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## Inhabiting Urban Voids: Urban Infrastructure in Sao Paulo

Andrea Novazzi

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**Thesis Prep Book**  
**Andrea Novazzi**

Syracuse University  
School of Architecture  
Primary Advisor: Ted Brown  
Committee: Julie Larsen & Lawrence Chua

# INHABITING URBAN VOIDS

URBAN INFRASTRUCTURE IN SAO PAULO

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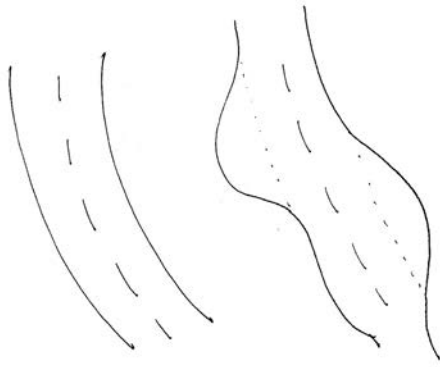
7. BIBLIOGRAPHY





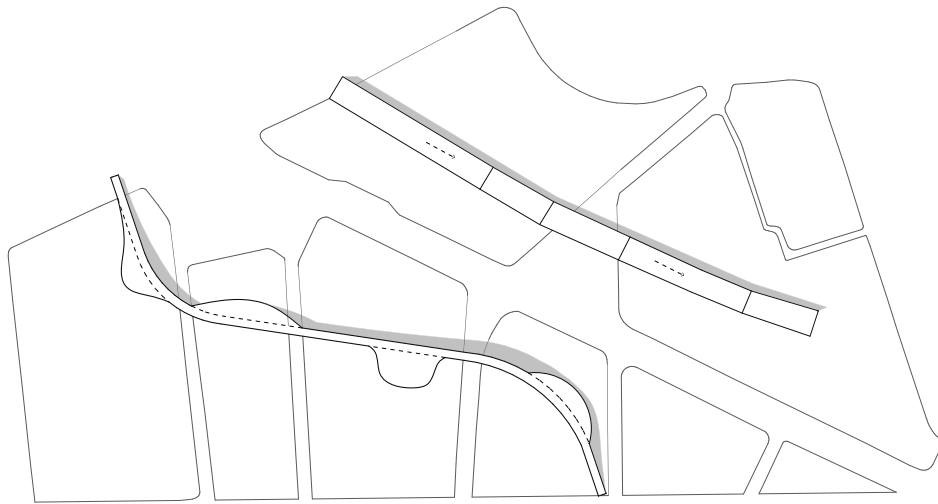
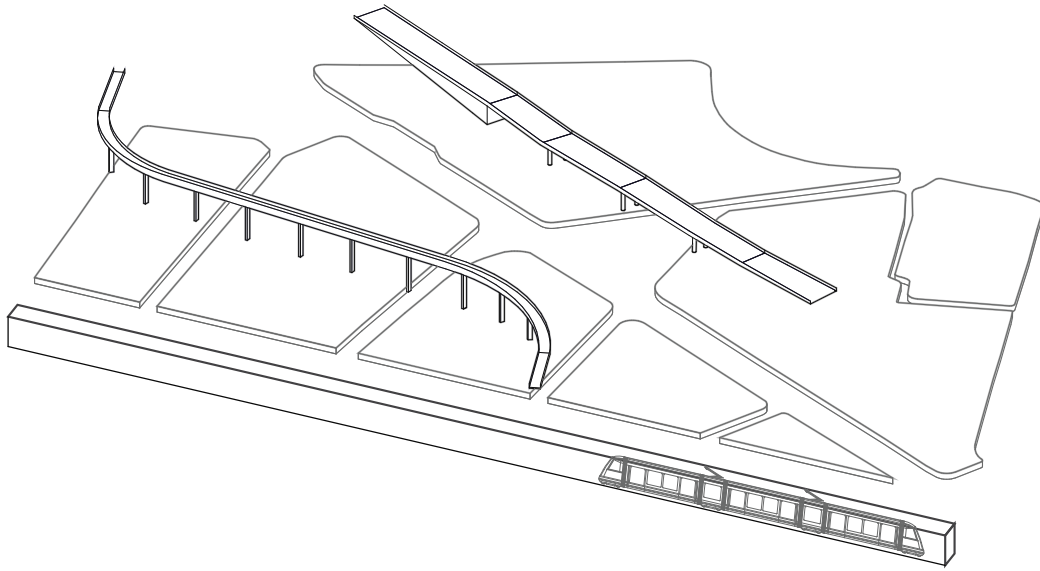
1. Street market, Marrakech, Morocco.
2. Elevated Pedestrian Pathwalk, Sao Paulo, Brazil.

## ABSTRACT

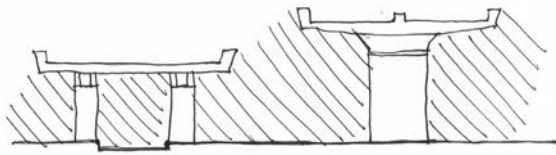


“Thickening”

Single-functioning infrastructure produces residual spaces within the urban fabric of a city. Existing structures may be ‘thickened’ through the implementation of different programs. The singularity of infrastructural elements creates a ‘clean’ environment lacking use or character. Infrastructure is a public service that enables human interaction. “Thickening” the infrastructure with public programs, either formally or informally, may facilitate an ‘event’ happening between individuals. My thesis asserts that within the urban voids generated by existing infrastructure, public programs may be implemented in order to promote spaces that encourage different human transactions and encounters, to create a spatial identity.



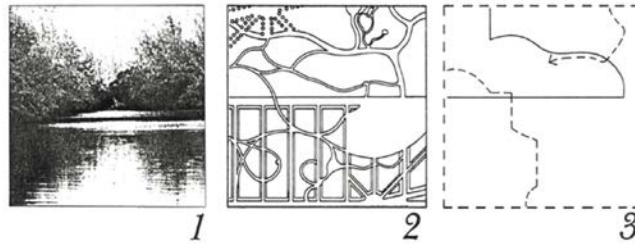
Transportation Infrastructure



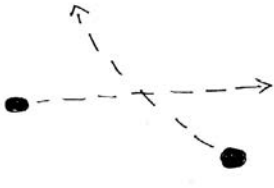
Infrastructure Residue

Infrastructure is the system of public works—the basic physical and organizational structures and facilities needed for the operation of an urban settlement. It is a singular system as it usually serves one specific purpose. For example, sewage systems move waste from a given location to another, while highways provide a connection path for automobiles. Often, systems within a given infrastructural network converge and produce residual spaces. Among these systems, transportation infrastructure causes a variety of urban voids to emerge, residual spaces within the urban fabric.

The urban voids located along single-functioning infrastructures present the opportunity for an architectural intervention. Different spatial experiences may be created, as well as the implementation of public programs, with the goal to revive the area. These residual spaces can be used to “thicken” the infrastructure, in order to produce a multifunctional one. The added programs can produce a public realm that is multiply formal and informal, through services and social spaces, and create a spatial identity that is compatible with the city’s inhabitants. Social spaces can be identified as spaces of transaction, where different types of human interaction occur. These can also be defined as areas of exchange where ‘events’ between individuals may transpire.



3. Tschumi's Manhattan Transcripts diagrams for The Park.
4. Downtown Athletic Club in Delirious New York, Koolhaas.



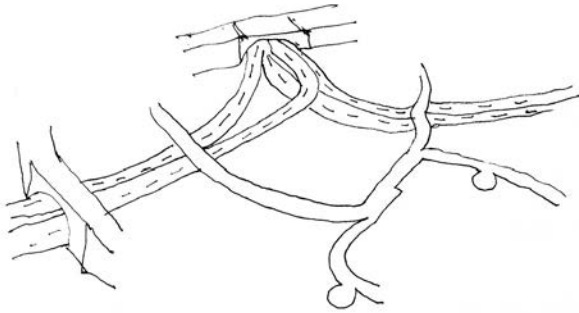
Interactions

Following Tschumi, the “future of architecture lies in the construction of events”. How can architecture promote or even facilitate these spaces of transaction where such ‘events’ take place? Different types of programs that are spatially or programmatically incompatible, can be combined to produce new ways of experiencing space.

New spatial experiences allow for encounters to occur, consequently impacting social behavior. The concept of “social condenser” can be applied to the combination of a specific spatial type with an unintended activity. In Downtown Athletic Club, Koolhaas discusses how unconventional programs combine on each floor to produce unusual situations. When it comes to infrastructure residue, the possibility of implementing programs that will promote unusual situations seems intriguing. As most infrastructure deals with circulation, the probability of social encounters is high; different types of transactions may happen between different kinds of people. How can the juxtaposition of uncommon programs create spaces that encourage such transactions?



5. Bandeira Bus Terminal, Sao Paulo Brazil



Infrastructure at Terminal Bandeira

The central district of city of Sao Paulo, in Brazil, presents an interesting possible site for an intervention. The area houses the city's main infrastructural arteries, with two subway lines and a significant amount of tunnels and highway systems. Particularly, on the west side of the historical district, four infrastructural systems converge at bus terminal Bandeira. The combination of highways, elevated pedestrian pathways, and a subway line generate significant urban voids. Specifically, the elevated pathways are used by pedestrian to access the bus terminal as well as the nearby subway station, acting as an important form of circulation. Despite that, the pathways are abnormally desolate of any activity and convey this idea of 'cleanliness'. With that, the city's inhabitants move from one point to another, without any interaction: the working mother rushing to catch the bus to the office, the high-schoolers coming back from school, the drug dealers waiting for their merchandise, the prostitutes looking for their next customer.

The highly diverse public that uses the site, provides the opportunity for spaces that promote different transactions to be created, in hopes to generate an identity for the area. The residual spaces from the infrastructure, provide potential locations for interventions.



**SITE**

## GLOBAL SCALE



# SAO PAULO CENTRAL DISTRICT



SITE - ANHANGABAU



## SITE - AERIAL VIEW





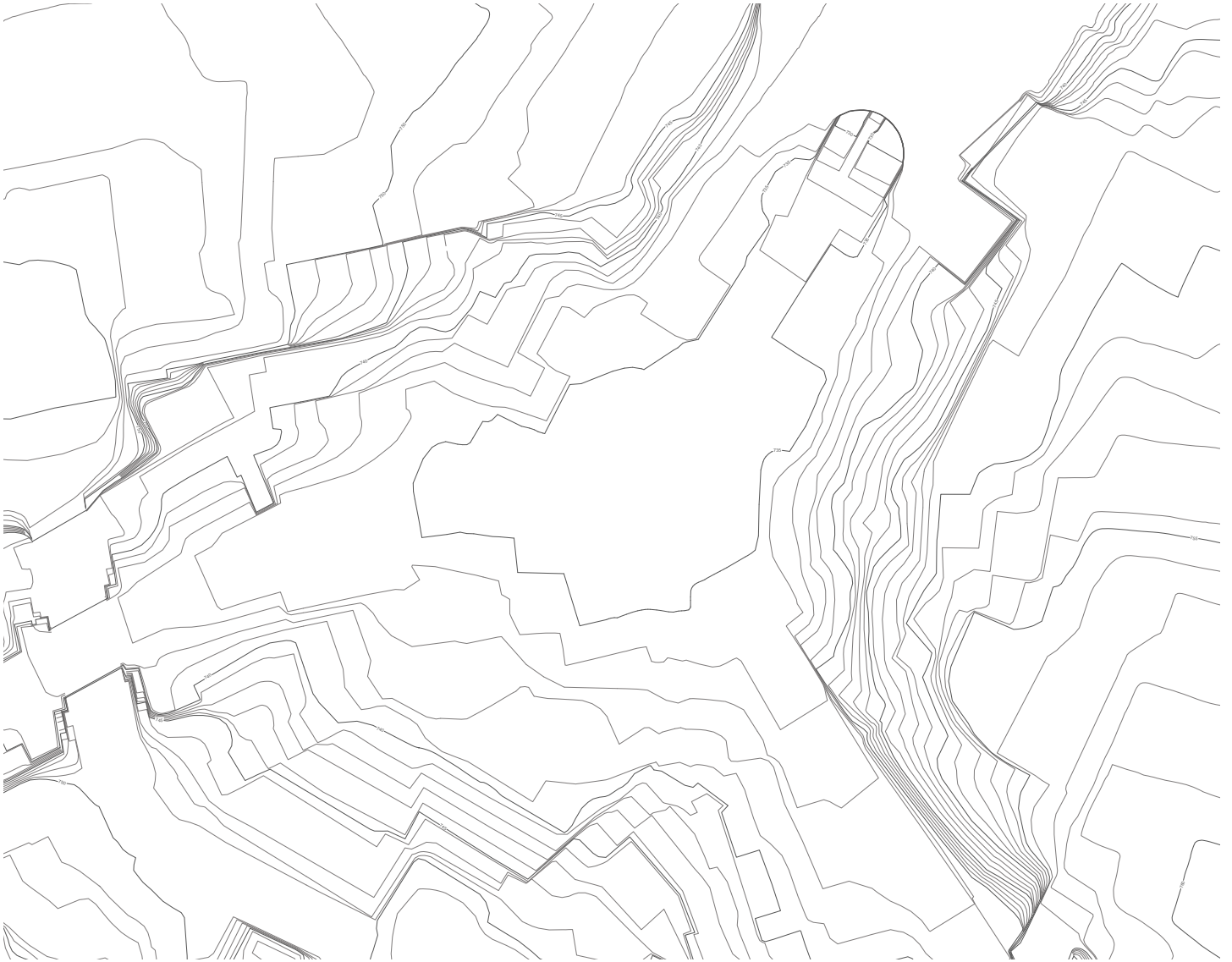


7. Bandeiras Bus Terminal, Sao Paulo Brazil

SITE - FIGURE GROUND

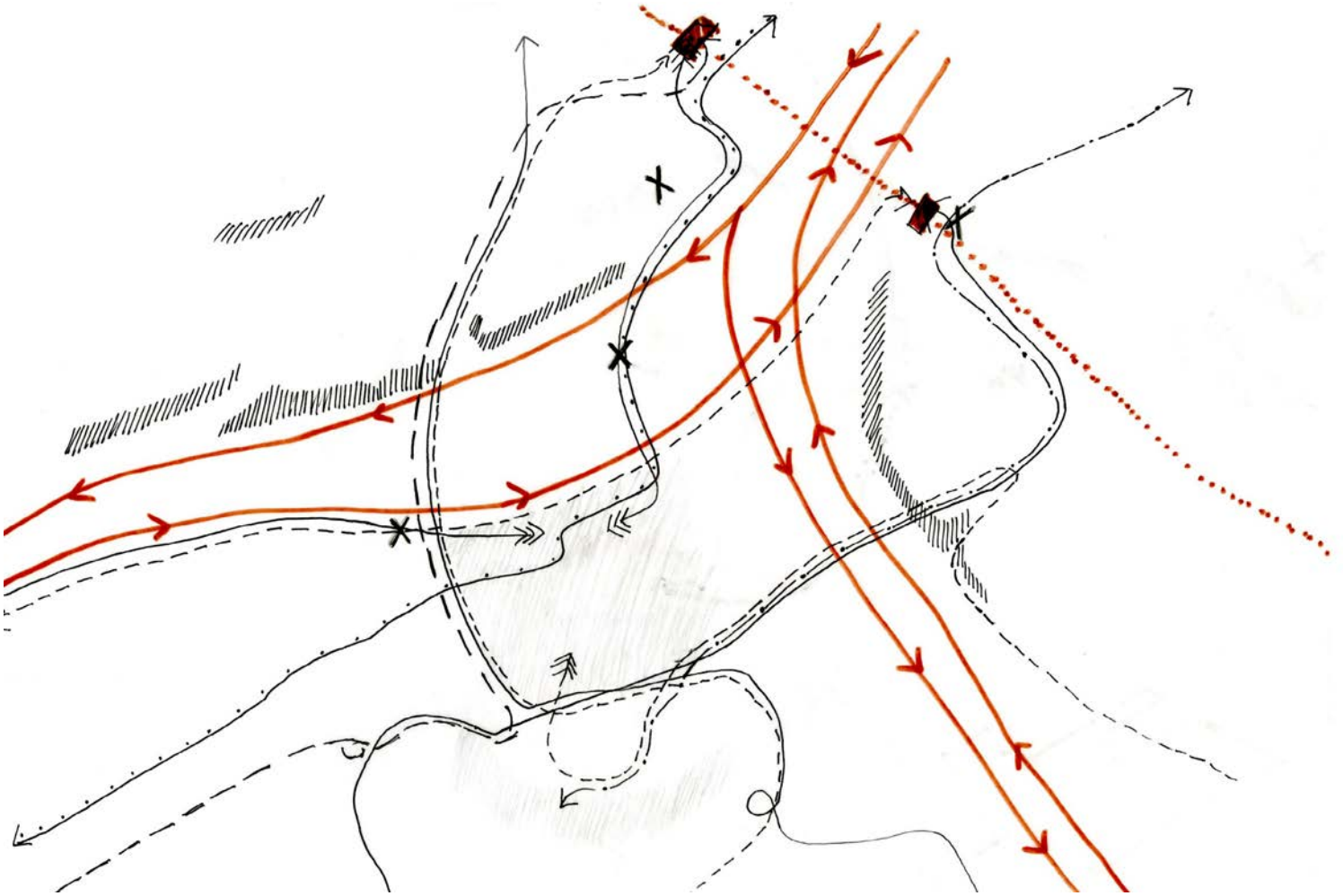


SITE - TOPOGRAPHY





## SITE ANALYSIS

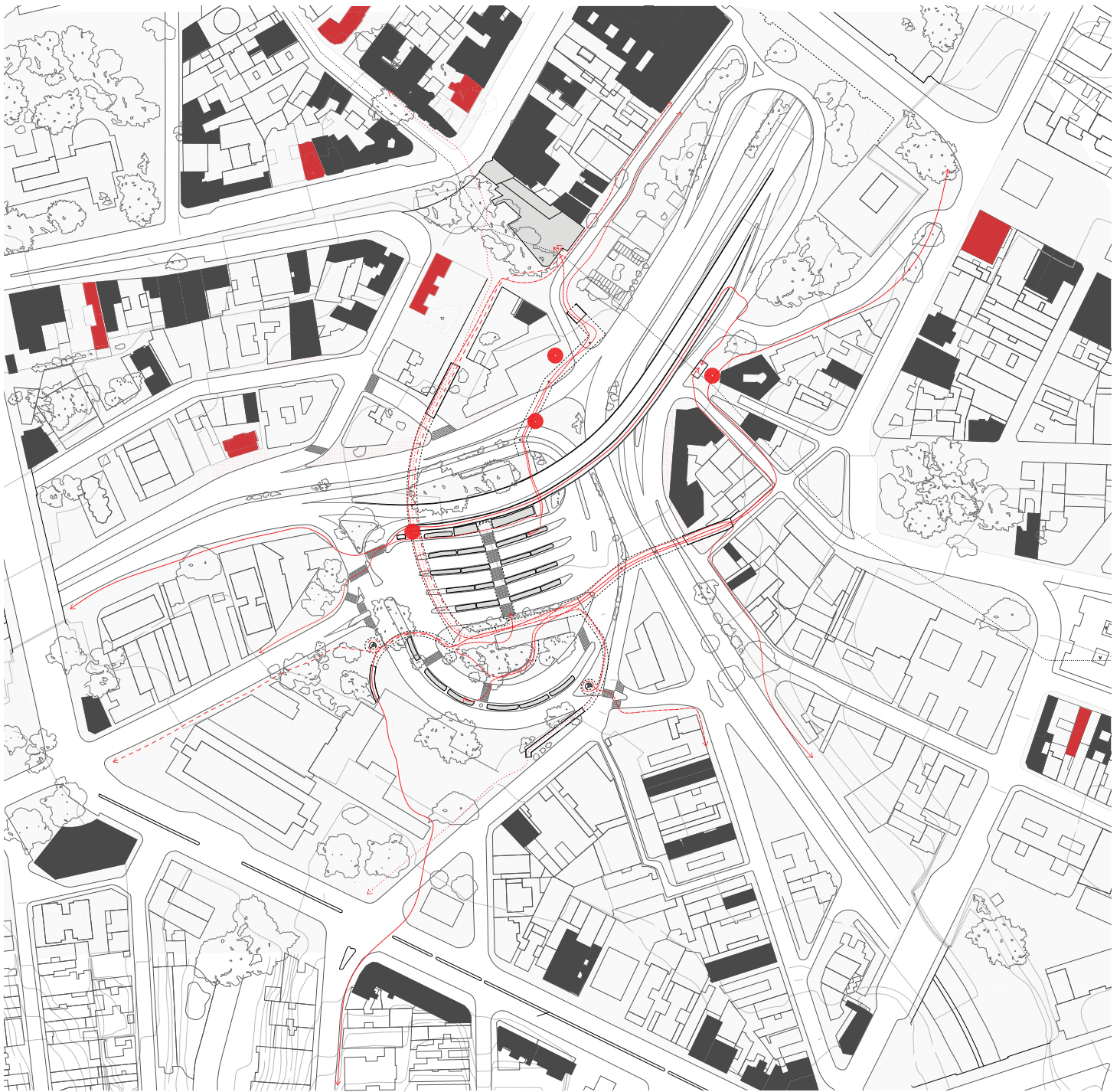


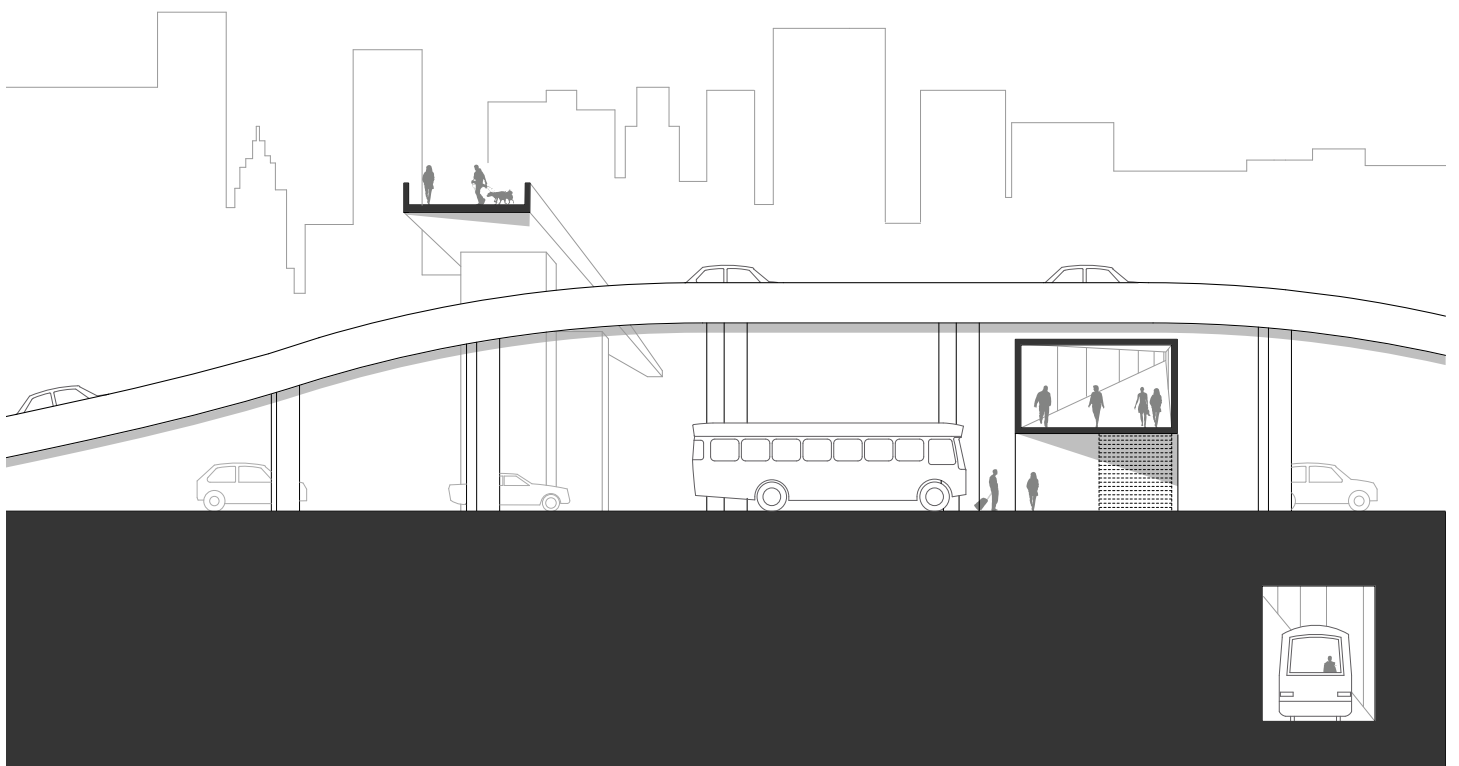
## SITE ANALYSIS



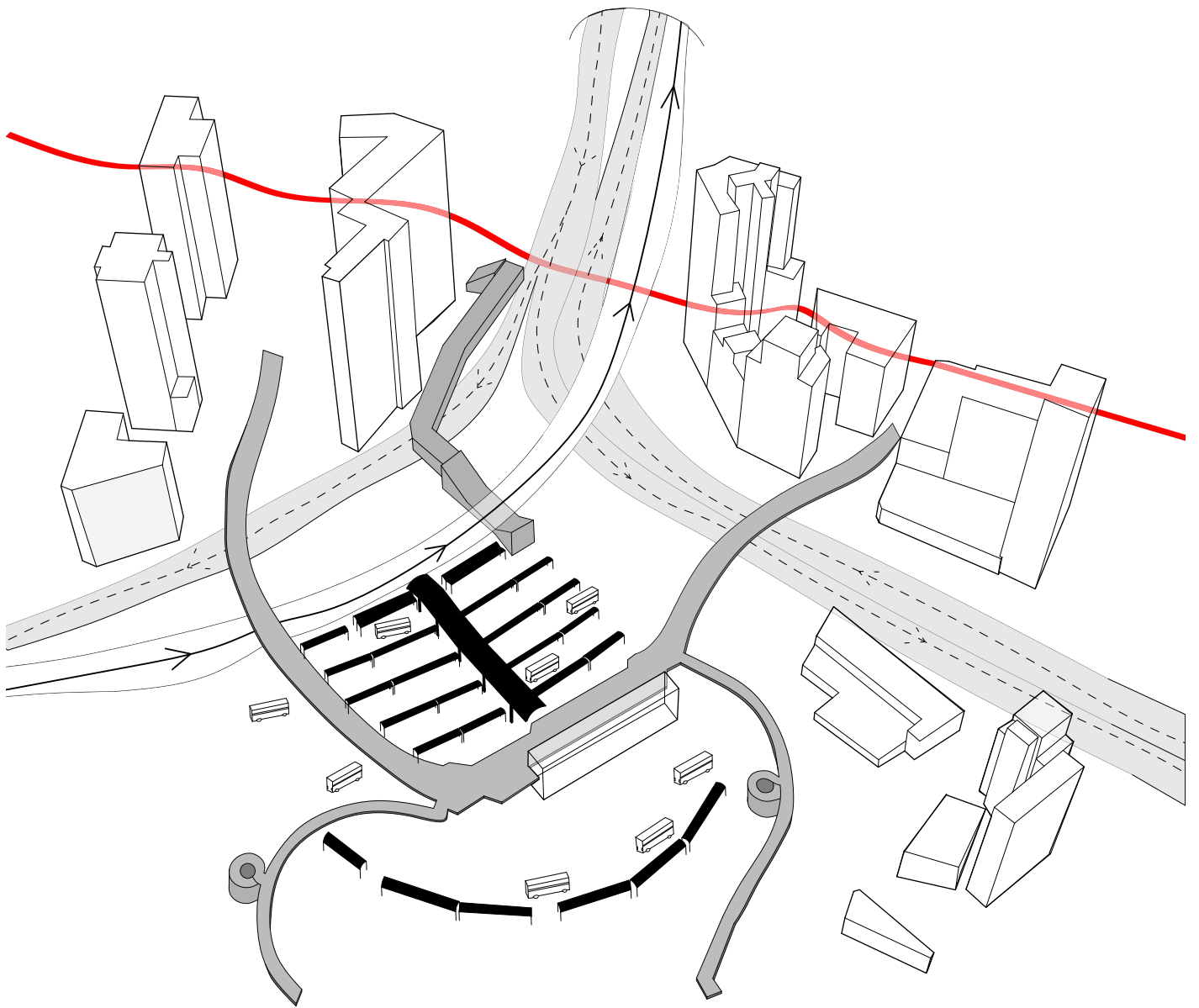


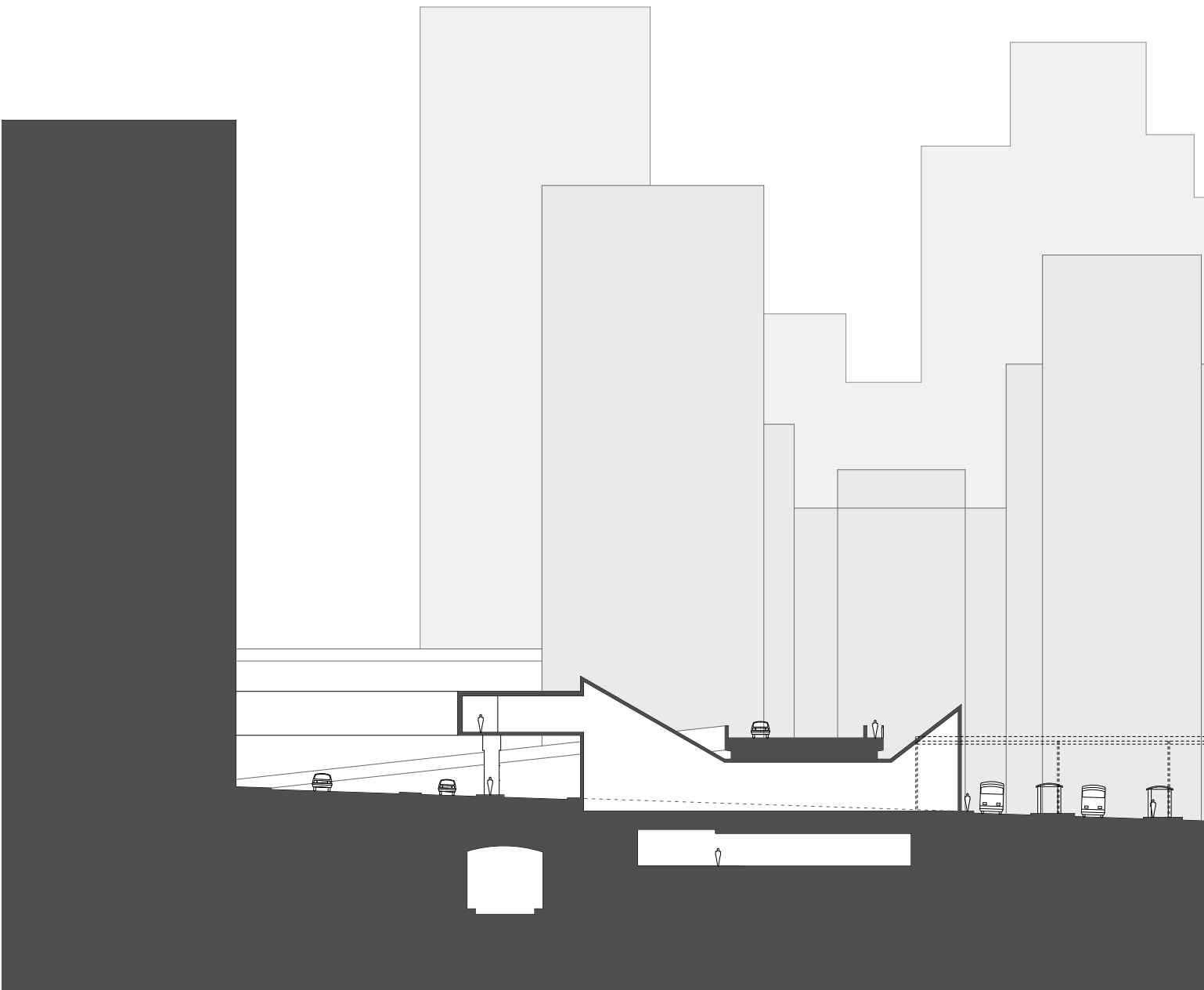


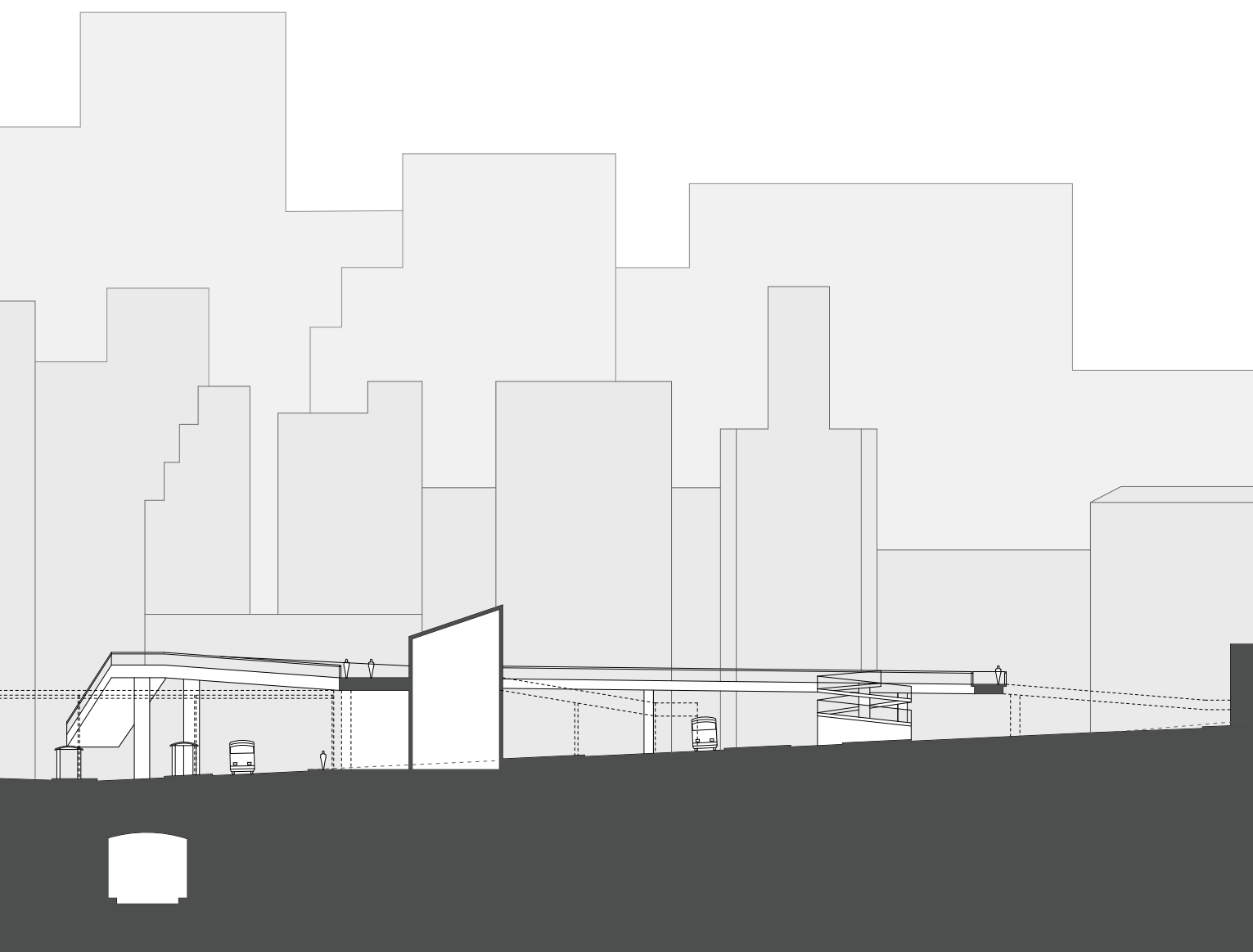




Diagrammatic Section









## ELEVATED PEDESTRIAN PATHWAYS





9. Pedestrian Pathway, Praça da Bandeira.





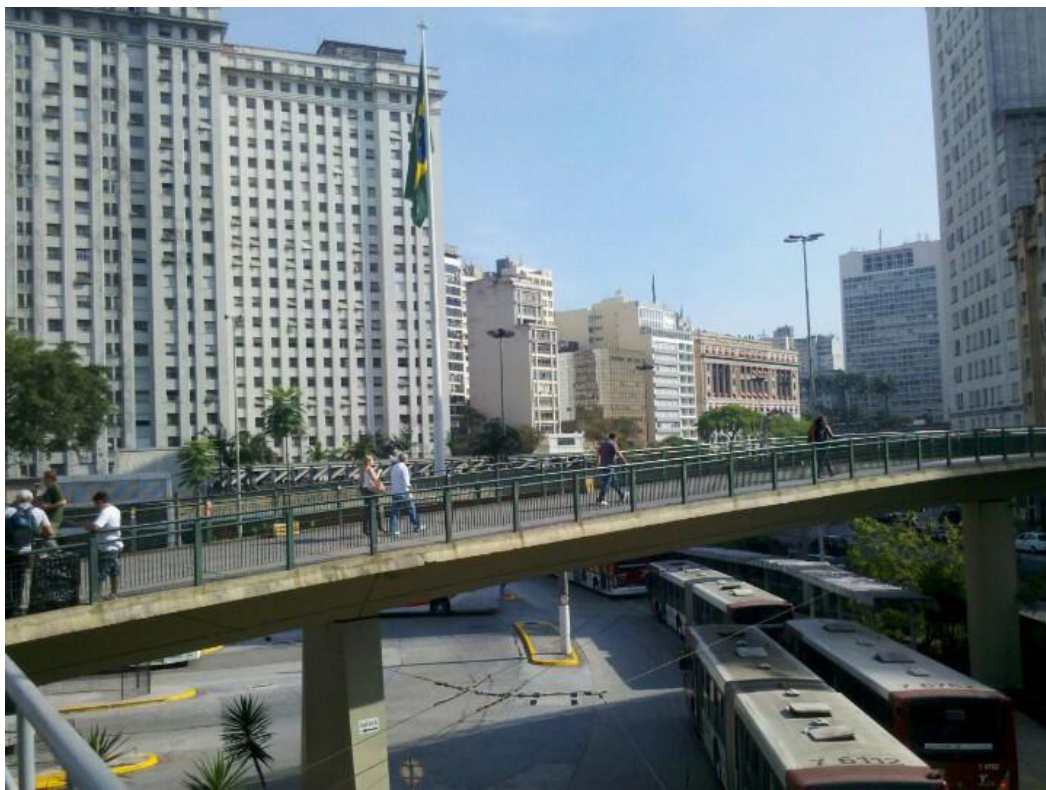


10. Bandeira Bus Terminal, Sao Paulo, Brazil.



11. Covered Pedestrian Pathway, Praça da Bandeira.  
12. Covered Pedestrian Pathway, Praça da Bandeira.





13. Bandeira Bus Terminal.  
14. Pedestrian Pathway, Praça da Bandeira.



## SAO PAULO PUBLIC SPACE



- 15. Praça da Sé
- 16. Estação da Luz



## SAO PAULO IDENTITY



17. Parque Ibirapuera  
18. Rua 25 de Marco

19. Avenida Paulista  
20. Vila Madalena



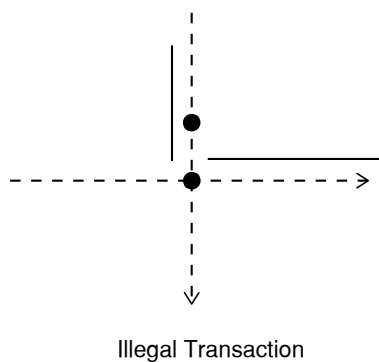
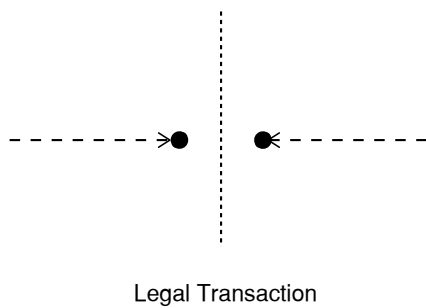
**PROGRAM**

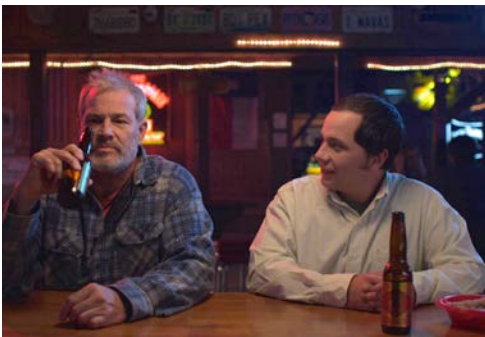


## TYPES OF TRANSACTIONS

Transaction: A communication action or activity involving two parties or things that reciprocally affect or influence each other.

An exchange or interaction between people.







## PROGRAMS & SQ. FOOTAGE



Creche (Daycare)

3150-5250 sqft  
35 sqft/child  
90-150 children



Padaria (Bakery/Cafe/Dinner)

650-1100 sqft  
5-12 employees



Posto de Saude (Health Clinic)

2500-6000 sqft  
50 sqft/patient  
50-120 patients



Abrigo (Soup Kitchen)

3500-5000 sqft  
300 people/day - 5,000 sqft  
100-300 people



Floricultura (Flower Shop)

430-1000 sqft  
3-6 employees



Mercado/Feira (Market)

2500 - 12000 sqft  
250 sqft/vendor



Academia (Gym)

1000-2500 sqft  
25 sqft/person



Tintureiro e Lavanderia (Laundromat/  
Dry Cleaning)

900-2000 sqft



Farmacia (Pharmacy)

1000-2700 sqft



Loterica (Lottery House)

460-800 sqft



Correio (Post Office)

1300-2700 sqft



Cabelereiro (Hairdresser)

1200-1900 sqft





Sapateiro (Shoe Repair Shop)

250-400 sqft



Banca (Newspaper Stand)

70-200 sqft



Cooperativa (Recycling Receptacle)

500-1300 sqft

**'THICKENING'**



# **PRECEDENTS**

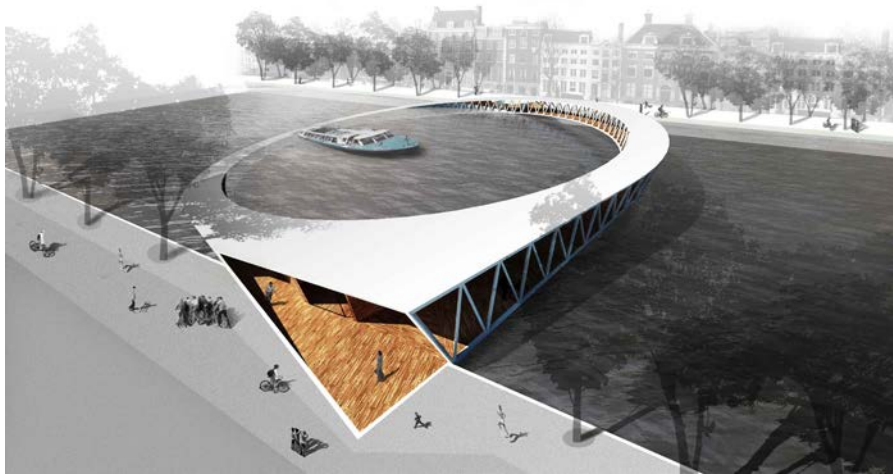


## PIER 15 - SHOP - NYC





## PEDESTRIAN BRIDGES



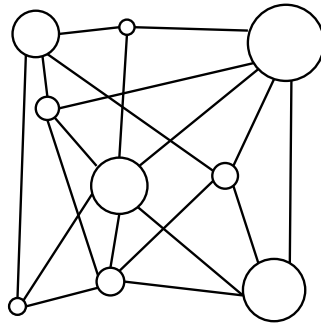
Amsterdam Iconic Pedestrian Bridge, Amsterdam, Netherlands  
Ponte Vecchio, Florence, Italy  
Highline Park, NYC.



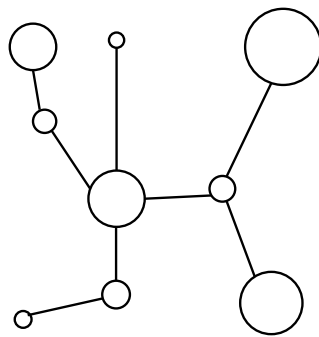
# APPENDIX



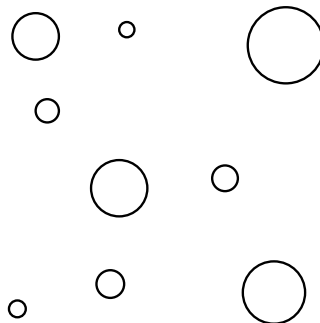
NETWORK/ SYSTEM/ NODE



Network



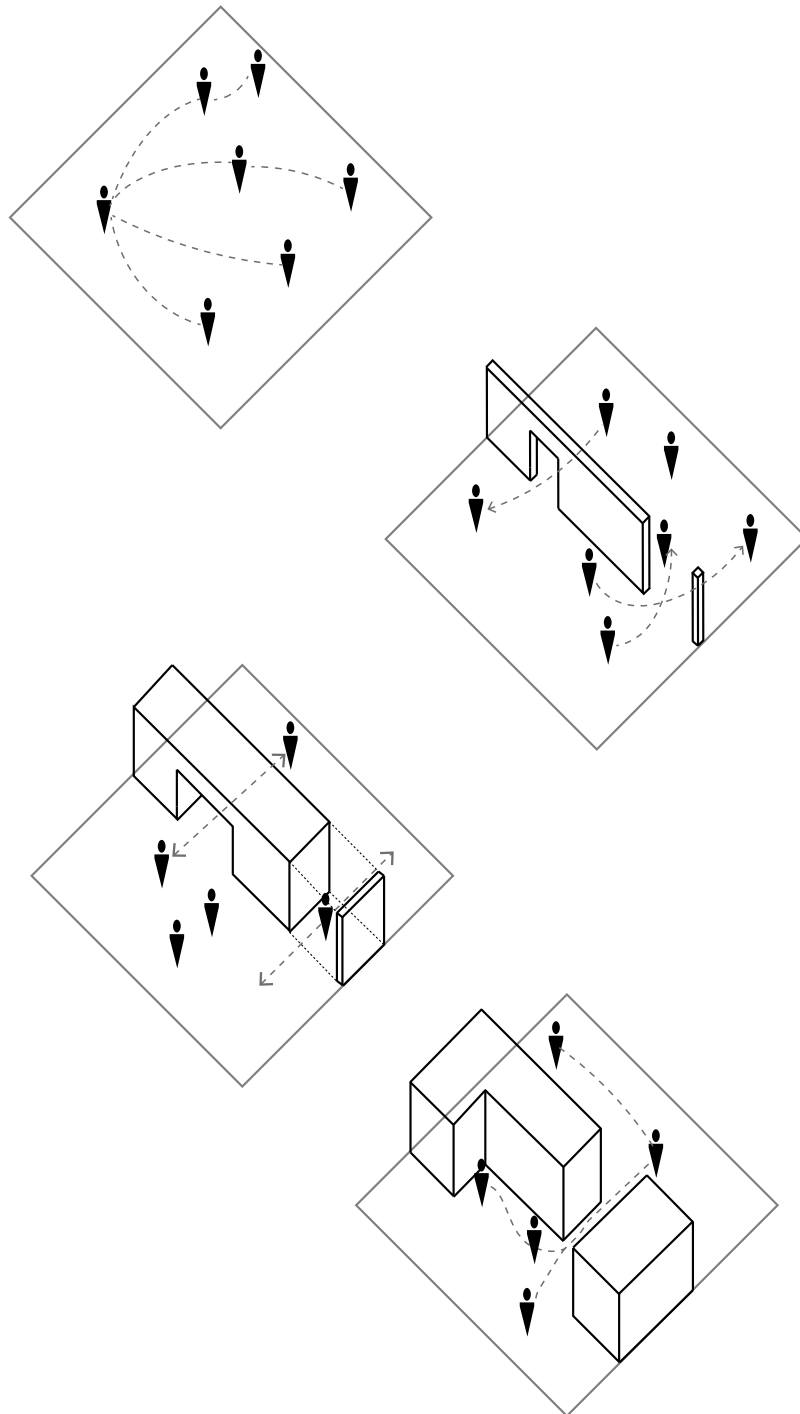
System



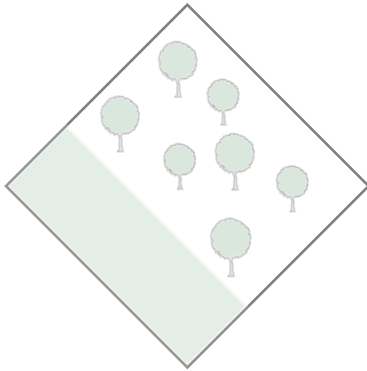
Node

## MOBILITY & SPACES OF TRANSITION

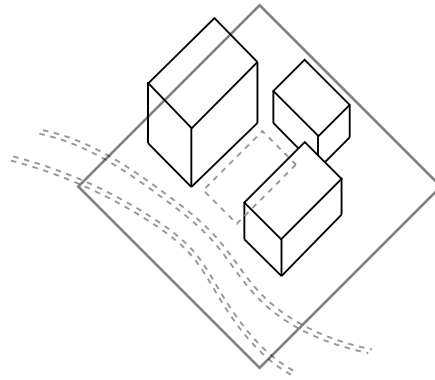
Mobility is the ability to move freely and easily through space.



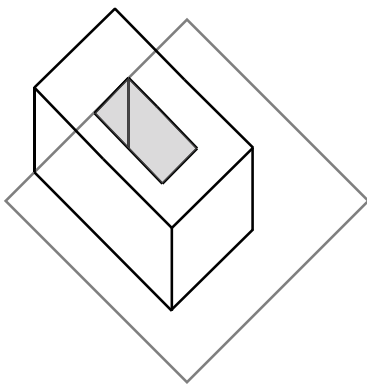
## TYPES OF URBAN VOIDS



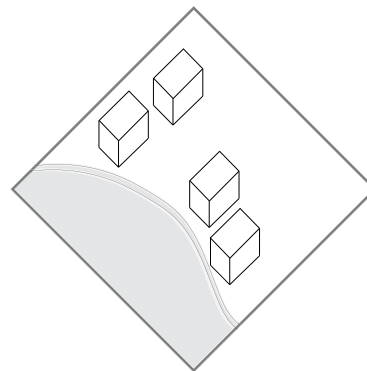
Parks and Gardens



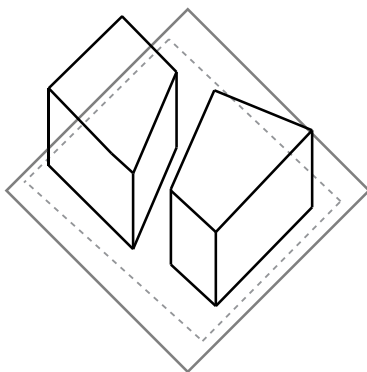
Squares and Streets



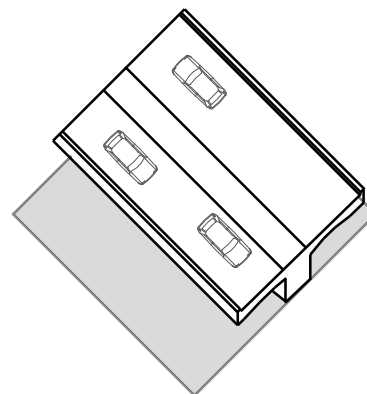
Courtyard



Waterfronts

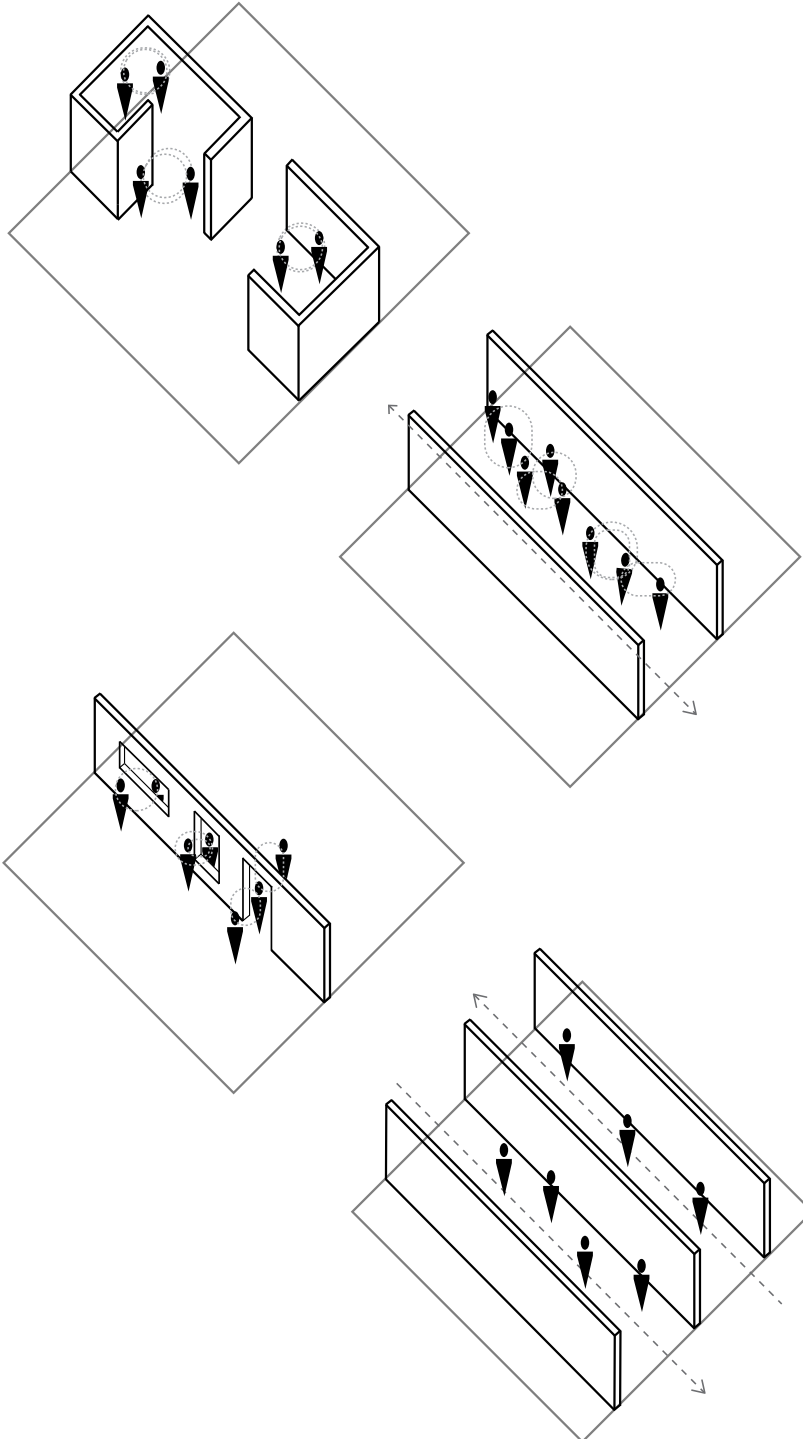


Inner block



Infrastructure Residue

# SPACES OF TRANSACTION



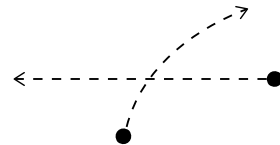
# TYPES OF TRANSACTIONS



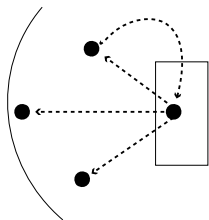
Social Transaction



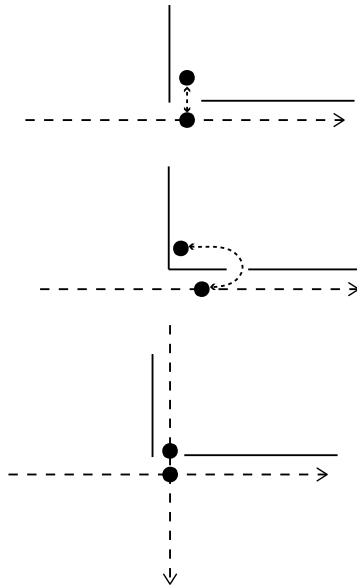
Personal Transaction



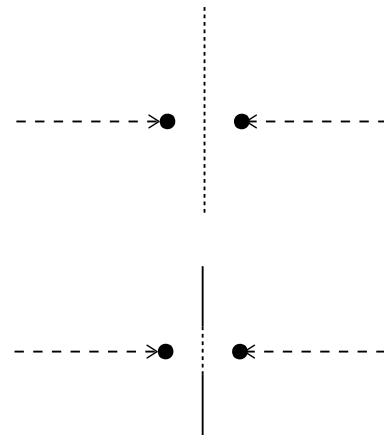
Impersonal Transaction



Intellectual Transaction



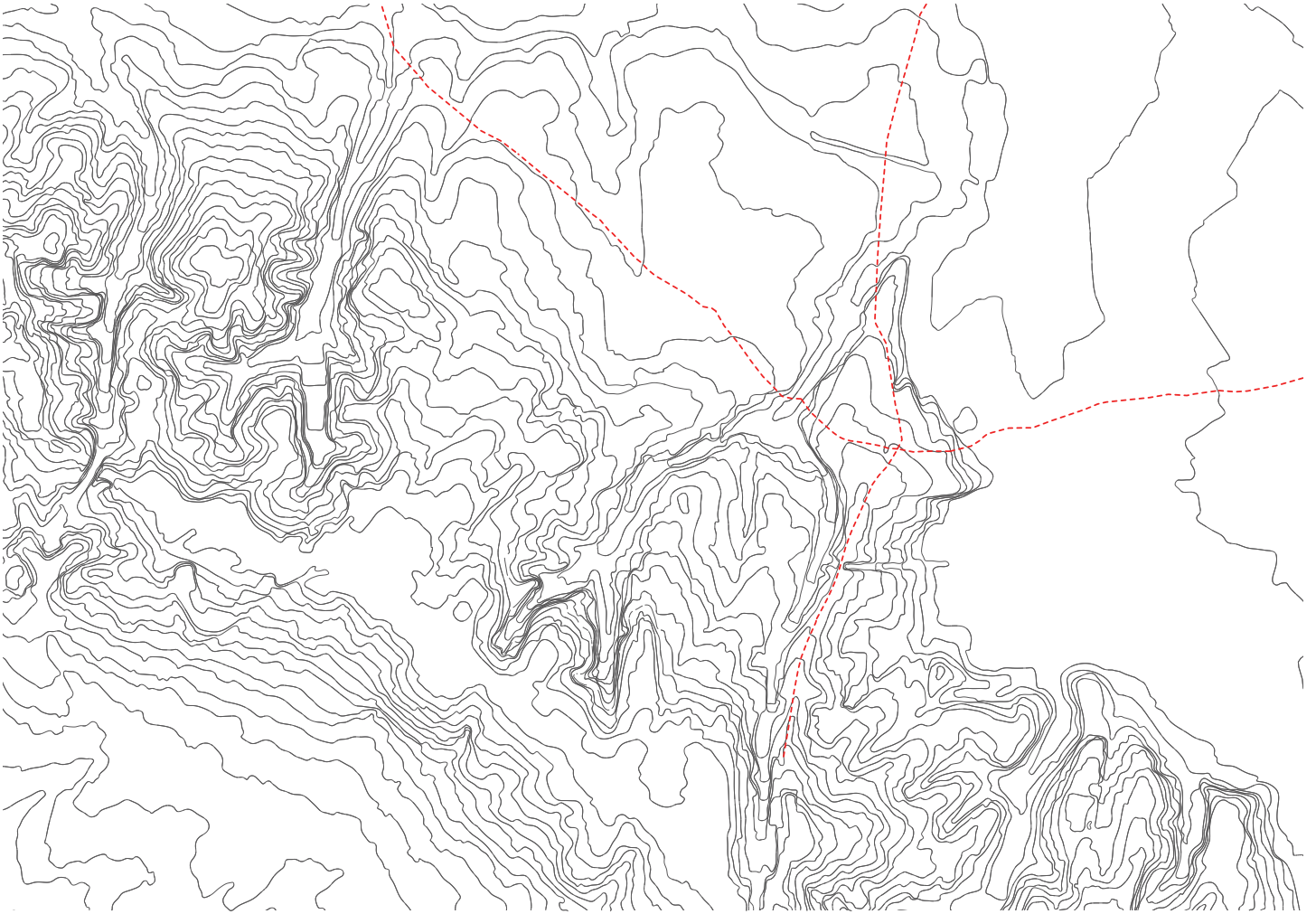
Drug Transaction



Market Transaction



# SAO PAULO CENTRAL DISTRICT - TOPOGRAPHY



## SITE LOCATION STUDY - ANHANGABAU



## SITE LOCATION STUDY - DOM PEDRO





## SITE LOCATION STUDY - SAO BENTO



## SITE LOCATION STUDY - PRACA DA SE





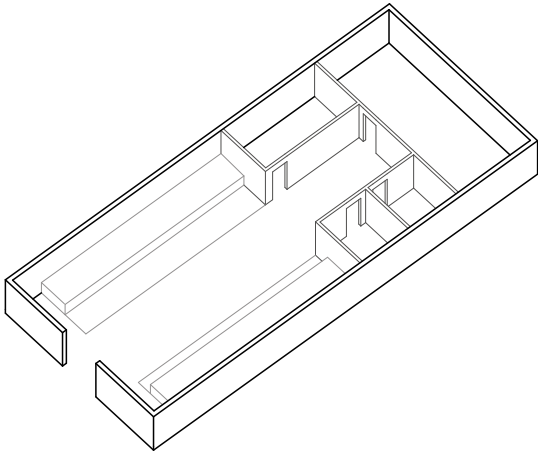
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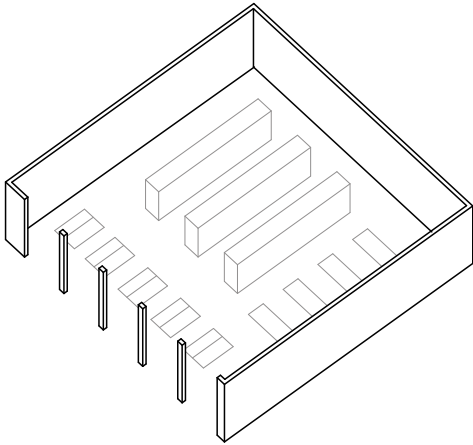
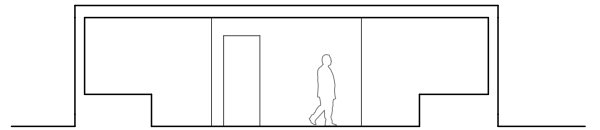
-  Institutional
-  Cultural



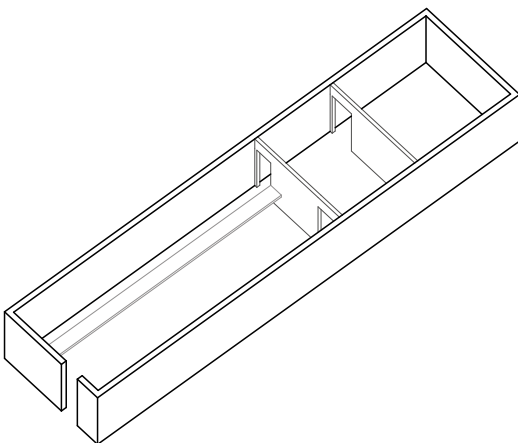
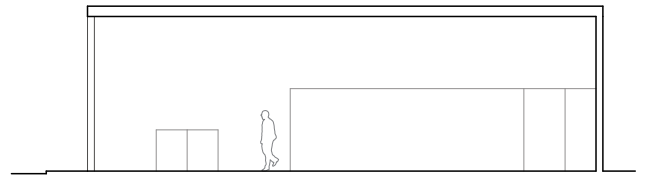
PROGRAM ANALYSIS



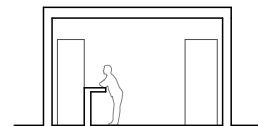
Floricultura (Flower Shop)

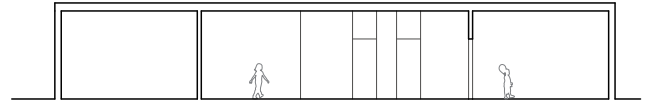
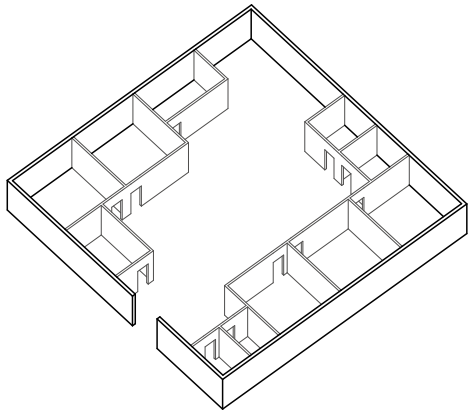


Mercado (Market)

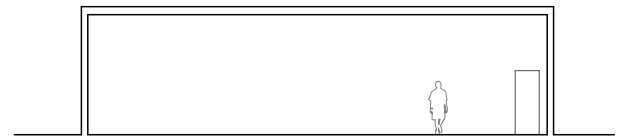
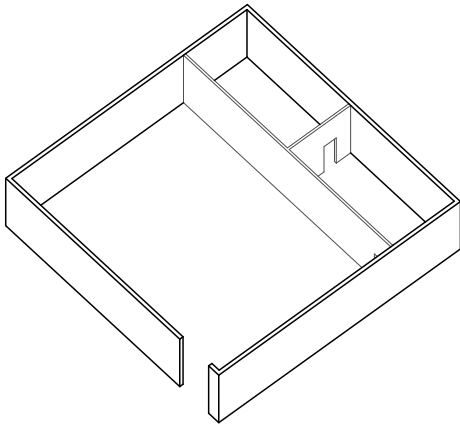


Padaria (Cafe)

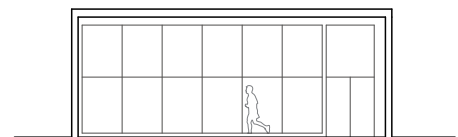
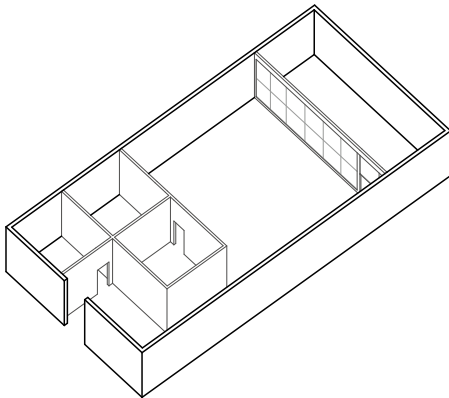




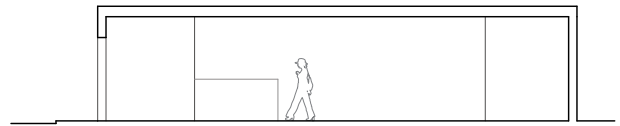
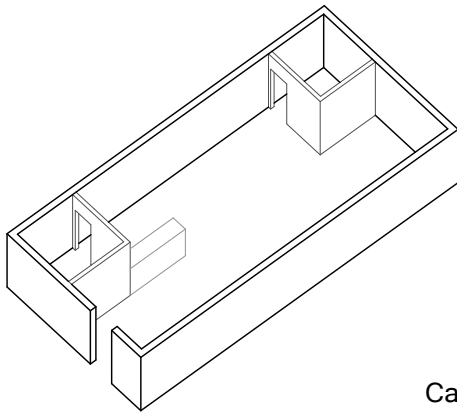
Creche (Daycare)



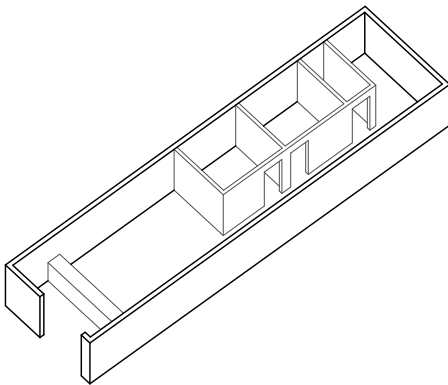
Abrigo (Soup Kitchen)



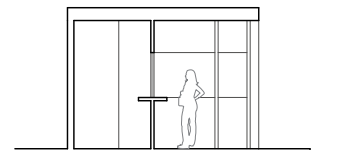
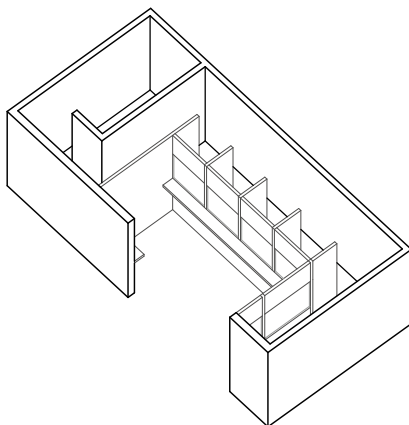
Academia (Gym)



Cabelereiro (Hairdresser)



Tintureiro e Lavanderia (Dry Cleaning)



Loterica (Lottery House)

# DOCUMENTATION

## FIGURE CREDITS

1. [http://www.worldalldetails.com/Gallery/Morocco/590-Cities\\_in\\_Morocco\\_that\\_are\\_worth\\_visiting/page-2.html](http://www.worldalldetails.com/Gallery/Morocco/590-Cities_in_Morocco_that_are_worth_visiting/page-2.html)
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9. <http://www.mobilize.org.br/blogs/sampa-pe/wp-content/uploads/2013/06/PA0042.jpg>
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