

TRIALOGUE PROCESSES IN LANDSCAPE DESIGN

1. INTRODUCTION

This paper looks at strategic urban projects focusing specifically on planning and design of open spaces, acknowledging their multiple roles in promoting cultural and environmental sustainability. It focuses on a strategic urban project named *Municipal System of Green and Leisure Areas* (SMAVL) put forward to the municipality of Santo André, located at São Paulo Metropolitan Region, Brazil.

A *trialogue* as a process for constructing an urban project is proposed, relating simultaneously issues regarding the nature of the landscape site, mainly through its vegetation and water system, with issues related to cultural values, including a program of participation of local population in the decision making processes. The open spaces' approach is so addressed from the analysis of three main structures: the green system, which is the whole of the vegetated areas; the blue system, which is the watershed basis of the landscape; and the system of culture, which comprises the values and meanings ascribed to landscape from local people, including public authorities, decision-makers, planners and private sectors. From this perspective, decision making concerning design and planning would be a consequence of physical and cultural structure based on these systems, whether being at a neighbourhood, city or metropolitan scales.

The paper is organized as follows. Initially it discusses the theoretical basis of the proposed triologue. This is followed by a discussion on Santo André strategic urban project, the guidelines of the SMAVL and methodological procedures. Then the paper discusses the establishment of some of the SMAVL elements. It concludes arguing the importance of the *trialogue* approach in the landscape and urban design towards a better urban environment.

2. THE MAKING OF THE TRIIALOGUE PROCESS

Landscape architects have played an important role in the construction of an interdisciplinary conceptual basis which acknowledges landscape values in planning and urban design. In fact, one of the main contributions of landscape architecture in its interplay with architecture and planning is the concept of open spaces system and its role in the quality of urban life.

Back in the 19th century, the American landscape architect Frederick Law Olmsted was already concerned with nature preservation issues. He was one of the forerunners who approached the preservation of green natural areas considering also human uses, as in his proposal for Yosemite Park (Spirn 1996). At the same time, he was also one of the first to put forward the idea of green spaces as a system, rather than isolated features in the urban fabric. On this matter, Olmstead was in fact following some European ideas, as for example the English architect John Nash, who establishes an open space system to the north London area, and the

French Mayor Haussman for Paris, who for the first time conceives a comprehensive open space system for the city as a whole.

By the second half of the 20th century, the American landscape architect Ian McHarg (1969) added a new conceptual and methodological approach to these first ideas. With his seminal book *Design with Nature*, he acknowledged the roles played by natural processes in landscape and urban design, as well as regional planning. McHarg's proposal had a strong international influence, and had influenced many studies for the years to come (see, for instance Spirn 1984 and Hough 1995).

We have learned from them, thus, that the green system plays an important role in the construction of urban sustainability. As pointed out by Platt (1994), "the city green", regarded as one of the ways to protect and restore biological processes and phenomena, is one of the basis of urban sustainability, providing ecological balance to the cities environment. Besides the existing natural and recovered areas, it is also possible to create new ones from the inclusion of vegetation in parks, squares and avenues. This would provide better connections among the different green system elements, as well as better quality and definitions of leisure spaces and other activities. The values of green system have been recognized by different cities around the world and attempts to incorporate the concept in development strategies has occurred from time to time (see for example GLA 2002).

On the same token, the green system is of fundamental importance to the maintenance of the watercourses structure within the urban landscape. For this reason, the blue and the green systems are closely related and interdependent. The watershed structure presented in the urban tissue, compounded mainly by streams, rivers and lakes, needs to be connected and visible in the urban landscape. For this end, the physical support provided by the green system is more than important to allow the watershed structure to actively participate of the urban landscape experience. (Hough 1995; Spirn 1984; Linehan e Gross 1998).

Acknowledging landscape as a cultural construction, which reflects the values and meanings people ascribe it along time (Cosgrove 1984), it is easy to grasp that the maintenance and the articulation of the green and the blue systems are strongly related with the culture system. Local people ways of living, as well as their ways of seeing the world have, therefore, a direct influence on landscape quality. Here we have, then, the third part of the dialogue concept put forward for the elaboration of a strategic urban project: the active participation of the different society groups all along the conception and implementation process.

The next section presents and discusses the experience of the urban project put forward to Santo André municipality, as one of the Brazilian examples, which addressed the urban project issue from these three perspectives.

3. SANTO ANDRE STRATEGIC URBAN PROJECT

3.1 About Santo André

Santo André, situated at São Paulo Metropolitan Region, has around 700.000 inhabitants. It had a distinguished participation in the developing of the Brazilian industry established from 1950 to 1980. Together with the municipalities of São Bernardo e São Caetano, Santo André

compounds the so-called "ABC region", one of the country's most important industrial areas along the Santos-Jundiaí Railroad, within the Tamanduateí river valley (fig. 1).

From 1980 onwards, the city faced a decreasing process of industrialization, presenting a number of socio-environmental problems. Economic and political situation had brought strong changes, which in turn were reflected in urban transformations. This decreasing process of industrialization occurred in all ABC region. This situation led to the creation of the ABC Chamber, compounded by region's municipalities, aiming to find solutions for regional growth. Besides, by the end of the 1980s Santo André had a series of municipal governments seeking democratic and participative administrations, which was a different attitude concerning urban interventions.

Within this process, in 1993 it was established in Santo André a municipal program named Participative Budget (OP – *Orçamento Participativo*). This program provided to the population the rights to get actively involved in the definitions and discussions over the use and application of public financial resources. For this end, the municipality was divided in OP regions through geographic and cultural criteria. The OP program has been since then a powerful instrument in bringing about public consciousness on the importance of the exercise of public rights.

At the same time, local population also got involved in the implementation of a number of other municipal programmes, with the aim of creating in Santo André a set of public spaces related to leisure, environmental, sports, educational and cultural issues. Some public parks created within these programmes are now examples of innovative public initiatives, which brought about a better quality of life for local people, contributing to the construction of a new city image and to its social and economical growth.

Santo André's Participative Master Planⁱ, approved in 2004, was developed through a comprehensive public participation process. It involved a great deal of work, reflection and negotiation among the municipality's representatives and technicians, and the organized civil society's representatives (social movements, industries, non-governmental organizations and technical, academics and research institutions). The Plan defined two macrozones in the municipality (fig.1): the Urban Macrozone, situated at the north area, and the Environmental Protection Macrozone, situated at the south area.

Within this context, the Master Plan determined the creation of the Municipal System of Green and Leisure Areas (SMAVL)ⁱⁱ (fig.2), acknowledging the existence of squares, parks and other leisure spaces typologies which were intensively used and valued by local people, but at the same time were also insufficient due to unbalanced quantity and distribution throughout the city. It was not, therefore, a connected and structured system.

These spaces have been used by Santo André's dwellers for a variety of reasons. From nature appreciation to cultural, sport and cultural activities, they have been providing opportunities for social relations of several kinds, and therefore hosting urban diversity – different age groups and social classes. The SMAVL aimed to answer local people requests for the creation of new green areas and the improvement of the existing ones, which were incorporated to the plan. This incorporation represented an important project issue, with the valuing of the well succeed spaces such as the Parque Celso Daniel and the Parque Escola. The plan also emphasized these areas potentialities and characteristics, defining their connections with other open spaces and their role concerning the system and the city.

From this proposal, a number of activities were organized aiming to endure SMAVL establishment. These activities led to a participative process involving several groups from public authorities and civil society, interacting in discussions, seminars, meetings, workshops and research. In short, this process sought to conceptualize the system and its meanings for the social and economical developing and for the improvement of the life quality in Santo André. The proposal was discussed and approved by the Municipal Chamber of Urban Politics, compounded by the municipality staff and members of popular organizations, labor unions, Non Governmental Organizations, professional and industry representatives.

Concerning relevant environmental aspects, Santo André's Urban Macrozone is very dense and compact at northern, western and eastern areas, having its limits with São Paulo, São Bernardo do Campo, São Caetano do Sul and Mauá municipalities. Turning south, it finds environmental and physical restrictions to its expansion. The region suffers a process of population increase of density, with a great demand for public equipments and its consequent significant impacts in urban environmental conditions, indicating thus the intensification of the situation for the near future. In fact, the region presents common problems related to highly urbanized areas: polluted and saturated watershed, therefore generating discomfort and devaluing nearby environments; soil, air, visual and sonorous pollution; lack of green and leisure areas; and heat islands. The Urban Macrozone also presents several flooding points due to the Tamanduateí river overflow, bringing nuisance to many neighbourhoods.

The Environmental Protection Macrozone, on its turn, is mainly a Protection and Spring Recovering Area. It presents a rich watercourse that is rather persevered, due to low population density and good vegetal covering. The vegetal covering guarantees, in fact, protection to the water collection in its different environmental situations.

3.2 Plan guidelines

The SMAVL allows an addressing of Santo André both from the open space system and the watershed structure. It acknowledges the city's physical and spatial characteristics and its landscape potentials; its association to the urban structure and the relations to the cultural system, incorporating the population process of conscientization and participation.

As a structured, connected and continuous whole, the SMAVL is integrated to the urban structure as a part of the urban tissue itself, bringing solutions for the need of leisure and green spaces for Santo André considering issues of quantity, quality, distribution and accessibility. The main objectives of the plan could be summarized as follows:

- Guarantee and reinforce the participative process in the projects definitions, in the execution of the project and in the management of SMAVL elements;
- reinforce Santo André's environmental and landscape characteristics, improving its capacity of dealing with rain water, of temperature control, of biodiversity maintenance, and local flora and fauna protection;
- contribute to public space qualification, to their values and meanings, and to the preservation of collective memory, bringing into play the beauty and diversity of the natural resources preserved in the urban environment;

- guarantee use diversity and suitable appropriation of public space, according to local cultural values.

3.3 Methodology

In 2006, coordinated by the Master Plan Department from the Urban Development and Housing Secretariat, a team work was designated to regulate the SMAVL. This team work was compound by an external consultant and staff from different sectors of the municipality.

Initially, the methodological process included a conceptual debate over open space system and typologies. This was important as a support to the structure to be proposed, leading to views to be considered in the specific case of Santo André.

This was followed by evaluation, mapping and categorization of spaces administrated by the Parks and Green Spaces Department; spaces which could be potentially destined to the SMAVL; spaces along streams and springs; spaces with significative vegetation, specially trees; and areas designated as of permanent protection (APP), checking their land ownership situation and existing projects. It was also carried out a research on public demands for green and leisure spaces that came out from the OP meetings, among a number of other procedures.

From this point onwards, studies were developed considering the connections among the system elements, land ownership situation and viability studies. Several meetings, seminars and workshops were organized, having the participation of members of the Municipal Chamber of Urban Politics, staff from different sectors of the municipality and representants of popular organizations. From these meetings, the system was enriched with the proposals of new elements, of connections between the new and the existing ones, of indications of streets and avenues for urban treeing, among many other issues.

The SMAVL acknowledged the regions defined by the OP, which were regarded as system sub-areas. The system is, therefore, conceived at two project scales: one encompasses the system as a whole, and the other considers the OP region.

3.4. System structure

The SMAVL is structured from a number of elements distributed all over the municipality. They have specific characteristics and use criteria, and are organized around three categories: urban public parks, urban open space and conservation areas.

Public parks are green areas inserted in the urban fabric, and present a number of different functions - environmental, aesthetics, leisure, cultural, educational, sport, to name but a few. They are enclosed areas, with defined opening times, security, specific set of rules concerning uses, administrative equipment, and addressing issues of universal mobility and accessibility.

The different types of public park differ from each other due to catchment area, space characteristics, as well as leisure, culture, sports and educational features they offer. The *Vicinity Park* is one example, considering mainly local population and offering a reduced set of

features. The *Neighbourhood Park* expands its catchment area to the surrounding population, nearby neighbourhoods, offering a better diversity of features. The *Regional Park* presents an area and features able to attract users ranging from local people to other nearby cities. And finally, the forth type of urban park is the *Linear Park*. It is characterized by being linked to the watershed structure, presenting a unique typology, and a long and extensive form. The Linear Park addresses the protection and recovering of ecosystems along watercourses, preventing flooding and connecting other SMAVL components.

The second system group is the Urban Public Open Spaces. These are areas inserted in the urban fabric, with the objective of holding educative leisure practices and promoting social values in open spaces. They are also compound by different typologies. The *Square* is mainly destined for social gatherings of all kinds, being easily accessed by city dwellers. *Traffic Squares* are roundabouts, and all sorts of open spaces that were left over the traffic system. The next typology is named *Urban Infra-structure Open Spaces*, which are large continuous areas, usually linear ones, which could be incorporated to the SMAVL with some restrictions concerning public use and high vegetation. Finally, *Green Spaces Associated to Public Services and Institutions*, which could be open to the public, and Green Vias and Corridors, which are streets and avenues with continuous vegetation, working as a connection among the different system components, as well as being agreeable promenades for pedestrian and bikers. The Green Vias are conexions in a light and local traffic structure, while the Green Corridors relate to conexions in an intense traffic structure, inter-regional.

The third group – the Conservation Areas – are privileged places concerning nature protection and bio-diversity. The antropic charge, especially cultural, leisure and recreational uses, will be controlled according to environmental legislation in different levels. This group is part of the Environmental Protection Macrozone and, as mentioned above, will be established in the future, and therefore is not the focus of this paper.

4. THE ESTABLISHING OF THE PLAN: SUCCESS AND CONFLICTS

The establishing of the SMAVL features has, in a general way, been very successful, involving dwellers and public authorities in participative processes aiming the valuing of squares and green spaces. The discussions over the OP were important as instruments to reveal community life histories, their habits, their culture, as well as bringing them the opportunity to expose their needs and demands. This was important to the whole process of design, which sought the materialization of popular values in the city space. Next, the paper will look at particular issues concerning the SMAVL establishment.

4.1 Collective work

One of the alternatives for the establishment of an open space project when local community do not succeed in having their demands approved at the OP discussions is the so called *mutirão* – voluntary and non paid collective work. Local dwellers contribute with their work, therefore reducing the costs, and in this sense the Parks and Gardens Department accomplishes the creation of a number of squares larger than the municipal budget would allow. The *mutirões* begin with the definition of the better uses for the void space, which are usually used for irregular placing of solid litter. Then, there is a collective discussion and elaboration of the project

guidelines, followed by the construction organization through a *mutirão* work, and finally the management options are collectively defined – either volunteers, councils, a mixed composition, among other. As an example, the paper discusses two of these areas: the *Praça Maria Quitéria* and the *Pesqueiro da Rua Jundiaí*.

Praça Maria Quitéria (fig. 3) is located today in a place where, a long time ago, there were clean water springs. These clean waters sprouted at houses' backyards, and they were used by local women for clothes washing and children bathing. With the increasing urbanization process, streets received curbs, the backyards were walled and water springs were landfilled with waste materials, both by local people and public authorities. During the OP public discussions, the challenge of recovering the springs and establishing a leisure area strongly appeared. It was established, then, a partnership between local people and public authorities aiming to build a square through *mutirão*, which brought back the water to community enjoyment.

Another *mutirão* that was put into practice brought into being the *Pesqueiro da Rua Jundiaí* (Fishing place) (fig. 4). At the beginning of drainage works, nearby an estuary stream, with the aims of preventing floods that used to damage local people's houses, springs had emerged forming a small lagoon. In this process, local dwellers proposed to public authorities some changes in the original scheme, taking advantage of the lagoon as a leisure area. Their suggestion was accepted, and from then a lasting partnership was established. The park programme was modified and new uses were incorporated, as for instance the creation of a fishing pond with a special area for caught fishes, the planting of fruit trees, urban furniture, and also the establishment of management procedures for the area.

4.2 Recovery of environmental and historical heritage

The *Parque Celso Daniel* (fig.5), an existing park that was incorporated into the system, is situated in a city area having shopping centers, hotels and former industries. Its creation was due a demand from local merchants and dwellers for the establishment of a public park in an area of former small farms, with special trees protected by the Heritage Department, as well as several springs. Discussions over the project led to a different programme, allowing the park to be used 24 hours a day. This program included special assistance for women, children and elderly people, breastfeeding area, first aid emergency assistance, municipal guards station, among other features. It is the only 24 hours public park in São Paulo Metropolitan Region.

This park plays an important role in connecting the green and the blue systems, either environmentally recovering the spring area or highlighting the existing landscape through the vegetation. The creation of *Parque Celso Daniel* adds a value to an area with historical characteristics, promoting a closer contact between city dwellers and the old trees, which hold vestiges of the urban landscape evolution. For these reasons, the park represents a more effective preservation attitude towards natural and cultural landscape, from the disclosing of its importance and the possibility of its enjoyment. In this way, city dwellers are able to understand that, in order to keep park values and landscape characters, it is necessary that its environmental attributes are preserved.

Parque Central (fig. 6), on its turn, brings a meaningful experience concerning environmental recovery: a stream was deschannelized. This procedure is not common considering the usual urban drainage practices in Brazilian cities, where watercourses have been channelized with no consideration of their landscape, environmental or cultural meanings (see Costa 2006). During

expanding and improvement works carried out this year, several springs that were hidden due to litter deposit over the years were restored.

Parque do Norio (fig.7) is another interesting experience concerning environmental recovery. It is a small park, and it was established with the objective of recovering part of a stream and its springs. Despite its small size, it counted with the constant participation of local dwellers, who were already taking care of the area, protecting it against the irregular litter deposit, which used to come even from nearby cities.

4.3 Environmental education

Another important existing area incorporated to SMAVL, named Parque Escola, has an important role to play as an information center related to environmental issues in the municipality and in the ABC region. It develops a successful educational program including gardening courses, solid residues recycling, and rainwater re-use, among others. It also holds a rich fauna and flora, orchid gardens, irrigation with collected rainwater, auditorium and library. Also, the Parks and Gardens Department, in charge of the establishment and managing of the SMAVL, is located at Parque Escola.

4.4 Linear Parks

Linear parks are fundamental parts of the system. They are examples of features where the integration between the green system and the blue system occur. Their conception is related to the creation of a green area along a stream or a river. For this reason it presents a linear structure, which is also appropriate for its use as a connection element of the system. In some cases, the connection is even favored from the continuity of linear parks with green corridors. The Parque Linear do Córrego Itrapoá, for example, is connected with the Green Corridor made by the avenues Giovanni Battista Pirelli, Santos Dumont e José Caballero, establishing an east-west axis in the city.

The establishment of linear parks involves both environmental and cultural benefits. From the environmental aspect, it recovers the riparian vegetation wherever possible, keeping soil permeability, protecting riverbanks and diminishing flood risks. And from the cultural aspect, it represents an improvement of landscape experience for the population, who can enjoy these leisure spaces.

During the decision-making design process, there was a permanent effort to keep a reference, sometimes at least symbolic, to the rivers in the public landscape. The Parque Linear over the stream Apiaí presents several interruptions, with the river appearing and disappearing from the landscape. A landscape reference to the stream was incorporated in the Praça Cristo Redentor, in a pedestrian path over the stream, with a blue ceramics paving, symbolically retrieving its presence in the landscape. The connection of this park to the Green Corridor of Avenida dos Estados, an important metropolitan highway axis situated along rio Tamanduateí, the main region river, allows a north-south connection in the city of Santo André.

4.5 Conflicts

As any intervention in a public space, it seems inevitable the conflicts generated by the conflict of different values and interests from different groups. As expected, conflicts were many and were collectively solved in through dynamic and passionate processes. In the Parque Maria

Quitéria, for instance, there were many differences concerning the project conception. The realization of *mutirões* has brought several problems concerning the construction on a daily basis, such as night surveillance of the work material and the scheduling of weekend work. These generated long debates among local community and public authorities in order to come to a consensus.

On the other hand, the establishment of linear parks involved difficulties related to irregular occupation of environmental protected areas along watercourses and springs (fig.8). These areas are protected by federal legislation, but even so they have been transformed in low-income irregular settlements, where dwellers run the risks of sliding and flooding. The collective and interdisciplinary planning, among the public sector in charge of urban drainage, low income housing department and SMAVL management have been an important space for negotiating conflicts.

The SMAVL establishment has also turned to be an educative and awareness process. There are still conflicts due to design concepts that put forward either avenues along rivers and streams valleys instead of linear parks, or flood prevention through the creation of pools instead of the maintenance of soil permeability and other environmental solutions.

5. FINAL COMMENTS

Over the last years a number of studies have been pointing out the importance of the realization of urban and landscape projects together. The conception of the green and blue systems addressing the urban project structure acknowledges both totality of open urban spaces, as well as the basis of natural landscape – topography, vegetation groups, watersheds and watercourses structure. And the cultural system, being contemplated in the projects development and establishment, is important to guarantee the integrity of the whole, which in turn provides physical support to social and spatial relations established in the landscape.

This support brought by the understanding of the importance of landscape structure to urban projects is fundamental for its developing. The elaboration of the green system and the blue system can bring a contribution for an enrichment of the urban space and improvement of the urban experience of its inhabitants, providing leisure areas and better environments for different human activities.

The presence of flora, fauna, water collections, and original geomorphologic aspects less modified by antropic intervention has been focus of interest and value for urban environments. Degraded areas such as woods and streams can in fact be recovered and incorporated to the green and leisure city spaces system. It is necessary to avoid the vision that it is not possible to conciliate urban development and protection of natural resources, and that the late ones should only be preserved in confined areas such as zoos and botanical gardens.

Santo André strategic plan turned to be a fertile case study, where these issues were observed from their daily practice, linked to an effective participative process. This process considered both environmental and social issues, stressing an understanding that these are complementary aspects and should not be considered separately.

The results observed from SMVAL highlighted a changing of scale in the communities' demands, who began to place themselves not only concerning their street or neighbourhoods,

but extended their concern to the city, its regional interfaces and environmental issues of the Metropolitan Region. It was possible to perceive an awareness of the municipality's role in the preservation and recovering of the spring's protection areas, and that flora, fauna, watercourses, the rain, the wind and the sun are natural components presented, necessarily, in the urban environment. For this reason they should be considered in any kind of project which aims to contribute to the requalification of human habitat.

Santo André's SMVAL has shown that inhabitants participation, either during the project and decision making process or during establishment, as it is the case of the *mutirões*, is one of the most effective forms of involving the population in the conservation of public spaces. Values for these spaces are created not only through use, but also as a result of their demands and collective effort.

The rich experience of closely relating green and blue systems has created spaces intensively valued in environmental terms, and which have much to reveal about the city landscape, as it has happened on linear parks and on squares where springs were recovered. Therefore the proposal of this *triologue* appears to be one of the possible ways for the relationship between the environment and the urbanized human being. Santo André's experience was then an interesting case study to discuss the interplay between natural and cultural systems in landscape design and planning, on a democratic basis. Having these systems valued in planning and design, cities could find the lost link with its landscape identity, hallmark their potentialities and guarantee their environmental and cultural quality.

6. ACKNOWLEDGEMENTS

This research has been supported by UFRJ, CNPq, FAPERJ and CAPES, to whom the authors would like to thank. We would also like to thank Patricia Hartmann for the maps graphic design.

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Figures:



Fig.1: Santo André's Macrozones
Source: modified from SMAVL archives.

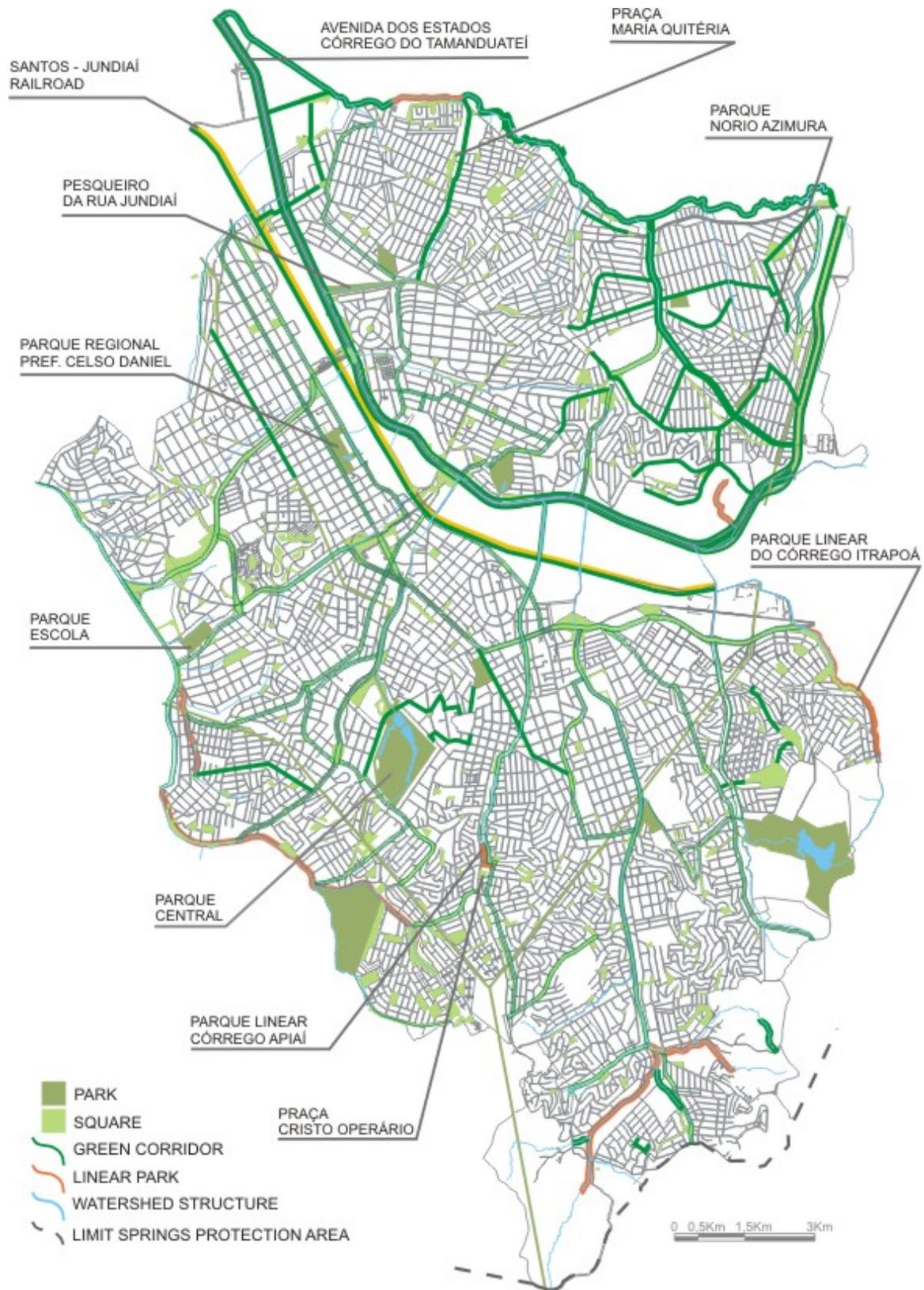


Fig.2: SMAVL General Map.
Source: modified from SMAVL archives



Fig.3: Parque Maria Quitéria
Source: Santo André Municipal Mayorship



Fig.4: Pesqueiro da Rua Jundiá
Source: Santo André Municipal Mayorship



Fig.5: Parque Celso Daniel.
Source: Santo André Municipal Mayorship



Fig.6: Parque Central.
Source: Santo André Municipal Mayorship



Fig.7 : Parque Norio.
Source: Santo André Municipal Mayorship



Fig.8: Irregular occupation along rio Taioca.
Source: Santo André Municipal Mayorship

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ⁱ In Brazil, from the 10.257 Act from 10/07/2001, a Master Plan is mandatory for cities with more than 20.000 inhabitants.

ⁱⁱ Sistema Municipal de Áreas Verdes e de Lazer. The SMAVL is yet to contemplate the municipality as a whole. At the moment, it was defined only for the Urban Macrozone.