase the accessibility of the network specially to pedestrians and surrounding densification strategies help ensure a system that will encourage use and enable public domain.

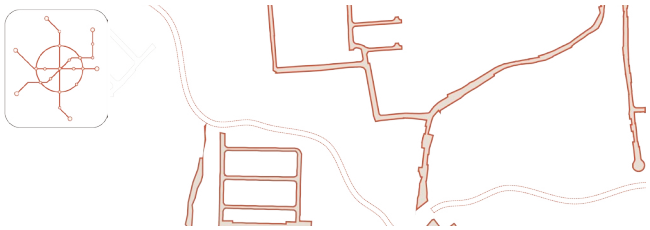
River Park and Public Space Corridor



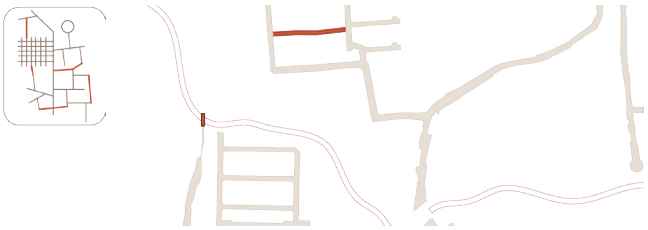
Densification areas



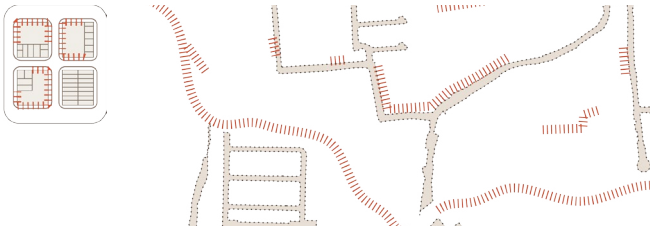
Creation of mix use spaces and activity gradient



Improving Public transportation

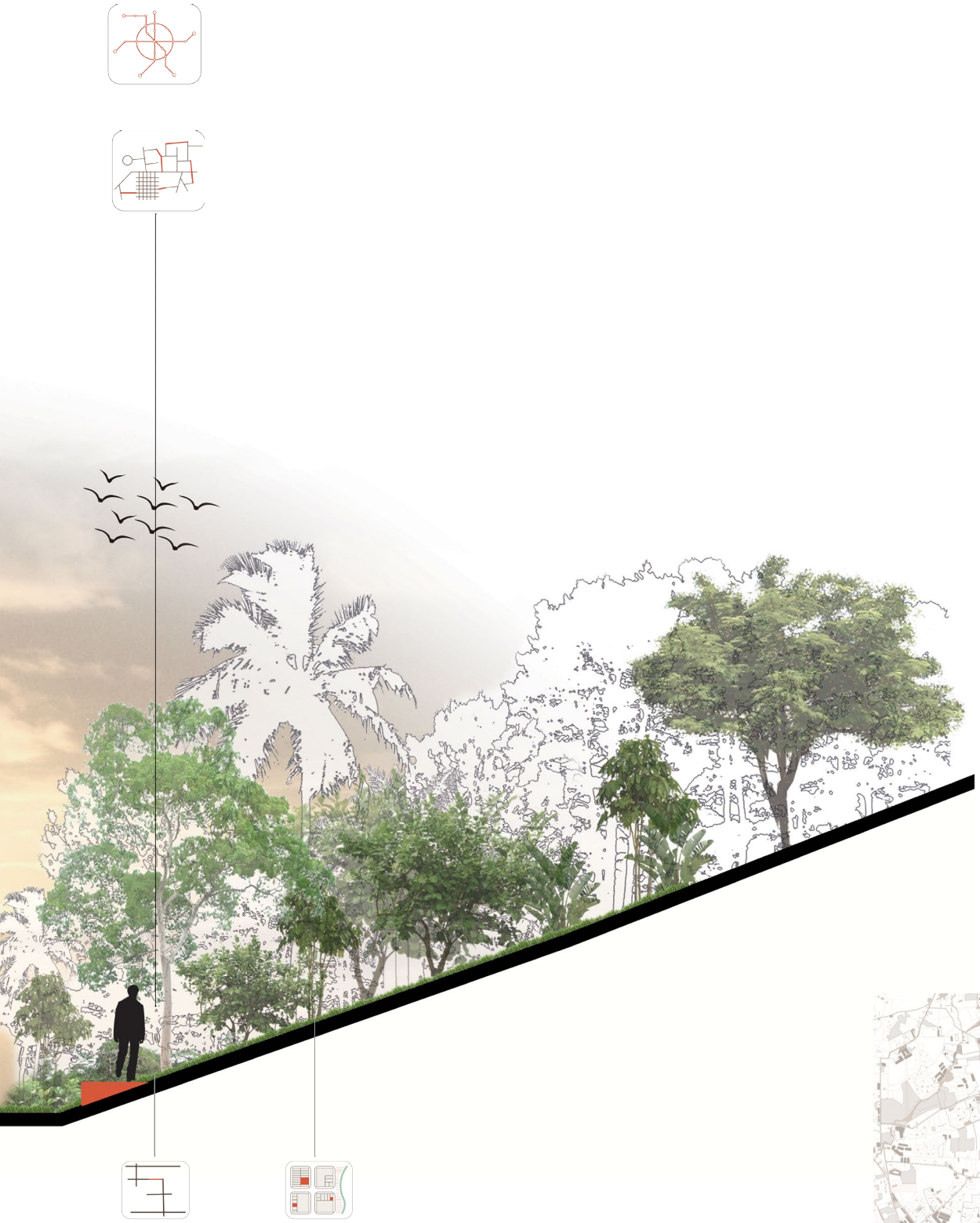


Introduction of new infrastructure to increase accessibility



Activating the border

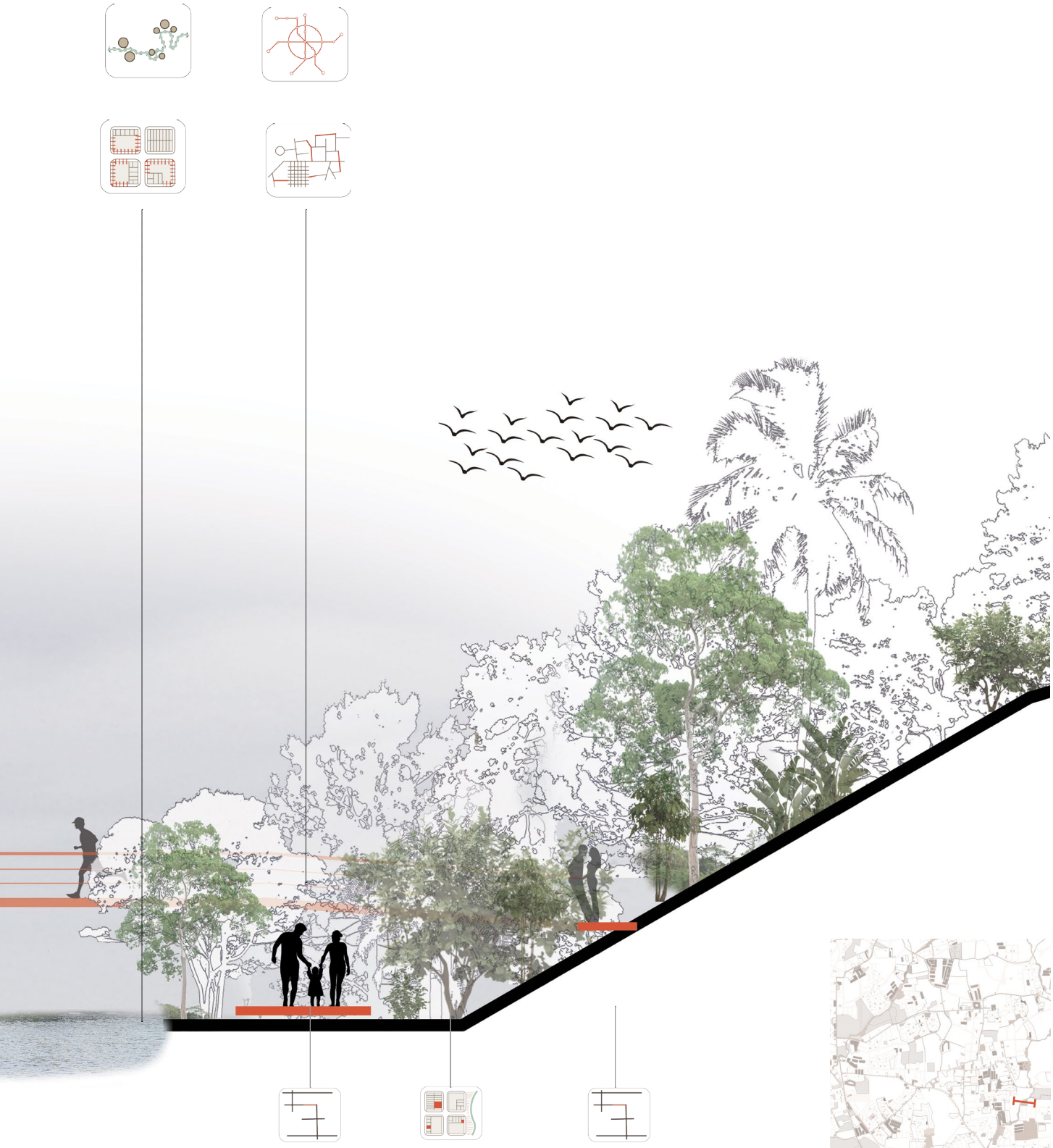

Regional
Local
Methods



Regional

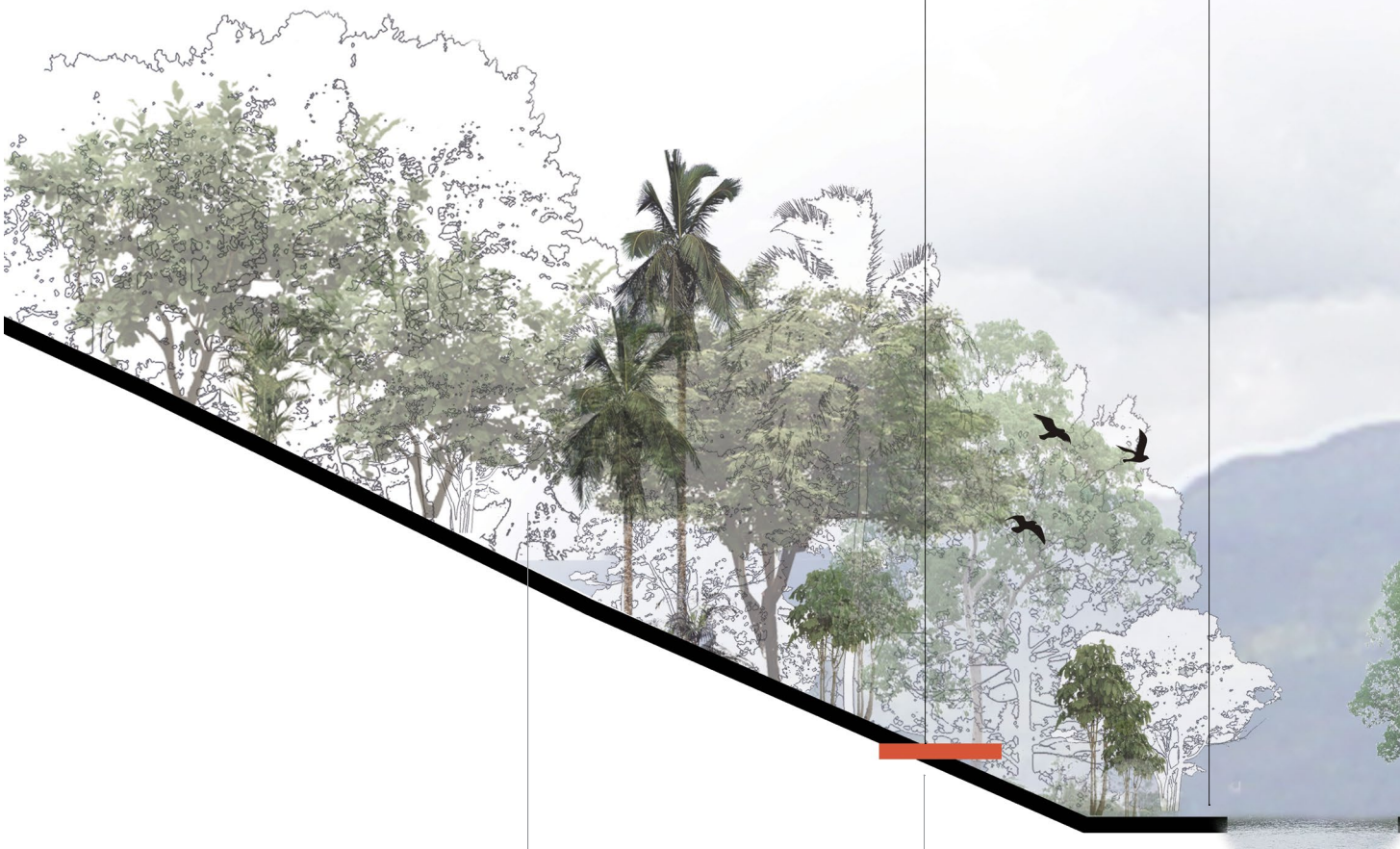
Local

Methods

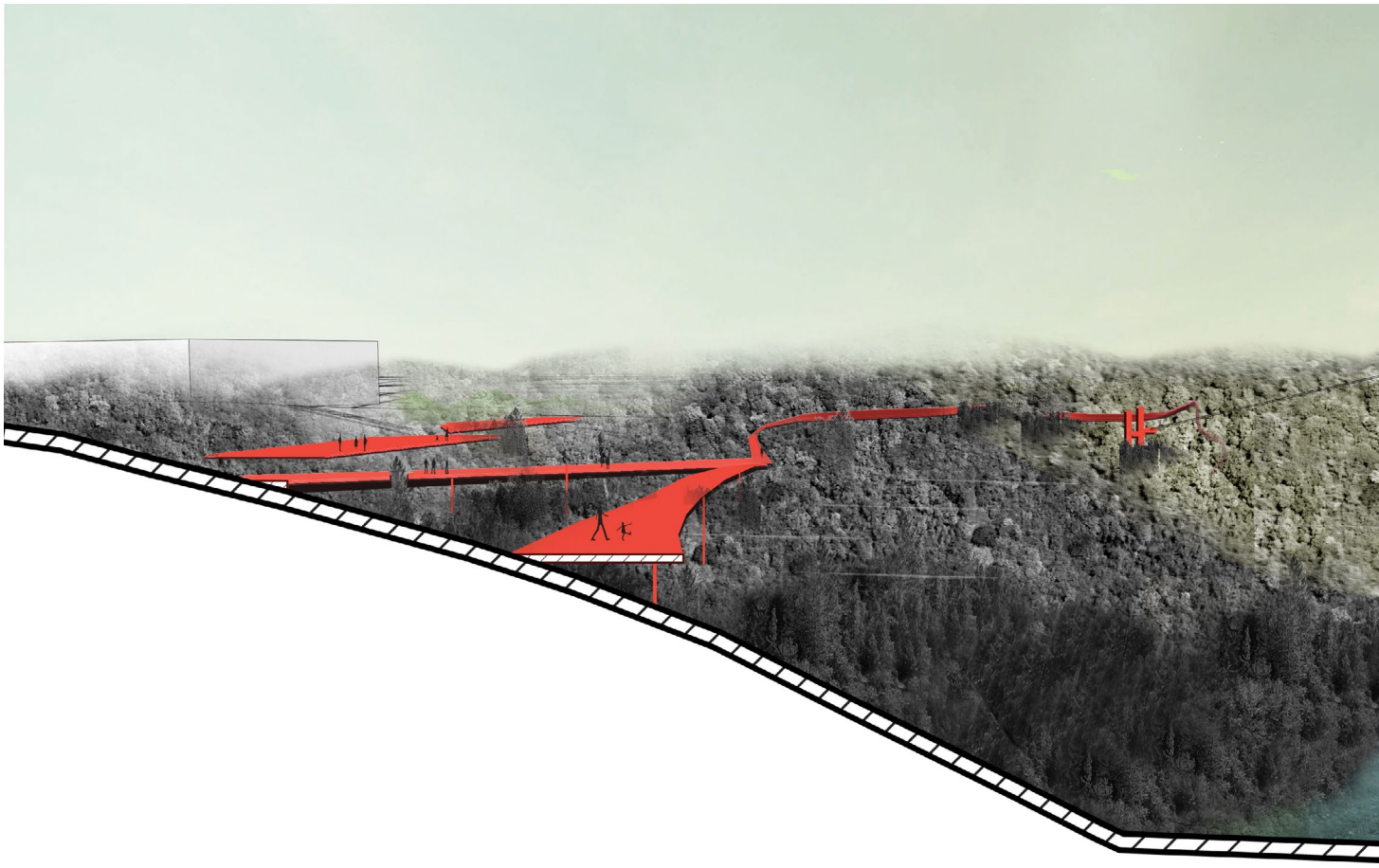


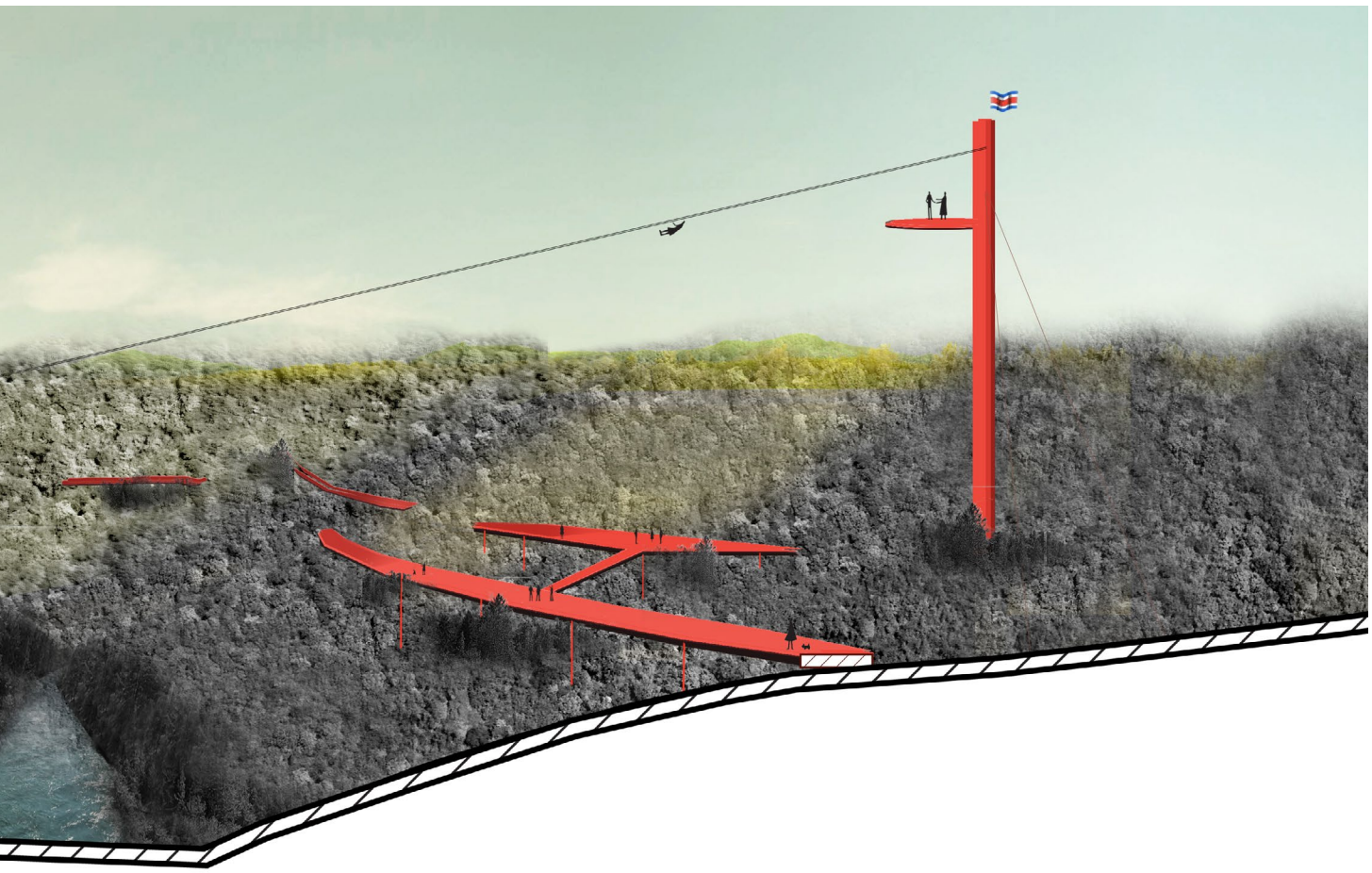
Regional

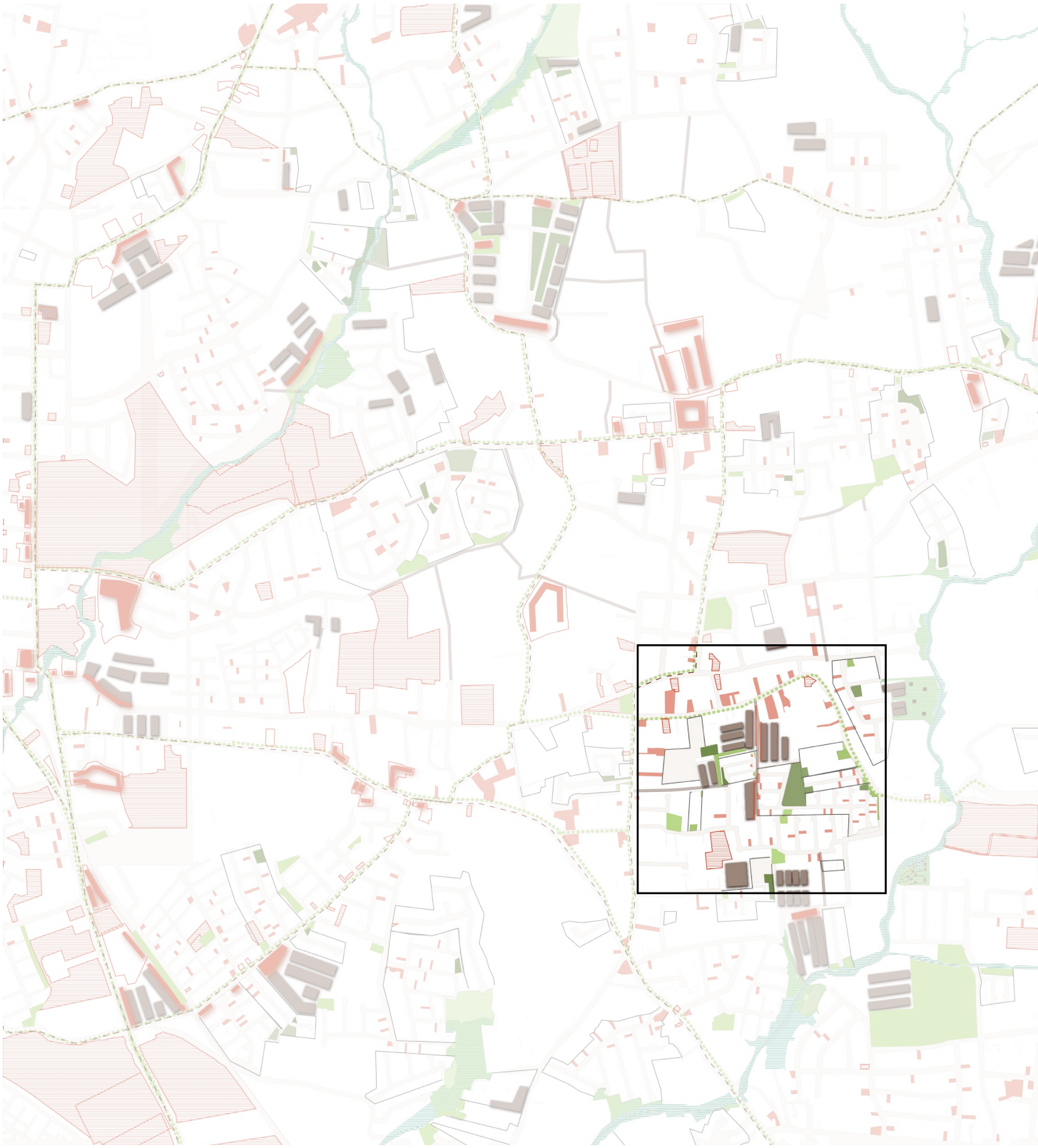
Local



Methods







38.2 – **Gated Cluster Design Zoom**

This detail area will explore the extent to which gated communities can be transformed given a specific context and diverse conditions.

Gated Cluster - Current Condition

Current Public spaces (Red) and Use diversity (Yellow)

Current network condition (angular integration 800m)

Current Built

Current Permeability of the Block tissue

Initially gated clusters present a high presence of walled border condition. Because of their characteristics the tend to cluster in the impermeable areas of the network which have low accessibility to public space. The area is extremely monofunctional and for the most part spaces for interaction correspond to the communal areas of each gated development.

Current Borders-Parcels and Gated Communities

0 250 500 m

Built typologies

For the most part gated developments in this area are low rise single family houses in a row configuration. Of which the garage is the main link to the inner gated roads. Two cases of multistory appartment buildings are presented, where again the high amount of parking space is present, becoming an opportunity for transformation,

1

2

3

4

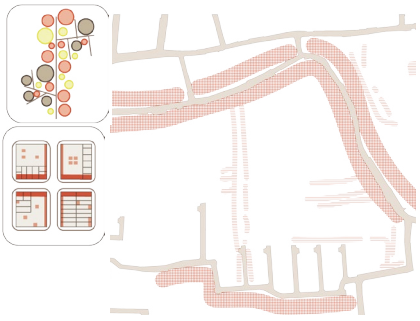
5

6

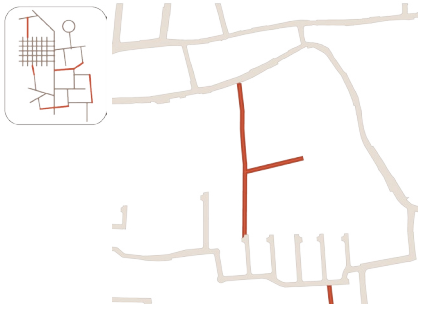
Gated Cluster Strategies and Design

As proven by the design the combination of strategies can improve the gated condition in those cases where gates are close together. However, when gates are further apart they do present some challenges, in those cases the positioning of the communal areas and availability of street from space become crucial for the possibility of generating spaces of interaction. In fact, proximity, alignment and positioning are relevant factors in the transformation and creation of transitioning spaces for public domain. Extremely small gated complexes those, served by only one road and constituting of 4-12 separate dwellings prove to be the most rigid structures. They are densely built with no true communal area except for the street, therefore, if there is no proximity to other complexes, liminal areas or public space the actions that can be taken are limited.

Densify Surrounding Areas- the existing built provides little space for densification



Allow mix use of different qualities on main axes. More commercial and daily services on public roads and small enterprises on the inside of the gates



New road provision to reduce block size and generate more active public space.

Inclusion of transitional areas on the section of the borders that allow it, by being on street front or having common areas in proximity.

Provide spaces for interaction inside the gates using available shared areas such as streets and recreation spaces as well as the introduction of other activities in the residential space.

Unifying small complexes into one through adjoining shared areas.

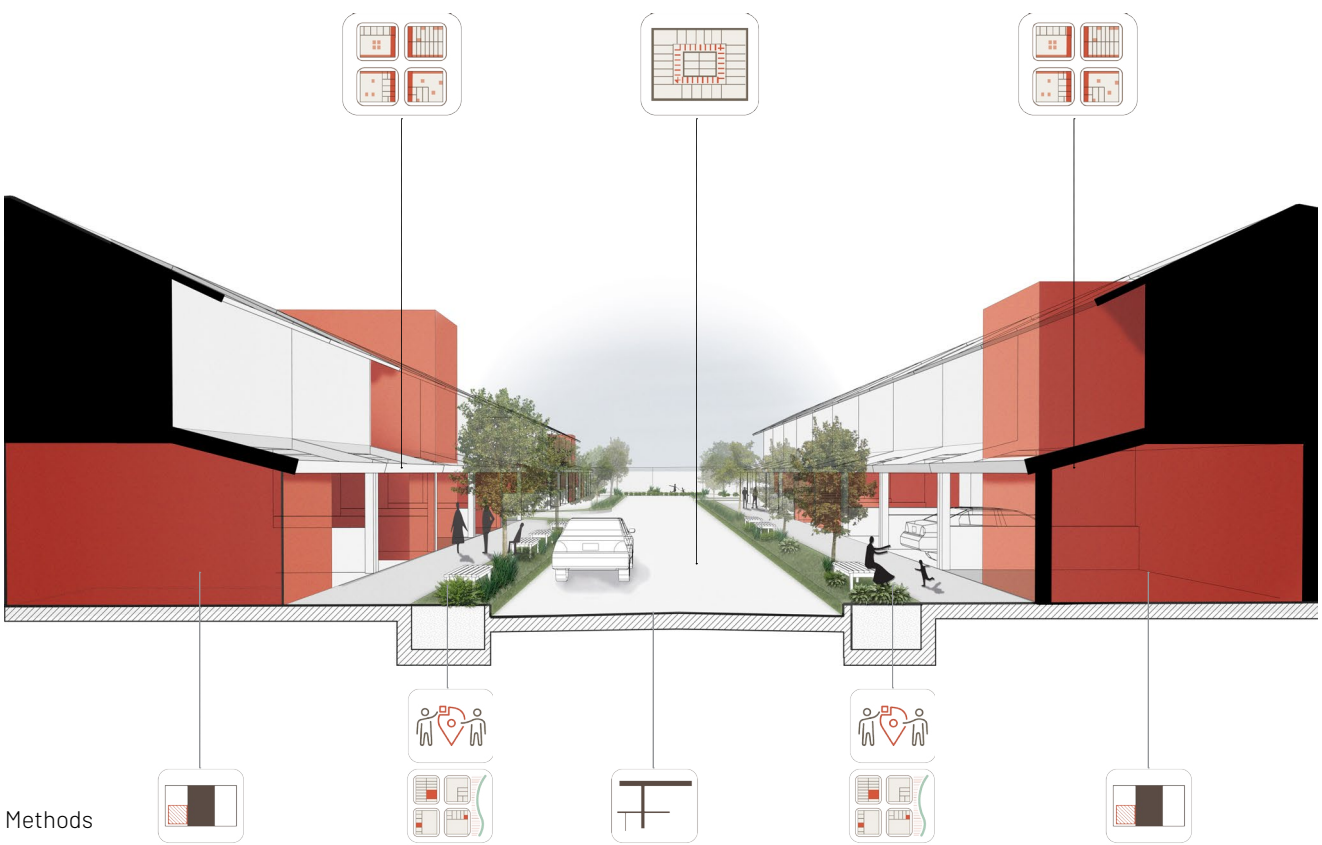
0 250 500 m

Impermeable Gated Border
Permeable Gated Border
New Road
Main Public Transport Route
River

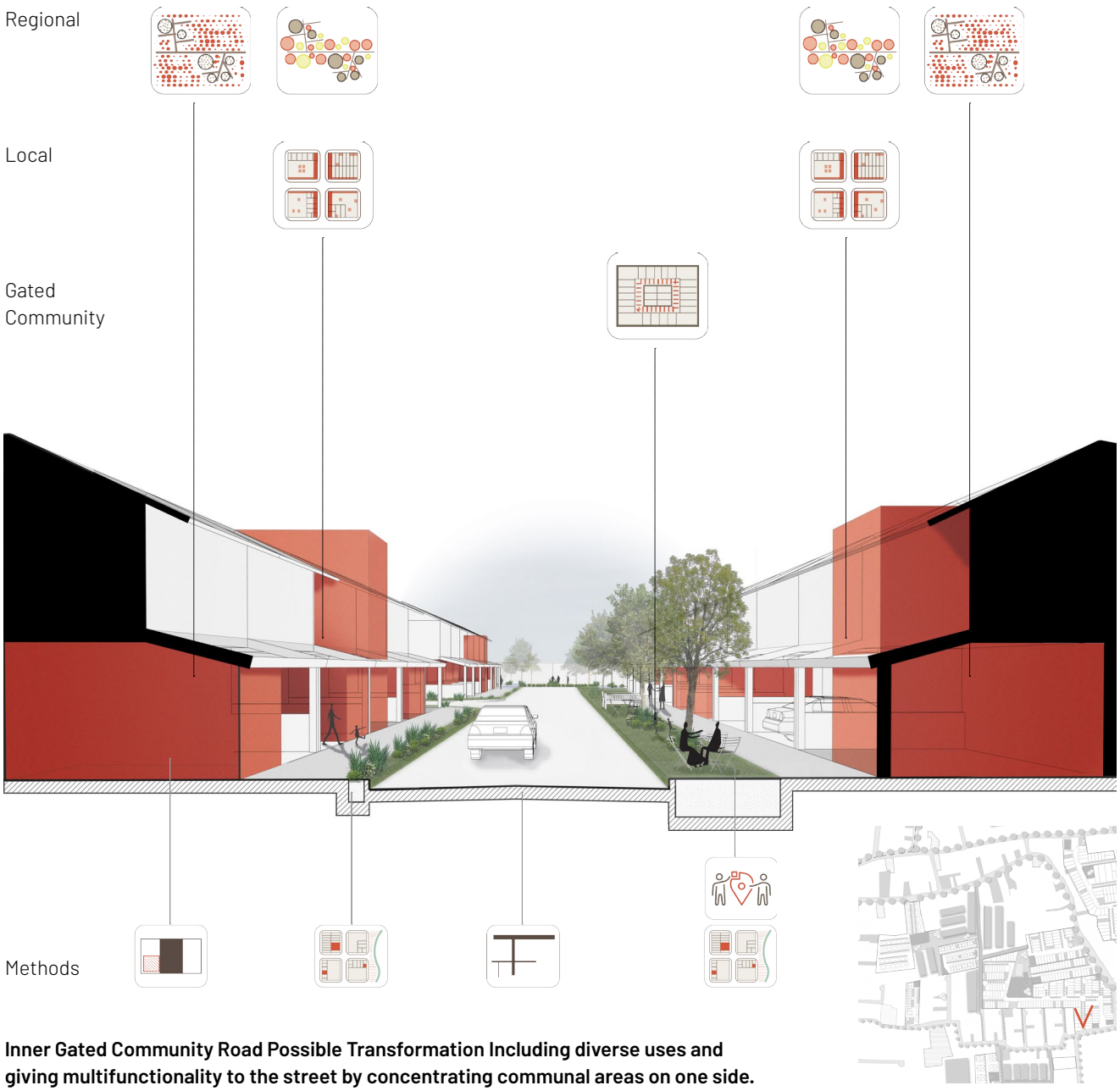
River Area
Gated Private Communal Area
Gated Shared Communal Area
New Public Area
Existing Public Area

Densification
New Local Use
New Neighbourhood Use (small entrepreneurship-corner shop)
Existing Non Residential Use

Inner Gated Communty Road Current condition: wide streets low activity and vegetation

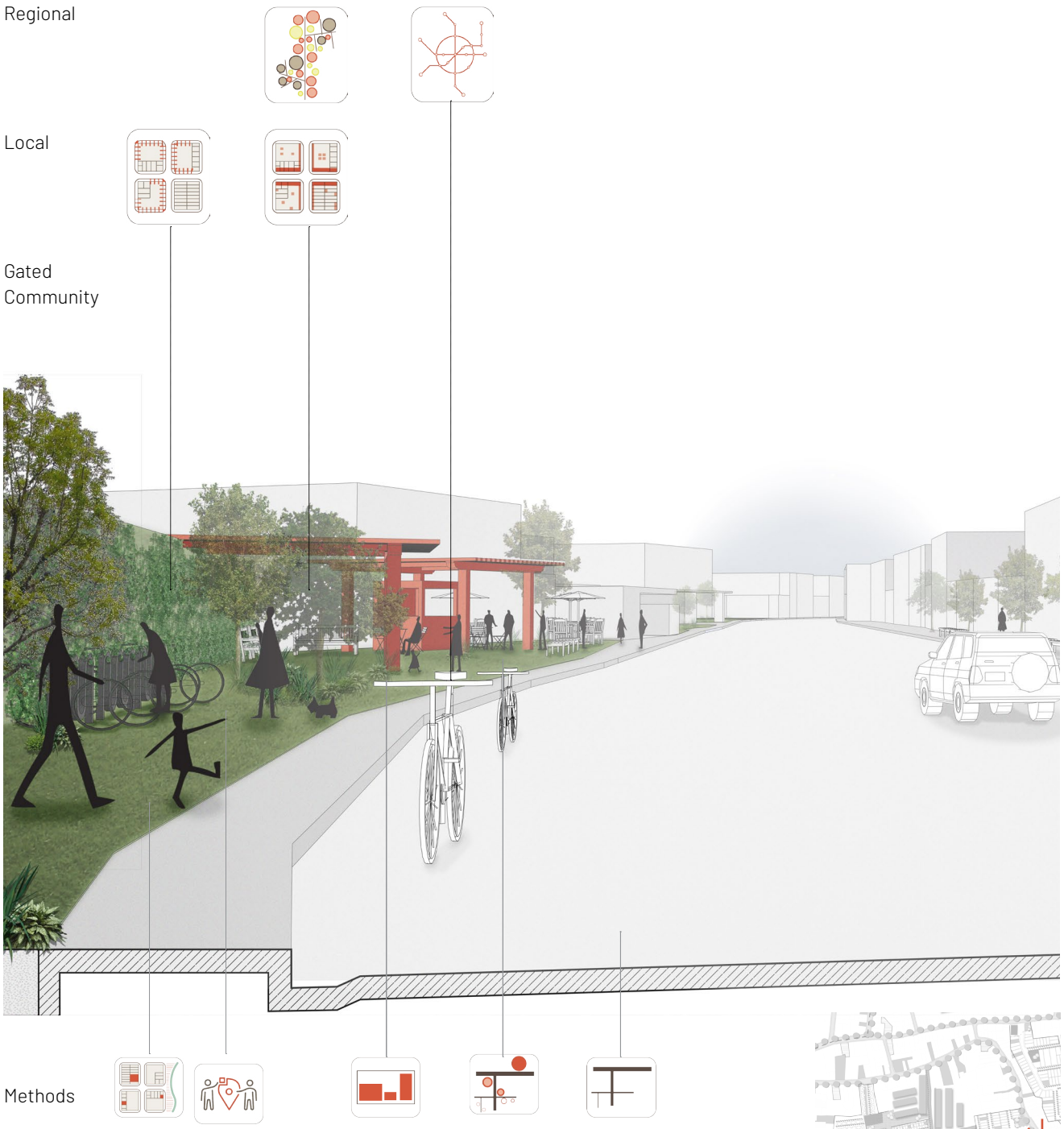


Inner Gated Community Road Possible Transformation Including diverse uses and giving multifunctionality to the street by distributing simetrically the new communal areas.



Inner Gated Community Road Possible Transformation Including diverse uses and giving multifunctionality to the street by concentrating communal areas on one side.

Gated Community Border to the public Current Condition: blind Wall, narrow green and sidewalk and car predominance



Gated Community Border to the public Transformation: new public space, possibility of small commercial use, complemented by slow mobility network.

PART 6

Evaluation and Reflection

| Network Analysis Before and After | Access to Public Transport Before and After | Access to Public Space Before and After | Strategy's Limitations and Defining Factors | Transitioning to a new typology of city | Transferability-Enabling public domain | Limitations and Possibilities for Further Research |

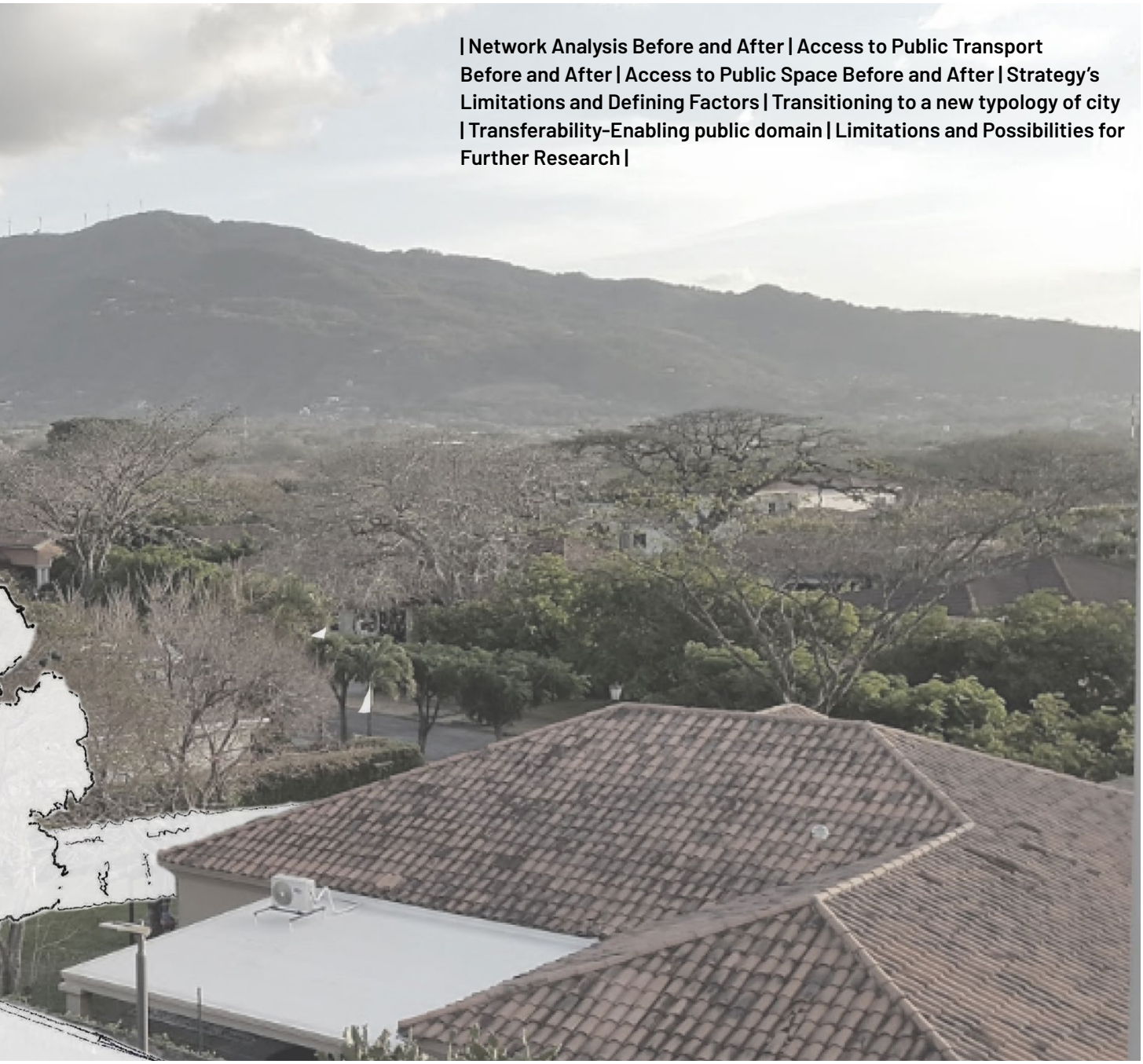


FIG. 38.3 Lindora gated development Source: Google Maps, image uploaded by Sonny Otoya 2017

39 – Evaluation

Network Analysis Before

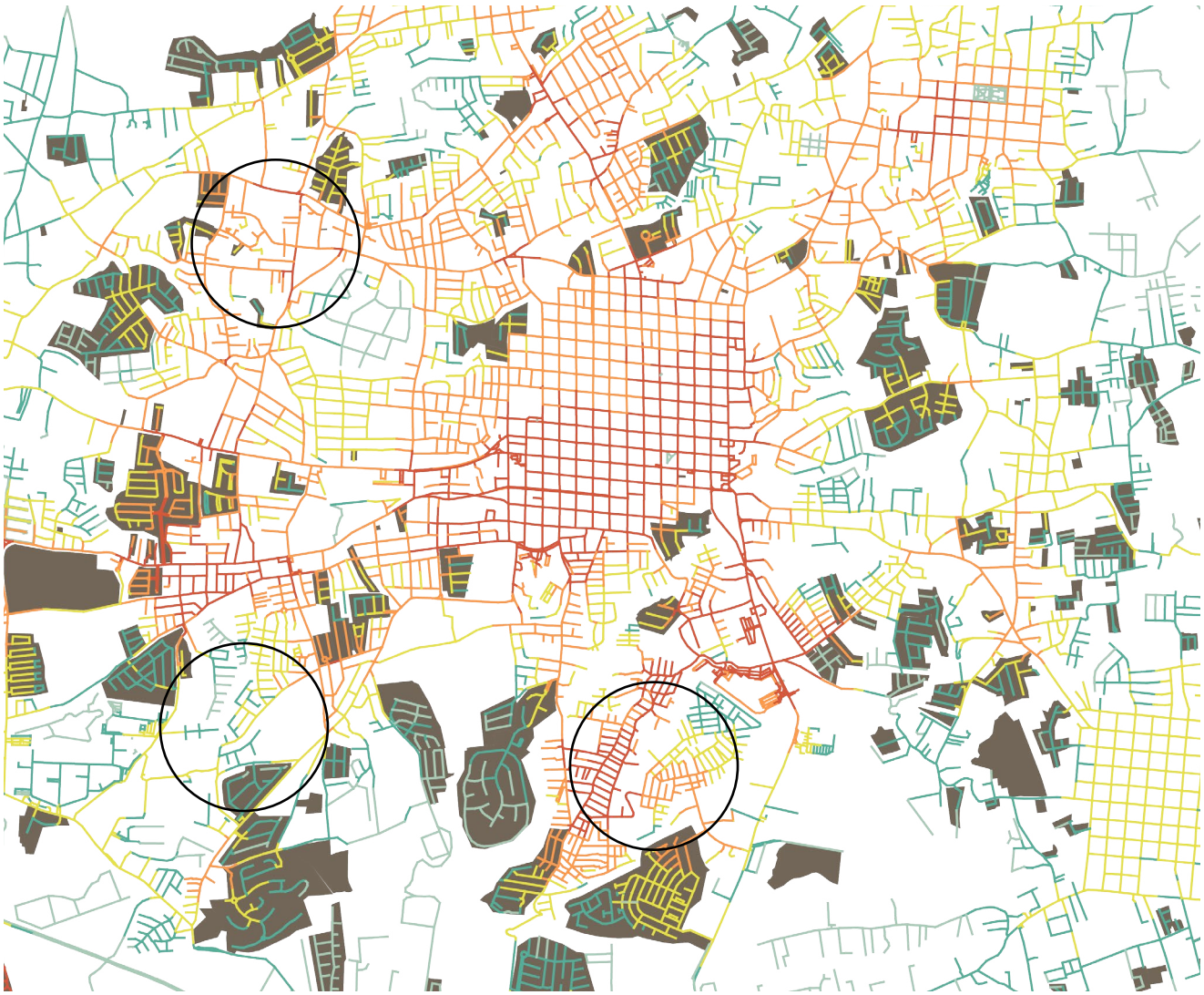
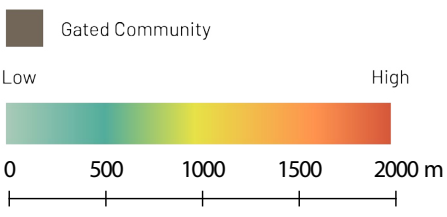


FIG. 38.4 Local Angular Integration analisis 800m before intervention Source: OSM (Roads), Author's Gated Mapping



As part of the evaluation process the initial network analyses were re -runned now including the proposal with the aim to evidence and measure the transformation of the area.

The first analysis to be conducted was the local angular integration at the local level given an 800m radius. It is clear from the images that there was no real major impact on the network, some small punctual changes can be deter-mined as highlighted with the circles but overall the network continues to behave in the same way. Therefore, it can be concluded that

Network Analysis After

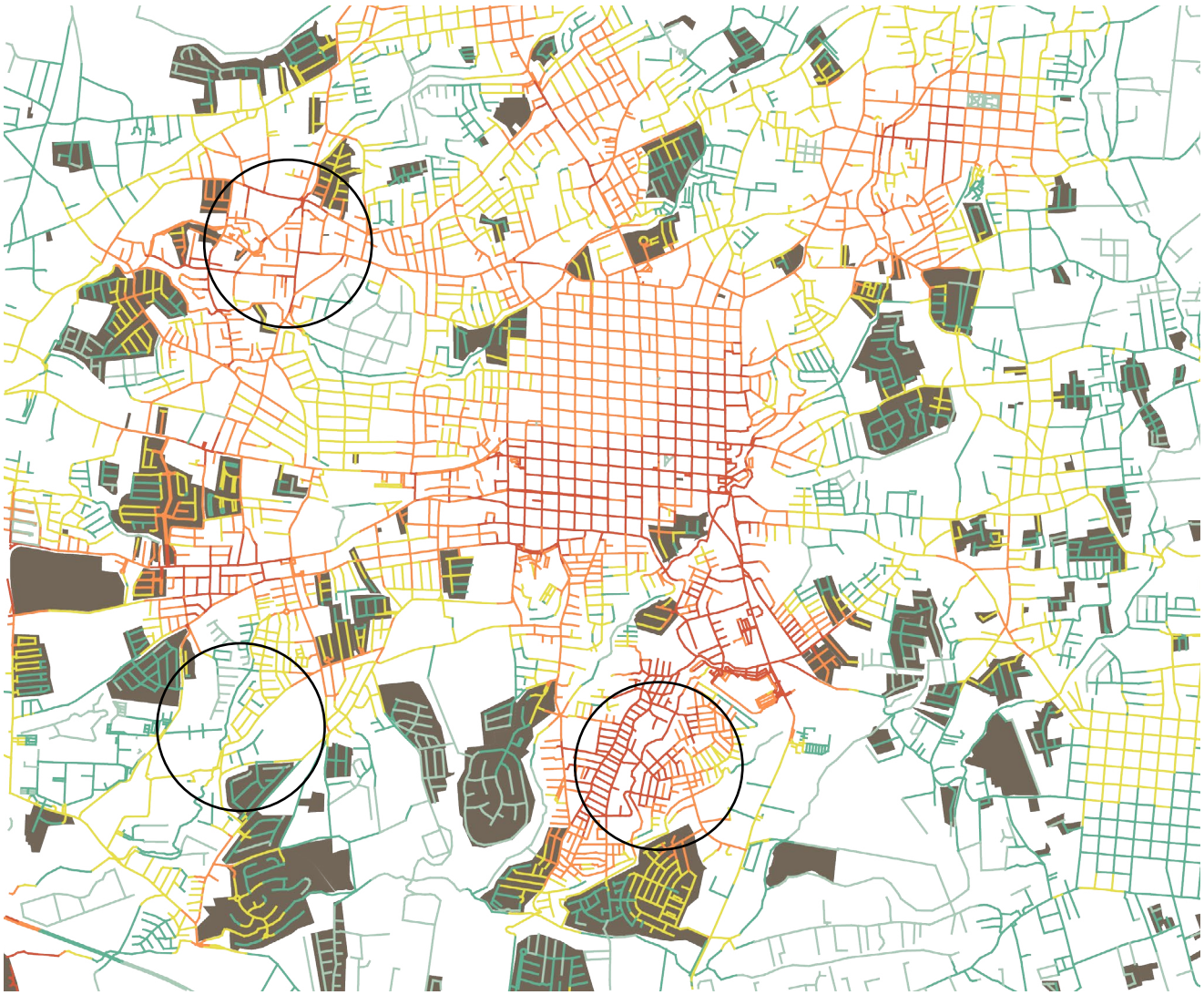


FIG. 39.1 Local Angular Integration analisis 800m with the new roads proposed Source: OSM (Roads), Author's Gated Mapping

though there is value for the residents of the area in the small interventions proposed, but in order to produce a stronger impact on the network at the city level more research should be carried out. In this way parcel alignment might provide a flexible strategy to reduce block size but might generate an increase topological depth by creating segments that do divide a block but do not allow for larger continuity of the network. In this way it might be a tool for small very immediate local decisions, but it remains to be determined if there is a need for a a significant in-crease of this type of interventions or if the need is to device other strategies that prioritize and allow for building of a denser network that will enable more through movement having a wider impact. However, the small improvements at the immediate level do suggest that an improvement in accessibility can generate new points of increase user flow which have the potential of becoming inner neighbourhood centralities as places of interaction, therefore enabling public domain.

Access to Public Transport Before

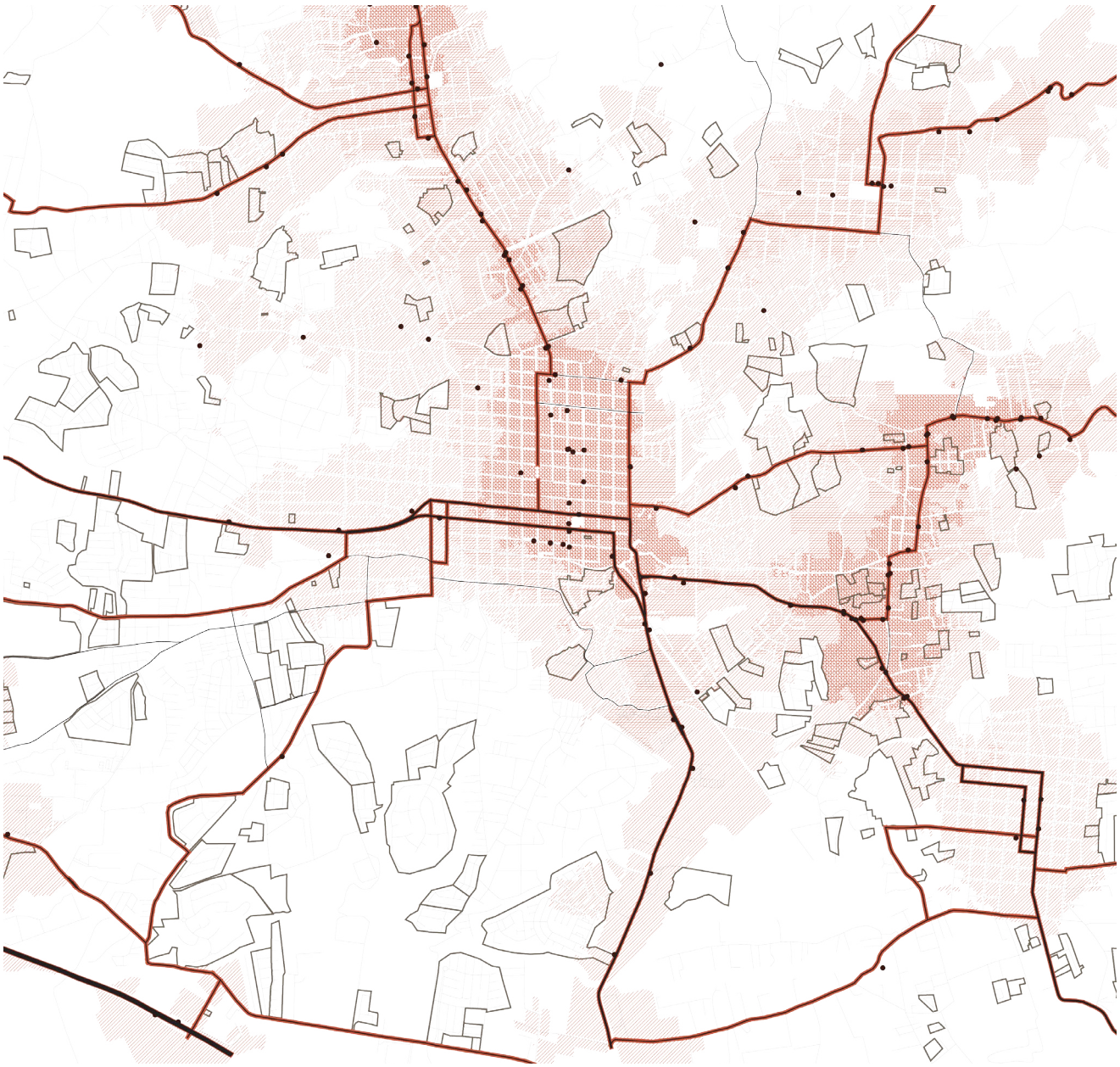


FIG. 39.2 Accessibility to public transport with in 800m at a city scale, before intervention Source: OSM (Roads, Water Ways, Function), Author's Gated Mapping using Google Earth

The public transport intervention does provide a significant improvement in the area, now the majority of the analysed area has accessibility to at least one bus stop with in 800m. There are still some unserved areas, but it can be concluded that the provision of a local transport system that is integrated into the regional system can allow for the improvement of accessibility. Additionally, major transfer areas can be identified and strengthened as points of

Access to Public Transport After

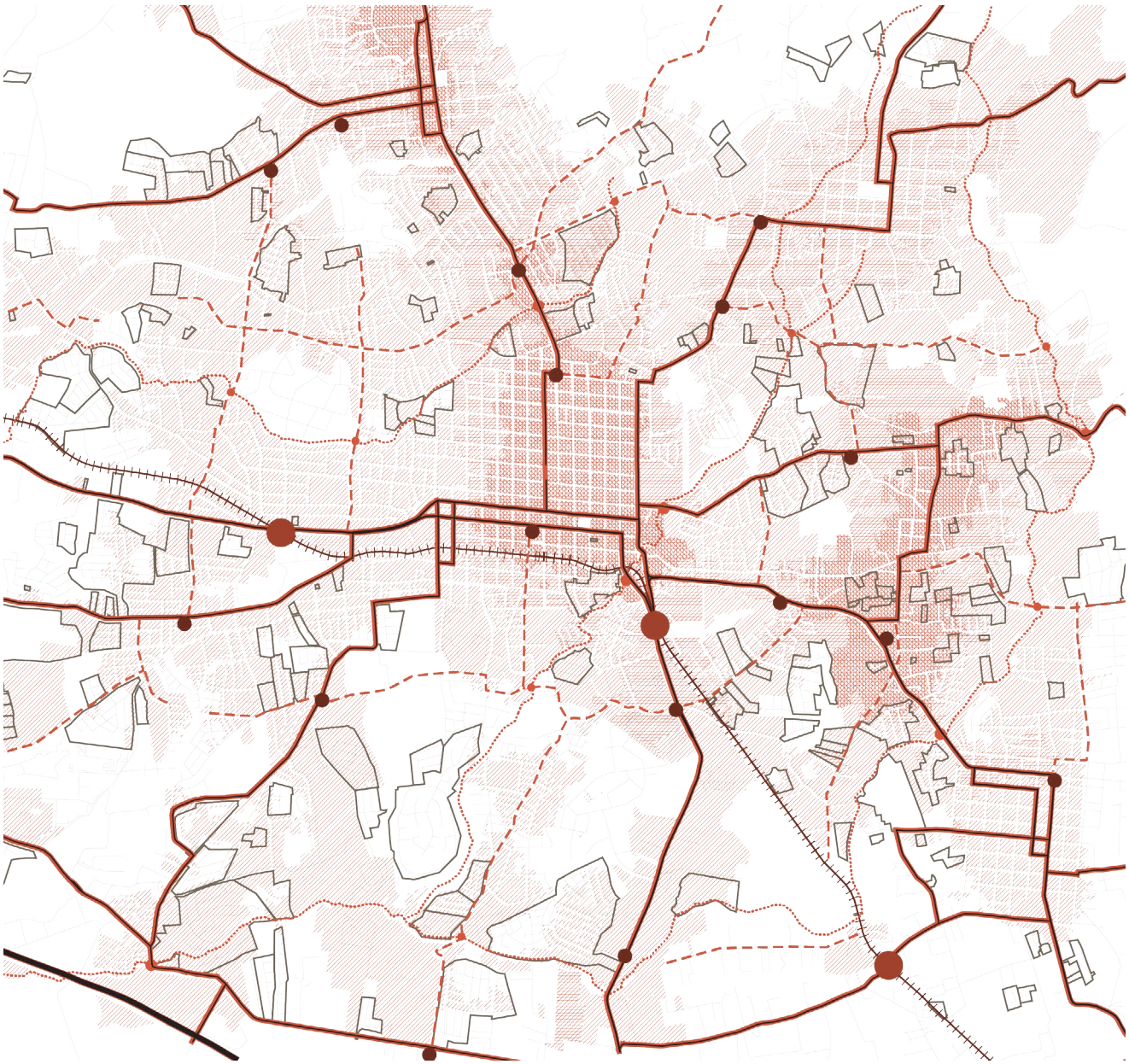


FIG. 39.3 Accessibility to public transport with in 800m at a city scale,with public transport intervention Source: OSM (Roads, Water Ways, Function), Author's Gated Mapping using Google Earth

interaction. In this way proving the initial premise of the need for a restructuring of the system and its correlation to activity nodes. While its potential for public domain cannot be tested through this analysis its success has been proven in cities like Medellin, Curitiba to site those culturally closer to the Costa Rican context but that still need to be understood by the private sector of the country.

Finally, it is important to highlight that the exact and technical analysis of route choice and system integration does require more technical and detailed research given that it was not the aim of this thesis to design such a complex net-work but to evidence its role in as an important space for urban services and provision of public domain.

Access to Public Spaces Before

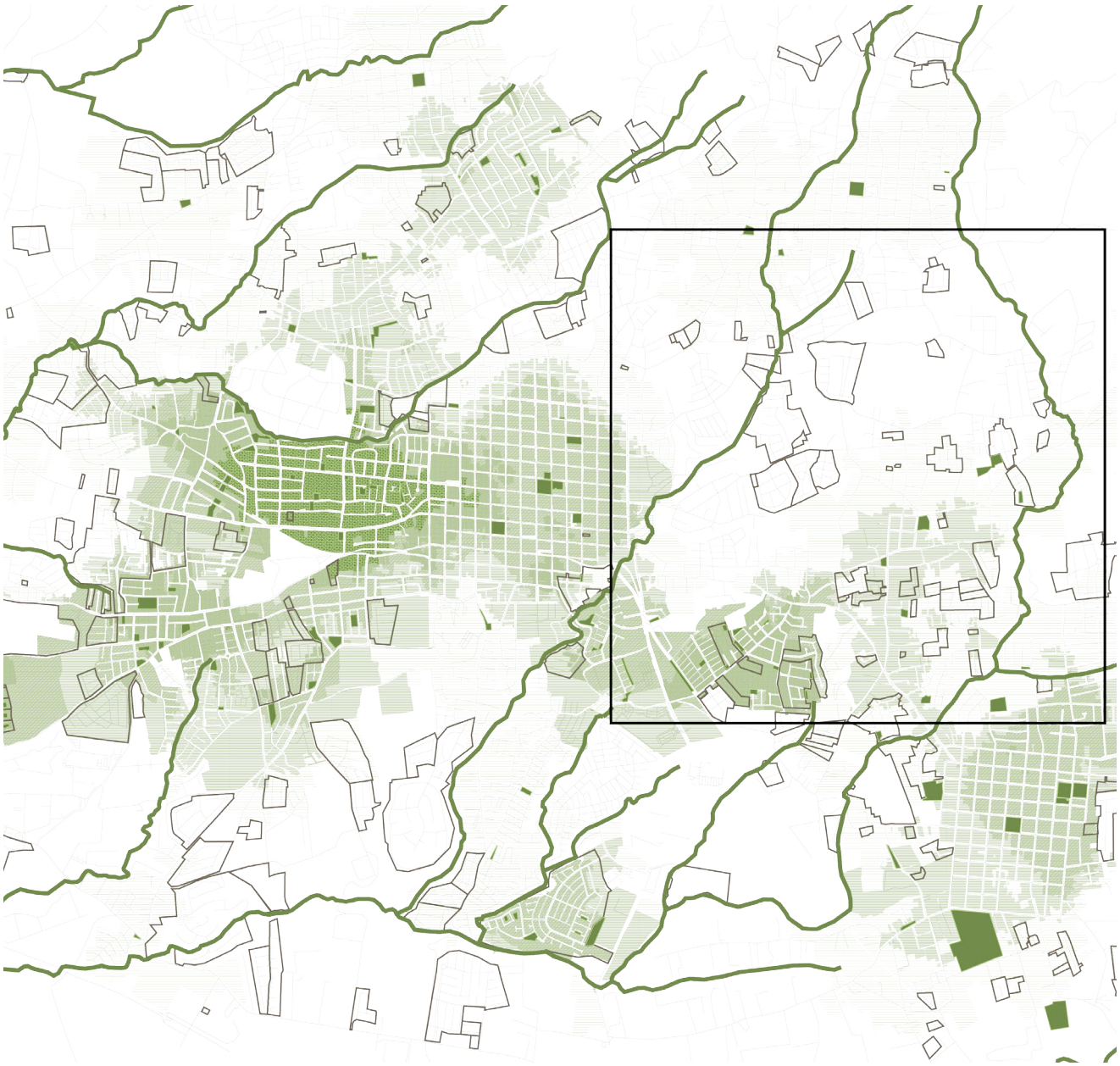


FIG. 39.4 Accessibility to public spaces within 800m at city scale before intervention , Source: OSM (Roads, Function), Author's Gated Mapping of gated communities using google earth

The accessibility to public spaces is the strategy that reflects more significant transformation. Aided by the rivers as corridors and complemented with different spaces of smaller character in the inside of the urban fabric it is clear that there is potential for the transformation of a significant amount of underutilized areas into spaces for interaction, thus providing and important backbone for the enhancement of public domain.

Access to Public Spaces After

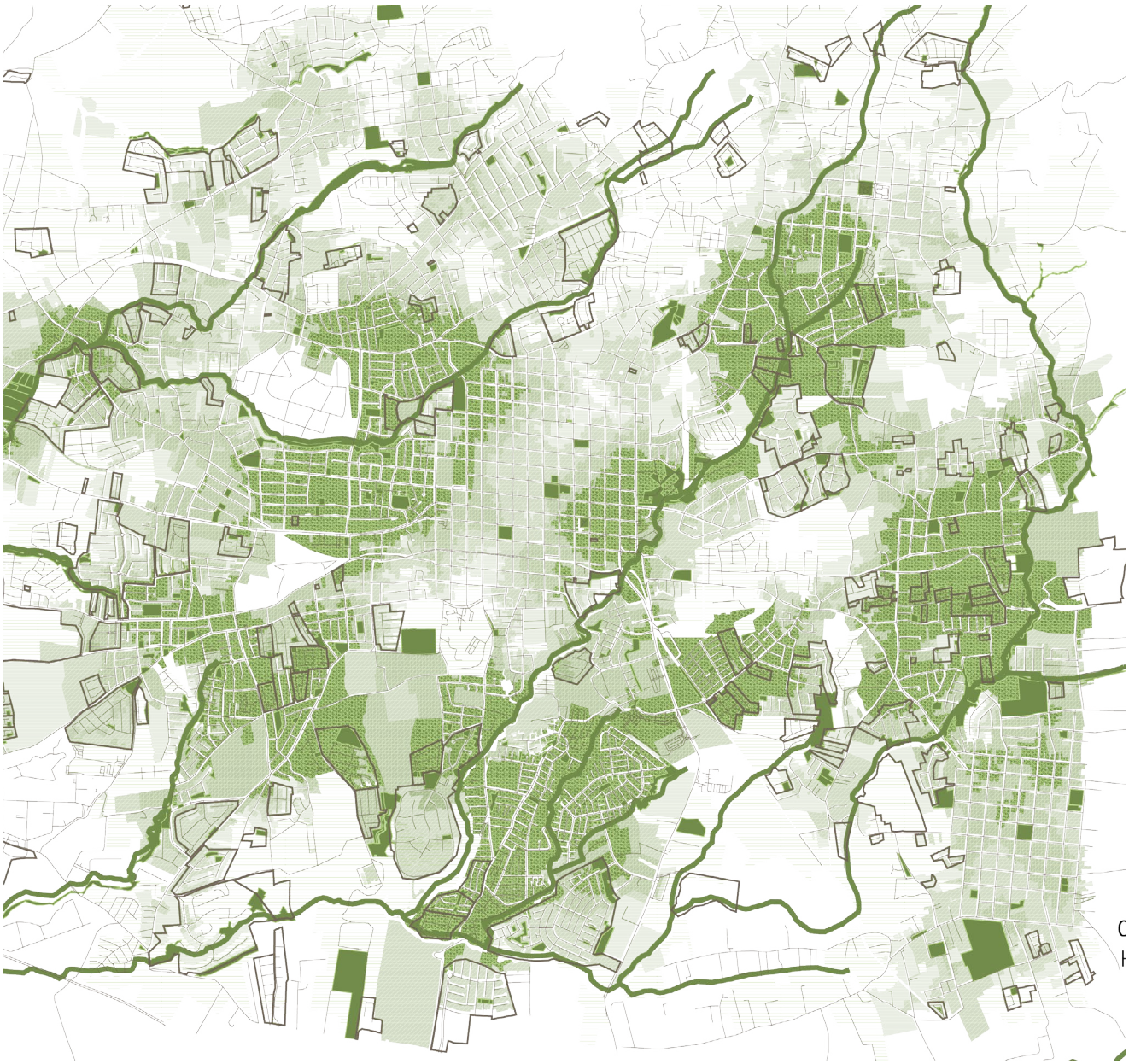


FIG. 39.5 Accessibility to public spaces within 800m at city scale, after the river corridor and creation of public spaces proposal. Source: OSM (Roads, Function), Author's Gated Mapping of gated communities using google earth

it is clear that the presented design provides with a wide array of public spaces that vary in size and location and there-fore can supply a diverse range of character and privacy. However, in reality it is possible that such a provision of public spaces will be considerably less. Given that the provision of such spaces can relay among different actors: river from the national public sector, and small communal parks between the municipality both with aid of private and civic socie-ty it is safe to say that there is a big potential of finding means and resources to do develops a considerable amount of these spaces.

Proximity

Size

Alignment

Available Space

FIG. 39.6 Main Morphological characteristics and their aid in the ease of transformation. Source: Author's own

Strategy's Limitations and Defining Factors

The network analyses carried out help determine the impact of the strategies in the territory and have been conducive to evidence that though some results might not be as noticeable as expected the underlying aim of the thesis of provision of areas for the interaction with others do seem to emerge, for the analysis with less evident transformation did present small areas were accessibility was increased. Though they will only impact the immediacy and not generate much difference at the city scale it is important to remember that the thesis does advocate towards the creation of an activity gradient that provides diverse types of activities according to the position on the network and publicness of the area. In this way this strategy does prove beneficial for the most private and inner necessities of a neighbourhood. At the same time, it is evidencing the need for a strategy that impacts a larger scale. However, as stated before the benefits for public domain do seem to stand therefore while further analyses on the network transformation and well as the technical support for the public transport system can be beneficial it was not the aim of the thesis to further develop these themes.

Upon the exploration of the strategies certain morphological characteristics and interrelations emerged which restrict and condition the ease of transformation. These main characteristics correspond to proximity, size, availability of space and alignment. As evidenced in the explorations on the strategies proximity aids in the resizing of the gated complexes, where adjoining clusters with street network in close alignment and recreational areas in proximity are easier to transform and resize than those who have other uses between them. Proximity between recreational areas inside the gates to the river also determines the possibility of modifying that border to allow for a more open public space. Similarly, size of the complexes conditions transformation as small complexes are usually densely built and have low availability of underutilized space which therefore corresponds to a more rigid structure restricting the capacity to transform, especially if they are not part of a cluster. At the same time bigger gated communities do have much more available space, parcel grain is also usually larger allowing for more ease in morphological transformation however, when this entails high income and more exclusive typologies social rigidity might play a role. Though these characteristics do play a role in the ease of transformation they do not directly relate to the impact such transformation will result in. The network analysis regarding the new roads proposed evidences this further. Alignment of parcel borders, reduced number of parcels involved, parcels of big enough and with available space to recede its property boundary a couple of meters certainly ease in the creation of new roads and subdivision of big blocks. However, this might not always bring the most benefits to the whole as in much cases such conditions are not present in areas were the continuity of the road network can be ensured. Therefore, in each design decision there must be a consideration between ease and the impact or benefits that it allows for.

The strategic explorations also evidenced the interdependence of some strategies for the success of the intervention. Making clear that all strategies work together in the creation of spaces for interaction and that no strategy alone can enable public domain. For example, the accessibility to public spaces analysis did conclude that there is much potential for the creation of such spaces in the urban context.

However, the creation of those spaces along does not enable public domain, if such spaces are created without densification and introduction of diverse uses they will remain underutilized for there is not enough critical mass to utilize them. This will have negative effects on the environment for if such spaces are not cared for they might remain abandoned giving the sense of insecurity and further enforcing the socio-spatial fragmentation. Therefore, implementation should come as a combination of strategies and not relying in one specific strategy for a particular circumstance.

Further challenges of implementation include acceptance as openness to change always encounters resistance and this has proven the case when in the past policies to improve the public transport or reduce the exclusion produced by gated complexes was discussed. In the first case the private companies that provide the service presented strong resistance, while in the second both developers and residents made their voices heard. Most stigma and preconceptions surround such topics, therefore major information campaigns should be introduced with the aim of informing and educating people through examples, the potentials of spaces for interaction with others and on the disadvantages of isolating gates and fences thus and breaking misconceptions. This would be an ongoing process of slow transformation, but one that is necessary if any change is to take place. Similarly, most of these strategies require political will power and the restructuring of regulations and planning documents that will also require a lengthy process of transformation and conciliation between involved actors.

A further challenge is presented if on the contrary the implementation process runs successfully acceptance is copious and such areas become highly attractive. In such cases the public sector needs to have a strong hand in restricting and guiding development for the risk, further urban expansion allowing for the excessive construction in certain areas can have negative effects as the loss of the ecological value of the rivers and of gentrification of specific areas. Therefore, it would be imperative not to allow for market forces to solely direct development but to stress the symbiotic relationship between strategies and that these interactions as well as the ecological values need to be guarded for the benefit of all actors, which is in itself a very strenuous task.

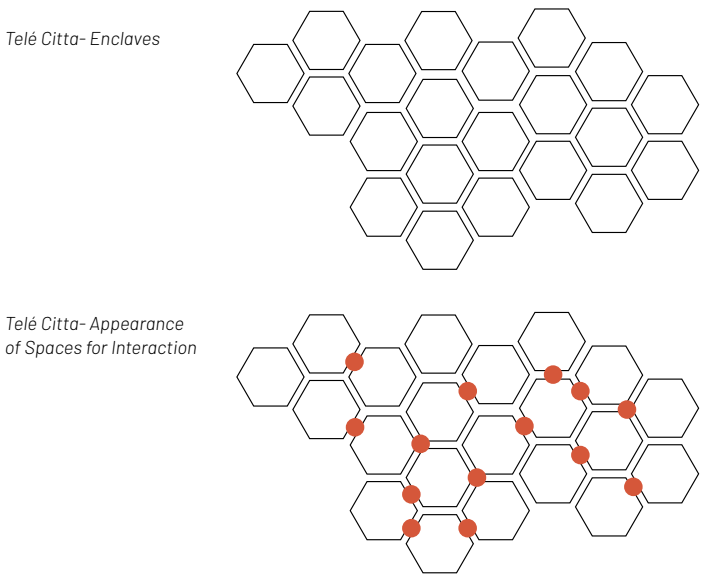


FIG. 39.7 From Telé Citta to Ligó Citta Source: Author's own

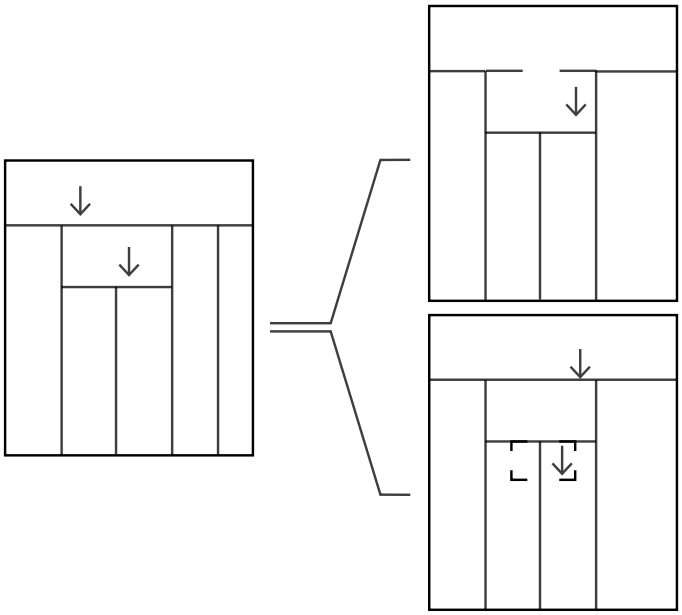


FIG. 39.8 Territorial hierarchical transformations through the introduction of new shared territory. Source: Author's adaptation of Habraken's territorial hierarchy transformations.

40 – Reflection

Transitioning to a new typology of city

Following Grahame Shane's evolution of the city from Archi Cittá, Cine Cittá to Tele Cittá a new transition stage can be envisioned. One where the Tele Cittá's configuration in thematic subcentres of privatization mega malls and gated communities is transformed into one that opens such areas to interaction. This transitioning stage will culminate in a new city form preliminarily called 'Ligó Cittá' meaning proximity. The name is derived following Grahame Shane's name conception from latin, where 'archi' means I begin lead, rule; 'cine' means to move and 'tele' means distance. It does not portray the disappearance of the thematic bubbles of the Tele Cittá but introduces a spatial link that breaks the isolated enclave formation creating a new proximity that foments interaction (Fig. 40.7). No longer can people easily choose which areas to avoid by moving from one enclave to another of their own preferences. Instead the movement between different enclaves will have to be mediated by a neutral linking space, one where public domain is present and the other cannot be denied.

Transferability - Enabling public domain

The thesis deals with the re-configuration of public spaces with the aim of developing public domain in areas dominated by gated communities under the hypothesis that enhancing public domain can help address the socio-spatial fragmentation of these complexes and improve their relation to the urban fabric. Therefore, it serves as a testing bed for what is spatially possible and the implications this can have for different actors. Consequently, determines through the process of theoretical studies, context analysis and research by design that by looking more carefully at the urban morphological configuration (block size, road network, borders, etc), and the mechanisms of control and privacy levels that a gradient of public spaces can be created in which they would act as buffer spaces of interaction. Thus, transforming the border from a fixed perimeter wall into a transitioning space in this way enabling public domain. In this way shifting from the problem of the conflict and denial between the public and the private to the solution in the possibility of creating diverse spatial spaces of interaction. Therefore, the interactions amongst the configuration of neutral spaces (Rapoport, 1977) territorial hierarchical levels (Habraken, 2000) that attract users from neighbouring areas and generate interaction become critical (Fig. 40.8). Through morphological and spatial changes, the way in which people occupy space can be transformed affecting their perception of the environment and daily participation in urban life having then an effect in the quality of life of inhabitants.

Moreover, the thesis identifies nine strategies for the adaptation of space to generate public domain. The strategies work at three different scales interrelate

amongst each other generating synergies with in them. In this way each strategy contains different potentials and restrictions for public domain. For example, rivers present high potential for public domain, they are already public land that is underutilized, they connect diverse areas of the city including gated community clusters, have adjacent parcels that can easily be transformed into areas for the public. From a morphological point of view, they require little transformation with the major restriction being accessibility. However, from the environmental behaviour, therefore use and control, they present a challenge. The undertaking of such a network relays on active and constant use. Underutilization of such a network can lead to insecurity and the generation of diverse unwanted forms of appropriation as are informal settlements or illicit activities. This strategy cannot work on its own, it requires the implementation of parallel multifunctionality and densification strategies to provide the necessary users and activities. Such assertions can be carried out for all proposed strategies. Therefore, the research develops an operationalizes a system of morphological strategies that modify available space to generate spaces for interaction. It does infer that proximity and adjacency become key factors for the application of some of the strategies.

Given that the thesis is not a master plan but a set of strategies that are tested through design in a specific site it allows for transferability. In this way, while the design is predominantly contextualized the strategies and principles they enforced can be transferred to other smaller cities in the country which are undergoing similar tendencies in the appearance of gated communities. Transferability can also applied to similar contexts as Latin American areas that suffer from the problematic and present similar gated typologies. However, its transferability to more distant and different socio-cultural contexts might be limited, as the morphological character of the gates and social requirements differ. Therefore, the aim or the strategy might remain but the methods and physical actions it entails might require a completely different approach. For example, in the United States gated communities are characterized by larger complexes that serve more families in the same low density but in this case ampler green areas and stronger and wider road network that further enhances the spatial fragmentation amongst gated complexes. In this regard there is a similar need for densification and diversification of uses as in Costa Rica, however the character of the border and size of the complexes is completely different. In this way though, the aim of activating the border strategy might remain the spatial solution for it will be very different given that the United States context will have to deal with the additional complexity of the street width and the separation it enforces. Likewise, the resizing of the gates might not require the joining of several developments but on the contrary the subdivision of such that might allow for the introduction of further uses, and active areas.

Limitations and Possibilities for further research

Clearly the research is not without its challenges and limitations. What is put forth in this thesis is a hypothesis on how the reconfiguration of public space can improve social and spatial integration coming from a morphological and environmental behaviour approach. This is done with the understanding that social and cultural context do include further levels of complexity. Complementary social-cultural studies could help strengthen the study for it is understood that the mere provision

of quality space for interaction will not actually make it happen. Therefore, social acceptance of the proposal is one of the major shortcomings of the research for there was no possibility to carry out field work, presenting a problem in the linking directly to the inhabitants of the region. An attempt was made by carrying out skype interviews with different key actors and an online Facebook poll using public groups that could reach a wider population sample. However, actual agreement on interviews with the diverse actors was low including only two representatives from each sector and the Facebook poll was never carried out as it is still pending the groups administrator's acceptance for publishing. Therefore, the author's own knowledge and firs hand experience of the context did provide some of the insight but is undoubtedly not enough.

Governance presents an important field for further research. Though the study puts forward recommendations on the type of modifications that could be beneficial the transformation of these into actual planning instruments and the possible methods for financing such interventions needs to be further studied and would aid further the transferability of the knowledge gained. Furthermore, a closer look upon the threat of gentrification after the implementation of strategies is a relevant aspect to study further.

Upon reflection the thesis does rely predominantly on morphological studies and could benefit from further research on the network, was well as a look into the concept of resilience. Although questions regarding social inequalities are not the centre of this study, the approach proposed, by referring to public domain as the interaction with the other, recognizes as a minimum requirement for urban spaces to at least to allow for different groups to recognize each other. A notion that can guide further research on the relation between space and interaction between different social groups.

Finally, the topics discussed in this thesis hopefully present a path for re-appropriation of the city inside and outside the gated condition.

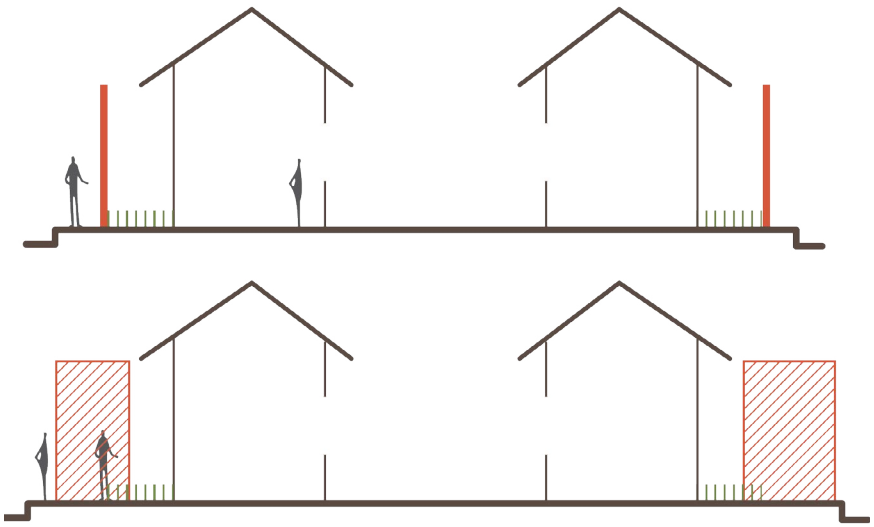


FIG. 40.1 The new areas of interaction through the modification of borders' strong linear character to the creation of transition spaces as borders. Source: Author's own

41 – References:

Books and Articles

Adhya, A. (2015). Exploring the Public Realm: Understanding Multiple Ways of Publicness in Urban America.

Arce, M. (2015, 06 2). Consideraciones sobre el reglamento de urbanizaciones. La Nación. Retrieved 05 13, 2018, from https://www.nacion.com/opinion/foros/mario-arce-consideraciones-sobre-el-reglamento-de-urbanizaciones/PKWXCAI6A5ELDKKCXLPFZJEXFM/story/

Berg, A. E., Hertig, T., & Staats, H. (2007). Preference for Nature in Urbanized Societies: Stress, Restoration, adn the Pursuit of Sustainability. Journal of Social Issues, 63(1), 79-96.

Blakely, E., & Snyder, M. G. (1997). Fortress America: Gated Communities in the United States. Washington DC: The Brookings Institution.

Delanty, G. (2003). Community. Abigdon Oxon: Routledge.

Dorst, M. v. (2005). Privacy Zoning . In P. Turner, & E. Davenport (Eds.), Spaces, Spatiality and Technology (pp. 97-116). Printed in the Netherlands: Springer.

Grahame Shane, D. (2005). Recombinant Urbanism: Conceptual Modeling in Architecture, Urban Design and City Theory. Great Britain: John Wiley and Sons Ltd.

Habraken, N. (2000). The Structure of the Ordinary: Form and Control in the Built Form. Cambridge: MIT Press.

Hajer, M., & Reijndorp, A. (2001). In Search of New Public Domain: Analysis and Strategy. Rotterdam: NAI Publishers.

Henfling, I. (2017, May 15). American European. Retrieved March 22, 2018, from https://www.american-european.net/costa-rica-real-estate-blog/costa-rica-real-estate-topics/do-you-have-to-live-with-gates-walls-and-fences-in-costa-rica/

Hillier, B., & Hanson, J. (1984). The Social Logic of Space. London: Cambridge University Press.

Hollings, C. (2001). Understanding the Complexity of Economic, Ecological, and Social Systems. Ecosystems, 390-406.

Howley, P., Scott, M., & Redmond, D. (2009). Sustainability versus Liveability: an investigation of neighbourhood satisfaction. Journal of Environmental Planning and Management, 52(6), 847-864.

Jacobs, J. (1961). The Death and Life of Great American Cities. New York: Random House.

Jimenez, H. (Director). (2004). Doble Llave y Cadena [Motion Picture].

Jiménez, R. A. (2016, 08 8). Urbe@21. Retrieved 05 13, 2018, from https://urbe21blog.wordpress.com/2016/08/08/impacto-en-la-ciudad-de-las-comunidades-cerradas/

Karssenberg, H., Laven, J., Glaser, M., & Hoff, M. v. (Eds.). (2016). The City at eye level. Delft, Netherlands: Eburon.

Lynch, K. (1960). The Image of the City. Cambridge: The Technology Press & Harvard University Press.

Madanipour, A. (1999). Why are the design and development of public spaces significant for cities? Environment and PLanning By Planning and Design, 879-891.

Madanipour, A. (2003). Public and Private Spaces of the City. London: Routledge.

Meulder, B. D., Schreurs, J., Cock, A., & Notteboom, B. (1999). Patching up the Belgian Urban Landscape. OASE, 78-113.

Moudon, A. V. (1986). Part Four: Lessons in City and Building Design. In Built for Change (pp. 133-189). Massachusetts: MIT Press.

Rapoport, A. (1977). The Human Aspects of Urban Form: Towards a Man-Environment Approach to Urban Form and Design. Oxford: Pergamin Press Ltd.

Read, S. (2009). Revisiting Public-private Gradients in Neighborhoods: Towards a 'Space of Action'. In D. Koch, L. Marcus, & J. Steen (Ed.), Proceedings of the 7th International Space Syntax Symposium, (pp. 091:1-091:9). Stockholm.

Rodríguez Chumillas, I. (2006). Vivienda Social Latinoamericana: La Clonación del paisaje de la exclusión. ACE:Architecture, City and Environment, 20-55.

Schmidt, S., Nemeth, J., & Botsford, E. (2011). The evolution of privately owned public spaces in New York City. URBAN DESIGN International, 270-284.

Secchi, B. (2013). La Ciudad de los Ricos y la Ciudad de los Pobres. (F. L. Teresa Arenillas Parra, Trans.) Madrid: Catarate.

Sennett, R. (1974). The Fall of Public Man. In R. Sennett, The Rise of Public Man (pp. Chap. 1,11,12,13,14). London, England: Penguin Books.

Shepard, M. (Ed.). (2011). Sentient City. Cambridge: MIT Press.

Susen, S. (2011). Critical Notes on Habermas's Theory of the Public Space. City, University of London Institutional Repository, 37-62.

Laws and Government Reports

Asamblea Legislativa Costa Rica. (1968). LE-058 Ley de Planificación Urbana. San José: N°. 4240.

Casa Presidencial; MIVAH; MEIC; TUR. (2005). LE-134 Reglamento a la Ley Reguladora Propiedad Condominio. San José: Decreto N°32303-MIVAH-MEIC-TUR.

CNPU: Consejo Ncional de Planificación Urbana. (2009). PRUGAM 2008-2030 Tomo II Propuesta. MIVAH, MOPT, MINAET, MIDEPLAN, MINSALUD, UNVU, IFAM, CNFL, AYA. San Jose: MIVAH.

Instituto Nacional de Vivienda y Urbanismo. (2011). Plan de Ordenamiento Territorial para la GAM. San Jose: INVU.

INVU. (1982). LE-039 Reglamento de Fraccionamientos y Urbanizaciones. San José: Sesión N°3391.

Martinez, T. (2014). Vigesimprimer informe estado de la nacion en desarrollo humano sostenible: threinta años de metamorfosis urbana territorial del valle central. San Jose: Estado de la Nacion.

PRUGAM. (2007). Análisis del Crecimiento Urbano de la Gran Area Metropolitana de Costa Rica. San Jose: Imprenta Nacional.

Interviews

Brenes, E. (2018, 05 03). Master in Urban Planning. (M. Gazel, Interviewer)

Castillo, A. (2018, 05 15). Arch. (M. Gazel, Interviewer)

Guzman, R. (2018, 05 18). MSc Microbiology. (M. Gazel, Interviewer)

Jiménez, R. A. (2018, 05 17). Strategic Planning Master. (M. Gazel, Interviewer)

Mezger, T. (2018, 05 03). MSc Urbanism. (M. Gazel, Interviewer)

Trejos, M. (2018, 05 02). MSc Urban Design. (M. Gazel, Interviewer)

Data Sources

INEC - National Institute of Statistics and Census (www.inec.go.cr), 2016

MH - Fiscal Ministry (hacienda.go.cr), 2018

MIVAH - Ministry of Housing and Human Settlements (www.mivah.go.cr), 2018

SNIT- National Infrastructure of Spatial Data of Costa Rica (www.snitcr.go.cr), 2018

OUGAM - Urban Observatory from Costarican University (ougam.ucr.ac.cr), 2018

Open Street Maps; extracted from BBBike.org, 2018

PART 7

Anex

|Statistics Maps | PRUGAM maps |

42 – Statistics Maps

FIG. 42.1 Percentage of Young Population. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 42.2 Percentage of Elderly Population. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

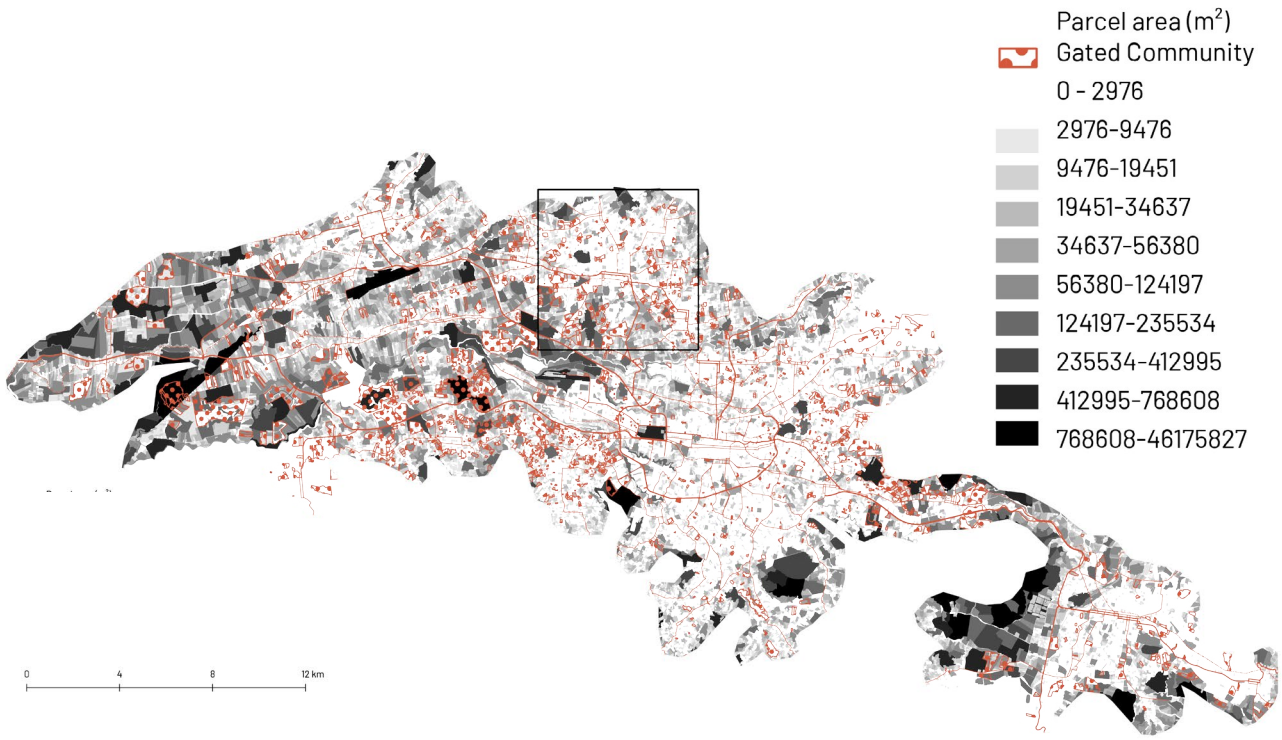


FIG. 42.3 Parcel Area. Source: OSM-Roads, Ministerio de Hacienda, author's mapping of gated communities using Google Earth

FIG. 42.4 Percentage of Car Ownership. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 42.6 Percentage of People who work at the same municipality. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 42.5 Percentage People who work in several municipalities. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 42.7 Total number of houses. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 42.8 Number of Ocupated houses. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 42.10 Number of vacant houses. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 42.9 Percentage of vacant houses that are available for use. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 42.11 Housing Deficit Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

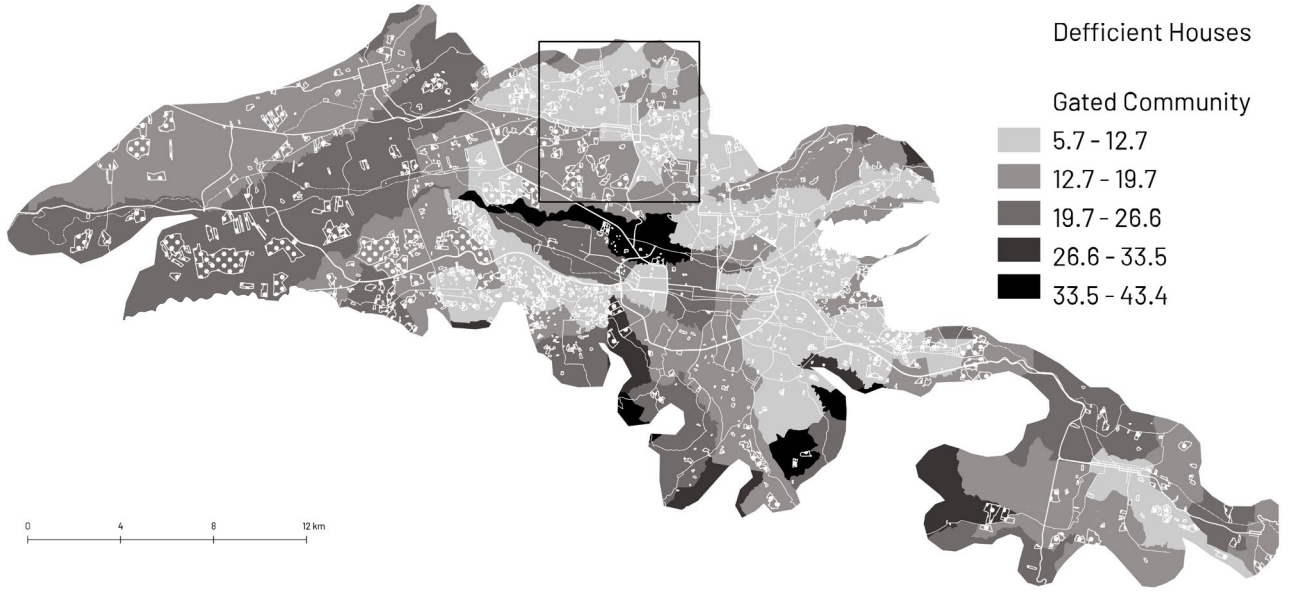


FIG. 42.12 Percentage of houses with at least one defficiency in services. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 42.14 Percentage of House Ownership. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

FIG. 42.13 Percentage of Rented Houses. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

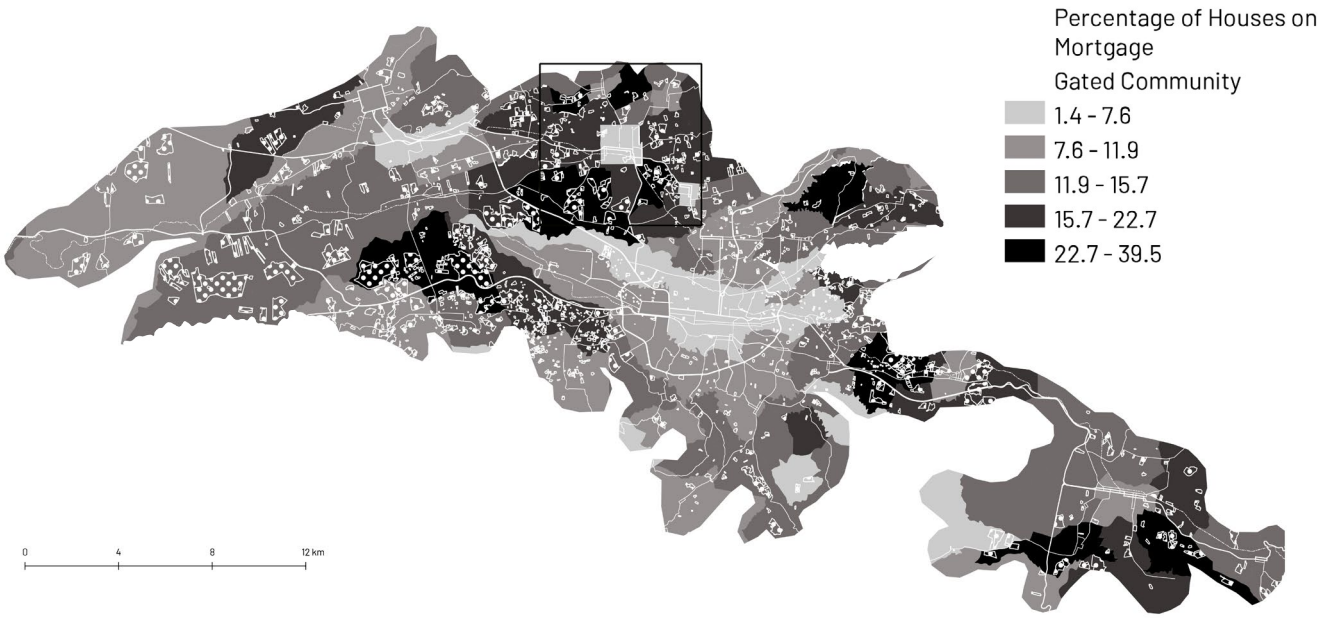


FIG. 42.15 Percentage of Houses owned through bank loan. Source: OSM-Roads, INEC 2016, author's mapping of gated communities using Google Earth

43 – PRUGAM Maps

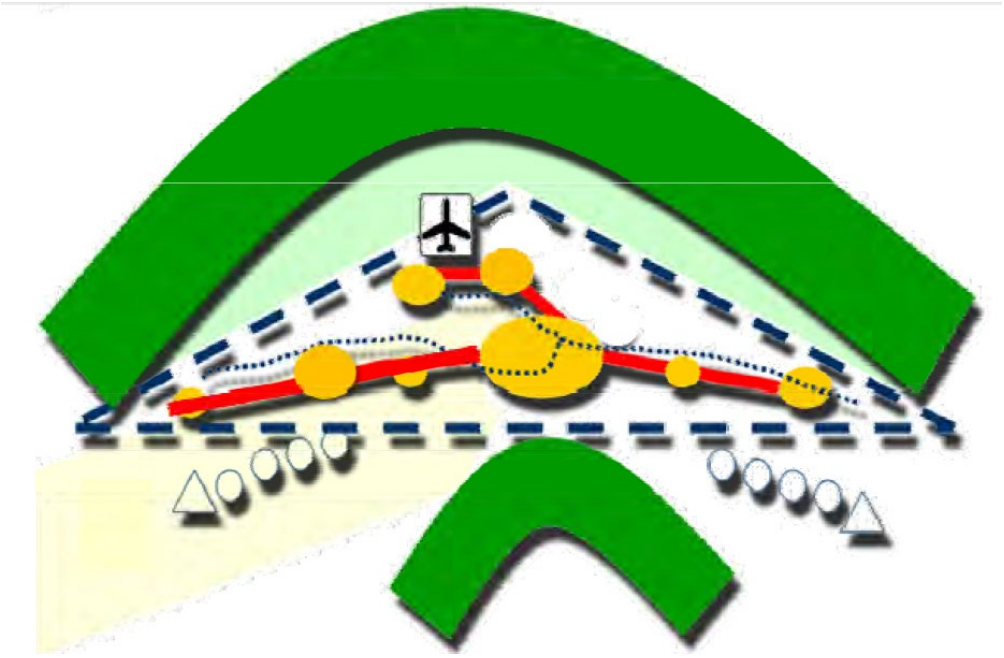


FIG. 43.1 Conceptual Diagram of urban model proposed. Source: PRUGAM, 2006

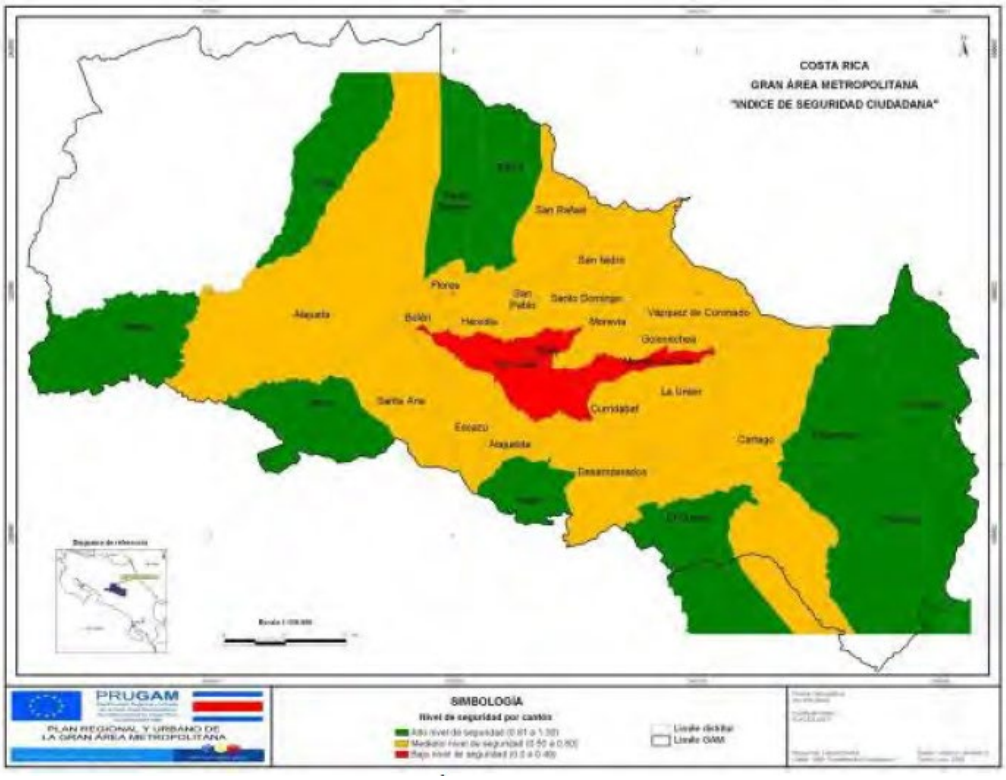


FIG. 43.2 Security Index Map Source: PRUGAM, 2006

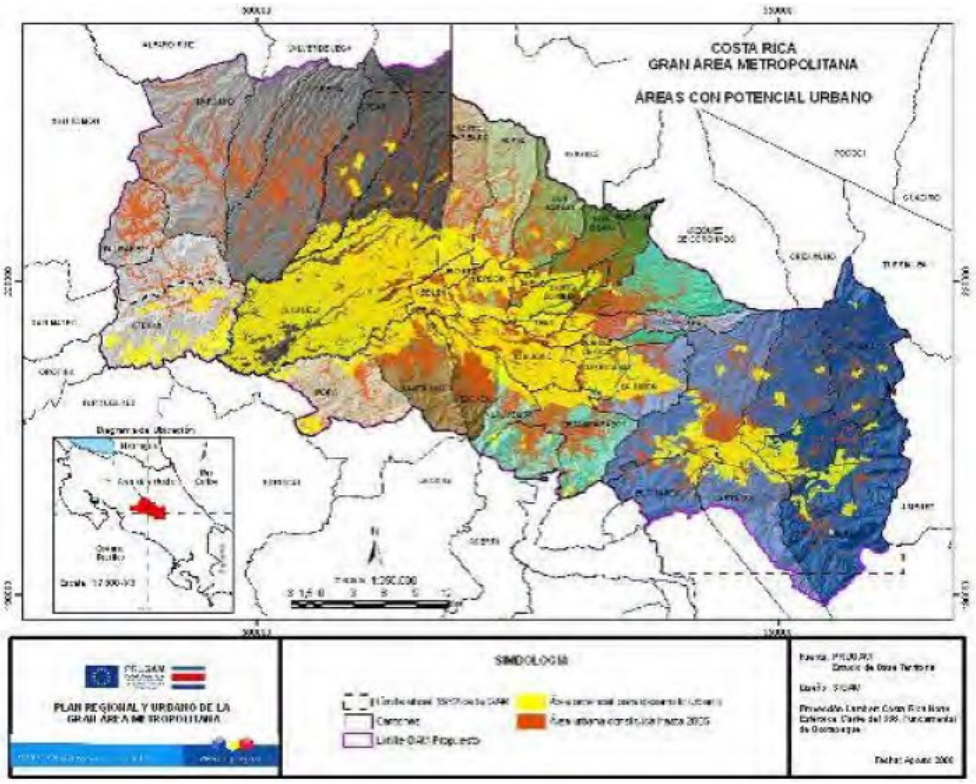


FIG. 43.3 Urban Areas map (in yellow) Source: PRUGAM, 2006

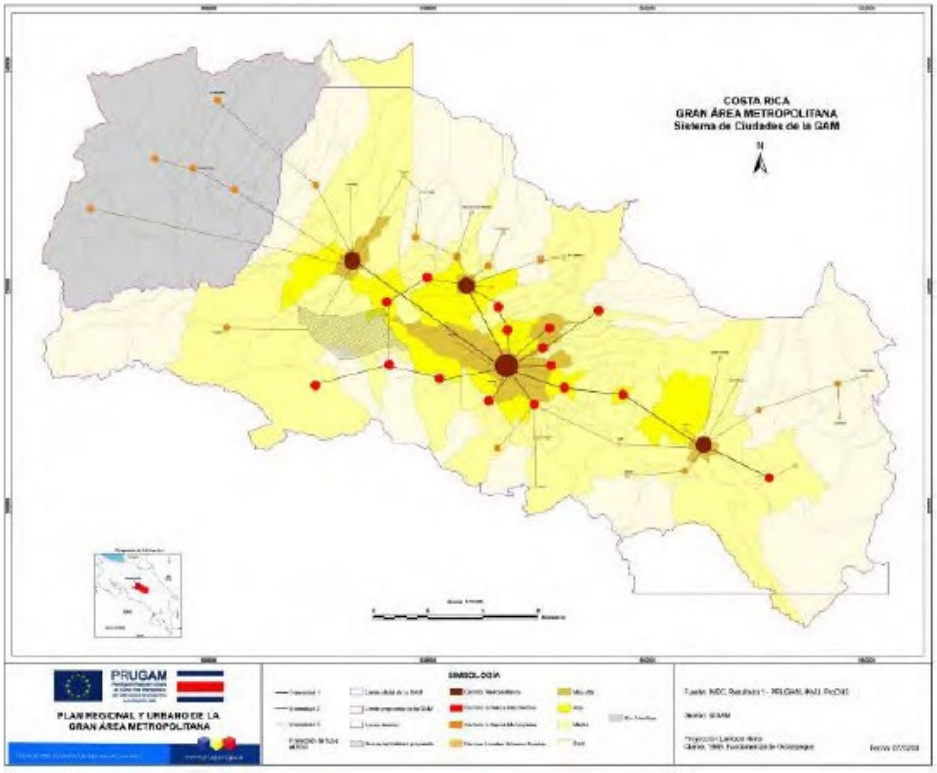


FIG. 43.4 Urban Centres Hierarchy Map Source: PRUGAM, 2006

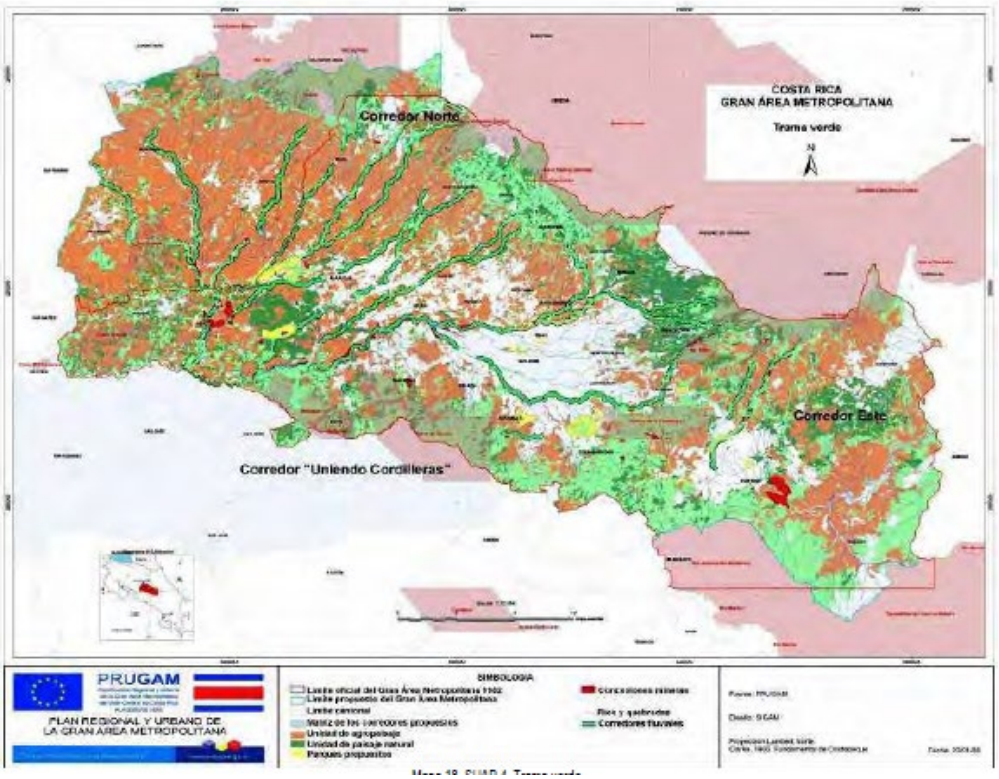


FIG. 43.5 Green Areas Map
Source: PRUGAM, 2006

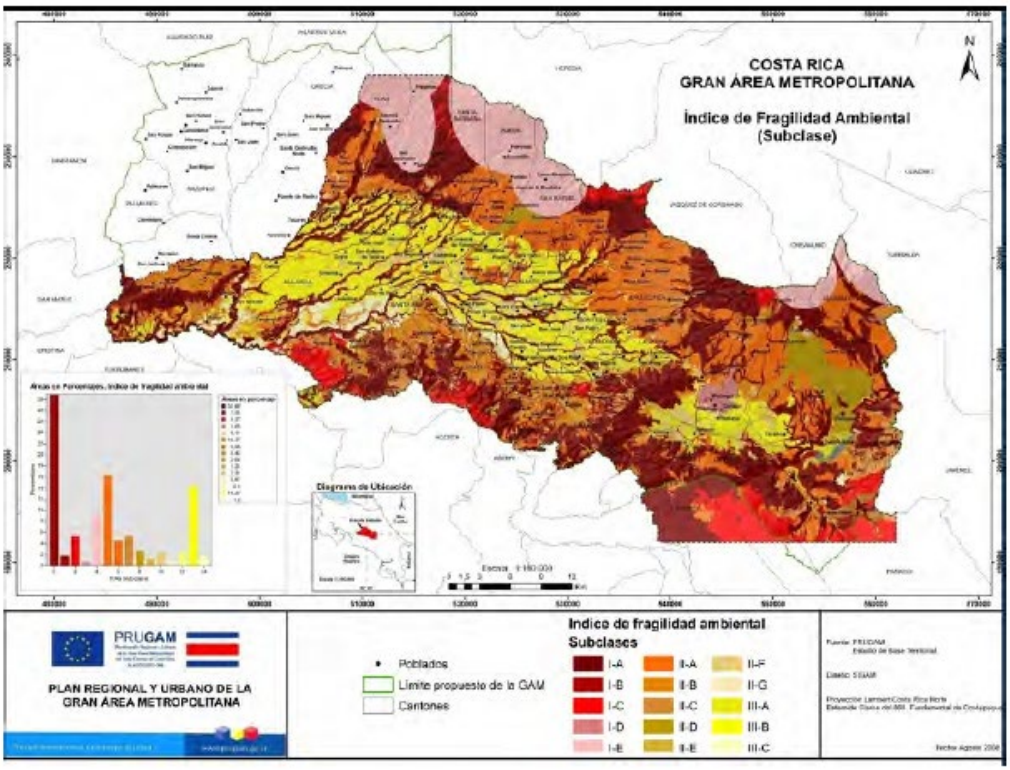


FIG. 43.6 Fragility Index Map
Source: PRUGAM, 2006

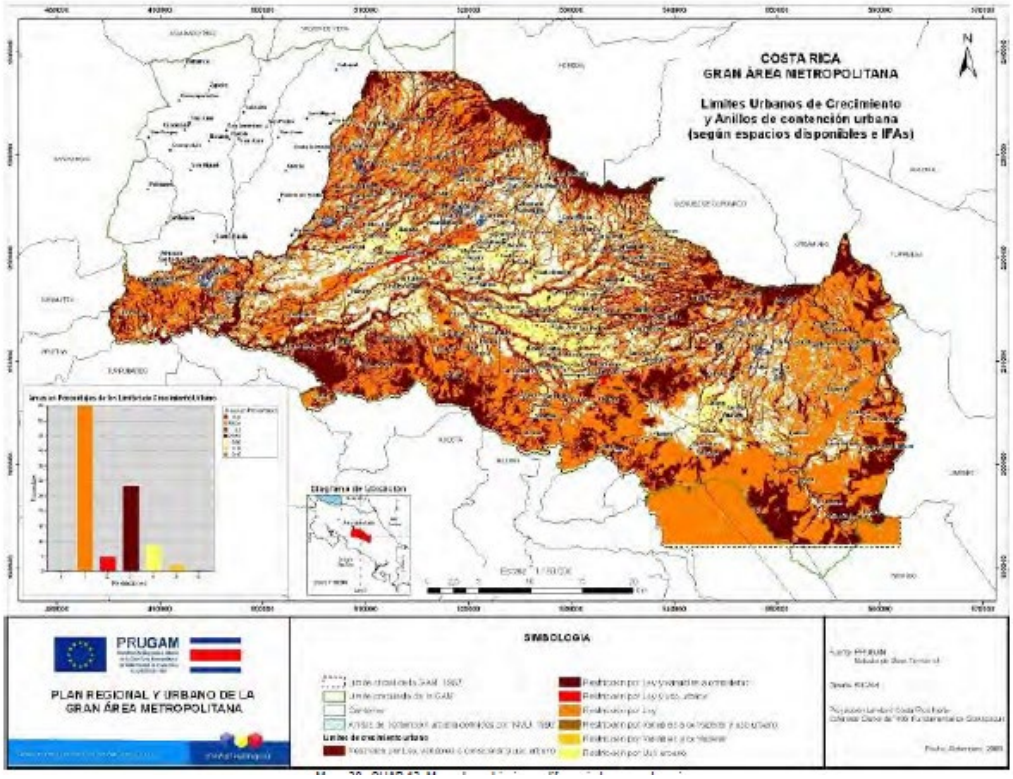


FIG. 43.7 Urban Restrictions
Map Source: PRUGAM, 2006

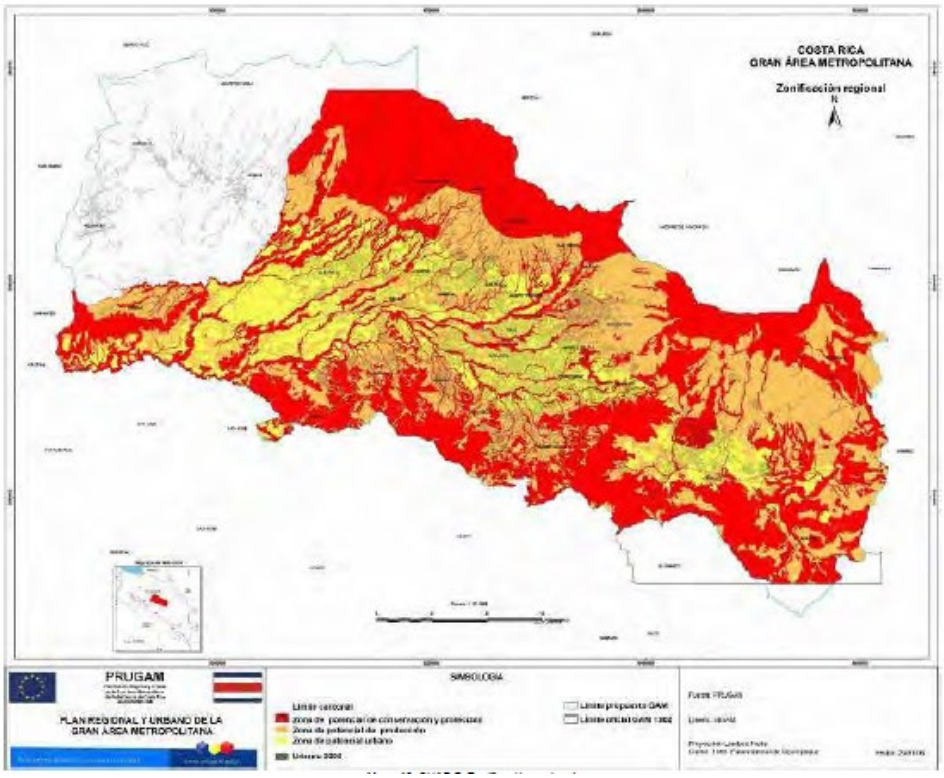


FIG. 43.8 Regional Zoning
Map Source: PRUGAM, 2006

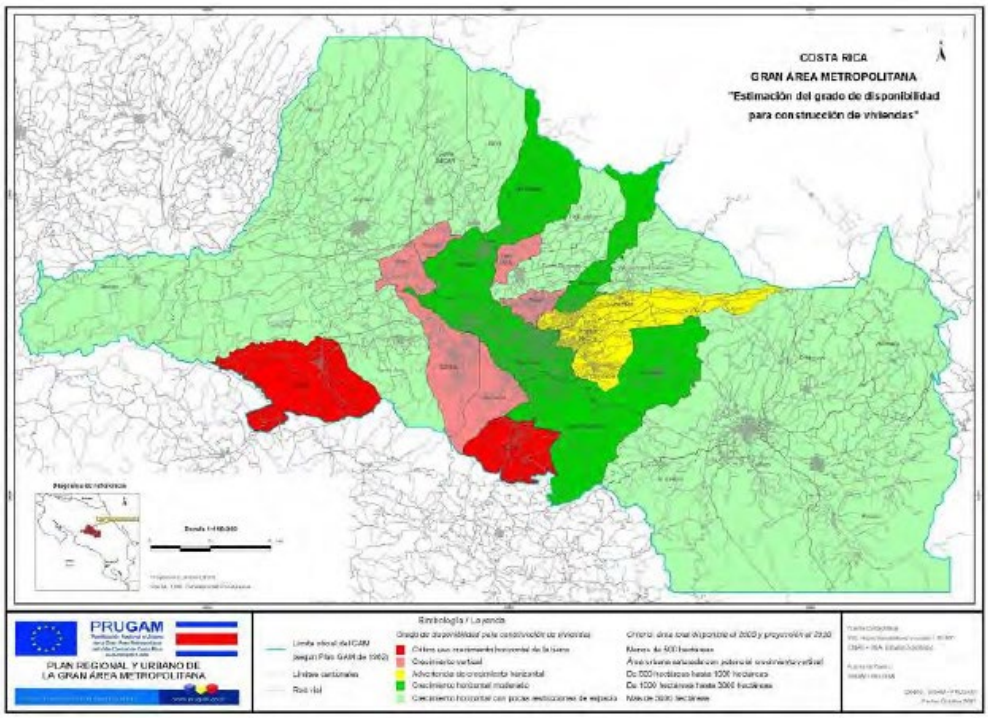


FIG. 43.9 Map of available Land for Densification
Source: PRUGAM, 2006

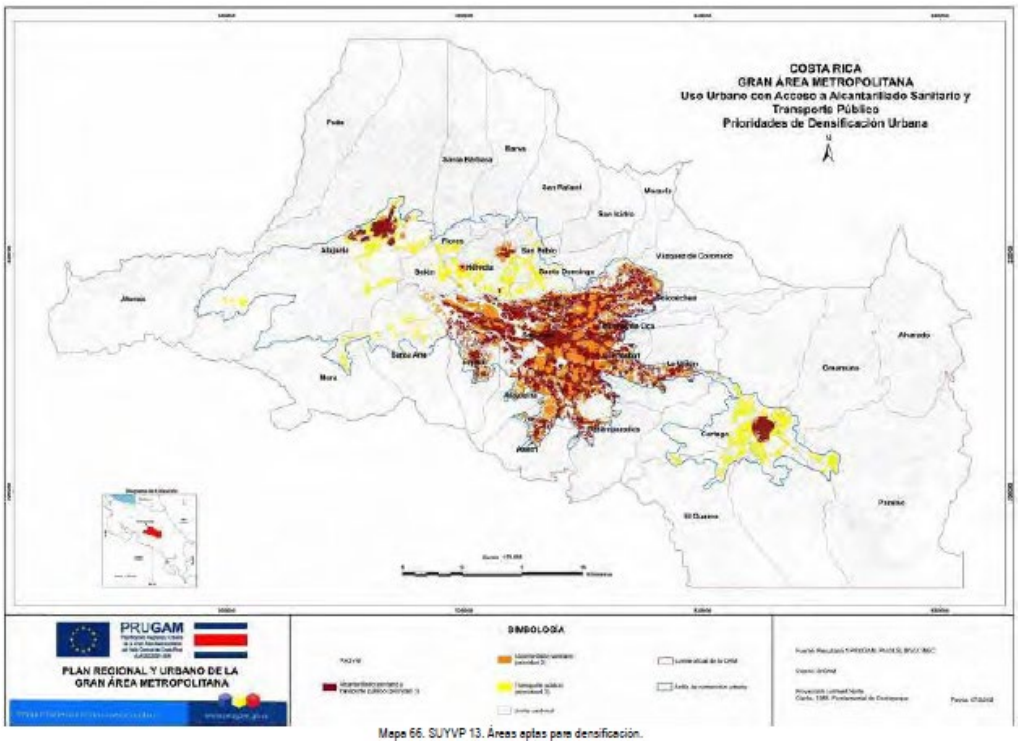


FIG. 43.10 Densifiable Areas
Map Source: PRUGAM, 2006

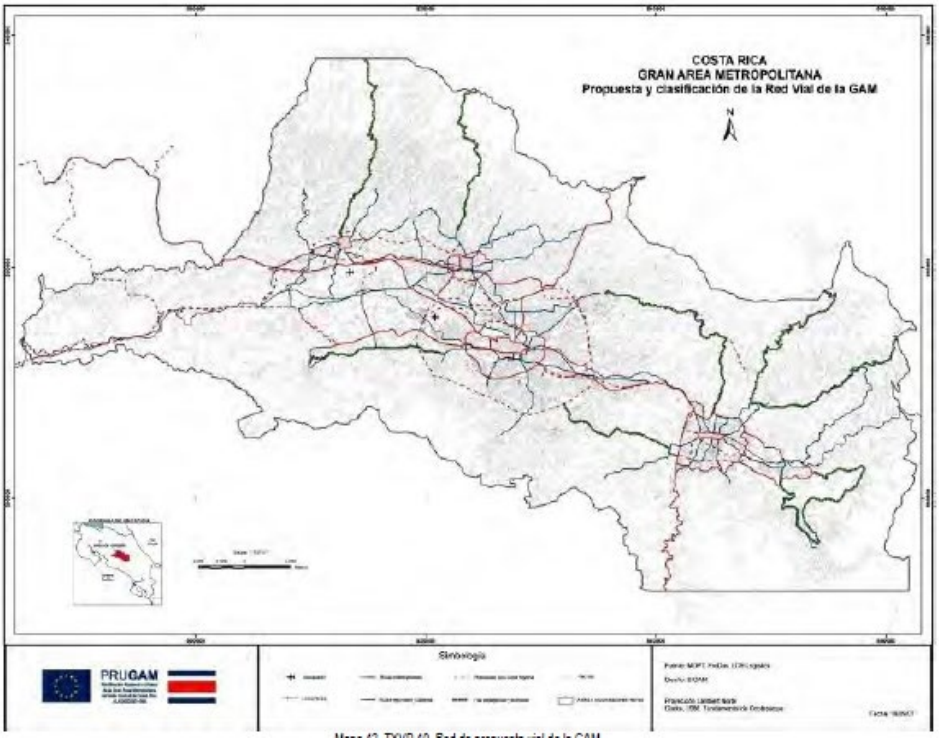


FIG. 43.11 Transport Infrastructure Proposal. Source: PRUGAM, 2006

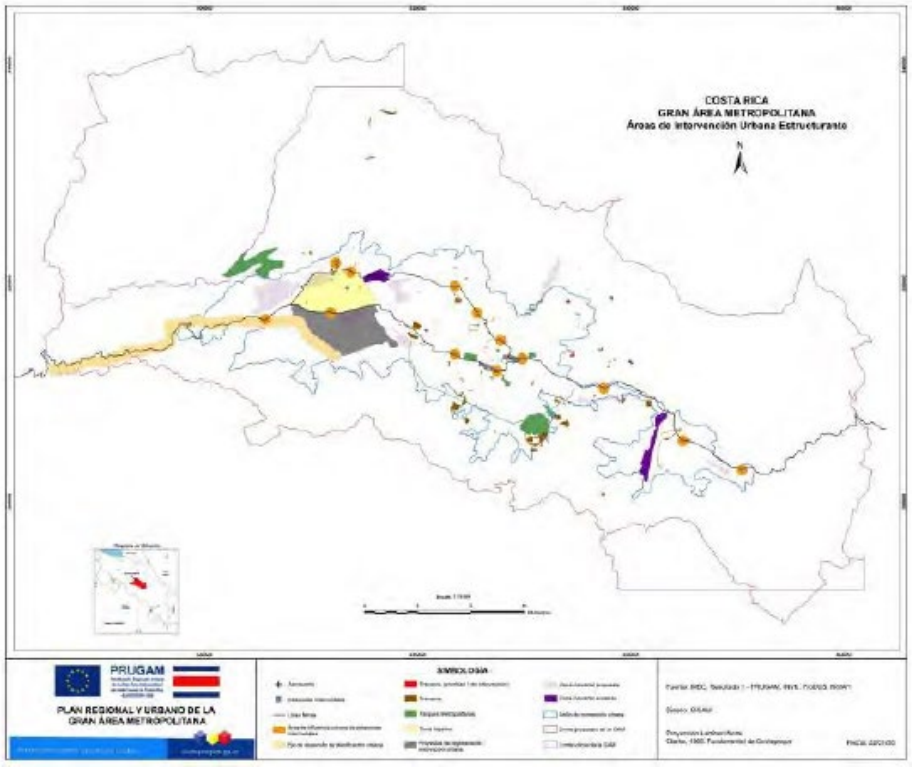


FIG. 43.12 Strategic Projects Map Source: PRUGAM, 2006

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