

# Reflection Report (P4) - Architecture

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Name: Maarten Kempenaar  
Student nr: 1272284  
Address: Claes de Vrieselaan 162A  
Postal code: 3021 JZ  
City: Rotterdam  
Phone: +31 6 42902525  
E-mail: mkempenaar@gmail.com

Title: *Integrated Integrative Infrastructure*

The local dimension of metropolitan mobility systems in São Paulo: An exploration of the planning and design of sustainable nodes of mobility and their impact on local spatial qualities.

## Introduction

São Paulo is a city heavily dominated by infrastructure. The urban development of São Paulo has always been heavily intertwined with the development and transformation of the infrastructural network. And until the day of today, the city's main success is due to the transformation and expanding of this infrastructure, with mainly the goals of production and economic growth in mind. This network is developed from a very centralized and individual perspective and especially attends those areas that are already increasingly 'mobile'.

We see a city that is structured to function for a very small amount of people and that excludes a large part of its inhabitants. We see a city structure that is articulated on a very mono-functional way. Constantly enforcing its economic potential of production but neglecting social issues and environmental disadvantages, which are, increasingly, created by this mono-functional perspective. And we see a city structure that works on the scale of the metropolis, but disregards the more specific and local networks that structure city. Resulting in a fragmented urban environment, where investments are not aimed at transforming the urban landscape into a sustainable living environment.

We therefore ask ourselves, how can we revert this imbalance?

Can we combine future investments that introduce improvements for the production of the economy and simultaneously provide a higher (local) quality of life? Can we adopt a different strategy in the (re) development of the city's structure with the aim to transform São Paulo into a more sustainable and inclusive city?

This is the main question that drives this research and it presents us with a number of challenges related to infrastructure, sustainability and the integration of both concepts.

## 1. Objective

It is clear to us that, until now, the mobility systems of São Paulo are developed extremely centralized, inefficiently, poorly integrated and out of a purely technical perspective. This is in the first place if it's implemented and not remains just on paper. We argue that, for a future development towards a more inclusive city, the transformation of São Paulo's infrastructural network has great potential in solving several of above described challenges, but only if it is developed with a different strategy in mind. Large infrastructural implementations placed in the built environment should go beyond providing just 'technical' mobility. The principal objective of the thesis and project is to develop a design strategy that can contribute to achieving a more cohesive integration of a mobility project within its larger context and vice versa. An integrated and integrative strategy of infrastructure development. This integration is thought of on different levels (see fig 1.):

*Social integration:*

To not isolate detached regions from the formally structured city but to promote spatial inclusion of these regions by facilitating an increase of access to social and physical infrastructure. With this a more equal distribution of opportunities over the urban area will take place.

*Economic integration:*

To not only bring new economical opportunities to these dispersed regions but to assess the value of important existing economical structures and enhance these to make them more fitting to the economy of the metropolis as a whole.

*Environmental integration:*

To integrate water and its bordering areas in the build environment with the aim to make it accessible for multiple uses. The transformation of water streams should contribute to issues of urban drainage, flood protection and water treatment, but simultaneously to the development of green public spaces, and community facilities.

*Physical integration:*

To utilize the physical infrastructural network as a backbone for economic growth, environmental preservation and social development. Future investments in infrastructure should be aimed at transforming the urban territory into a sustainable living environment. Introduce improvements for the production of economy and simultaneously provide a higher (local) quality of life. For urban development in decentralized regions and not only 'serve' the centralized metropolitan scale but 'negotiate' its bordering (local scale) regions and inhabitants (community).

## **2. Method**

In order to achieve the aim that I had set out at the beginning of the process, my research question dealt with developing a better understanding of the role that design plays in the development and planning of sustainable mobility nodes and their direct adjacent regions. This complex 'role of design' is visualized by putting it in relation to different actors, scales and landscapes (see fig.2)

*Research Question:*

How can infrastructure become a backbone for systematic urban transformations in São Paulo, and what role can design, by means of a spatial strategy, play in improving the integration of environmental-, social- and economical values that guide the transformation of this mobility environment?

The research is conducted by two main methods:

A      Theoretical

I.      *Theory review*

The physical-, environmental-, social- and economical landscape of São Paulo is described and interpreted by the discussion of different methods and theories relating to these aspects.

B      Emperical

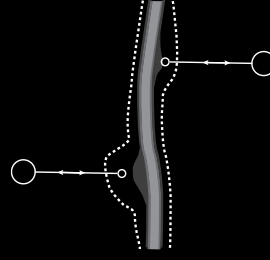
II.     *Interview with experts*

Ten experts on urban planning and urban development in São Paulo are interviewed on their specific area of expertise to form a broad perspective of the current state of planning and development approaches in the city, and how different aspects are interlinked. The experts are deliberately chosen to have somewhat contradicting perspectives, offering valuable point

## Environmental integration

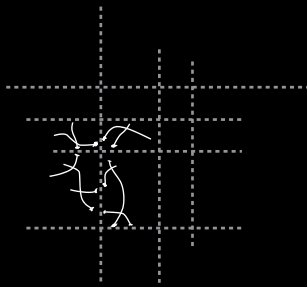


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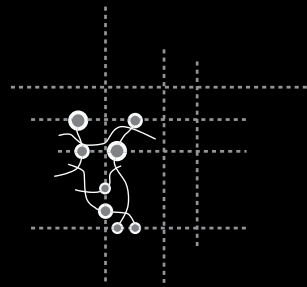


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## Economic integration

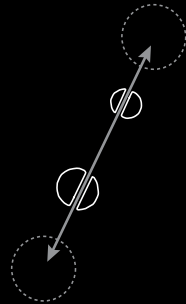


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## Physical integration

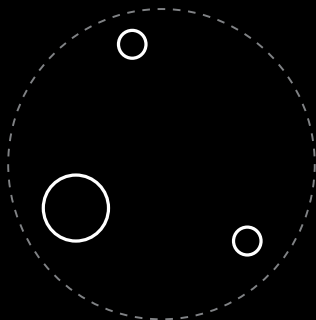


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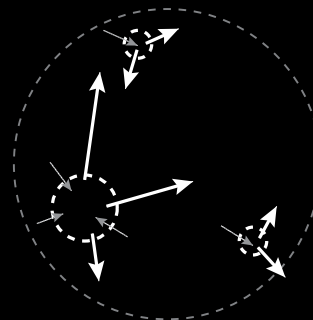


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## Social integration



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of reference in the discussion on the scale of implementations and a top-down or bottom-up approach.

### III. Case study

Tiquatira (site) – Out of a first general analysis of several mobility nodes and development regions of São Paulo the site of Tiquatira is defined as having the highest potential for our research. This node, its relation with the urban surrounding and the metropolitan region and its specific local (social, environmental, economical, geographical and spatial) qualities are extensively researched and mapped in an analysis. This analysis and this site forms the basis for the

### 3. Design principles:

Here we define the main principles that define the design proposal and subsequently their relation with the research.

#### I. From boundary to border

On the scale of the infrastructural node we defined the physical infrastructure as a strong boundary. A boundary that strongly defines the urban landscape as fragmented and segregated. The strategy is to transform this boundary into a border. A border of active engagement.

#### II. From project to process ('Incrementalism')

An emphasis is put on the process. Is it possible to develop the node gradually? Can the building be constructed in phases and is the structure flexible for alterations? The point of view of the user should be actively involved.

#### III. Framework for the human scale

The 'largeness' of infrastructure is approached as a framework for a wide variety of small scales. Infrastructure as an inhabitable structure for the human scale.

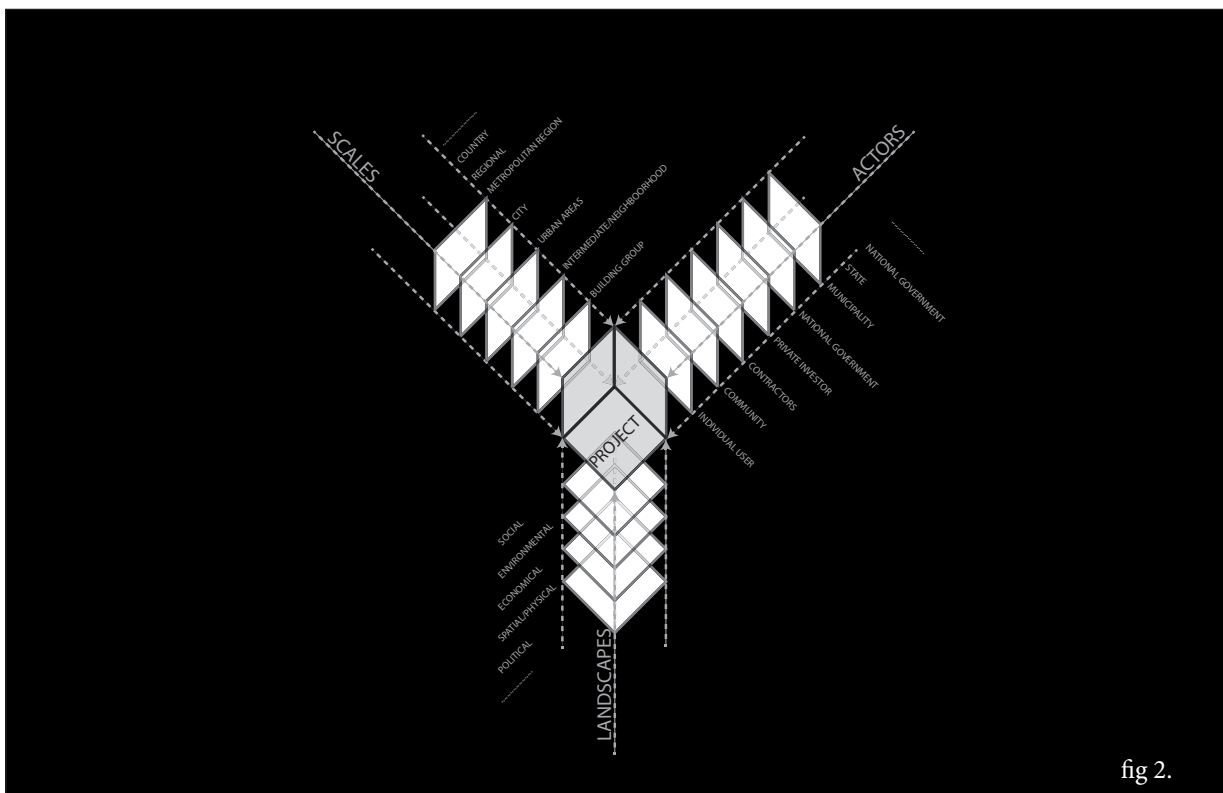


fig 2.

## **Relation between research and design**

I am convinced that the design proposal is strongly anchored in the research. The strategies proposed above can, to a large extent be seen as directly derived out of the research. The aspect that required, and still requires, the largest amount of time and diligence is the integration of the 'specificity' of the location and proposed building with the wider and more 'systematic' strategy of transformation for its adjacent region.

### **The relationship between the project and the wider social context**

#### *I. Social and environmental value*

As we propose the development of an environment that integrates social-, economic- and environmental values within a sensible spatial strategy, this research and development is very relevant for a, highly necessary, systematic transformation of the urban living environment of São Paulo, and above all, for those who are part of it, the inhabitants.

A successful spatial articulation of a mobility environment can include public space and leisure spaces. It can contribute in the living and working areas of its users and inhabitants. Physical mobility can be tied to social mobility of a before isolated region. Otherwise the research can provide solutions for the preservation of important elements of our natural environment, such as greenery and water, included rather than excluded within urban transformations.

#### *II. Scientific value*

The defined problem of a mobility environment that is developed with 'just' economic values in mind and neglects the potential of integrating social and environmental values is a generic problem. Nevertheless a generic solution is highly idealistic. Therefore the goal of this research and design has always been to develop a specific solution for the specific case. However I think it would be interesting to further develop this specific understanding towards generic elements (from this research and design) that could be transferred to the development of mobility environments in other situations.

### **Conclusion**

I'm convinced that the research that I have conducted in this period of graduation has offered valuable and relevant knowledge of the historic development and the current state of the urban landscape of São Paulo. It helped me develop a thorough understanding of how physical elements of infrastructure are entangled with social-, economic-, and spatial levels. More specifically I believe that this exploration has helped me to develop a strong argument for a different approach towards the development of infrastructure in the context of a metropolitan region and its local dimension. I believe the relevance of my thesis and project results could lie in the discussion of going beyond the current approach of infrastructure implementation. Integrating the social, economic and environmental levels in this strategy. The goal of this discussion should be to not just promote a productive city, but to promote urban transformation that will lead towards a sustainable, and inclusive city for all.