Graduation project on socioeconomic and spatial integration strategies for municipality Pedro Aguirre Cerda in Santiago de Chile; Redefining of and giving quality to the public space network as an urban restructuring element in order to permeate the borders of La Victoria and reconnect to the regional and metropolitan scale.

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Introduction to the Santiago case

The aim of the DSD Urban Asymmetries studio is to engage in the South American city and find a way to counter the effects of neo-liberal policies on neighbourhoods of private ownership with a high level of poverty within this city. For this thesis, research was done on the city of Santiago de Chile, a city with many asymmetries in formal and informal structures due to neo-liberal interventions in the course of its latest history. Historical constraints and a history of environmental degradation is clearly visible in the fragmentation of urban areas and in the uneven distribution of wealth. Polarization is common throughout the entire city because of an economic rather than a social emphasis of urban development. Pockets of wealth contrast with wastelands of uniformity, homogeneity and mono-functionality, nevertheless the infrastructure keeps this hierarchical polycentric city structure intact, despite serving mainly the wealthy central municipality of Santiago. New developments are mostly profit-driven and cause faster or slower gentrification, indirectly isolating the poorer communities to retreat to less favourable areas. There is obvious physical deterioration of the architectural and urban environment in the poorer neighbourhoods, as a result of under investment, non-functioning social relations model and lack of social cohesion. This thesis explores the possibilities of countering these developments by analysing the existing situation in one of the poorest municipalities and by proposing strategies that can help reorganise the city’s network into becoming less fragmented and facilitate integrating the poorer municipalities of Santiago into the metropolitan infrastructural and public space network. The city of Santiago is comparable in size and number of inhabitants to the Randstad metropolitan area, therefore the understanding of the scale of this research is important. This booklet presents the process and the products of a year of analysis and design on the city of Santiago. The first part will be formed by the collective work. This contains a historical and morphological analysis of the city of Santiago, followed by an analysis on the district scale (municipality Pedro Aguirre Cerda), resulting in a spatial relational strategy for the project area around community La Victoria. Part two will display the individual project that has been based partly on the collective spatial strategy and will focus on a research area on a larger scale. A thorough analysis, spanning from metropolitan scale towards the scale of the street, provides the framework for a spatial strategy dealing with the public space network, followed by an urban plan for part of the research area and design explorations leading to design criteria and guidelines. The goal is to develop a method of analysis and design research that helps to deal with the redefining of the public space network in cities with a high level of segregation and polarization.
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Collective Work [I]

Relational Strategies

Socioeconomic and spatial integration strategies for municipality Pedro Aguirre Cerda in Santiago de Chile.
The Urban Asymmetries studio is an intensive theoretical and empirically driven research and design studio that aims at the understanding of processes and conditions that produce uneven—or asymmetrical—development in contemporary urban environments. These developments take place on the levels of geography, economics, politics, sociology and technology. Besides the impact of globalization processes in economy and innovative technology, neoliberal policies—like the privatization of the housing market, increased market influence and speculation of land values—have been implemented in the last few decades. These conditions create uneven geographical developments in the city. In Santiago de Chile, the city where our research was conducted, these developments have resulted in segregation, social and functional homogenization in specific parts of the city and monofunctionality within neighbourhoods. There is an uneven distribution of life prospects, urban facilities, quality of built form and quality of life between neighbourhoods. Developments are first and foremost profit-driven, societal issues are neglected. To counteract this tendency of segregation and homogenization of certain areas in the city, the Urban Asymmetries Studio proposes a strategy which explores poly-functionality, densification of open spaces, diversification of modes of production and urban facilities to reach a higher level of urban complexity in an exemplary neighbourhood of Santiago. The research and design process proposed by the Urban Asymmetries Studio has resulted in a collective strategy and design master plan for the area of La Victoria and its surroundings, a poor neighbourhood located in the southwest of Santiago.

La Victoria (victory) was originally an informal settlement, formed in the fifties of the past century by a group of poor settlers around the riverbeds of the Zanjón de la Aguada, a depressed area in the centre of Santiago. The construction of the neighbourhood was an enormous exercise in self-organization by the settlers, who had to join forces and invent resources, putting into play every bit of knowledge and all their skills. Based on an extensive community network the construction of the settlement was entirely self-organized self-built. The settlement received secure land tenure soon after by the socialist government of that period. Until today, the neighbourhood is privately owned by its inhabitants. As such, La Victoria was able to resist several regimes in Chile, including the violent displacement policy of dictator Augusto Pinochet (1973-1990) who attempted to chase all poverty out of the city centre by displacing the entire population to peripheral places built by the state or the market (La Victoria was at the time considered to be peripheral). This has contributed largely to the socio-spatial fragmentation within Santiago. The settlement’s history of squatting and resistance has led to a strong social cohesion amongst the inhabitants of La Victoria and this continues today. However, the resistant position has resulted in the social and spatial isolation of the neighbourhood.

La Victoria has a peri-urban location in the metropolitan area of Santiago: the city centre as well as sub centralities are reachable within 15 minutes. However, private land ownership, speculation of land and the development of private infrastructure have enhanced the socio-spatial segregation within the metropolis. The municipality of Pedro Aguirre Cerda (PAC) where La Victoria is located, is one of the many poor and homogenous municipalities in the south of metropolitan Santiago. Moreover, La Victoria is situated in between projects that are exemplary for the neoliberal-orientated urbanization processes currently happening in Santiago. Specifically the Parque Aguada and the Bicentenary Park developments—transformation projects that entail an extensive amount of program increase pressure on the area, making it bound to be gentrified in the future. The Lo Valledor market is directly adjacent to La Victoria and will continue functioning probably at least the coming decade. But it surely is an area which is subject of speculation for developers that recognize the attractive central location. This will be of influence for the surrounding neighbourhoods as well in terms of land value speculation.

The collective work consists of three parts, on three different scales of research. This first chapter introduces the city of Santiago by displaying the historical and morphological growth of the Santiago metropolitan region. Then an analysis of the municipality Pedro Aguirre Cerda is explained, relating the district scale of the project area and including a summary of needs and problems within the communities of this municipality, conceived by a participatory workshop organised by the members of the studio. Last the strategies of this project area are shown, zooming in to the neighbourhoods of La Victoria, San Joaquin and Lo Valledor, the centre of the research.
1. Historical Morphological Analysis Santiago De Chile

1541 [Foundation]

The city was planned according to Royal Ordinances from Spain that was incorporated into the 'Laws of the Indies' in 1573. The strict grid of 100m by 100m blocks was an intrinsic part of these laws. Until the 19th century the grid structure was not permanent due to several destructive earthquakes and continuous attacks of the Mapuches: the indigenous population of Chile who for many centuries maintained their resistance against the Spanish occupancy. The rectangular plots were very strictly maintained but mostly occupied by farmers using the 100 by 100 meter grid for agricultural purpose. Thanks to the flexibility of the grid, the city centre until today remains the gravity point of the metropolitan city. As such Santiago is still functioning as a mono-centric city, despite the new centralities that have developed the last decades.
The Mestizo population became more and more important and a middle class was emerging. This was articulated in the development of the Alameda de las Delizias, which today still functions as an important economic axis through the city. With the exploitation of the mines and the building of railroads the first signs of industrialization became visible in the city. The unequal system of rural land division forced many peasants without prospects to migrate to the city. They built the first informal settlements (Rancherios) mostly along the less valuable and more polluted river-banks to the west of the city. Later, during the neo liberal regime, the city centre and surroundings were cleared from poverty to gain room for (foreign) investment. This displacement policy resulted in socio-spatial fragmentation of Santiago.
Santiago’s governor Vicuña Mackenna wanted to give Santiago the grandeur of a European capital. The centenary celebrations were approaching and Mackenna introduced a plan characterised by Haussmanian-like restructuring. The more and more polluted environment in the inner city made the richer inhabitants of Santiago choose for better living conditions. This they found in the northwest of the city, up the hills. The city beautiful projects by Mackenna created the first segregation between the ‘poor’ city centre and the ‘rich’ suburb. This polarization process is still continuing and recognizable in the contemporary city. As a result of the hygiene problems in the inner city that began in the early 19th century, the housing law of 1906 was initiated. Chile was the first Latin-American country to introduce a housing law. However, the law was formalized only in the 1950’s. The housing law determined a standard quality and meant a structural improvement for the living conditions in the city.
The extreme urban growth Santiago experienced after 1910 is a result of mainly two processes: Chile’s Nitrate mining industry collapsed after the German invention of artificial nitrate at the end of World War I. The Global crisis that started in 1929 worsened the situation as the recession hit. This caused a huge migration flow of former mine workers to Santiago resulting in an explosive growth of the city. New migration waves attracted by the flourishing of domestic manufacturing. The development and increase of industry in the city also increased the problems of pollution. The process of polarization continued as the working class settled in the infertile agricultural areas in the South-West of Santiago and the affluent class relocated itself on the ‘road to happiness’: in the mountains, where the soil is more stable to withstand earthquake impacts and air is less polluted.
Fuelled by the investments of the ‘Rural’ elite, the landowners, Chili’s economy accelerated the change from an agricultural into an industrial and urban economy. As a result of the fast transformation of agricultural lands into industrial areas, in the city today we see increased amounts of vacant speculative land that has led to new infrastructural investments. These highways have led to (a hierarchy of) new connectivities and are transforming the spatial morphology of the city in a less positive way. On the city district scale we thus see a pockets of disconnected and poorly integrated neighborhoods. During this period the centre oriented arrangement, the commuters, and the still prevalent industrial nature of some inner city areas polluted the city even further. Represented in this image are the commuter flows directed to the industrial centre. This monocentric city model is still dominant in the current situation. Despite subcentralities, the largest job availability concentrates in Santiago’s centre.
On September 11th 1973 General Pinochet committed a military coup. Under Pinochet's rule, the military junta took complete control of all public affairs and with the financial and intellectual help of the US – Economics Faculty at the University of Chicago - imposed a neo-liberal system in Chile. This neo-liberal country/city opened up to foreign capital, resulting in the emergence of a new business class and the Central Business District. State enterprises and public transport were privatized. Until the 1980's more than 60% of the land was in control of 14 families. After that liberalization of the market determined land value. Also Pinochet executed a radical displacement policy, fighting informality with an iron fist. The neo-liberal policies caused the relocation of inhabitants from the centre and the northern parts of the city to the periphery. Homogenous zones were created resulting in large daily commuter flows.
Until the 1980’s more than 60% of the land was in control of 14 families. After that liberalization of the market determined land value. Globalisation and structural adjustments imposed by the World Bank were expressed in the dictatorial regime of Pinochet; the neo-liberal urban model resulted in increased social fragmentation. Santiago became Latin America’s headquarter for large multinationals and regional financial center. The presence of multinationals and foreign investors, the development of the CBD and the emergence of regional and local subcentralities led to the development of a polycentric city. The periphery has acquired a new role: new centralities (the sub-centers) have been developed by private developers, municipalities and transport companies. Rental housing subsidies are discontinued and neo-liberal policies lead to the emergence of the private ownership model on cheap land allotments built by developers. Private entrepreneurs don’t see business in the low-income sector: 57% of the housing units are produced with heavy government leverages.
Approximately two decades of uninterrupted economic growth have transformed Santiago into a modern metropolitan area. The importance of efficient infrastructure and the quality of living are addressed. At present 2-hour commutes within the city are not uncommon. All infrastructure is still mainly serving the city centre and not evenly distributed along the metropolitan area. This maintains a certain level of hierarchy within the polycentric city intact.
1. Socio-spatial fragmentation
Land values: Until the 1980’s more than 60% of the land was in control of 14 families. After that liberalization of the market determined land value. Globalisation and structural adjustments imposed by the World Bank were expressed in the dictatorial regime of Pinochet; the neo-liberal urban model resulted in increased social fragmentation. On the city district scale we thus see homogenous/monofunctional urban expansions.

Infrastructure: The fast transformation of agricultural lands into industrial areas has created increased amounts of vacant speculative land that has led to new infrastructural investments. These highways have led to a hierarchy of new connectivities and are transforming the spatial morphology of the city in a less positive way. On the city district scale we thus see a pockets of disconnected and poorly integrated neighbourhoods.

Urban model: The above have resulted in a new organisation of the urban structure from a mono-centric urban model to a regional one. New centralities (the subcenters) have been developed by private developers, municipalities and transport companies. These subcenters largely service the macro-region. In terms of employment the lower and middle-class that live in the periphery are still oriented towards the mono-centric urban model.

2. Housing system
On the city district scale we see homogenous/monofunctional urban expansions. Private entrepreneurs don’t see business in the low-income sector: 57% of the housing units are produced with heavy government leverages. However the lifecycle of these low-income houses will be a major issue in the next years. This short-term vision has not only resulted in homogenous neighbourhoods but also undifferentiated housing typologies. The aim should be to strive for socioeconomic adaptability, better quality houses and increased social mobility.

3. Infrastructure
New infrastructural investments have led to a dual infrastructure and a hierarchy of connectivities; expressed in the development of the (private) highways related to purchasing power and the secondary road infrastructure. Infrastructural developments have created a new condition of ‘gated communities’. Car possession in Santiago reflects the socio-spatial segregation.

In the 1980’s the TranSanantiago, a new bus system, was introduced to replace the previously chaotic and environmentally unfriendly bus system. Unfortunately the implementation of this ambitious project failed which has resulted in an overloaded metro system, increased travel times and high transportation costs for the lower income groups who spend approximately 50% of their income on this service.

4. Industry
In favour of decentralization and the absence of a metropolitan authority for urban developments, the 34 municipalities have developed their own industrial policies and restrictions. Industrial reconversion and/or the relation of the industries to the macro region (of Santiago and Valparaiso) has resulted in the relocation of industries from the city to designated zones outside the city. This has left large industrial plots in the city empty; a few brown fields can be found in our study area of PAC.
3. Field Research
Analysis Municipality PAC [2]
Socioeconomic groups in the metropolis of Santiago. Source: J. Heitmann, lecture TU Delft sept 18th, 2008

Land value (in UF) in the metropolis of Santiago. Source: J. Heitmann, lecture TU Delft sept 18th, 2008
1. Theoretical position and ambition

The strategy proposes a counteraction against the dynamics of neoliberal urbanization by posing an alternative model of urban redevelopment. This is meant to improve the spatial conditions in order to improve the quality of the people’s life. Through spatial interventions, economic, social and political issues will be addressed.

A site visit has taken place from November 20th until December 5th 2008. On Saturday, December 3rd, the group has organized a participatory workshop with the community which took place on the Feria Libre (market) on Galo Gonzales street, approximately from 11.00-13.00 h. The following analysis is based on field research and map analysis, making use of different academic analysis methods.

2. Introduction PAC

The city of Santiago is crossed by five main highways. Two of them are north-south oriented, two of them east-west and the last one is a ring road that surrounds the city’s central districts. La Victoria lies within this ring, close to one of the north-south highways and one of the east-west highways. To get from La Victoria to one of the highways, you need to make only three turns from local to secondary road and then to the parallel road that connects to the highway. Because of this vicinity to the main infrastructures, La Victoria is well connected to the rest of the city if travelling by car.

The secondary and tertiary road system in and around PAC provide a network for inter-district transport. This network also serves the Transantiago and local buses that are used a lot by the residents of PAC. The Transantiago bus system is not very efficient in the sense that not many lines travel along the main roads of La Victoria, which means that inhabitants are mainly dependant on the local buses and on travelling on foot. The infrastructural network for the Transantiago buses requires too many turns to get to the main roads within the district and is therefore not sufficient.

It’s location near the inner ring/ disconnected from low-land values/ strong historical social cohesion/ plus following points: Lack of real connectivity of La Victoria with nearby centralities, lack of spatial integration of La Victoria in PAC caused by morphological configuration, abandoned/derelict areas of PAC (hospital, A.J. Park, turntables, slaughter house) represent opportunities for development but are also problematic because of their scale. Social and political isolation of La Victoria because of squatting and resistance against regime. Despite close proximity to the CBD the reputation of La Victoria and its surrounding areas as a no-go zone has resulted in low land-values. The household index of La Victoria is enormous; the over-crowded households and lack of social mobility are the issue! La Victoria is a private area with low-income groups.

Historical Growth of Pedro Aguirre Cerda
3. Analysis Municipality PAC

Accessibility

This map shows the locations of certain functions (malls and supermarkets) on a larger scale likely to be used by residents of La Victoria. The distance which can be traveled in 30 minutes by car, bike or on foot is indicated by lines along travel paths. Car access is the brightest shade of red; walking the darkest shade of red. Areas which are planned to be developed are indicated with dotted lines.

By car, large parts of the city are accessible. However, not many inhabitants of La Victoria own a car, and therefore their range is much smaller and they are dependant on public transport to get around the city. We see that the railroad clearly defines the shape of range of accessibility.
Here we see the combination of the facilities available to residents within La Victoria compared with the large-scale supermarkets and malls available outside La Victoria. The red dots within the facilities map indicate commercial functions.

La Victoria is quite isolated from shopping malls and supermarkets, this is compensated by the size and number of street markets, feria libre. A new shopping mall (1), which is planned in parque bicentenario, is quite close to La Victoria and will have influence on further development. There are many smaller buildings (small red dots) within PAC which show the nature of commercial facilities in this area: small-scale, built where there is available land or a willing entrepreneur, as insertions within a primarily residential typology. There is no "centre" of commercial activity and note that businesses do not coincide with main travel paths (as you can see by the red lines, which follow major streets rather than side streets). Therefore there is no build-up of a commercial centre nor strict separation from residential areas. This is in total opposition to the approach found in the planning of Santiago's sub-centres, which are just as their name describes, centres for commercial activity and quite separated from the residential.
Areas of consistent morphologies within certain boundaries are apparent. These transitions between configurations of buildings occur where there are existing divisions: usually highways, sometimes park enclosures, sometimes where there is a shift in the grid indicating a new instance of planning. The built form character of each area starts to reveal itself via these morphological changes. The identified morphology types show variation of: formality: rigid external boundaries or flexible external boundaries with set-backs and push outs configuration: tightly spaced, on a rigid grid, loosely spaced towers with free areas around, built form with a continuous facade, free-standing individual dwellings. It should be noted that the function of the vast majority of all typologies is housing.
Green Spaces

At first sight there is a clear difference visible in the density of green space in P.A.C. Green in categorization does not always mean “green” in reality. In general most ‘green’ spaces are not very well maintained dry sandy fields, and if the category were limited to only “bright green” (actually green) areas, there would be almost none at all. In the area of la Victoria in particular we find hardly any green spaces (one strip of land on its western edge, and some “dirt field” areas to the north), but plenty of trees, where as more up north in San Joachim there are many. In the centre of P.A.C. we find an immense green area of which one-third has been transformed into a park: The Andre Jarlan Park.
We assume that there is a direct relation between the housing morphologies and the amount of green space situated around it: La Victoria shows a high density in low-rise housing with front and back patio. Thus there is just little amount of open space. The need for green space could also be less urgent as most people are in possession of patios that in some cases are facing the streets. The sense of green is also visible because of the amount of trees in the perpendicular streets.

In the case of San Joachin we find the social housing blocks within the direct surroundings many open (green) spaces which have not been maintained. Any odd-shaped piece of land tends to end up as “open unpaved space” which, in real-life experience, has the quality of a dirt field often without actual function. This could be the result of a lack of social responsibility as it is not clear who possesses these (green) spaces; thus nobody feels responsible to intervene.
Land Use

Land use map describes the different land use types all around PAC. Even though there some exceptions, but entire municipality is primarily residential. The main commercial activities are concentrated in the Northern part of the municipality with the highest connectivity, namely: Lo Valledor grocery market (1;2) and some industrial areas along the Parque Aguada (4). La Victoria (3) does not have any major land use fluctuations, with exceptions of some public facilities such as hospitals, schools, police stations etc. Most of the commercial activities are located along the avenida 30 Octubre, however it visible more clearly in ‘Urban Facilities’ Map.
Urban Facilities

Mapping the built footprint of urban facilities accessible to residents of PAC (excluding housing): Churches, commerce, hospitals + medical centres, infrastructure, parks + plazas, police stations, public buildings, schools, sports facilities.

The difference between the last two layers is the following: Land use describes what all land area is used for but does not account for building dimensions, locations, or all functions on a zoned piece of land. Urban facilities shows the buildings and services which will be used by residents, showing what is available to them, size of the facility and where it is located.
Continuity E-W

This analysis observes the street patterns as they appear on a map, detached from the program they contain and without a hierarchy. It is made to analyze the continuity (or flow) of the district PAC and to reveal points or zones of discontinuity. All streets are simplified to lines and split up in the flow from North to South and from East to West. The points where lines are not continuous are marked with one of the three categories of discontinuity points: Death ends, T-joints and semi-continuing streets.
In general North-South continuity analysis shows much denser and in some cases, much more consistent patterns, on the other hand it also points out that some areas in the Municipality are completely fragmented. For instance La Victoria (1), shows an extremely consistent pattern where lines do not have any braking point except when they reach the border, San Juaquin (2) however displays complete absence of consistency that can be attributed to modernist system-built housing there.
Continuity Analysis Conclusions

There are hardly any discontinuities inside of the area of La Victoria. This makes it in its interior a very fluid area, especially compared to the other zones of PAC. This continuity stops at the edges of the La Victoria where almost every street forms a point of discontinuity. This is a result of the different grid patterns of all the neighbourhoods that clearly do not correspond. These slight jumps between the street patterns do not really cause a big connectivity problem in the sense of access, but rather one in the sense visual flow. The discontinuity clearly marks the borders of the area.

On the scale of the district of PAC (the ‘comuna’) it is clear that there are very few points of continuity that connect the area with its larger neighbouring districts. In the East-West direction the district is situated between two big highways with few passages. In the North South direction the same happens on the North of PAC. So also on the scale of the district the borders are clearly defined by discontinuity.

An important conclusion that becomes visible when one overlays the analysis of the North-South flows and the East-West flows, is that the roads that are hardly broken up by points of discontinuity in one direction – in other words, the fluid roads – are correlating in almost all cases with the zones of discontinuity in the other direction. This means that the most fluid roads are at the same time in the other direction the most problematic in terms of continuity. These roads are often located on the borders of the neighbourhoods since this is where the grid patterns change. Note here that this often means a change of build typol-
ogy as well, which emphasizes even more the discontinuity and the difference between the neighbourhoods.

Recommendations:
Since the discontinuities, both on the scale of the neighbourhood as on the scale of the district, are caused by respectively the street patterns and large infrastructure, there is little that can be done to change the origin of the discontinuity. But in order to give the district a more fluid feeling, the places to intervene are exactly those defined strips of discontinuity where the grid changes. These strips can be designed in a way that the can absorb the differences in grid structure in a better way. By emphasizing the other direction, using the open spaces along the strip, the difference between the two sides will be less present. According to the analysis this strip is often a ‘fluid’ road – and because of that an important road in a certain way – which makes it even more worth to invest in these places.
Dependancy

The outcome of the participatory research has been visualized in the above schemes. The circles correspond to a certain city scale, where the smallest one represents a house and the largest the metropolitan area.

Social relations:
- Social relations internally are strong in relation to the surrounding neighbourhoods. The internal structure community structure.
- Internal social structures in la Victoria are strong
  - The community structure (divided into sub-communities) defines partly the internal social structures.
- Social relations to outside la Victoria are limited (work related, family related).
  
  Advise: a designer should be conscious of the social relations, and try to use it as an advantage, for example by enhancing the relationship between the different neighbourhoods (or enhancing the social structure within the other neighbourhoods) like it exists with la Victoria.

Infrastructure:
This theme has been divided into the categories public, private and service related.
- Transport is mainly by foot in the neighbourhood and surrounding area.
- Even though the central position of la Victoria in the city, access to public transport could be improved.
- There are opportunities for water & waste management however it should be low tech for unskilled labor
  Advise: a designer can enhance the connectivity by providing better access to public
transport and creating more options for improving connectivity.
Shorter commute times can for example result in more time spend with the family or working hours.

Forms of production:
The points and corresponding figure is spanned on different scales and classified in the primary, secondary and tertiary economic sectors.
Primary – involving the extraction and production of raw material
Secondary - Involves the transformation of raw or intermediate materials into goods
Tertiary - Involves the provision of services to consumers and businesses
- working class (general staff)
- La Vic inhabitants work over all scales of the city
- the position of la Vic is well situated in the city
Advise: Facilitating of working at home and new opportunities for localizing jobs/work could be encouraged

Quality of life:
- little leisure time (long commute times + lot of work hours)
- basic functions are in close proximity of la Victoria
- high school needed
Advise: providing public facilities (program) which could improve their daily life according to their lifestyle (not functions/program which they don’t use).
Socioeconomic profile of PAC

29% Households headed by women means these women are probably working. This means child care is either covered by family or kindergarten. Children are less controlled and go on the street. More than half of the population is between 19 and 59, meaning middle age working people. Though, the workforce is only 40.75%. 11.59% unemployment: 7500 inhabitants of PAC are unemployed. High employment rate. This means that the unemployed people might be working in the informal/illegal sector. Probably the percentage for La Victoria alone is higher. Most people are employed in tertiary economic sector, meaning service. Service infrastructure is very well organized: almost every household is connected to water, sewage and electricity. Amount of green space per person is very limited! 1.1 m² per capita, compared to the Dutch situation: 30 m²! Most people have primary and secondary education. 87% of the inhabitants of PAC follows secondary education; 13% does not: 1800 children between 12-18 have no access to high school due to a lack of schools and the travel distance.
4. Community Needs and Problems

On Saturday, December 3rd, the group has organized a participatory workshop with the community which took place on the Feria Libre (market) on Galo Gonzales street, approximately from 11.00-13.00 h. This workshop lead to a number of key problems and needs of the community.

Needs:
- Improvement of connectivity and mobility on city district scale
- Improvement of public space network
- Increased educational facilities (high school)
- Increased entertainment and leisure facilities for the youth
- Improved public safety
- Preservation and revitalization of townscape
- Support self-organizational capacities of community

Problems:
- Functions: under equipped suburban developments
- Physical disconnection: transport, infrastructural barriers
- Social cohesion but isolation with neighbouring areas
- Old building stock
- Household index extremely high
- Low land value in La Victoria because of reputation as no-go zone, effecting also neighbouring areas
- Due to morphological configuration La Victoria is less connected to primary roads, thus to centralities (CBD, sub centers)
- No local modes of production
PAC General Relational Strategies
Model of the combined relational strategies for La Victoria and PAC.
Problem Statement

1. Due to morphological configuration La Victoria is less connected to primary roads, thus to centralities (CBD, sub centers)
2. Physical disconnection: transport, infrastructural barriers
3. Land value in La Victoria is low because of reputation as no-go zone, also effecting neighbouring areas
4. Functions: under equipped suburban developments
5. Social cohesion but isolation with neighboring areas
6. Old building stock
7. Household index extremely high
8. Lack of local modes of production

Development Goals

Spatial and economic integration of La Victoria in PAC and the nearby centralities of Santiago.
Recognize centrality and surrounding nodal points.
Social integration through careful implementation of the strategy via community participation.
Overall goal:
Strong economic, social and spatial position of La Victoria in PAC and nearby centralities.

Impacts & Risks

Impacts:
1. Sustainable development of La Victoria’s townscape
2. Improved peoples knowledge and skills
3. Improved employment rates
4. Improved living conditions
5. Improved social and economic exchange
6. Increased modes of production

Risks:
1. Top down approach: resistance or no acceptance of community
2. La Victoria is stigmatised by its history: could be an obstacle for investment
3. Social integration between La Victoria and PAC might not be desired
4. Spatial interventions must accompany economic and social strategies

Ambitions on Urban Scale

The general strategy is based on the inter relation of the following 4 intervention strategies: Connectivity, modes of production, density and public space network.
The following slides will present every strategy in 3 layers. The analysis map on the specific topic forms the basis behind the intervention. The second layer represents the strategy and the third layer indicates where specific interventions might take place as an outcome of implementation of the strategy.
1. Connectivity

ANALYSIS
There are hardly any discontinuities inside of the area of La Victoria. This makes it in its interior a very fluid area. This continuity stops at the edges of the La Victoria where almost every street forms a point of discontinuity. This is a result of the different grid patterns of all the neighbourhoods that clearly do not correspond. The discontinuity clearly marks the borders of the area which emphasizes the exceptional (and stigmatized) status of La Victoria.

Discontinuities are often located on the borders of the neighbourhoods since this is where the grid patterns change. This often means a change of build typology as well, which emphasizes even more the discontinuity and the difference between the neighbourhoods.

STRATEGY
Infrastructural and morphological connections will improve La Victoria’s economic and social exchange, and its spatial integration with neighbouring areas. Crossings of the railroad and large roads create a permeation of barriers. Improvements of internal road structure connects neighbourhoods.

INTERVENTIONS
Improvements on connectivity are gained by subtle interventions in the morphological structure of La Victoria and San Joaquim. The railroad is a physical barrier between Lo Valledor (and further) and La Victoria. In order to improve connections between these two, we propose an additional crossing in the continuation of Avenida 30 Octubre, thus physically connecting the Lo Valledor social housing area and La Victoria.
**2. Modes of Production**

**STRATEGY**
Improved spatial conditions, via new physical connections and morphological transformations, facilitate and enhance the development of local modes of production. Small-scale interventions are placed along the borders and main arteries of La Victoria. New self-sustainable programs will build upon its strong social cohesion of the community and improve its economic position.

**INTERVENTIONS**
Three axes are forming a U-shape in and on the border of La Victoria. All three axes will have a different character. On the Avenida 2 de Abril we introduce new building typologies that combine both living and working. Those typologies will fit in the existing morphological structure of the street. Continuous commercial plinth on both sides along the railroad the street profile allows commercial activity and room for public space. This ‘axis’ transforms from a barrier into a lively urban zone. New small-scale commercial activities and accommodation related to the Lo Valledor market are planned on the market side of the railroad, forming an urban edge. The residential east side of the railroad will have a rather soft edge with public facilities. Strategies will be developed to legalize and enhance commercial activities on the corners of Avenida 30 Octubre. The three axes facilitate urban activities, offering room for local modes of production and give La Victoria the opportunity to take advantage of central location in the city. The economic position of La Victoria is strengthened. The availability of urban facilities in PAC itself releases the dependence on other centralities in the city and therefore reduces travel time and transportation costs.
3. Density

ANALYSIS MAP
In La Victoria and the surroundings areas Lo Valledor and San Joaquin, the density per plot is extremely high. Families of average seven persons are living together in one house of maximum two floors, often causing internal struggles and tensions. In La Victoria it might be difficult to propose large interventions because of the strong relation residents have with the neighbourhood, but many interventions on the small scale may as well improve the public space, building stock and eventually, the quality of life. In San Joaquin the particular morphology causes low density per hectare, however, the density per plot is high like La Victoria.

STRATEGY
Mix of functions and a change in density that improves the household index. Transforming morphology redefines public space. Strategies are depending on the specific situation, allowing either implementation of new built structures, addition, transformation or renovation of existing ones.

INTERVENTIONS
On the axis of 2 de Abril there will be interventions on the morphology adding build structure and changing direction of the existing buildings in order to improve the coherence of the street profile.
Some of the non used open spaces in San Joaquin will be filled with new low-rise housing. This aims towards a balance in the distribution of housing, it could take up some of the overpopulation of plots in La Victoria and San Joaquin.
In La Victoria, an education program for low-tech sustainable auto-construction of housing will be started which provides knowledge for future house improvements.
In Lo Valledor, for the short term, low cost interventions will give the inhabitants the possibilities to extend or improve their houses themselves.
On longer term there will be alterations to the morphological structure.
4. Public Space

ANALYSIS MAP
La Victoria is relatively short of public space. However, the available space is intensively used, especially the street which hosts all kinds of parties, gatherings and fairs. The borders of La Victoria on the other hand contain relatively more public space but are not well used or maintained. By adding public facilities and commerce these spaces can be intensified, mainly in the park along the railroad and in San Joaquin where the morphological structure creates a lot of non-spaces.

STRATEGY
Transformation of morphology and density creates conditions for better definition of public space. Presence of public and commercial facilities improves the use and quality of the public space. Existing open space offers opportunities for changes in morphology and density. Strategies like privatization, concentration and building up of open space reorganize the public space network.

INTERVENTIONS
The definition of the street profile of 2 de Abril will be improved and adapted to developments in modes of production like the street market and small commercial activities. Additions on existing buildings will define a clear street façade. On the West side a square will be created to enhance public collective facilities. Between the rail track and the school there will be a pedestrian and children play zone. Along the railway track the open space will be intensified by adding small scale public facilities. Maintenance interventions will take place on the street 30 Ottobre.
Redefining of and giving quality to the public space network as an urban restructuring element in order to permeate the borders of La Victoria and reconnect to the regional and metropolitan scale.
Introduction to the Santiago Southwest Region

The collective work is the background of the initiative for this thesis. Through analyzing the city of Santiago and through researching the municipality of Pedro Aguirre Cerda (PAC) a vision was acquired of the needs of the communities within this municipality. The collective research was based on a ‘project area’ enveloping the neighbourhoods of La Victoria, San Joaquin and Nuevo Lo Valledor. Within the studio of Urban Asymmetries Santiago, a strategy has been proposed for this project area, that describes in detail the interventions that are needed to reach the collective goals for the neighbourhood of La Victoria.1

When dealing with local modes of production and density, this project area has proven very suitable for design research and explorations. However, when dealing with public space and connectivity, it is important to also look beyond the border of the neighbourhood scale. Therefore, the analysis and design research in this thesis will be based on a ‘research area’, enveloping not only the neighbourhood of La Victoria, but also the surrounding municipality and metropolitan areas. This research area will be named the ‘Santiago Southwest Region’ and, this thesis being focussed on the public space network of Santiago, it includes the metropolitan and municipal public spaces that are within a radius of four kilometres from La Victoria. This radius is determined through defining a reach of slow traffic modes, specifically bicycles, and measuring how far they can travel within half an hour.

The aim of the establishment of this research area is to complement the strategy for the public space network of La Victoria, proposed by Anouk Distelbrink in her graduation thesis.2 The research area includes two large urban projects that were initiated due to Santiago’s bicentennial celebration. In 2010, Santiago will exist for two hundred years, and the city will celebrate this event by boosting urban developments. To the west of La Victoria and Lo Valledor, an urban plan called Portal Bicentenario is planned on the site of the former metropolitan airport. This plan is multifunctional, with both housing, facilities and a large park-strip, crossing the site. The other bicentenary initiative is the Parque Aguada, or flood park, a large linear green strip planned along the seasonal stream Zanjón de la Aguada that runs through the research area. These are the main initiatives for the bicentenary.

In this thesis, a constant reference will be made to the neighbourhood La Victoria and the adjacent neighbourhoods San Joaquin and Nuevo Lo Valledor. This is purposefully done to relate the larger and smaller scales within the research area. La Victoria will be the starting point for this research, but an attempt will be made to explore all possibilities within the Santiago Southwest Region, thus improving the public space network on a larger scale and making a connection to the strategy for La Victoria.

1 Relational model, UA Santiago Urbanist team
2 Distelbrink, A. Socioeconomic and spatial integration strategies for La Victoria in Santiago de Chile
Theoretical Framework [4]
Introduction

As the city is changing and experiencing a boost in urban development, amongst other things due to the Bicentenary, the role of public space in Santiago has changed. This creates a necessity for a new approach to reorganise the open spaces. To get to full grips with this urban condition of reorganization in Santiago, this thesis will focus on the theme of public space, also in relation to density, connectivity and modes of production.

This thesis regards public spaces as those open spaces that function as a connector, both between neighbourhoods (typological connections) and between people (functional connections). Public spaces are places where people can meet, children can play and communities can hold their fairs. They are places that attract people. Public spaces connect public functions by being linked to each other, the street being a very important element in this.

As described by Arnold Reijndorp in *Stadswijk* urbanism determines the spatial framework in which the daily life unfolds. “Spatially the world of living is the space that people create for themselves within the space that is available and amongst the worlds of living others create in that space. Through the routes people use to get from one place to another, the space in between also gets the character of a meaningful place. The world of living is as such not limited to the ‘direct living environment’, but contains all those places we come to.”

In the project area of La Victoria and surrounding neighbourhoods (see image) the morphological structures are very diverse. This is due to both housing typologies and typologies of public space. The combination of these typologies bring certain qualities like the creation of green spaces, a feeling of safety, places for certain activities, etc. However, in the project area the combinations of typologies do not correspond functionally and there is no synergy between them. Therefore the aforementioned qualities are lacking. In La Victoria there are few open spaces that could function as public spaces and in the surrounding neighbourhoods there are so many open spaces that the areas seem derelict. Furthermore, the neighbourhoods in the project area – that includes La Victoria, San Joaquin and Nuevo Lo Valledor – now function as islands and do not relate to adjacent areas and the rest of the city. To be able to offer these neighbourhoods and the city around it all the potentials both have to offer, it is important to reconnect them and include the islands in the public space network of the city. This requires an analysis of hierarchies within the city of Santiago, exploring the potentials of both existing and new (sub)centralities in the wider metropolitan area and how to (re)connect them to the neighbourhoods in the project area.

1 Reijndorp, A. *Stadswijk*, p 28
1. Problem Statement

La Victoria is a neighbourhood with a strong identity and a strong social cohesion. Built up in a grid pattern, the structure is clear. In this structure there is little open space, aside from the streets. In this socially cohesive neighbourhood the streets are used as public space and place for interaction. The streets belong to the pedestrian, as there are few cars in possession (0,145 per inhabitant\(^2\)). Everybody is entitled to using the street for market, parties or get-togethers, which makes the connection between inhabitants strong.

However, the situation in areas around La Victoria is less well organised. As public space is seen as an urban restructuring element, it needs to be defined and qualitative in order to fulfill this function in the actual urban conditions. In the project area the public space is neither defined nor qualitative and therefore does not function as a structuring tool within the neighbourhood and the opportunity to connect to the city is not used. Due to the high household index the domestic activities are extended to the street. In both San Joaquin and Lo Valledor there is an abundance of open spaces between the multiple story housing blocks, but most are not functioning as public spaces through lack of quality and collective ownership. All neighbourhoods in the project area have the same situation of low cost, poverty housing, where the space in which people live is limited and therefore the necessity for public space is higher. Although the inhabitants have little indoor space to live in, the outdoor space is not suitable to use as an extension of their homes. Nobody feels responsible for these spaces, whereas in La Victoria everybody feels responsible for the streets. This difference is due to the great morphological differences between the neighbourhoods. Also, La Victoria had little opportunity to use the public spaces that are functional in both the municipality of Pedro Aguirre Cerda as in the metropolitan area of Santiago, due to the same morphological differences that create strong boundaries between neighbourhoods.

Not only the morphological differences between the directly adjacent neighbourhoods create boundaries between La Victoria and the public spaces in the city, there is also an inconsistency between different scales within the southwestern part of the city of Santiago. Due to nonfunctional connections between the different scales, the local, the municipal and the metropolitan areas do not interact, prohibiting the exchange of facilities between them. There is a strong lack in hierarchy, which makes orientation difficult.

To be able to research the public space network on the larger scale, a research area is defined. It stretches the Southwest Region of Santiago, including the new metropolitan urban projects that are initiated due to the Bicentenary and to the existing metropolitan park O'Higgins. The research area is based on the reach of slow traffic from La Victoria. As mentioned, car ownership is low and people depend on slow traffic modes and public transport. The research area holds those subcentralities that are within the reach of La Victoria and act as organizers of the public space in the southwestern part of Santiago. The following sub-areas are defined:

Project area:
- [1] La Victoria
- [2] San Joaquin
- [3] Nuevo Lo Valledor

Research area:
- [4] Surrounding neighbourhoods
- [5] Surrounding bigger structures (Parque Andrel Arlan) and design proposals (Parque Aguada, Bicentennial Park)

[1] In La Victoria, although the streets are used extensively, there is a lack of larger public spaces for community activities to take place.
[2] San Joaquin has plenty of open spaces, but due to the great amount of it, nobody takes responsibility for it and quality is lacking.
[3] Nuevo Lo Valledor is built up of dense housing blocks which give little room to breathe. The spaces between blocks are used for storing. There is a lack of a clear public space structure.
[4] The surrounding neighbourhoods in Pedro Aguirre Cerda are disconnected from the larger public space network and function as islands.
[5] The Large Urban Projects in and around Pedro Aguirre Cerda are not very well connected to the neighbourhoods they should serve, but function mainly within themselves and for the richer population of Santiago.

The focus of this research will be the redefining of and giving quality to the public space network in the Santiago Southwest Region, to create an actual urban restructuring element, to be able to reconnect the neighbourhoods in the project area to the municipal and metropolitan scale. The existing typologies found in the research area could function as a base for this process by recognizing their qualitative structures and applying them to problematic areas. Functionality of spaces needs to be improved by redefining functions and adding local modes of production, and through considering the actual connectivity of the area.

\(^2\) Min. de Vivienda y Urbanismo, Observatorio Urbano
2. Criteria

To develop the aim for the research of this project – which is to redefine the role of public space and to re-establish the public space network as an urban restructuring element – it is important to start with an understanding of what public space in fact is. The definitions of it can differ and therefore a statement needs to be made on what is constituted as open space and what is constituted as public space and what spaces mean to certain areas. Besides a definition, typologies can be found. Not only in Santiago but anywhere in the world similar types of space can be found. Through theory and reference studies these typologies are found and linked to the existing spaces in the research and project areas. After this background study an overview needs to be made of what exactly are the problematic zones within the project area and how they can be dealt with accordingly in relation to the typologies found in the background study. The study will be done with regard to types of public space and their scale level or area of influence.

DEFINITIONS OF PUBLIC SPACE

A definition of public space is given by Han Meyer in *Het Ontwerp van de Openbare Ruimte* where public space is characterized as “an essential condition for the city to function as such”. Public space, according to Meyer, is that territory belonging to and being cared for by municipal governments, plus the informal spaces that have developed in the daily life as public, but are officially not marked as such.2 This last part is an essential issue for the case we are dealing with. The municipality of Pedro Aguirre Cerda holds many open spaces officially belonging to building plots and thus not being formal public space. However these spaces contribute, or have the potential of contributing, greatly to the daily outdoor life of the inhabitants.

Diego Sepulveda’s dissertation on the role of public space gives a definition of the spatial aspect of public space where “public space is considered as a continuous spatial network that connects all points of the city, qualifying the buildings, the activities that surround them and the specific functions that are embrace on this frame”.3

The public space components considered in this thesis as typologies are distilled from those mentioned in chapter three of *Het Ontwerp van de Openbare Ruimte, Typology of public space*. As public space in the Netherlands is often more carefully planned than that of Latin American countries, some typologies are joined as one. We appoint the following:

- Square
- Street (including lane and urban highway)
- Boulevard
- Shopping facilities (mall)
- Park
- Field

Added for the purpose of completeness for this particular situation, we draw from Sepulveda’s dissertation the following:

- Sports facilities
- Playground (as leisure facilities)
- (Semi)private garden

Not considered as relevant public space typologies for this thesis are; passage, as this is an element of public space that is not relevant for the situation we are dealing with and could also be considered as a covered street; canal (gracht), city moat (singel) and dike, as these are typically Dutch elements.

NEEDS OF THE COMMUNITY

The needs of the community that partly trigger this research thesis are those that speak of public space and connectivity, as well as the (re)design of certain urban elements. From the needs expressed in the participatory workshop held in La Victoria, the following needs are part of this thesis:

- Improvement of connectivity and mobility on city district scale
- Improvement of public space network
- Improved public safety
- Preservation and revitalisation of townscape

Although not leading in the research phase, it is important in the design phase to consider other needs like:

- Increased educational facilities (high school)
- Entertainment and leisure facilities for youth
- Preservation of social cohesion

RELATIONAL STRATEGIES

From the collective strategies, the following guidelines are used in this thesis research:

*Connectivity:* Permeation of borders
*Density:* New built structures, additions, transformation, renovation
*Public Space:* Improving use and quality of space
*Modes of Production:* Commercial additions

2 Meyer, H. Westrik, J. Hoekstra, M. *Het Ontwerp van de Openbare Ruimte*, p 00
3 Sepulveda, D. *The Role of Public Space in Urban Transformation*, p 00
3. Research Objectives

The goals of this project will be in the permeation of the borders of La Victoria and the reconnecting of this secluded neighbourhood to the metropolitan and regional scale, through the use of public space typologies and the creation of connections between them. A focus will lie on a research area covering the Santiago Southwest Region, defined by the public space that is of the most influence on the project area. A shift will be made from La Victoria, San Joaquin and Nuevo Lo Valledor currently functioning as islands, to them being integrated in the public space network of Santiago. Important in this reorganization of the network is the exploration of the potentials of subcentralities and redefining the hierarchy between them.

Current situation

Desired situation
4. Research Questions

The main research subject of this thesis is the following:

**How can typological research contribute to and support a strengthening of the public space network as an urban restructuring element in order to permeate the borders of secluded neighbourhoods within the municipality of Pedro Aguirre Cerda, resulting in a better interaction between spaces of different scale and function in the city of Santiago?**

With this question in mind, another subquestion arises:

**How can one regenerate and strengthen the public space network on neighbourhood, as well as municipal and metropolitan scale, through implementation of design proposals for strategic nodal points within the existing network?**

Considering this, other subjects to think of would be:

- What forces are of influence on the public space network in and around La Victoria?
- What typologies of public and open space can be found in this context?
- Which are the main typologies of public space that are of influence on both the project area and the research area?
- What is the hierarchy of public space elements within the research area?
- What are the problematics in respect to connectivity and public space within the different zones of the project area?
- Which connecting axes would bring better potential for integration in terms of public functions and connectivity to the neighbourhoods in the project area?
- How should functions be distributed along the connecting axes within the project area?

5. Societal and scientific relevance

**Societal**

With this project an attempt is made to counter the negative effects of neo-liberal policies of the urban model in poor neighbourhoods in Santiago. Through the use of a certain methodology, this project could also benefit other neighbourhoods around the world. The project deals with the potential effects of gentrification and strong political struggles between the upper and lower income groups. The vulnerability of the lower income groups is a reason for strengthening the identity of neighbourhoods to make them able to resist the negative effects of gentrification and profit from the positive effects that this process has on the quality of their living environment.

**Scientific**

This research adds to the critique on the neo-liberal model for urban regeneration processes and to the general knowledge of the urban problematics of designing in poverty neighbourhoods in South-American cities in respect to the public space network and its contribution to the improvement of living conditions. The approach for this project is transferable to other comparable neighbourhoods and cities and the design strategy can be applied anywhere where the morphological and socio-political situation is similar. The use of typological data provides a strategy that can be adjusted to any city or neighbourhood in the world. This methodological analysis adds to the knowledge on dealing with the reintegration of vulnerable neighbourhoods within the metropolitan structure and the public space network.
6. Hypothesis

Position

Public space is the element through which the city can be connected and made accessible on all scales. Through the use of public space in creating a network of connections and activity within the city, every neighbourhood will be connected in the metropolitan structure and participate in the urban life. This will maximize the living conditions for every inhabitant, through an interaction of spaces and through creating relations between people. Open space cannot function as public space without being given a clear function and spaces will deteriorate when not taken care of. Therefore, functionality and ownership are important factors in the redefinition of the public space network within the city. These objectives will all be a strong catalyst for improving the quality of living in the now secluded neighbourhoods of the project area.

Arnold Reijndorp describes: “The stories people tell about their neighbourhood (identity) and the views other people have about them (image) are both equally important. Through the growth of one group and the development of their own facilities, the world of living for that group expands, and expresses a stronger influence on certain parts of the city.” 4 This way the identity of La Victoria will be expressed amongst the surrounding neighbourhoods, resulting not only in the development of a strong identity around La Victoria, but also in an improvement of La Victoria’s image.

Goal

In order to strengthen the structures of both La Victoria and the surrounding neighbourhoods, it is important to consider the distribution of spaces and functions within the whole municipality. Public space typologies are used for the structuring of the space, connecting the neighbourhoods within the project area to new and existing centralities in the city, and for the enhancement of cohesion, thus giving the local public spaces more quality by providing new accessibility and strengthening the existing identity. The typologies will provide a theoretical framework and design criteria for the development of public spaces and the public space network. By analysing the public space network on different scales and finding the hierarchy within them, different typologies can be used for connectivity networks on different scales. Because of the focus on connectivity, some prominent corridors will develop where street profiles will be developed to support the leading role of public spaces along these corridors. This will restore hierarchy on the neighbourhood scale, which will make it easier to define the spaces and bring qualitative functions into them. For creating a strong public space structure, some open spaces need to be redistributed and possibly given new function as housing plots or privatised pieces of land. Ownership is an important factor in the maintenance of all open spaces and it will be an important design objective to assign all spaces to a certain function or owner in order to prevent the spaces from remaining desolate brown fields. This will all be a strong catalyst for improving the quality of living in the now secluded neighbourhoods of the project area. The situation will change when the new and improved public space network functions as an urban restructuring element. This will show in the use of spaces and in the interaction between people from different neighbourhoods, as well as in the public safety of public space in the city of Santiago and in particular in the project area. The typological framework will provide a clear and functional framework for the further development of public space corridors both within the research area as within the metropolitan region of Santiago de Chile, facilitating a self-sustaining and endogenous structure for the inhabitants of the project area wherein they can develop their own community. The ultimate goal is to strengthen the existing identities of communities by analyzing potentialities and providing concrete links to other spaces and functions, through design proposals for strategic nodes within the network, that can function as catalysts for a stronger public space network.

The main areas of focus are:

- **Restructuring of the public space network:**
  This will give quality to the public spaces under the actual urban conditions and improve connectivity and functionality.

- **Research on multiple scales:**
  The result of this research will help improve connectivity and accessibility.

- **Typological data:**
  The use of typologies as a design tool will make the strategy applicable elsewhere.

- **Materialisation:**
  To safeguard the quality of the public spaces materials are an important factor to consider, mostly due to the issues of maintenance and climate.

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4 Reijndorp, Arnold, Stadswijk, Reflect 02, NAI Uitgevers, Rotterdam 2004, p 28.
The design process is divided into a collective part and an individual part. The collective group work took place in the first half of the project studio and ended with the P2 presentation. After that, the individual work started, although still fed by the group synergy and based on a collaboration between architects and urbanists.
8. Output

After analysing the current urban conditions in the city of Santiago and exploring public space typologies, a proposal for the infrastructural and functional realisation of a redefined public space network will follow. From this an urban design intervention within the neighbourhood of La Victoria and the surrounding neighbourhoods of San Joaquin and Lo Valledor will be developed, focusing on connectivity through redistribution of public space.

First Phase [collective]:
- Historical and morphological models on the most defining processes in Santiago de Chile.
- Timeline of defining events in the history of Santiago de Chile.
- Analysis of La Victoria, San Joaquin and Lo Valledor and the borders of the project area.
- Four main strategies on the approach of the design project.
- Scale model showing the strategic interventions in the project area.

Second phase [individual]:
- Spatial analysis of the Santiago Southwest Region including conclusions and criteria.
- Analysis of public space on metropolitan, regional, neighbourhood and street scale.
- Exploration of public space typologies that give quality to a neighbourhood.
- Integrative spatial strategy for redefining public space in morphologically diverse areas.
- Case study: A design for an improved public space network for the East Border area of La Victoria. An implementation and evaluation of the strategy.
- Planning overview: Actors, financing, ownership.
General Analysis Southwest Region
Introduction

In order to be able to reach a conclusion on the question whether typological research can contribute to a stronger public space network it is important to understand all aspects of the location we are dealing with. Through an understanding of the context and the current situation a phase of ‘research by design’ can take place. However we first need to see the general characteristics and the main elements of the site. The method of analysis for this thesis will constitute first a general analysis of the research area, the Santiago Southwest Region, containing information on water structures, green elements, build structure and infrastructure. This general analysis will be followed by an analysis of the existing public space components present in the research area, a toolbox of public space typologies and a reference matrix of public spaces on different scales. The method for all analysis components will rely on the use of four scales, derived from a previous analysis of the municipality of Pedro Aguirre Cerda, executed by Anouk Distelbrink, Shirin Jaffri and Martynas Marozas, all urbanists in the DSD graduation studio Urban Asymmetries Santiago. The four mentioned scales are:

- **Metropolitan** (the city of Santiago)
- **Municipality** (Pedro Aguirre Cerda)
- **Neighbourhood** (Project area)
- **Street** (local scale La Victoria)

After the analysis of the research area on four scales, a more detailed analysis of the main public space elements will be executed, concentrating on connectivity and hierarchy of connections, making use of the metropolitan, municipality and neighbourhood scale. Using the typology toolbox, potentials for improving the public space network will be revealed, resulting in what shall be called an ‘interscale’ public space strategy. This strategy will concentrate on the reconnecting of morphologically secluded areas to new and existing subcentralities in the research area, focusing on all scales (interscale) of the city’s public space network. The model to the left shows this interscale public space network by displaying the separate networks within the city and showing how they relate. By designing strategic nodes in these networks, the scales can form a dialogue.

Model of the public space network on the metropolitan, municipal and neighbourhood scale, based on the network model by Suzan Christiaanse, TU Delft Faculty of Architecture, Urbanism Graduation Track, MSc 3 Globalization, 2009
1. General Analysis

Green

Green spaces in the poorer areas of Santiago are limited, due to the fact that the climate is hot and dry in summer and vegetation requires a lot of maintenance. The well-to-do have the funds to maintain their green spaces, but the poorer neighbourhoods have to do with less. This is very obvious from this green space analysis. The larger public spaces such as park O’Higgins and park André Jarlan are being maintained by government funds, assigning gardeners to spray water on the fragile grass beds. Also new structures like park Aguada and the Bicentennial park will be maintained. In the neighbourhoods themselves, real green spaces are rare, aside from the many trees lining the streets. There is an opportunity in connecting these neighbourhoods to the maintained green areas in the city, to provide them with green spaces. Aside from these connections, a use can be made of other materials within their build environment that are less sensitive to the weather conditions and require less maintenance to keep up their appearance.
Water

The same weather conditions make the presence of water structures in Santiago difficult. Most water elements we see in this map are in fact swimming pools. The one main water structure we see is the seasonal water stream Zanjón de la Aguada, running from east to west. The new to develop park Aguada will use this river current as an attraction.
Build

In this analysis of build up area we can clearly see the large open spaces in the city structure. These spaces are occupied either by diverse public spaces or by large infrastructural elements (or both). We can see the central station, the large metropolitan parks and the vacant sites meant for the bicentenary project developments. The area of municipality Pedro Aguirre Cerda is a represented a little more detailed, as this is the area we are dealing with.
Infrastructure

The infrastructure can be divided into two main scales: metropolitan and municipal. The metropolitan lines consist of metro and highway. Although the people of La Victoria largely depend on public transport, the highways provide good accessibility of our project area, whereas the metro does not. There is a potential new east-west connection that serves the Bicentennial park, but this has not been realized yet. The train line mainly connects greater Santiago to the rest of the country. It does not stop often and does not provide a good connection of La Victoria to Estación Central. This leaves them dependant on the bus system. The bus system has both metropolitan lines that have fewer stops and municipal lines with many stops. Our project area is sufficiently connected to the bus routes, but stops may need to be relocated.
2. Public Space Components

Metropolitan

The metropolitan public space in the research area consists of the horsetrack and urban park north of the river and the two bicentenary projects, both initiated by the metropolitan government and meant to be used by people from all over the city. All are within four kilometers of La Victoria.
In the municipality Pedro Aguirre Cerda there are two main spaces used by all inhabitants of Pedro Aguirre Cerda: The park to the east of La Victoria and the large market to the west of it. It is good to notice that both are very close to our project area, making La Victoria the centre of the municipality.
Neighbourhood

The neighbourhood La Victoria has few public spaces and all are located along one street. Around La Victoria public spaces are more abundant, however, there is a lot of open space that is not being used as public space, therefore the layout of spaces is somewhat random.
In La Victoria itself, due to the lack of open spaces, the street functions as the public space. Everything happens on the street, as houses are small and the street is the extension of the indoor living spaces. The street is therefore an important type of public space in the research area.
3. Reference matrix of public spaces on various scales

What does the public space mean for the different reference areas and what makes public space successful? Those where the questions asked for this element of the public space analysis. On the next pages examples of public spaces are shown for the different typologies. It is then set out, using these examples as a reference, what makes the spaces successful. It is also important to understand what the concept of public space means for different locations. This will be described for Europe, the Netherlands and Santiago de Chile, the latter differentiated in the four scales of the project analysis, being metropolitan, municipality, neighbourhood and street.

In the matrix we can see a number of gray areas, with no reference image added. These are the spaces that in our research area are not represented. In a later stage in the analysis and design process, these absent typologies of space on a specific scale will offer a potential for new to develop public space.
EUROPE
The European standard for the success of public space requires defined functionality and quality of materialisation.

THE NETHERLANDS
The Netherlands are a densely populated area of land with much build up space. Public space needs to have different functions than can be found in the private space of the houses. Most houses have a private outdoor area. Public space is meant to meet people or to carry out activities that cannot be carried out in the privacy of a home. The success of public space is determined by the possibility of activities and by the positioning of the space.

SANTIAGO DE CHILE [metropolitan]
In Santiago, through diversification and zoning of activities the public space has been used in the past decades as an ecological improvement strategy to improve environmental quality. Again the public space is meant to provide an escape from the smog of the city.

RESEARCH AREA [municipality]
In the research area, which represents the municipal scale of the project, public space is very diverse, but does not have an integral goal or intention. The metropolitan and neighbourhood scale are both completely separated from the municipal scale and have no relation with it.

PROJECT AREA [neighbourhood]
In the project area, due to the high household index, domestic activities are extended to the public space. It therefore houses more public activities then public space in areas with a lower household index. Quality and space become more important to the quality of life.

LA VICTORIA [street]
In La Victoria there is few open space and therefore the public space mainly constitutes of the streets. These streets house all outdoor activities that cannot take place in the limited space of the homes. Public space in La Victoria is the street.
PARK: Location is not very important for a park. It can be located in or far out of town, as long as it is accessible. Important in a park is variation of flora, both sun and shade need to be present. A park needs to provide a calm and relaxing environment, thus making it necessary to be shut of from the busy city vibe either by walls or by being large enough.

FIELD: A field is a combination of a park and a square, as it is very urban like a square, but also has some of the functions of a park. A field often only functions in the proximity of a large cultural or specific landmark, such as a museum or a town hall. A field needs to be mostly flat to be suitable for open air manifestations such as fairs or concerts. A field needs space and can therefore never be located in the busiest part of a city.

SQUARE: A square is an urban structure closed in by buildings. It needs this boundary to manifest itself. A square is mostly situated in between some important buildings, which makes for easier orientation. If this orientation does not exist, a square could be skipped by inhabitants and lose its function. A square needs to be a centrality in the city and accessibility is very important.

SPORTS FACILITY: A sports park can only function as public space if it is open for public. As sports parks are mostly private facilities, it will lose function as a public space when it is not publicly accessible. A sports park will be more successful if it offers room for accompanying activities such as catering facilities and availability for concerts.

SHOPPING FACILITY: A shopping centre is often a large urban structure mostly visited by people with motorized vehicles. Clear infrastructure is therefore crucial. Central location is not necessary, although we see that in the Netherlands a centrally located shopping centre makes it accessible for pedestrians and cyclists.

BOULEVARD: A boulevard is primarily a connecting infrastructural element. It is crucial that it has this function, for it otherwise easily becomes a desolate area. A boulevard thrives on its spaciousness and is a place for strolling and showing off and therefore needs to be located adjacent to another public space element where people are present to observe the stroller.

STREET: A street is mainly meant for traffic and thus accessibility. The scale of a street determines its functions and the area of influence. A street is most often seen as the space between two rows of housing. It should be suitable for neighbours to meet each other and it should also provide for a traffic route through the area. A street can provide for social security to the buildings adjacent and vice versa. If no activities are located in the plinth of the buildings, the street becomes unsafe.

GARDEN: A garden is a (semi) private addition to the private space of one or multiple homes. Being still private space it needs to be secluded, otherwise it becomes a park and embodies different functions. A garden is thus successful if not openly accessible and if it is flexible to the wishes of the owners.

PLAYGROUND: A playground is designated for (small) children and therefore thrives on being safe. Both the social and physical security of the space are very important for the quality of this space. Then the quality and maintenance of the facilities on the playground are also crucial, as a playground can not function without proper playing tools.
Public Space Typology Toolbox
1. Public Space Typology Toolbox

Introduction

This analysis is an exploration of how public space can be arranged into typologies. Every public space typology has its own characteristics and will be able to maintain different types of functions. Each panel will display a representation of the public space typology, a collection of general characteristics and a detailed description of possible functions and more detailed characteristics. Also the existence of the typology on each scale of the project within the city of Santiago will be displayed, in the form of an abstract image of the public space elements. The following typologies are appointed:

TYPOLOGIES

The exploration of typologies will focus entirely on public spaces existing in an urban setting. The city is home to larger and smaller spaces each with their own functional tasks. The public space typologies are displayed in the upper left corner of each panel.

CHARACTERISTICS

The small symbols displayed to the right of the public space typology symbol represent the general characteristics of each typology in terms of functional use, location in the city, materialisation and the time when activities are taking place. More detailed characteristics will be described in the adjacent text.

FUNCTIONS

Due to the characteristics and location of a public space element, certain functions can be housed in and around it and certain activities can take place. They are displayed below the public space typology symbol and described more detailed in the adjacent text.

SCALES

The scales considered in this project are the metropolitan, the municipal, the neighbourhood and the street scale. Below all functional and characteristic explorations, an example will be given of the public space typologies on each research scale, if it is present on this scale in the city of Santiago.

MORPHOLOGY

The footprint of the spaces are the generalized ideal morphologies for a public space on the scale in question.

CONNECTIVITY

In the connectivity diagram the hierarchy of adjacent or crossing roads is displayed.

1 Meyer, Westrik, Hoekstra, Het Ontwerp van de Openbare Ruimte
2 Sepulveda, D. The Role of Public Space in Urban Transformation
CHARACTERISTICS

- place of stay
- centrally located
- green
- daytime

- place of traverse
- subcentrally located
- paved
- nighttime

FUNCTIONS

- play
- sports
- eat and drink
- sunbathe

- market
- events
- café
- shop

- concerts
- games
- storage
- traffic

SCALES

- metropolitan
- municipality
- neighbourhood
- street

MORPHOLOGY

- build
- metropolitan road
- municipal road
- public space
- neighbourhood road
2. Park

FUNCTIONS

As a park is a place of green fields combined with many trees and bushes, there is hardly room for official activities within the park. Therefore, all functions will be leisure. A park offers room for
- play
- sports
- eat and drink
- sunbathing

CHARACTERISTICS

To accompany its functions, a park has certain characteristics to benefit from. First, it is always a place to stay for a longer period of time. A park is hardly used for passing through. To reach many people is it often located centrally in the city or neighbourhood (although this depends largely on the scale of the park) and the activities take place during the day, because at night it is socially insecure. Elements suited for a park are
- water
- trees
- benches
- paths
- small scale facilities (kiosk)
The park on a street scale is very much similar to the garden, as on this scale a park is not public any more, it becomes a private space.
3. Field

FUNCTIONS

A field is an open terrain on which both leisure and official activities can take place. It is a more urban element than the park, and can therefore be used for more urban functions such as
- events (f.e. protests)
- market
- concerts
- sports
- eat and drink

CHARACTERISTICS

A field can be used both for staying a longer period of time as for traversing across. It can therefore have strong relations with the characteristics of a boulevard. It can either be located centrally or subcentrally but it is always important that it’s accessible. Most fields are partly green and partly paved and as it is a more urban public space element it can house both day and nighttime activities. Fields are placed within an open urban structure amongst other larger scale urban elements or outside of the city’s dense urban structure. Because of the large scale open space a field is very all round regarding functionality, but it is most suitable for larger scale activities.
The field is a public space that specifically rests on the characteristic of its larger scale, that makes it suitable for the specific functions. Therefore the field does not exist on neighbourhood and street scale.
4. Square

FUNCTIONS

A square is a truly urban space surrounded by buildings and therefore very suitable for functions which require build structure. Depending on the size, functions fitting for the square are:
- horeca
- official organizations (governmental and religious facilities)
- market
- sports

CHARACTERISTICS

A square is an open space within the city's build structure, historically meant to offer the city's inhabitants a place to breathe within the dense structures. Squares are thus always paved and centrally located within the city. Facilities are placed along the edges of the square. It can either be a place to stay for a longer period of time or be part of the city's infrastructure. Both day and nighttime activities can take place. A square can also offer room for:
- benches
- water
- infrastructural facilities
5. Sports

FUNCTIONS

Spaces meant purely for sports still often offer space for other functions as well, for the times when the facility is not used for sports. Sports facilities not used for sports resemble strongly the characteristics of a field. Functions suitable for sports facilities are
- sports
- horeca
- concerts
- events
- market

CHARACTERISTICS

Sports facilities are often private, secluded places fenced off from the rest of the city. However, smaller scale sports fields can offer green open spaces within the city structure. Sports facilities are always a place for long term activity during the day and evening, at night they are closed for public. Because of the mix of functions they can either be green or paved, also depending on the types of sport practised there. Although often private facilities, sports centres are regarded as public spaces as they are open for public when there are no secluded activities (like practices) taking place.
6. Boulevard

FUNCTIONS

Within the character of the boulevard, the following functions could be suitable:
- sports
- market
- café
- traffic

CHARACTERISTICS

A boulevard is an urban structure part of the infrastructure of the city, meant to connect areas. It can either be located centrally within the city or subcentrally on the edge or waterfront. As a connecting element, it should be located near other spaces to actually connect to. Being part of the infrastructure, it is paved and suitable for both day and nighttime activities. Boulevards are often spaces meant to attract and are therefore shaped as attractive as possible, for instance by the use of:
- trees
- water
- benches or sitting edges
- small scale facilities (kiosks)
The boulevard is typically a connecting element of different neighbourhoods and therefore does not function as an element for one street only.
7. Shopping

FUNCTIONS
The main function of a shopping area is obvious, but other functions can be placed adjacent to it. Functions suitable for a shopping centre are:
- horeca
- games
- shopping

CHARACTERISTICS
A shopping centre or shopping area is always a destination and not a place to pass through, although of course a shopping street also has the characteristics of a street, but now we only consider the one function. Larger scale shopping areas are usually located subcentrally and can be reached by highway or public transport. Smaller scale shopping areas are located centrally within neighbourhoods and can be reached on foot, by bike or motorcycle or again by public transport. Due to its function a shopping area is paved and activities take place during the day.
FUNCTIONS

The functions on a street strongly depend on the scale. On the smallest scale the street serves only the people who live there and therefore more small scale activity can take place. The higher the scale the more infrastructure is needed to access other functions.

- traffic
- sports
- shop
- market
- café
- games

CHARACTERISTICS

The street is a connecting element mostly used for traffic. Part of the street are the sidewalks and the adjacent buildings, that can house a variety of functions. The character of a street strongly depends on the scale.
*Street profiles are taken from the Urban Asymmetries Santiago Urbanist Group analysis by A. Distelbrink, S. Jaffri and M. Marozas.
9. Playground

FUNCTIONS

Playgrounds are designed for a very distinct function and thus do not allow room for other functions. A playground therefore only houses
- play
- sports

CHARACTERISTICS

Playgrounds on a smaller scale are located in the centre of a neighbourhood, however on the larger scale they can also be situated sub-centrally. Playground are paved, either with stone or with a softer, child friendly material. As a place meant for children, only daytime activities take place.
10. Garden

FUNCTIONS

A garden can house any small scale non-commercial activity the owner(s) wants to put in it. Most common functions are:
- sunbath
- storage
- games

CHARACTERISTICS

A garden is a private or semi-private piece of land, adjacent to a house or multiple houses, providing outdoor space for the inhabitants of those houses. The boundaries of a garden can be made clear by a fence, wall (high or low) or hague, but can also be open to the street. Both plantation or pavement can be present, determined by the wishes of the owner(s). Gardens can either be used for staying a longer period of time, or for traversing, providing access to the entrance of the house.
METROPOLITAN
The garden on a larger scale becomes more public and therefore is identical to the park. A (semi) private garden only exists on the street scale.

MUNICIPALITY / NEIGHBOURHOOD
On the middle scale, the garden could be a merge of park and garden, for instance community gardens on a shared plot.

STREET

[footprint] [connectivity] [reference]
Connectivity Analysis
The Bicentennial Park is an urban development initiated for Santiago’s bicentenary celebration. The site envelops the old airport terrain and consists of housing, facilities and public space, the latter situated alongside a boulevard crossing the site. The boulevard follows the old runway of the airport. This boulevard however does not connect to the existing infrastructure and thus there is no north south connection through the park. There are three E-W connections on different scales.

Reading from left to right, top to bottom, we see:

[a] situation
[b] street analysis
[c] street diagram
[d] street characteristics
   1. Av Departamental/Av Suiza: 
      Main car access road, metropolitan highway network
   2. Piloto Lazo/Av Plano Regulador: 
      Local neighbourhood access road, cuts through park
   3. Av Cerrillos/Av Lo Ovalle: 
      Municipal access road, cuts through park
   4. Camino A Melipilla/Av Pedro Aguirre Cerda: 
      Boundary
   5. ‘Bicentenary Road’: 
      Municipality boulevard, internal connectivity
   6. Autopista Central west: 
      Boundary

[e] ideal street situation
[f] connectivity potentials
[g] spatial-functional potentials

1. Connectivity analysis main public spaces

Portal Bicentenario

Scale 1 : 40 000
Part [e] shows the minimal requirements for a public space element such as this to function within the city network. These requirements are taken from the typology toolbox shown in paragraph three of this chapter. We see that the north south orientated boulevard does not connect to the existing infrastructure and thus fails to provide a connection to the rest of the city. A potential exists in connecting this boulevard at the north end to the surrounding neighbourhoods, providing an access point to the Bicentennial Park.
Parque O’Higgins is one of the most used large urban parks in the city of Santiago. It has both open areas and tree planted areas. It is located near the city centre, in the vicinity of metro and bus stops.
Although the park is well connected, it is closed on both the east and the west side by large road structures, prohibiting a connection between the park and the rest of the city. Even the Club Hipico has no relation to the park, which immediately brings an opportunity for these spaces to be connected, so that they can together form an even larger and better accessible public space.
Club Hipico is primarily a horse racing track, that attract many visitors from all over the city. This also makes it a meeting place and, it being green, has the feel of a park with entertainment facilities. Although located next to Parque O'Higgins, the two have no relation.
On a municipal scale, Club Hipico can be reached from all sides equally. However, being a metropolitan public space, there is a lack in metropolitan connections to the city. This is primarily due to the non-existing connection to Parque O’Higgins. Aside from the possible interaction between the two spaces, the accessibility of Club Hipico can be improved by facilitating access through Av. Almirante Blanco Encalada, which would improve its position in the metropolitan public space network.
Parque Andre Jarlan is located centrally of the municipality of Pedro Aguirre Cerda, however it is not seen as a major node in the public space network. This is mainly due to the fact that a mere third of the design has been executed and the space is mostly brown and desolated. Located right next to La Victoria, it is a very important open space for the inhabitants. The park is only open from 10.00 until 18.00 and is surrounded by a large gate for better surveillance.
The road structure shows a large lack of connections on the east and south side of the plot. As the upper and lower parts of the park have not been developed, these areas form boundaries between the neighbourhood and the park. A large potential therefore exists in the reconnecting of the park to the neighbourhood, through development of the north (and possibly south) side of the plot and through the construction of a road on the east side from north to south.
Estacion Central is not only the Central Station of Santiago, but also facilitates many shops and market places. These are mainly used by the less well to do, thus by the people living in our project area. Connection by bus is good, but the train-tracks form a large barrier for travellers on foot or by bike.
The area of the Estacion Central functions well on site, it is however difficult to reach because of a lack of east-west connections, making the inhabitants of La Victoria rely on bus connections to reach the area. It is too far to walk, but other slow traffic modes are within reach. This mainly demands a better road structure between the station and the neighbourhood.
Lo Valledor is the fruit and vegetable market of Santiago that provides a large part of the country with groceries. It is therefore a large scale business centre with trucks driving in and out twenty-four-seven. The wholesale business also sells in smaller quantities to individuals, providing many of the local markets with food. Lo Valledor provides a large part of La Victoria’s independence of the expensive city centre.
The market of Lo Valledor functions very well and is, due to the metropolitan and even regional role it plays, very accessible through metropolitan and municipal connections. However, in its current layout it also forms a boundary between the neighbourhoods to the east and west. This could be solved by rearranging the road structure of La Rural. Another potential is in the development of the plot of the former slaughterhouse. Now out of use, it could house a wide range of new functions, adding function to the surrounding space, that could sequentially form a connecting node between the Bicentennial park and the Parque Aguada (next page).
Parque Aguada is also part of the bicentennial development projects. It envelops the restructuring of the land around Zanjón de la Aguada, a seasonal urban stream running through the lowest section of the Santiago Basin. The project proposes designing an open water system, recovering 60 hectares of riverbank areas with sectors that flood on a controlled basis during winter rains and can be used during the rest of the year for civic uses such as sport fields or recreational ponds. This linear park will be part of an ecological artery through the city, connecting to the poorer areas of Santiago and offering a great potential for integrating the north and the south side of the stream.

[c] street diagram

[d] street characteristics
1. Av Isabel Riquelme/Autopista del Sol: Boundary of park
2. Av Club Hipico: East entrance point, connection to northern public spaces
3. Autopista Central east: Metropolitan road, cuts park
4. San Ignacio de Loyola: Municipal road
5. Gran Avenida Jose Miguel Carrera: Main municipal road, important north south connection
6. Av Santa Rosa: Metropolitan road, cuts park
7. Av Las Industrias: Municipal road, cuts trough park
8. Av Vicuna Mackenna: West boundary
9. Av Carlos Valdovinos: Main east west access road
Although Parqua Aguada has originally been designed to envelop the entire stream until the part west of the train tracks, the design has been cut to stop at Avenida Club Hipico, leaving the zone north of our project area undeveloped. There is a large potential in going through with the original design and, as planned, let the park stretch the entire zone between the train tracks and Avenida Vicuna Mackenna, that leads to the city centre. By doing so, the park can be a connecting element between north and south side of the stream, providing for a far better connection between the metropolitan and the neighbourhood scale. The river will transform from a barrier, to a connector.

[e] ideal street situation

[f] connectivity potentials

[g] spatial-functional potentials
2. Connectivity inventory

Metropolitan scale

The metropolitan scale shows a network of highways and main connecting roads that spans the entire city of Santiago. Linked to this network are large shopping malls, orientated on the well-to-do within the city, that travel to these malls mainly by car. Indicated on the map are these roads and malls and also the public spaces on metropolitan scale. Indicated in red lines are the potential intervention areas that could improve connectivity within the metropolitan network. One is the combination of Parque O’Higgins and Club Hipico, now separated through housing blocks, but potentially a new centrality if properly integrated. The other is the zone stretching from Portal Bicentenario towards Parque Aguada and the area around the train turntable site and the large highway crossing. If connected, this will become a metropolitan public space corridor that could function as a connector between the north and the south side of the stream Zanjón de la Aguada.
On a municipality scale the roads connecting the metropolitan to the local are indicated. Municipality roads are basically roads that are important for the entire municipality, or even beyond that, without being continuing city scale roads. They connect large urban functions to the community, such as supermarkets, indicated on the map. Supermarkets are often reached by public transport or slow modes of transport as bicycles and scooters. Some municipal roads are parallel roads to highways. Indicated as potential intervention areas are the corridor leading from Estación Central towards PAC, the improved connection between PAC and Lo Valledor and the further development of Parque Andre Jarlan, that could turn the park into a subcentrality attracting visitors from other municipalities as well.
On a neighbourhood scale we see only the roads that are important for local communities. They are destination roads, and do not suffice for continuing traffic. Along these neighbourhood roads are several neighbourhood scale functions, such as local commerce, sports fields, schools and small parks and playgrounds. Through analysis of these functions, certain street characters can be recognized, such as the school corridor in the south and commercial corridors through neighbourhoods. These characteristics can be strengthened, through the changing of street profiles, the creation of new or better connections between dead-end streets and the connections towards municipal functions.
The previous maps show the connectivity structures on the three before mentioned scales, distinguishing both the spaces and connections belonging to a certain level within the city. The public facilities corresponding to each scale, largely determine which routes are the primary connecting elements, together with the public spaces corresponding with the scale.

By overlapping the connectivity analysis of the metropolitan, municipal and neighbourhood scales, the transfer points in the different networks can be found. These transfer points become nodes in the connectivity network and are the transferia between metropolitan, municipal and neighbourhood networks.

Nodes on one scale will undeniably influence the others, thus making it important to not regard one layer isolated from the others. To determine the quality of each node and connection however, it is crucial to understand the scale of an element, in order to be able to characterize and functionally define a junction, a street or a place.
Strategy
1. Strategy SSR (sub)centralities

Current metropolitan (sub)centralities

The existing centralities in the city of Santiago are unevenly spread and do not contribute much to the Santiago Southwest Region, that we earlier assigned as research area. What is contributed however is mainly employment from the shopping malls, products from Estación Central and Lo Valledor and some revenues from the city centre and the CBD, mainly due to Bicentennial developments, that trigger possible links. Some flows of people come from Parque O’Higgins and some is expected from the future Portal Bicentenario.

Because of the secluded character of many of the neighbourhoods with the Santiago Southwest Region, there are no outgoing flows.
To improve both the internal and external connectivity of the Santiago Southwest Region, new subcentralities are formed. These new subcentralities complement the collection of public space typologies on the different scales (see Reference Matrix chapter 5.2) and bring new functions that promote the flows between the new and existing centralities. Thus, new hubs are formed within the interscale public space network, improving connections and permeating the boundaries formed around the communities within Pedro Aguirre Cerda.
2. Main connectivity corridors
Explanation of nodes

The nodes in the network are defined first by the transfer of scale, where neighbourhood, municipal and metropolitan scale overlap and crossings exist (chapter 7.2). The transfer points represent points in the city’s road network where one scale merges with another and a change in road structure is experienced.

Besides the transfer points, some nodes also represent (sub)centralities in the Santiago Southwest Region, formed by public spaces of different function and present on all scales (previous paragraph). At some nodes the transfer points and the centralities overlap, forming a crucial node within the interscale public space network.

Between the nodes, important corridors can be identified, forming lines of intervention for improving the overall connectivity of the public space network. The connecting corridors are the streets that form a representation of the public space network and contribute to this network through their hierarchy and appearance. It is therefore important that their profile matches their function. The identity corridors are those connecting streets that have a specific character or identity important for the regeneration of the Santiago Southwest Region. They are represented on all scales, including the Bicentennial corridor on metropolitan scale, the commercial Clo-tario Blest boulevard on municipal scale and the streets that form the educational corridor on a neighbourhood scale.

On the following pages the origins of the nodes will be explained in more detail, using the collective strategy for La Victoria as a starting point. In the collective strategy one of the main conclusions was the need to permeate the borders of La Victoria. The desired result is sharing of facilities between neighbourhoods and improvement of municipal connectivity. The nodes and their connecting corridors will be explained by dividing the Santiago Southwest Region in four zones, determined by the strong borders of La Victoria. There will be a Northern Border area, an Eastern Border area, a Southern Border area and a Western Border area.
The North Border area consists mainly of potential connections to metropolitan scale nodes. To achieve these connections some interventions should be made on the local scale, mainly to facilitate the crossing of Zanjón de la Aguada towards Estación Central and Parque O’Higgins/Club Hipico.

[a] Estación Central is a multifunctional space that includes both transport and commercial facilities.
[b] Club Hipico is a metropolitan sports field use for horsetrack racing.
[c] Parque O’Higgins is one of the most used parks in Santiago, both for leisure as for events.
[d] Parque Aguada is a metropolitan green boulevard along the Zanjón de la Aguada, forming a green artery through the city, connecting north and south and uniting neighbourhoods.
[e] Parque Aguada stretches almost the entire width of Santiago, making also an east-west connection.

[2] The same road crosses San Diego. This metropolitan street is also one of the metrolines.
[3] One of the crossings of the railtrack north of PAC.
[4] Autopista Central crosses Av. General Rondizzoni, at this point there is also a metrostop.
[6] Pedro Subercasseaux lies in the length of Galo Gonzáles, the feria libre of La Victoria.
The East Border area is aimed at the middle scale, including both municipality and neighbourhood functions. The eastern border is formed by Av. Clotario Blest, a commercial corridor potentially transformed into a more official commercial boulevard. The key issue is the connection of the municipal to the neighbourhood scale.

[a] Parque Aguada provides the link to the city centre.
[b] Parque Andre Jarlan becomes a new subcentrality on a municipal scale by adding functions.
[c] Plaza Elefante Blanco becomes an educational node on the neighbourhood and municipal scale.
[d] Sports park La Marina is an important node in the educational area of Pedro Aguirre Cerda.

[1] Boulevard Clotario Blest crosses the north side of the park Enrique Matte, which then crosses Club Hipico.
[3] Clotario Blest meets 30 Octubre, both commercial streets of a different scale.
[4] Club Hipico meets Angel Guarello, the one street that cuts Plaza Blanco Elefante in two.
[6] Departamental meets Club Hipico, which, when continued, leads into an educational corridor of schools and sports facilities.
The South Border area is, although it crosses the metropolitan Av. Departamental, mainly a neighbourhood scale area. In the neighbourhood south of La Victoria are most of the schools and sportsfacilities that serve the municipality. A clear relation is drawn to the school and church area in the east.

[a] Local sports field part of the educational corridor.

[1] The south border area is framed by Portal Bicentenario on the west side.
[2] It is important to relate Portal Bicentenario to the existing neighbourhoods through a good connection.
[7] Vecinal meets San Diego, which at this point also crosses Av. Departamental.
The West Border area makes a relation between the neighbourhoods on the east and west side of the train track. The east side being La Victoria, San Joaquin and other areas adjacent to this, the west side being Nuevo Lo Valledor, Lo Valledor market and the new Portal Bicentenario.

[a] Plaza Matadero houses the old slaughterhouse of La Valledor market, it could function as a connector between Portal Bicentenario and Parque Aguada.

[b] Lo Valledor Market is frequently used by the people living in the surrounding neighbourhoods, while simultaneously functioning as a metropolitan node.

[c] Portal Bicentenario is a new multifunctional area including a large parkside boulevard running along the old airport runway.


[2] The entrance point of Portal Bicentenario is a crossing of metropolitan, municipal and neighbourhood streets.

[3] The new crossing at the end of 30 Octubre should provide a major improvement of connectivity to the west side.
3. Nodes in the network

To clarify the shape and location of each node, an overview is given of the nodal map on the satellite map of Santiago. In this map it can be seen how the nodes appointed in the previous paragraphs actually relate to spaces and connections within the city. The nodes are also related to the existing metro lines, of which the north south line running past PAC forms one of the large metropolitan transport corridors in the strategy for the public space network.
4. Corridors in the network

There are three important corridors found in the Santiago Southwest Region. Together they represent all three scales of the research. The first one is the green corridor, formed by Portal Bicentenario and Parque Aguada. Currently it is not a corridor, but it has a large potential to become one, when the intermediate area is developed. On a municipal scale boulevard Clotario Blest can be appointed a commercial corridor. It connects to other public spaces, making it stronger in its function. Last there is the neighbourhood scale with an educational corridor, formed by two streets to the south of La Victoria with many schools and small sports fields and complemented by Club Hipico, that connects these two streets to the school east of La Victoria.
5. Strategy for the public space network

- Stitch area
- Development public space
- New or improved connection
- Improvement of road
- Change street character
- Strengthen street character
- Permeation of border

- Estacion Central
- Train Turntable Museum
- Plaza Matadero
- Plaza Tres Oriente
- Neighbourhood Municipality Square
- Neighbourhood Sports Municipalities
- Neighbourhood Shopping Metropolitan
- Playground
The strategy

GOAL
On the previous pages the strategy for the public space network of the Santiago Southwest Region is placed. The goal of the strategy is to create a qualitative, accessible and complete public space network. This in order to integrate the neighbourhoods in the Santiago Southwest Region by permeating the strong borders between them and both strengthening and spreading of identities, thus improving the image of each neighbourhood. Through facilitating the functional and spatial supply of facilities a stronger community is formed.

IMPLEMENTATION
The strategy is based on:
1. The reference matrix of public spaces, where an inventory of existing public spaces was made.
2. The connectivity analysis, where potentials of existing public spaces were analyzed.
3. The connectivity inventory, where scale transfer nodes were appointed.
4. The strategy for (sub)centralities, where potentials for new centralities were determined.
5. The main connectivity axes, where potential improvement strips where recognized.
6. Elements of the strategy for La Victoria made by the Urban Asymmetries Santiago Urbanist Group formed by A. Distelbrink, S. Jaffri and M. Marozas, where proposals where made for Av. Departamental, Dos de Abril, 30 Octubre and La Rural.

[a] STITCH AREAS
The zone between Club Hipico and Parque O'Higgins is now filled with housing. The streets leading to both spaces are disalined, which results in a total lack of connection between the two. To promote the role as a centrality of both spaces, the relation between them should be strengthened, creating a more multifunctional centrality and improving the accessibility of both. The housing zone should be transformed into an area that provides green connections between the two spaces.

The axis that runs between Parque Aguada and Portal Bicentenario is desolate and underdeveloped. By lengthening the Parque Aguada beyond the highway crossing and by developing an access route from the Portal Bicentenario boulevard to the same crossing, a metropolitan axis appears that both connects the west to the north as well as provides a transfer zone between the north and south side of the river.

As an important node in the public space network a better connection to the south. The roads alongside the traintracks do not provide a clear access route and the strip could be transformed into a better and more important connection. This will promote the inclusion of the central station area into the public space network of the Santiago Southwest Region.

To the east side of Parque Andre Jarlan, all access routes are absent, which results in a strong border between the neighbourhoods on the east and west side of the park. By developing the east side of the park, it will connect better to the eastern neighbourhoods.

Sports field ‘Tres Oríente’ is disconnected from the continuing road through San Joaquín, making it disconnected from the neighbourhood. By opening up the space between the field and the road, the space will become more open, providing better accessibility and public safety.

[b] DEVELOPMENTS OF PUBLIC SPACE
To strengthen the role of the stitch areas of Estación Central and Parque Aguada, the old train turntable site will be transformed into a metropolitan playground and museum, as a connector within the municipality and a link to the rest of the city. A small train would run from the station to the site, from where people could either visit the playground, follow the Aguada boulevard, or turn south towards Lo Valledor.

A second connector within the Bicentenario-Aguada-axis will be formed by the regeneration of the Plaza Matadero, or slaughterhouse area, north of Lo Valledor. To create a strong link and better accessibility between Parque Aguada, the Estación Central-axis and the Portal Bicentenario, the site of the old slaughterhouse will be redeveloped into a municipal cultural square, where the building will be transformed to facilitate housing several functions and the open space around it will form a gateway between both boulevards.

Parque Andre Jarlan is a large plot, making it very suitable for being a municipal centrality. The north part will be designed as a field, suitable for various events, concerts, markets of just for sunbathing. The south part will made suitable for community gardens, creating a
strong link with Lo Valledor market and the local markets in PAC, by providing a commercial strip alongside Clotario Blest boulevard. The main aim for Parque Jarlan is to become an accessibility zone instead of being a boundary between neighbourhoods.

On the site of the planned medical clinic, the White Elephant, a new highschool will be developed. It is situated in the educational strip of PAC, with many schools, sports fields and churches, requiring a quiet neighbourhood environment. On the north side of the plot there already is a school, as is to the east, therefore a green park with sports and play facilities will be realised, complementing the existing sports complex of La Marina, to the southwest of the plot.

Finally the sports field of Tres Oriente will be refurbished, after the opening to the continuing road has been made. This will promote the use. Also the green strip alongside the traintracks and Villa Sur will be renovated.

[c] NEW OR IMPROVED CONNECTIONS
To the north of La Victoria, some main access road will be connected to the Parque Aguada, providing access from La Victoria and San Joaquin to the north.

Between La Victoria and Lo Valledor, two new railway crossings will be realised, replacing the existing one.

The crossing of the municipal Av. Salasianos that runs through Parque Jarlan and the Autopista Central will be smoothened, dissolving the boundary of the highway.

Accessibility of the school district will be improved for slow traffic, to provide better safety for children and parents who do not have a car.

A connection will be made between Nuevo Lo Valledor and the neighbourhood to the south of it, integrating the municipality.

[d] ROAD IMPROVEMENTS
Club Hipico will be restructured to be suited for both city bus and the slow modes of transport.

Av. Departamental will house a new metroline with stops at Club Hipico, Clotario Blest, Av. Maipu and Portal Bicentenario and potential further extension. In addition, the railtracks will also house a new metroline.

[e] CHANGES IN STREET CHARACTER
Dos de Abril will become a more local road while the main flow will be redirected to Alfredo Lobos/Mariquina.

30 Octubre will become a continuing commercial neighbourhood road between the new highschool and Lo Valledor.

The open profiled Valenzuela Llanos in San Joaquin will become a narrow neighbourhood street connecting to Parque Aguada.

The two school district streets Av. Plano Regulator and Unión Ferroviaria in the south will be redesigned to fit their function and to be suitable for slow traffic.

[f] PERMEATIONS OF BORDERS
The layout of the Santiago Southwest Region is very fragmented due to several strong boundaries, that could be permeated through the creating and improving of connections. The strongest boundaries are the east side of Portal Bicentenario, the traintrack between La Victoria and Lo Valledor and the borders of Parque Andre Jarlan. In the redesigning of streets and crossing, these boundaries should be dissolved.

[g] STRENGTHENING OF STREET CHARACTER
30 Octubre has an important role as commercial strip within the community of La Victoria. This function should be preserved and could be strengthened by improving the street profile to better serve the function.

The local market of La Victoria takes place in Galo Gonzáles and serves an important social function within the community. With the development of the community gardens in Parque Andre Jarlan, the function of this local market could be strengthened by forming a relation between the two.

Primero de Mayo is the main public space axis in La Victoria. As the one street with accessible open spaces, this quality will be emphasized by renovating the spaces and making this the one and only street in La Victoria with neighbourhood scale public space. This will improve public safety in the neighbourhood. The public space-axis will continue north into San Joaquin, including the sports field of ‘Tres Oriente’.
1. Design Area

The East Border area

The aim of this project is to design guidelines for restructuring spaces to facilitate a qualitative and functioning public space network. In order to achieve this, a design research is done to explore the framework and the potentials of the transfers between the different scales. This is projected onto the East Border area, where both metropolitan, municipal and neighbourhood corridors are present, and two of the new subcentralities for the Santiago Southwest Region are located. The design research will envelop the area displayed in the nodes diagram and will focus on the character of streetcrossings and their relation to public facilities and public space. By developing certain nodes, corridors are created that strengthen connectivity.
Key nodes East Border area

The East Border area contains both metropolitan, municipality and neighbourhood roads. The goal is to permeate borders and both find and restore the links between the higher and lower scales. The metropolitan highway network is regarded as the doorway from which we enter the public space network on the other scales. The change of scale is the key factor in this design research. The project shall focus on these changes through the exploration of nodes on different scales in the area showed below. In chapter two of *The design of the public space (The traffic system)*, Maartenjan Hoekstra explains on page 67 how some parts of the traffic system are accessible for one traffic type only and, strictly speaking, that makes them not being part of the public space network, as they are not accessible to everyone. This is the reason that in this design research, explorations shall be made not on the metropolitan-to-metropolitan type node, but on all the other scales.

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2. Criteria for design intervention research

Basic criteria

For this project there are criteria that need to be taken in when designing the nodes in the public space network. When considering the layout of streets and other public spaces, these are the ground rules that must be visible in every design.

1. HIERARCHY

In the current network of the Santiago Southwest Region, it is often not clear what the role is of a street within the network. To promote the accessibility of functions, every street must be compatible to the facility it serves. This will provide an understanding of the layout of the area, making public spaces more accessible to people and traffic.

2. FACILITATION OF SLOW TRAFFIC

As the car ownership in La Victoria, San Joaquin and Nuevo Lo Valledor is very low, people rely on public transport and other modes of transport. However, due to safety and crime the use of slow modes of transport is not all that common. Most people do have a bike or a scooter, but it is often unsafe to travel the high-frequency-roads. There lies a great potential in facilitating these forms of slow traffic through a safer street-profile, enlarging the reach of the inhabitants to up to 4 kilometers.

3. VISIBLE FUNCTIONS

When the character of a street is understood, travelers will be more aware of the possible activities and dangers that come with it. Public safety will improve and commercial facilities will benefit through recognition of their function. This visibility of character can be reached through the use of, amongst others, trees, furniture and pavement. A commercial connection will be more open to the street, using low elements and few trees, while a housing block will be decorated more comfortable and protective through the use of higher elements and lots of green.

4. ORIENTATION

Finally, the use of landmarks in the street-scape is an important tool for orientation through the city. Change of function means change of profile, which can be reached through break in rows of trees, of through a change in pavement and furniture, or both.
Basic layout
To understand the spatial differences between the three scales, a basic spatial layout is determined for each scale. This is the basis from which the design of a street will be made and it can be adjusted according to the specific spatial requirements of each node. The basic profiles are inspired by the ‘Duurzaam Veilig’ policy mentioned in chapter two of Het Ontwerp van de Openbare Ruimte, Systems of public space and the thesis of A. Distelbrink, chapter 7.2 Profiles: typologies, based on the same literature.

a. NEIGHBOURHOOD STREET
The neighbourhood street is basically the Community street at regular stretches, and the Main street near facilities. It is based on a low frequency of fast traffic and a narrow street profile. Slow traffic is not separated here, but pedestrians do have a separate walkway.

b. MUNICIPALITY STREET
The municipality street is similar to the Main street. The street profile is slightly wider and more traffic passes here. Therefore the slow traffic and pedestrian flows are separated from the car lanes. Around facilities the profile can be shifted to make more space for slow traffic.

c. METROPOLITAN STREET
The metropolitan street is similar to the City District road. High frequency traffic is facilitated by a wide profile, with separate slow traffic lanes and parallel roads to connect to the neighbourhoods.
3. Urban plan East Border area

The East Border Area is the area framed by Clotario Blest on the west side, Autopista Central on the east side, Parque Aguada in the north and Avenida Departamental in the south. The urban plan shall focus on a number of larger interventions and the spinoff projects resulting from this.

The largest urban project in this area is the development of Parque Andre Jarlan. Currently only the middle part of the plot has been developed and a large potential lies in the use of this plot as a connection from La Victoria/San Joaquin towards the Autopista. The Reference Matrix in chapter 5.3 has shown a lack of fields on the municipality scale and of gardens on the neighbourhood scale. Therefore the proposed intervention for Parque Andre Jarlan will be for the North part to be developed into a field that can be used on a municipal and metropolitan scale for, for instance, events, markets or concerts on special occasions, but mainly for providing improved connectivity between the different neighbourhoods that surround it. A strong link will be made with the currently developed middle part of the park, to prevent fragmentation and appearance of new borders. The South part will be developed as community gardens for the people in the surrounding neighbourhoods who have little private outdoor space. The gardens will be developed largely through community participation and private parties. On the east and south side of the park plot, new roads will be build to promote the permeability of the park.

The development of Parque Andre Jarlan has a strong co-relation with the strengthening of the street profile for Clotario Blest. Although currently a commercial street, it poorly facilitates the functions and a clear structure is desired. Therefore the street will be redesigned as a boulevard, facilitating both fast and slow traffic and providing a wide pedestrian strip to serve the shops. The boulevard will then continue alongside the Andre Jarlan, where it becomes a green strip with access to the park. The new boulevard will become a connector towards the local commercial street 30 Octubre and, through the use of the community gardens as a producer, also towards the local market on Galo Gonzáles and Enrique Matte and even towards Lo Valledor market. Boulevard Clotario Blest will, together with Parque Andre Jarlan, become a new centrality in the municipality of Pedro Aguirre Cerda and in the Santiago Southwest Region.

To support the transformation into a centrality a new metroline is proposed that follows Av. Departamental from the current metrostop Departamental towards Portal Bicentenario. At least one stop will be made at Clotario Blest, which will be the metropolitan gate to the boulevard and Andre Jarlan development.

On a more local scale the plot of the planned medical clinic (the White Elephant) shall be developed as part of the school district. If Club Hipico street is followed south across Av. Departamental, an area is reached where many schools and accompanying sportsfields and playgrounds are found. As part of this area of schools, Club Hipico also houses a school on the north side of the White Elephant plot. East of the plot, along La Marina, we also find another school. The strip between the White Elephant plot and Av. Departamental is home to several churches. As schools and churches require a similar space layout, suited for walking, gathering, and lingering, a highschool will be build on the plot, answering the need exclaimed by the community of La Victoria for more educational facilities and specifically a highschool.

The north part of the plot, between the existing school and the new highschool, will be developed into a park and sportsfield, complementing the existing sportsfields on La Marina and serving specifically the schools. To provide safety the profile of La Marina will be narrowed and made more into a true neighbourhood road to facilitate the neighbourhood scale functions. Existing of open sports fields will be limited to the school district street (Club Hipico), therefore several open plots now informally used for sports will be build up with housing blocks, fitting the morphology around them, and replacement sports facilities will be developed in Andre Jarlan Field and Plaza Blanco Elefante (sportsfield White Elephant), complementing Sportspark La Marina, Sportspark Beauchef (north of the White Elephant) and Sportspark Departamental (south).
4. n1 La Marina - Club Hipico

Node N1 is a node representing a neighbourhood-to-neighbourhood-road crossing. Club Hipico connects the node to another school and to Parque Aguada in the north and to the public facilities strip and the school district in the south. The public facilities strip houses mainly other schools and churches. This brings a clear character to the street that is local, with 'slow' facilities, meant for people to gather in larger groups and aimed mainly at pedestrians and people travelling to school or to church and therefore stopping there. Contrasting this feeling of a non-continuing road is the fact that a city bus line travels along Club Hipico. This must be taken into account when designing the street profile. La Marina connects the site to the sportspark in the west and then continues to 30 Octubre local commercial street and towards Lo Valledor. To the west it passes another school and then ends at Autopista Central. Both to the east and west the profile narrows at the next crossing, therefore the street character is very local and non-continuing. The fact however that it serves as the main east-west connection to the highschool-site, means that on peak hours high flows of traffic, both fast and slow, will stop at this node. It can be concluded that although this node has a neighbourhood character, it serves functions that need space and safety for slow traffic and for groups of people gathering. To promote the neighbourhood scale recognition the profile has to be narrow except at the specific public facilities. Therefore, the unused open spaces along this street will be designated housing plots and they will be replaced with well designed, qualitative public spaces along Club Hipico.
Criteria for implementation of the strategy

1. Being located in an area of public facilities mainly consisting of religion and education, the functions around this node should contribute to this slow pace, neighbourhood scale.

2. Wide street profile with separate slow-traffic-lane to counter the danger brought by the city-bus.

3. Improve continuity of the narrow street profile to improve recognition of the scale.

4. Development of a safe pedestrian area that connects the public facilities of the north and south side of La Marina.

5. Preservation of street elements where possible.

Urban Plan
Crossing at White Elephant, with a view on the church

Profiles

CLUB HIPICO

LA MARINA

SCALE 1:400

[1] Primary neighbourhood road
[2] Secondary neighbourhood road
Traffic system

To clarify the urban plan and show how it specifically translates the criteria into an urban design, the images below show the urban plan of node N1 in more detail, with the separate traffic flows and how they cross each other. At a crossing where multiple flows of different speeds meet, it is crucial to keep a simple and clear system and a clear hierarchy is strived for. For safety issues however, as the slower modes of traffic and the pedestrian flows are plenty at this particular node, stop signs and traffic lights make the system more clear and safe.

The main element in this traffic system is the elevation of the crossing at the pedestrian zone. By pulling the car traffic onto the level of the slow traffic, the driver finds him- or herself in the realm of the pedestrian, who has priority on this square. The new bus stop at the south end of the White Elephant plot is directed away from the pedestrian square to avoid conflicts of traffic flows. The slow traffic path for bicycles and scooters is situated on the elevated level of the pedestrian, making a clear distinction between fast and slow traffic flows.
Node N2 represent a municipality-to-neighbourhood-road connection. The neighbourhood road La Marina leads to the sportspark, new high-school and public facilities strip in the east and to local commercial street 30 Octubre in the west, eventually leading to Lo Valledor. Boulevard Clotario Blest runs alongside the commercial strip of the boulevard toward a possible new metrostop in the south and passes the parkside boulevard along Parque Andre Jarlan in the north, leading towards a connection with Parque Aguada. This node is an interesting one as it shows the connection between different scales as well as the connection between different functions very well, as the character of the municipal commercial boulevard is different from that of neighbourhood commercial street 30 Octubre and both are again very different from the non-commercial neighbourhood street La Marina. While the functions of Clotario Blest are mainly aimed at recreation and leisure (park, shopping, events), the functions along La Marina focus on education, religion and sports, while 30 Octubre is about the daily life of the people of La Victoria. The characters of these streets will be strengthened. This mainly means emphasizing on the commercial characters and expanding possibilities for this.
Criteria for implementation of the strategy

1. Enhancing the function of Clotario Blest as commercial corridor.

2. Separation of fast and slow traffic on the boulevard Clotario Blest.

3. Providing clear visibility of functions along the streets.

4. Provide orientation along the boulevard.

5. Preservation of street elements and reuse of pavement where possible.

Urban Plan
Profiles

CLOTARIO BLEST

LA MARINA

30 OCTUBRE

SCALE 1:400

Boulevard Clotario Blest along community gardens
Traffic system

The image to the right shows the urban plan of node N2 in more detail, with the separate traffic flows and how they cross each other.

Similar to the previous node, an important element in this traffic system is the elevation of the crossing at the pedestrian and slow traffic boulevard. By pulling the car traffic onto the level of the slow traffic, the driver finds him- or herself in the realm of the pedestrian, who has priority on this crossing. The slow traffic path for bicycles and scooters is situated on the elevated level of the pedestrian, making a clear distinction between fast and slow traffic flows. This emphasizes the functions of the boulevard, which should facilitate sports and games. Due to the lower scale of this node and the clear hierarchy, traffic signs are not essential.

[1] Primary municipality road

[2] Primary neighbourhood road

[3] Secondary neighbourhood road
Node M1 represents a municipality-to-municipality-road connection and is interesting because it displays the transference within one street from commercial to leisure. Av Salesianos is the main entrance to PAC from the Autopista Central and crossed Parque Andre Jarlan to lead towards Lo Valledor. Clotario Blest at this point connects both to the community gardens in Parque Andre Jarlan South as to the existing middle part of the park. The aim for this node is to provide accessibility to the park and to facilitate the transfer between local commerce and park through a commercial strip along the community gardens. Dos de Abril will also become a local commercial street, while the main flow of traffic coming from Av Salesianos will be redirected north to Av Mariquina.
Criteria for implementation of the strategy

1. Boulevard Clotario Blest as a parkside boulevard.

2. Parking facilities for park visitors.

3. Clarity of hierarchy between the two streets that cross each other.

4. Separation of fast and slow traffic on the municipal roads.

5. Providing clear visibility of functions along the streets.

6. Preservation of street elements and reuse of pavement where possible.

7. Regeneration of Dos de Abril as local commercial street in combination with rerouting of continuing municipal road to Mariquina.

Urban Plan
Profiles

CLOTARIO BLEST

DOS DE ABRIL

AV SALESIANOS

SCALE 1:400
Traffic system

The image below shows the urban plan of node M1 in more detail, with the separate traffic flows and how they cross each other.

Because the profiles of all streets crossing at this node are different, it is important to have clear road markings to facilitate the flows of traffic. Again, the pedestrian and slow traffic paths are separated and heightened along the boulevard and cars are slowed down through the use of thresholds. Traffic signs are used to promote the safety at this higher scale node.


[1] Primary municipality road
[2] Primary neighbourhood road
[3] Secondary neighbourhood road
Node N3 represents a metropolitan-to-neighbourhood-road connection. The neighbourhood road Club Hipico crosses the wide profiled, fast traffic road to the other side to the school district. This means that people will be travelling, with slow transport or on foot, from one side to the other regularly. A safe and clear crossroads is needed to prevent accidents. Av Departamental leads to the Autopista Central in the east and to Portal Bicentenario in the west. This is an important connection, as a connection to the metropolitan bicentennial plans is crucial for integration within the Santiago Southwest Region. In addition, the functions along Av Departamental at this node are traffic orientated. A gas-station, a truck company, they require extra exits and faster flows, making it difficult to separate the slow transport modes without having to cross some of the faster flows. Traffic lights will be a crucial safety matter, but apart from that the diverse flows of transport have to be arranged clearly. To emphasize the need for safety, the public character of Club Hipico will be strengthened through an expansion of the area destined for public facilities. New religious and education orientated functions will be placed along this road, making a clear entrance from Av Departamental and a stronger connection to the school district south of it.
Zoning

ACTUAL

PROPOSED

250 m
Criteria for implementation of the strategy

1. Clarity of hierarchy between the two streets that cross each other.

2. Separation of fast and slow traffic on the Av Departamental.

3. Providing clear visibility of functions along the streets.

5. Preservation of street elements and reuse of pavement where possible.

Urban Plan

[Map showing various urban functions and elements like housing, commercial, public facility, park, pedestrian zone, tree, and road.]
Profiles

CLUB HIPICO

AV DEPARTAMENTAL
Traffic system

The image below shows the urban plan of node N3 in more detail, with the separate traffic flows and how they cross each other.

As there is intense traffic on the avenida Departamental it is important to create a clear and safe crossing for both fast and slow traffic. The slow traffic paths are distanced from the road crossing, to prevent conflicting flows. Pedestrian and bicycle crossings are clustered. Signs are essential at this node, as it is too big for anyone to have an overview. Road markings show the direction of flow for exiting cars.


[1] Primary metropolitan road

[2] Primary neighbourhood road
Node M2 represents a metropolitan-to-municipality-road connection. Av Departamental goes through a change in profile at this node, where a parallel road appears along the south neighbourhood. This change in profile is confusing and therefore needs to be dealt with. This is done through the use of the wide green strip in between Departamental and the parallel road. This strip will be developed into a public green area, with pedestrian walkway and slow traffic path. This node also becomes the gateway to boulevard Clotario Blest and this needs to be clear from the layout of the crossing. An opening to the pedestrian boulevard and to the commercial functions needs to be made and access to a new metro-stop needs to be facilitated. As Av Departamental leads to Portal Bicentenario in the west, this node becomes the connection between metropolitan and municipality scale public spaces.
Zoning

- Private
- Housing
- Public green
- Private green
- Commercial
- Sports
- Public facilities
- Private facilities
- Empty plot

ACTUAL

PROPOSED

250 m
Criteria for implementation of the strategy

1. Enhancing the function of Clotario Blest as commercial corridor.

2. Separation of fast and slow traffic on the boulevard Clotario Blest and Av Departamental.

3. Providing clear visibility of functions along the streets.

4. Provide public transport access point.

5. Improve connectivity between municipal boulevard and metropolitan continuing road through implementation of a slow traffic strip along Av. Departamental.

5. Minimal intervention in street profile.

Urban Plan
Profiles

CLOTARIO BLEST

AV DEPARTAMENTAL

SCALE 1:400
Traffic system

The image to the right shows the urban plan of node M2 in more detail, with the separate traffic flows and how they cross each other.

The node where municipal boulevard Clotario Blest and avenida Departamental cross is the highest scale node in this design research and this is visible from the layout of the streets. Multiple scale roads cross and many flows interact, making clearity of signs and markings essential. Slow traffic and pedestrian paths are clustered at crossings, but flows are separated where a necessity for extra safety is demanded.

[1] Primary metropolitan road
[2] Primary municipality road
[3] Primary neighbourhood road
[4] Secondary neighbourhood road
Implementa
ti
on Evalua
ti
on [10]
1. Implementation Design Node N1

Current situation

Currently the White Elephant plot is empty and the profile of the street La Marina very irregular. The width varies and there is no clear hierarchy between the streets. The existing school has a large open square in front. The church is situated along Club Hipico and is very recognizable, making a clear landmark.

Landscaping: Removed or displaced trees

For the restructuring of the street profile and the realization of the new built structures, it is necessary to remove some trees. These can either be relocated, if they are of good quality, or they can be disposed of. If possible, relocation is favorable.
Proposed build structures

To provide a continuity in the street profile that ensures a feel for the neighbourhood scale of the street, the unused open spaces along La Marina are redefined as housing plots. The housing topology should be corresponding with the current housing along La Marina street.

Proposed road structure

The existing road paving is used where possible. La Marina is narrowed due to its characteristics of being of neighbourhood street. This narrowing is executed through the use of one half of the street for slow traffic and leaving the other half available for a two-way street.
Pedestrian zone

As the White Elephant plot is redefined as a highschool area, it becomes part of an existing strip of public facilities along Club Hipico. The highschool links the schools and the public facilities (represented by a church on the south side of La Marina) and triggers the development of an educational corridor. This link between schools and church is strengthened by a pedestrian zone that emphasizes on the slow character of this node.

Slow traffic path

Because of the character of this node, which emphasizes on slow modes of traffic, gathering of pedestrians and an attraction of large groups of people, it is important to facilitate accessibility for these slow modes of traffic. Like the square does for pedestrians, other slow traffic modes like bicycle and scooter are served through development of separate lanes.
Rerouting buslines

Club Hipico serves many buslines, but the bus stops are not situated to serve the public facilities on this educational corridor. Therefore a rerouting of some buslines is proposed, where some of the local buses are guided along the high-school plot to turn at Manuela Errázuriz and then continue their original route.

Landscaping: New trees

Trees are one of the elements with which a street profile can be defined as having certain functions and with which orientation can be given. At this node, trees are placed along the housing blocks and the large highschool square is defined by larger distinctive trees, irregularly placed.
Proposed urban scheme
2. Impact East Border area

Bicycle paths
Characteristical corridors

public facilities corridor

public space corridor

commercial corridor

infrastructural corridor
Public transport

- Existing busroute
- New/changed busroute
- New metroline
- Metrostop
- Busstop
It is important to realise that no intervention stands on its own in influencing the interscale strategy. Multiple interventions on multiple scales are being executed, which creates a constant dialogue, not only between the scales, but also between the constructions themselves. As influences spread, they meet and together create new opportunities. The continuation of this dialogue between spaces and between scales is crucial for the success of the strategy for the public space network, as this is based for the larger part on the scale transfers and interscale relations.

As the need for new educational facilities in the municipality of Pedro Aguirre Cerda is quite high, the highschool on the plot of the White Elephant is one of the first projects to be developed within the strategy for the Santiago Southwest Region, and specifically within the East Border area. The highschool is situated on the neighbourhood node of Club Hipico and La Marina and during construction only influences the highschool plot itself, through the addition of new functionality to the public space network.

As the highschool is developed, its influence spreads to other neighbourhood scale projects involving mainly the regeneration of the street profiles of Club Hipico and La Marina. As the two main streets that serve the White Elephant plot, it is important that these streets match their role in the network. The two streets mentioned also serve the public facilities corridor along Club Hipico and the sportspark along La Marina, both in strong relation to the highschool plot, as they require similar street layouts and attract a public with similar mobility characteristics. The White Elephant, together with the public facilities corridor and the sports facilities, becomes a neighbourhood hub, suited for slow traffic and larger and smaller groups of people.
As the neighbourhood educational hub develops, it connects to the educational corridor to the north and south. This corridor, consisting of Via Alhué and Via Carelmapu together with Club Hipico, houses the majority of the schools and school-supporting facilities, such as sports, in the PAC municipality, making it an important neighbourhood facilities axis in the public space network. By developing La Marina, which is part of this corridor, a connection is made to the border of La Victoria and, continually, to the main street of La Victoria, making the educational corridor accessible to this neighbourhood.

From the integration into the educational corridor and the accessibility to one of the main neighbourhoods of this thesis’ design research (La Victoria), large connectivity corridors appear towards the metropolitan scale public space network, that influences the Santiago Southwest Region. Club Hipico, the vertical axis of the educational corridor, connects to Parque Aguada, completing the public facilities-, sports- and green spaces-strip running north-south. Via Carelmapu, the horizontal axis of the educational corridor, connects to the Autopista, allowing accessibility by car from the metropolitan highway-network, and to Portal Bicentenario, again completing the green spaces, but also introducing this new development to a vast and expanding school district, integrating neighbourhoods. On a municipal scale, the connection to La Victoria is strengthened through the development of Clotario Blest and the connection it makes to 30 Octubre and the feria libre, both commercial streets within the neighbourhood of La Victoria, relating to the local commerce on the municipal boulevard following Clotario Blest towards Parque Aguada.
As the educational corridor develops a relation to Portal Bicentenario, its reach also expands towards the Cerrillos municipality, beyond the Bicentennial building site. A new east-west connection is established, that includes both the metropolitan as the municipal and the neighbourhood scale, by connecting the Bicentenary projects to the educational corridor, while crossing some municipal continuing roads. As the new railway crossings on the west border of La Victoria are developed, La Marina expands its influence through 30 Octubre to Avenida Maipú. The metropolitan public space network is now within the reach of the neighbourhood node we started from and new orientations are created through the development of the Matadero square and the entrance of Portal Bicentenario. By making connections to Parque Aguada, this green corridors functions as a bridge towards Parque O’Higgins.

With the Parque Aguada functioning as a bridge, more and better connections are made towards the north, including the Parque O’Higgins - Club Hipico centrality and towards the Estación Central. The Matadero square and the Train Turntable museum / playground start functioning as pivots between Portal Bicentenario, Parque Aguada, the central station, Lo Valledor market and Pedro Aguirre Cerda’s neighbourhoods. The networks on different scales interact through interscale connections and through communal use of spaces.
In the design research five nodes on different scale have been explored, covering diverse street characters and both important corridors as secondary and tertiary streets. With these five design explorations, all nodes in the public space network can be redesigned. The map shows the nodes (chapter 8.2) and the scale they are on. What is not shown, are the nodes on a high metropolitan scale. These nodes require a very different design approach, depending on the scale of the highways and the functions they represent. Crossings at this scale are of a very different nature then the crossings on lower scale, making it difficult to generate a generic design method for them. The nodes on high metropolitan scale should be looked at individually and are not of great importance for the reconnecting of the scales in this thesis.
Planning and Feasibility
1. Actors and stakeholders

Metropolitan government of Santiago
- MOP
- MINVU
- Bicentenary Project Group

Municipalities of
- Pedro Aguirre Cerda (poor)
- Lo Espejo (poor)
- Estación Central
- Cerrillos
- San Miguel

Transantiago

Community programs

Annual Incomes in the different municipalities of Santiago, from C. Zegras and R. Gakenheimer, Urban Growth Management for Mobility: The Case of the Santiago, Chile Metropolitan Region, 2000
2. Financial structure

The governments of the Santiago metropolitan region are very fragmented and communication between the separate ministries is poor. Therefore it is not possible to show one financial scheme for any intervention within the city. To be able to show which actors are involved in the regeneration of the urban environment, two examples shall be shown of urban interventions, concentrating on design node N1. Below the scheme for the development of a new highschool is shown. On a national level, the ministry of Education is responsible for distributing funds amongst the municipalities in the city. Each municipality then makes their own strategy for educational facilities, decides what the budget is spent on and employs a private technical support team to help the community build the school.

The community then puts in the labour for the school in collaboration with NGO’s and the technical support team. NGO and community form a partnership during the construction phase of the development.
The fragmented nature of the national government is felt intensively where the public space and infrastructural facilities are concerned. Multiple actors are responsible for the public space and each have their own field of interest. The ministry of Public Works takes care of the national and interregional roads, the ministry of Housing takes care of the housing and pedestrian areas around the built structures and the municipality is responsible for the local infrastructure and public spaces. However, there is a slight overlap in responsibilities, which makes it difficult to plan an urban intervention. Clear communication is essential in this and communities and municipalities need to make it very clear what they want to improve and what they need the ministries funding for. Fortunately, poor communities like Pedro Aguirre Cerda can receive an extra subsidy for maintaining the public space.
3. Phasing

Strategy Projects Santiago Metropolitan Region
4. Interscale phasing model

The dialogue spoken of when introducing the impact models is displayed more accurately by the phasing scheme. This scheme shows the top down influence of governmental institutions and how this influence trickles down from the national and metropolitan level to the local level. However, the strategy in this thesis is based on the dialogue between the planning and the physical scales. This dialogue displays itself in the implementation of neighbourhood scale interventions, that influence the municipal scale and enter into a dialogue between the local and the municipal level. From this dialogue a relation between the municipal and the metropolitan appears and starts another dialogue. This is to show that the process of bottom-up influence from the local level is not a straight one. It goes back and forth and can also start from interventions on the municipal level.

What is very important to realise is that there is a strong need for the bottom-up influence of urban interventions to relate to the top-down influence of governing, this in order to validate the neighbourhood’s voice in the decision making processes. Once these processes transfer from being linear influences into being a continuing circular process, the strategy for the public space network can be fully benefitted from.
Conclusions and Recommendations
1. Conclusions

This thesis has made an attempt at developing a methodology for analysing, designing and restructuring the public space network in the city of Santiago de Chile. The focus has been on the poor neighbourhood of La Victoria and the municipal and metropolitan area of influence around it. This focus on La Victoria has caused the methodology to be guided in the direction of a research area with a specific problematics; that of a fragmented, polarised urban environment, where the neighbourhoods of private ownership with a high level of poverty are a rule rather than an exception. The scientific goal however is that the developed methodology would be suitable to use in local regeneration processes in cities with diverse circumstances and therefore a certain level of genericness is required.

GENERIC METHODOLOGY

In this thesis the genericness can be found in the sequence of research elements, the types of analysis and the general criteria that form a framework for the specific designs of the nodes. For the restructuring of and giving quality to a public space network in order for it to become a strong urban restructuring element there are some crucial components of research. First, it is very important to understand the context in which the research is taking place. A general understanding of the city and its morphological and historical background is needed to be able to place the findings of later research in the right framework. The next step is to define a research area that covers both the metropolitan, municipal and neighbourhood scale. The collaboration and dialogue between the scales has proven to be a criteria for requalifying and reconnecting any neighbourhood to the larger public space network. After defining the research area, a general analysis of this area will give a more detailed view of the existing elements, spaces and types of space. These can be mapped using the reference matrix of public spaces on multiple scales, to give a clear overview of what is present and what is not. The general analysis of the research area will function as an inventory of the urban situation and can be used as a framework for discovering potentials. Using the connectivity analysis method, potentials in connectivity and use of spaces can be found. These can then be translated into a strategy, in which important corridors and redefinition of spaces is shown. Another crucial element for developing a strong urban strategy is the appointing of important nodes in the research area. These can either be defined by transfers of scale between the infrastructural networks on metropolitan, municipal and neighbourhoods scale, or by centralities formed by public spaces or mixed-use areas. The nodes are important, because when they functionally relate to each other, they could form corridors that define functions and characteristics within the public space network. The framework for developing the strategy is the public space typology toolbox. The toolbox is used for describing types of interventions. It provides an overview of characteristics belonging to certain typologies and of possible functions suitable for implementation. The strategy is used to design the area in parts, each having its characteristic qualities and its own scale. Each part contains some of the nodes appointed earlier and the aim when working out these areas is to connect the nodes and thus create an interacting network. The toolbox is used during the design phase to understand the functionalities of each node and general criteria form the framework for all interventions. The criteria are generic for any city and basically determine the crucial elements within a functional network.

Through the application of the described components of research and design, it is possible to map the conditions within any city in such a way that potentials for regeneration are revealed. Implementing this methodology onto any research area will provide not only a thorough understanding of the actual situation within this area, but will also facilitate a development of a strong and founded strategy for the area in question. All aspects of the urban situation will be regarded and when starting to design specific areas, the strategy and the basic criteria provide a strong framework that leaves no question about the role of each node.
At the start of this thesis the question was asked how typological research can contribute to and support a strengthening of the public space network as an urban restructuring element in order to permeate the borders of secluded neighbourhoods within the municipality of Pedro Aguirre Cerda, resulting in a better interaction between spaces of different scale and function in the city of Santiago. What the report has shown is an analysis and a strategy founded strongly on the use of public space typologies on different scales in the city, providing a framework for completing the collection of diverse spaces within a comprehensive urban environment. The toolbox and the reference matrix have provided both missing links and existing characteristics, that can strongly map and define an identity. It has been shown, that by using these typologies and combining them with a research on important nodes in the research area, existing identities can be either strengthened or changed. By developing the nodes, using both typological research and basic criteria, corridors are formed that interrelate to other corridors, connecting different scales and creating an interscale network. This answers the question how the public space network on neighbourhood, as well as municipal and metropolitan scale can be regenerated and strengthened, through implementation of design proposals for strategic nodal points within the existing network.
2. Recommendations for further implementation

As always after a period of intense design research on a specific topic, there remain certain recommendations for future development of this project’s problematic.

TESTING

The strongest recommendation for this thesis is the potential application onto other locations. As the methodology of this thesis is based primarily on the research on Santiago the Chile, and specifically on the municipality Pedro Aguirre Cerda, it would be wise to put it to further tests. This could first be applied on another south american city, but could ultimately also be tested on cities with different cultural and political background. This testing will prove whether or not the methodology is truly generic.

CRITERIA

Also a part of the testing phase, but worth to mention separately, are the basic criteria used when designing the strategically chosen nodes. Although developed to be generic criteria, they are derived from a thorough understanding of the problematics within the city of Santiago and its polycentric urban model. Before applying them on urban environments with different backgrounds, it would be wise to consider whether or not these criteria also cover the problematics existing in different cities. They might need to be altered to fit any urban situation.

TOOLBOX

Another would be the finetuning and revising of the public space typology toolbox. As an important element in creating and applying the strategy, it is important that the toolbox provides a strong basis. All options need to be clear and the characteristics need to be defined for each scale, to consider the differences between spaces of different sizes. The toolbox now contains the public space typologies, but could in fact represent the entire analysis and design process. This would ask for a report that does not describe the context of this studio, but only the elemental steps in the methodology; how to interpret them and how to apply them.
Appendixes [13]
1. Questionnaire 1 Participatory Workshop

Questionnaire workshop La Victoria, 3rd Dec. 2008 participant #

**LIVING** Do you live in this neighbourhood? ● Where? ● (locate on map).

**SHOPPING** Where do you buy food? ● Markets or grocery stores? ● Where are the stores located?

**EMPLOYMENT** Where do you work? ● How much time does it take to get to and from work? ● How do you travel to and from work?

**LEISURE** What do you do in your spare time when you aren’t working? ● Where do you go to do these things?

**BOUNDARIES** What do you think of adjacent areas: Lo Valledor? ● Other areas of PAC? San Miguel? Lo Espejo? Cerrillos? Estacion Central?

**HOUSING** Do you own your own house? ● Who built it? ● What materials is it made of? ● How many people live there? ● How many bedrooms does it have? ● Does it have a garden/patio? In the front or back? ● Would you like to extend your house? ● Would you rather sacrifice your outdoor space or add an extra floor to your house? Which of these can you afford? ● Would you prefer to move to a house in another area if it was larger, or stay in La Victoria and improve your existing house?

**PARKS** Do you use the parks? ● Which ones do you use? ● When do you use them? ● Which parts of the parks do you use - open areas? Skateboard facilities? Football pitch/soccer field? Other?

**SAFETY** Which streets of La Victoria are more dangerous? ● Which streets are the safest? ● What is on these streets? Shops? Parks? Are they full of people or quiet?

**COMMUNITY ART** Who paints the murals? ● Who decides where they can be painted? ● Are old murals covered by new murals?

**SANTIAGO CENTRE** Is it easy to get to the centre of Santiago? ● Do you like to go there? ● Would you like to live closer to a shopping mall or not? Why?
2. Questionnaire 2 Participatory Workshop

Questionnaire workshop La Victoria, 3rd Dec. 2008 participant #

Man, one of the first occupants of L a Vic
Couple, middle-aged
woman, middle aged
High school kid
Man, +/- 35 yrs, graphic designer

LIVING Do you live in this neighbourhood? • Where? • Locate on map.
In La Vic,
In la vic, corner of sidestreet with 30th octubre
La Vic, with 7 persons
At the edge of La Vic

SHOPPING Where do you buy food? • Markets or grocery stores? • Where are the stores located?
Lo Valledor (its cheap), market (everyday there is one in another place)
In la Victoria, and at the market (over there)
Not in lo Valledor, only in la Victoria on markets no supermarket. Mall is too expensive
At the market (la Victoria).

EMPLOYMENT Where do you work? • How much time does it take to get to and from work? • How do you travel to and from work?
Retired, but used to be ingeneer/constructor
She, pastrycook? He, commercliant in Lo Valledor
Furniture store, in centre
High school student, to the city takes 20 minutes, goes with a friend, sometimes by bus.
Graphic designer; the travel to the city takes 20 min. He works in caracal and lives in calle mapocho.

LEISURE What do you do in your spare time when you aren’t working? • Where do you go to do these things?
Don’t go out that much, (seems like however spends time around the house (see next point)).
No time for leisure, mother (she) has Alzheimer plus all the workload.
Spend leisure time at home
Likes to play soccer, and athletics
No much leisure, the park is good for children. There are/should become (more) soccerfields in the park.

BOUNDARIES What do you think of adjacent areas: Lo Valledor? • Other areas of PAC? San Miguel? Lo Espejo? Cerillos? Estacion Central?
Some friends live in the neighbourhoods; since he is living on the edge, he spends a lot of time in the
eighbourhood north of La Vic

HOUSING Do you own your own house? • Who built it? • What materials is it made of? • How many people live there? • How many bedrooms does it have? • Does it have a garden/patio? In the front or back? • Would you like to extend your house? • Would you rather sacrifice your outdoor space or add an extra floor to your house? Which of these can you afford? • Would you prefer to move to a house in another area if it was larger, or stay in La Victoria and improve your existing house?
House build by himself (assuming since he was there during the occupation). Used to live 6 children (so + 2 parents). There is a patio in the back of the house and one in the middle. The former is used a lot by the man himself, among which as a workshop place. It’s the best thing they have. There is no wish for extension and absolutely not by sacrificing the patio.
The construction of the house is always in progress. In the case of extension they would only like to add by constructing a 2nd floor, don’t want to sacrifice patio
Don’t know who constructed the house. The house got a patio, constucted from brick & concrete ground
floor with wooden 2nd floor.
He lives in a 2 storey house
PARKS Do you use the parks? • Which ones do you use? • When do you use them? • Which parts of the parks do you use - open areas? Skateboard facilities? Football pitch/soccer field? Other?
Yes, the big one is used. Mainly for picknick, to sit in the grass, watch children play.
No time to use the parks, but more soccer pitches are needed.
Facilities for children and youth is missing, cultural houses, park
Yes mostly for playing football (soccer) and other type of sports, like athletics. Therefore he also uses the running track a little bit more to the south. There is also a swimming pool next to it; one private and one of the municipality as well, but it is not used very often.

SAFETY Which streets of La Victoria are more dangerous? • Which streets are the safest? • What is on these streets? Shops? Parks? Are they full of people or quiet?
Some streets are insecure
There is no!
No much danger, because the people all know each other. When he walks in the street people recognize who he is, so he feels safe.
Less drugs would be good.

COMMUNITY ART Who paints the murals? • Who decides where they can be painted? • Are old murals covered by new murals?
Only on c/30th octubre. Every year they are renewed, everyone can paint everywhere basically.
Youngsters, artists who paint them. If the people (proprietors of the house concerned) give permission to paint, than they can. Every year more or less they are renewed.
Youths at la Vic, organization

SANTIAGO CENTRE Is it easy to get to the centre of Santiago? • Do you like to go there? • Would you like to live closer to a shopping mall or not? Why?
He only goes to the mall to watch
Travel to the centre takes 45 min.
It is easy to get to the centre of Santiago, but it would be better if there would be a metro, because its faster (it seemed as if he saw metro as a connection to the outside world). Doesn’t use the mall so much, because its expensive.
3. Answers Questionnaire Participatory Workshop

Drawings of houses by interviewed people

Answers on questionnaires visualised on aerial map of La Victoria
Questionnaire  workshop La Victoria, 3rd Dec.2008  participant #

LIVING Do you live in this neighborhood? ● Where? ● (locate on map).

#1: La Victoria, Calle Buenaventura (close to railway park)
#2: La Victoria, very central in the neighborhood on Calle 30 de Octubre
#3: Sant Joaquim, (neighboring area at the north of La Victoria) Calle Pascual Ortega 3525 Poblacion Sant Joaquim. she lived more or less to the left of the upper left corner of the private sport complex that is located on the east side of Sant Joaquim.
#4: La Victoria, Calle Galo González 4942, poblacion La Victoria

SHOPPING Where do you buy food? ● Markets or grocery stores? ● Where are the stores located?

#1: shopping at Lo Valledor for fruits and vegetables, because it’s cheaper. But she is also using feria libre.
#3: People organize to buy there food collective in Lo Valledor, since it’s mainly based on buy larger amounts and cheaper then the feria libre. People buy for example a big amount of tomatoes together with neighbors or family.
#3: In the past people used the neighboring area ‘Estacion Central’ (“un barrio economico”) a lot to buy things, but these days it’s made very difficult for them to reach the area since there is no proper connection with public transport. The way how people still try to benefit from the good prices of that neighborhood is to share a van with others, or to take a taxi, which is of course harder to set up and more expensive. (note: we suspect that this is result of the changes caused by the new transantiago system, but do not remember (anymore) whether she said this or not)

In general_by Luuk & Nicola: Everybody we spoke to uses the feria libre of La Victoria often as a place to buy their groceries (note: we were interviewing at that particular point). Mainly for fruits and vegetables. The prices of the feria are very low, and therefor a lot of people make use of them, also people from neighboring areas.

The market of Lo Valledor is really cheap (“muy barato”, “super barato”) and probably one of the cheapest places in Santiago. People say that they use it as well for doing there groceries, but mainly for buying larger amounts of goods. For example: for a bag of potatoes people go to Lo Valledor, but for just some potatoes or smaller amount of fruits and vegetables people tend to use the feria libre.

People did not really mention a super market as a option although there is one, but it’s of the map so it can be considered as quite far. But we suspect that the main reason for not using the super market is the fact that they are more expensive, especially because everybody was really addressing the fact that the other markets (feria libre & Lo Valledor) are really cheap.

EMPLOYMENT Where do you work? ● How much time does it take to get to and from work? ● How do you travel to and from work?
1#: Husband was working on a truck of Lo Valledor

2#: Most people do not work inside 'la comuna' (probably she meant P.A.C:) because there is little work available. Husband worked in Cerillo, half an hour traveling time. She worked as housewife.

5#: Brother of some of the children does 'pololo' which means somebody who does little jobs inside houses etc. like a handyman. (note: other lady explained us that there are quite some people who do this job)

In general, by Luuk & Nicola: Out of different chats with people in and outside the area (including for example politicians and taxi drivers) we can conclude that a lot of people in the community of La Victoria do not have jobs on fixed contract basis. They work for example for a while on construction projects. In general we heard quite often that a lot of people in La Victoria work in the construction industry. (Note: the moment that we were doing the interviews was during a week day between 11h00 and 13h00, so the people that follow normal Chilean working schedule where not present at the market. The people we were speaking with were mainly woman, children and elderly)

LEISURE

What do you do in your spare time when you aren’t working? Where do you go to do these things?

#2: Was going to some gym classes in the 'Junta de Vecinos' of La Victoria. Her daughter (around 9) was using the streets to play on.

#4: Was giving dancing lessons in La Victoria and other neighboring areas like Lo Valledor. The big difference between these areas was according to here that in La Victoria it was very easy to just occupy a part of the street or a park to practice music and dance, (also #3) but that in the other areas the neighbors would complain and that it was not possible to do this things on the streets. In the other areas they have to use something like a communitarian center for activities like this, but there are not that much in the Sant Joaquim (also according to #3).

#3: As with the previous point, the same goes up for celebrating events (like throwing birthday parties etc.). In La Victoria it is very normal to use the street as an extension of your living room (#4), while in the neighborhoods next to it this would or could not happen (although they have more free space) because there is not a strong relation between neighbors or sense of community, In order to throw a party one needs to rent of the community center or something like that, which is really expensive for the people and there is not much choice. The houses are in most cases to small, so there is not really an option to use for this.

#3 & #4: There is a difference in the Juntas de Vecinos and their community centers between La Victoria and the one of Sant Joaquim. In La Victoria the centers organize a lot of events and are really working to serve the community that lives there (according to both #3 & #4). While in the case of Sant Joaquim (#3) the center is a group of people that is not really caring about the needs and demands of the neighborhood and they are asking a lot of money for some basic services (like the rental of the center for parties or meetings). Shocking points were for example that the children have to pay a lot of money to use the (very basic) football courts in the area (10.000 – 20.000 pesos for just ca. 3 hours).

#5 go out of La Victoria to play soccer, which can be quite expensive if they decide to use a regular soccer field (up to 5000 pesos); some of them have tennis classes for free and, during the summer go to swim, up to 5 times a week, which costs 1500 pesos each time.
What is also common is stroll around by bike with friends, which is something that older guys do as well.

**BOUNDARIES** What do you think of adjacent areas: Lo Valledor? Other areas of PAC? San Miguel? Lo Espejo? Cerrillos? Estacion Central?

**HOUSING** Do you own your own house? Who built it? What materials is it made of? How many people live there? How many bedrooms does it have? Does it have a garden/patio? In the front or back? Would you like to extend your house? Would you rather sacrifice your outdoor space or add an extra floor to your house? Which of these can you afford? Would you prefer to move to a house in another area if it was larger, or stay in La Victoria and improve your existing house?

**PARKS** Do you use the parks? Which ones do you use? When do you use them? Which parts of the parks do you use - open areas? Skateboard facilities? Football pitch/soccer field? Other?

There is a certain discrepancy of opinions regarding the park next to the railway between #1, who sees the park as a place used by everybody and #2, who considers it a place where children do not like to play and which is not maintained well enough to be used constantly.

**SAFETY** Which streets of La Victoria are more dangerous? Which streets are the safest? What is on these streets? Shops? Parks? Are they full of people or quiet?

#3 states that some safety issues are related with the impossibility of reaching some areas of the P.A.C. by micro bus: walking from the bus stop to home can be very dangerous during the night, especially for women.

#5 do not use the park next to railway because is not a safe place: the fence that separates it from the rails is missing in several parts and people run into the risk of being hit by the train; it is also a place where guys go there to smoke marijuana. Both #2 and #5 consider park Andres Jarlan – open from Tuesday to Sunday - better maintained and a safer place.

#5 recognize Calle 1 de Mayo as a dangerous area of La Victoria.

**COMMUNITY ART** Who paints the murals? Who decides where they can be painted? Are old murals covered by new murals?

There is an organized group that is realizing murals in La Victoria.

**SANTIAGO CENTRE** Is it easy to get to the center of Santiago? Do you like to go there? Would you like to live closer to a shopping mall or not? Why?

#5 do not go to shopping malls, since they are far and expensive: you need money to go there.
TRANSPORT How do you go outside La Victoria? Do you have your own car?

#3: to go working people usually take collective taxi or micro bus, in order to share the costs, although she has her own car. Families usually have at least one bike, but these ones are not really used, in most of cases, as transport, since it is still quite dangerous to use it: cars and micro buses don't respect cyclists; it is also common to have the bike robbed, even while cycling. The result is that bikes are mostly used for short movements or by children for fun. She also has her own car but is not that common: her daughter already has to use micro buses to move.

COMMUNITY GARDENING Is it something that you would like to have?

#3 states that is not a feasible option for communitarian areas unless their planned as fenced areas, since otherwise all the crops would be stolen
4. Relational model UA Santiago urbanist team

Strategy made by UA Santiago Urbanist Team
A. Distelbrink, Shirin Jaffri and Martynas Marozas

- Permeation of borders
- Connection
- Transformation of public space
- Transformation of building typology
- Transformation of building typology
- Intervention area
CONCLUSIONS
- Intercity road is not connected to La Victoria but parallel street is well integrated in La Victoria’s grid pattern.
- La Victoria’s morphology (building height) along Av. Departemental does not correspond with the scale of the road and the profile.

POTENTIALITIES
- Preservation of townscape
- Emphasize the edge of La Victoria
- Increase building height of the edge

STRATEGY
Enforce the border of La Victoria along the intercity road by densification through additions on existing dwellings.

PROGRAM
Densification through additions on existing dwellings (and southern orientation= shade side) allows for new typologies of living and working: e.g. studio/atelier spaces.

DESIGN EXPLORATIONS
- Increase building heights and transform the facades to mark the border of La Victoria.
- Improve building typologies to make suitable for studio/atelier spaces.
- Improve street profile.
Avenida Dos de Abril

CONCLUSIONS
- Functions as a cul-de-sac
- Lack of connectivity because of shifting grid structure
- Poor continuity of the street because of shifting morphologies and changes in built typology
- Poorly serviced street
- Poor quality of the public space

POTENTIALITIES
- Motorized connection to Av. Maipu
- Weave grid structures of La Victoria & San Joaquin
- Improve continuity of the street
- Intensification of local modes of production (land-use change, new typologies)
- Repavement of the street profile

STRATEGY
Create a continuous urban commercial street by introducing a new connection over the railway, by densification of urban voids, introducing new modes of production and change of building orientations.

PROGRAM
Densification of urban voids and an adaptation strategy for the existing buildings allows for a diversification of the existing residential building stock, workshop spaces for clothing and shoe (repair) shops, laundry shops, charity and consignment shops, a soup kitchen (cocinas populares), kindergarden and mothercare centres, a medical post, empanada and tabachhi shops.

On San Joaquin side new building typologies facilitate new community gardens, on the La Victoria side the merging of internal courtyards and gardens also create new collective private gardens.

DESIGN EXPLORATIONS
- Add or improve morphology to connect La Victoria to Av. Maipu.
- New crossing on railway line connecting Av. 2 de Abril to Lo Valledor market.
- Improve continuity of the street by densification of urban voids.
- Improve connectivity between La Victoria + San Joaquin by weaving together the urban fabrics.
- Add or improve the relation of the buildings to the public space by transformation of the architectural section and by means of a new street profile.
- Relate public space network of La Victoria + San Joaquin and that of La Victoria + Lo Valledor.
Avenida 30 de Octubre

CONCLUSIONS
- Functions as a cul-de-sac
- Existing shops are largely informal
- Dwellings have been modified by owners to accommodate these commercial activities
- Street facades used by community for forms of expression

POTENTIALITIES
- Motorized connection to Av. Maipu
- Intensification of existing local modes of production (land-use change, new typologies) at strategic points
- Preservation of townscape (murals expressing the identity of the settlement)
- Repavement of the street profile

STRATEGY
Enhance the commercial activity in the street by introducing a new connection over the railway, by landuse change and by change of building orientations.

PROGRAM
Through land-use changes some of the residential dwellings can be converted into shop-houses thus intensifying current economic activities such as grocery stores, vegetable and bakery shops etc. Preserve and intensify function of the street as a community axis: murals, community centres, kindergarten and mothercare centre etc.

DESIGN EXPLORATIONS
- Building adaptation strategies and new typologies orientate corners of strategic residential plots towards the street.
- Preserve and intensify the application of murals.
- Merge patios, frontgardens or internal courtyards into new collective private or semi-public gardens.
5. Profile typologies thesis A. Distelbrink

Main street

Community street

Alley
5. Case Study: Urban renewal Schilderswijk Den Haag
The Transvaalplein is an example of a square that is positioned well in the city structure, that is well accessible and that therefore attracts many people, making it a lively and socially secure area.

The Transvaalplein is connected to the Randstad through a close connection to the trainstation Den Haag HS, which is on walking distance. The rest of the city of The Hague can be reached both through tram as through bus connections, that all pass this square at close distance. The square is centrally located in a neighbourhood with a lot of outdoor social activity, making it the centre of the Schilderswijk.

The square on the Van Der Vennestraat is an example of a square that is not positioned well in the city structure, that is not very well accessible and that therefore does not attract many people, making it a desolate and socially unsecure area.

Although this square is even closer to the trainstation than the Transvaalplein, it is difficult to find as it is not located on a big street. Tram and buslines pass this square at a distance and there is no visual connection from the stops to this square. Also from the surrounding larger streets the visual connection is lacking, resulting in the non use of this area.
6. References bicycle paths

Bicycle path indicated on road
Buitenhofdreef, Delft

Bicycle path separated from road by small band
Abtswoudsepad, Delft
Bicycle path separated from road by wide band
Jaffalaan, Delft

Bicycle path separated from road by pedestrian zone
Papsouwselaan, Delft
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The thesis, A Network of Typologies, Redefining of and giving quality to the public space network as an urban restructuring element in order to permeate the borders of La Victoria and reconnect to the regional and metropolitan scale, was written for the MSc Graduation Project of DSD Urban Asymmetries Santiago, AR4DSD030, at the TU Delft, Faculty of Architecture, by Sanne van den Heuvel, under the supervision of design teachers H. Sohn, D. Sepulveda, G. Bruyns and M. Robles-Duran.

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