

The Book of Engagement

A SINGULAR CONTEXT

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Explore Lab 31
Book III - A Singular Context

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On the Singularity of Value

Book III

The Book of Engagement

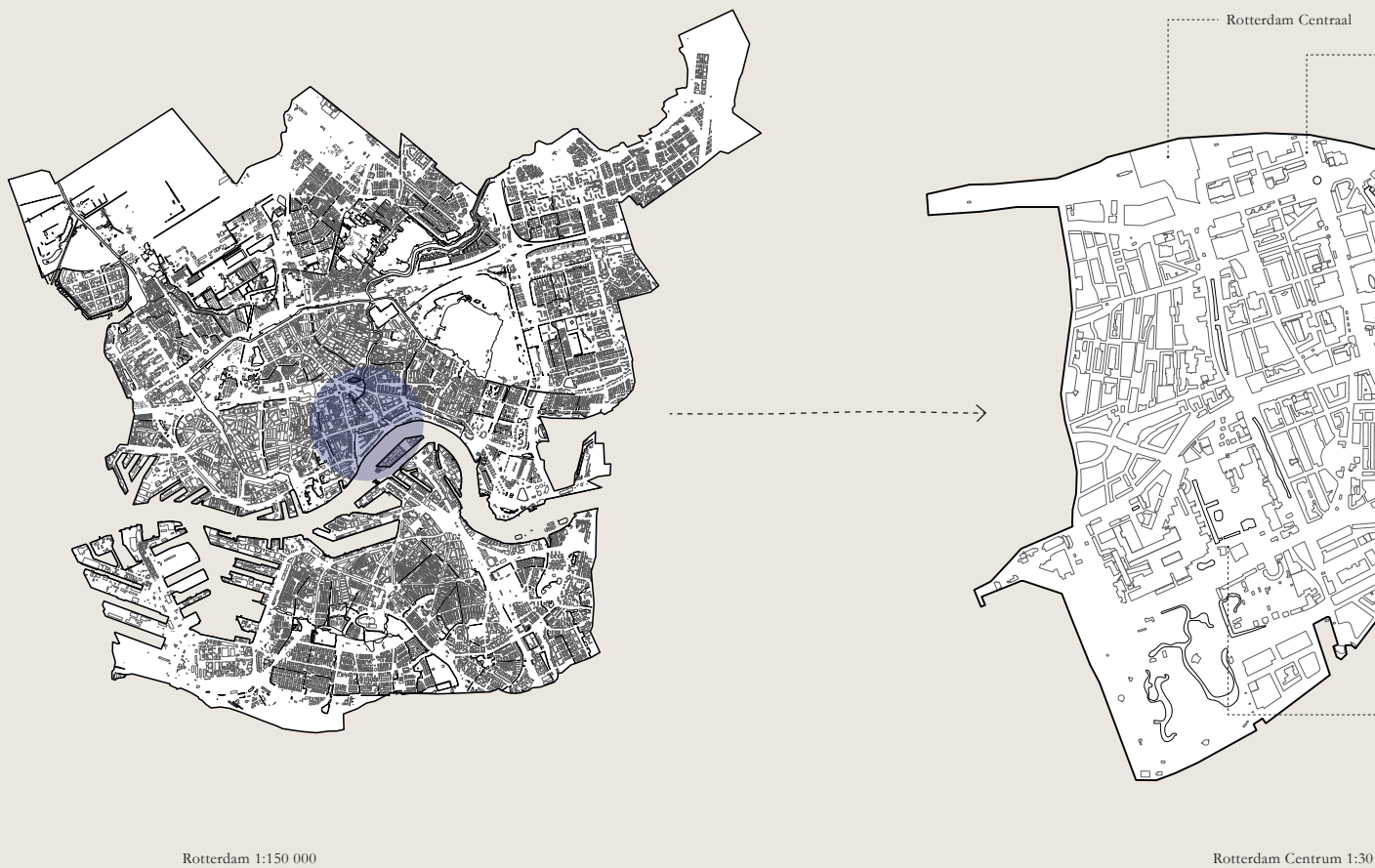
A Singular Context

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ENCOUNTERS

CONTEXTUALIZING THE IN-BETWEEN



01 Spatial Contextualization

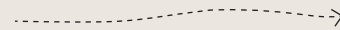
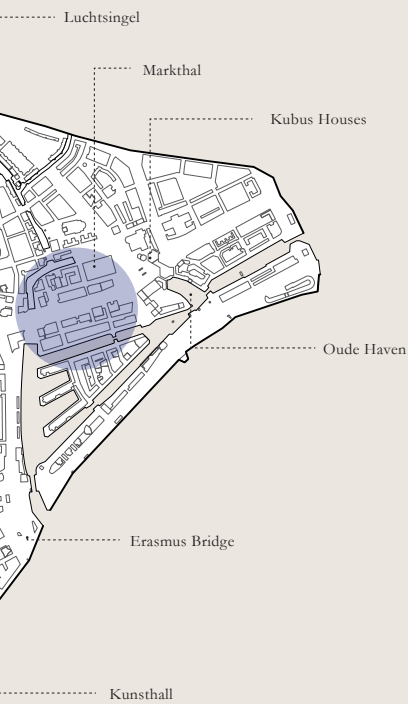
Zoom into the location of the site in question in Rotterdam, focus on different aspects in different scales.

Rotterdam as one of the biggest Dutch cities and open to urban experimentation appeared to be the right feeding ground for this graduation project. Its vast open spaces, originated in an urban development with modern approach, have been recently occupied with original urban concepts.

The site is located in the neighbourhood of Rotterdam Centrum, at the core of the city. Many for the city important landmarks can be found in close proximity to the chosen area.

The latter is located *inside* the important traffic axis of Blaak, connecting urban nodes and the city to the hinterland. At the centre of all that one can find a vacuum, a forgotten microclimate in the midst of the rush.

The exact location of the site represents a threshold from the more public functions of work and commerce towards the mainly residential functions in East and South. Already this fact emphasises the essential character of the site as an in-between - a space for transition.



Stadsdriekhoek 1:20 000



1652: Stadsdrickhoek as Rotterdam's Center



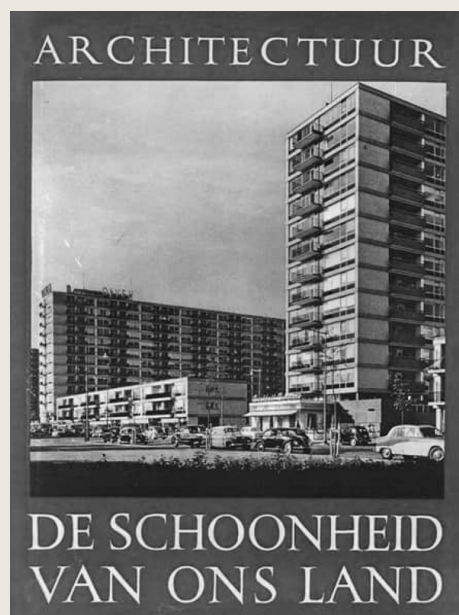
May 1940: Bombing by Germany

02 Temporal Contextualization

Striking historic events of the area in Rotterdam and how this development in time lets us understand the present state.



German Troops



1945-1968: Reconstruction in the CIAM spirit

In order to really understand the nature and essence of the location in present state, one must take a look at its development in time. The Stadsdriekhoek is the original and historic centre of the city, of which Blaak is forming the Southern edge. The map of 1652 demonstrates how it formed the seed of Rotterdam's development, which over time developed into a metropolis. Most disruptive for the city and its inhabitants was the bombing of the city by German troops in WWII, which occurred the 14th of May in 1940. Not much of the urban structure has survived, despite the Sint Laurinskerk among few other houses.¹ Soon after the war, plans for the reconstruction of the city have been developed.

Due to the Zeitgeist of the post-war time, the rebuilding happened primarily in the CIAM spirit. That being prioritization of motorized traffic, separation of functions and aiming at maximum efficiency. Spaces became vast and open, while the rush of the city became more prevalent and supported by urban structures. The area of Cool became the new location for entertainment and commerce, which really enhances the function of the site as space for mere transition. A space that once has been a vibrant historic centre, has been bombed and destroyed in a war. Repurposed by modernist ideas, it turned into a place more fit for the car than for the human.

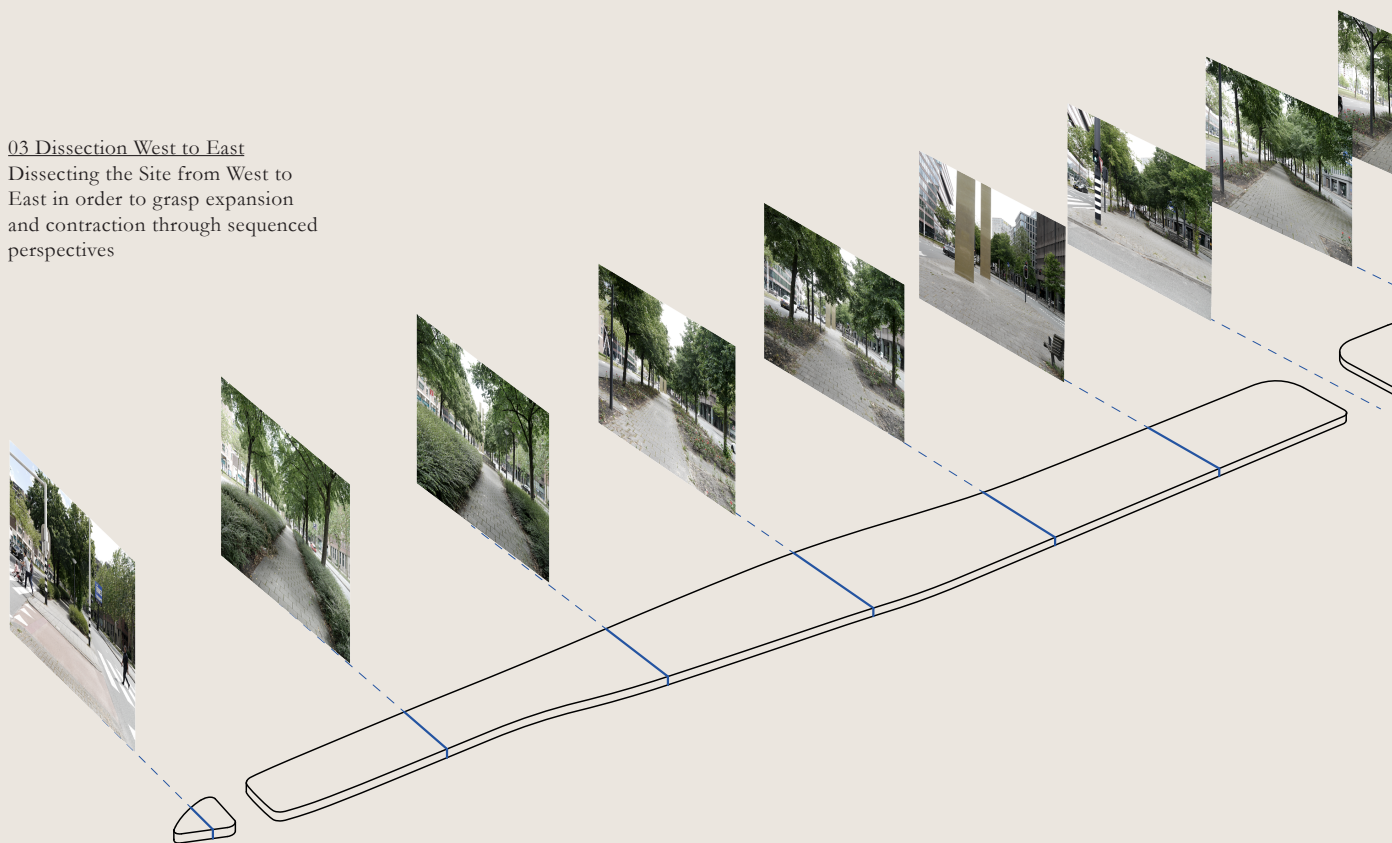


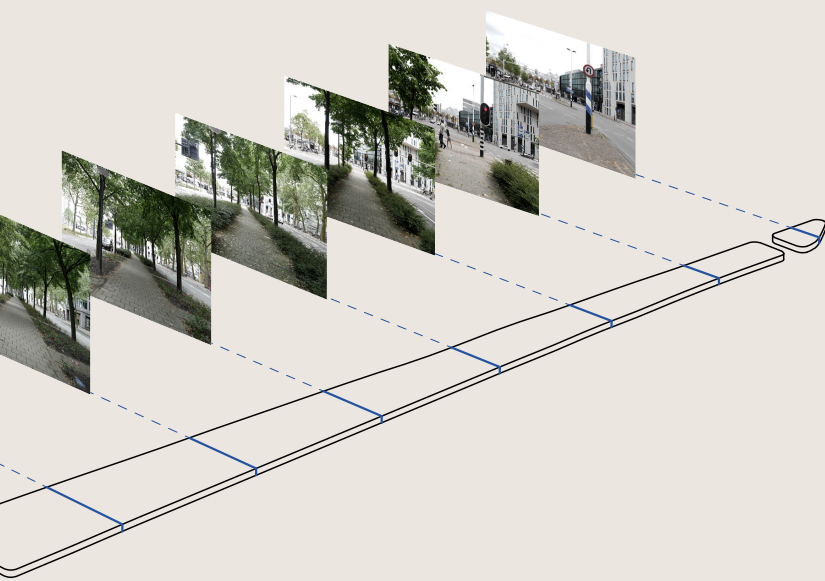
ENCOUNTERS

DISSECTING THE LINEAR

03 Dissection West to East

Dissecting the Site from West to East in order to grasp expansion and contraction through sequenced perspectives





Due to the site being located between heavy infrastructure, it became a zone of transition and mere passage. One of its spatially most striking characteristics is its linearity. Harshly limited by extremely fluctuated traffic arteries in South and North, the scene spreads from East to West and from West to East in an almost stubborn stretch.

In order to grasp its spatial dimensions, a virtual dissection has been carried out through documenting perspectives in a fixed rhythm of steps. This sequence takes one for a walk along its linear path, which seems to be the only way to wander on this strip. The study demonstrates the trajectory of expansion and compression of the site, as well as is a first step to properly capture its dimensions in plan.

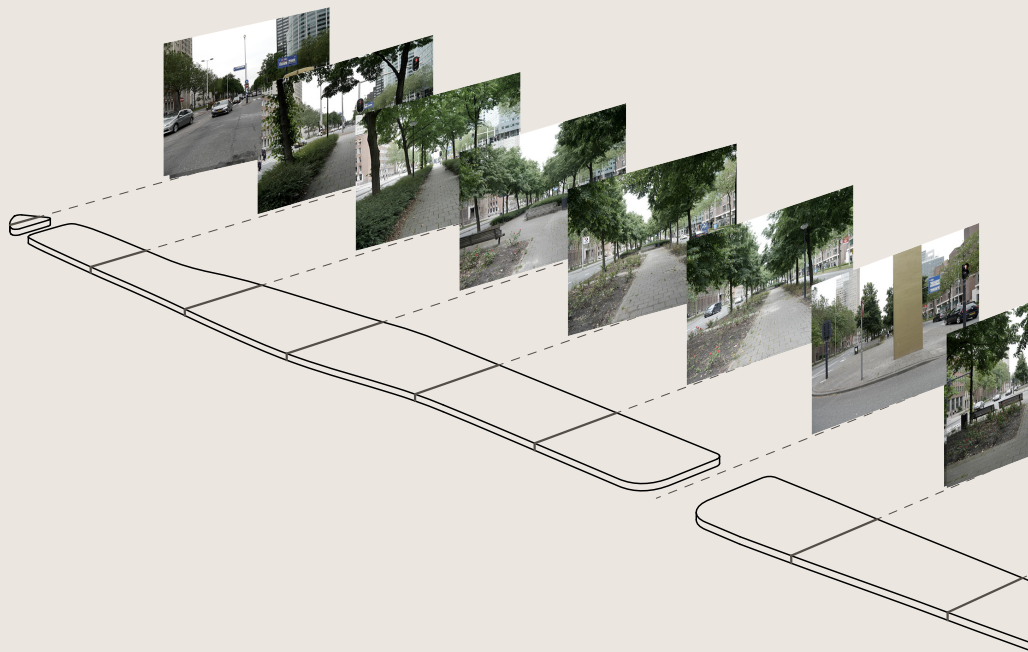
04 Folioscope West to East

Documentation of perspectives, taken repetitively after ten steps. First clues on expansion and contraction, as well as the site's spatial rhythms and rules.



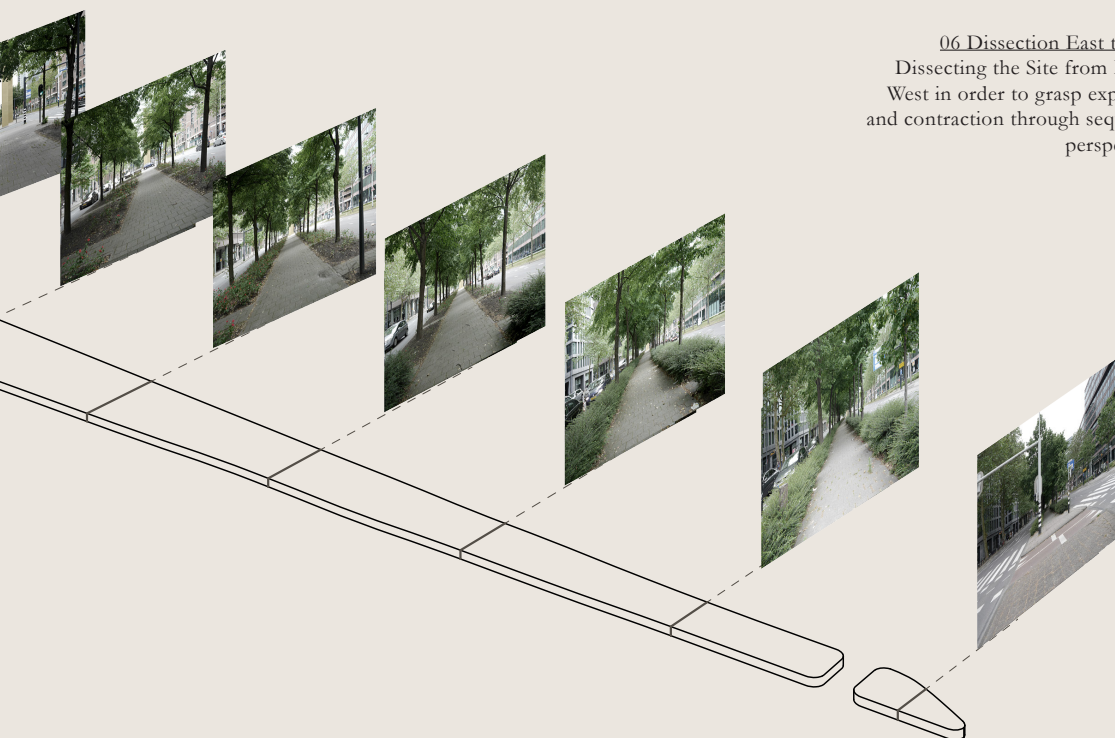
05 Folioscope East to West

Documentation of perspectives, taken repetitively after ten steps. First clues on expansion and contraction, as well as the site's spatial rhythms and rules.





06 Dissection East to West
Dissecting the Site from East to West in order to grasp expansion and contraction through sequenced perspectives.



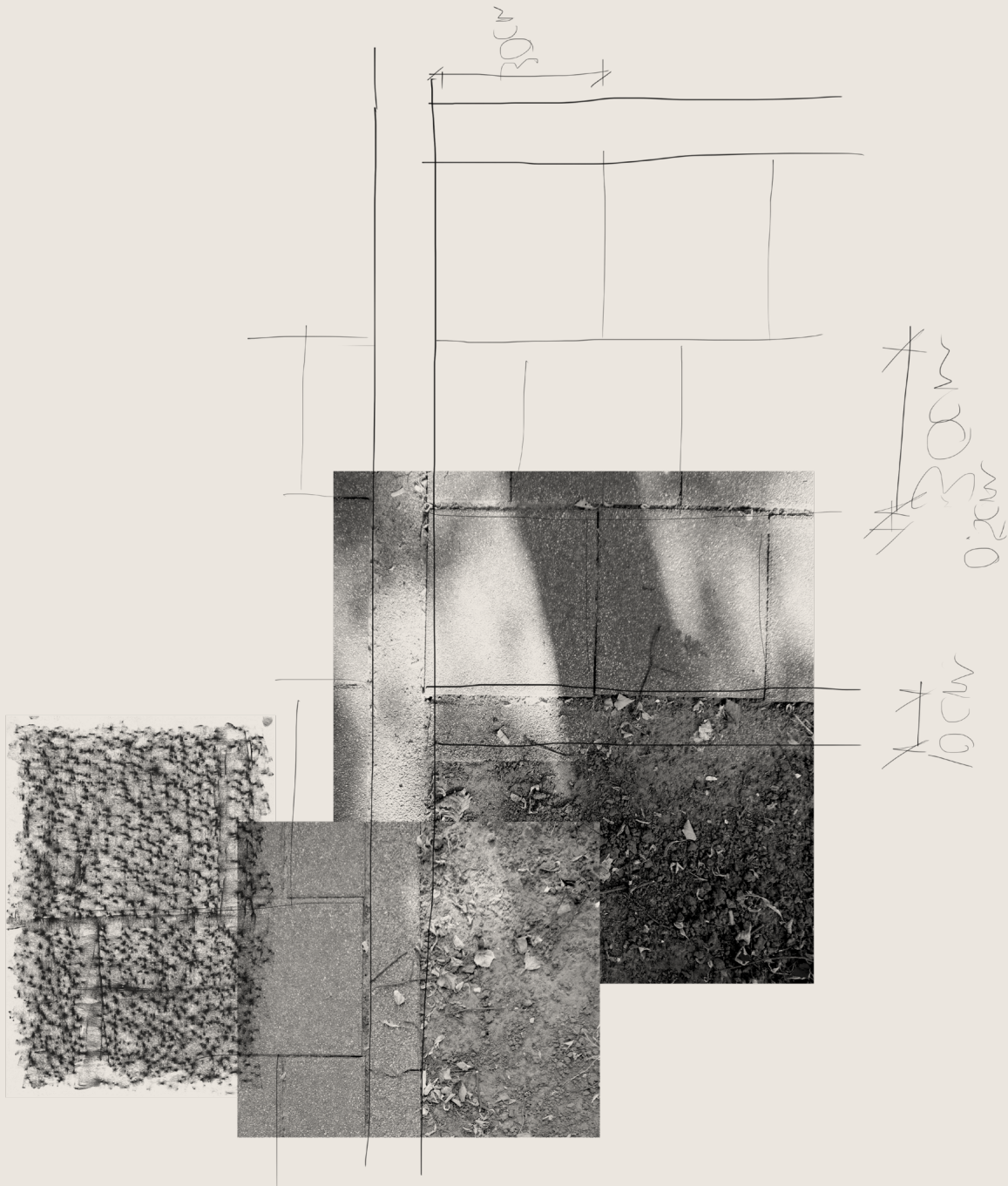


Due to missing information on the spatial limits and dimensions of the urban vacuum, there was a necessity to document it in a proper way. It was to be measured what has never played enough of a role to obtain measurements. The method applied resulted in a compilation of linked information, harvested through full engagement of the body.

Steps and tiles have been counted, urban thresholds and lines compared, location of trees have been estimated. Through this engagement by the means of using one's own body, an understanding for rhythms and structures within the site could develop.

ENCOUNTERS

SPATIAL RHYTHMS

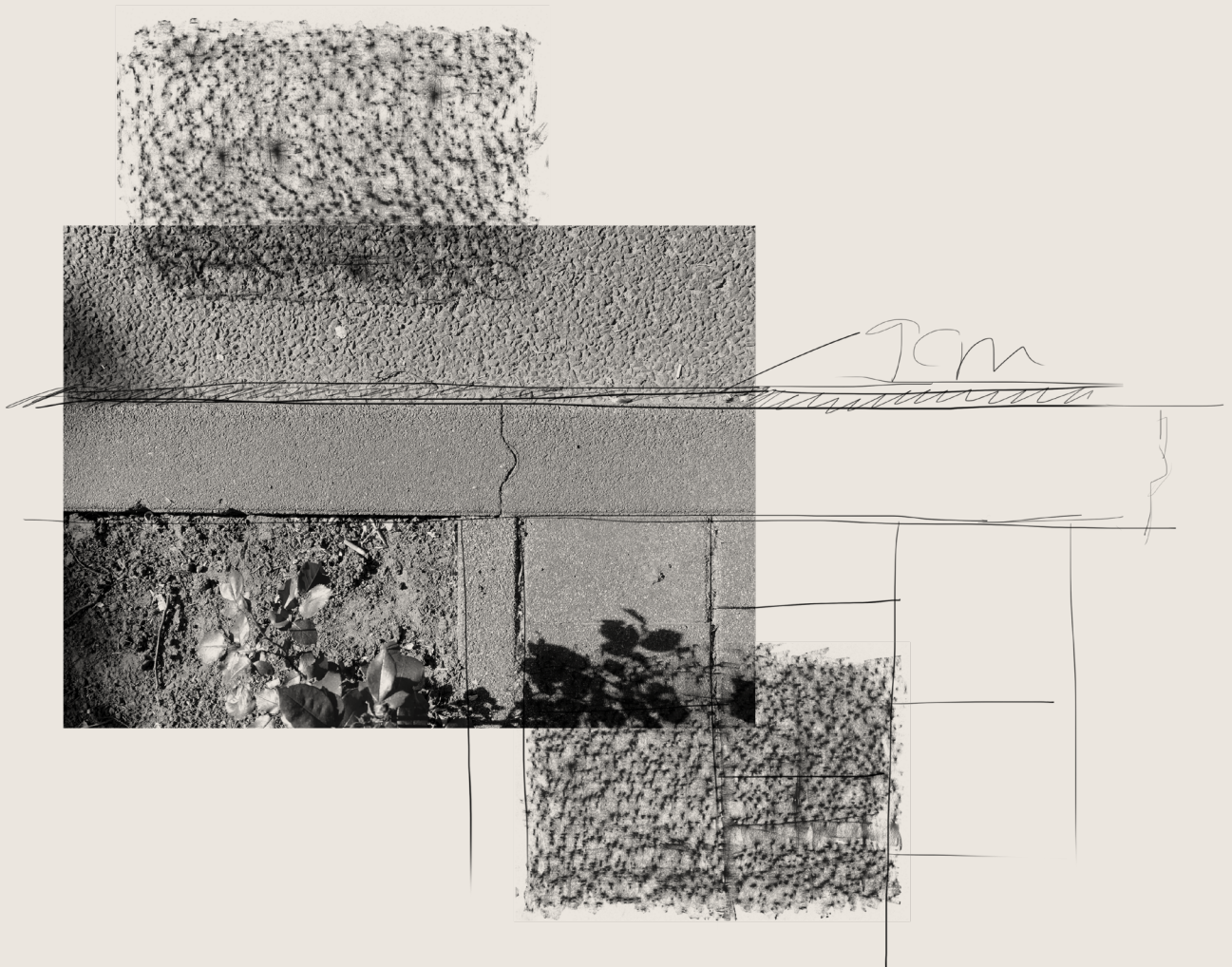


08 The Regular Motive

Most reoccurring motive:
separation path between unfortified
compartments.

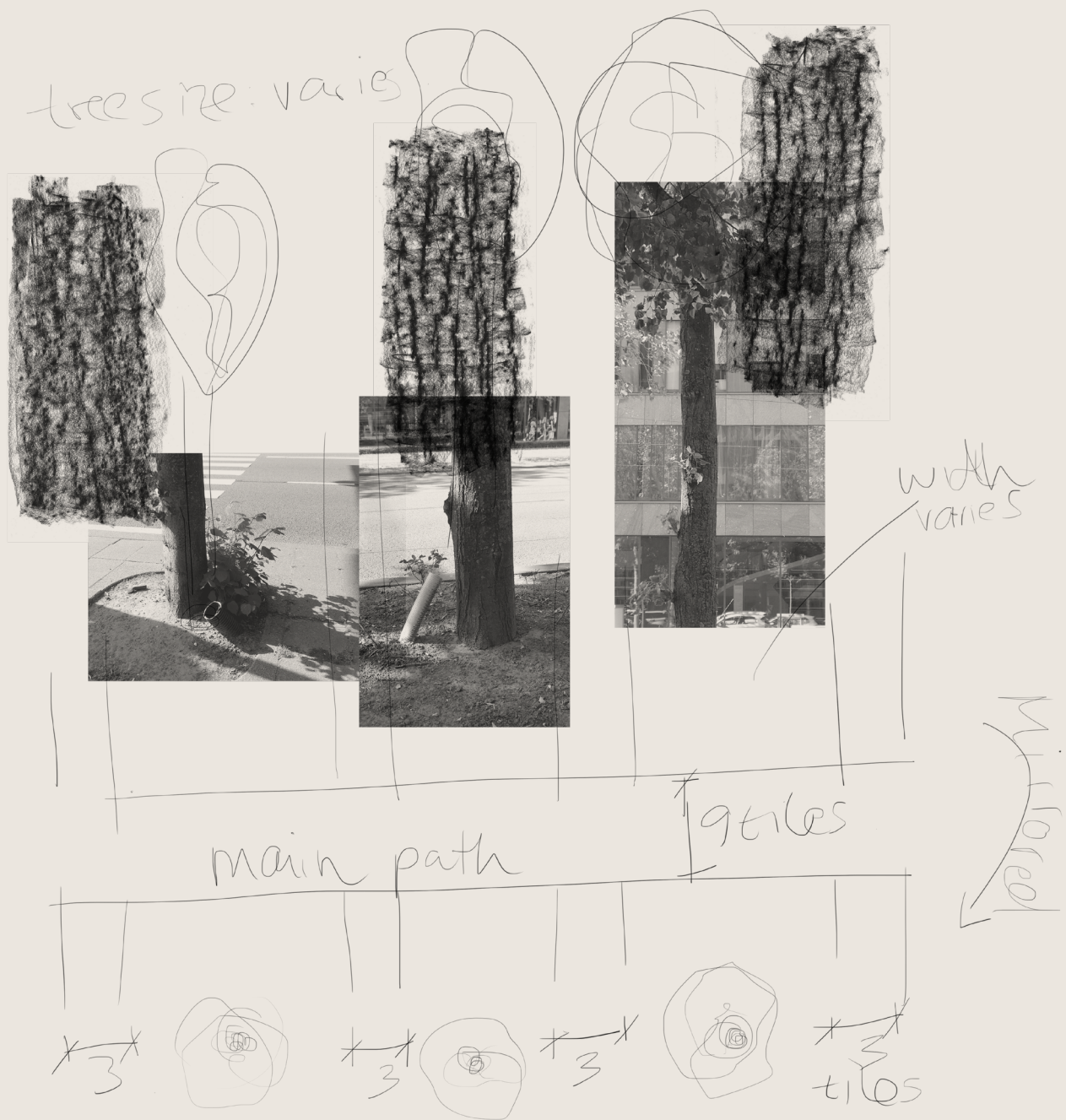
09 Connecting to Boundary

Meeting point of separation path between unfortified departments and the street. Height difference to emphasise the threshold and warn from the danger of the rushing traffic.



There is not much which makes this vacuum a site. Yet, at some point in time someone has filled this for the city so unimportant in-between with something (seemingly) equally unimportant. Paved and vegetated - the only attention it has ever received. By attempting to grasp these boundaries one also understands the spatial logics and rules it is structured by. The simplicity of the originally designed layout cannot be overlooked. A reflection on these gives clues on what this space is supposed to be, the current range of interaction it provides and even in some cases the capacities that it is bearing.

This space is structured by its rhythms. Different kinds of tiling and compartments of different plantation indicate the direction to go, where rather not to be and what rather not to do. Every stone put and every plant planted hinders certain activities and facilitates others. The following is an attempt to portray important nodes and details which are all demonstrating crucial factors of this space. Prints of the tiling have been taken in order to transport their texture and feel into the two-dimensional realm of this book.

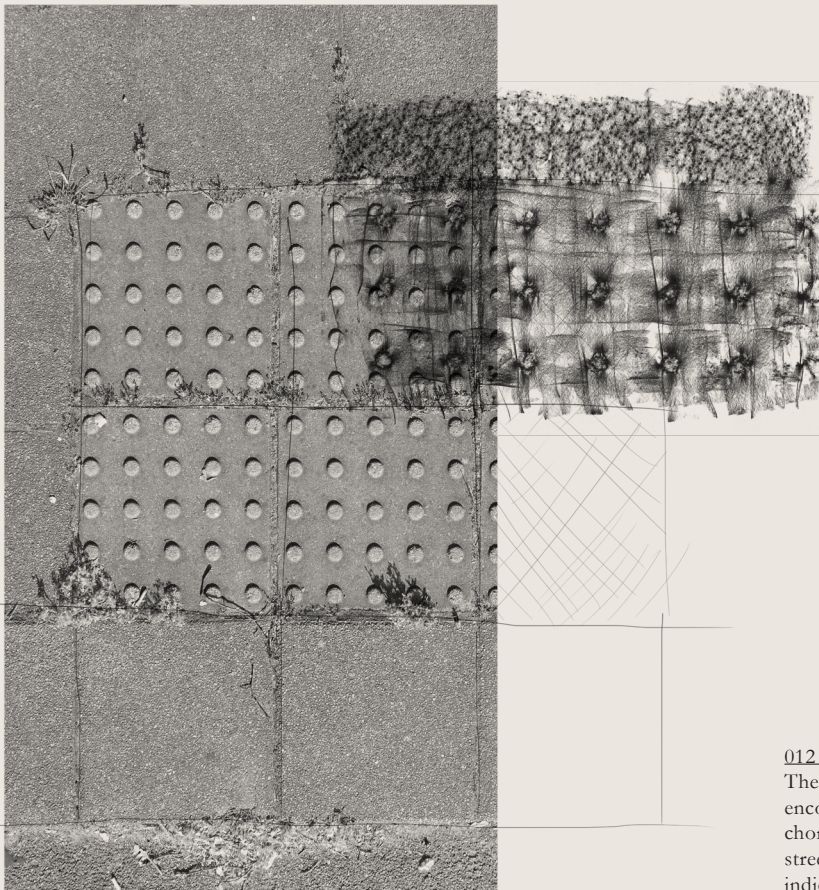
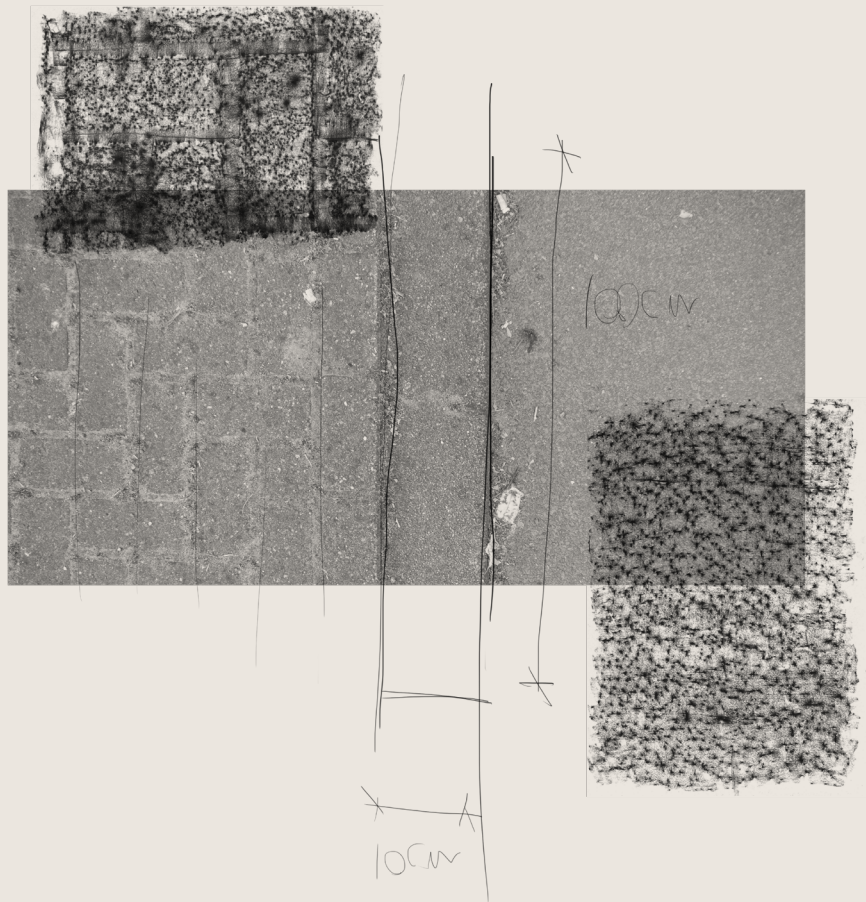


010 Tree Departments

Unfortified departments structure the site rhythmically, while creating a safety buffer towards raging traffic. Obeying a reoccurring set of rules and always separated by path, they vary in size and in plantation.

011 End Points

Bike transition lanes meet the closure of the linear vacuum, which are in both cases elaborated in different tiling textures.



012 Transition Point

The way that the vacuum is mostly encountered with is by passing through. This choreography of transiting traffic lights and streets is always accompanied by a certain indication in the tiling.

ENCOUNTERS

TRACES

To eat and snack



Kit Kat Chocolate Bar



Ben and Jerry's Ice Cream



Whole W

To use drugs



Marlboro Cigarettes



Marlboro Cigarettes

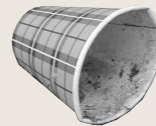


Marlboro Cigarettes

To drink



Capri-Sun Soft Drink



Throw-Away Coffee Cup

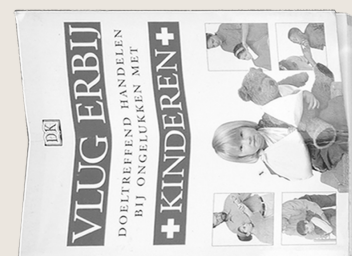


Coca Cola Soft Drink

To linger and litter



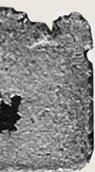
Medical Face Mask



Children's Health Advisor

013 Human Traces

Analysis of the trash present at site which gives indication of the current use of the rush-through space beyond its transition.



Heat Bread



Orange Flavored Ice Cream



Drug Bag, potentially Marijuana



Plastic Bag wrapped around Bush

By paying attention to what one usually tries to unsee - litter and trash - one can better understand the activity this vacuum is used for during or beyond its transit. Trapped between intense traffic and disturbed by the noise, spending time on site is no comfortable activity. One feels lost and misplaced, wandering in this strange spot. The site gives the impression to be very hostile towards any kind of accommodation which goes beyond the mere necessity of passing.

However, there are a few rare occasions for which some people make use of this transitional space. The type of littering gives indications for the activities that can and are taking place. The human traces compiled here are mostly consumption-related and most likely connected to the dominant commercial surroundings of the site.



Magpie
Pica pica



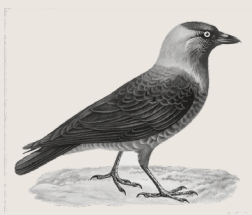
Ladybug
Coccinellidae



Blackbird
Turdus merula



Wasp
Vespinae



Daw
Coloens monedula spermologus



Ant
Formicidae

014 Fauna

Specimen of Fauna being present at site during the visits.

015 Flora

Specimen of plants occupying the site distinguished into planted and unimproved species.



Basswood
Tilia europaea

Planted Species



Quickweed
Galinsoga ciliata

Wild grown Species

While for humans the site indeed seems to be a vacuum, a space deprived of any demand, non-human actors suggest to see more value in its apparent nothingness. Through-out the multiple tens of hours spent on site, certain animal and floral species have been present. Their appropriation shows that there is more to the space of transition. In the layout of what the space was supposed to be, there is clearly a very strict code of plantation in the rhythmic compartments. The plants

of choice are low in maintenance, which reflects how little importance this in-between has for its designer. What is especially interesting is the variety of (by humans) undetermined fauna which has appropriated the space beyond those intentions. To floral actors, the space between the tiles is not just in-between, but a valuable territory to occupy. This study puts into perspective the human view on this space.

site,
tended



Red Rose
Rosaceae Rosales



Boxwood
Buxus sempervirens



Ribwort
Plantago lanceolata



Hedge Mustard
Crucifera sisymbrium



Dandelion
Leontodon officinale



Groundsel
Senecio vulgaris



Hawkweed
Hieracium pilosella

CONSTRAINTS

URBAN FRAME

016 Fragmented View North

Collage of elevation shots of direct urban context.



West
←



East
←

In the following collages, the immediate urban layer is investigated at a first step. Due to the linearity of the site, this study focuses on the parallel facade ensembles towards North and South.

The architectural plinth of the primary urban frame of the site is in general not most inviting in regards to it being located so centrally in the city. There is very minimal engagement of the facade plinth, which is also due to their functions which one only is directing towards with determinacy. There are no unexpected reasons to linger in the streets and thus also these can be understood as transitional spaces.

Apart from that, the North side appears to be more pedestrian friendly. It is organized in very clear building lines and more compact volumes, designed in a rather contemporary or postmodern building style.

The South side, on the other hand, is partially occupied by buildings of historic style. Its assemblage of building volumes is significantly more fragmented. Otherwise, one can observe very dark and deep overhangs, which do not contribute to the friendliness of their passage. This street additionally is very perforated and requires more obstacles to traverse.



East →

017 Fragmented View South
Collage of elevation shots of direct urban context.



West →

CONSTRAINTS

URBAN PERFORATION

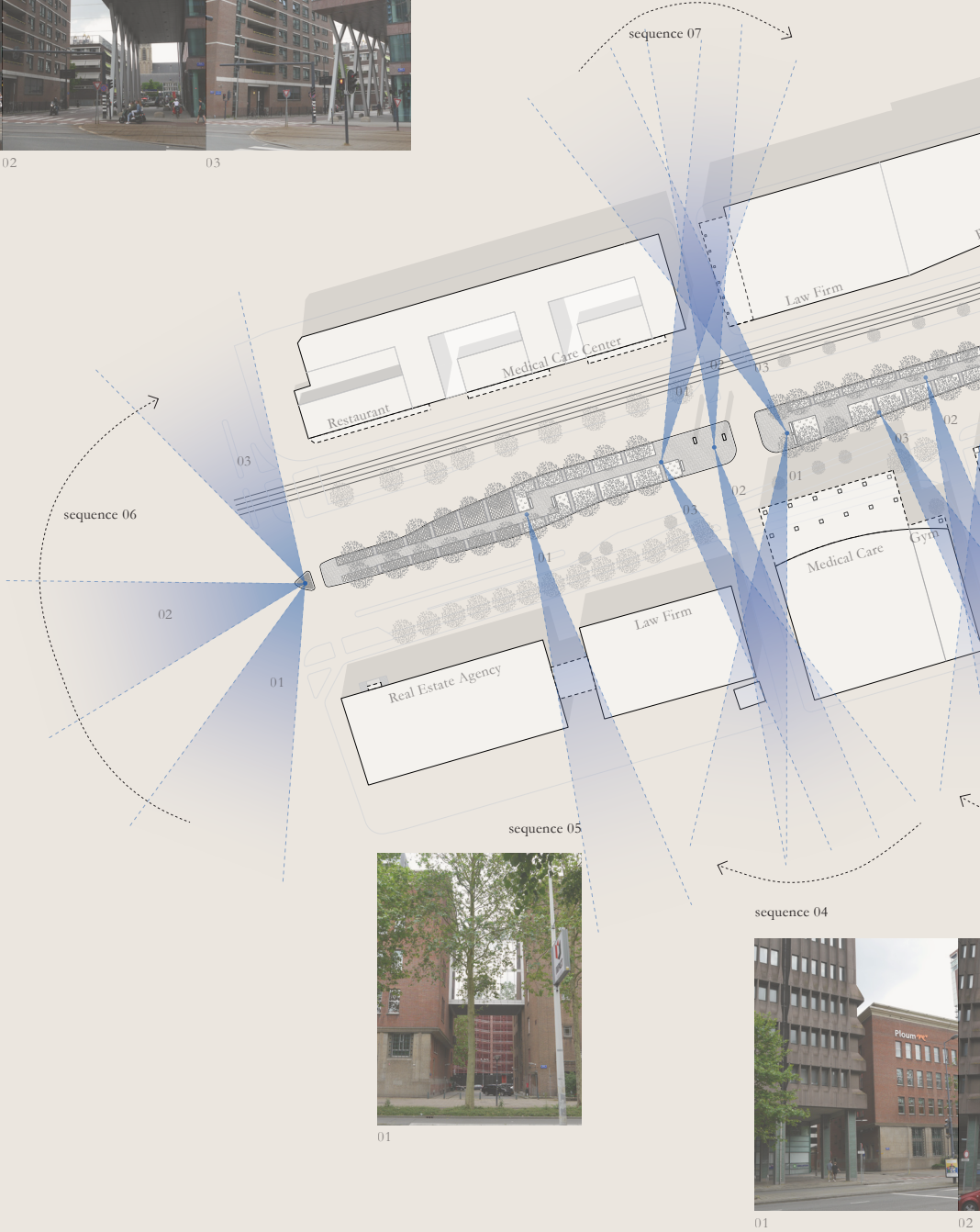
018 Visual Connections 1:2000

Compilation of perspectives beyond first urban layer.

sequence 07



sequence 06



This study investigates the perforation of the immediate urban context and thus the connectivity to other parts of the city. The strength of visual connection drastically changes, depending on the conditions of the perforation. Through sequences of perspectives, the play of connectivity that occurs while transitioning the site can be coherently documented.

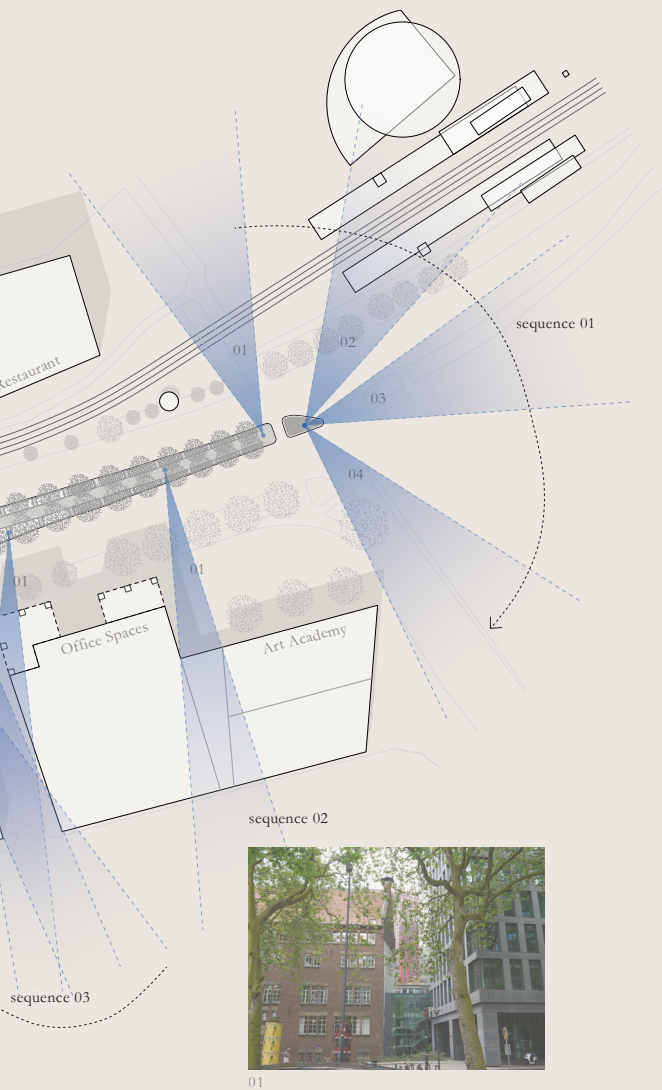
It is striking how much more the Southern building ensemble seems to be fragmented and therefore provides much more perforation. However, the visual

connectivity is lacking due to the depth of the buildings. While passing the site, one can perceive briefly various residential skyscrapers and a parking garage, all rich in colour and shape.

The northern side provides much better visual connection and also allows the passenger to recognize landmarks, such as the Markthal or the Laurenskerk.

Both end points in East and West feel rather exposed to traffic and the city.

However, the East side seems to be more qualitative, due to its connection to important nodes, like Blaak station or the waterside.



sequence 01



sequence 03



03



01

02

03

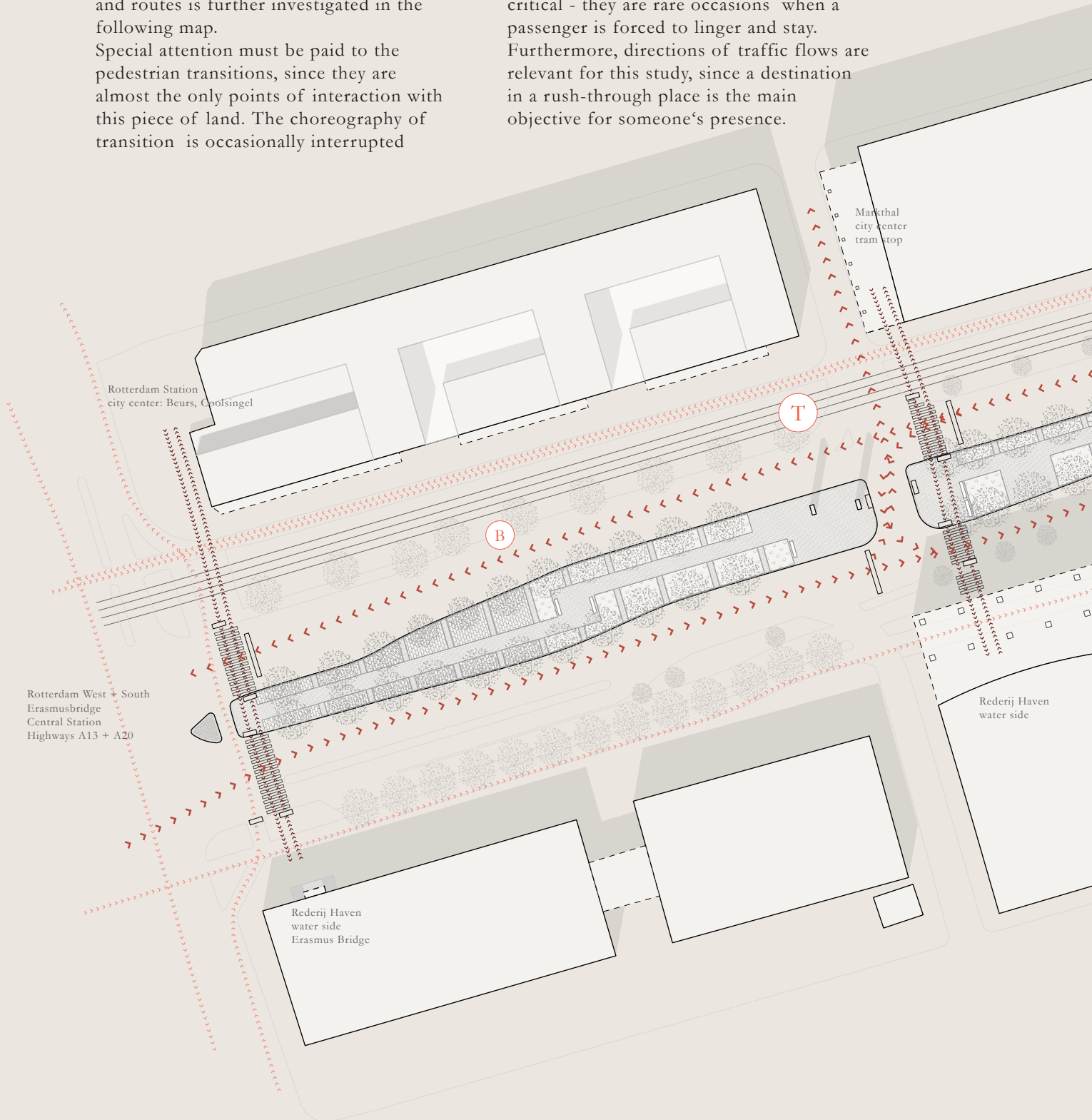
CONSTRAINTS

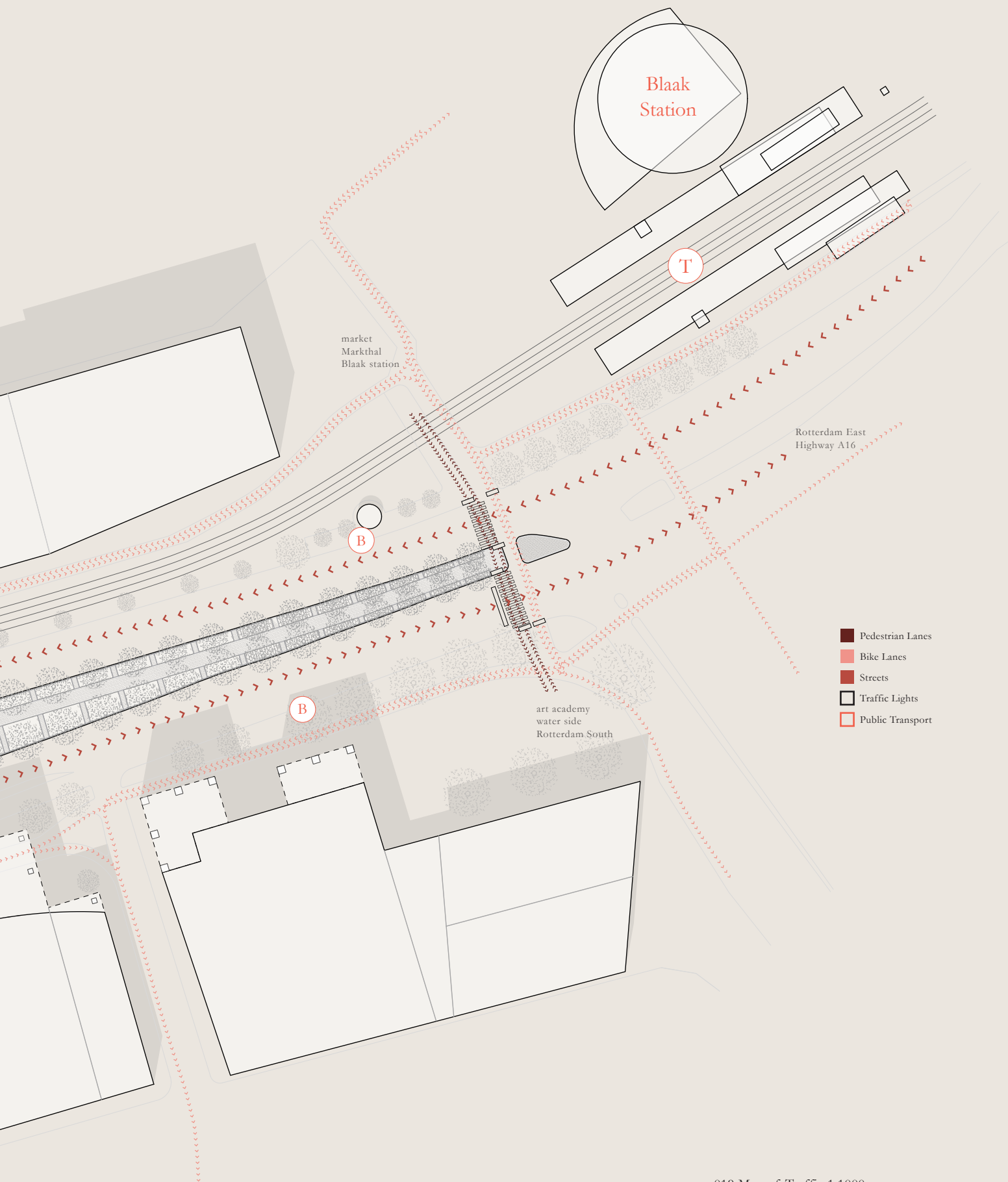
TRAFFIC

The experience of this site is very much dominated by the traffic it is wedged between. The crucial role of various flows and routes is further investigated in the following map.

Special attention must be paid to the pedestrian transitions, since they are almost the only points of interaction with this piece of land. The choreography of transition is occasionally interrupted

by the temporal rhythms of the traffic, obeying the simple signals of going or waiting. These moments of waiting are critical - they are rare occasions when a passenger is forced to linger and stay. Furthermore, directions of traffic flows are relevant for this study, since a destination in a rush-through place is the main objective for someone's presence.





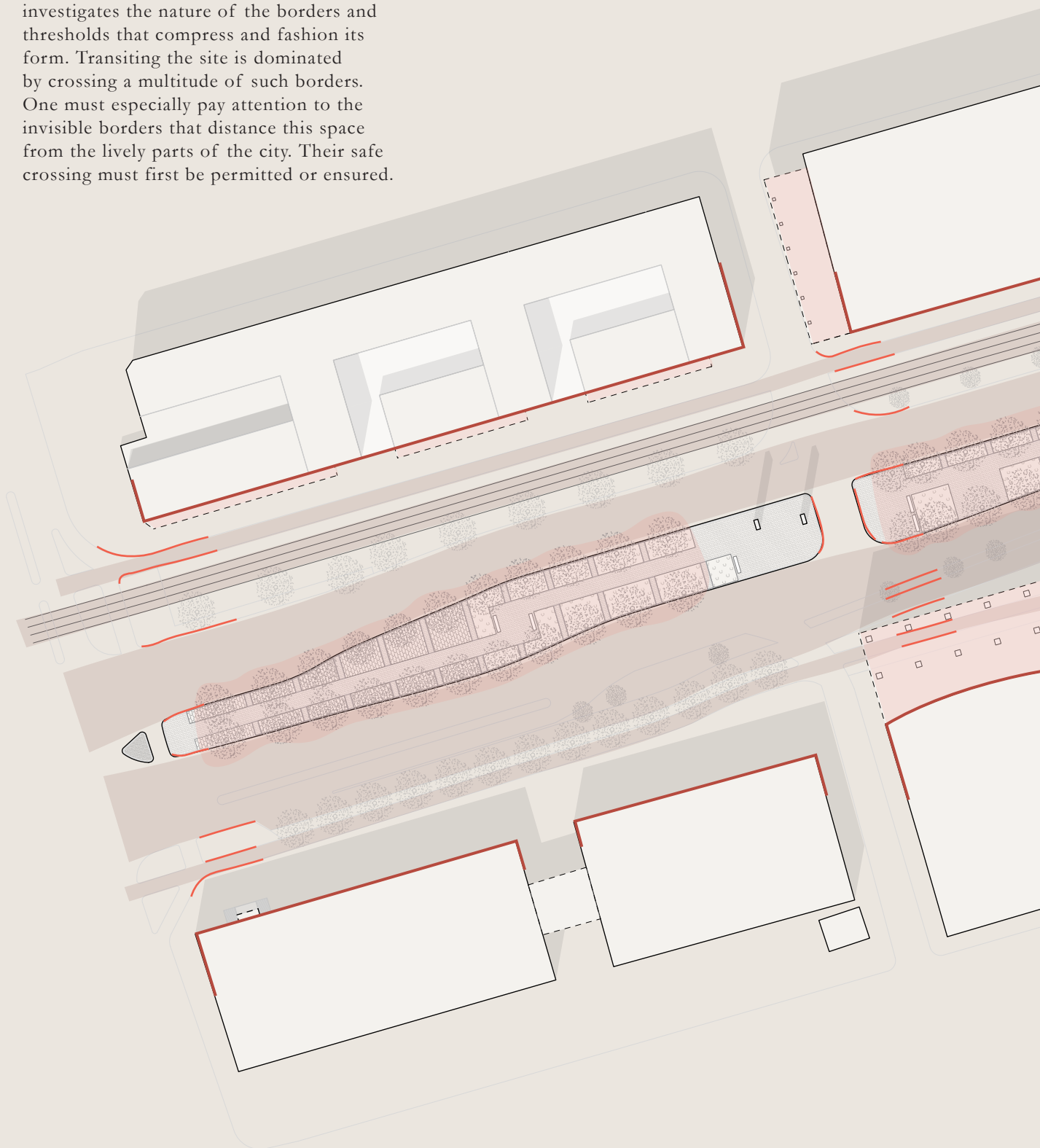
019 Map of Traffic 1:1000

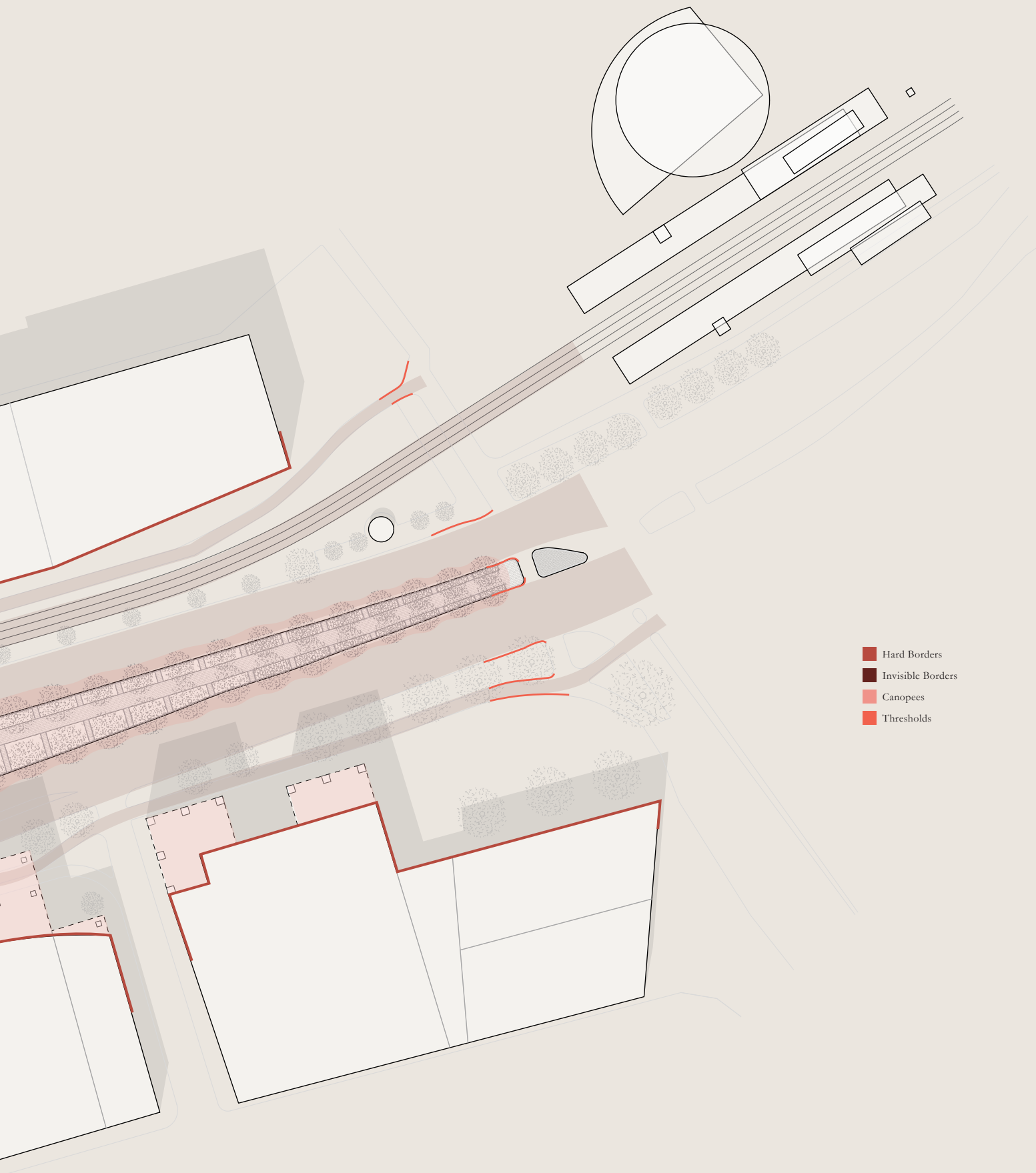
Map indicating important surrounding flows of traffic, as well as waiting zones at traffic lights and public transport stations.

CONSTRAINTS

BORDERS

The wedged emptiness that is this space derives from the urban constraints surrounding it. The following study investigates the nature of the borders and thresholds that compress and fashion its form. Transiting the site is dominated by crossing a multitude of such borders. One must especially pay attention to the invisible borders that distance this space from the lively parts of the city. Their safe crossing must first be permitted or ensured.





020 Map of Borders 1:1000

Map indicating urban borders such as hard building lines, thresholds, invisible / fluctuating border as well as horizontal canopies.

INTERACTIONS

OUTSIDE IN

021 Perspectives from the Outside 1:2000
Compilation of perspectives towards the site from its direct urban context.



08



09



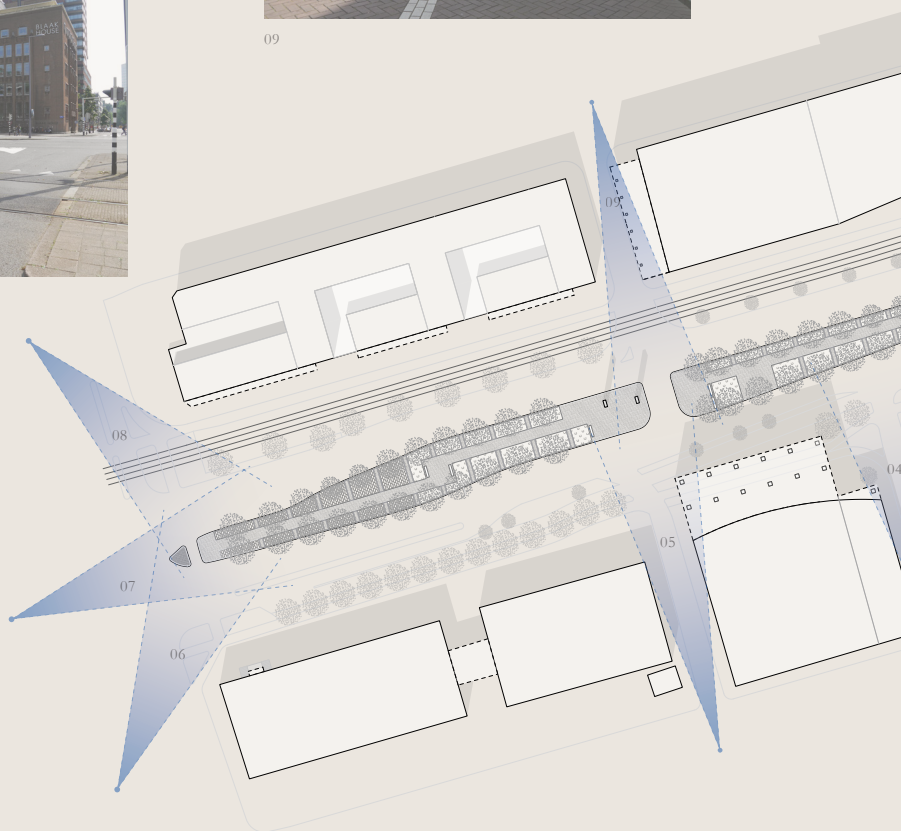
07

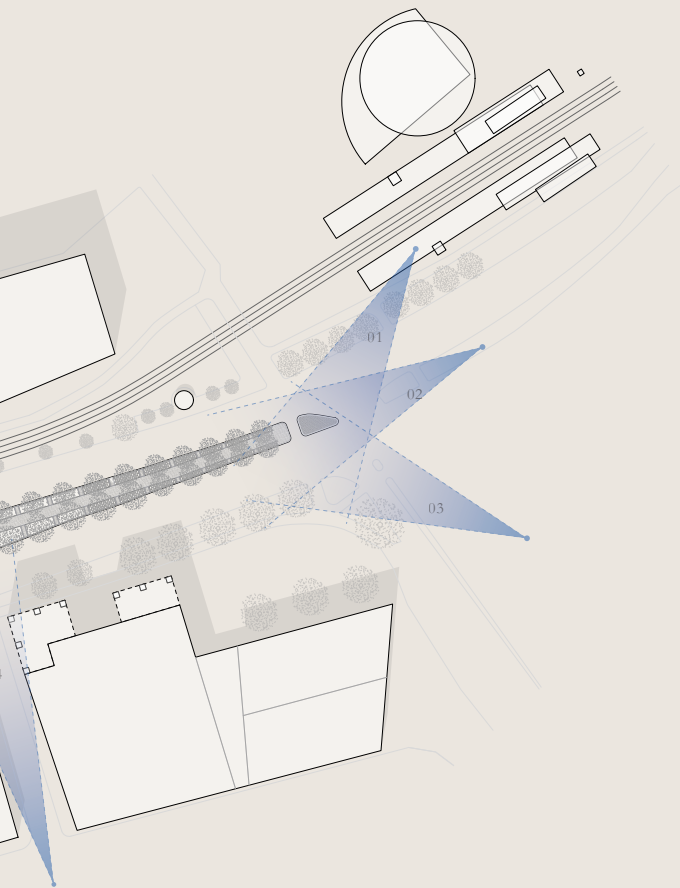


06



05





01



02



03

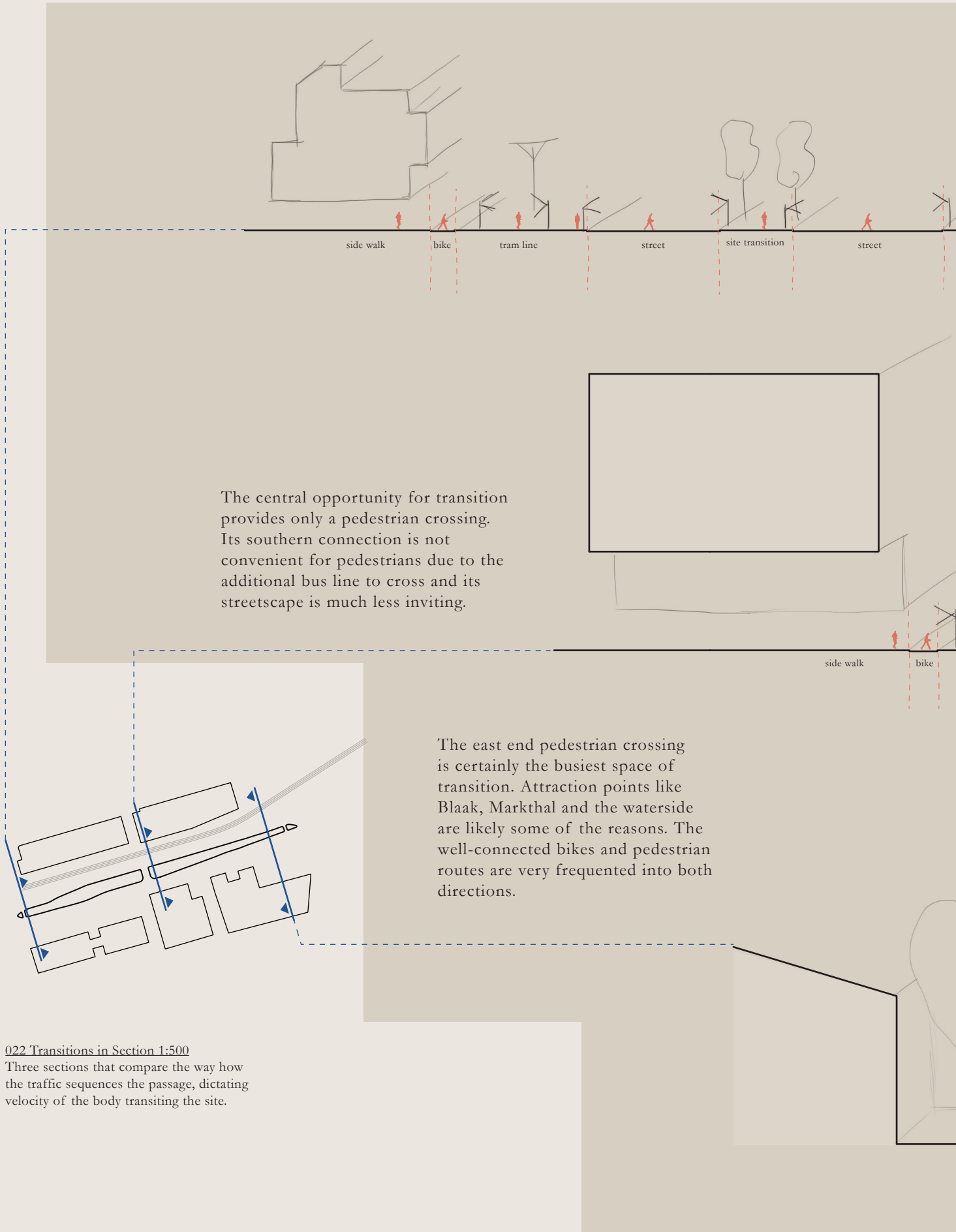


04

A crucial step to understand the site's role in its urban context is to take a closer look at it from its *outside*. Most moments of interaction are still participants of traffic passing by, only following its outlines that indicate flows of traffic. Barely clearly visible in photographs and on-site experience, it appears as just another island from traffic. Its linear connectivity and amount of space drown in an overflow of stimuli - it is too easy to overlook and not notice its presence.

INTERACTIONS

CHOREOGRAPHY OF PASSAGE

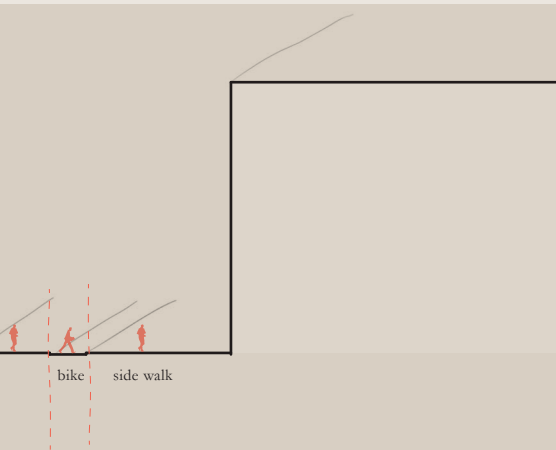


The central opportunity for transition provides only a pedestrian crossing. Its southern connection is not convenient for pedestrians due to the additional bus line to cross and its streetscape is much less inviting.

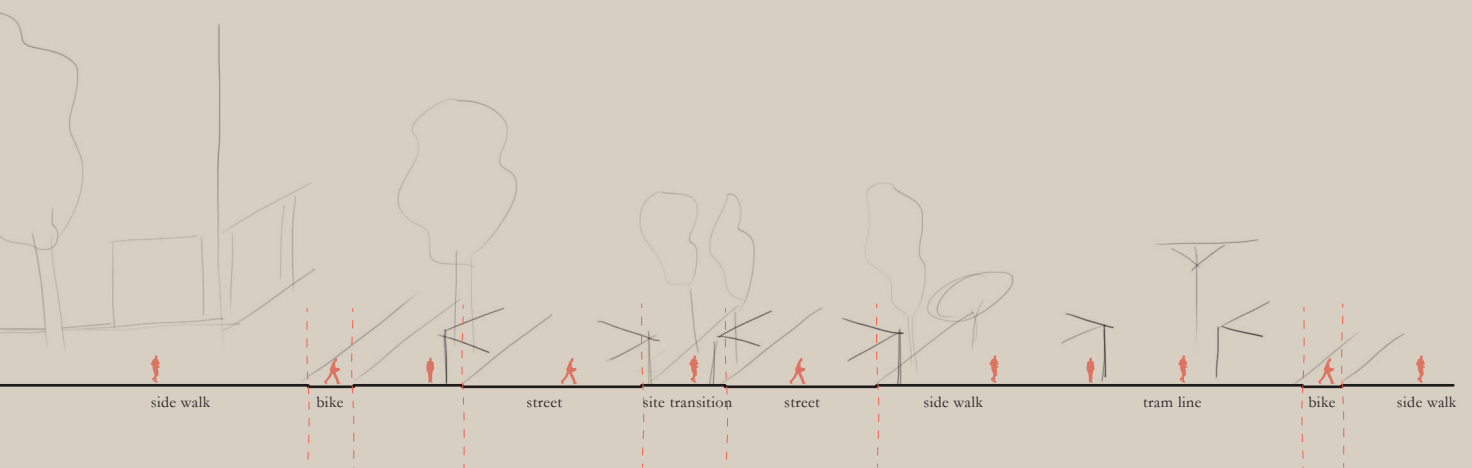
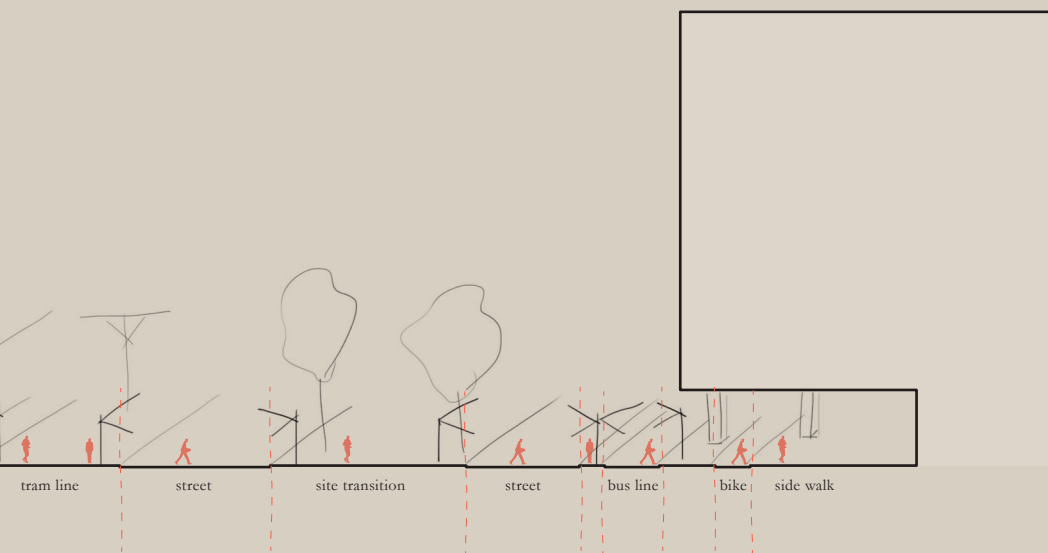
The east end pedestrian crossing is certainly the busiest space of transition. Attraction points like Blaak, Markthal and the waterside are likely some of the reasons. The well-connected bikes and pedestrian routes are very frequented into both directions.

022 Transitions in Section 1:500

Three sections that compare the way how the traffic sequences the passage, dictating velocity of the body transiting the site.

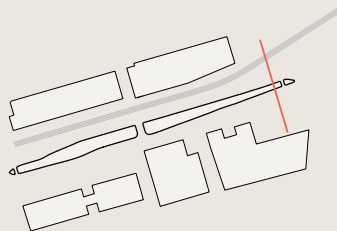


At the west end of the site, the vast urban fabric and far architectural borders create an exposure to the raging car node. The dominance of the car is thus especially perceivable on this choice for transition. It inhabits a well-connected pedestrian and bike route. Yet, it is least frequented by pedestrians and much more frequented by scooters or bikes.



023 Transition Succession East End

Analysis of perspectives whilst transiting, as well as fluctuation in a period of 15 minutes.



South to North

57 pedestrians and 11 bikes passing by in 15 minutes

North to South

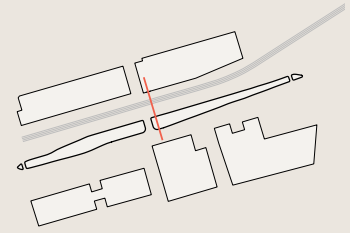


62 pedestrians and 9 bikes passing by in 15 minutes

The following study investigates the fluctuation and nature of the three moments of transition. It is clearly evident that during that time of day (Thursday 12:00), the connection of South to North and towards the city centre is more frequented. The only exception poses the route in the east, which is also by far the most fluctuated by pedestrians. Its compact surface has to often house a big crowd of waiting people.

The central opportunity for passage is clearly less frequented than its neighbour. Because it is not equipped with a bike path, one can only observe pedestrians passing. On the west end, however, the bike path is highly fluctuated in comparison to the few walking people. There are three modes of transiting while walking: *waiting* in front of the traffic light, *walking at pace* to ensure passage while green lights, *rushing* towards the soon to turn red light.

024 Transition Succession Center
Analysis of perspectives whilst transiting, as well
as fluctuation in a period of 15 minutes.



North to South



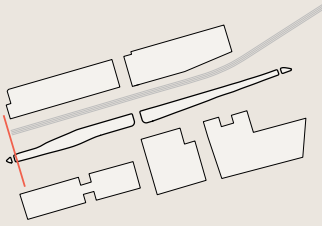
16 pedestrians passing by in 15 minutes, two of them
which are pushing bikes



South to North

34 pedestrians passing by in 15 minutes

025 Transition Succession West End
 Analysis of perspectives whilst transiting,
 as well as fluctuation in a period of 15
 minutes.



South to North

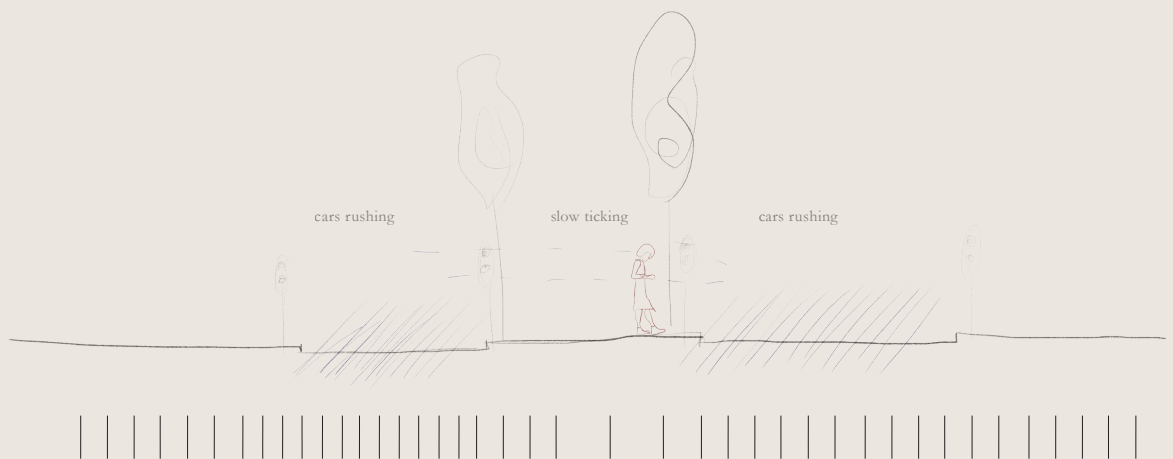
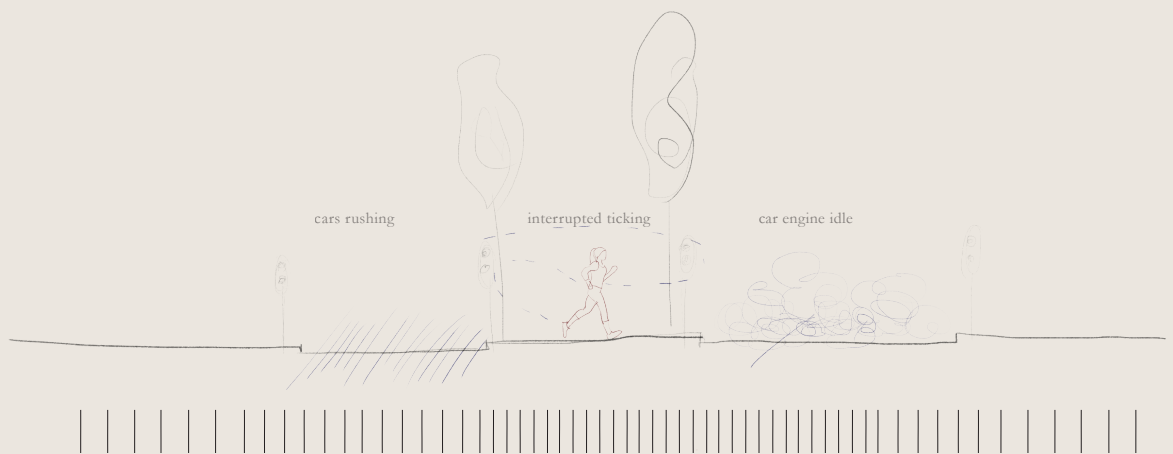
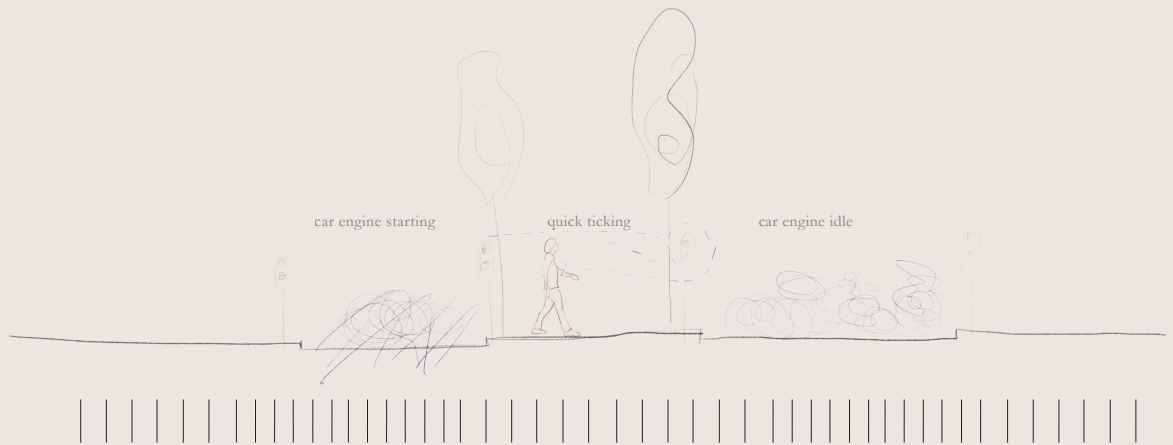
18 pedestrians and 20 bikes passing by in 15 minutes

North to South



10 pedestrians passing by in 15 minutes





----->

026 Modes of Transition
 Sections of the three modes of transition (constant speed walking, sudden acceleration, waiting) including their velocity and interdependence of auditorial rhythms of traffic.

In order to really investigate the choreography of passage, one must pay closer attention to flows and rhythms of traffic. The allowance or prohibition to pass or leave the site is determined by those flows. Furthermore, their condition also informs the mode of transiting a site like this: When understanding that car traffic will remain waiting for another while, one takes their time passing while walking with determinacy. When

hearing and seeing permission to cross the traffic light will not remain much longer, one will accelerate to an almost running speed. When knowing that time will not be sufficient for the entire passage, one enters a state of strolling and lingering - giving in to those external factors that force me to interrupt my rush.

All of those modes always include a certain state of mind. Of course, the conditions for those flows vary in all three moments of transition on site.

027 Modes of Traffic Flows

Map indicating the interdependence of traffic rhythms on all three moments of transition.



028 Haptic and Visual Interfaces

Compilation of haptic and visual interfaces and interactions between site and people, exclusively carried out on traffic light posts.



Tactile

Interaction



Visual



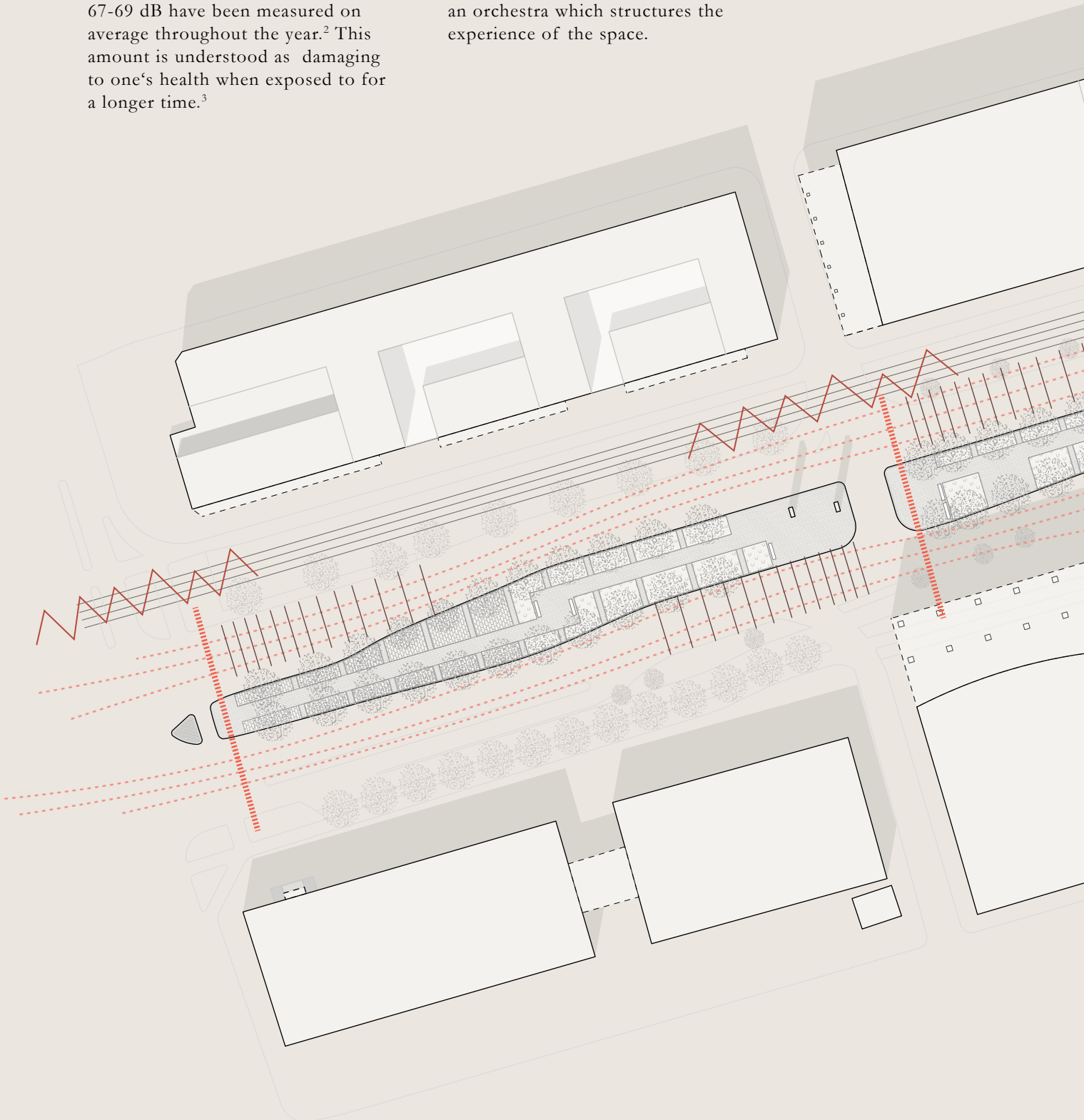
Besides thresholds, pavements and the choreography of moving through the site, there are other, maybe less obvious interfaces present in this space. They follow a very general shape and form, yet have they all been appropriated in different ways. These traffic light posts allow for communication with the passing people: them indicating that they are here and waiting, and the lights giving permission or prohibition to leave. It is this dance which is engraved into our every-day routines as urban animals, which makes us interact and be part of the fluid organism of traffic that inhabits this space.

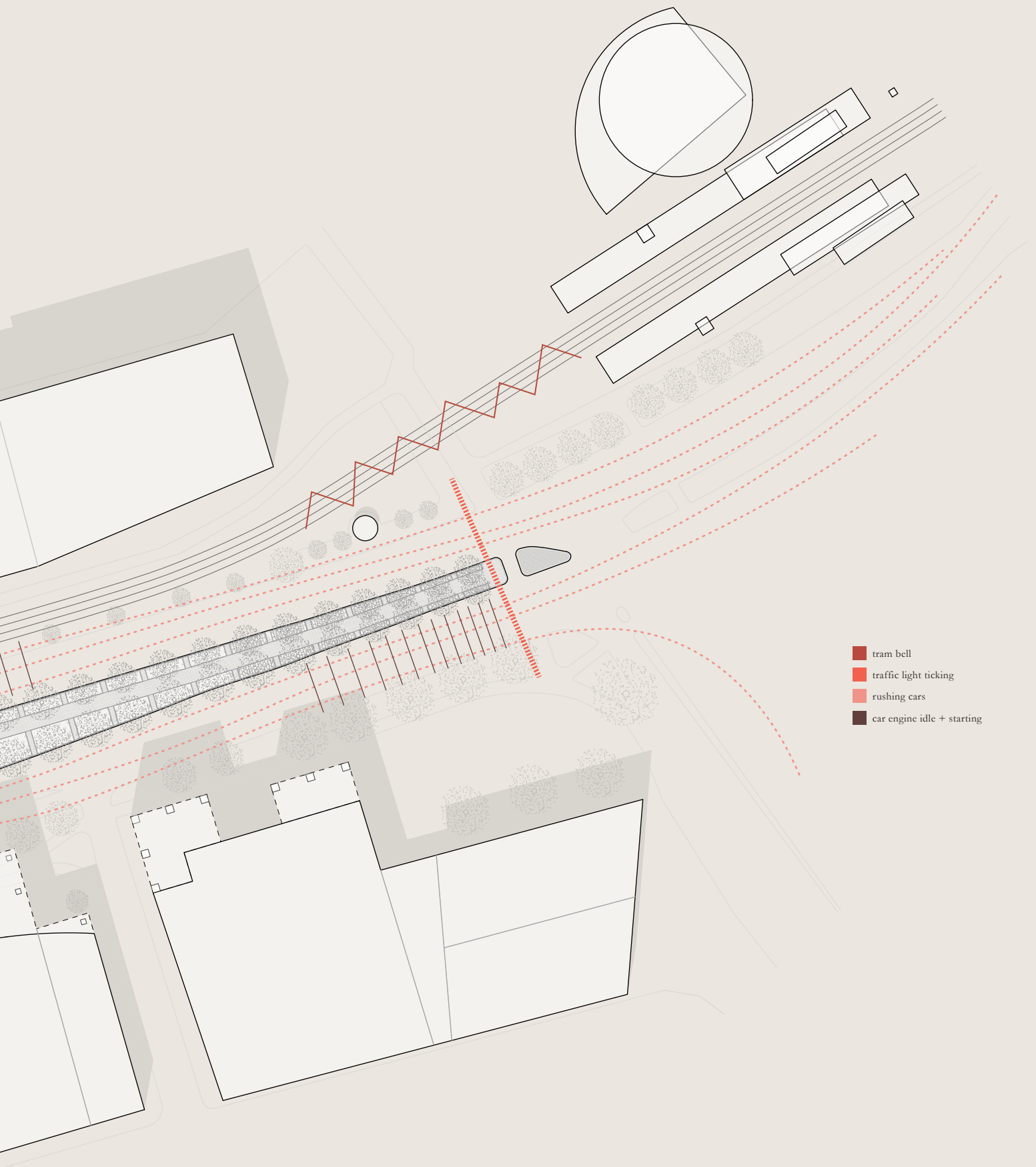
EXPOSURE

NOISE

Located within a vibrant transport artery in the midst of the city, the site is extremely exposed to traffic noise. On the surrounding facades, 67-69 dB have been measured on average throughout the year.² This amount is understood as damaging to one's health when exposed to for a longer time.³

Reoccurring sounds of trams ringing, traffic lights ticking and the oscillating rushing or waiting cars are interdependent and create an orchestra which structures the experience of the space.

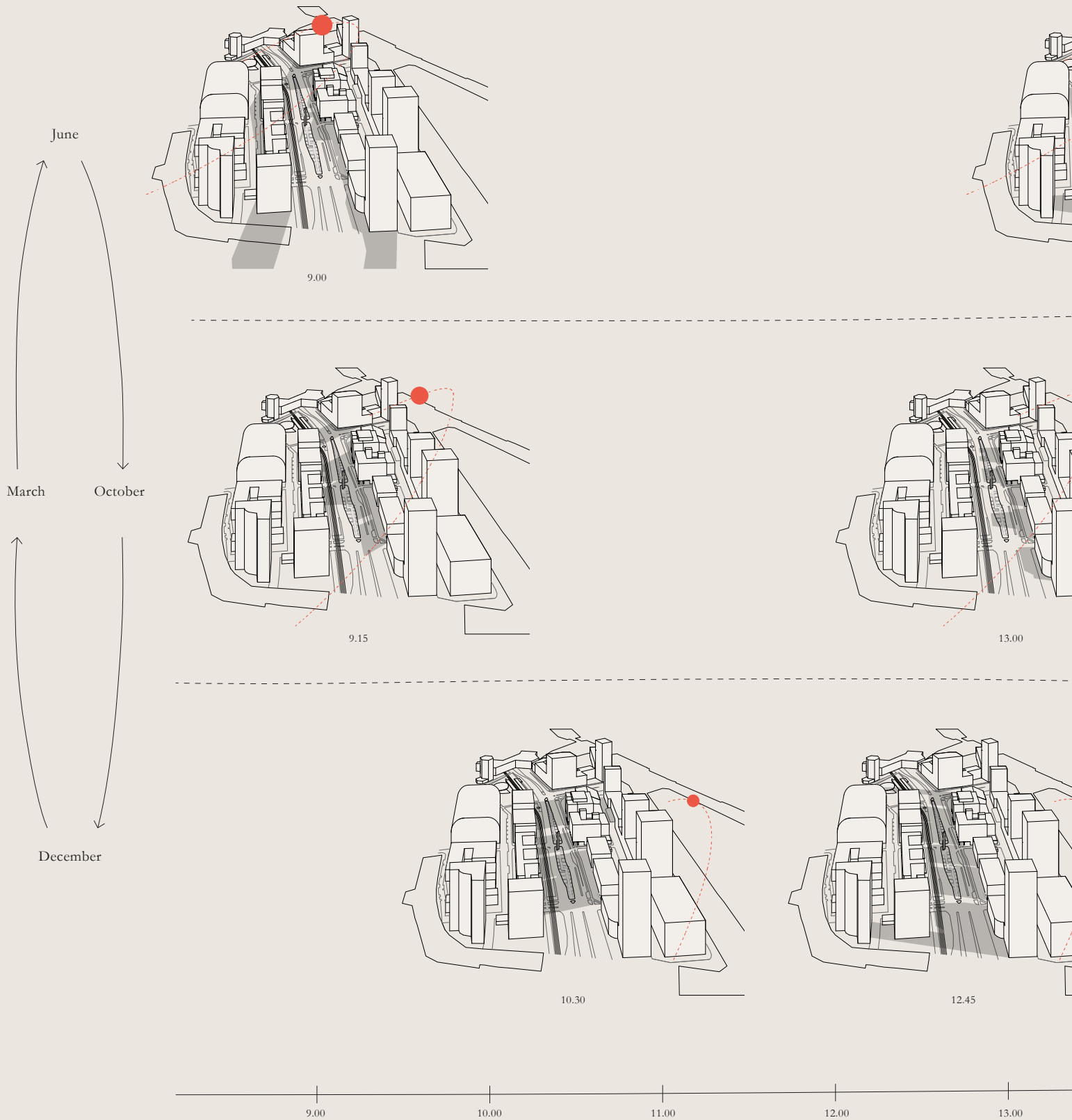




029 Map of Noise Sources 1:1000
 Localization of different sound sources of
 various kind, mostly connected to traffic.

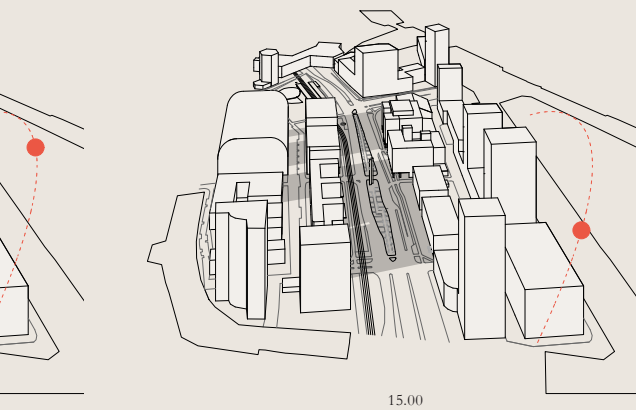
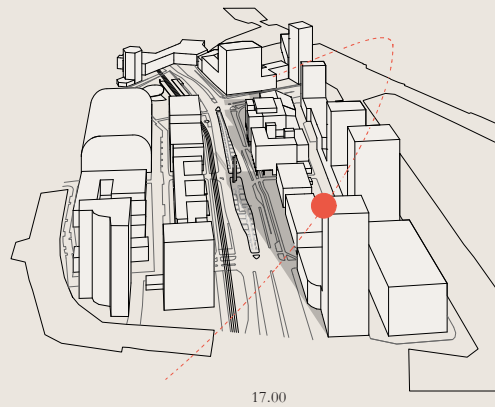
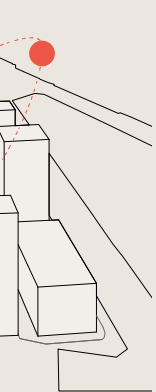
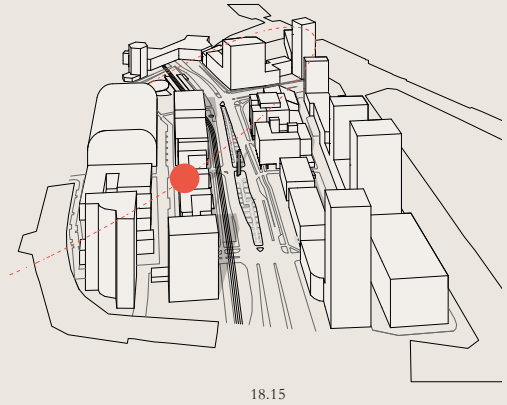
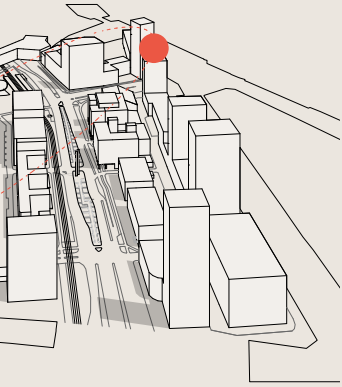
EXPOSURE

SUN AND SHADOW



030 Yearly Trajectory of the Sun

Indication of shadows that cast on site, derived from surrounding buildings. Comparison of the seasons and three moments of the day: morning, noon, evening.



031 Midyear's Diffused Trajectory

Coal drawing of daily shadow trajectory during March and October, representing blurred outlines in Dutch weather conditions.

9.15



13.00



17.00

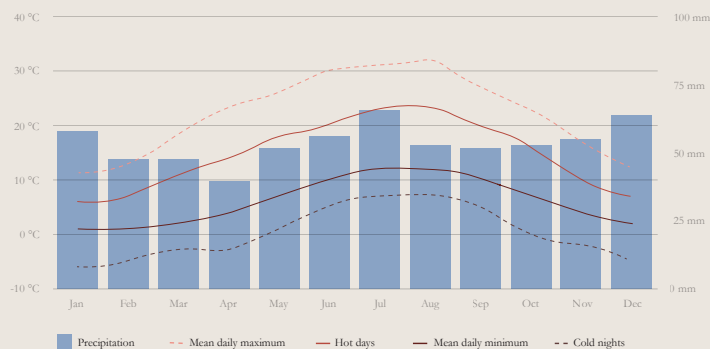


After having investigated how the shadow of the surrounding buildings falls on the site throughout the trajectory of a year, a number of conclusions can be drawn: In winter, it is almost entirely in shadow. In summer, however, it is almost entirely exposed to the sun.⁴ The following study thus focuses on the more variable daily trajectory of the midyear, including the casted shadows of trees on site. Here, one can recognize more play in sun and shadow on the site in question. The

course of the sun during March and October is therefore more interesting, but also more representative since it is the most prolonged and occurring. What additionally has to be taken into account is the prevalent situation of partially cloudy Dutch weather, which hardly ever projects sharp shadows on the site.⁵ The phenomenon of diffused shadows is represented in the following study by employing the method of coal drawing.

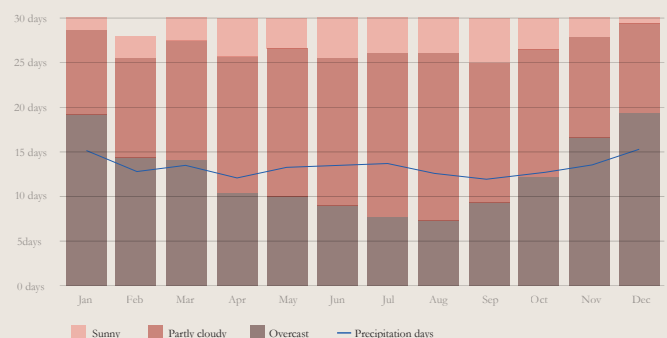
032 Average Temperatures and Precipitation

Average temperature of the hottest day and coldest night per month, as well as average maximum and minimum temperature and amount of rainfall.



033 Cloudy, Sunny and Precipitation Days

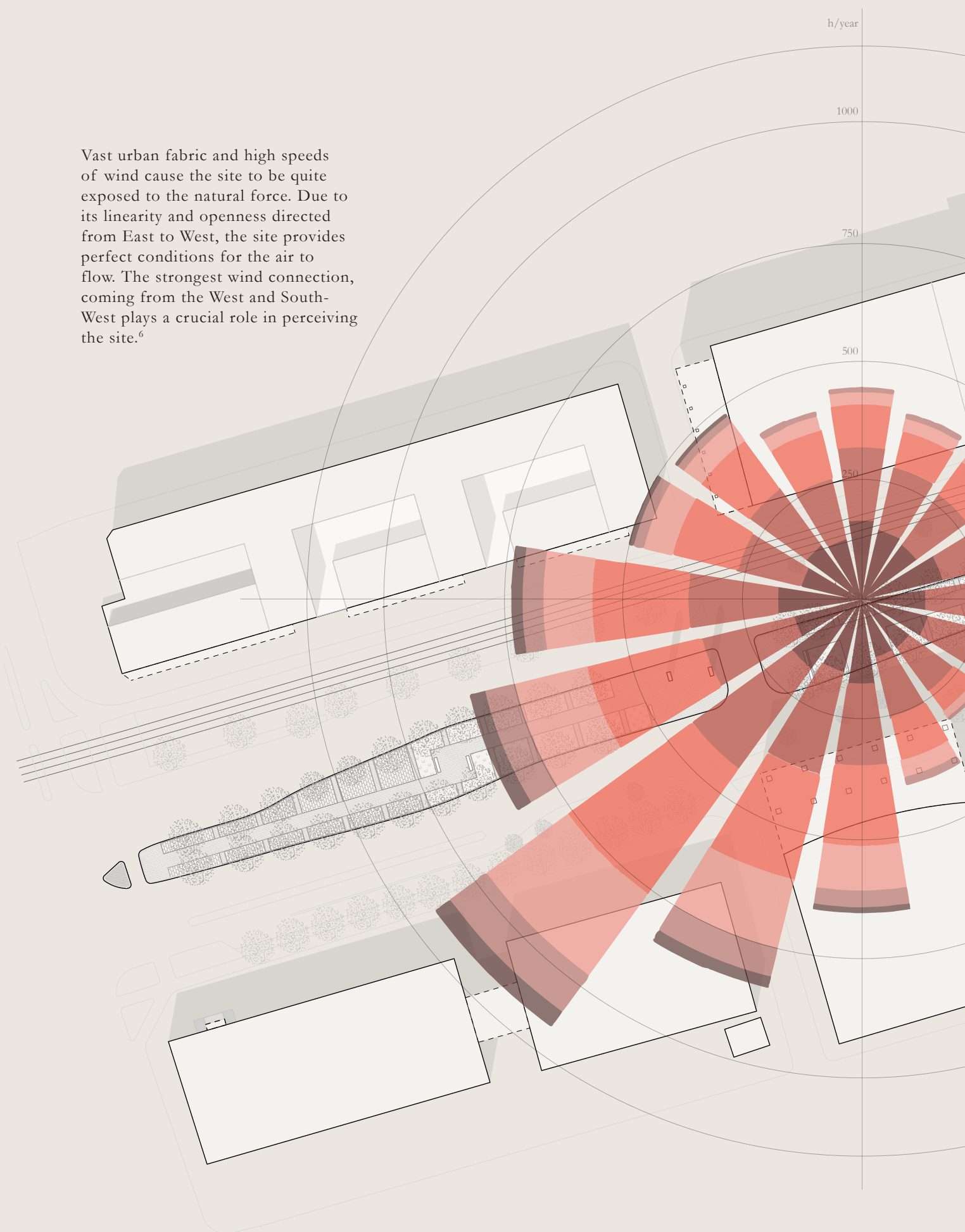
Monthly number of days of certain cloud coverage: sunny (<20%), partly cloudy (20-80%) and overcast days (>80%), as well as monthly number of rainy days.

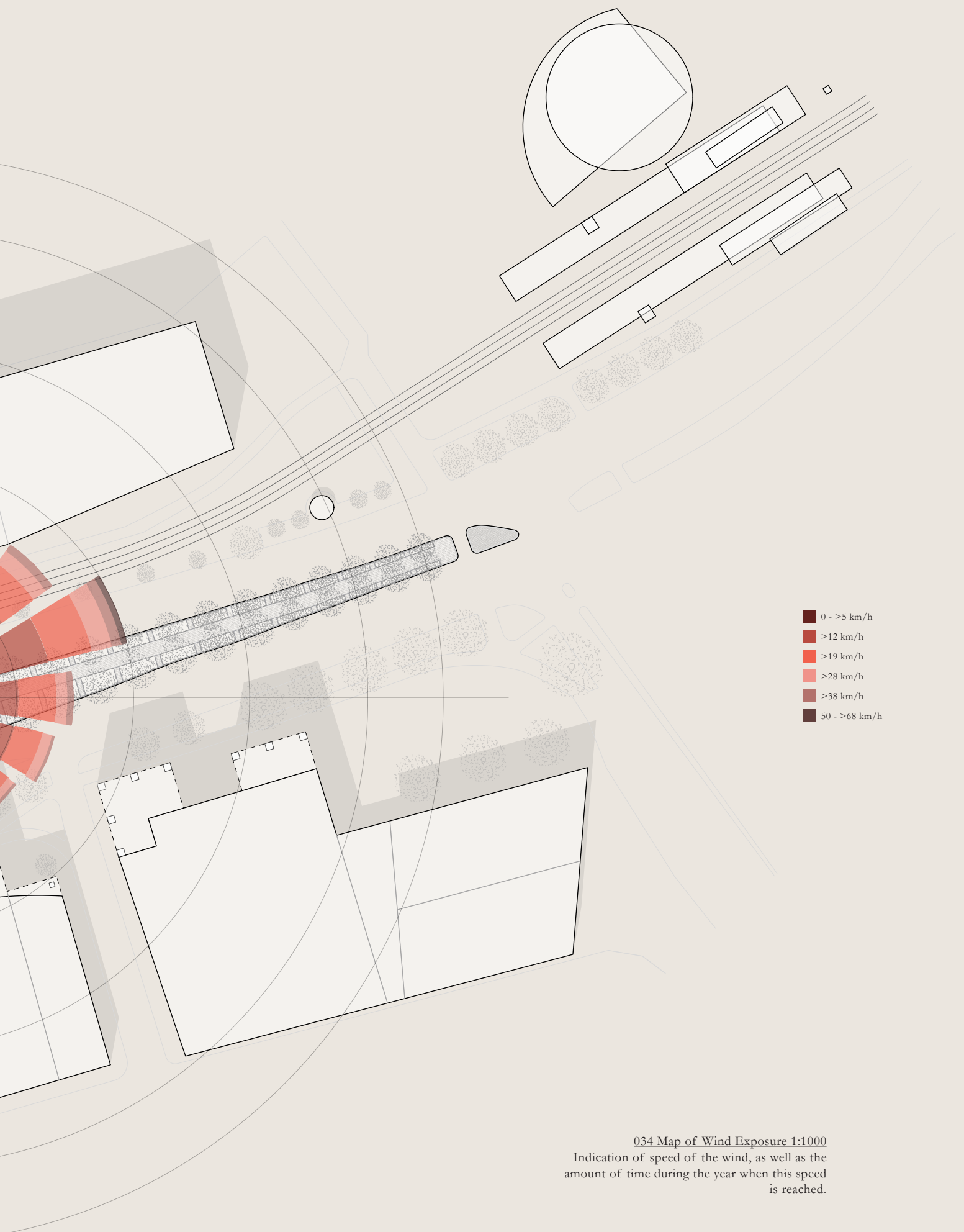


EXPOSURE

WIND

Vast urban fabric and high speeds of wind cause the site to be quite exposed to the natural force. Due to its linearity and openness directed from East to West, the site provides perfect conditions for the air to flow. The strongest wind connection, coming from the West and South-West plays a crucial role in perceiving the site.⁶





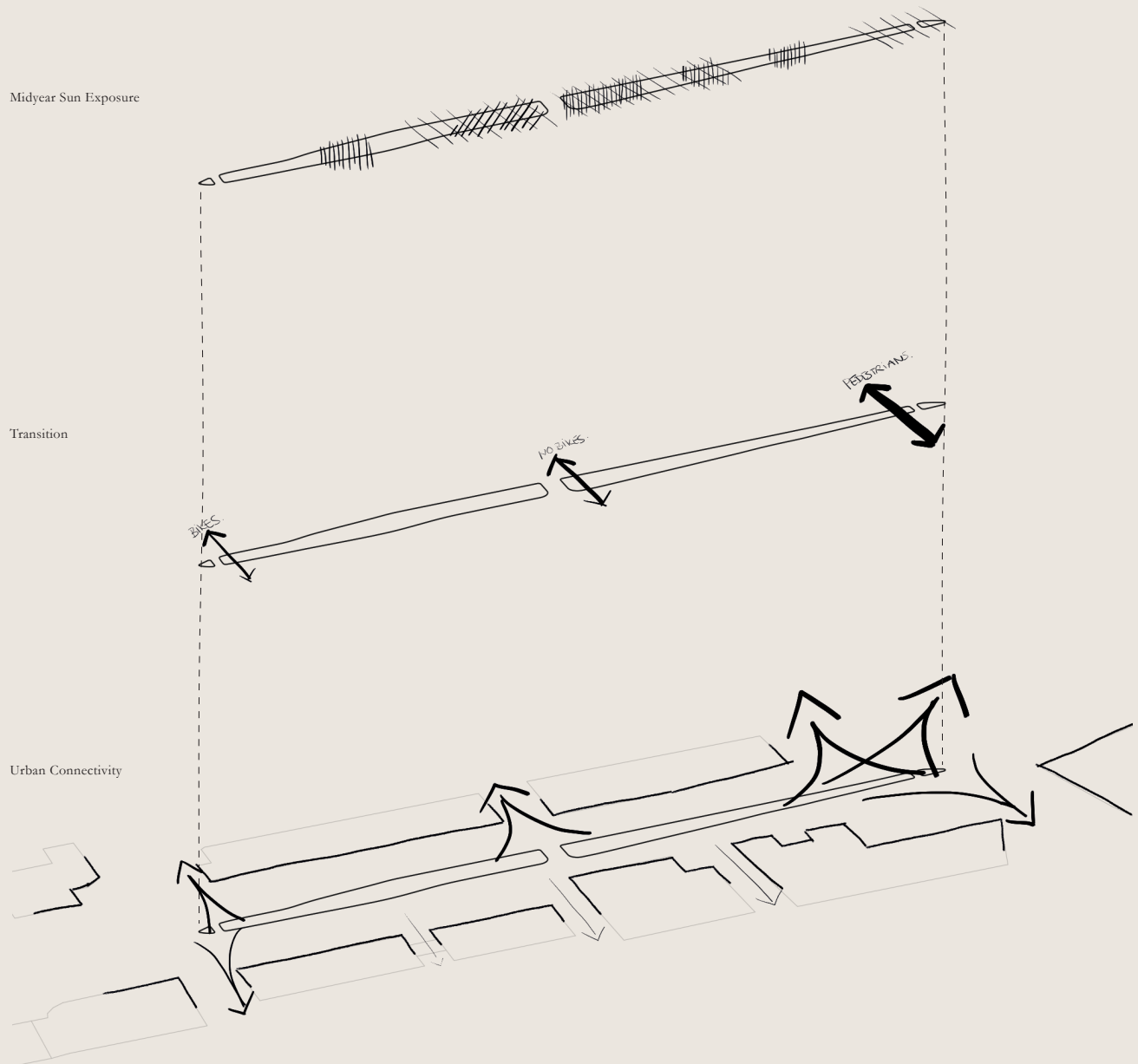
034 Map of Wind Exposure 1:1000
 Indication of speed of the wind, as well as the
 amount of time during the year when this speed
 is reached.

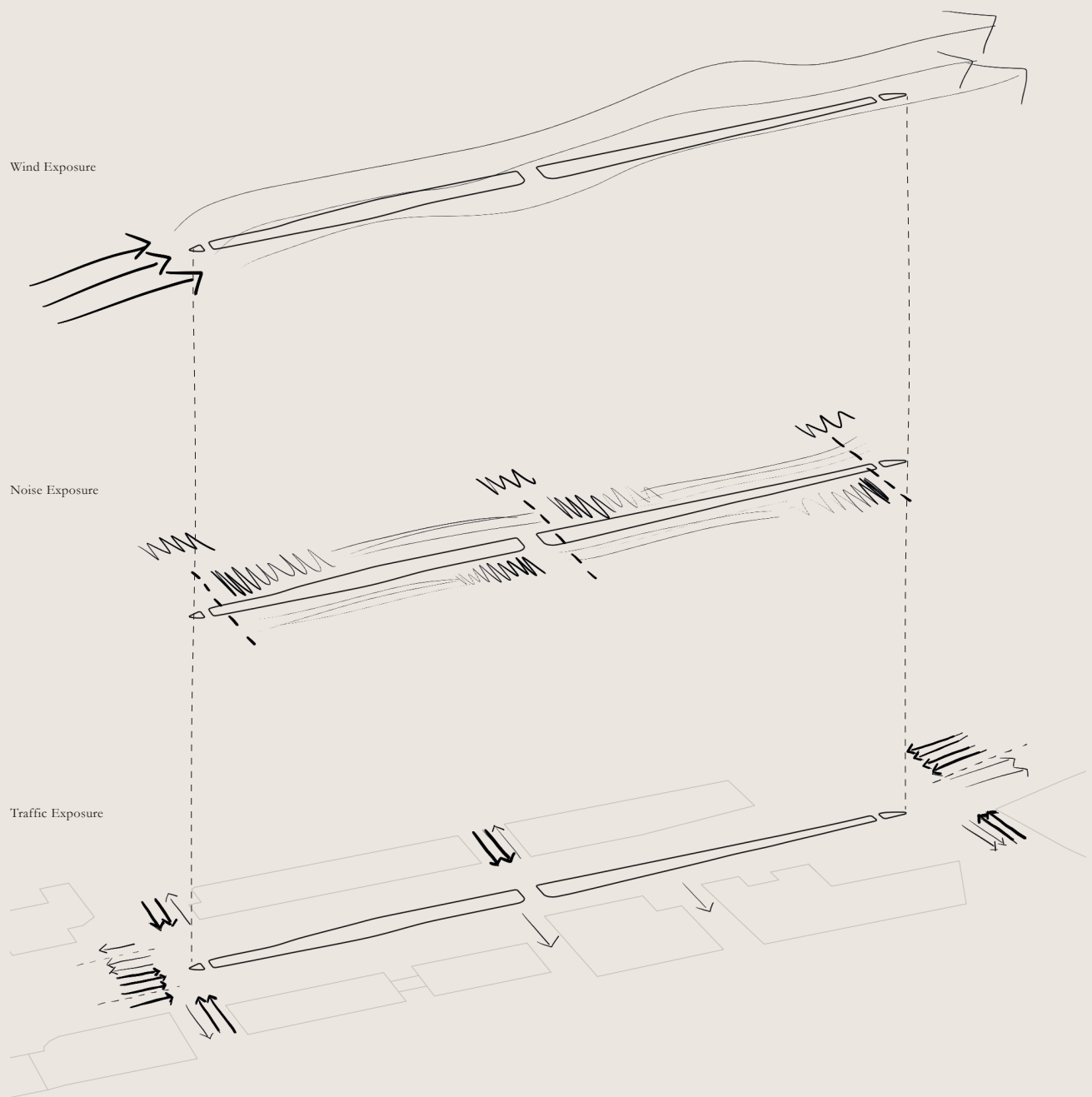
SYNTHESIS

LAYERED CONCLUSIONS

035 Layered Conclusions

Layering striking intensities that can be found on site, conducted under different aspects.





According to the sequence of consideration that has been the outcome of the graduation research, after having investigated a singular context from various perspectives, one must start to grasp the interconnectedness of such aspects. It is hence imperative to conclude and synthesise intensities of different bodies and actors present at the site in a way that allows such connection. Of course, this has to be understood as a radical simplification and is only a follow up of the foregoing in-depth analysis of the site.

Factors that have been represented are important aspects for the ambitions of the architectural design, which concern exposure to the elements such as sun and wind, as well as traffic, connectivity to the city and the quality of transition. By layering them above each other, one can find special places in time where certain intensities overlap and create their own singular situation. This way, one can recognize and represent the singular quality of those points, as well as of the site in its entirety.

ENDNOTES

SOURCES

1. <https://nl.wikipedia.org/wiki/Stadsdriehoek>
2. <https://www.rotterdam.nl/wonen-leven/geluid/>
3. <https://www.euro.who.int/en/health-topics/environment-and-health/noise/noise>
4. <https://www.gaisma.com/en/location/rotterdam.html>
5. https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/rotterdam_netherlands_2747891
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<https://wederopbouwrotterdam.nl/en/articles/post-war-reconstruction>
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