

Convivência: Belonging, Agency, and Access along São Paulo's Minhocão

by

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ABSTRACT

The Minhocão, an elevated highway cutting through the city of São Paulo, has been challenged since its construction for its allocation to cars in the city. The megacity is in need of more designated public space where inhabitants can lead connective social lives. Where public spaces already exist, they are either highly controlled or have been occupied informally by homeless groups. The lack of equitable public space increases the ever-growing tension for who has the right to public space.

This thesis proposes to increase the access and occupation of the Minhocão for its local homeless population, through architectural interventions. A renewed coexistence along the Minhocão will serve to strengthen the ongoing claim to public space in the city's existing interstitial spaces. The proposal looks to the Minhocão's current uses and other precedents to build a shared sense of agency and belonging.

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To John: I can not tell you enough how lucky I have been to have you by side through this second thesis. Your receptiveness and attentiveness have been my sanctuary. You are my rock, but also my cloud.

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TABLE OF CONTENTS

Abstract: a reimagining of São Paulo's Minhocão	ii
Acknowledgements	iii
Table of Contents	iv
List of Figures	v
Preface	xiii
Part One: Introduction	
The Minhocão	01
Commodification of São Paulo	08
“Fortified Enclaves” and the exclusion of the ‘Other’	12
Local Planning History	15
Right to the City: contemporary initiatives reclaiming urban space	18
Why the Minhocão	25
Part Two: Inventory	
Current Conditions: a taxonomy	33
Dreams: previous proposals	49
Precedents: built lessons	64
Part Three: Design and Methodology	
Homeless Populations	68
Recreational Users	74
Neighbours	74
Siting	76
Traffic Distribution	81
Form Inspiration	86
Above: Traversing the worm	87
Mid: Climbing the worm	95
Below: Heart of the worm	100
Speculative Futures	106
Conclusion	108
Bibliography	112

LIST OF FIGURES

fig. 01 - Minhocão pier construction 01

Douglas Nascimento. Amaral Gurgel Street. 1969. Photograph. São Paulo Antiga. São Paulo. <https://www.theguardian.com/cities/2017/dec/01/taming-worm-minhocao-elevated-highway-sao-paulo>

fig. 02 - Minhocão deck construction 01

Douglas Nascimento. Amaral Gurgel Street. 1969. Photograph. São Paulo Antiga. São Paulo. <https://www.theguardian.com/cities/2017/dec/01/taming-worm-minhocao-elevated-highway-sao-paulo>

fig. 03 - the Minhocão in relation to Centro 02

by author

fig. 04 - streets which fall below the Minhocão 03

by author

fig. 05 - Minhocão construction 04

FolhaPress UH Collection. Minhocão em construção – 1970. 1970. Photograph. FolhaPress UH Collection. São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 06 - life amid building the Minhocão 04

FolhaPress UH Collection. Minhocão: entulho acumulado em 1971 por causa das obras do elevado. 1971. Photograph. FolhaPress UH Collection. São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 07 - early heavy traffic use 04

Minhocão: inauguração do elevado já teve congestionamento por causa de um acidente. . Photograph. . São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 08 - traffic jams in 1989 04

Fábio Salles. Minhocão: trânsito em 1989. 1989. Photograph. Folhapress. São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 09 - Av. São João before the Minhocão 05

@splovers. foto antiga da Avenida São João. Instagram Photograph. Instagram. São Paulo. <https://www.instagram.com/p/CRFWXD5NuLq/>

fig. 10 - Minhocão traffic 06

Felipe SS Rodrigues. Concrete city ... the Minhocão from Felipe Rodrigues's 13th floor apartment. Photograph. The Guardian. São Paulo. <https://www.theguardian.com/cities/2017/dec/01/taming-worm-minhocao-elevated-highway-sao-paulo>

fig. 11 - 1970s Minhocão traffic scene 06

Douglas Nascimento. The Minhocão in the 1970s. Advertising billboards have since been banned from São Paulo. 1970. Photograph. São Paulo Antiga. São Paulo. <https://www.theguardian.com/cities/2017/dec/01/taming-worm-minhocao-elevated-highway-sao-paulo>

fig. 12 - Minhocão above Av. São João 06

Minhocão: vista aérea. Photograph. Vivadecora. São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 13 – São Paulo state and city limits 08

by author

fig. 14 – São Paulo city and prefecture of Sé limits 09

by author

fig. 15 – Minhocão from above 11

Associação Parque Minhocão. Photograph. Associação Parque Minhocão. São Paulo. <https://saopaulosao.com.br/nossos-caminhos/4481-os-6-desafios-do-parque-minhoc%C3%A3o-segundo-arquitetos,-urbanistas,-engenheiros-de-tr%C3%A2nsito-e-moradores.html>

fig. 16 – where the Minhocão turns onto Av. São João 14

Joel Silva. Photograph. São Paulo São. São Paulo. <https://saopaulosao.com.br/nossos-caminhos/4481-os-6-desafios-do-parque-minhoc%C3%A3o-segundo-arquitetos,-urbanistas,-engenheiros-de-tr%C3%A2nsito-e-moradores.html#>

fig. 17 – Cintra’s early schemes; Maia’s interpretation of Cintra’s study for São Paulo 15

Cintra; Maia. Hénard’s theoretical schemes for radial-perimetric structures, applied to São Paulo by Ulhôa Cintra; Prestes Maia’s radial-perimetric Theoretical Scheme for São Paulo, developed from the preceding schemes. 1921; 1930. Drawing. Lima, 2012.

fig. 18 – Traffic infrastructure work during Maia administration 16

Roadworks undertaken in the central area, 1938-1945: Perimeter of Irradiation, System “Y”, main radials. . Drawing. Lima, 2012.

fig. 19 – Minhocão weekend use 18

Felipe SS Rodrigues. On Saturday afternoons and Sundays the Minhocão is closed to cars ... and open to people. Photograph. The Guardian. São Paulo. <https://www.theguardian.com/cities/2017/dec/01/taming-worm-minhocao-elevated-highway-sao-paulo>

fig. 20 – sports on the Minhocão 18

R7. Minhocão: homem e menino jogando futebol. Photograph. Vivadecora. São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 21 – cycling above Av. São João 19

@brunolitaldi. What a wonderful view to exercise right in the morning! 2021. Instagram Photograph. Instagram. São Paulo. <https://www.instagram.com/p/C0fcVdQnX8a/>

fig. 22 – sunbathing on the median 19

Flavia Lacerda @frufu. 2021. Instagram Photograph. Instagram. São Paulo. <https://www.instagram.com/p/CTabpH7nCC8/>

fig. 23 – colourful Minhocão afternoon 20

@cafudasanta. Viva a Vida! Tardezinha de feriado 07 de setembro no Minhocão - Santa Cecília. 2021. Instagram Photograph. Instagram. São Paulo. <https://www.instagram.com/p/CTiFst0Ly4X/>

fig. 24 – Minhocão use during the pandemic 20

@voilephotos. Se não fosse o pessoal usando máscara, daria pra dizer que essa foto foi tirada em uma manhã de domingo em SP, em 1990. 2021. Instagram Photograph. Instagram. São Paulo. https://www.instagram.com/p/CSy5pN_LW16/

fig. 25 – runners and cyclists on the Minhocão 21

Felipe SS Rodrigues. The people on top ... at weekends at least. Photograph. The Guardian. São Paulo. <https://www.theguardian.com/cities/2017/dec/01/taming-worm-minhocao-elevated-highway-sao-paulo>

fig. 26 - traffic on the Minhocão 21

Minhocão no horário de pico. Photograph. Vivadecora. São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 27 - pedestrians on the Minhocão 22

IstoÉ Dinheiro. Minhocão: rapaz andando de skate e grafite ao fundo. Photograph. IstoÉ Dinheiro. São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 28 - light at night 22

Facundo Guerra. Night view of Minhocão, João Goulart Elevation. Photograph. São Paulo São. São Paulo. <https://saopaulosao.com.br/nossos-caminhos/4481-os-6-desafios-do-parque-minhoc%C3%A3o-segundo-arquitetos,-urbanistas,-engenheiros-de-tr%C3%A2nsito-e-moradores.html>

fig. 29 - the Minhocão used as a track 23

Minhocão: pessoas andando de bicicleta. Photograph. Vivadecora. São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 30 - runners on the Minhocão 23

Veja. Minhocão: pessoas passeando aos finais de semana. Photograph. Veja. São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 31 - public space and population distribution in Sé 26

by author using census data, IBGE

fig. 32 - Avenida General Olímpio da Silveira 28

by author using Google Maps

fig. 33 - Rua Sebastião Pereira + Largo do Arouche 28

by author using Google Maps

fig. 34 - Rua Amaral Gurgel 28

by author using Google Maps

fig. 35 - Minhocão at sunset 30

Edinei Matos @edvirtua. São Paulo, 2019 - @edvirtua Saudades né, minha filha? 2019. Instagram Photograph. Instagram. São Paulo. <https://www.instagram.com/p/CDpG2iVHCpb/>

fig. 36 - existing spatial organization of users 33

by author

fig. 37 - recreational users 34

Felipe SS Rodrigues. On Saturday afternoons and Sundays the Minhocão is closed to cars ... and open to people. Photograph. The Guardian. São Paulo. <https://www.theguardian.com/cities/2017/dec/01/taming-worm-minhocao-elevated-highway-sao-paulo>

fig. 38 - recreational users from above 34

Felipe SS Rodrigues. L'imponenete arteria stradale Minhocão a San Paolo. Photograph. Domus Web. São Paulo. <https://www.domusweb.it/en/architecture/gallery/2020/03/12/living-with-the-big-worm.html>

fig. 39 - identifying users 34

by author

fig. 40 - Minhocão ramp access 35

Francine Sakata. Photograph. São Paulo São. São Paulo. <https://saopulosao.com.br/nossos-caminhos/4481-os-6-desafios-do-parque-minhoc%C3%A3o-segundo-arquitetos,-urbanistas,-engenheiros-de-tr%C3%A2nsito-e-moradores.html#>

fig. 41 - Minhocão homeless population 35

Leo Martins. Moradores de rua no Centro: pandemia agravou o problema Leo Martins. Photograph. Veja. São Paulo. <https://vejasp.abril.com.br/saude/capital-reserva-14-000-doses-da-janssen-para-populacao-em-situacao-de-rua/>

fig. 42 - portrait painting 36

Santiago Marrodán Ciordia. The Minhocão's underbelly. Photograph. The Guardian. São Paulo. <https://www.theguardian.com/cities/2017/dec/01/taming-worm-minhocao-elevated-highway-sao-paulo>

fig. 43 - Minhocão as a gallery 36

CET. Photograph. São Paulo São. São Paulo. <https://saopulosao.com.br/nossos-caminhos/4481-os-6-desafios-do-parque-minhoc%C3%A3o-segundo-arquitetos,-urbanistas,-engenheiros-de-tr%C3%A2nsito-e-moradores.html#>

fig. 44 - art of the Minhocão 36

Minhocão: manifestação artística com a imagem de um indígena. Photograph. Vivadecora. São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 45 - walking distances between public spaces and the Minhocão 38

by author

fig. 46 - Praça Olavo Bilac 39

Google Maps. 2021. Photograph. Google. São Paulo.

fig. 47 - Praça Marechal Deodoro 39

LSMacedo. Praça Marechal Deodoro (Santa Cecília) - Monumento aos Garis. Photograph. Mapio. São Paulo. <https://mapio.net/pic/p-67397601/>

fig. 48 - Largo Santa Cecília vendors 40

Marcelo d. Photograph. Foursquare. São Paulo. <https://foursquare.com/v/largo-santa-cec%C3%ADlia/4dc3477d1f6ef43b89dfeadc?openPhotId=5033724ce4b022fc6ab08226>

fig. 49 - Largo Santa Cecília market 40

Felipe F. 2012. Photograph. Foursquare. São Paulo. <https://foursquare.com/v/largo-santa-cec%C3%ADlia/4dc3477d1f6ef43b89dfeadc?openPhotId=50841747e4b05e91358ce46e>

fig. 50 - Largo do Arouche 41

Google Maps. 2021. Photograph. Google. São Paulo.

fig. 51 - Praça da República 41

Jose Cordeiro. Praça da República. Photograph. SP Turis. São Paulo. <https://cidadedesaopaulo.com/atrativos/praca-da-republica/>

fig. 52 - Praça Rotary 42

Praça Rotary. Photograph. Refugios Urbanos. São Paulo. <https://refugiosurbanos.com.br/caminhar-e-descobrir-os-lugares-a-praca-rotary-na-vila-buarque/>

fig. 53 - Praça Roosevelt 42

Google Maps. Praça Roosevelt. Photograph. Google. São Paulo.

fig. 54 - Minhocão neighbourhood amenity inventory 43

by author using GeoSampa Mapa: http://geosampa.prefeitura.sp.gov.br/PaginasPublicas/_SBC.aspx

fig. 55 - São Paulo payphones 45

Rafael Santos. Payphones. Photograph. Trip Advisor. São Paulo. https://www.tripadvisor.ca/Attraction_Review-g303631-d6839730-Reviews-Largo_do_Arouche-Sao_Paulo_State_of_Sao_Paulo.html

fig. 56 - bike lane beneath the Minhocão 45

Brunella Nunes. Minhocão: exemplo de grafite. Photograph. Vivadecora. São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 57 - murals line the path 46

Felipe Reis Melgarejos @felipe.melgarejos. 2021. Instagram Photograph. Instagram. São Paulo. <https://www.instagram.com/p/CWUSIISN7ni/>

fig. 58 - cinema on the highway 46

Cine Minhocão @cineminhocao. prefeito @ricardo_nunes_sp parece que o senhor e sua equipe da @prefsp e da @subprefeitura_se não estão muito interessados em nos atender ou responder nossas perguntas.. 2021. Instagram Photograph. Instagram. São Paulo. <https://www.instagram.com/p/CUUychsFAk7/>

fig. 59 - Pitanga do Amparo proposal sketches 49

Pitanga do Amparo Arquitetura & Arte. Drawing. Projects. São Paulo. <http://pitangadoamparo.com.br/images/obras/minhocao/minhocao1.htm>

fig. 60 - Jaime Lerner's sketches 50

Jaime Lerner. Minhocão: proposta de Jaime Lerner para o Parque do Minhocão. Drawing. Vivadecora. São Paulo. <https://www.vivadecora.com.br/pro/minhocao/>

fig. 61 - Jaime Lerner's proposal 50

Jaime Lerner. Minhocão Park creation project. Photograph and Drawing. Divulgação / Prefeitura de SP. São Paulo. <https://saopaulosao.com.br/nossos-caminhos/4481-os-6-desafios-do-parque-minhoc%C3%A3o-segundo-arquitetos,-urbanistas,-engenheiros-de-tr%C3%A2nsito-e-moradores.html>

fig. 62 - criteria icons 51

by author

fig. 63 - 1st place winner submission 52

Vinicius Ferreira de Oliveira; Gabriela Geraldelli Tocalino Silva; Gustavo Catapani Jar; Mariane Banin de Carvalho. Subtração Elevada. 2019. Drawing. Imagine Parque Minhocão. São Paulo. <https://www.projetar.org/vencedores/55/imagine-parque-minhocao-031>

fig. 64 - 2nd place winner submission 54

Gustavo Bondezan Cardoso. o parque como caminho. 2019. Drawing. Imagine Parque Minhocão. São Paulo. <https://www.projetar.org/vencedores/55/imagine-parque-minhocao-031>

fig. 65 - 3rd place winner submission 56

Juliana Shizue Yoshida; Kamila Ismail, Maite Guimarães Bittencourt; Giovani Betini Moioli de Oliveira. Parque Minhocão. 2019. Drawing. Imagine Parque Minhocão. São Paulo. <https://www.projetar.org/vencedores/55//imagine-parque-minhocao-031>

fig. 66 - 1st honourable mention submission 58

Stefanni Matos de Oliveira; Ariella Sordi Udala Campos; Viviane Moreira de Oliveira; Lais Avila Bosnyak Costa; Bruna Lima Caracciolo. O Parque Minhocão. 2019. Drawing. Imagine Parque Minhocão. São Paulo. <https://www.projetar.org/vencedores/55//imagine-parque-minhocao-031>

fig. 67 - 2nd honourable mention submission 60

Victor Candido Gabriel; Graziela Honório Botelho. 2019. Drawing. Imagine Parque Minhocão. São Paulo. <https://www.projetar.org/vencedores/55//imagine-parque-minhocao-031>

fig. 68 - 3rd honourable mention submission 62

Mauricio Addor Neto; Gabriel da Silva Martinez Ribeiro, Breno Quaioti; Bruno Futema. retratos urbanos. 2019. Drawing. Imagine Parque Minhocão. São Paulo. <https://www.projetar.org/vencedores/55//imagine-parque-minhocao-031>

fig. 69 - High Line from above 64

Field Operations. Photograph. New York. <https://www.fieldoperations.net/project-details/project/the-high-line.html>

fig. 70 - High Line from below 64

Barret Doherty. Photograph. Projects. New York. <https://www.fieldoperations.net/project-details/project/the-high-line.html>

fig. 71 - Patterson Station arches 65

Patterson station. 2017. Photograph. Alchetron. Burnaby. <https://alchetron.com/Patterson-station#patterson-station-d44dded6-f098-4b1e-908d-a19e8b83bae-resize-750.jpg>

fig. 72 - Abellanas in his studio 66

Jose Manuel Pedrajas. Photograph. Dezeen. Valencia. <https://www.dezeen.com/2017/08/18/secret-studio-under-bridge-fernando-abellanas-architecture-valencia-spain/>

fig. 73 - studio hand crank 66

Jose Manuel Pedrajas. Photograph. Dezeen. Valencia. <https://www.dezeen.com/2017/08/18/secret-studio-under-bridge-fernando-abellanas-architecture-valencia-spain/>

fig. 74 - Ouvidor 63 balcony 70

by author. 2020. Photograph. São Paulo.

fig. 75 - Ouvidor 63 exterior art 70

by author. 2020. Photograph. São Paulo.

fig. 76 - Ouvidor 63 shared kitchen 70

by author. 2020. Photograph. São Paulo.

fig. 77 - Ouvidor 63 exterior 70

by author. 2020. Photograph. São Paulo.

fig. 78 - 9 de Julho kitchen 71

by author. 2020. Photograph. São Paulo.

- fig. 79 - 9 de Julho sport space 71
by author. 2020. Photograph. São Paulo.
- fig. 80 - 9 de Julho before and after apartment renos photo collection 71
by author. 2020. Photograph. São Paulo.
- fig. 81 - 9 de Julho terrace use 71
by author. 2020. Photograph. São Paulo.
- fig. 82 - 9 de Julho exterior 71
by author. 2020. Photograph. São Paulo.
- fig. 83 - user needs 73
by author
- fig. 84 - existing ramp access 75
by author
- fig. 85 - new pedestrian access points 77
by author
- fig. 86 - distribution of shelters and new services across site 79
by author
- fig. 87 - enlarged: distribution of shelters and new services across site 80
by author
- fig. 88 - people sleeping between bike lanes 82
Google Maps. Photograph. São Paulo.
- fig. 89 - changes to Avenida General Olimpio da Silveira 83
by author using Streetmix. 2021. Drawing. <https://streetmix.net/-/1715952>
- fig. 90 - changes to Rua Amaral Gurgel 84
by author using Streetmix. 2021. Drawing. <https://streetmix.net/-/1715952>
- fig. 91 - alternate routes 85
by author
- fig. 92 - arches framing the Minhocão 87
by author using Google Maps
- fig. 93 - water collection detail 89
by author using low-tech configuration from Shaheed et al. 2021. Drawing.
- fig. 94 - planter detail 91
by author
- fig. 95 - deployable furniture detail 93
by author

fig. 96 - median installations: charging kiosk, static seating, waste bins 94

by author using Google Maps

fig. 97 - new access point example: Av. São João 95

by author

fig. 98 - stair sections 96

by author

fig. 99 - enlarged: stair section 97

by author

fig. 100 - cross section through toilet, second-storey shelter, stair access, and water collection 98

by author

fig. 101 - enlarged: cross section through toilet, second-storey shelter, and water collection 99

by author

fig. 102 - shelter massing among the expanded median 100

by author using CET image. Drawing, <https://saopaulosao.com.br/nossos-caminhos/4481-os-6-desafios-do-parque-minhoc%C3%A3o-segundo-arquitetos,-urbanistas,-engenheiros-de-tr%C3%A2nsito-e-moradores.html#>

fig. 103 - longitudinal section: shelters below, framed public space above 101

by author

fig. 104 - enlarged longitudinal section: folding ladder to second-storey shelter; alternating shaded zones and climbing vines above 102

by author

fig. 105 - enlarged longitudinal section: clothesline, glass block above second-storey shelters and below static furniture 103

by author

fig. 106 - material catalogue 105

stock images. Photograph.

fig. 107 - possible futures of shelters growing to on top of the highway 106

by author using Google Maps

fig. 108 - Minhocão: untapped potential 110

@brunolitaldi. In my humble opinion, this [COPAN] is the prettiest building in the city. Which one would you choose? 2021. Instagram Photograph. Instagram. São Paulo. <https://www.instagram.com/p/COaZSnGnsC2/>

PREFACE

Position within the research

I am a white-Canadian female of European descent. I do not claim an understanding of what it means to be Brazilian, or have a Brazilian experience, but I was lucky enough to visit São Paulo for six weeks in January and February of 2020 as part of an architecture studio. While in São Paulo, I witnessed extremes of the same issues of public space and homelessness that I have always been interested in exploring. The trip became an informative and inspiring case study that I needed to study further.

Research methods

Fieldwork informed a lot of my approach for this project. Site visits to different spaces and organizations around São Paulo gave me a taste of the culture and local workings of the city. Previous studies of the occupation phenomenon and analysis of the local urban condition also shaped my position of the city. Upon approaching the specific site of the Minhocão, my research from Canada relied heavily on news articles, academic papers, government databases (geo sampa), and information available on google maps.

Language barriers

I do not speak or read Portuguese. There was a limitation of the English paper selection that was available to me. Many official Brazilian websites and resources are written in Portuguese, so I relied on Google Translate quite heavily.

PART ONE: INTRODUCTION

The Minhocão

São Paulo's Minhocão is an elevated highway which runs through the western edge of the city's new centre, or Centro, which can be seen in figure 03. Construction was completed in 1971, and it was officially inaugurated as Elevado Presidente Costa e Silva after the military dictator of the time, and later its name was changed to commemorate non-military President João Goulart.¹



fig. 01 Minhocão pier construction



fig. 02 Minhocão deck construction

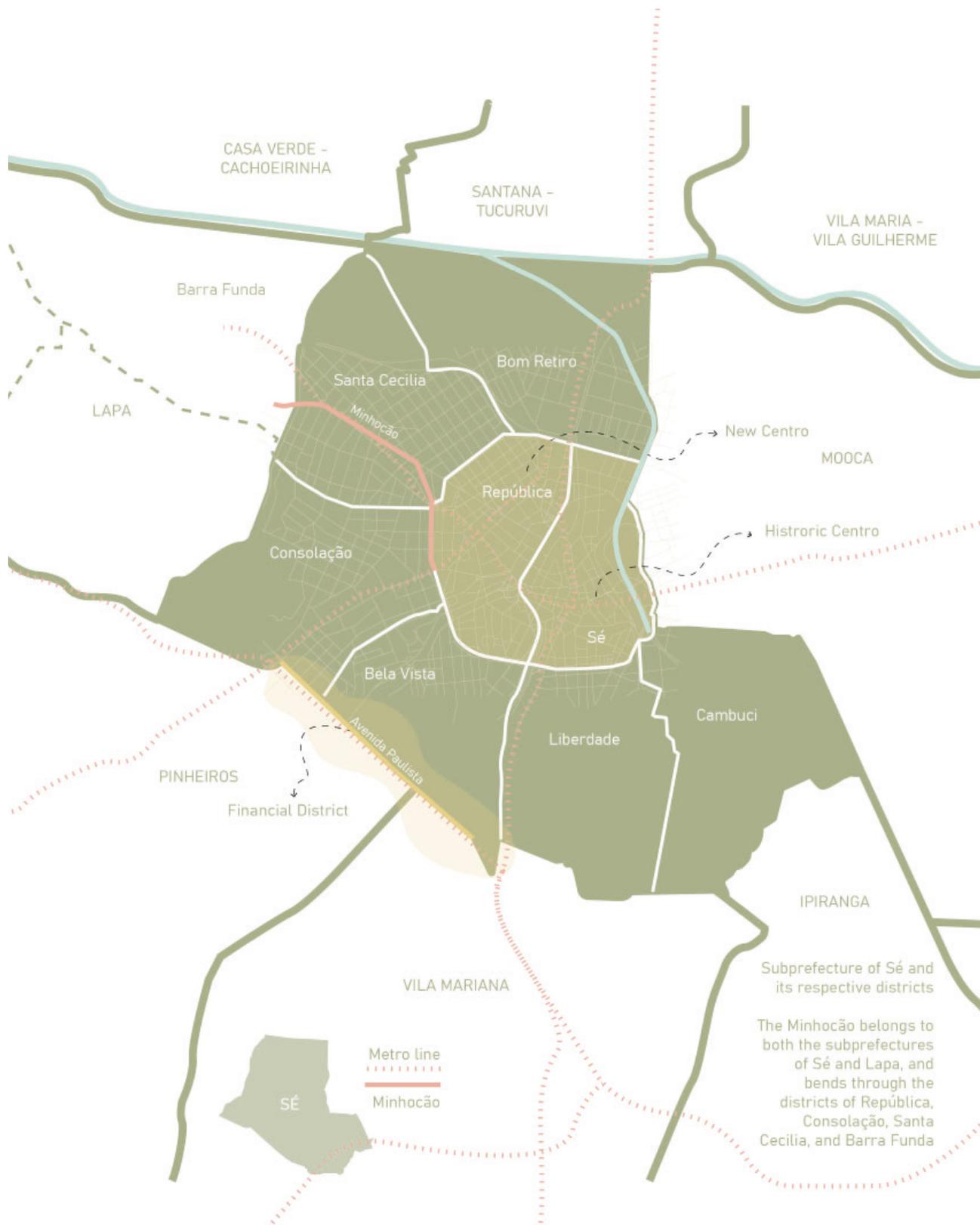


fig. 03 the Minhocão in relation to Centro

The highway's nickname, Minhocão, is a term for a mythical Brazilian creature of the forest, and translates to earthworm. Like a worm, the Minhocão highway snakes through the concrete jungle and has caused a rift in the fabric. Once a tree-lined boulevard, Rua Amaral Gurgel was selected for a makeover in 1969 to host a portion of the elevated highway above.² The Minhocão also passes over portions of Rua Ana Cintra, Rua Roberto Piva, Avenida São João, Praça Marechal Deodoro, Avenida General Olímpio da Silveira, and links to Avenida Francisco Matarazzo on its western end, as seen in figure 04. The highway is 3.4 kilometers long, and ranges from 15 to 23 meters wide along its length.³



fig. 04 streets which fall below the Minhocão



fig. 05 Minhocão construction

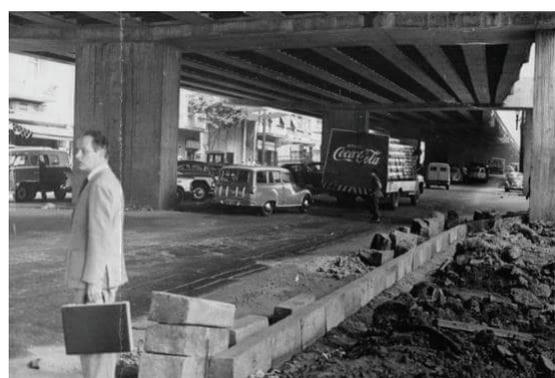


fig. 06 life amid building the Minhocão



fig. 07 early heavy traffic use



fig. 08 traffic jams in 1989



fig. 09 Av. São João before the Minhocão

The project was an attempt to help alleviate the car congestion of vehicular traffic coming and going from the city center. The result was ruined neighbourhoods characterised by apartments which became loud, undesirable, and therefore depreciated in value. In an interview with The Guardian newspaper, Elca Cartum, a resident of an apartment facing the highway since 1959, said it drove people out of the neighbourhood, and her family was stuck when it was too late to move.⁴ The noise and pollution from cars at all hours of the night was a problem for the neighbourhood immediately, and as early as 1976 the highway became closed to traffic from 9:30 pm - 6:30 am.⁵

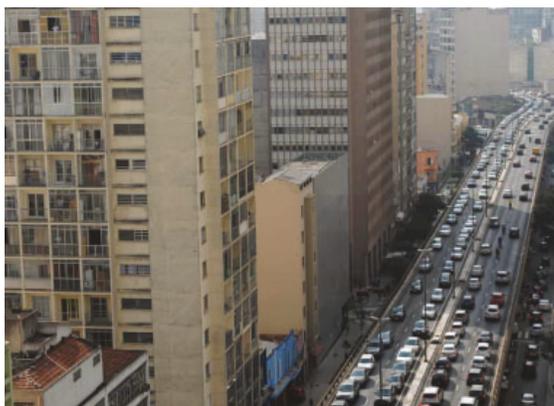


fig. 10 Minhocão traffic



fig. 11 1970s Minhocão traffic scene

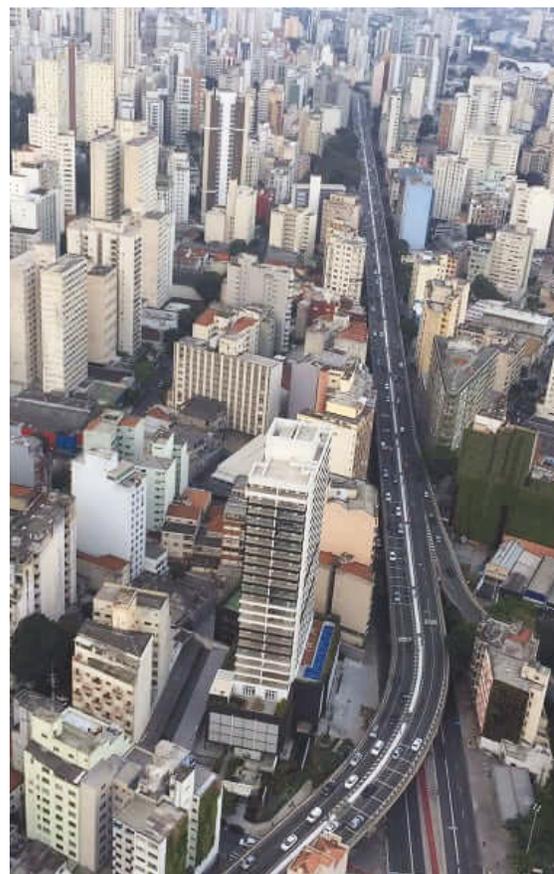


fig. 12 Minhocão above Av. São João

São Paulo continues to grow, and with little access to public space, the right-of-way for cars and vehicular traffic is given so much. Some 80 000 cars use the highway everyday.⁶ It has long been a contested piece of infrastructure, both in its early days performing strictly as a highway, and in discussions of its potential futures. According to urbanism professor João Sette Whitaker at the University of São Paulo, the number of cars in the city is directly related to the number of roads available to them. He says this has been seen in São Paulo: with the additions to the Marginal do Tietê expressway, more cars began to fill the available space.⁷ It would follow then, that with the closing of roads, less people will rely on personal cars as a mode of transport.

Thiago Benicchio – researcher and consultant for the Institute for Transportation and Development Policy in São Paulo – has shared his observations on the city’s modest attempts to become more public after decades of privatization. In an interview with *The Guardian*, he said, “The debate now is: do we want a closed city of private space, with security guards and paranoia and where people feel the need to be inside – or do we want a city open for people to enjoy the way they want?”⁸ The proliferation of cars in the city takes away from public space that is useful to people, essentially increasing the thresholds between private and usable public. The *Minhocão* – “an urban symbol of the dictatorship’s power and oppression”⁹ – has left a scar in the urban tissue lasting decades. It is time to own the scar and reclaim this space for the people, which was once a hot spot for art and music culture in São Paulo.¹⁰

Commodification of São Paulo

As the world's population continues to urbanize, access to public space becomes a critical importance. There is an ever-growing tension for who has the right to public space, which is due to the conditions of the commodification of the city and the fragmentation of its space. Urban space, both public and private, is limited and therefore comes with a cost. The high costs can be attributed to population growth in cities, and in turn is connected to the phenomenon of urbanization. While many megacities

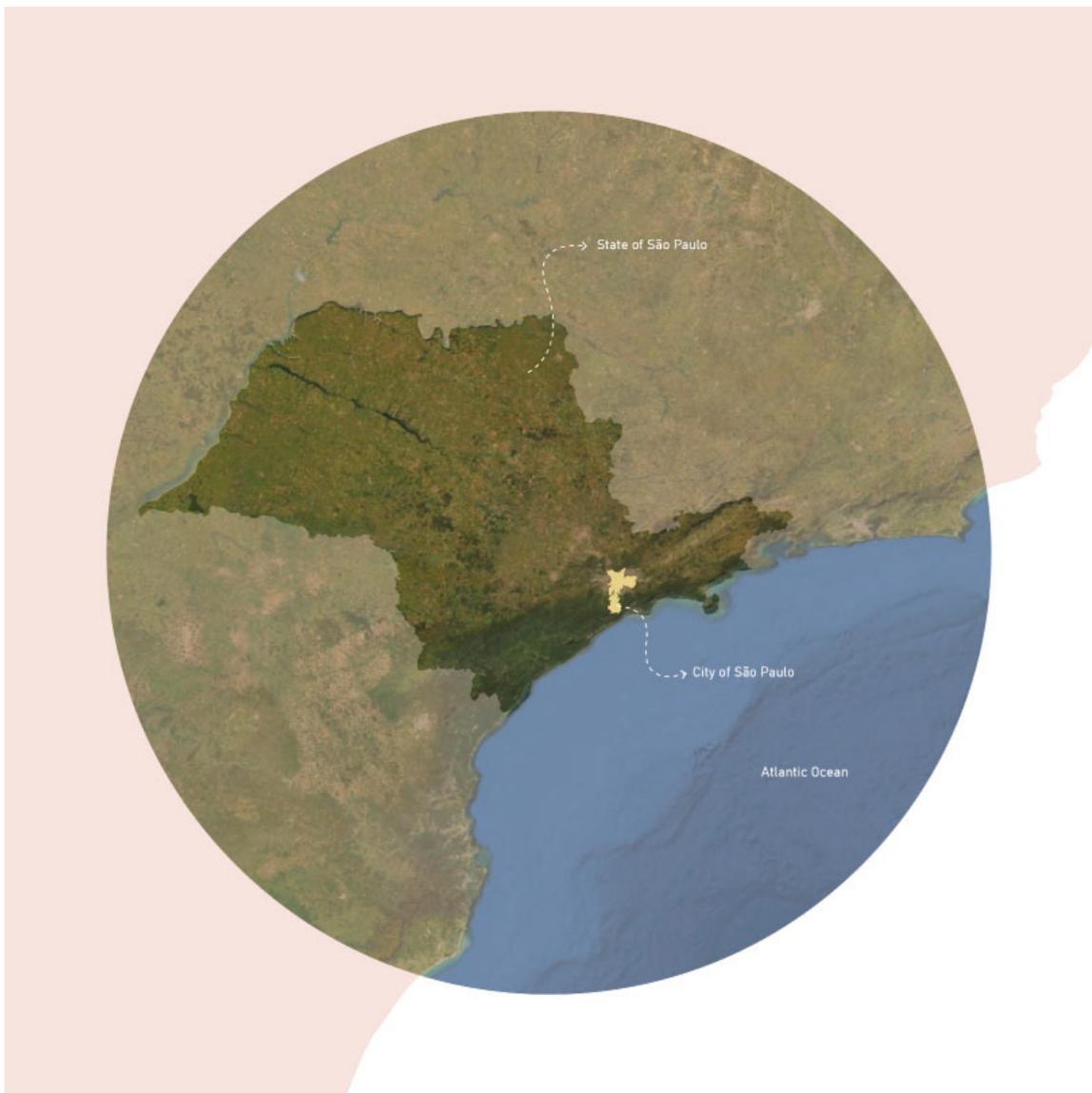


fig. 13 São Paulo state and city limits

begin with masses of people moving to the center, urbanization relies on more than just population growth: “Urbanization [...] does not only represent the growth of the population of the cities, but also a set of techniques and works that give a city or area of a city infrastructure, planning and administrative organization.”¹¹ Brazil, in particular, is a primarily urban population. In 2010, 84.36% of Brazil’s population consisted of urban dwellers.¹²

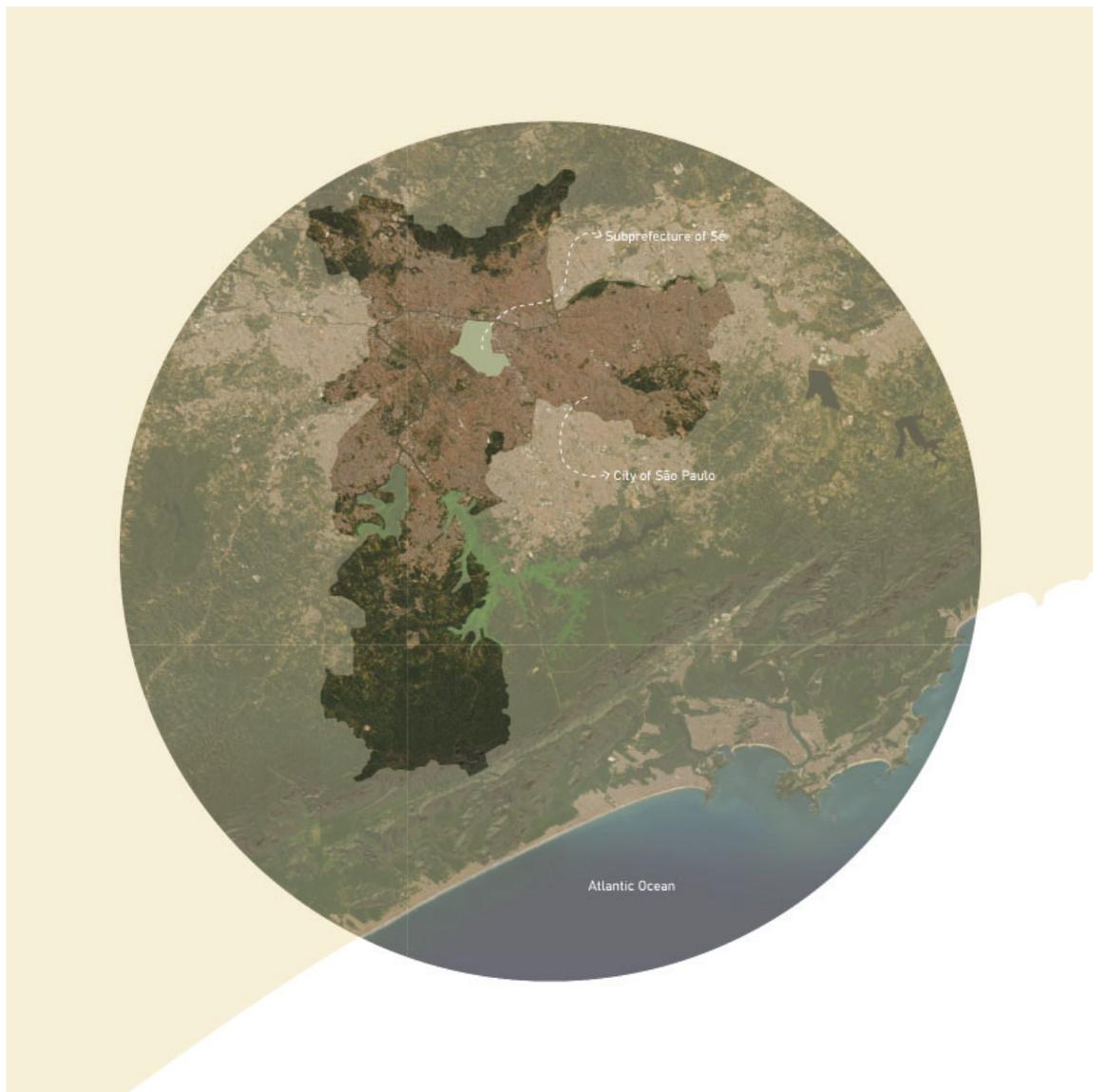


fig. 14 São Paulo city and prefecture of Sé limits

The annual population growth rate peaked in São Paulo in at the turn of the century in 1900 at almost 14%, and then leveled out to an average growth rate of 3.72% every year until 1996.¹³ However, the city limits did not grow at the same rate to accommodate the influx of people: in 1914, there was a population density of 11 000 people for every square kilometer.¹⁴ While this is higher than today's population density of 8 005.25 people per square kilometer, it is important to note that the city limits have sprawled since.

Problems ensue when mass population growth occurs before the city is equipped to accommodate it. The city is a space of capitalism, and therefore casts divides in both the social and physical realms: “as a socially constructed space, the city shelters diverse economic interests; it is the field of class struggles and the privileged location for the development of capitalism.”¹⁵ Cities like São Paulo have been built by money as a driving force:

“With land property being conceived almost exclusively as a commodity, the economic content of which is to be determined by the individual interests of owners, any social use values over the use of urban land and property are limited, as are the possibilities for the state to act in the determination of a more balanced and inclusive public order in cities.”¹⁶

The city itself becomes a capital gain, a place for sale. In order to run, the city needs funds, and those who provide funds then have their influence in the claim and ordering of its space. The city then becomes a collection of plots for sale – plots which not everyone can afford: “The commodification of urban housing and land and its transformation into a product determines urban land use, the expansion and organization of space, and remodels cities and focuses on an exclusive production of space.”¹⁷

If we consider the public realm as that which has not been privatized, then we can say it becomes a sort of in-between to the places where we spend most of our time: home, work, school, or centres of commerce. In *Urban Interstices the Aesthetics and the Politics of the In-between*, associate professor of social theory Andrea Mubi Brighenti says the in-between or “interstices have been associated with wastelands and leftover spaces, generated as by-products of urban planning, i.e. as unplanned margins that result a fortiori, after a planned action has unfolded on an urban territory.”¹⁸ Much of São Paulo’s public space is treated this way: as neglected spaces which merely act as the voids in which privatized spaces are deposited.



fig. 15 Minhocão from above

“Fortified Enclaves” and the exclusion of the ‘Other’

São Paulo is experiencing a modern dilemma, shared with many other cities worldwide, of population inequality and segregation. This current dilemma is different of those faced before the 1980s, where many populations in vulnerable conditions were pushed to the periphery and lacked access to the city center.¹⁹ Now, the metropolitan area is occupied by both the wealthy and deprived, but as if in different worlds. In the book *City of Walls: Segregation, and Citizenship in São Paulo*, renown Brazilian scholar Teresa Caldeira introduces the term “fortified enclaves,” which is the name that she gives to this manifestation of segregation that São Paulo has been facing for the past forty years.²⁰

The problem of the fortified enclave reintroduces the tension of the private and public realms. On one hand, we have the wealthy, or financially stable, who can afford access to housing, and therefore, access to private space and privacy. On the other, we have the vulnerable and the homeless populations. In his article titled “Law, Property, and the Geography of Violence: The Frontier, the Survey, and the Grid,” legal geographer Nicholas Blomley illustrates the inherent violence and exclusive nature of private property. As soon as a line is drawn to declare a piece of private property, the other is excluded from its resources.²¹ When the parcelling of land is scaled a great deal, the exclusion of resources is not the only disadvantage cast upon the other: “Access to property, including land, is an important predictor of one’s position within a social hierarchy, affecting class, race, and gender relations.”²² Forced off of private property, and unable to afford their own, neglected populations are left no other choice but to inhabit the leftover: public space. The result is the growth in the homeless population. Public space, however, is often policed in many cities, to ensure that only behaviours appropriate to the public realm are practiced.²³ The result is simple:

“Since private places and public places between them exhaust all the places that they are, there is nowhere that these actions [such as sleeping] may be performed by the homeless person. And since freedom to perform a concrete action requires freedom to perform it at some place, it follows that the homeless person does not have the freedom to perform them.”²⁴

Because of the laws which govern public space, public space is not public at all. The homeless population is punished for existing in the only spaces in which they are given access: “Rather than focusing our attention on the socially differentiated violences of property and law, the temptation is to blame the outlaws for their own location, absent a critical analysis of the mappings and displacements that prefigure those locations.”²⁵ This is exactly the issue that people of São Paulo are facing due to fortified enclaves; well-off people occupy the urban, secured behind walls, gates, and security cameras, where they do not have to interact with “the traditional public sphere of the streets to the poor, the marginalized, and the homeless.”²⁶

In his article, “The surfacing of urban life: A response to Colin McFarlane and Neil Brenner, David Madden and David Wachsmuth,” urbanist AbdouMaliq Simone reminds us that “surfaces are also the commodities of contemporary capitalist urbanization,”²⁷ so that to homeless people of the public realm, boundaries of access are very clearly marked – they comprise of pockets lined with that of privatization and profit.

Recognizing that public space has been treated merely as voids to private space, a reframing of public space is necessary. Firstly, the decriminalization of homelessness needs to be widespread. Existing in public space is often the only option for many populations undergoing difficult circumstances, so the policing of these spaces results in the inability to legally exist anywhere. Secondly, public space needs to encompass a guiding principle of accessibility. This includes physical accessibility such as measures

for special mobility needs, but it also includes an inclusive environment with access to services/infrastructure. An inclusive environment means it is not exclusive, and everyone is welcome regardless of social or economic status, race, gender, sexual orientation, and age – and it is available on a free, first-come first-serve basis. To ensure an environment that welcomes all groups, it must also be made safe, with well-lit areas and access to help, recognizing that some groups are more at risk of being harassed. Good public space also needs to offer access to services and infrastructure that meet basic human needs. To remain in a free public space, people need access to toilets for relief, drinking fountains for staying hydrated, shade for weather protection, and furniture²⁸ for rest. In addition to physiological needs, people have psychological needs they need met in public space such as leisure, social interaction, and expression. Without access to these services, people cannot stay comfortably in public space very long – and not everyone has the privilege of leaving public space to have their needs met. Rather than merely being voids between spaces of privatization, public space needs to be considered as places that are held for anyone and everyone.

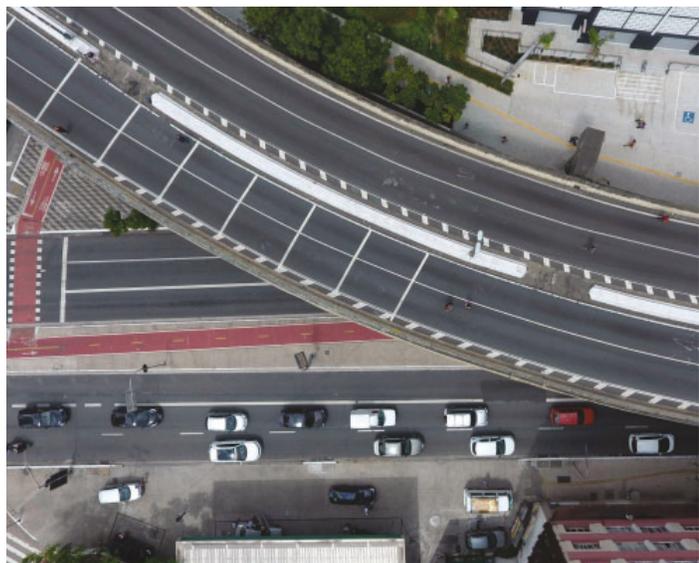


fig. 16 where the Minhocão turns onto Av. São João

Local Planning History

Two major impactful figures of urban planning in São Paulo in the early and mid 20th century were João Florence de Ulhoa Cintra and Francisco Prestes Maia – both engineers who studied at the Polytechnic School of Engineering.²⁹

In 1921, Cintra – commissioned by the city – produced plans to “improve” (also read, prioritize) traffic within the city.³⁰ He was inspired by the radial - perimetric models of traffic infrastructure studies of French architect, Eugène Hénard.³¹ Cintra then hired Maia to implement his scheme into one that mapped onto the existing São Paulo fabric.³² This is what became Maia’s *Introdução ao Estudo de um Plano de Avenidas para a Cidade de São Paulo*, or “Plan of Avenues,” published in 1930.³³

The motive of the Plan of Avenues largely revolved around promoting major circulation of vehicular traffic, at the expense of planning space for people.³⁴ Radial outward transport routes via bus and cars to the periphery was heavily increased to promote rapid city expansion, pushing tram and rail infrastructure in the center to the back-burner,³⁵ and dividing neighbourhoods.

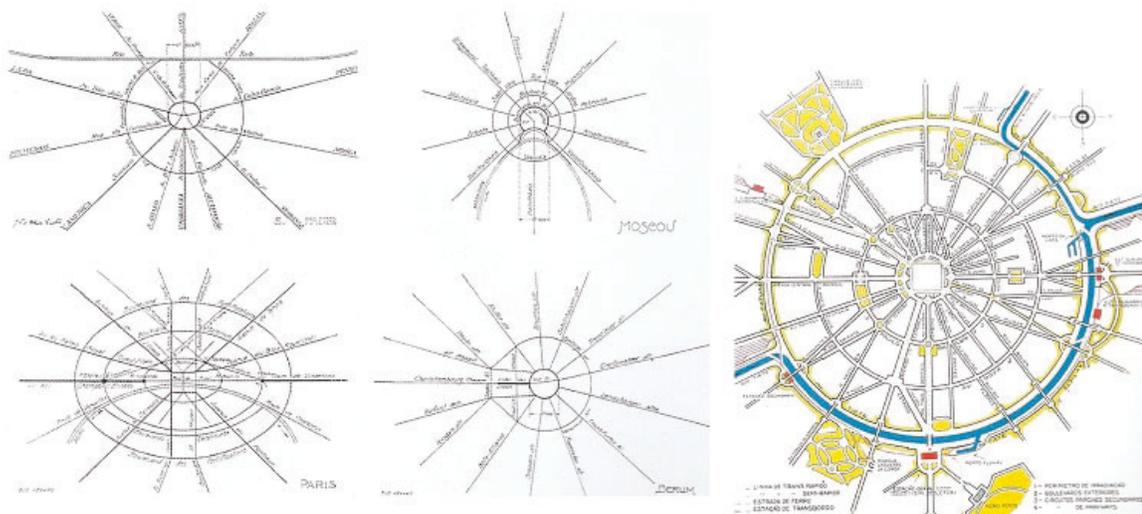


fig. 17 Cintra's early schemes; Maia's interpretation of Cintra's study for São Paulo

Today, evidence of the implementation of Maia's plan can be seen as some of the city's highways and main thoroughfares³⁶ which promoted sprawl and an elite exodus to the periphery. Examples of the radial avenues we can recognise today include Avenida 9 de Julho, Avenida 23 de Maio, Avenida Prestes Maia, Avenida do Estado, Avenida São João, Rua da Consolação, etc.

Prestes Maia acted as mayor from 1938-45 and again from 1961-65, which gave him the political power to have some of the plans implemented.³⁷ These urban changes provided a new spatial mentality to São Paulo,³⁸ and laid the ground work for the infrastructural projects that continued under the military regime, including the Minhocão.



fig. 18 Traffic infrastructure work during Maia administration

Urban planning for São Paulo has become much more encouraging in the 21st century. During Fernando Haddad's mayorship (2013-2017), a new master plan for the city was published in 2014 – being the “most radical strategic master plan in decades.”³⁹ While São Paulo has spent the last century “addicted” to the car, Haddad's master plan focuses on encouraging public transport and even majorly stunting the car's ability to exist in the city.⁴⁰ The 20th century planning in the city was geared toward the locomotive industry, whereas the “main goal of the new Master Plan [was] to humanize and rebalance the city of São Paulo, bringing housing and jobs closer together and facing socio-territorial inequalities.”⁴¹ A majorly radical way the new plan reinforces the use of public transportation is through changing parking legislation. Minimum parking space requirements were erased,⁴² and they were discouraged by making “more than 1 parking space per housing unit or per 70m² of non residential use” taxable for reinvesting into the community.⁴³

While the new plan calls for a lot of transportation expansion like the Maia administration, Haddad is using it to contain and densify. Whereas the Maia plan was working toward expanding the city limitlessly. The new plan contains urban sprawl by reintroducing rural zoning, protecting both environmental ecosystems and agricultural practices.⁴⁴

Haddad's plan also takes major social interests in terms of spatial distribution. The plan set out to add 167 new parks,⁴⁵ and declared that developments greater than 20,000 m² must donate 10% of the built area to affordable housing, envisioning a more balanced and plural city.⁴⁶ The enactment of this new plan set the city on a more people-focused planning trajectory for the following 16 years.⁴⁷

Right to the City: contemporary initiatives reclaiming urban space

In many cities, we can see inequalities that exist among its various citizens. Often cities exhibit inequalities seen through the urban fabric and its demographic distribution. The opportunity of the city – where all walks of life could live within earshot of another, collaborate, and share resources, ideas, skills – is an exciting one. However, in practice, this has been a difficult notion to bring to life while achieving equal opportunities to everyone. As discussed earlier, many cities function as capitalist machines, which do not afford the same justices to everyone. The city instead benefits the wealthy few, and hinders the middle, lower, and poverty majorities.

I would like to challenge the influential psychologist professor Abraham Maslow on his well-known theory of human's hierarchy of needs. His theory stipulates basic needs (physiological and safety) must be fulfilled before meeting psychological needs (esteem and belonging). Only upon meeting these needs can one, says Maslow, work on their self-actualization and reach their full potential. How does the urban public interfere each of these needs? Is this order of meeting needs relevant in the reform of public space?



fig. 19 Minhocão weekend use



fig. 20 sports on the Minhocão

I argue this order is not necessarily the route for meeting one's highest potential. While feeling safe is very important, Maslow puts too much weight on this needing to be fulfilled prior to psychological needs, particularly belonging. A sense of belonging for many is a powerful force of comfort and negates feelings of danger. Millions of the world's populations are not guaranteed safety, and yet people who are able to bind together are much more resilient to the trauma of their misfortunes. As we have seen in the discussion of fortified enclaves, the production of space forms has also (re)produced inequalities between people, and therefore perpetuated misunderstandings and fear. So, do we perpetuate segregation by building with walls, barbed wire, gates, security guards, cameras, in the name of safety measures? Do we design spaces merely for passing through, to act as connections between spaces of privatization? Or, do we design for belonging, connection, and agency? Designing for belonging, connection, and agency will do more: it will foster empathy and trust.

Many narratives surrounding the struggle of those in low-economic status situations revolve around their perseverance and success despite their lack of security.



fig. 21 cycling above Av. São João



fig. 22 sunbathing on the median

This is because humans are more resilient than we give them credit for. Stories of this nature often show how strength in satisfying psychological needs is key in overcoming their circumstances. Homeless people in São Paulo are often seen in groups, reinforcing this idea that a sense of belonging and community is more important than Maslow would have us believe.

In the book *Opportunities and Deprivation in the Urban South: Poverty, Segregation, and Social Networks in São Paulo*, political scientist Eduardo Cesar Leo Marques,⁴⁸ asserts the importance of social networks, and interpersonal connections in the understanding of the production, and reinforcement, of poverty. Without looking at how people are interconnected in the city, we are missing the complexities of the issue, “since individuals access goods and services through these relational patterns,”⁴⁹ which in turn relates to the distribution and access to opportunities.



fig. 23 colourful Minhocão afternoon



fig. 24 Minhocão use during the pandemic

Advancements in land equity legislation around public space were not seen in Brazil until the enactment of the 2001 City Statute. This new legislation made what Edésio Fernandes – senior researcher fellow at the University of London – called a new “legal-urban order,” which operates with local levels of government to address land interests in the city. This approach made access to the responsible parties more available to citizens. Fernandes makes comparison to Lefebvre’s “right to the city,” and says that this legislation is the first of its kind in Brazil which use those thematic principles to bring them to life:

“Lefebvre suggested some [...] interrelated political rights still need to be fully recognized: the right to information; the right of expression; the right to culture; the right to identity in difference and in equality; the right to self-management, that is, the democratic control of the economy and politics; the right to public and non-public services; and above all the ‘right to the city’. The ‘right to the city’ would basically consist of the right of all city dwellers to fully enjoy urban life with all of its services and advantages – the right to habitation – as well as taking direct part

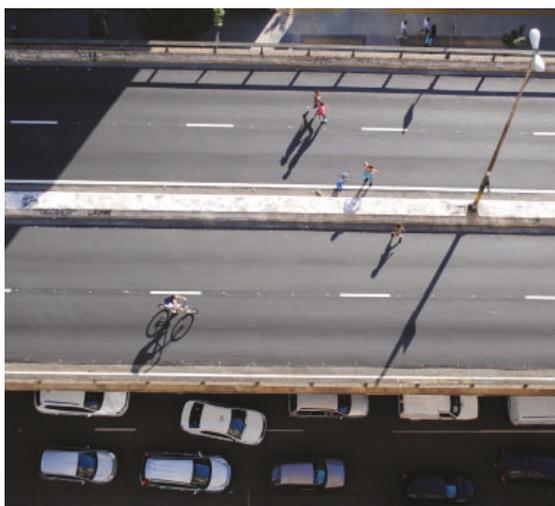


fig. 25 runners and cyclists on the Minhocão



fig. 26 traffic on the Minhocão

in the management of cities – the right to participation. In other words, Lefebvre stressed the need for the full recognition of use values in order to redress the historical imbalance resulting from the excessive emphasis on exchange values typical of the capitalist production of the urban space. This vital link between cities and citizenship has become an imperative given the escalating urbanization of contemporary society.”⁵⁰

This new legislation meant more contact with local governments to access services in the city and gain more traction with asserting claims to a more equitable use of the urban, regardless of monetary backing. It was a step toward the justice Lefebvre was indicating: not only of access to resources, but to an agency of participation for the kind of city people wanted. In the paper “Grassroots urbanism in contemporary São Paulo,” associate professor of architectural and urban history Daniela Sandler⁵¹ discusses different approaches to grassroots urbanism both in the centre and periphery. Her research looks at efforts that go back as far 2004 – accounting for 370 projects to date. A key argument of the paper was to address the myth that grassroots urbanism is one independent of government involvement. While much of grassroots efforts can involve volunteering and donations, there is also a lot of interaction and collaboration with the

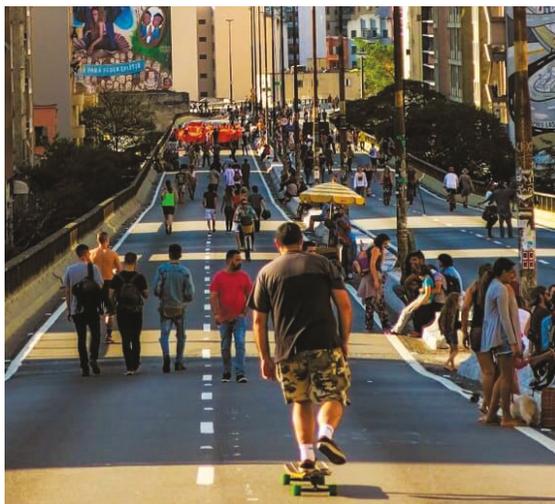


fig. 27 pedestrians on the Minhocão



fig. 28 light at night

city: “For example, the Invisible Periphery Association relies on several forms of public funding, such as competitive grants and subsidies (these subsidies, such as the Program for the Valorization of Cultural Initiatives and the Law in Support of the Periphery, were created in the last two decades in order to redistribute resources and address the historic lack of public and private investment.”⁵² It is not surprising there was a growth of grassroots projects after the enactment of the 2001 City Statute. This legislation was another route for project leaders to gain access to municipal discussions and funds, but is also a direct result of grassroots urbanism and social movements.⁵³ Finally, the introduction of this statute meant “[t]he right to the city and the social value of urban land was written into law.”⁵⁴

In her Master of Architecture thesis titled “Reading Performative Urban Interventions in São Paulo - Epistemologies and Tactics for Architecture and Planning” Architect and urban planner Kirsten Larson⁵⁵ explains social movements and the act of exercising resistance are what makes the change in long term legislation, and in physical space: “citizen collectives are filling this urban ‘gap’ as they fuse various forms of cultural production with political movements. These actions are largely led by young



fig. 29 the Minhocão used as a track



fig. 30 runners on the Minhocão

citizens, under 30, mobilized through social networks, connected to global movements, all the while constructing new alliances [...], recording alternative histories, occupying public spaces, and continually revising and rearticulating their claims.”⁵⁶

An example of an important contemporary initiative reclaiming urban space was the Cidade Limpa law of 2006, which translates to “Clean City.” Prior to 2006, São Paulo’s built environment was plastered with advertisements, as seen in many commercial centres globally.⁵⁷ The purging the of visual disruptions of advertisements opened the city walls to be reappropriated by those who could access them, and so the newly vacant surfaces became a blank canvas.⁵⁸ São Paulo has a huge graffiti culture linked to social movements and protests, so this new initiative provided even more territory. While there are different types of Paulistano graffiti, some are deemed more acceptable than others. Some progressive municipal governments have supported graffiti as a beautification tool: “In 2014 a municipal initiative brought together over 200 local street artists to paint 15,000 square meters of street art along 23 de Maio Avenue.”⁵⁹ This is yet another example of how citizen resistance can be recognized and becomes a tool of reclaiming urban space.

Voicing opinions and taking a stand to reclaim public space does not go unnoticed. After years of discussion and public involvement, in 2018 it was decided that the Minhocão highway would eventually be deactivated to traffic, and would be protected from demolition under the Municipal Law n. 16.833.⁶⁰ This was a huge step for the city to secure the structure and square footage in the city as a means to contribute back to the city, what was originally taken from it during the military dictatorship. How the project moves forward will dictate either a renewed example of spatial justice, or a reinforce segregation.

Why the Minhocão

According to Rede Nossa São Paulo, in 2012 there was 12.5 square meters of green space for every inhabitant in the city. However, about 50% of the green space that makes up this number is located in Parelheiros, a district which would take up to two hours to reach by public transport from the city center.⁶¹ The report indicates the World Health Organization (WHO) recommends 12 square meters of green space per inhabitant,⁶² but this recommendation is per district to ensure a more equitable distribution. This tells us that the city center is disproportionately lacking public green space. Figure 31 illustrates the proportion of public space available in the city center, in relation to the populations across its districts.

Even the existing designated public spaces in São Paulo need improvement, but to increase the amount of access to public space in the city for its inhabitants, especially for the homeless population, we need to look to interstitial spaces. Reconfiguring the how the public realm is configured is a strategy to increasing usable public spaces since they already hold less claim for privatization, and therefore can be implemented for social uses. Lots within a city block are high value, and hard to attain for social space, but the sidewalk, the street, the city infrastructure can be appropriated for public use. This is a naturally occurring phenomenon; people take up the gaps they can fill.

As previously indicated, the Minhocão is 3.4 kilometers (or 3400 meters) long, and ranges from 15 to 23 meters wide. Even if we assumed its narrowest width of 15 meters for the whole length, the permanent opening of the highway deck for the public would add 51 000 square meters of public space to the city. This is a substantial addition for leisure which can be outfitted with vegetation for the health and well-being of both users and the environment. Using the WHO recommendation, this would equate enough space for 4250 inhabitants to each have 12 square meters.

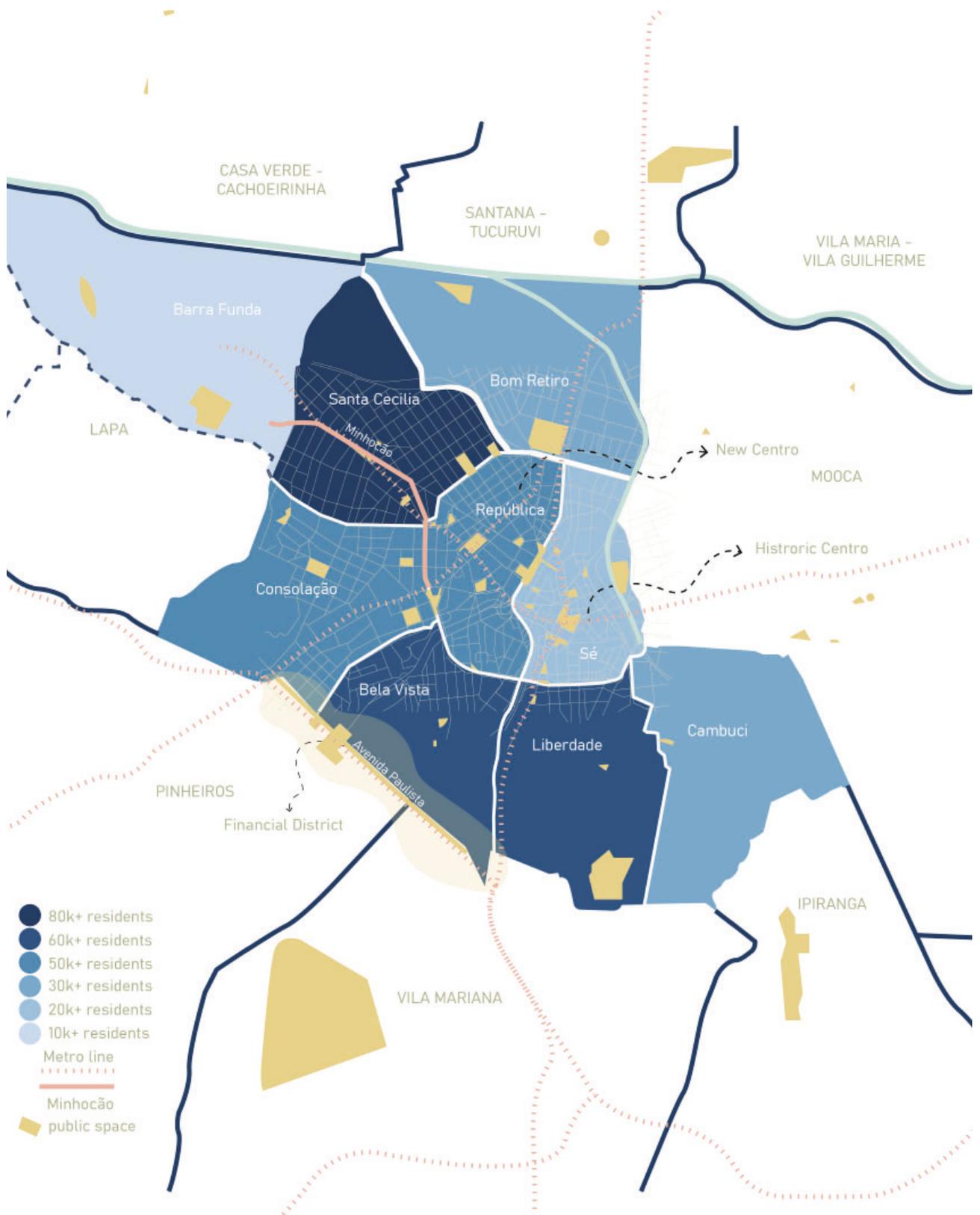


fig. 31 public space and population distribution in Sé

Reassigning the use of the interstitial space occupied by the Minhocão will change the trend that public space is not for people. This project will serve as an example on how to claim and activate interstitial space for public use, while negotiating its coexistence with the car.

The Minhocão has already been adopted by both homeless people using the highway for shelter, and pedestrians in the evening and on weekends. The existing conditions of the underside of the highway are shown in figures 32-34. In the northern zone, it is currently characterised with bus stops. People wait on the median, sandwiched between bike lanes, with few benches. The southern zone is heavily populated by homeless people sleeping on the ground between the bike lanes, and heavy traffic. Debora Sotto, a post-doctorate researcher at the Global Cities Synthesis Center of Institute of Advanced Studies of the University of São Paulo, has recognized the impact the such a space has had on the local population:

“In a city that suffers heavily with the lack of qualified public spaces for leisure and recreation, especially for the poor, the Minhocão has ultimately been claimed by the local population as a collective space for sports – walking, running, cycling, skating – and cultural expression – movies projections, graffiti, theatre presentations, martial arts, street markets.”⁶³

The Minhocão has become a huge landmark of cultural resistance and production. Laying claim to the highway by physically taking up the space until it has become the norm has proved to work. The Paulistano people have spoken: they have already chosen what space they want to reclaim through their actions and persistence.

Given that the municipality has been considering transformations to the space on and off since its implementation, it goes to show that its construction has caused a lot of



fig. 32 Avenida General Olimpio da Silveira



fig. 33 Rua Sebastião Pereira + Largo do Arouche



fig. 34 Rua Amaral Gurgel

frustration in the neighbourhood, and its current existence is not good enough for locals. While the “City Hall intends to improve coexistence in the city” by closing some streets for leisure,⁶⁴ it is my intention that the space be reinvented to be a demonstration of coexistence of social classes and demographics in the city: ensuring a space is made and kept for the local homeless population.

In a documentary titled “Documentário Ponto de Vista (Minhocão),” a number of professionals and local residents are interviewed on their opinions of the conditions of the Minhocão. Professor of urbanism at the Faculty of Architecture and Urbanism at the University of São Paulo, João Sette Whitaker, shares my opinion of the need to share the city more equitably:

“[...] around Minhocão you have a population that lives and is a poorer population, and that, having spent 40 years there supporting a car and carbon dioxide, you should have the absolute right to stay in that place. So, you would have to have it with any discussion about Minhocão, a set of interventions from the urban point of view of urban regulation laws aiming at what? Aiming to privilege and fix the rents of those who already live there, avoiding gentrification.”⁶⁵

While the construction of the Minhocão meant chaos in terms of urban depreciation, pollution, and a lower quality of life, it also meant cheaper rent, enabling a lot of people experiencing hardships to live in the center despite the poor conditions.⁶⁶ João Sette Whitaker is weary of the neighbourhood becoming gentrified and residents being displaced when the highway is transformed, because these same populations should have every right to stay in their neighbourhood. This goes for those who have been able to secure traditional housing in the area, and those who sleep on the street. The transformation of the Minhocão is an opportunity to meld the appropriation of interstitial

space while alleviating spatial injustice. This project will imagine new architectural interventions for the homeless population living in the neighbourhood, so that they may not only stay, by grow in their neighbourhood.



fig. 35 Minhocão at sunset

- 1 Van Mead, “Taming ‘the Worm.’”
- 2 Ibid.
- 3 Sotto, “Parque Minhocão, São Paulo – Brazil,” 1897–98.
- 4 Van Mead, “Taming ‘the Worm.’”
- 5 Sotto, “Parque Minhocão, São Paulo – Brazil,” 1897–98.
- 6 Secretaria Especial de Comunicação, “Prefeitura Inicia Nova Etapa.”
- 7 O Estado de SP, “Disputa Por Espaço.”
- 8 Van Mead, “Taming ‘the Worm.’”
- 9 Sotto, “Parque Minhocão, São Paulo – Brazil,” 1897.
- 10 Ibid.
- 11 Monteiro, “THE HOUSING ISSUE,” 3.
- 12 Ibid, 4.
- 13 Caldeira, *City of Walls*, 215.
- 14 Ibid.
- 15 Ibid, 6.
- 16 Fernandes, “Right To the City, 209.
- 17 Monteiro, “THE HOUSING ISSUE,” 7.
- 18 Brighenti, *Urban Interstices*, 13.
- 19 Caldeira, *City of Walls*, 213.
- 20 Ibid.
- 21 Blomley, “Law, Property, and the Geography of Violence,” 121.
- 22 Ibid, 122.
- 23 Ibid, 132.
- 24 Ibid, quoting Waldron 1990, 132.
- 25 Ibid.
- 26 Caldeira, *City of Walls*, 213.
- 27 Simone, “The Surfacing of Urban Life,” 358.
- 28 Good public furniture is that without defensive architecture, or that which inhibits different modes of occupation. This is an important note. It is not unusual to find clips or dividers installed along benches and surfaces in public space. They are intended to deter people from laying down on, or skateboarding across installations. They are used as a control measure to dictate the kind of activity – or people – that can exist in the space.
- 29 Angotti-Salgueiro, “Crossing Histories,” 3-4.
- 30 Lima, “THREE PLANS,” 11.
- 31 Ibid.
- 32 Ibid.
- 33 Ibid, 12.
- 34 Angotti-Salgueiro, “Crossing Histories,” 11.
- 35 Lima, “THREE PLANS,” 12.
- 36 Ibid, 16.
- 37 Angotti-Salgueiro, “Crossing Histories,” 6.
- 38 Ibid, 11.
- 39 Hennigan, “São Paulo Begins Implementation.”

- 40 Ibid.
- 41 Haddad, “São Paulo Strategic Master Plan,” 3.
- 42 Ibid, 10.
- 43 Ibid, 12.
- 44 Ibid, 19.
- 45 Ibid, 10.
- 46 Ibid, 6.
- 47 Ibid, 3.
- 48 Marques is a professor at the University of São Paulo, and a researcher at the Center for Metropolitan Studies.
- 49 Marques, *Opportunities and Deprivation*, 2.
- 50 Fernandes, “Right To the City, 208.
- 51 Sandler, “Correction to: Grassroots Urbanism,” 141.
- 52 Ibid, 144.
- 53 Larson, “Reading Performative Urban Interventions,” 11.
- 54 Ibid.
- 55 Larson is a practicing architect at Manacá in São Paulo, where she is a partner.
- 56 Larson, “Reading Performative Urban Interventions,” 8.
- 57 Larson, “Reading Performative Urban Interventions,” 11.
- 58 Caldeira, “Imprinting and Moving Around,” 390.
- 59 Larson, “Reading Performative Urban Interventions,” 11.
- 60 Sotto, “Parque Minhocão, São Paulo – Brazil,” 1907.
- 61 Rede Nossa São Paulo, “Indicadores e Referências”, 7.
- 62 Ibid.
- 63 Sotto, “Parque Minhocão, São Paulo – Brazil,” 1899-90.
- 64 O Estado de SP, “Disputa Por Espaço.”
- 65 Mabelle, Ingrid. *Documentário Ponto de Vista*, at 19:14.
- 66 Sotto, “Parque Minhocão, São Paulo – Brazil,” 1898.

PART TWO: INVENTORY

Current Conditions: A Taxonomy

Users

The Minhocão is comprised of four main categories of users: those who use it for transport, shelter, and recreation. The fourth category which must be kept in mind is the residents who live on either side of the Minhocão. While some residents might use the Minhocão for transport and/or recreation, others might not engage with it at all, but they must still be considered because the Minhocão's existence is in constant dialogue with its neighbouring buildings due to its proximity. Traffic on the Minhocão produces light, noise, and air pollution. There are moments along the highway where it comes within 8 feet of apartment windows.¹

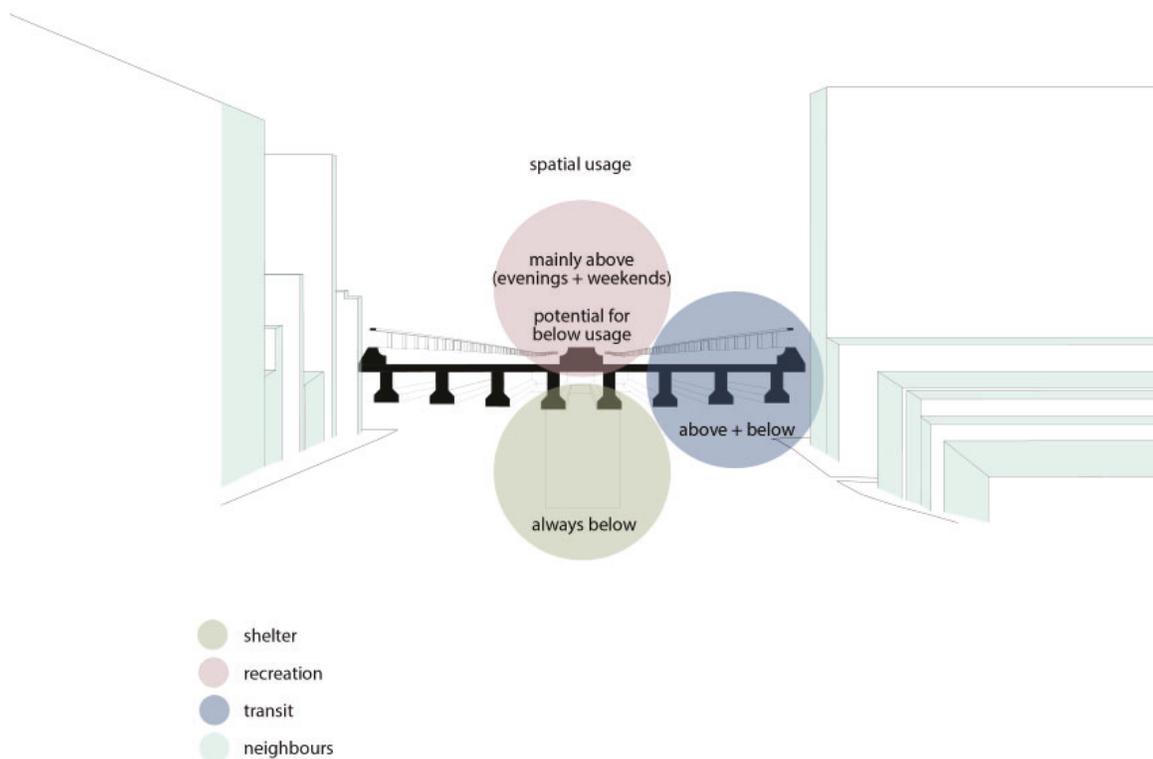


fig. 36 existing spatial organization of users

The highway spans multiple neighbourhoods, beginning in Barra Funda which has a population of 14,383.² Moving southeast, it next goes through Santa Cecília with a population of 83,717, and then divides Consolação (population 57,365)³ and the new Centro neighbourhood of República (population 56,981) at its southeastern edge. These numbers, however, do not include the homeless population. Even before the Covid-19 pandemic, homelessness numbers were said to have reached 24 000 people in the city.⁴ Due to the transient nature of homelessness, it is difficult to know the actual number of people dealing with this. In 2015, organizations who work with the homeless population said the number was likely over 30 000 people.⁵ The situation has only gotten worse due to the pandemic.

Many homeless Paulistanos stay under the Minhocão for shelter from the sun and rain. They can be seen sleeping there at all hours of the day. Some have access to mattresses or tents, while others lay on cardboard or the pavement. Heaps of waste built around them the longer they stay, as there are not enough bins to accommodate them. The numbers of homeless people are not going to disappear overnight. These people have chosen to stay at the Minhocão because it meets their most immediate needs for shelter



fig. 40 Minhocão ramp access



fig. 41 Minhocão homeless population

and rest. The Minhocão can be improved to give them more peace and access to privacy and personal hygiene.



fig. 42 portrait painting



fig. 43 Minhocão as a gallery



fig. 44 art of the Minhocão

Neighbourhood Amenities

Parks: Parks and plazas in proximity to the Minhocão are indicated on figure 45 in mustard yellow. Given the population numbers for these neighbourhoods, this is not a lot of designated public space.⁶ The quality of some of these spaces is lacking, in that they do not all encourage people to stay or offer amenities to make yourself comfortable. Due to the nature of the fortified enclave, some parks and plazas become waste lands occupied by homeless people and are not cleaned or maintained. These spaces should be regarded as precious. Parks and plazas most near the Minhocão offer opportunities to make vertical connections from the elevated highway to the ground plane – extending the public realm further. Descriptions follow of the public spaces that are within a 6-minute walking distance of the highway.



fig. 45 walking distances between public spaces and the Minhocão

Praça Olavo Bilac is a small square with grass, a fenced gravel area, and walkways finished with pavers. Multiple users who shared their opinion about this square online said it is a nice place to take their dog for walks and they can run in the fenced area. While people seem to continue to use it, there is a general consensus of being dissatisfied with its conditions. One user wrote: “Poorly maintained urban remnant that the city insists on calling a square.”⁷ Praça Olavo Bilac is a 2-minute walk from the Minhocão.



fig. 46 Praça Olavo Bilac

Praça Marechal Deodoro is a historic square directly beside the highway. According to reviews on Trip Advisor, the square is dirty, and dangerous at night, even after attempts to renovate the area. The comments blame the homeless population for its unsafe and unkept state.⁸



fig. 47 Praça Marechal Deodoro

Largo Santa Cecília is a 3-minute walk from the Minhocão. Located in the square of Catholic Church Paróquia Santa Cecília, it is a popular spot for gatherings both day and night. The square receives a lot of foot traffic as it is also home to a metro station. On weekend mornings the square hosts a market with produce, prepared food, and flowers.⁹ By night, people enjoy the congregating in the square upon visiting the local bars.¹⁰ While it is highly used, it still needs maintenance, especially since the onset of the pandemic.¹¹



fig. 48 Largo Santa Cecília vendors



fig. 49 Largo Santa Cecília market

Largo do Arouche is a 5-minute walk from the Minhocão, and another popular square with a thriving night scene. It is also known as a gay friendly neighbourhood.¹² While the site is a beautiful demonstration of mixing of people and demographics, it is still recommended to be careful of mugging.¹³



fig. 50 Largo do Arouche

Praça da República is a 6-minute walk from the Minhocão, and is home to the República metro station – a large metro connection. For this reason, and its location in Centro, it is a highly used public space. The site is partly garden space with paved walkways through dirt gardens where you will find trees and wander around ponds. The other section of the site is a hardscaped square where one can find the entry to the metro, and on Sundays, a popular market. While this is a highly used space, like many public spaces in the city, it does not offer much seating.



fig. 51 Praça da República

Praça Rotary is a 2-minute walk from the Minhocão. The park is also home to a library and a playground. The site has a variety of surfaces such as grass play areas, dirt gardens, and paved trails. The site is has a lot of tree cover, making it an ideal place to stay outside for many hours with protection from the sun. One can find many families there to make use of the playground and outdoor space.



fig. 52 Praça Rotary

Praça Roosevelt is a 3-minute walk from the Minhocão. The square is home to Catholic church Paróquia Nossa Senhora da Consolação, but is largely an open hardscaped landscape for skateboarders. The space is punctuated with young tree planters, which double as benches. Having the planters double as benches is a simple way to provide seating infrastructure to the space – an historically uncommon thing to find in other public spaces in the city. The square is an otherwise open plaza which can accommodate great gatherings, and serves has a plinth from which one has a direct view to the Minhocão to the north.



fig. 53 Praça Roosevelt

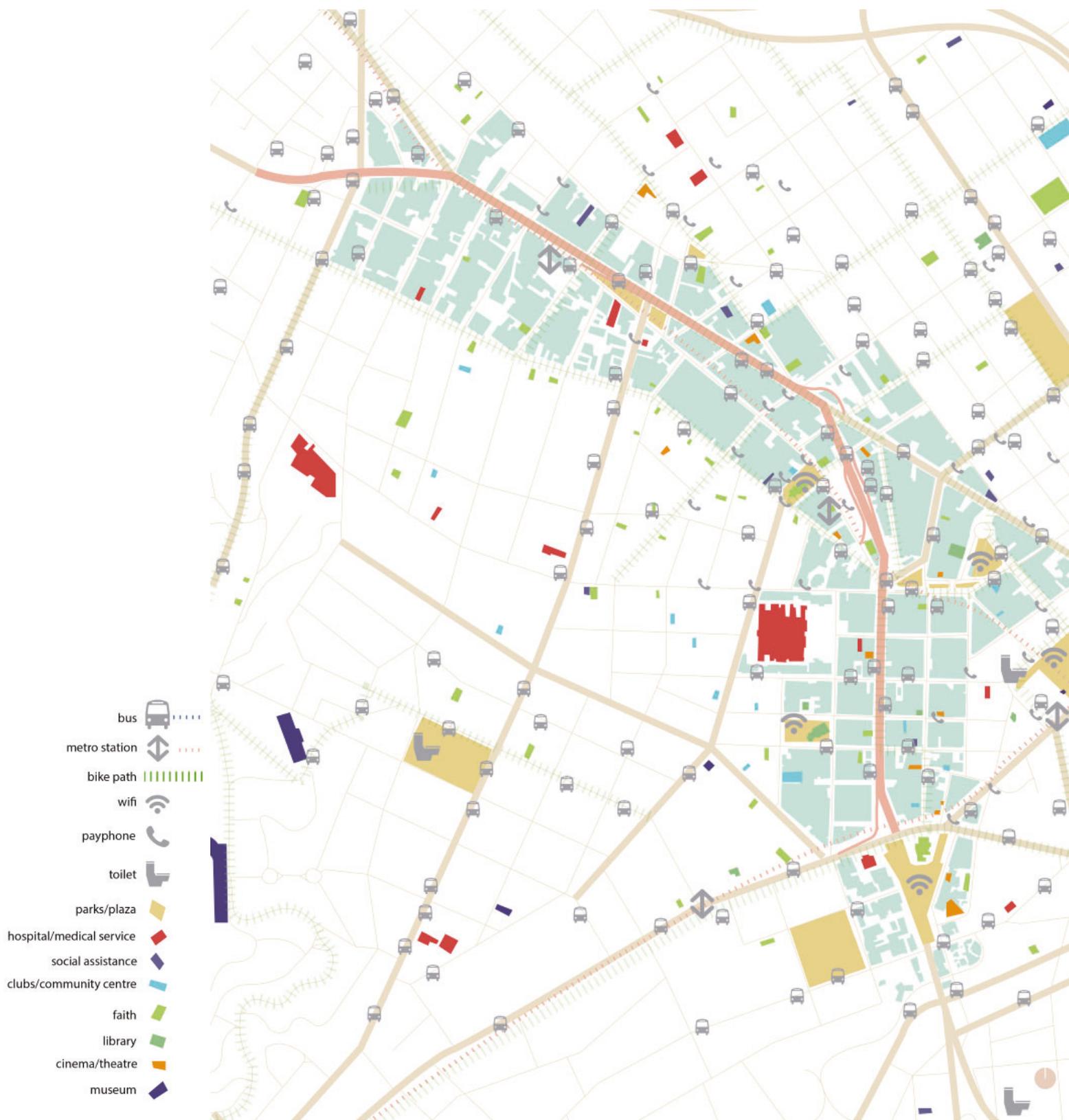


fig. 54 Minhocão neighbourhood amenity inventory

Wifi: Free public wifi internet access is only available in select locations in Centro. The nearest locations to the Minhocão include Largo Santa Cecília, Largo do Arouche, Praça da República, Praça Dom José Gaspar, Praça Rotary, and Praça Roosevelt. While it is great to have access to wifi in those locations already, in this age, the right-to-information and knowledge equals internet access, so this is not nearly enough for such a large population. It is easy enough for many of us to pop into a café or mall to by a coffee and use the internet, but not everyone is so lucky. Internet access often follows the same logic as the fortified enclave: having access is only available to those who can go beyond the gate – those who can pay.

Toilets: Designated public toilets are hard to come by in Centro. Normally, if you can find one, it is in a park, which themselves are few and far between. The two closest public toilets to the Minhocão can be found at Praça da República and Praça Dom José Gaspar to the east. Both of these parks are an approximate 10-minute walk to the Minhocão. The closest public toilet to the west can be found at Parque Buenos Aires, nearly a 20-minute walk. Toilets should not be a luxury – using one is not a lifestyle choice – so access should be free. Access to public toilets needs to be highly increased along the Minhocão to serve both its homeless people population, and those who frequent it for recreation.

Bike lane: The bike lane network and infrastructure in São Paulo is modest at best. However, there is a 4.1 kilometer bike lane¹⁴ which follows the underside of the Minhocão, running on either side of the highway's concrete columns. While this is a rather precarious bike lane, maintaining access to a cycling network and reinforcing active transportation – both below and above – will remain a key factor for the project.

Phone: Payphones are readily available throughout the city. While there may not be continual access along the Minhocão, in many segments, there is one within a 2-block radius.

Bus: The Minhocão is very connected to the city by bus, with numerous bus stops lining the streets below and the streets that cross perpendicularly. Connectivity by public transit is very important for public spaces, so increasing public usage of this interstitial space is very suitable.



fig. 55 São Paulo payphones



fig. 56 bike lane beneath the Minhocão

Metro: Similarly to bus routes, metro routes contribute to ease of public mobility. There are two metro stops directly off the Minhocão which service the red line going to and from Centro, from the Palmeiras–Barra Funda station to the west and Artur Alvim to the east. Again, the site is a prime location for public access via transit networks.

Hospital/medical services: There is plenty of access to medical services around the Minhocão. Medical services can be found in figure 54 indicated in red. People who live in the area can easily walk to hospitals Hospital Santa Cecília and Irmandade da Santa Casa de Misericórdia de São Paulo. Other buildings in red include medical centers and mental health clinics. In addition to existing residents in the neighbourhood of the Minhocão, homeless people constitute a major user group. Proximity to health services for this population is important as they may not necessarily have the means to commute for emergencies. Social assistance services in the area can also be found in figure 54 in light purple.



fig. 57 murals line the path



fig. 58 cinema on the highway

Library: Libraries can be found in figure 54 shown in emerald green. Libraries are institutions which provide many public social functions beyond just access to books. They are often a source of gathering and provide services like free arts and culture courses, extracurricular clubs and activities, computer access, and washrooms. The closest public library in the neighbourhood of the Minhocão is the Biblioteca Monteiro Lobato in Praça Rotary, and just a 10-minute walk east one can find Biblioteca Mário de Andrade, the city's largest library.¹⁵ Given the proximity of the Minhocão to these libraries, it is very likely that people will use the Minhocão as a means of travel if they are visiting a library on a weekend afternoon. The proximity to public libraries is also advantageous for the homeless population at the Minhocão, as they can make use of free programming.

Clubs/community centres: Much like libraries, clubs and community centres are a great resource for public use. Figure 54 shows club and community center locations in blue. Many programs which involve youth and outdoor activities can benefit from being close to the Minhocão as they can branch out of the centers and use the highway as an extension of public space.

Faith: The Minhocão has countless religious buildings within its reach. While the majority of religious Paulistanos are Christian, there is a lot of diversity as well in terms of other places and demoninations of worship.¹⁶ These locations can be seen in figure 54 in neon green. As the Minhocão already receives a lot of use on Sunday mornings, increasing access and amenities along the Minhocão will only reinforce its use with church goers after they finish attending weekend services.

Museums/theatre: Museums (dark purple) and cinemas/theatres (orange) can be seen in figure 54. Again, the Minhocão can serve has a leisurely pedestrian commute route on the way to museums on the weekends, and theatres in the evenings. With more

reinforcements, the Minhocão will become a way to enjoy the journey, rather than just the destination.

Shade: Currently the Minhocão has no infrastructure for shade. Homeless people frequently reside underneath to benefit from the shelter, but when people are walking on top, one just hopes the towers on either side will provide shade. The south-eastern segment above Rua Amaral Gurgel runs directly north-south, so it receives a lot of direct northern sunlight. Walking on hot asphalt is not always the most pleasant experience in the tropics, especially when there is no drinking water readily accessible.

Drinking water: Much like access to toilets, free drinking water is hard to come by in Centro. For hydration one must rely on the ability to purchase water or by bringing some from home.

Dreams: previous proposals

Architect Visions

In 1987, Pitanga do Amparo Arquitetura & Arte designed how he envisioned a future for the Minhocão. The design maintains a single lane of bus traffic on the highway top in each direction. The remainder of the highway deck is given to people to use as garden and nature space. The garden spaces are located on the exterior edges of the highway deck, where bridge connections can be made to neighbouring buildings. Below the highway, the road continues to operate at its full traffic capacity.

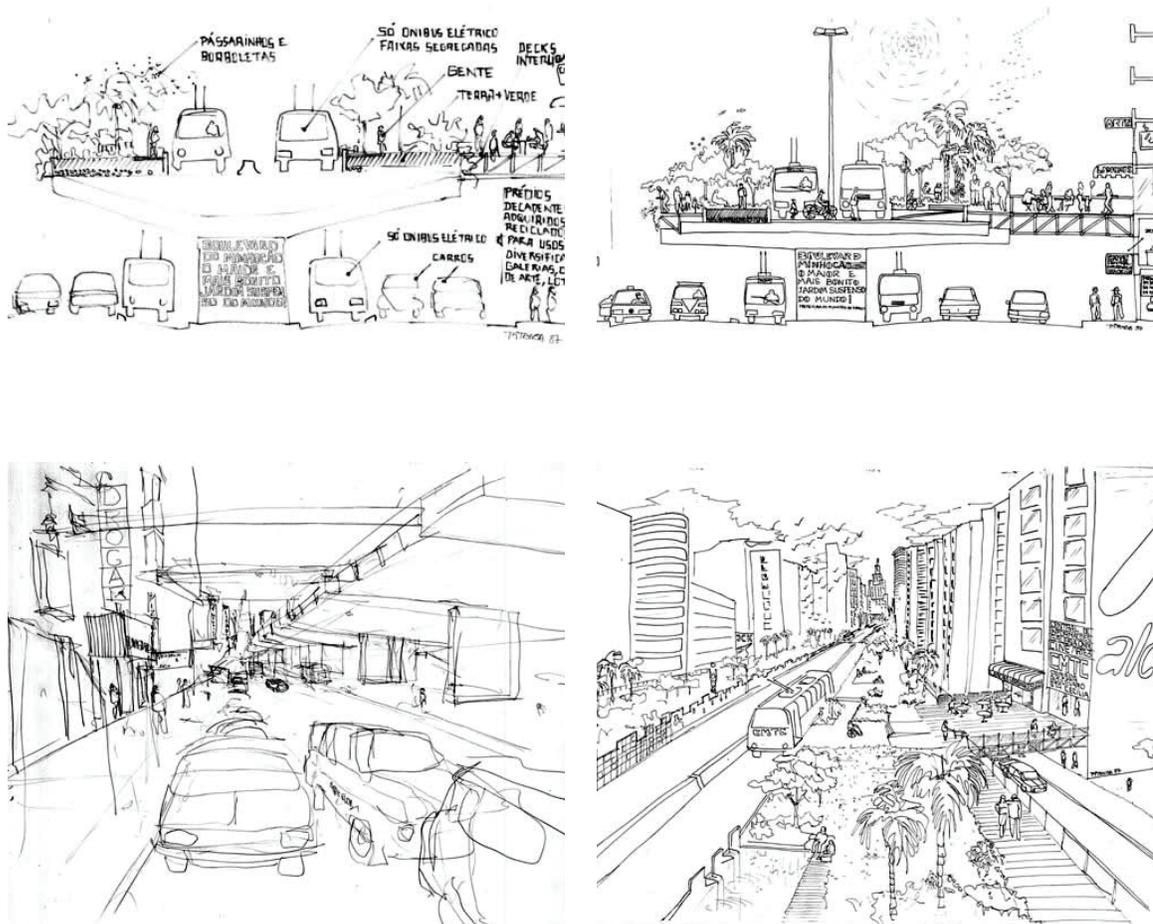


fig. 59 Pitanga do Amparo proposal sketches

In 2017, politician, architect, and urban planner Jamie Lerner had produced *Minhocão* drawings for mayor João Doria (2017-2018).¹⁷ His plans included new stair and elevator access puncturing the underside of the highway deck. The program of the highway mainly consisted of walking and garden space, with areas for gathering and performances. Another key element of the design is the inclusion of bridge connections to buildings nearest the highway, much like Pitanga do Amparo's 1987 proposal.

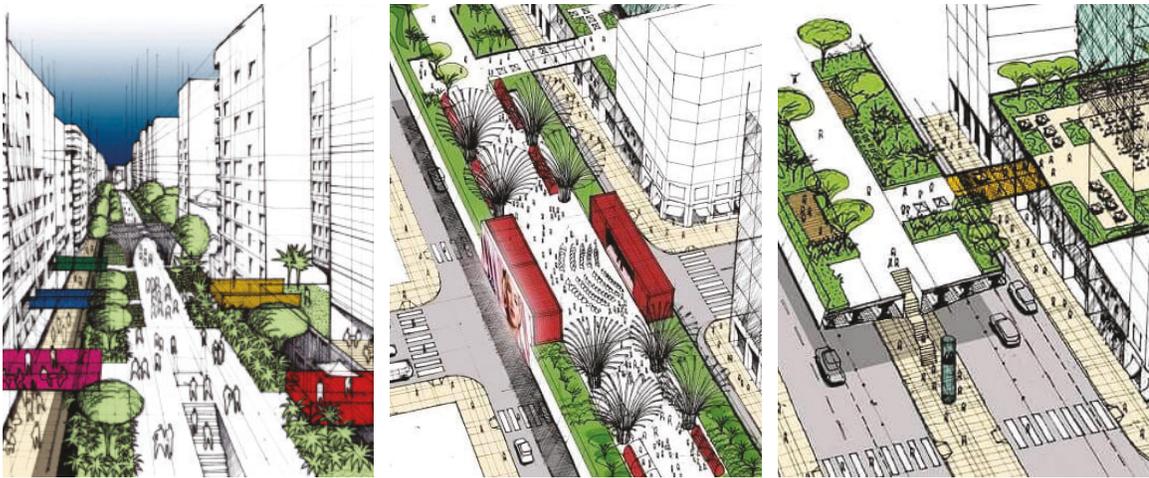


fig. 60 Jaime Lerner's sketches



fig. 61 Jaime Lerner's proposal

Imagine Parque Minhocão

In 2019, Projetar.org launched its 31st architectural design competition – this particular year it was titled Imagine Parque Minhocão.

These competition submissions assume the eventual closure to the highway to cars and invites applicants to imagine the future of the space. Looking at the winners and top three honourable mentions for the competition serves as a good precedent for the goals of the city and identifying common elements between the projects suggests what might constitute a desirable outcome for the Minhocão.

The driving intentions for each submission will be highlighted, as well as attention to special ideas or shortcomings found. The projects will also be judged here by the ability to meet the following accessibility criteria: stairs, elevators, toilets, drinking fountains, shade, furniture, lighting, and shelter. This criterion stems from the aforementioned principle of accessibility within good public spaces, which support basic human physiological and psychological needs. These services and infrastructural installations show if the project is geared toward an equitable, people-focused design. Projects which include these criteria will be denoted by a green-circled icon, while those that did not will contain a grey-circled icon. Finally, projects demonstrating useful insights will be indicated as having elements I will be taking forward into my own proposal.

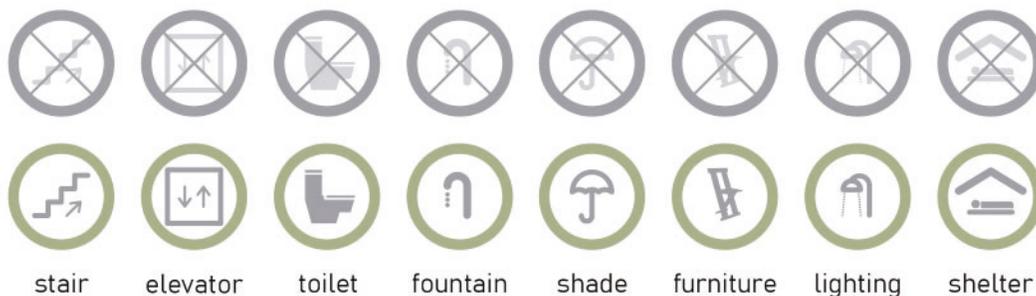


fig. 62 criteria icons

on other factors too, such as viewpoints and space to encourage group activities like performances.

Three new access towers with both stairs and elevators are included in this proposal. The access towers also serve as points for toilets and drinking fountains. Having these services in high circulation zones makes them easier to locate.

While there is no permanent shading structure, the author included umbrellas in their drawings, so consideration for weather protection was included.

Taking forward: I appreciate the configuration of the access towers. The introduction of catwalks to the highway deck means the access tower can be removed from the highway to an area where there is more open space. This will be an important lesson for the project going forward.



PROJETAR.ORG - 031 - Imagine Parque Minhocão

031039

fig. 64 2nd place winner submission



2nd place winner: o parque como cominho – 031039: The second-place winning project proposes the ground level of the highway as site for afforestation and resurfacing the connection with the city’s buried rivers for leisure purposes. The elevation of the highway provides an opportunity to walk amongst both treetops and the cityscape.

From the available information, it appears the only access to the highway platform is through current ramp accesses, although they have been outfitted with bleachers.

There is no mention of toilets or drinking water for users of the project, although there is the intention of collection of rainwater for irrigation and “the maintenance of

collective spaces.” We could assume this is intended for toilets or drinking fountains, but this was not made clear.

The project makes a suggestion of social housing zoning in the neighbourhoods of Largo de Santa Cecilia and Largo do Arouche, and in 10% of any new construction along the highway. However, allocated space for homeless and low-income people has not been explored as an integrated design element in this proposal.

The project also mentions the importance of new legislation for the park and surrounding neighbourhoods for topics such as sunlight, ventilation, shared circulation, and transitions between public and private zones. However, how they should be approached is not explained.

The western stretch of the highway is considered as an area that needs heritage conservation and restoration, but again, the proposal does not demonstrate the guidelines in mind. The eastern end of the project is drawn at a large scale to demonstrate the extent of tree and water implantation is expected. So, while this project has large ambitions of vegetation and water integration into the city, it does not represent a space with adequate services for the neighbourhood.

Taking forward: This project has made an interesting contribution to how the project might evolve in the future. The project makes large second-storey connections from neighbouring buildings and landscapes, which I think would make a valuable condition to implement has new developments grow around the project. These new access points would mean even more connectivity to the top side of the highway.

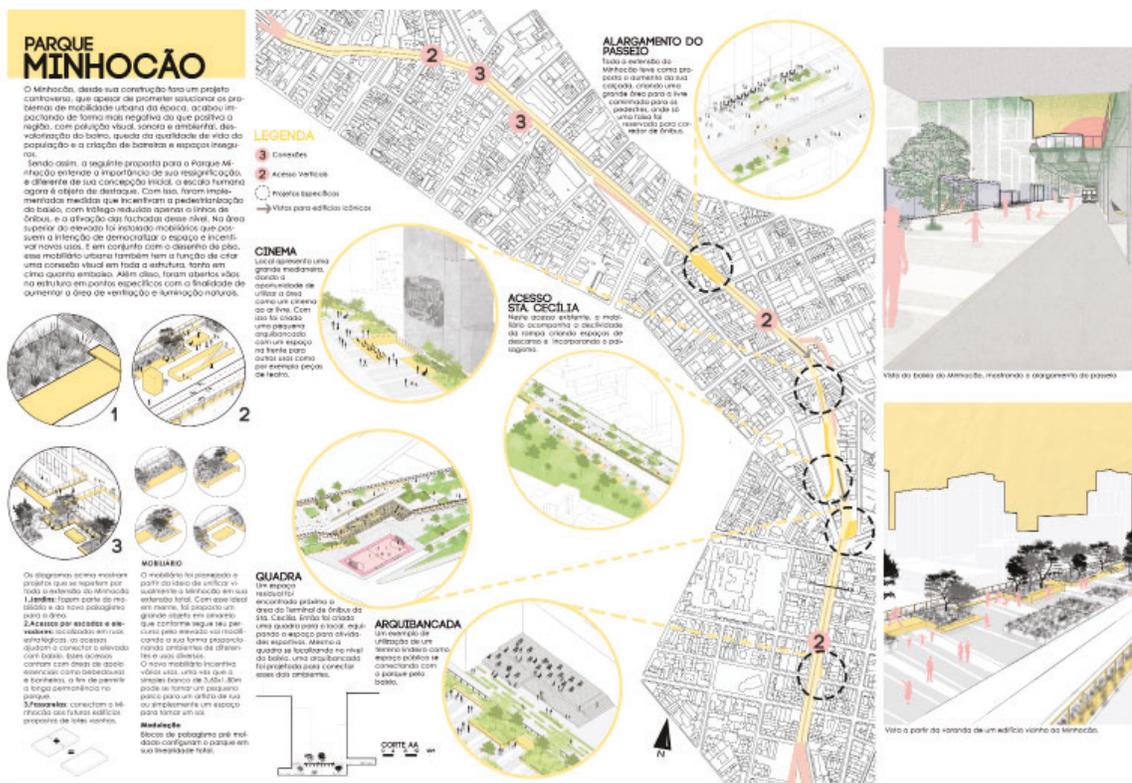


fig. 65 3rd place winner submission



3rd place winner: Parque Minhocão – 031283: The driving force for the third-place winner was making the highway a more democratic space by designing with human scale and pedestrianization in mind. By widening the sidewalks and reducing the ground-level traffic to one bus lane, the project becomes one about safety and people-oriented spaces.

Much like the first-place winner, this proposal has toilets and drinking fountains located at the new access points to the upper deck of the highway.

The coloured furniture is a tool to unify the whole project. The furniture changes shape as it moves across the highway for varying seating arrangements, becoming small

stage areas, and connecting the highway to future neighbouring buildings.

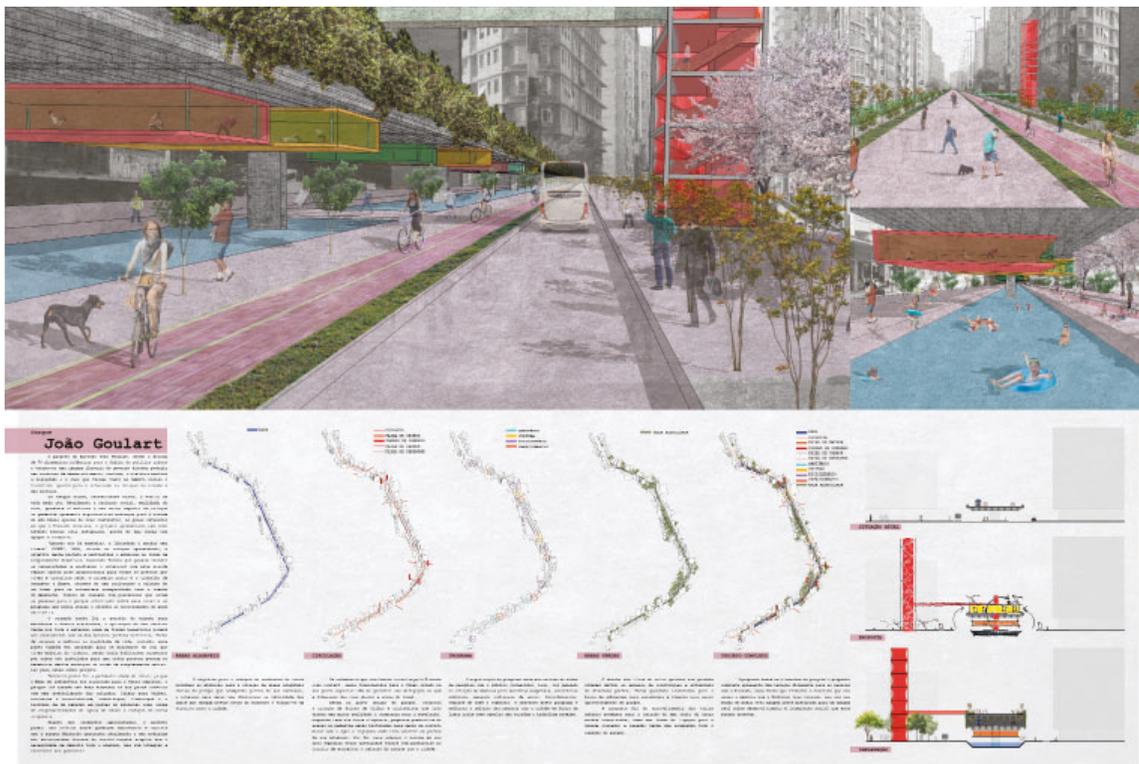
The project also includes a zone for an open-air cinema, and uses the elevation difference to its advantage for bleachers and a sport court. Elevation is also optimized by creating terraces zones on existing ramps.

Taking forward: Much like the second-place winning project, this one includes making elevated connections from the highway deck to new neighbouring buildings.

rest zones acts as a safety measure from fast moving people in the sport zone. Drinking fountains line the divide between these zones so everyone can stay hydrated.

Another important detail of the project was to maintain viewpoints to iconic buildings in the region. While this project is created a diplomatic space, it still did not address the needs of homeless people in the area.

Taking forward: The illuminated services in this project is a very good way to design safety measures into public space at night. Lighting is definitely a tool that I will carry forward into the design, especially in high-circulation areas.



PROJETAR.ORG - 031 - Imagine Parque Minhocão

031130

fig. 67 2nd honourable mention submission



Honourable mention 2: Parque joao goulart – 031130: The second honourable mention project hits a lot of important criteria at a conceptual level. The intent for the project was to promote social inclusion and address climate issues, while improving quality of life for users.

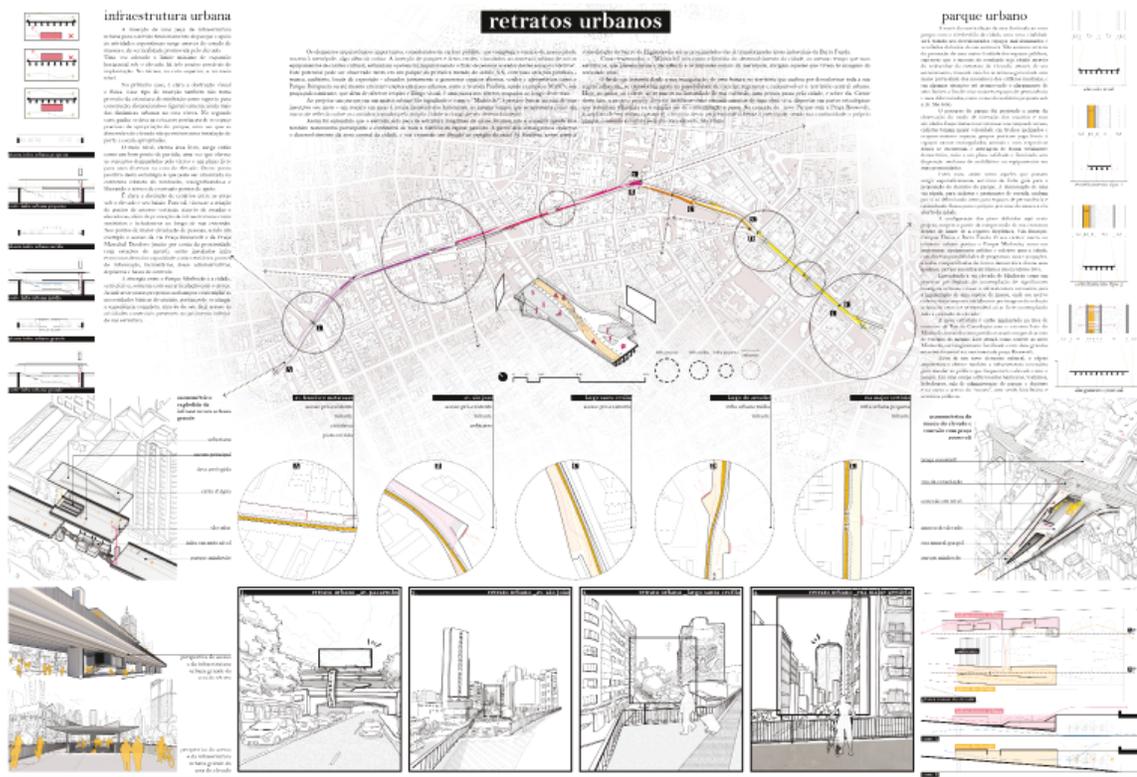
A bold proposition of this project is the maintaining of the highway, but enclosing it into a tunnel. The tunnel is concealed with vertical garden edges, and the new park resides on top of the tunnel. While this is a valiant effort, the extra height of the park means more of a disconnect from the ground plane. However, there are many new access towers with stairs and elevators are implemented in this scheme. Creating a tunnel means

more obstruction for neighbouring buildings, but the vertical gardens would help with pollution.

In addition to the vertical gardens, the scheme involves filling urban voids with more green space in close proximity to the highway. Another design element includes trenching under the highway as a means for rainwater collection and managing flood water. Both of these tactics serve as a way to be environmentally conscious, while bringing people closer to nature and water they can use for recreation.

A central programmatic element of this proposal includes suspended housing under the highway for homeless people. While it is not clear how users access the suspended rooms, and the transparency of the spaces is questionable, it is a good first attempt at including this important user group in the design.

Taking forward: Much like the first-place winning project, this one also utilizes catwalks as a means to remove the access towers from the immediate highway edge. This is an useful strategy to make the most of the space in tight streets.



PROJETAR.ORG - 031 - Imagine Parque Minhocão 031263
 fig. 68 3rd honourable mention submission



Honourable mention 3: Retratos urbanos - 031263: The title of the third honourable mention project translates to “Urban Portraits.” The author has framed the highway as a place from which occupants can observe the city and how it has evolved. Museum collection facilities are included in the program and collections are dispersed along the highway’s length with framed views to discuss histories of the spaces beyond.

The project makes good use of the space below the highway for hanging service program spaces such as toilets and administrative info sites. Using this space means reserving the both the ground plane and the deck of the highway for maximizing activity space. While there is also access to an elevator, it does not connect to the service spaces,

so only stair users are able to access them in this proposal.

A roof is proposed over stair locations, which perforate the slab, to denote access points. This is useful to see where the next access point is along the highway, and also doubles as sun protection in select areas.

In high-traffic areas near metro stations, the program also includes change rooms, lockers, drinking fountains, and storage to aid in users coming to linger and enjoy the museum and events at the proposed amphitheatre. This project does a good job of including services to help users stay along the project for extended periods, but it could do more to service the existing homeless population.

Taking forward: I appreciate the way the author has not only perforated the slab, but created multiple storeys. This could serve as a strategy of densification as needed in the future.

Precedents: built lessons

The New York High Line (2009)

The High Line is a very well-known project that comes to mind when people think of a piece of decommissioned infrastructure that has been transformed into public space. Completed in 2009, the High Line is a section of repurposed train rail for a new elevated linear park. The careful selection of materials, variety of spaces, and the inclusion of ecological plantings make it a successful project of adaptive reuse in public space, as it is visited by millions of people every year.

Although the project has been praised for “catalyz[ing] new investment in the surrounding area, with significant new development and the emergence of a new mixed-use neighborhood,”¹⁸ it has also been criticized for its gentrifying nature.¹⁹ The proposal will have to use this lesson to ensure spaces for the existing homeless people around the Minhocão remain a priority to combat displacement.

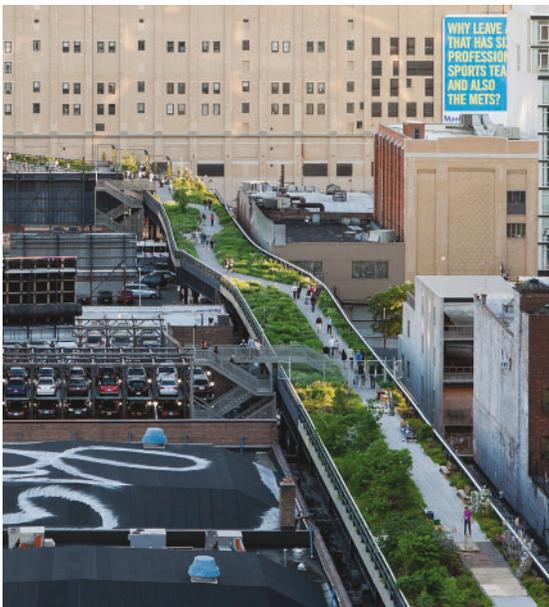


fig. 69 High Line from above



fig. 70 High Line from below

Vancouver Skytrain Station (1985)

Patterson Station, which serves Vancouver's Skytrain transit line, is a very familiar example of elevated rail infrastructure. The project utilizes metal truss arches to enclose sections of an otherwise long and exposed network. Stations along train lines often provide intermittent coverage and access to the line. This same formal strategy could be applied to spaces intended for social interventions, due to its approachable scale. The structure is easily paired with the elevated base structure and denotes a node of intervention. The nature of the existing Minhocão structure could easily appropriate a similar enclosure, as it has a common linear composition due to its current transportation function.



fig. 71 Patterson Station arches

Valencia Secret Studio

While the High Line and Skytrain station provide public programs, it is much less common to find private spaces in conjunction with transportation infrastructure. One particularly interesting project which became an inspiration was designer Fernando Abellanas' personal studio. Abellanas built his secret studio below a bridge, and accesses it via climbing a bank and using a hand crank to move himself over to his work space.²⁰ He utilizes the floor of the project as a means of access to the space itself. The user has to assert an act of agency to bring themselves from an open public space, to a private one, tucked into the existing structure. This was a very thought-provoking element of the installation since the Minhocão intervention proposed in this project seeks to engage homeless people in accessing private spaces.



fig. 72 Abellanas in his studio



fig. 73 studio hand crank

- 1 Van Mead, “Taming ‘the Worm.’”
- 2 IBGE, “2010 Population Census.”
- 3 Ibid.
- 4 Brown, “Addressing Homelessness.”
- 5 Côrtes, “Homeless in São Paulo.”
- 6 As preciously explained in Part One, the World Health Organization recommends a minimum of 12 square meters of green space per inhabitant per district, while the most recent data indicates only 12.5 meters of green space per inhabitant but the distribution of this space does not align with the population density distribution. – Rede Nossa São Paulo, “Indicadores e Referências,” 7.
- 7 Foursquare, “Praça Olavo Bilac.”
- 8 Tripadvisor, “Praça Marechal Deodoro.”
- 9 Foursquare. “Largo Santa Cecília.” Comment by Brian Campos.
- 10 Foursquare. “Largo Santa Cecília.” Comment by Maria Fernanda Vieira.
- 11 Foursquare. “Largo Santa Cecília.” Comment by João Carlos Silva.
- 12 Tripadvisor. “Largo Do Arouche (Sao Paulo)” Comment by Nelson Viana.
- 13 Tripadvisor. “Largo Do Arouche (Sao Paulo)” Comment by Marinabm1985.
- 14 Sotto, “Parque Minhocão, São Paulo – Brazil,” 1904.
- 15 Secretaria Municipal de Cultura, “Orientações de Uso Dos Espaços.”
- 16 Cidade de São Paulo, “Practical Guide.”
- 17 Van Mead, “Taming ‘the Worm.’”
- 18 Field Operations. “High Line.”
- 19 Van Mead, “Taming ‘the Worm.’”
- 20 Mairs, “Abellanas Hangs Secret Studio.”

PART THREE: DESIGN AND METHODOLOGY

Homeless Populations

How can the redesign of the Minhocão promote a sense of belonging and agency to its users? The design of the highway transformation must begin from a perspective of the needs of its users. To make the Minhocão a space for all of its users, the design will focus on incorporating design elements to increase utility for pedestrians and homeless Paulistanos, while incorporating considerations for neighbours, and temporarily, for drivers. The key difference that sets this proposal apart from other proposals for the highway is that populations experiencing homelessness are considered at the heart of the project. Since a number of homeless people already sleep below the Minhocão, the redesign must include them at its core. They have claimed this space out of necessity, but also choice. Making a choice of location, neighbourhood, and of community is an act of agency. Staying here has meant they are claiming it as their own. The redesign of the highway needs sensitivity to ensure space is held for this population, so they do not become displaced, and so this does not become another case of gentrification at the hands of beautification. This is a project for the people – a project which aims to solidify both belonging and agency for its users while providing adequate spaces for communal living.

The project proposal consists of a series of arches above the Minhocão, reframing the perception of the site, along with a series of rooms and support infrastructure found beneath. The project works to shift the narrative of the Minhocão from being a wound inflicted from the city's history of military control, to a landmark that represents resistance and revival: a reclaiming of urban interstitial infrastructure to make a social one.

Shelter spaces are positioned below the highway deck, at ground level, and fall in

line with the existing highway piers. Designated spaces for the homeless population will give them privacy and a space they know they belong. Outside the shelters, supporting services also follow the rhythm of the highway piers. One can find toilets, drinking fountains, cooking counters, and laundry stations. The ground level of the highway becomes a community network of dwelling in the public realm.

In the documentary titled “Documentário Ponto de Vista (Minhocão),” Councillor and Socio-Environmental, Ricardo Young, says there must be a trade-off in the design of the new Minhocão:

“[There] must necessarily be an integrative space that includes housing that integrates diverse social classes, integrating the environment with the road, integrating the road with the quality of people that there can be a trade integrated with the environment and with entertainment. This is what we need to do, or... [it] means looking at the city as a system, an interconnected organism and this organism has to produce in the end, the well-being for the people.”¹

For this new arrangement to be successful, the current spatial injustices need to shift. This requires the active making and holding of spaces for the homeless populations – to validate and support them.

In order to secure the shelter spaces for existing local homeless people, an operational participation plan will be put in place, similar to the occupation phenomenon common to Brazilian cities. The occupation movement itself straddles illegal and extralegal, but it is their resistance and work that has made an impact for housing rights.² The occupation is one where citizens take over a vacant building, and they self-organize for varying levels of communal living. Ouvidor 63 is an artist occupation in Sé, where

residents make and sell art, or perform, to earn their livelihood and contribute to common amenities.³ Residents are admitted based a committee-like group decision. Ouvidor 63 holds an overarching rejection of capitalist ideologies. Ocupação 9 de Julho is an occupation in Bela Vista. Unlike Ouvidor 63, 9 de Julho participates in the fight for housing rights, and for their protection. Their outreach in the community and within the occupation is based around an in-house art gallery, and hosting large cultural events on the property.⁴ Again, the model is largely based around the idea of communal living: independent suites, with shared efforts in the kitchens, libraries, and a workshop.



fig. 74 Ouvidor 63 balcony



fig. 76 Ouvidor 63 shared kitchen



fig. 75 Ouvidor 63 exterior art



fig. 77 Ouvidor 63 exterior



fig. 78 9 de Julho kitchen



fig. 79 9 de Julho sport space



fig. 80 9 de Julho before and after apartment renos photo collection



fig. 81 9 de Julho terrace use



fig. 82 9 de Julho exterior

The residents of the Minhocão shelter spaces will contribute to the operations of the project, just like shared efforts in an occupation. Each resident will be responsible for taking care of a supporting service station (toilet and drinking fountains, laundry and shower stations, and cooking counters) in trade for their shelter space.

This project imagines that the operation will be subsidized by both public and private funds, in particular those related to public infrastructure and housing provision. Support from the municipality would be integral to the success of the project. Additionally, the Parque Minhocão association also has access to private funding,⁵ and their support would be of mutual benefit. Since the Minhocão and its services will be open to everyone, donors will benefit from contributing funding for operational costs. As we have seen through Sandler, grassroots urbanism is not necessarily an independent force. Contributions from several actors adds not only more financial stability for public infrastructure, but also means the involvement and heartfelt investment in the project. The 2001 City Statue, in fact, has made it even easier for these collaborations to occur. Many programs in the city have been a product of mixed efforts (artist collectives, grassroots urbanism groups, the municipality) and mixed funding sources.

Rather than creating all these new infrastructural services and assigning their maintenance to municipal staff, the goods needed are supplied, and those willing to maintain the spaces are offered shelter in return. This practice will give prospective tenants a sense of agency. Former mayor of São Paulo, Fernando Haddad, says that while the city is still working through the consequences of privatization of the past, that things have been changing because “[w]hen people appropriate the public space they take care of it.”⁶ A sense of ownership, responsibility, and contribution can go a long way – sometimes, it is just a matter of getting people involved. Giving populations experiencing homelessness the opportunity to be a part of a neighbourhood and operation where they

can have their own space, but also make a mark on the community offers agency and empowerment. Learning from the operational structure of occupations, and pairing that with the funding and organizational contributions of the municipal government and Parque Minhocão association, this project could work to act as an example of a dynamic public space which supports its most vulnerable populations. Access to this program will give priority to groups within the homeless population who are the most disproportionately disadvantaged, such as women,⁷ those who are racialized,⁸ disabled, and part of the LGBTQIAP+ community.⁹

Sharing responsibilities creates a community environment, and a sense of purpose and pride. Not only does the neighbourhood become a self-maintained entity (apart from power, water, and supplies), it also serves as a stepping stone to self improvement,

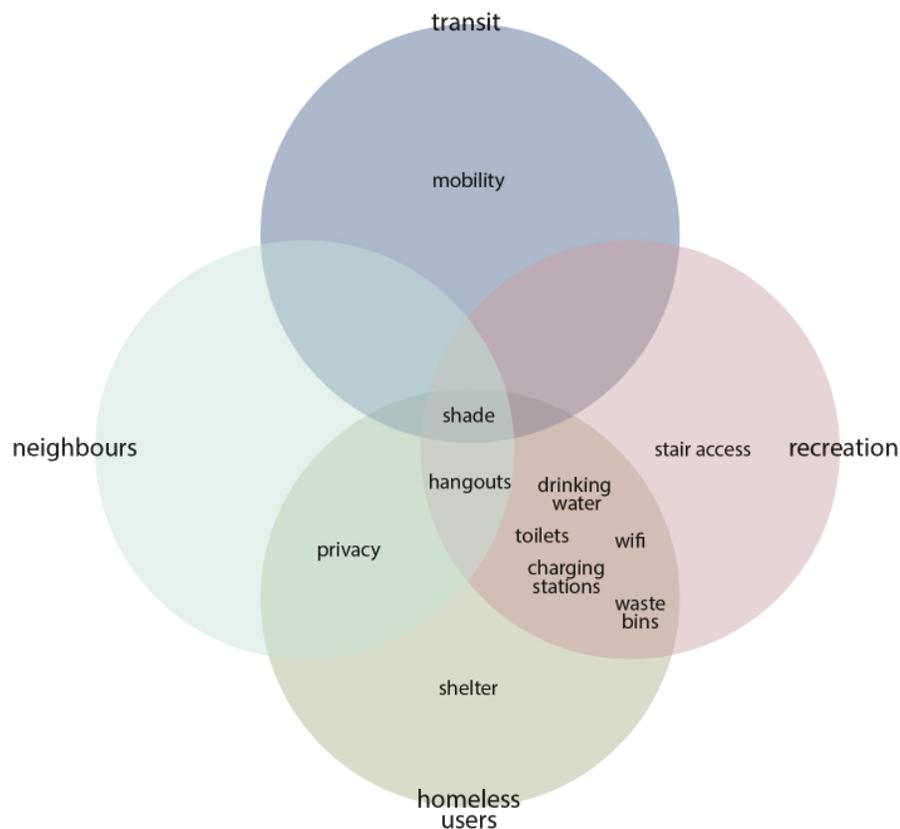


fig. 83 user needs

and helping people help themselves. This population will no longer be neglected by passersby, but will become the faces of the workings of the neighbourhood they share. The hope is the program will act in a cyclical nature, eventually giving enough people the tools they need to build themselves better futures. With time and dedication, the persistence and skills from partaking in the maintenance of the Minhocão can be used for future job references.

Recreational Users

The top of the Minhocão needs some additional amenities to become more hospitable to its recreational users. As we have seen, it is already a highly used space in the evenings and weekends, but adding more services to the space will allow for a larger variety of users and for longer periods of time.

A variety of furniture is key to encouraging different demographics to linger and enjoy the space. Accessible seating is important for elderly and those with mobility difficulties. Fun and dynamic furniture is important for inviting true relaxation and an at-home feeling in the space. Just as the residents below the highway need toilets and drinking fountains, these same amenities are shared with recreational users. The Minhocão gets a lot of direct north sun throughout the day, so access to shade is imperative for the comfort of users. Being a public space which promotes accessibility, the Minhocão will also need Wi-Fi and charging hubs.

Neighbours

Although neighbours may also enjoy the Minhocão has recreational users, we need to make note of their special relationship to the highway. For years, the neighbours of the highway have suffered from noise, pollution, and a lack of privacy. The transformed highway will have areas of plants and shades to not only add privacy, but also some nature to their environment.



fig. 84 existing ramp access

Siting

The existing access to the Minhocão is limited to car ramps: 2 on-ramps northbound, 2 off-ramps northbound, 2 on-ramps southbound, and 2 off-ramps southbound. Car ramps have been used for access by pedestrians as well since it has opened for weekend and evening use.

To increase the ease of access to the upper level of the Minhocão, 4 new access points are proposed. Each new access point will include a stair and elevator. The elevators are important to promote use of the Minhocão by the elderly, those who have mobility issues, and cyclists who would rather quickly access the top deck, rather than travelling to a ramp. As seen in figure 84, the ramp locations are fairly spread out. The additions of new access points, as seen in figure 85, were chosen based on the surrounding area's square footage allowance for a vertical anchorage. The most southern stretch of the highway had no access, so a new one is proposed for landing on an empty lot, in an otherwise dense city grid. The other 3 new access, while they are near ramp accesses, give a much more direct alternative to reaching the top deck. Pedestrian users may still decide to use the car ramps for access, but the stair and elevators give extra points of contact for neighbouring residents.



fig. 85 new pedestrian access points

Toilets are first located near each stair access location on ground level. They are positioned so users on top of the highway can access a toilet at each new stair/elevator point. Drinking fountains are found in conjunction with each toilet station. From there, every other block has a toilet station, and the blocks in between have laundry and shower stations, so no amenity is more than a one-block walk.

Along the project there are 202 shelters units. Each unit can accommodate between 2-4 sleepers, depending if it is a ground-level accessible unit, or a second-storey unit. If we were to assume 2 people in each accessible unit, there would be shelter for 86 people. If we were to assume 4 people in each second-storey unit, there would be shelter for up to 636 people. It is important to note: many who currently sleep under the highway do so in groups, so the intervention is modelled after a group unit mentality. Shelter unit and service station distribution across the site is illustrated in figure 86.

Above the highway, across from each stair point, rain water collection systems will provide users with additional drinking fountains. Radiating out from the new access points, new edge conditions allow for vertical gardens and hanging chairs. These nodes of new amenities are embraced by new arches spanning the highway.

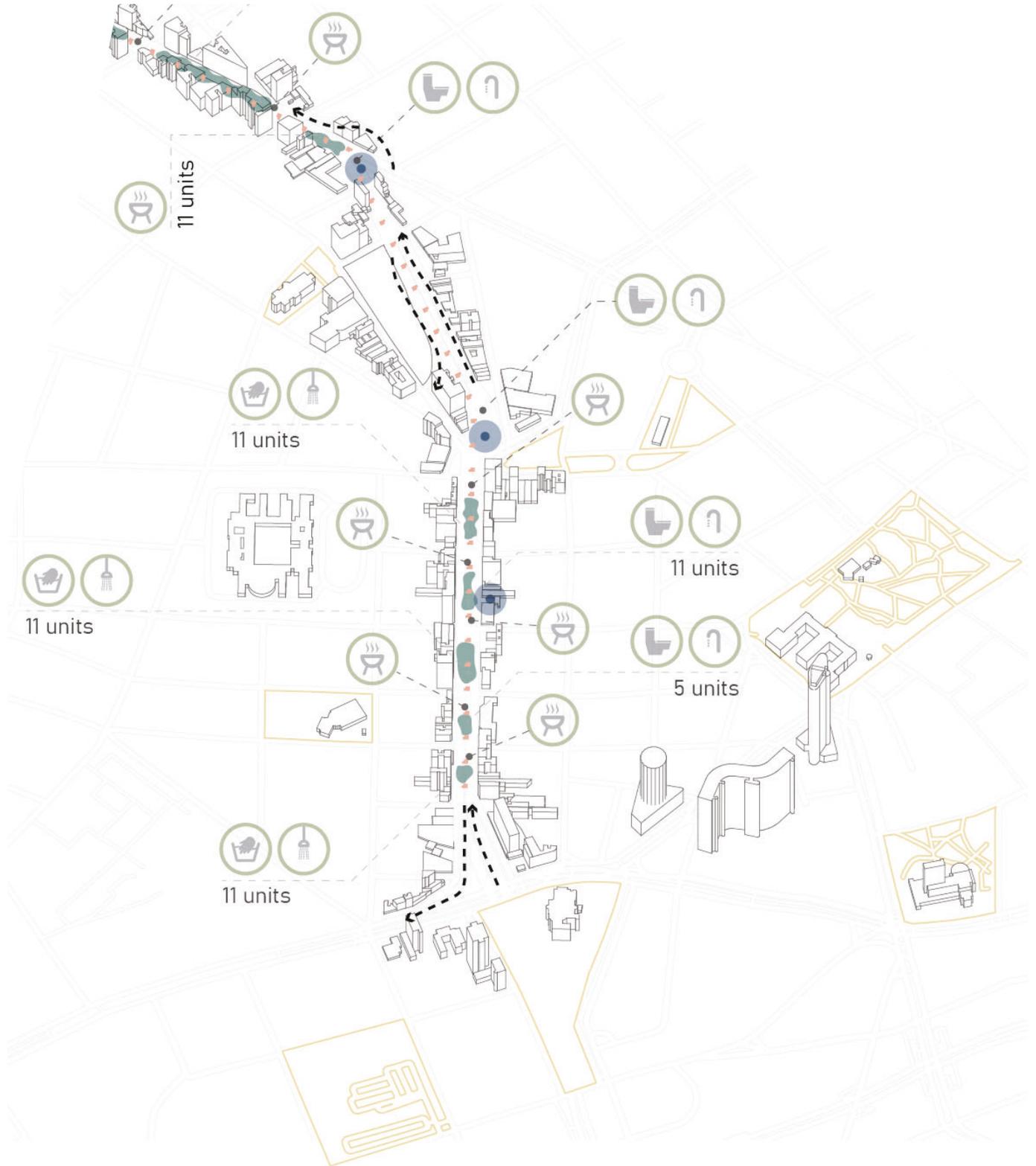


fig. 87 enlarged: distribution of shelters and new services across site

Traffic Distribution

Many sections along the Minhocão have 2-3 lanes of traffic travelling in each direction on the ground level, and another two lanes on top travelling in each direction. Companhia de Engenharia de Tráfego (Municipal Traffic Engineering Company) has performed studies to assess the nature of traffic in relation to the Minhocão. Their findings suggest that many commuters have already opted to use the Marginal do Tietê expressway instead, and therefore existing routes could absorb any diverted traffic from the Minhocão.¹⁰ More specifically, in a study looking at the closing of the most eastern stretch of the highway from Praça Franklin Roosevelt to Largo do Arouche, it was found that commuting during the morning rush hour would only be 0.09 minutes longer.¹¹ Given these results, a gradual deactivation to the highway by closing it in sections would give the driving population a chance to adjust to the changes. The same changes can be made for the ground level traffic. While decreasing traffic lanes might be an unthinkable proposition for many, I remind the sceptics that with the addition of roads, traffic grows to meet the supply.¹² Although reducing the supply to local traffic below might also take some adjustment, it is to the benefit of the local users to have a more equitable proportion of sidewalk space to traffic lanes. For this proposal, I am suggesting sections of the 3-lane traffic at ground level be reduced to 2, so the median space can grow. Some traffic from the existing 3-lane sections will be absorbed by alternate parallel routes, to accommodate the reductions to 2-lanes.

This expansion means the precarious existing bike lane can move out from the edge of the highway piers, to a properly spaced, 2-way bike lane. The existing bike lane configuration has been implemented in the tight leftover space in the median, and acts as a defensive measure to homeless people who still occupy the precarious space between lanes. The new extension almost doubles the sidewalk width that will accommodate

the new shelters, a safe distance between cyclists and car traffic. By taking some space from the overwhelming traffic scene, and redistributing some to the median space, there becomes a fairer distribution of circulation space for both cars and foot traffic.

Tightening up the street section by decreasing the number of lanes, and improving the bike lane immediately offers a safer zone for people occupying the median. The median is transformed from an island within a sea of traffic, to a neighbourhood hub within a greater network of people moving across the space and across the city. The elevated nature of the Minhocão highway acts as natural weather protection. Using this space to its advantage, shelters, infrastructural services, and cycle lanes are protected from both the scorching sun and heavy rains in the summer months. This is one reason homeless people have tended to congregate under it already: it is a place of refuge. Many public spaces in the city are without shade and rain protection, so as the space evolves, it will continue to offer refuge to the neighbourhood, and allow for protected, open-air cultural production. Performers and people-watchers alike can move under the highway, as they already do above. Having services below enhances the whole section of the highway and street, strengthening the relationship and interdependence of above and below.



fig. 88 people sleeping between bike lanes

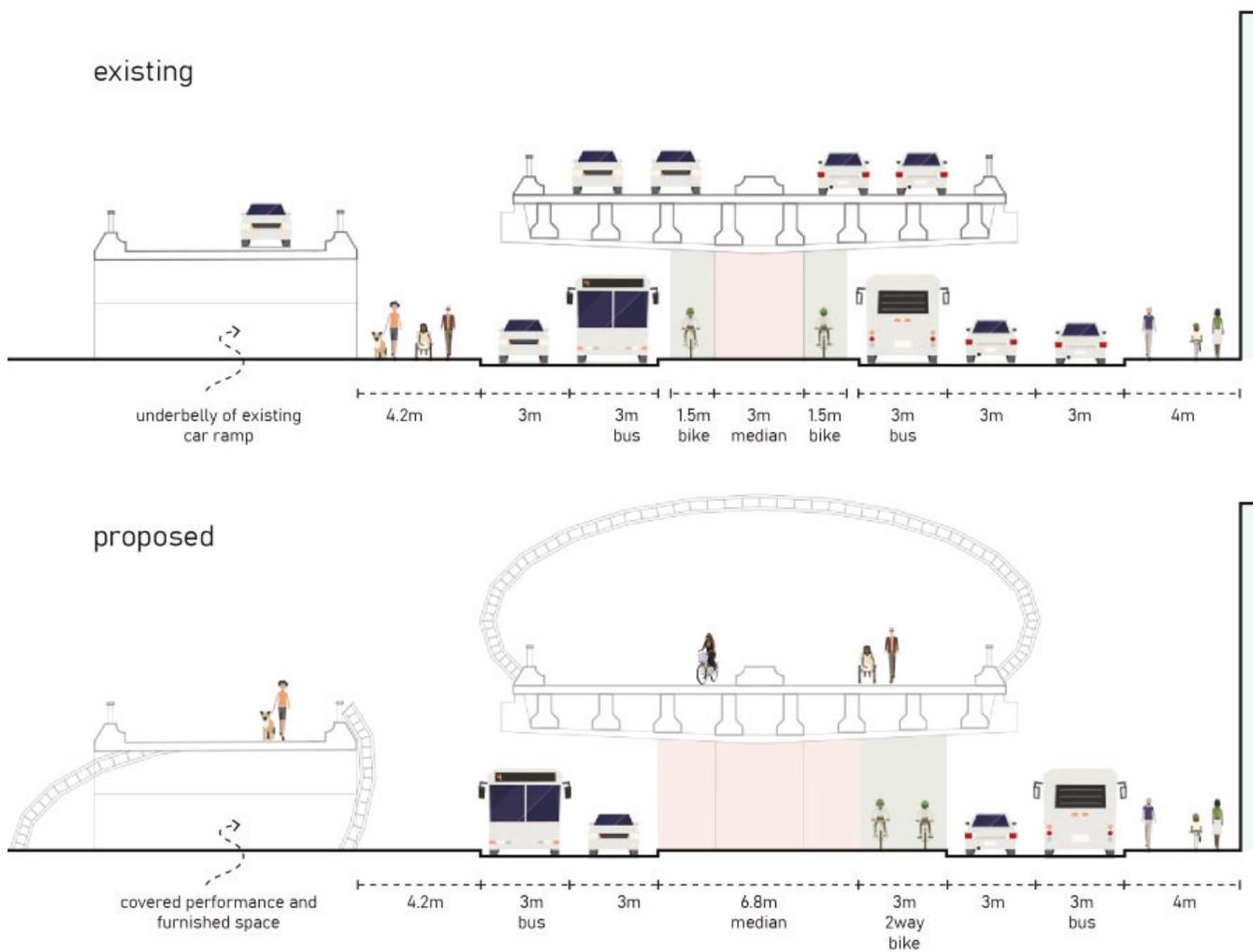


fig. 89 changes to Avenida General Olimpio da Silveira

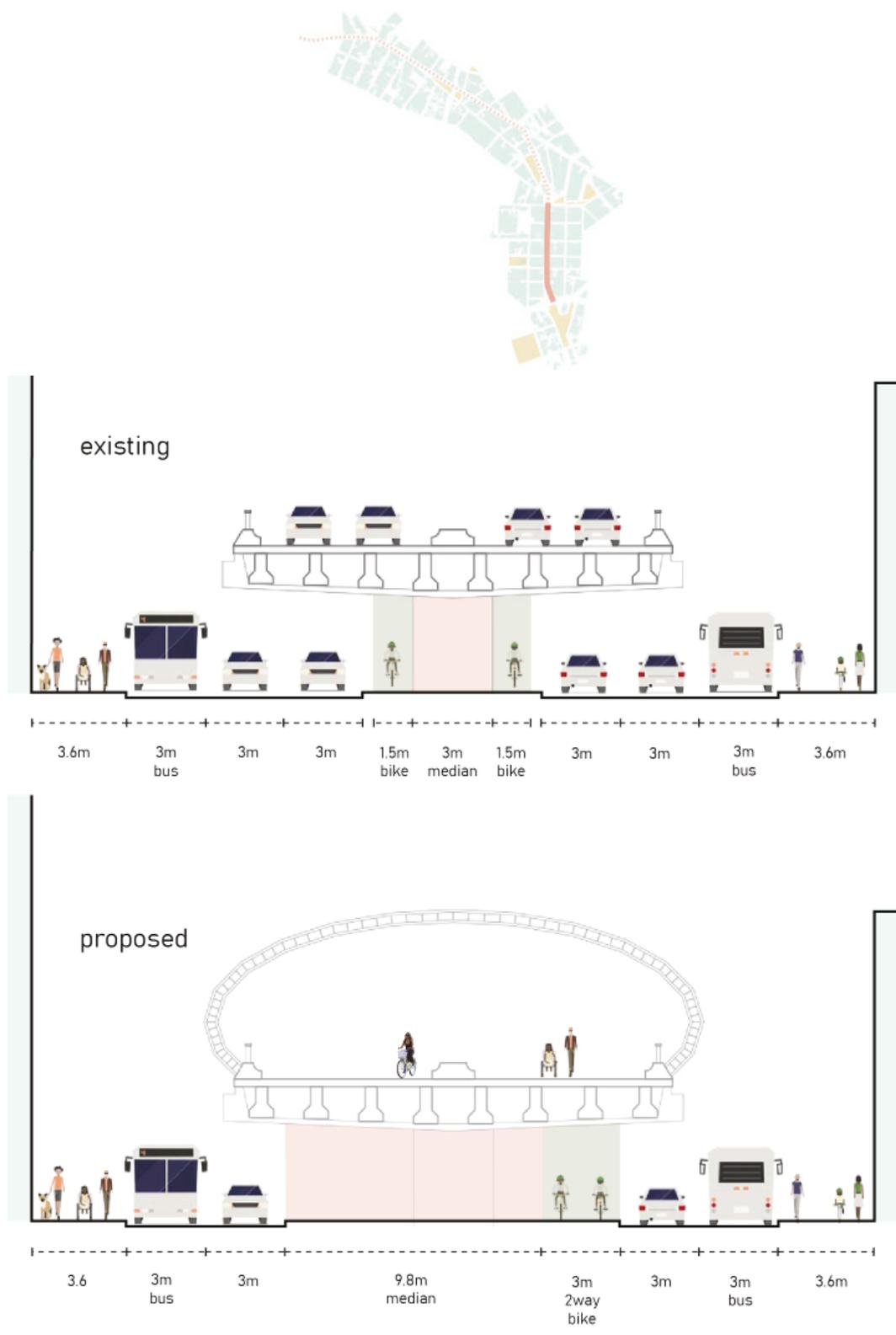


fig. 90 changes to Rua Amaral Gurgel



fig. 91 alternate routes

Form Inspiration

The nickname for the Minhocão translates in English to “earthworm.” The form of the repeating arches is in keeping with the ribs of a worm, and the ribs occasionally touch down to the ground at new access points, just like an earthworm bores through the ground before resurfacing.

The arches serve as a rhythmic framework to support nodes of activity where users can practice agency along the project, and they also serve as a visual reference to where one can find the next node of services along the highway.

Above: Traversing the worm

The major architectural contribution above the Minhocão is its arches. They work to reframe the perception of the site, but also expand the nature of its use by enveloping new spaces to appropriate. The arches are made of triangulated metal trusses, which span the highway in an elliptical fashion, and are mounted to the edge of the highway structure. The height of the arches accommodates road traffic until the city fully deactivates the highway. There is a clear driving height of 4.4 meters, to work in conjunction with the tunnels at the southern end of the highway. The installations within the arches are designed to stay clear of current driving lanes. When traffic is fully removed from the top of the Minhocão, runners, cyclists, and skateboarders will continue to enjoy the space provided in the existing lanes. Connections can be made between adjacent arches to operate as different programmatic zones along the project.

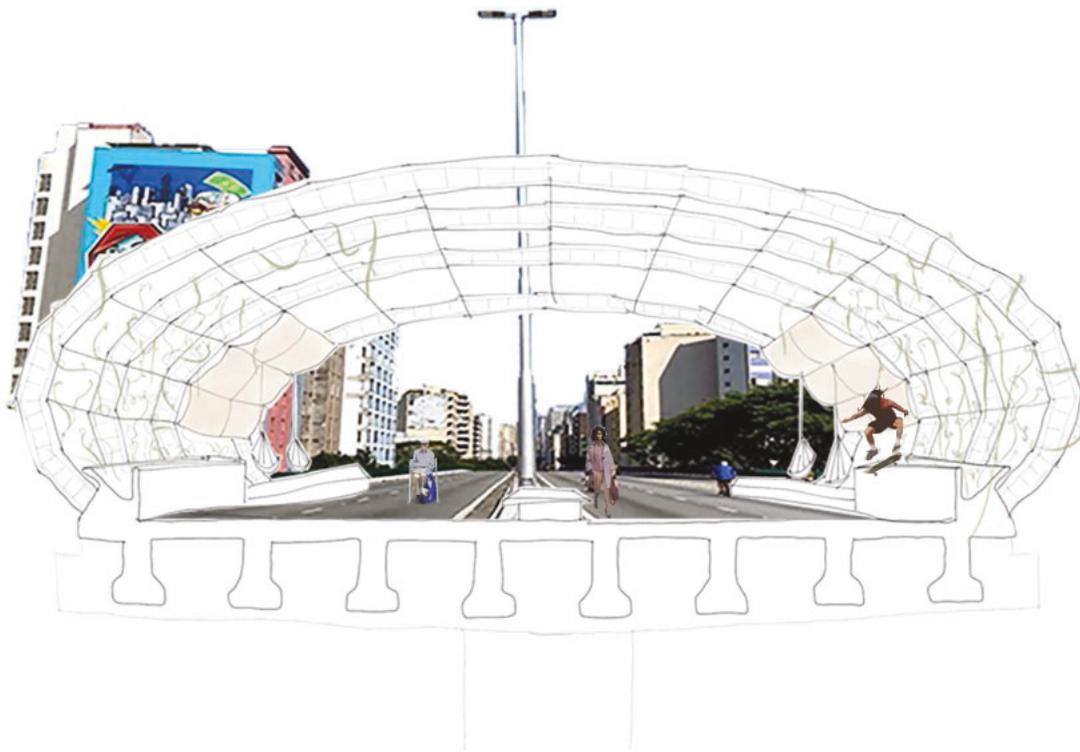


fig. 92 arches framing the Minhocão

Three different scenarios exist nestled along the edges of the arches: water collection at stair/elevator accesses, planters, and deployable hangouts.

Across from each stair/elevator location, water collection zones are situated so one can find drinking fountains. At the water collection zones, fabric spanning the arches will help guide moisture from the heavy rains into the collection tanks. From there it is filtered through gravel, charcoal, and sand to become drinking water. Rain water collection is the primary source for drinking fountains situated above the highway, but plumbed drinking water is also found at toilet locations under the highway. The collection tanks are fit into a concrete face which hosts taps for recreational users to dispense their water.

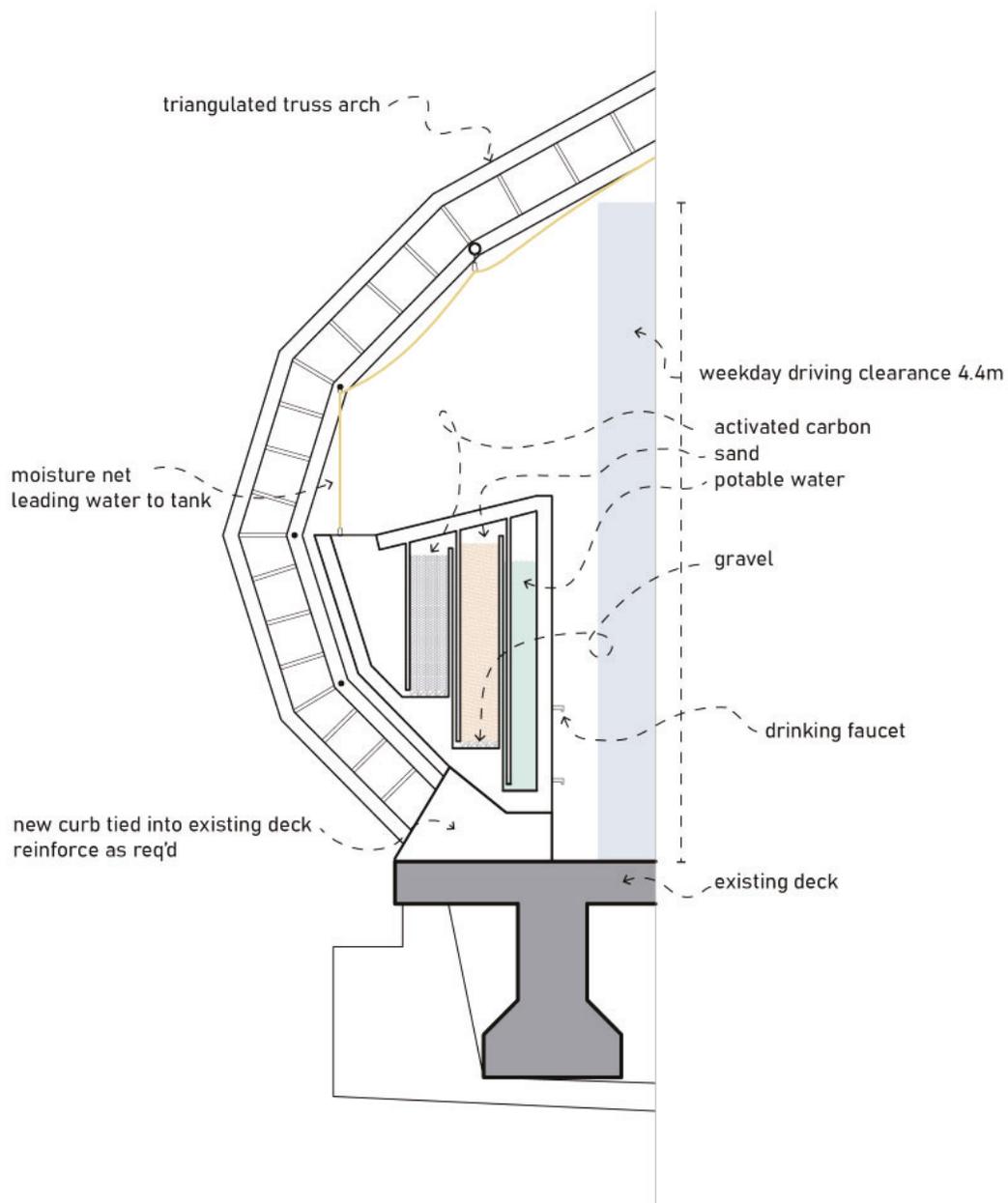


fig. 93 water collection detail

Between stair locations, sections of planters and deployable hangouts are dispersed. The planters involve a new curb to be tied into the existing deck, which will act as the planter box for soil. Spanning the arches, mesh is available for plants to climb, providing greenery to the site. The vegetation at these locations will also help mitigate the noise and environmental pollution associated with hours of traffic usage. This is a benefit for both the neighbouring apartments and the new shelter zones below the highway. The plant screening mechanisms will also benefit the neighbouring apartment residents. While they require less need for sunlight protection, vertical gardens will benefit them as well as it can help increase privacy, and reduce noise and particle pollution.

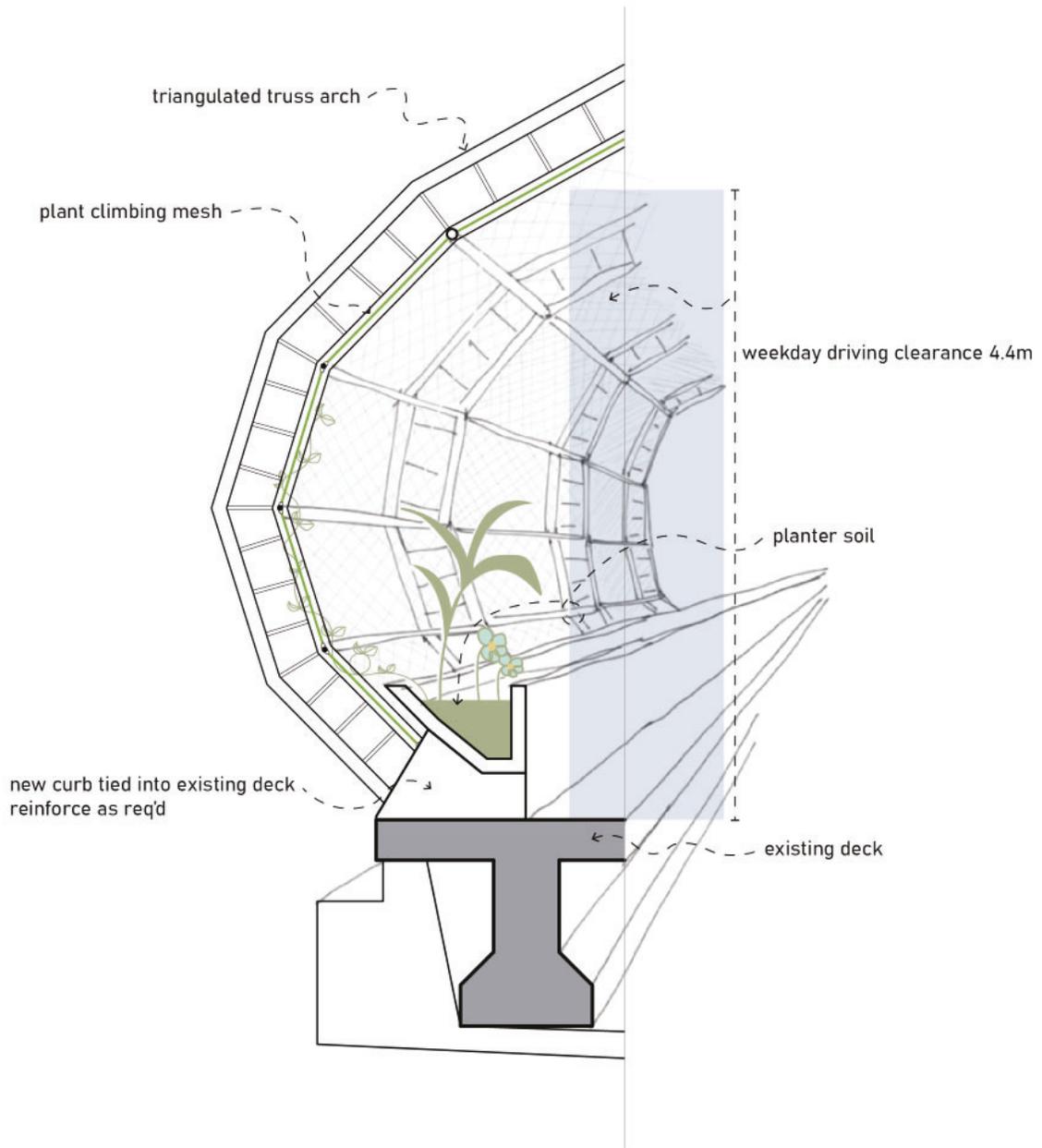


fig. 94 planter detail

Sections of deployable hangouts will include kinetic furniture to engage users, such as swing chairs and hammocks. This space becomes a more relaxing environment where one might pause and stay a while, rather than using the highway for sport. Above the deployable hangouts, canvas shades are hung from the arches. The shades are operable so users can exercise agency by changing the conditions of the space to meet their needs. Offering areas of refuge from the sun is an important tool to increasing the accessibility to the space, in terms of protection against sunburn and overheating.

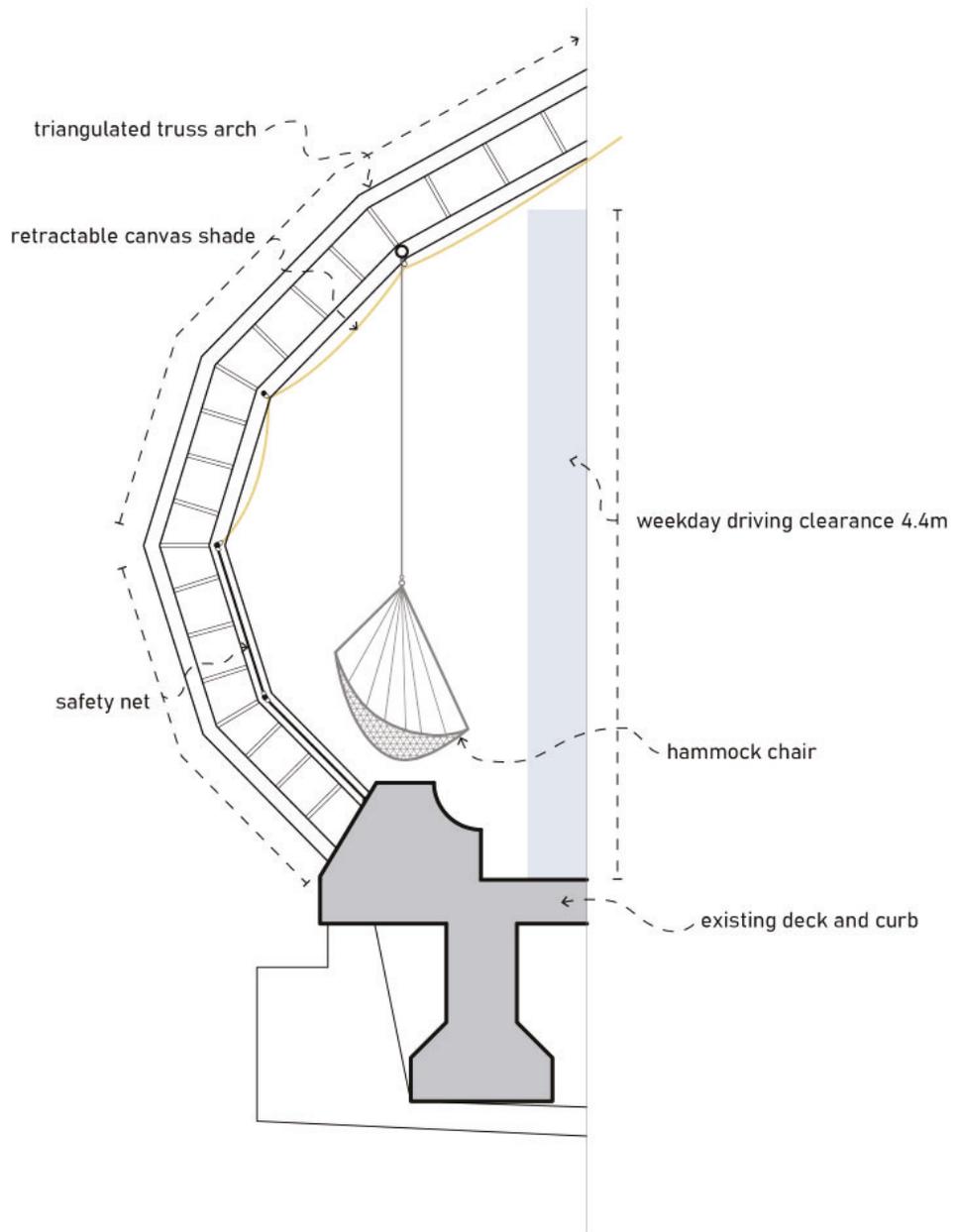


fig. 95 deployable furniture detail

The center median along the length of the highway is also populated with installations. To supplement the deployable hangout furniture, static accessible seating with standard seat heights and depths will be available along the center median for those with mobility issues. The median is also a suitable place to introduce static areas for sunbathing. Wi-Fi and charging kiosks will occasionally punctuate the median along the static seating, so in a pinch, one can access a recharge. The kiosks will also double as locations where users can access emergency help.

Different coloured arches denote the program and service offered beneath, so users can identify the services ahead from afar.

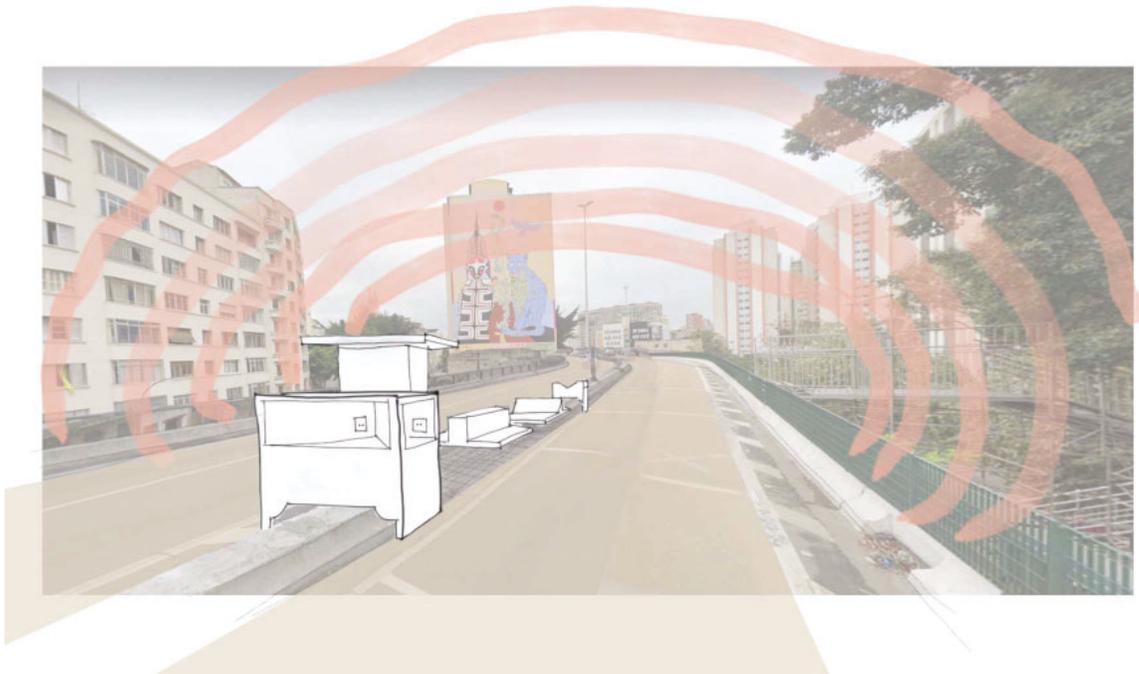


fig. 96 median installations: charging kiosk, static seating, waste bins

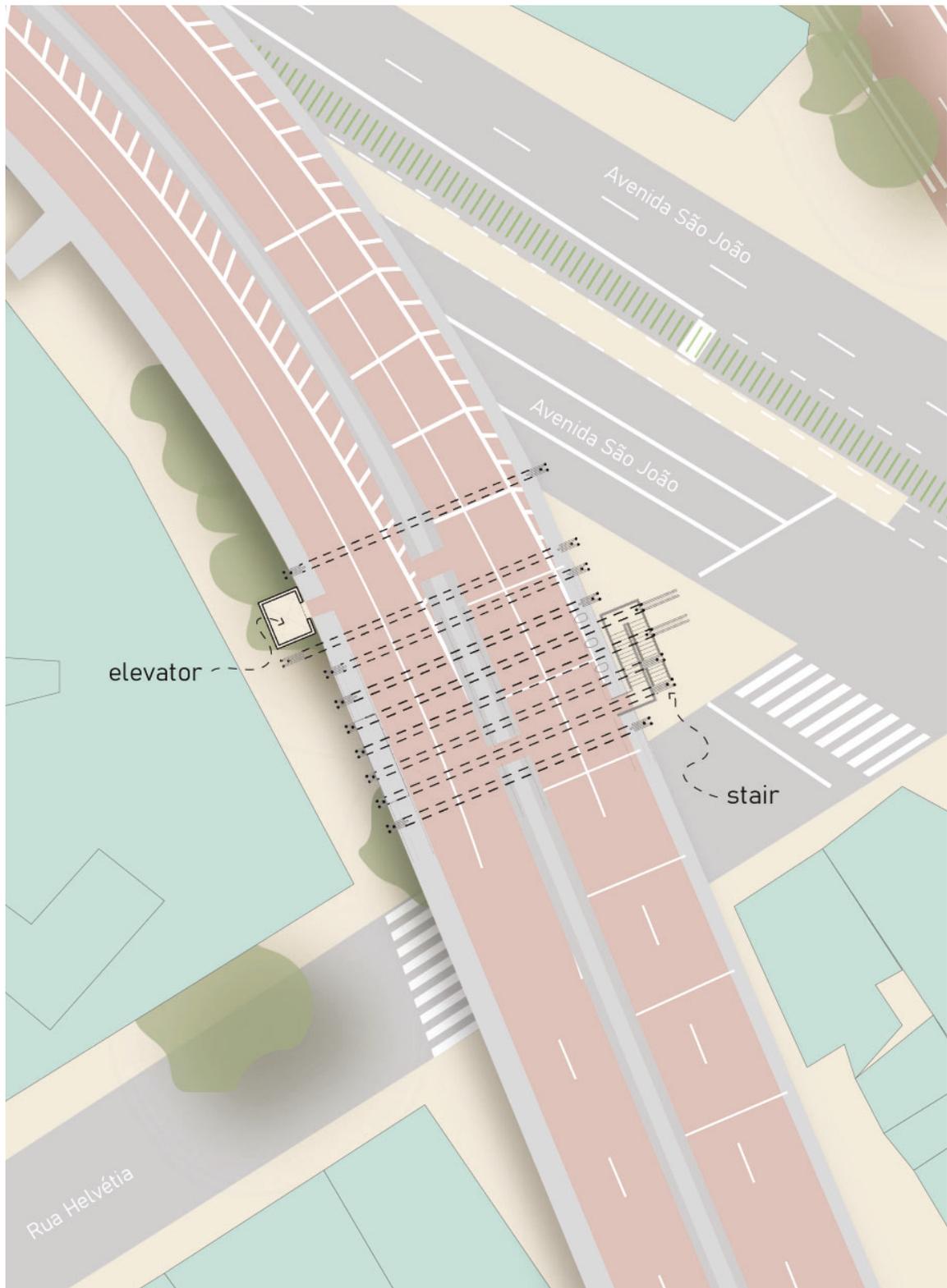
Mid: Climbing the worm

fig. 97 new access point example: Av. São João

Arches dive off the side of the Minhocão and bore into the ground creating vertical connections between above and below. Stairs and elevators are found at 4 locations as previously mentioned. The relationship between the stair is meant to be complimentary in their locations, however, their proximity to one and other is not always the same. In some sites, the elevator is opposite the stair, while in others they are side-by-side. It is more important that there are 2 modes of access than their proximity to one and other. To indicate the particular series of arches is denoting a vertical connection, all stair/elevator arches will be marked with the same colour.

The stair is constructed from steel and is hung from the arches cascading off the edge of the Minhocão. Lights line the arches to the ground to illuminate the stair area for vision and safety. The guards of the stair volumes utilize a similar mesh to that which frames the planters for vines to climb.

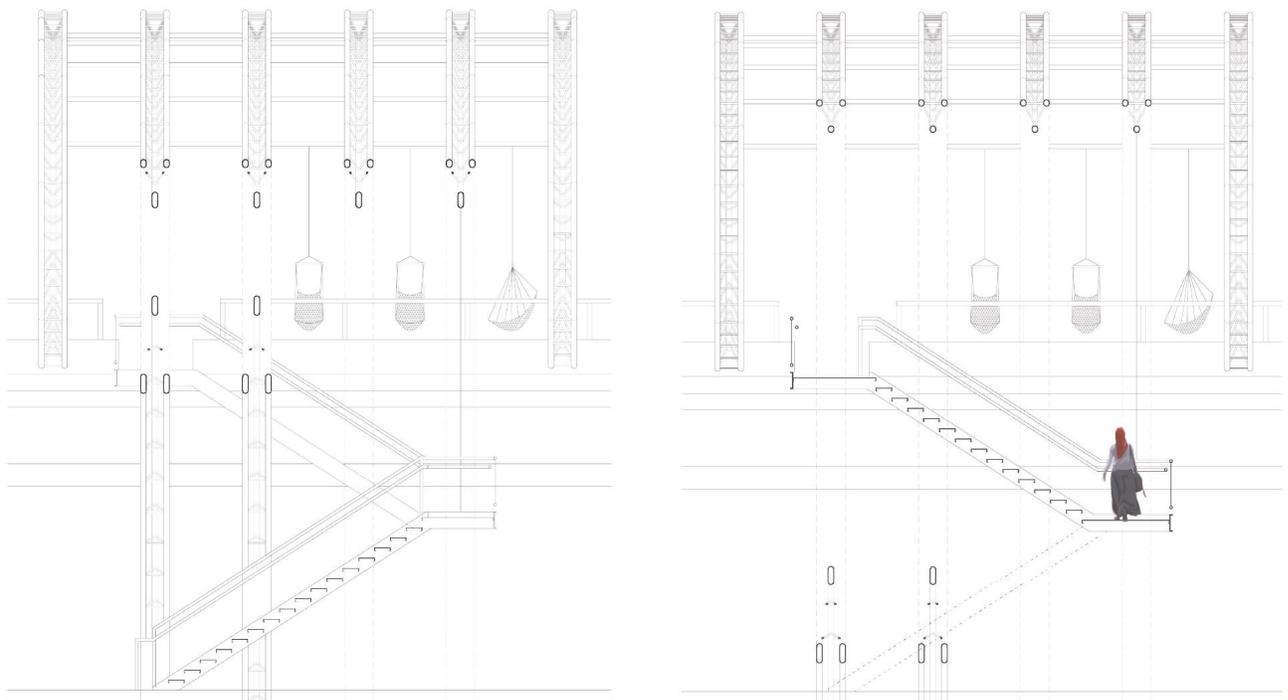


fig. 98 stair sections

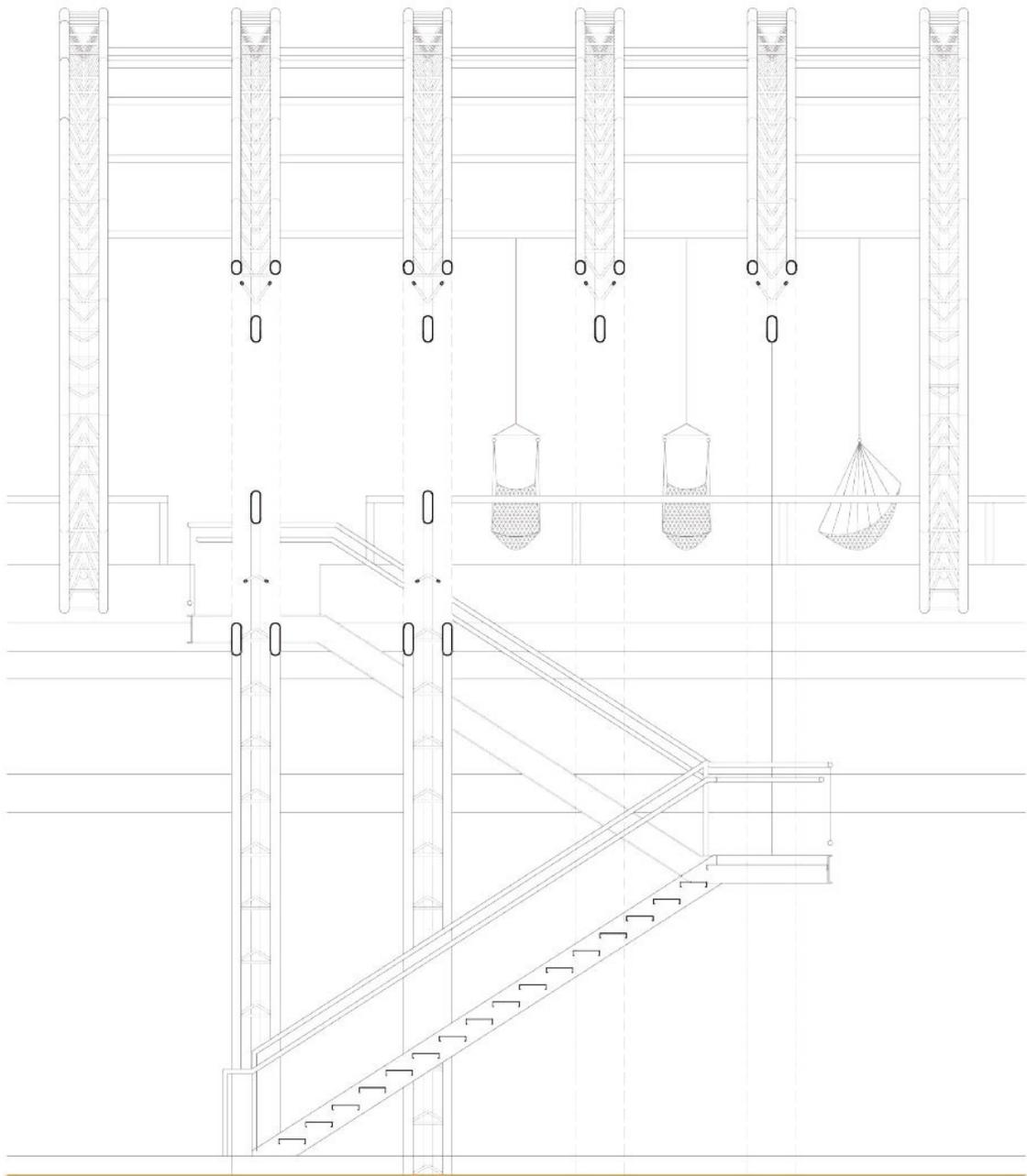


fig. 99 enlarged: stair section

To provide inclusive, safe access to the top of the Minhocão, the vertical connection locations will include an elevator. While car ramps will remain for pedestrian use, they will also be useful in the event that an ambulance is necessary. However, in non-emergency situations, the elevators will accommodate space for transporting people via stretchers. Built with steel, the elevator will be clad with glass block, and illuminated at night.

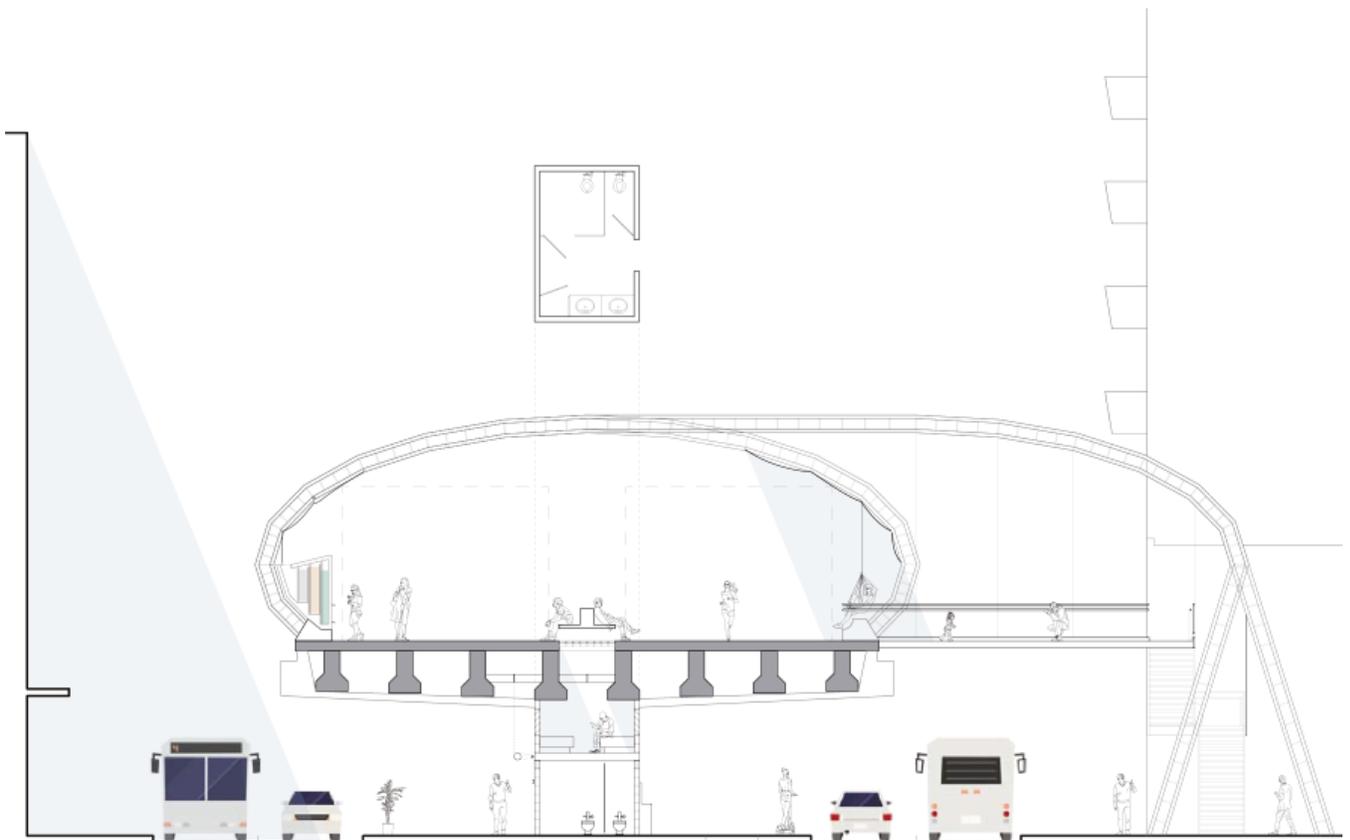


fig. 100 cross section through toilet, second-storey shelter, stair access, and water collection

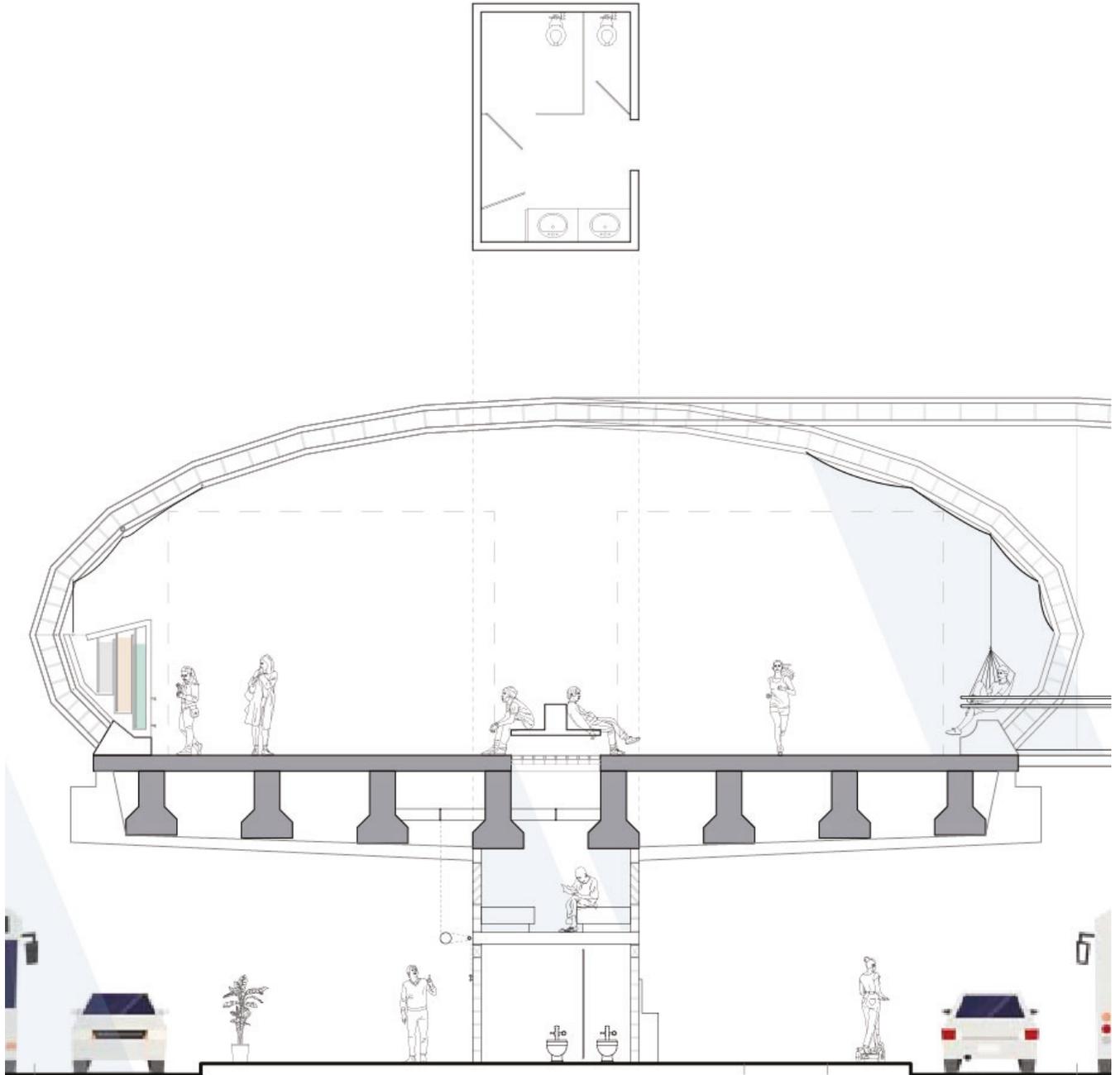


fig. 101 enlarged: cross section through toilet, second-storey shelter, and water collection

Below: Heart of the worm

The network below the Minhocão is at the heart of bringing the project alive. Without helping those in the neighbour experiencing difficult circumstances, there is no real way forward for the community or the site. The network below the highway is outfitted with a series of programs which are open to the public and to support those living in the local public realm. These public programs, which occupy the expanded median, include toilet stations, laundry and shower stations, and cooking counters.



fig. 102 shelter massing among the expanded median

All toilet stations include an accessible stall to accommodate users with mobility difficulties, including allowances for wheelchair radiuses. Mirrors, handwashing sinks and wastebins will be included in each toilet station, as well as storage for cleaning supplies. Outside each toilet station drinking fountains will be installed, so one can use the washroom and rehydrate in one trip.

Laundry and shower stations are centers for washing: washing clothes and washing oneself. The laundry section will have laundry basins with washboards for handwashing clothing. Wall mounted soap dispensers are provided for laundry detergent. The shower section consists of shower and change stall units. Soap and shampoo are also included in the shower via wall mounted dispensers. Just like the toilet stations, the laundry and shower need space for cleaning supplies, and storage for replenishing dispensers. Both the toilet and laundry stations are built using concrete and clay brick.

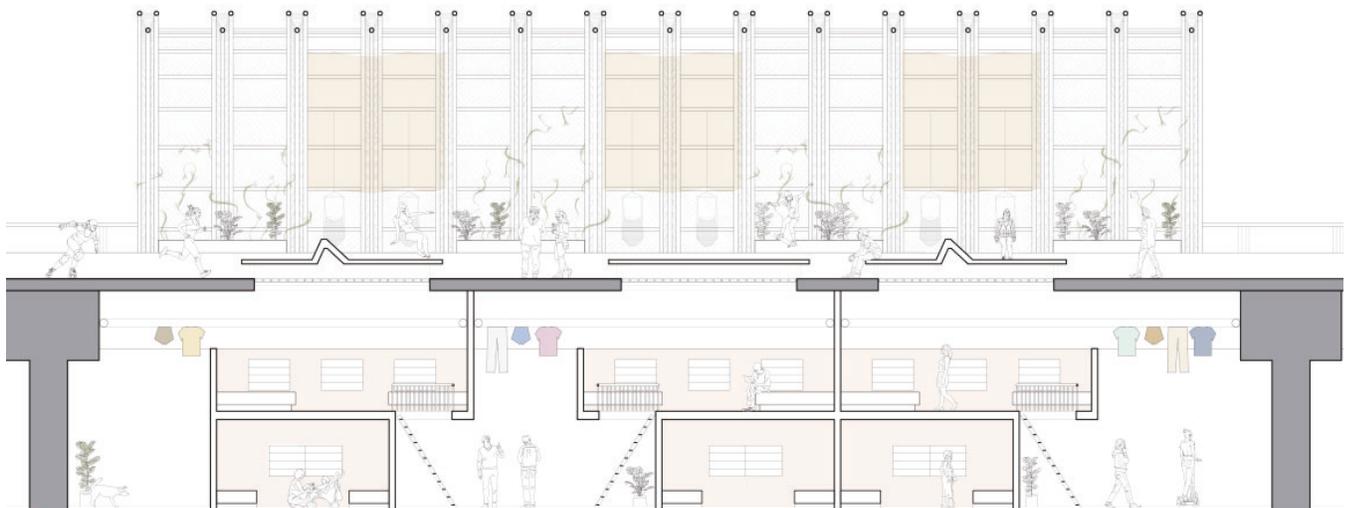


fig. 103 longitudinal section: shelters below, framed public space above

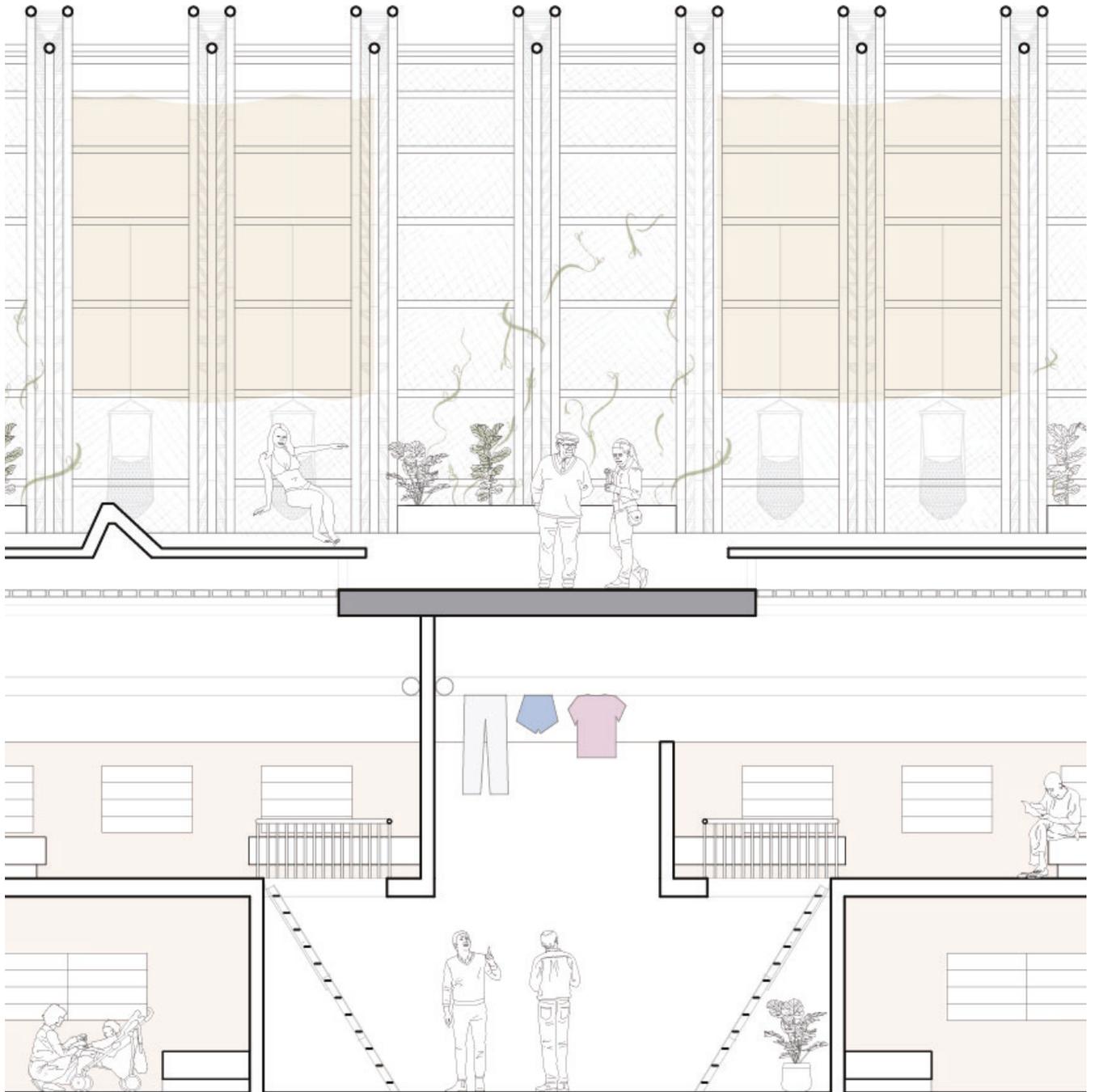


fig. 104 enlarged longitudinal section: folding ladder to second-story shelter; alternating shaded zones and climbing vines above

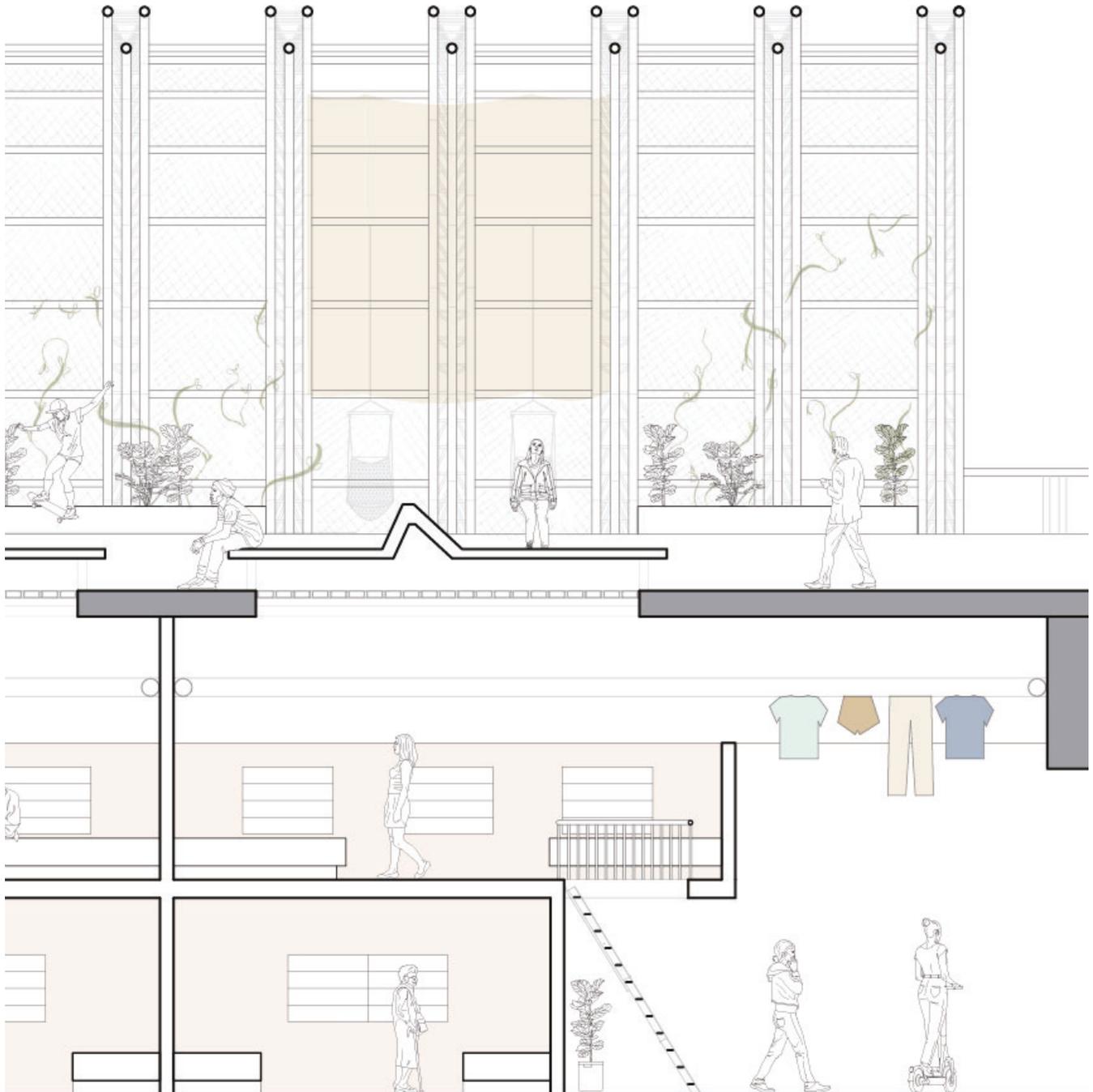


fig. 105 enlarged longitudinal section: clothesline, glass block above second-storey shelters and below static furniture

Cooking counters are open air areas where neighbours can come together to cook a meal together. Concrete counters are outfitted with a grill area, fume hood, and a sink for washing up.

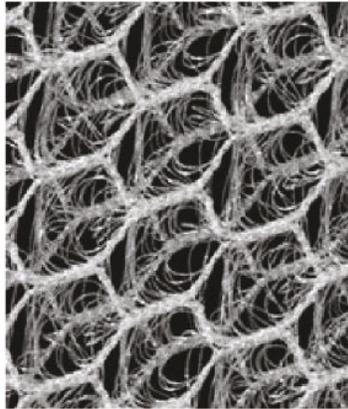
Integral to the network of public programs, shelter spaces are provided to those willing to care for the programs. The shelters are constructed much like the other stations. However, these spaces use two storeys, and in some cases, land on top of the other stations. The goal here is to provide the greatest number of shelter spaces for the locals in vulnerable situations. Some shelters are reached via a folding ladder, but others are at grade for accessible units. Each shelter is designed to be shared: 2-3 people per unit, with about 6.5 square meters each person. It is important to note, that many who currently sleep under the Minhocão do so in groups, so the intervention is modelled after a group unit mentality. Each unit has operable windows for ventilation, and electricity for lighting and outlets. Upper storey shelters have glass block sections installed for extra light where the existing median is positioned. Clotheslines also begin to populate the space given that users will handwash their belongings at the laundry station. The clotheslines also bring another spatial layer to the space as one of dwelling in the public realm, adding colour and texture to the neighbourhood. Although the median space is already well lit at night, darkened areas can be illuminated with additional lighting mounted within the beam space.



canvas shade



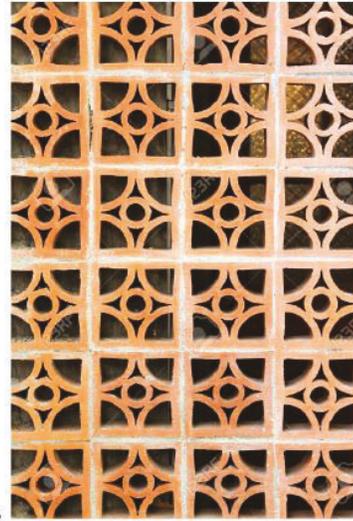
safety net



moisture net



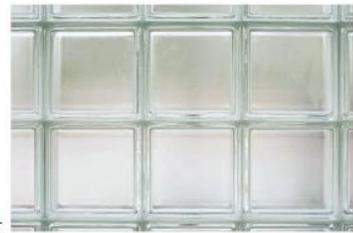
plant climbing mesh



shared spaces



privacy spaces



light transfer

fig. 106 material catalogue

Speculative Futures

While the structure and facilities of this project are predetermined, it is imagined the local community will contribute to the finishing of the spaces and the evolution of the social infrastructure. There is plenty of opportunity for users to contribute to the design of the shelters and support stations by cladding them in tile, plaster, and art. As



fig. 107 possible futures of shelters growing to on top of the highway

people settle in to the new transformations they may add planters, street furniture, and sculpture. It is expected that users of the space will continue to mark the site. Just as the space was already a surface for art and graffiti, its new surfaces will also welcome this appropriation, as it is just another way people can exercise resistance to occupy space and express themselves.

I envision the project to wholly evolve over the rest of its lifespan. Just as an earthworm can grow new tails if it becomes severed, the Minhocão will still thrive as it is punctured, altered, and grows appendages over time. The arches above the highway provide a framework for the manipulation of the space. The use of the space might change daily and over time. Materials can be attached and detached to transform with the program. Weekend vendors might begin attaching products to the structure rather than selling from carts – a pop up shop. Artists might install hangers to display art – an open-air gallery. Circus performers might suspend themselves from the frame – a stage.

With the success of the shelter program, growth will become a natural inclination. The density of shelters can multiply and mutate through and above the highway structure, piling to new configurations above the Minhocão. The network of community living below will expand and create additional neighbourhood zones above.

As inspired by the case study projects of Pitanga do Amparo and Jamie Lerner, as the Minhocão's neighbouring buildings are modified and new buildings are constructed, they can grow to connect to the upper deck of the highway. Expanding connections at multiple levels engages the site with even more complexity.

Conclusion

Investing in our public spaces will only be better for everyone, if we gear the services to those who need them most. Our populations in the most vulnerable situations spend most of their time in public spaces, and yet these spaces have not been designed to include them. Investing in people experiencing homelessness can also be a way to invest in public space if we get creative, trust, and give everyone some responsibility.

The reimagining of São Paulo's Minhocão is an exercise in reclaiming interstitial space to alleviate spatial injustice. Providing access to shelter in a space predominately occupied by traffic for so long is about giving back to those who are underprivileged as a result of the violence of commodification and privatization. The establishment of these spaces reaffirms this space as one of belonging and legitimacy. The attainment of a sense of belonging is a strong tool for mobilizing action and perspective. Belonging fosters exercising agency, and with this the continued confidence in the appropriation of the site.

Paulistanos coming to the Minhocão for recreation purposes also benefit from the same facilities which promote personal hygiene and belonging for the shelter residents and the homeless population. The deck of the Minhocão becomes another living room for the city, where shade, Wi-Fi, charging access, and a variety of rest spaces can be benefitted from both of these user groups.

The Minhocão has already become a kind of landmark in its own right. From the elevated highway that tore through the neighbourhood in the late 1960s, to one where today, Paulistanos occupy on evenings and weekends; a path for sport and viewing the city's many murals. The transformation of the Minhocão could be so much more. It could be a landmark, not only demonstrating the current resistance in the city, but also one of coexistence. An evolution from the era of car domination, to a coexistence of various

pedestrian users, regardless of status.

Operating within interstitial spaces as a means to stake claim for homeless people might be criticized as relinquishing the claim for core spaces within the city. However, public spaces within cities need to be protected for homeless people and non-homeless people alike; access to good interactive outdoor space is important to maintain. According to the 2014 master plan, “All existing and planned parks are now a Special Zone of Environmental Protection [and therefore,] the appropriation by the real estate market of these particular areas intended to be future parks is prevented.”¹³ The same logic might be ruled for public shelters; taking space from parks and squares for shelters would mean less public space for everyone. This is why working within an interstitial framework acts as a solution which is complementary to public spaces of leisure, especially in this particular project of the Minhocão, since it shares a floor/roof.

While the 2014 master plan also says that there will be more affordable housing due to the new requirement that developments must donate 10% of their built area if the project is over 20,000 m²,¹⁴ there is still a need for a variety of housing options. The Minhocão proposal is a supplementary option that intends to be more financially attainable for basic shelter.

The project here uses the case of the Minhocão because it is a piece of historically contested infrastructure; one that the city is actually considering changing. However, the city and other proposals, as discussed, do not account for the homeless population, whereas this proposal shows how the interstitial space associated with the project could. The realism of the political and social debates of the highway made for an inspiring test subject, but most importantly, I was able to use the real-life narrative and local imaginings of the highway to explore the potential of addressing public shelters in conjunction with public space. I hope this example could be an inspiration and precedent

for other pieces of interstitial structures and spaces in relation to public spaces in the future.



fig. 108 Minhocão: untapped potential

- 1 Mabelle, Ingrid. *Documentário Ponto de Vista*, at 22:37.
- 2 Fierro, “Revolutionary Politics of Social Rights?” 415.
- 3 Personal tour, January 2020.
- 4 Personal tour, January 2020.
- 5 Sotto, “Parque Minhocão, São Paulo – Brazil,” 1901.
- 6 Mabelle, Ingrid. *Documentário Ponto de Vista*, at 22:12.
- 7 For every 10 thousand women aged 20-59, the victims of violence coefficient for the whole city average is 227.4. Sé is the worst at 750.5, República between 310-515, Barra Funda between 49.4-220. – Rede Nossa São Paulo, “Mapa Da Desigualdade 2021,” 29.
- 8 For every 10 thousand people, the victims of racial violence coefficient for the whole city average is 1.66. Sé is the worst at 13.1, República and Barra Funda each between 2.1-13.1. – Rede Nossa São Paulo, “Mapa Da Desigualdade 2021,” 32.
- 9 For every 100 thousand LGBTQIAP+ people, the victims of violence coefficient for the whole city average is 1.9. Sé and República each between 11.0-23.7, Barra Funda between 0.4-5.0. – Rede Nossa São Paulo, “Mapa Da Desigualdade 2021,” 31.
- 10 Sotto, “Parque Minhocão, São Paulo – Brazil,” 1899.
- 11 Secretaria Especial de Comunicação. “Prefeitura Inicia Nova Etapa.”
- 12 O Estado de SP, “Disputa Por Espaço.”
- 13 Haddad, “São Paulo Strategic Master Plan,” 18.
- 14 Haddad, “São Paulo Strategic Master Plan,” 6.

BIBLIOGRAPHY

- Agência Brasil. “Capital Reserva 14 000 Doses Da Janssen Para População Em Situação de Rua.” VEJA SÃO PAULO. Accessed July 5, 2021. <https://vejasp.abril.com.br/saude/capital-reserva-14-000-doses-da-janssen-para-populacao-em-situacao-de-rua/>.
- Anelli, Renato. “URBAN PLANNING, URBAN DESIGN AND ARCHITECTURAL DESIGN IN SÃO PAULO DURING THE MILITARY REGIME.,” 11, 2012. <http://www.usp.br/fau/iphs/abstracts-and-papers.html>.
- Angotti-Salgueiro, Heliana, and José Geraldo Simões Junior. “Crossing Histories: Brazilian Planners of São Paulo and Their Transnational References (1910-1930).” *Urbe. Revista Brasileira de Gestão Urbana* 12 (2020): e20190116. <https://doi.org/10.1590/2175-3369.012.e20190116>.
- Baratto, Romullo. “Prefeitura de São Paulo Receberá a Posse Do Terreno Do Parque Augusta.” ArchDaily Brasil, April 5, 2019. <https://www.archdaily.com.br/br/914427/prefeitura-de-sao-paulo-recebera-a-posse-do-terreno-do-parque-augusta>.
- Benchimol, Juliana Furlaneto, Ana Paula do Nascimento Lamano-Ferreira, Mauricio Lamano Ferreira, Tatiana Tucunduva Philippi Cortese, and Heidy Rodriguez Ramos. “Decentralized Management of Public Squares in the City of São Paulo, Brazil: Implications for Urban Green Spaces.” *Land Use Policy* 63 (April 2017): 418–27. <https://doi.org/10.1016/j.landusepol.2017.02.004>.
- Blomley, Nicholas. “Law, Property, and the Geography of Violence: The Frontier, the Survey, and the Grid.” *Annals of the Association of American Geographers* 93, no. 1 (March 2003): 121–41. <https://doi.org/10.1111/1467-8306.93109>.
- Boehm, Camila. “São Paulo Census Reveals Immigrants among Homeless,” 2016. <https://agenciabrasil.ebc.com.br/en/direitos-humanos/noticia/2016-04/sao-paulo-census-reveals-immigrants-among-homeless#:~:text=The%20Homeless%20Census%2C%20published%20by,social%20phenomenon%20in%20the%20city>.
- Brighenti, Andrea. *Urban Interstices: The Aesthetics and the Politics of the In-Between*. *Urban Interstices*. Farnham: Taylor & Francis Group, 2013.
- Brown, Matthew. “Addressing Homelessness in São Paulo.” The Borgen Project, April 2, 2021. <https://borgenproject.org/homelessness-in-sao-paulo/>.
- Caldeira, Teresa P. R. “Imprinting and Moving Around: New Visibilities and Configurations of Public Space in São Paulo.” *Public Culture* 24, no. 2 (2012): 385–419. <https://doi.org/10.1215/08992363-1535543>.

- Caldeira, Teresa Pires do Rio. *City of Walls: Crime, Segregation, and Citizenship in São Paulo*. Berkeley: University of California Press, 2000.
- Carr, John. “Legal Geographies—Skating Around the Edges of the Law: Urban Skateboarding and the Role of Law in Determining Young Peoples’ Place in the City.” *Urban Geography* 31, no. 7 (October 2010): 988–1003. <https://doi.org/10.2747/0272-3638.31.7.988>.
- Cidade de São Paulo. “Practical Guide,” March 3, 2015. <https://cidadedesapaulo.com/planeje/guia-pratico/>.
- Côrtes, Lara, and Crisleine Yamaji. “Homeless in São Paulo Fight for Drinking Water.” Centre on Law and Social Transformation. Accessed July 21, 2021. <https://www.law-transform.no/news/homeless-in-sao-paulo-fight-for-drinking-water/>.
- Cresswell, Tim. “In Place/Out of Place Geography, Ideology, and Transgression.” University of Minnesota Press, 1996.
- Cruz, Talita. “Minhocão: Conheça a História + 5 Curiosidades Incríveis!” Viva Decora Pro, November 4, 2019. <https://www.vivadecora.com.br/pro/curiosidades/minhocao/>.
- Fernandes, Edésio. “Constructing the ‘Right To the City’ in Brazil.” *Social & Legal Studies* 16, no. 2 (June 2007): 201–19. <https://doi.org/10.1177/0964663907076529>.
- Field Operations. “High Line.” James Corner Field Operations. Accessed January 20, 2022. <https://www.fieldoperations.net/project-details/project/the-high-line.html>.
- Fierro, Alberto. “Revolutionary Politics of Social Rights? An Ethnographic Account of the Homeless Workers’ Movement in São Paulo.” *Millennium: Journal of International Studies* 47, no. 3 (2019): 398–416. <https://doi.org/10.1177/0305829819844313>.
- Foursquare. “Largo Santa Cecília.” Accessed January 21, 2022. <https://foursquare.com/v/largo-santa-cec%C3%ADlia/4dc3477d1f6ef43b89dfeadc>.
- Foursquare. “Praça Olavo Bilac.” Accessed July 24, 2021. <https://foursquare.com/v/pra%C3%A7a-olavo-bilac/4cd2847ddf88a35d7e4269a0>.
- Haddad, Fernando, Nadia Campeão, Fernando de Mello, Tereza Beatriz Ribeiro Herling, and Weber Sutti. “City of São Paulo Strategic Master Plan.” *Prefeitura de São Paulo*, 2014, 24.
- Hennigan, Tom. “São Paulo Begins Implementation of New City Plan.” *Architectural Record*, October 19, 2015. <https://www.architecturalrecord.com/articles/9128-sao-pa->

- ulo-begins-implementation-of-new-city-plan.
- Hochuli, Alex. “The Minhocão Highway of São Paulo: Living with the Big Worm.” *domus*, March 12, 2020. <https://www.domusweb.it/en/architecture/gallery/2020/03/12/living-with-the-big-worm.html>.
- Instituto Brasileiro de Geografia e Estatística (IBGE). “2010 Population Census.” Accessed November 28, 2021. <https://www.ibge.gov.br/en/statistics/social/population/18391-2010-population-census.html?edicao=19720&t=resultados>.
- Larson, Kirsten Mary. “Reading Performative Urban Interventions in São Paulo - Epistemologies and Tactics for Architecture and Planning.” University of California, Berkeley, 2015.
- Lima, Vinícius Luz de, and Candido Malta Campos Neto. “THREE PLANS FOR THREE EMERGING SOUTH AMERICAN METROPOLISES, 1923-1930: ANALYTICAL FRAMEWORKS FOR PLAN NOEL (BUENOS AIRES), PLANO AGACHE (RIO DE JANEIRO) AND PLANO DE AVENIDAS (SÃO PAULO).” 18, 2012. <http://www.usp.br/fau/iphs/abstracts-and-papers.html>.
- Mabelle, Ingrid. *Documentário Ponto de Vista (Minhocão)*, 2016. <https://www.youtube.com/watch?v=FZrgLzHoKeU>.
- Mairs, Jessica. “Fernando Abellanas Hangs Secret Studio under a Bridge in Valencia.” *Dezeen*, August 18, 2017. <https://www.dezeen.com/2017/08/18/secret-studio-under-bridge-fernando-abellanas-architecture-valencia-spain/>.
- Marques, Eduardo Cesar Leão. *Opportunities and Deprivation in the Urban South Poverty, Segregation and Social Networks in São Paulo*. Burlington, VT: Ashgate, 2012.
- Monteiro, Adriana Roseno, and Antonio Tolrino de Rezende Veras. “THE HOUSING ISSUE IN BRAZIL.” *Mercator* 16, no. 7 (July 15, 2017): 1–12. <https://doi.org/10.4215/rm2017.e16015>.
- O Estado de SP. “Disputa Por Espaço Em Uma Cidade Em Transformação.” ANTP - Associação Nacional de Transportes Públicos, July 19, 2015. <http://antp.org.br/noticias/clippings/disputa-por-espaco-em-uma-cidade-em-transformacao.html>.
- Pitanga do Amparo Arquitetura & Arte. “Residência Rodolfo Vanni (Não Construída),” 1987. <http://pitangadoamparo.com.br/images/obras/minhocao/minhocao1.htm>.
- Prefeitura de São Paulo. “Consultation System for the Digital Map of the City of São Paulo.” GeoSampa Mapa. Accessed April 14, 2021. http://geosampa.prefeitura.sp.gov.br/PaginasPublicas/_SBC.aspx.

- Projetar.org. “Imagine Parque Minhocão: 31o Concurso de Ideias Em Arquitetura.” Accessed November 22, 2021. https://www.projetar.org/fotos/20190513_181709_46.pdf.
- Rede Nossa São Paulo. “Indicadores e Referências de Metas Para São Paulo 2013-2016.” Accessed November 22, 2021. <https://www.nossasaopaulo.org.br/portal/files/publicacao-indicadores-e-referencias-de-metas-2013-2016.pdf>.
- Rede Nossa São Paulo. “Mapa Da Desigualdade 2021.” Accessed November 26, 2021. https://www.nossasaopaulo.org.br/wp-content/uploads/2021/10/Mapa-Da-Desigualdade-2021_Mapas.pdf.
- Riberio, Bruno. “Os 6 desafios do Parque Minhocão segundo arquitetos, urbanistas, engenheiros de trânsito e moradores.” São Paulo São. São Paulo São. Accessed July 5, 2021. <https://saopaulosao.com.br/nossos-caminhos/4481-os-6-desafios-do-parque-minhoc%C3%A3o-segundo-arquitetos,-urbanistas,-engenheiros-de-tr%C3%A2nsito-e-moradores.html>.
- Sandler, Daniela. “Correction to: Grassroots Urbanism in Contemporary São Paulo.” *URBAN DESIGN International* 25, no. 2 (June 2020): 137–51. <https://doi.org/10.1057/s41289-020-00123-9>.
- Secretaria Especial de Comunicação. “Prefeitura Inicia Nova Etapa de Discussão Do Parque Minhocão.” Cidade de São Paulo. Accessed July 21, 2021. <http://adm.capital.sp.gov.br/noticia/prefeitura-inicia-nova-etapa-de-discussao-do-parque-minhocao>.
- Secretaria Municipal de Cultura. “Orientações de Uso Dos Espaços.” Cidade de São Paulo. Prefeitura da Cidade de São Paulo, September 23, 2020. <https://www.prefeitura.sp.gov.br/cidade/secretarias/cultura/bma/index.php?p=27559>.
- Shaheed, Riffat, Wan Hanna Melini Wan Mohtar, and Ahmed El-Shafie. “Ensuring Water Security by Utilizing Roof-Harvested Rainwater and Lake Water Treated with a Low-Cost Integrated Adsorption-Filtration System.” *Water Science and Engineering* 10, no. 2 (April 2017): 115–24. <https://doi.org/10.1016/j.wse.2017.05.002>.
- Simone, AbdouMaliq. “The Surfacing of Urban Life: A Response to Colin McFarlane and Neil Brenner, David Madden and David Wachsmuth.” *City* 15, no. 3–4 (August 2011): 355–64. <https://doi.org/10.1080/13604813.2011.595108>.
- Somekh, Nadia, and Cintia Marino. “SAO PAULO PLANNING HISTORY: FROM SANITARIISM TO STRATEGIC PROJECT,” 11, 2012. <http://www.usp.br/fau/iphs/abstracts-and-papers.html>.
- Sotto, Debora. “Parque Minhocão, São Paulo—Brazil: A Case Study on Urban Rehabilitation, Place-Making and Gentrification.” *Revista de Direito Da Cidade* 10, no. 3 (July 25,

2018). <https://doi.org/10.12957/rdc.2018.34025>.

Tripadvisor. “Largo Do Arouche (Sao Paulo) - All You Need to Know BEFORE You Go - Updated 2021 (Sao Paulo, Brazil).” Accessed July 22, 2021. https://www.tripadvisor.ca/Attraction_Review-g303631-d6839730-Reviews-Largo_do_Arouche-Sao_Paulo_State_of_Sao_Paulo.html.

Tripadvisor. “Praça Marechal Deodoro (São Paulo) - ATUALIZADO 2021 O que saber antes de ir - Sobre o que as pessoas estão falando.” Accessed July 24, 2021. https://www.tripadvisor.com.br/Attraction_Review-g303631-d7104431-Reviews-Praca_Marechal_Deodoro-Sao_Paulo_State_of_Sao_Paulo.html.

The Borgen Project. “Addressing Homelessness in São Paulo,” April 2, 2021. <https://borgenproject.org/homelessness-in-sao-paulo/>.

Van Mead, Nick. “Taming ‘the Worm’: How the Minhocão Is São Paulo’s Soul.” the Guardian, December 1, 2017. <http://www.theguardian.com/cities/2017/dec/01/taming-worm-minhocao-elevated-highway-sao-paulo>.

Yeung, Sylvia. “From the Elevated Highway to the Minhocao.” Issuu. Accessed May 27, 2021. https://issuu.com/syeung_sy/docs/thecreature.

Zonta, Ana Paula. “CAMINHAR E DESCOBRIR OS LUGARES: A PRAÇA ROTARY.” *Refúgios Urbanos | Imobiliária em São Paulo/SP* (blog), September 19, 2017. <https://refugiosurbanos.com.br/caminhar-e-descobrir-os-lugares-a-praca-rotary-na-vila-buarque/>.