

Welcome, home



MSc thesis

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stated otherwise*

WELCOME, HOME

urban biography about the past and
the future of a deprived residential
neighbourhood typology

featuring the cases of Rotterdam and Minsk

P5 REPORT
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With the progressing housing shortage, there is a need for affordable and accessible housing to accommodate the vulnerable population whose number steadily increases every year. Post-socialist urban residential neighbourhoods, an outdated and neglected but culturally and sentimentally significant typology, has the potential to become a solution for this. If regenerated in a considerate way, those have the potential to become not only areas offering affordable housing and comfortable living conditions for the vulnerable population, but places which feel like home and provide the support to help the residents become less vulnerable and grow further socially and financially. Informed urban regeneration of the public spaces of post-socialist urban residential neighbourhoods with focus on the accumulation of social capital would accommodate the need for both housing and community, while helping the neglected typology become a place that truly feels like home and a place to belong. Essentially, the goal of the project is to argue that having a home is not only about ownership, because the notion of "home" goes beyond that -- home is also our social capital, and the possibility to create or maintain social capital needs to be facilitated accordingly in urban residential neighbourhoods.

Keywords: deprived neighbourhoods, social capital, gentrification, belonging, post-socialist residential areas, urban design, designing for interaction

This thesis is the result of my final year as a master student at the department of Urbanism at TU Delft. It is a culmination of everything I learned during my time as a built environment student, from the utilisation and demonstration of knowledge I accumulated through the years to the expression of who I am as an urbanist and what my values are. Being able to do this would not have been possible without the people involved in this thesis directly and indirectly through helping, supporting, teaching and guiding me, or just being there for me.

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KEDYSHKO, MINSK



OUD CROOSWIJK, ROTTERDAM



PART I: EVERYONE SHOULD HAVE A HOME

PROBLEM DEFINITION

What is the context of the project?

CHAPTER 01

Introduction: the locations

The project focuses on two residential neighbourhoods in Minsk, Belarus and Rotterdam, Netherlands: Kedyshko and Oud Crooswijk. Both neighbourhoods were developed and built during the era of post-WWII economic growth as a response and solution to the housing shortage affecting mainly the working class population, which is why the neighbourhoods have a primarily residential profile, consist mainly of social housing, and the only housing typology present there is apartment buildings. And, currently, both of these neighbourhoods are considered poor, unsafe, neglected and extremely unfavourable as locations to live at (Mozzhukhin, 2016, NOS, 2021a, Vries, 2016), which is attributed mainly to dysfunctional and lacking residential public spaces within (Ryshkina, 2018) and the municipality refusing to take impactful action to help improve that character of the neighbourhoods (NOS, 2021b).

Aside from that though, at first glance, the similarities between the two neighbourhoods seemingly end, and obvious differences start coming to light. The first apparent difference is the contrasting sociohistoric contexts: the Minsk neighbourhood was developed when Belarus was a part of the Soviet Union -- a dictatorship (Smith, 2012) -- whereas the Rotterdam one comes from a much more democratic western background, which already would be a significant implication, making it hard to imagine that two neighbourhoods so apart in terms of sociohistoric background could be anything alike. Moreover, there is quite the “age difference” between the neighbourhoods: Kedyshko (Minsk) was built in the late 1950s, and Oud Crooswijk (Rotterdam) in late 1970s - early 1980s, approximately twenty years apart, which is a considerable amount in terms of built environment developments. Thus, looking back to the similarities, the doubt towards it being logical to link and put these two neighbourhoods in the same category, despite them having some shared characteristics and issues, would be entirely justified.

And yet, surprisingly, Kedyshko and Oud Crooswijk still somehow belong to a one particular urban residential typology for a variety of different reasons, and this typology is currently facing multiple crises, making it extremely vulnerable and questioning the certainty of its future, and the desire to not let this typology disappear essentially is the main motivation behind this project.

Introduction: the intention of the project

Aside from the main motivation, the project is also guided by the two main structural points. The first one is proving that the two investigated neighbourhoods indeed belong to the same typology, socioeconomically and spatially, and determining the reasons which led and are leading to the typology's decline in the past and present, and the second point being focussed on developing an urban planning and design approach that addresses this decline and provides solutions for the typology to be able to continue existing currently and in the future, instead of eventually becoming demolished and extinct.

Furthermore, the project is determined to cultivate affection towards the investigated typology in the readers and make explicit the significance the neighborhoods of this typology have for the urban and social lives of cities and their residents. On top of that, with residential neighbourhoods as the main focus, the topic of home is another important point for the project. What is a home?, Where does home begin?, and What does a home offer? are the key questions answered throughout the work's progression.

It is also intended that the project is understood not simply as a report documenting the process, findings and conclusions, but as a story as well. A story about a typology, reasons why it came to exist, the intended qualities it was expected to provide; a story of how its "life" ended up playing out in reality and how it needs to be changed in order for the typology to be able to have a future -- basically, a biography of some sorts, which focuses on a place but always implicates people too, since every place exists for a reason, and in most cases (but especially in this particular case about the residential neighbourhoods) such reason is to provide environments beneficial for its residents. And, to get this story started, I invite you to travel to the past first -- and "meet" the typology investigated throughout the project and its conception.

Introduction: the context and the investigated typology

The year was 1953, and the Soviet Union and its government was faced with resolving a major housing crisis. The Second World War affected it extremely hard, and Belarus, being a part of it at the time, also suffered greatly. Not only was there a huge population loss, with every third Belarusian having died in WWII (Consequences of the Great Patriotic War for Belarus, n.d.), but many cities, towns and villages were entirely torn to the ground (Sergeeva, n.d.-c), leaving many of the remaining population either homeless or living in bad conditions ('Socioeconomic Consequences of the War', n.d.). Such mass development of the built environment required a lot of resources and, of course, money, none of which were available, considering the circumstances and with the economy of the Soviet Union being destroyed ('Socioeconomic Consequences of the War', n.d.). Therefore, rapid economic growth and financial recovery became the main priorities for the Soviet Union, and the development and build-

ing of new housing became postponed for the time being (Sergeeva, n.d.-c). Due to this, even with the war being over, the majority of the population of the entire Soviet Union had to live in temporary housing (barracks) or so-called communal housing (Sergeeva, n.d.-c): apartments with multiple bedrooms and a shared kitchen, bathroom and living room, where people from different backgrounds were flatmates, even if they were not family or acquaintances. Most of the population was fine with this arrangement though due to its temporary implication. It was believed that once the economy was recovered enough (expectedly within the next five years), the government would provide the population with better housing (Sergeeva, n.d.-c).

The expectations proved to be true, and within the first five years after the end of WWII (1945-1950), the economy of the USSR had improved so much that its production volume became almost two times higher in 1950 than before the war (Sergeeva, n.d.-c). But despite the government finally becoming capable enough of addressing and resolving the housing crisis, it still did not initiate the provision of much needed housing for the population (Sergeeva, n.d.-c). Due to the rise of the economic sector made the housing crisis significantly worse (Gorlov, n.d.): if right after the war there just was a global housing issue due to the mass destruction of the built environment, now this crisis became much more severe because of the mass migration of the village population to the cities (Gorbachev, 2002).

It is crucial to understand that, even before the war, the majority of the Soviet Union population lived in rural areas and worked in agriculture, and cities were significantly smaller compared to their current sizes. For context: in Russia, the city population was 36 million residents, while the rural one was 72 millions in 1939 (Statistics: Urban and Rural Population of Russia, n.d., citing the data from the Federal State Statistics Service). However, the rapid industrialisation, along with the villagers receiving their first ever passports, became the catalyst for their rapid migration to the cities (Sergeeva, n.d.-c), where factories, industries and universities were (being) built, and where the salary was considerably higher than the jobs in the villages offered as well. According to the same data from Statistics: Urban and Rural Population of Russia (n.d.), in 1950 the city population became 46 million residents and the rural one shrank to 57 -- almost the 1:1 ratio compared to the 1:2 one from right before the WWII. And the government was unable to provide all these new industry workers with adequate housing (Gorbachev, 2002).

Despite addressing the housing shortage by reconstructing the housing torn down during the war, the speed at which the new housing development was proceeding did not match the population increase in the cities. Even after five years of great economic growth, the only housing provided for the working class was still either communal or temporary (Mamyachenkov, 2010). Therefore, the majority of the population did not have its own housing, and living spaces had to be shared with others, not providing the much needed privacy. At that point, the population had grown so dissatisfied with these conditions that multiple collective complaints were registered by the Central Committee of the Communist Party of the Soviet Union (Archive of Alexander N. Yakovlev, n.d.) and discussed at the party's meetings.

The reason for the lack of permanent or non-communal working class housing was the fact that a housing typology which fit the government's expectations for the residents' needs as well as satisfied the fast production requirement at the same time just did not yet exist.

Despite the Soviet architects being familiar with "standard housing", which theoretically made it possible to build houses quite fast, the only standard housing typology existing by that time was a stalinka, and stalinkas were explicitly developed either for the nomenklatura or to be used as communal housing by multiple families (Wikipedia contributors, 2022b), which essentially did not help solving the housing crisis but also contributed to it. Thus, not long after Stalin's death in 1953, a new socioeconomic agenda was set in place, with emphasis on the need to develop a new standard housing typology that would accommodate the working class population and be cost and time efficient (Sergeeva, n.d.-b).

Aside from the housing reform, Stalin's death had also brought a lot of change to the state of the society: a lot of repressed people were rehabilitated and reinstated, and the new leader of the USSR Nikita Khrushchev was determined to relatively democratise the social life and create a society of educated and employed people (both women and men) (Boroday, 2012). Following this agenda and with thanks to the rapid economic growth of the previous decade (1945-1955), Soviet government invested a lot into the social needs of the population, which resulted in the free education for all policy and establishment of significantly lower taxes for working people and students in 1957, along with the constant raise of the minimum wage throughout 1956-1960 (Sergeeva, n.d.-b).

As for the housing reform, the goal was to "give each family a flat of their own", which jump-started the development of the new standard housing typology meant for this new, equal, educated and working society. The development took a few years (1953-1955), but after the new residential housing and neighbourhood typology has finally been developed and its implementation began in the year 1956, an enormous amount of working class families was finally able to move into their own, permanent and non-communal houses (Sergeeva, n.d.-a), which can truly be deemed as an incredible success. Just within 1956-1960 54 million people all over the Soviet Union had moved to this typology from barracks and communal housing (Fig. 1), and the urban housing stock of the USSR had increased by 80% (Sergeeva, n.d.-a).

This new developed residential housing typology was named khrushchyovka, after Nikita Khrushchev, and it was usually four or five-story tall apartment building with 55-58 square meter apartments consisting of two bedrooms, one living room and necessary amenities like an own kitchen, an in-house bathroom and a balcony) (Khrushchyovkas. Description and Typical Layouts, 2011). Panel housing with minimalist facades and made usually out of reinforced concrete, its construction was quite fast and affordable. Other details about it, however, will be discussed later in the chapter, because right now it is more important to finally introduce the neighbourhood typology this graduation project is dealing with that came to exist due to the mass implementation of khrushchyovkas. Please welcome the main star of the project: **the sleeping neighbourhood**.



Figure 1: "In new conditions" (1957) by G.A. Semakov, depicting a family that just moved into the apartment in one of the newly built houses



Figure 2: An example of the “first generation” sleeping neighbourhood discussed in this project (The Village, 2017)

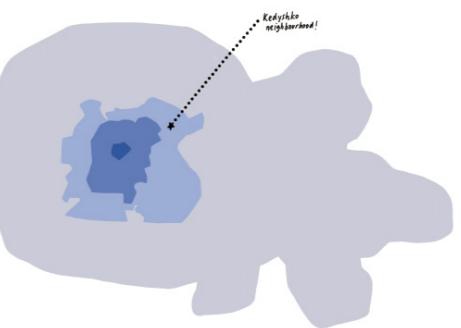


Figure 3: An example of one of the current “new generation” sleeping neighbourhoods - this one is in Tokyo, Japan (Pikabu, 2016)

“Sleeping neighbourhood” is what this type of neighbourhoods are called in Russian language, and in the west such areas are mostly known as “commuter towns” or “bedroom communities”.

Personally though, I believe that sleeping neighbourhood is the most fitting title, since it encompasses the nature of this urban residential typology most vividly and concisely, because, essentially, these neighbourhoods actually were intended to be mostly slept at. The very initial idea for their creation was to provide a place for the working class to spend their evenings and nights at before waking up in the morning to commute back to their workplaces, which made their homes primarily places of rest and the neighbourhoods the sleeping areas. As described above, the original neighbourhoods like this emerged as a consequence and reaction to the post-WWII housing crisis and economic boom, but neighbourhoods like this are still being built in various countries across the world (Surprising Similarity of Sleeping Neighbourhoods in Different Cities of the World, n.d.), usually on the outskirts of the cities (Taylor, 2022). These “new generation” sleeping neighbourhoods (Fig. 3) though are much larger in scale and size, and their separation from the central city areas makes them substantial urban entities with urban fabric of their own. On top of that, due to this explicit separation from the centre, it makes them true commuter towns, since the residents do have to commute to their places of employment and back, so these neighbourhoods indeed are the “sleeping” ones.

Figure 4: Urban expansion of Minsk with relation to Kedyshko neighbourhood illustrated, with Kedyshko (built in mid 1950s) as the black dot and the lightest blue area representing the expansion of Minsk from the 1960s to current time



What makes the “first generation” sleeping neighbourhoods (Fig. 2), built throughout the late 1950s to early 1980s, an extremely special case though is that currently, due to how far and wide the cities have grown around them because of the still ongoing urbanisation, they stopped being sleeping neighbourhoods functionally. By current standards, they are within the central city area (Fig. 4), which makes commuting significantly shorter and less necessary in most cases. However, the city’s urban fabric formed around them, without proper integration or consideration, which makes them isolated even despite their location (Mozzhukhin, 2016). Along with that, the purpose of these neighbourhoods evolved as well: they are not just places for sleep anymore, as the requirements of their residents have also changed both due to the neighbourhoods’ new placement within the city, but also due to the inevitable changes in society. However, since they were not built for any other purpose than that, they are unable to provide anything beside that, which makes them quite undesirable residential neighbourhoods despite their convenient location. These neighbourhoods with affordable homes for low- and lower-middle class residents are now holes in the urban fabric of cities, and have become un-integrated and unfacilitated areas with decaying image and living quality not up to the standards of current and future residents (Shchukin, 2013).

But why should we care about these first generation sleeping neighbourhoods?

What if these recent developments are a sign that the time has come for the new generation sleeping neighbourhoods to continue the heritage, but the original sleeping neighbourhoods should disappear and make way for a development more fitting for the current context and audiences, since they are not even fulfilling their original function anymore, being the residential neighbourhoods one would commute to and from?

Such reasoning is very logical, because, indeed, the function of these neighbourhoods has changed completely, and with the neighbourhood being unable to respond to it there is a definite need for a redevelopment. And, considering the neglected and unattractive character of these neighbourhoods, it is reasonable to demolish and rebuild upon them.

However, these neighbourhoods are still fulfilling their main purpose: despite all the changes in time they still provide affordable housing for the low- and lower-middle income population, and with their newly acquired improved accessibility this makes them quite the perfect neighbourhoods for the financially vulnerable. Built decades ago to be affordable first ever homes to millions of ordinary people, they are almost like cultural heritage, but not officially recognised -- I believe that we should not let this typology disappear so easily without giving it an opportunity to redeem itself. And, not speaking personally, but as an urban planner and designer, these first generation sleeping neighbourhoods can contribute to the alleviation of currently ongoing housing crises, like the one Rotterdam is currently facing (NL Times, 2022a).



Sticker spotted in Rotterdam: "The poor out of the neighbourhood, the rich in." (taken in June 2022)



Poster on the window of one of the houses in Oud Crooswijk: "Do not demolish us further!" (taken in September 2021)



Figure 4: Billboard on the border of Oud Crooswijk: "Demolition is (not) a must -- demolition of 174 apartments in Crooswijk" (taken in September 2021)

Problem field: global context

Housing crisis and the future of vulnerable neighbourhoods

As of June 2022, according to NL Times (2022b) citing the data from Atlas Research, there was a shortage of 390000 homes in the Netherlands. This is a progressing issue, and the housing market of the country has been referred to as "nightmareish" in the past decade, with people consistently struggling to buy their first homes (Lalor, 2022). As a response to that, the country's government is determined to build 845000 new homes within the 2020-2030 timeframe (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2020), thus, over 90000 per year. However, so far this has not been as successful as projected, with COVID-19 stalling the process at first, and then the war in Ukraine pushing the construction costs higher due to the rise of energy prices and lack of raw materials (NL Times, 2022c). And, on top of that, it is reported about the staff shortages in the construction sector as well (NL Times, 2022c). Aside from the housing shortage in the private sector, there is also a great need of social housing for the renting sector: The Maas Dome, a Rotterdam housing association, mentioned a need for 30000 more social housing rental homes being needed just in the Rotterdam region (NL Times, 2022a), emphasising that "Everyone should be able to live [in a home]".

Considering this context, it becomes clear how much harder the resolution of such housing crisis is compared to the one faced by the Soviet Union seventy years ago. Even though there is more advanced construction knowledge and technologies now which allow building the housing faster, there still is a considerable amount of complications. And, aside from the factors contributed to it mentioned in the previous paragraph, there is one last major complication: there is a shortage of land to build new homes on, with South Holland (the province Rotterdam belongs to as well), being one of the three regions where this issue is the most prominent (RIVM: Te Weinig Ruimte Om Woningen Te Bouwen, 2019). Reasons for that is the nitrogen crisis (RIVM: Te Weinig Ruimte Om Woningen Te Bouwen, 2019) and Rotterdam and its region being "extremely urbanised" (Vanham et al., 2016). Which is why rebuilding the existing neighbourhoods has become a more common practice in urbanism and architecture in recent years, and the areas becoming the targets of demolition and redevelopment are in most cases the residential neighbourhoods built during the post-WWII era (Noyon, 2008) -- the affordable apartments for working class, sisters of Oud Crooswijk and cousins of Kedyshko. And, incidentally, Oud Crooswijk is a soon-to-be victim of demolition as well (Fig. 4).

Such practice may seem quite logical, especially after learning about the neglected and undesirable character these neighbourhoods have a few paragraphs above. If these neighbourhoods can be redeveloped in a way that increases their living quality and provides more housing opportunities, it would be a sound solution. However, there are a few significant nuances.

Gentrification and the right to housing

The redevelopment of these neighbourhoods is not done with the intention to only provide more housing and better public spaces for the current and

future residents. In most of the cases it also goes hand in hand with gentrification (Teunissen, 2021). Hochstenbach (2017) mentions how there has been a trend of "old workers' neighbourhoods" -- the post-WWII residential developments -- becoming quite popular with the middle class due to their accessible location close to all main amenities and affordable housing prices. This triggers a few responses: more amenities suited to the interests of this demographic being opened in these neighbourhoods like "hip cafes", since the middle income population tends to spend more on that compared to the low and low-middle income ones, and the housing and renting prices become higher too as a result (Achterstandswijk Populairder Bij Starters: 'Door Hoge Huizenprijzen', 2021). These developments make the neighbourhoods less affordable and forces the low income residents to move elsewhere, since it becomes impossible to afford the new prices (Hochstenbach, 2017). This is a classic case of gentrification, the "economic and social changes that are a result of an influx of higher-income residents and housing investment, also characterized by the displacement of lower-income residents as housing stock values rise" (Schnake-Mahl et al., 2020). And, considering the current dutch housing context, where there is a shortage of both privately owned and rented housing stock, gentrification also worsens the housing crisis, since these displaced residents would without a doubt struggle with finding a new place to live.

The case mentioned above is an example of slower-paced gentrification, when the process happens gradually over time. However, there also is plenty of cases across the Netherlands and in Rotterdam specifically when gentrification is more rapid and aggressive (Bockxmeer, 2021), when the municipality makes a conscious decision to demolish and rebuild entire neighbourhoods with intention to cater to the middle and higher-middle income population, since it is more profitable (Hochstenbach, 2017) and as gentrification in general is guided by desire to make neighbourhoods more attractive to businesses and investors (Zuk et al., 2017). To make the matters worse, the post-WWII urban residential neighbourhoods are comprised partially or almost fully out of social housing, so if an area like that is redeveloped and less social housing is included there due to its less attractive to the investors nature, it contributes to the already severe rented social housing shortage. For instance Tweebosbuurt, a neighbourhood in Rotterdam primarily consisting of social housing, was set to be redeveloped in 2018 by a housing corporation which announced its intention to demolish 535 social apartments there and replace those with 374 new apartments, with only 130 of which being social ones (Tweebosbuurt, 2021).

These numbers illustrate how significant the contribution of such redevelopment projects to the housing shortage and the amount of residents which would be subjected to forced displacement out of their homes. And, on a social level, such gentrification induced displacements have an extremely negative effect on the already vulnerable population, making it even more vulnerable. Not only will these residents have to find affordable places to live in a country with extreme housing shortage, but they basically would have to rebuild their whole lives anew, from possible job loss to becoming disconnected from their communities. And having a community is extremely crucial for the vulnerable population: the presence of commu-

nity ties and horizontal networks -- or social capital -- is capable of alleviating an individual's social vulnerability and providing them with support and security (Putnam, 1993).

Problem field: local context - societal implications

The role of social capital and its importance

There are three types of social capital: bonding, bridging and linking (Gannon & Roberts, 2018). Essentially, all three types are focussed on creating connections between people, so that these connections would enhance the people's social security and stability on individual and communal levels (Drew, 2022). However, there is a difference in scales of these connections. Bonding is the social capital you generate through interactions with people who come from the same social group or circle as you, like family, coworkers or, in the urban residential context, neighbours (Drew, 2022). Bonding is also about the strengthening of the bonds you have with people from your circles, not the circles' expansion. Bridging and linking, however, are about the expansion of connections beyond your usual circles. Bridging is horizontal: it is social capital generated through interacting with people from other social groups and creation of new ties and contacts (Drew, 2022). Linking is vertical: this is the social capital generated when common people and for example government officials interact; it is about the leverage of power and influence (Drew, 2022).

The more vulnerable populations, such as low-income and low-middle income classes, benefit from the generation of social capital the most, since their social standing is the least secure of all as they are less socially protected, therefore, to compensate, they must rely on their social connections. There are many benefits to having a well-composed social capital: for instance, it is known to make job search easier (Mouw, 2003), or help foster resilience in turbulent urban environments, especially in vulnerable urban contexts (Paranagamage et al., 2010, Mpanje et al., 2018). Even if the environment barely facilitates the generation of social capital, it still grows over time in a neighbourhood, providing the residents with stability, support, and even improving their social standing and belonging to their place of residence (Paranagamage et al., 2010).

Thus, when the government allows gentrifying developments and deprives its vulnerable population of spatial stability, forcing it to move from a place to place due to not enough affordable housing, the generation or even maintenance of social capital becomes impossible, and the vulnerable population grows more vulnerable.

Recent increase in the vulnerable population

Moreover, regarding the vulnerable population: there has been a steady increase in it generally over the recent years. Shrinking of middle-income population and increase in lower-income population has been an ongoing trend (Vacas-Soriano & Fernández-Macías, 2017), along with inflation and recession (van de Kerke & van Huisseling, 2022), now also amplified by

the war in Ukraine, and the consequences of COVID-19, ranging from economic implications to people becoming unable or less able to work due to long covid (Bach, 2022) -- a lot of people are affected by all these factors, and this needs to be addressed through providing them with urban environments capable of giving them possibilities to maintain and generate their social capitals.

Problem field: local context - spatial implications

The role of public space of urban residential neighbourhoods in generation of social capital

Paranagamage et al. (2010), referencing Wilmott and Young (1971) and McMillan et al. (1986), make it explicit how social capital not only helps in cultivating the sense of belonging, but how the sense of belonging and attachment to a place can make the generation of social capital easier. Their work also emphasises how crucial the (spatial) facilitation of residential neighbourhoods is for the social capital not just in terms of services offered there, but which kinds of opportunities for encounters and interaction they offer to strengthen the bonds and establish the bridges. According to Altschuler et al. (2004), people who are emotionally attached to a place and identify themselves with the neighbourhood they live in are more likely to have strong and extensive bonding capitals. Consequently, when residents truly feel like they belong in a place -- that the place is their home -- they tend to invest into its maintenance and character, fostering the "belongingness" further (Andrews and Smith, 2005), which, in turn, improves the conditions for social capital generation and positively influences the social stability and security of the neighbourhood's residents, old and new.

From these statements it would be safe to conclude that all neighbourhoods meant for socioeconomically vulnerable residents (low and lower-middle income) should have an adequate framework of public spaces which enables the generation and enhancement of social capital. However, in case of first generation sleeping neighbourhoods like Kedyshko and Oud Crooswijk, this is unfortunately not the case. The following sub-chapters will elaborate why by providing more sociohistorical and spatial context.

Kedyshko neighbourhood: khrushchyovkas and the microdistrict

Kedyshko was the first neighbourhood in Minsk and Belarus as a whole where khrushchyovkas were built (Darriuss, 2013). Generally speaking, the creation of khrushchyovka as a typology was quite revolutionary and signified the beginning of a new era for the Soviet architecture and urbanism (Gorbachev, 2002) because of how different it was from its predecessor (stalinka). Architecturally speaking, khrushchyovkas were a big step away from everything familiar to the Soviet architects. Compared to stalinkas, a residential apartment building typology with spacious apartments and monumental facades inspired by neoclassicism, khrushchyovkas were nothing alike: their apartments were compact and facades very minimalist and devoid of decor both for faster construction and "equality" --

no building of this typology would look "better" than the other, which was supposed to abolish class segregation (Gorbachev, 2002).

From the urban planning perspective the development of khrushchyovkas also brought a few fundamental changes to the spatial organisation principles of urban residential neighbourhoods; most significantly it started the mass development of mikrorayons ('microdistricts' in English) (Revzin, 2019). As a concept, the microdistrict typology dates back to the 1920s, however, it existed mainly as a set of policies for residential neighbourhoods (Gentile, 2020). In 1920s-1950s any compact residential neighbourhood which, aside from the residential dwellings, had facilities like schools, grocery stores, green spaces and spaces for leisure all within the neighbourhood, was considered a microdistrict (Gentile, 2020). Usually it was a city block with non-residential buildings either within its premises or integrated in the block itself, like a residential quarter unit (Gentile, 2020). The residential neighbourhoods corresponding to stalinkas are a good illustration of that (Fig. 5a, 5b). It is a large residential block surrounded by streets with both vehicle and pedestrian traffic from all sides with commercial and municipal facilities situated in the plinth and educational facilities located either within the inner realm of the block or between two blocks.

However, after the mass construction of khrushchyovkas, rather than being a set of policies, microdistrict became a spatial planning blueprint for urban residential neighbourhoods (Meerovich, 2016), and its spatial structure changed as well. To make the construction and development of microdistricts all over the Soviet cities fast and efficient, microdistrict became a complete urban typology with a specific set of spatial rules and regulations (Meerovich, 2016). Those rules were as follows: instead of a closed neighbourhood block it became an open, permeable area (Fig. 6a, 6b) with residential and other required facilities (schools, kindergartens and healthcare buildings) placed in an orderly way within the allocated area, with the rest of the open space between the buildings becoming a big green public courtyard. Aside from that, it was imperative that there was at least one grocery store on the outer layer of the microdistrict, and the microdistrict also had to be surrounded by at least two roads with public transport stops, since the residents were meant to travel to other parts of the city for work and other kinds of activities (Meerovich, 2016).

Criticism of the microdistrict sleeping neighbourhoods and their decline

This new open block structure of a microdistrict, along with the khrushchyovka typology, became the reason for a lot of criticism almost ever since their implementation (Mozzhukhin, 2016). Despite their affordability, fast construction, facilitation of most crucial services, and good accessibility, if one were to ask the current residents of the microdistricts built according to the "khrushchyovka blueprint", one would be surprised by the amount of dissatisfaction they have (Mozzhukhin, 2016).

In essence, the concerns regarding the typologies can be grouped into three categories: criticism of the facades of the buildings, criticism of the block, and criticism of the public space. Starting with the facades, the lack of decor and all khrushchyovkas essentially looking identical due to the

concept of equality creates a monotonous living environment, which negatively affects the mental wellbeing (Sultanova et al., 2021). One could suggest that such a problem could be resolved by allowing the residents to make the buildings they live in more personalised to counter the issue of monotony and impersonality. However, considering the social context, such solution would be impossible due to the detachment of the residents from their neighbourhoods being so strong (Ivanchenko & Kosilov, 2018) that the space beyond the apartments they live in is not perceived as something for them to claim (Mozzhukhin, 2016). This lack of connection is attributed to the character of the building blocks in microdistricts, according to urban researchers (Mozzhukhin, 2016): due to the open block structure all public spaces in the neighbourhood becomes the public, common realm. In theory, it does sound like a good condition for generation of social capital, with the freedom and variety for interactions given and considering the fact that the residents all have similar social backgrounds (Hatherley, 2014), but in reality this only contributed to emotional detachment from the neighbourhood and became an obstacle for community building (Mozzhukhin, 2016, Ryshkina, 2018). Moreover, the abundant public space of microdistricts lacks proper functional structural division. Such “free-layout” areas without clear functional structure tend to become empty, unused, and often turn into wastelands or improvised parking lots on lawns (Ryshkina, 2018), which is exactly what happened in Kedyshko neighbourhood over time (Fig. 7).

Essentially, the criticism comes down to one substantial issue: the residents of the neighbourhoods have great emotional detachment from their living environments and there is a complete lack of belongingness -- the crucial element for the social capital (Paranagamage et al., 2010). A lot of current residents mention that they try to leave the neighbourhoods as much as possible and only spend time inside their homes there, without engaging with the neighbourhoods' public space (Ivanchenko & Kosilov, 2018).

Oud Crooswijk: existing solutions to the microdistrict issue

Despite krushchyovka microdistricts being one of the most prominent urban residential neighbourhood typologies in post-Soviet countries to this day (Mozzhukhin, 2016), there are not many existing project focussing on their redevelopment or revitalisation. In reality, like the post-WWII neighbourhoods of the Netherlands, they either continue being unmaintained and neglected by the municipality or end up demolished (Wikipedia contributors, 2022a). However, there is a strong agreement among urbanists from the post-Soviet environment that most of the known problems of this microdistrict typology would be solved if it were to be redeveloped into a quarter type district with closed blocks (Ryshkina, 2018), and the student project from De Wachter (2016) (Fig. 8) and Valiulyte (2013) support the same theory, suggesting to make the open blocks of microdistricts enclosed to create private public spaces for better sense of belonging and security of the residents.

According to this reasoning, in theory it seems like a good strategy. The suggested clarity in more public vs. more private residential public spaces could become the key to making the generation of social capital finally



Figure 5a: Urban fabric of a stalinka characteristic microdistrict (made with data from Mapbox)



Figure 6a: Urban fabric of a stalinka characteristic microdistrict (made with data from Mapbox)



Figure 5b: One of a stalinka neighbourhoods in St. Petersburg (Image by Stepanov, 2010)



Figure 6b: Photo of a newly constructed khrushchyovka neighbourhood (Image by RIA News from Trudolybov, 2017)



Figure 7: Public space of Kedyshko neighbourhood currently (Image by (Darriuss, 2013)

possible for the residents of khrushchyovka microdistricts (Ryshkina, 2018). In practice, however, this solution fails to work as intended, and Oud Crooswijk in Rotterdam is a proof of that. Built in late 1970s - early 1980s, at the very end of the post-WWII development era, it is very similar to Kedyshko neighbourhood in terms of facilities and nature of its dwellings. Oud Crooswijk is also primarily residential, fully consisting of buildings with compact apartments, and 80% of the dwellings there are rented social housing. Like a classic khrushchyovka microdistrict it is also surrounded by two traffic lanes and well-connected to the public transport system, and its non-residential facilities are primarily schools and grocery stores. Oud Crooswijk is also the poorest neighbourhood of Rotterdam (NOS, 2021b), which implies its neglectedness.

The only difference from Kedyshko or any other khrushchyovka microdistrict is that its building blocks are enclosed instead of being open (Fig. 9), which in essence is the embodiment of the suggested microdistrict redevelopment strategy in Figure 8, illustrating that simply closing the building blocks would not solve the microdistrict issue. Upon visiting Oud Crooswijk for the first time, I was struck with how similar the atmosphere there (abandonment, neglect, isolation) felt to the one in Kedyshko neighbourhood where I used to live, despite the difference in appearances between the two neighbourhoods (Fig. 10).

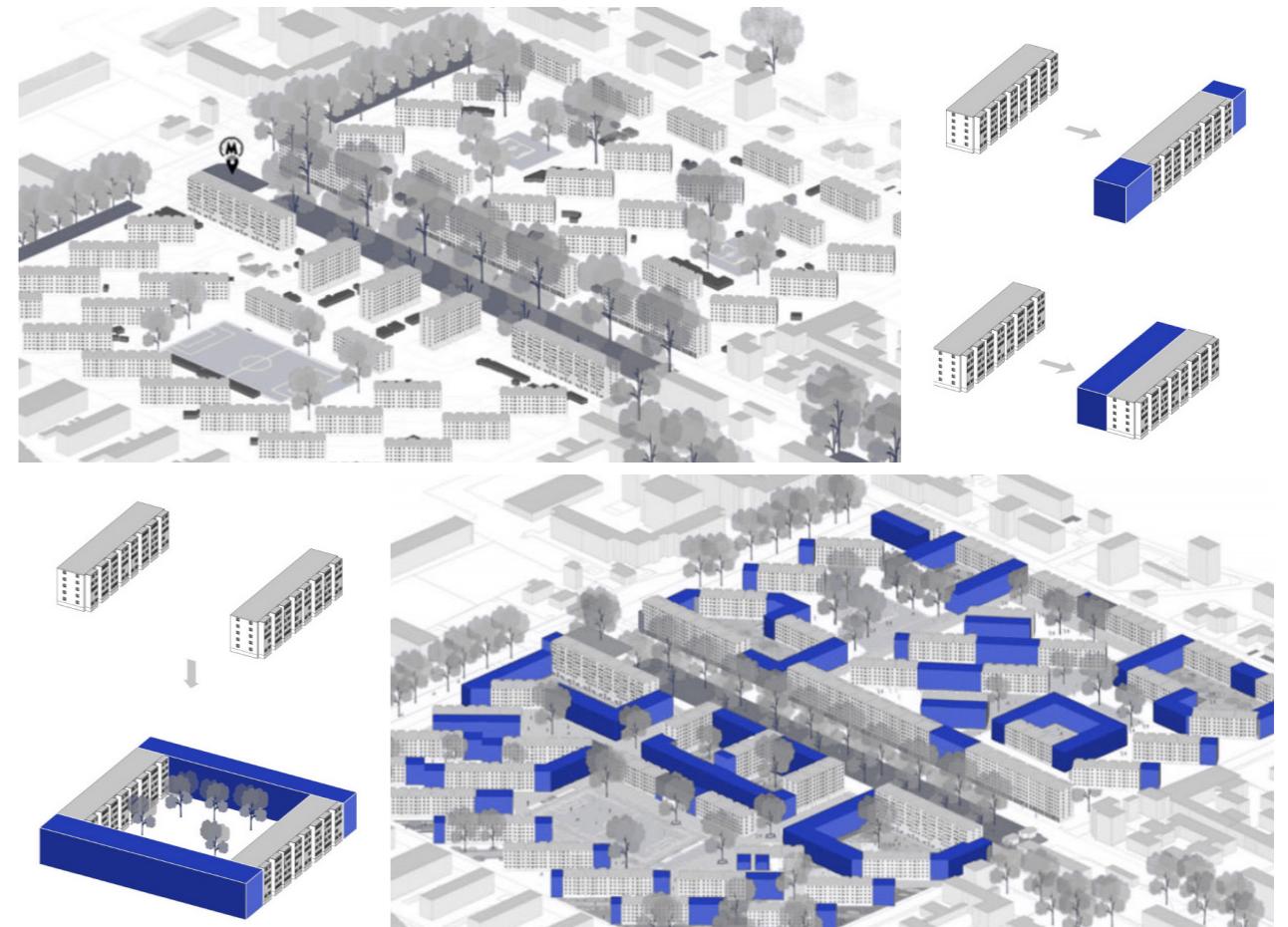


Figure 8: Microdistrict transformation strategy by enclosing the open building blocks (De Wachter, 2016)

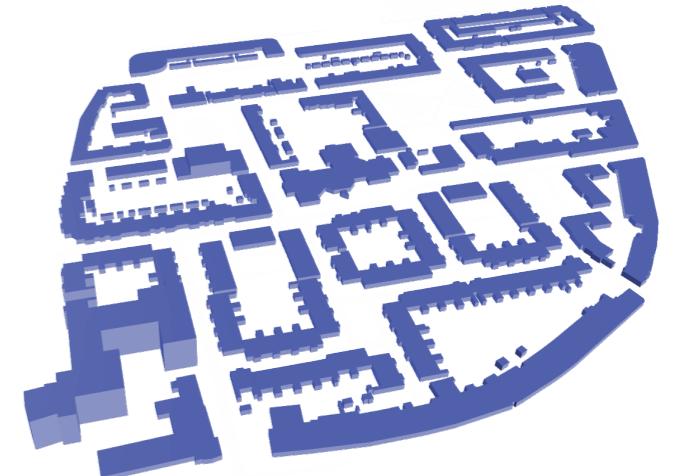


Figure 9 (to the right): 3D impression of Oud Crooswijk and its building blocks - the similarity to the transformed microdistrict from Fig. 8 is quite striking (Image made with Kepler.gl)



Figure 10: Public space of Oud Crooswijk currently (Image from Google Images) - notice the similarity to Kedyshko in Fig. 7

Problem field: conclusions

To conclude the chapter, I would like to summarise the main points made there.

The first point is that the post-WWII (post-socialist) urban residential neighbourhoods are crucial for the urban environments due to their provision of affordable housing for the everpresent and increasing low and lower-middle income population. Systematically getting rid of them instead of redeveloping takes away the housing opportunities from the socially and financially vulnerable.

The second point is that such neighbourhoods require a different redevelopment approach rather than the existing strategies focussed on the building block and their character. The new approach for these neighbourhoods should instead focus on the public space, social capital generation opportunities, and cultivation of the sense of belonging to a place, which is one of the most crucial factors for social capital (Paranagamage et al., 2010).

The third point is that, when redeveloping post-socialist urban residential neighbourhoods, gentrification and demolition must be avoided, because not only do they aggravate the existing housing crisis and contribute to the increase in vulnerable population, but they also prevent the low-income residents from developing strong social capitals due to forced displacements of the residents making it impossible to stay in one place and maintain and generate social bonds.

And, lastly, the trend to build residential housing and neighbourhoods that only offer some sort of profit which has become extremely common over the past few decades (Bates, 2022) really has to end, and as urbanists we need to emphasise it in our work as well. There are protest in the Netherlands against the profit-driven development of housing (Fig. 11), so there are people who are passionate about this issue -- and a lot of them: in 2021 there were 10000 people attending these protests in Rotterdam (Woonstrijd in 2022! Overzicht Aankomende Landelijke En Lokale Woonacties., 2022) and 15000 in Amsterdam (Ruim 15.000 Mensen Bij Het Woonprotest, Tientallen Arrestaties, 2021). Therefore, as someone with access to working in the urban field and being given the opportunity to influence built environments, I believe that it is our duty to take a stance and address these issues concerning both the urban and the social. The message that **everyone should have a home** -- one of the basic human rights (OHCHR, n.d.), not a privilege or commodity -- should be amplified until it becomes a reality, as idealist as it may sound, because home does not only provide shelter: it is vital to social integration and fulfills the social need to belong, contributing to the sense of social stability and the strength of social bonds (Jenkins & Brownlee, 2022).

All these sentiments are also reflected and integrated in the final problem statement of the project on the following pages.



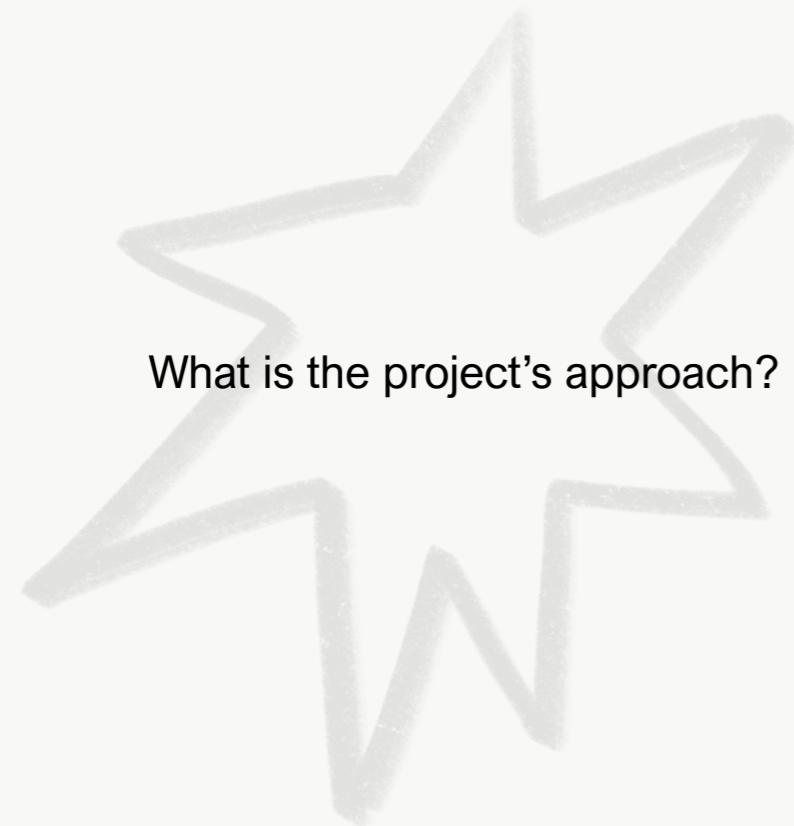
Figure 11: Sticker saying “Houses for people, not for profit” urging people to join protests against profit-driven developments and unnecessary demolition of dwellings -- stickers like this can be found all over Rotterdam (taken in December 2021)

With the progressing housing shortage, there is a need for affordable and accessible housing to accommodate the vulnerable population whose number steadily increases every year. **Post-socialist urban residential neighbourhoods, an outdated and neglected but culturally and sentimentally significant typology, has the potential to become a solution for this.**

If regenerated in a considerate way, those have the potential to become not only areas offering affordable housing and comfortable living conditions for the vulnerable population, but places which feel like home and provide the support to help the residents become less vulnerable and grow further socially and financially.

Informed urban regeneration of the public spaces of post-socialist urban residential neighbourhoods with focus on the accumulation of social capital would accommodate the need for both housing and community, while helping the neglected typology become a place that truly feels like home and a place to belong.

RESEARCH APPROACH



What is the project's approach?

CHAPTER 02

Project aim

The aim of the project is as follows: it strives to investigate and subsequently amplify the link between social capital and public space of “deprived” urban residential neighbourhoods with the focus on providing the opportunities for the generation of social capital by the residents through spatial solutions, all while avoiding gentrification of the area.

Now, with the aim of the project having been determined, the following chapter focusses on the elaboration of the methodological approach as well as clarifying the definitions and theories used and followed throughout the project.

Definition of spatial deprivation in this project

The words “deprivation” and “deprived”, often paired with “spatial(ly)”, are used liberally throughout this project. However, considering the aim and focus of the project, they carry a context-specific definition, which is elaborated in this subchapter.

Deprivation is defined as a visible and tangible disadvantage in comparison to the local community or the wider population or nation to which an individual, family, or group belongs (Pampalon et al., 2009); the absence or denial of something regarded as essential. With relation to the spatial realm, this would mean that an area lacks of something essential which puts it at a disadvantage compared to other areas, and makes its residents disadvantaged too in comparison to individuals residing in other locations.

Additionally, there are ways to measure how deprived an area is with help of a spatial deprivation index: for instance, England has IMD, the Index of Multiple Deprivation, which offers an overview of relative deprivation of every district ('Understanding Patterns of Deprivation', 2009), or NDI (Neighbourhood Deprivation Index) developed for the United States (Andrews et al., 2020). Both of the indexes utilise the same data for identifying and measuring the deprivation factors: income, employment status, education level, health, crime, and access to essential services. Thus, essentially, it only allows to determine the extents of the neighbourhood's and its residents' disadvantage compared to the median level, and indicates on which aspects municipalities, policy makers, planners and designers should focus on to make the area and its residents less disadvantaged.

However, if Kedyshko and Oud Crooswijk both would be evaluated according to these criteria, the index of spatial deprivation would not be able to provide an insight as to why the neighbourhoods are disadvantaged in terms of public space physically. In both of the neighbourhoods, while being low or lower-middle income, the residents still have access to essential services like schools, grocery stores, healthcare facilities and public transportation system. And, from the previous chapter, we have learned that what the neighbourhoods are disadvantaged the most in is their public spaces and the inability of those to facilitate the generation of social capital for its residents.

Therefore, in this project, when a neighbourhood or an area is referred to as “deprived” or “spatially deprived”, it is implied that it lacks spaces which provide opportunities to generate and strengthen the social capitals of the residents; that such neighbourhoods lack spaces for interaction, community, and do not possess the sense of “belongingness” much needed for the creation and development of the interpersonal bonds and community ties.

Thus, with the clarification of the meaning of deprivation in this context, it is possible to formulate the main and sub- research questions and explain their main terminology.

Is there a way of public space organisation that aids in regeneration of post-socialist residential neighbourhoods which focuses on strengthening the sense of belonging and social cohesion for the residents and maintains the neighbourhoods' affordability while the quality of living environment advances?

public space organisation:
infrastructure (streets, facilities, etc.) and outside public spaces including the facades

post-socialist residential neighbourhood:
deprived residential neighbourhood typology akin to or being the khrushchyovka microdistrict

belonging and social cohesion:
imperative to increase the social capital for the residents of the investigated typology, as well as the emotional connection to the place they live in, their home

affordability:
preservation of affordability is crucial, since the majority of population of the investigated typology is low or lower-middle income, so not only gentrification has to be avoided in the project areas, but demolition of housing as well to prevent the forced displacement of residents and loss of social capital

quality of living environment:
the capability of public space of the investigated typology to facilitate the needs of the residents as well as provide spaces and opportunities for interaction and generation of social capital

[CONCEPTUAL FRAMEWORK & THEORETICAL UNDERPINNING]

SRQ1:
What is the connection between home, social capital and urban environment?

SRQ2:
Through which spatial strategies can the sense of belonging be fostered in order to create spatial conditions for the generation of social capital?

[ANALYTICAL FRAMEWORK]

SRQ3:
Which spatial causes in Kedyshko and Oud Crooswijk lead to the neighbourhoods' spatial deprivation?

SRQ4:
What is the correct spatial approach to the typology's regeneration with the facilitation of social capital generation as the main focus?

[DESIGN FRAMEWORK]

SRQ5:
What design and planning principles can be applied to facilitate the generation of social capital?

SRQ6:
Is transferability and cross-implementation of the suggested design and planning solutions actually possible in different contexts?

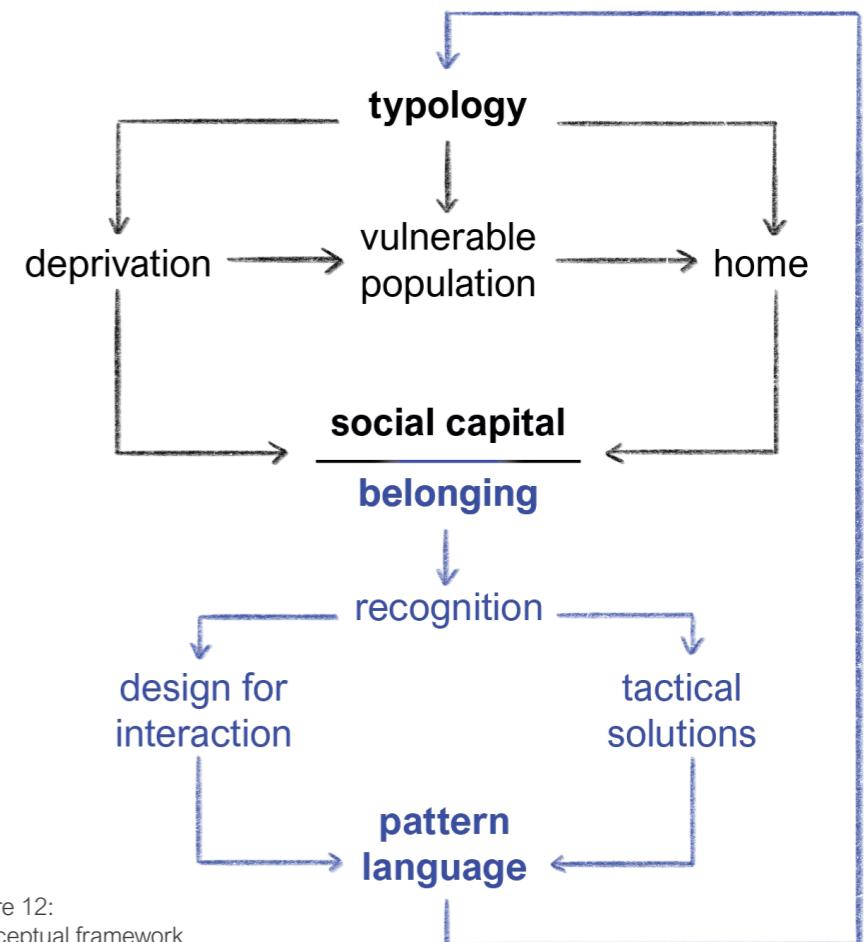


Figure 12:
Conceptual framework

The following subchapter discusses the main concepts (Fig. 12) of the project briefly, since most of those were either already clarified in previous chapter or will be elaborated in the theoretical underpinning which follows the conceptual framework subchapter.

Typology

The concept of typology is both the beginning and the ending point of the project, which directly affects the approach to the project: every design solution, every strategy, every policy and guideline must be applicable not only to the investigated locations, but the typology these locations belong as a whole. The definition of typology -- a group of structures that share commonalities in form or function (Guney, 2007) -- also implies that the shared characteristics must be recorded first in order to consider the investigated entities as one group. Therefore, the research also proves that the two neighbourhoods, despite their different contexts and backgrounds, do belong to one typology. Furthermore, having two differing locations will provide as much material for research and design so that the project's final results can be as well informed as possible and transferable to every other neighbourhood of the typology.

Deprivation, vulnerable population, home

Firstly, these three concepts serve as contextual elaborations of the investigated typology: it is residential, a home for the vulnerable population, and is deprived -- a place which, due to being disadvantaged, affects its already socially disadvantaged residents, as elaborated in previous chapter.

Aside from that, the concepts act as a link to another two main guiding concepts of the project, social capital and belonging. As already established, the living environment for more vulnerable populations should provide them with opportunities for generation and maintenance of social capital, and the sense of belonging is essential for social capital's facilitation. This, along with the concept of home and its relation to social capital, is also discussed in depth in the theoretical underpinning of the project.

Recognition

Recognition in this framework summarises the essential points which need to be addressed both in the research and design for the project. In this case, it is about recognising the need of the target audience (vulnerable population) to have a permanent and affordable living and housing situation, which enables the residents to accumulate and maintain their social capital (Paranagamage et al., 2010), as well as addressing their need for social capital to be spatially facilitated. However, recognition, if done incorrectly, can also have negative consequences. Spatially, the concept of recognition is about considering the needs of the people inhabiting a place, which can be likened to zoning (Gray, 2022) and in some cases zoning can cause segregation and detachment of residents (Gray, 2022) instead of enabling social cohesion as this project intends. Which is why it is imperative for this project to implement recognition in the harmless and positive way: rather than compartmentalising every possible needs of the target audience and designing conditions for specific kinds of interactions, which facilitate the generation of social capital (Darijani & Nikpour, 2016), it is crucial to keep the focus more general and only provide and facilitate the opportunities for interactions with places, individuals and communities.

Design for interaction, tactical solutions

The following concepts reflect the concept of recognition strategically: interactions of people with each other and with their living environment is what makes the sense of belonging stronger as well as allows the accumulation of social capital (Darijani & Nikpour, 2016), therefore, the goal of the project is to facilitate these interactions through urban design and planning tools. Which specific urban design aspects contribute to the facilitation of interactions as well as enable the accumulation of social capital is discussed further in theoretical underpinning. Tactical solutions, on the other hand, reflect the need for all the suggested design and planning solutions to be tactical (carefully planned and strategically intended) to provide as much value as possible to facilitate the solutions' desired effects while not causing forced displacement of the neighbourhoods residents -- so, avoiding gentrification and demolition.

Pattern language

Circling back to the concept of typology, as mentioned, it requires solutions which could be cross-implemented in every entity belonging to a particular typology. Therefore, this project relies heavily on the utilisation of pattern language as a tool to represent and organise all eventual design and planning solutions. The pattern language approach is based on Christopher Alexander's "A Pattern Language" and is also suggested as one of the approaches for interactive design (Salingaros, 2003).

Home equals social capital and goes beyond the meaning of house: it is also the space beyond the residential property

The topic of a neighbourhood becoming a true home for its residents was brought up a few times in this report, but it needs to be addressed more explicitly, since one of the goals of this project is to emphasise the fact that having a home goes beyond having/owning a house, and that a home is not limited to just the space inside the house itself -- it has a much broader meaning which goes both beyond ownership and shelter.

As per Jenkins and Brownlee (2022) in their research paper "What a Home Does", having a home is vital to social integration as it fulfills the need to belong and contributes to the sense of social stability, which happens not only through having shelter and environment which can be personally controlled and organised, but through having and establishing the social bonds. As such, Jenkins and Brownlee (2022) argue that the primary functions of a home are social, and that the concept of a home "can be detached from the residential property rights with which it is usually aligned". They also emphasise that a true home provides the opportunities to foster new connections and be hospitable on each residents' own terms, despite everyone's social needs being unique depending on their personality.

A true home ensures that each individual is able to sustain or create social bonds and answers each individual's social needs, including "the needs for persistent connections, recognition, and interdependence" (Jenkins and Brownlee, 2022), which essentially suggests two things: a "home" can be regarded as "social capital", since to fulfill the social needs one has to have social connections, and, thus, a home is not just a house -- a building or apartment -- but the space beyond the literal house as well, since interactions sustaining or creating the social capital are not limited to the inner private spaces (Paranagamage et al., 2010).

Jenkins and Brownlee (2022) then also stress how viewing a home as simply property greatly limits the understanding and evaluation of "people's control over their social environments and how well these social environments address their social needs", and that "the state's duty of care does not end when property rights are recognised", which not only means that forced relocation and eviction should be avoided at all costs since it deprives the displaced residents of their homes -- their community and active social capital, but also implies how the municipalities should not only provide housing but ensure that the built environment the housing is in is capable of addressing the residents' social needs, especially if low-income residents are concerned, for whom "the community support networks is an important part of what makes their houses homes" (Jenkins and Brownlee, 2022).

These implications raise the following questions: How can a home -- and the maintenance and generation of social capital -- be facilitated in urban environments? and How to ensure the "belongingness" which is crucial to the establishment of home and social capital (Jenkins and Brownlee, 2022, Paranagamage et al., 2010)?

The facilitation of social capital and sense of belonging in urban environments

To answer these questions another research paper will be reviewed: "Social capital in action in urban environments: an intersection of theory, research and practice literature" by Paranagamage et al. (2010), which focusses on researching and subsequently elaborating which aspects of design and planning contribute to creating the conditions for urban environments to facilitate the social capital. First, these aspects will be summarised, and then related to the conditions ensuring the sense of spatial belonging, since, as previously established in the thesis, the sense of belonging is crucial for ensuring the social capital generation, thus, by ensuring that the sense of belonging is established, the facilitation of social capital is also being made possible. Aside from the research of Paranagamage et al., the theories behind the spatial belonging are based on "A review on the Literature of Belonging and Place Sense" by Darijani & Nikpour (2016).

The methodology of Paranagamage et al.'s (2010) research is as follows: first, upon reviewing the social capital theory, it was established that "opportunity for social interaction and longer term residency can foster social capital", which establishes these conditions as the first essential step to facilitating "belongingness" crucial for the social capital. However, as they notice, "as "social capital" is a theoretical construct, its operationalization, namely understanding its actions in urban environments, remained unclear". Therefore, the second step of their research was focussed on reviewing the urban design guidance (UDG) documents to identify the attributes of urban design and planning which encourage the first statement, and, lastly, their research links these "identified urban design attributes with social interaction and longer term residency". Thus, as a result of their work, it is now possible to learn not only which design and planning tools would help to create conditions for the fostering of social capital in space, but also which aspects to pay attention to when conducting the research.

The twelve attributes of urban planning and design Paranagamage et al. (2010) identified are divided into four clusters: connectivity, safety, character and diversity, and each of the clusters contains three of the attributes.

Connectivity includes mixed use, movement structure and local facilities. Movement structure emphasises the convenience, comfort and safety of passing through space, and encourages walkable neighbourhoods over car-oriented and dominated areas where residents tend to be less socially engaged in comparison, referencing Leyden (2003).

The other two aspects, mixed use and local facilities, elaborate the need for provision of various facilities and services accessible on foot through a network of easy routes which encourage people to use them, while the availability of such facilities and services will serve as facilitator of social capital as well.

Safety includes ownership, natural surveillance and access and footpaths. In this case, ownership implies not actual ownership of shared spaces by the residents, but rather the shared spaces of residential neighbourhoods should be considered as their "own" by the residents. Therefore, for the

sake of clarity, this thesis will refer to this aspect as "ownness", since it conveys the meaning in a less confusing way. According to Paranagamage et al. (2010), places "designed with sensitivity to the needs of the users and with good integration between buildings and external spaces encourage social interaction and help to create a sense of place and identity", which is how ownness is fostered. However, the aspect of clarity of spatial ownership contributes to it too, since the "clarity about where public space ends and communal, semi-private or private space begins" (Paranagamage et al., 2010) contributes to ownness and decreases anti-social behaviour (OPDM, 2004).

The next aspect of the safety cluster, natural surveillance, emphasises the need for areas to have good visibility as well the ability to be seen and heard by other people. And, aside from the feeling of safety created by natural surveillance, the importance of active and visually engaging frontages, which, compared to blank ones, "add interest, life and vitality to the public realm" (Wood & Giles-Corti, 2008) is also emphasised.

The last aspect of the cluster, access and footpaths, elaborates that any path in the residential neighbourhood should be convenient, not confusing in terms of guiding people to the desired destinations, and it should keep interest of people and ensure presence of others.

Character includes context, personalisation and public space. Context is about creating an identity and a sense of place in the neighbourhood -- the aspect which directly focuses on fostering the sense of belonging. Paranagamage et al. (2010) emphasise how important it is to be sensitive to the area's context, since this enhances the area's identity, which, in turn, makes a place more memorable and makes it easy to feel attachment to it, which directly contributes to belonging.

Personalisation is also about the identity of a neighbourhood. Paranagamage et al. (2010): by giving the residents enough privacy to feel comfortable within their home and with freedom to personalise their homes and surroundings, the sense of identity will be stronger, and so will the sense of belonging.

The public space aspect focuses on, you guessed it, public space. It emphasises that residential neighbourhoods and their communities must not only have public open spaces, but these spaces should be meaningful in terms of providing space for meaningful activities and interactions, as well as be strategically located in the neighbourhood. Public spaces need to provide opportunities for social interactions, which enable the bonding and bridging of social capital. And, lastly, public space is not necessarily a square or a park, etc. -- it can be a street too (Roberts, 2007).

Diversity, the last cluster, focuses on life cycle needs, mixed tenure and lifestyle differences. The aspect of life cycle needs is about recognising the implications different circumstances and life cycles have for the accommodation of physical environments accordingly, with them being adaptable and inclusive enough to cater to the diverse needs of the residents. Mixed tenure is focussed more on housing policies: it encourages to provide "a choice of tenures within a range of housing sizes and types" (Paranagamage et al., 2010) to promote social inclusion.

And, lastly, the lifestyle differences aspect emphasises that residential neighbourhoods need to be designed for diversity in terms of lifestyles, since the variety of lifestyles implies the variety of services and facilities,

which makes the residents spend more time at their neighbourhoods instead of leaving elsewhere, where their lifestyle needs are accommodated more, which, in turn, not only fosters the sense of belonging but facilitates the growth of social capital.

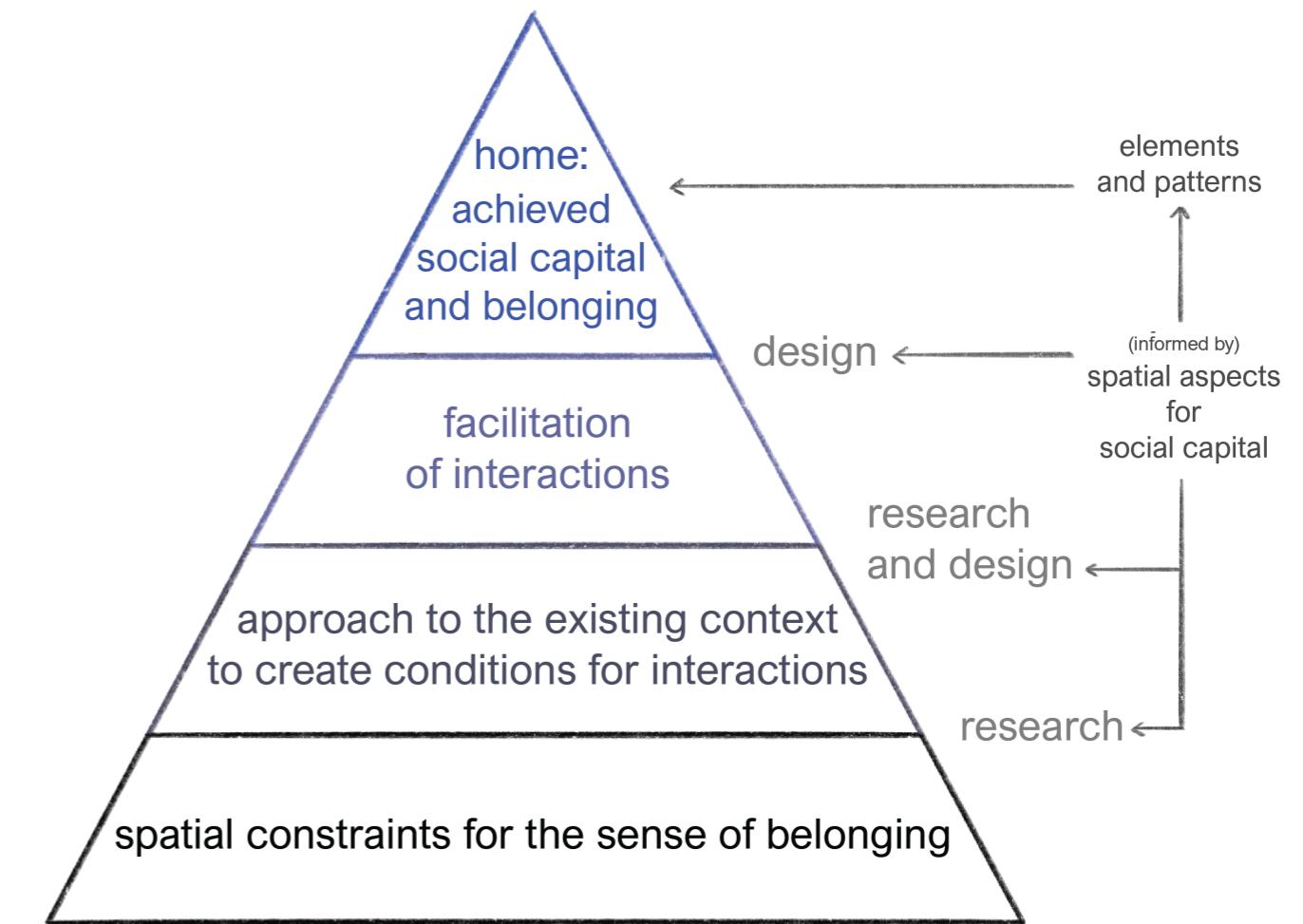
Having identified the aspects which facilitate the generation of social capital spatially, it is now possible to not only make the conceptual framework of the project, but determine the approach and direction the project will take in terms of research and design. Since there are so many ways to ensure belonging and social capital can be fostered through specific spatial organisation, the main utilised approaches will have to be spatial analysis, site visits and designing in the research stage, not just designing for the final outcome, which calls for an integrated research and design approach.

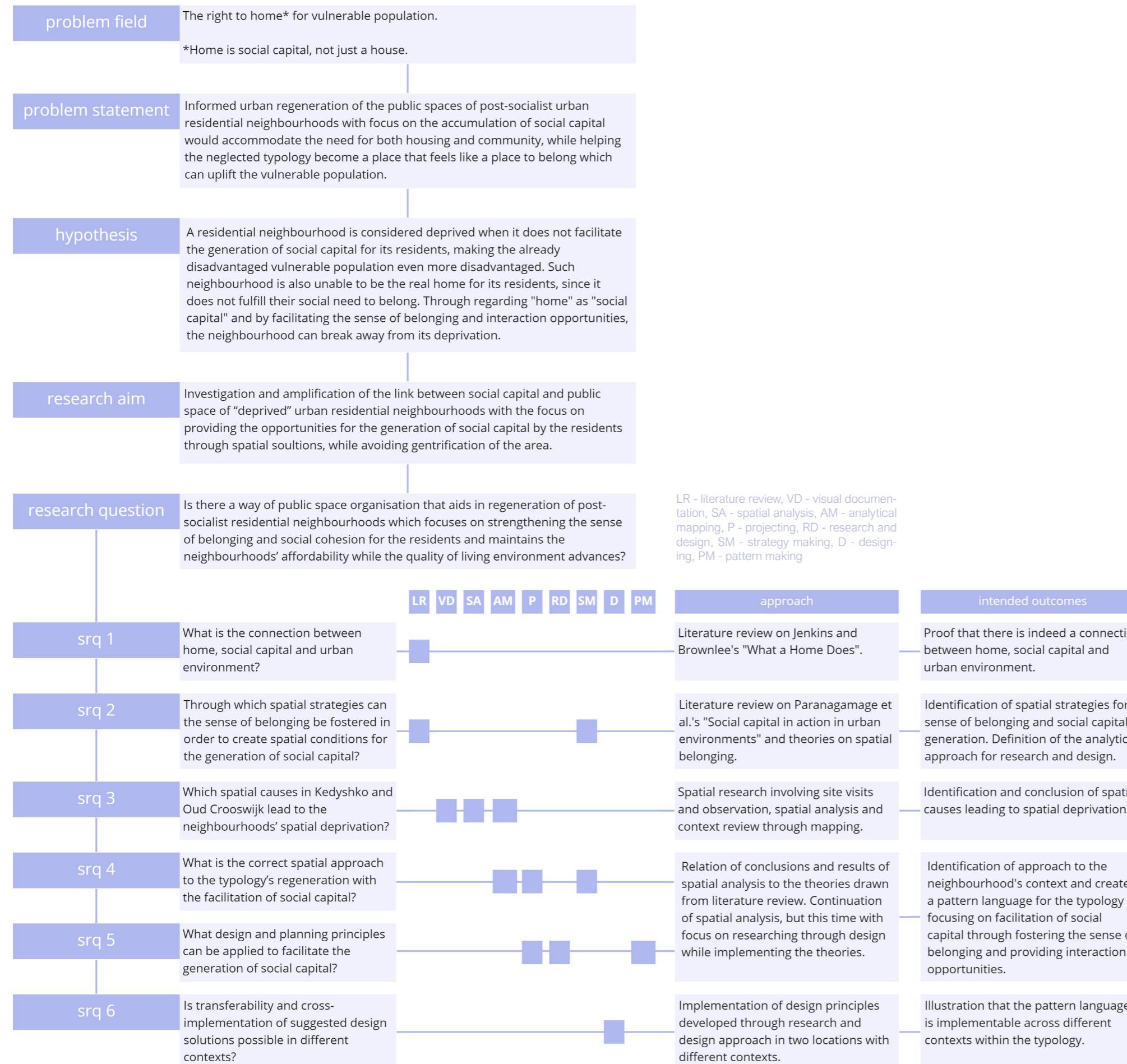
Aside from that, upon reviewing the research of by Darijani & Nikpour (2016) on spatial belonging, additional aspect of spatial facilitation of belonging and social capital were identified: to make the fostering of social capital possible, it is imperative to focus on facilitating different kinds of interactions between individuals and space, as well as individuals with each other personally or within a community and the cross-communal interactions as well, which also implies the importance of human scale prevailing in environments facilitating belonging.

Spatial framework to approach, facilitate and foster belonging and social capital

Figures 13 and 14 organise the identified aspects in terms of their contribution and influence towards the facilitation of belonging and social capital in space, and relate these aspects to the framework for establishing belonging through spatial analysis and design.

As mentioned, it is crucial to use design as a research tool during the spatial research stages, therefore, the framework integrates designing through the categories established. Essentially, it is based on three questions: What (spatially) prevents the belonging from being fostered?, What kind of approach to the neighbourhoods' contexts will create conditions for interactions which strengthen the sense of belonging and social capital? and How to add value to these conditions and facilitate these interactions?. The first question is research-oriented, but the other two can only be answered by utilising design as a research tool, with the aspects of urban design and planning informing the solutions to all the three questions. Moreover, the framework mentions "elements" and "patterns", both of which are elaborated further, after analysis is concluded, since illustrating those notions through practical examples is more efficient.





The approaches to research for this project are summarised in the methodological framework for convenience, also highlighting the sequencing and relationships between the research sections (Fig. 15).

Figure 15: Methodology diagram illustrating the progression from the problem's definition to the research questions, the approach to them, and the intended outcomes.

PART II: HOME IS BEYOND THE HOUSE ITSELF

ANALYSIS

Which spatial causes in Kedyshko and Oud Crooswijk lead to spatial deprivation?

CHAPTER 03

SISTER NEIGHBOURHOODS: LOCATION INTRODUCTION 03.1

Before starting the analysis, let us “meet” the our two locations formally.

Figure 16-1: Kedyshko street (Realt.onliner.by, 2018)



Kedyshko neighbourhood: “born” in late 1950s, located in Minsk, Belarus. 100% of dwellings in the neighbourhood is formerly social, since originally, before the dissolution of USSR, every working citizen would receive a rented apartment from the government for free (Korshunov & Kochetkova, 2014). Kedyshko is also the first microdistrict of Belarus (Dariuss, 2013).

Figure 16-2: Oud Crooswijk (Rijnmond, 2021)



Oud Crooswijk: “born” in late 1970s, located in Rotterdam, the Netherlands. 80% of dwellings is rented social apartments, and the neighbourhoods consists entirely out of apartment buildings (Statistieken Buurt Oud Crooswijk, 2022). Oud Crooswijk is also the poorest neighbourhood in Rotterdam (NOS, 2021b).

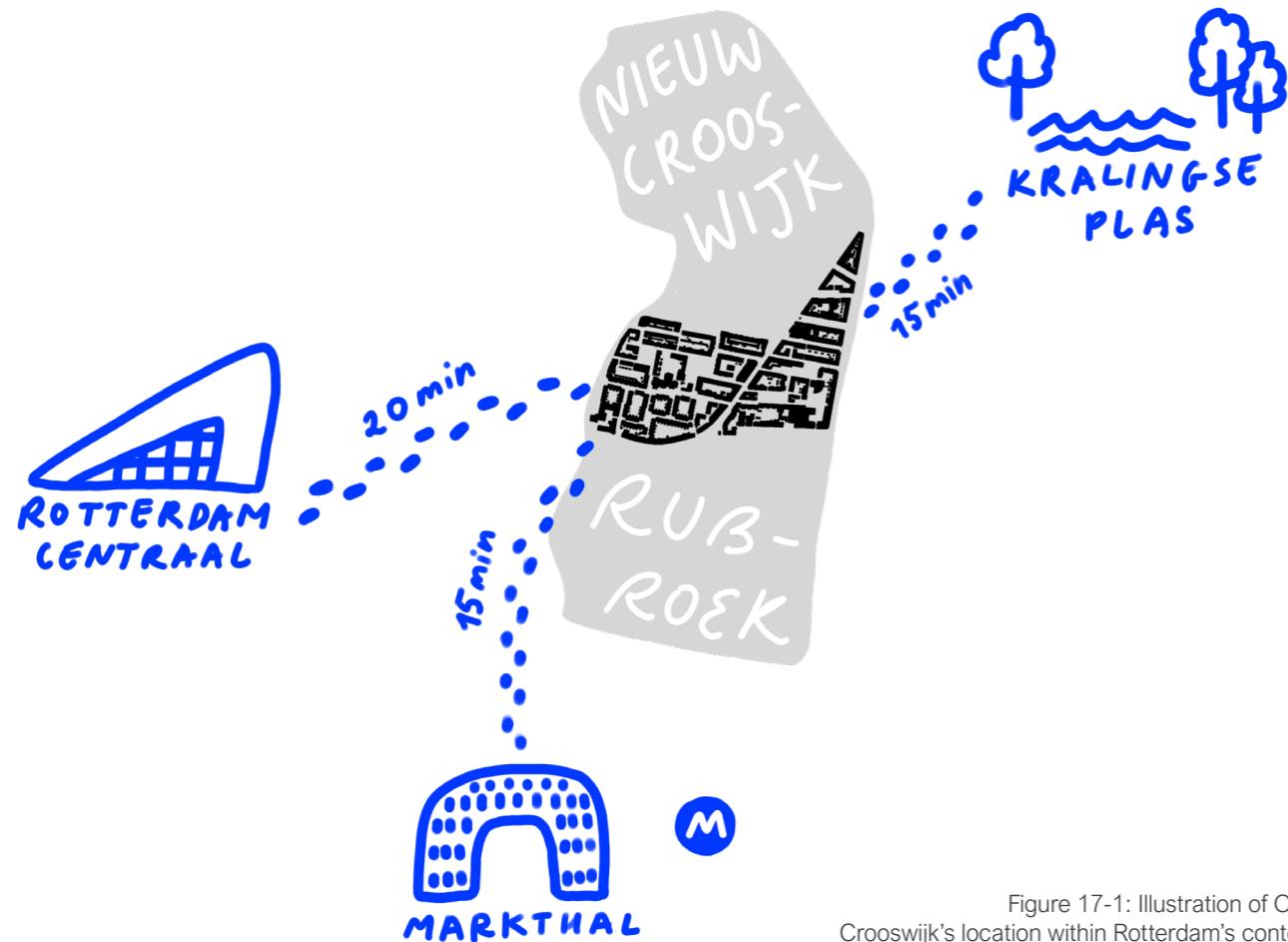


Figure 17-1: Illustration of Oud Crooswijk's location within Rotterdam's context

Despite initially built on the outskirts of Rotterdam near the Heineken and Jamin factories to house the workers (Verborgen Kwaliteiten Van Crooswijk, 2022), right now Oud Crooswijk's location would be considered quite central: it is near Markthal -- not just a market place, but a meeting destination for many rotterdammers -- and is also close to the Kralingen park and the Rotterdam train station.

Oud Crooswijk is also one of the three “daughters” of its bigger “mother” neighbourhood Crooswijk, along with Rubroek and Nieuw Crooswijk, finding itself right in the middle between its siblings spatially, and could be considered the most “unlucky” one among the three. In comparison, Oud Crooswijk is not only the poorest, but also the only neglected one, since Rubroek seems to be doing well in terms of residents’ satisfaction and its general wellbeing factor (Statistieken Buurt Rubroek, 2022), and Nieuw Crooswijk has currently been getting renovated (and gentrified), with 85% of its dwellings demolished to be rebuilt for mainly private sector housing rather than social sector (van der Velden, 2020). With such context, when visiting Oud Crooswijk, it comes across as quite neglected and alienated.

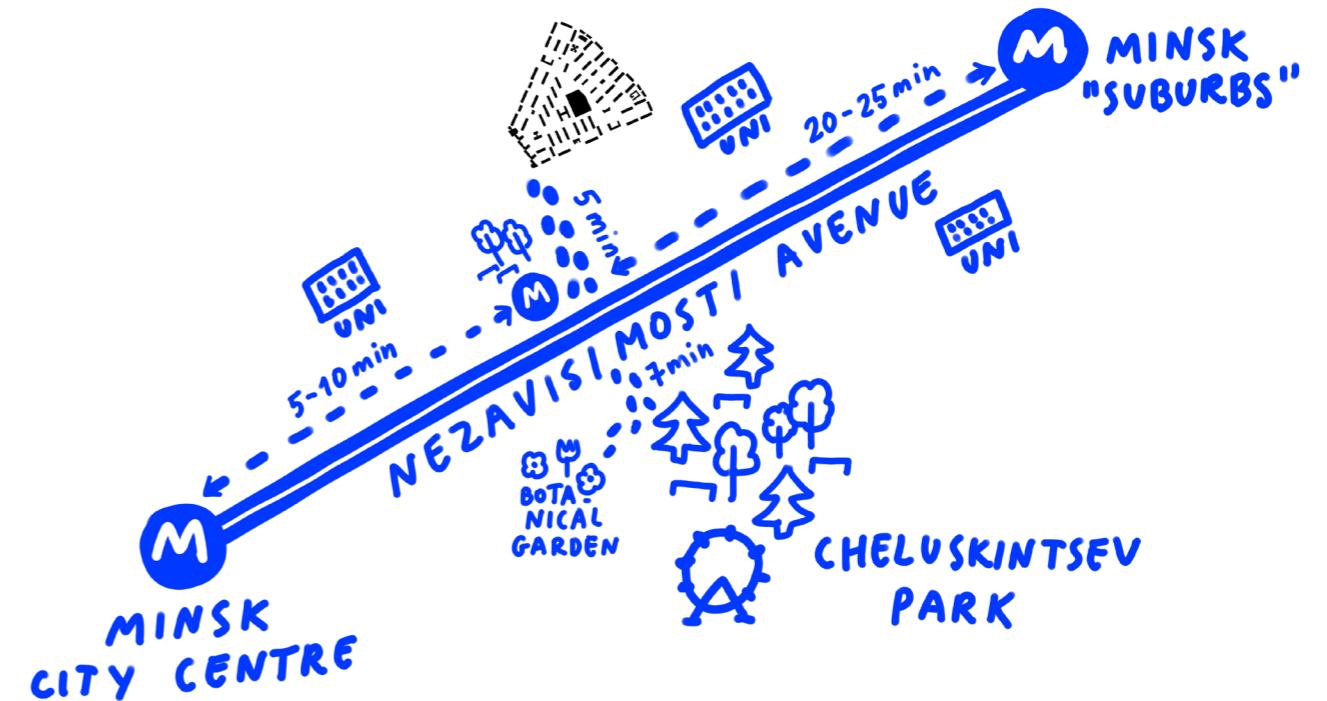


Figure 17-2: Illustration of Kedyshko's location within Minsk's context

Kedyshko neighbourhood's location is not quite different from Oud Crooswijk's: while also initially built on the outskirts of Minsk at the time (Fig. 4), after the city's (still ongoing) expansion, it is now considered to be in the central area. It also was meant to be a neighbourhood for the working population, just like Oud Crooswijk, and there still are a few factories in its proximity as well as many universities which, back in the day, educated the engineers to work at said factories -- a system which initially, before the inevitable changes in time and society, worked quite well: my maternal grandmother who lived in Kedyshko most of her life and worked as an engineer at the radio and communications factory nearby the neighbourhood could even be considered an example.

Aside from proximity to employment places, Kedyshko is also close to one of the city's main parks, and is well connected to the public transport network -- it only takes from five to ten minutes to reach the very central area of Minsk from there by metro or bus. Even now, being considered spatially deprived like many other sleeping neighbourhoods of similar “age”, its location is quite favourable because of how close it is to the city's main avenue, which potentially could make it another victim of demolition or gentrification in the future.

In/formal programme

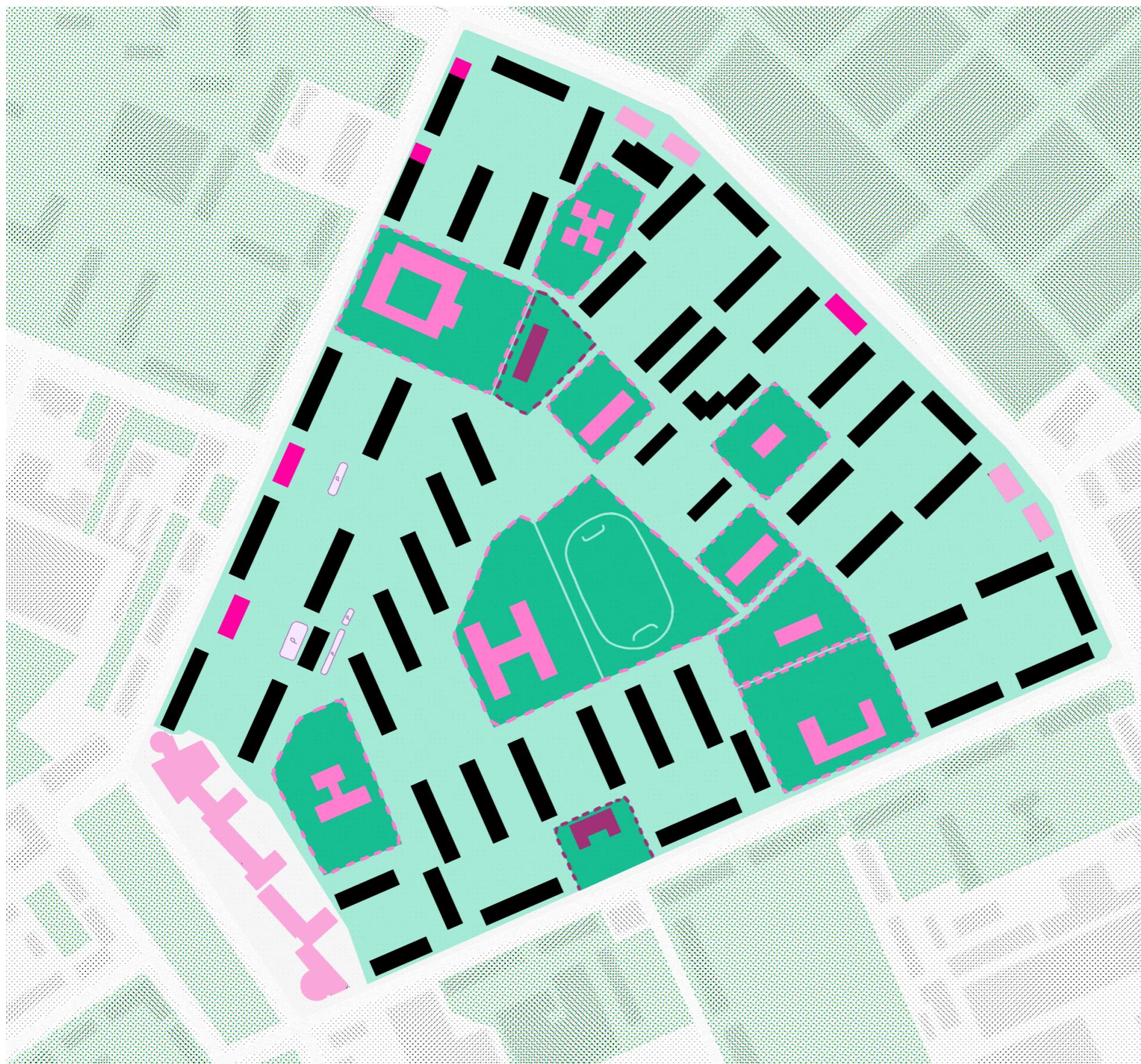


Figure 18: Programmatic map of Kedyshko

Kedyshko neighbourhood

- school or daycare
- medical

Having concluded the formal introductions, it is now possible to start the analysis of the neighbourhoods. Kedyshko will go first, due to its “seniority” but also because it is somewhat of a blueprint compared to the “younger” Oud Crooswijk, so to prove that the two neighbourhoods indeed belong to the same typology gathering the spatial information about Kedyshko and then comparing it to the Oud Crooswijk findings would make the most sense.

First, the analysis would examine the (in)formal programme of the neighbourhood: What is the residential to non-residential buildings ratio?, What services does the neighbourhood have to offer?, What kind of public spaces does it have? -- this kind of questions will be investigated.

The intention of this focus is to provide the information regarding the mixed use, local facilities, context, life cycle needs, and public space spatial aspects of social capital in order to investigate how well those are represented or present in the neighbourhood.

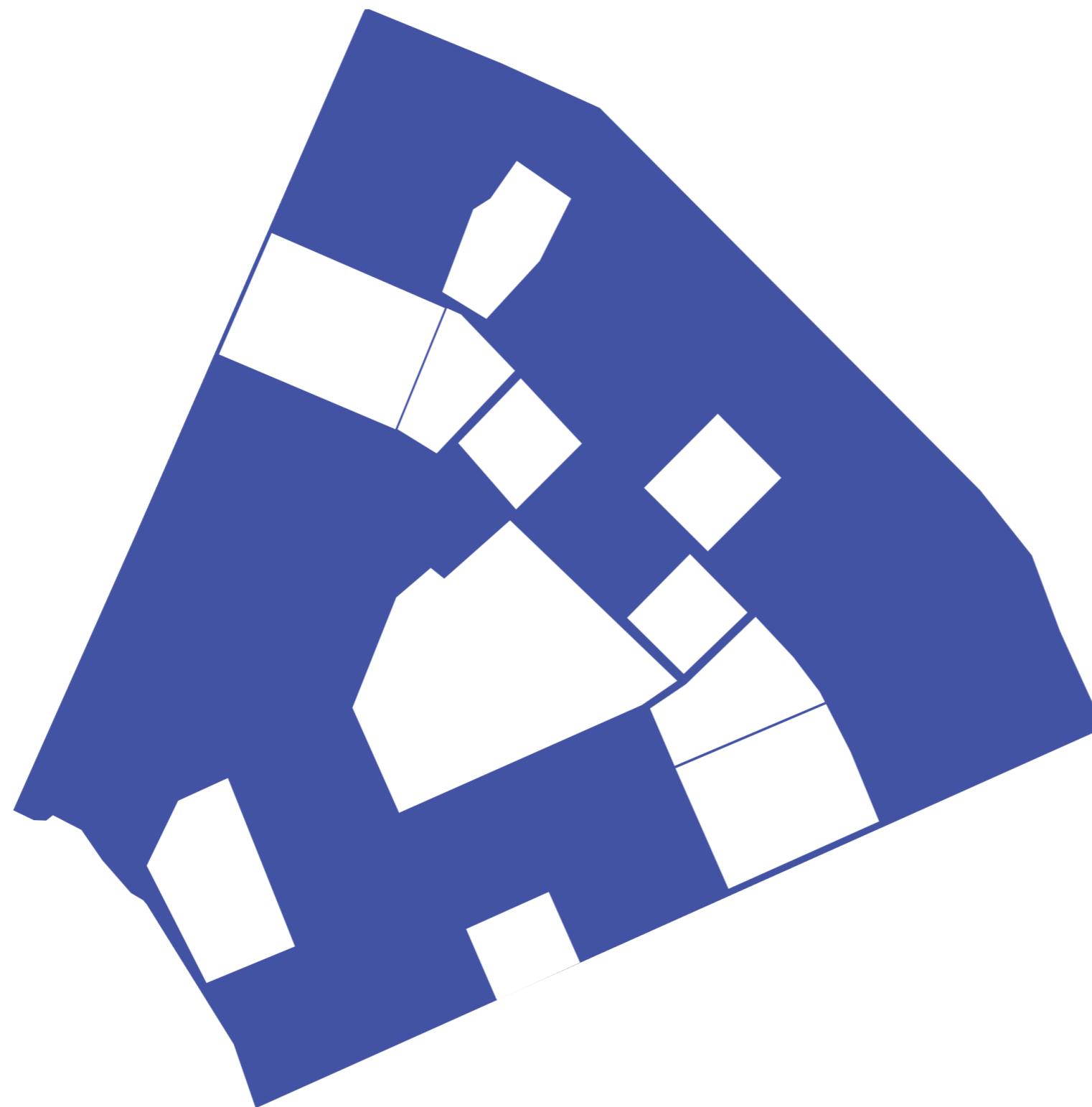
In/formal programme

Figure 19-1: Publicly accessible areas (blue) vs. private, gated areas (white) in Kedyshko

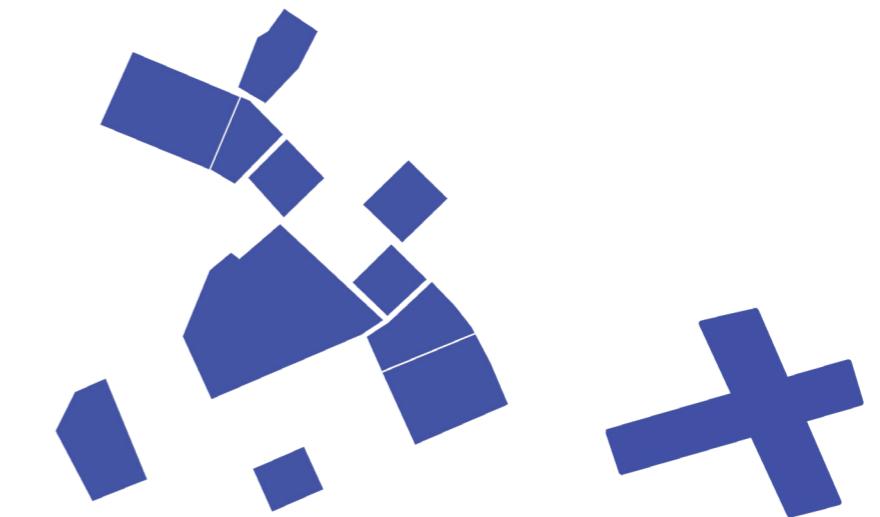
Kedyshko neighbourhood

Figure 19-2: Private, gated areas forming the structural core of Kedyshko neighbourhood

Concerned spatial aspects of social capital: **mixed use, local facilities, context, life cycle needs, public space**

Regarding the mixed use, local facilities and life cycle needs, Kedyshko neighbourhood is facilitated quite well: there is plenty of schools and daycares as well as a few grocery stores and other commercial buildings, and polyclinics or medical centres.

However, regarding the context and public space, there is an issue: the structural core of the neighbourhood consists entirely of service facilities, which are all situated in gated areas, which makes the seemingly central areas of the neighbourhood which should be its core(s), where residents could come together for some joint activities -- or just activities within the neighbourhood rather than having to leave elsewhere -- inaccessible and avoided by the residents. In turn, this makes the residents unlikely to visit the other parts of their neighbourhood, since there is no "place" for them, and would either only stay inside their apartments or, maximum, in the courtyards adjacent to their houses. All of these factors take away from the belonging aspect and make it challenging to facilitate social capital.

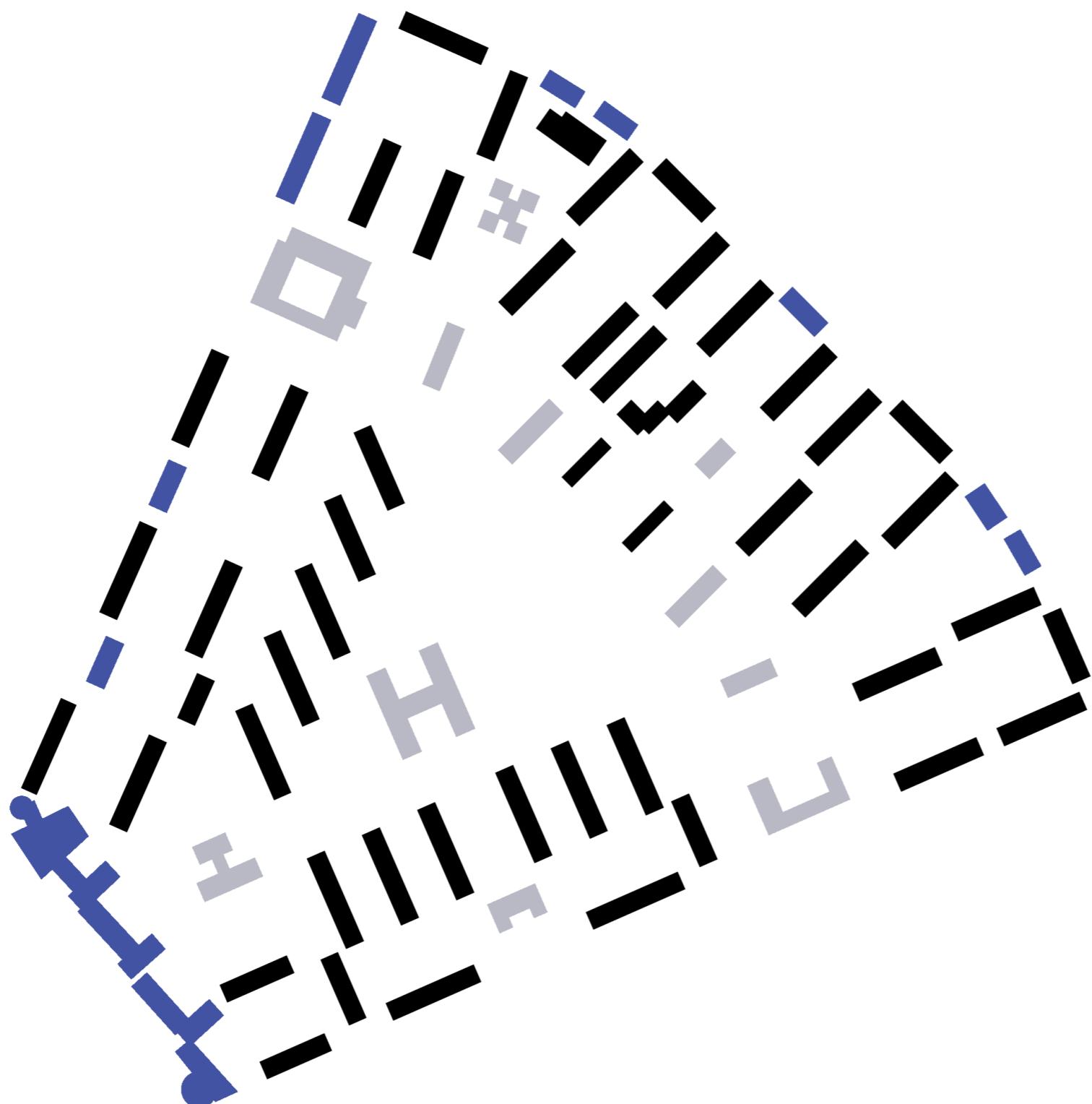
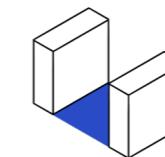
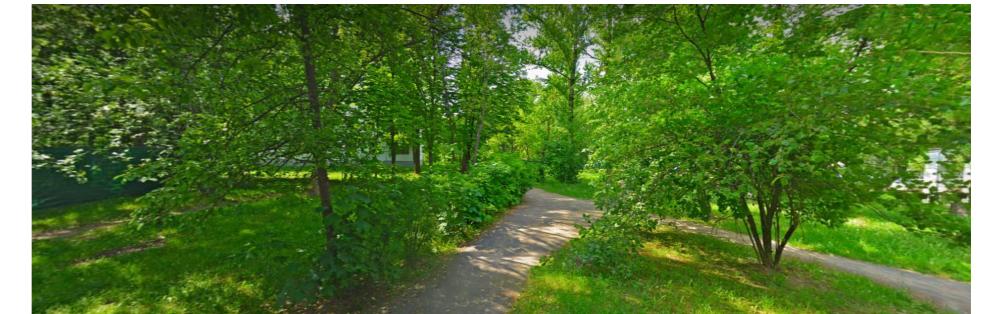
In/formal programme

Figure 20: Commercial buildings (blue) vs. residential buildings (black) vs. educational and healthcare buildings (grey) in Kedyshko
-- the grey blocks are currently the central ones for the neighbourhood, but they are gated private territory.

Kedyshko neighbourhood

Block to block space (inward oriented): provision of some public/private gradient, however, no programmatically functional space for the residents whatsoever.



Block to core space (core oriented): buffer space, no functional programme.

Concerned aspects: **mixed use, life cycle needs, ownness, public space, personalisation, lifestyle differences, natural surveillance**

Moreover, since these facilities inside the neighbourhood are used not only by the residents, but the outsiders, there consistently is an amount of visitors' traffic through the area, which exacerbates the fragmentation of the neighbourhood and the residents only sticking to their buildings. In this way, the focus turns away from the structural core of the neighbourhood inward and stays between the residential building blocks.

However, the space between the buildings does not provide any meaningful spaces or opportunities for interaction: it merely acts as a green buffer between the two opposing building blocks, and as a transit area as well. This also takes away from the sense of belonging and contributes to the already experienced detachment from the neighbourhood by the residents, which affects the spatial aspects of ownness, personalisation and natural surveillance as well, along with the aspects concerned before.

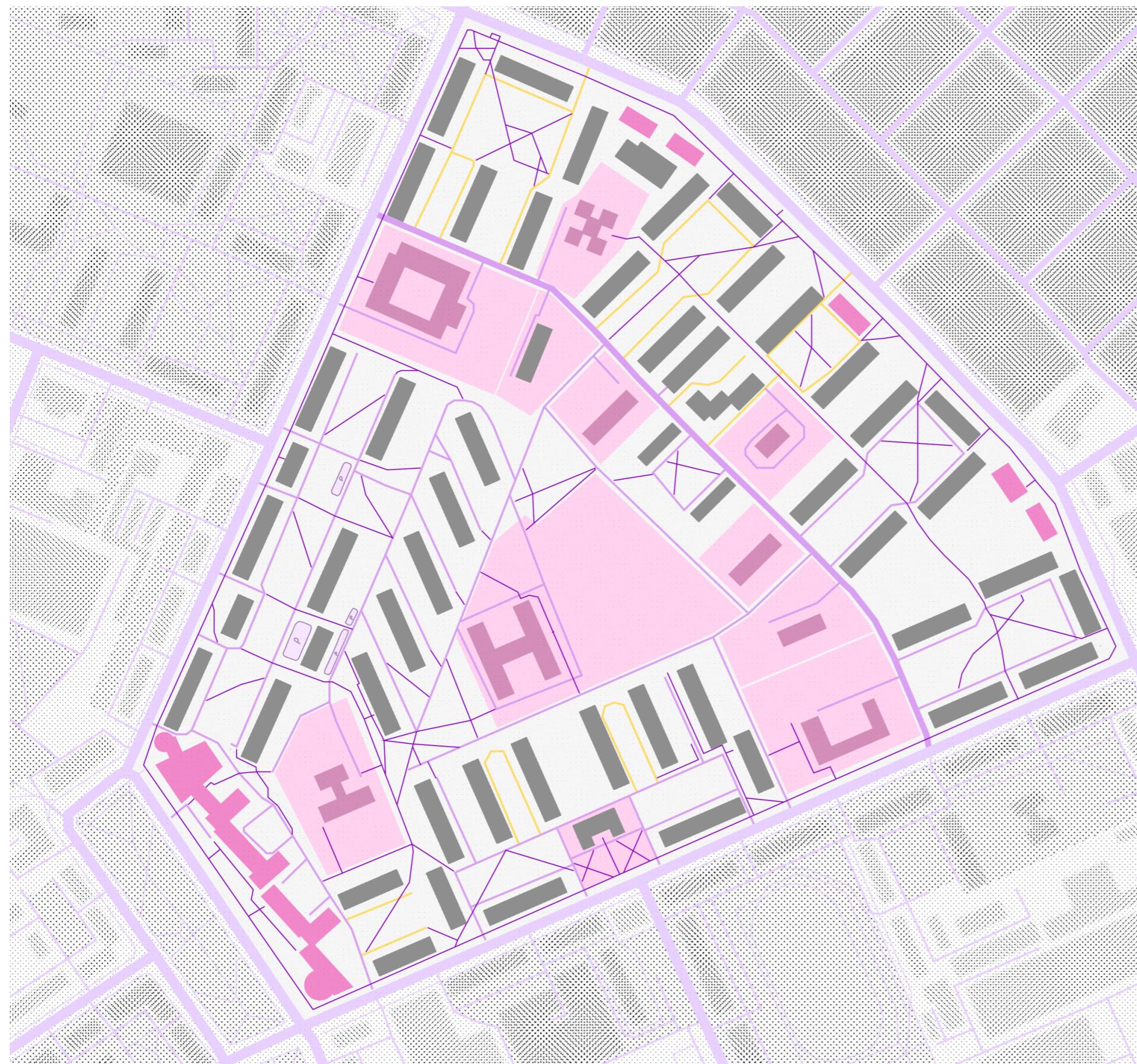
Routing and access

Figure 21: Various paths within Kedyshko

Kedyshko neighbourhood

Having analysed the programmatic facilitation of the neighbourhood, the next focus is on the routing and access within the neighbourhood. This investigation will provide the information regarding the movement structure and access and footpaths spatial aspects of social capital, along with ownness as well.

On first glance, there is already a significant finding to identify: there are no separate car and pedestrian networks in the neighbourhood, save for some pedestrian only informal paths, which usually start or end abruptly, and there also are cars often parked along the joint car and pedestrian paths, taking away from the pedestrian space. This significantly impacts the spatial aspect of ownness and contributes to the lack of belonging, as the residents sense the dominance of cars in their living environment.

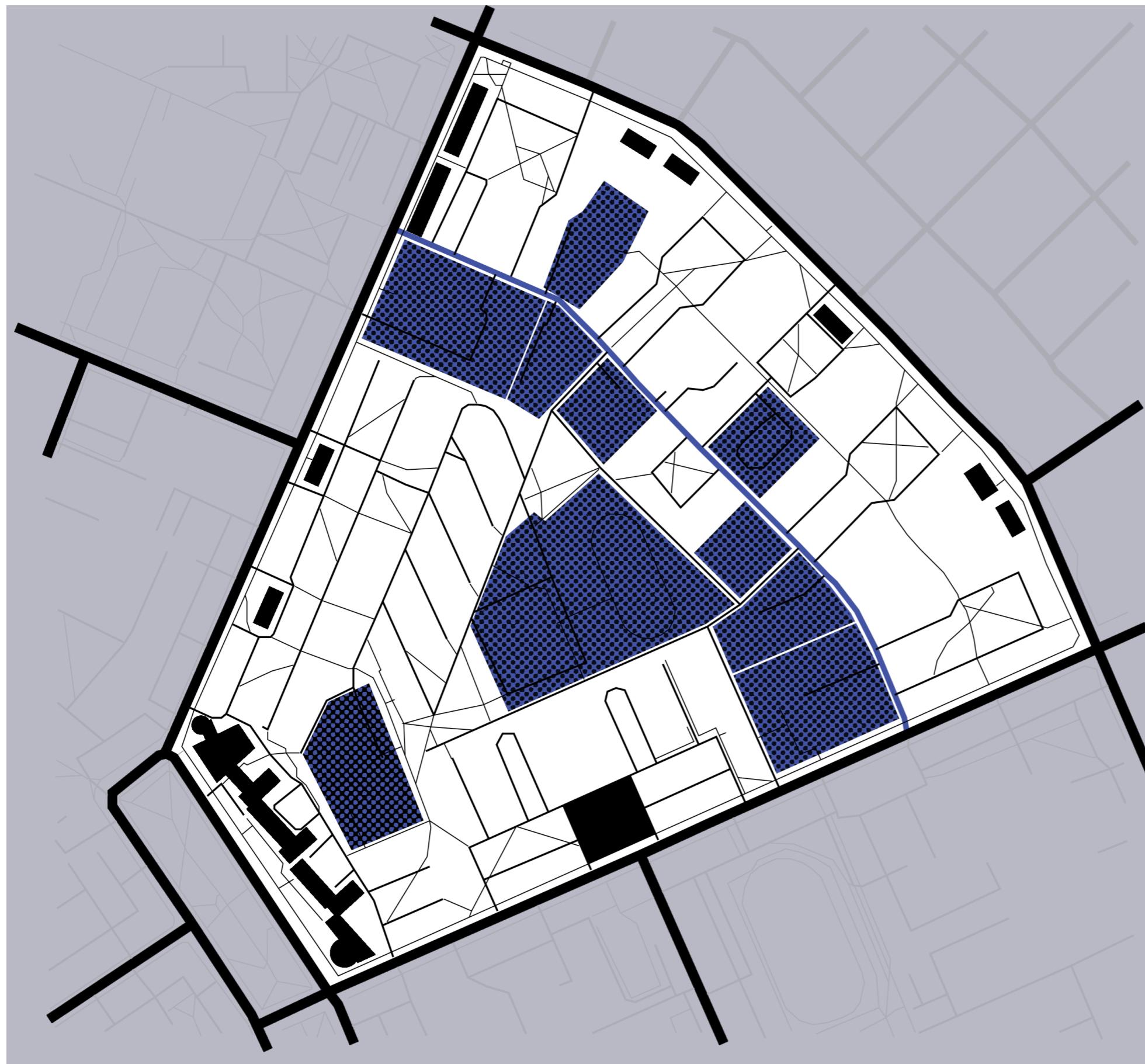
Routing and access**Kedyshko neighbourhood**

Figure 22: Non-residential facilities and areas of Kedyshko and paths through which they can be accessed.

Concerned aspects: **movement structure, access and footpaths, ownness**

Moreover, it is possible to identify that, due to most of the facilities being located within the neighbourhood's premises and not on the border, as well as there being many possibilities to enter the neighbourhood from its four borders, there is a lack of destination-specific routes to the service facilities frequented by the visitors from the outside of the neighbourhood, which makes the paths usually used by residents used by the visitors as well, which also impacts the ownness and the sense of belonging, as the residents may experience further detachment from their living area when the residential public spaces are constantly entered by people who are not a part of their neighbourhood.

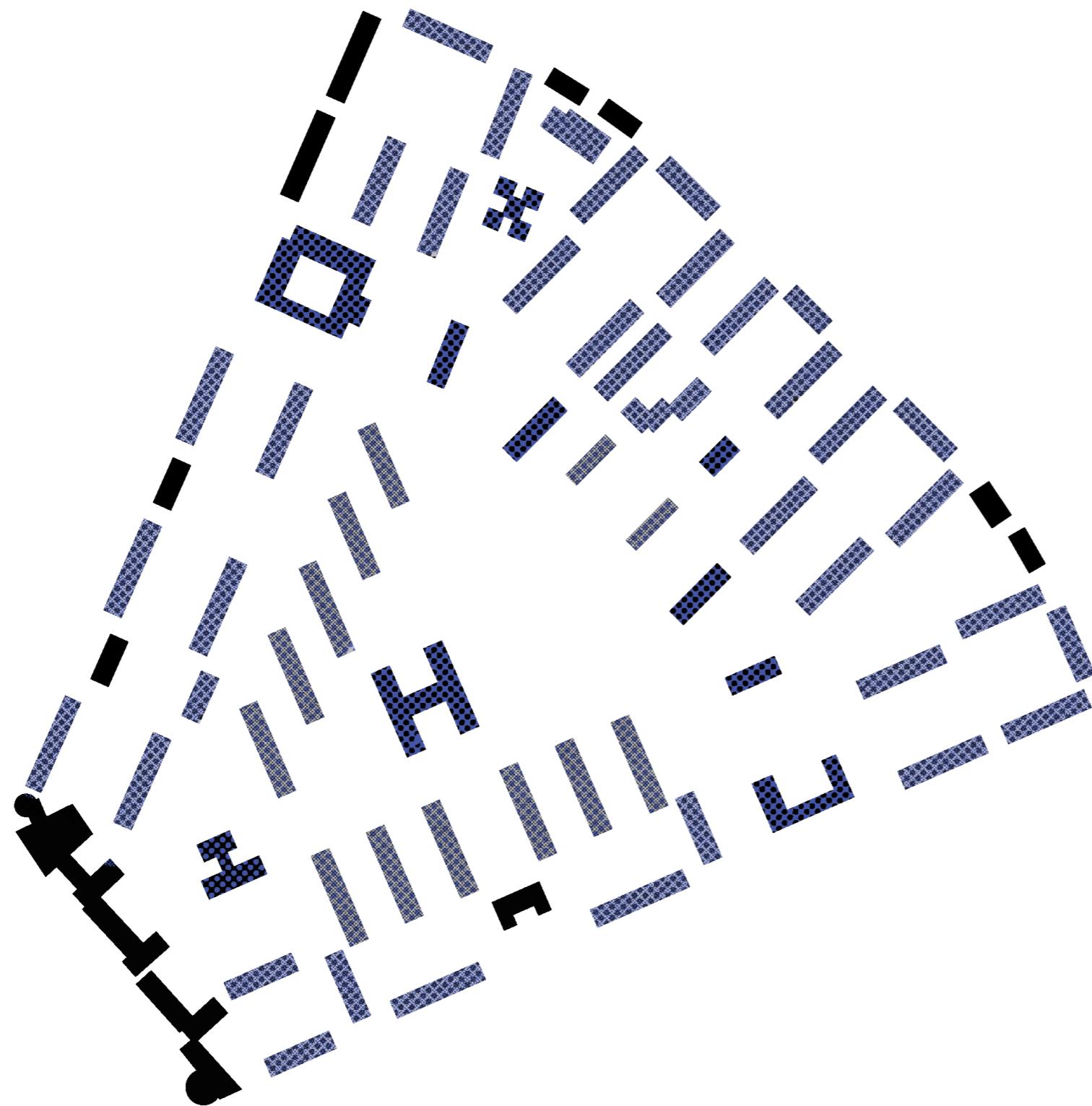
Routing and access**Kedyshko neighbourhood**

Figure 23-1: Building blocks of Kedyshko and their accessibility -- the residential buildings are in the “transit zone” for the visitors going to the non-residential facilities in the centre of the neighbourhood.



Figure 23-2: The “transit zone” from Fig. 23-1 -- due to lack of destination-specific routes, the public spaces become unused (Image source: Dariuss, 2013).

Concerned aspects: **movement structure, access and footpaths, own-ness**

As illustrated in the map on the left, the majority of the residential building blocks are in the way of the visitors' paths to the facilities located within the neighbourhood, escalating the detachment and preventing the generation of social capital (Fig. 23-2).

Routing and access**Kedyshko neighbourhood**

Figure 24-1: Car dominance in Kedyshko (Image source: Dar-iuss, 2013)



Figure 24-2: Car dominance in Kedyshko (Image source: Dar-iuss, 2013)

Concerned aspects: natural surveillance, ownness, public space

The issue of car dominance needs to be examined separately as well. As mentioned, there are too many cars parked along the joint pedestrian and car paths, often partially or fully on the narrow sidewalk. Aside from that, despite the abundant space to create specialised parking lots for the residents, from the map (Fig. 21) it appears that there barely are any parking spots in the neighbourhood, which causes such exaggerated car dominance (Fig. 24-1, 24-2), impacting the spatial aspects of ownness, as well as natural surveillance and public space, since it affects the residents' safety and happens in the public realm.

So far, the exceeding amount of cars in public spaces seems to be the main constraint preventing the belonging and social capital from being fostered: if the issue of residents' and visitors' routes overlapping or poor programmatic facilitation of public spaces were to be resolved, the car dominance issue would still make the neighbourhood lack belongingness. Therefore, it is identified as the main constraint in the framework in Figure 14 and must be addressed first, before actual planning and design approach steps can be taken.

Shared spaces and their value**Kedyshko neighbourhood**

Figure 25: Shared spaces of Kedyshko

Shared spaces

- public, visible green
- private, visible green

The last topic of Kedyshko neighbourhood's spatial analysis is shared spaces and their value -- the focus will be on the shared public or private spaces specifically, with intention to gather information regarding the public space, ownness, natural surveillance, mixed use, lifestyle differences and life cycle needs spatial aspects of social capital.

From the map already it can be seen that there are only two types of shared spaces present within the entire neighbourhood: public spaces with visible green and private spaces, also with visible green.

Shared spaces and their value**Kedyshko neighbourhood**

Figure 26-1: Public, visible shared spaces in Kedyshko neighbourhood (Image source: Google Maps).



Figure 26-2: Private, visible shared spaces in Kedyshko neighbourhood (Image source: Google Maps).

Concerned aspects: **public space, ownness, natural surveillance, mixed use, lifestyle differences, life cycle needs**

From the start it already becomes clear how the life cycle needs, lifestyle differences and mixed use aspects are not represented entirely: the accessible to the residents public shared spaces are not facilitated for any needs of the residents at all: there is virtually nothing to do there (Fig. 26-1), which greatly impacts the social capital generating opportunities, let alone the sense of belonging.

Moreover, the oversaturation of green, along with its dysfunctionality, impacts the spatial aspects of natural surveillance and ownness: if something -- in this case, the greenery -- is only visible (Fig. 26-2), but not possible to engage with or connect to, it becomes meaningless and loses its value, turning into a backdrop with no emotions attached to it by the residents. Therefore, the engagement and interaction with and within this “sea” of green should become the main focus when facilitating belonging: it needs to become meaningful to the residents so that the interactions which lead to attachment building as well as social capital generation could happen and take place in the public space of Kedyshko neighbourhood.

In/formal programme



Figure 27: Programmatic map of Oud Crooswijk

Oud Crooswijk

Buildings	
black	residential
pink	residential, commercial plinth
purple	office
Spaces	
green	public green
yellow	public space
light green	gated inner courtyard
pink	parking

Having investigated and learned about Kedyshko neighbourhood's context, it is now possible to investigate its younger "relative" Oud Crooswijk, as promised before, and compare whether there are some commonalities as to why the neighbourhoods are spatially deprived.

The analysis follows the same structure, therefore, the first analysis topic in Oud Crooswijk will also be its (in)formal programme, concerning the following spatial aspects of social capital: mixed use, local facilities, context, life cycle needs and public space.

In/formal programme

Figure 28-1: Non-residential facilities and public areas within Oud Crooswijk (blue) vs. non-residential facilities and public areas on the borders of Oud Crooswijk (grey).

Oud Crooswijk

Concerned spatial aspects of social capital: **mixed use, local facilities, context, life cycle needs, public space**

At the first glance, the situation in Oud Crooswijk in terms of provision of facilities and public space seems different compared to the one in Kedyshko: there is definitely more mixed-use dwellings, as well as there are also some offices in the neighbourhood, aside from educational facilities like schools and daycares. Moreover, there also are a few specifically designated public spaces -- a complete departure from Oud Crooswijk's situation.

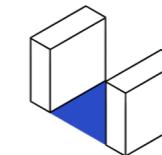
However, in terms of Oud Crooswijk's structural core, it is strikingly similar to the issue in Kedyshko neighbourhood: the majority of local facilities are also situated within the neighbourhood, making them accessed by the outsiders just like in Kedyshko (Fig. 28-2), which already is a sign of possible spatial detachment.

In/formal programme

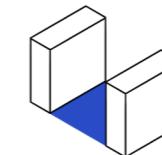


Figure 29: Residential buildings (black) vs. non-residential buildings and spaces (grey) vs. inner courtyards -- the “inward” spaces (blue) in Oud Crooswijk -- there is poor public/private spatial gradation, forcing residents to the shared spaces within their building blocks, but the inner courtyards of the blocks are also poorly facilitated.

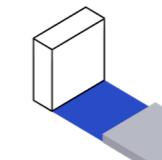
Oud Crooswijk



Block to block space (street oriented):
no provision of public/private gradient,
no programmatically functional space for the residents.



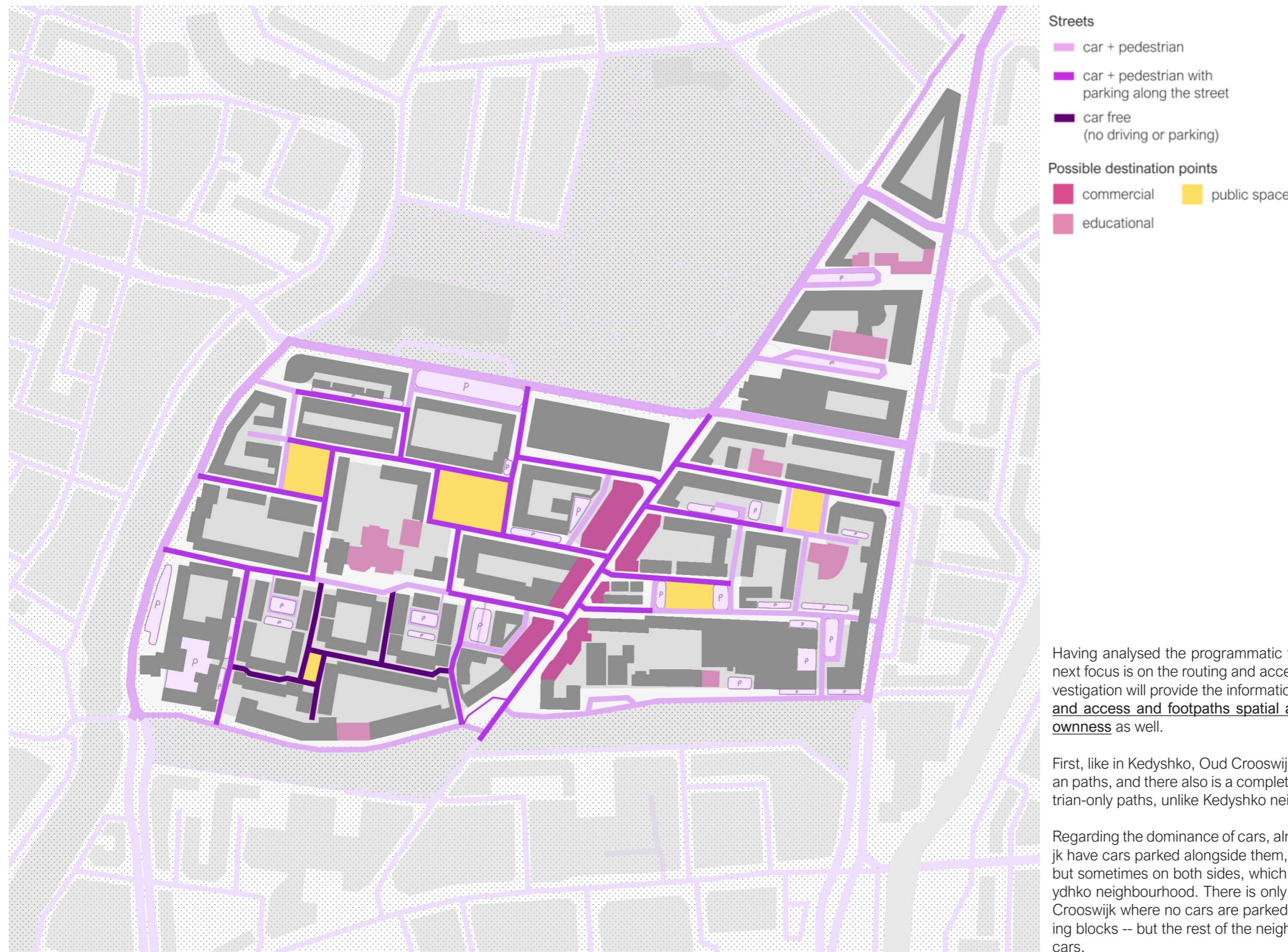
Block to block space (inward oriented):
no programmatically functional space for the residents
(actually, barely any space for the residents at all).



Block to core space (core oriented):
buffer space, no functional programme.

Concerned spatial aspects of social capital: **mixed use, life cycle needs, ownness, public space, personalisation, lifestyle differences, natural surveillance**

The closed building block typology also seems to confirm the spatial detachment theory, with the ability to retreat to a definitely public, not visited by the outsiders space, already being there, unlike the Kedyshko’s situation. However, these inward residential spaces are as unused as the public spaces between the building blocks in Kedyshko neighbourhood.

Routing and access**Oud Crooswijk**

Having analysed the programmatic facilitation of the neighbourhood, the next focus is on the routing and access within the neighbourhood. This investigation will provide the information regarding the movement structure and access and footpaths spatial aspects of social capital, along with ownness as well.

First, like in Kedyshko, Oud Crooswijk also only has joint car and pedestrian paths, and there also is a complete lack of informal and random pedestrian-only paths, unlike Kedyshko neighbourhood.

Regarding the dominance of cars, almost all of the streets in Oud Crooswijk have cars parked alongside them, sometimes on one side of the street, but sometimes on both sides, which is very similar to the situation in Kedyshko neighbourhood. There is only one completely car free area in Oud Crooswijk where no cars are parked in the streets -- only inside the building blocks -- but the rest of the neighbourhood is extremely dominated by cars.

Routing and access**Oud Crooswijk**

Figure 31: Non-residential facilities and public areas of Oud Crooswijk and paths through which they can be accessed.

Concerned aspects: **movement structure, access and footpaths, ownness**

Just like in Kedyshko neighbourhood, there is only a few destination-specific routes which can be used by the outsiders visiting the facilities within the neighbourhood. However, even these routes cut through residential blocks, and these destination-specific routes are not in the majority regardless, which points towards another issue Oud Crooswijk and Kedyshko have in common: lack of destination-specific routes and entrances for residents and visitors of the neighbourhoods affecting the spatial aspect of ownness negatively.

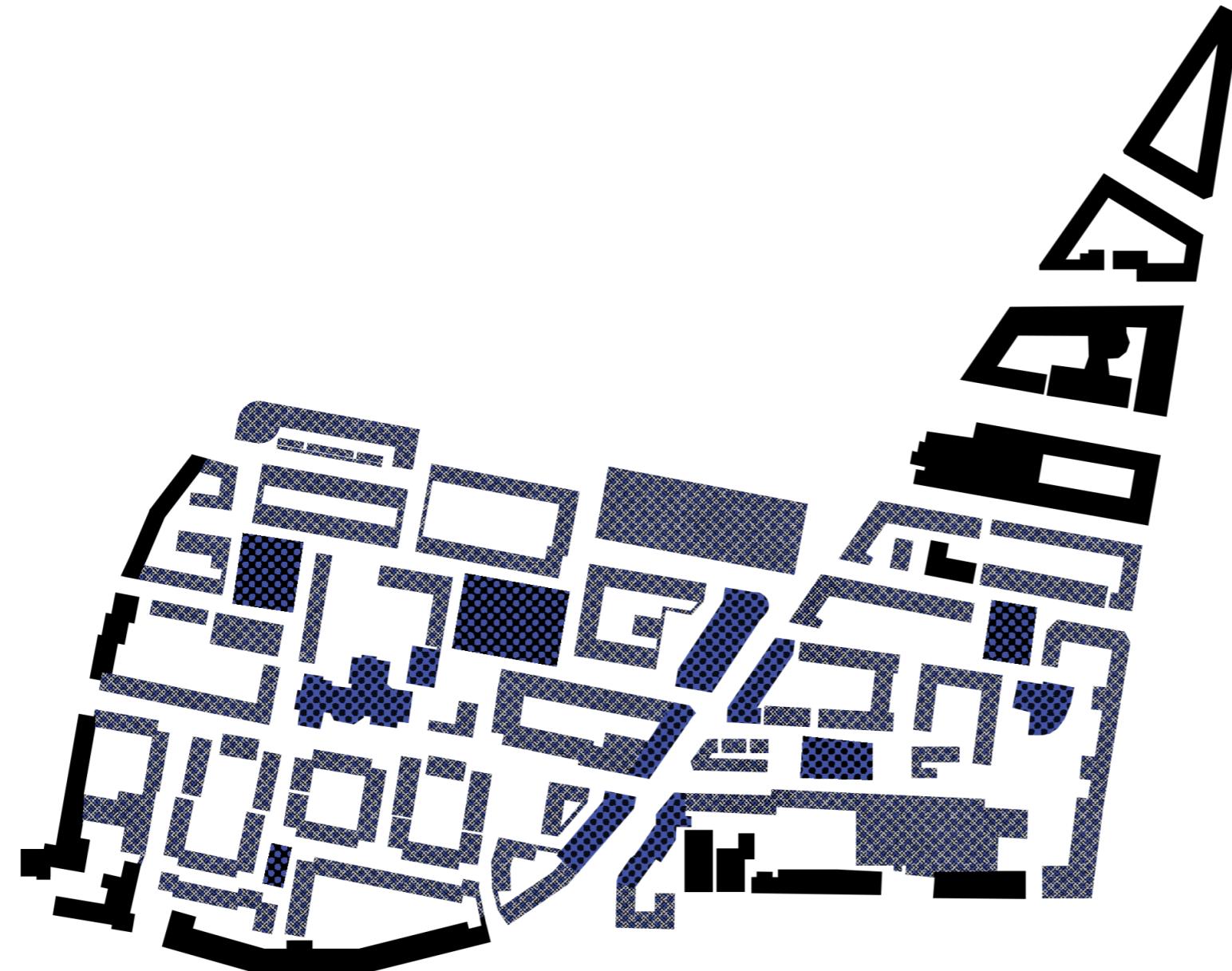
Routing and access

Figure 32-1: Building blocks and public spaces of Oud Crooswijk and their accessibility -- the residential buildings are in the “transit zone” for the visitors going to the non-residential facilities in the centre of the neighbourhood.

Oud Crooswijk

Figure 32-2: The “transit zone” from Fig. 23-1 -- due to lack of destination-specific routes, the public spaces become unused (Image source: Google Images).

Concerned aspects: **movement structure, access and footpaths, own-ness**

As illustrated in the map on the left, the majority of the residential building blocks are in the way of the visitors' paths to the facilities located within the neighbourhood, escalating the detachment and preventing the generation of social capital.

Routing and access

Figure 33-1: Car dominance in Oud Crooswijk (Image source: Google Images).



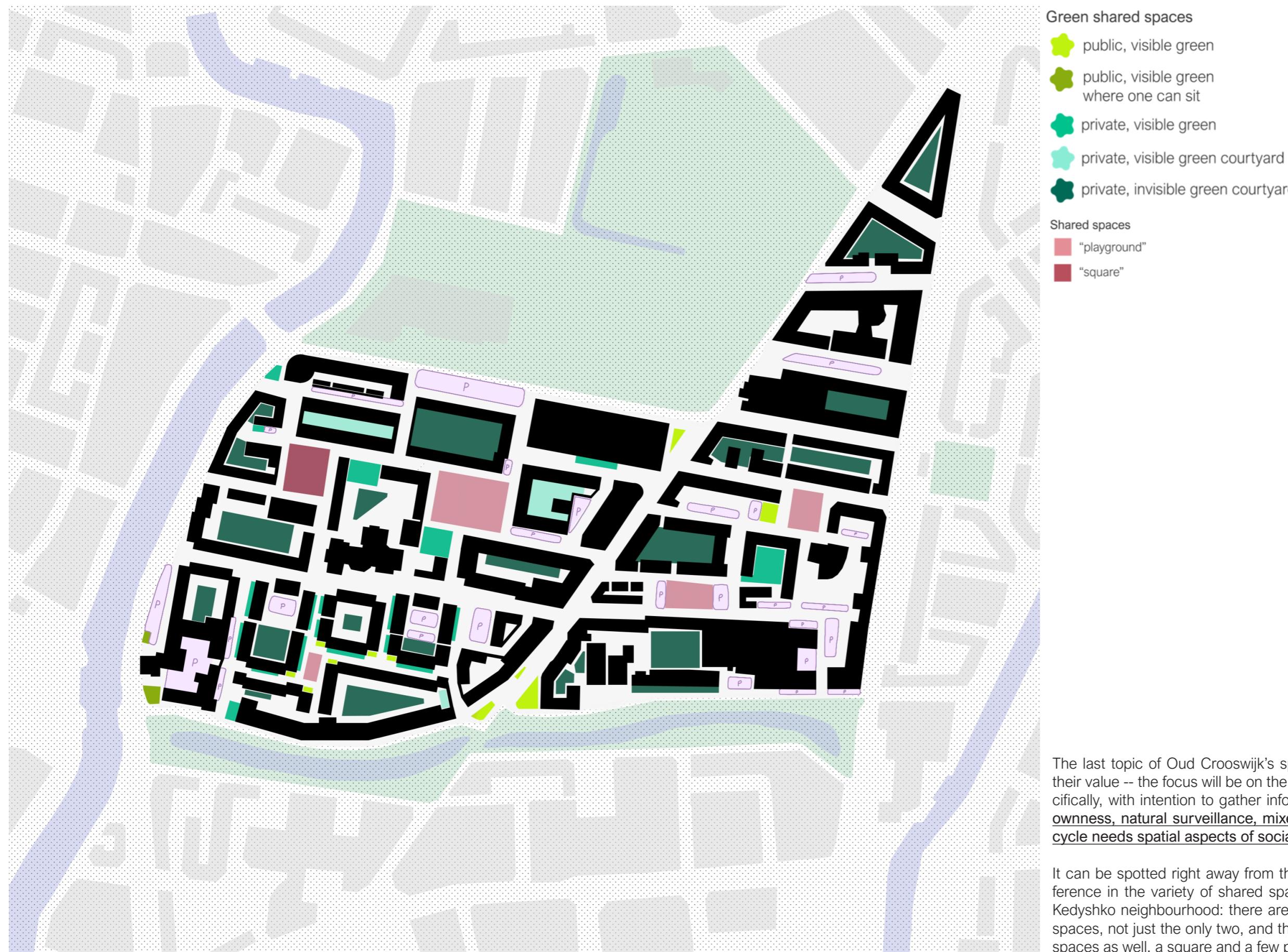
Figure 33-2: Car dominance in Oud Crooswijk (Image source: Google Images).

Oud Crooswijk**Concerned aspects: natural surveillance, ownness, public space**

Just like in Kedyshko, Oud Crooswijk suffers from the same issue of car dominance, and even more severely with how everpresent the cars are on almost every street of the neighbourhood (Fig. 33-1, 33-2). Therefore, as in the case of Kedyshko neighbourhood, this issue needs to be the first one to become resolved in Oud Crooswijk as well to make it possible to start developing design and planning solutions for facilitation of belonging and social capital.

Shared spaces and their value

Oud Crooswijk



The last topic of Oud Crooswijk's spatial analysis is shared spaces and their value -- the focus will be on the shared public or private spaces specifically, with intention to gather information regarding the public space, ownness, natural surveillance, mixed use, lifestyle differences and life cycle needs spatial aspects of social capital.

It can be spotted right away from the map that there is a significant difference in the variety of shared spaces of Oud Crooswijk compared to Kedyshko neighbourhood: there are different types of public and private spaces, not just the only two, and there also are function-specific shared spaces as well, a square and a few playgrounds.

Shared spaces and their value**Oud Crooswijk**

Figure 35-1: Oud Crooswijk's inner courtyard (Taken in September 2021).



Figure 35-2: Publicly visible green of an inner courtyard of Oud Crooswijk (Image source: Google Maps).



Figure 35-3: Public visible green shared space example in Oud Crooswijk (Taken in September 2021).



Figure 35-4: Public visible green shared space example in Oud Crooswijk (Taken in September 2021).

Concerned aspects: **public space, ownness, natural surveillance, mixed use, lifestyle differences, life cycle needs**

However, when seeing the impressions of these public spaces, the questions about their value begin to arise.

Firstly, the majority of shared spaces in Oud Crooswijk is private: they are gated inner courtyards, only meant to be used by the residents. In most cases, however, these inner courtyards are unusable and dysfunctional (Fig. 35-1): they only have shrubs and grass, without providing any places for the residents to communicate or even just become engaged with the offered space itself. In best case, the greenery of an inner courtyard would be visible from the public realm, contributing to the public spaces visually (Fig. 35-2), representing the natural surveillance spatial aspect. However, there is not a lot of such publicly visible inner courtyard green.

Then, the amount of public green shared spaces is extremely scarce, and there also are barely any spaces that are not just visual but also provide some kind of engaging activity (Fig. 35-3, 35-4).

Lastly, the public playgrounds and square also seem to be not well-used, pointing towards the poor facilitation of spatial aspects of social capital such as lifestyle differences, life cycle needs and mixed use, all of which needs to be addressed through design.

Essentially, the shared spaces of Oud Crooswijk have the same issue the shared spaces of Kedyshko neighbourhood have: there is no engagement, which cultivates detachment rather than belonging; only in case of Oud Crooswijk there is a “sea” of cars and paved surface in contrast to Kedyshko’s “sea” of greenery. In the end, both neighbourhoods suffer greatly in terms of belonging and social capital.

Shared spaces and their value**Oud Crooswijk**

Figure 36-1: Public square in Oud Crooswijk -- when you visit it, it is almost never used (Image source: Google Maps).



Figure 36-2: Playground in Oud Crooswijk -- when you visit it, it is almost never used, and children usually play and run around in the streets (Image source: Google Maps).

Concerned aspects: **public space, ownness, natural surveillance, mixed use, lifestyle differences, life cycle needs**

Lastly, the public playgrounds and square also seem to be not well-used (Fig. 36-1, 36-2), pointing towards the poor facilitation of spatial aspects of social capital such as lifestyle differences, life cycle needs and mixed use, all of which needs to be addressed through design.

Essentially, the shared spaces of Oud Crooswijk have the same issue the shared spaces of Kedyshko neighbourhood have: there is no engagement, which cultivates detachment rather than belonging; only in case of Oud Crooswijk there is a “sea” of cars and paved surface in contrast to Kedyshko’s “sea” of greenery. In the end, both neighbourhoods suffer greatly in terms of belonging and social capital.

Spatial analysis conclusions: Kedyshko & Oud Crooswijk

Having analysed both Kedyshko and Oud Crooswijk spatially, it is now possible to draw the conclusions regarding why the neighbourhoods are spatially deprived -- and these conclusions are common for both of the neighbourhoods as well, despite their differing contexts and background, implying that they do indeed belong to one single typology.

For both Oud Crooswijk and Kedyshko it can be concluded that they both:

- suffer from poor facilitation of shared public spaces, which make belonging to a space as well as interactions to generate or maintain social capital impossible, since they do not respond to the requirements understood by the spatial aspects for social capital (Fig. 13) such as mixed use, public space, ownness, natural surveillance, life cycle needs and lifestyle differences;

- lack programmatically functional cores which would respond to the needs of the residents to have meaningful and engaging interactions with each other or with the space itself;

- have a “transit” character, worsening the detachment the residents already have with their residential neighbourhoods and making it unable to facilitate ownness;

- have no hierarchy in terms of indication of routing as well as poor separation of public-private and visitor-resident routes and realms, which is reflection of their failure to facilitate the spatial aspects of movement structure, access and footpaths and context, which influences aspects like lifestyle differences, natural surveillance, personalisation and ownness, and contributes to the lack of sense of belonging and failure to facilitate the generation of social capital;

- do not provide enough human-scale value within the public realm, which is caused not only by poor facilitation of shared public spaces, but extreme car dominance.

All of these exacerbate the detachment of residents from their residential neighbourhoods and deprive them of conditions for generation of social capital, making them “homeless” in a sense, since there is no home in the sense of social and community ties in the neighbourhood for them.

The identified causes of spatial deprivation of Oud Crooswijk and Kedyshko neighbourhoods are also related to the framework for research and design approach established in the second chapter of the report (Fig. 37-1) in terms of how they fit within it. The main spatial constraints which need to be addressed above all else because, if left unaddressed, they would make it unable to proceed with finding and implementing the solutions to spatial deprivation, are the issues of car dominance and lack of human-scale value within the public realm. Therefore, these will be addressed and resolved in this chapter, before further design and research can commence. Then, the approach to the existing context for creation of conditions for interactions will be based on facilitating the issues of poor public-private resident-visitor separation, lack of routing hierarchy and transit character of the neighbourhoods. And, lastly, when the conditions for interactions would be resolved, interactions themselves would be facilitated by addressing the programmatic facilitation issues of the shared public spaces of the neighbourhoods (Fig. 37-2). This approach will be followed throughout this report.

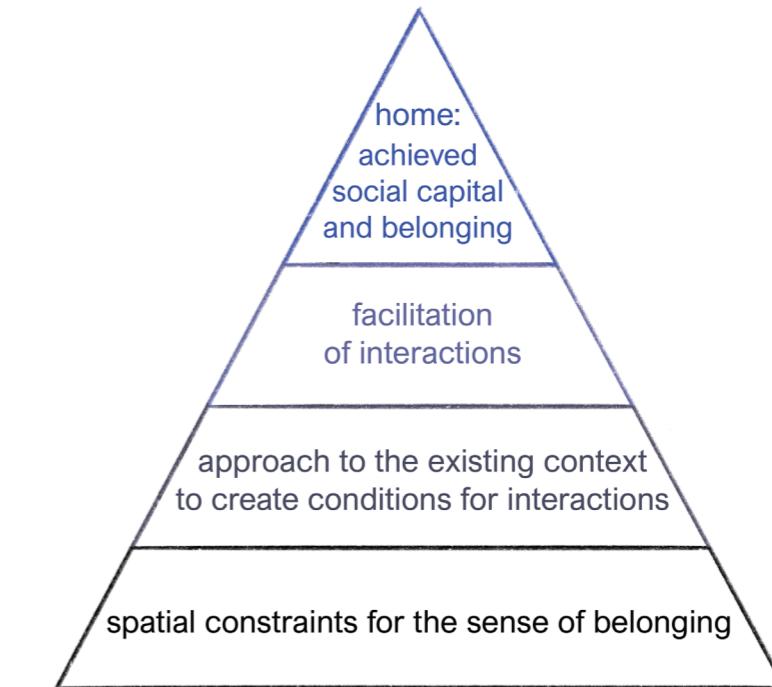


Figure 37-1: Framework for research and design for the facilitation of sense of belonging and generation and maintenance of social capital.

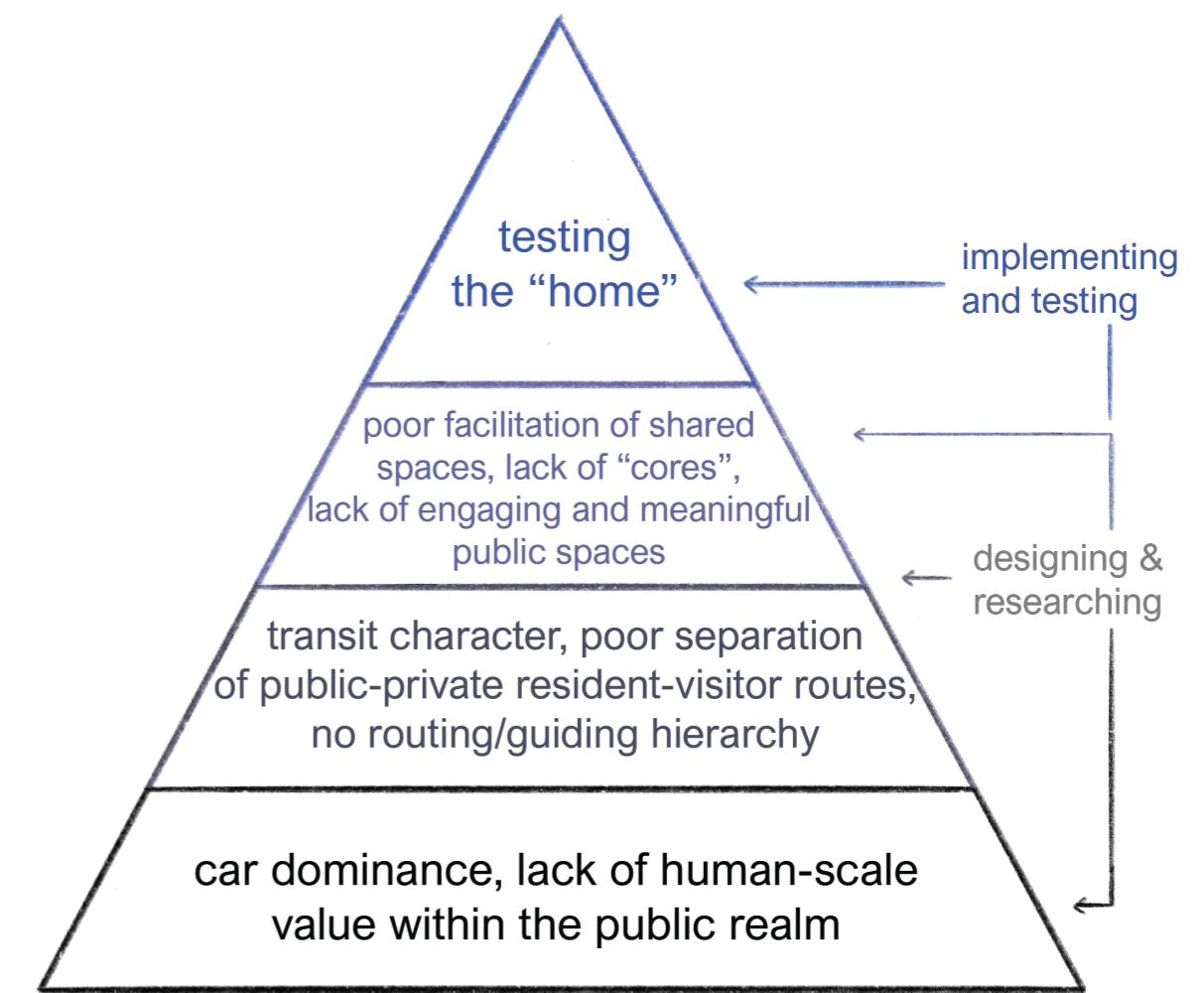


Figure 37-2: Main spatial analysis conclusions reflected in the research and design framework.

Car dominance resolution: Kedyshko

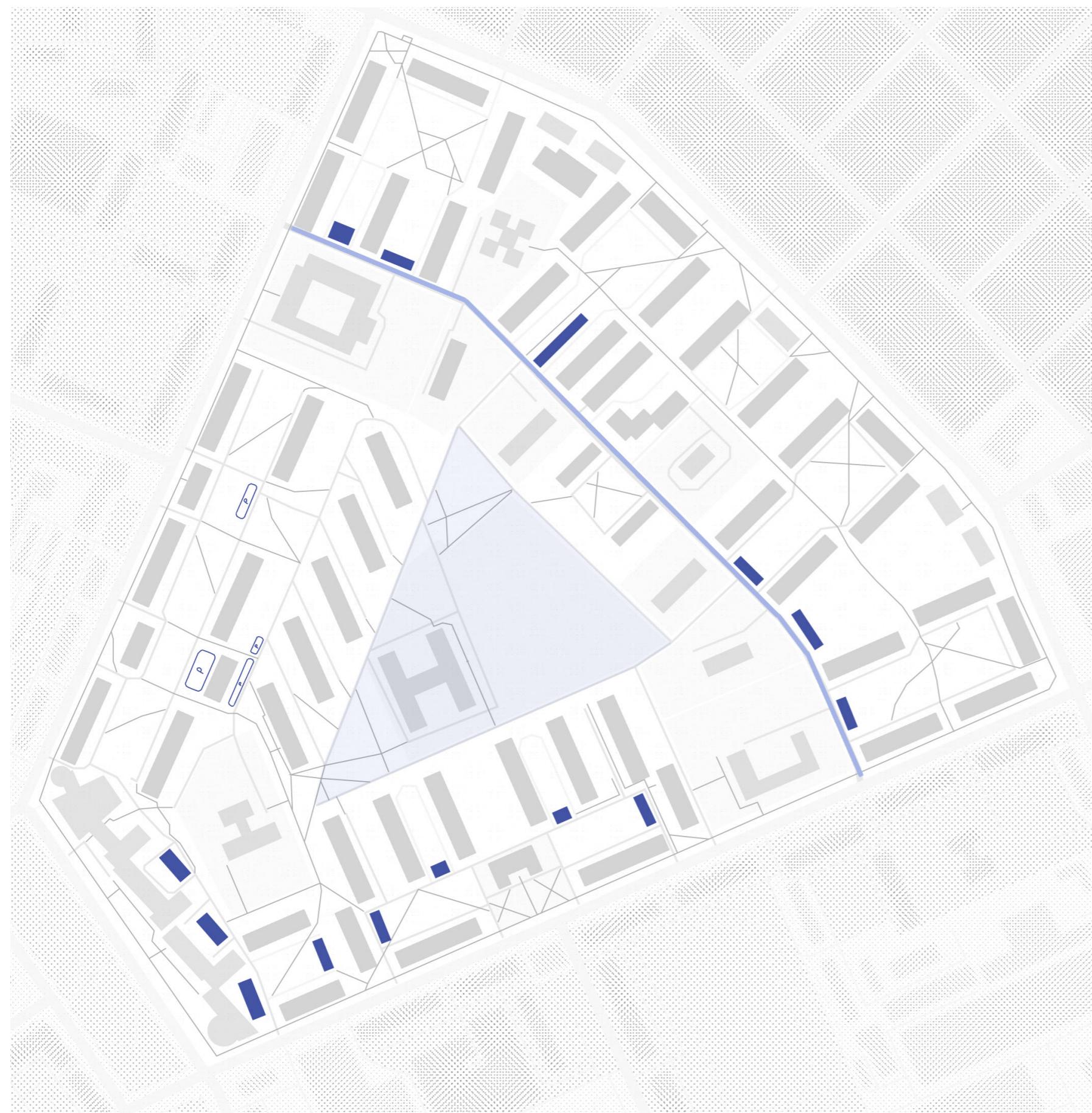


Figure 38-1: Resolution for car dominance in Kedyshko.

■ new proposed parking spaces ■ main axis

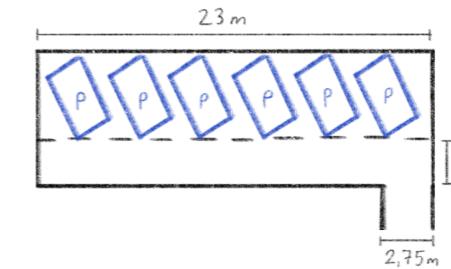


Figure 38-2: Proposed parking layout for Kedyshko (can be adjusted length-wise).

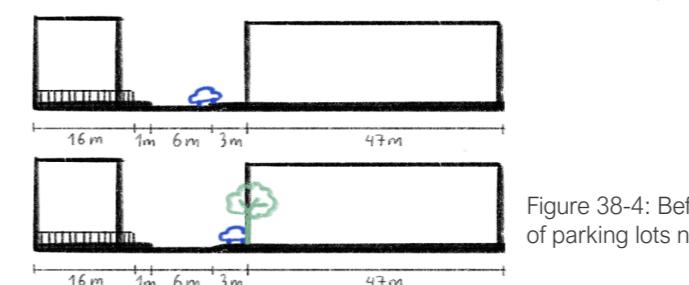
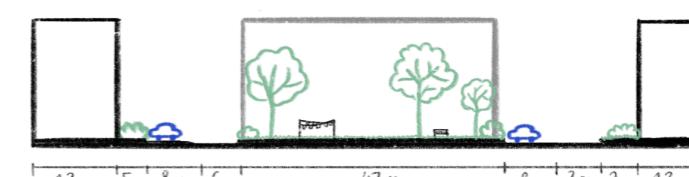
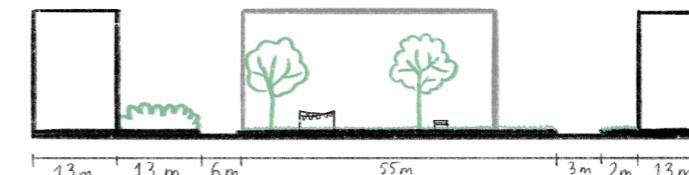
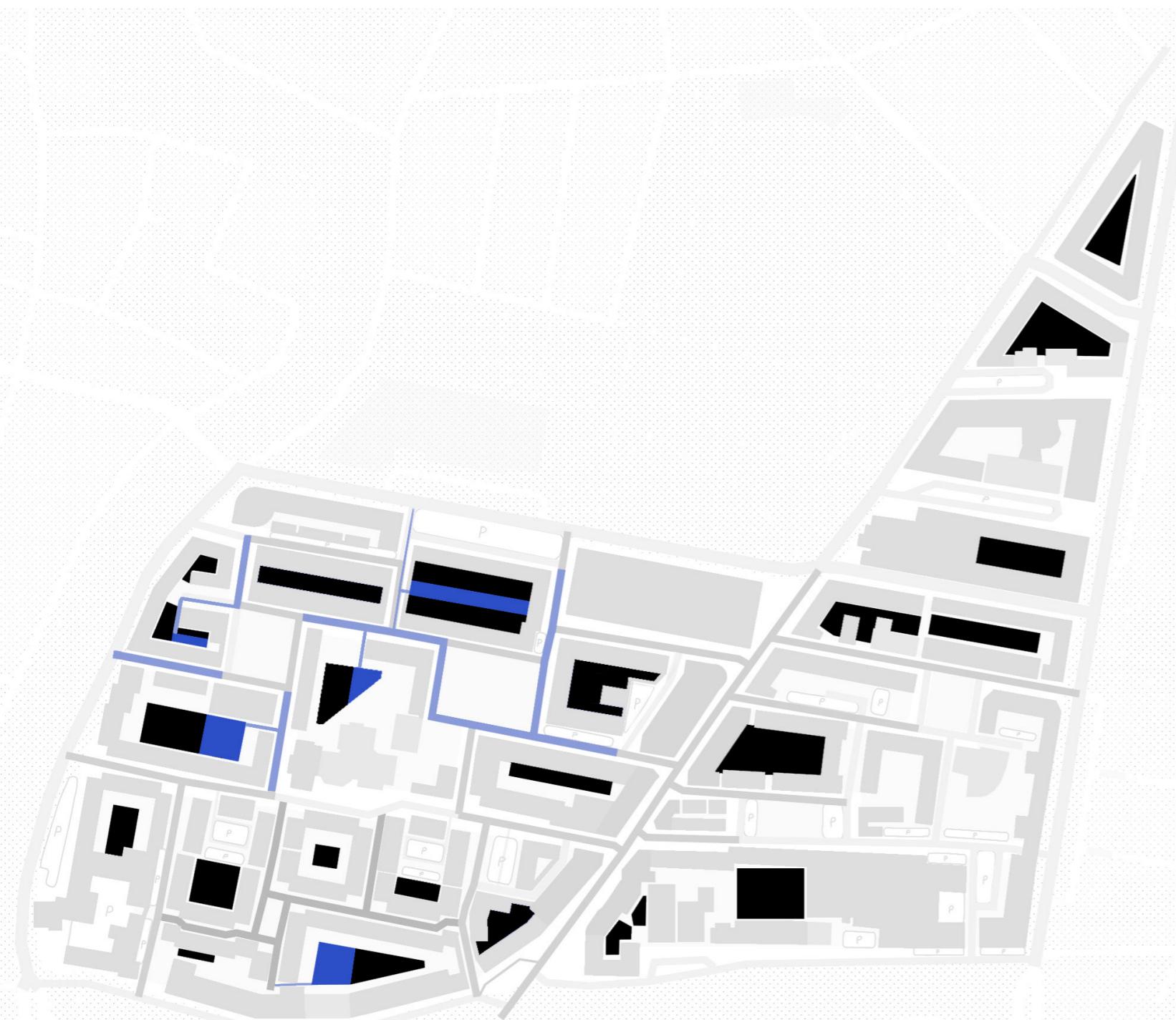


Figure 38-4: Before and after sections of parking lots next to the main axis.

Unlike Oud Crooswijk, where there are designated parking lots along the streets, the cars in Kedyshko are parked along the streets due to lack of “official” parking lots in the neighbourhood. Moreover, there is not as many cars in Kedyshko as compared to Oud Crooswijk, as it appeared from the site visits, and, for instance, the parking lots in the north-western side of the neighbourhood (Fig. 38-1) already make it possible to make that entire area devoid of cars parked in the streets and sidewalks, as it appears from the street view. Therefore, the strategy for Kedyshko is focussed on providing a few organised parking lots in each of the residential clusters.

In case of all residential clusters, the north, north-western and south-eastern, a decision is made to place the parking lots away from the central area, just as in the north-western residential cluster, because if the centre would be redeveloped, the parkings would cause car dominance in public spaces again, and along the only central axis of Kedyshko, since it is already not considered an “own” area by the residents, therefore, the parking lots would act as an additional buffer between the public-visitor space and private-residential one.

As the illustrations suggest, it was decided to “chip away” from the abundant unused public spaces, some of which were already used as makeshift parking spaces anyway. Only now, it is organised and suggested in such way that does not intensify the car dominance -- there is a balance and gradient present, with cars still present in the public space, but contained in specific buffered parking lots. Moreover, such parking spaces also make it possible for the cars of the residents to be seen from the windows of their apartments, making it convenient and safe. **As a result, these parking lots provide space for approximately 80 cars in total to be parked across every new parking lot.**

Car dominance resolution: Oud Crooswijk

■ new proposed parking spaces ■ inner courtyards ■ streets with parking on both sides

Figure 39-1: Resolution for car dominance in Oud Crooswijk.

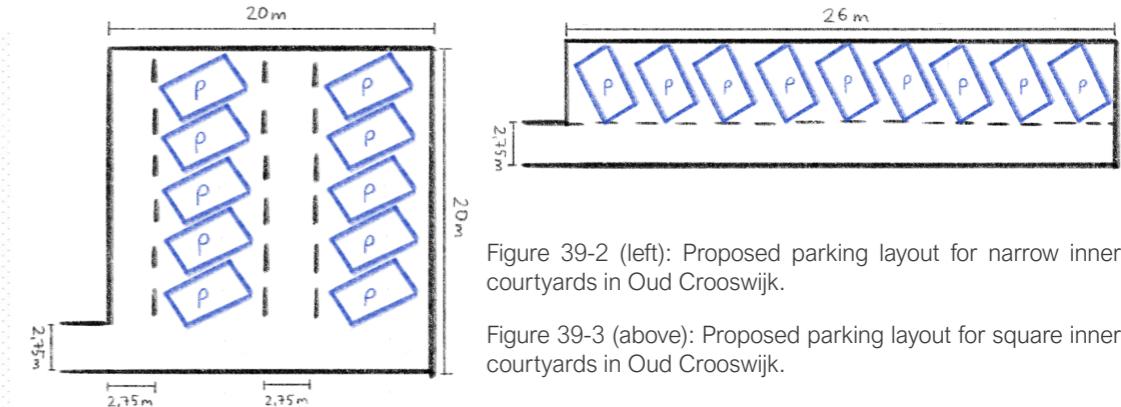


Figure 39-2 (left): Proposed parking layout for narrow inner courtyards in Oud Crooswijk.

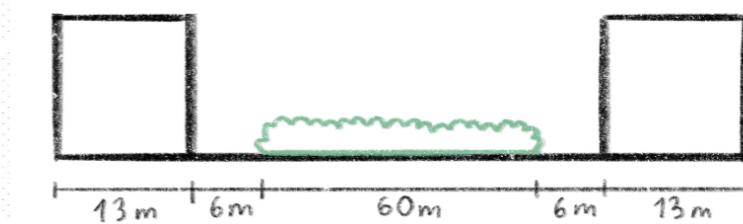


Figure 39-3 (above): Proposed parking layout for square inner courtyards in Oud Crooswijk.

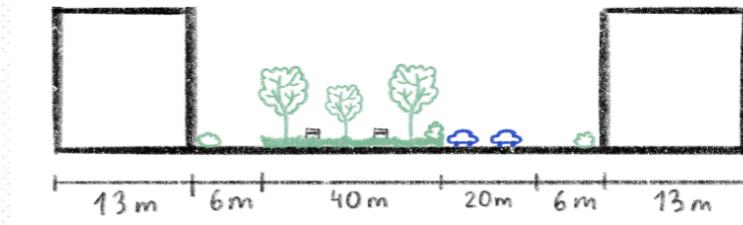


Figure 39-4: Before and after sections of parking lots in square courtyards.

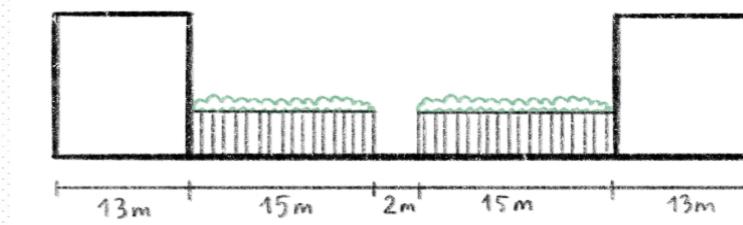


Figure 39-5: Before and after sections of parking lots in narrow courtyards.

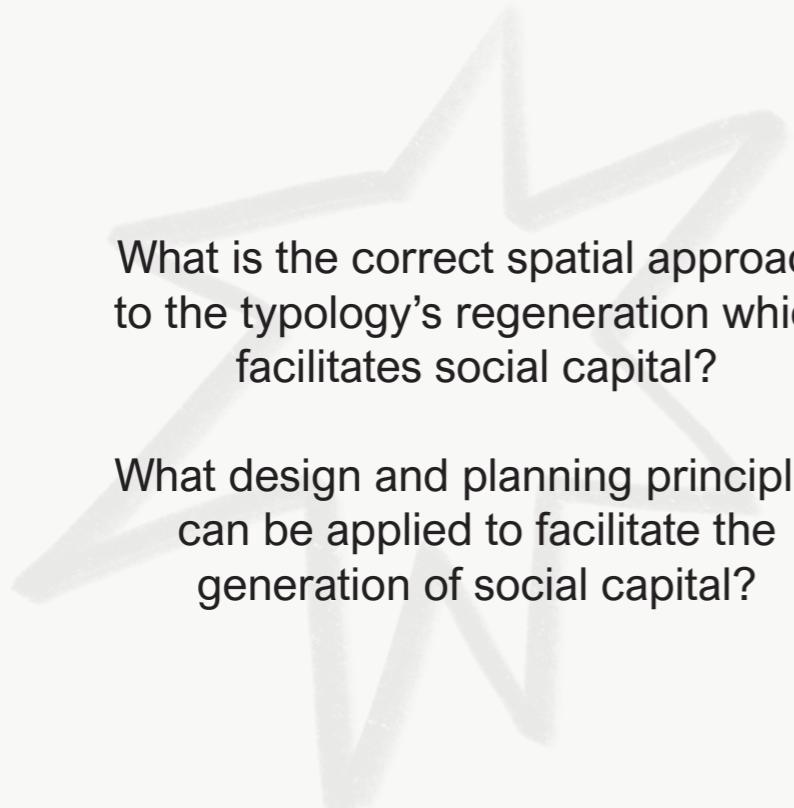
In case of Oud Crooswijk, as per illustrations, the solution was also to place the parking lots somewhere where the residents will still be able to oversee their vehicles: this time, inside the enclosed building blocks of the neighbourhood.

The green buffers to alleviate the car placement make the space less car-focused as well as provide reorganisation of previously unused inner courtyard space. The decision for such strategy is based on streets where cars are parked on both sides and the unfacilitated inner courtyards (Fig. 35-1) in (relatively) close proximity to those.

Such solution to use the inner courtyard space partially for parking purposes allows to park approximately 40 cars in total, divided among the selected courtyards according to the calculations, taking this amount of cars off the streets.

PART III: CONSIDERATE REGENERATION

DESIGN APPROACH



What is the correct spatial approach to the typology's regeneration which facilitates social capital?

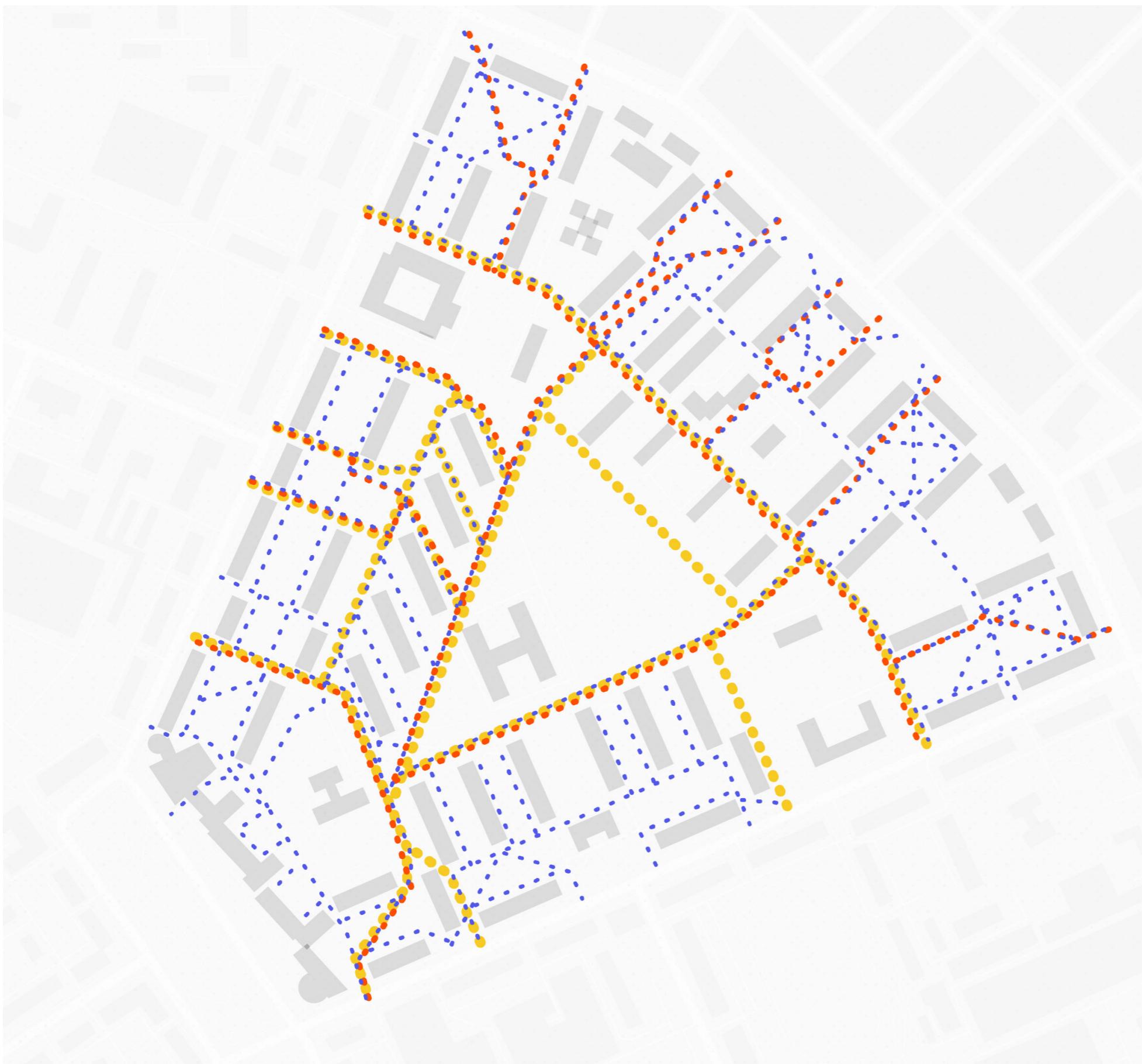
What design and planning principles can be applied to facilitate the generation of social capital?

CHAPTER 04

Having learned about the conditions leading to spatial deprivation in both neighbourhood as well as resolved the main spatial constraints hindering the sense of belonging, it is now possible to move on to levels two and three of the research and design approach triangle (Fig. 37-2) -- and start working on the approach to create conditions for interactions as well as facilitating those.

The access and movement structure as well as issues of privacy, life-style differences and ownness seemed to be the most logical ones to act as guides to approach the creation of interaction conditions, as there is a big issue based on the residents-visitors contrast.

Kedyshko neighbourhood



Networks

- visitor_destination
- visitor_shortcut
- resident

Therefore, it has been decided to approach those spatial aspects as such: in the end, the neighbourhood is visited with a purpose in mind, be it by a resident or a visitor. All of these purposes can be illustrated and expressed through movement networks: visitors- and residents-based.

The approach this project takes to view the differences between movement patterns of visitors and residents through the neighbourhoods is as such: a visitor would either go to the neighbourhood for a specific destination (school, daycare, polyclinic, office or store), or they would take a shortcut through the neighbourhood, and a resident would use all the present paths depending on their needs, because they are assumed to be more familiar with their neighbourhood. Therefore, the networks representing the visitors' routes are more direct and short with how they cut through the neighbourhood compared to the ones of the residents.

Figure 40: Networks of Kedyshko neighbourhood.

Oud Crooswijk

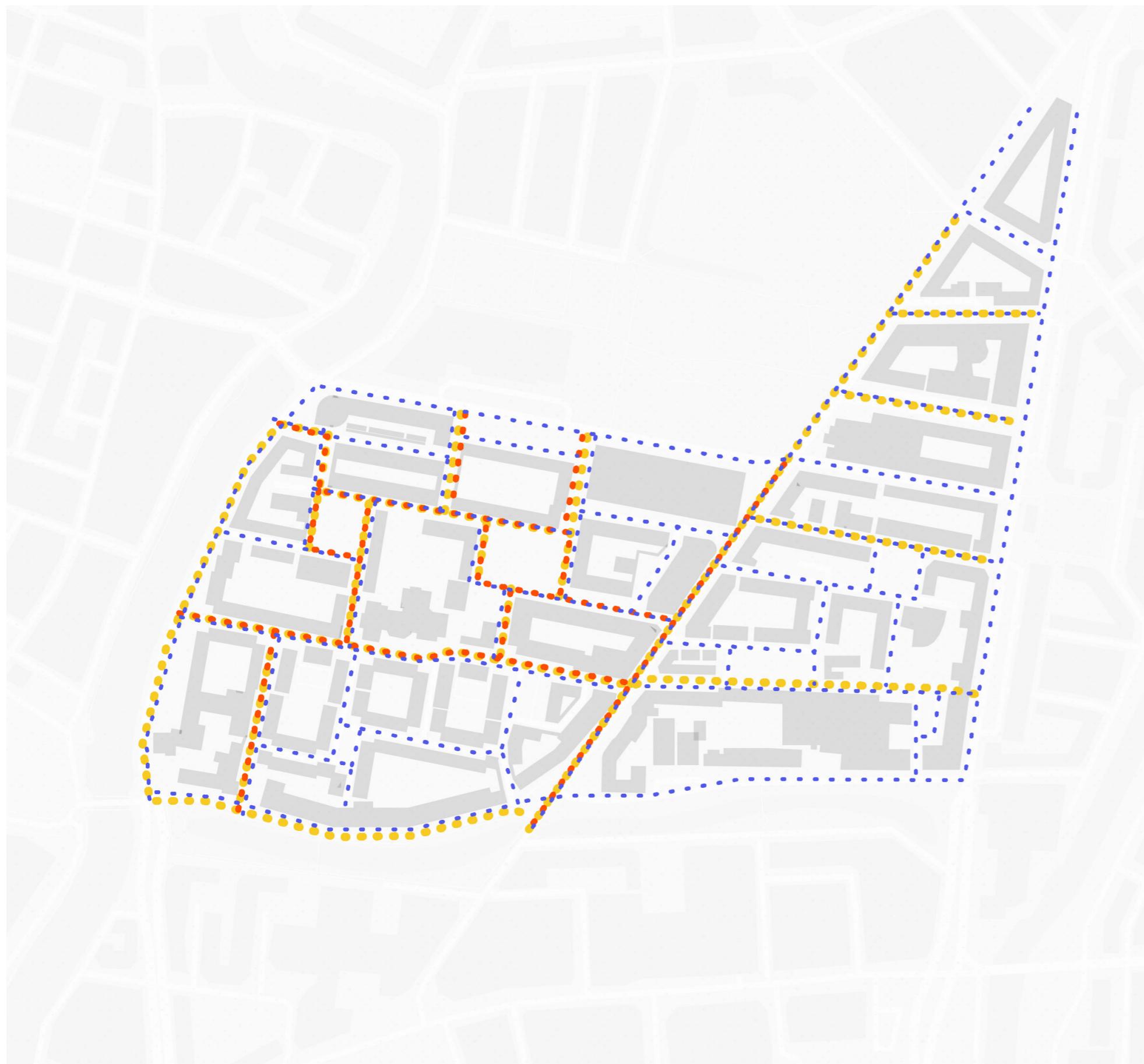


Figure 41: Networks of Oud Crooswijk.

Networks

- visitor_destination
- visitor_shortcut
- - resident

As can be seen in the maps for both neighbourhoods (Fig. 40, 41), in 50% of the cases the residents' and visitors' movement networks overlap, which enhances the transit character issue identified through spatial analysis. This implies that every specific network, especially the overlapping ones, should be facilitated accordingly, not only to suit the social capital generation better, but to improve the sense of belonging by offering the residents spaces where they feel truly in control, resolving the issue of ownness caused by the "transitiveness" of the neighbourhoods. Therefore, there is a clear need for some kind of division or gradient between the more public visitors' networks and the residents' networks, all of which has to be addressed on a spatial level.

As such, these networks, which now become spatial entities, can also be viewed as spatial elements, with every element addressing particular spatial aspects from the framework as well.

To elaborate and introduce the elements, the demonstration sequence will change: it will now be done per element and not per neighbourhood. Moreover, every element has its own conceptualised spatial outlook -- a set of spatial patterns -- behind it, which will also be elaborated and illustrated.

STRIP: Kedyshko neighbourhood

Figure 42-1: Map of the elements in Kedyshko -- strip.

Elements**strip**

- primary
- secondary
- tertiary

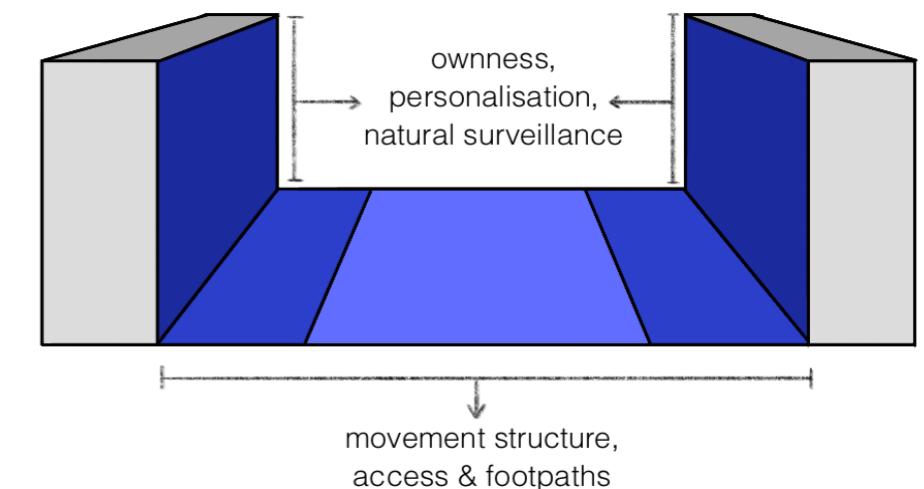


Figure 42-2: Diagram illustrating the strip element.

STRIP is meant to represent the streets, routes and paths of the neighbourhoods. It includes the spatial aspects of movement structure and access and footpaths primarily, however, aspects like ownness, personalisation and natural surveillance are also influenced by how well the strip is facilitated in terms of providing the conditions for those (Fig. 42-2).

For example, like in case of both Kedyshko and Oud Crooswijk neighbourhoods, due to the strips being unable to facilitate the overlap of more private and more public networks for residents and visitors (movement structure, access and footpaths), the residents feel detached from their neighbourhoods' public space, making this space not feel like their own (ownness), hence, they do not feel emotionally invested enough to personalise their living environments (personalisation), which leads to unengaging frontages (natural surveillance), which hinders the conditions for social capital.

Thus, by redeveloping the existing strips of the neighbourhoods in the way that addresses this overlap of different networks, it will directly and indirectly affect the spatial aspects of ownness, personalisation and natural surveillance positively.

STRIP: Kedyshko neighbourhood

Figure 43-1: Primary strip (Kedyshko) -- residential -- current situation.



Figure 43-2: Primary strip (Kedyshko) -- residential -- proposed solutions.

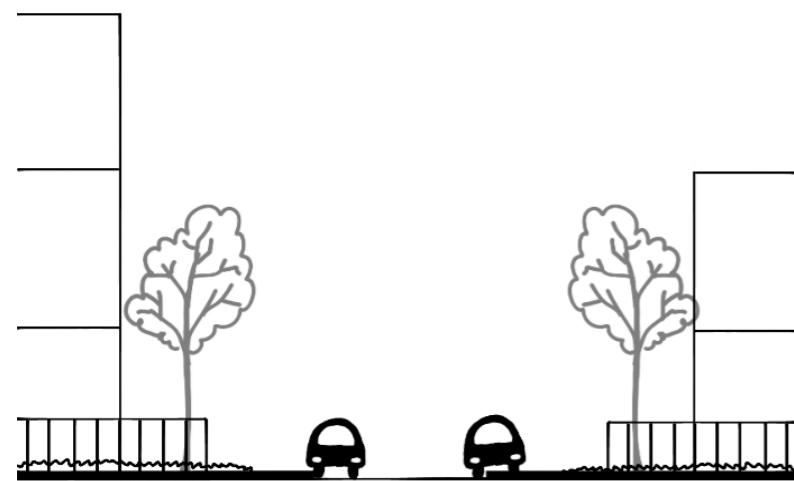


Figure 43-3: Primary strip (Kedyshko) -- non-residential -- current situation.

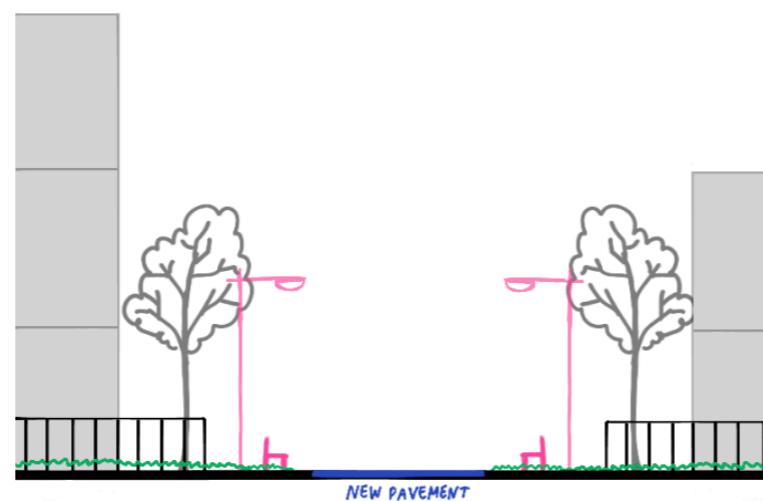


Figure 43-4: Primary strip (Kedyshko) -- non-residential -- proposed solutions.

Figures 43-1, 43-2:

(Un)surprisingly, in a lot of cases the primary strips of Kedyshko neighbourhood cutting through the residential only “clusters” are just simple half-informally formed paths, sometimes just sandy or, if it was a formal one, paved with asphalt, cracking from the time with grass growing through the cracks. If it were a tertiary strip only meant for the residents who know their way around the area, this would not have been an issue, however, when it is one of the prominently used paths, this becomes concerning and inconvenient. For the clarity of movement structure, access and footpaths it would make sense to repave the path and make it wider, while also adding some benches and streetlights (which Kedyshko also lacks in public spaces -- it feels quite dangerous being there when the sun is down, with windows of residential houses being the main sources of light). In this way, not only will this path be “indicated” as the main one, but will also provide some comfort -- and interaction possibilities.

Figures 43-3, 43-4:

In case of primary strips concerning the non-residential areas, currently, they serve as informal parking lots. However, due to the proposed new parking spaces, cars can drive off and leave more space for streetlights and benches, and the paving of the path can also be evened out, not only because of its age, but to even out the height difference between the sidewalk and the road (which is used by the pedestrians too) and indicate that this is a pedestrian zone first and cars are welcome as guests.

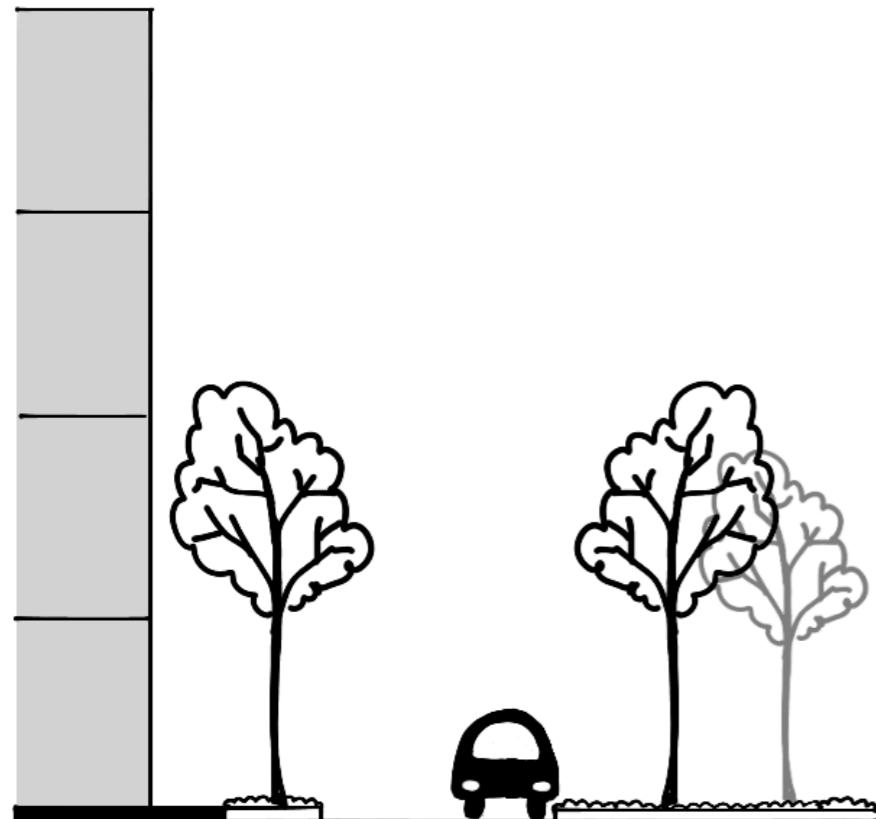
STRIP: Kedyshko neighbourhood

Figure 43-5: Secondary and tertiary strips (Kedyshko) -- current situation.

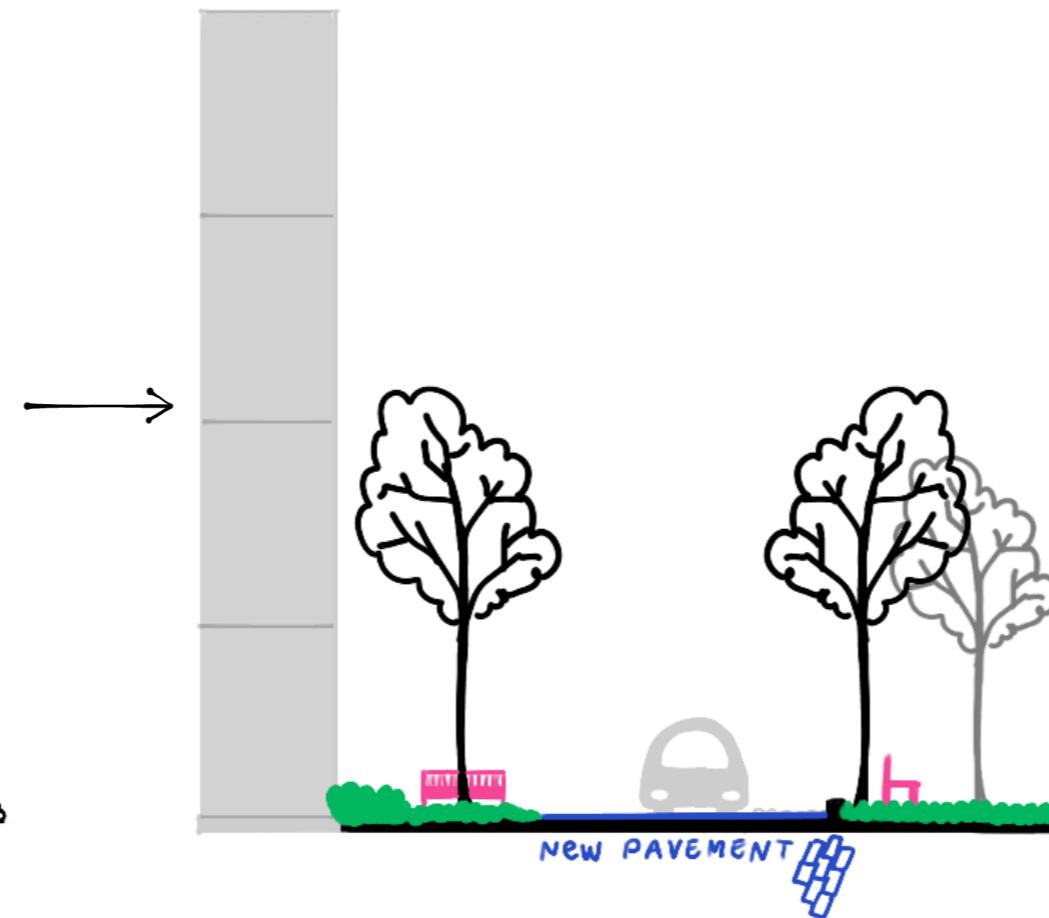


Figure 43-6: Secondary and tertiary strip (Kedyshko) -- proposed solutions.

Figures 43-5, 43-6:

The secondary and tertiary strips of Kedyshko neighbourhood are visually the same in most of the cases: they are the paths between residential blocks and the public space (the barely facilitated vast green areas). There are trees to both guide along the path as well as provide some sort of shelter or separation for the residential buildings and their adjacent narrow sidewalks from the actual transit paths and public spaces, however, there still are cars parked along and there barely are any benches or other kind of human scale spaces -- which is addressed in the suggested solution, along with repaving to indicate that the car is a guest here.

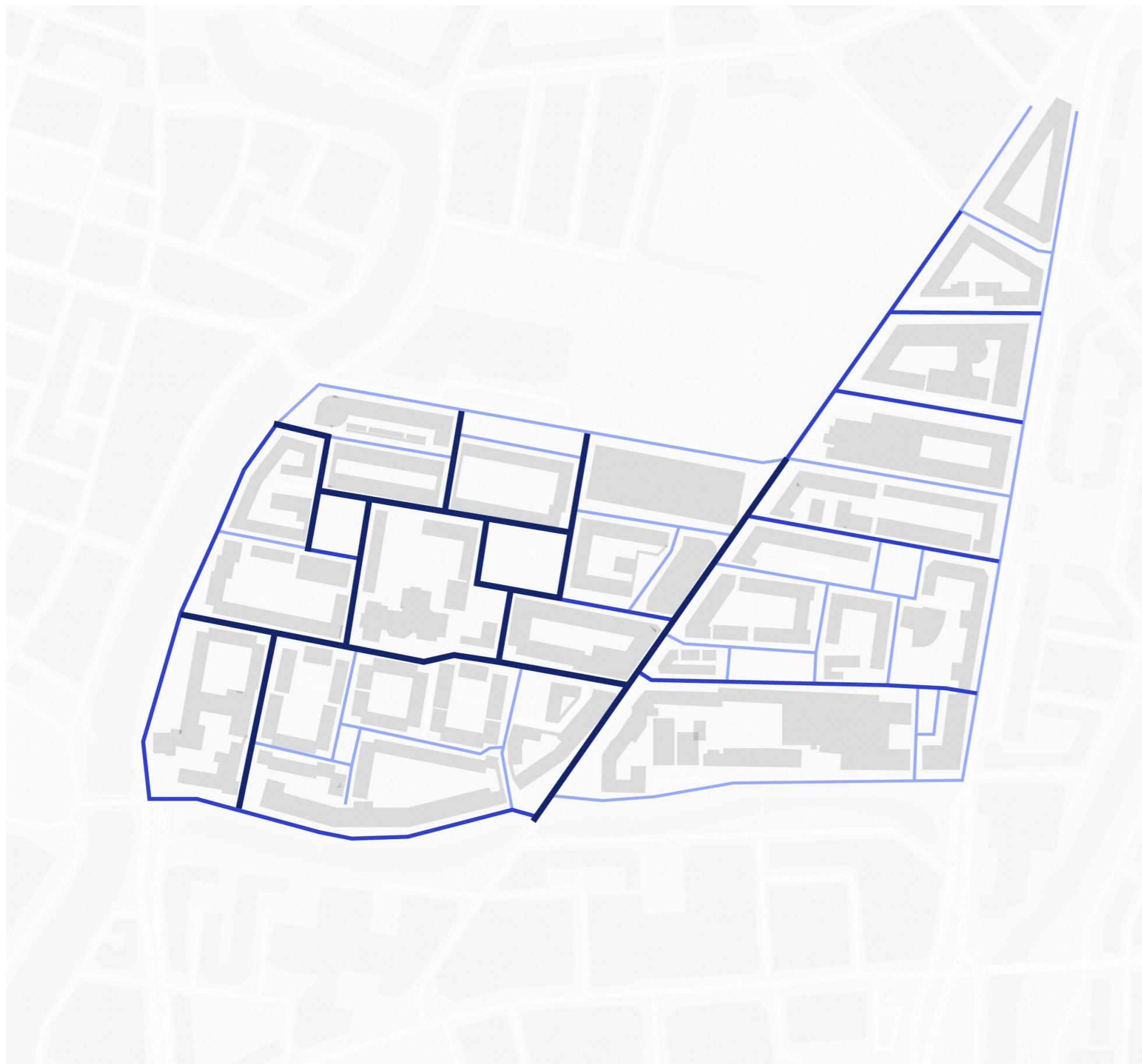
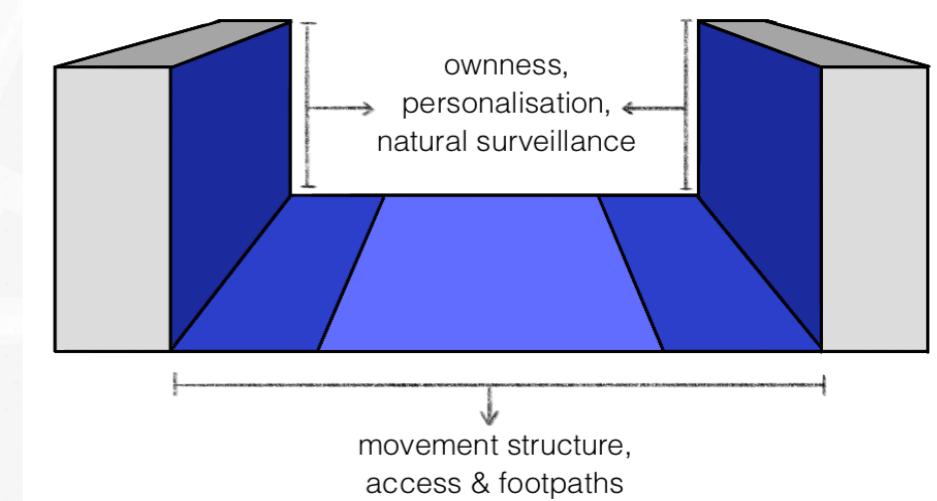
STRIP: Oud Crooswijk

Figure 44: Map of the elements in Oud Crooswijk -- strip.

Elements**strip**

- primary
- secondary
- tertiary



STRIP: Oud Crooswijk

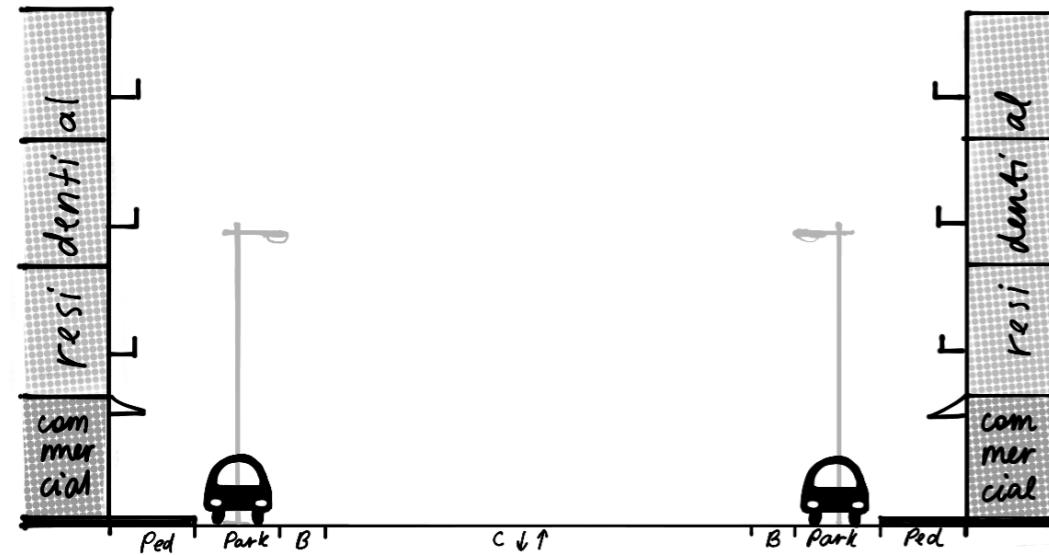


Figure 45-1: Primary strip (Oud Crooswijk) -- commercial plinth -- current situation.

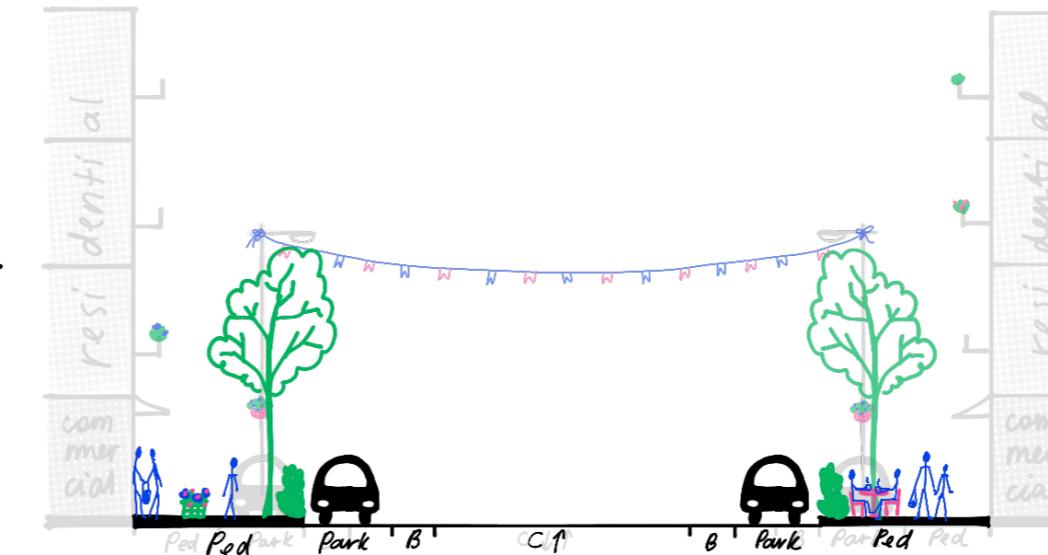


Figure 45-2: Primary strip (Oud Crooswijk) -- commercial plinth -- proposed solutions.

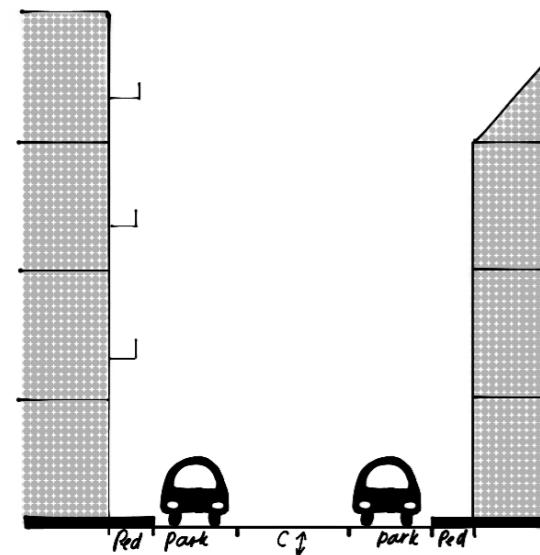


Figure 45-3: Primary strip (Oud Crooswijk) -- residential plinth -- current situation.

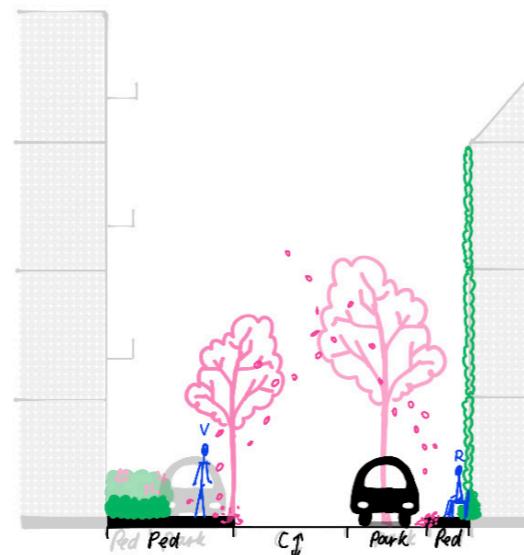


Figure 45-4: Primary strip (Oud Crooswijk) -- residential plinth -- proposed solutions.

Figures 45-1, 45-2:

There are two kinds of primary strips in Oud Crooswijk: the ones for the mixed-use building blocks with commercial plinth, and the fully residential or residential with an occasional educational facility. The former ones are not exactly suited to be the bustling streets where people shop, visit cafes, sit at the terraces, meet each other spontaneously or intentionally -- the sidewalks are extremely narrow, cars are parked right next to the sidewalks without any buffers, most of the strip's space is claimed by traffic, and, to top it all off, there barely are any trees due to how narrow the sidewalk is -- there is just no space left. Therefore, the suggested solution focuses on providing the pedestrians more space, both the residents and the visitors, and using this new space to provide the strip with more greenery, because even some bushes or flowerbeds will already make the atmosphere more lively and provide a "buffer" between the parked cars and sidewalks. This way, all concerning spatial aspects are addressed, from movement structure to natural surveillance and ownness. The additional space is acquired at the expense of the road: it is no longer two-way for traffic, becoming only one way. Fortunately, since only cars and no other public transport passes through this strip, it is possible to redirect one stream of cars to the other two traffic streets on the borders of Oud Crooswijk.

Figures 45-3, 45-4:

The primary strips in the residential areas of Oud Crooswijk also suffer from the lack of sidewalk space, since it is claimed by cars parked along the sidewalk. Thanks to the new parking lots though it becomes possible to only have cars parked along one side of the strip, and not both, freeing up some pedestrian and residential space which can be appropriated, supporting ownness and reinforcing natural surveillance and personalisation. Additionally, trees can be added between parking spaces, making the car sequence less continuous and providing the strip with more greenery, which can also act as a buffer between residents and visitors. Lastly, if the sidewalk space is too narrow for any kind of green addition, a green facade could contribute to natural surveillance, while also acting as an insulator (Hunter et al., 2014).

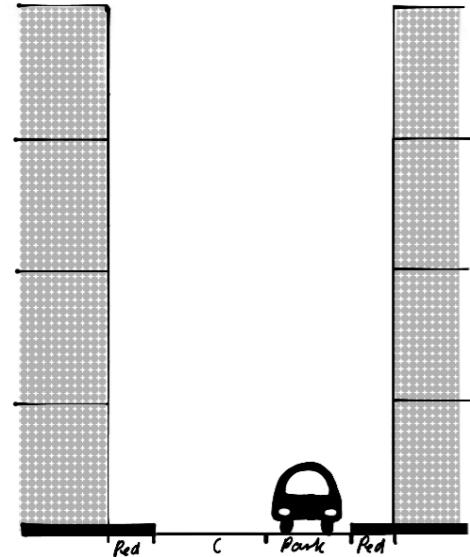
STRIP: Oud Crooswijk

Figure 45-5: Secondary strip (Oud Crooswijk) -- current situation.

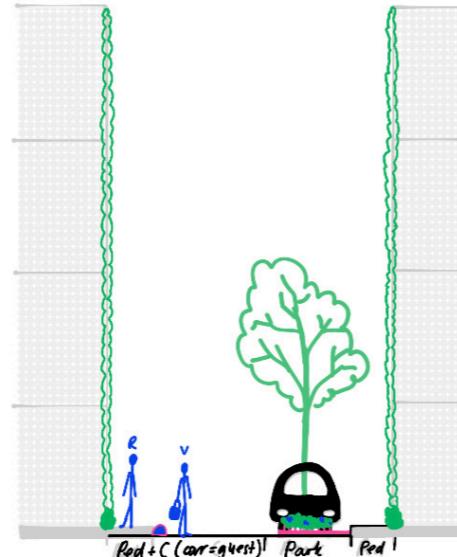
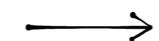


Figure 45-6: Secondary strip (Oud Crooswijk) -- proposed solutions.

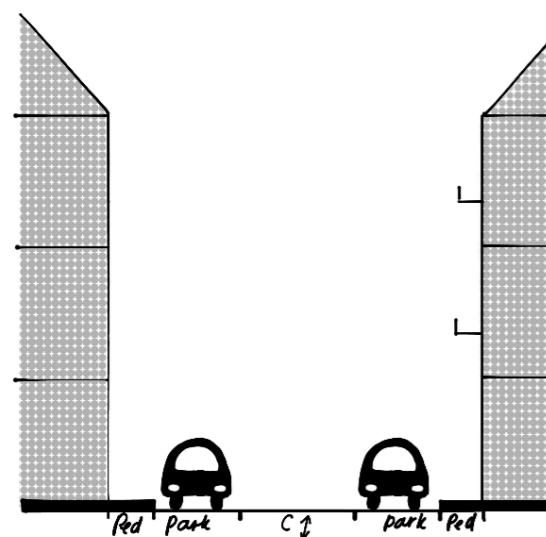


Figure 45-7: Tertiary strip (Oud Crooswijk) -- current situation.

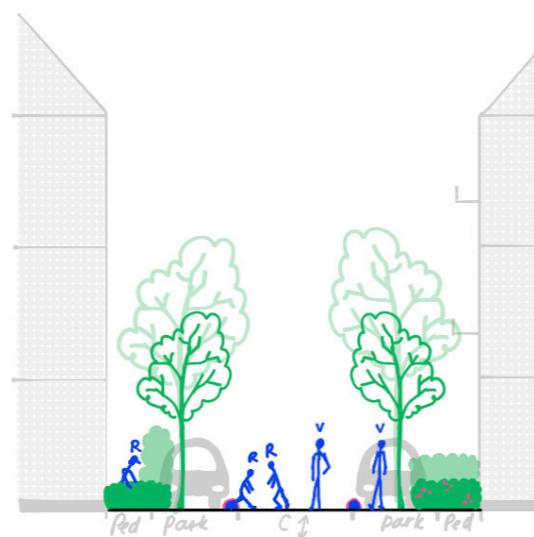


Figure 45-8: Tertiary strip (Oud Crooswijk) -- proposed solutions.

Figures 45-5, 45-6:

The secondary and tertiary strips of Oud Crooswijk are also quite similar, just like in Kedyshko neighbourhood. However, if secondary strips require less drastic changes: again, to add more green for natural surveillance, ownness and personalisation, there is the green facades solution, and it is also possible to make the strip have equal elevation level to signify for the pedestrians that they can not only use the sidewalks, but the middle part of the strip, redistributing the visitors traffic away from the doors of the residential buildings, and breaking up the continuous parking along the sidewalk with a few trees, the tertiary strips -- also extremely car dominated -- could benefit from a more cardinal solution.

Figures 45-7, 45-8:

There is a small area in Oud Crooswijk where cars are only guests and can park in the streets, but only briefly, and this area seems like an oasis among the very stony and grey rest of the neighbourhood. The streets there are very green, every residential building has its own front garden, and the children just run around in the streets -- that area feels like a true home this project aims to achieve, especially considering that the housing in that area is also regular rented portiek flats, like in the rest of Oud Crooswijk, therefore, it is available for the exact same target audience this project is aimed towards as well. Such possibility comes at a price of the residents sacrificing the space of their inner courtyards to have the cars parked there instead of the street, and receiving the smaller in area, but much more significant in spatial and emotional value front courtyards. Moreover, the safety stones are used there to indicate that the car is only a guest in the area, and the impression this area projects also makes it barely crossed by the visitors -- basically, the perfect solution for this project's research and design scope. Unfortunately though, currently it is impossible to implement, but this solution is still catalogued in the report, because if the rest of the residents of Oud Crooswijk or the housing corporations owning the buildings also become open to exchanging the barely facilitated spaces of inner courtyards for front courtyards to have cars parked inside the building blocks, this suggestion could become the best possible design solution for tertiary strips of Oud Crooswijk.

GUIDE: Kedyshko neighbourhood



Figure 46-1: Map of the elements in Kedyshko -- strip and guide.

Elements

strip	guide
primary	primary
secondary	secondary
tertiary	tertiary

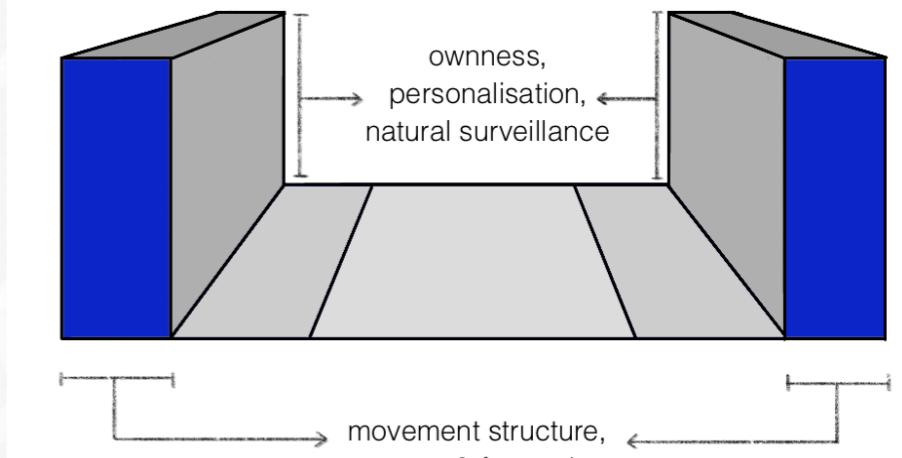


Figure 46-2: Diagram illustrating the guide element.

GUIDE is the closest “relative” of strip so to speak, however, if strip facilitates the existing/desired conditions for movement structure, access and footpaths, the guide element literally guides -- or determines -- these conditions.

For instance, for a primary guide the expectation would be for it to indicate that the route it precedes is the most busy/public one, inviting the visitors unfamiliar with the area in to lead them to any significant destination point or through a significant path, and, in turn, a tertiary guide would somehow indicate the low and more private profile of the route it precedes to allow this route to maintain its private profile and mainly be used by the residents. Guide is like a door to the neighbourhood: it is supposed to give anyone entering an impression of what they would expect if they were to come inside. Therefore, guides help strips organise the movement structure, which influences other more “personal” spatial aspects for social capital (Fig. 46-2).

Thus, when redeveloping the existing guides this is what needs to be kept in mind: highlighting or concealing the path depending on its intended or expected profile.

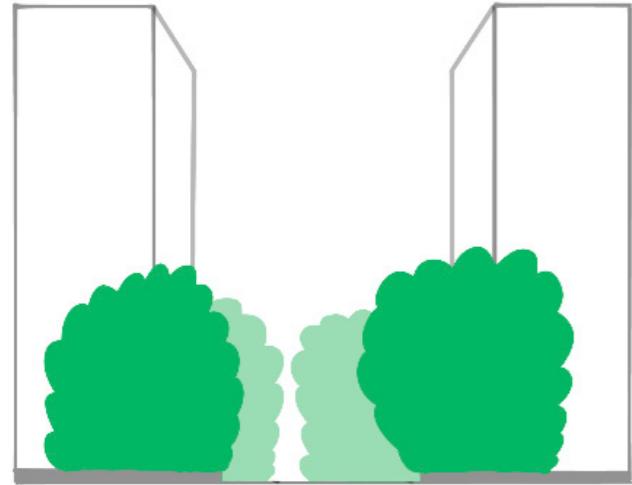
GUIDE: Kedyshko neighbourhood

Figure 47-1: Primary guide (Kedyshko) -- current situation.

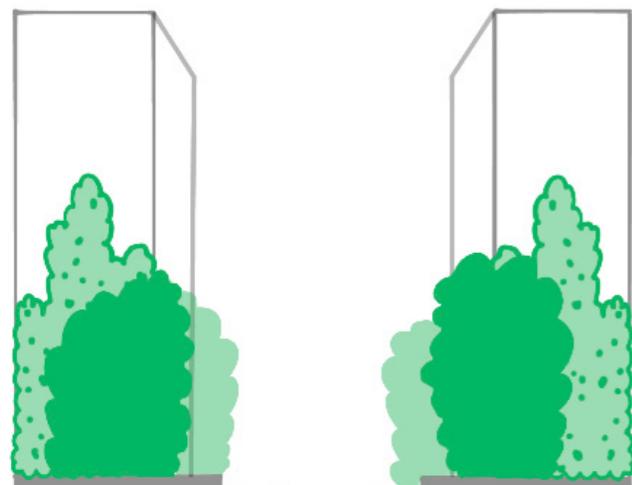


Figure 47-2: Primary guide (Kedyshko) -- proposed solutions (variant 1 -- also works for secondary guides).

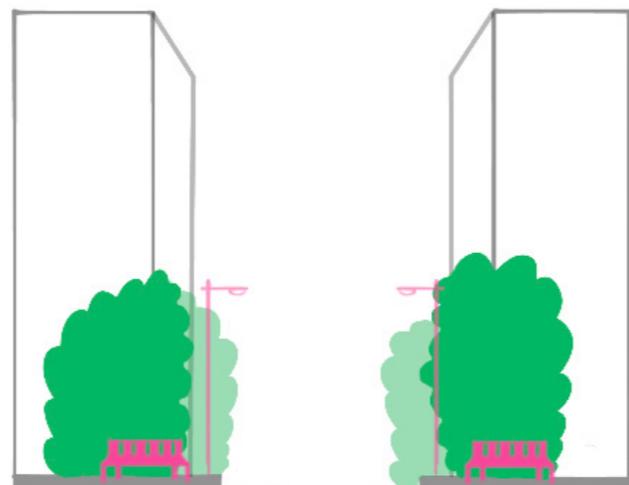
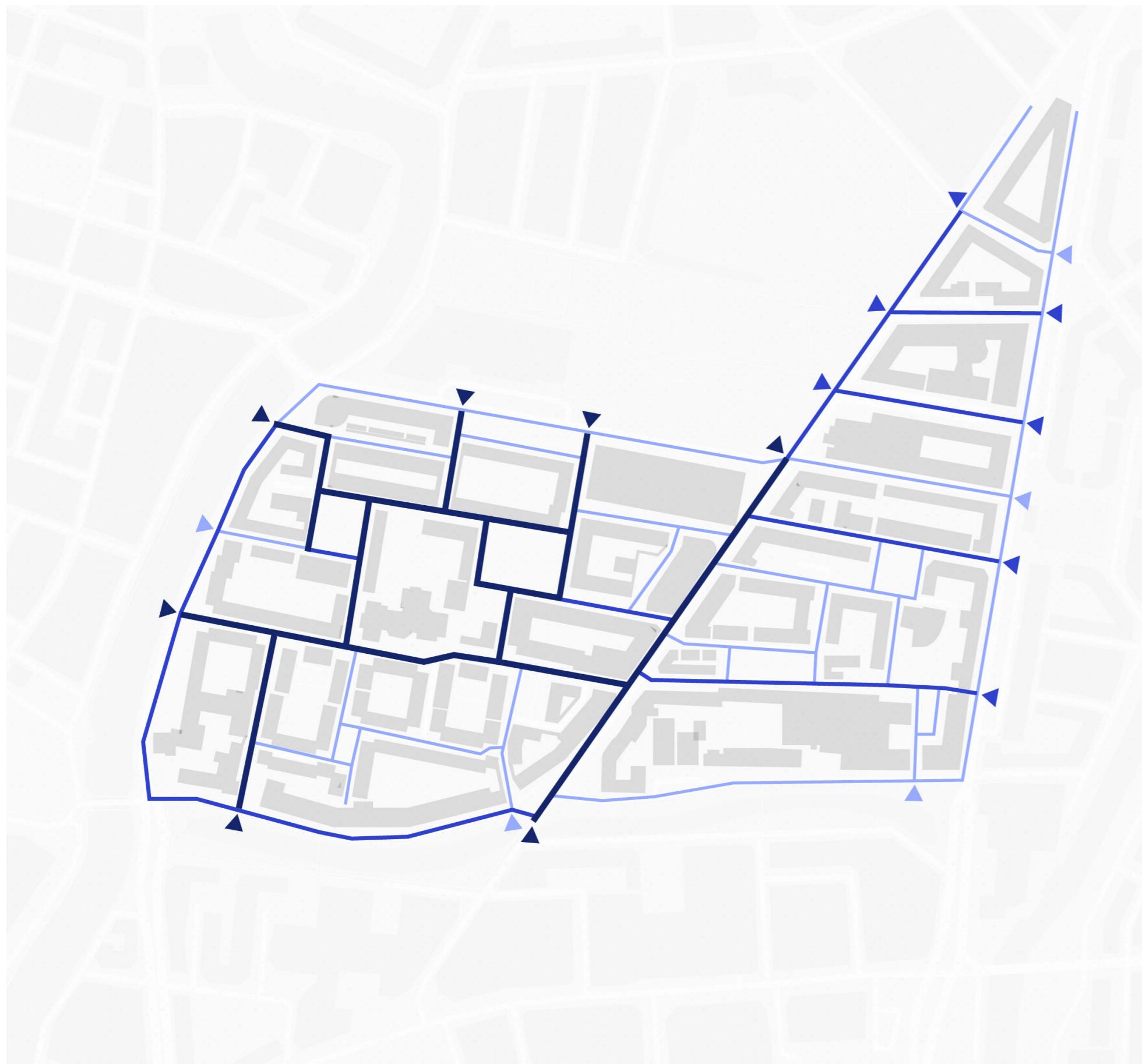


Figure 47-3: Primary guide (Kedyshko) -- proposed solutions (variant 2).

Figures 47-1, 47-2, 47-3:

All guide elements are the same in Kedyshko: covered by overgrown shrubs, bushes and trees, concealing everything inside of the neighbourhood with no other additional “guiding” for the entrance provided. For tertiary guides such scenario is perfect: this is exactly what a residential-only path needs -- concealment and secrecy. However, for primary guides this is the opposite of desired effect, since all the main destination- and shortcut-based paths are indistinguishable from the rest of the guides. Therefore, a solution is proposed (to not cut down too much of the existing greenery) to make the surrounding greenery even more exaggerated, making the primary guide more pronounced and distinct, while some of the shrubbery concealing the inside is cut; or, it is possible to keep the existing greenery completely intact and place benches and streetlights at primary guides. This way, being one of the most used neighbourhood’s entrances, there will also be direct interaction spaces provided.

GUIDE: Oud Crooswijk**Elements**

strip	guide
primary	primary
secondary	secondary
tertiary	tertiary

strip	guide
primary	primary
secondary	secondary
tertiary	tertiary

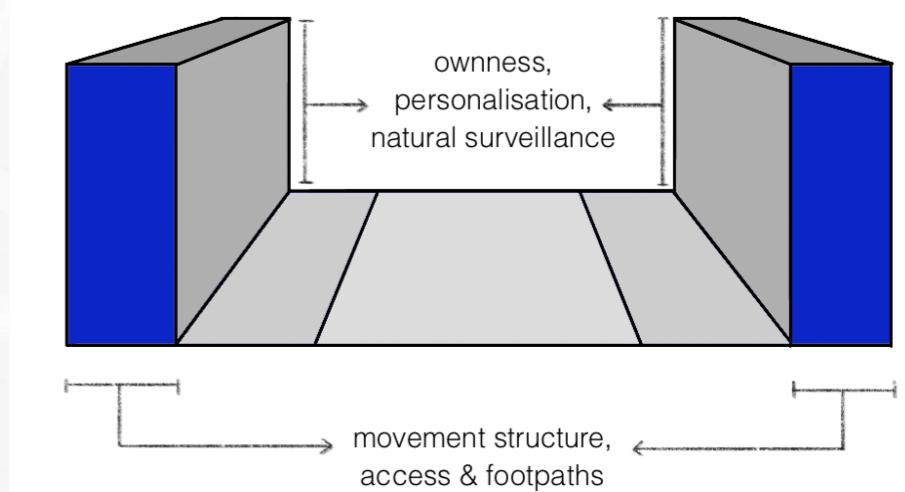


Figure 48: Map of the elements in Oud Crooswijk -- strip and guide.

GUIDE: Oud Crooswijk

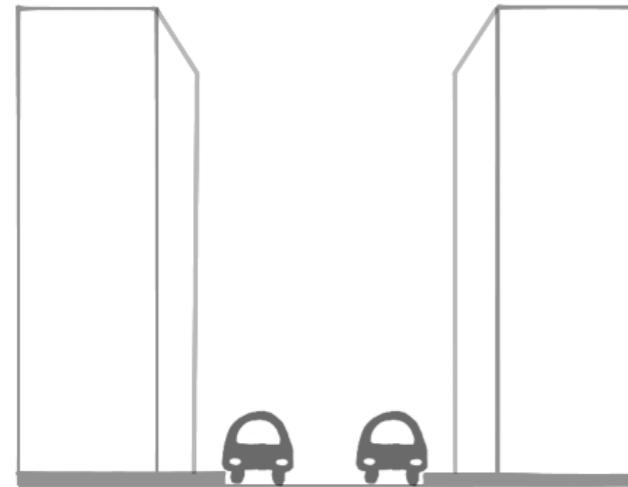


Figure 49-1: Primary guide (Oud Crooswijk) -- current situation.

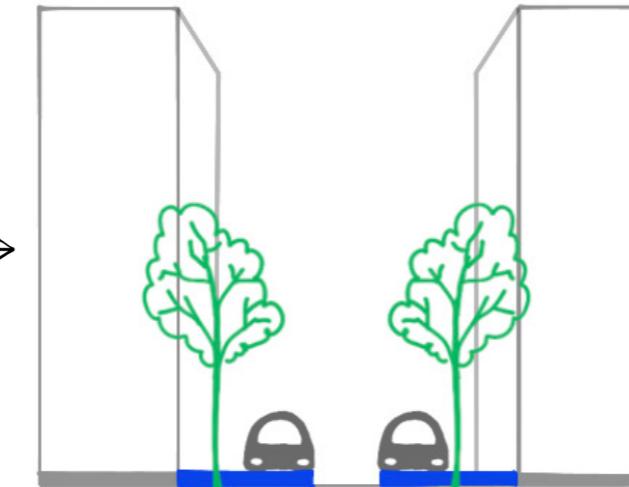


Figure 49-2: Primary guide (Oud Crooswijk) -- proposed solutions (variant 1).

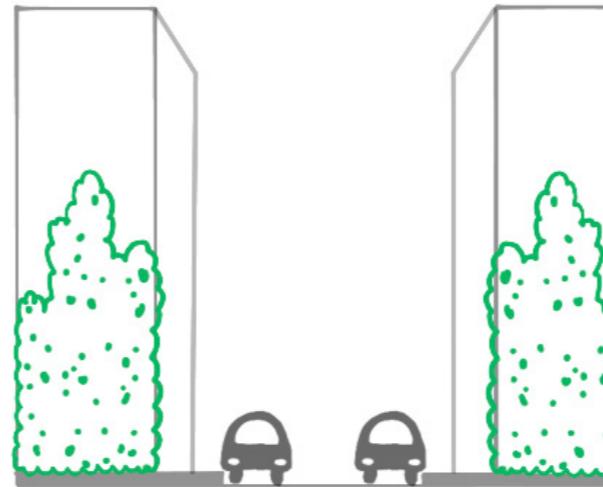


Figure 49-3: Primary guide (Oud Crooswijk) -- proposed solutions (variant 2).

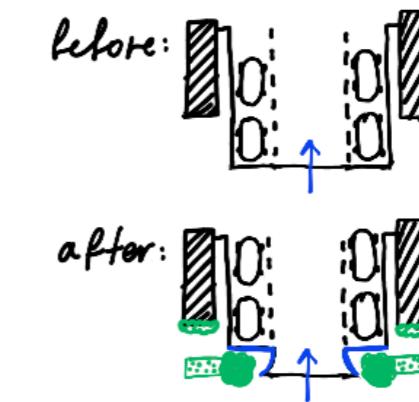


Figure 49-4: Primary guide (Oud Crooswijk) -- proposed solutions (top view scheme).

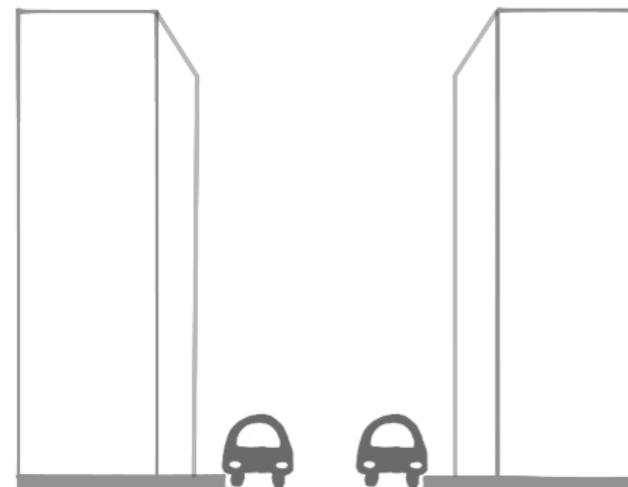


Figure 49-5: Tertiary guide (Oud Crooswijk) -- current situation.

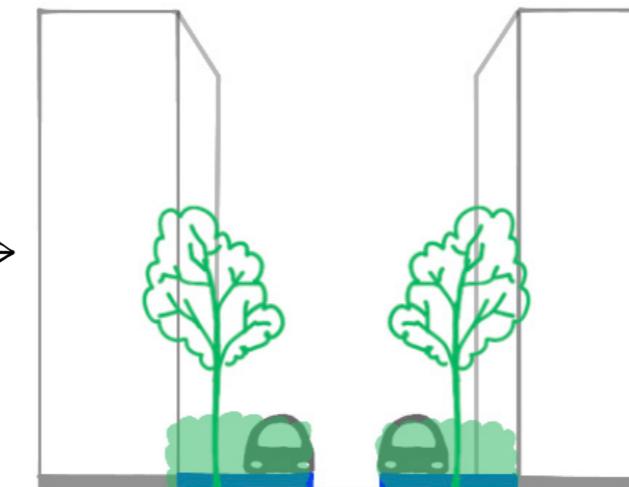


Figure 49-6: Tertiary guide (Oud Crooswijk) -- proposed solutions.

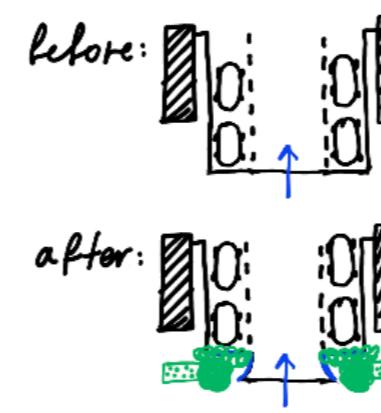


Figure 49-7: Tertiary guide (Oud Crooswijk) -- proposed solutions (top view scheme).

Figures 49-1, 49-2, 49-3, 49-4, 49-5, 49-6, 49-7:
 In case of Oud Crooswijk, the guides situation is the opposite compared to the one in Kedyshko: usually, the edges are too bare to indicate that the guide is primary, or provide some concealment for the tertiary guides. Therefore, for primary guides, they could be framed with trees, if there is space for that, or with green facades, and tertiary guides could be concealed with greenery as well, providing space for that by creating a rounded corner on the sidewalk.

CROSS: Kedyshko neighbourhood



Figure 50-1: Map of the elements in Kedyshko -- strip, guide and cross.

Elements

strip	guide
primary	primary
secondary	secondary
tertiary	tertiary

cross

privacy	primary
function	secondary

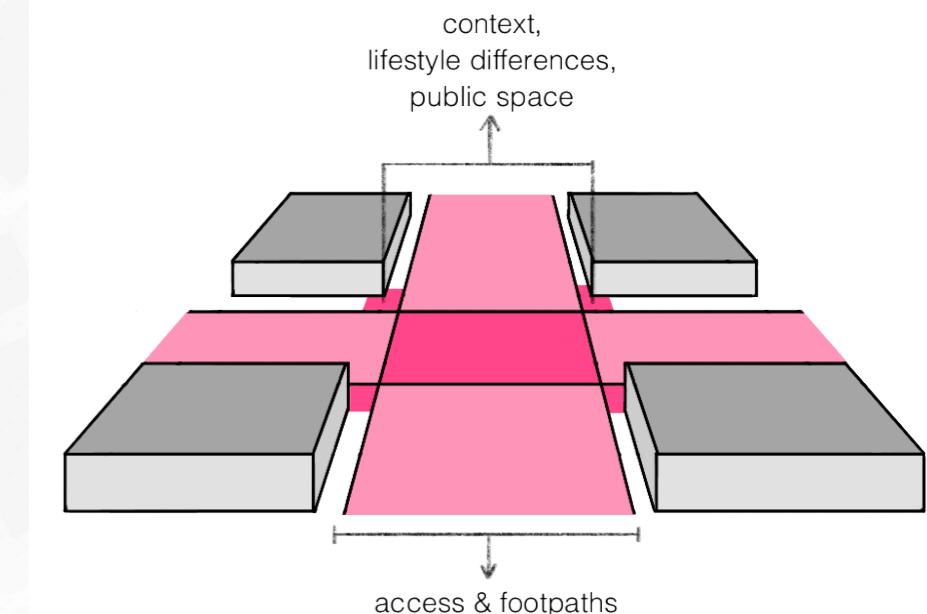


Figure 50-2: Diagram illustrating the cross element.

Continuing with the motive of private and public, CROSS is the element which acts somewhat as a guide, but not entirely. Basically, cross is meant to represent the points in space where there is a shift between different privacy levels or functions.

For example, when a more "private" strip crosses a more "public" one, the cross element is supposed to arrange this crossing spatially in such way that there is no confusion between the strips' character; and, when there is a cross of functions, and a residential strip "bumps" into a public facility, this functional cross also needs to be addressed accordingly spatially.

As such, the main spatial aspects for social capital the cross element contains are access and footpaths, context, lifestyle differences and public space.

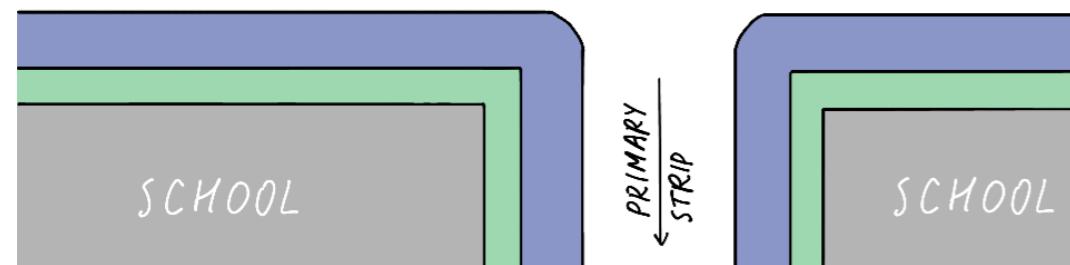
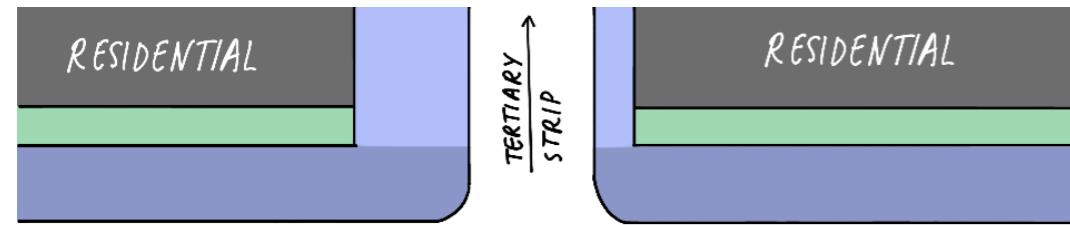
CROSS: Kedyshko neighbourhood

Figure 51-1: Cross (Kedyshko) -- current situation.

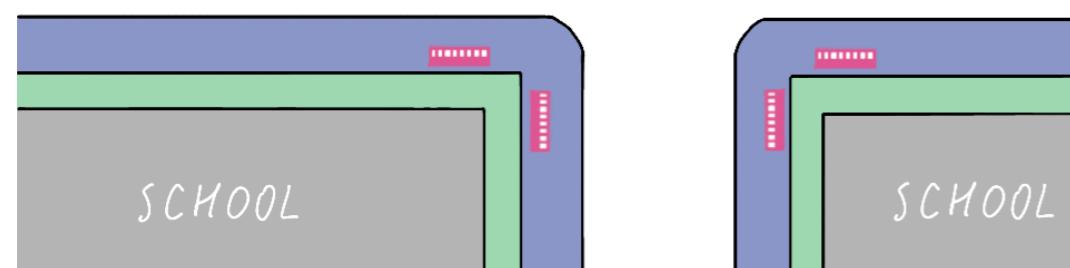
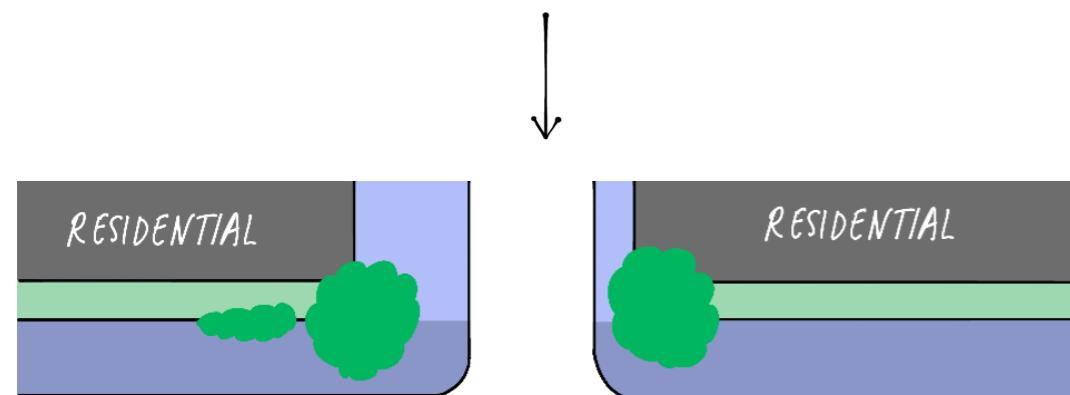


Figure 51-2: Cross (Kedyshko) --proposed solutions.

Figures 51-1, 51-2:

The design through research method could only establish two ways of addressing the cross element, and it is an approach somewhat similar to the approach for guides: if there is a crossing between primary and tertiary strips, a cross could provide some sort of visual concealment through greenery for the tertiary strip, and provide some human scale space like benches for the primary strip. In such way all the spatial aspects of social capital concerning the cross are addressed: access and footpaths, context, lifestyle differences and public space.

CROSS: Oud Crooswijk

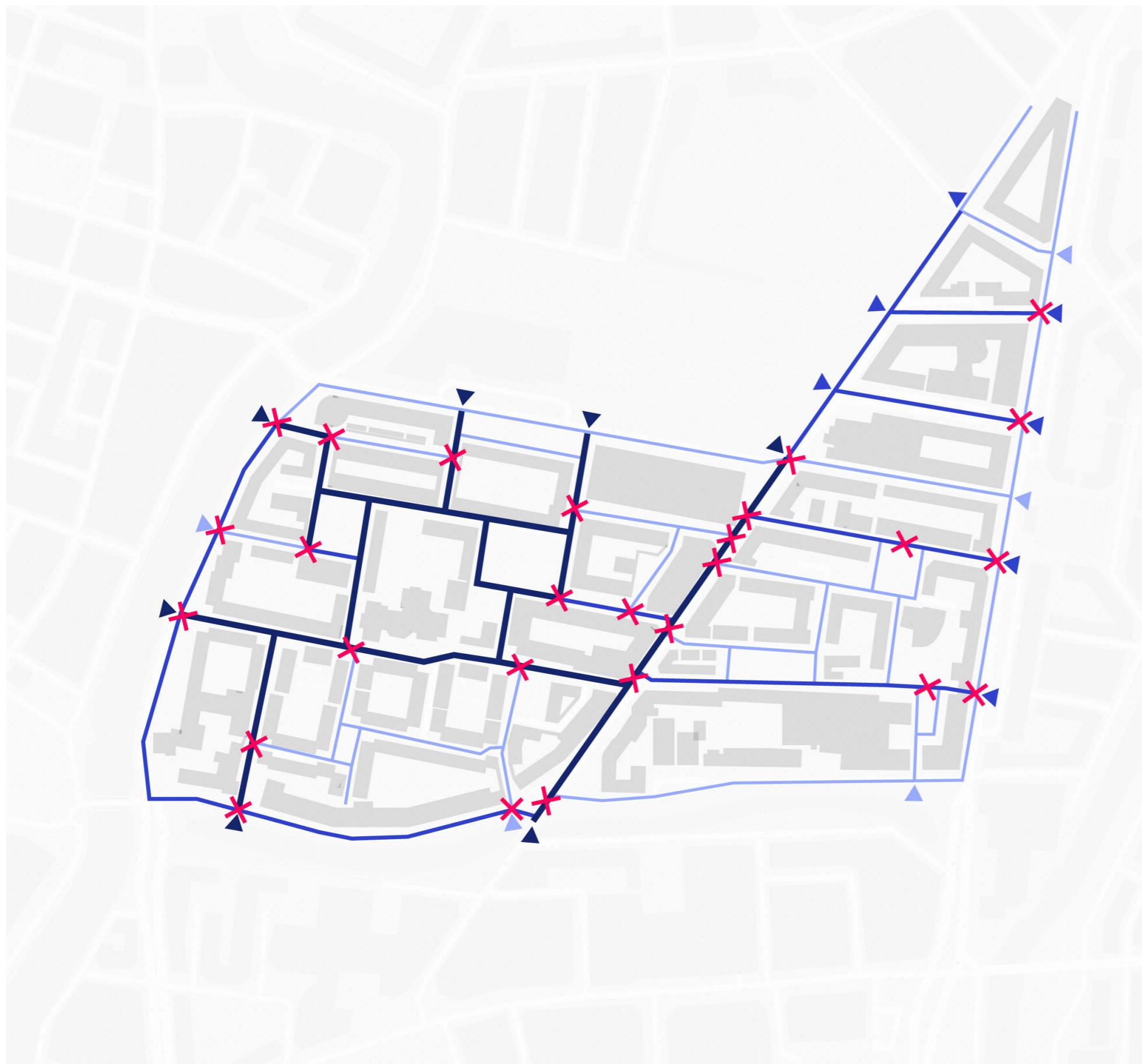


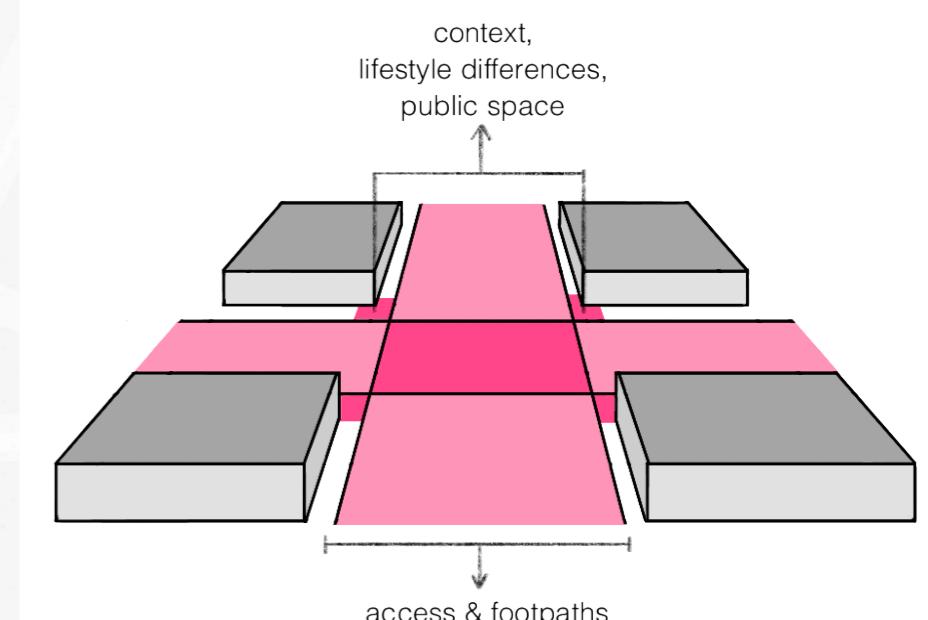
Figure 52: Map of the elements in Oud Crooswijk -- strip, guide and cross.

Elements

strip	guide
primary	primary
secondary	secondary
tertiary	tertiary

cross

privacy
function



CROSS: Oud Crooswijk

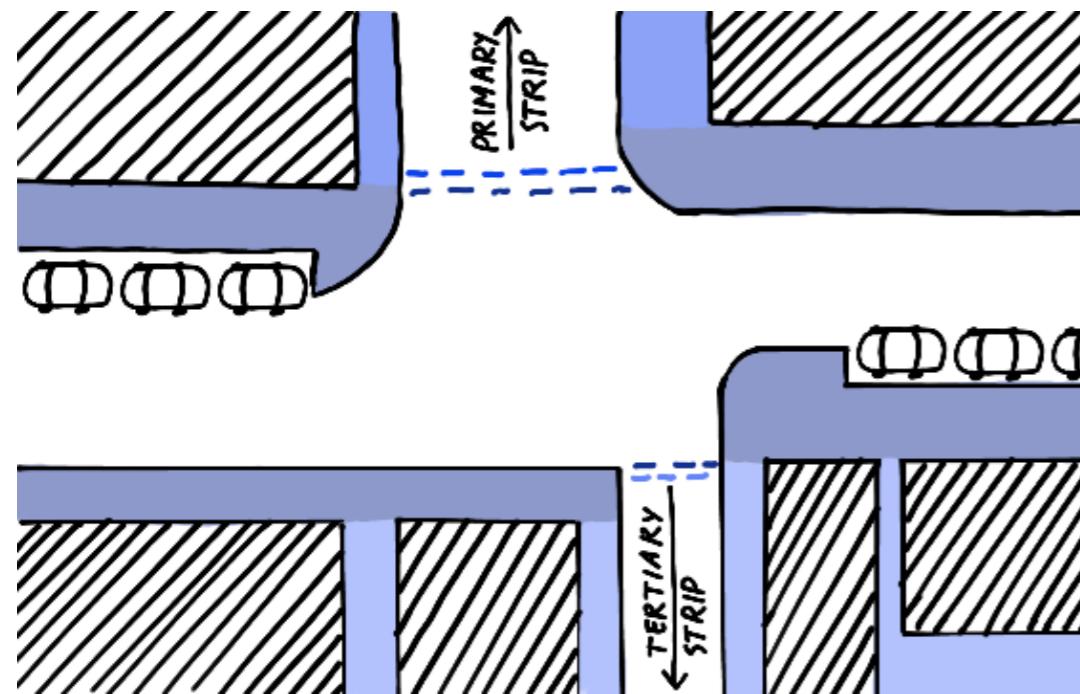


Figure 53-1: Cross (Oud Crooswijk) -- current situation.

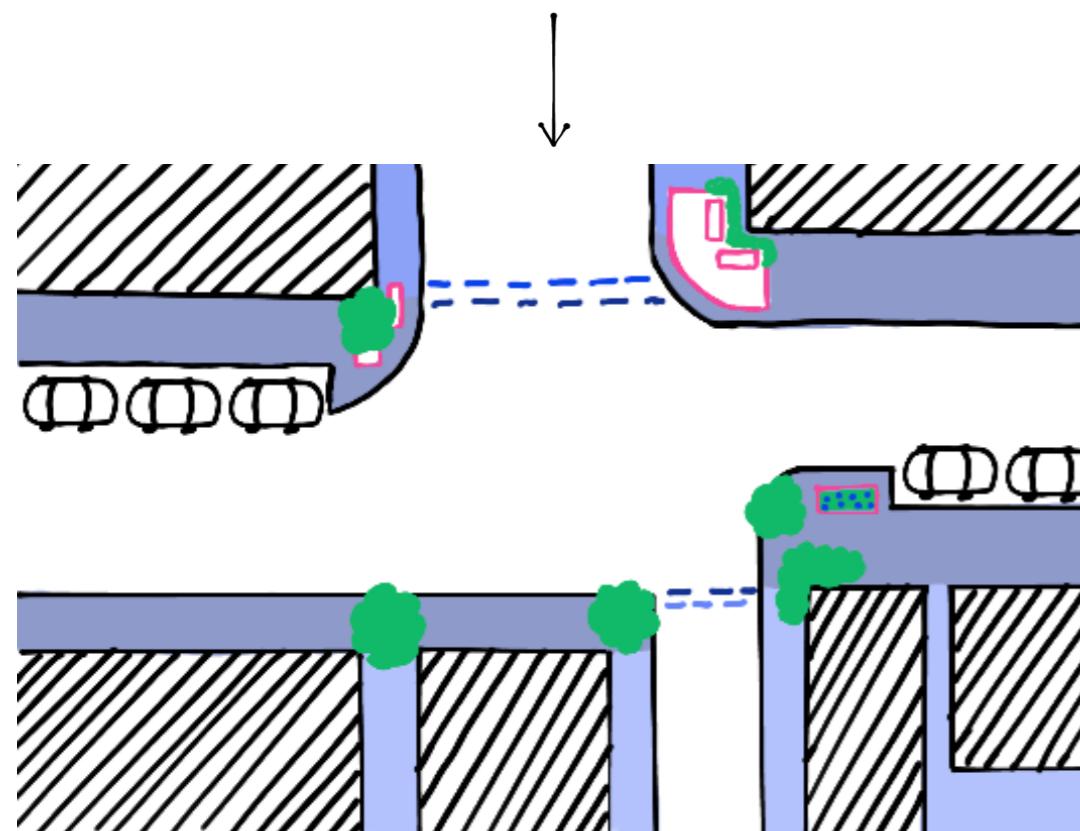


Figure 53-2: Cross (Oud Crooswijk) -- proposed solutions.

Figures 53-1, 53-2:

The design through research method could only establish two ways of addressing the cross element, and it is an approach somewhat similar to the approach for guides: if there is a crossing between primary and tertiary strips, a cross could provide some sort of visual concealment through greenery for the tertiary strip, and provide some human scale space like benches for the primary strip. In such way all the spatial aspects of social capital concerning the cross are addressed: access and footpaths, context, lifestyle differences and public space.

POINT: Kedyshko neighbourhood



Figure 54-1: Map of the elements in Kedyshko -- strip, guide, cross and point.

Elements

strip

- primary
- secondary
- tertiary

guide

- primary
- secondary
- tertiary

cross

- privacy
- function

point

- "contained"
- "interactive"

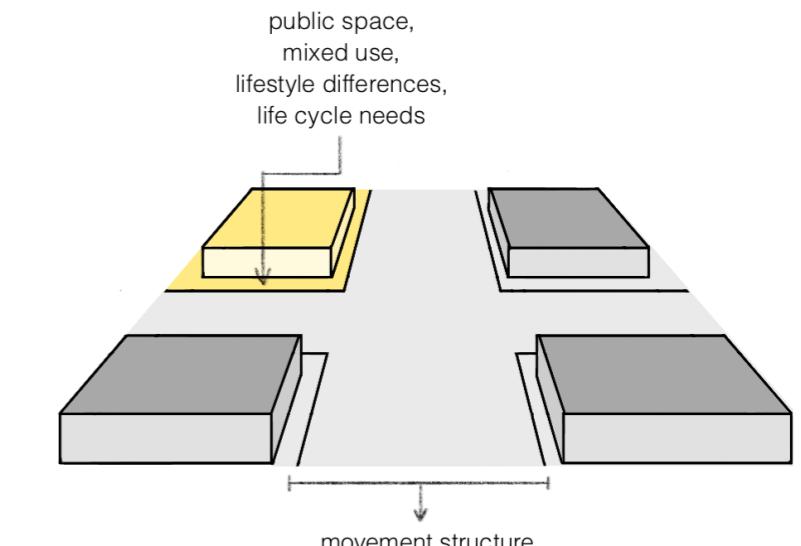


Figure 54-2: Diagram illustrating the point element.

The next element, POINT, is also in line with the theme of movement, degree of privacy of paths, and destinations: it is one of the destination points within the neighbourhood, hence the name.

The most obvious influence the point element has on the spatial aspects of social capital is the influence on the movement structure, since it directly shaped according to the existing points -- the destinations. However, since point is a public place, whether it is more "contained" and all kinds of activities and interactions there are more single-purpose and within one specific contained area (educational and medical facilities, and offices), or more "interactive" like grocery stores and spaces in front of them which offer more spatial freedom and spontaneous and multipurpose activities and interactions, it also relates to other spatial aspects of social capital, namely mixed use, lifestyle differences, life cycle needs and, obviously, public space.

Therefore, when designing spatial solutions for points, one should consider its character and what kind of interactions need to be facilitated there -- is the focus more on the visitors or the residents, how spontaneous or "controlled" the interactions should be, etc.

POINT: Kedyshko neighbourhood

Figure 55-1: Point (Oud Crooswijk) -- contained -- current situation.

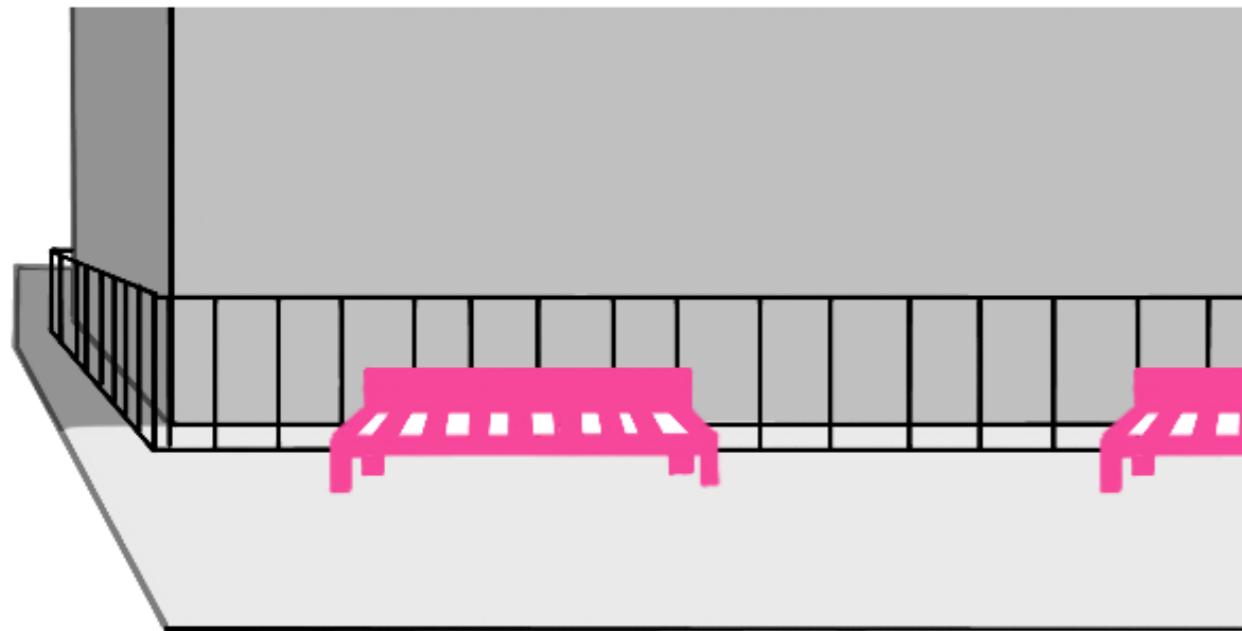


Figure 55-2: Point (Oud Crooswijk) -- contained -- proposed solutions.

Figures 55-1, 55-2:

Since there is only one kind of point in Kedyshko -- just a gated service-providing facility, which offers visual green as value as well, there was only one solution to come out of design through research, which is adding human-scale spaces along the point element. Because of their often-visited nature, points should be able to have human-scale spaces outside of their semi-private areas as well, not only to provide spaces for interaction, but for simple convenience and comfort: if elderly visits a polyclinic, or children decide to play outside, or a resident (or visitor) takes a shortcut while carrying something heavy -- such human scale spaces "along the way" would be an extremely valuable addition.

POINT: Oud Crooswijk

Figure 56: Map of the elements in Oud Crooswijk -- strip, guide, cross and point.

Elements**strip**

- primary
- secondary
- tertiary

guide

- primary
- secondary
- tertiary

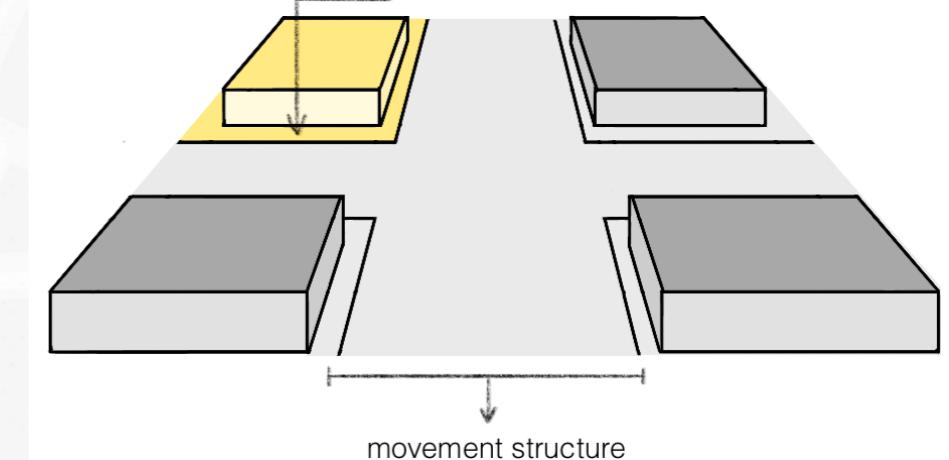
cross

- privacy
- function

point

- "contained"
- "interactive"

public space,
mixed use,
lifestyle differences,
life cycle needs



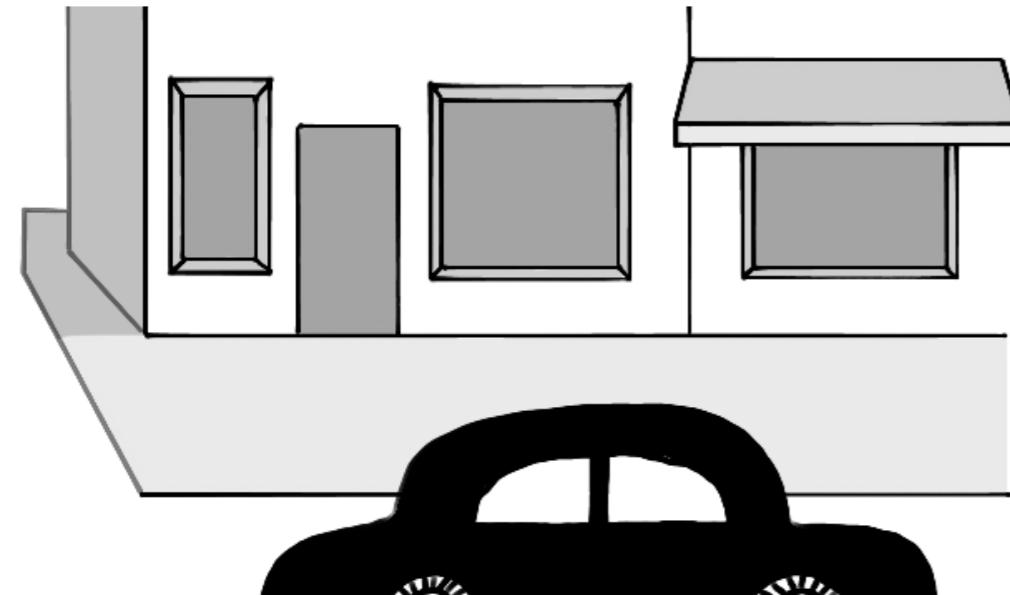
POINT: Oud Crooswijk

Figure 57-1: Point (Oud Crooswijk) -- interactive -- current situation.

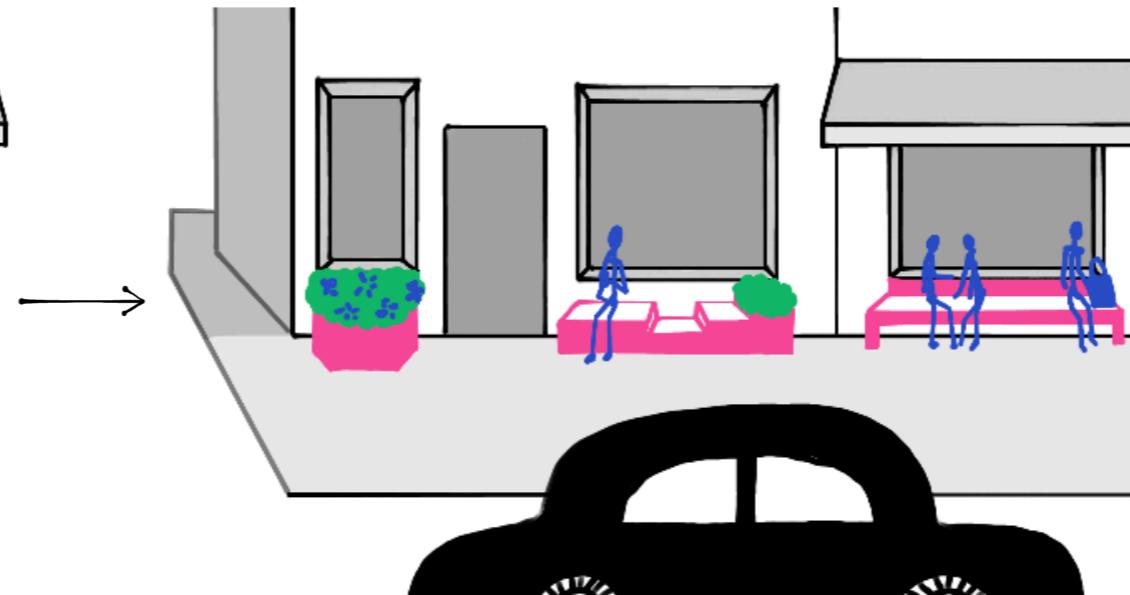


Figure 57-2: Point (Oud Crooswijk) -- interactive -- proposed solutions.

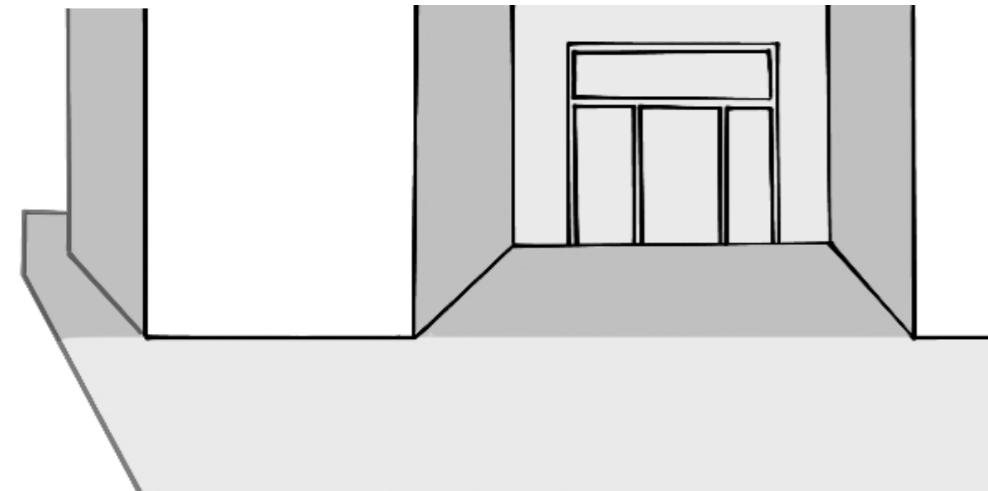


Figure 57-3: Point (Oud Crooswijk) -- contained -- current situation.

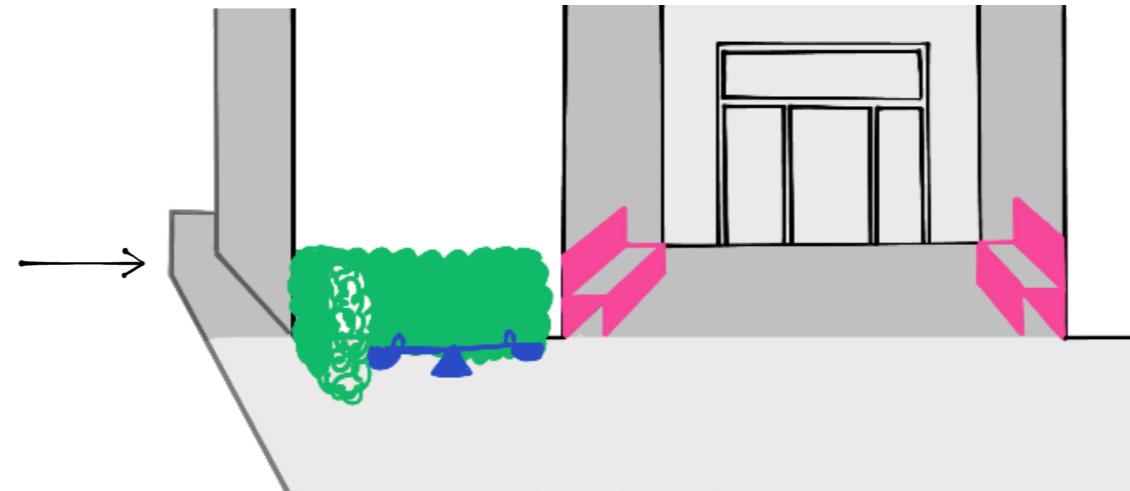


Figure 57-4: Point (Oud Crooswijk) -- contained -- proposed solutions.

Figures 57-1, 57-2, 57-3, 57-4:
 In case of Oud Crooswijk, the solution for points is very similar to the one in Kedyshko -- it is also about providing human scale spaces and values along the points. However, when for interactive points it is mainly sitting and greenery spots -- the interaction and belonging facilitation, for the contained points like schools tiny urban playgrounds could be added as well: they do not take much space, but can be invaluable for the younger students.

SPHERE: Kedyshko neighbourhood

Figure 58-1: Map of the elements in Kedyshko -- strip, guide, cross, point and sphere.

Elements**strip**

- primary
- secondary
- tertiary

guide

- primary
- secondary
- tertiary

cross

- privacy
- function

point

- "contained"
- "interactive"

sphere

- more defined
- less defined

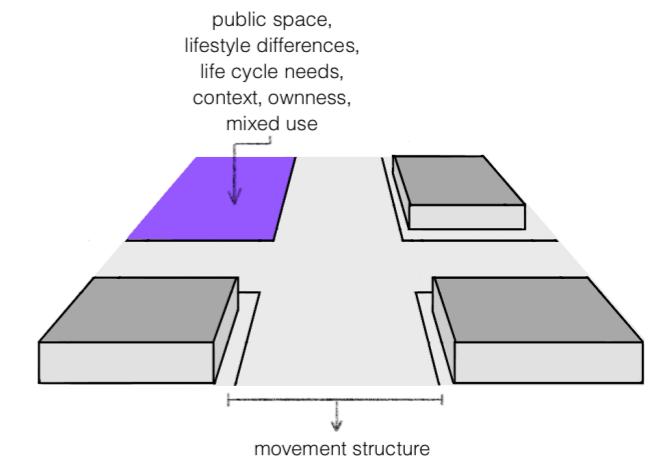


Figure 58-2: Diagram illustrating the sphere element.

The SPHERE element could be described as point's sibling: it is also a public place where interactions and activities (also either more purpose-specific and defined or more spontaneous and less defined) take place. However, unlike point, sphere is not a destination; it is not intentionally in the way or along the movement networks and strips, and its main purpose is to not be a destination, but to be a public space -- and provide the "programme" public spaces usually provide.

As such, the most relative spatial aspects of social capital for the sphere element would be public space, lifestyle differences, life cycle needs, context, ownness and mixed use, since a successful public space which is capable of facilitating the generation and maintenance of social capital and fostering the sense of belonging is a space that can cater to different audience by being inclusive, and allows people to feel comfortable there (ownness) (Paranagamage et al., 2010).

Thus, when designing for this element, all of these aspects need to be addressed and represented, especially when currently both Kedyshko and Oud Crooswijk struggle with poorly used or completely unused public spaces due to the neighbourhoods' transit characters. Therefore, even though sphere is not as directly related to movement structure as point, the networks it comes in contact with and their purpose and degree of privacy should be kept in mind.

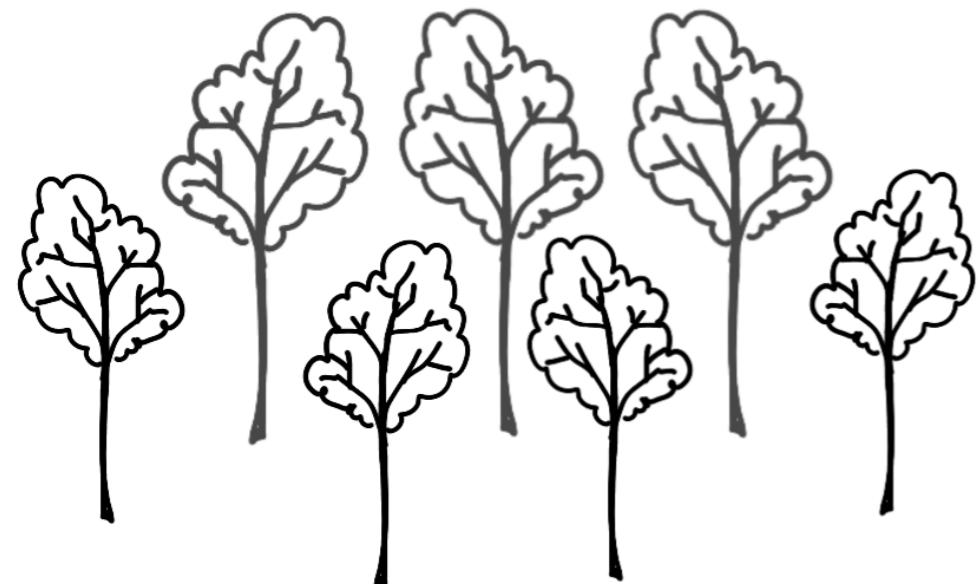
SPHERE: Kedyshko neighbourhood

Figure 59-1: Sphere (Kedyshko) -- less defined -- current situation.

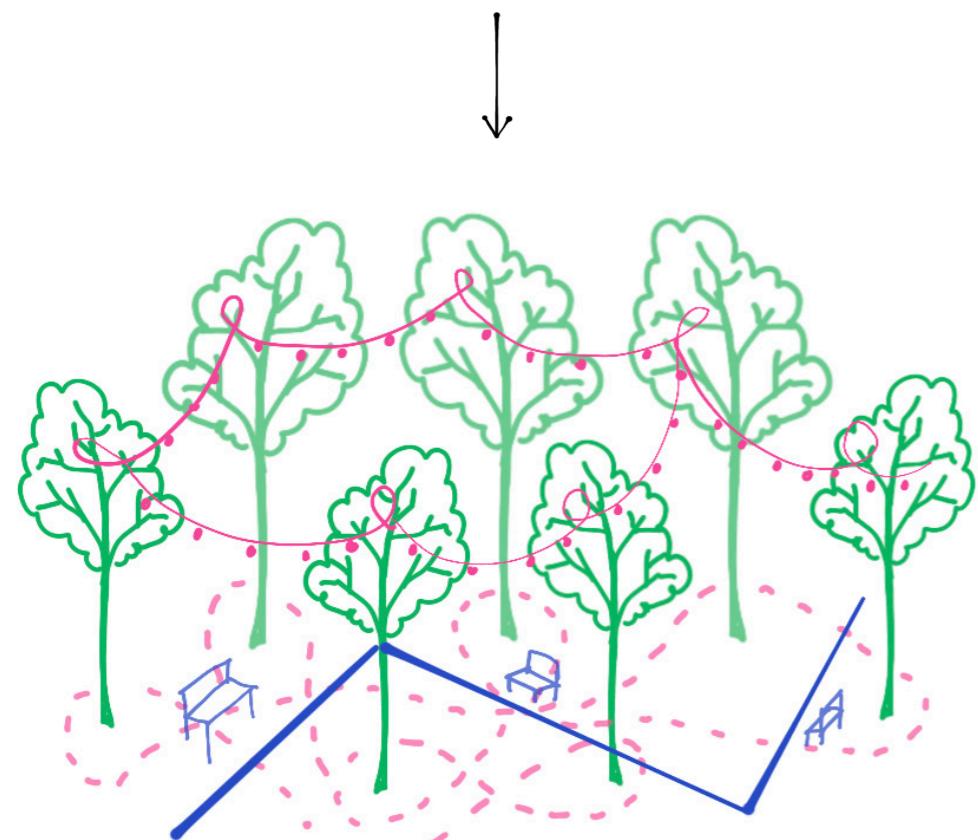


Figure 59-2: Sphere (Kedyshko) -- less defined -- proposed solutions.

Figures 59-1, 59-2:

All spheres in Kedyshko are alike: it is the barely organised lawn, sometimes with trees, providing almost no functional or programmatic facilitation. As mentioned in the analysis chapter, the inability to engage with space increased the detachment and deprives of social capital building opportunities as well, which is why for Kedyshko neighbourhood the most important design approach for its spheres would be creating as many engaging and interactive opportunities with these unclaimed, abandoned, unused public spaces as possible.

SPHERE: Oud Crooswijk



Figure 60: Map of the elements in Oud Crooswijk -- strip, guide, cross, point and sphere.

Elements

strip

- primary
- secondary
- tertiary

guide

- primary
- secondary
- tertiary

cross

- privacy
- function

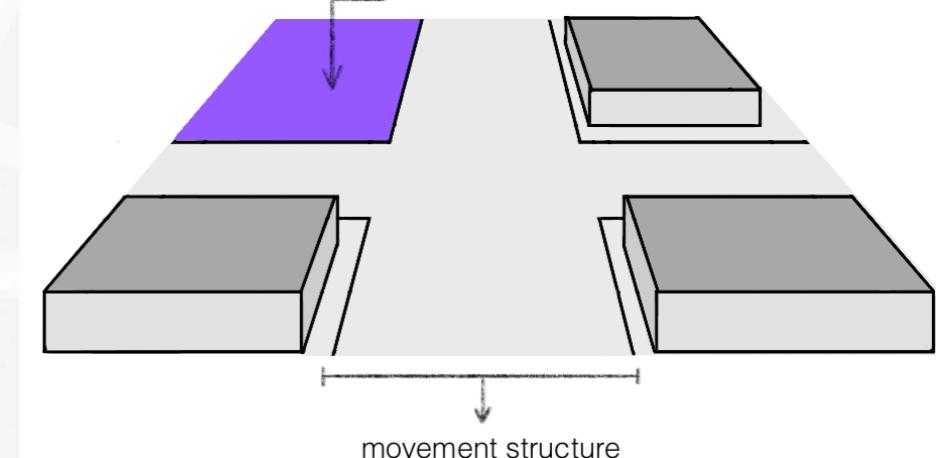
point

- "contained"
- "interactive"

sphere

- more defined
- less defined

public space,
lifestyle differences,
life cycle needs,
context, ownness,
mixed use



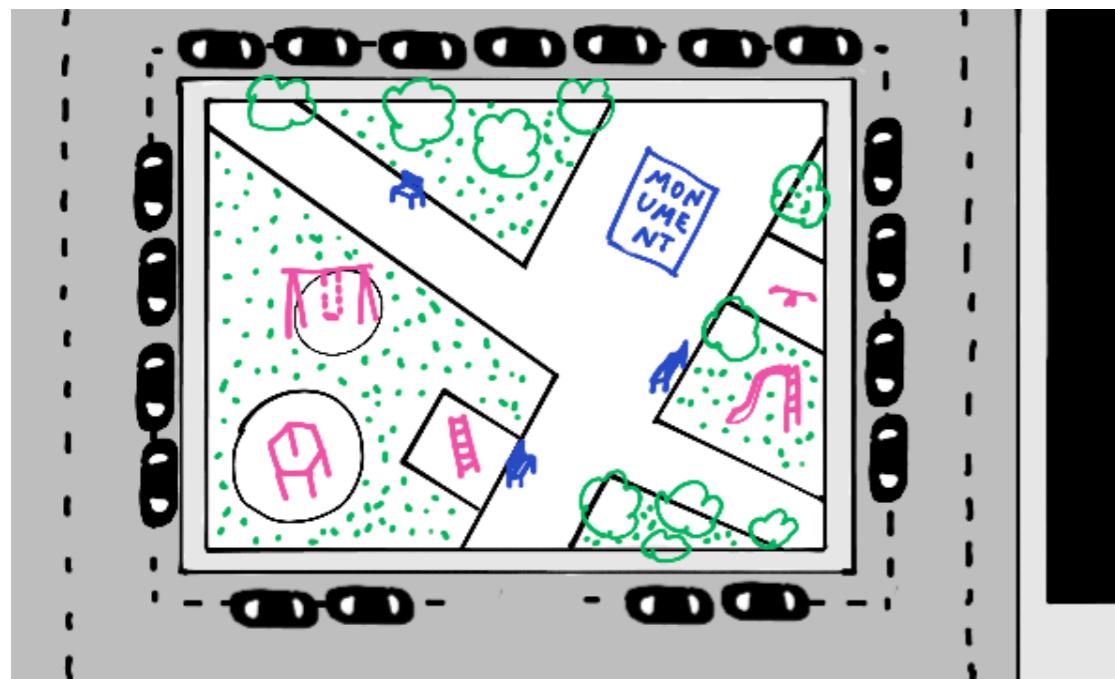
SPHERE: Oud Crooswijk

Figure 61-1: Sphere (Oud Crooswijk) -- more defined -- current situation.

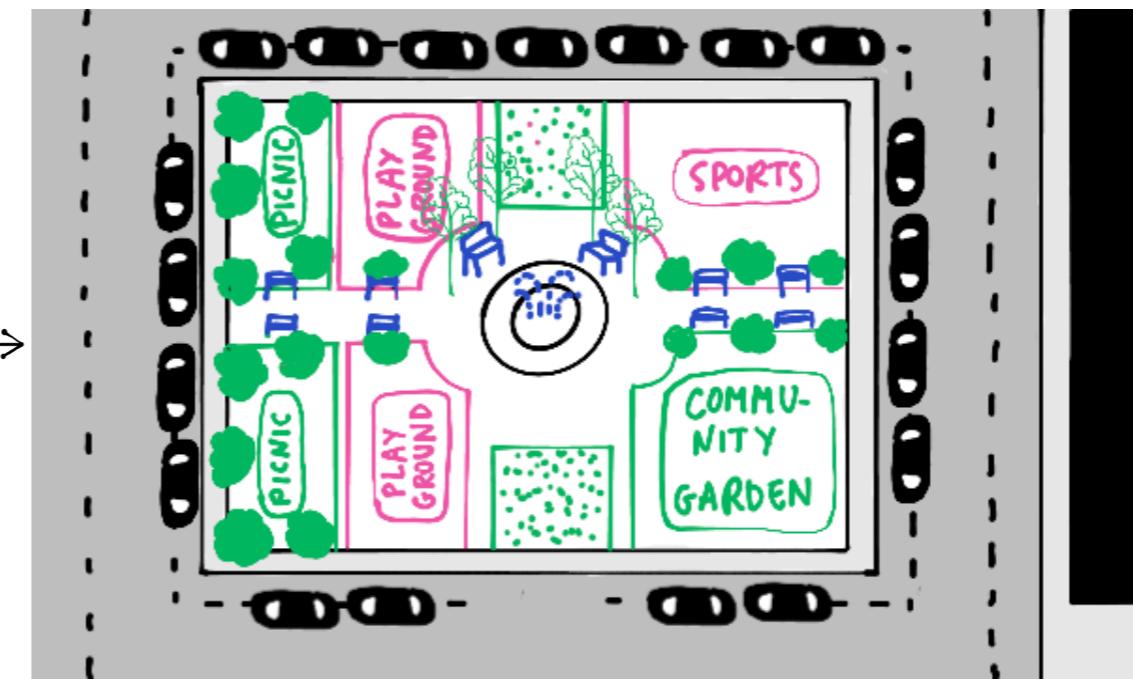


Figure 61-2: Sphere (Oud Crooswijk) -- more defined -- proposed solutions.

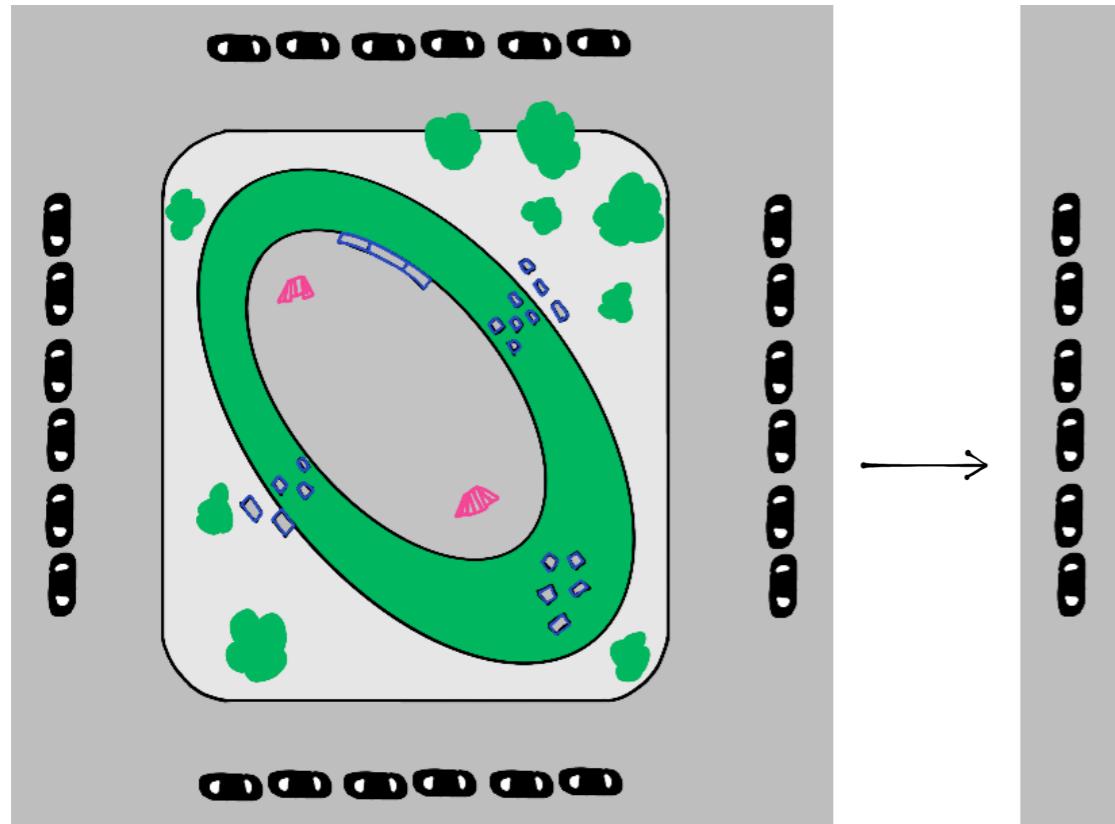


Figure 61-3: Sphere (Oud Crooswijk) -- less defined -- current situation.



Figure 61-4: Sphere (Oud Crooswijk) -- less defined -- proposed solutions.

Figures 61-1, 61-2:

In case of the spheres of Oud Crooswijk, it seems like they were intended to be more about design rather than actual functions for the residents or users in general. The more defined spheres seem to be defined very vaguely -- the sitting arrangement only allows to sit on your own, the playground equipment is very compartmentalised and divided, and lastly, there are trees placed seemingly just for the sake of greenery (from the observation's conclusions), because they are clustered together in some areas and usually away from the sitting spots, providing no shade or shelter if there ever was a need. Therefore, for more defined spheres the suggested design solution is to actually make these spheres more defined: provide a variety of different functions for many target audiences, all while being properly facilitated (more trees next to sitting and picnic areas for instance) and very clearly defined in space.

Figures 61-3, 61-4:

With less defined spheres of Oud Crooswijk, there is a quite similar issue as well: they are too undefined, which makes them unused (field trip observation). Therefore, it is suggested to make them a bit more "defined" spatially and functionally, while still having most of the space there less defined: just a few spatial suggestions on how the "zones" of the sphere are divided into more sports-based and free sitting based, for instance, would already make the space more used. And, additionally, to make the sphere more attractive (and create a "buffer" from the cars parked alongside) more greenery is added on the borders.

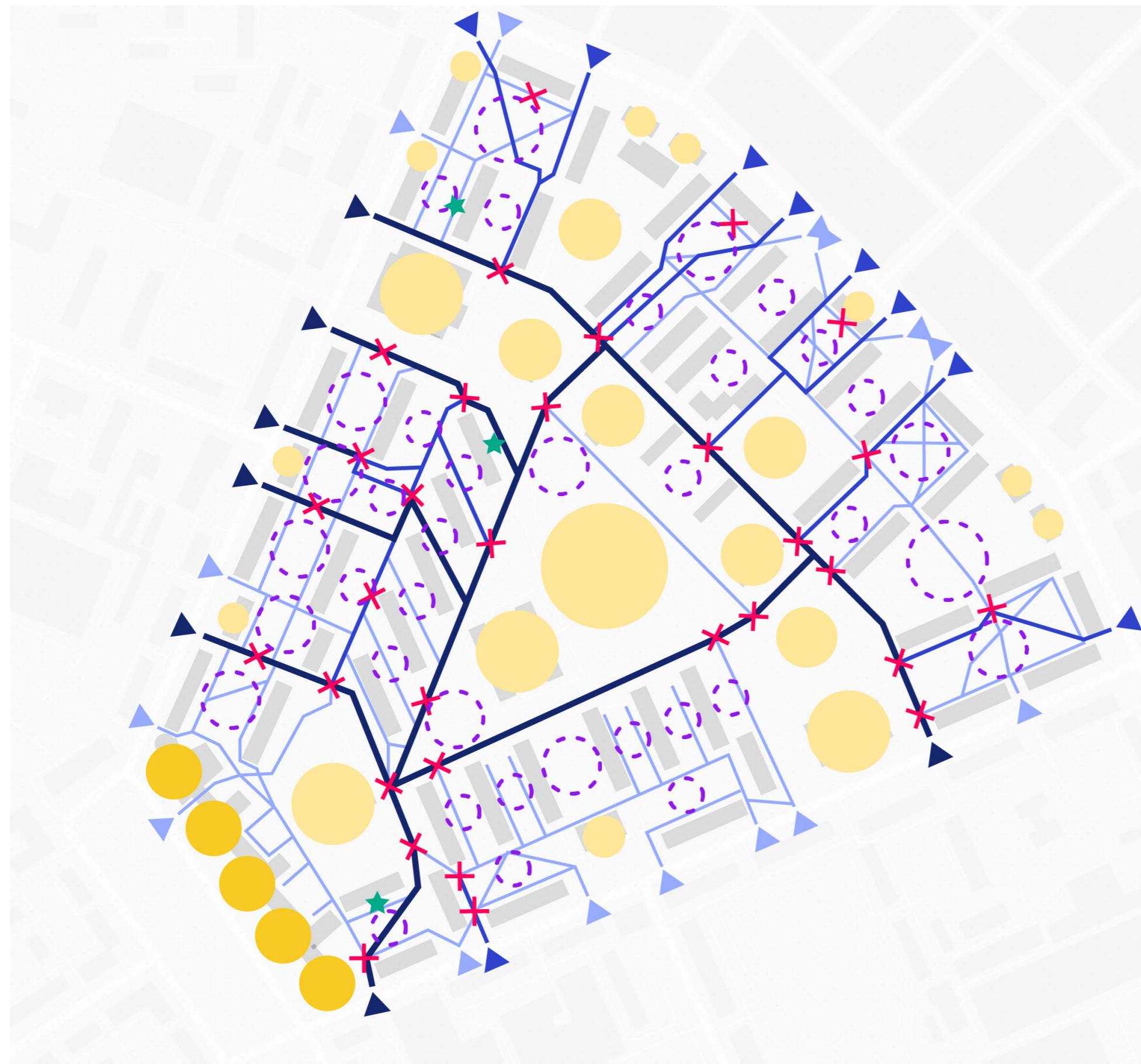
VALUE: Kedyshko neighbourhood

Figure 62-1: Map of the elements in Kedyshko -- strip, guide, cross, point, sphere and value.

Elements**strip**

- primary
- secondary
- tertiary

guide

- primary
- secondary
- tertiary

cross

- privacy
- function

point

- "contained"
- "interactive"

sphere

- more defined
- less defined

value

- visual
- visual & interactive

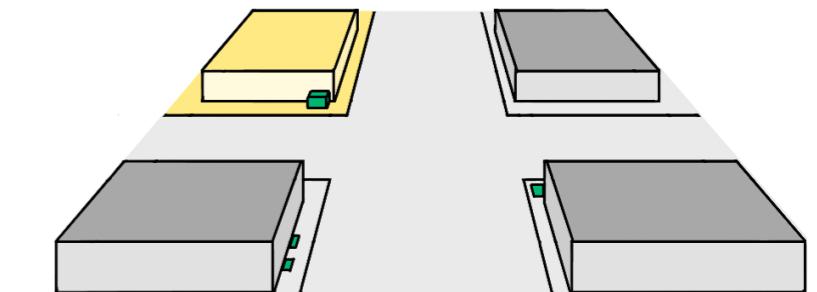


Figure 62-2: Diagram illustrating the value element.

The last of the elements, VALUE, is the smallest in scale compared to the rest, but its significance and the value (hence the name) it provides for the public realm of the neighbourhoods is quite large.

Values are small-scale spatial elements which bring any kind of value to the urban environment. It can be purely visual value, like a strategically placed flowerbed or tree, which "brighten up" a mostly grey and concrete greenery-less area, or a green facade serving the similar mostly visual purpose. Or values can be interactive: it can be a bench or a stone one could rest upon for a bit, or a little garden meant for all residents or specific community members to maintain while interacting with it and with each other -- but the common factor stays the same: value as a spatial element "enriches" the urban environment by providing some kind of quality to it.

Because of this, defining to which spatial aspect of social capital value relates to the most is quite complicated, compared to the other elements, since, essentially, it can contribute to practically any of the aspect: it can aid in personalisation and even directly used as a spatial element for its facilitation, it can provide an extra addition to public space or contribute to natural surveillance. Therefore, a value oftentimes acts like a complimenting and "enriching" element for all other elements in a way.

VALUE: Oud Crooswijk

Figure 64: Map of the elements in Oud Crooswijk -- strip, guide, cross, point, sphere and value.

Elements**strip**

- primary
- secondary
- tertiary

guide

- primary
- secondary
- tertiary

cross

- privacy
- function

point

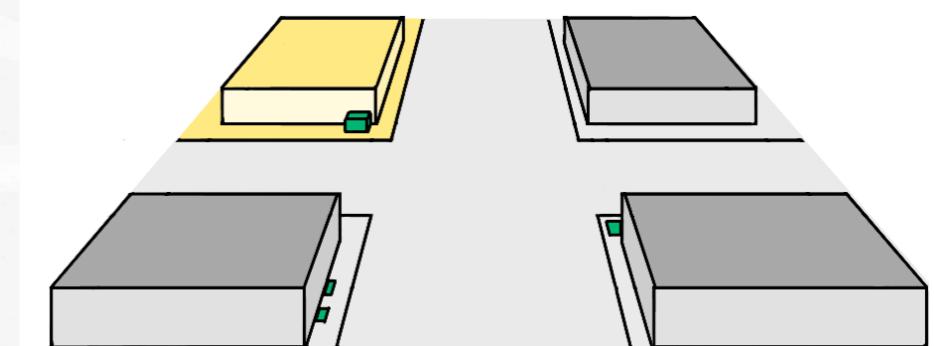
- "contained"
- "interactive"

sphere

- more defined
- less defined

value

- visual
- visual & interactive



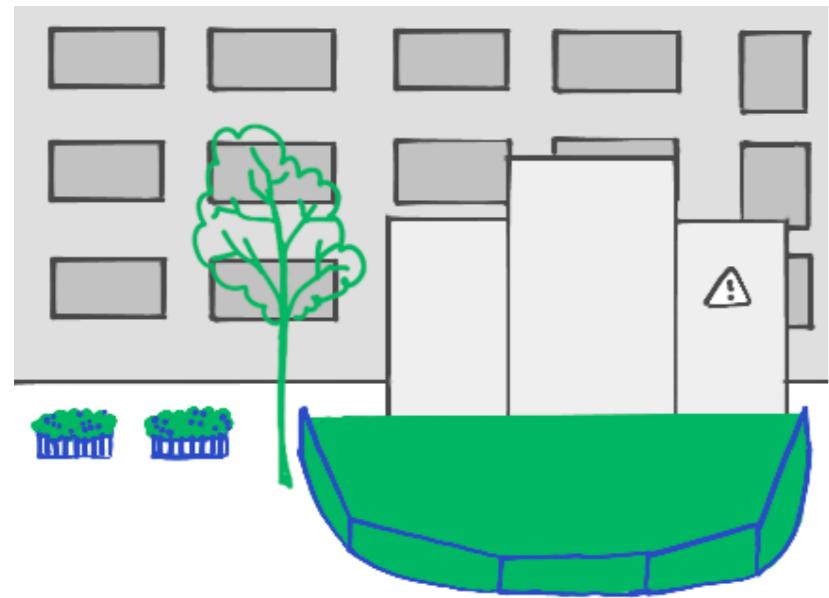
VALUE: Oud Crooswijk

Figure 65-1: Value (Oud Crooswijk) -- visual -- current situation.

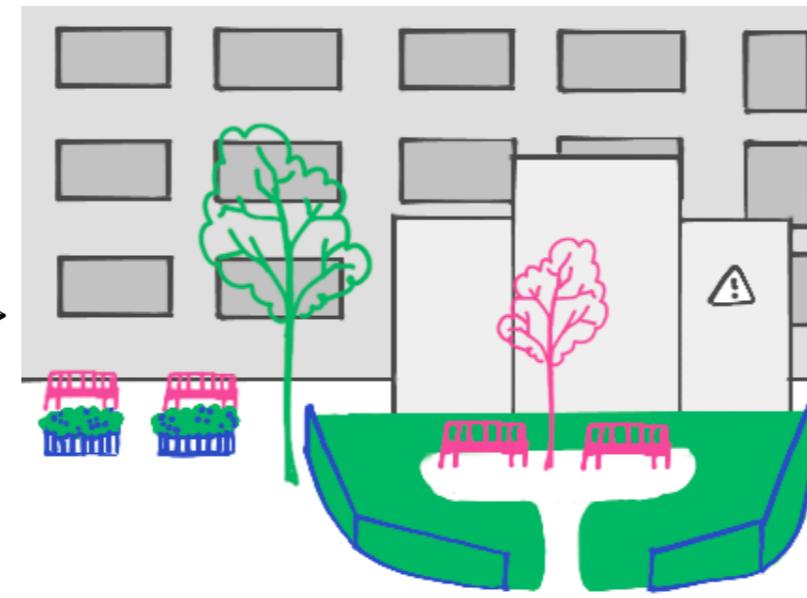


Figure 65-2: Value (Oud Crooswijk) -- visual -- proposed solutions.

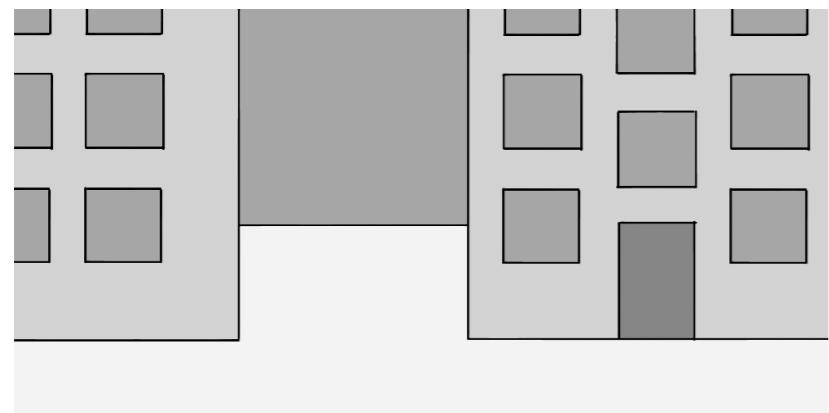


Figure 65-3: Value (Oud Crooswijk) -- lack of value -- current situation.



Figure 65-4: Value (Oud Crooswijk) -- lack of value -- proposed solutions.

Before elaborating the values in Oud Crooswijk, there were no values specified in Kedyshko neighbourhood because there literally were no spatial elements which could fit the definition of the value element, save for a few flowerbeds in front of some residential buildings. Therefore, in case of Kedyshko, value does not need redevelopment -- it needs to be added first, and this way Oud Crooswijk becomes quite convenient to learn about values.

Figures 65-1, 65-2:

Values providing solely visual values are great: as seen in the strips of Oud Crooswijk, a green facade (visual value) or an extra tree can add a lot of value to a space. However, when a visual value element is quite large in terms of its area, but provides nothing but visual quality, in such a compact and high density neighbourhood as Oud Crooswijk (Statistieken Buurt Oud Crooswijk, 2022), it could be considered a waste of space. Therefore, if the space allows, it is suggested to turn solely visual values into interactive values as well: just by placing a bench or two the value the element provides could be increased greatly.

Figures 65-3, 65-4:

Just like Kedyshko neighbourhood, Oud Crooswijk sometimes also suffers from the lack of value, which can also be seen from previous research and design results. Therefore, it is encouraged to always add some kind of value, no matter how small, depending on the space and context: maybe there is a possibility to place a flower pot, or make a green facade, or put a bench on the residential street's sidewalk: such small changes contribute to ownership, natural surveillance and personalisation tremendously, helping to shift from spatial detachment towards spatial belonging ((Paranagamage et al., 2010).

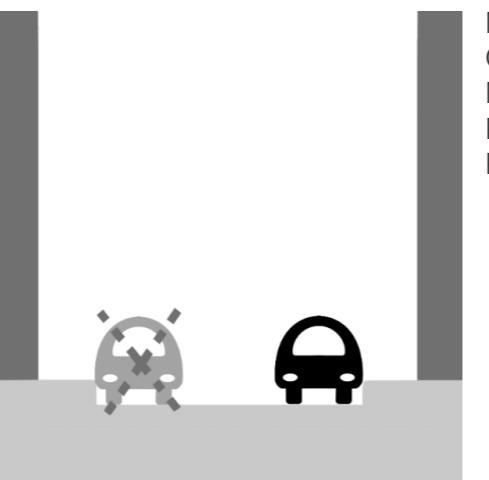
Solution patterns: constraints



MS,
AF,
NS,
O,
PS

S_P1: There is only one way

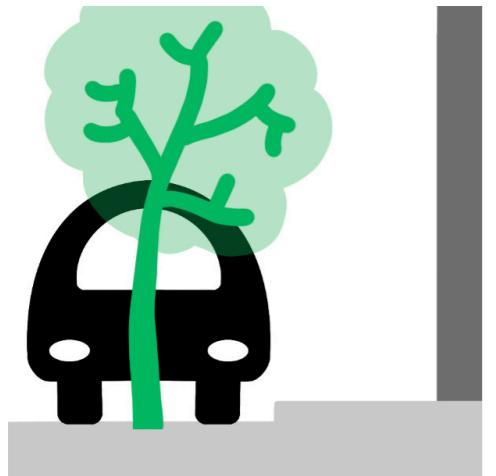
Two-way traffic is not allowed at primary strips to provide more sidewalk space.



MS,
O,
NS,
PS,
P

S3: Only one (car)

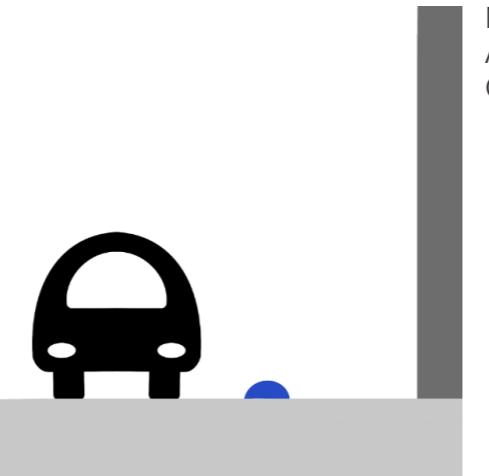
If conditions are established, it should be possible to facilitate the parking only on one side of the street instead of on both sides.



O,
NS

V5: Splitting up

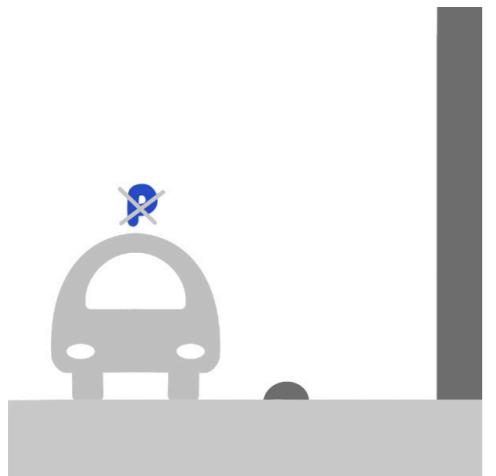
Continuous parking along the street is occasionally “split up” with any kind of greenery.



MS,
AF,
O

V6: Safety stones

Prevents the cars from parking on the sidewalk and serves as an indicator that the street is meant for cars as “guests” only.



O,
NS,
PS,
P

S_T1: Cars out

For tertiary strips only: reference to a case in Oud Crooswijk (Fig. 45-8).

Having completed the design through research stage of the approach, it now becomes possible to derive the design and planning spatial patterns from the suggested solutions. All of these patterns contribute to one of the three subjects of the project’s approach (Fig. 37-1, 37-2): the constraints, the conditions, and the facilitation, and are arranged accordingly.

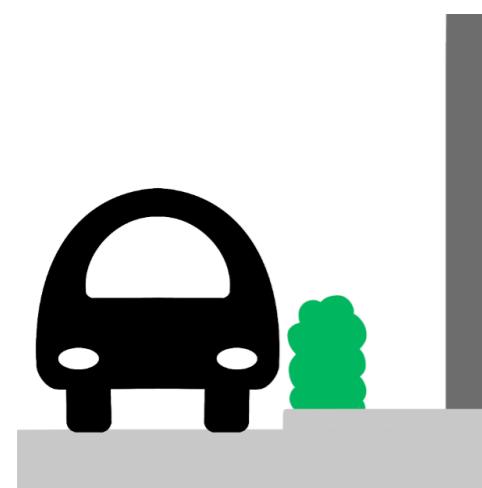
Aside from its contribution towards the facilitation of sense of belonging and generation and maintenance of social capital, each pattern also corresponds with a particular element, which is reflected in its number: S for STRIP, G for GUIDE, C for CROSS, P for POINT, SPH for SPHERE, and V for VALUE. Additionally, the elements could also be clarified further (for instance, S_P would mean STRIP_PRIMARY, and V_SPH would stand for VALUE_SPHERE specific).

Lastly, each pattern also contributes to one or more particular spatial aspects of social capital, which is indicated by a letter code. The code is elaborated below.

Spatial aspects of social capital:

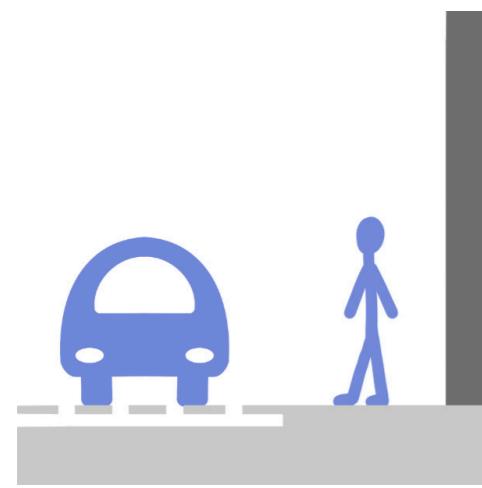
- MU = mixed use
- MS = movement structure
- LF = local facilities
- O = ownness
- NS = natural surveillance
- AF = access and footpaths
- PS = public space
- P = personalisation
- C = context
- LD = lifestyle differences
- LN = life cycle needs

Solution patterns: conditions



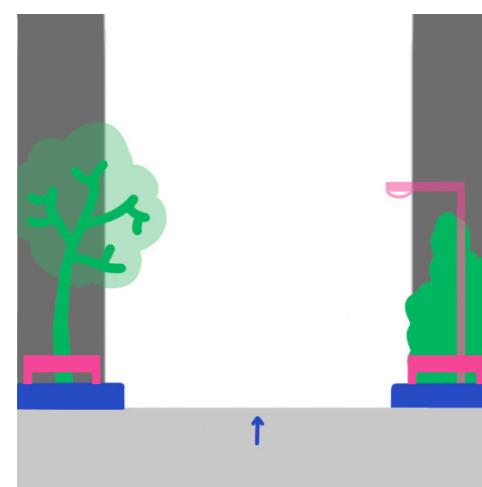
O,
NS,
MS,
AF,
P

S1: Green shield
Using the greenery to separate more private, residential/pedestrian areas from public, transit/visitors areas within the strip.



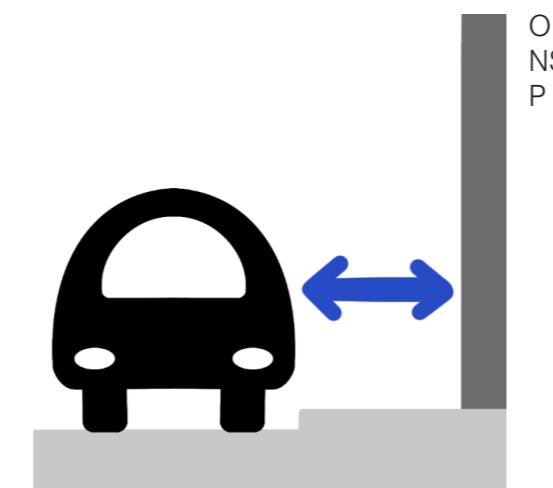
O,
MU,
C

S4: As equals
The sidewalk and car route gain the same elevation level, indicating that the pedestrians are prioritised over cars.



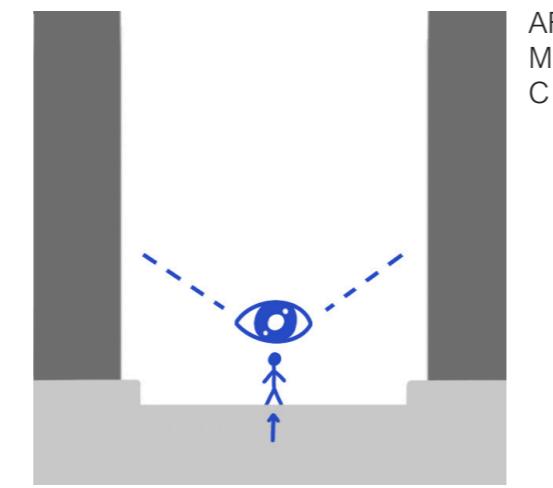
MS,
AF,
PS,
NS,
C

G1: Framed
Strategically “frame” guides in accordance with their intentional use: the more important ones can be highlighted in such way.



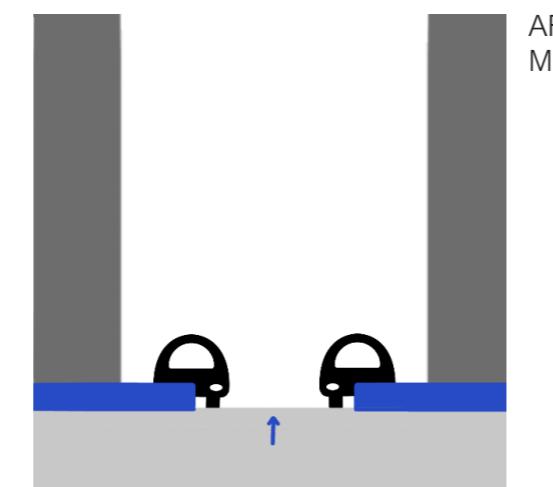
O,
NS,
P

S2: The gradient
If spatially possible, always ensure that there is no direct transition from sidewalk into parked cars: provide any “buffer”.



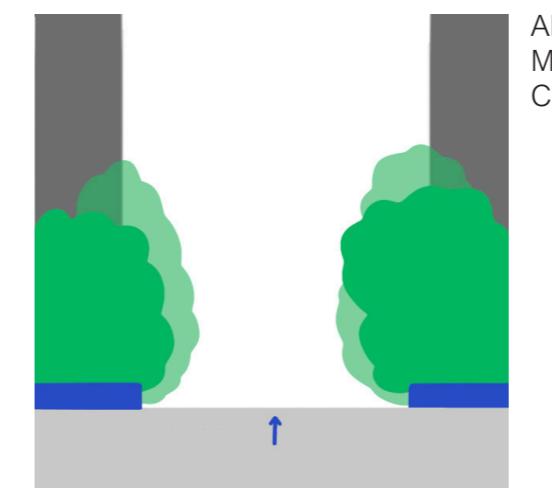
AF,
MS,
C

G_P1: Eye see
For primary guides: the view to the primary strip should not be obstructed too much.



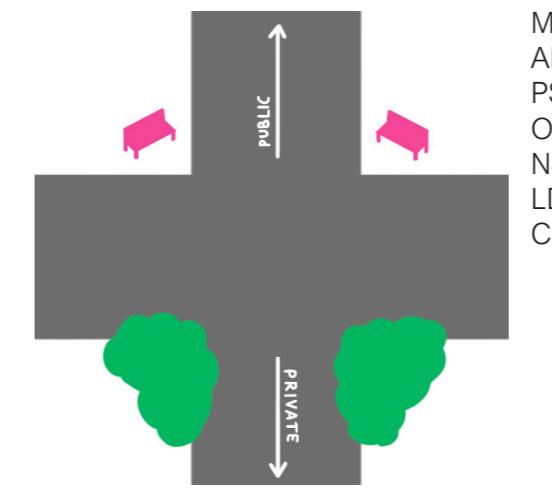
AF,
MU

G2: Cornered
A guide can be enhanced through a protruding round corner, indicating its availability for entrance.



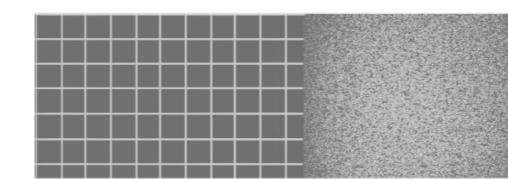
AF,
MS,
C

G_T1: Technical obstruction
If possible, obstruct the entrance with greenery to make tertiary guides/strips less likely to be entered by visitors.



MS,
AF,
PS,
O,
NS,
LD,
C

C1: Vision of division
Facilitates crosses accordingly to their character: visual obstruction of private, human-scale interaction spaces for public.



AF,
MU,
O,
C

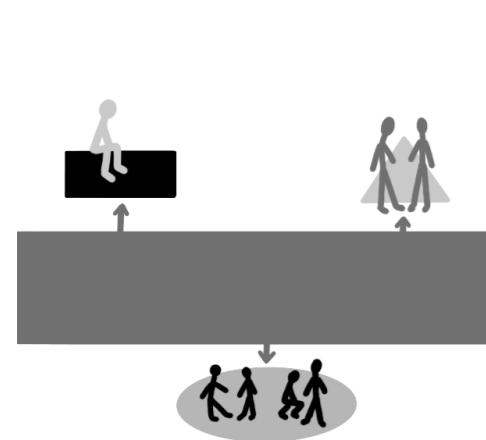
S5: Paving the way
Different pavings indicate different character for paths: tiles over asphalt, for instance, imply the priority of pedestrians over cars.



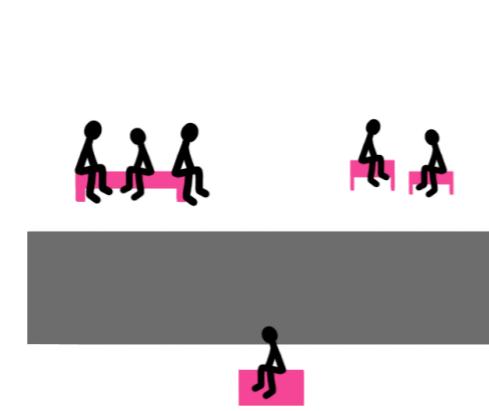
MS,
AF,
NS

S6: Follow the edges
Homogenous and consistent edges along strips (trees, streetlights, greenery, etc.) make visitors unfamiliar with the context follow such a specifically arranged route.

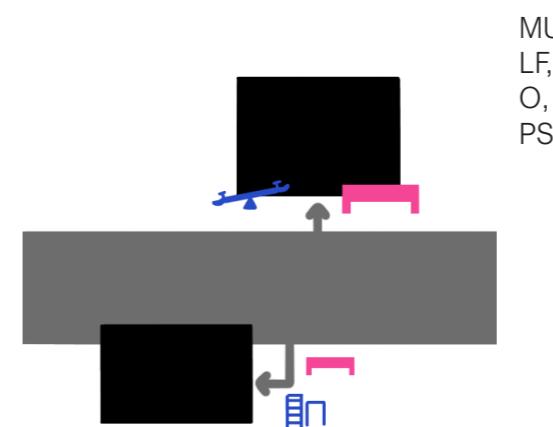
Solution patterns: facilitation



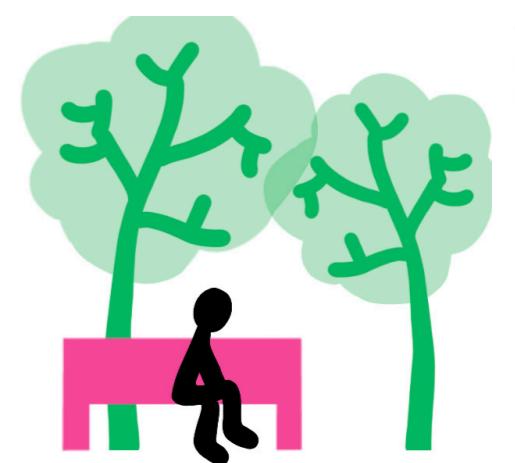
S_P2: Open for claiming
Primary strips should have human-scale spaces which can be claimed by anyone for spatially and socially engaging activities.



V1: Press pause
There should always be human-scale spaces along strips (especially primary) allowing pedestrians to stop and take a break.



V_P2: Urban playground
Along some points it could be beneficial to install compact playground equipment (considering the area is safe from heavy traffic).



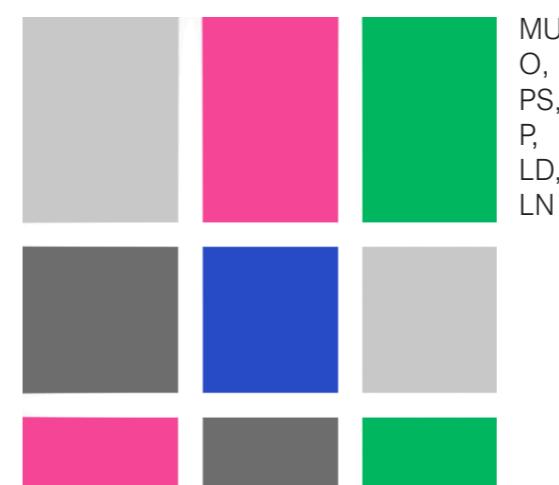
V9: The perfect pair
Combining sitting spots with greenery is always a good idea (Gehl Institute, 2022).



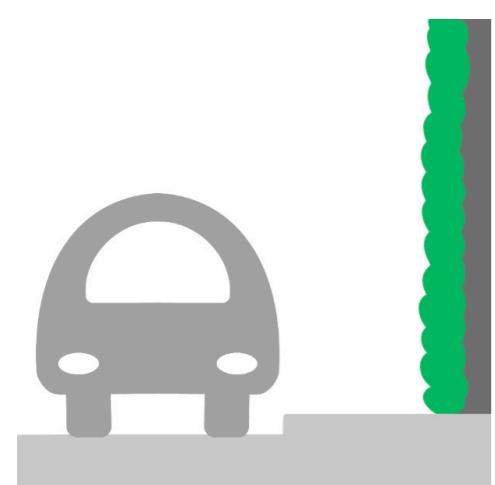
V2: The happiest colour
Adding greenery, no matter how small the amount, is already a good improvement (Douglas & Douglas, 2022).



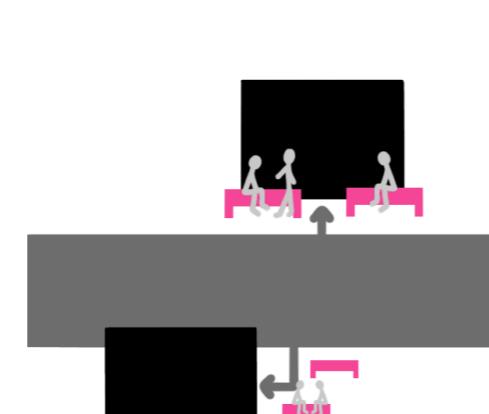
V7: Better together
If possible, combine visual and interactive values together, so that the value they provide becomes enhanced.



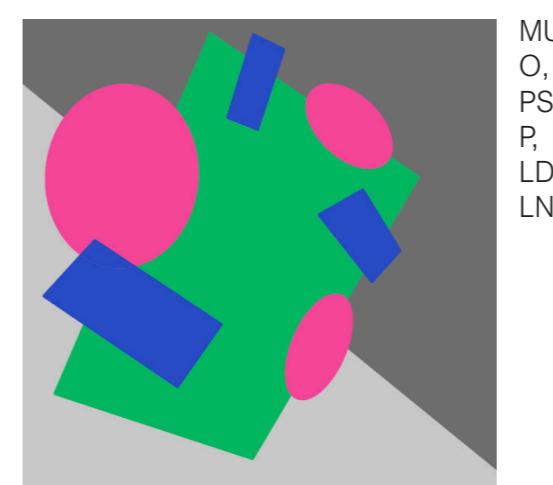
SPH1: Straight up
Very precise and obvious functional division of the sphere element, no matter if it more or less defined.



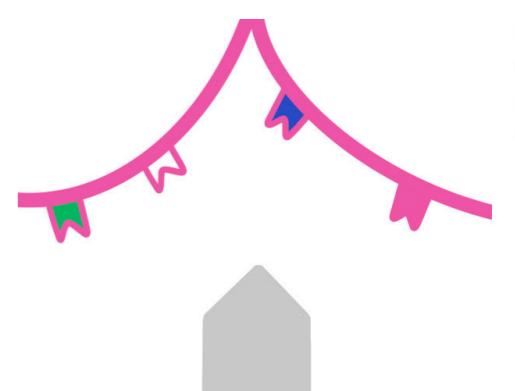
V4: Green facades
If there is not a lot of free space available, it is always possible to enhance the visual and emotional values of a space through green facades.



V_P1: Let's spend time
There should always be human-scale sitting places within the proximity to point elements.



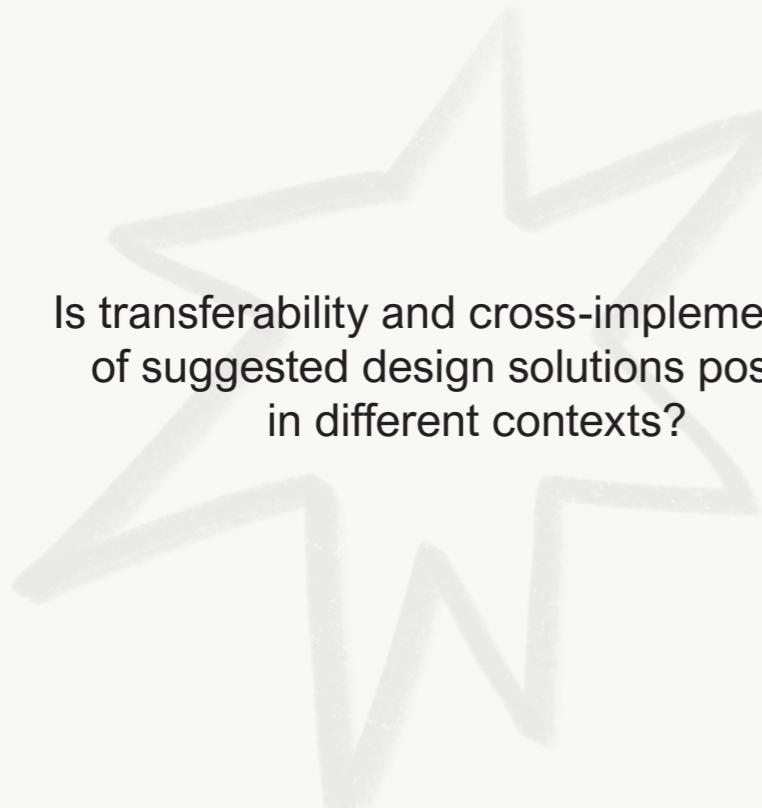
SPH2: Something for everyone
Rather than having several public spaces in the neighbourhood with different target audiences in mind (sports playground vs. sitting square as example), why not offer spaces for different audiences within one main public space?



V10: Always a celebration
Decoration of more "main", public strips and spheres with garlands and such gives a place a stronger character and enhances spatial belonging through "proudness" (Paranagamage et al., 2010).

PART IV: WELCOME, HOME

DESIGN IMPLEMENTATION



Is transferability and cross-implementation
of suggested design solutions possible
in different contexts?

CHAPTER 05

In this last chapter, the suggested solution patterns are tested across both neighbourhoods to evaluate their cross-implementability, and the approach in general: whether it is a feasible method.

After introducing the areas selected for tests, the intended atmospheres and values of the interactions within the areas are evaluated, and the vision plan consisting of spatial elements is adjusted to suit the concluded conditions. Then, a few areas are selected on the masterplans and introduced as “before and after” versions, with all utilised patterns mentioned.

This chapter is the concluding one for this thesis.

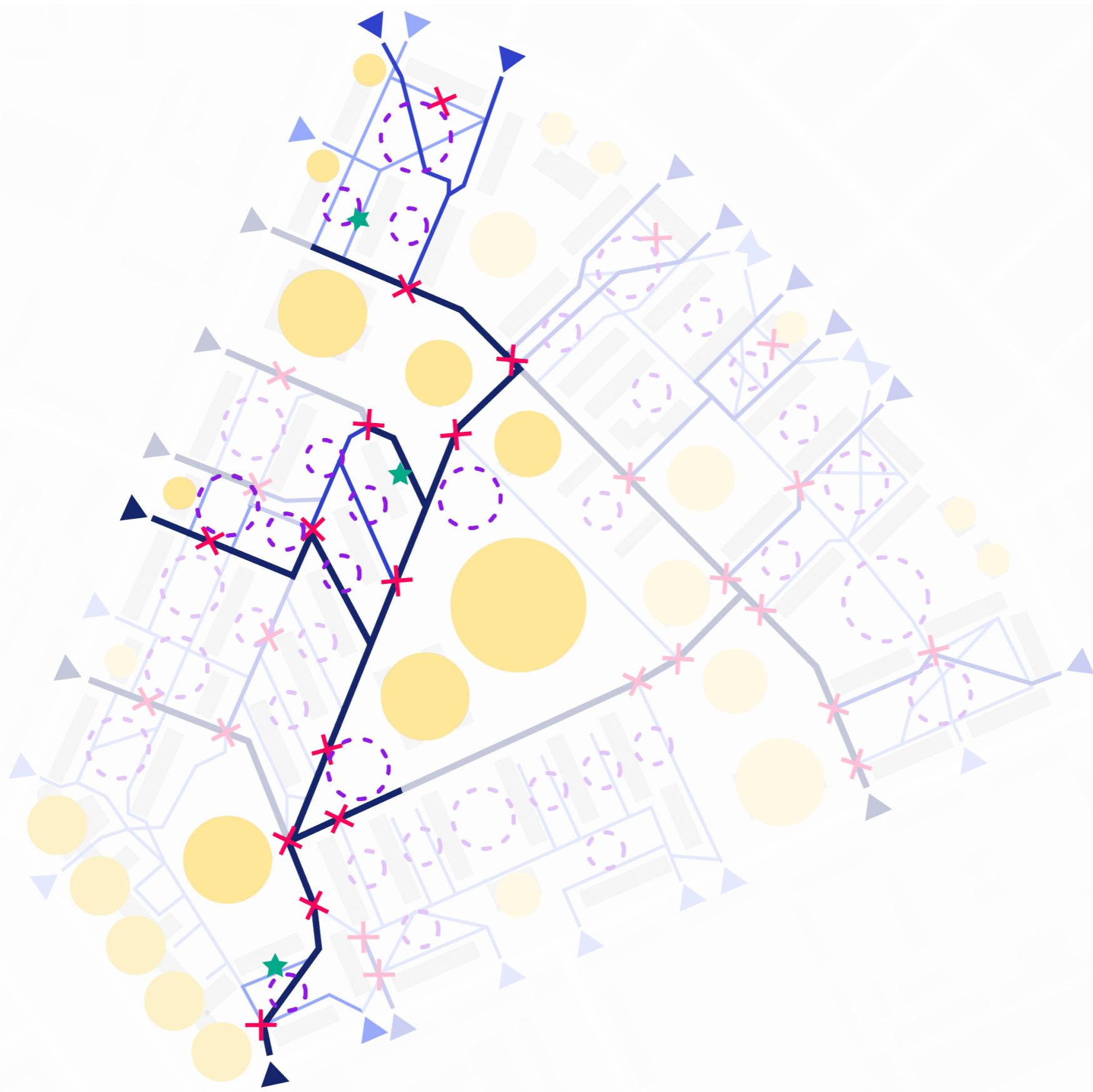
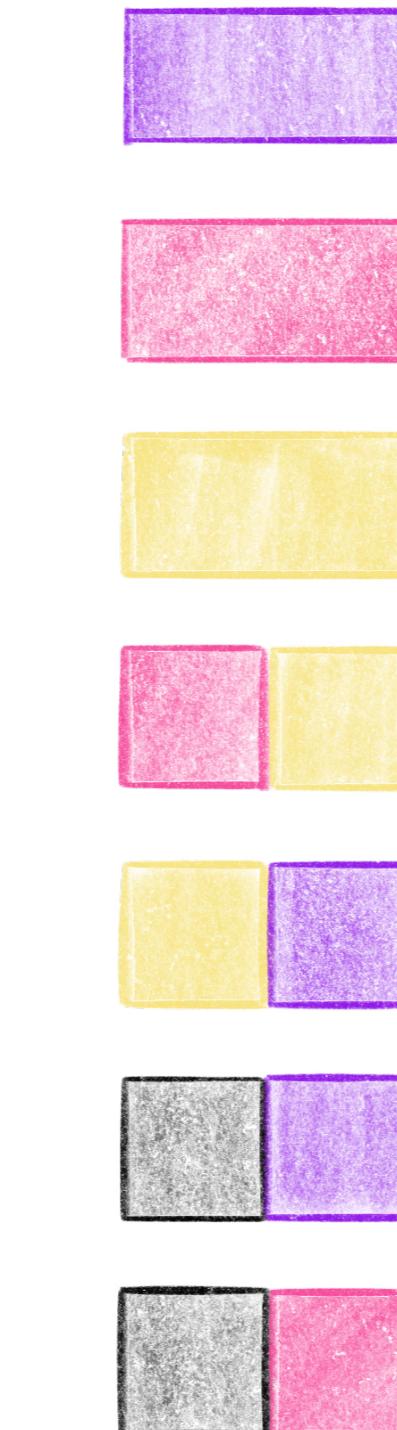
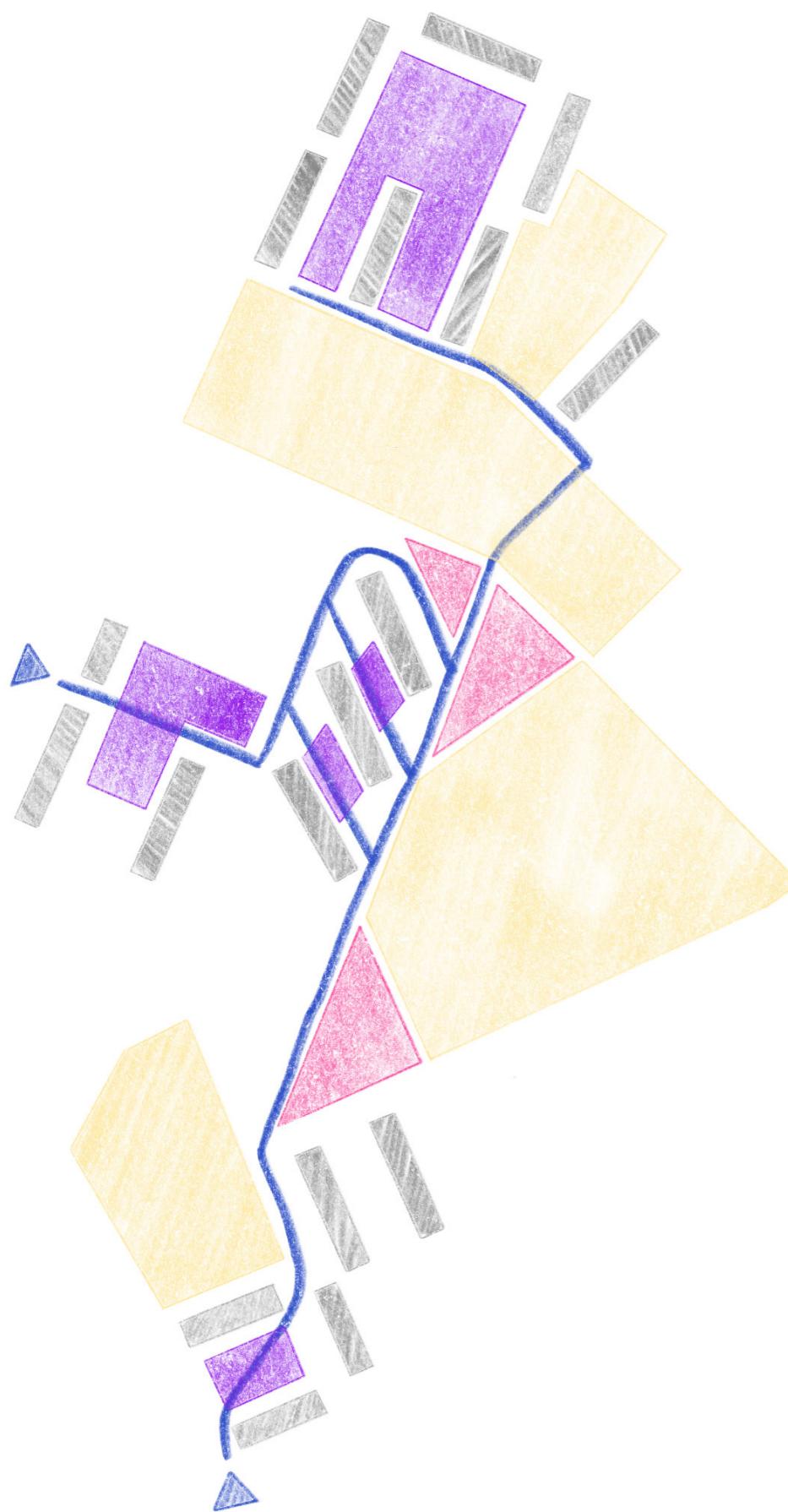
Selected area

Figure 66: Selected area for testing the patterns' implementation: Kedyshko.

This particular area of Kedyhsko neighbourhood was selected because it follows through the entire neighbourhood, coming in contact with different kinds of spaces, which implies different kinds of interactions.

Gradation of interactions



As mentioned, the selected area makes it possible to investigate and facilitate different kinds of interactions as well as facilitate the sense of belonging in different ways. Therefore, the distinguished areas with different atmospheres implying different interactions and belonging are introduced and elaborated before the testing of patterns can take place.

Purple: the residential, more controlled and contained space

Such spaces are intended to be for more “specific” activities and interactions: since a lot of these areas are “cut through” by primary strips, it is important that their function, purpose and spatial division are clear for the residents as well as visitors. Example of activities: playgrounds, sitting areas -- everything precise and safe in terms of visibility as well.

Pink: the cores -- spontaneity and community

Since the purple, residential public spaces provide less freedom in action and limit the interactions in a way, the cores of Kedyshko are meant to provide that instead: they are places of gathering, mainly meant for residents to come together and meet each other, with or without purpose. The spatial arrangement is also much less defined in the core areas, allowing the residents to rearrange the spaces to an extent.

Yellow: the vague, semi-private spaces of public facilities

Currently, these spaces are alienated from the rest of the neighbourhood in a way. Therefore, the goal is to facilitate some sort of spatial or social interactions outside of these spaces, since the inside is off-limits. The key to this facilitation is the crossing of areas -- and their functions.

Yellow x Pink: resolving the alienation

The placement of core areas next to the “holes” of the neighbourhood is intentional: if the yellow spaces act as a backdrop for actual core and community areas, they will become less alienated. The facilitation is therefore as such: the intention is to provide some human-scale places to stay outside of the yellow areas.

Yellow x Purple: two different realms

Purple areas are intended to be residential first and foremost, while the yellow ones are always frequented by non-locals. Therefore, in case of this crossing of areas, spatial separation will be facilitated: there has to be a clear gradient and division of the public-public realm and the residential-public one.

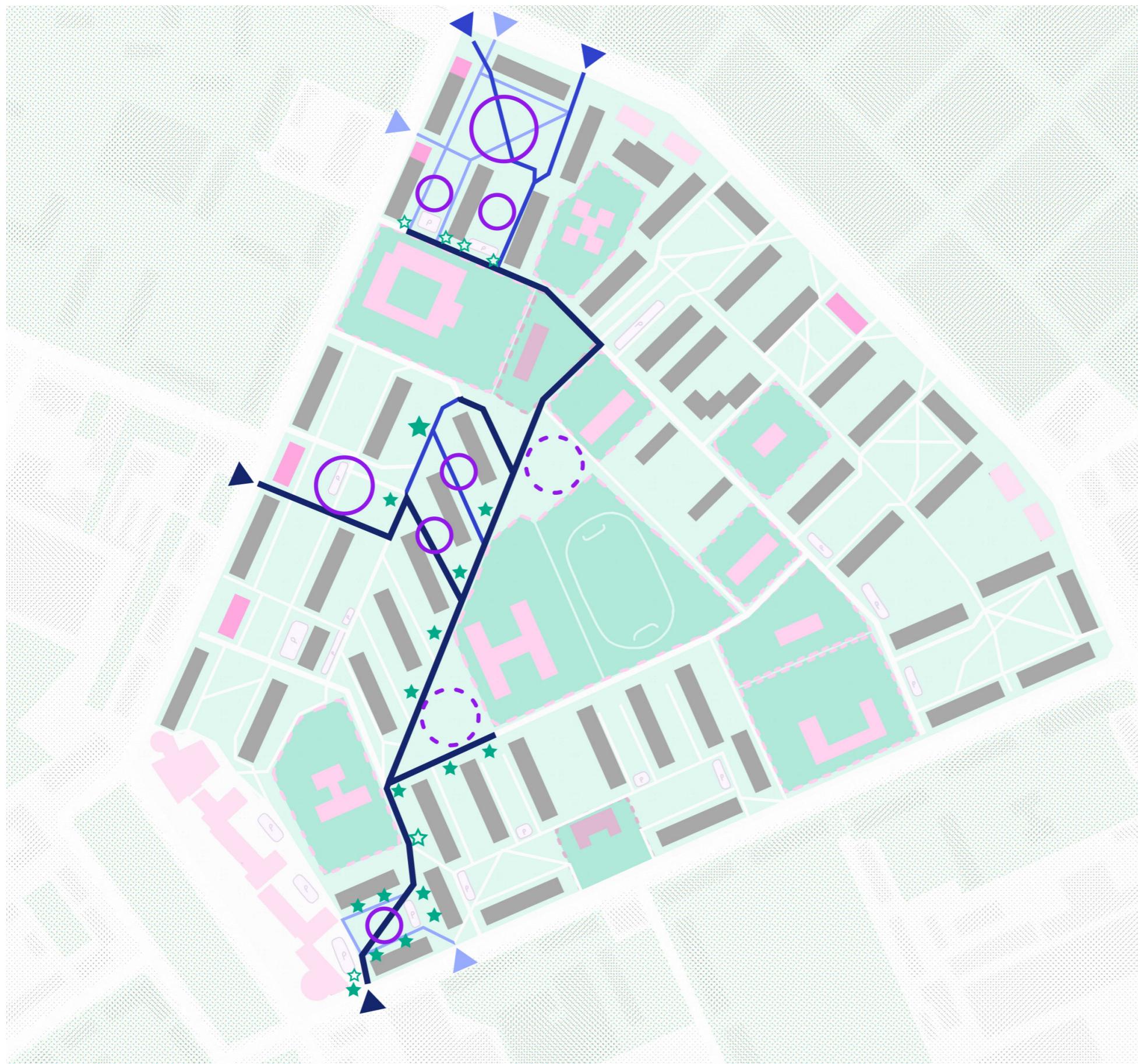
Black x Purple: transition from residential-public to residential-private

Just like with yellow and purple areas crossing over, in this case there also is a need for a gradient. However, since both realms are still residential, it implies a less harsh and more interaction-based gradient.

Black x Pink: more community space

At the crossing between residential blocks and core spaces the public area acts as a more subtle extention of the core space, with according facilitation.

Figure 67: “Atmosphere map” -- Kedyshko.

New vision map for elements

Based on the evaluation of atmospheres and interactions, the elements in the map have been adjusted accordingly.

Figure 68: Finalised map of elements -- Kedyshko.

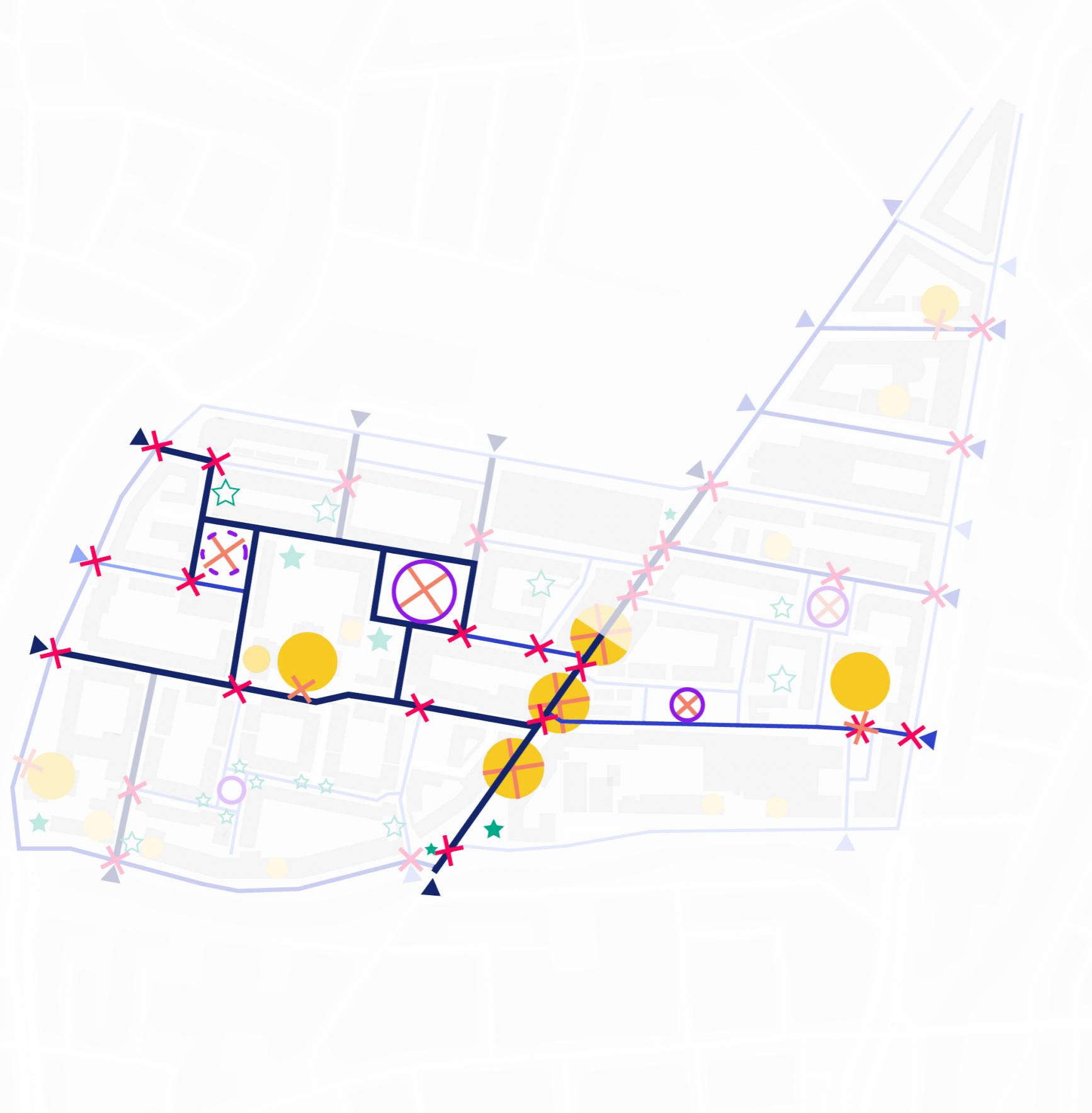
Selected area

Figure 69: Selected area for testing the patterns' implementation: Oud Crooswijk.

This particular area of Oud Crooswijk was selected for the same reason as the one in Kedyshko: it follows through the entire neighbourhood, coming in contact with different kinds of spaces, which implies different kinds of interactions.

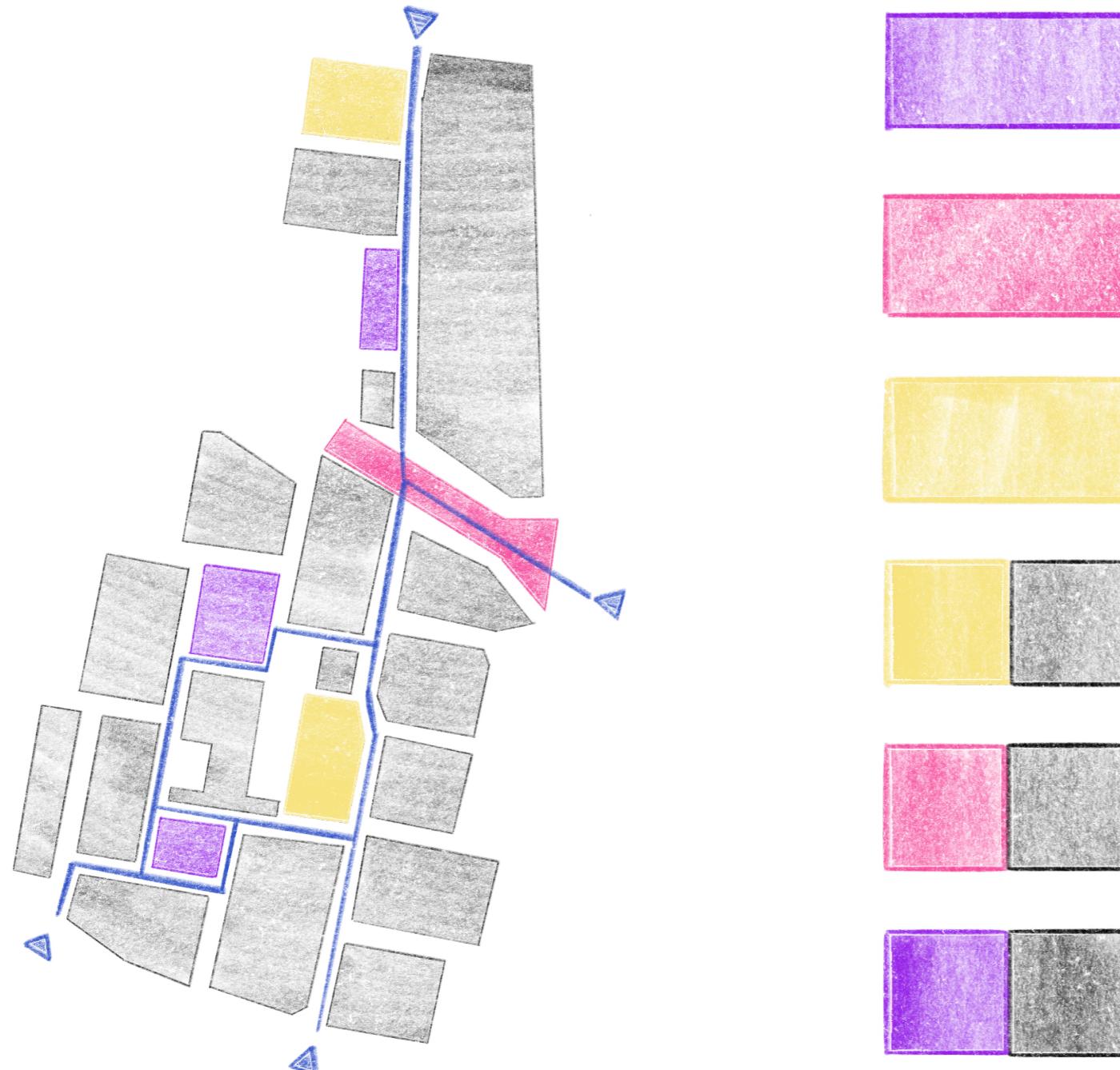
Interactions map

Figure 70: "Atmosphere map" -- Oud Crooswijk.

Purple: the residential, contained, but spontaneous space

Such spaces are intended to be for more “specific” activities and interactions: since a lot of these areas are “cut through” by primary strips, it is important that their function, purpose and spatial division are clear for the residents as well as visitors. However, in case of Oud Crooswijk they also partially act as core spaces and provide spaces for community and more spontaneous interactions as well.

Pink: the way to the city

Unlike the pink core areas in Kedyshko neighbourhood, the pink area in Oud Crooswijk is somewhat of a portal to the other world -- from the residential neighbourhood to the city. Therefore, the scale and the atmosphere there should be different compared to the other residential spaces, and facilitated as such.

Yellow: the vague, semi-private spaces of public facilities

Currently, these spaces are alienated from the rest of the neighbourhood in a way. Therefore, the goal is to facilitate some sort of spatial or social interactions outside of these spaces, since the inside is off-limits. The key to this facilitation is the crossing of areas -- and their functions.

Yellow x Black: resolving the alienation

The yellow spaces act as a backdrop for actual core and community areas, they will become less alienated. The facilitation is therefore as such: the intention is to provide some human-scale places to stay outside of the yellow areas.

Black x Pink: two different realms

The differences and non-residential focused profile of the area should be acknowledged and maintained, without making it seem more “residential” and “low-key”.

Black x Purple: transition from residential-public to residential-private

Just like with yellow and purple areas crossing over, in this case there also is a need for a gradient. However, since both realms are still residential, it implies a less harsh and more interaction-based gradient.

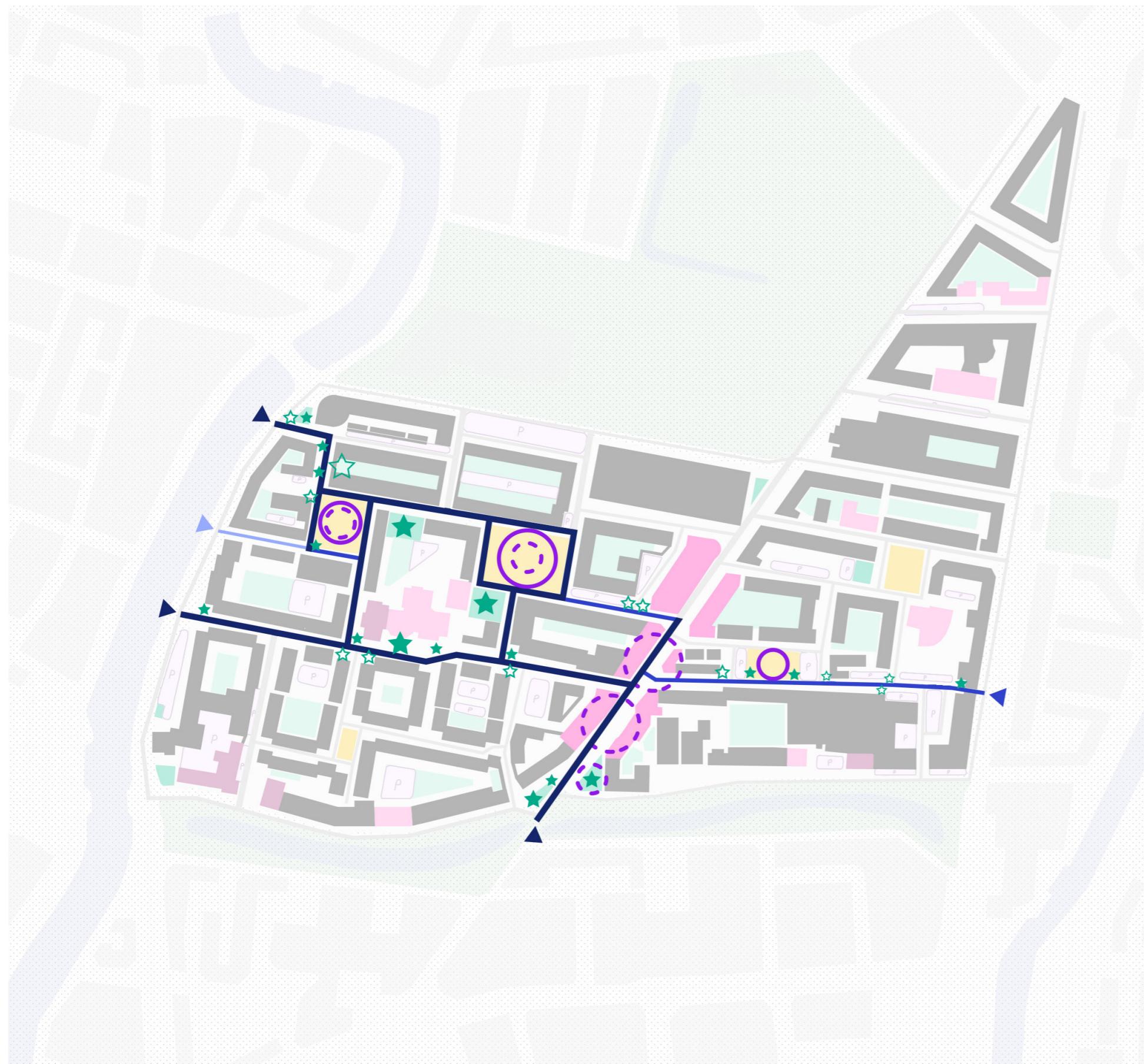
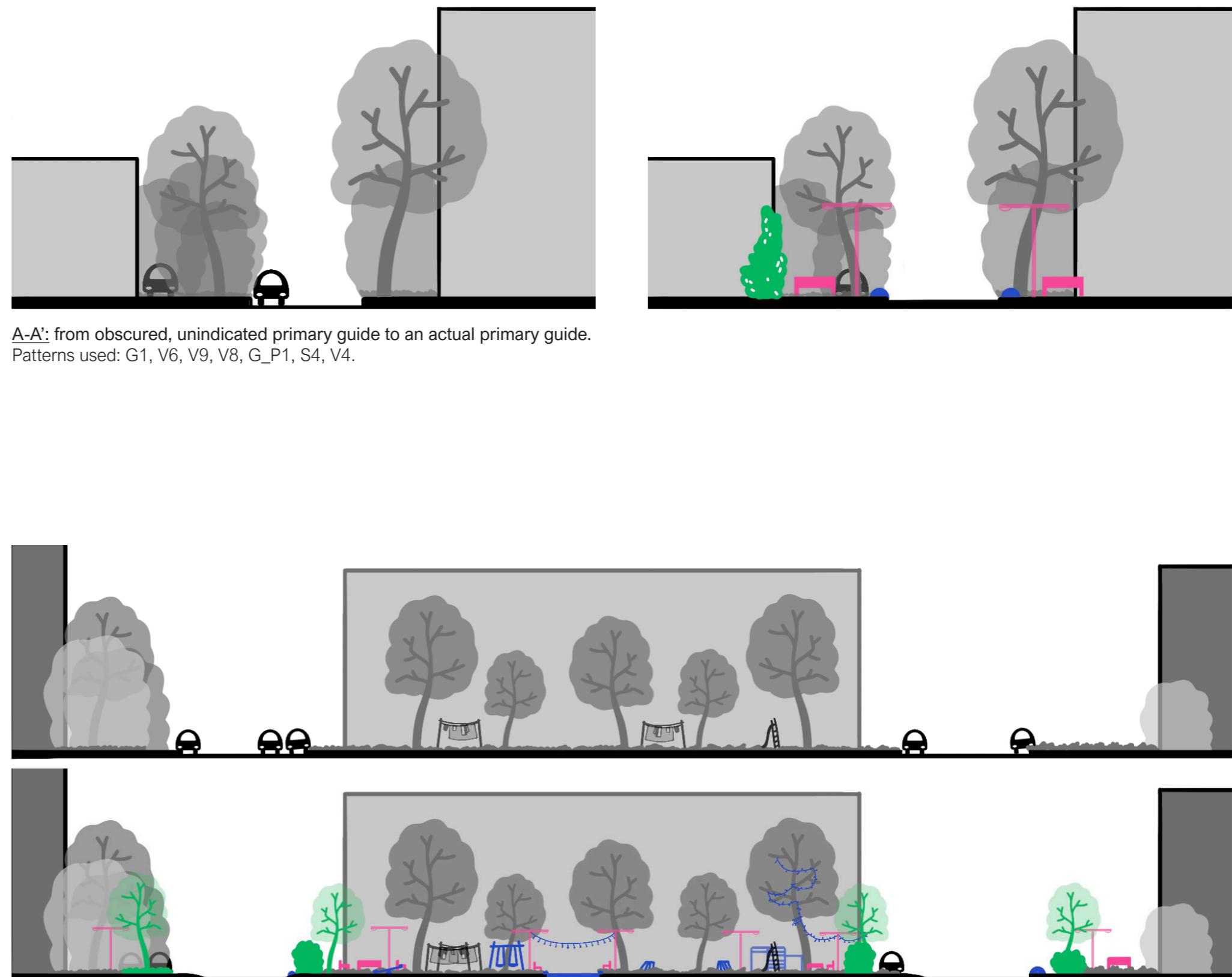
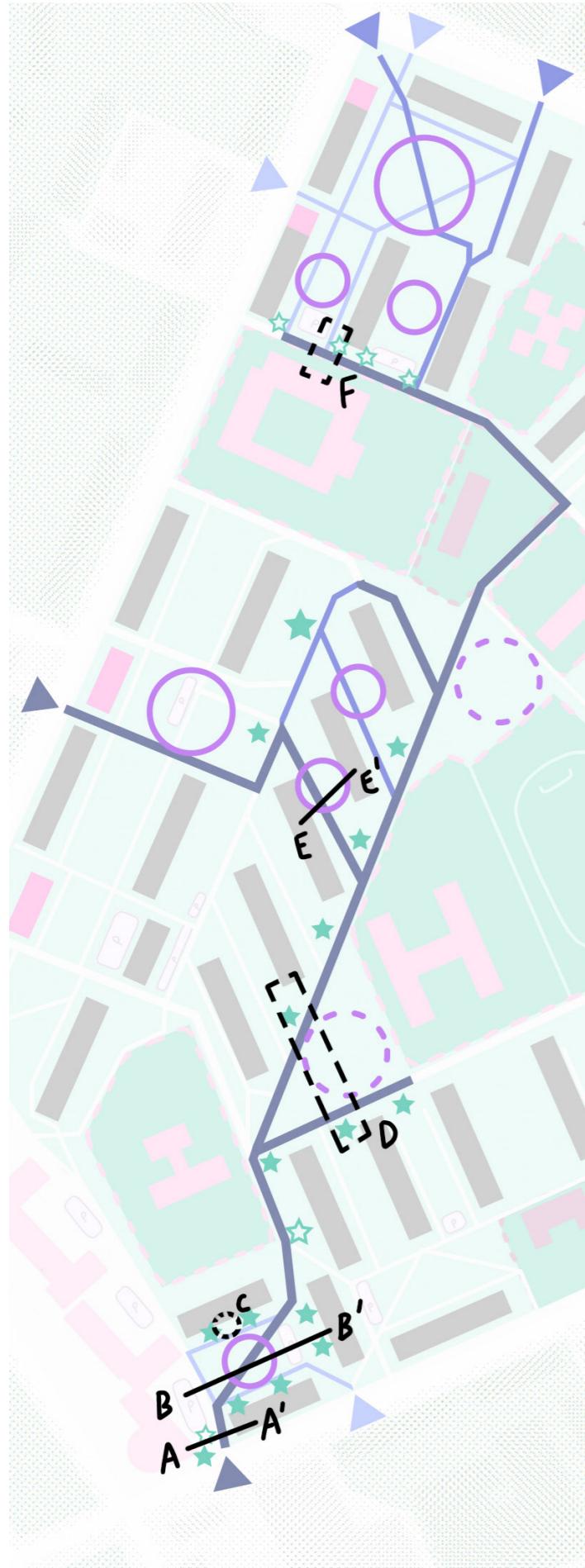
New vision map for elements

Figure 71: Finalised map of elements -- Oud Crooswijk.

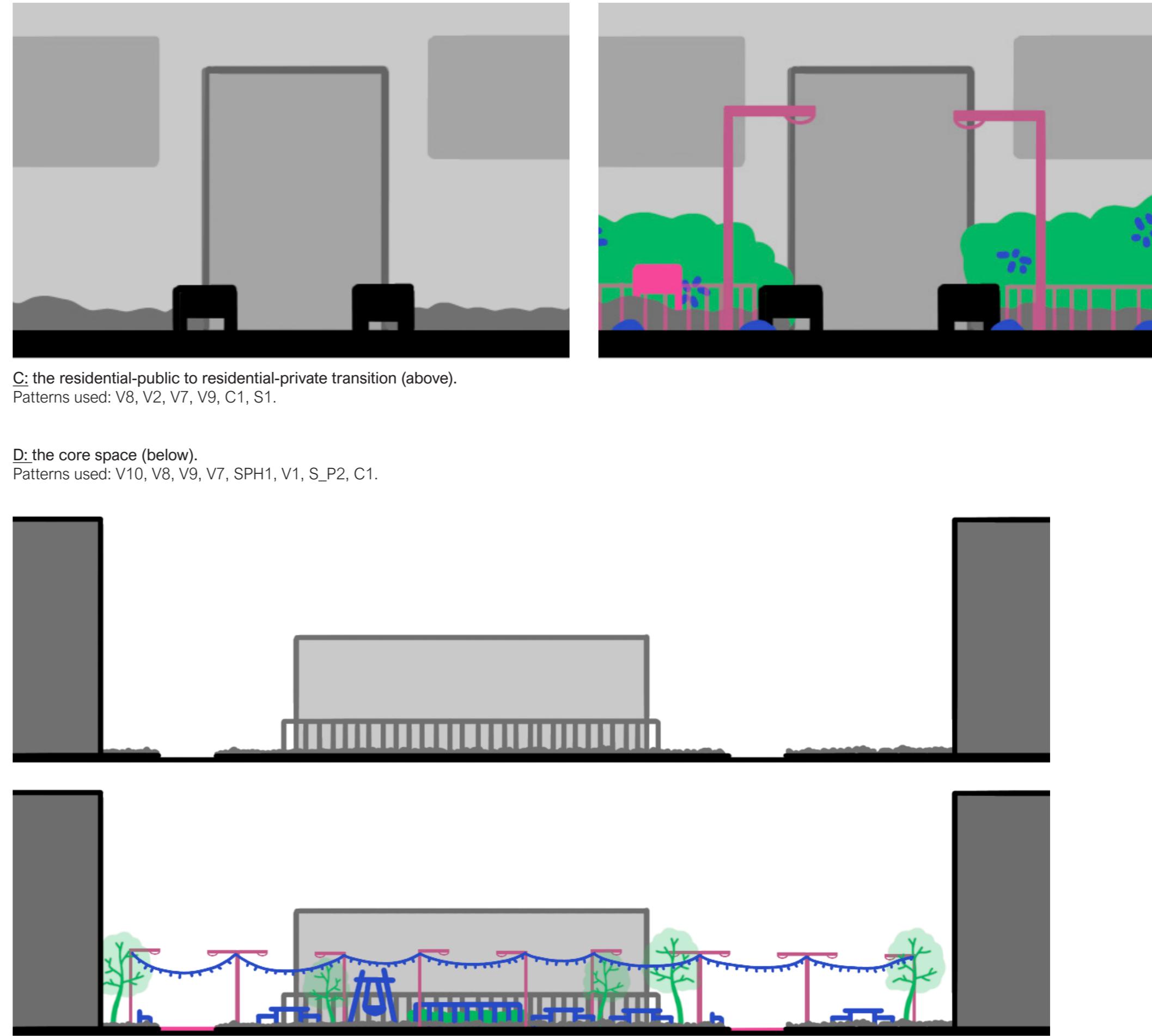
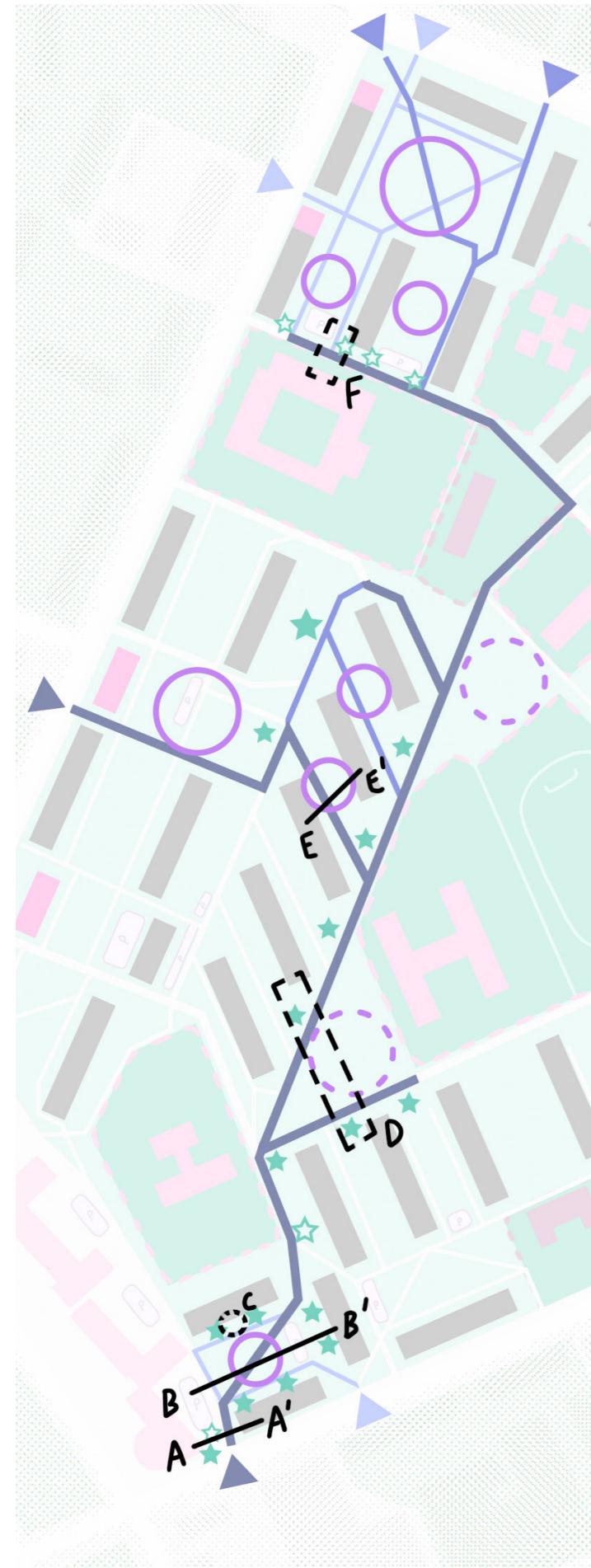
Based on the evaluation of atmospheres and interactions, the elements in the map have been adjusted accordingly.



Figure 72: Masterplan with selected areas to experiment on -- Kedyshko.

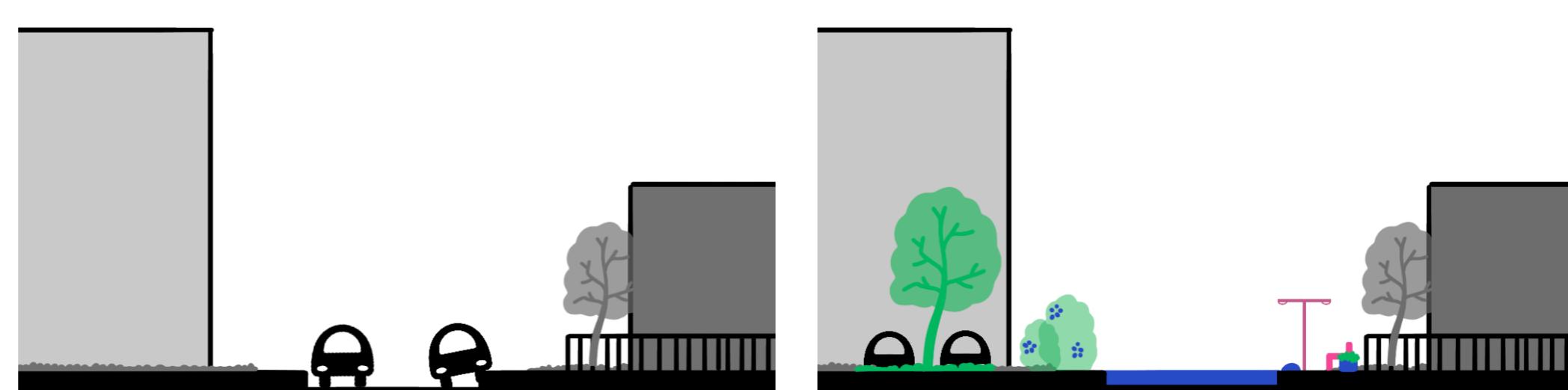
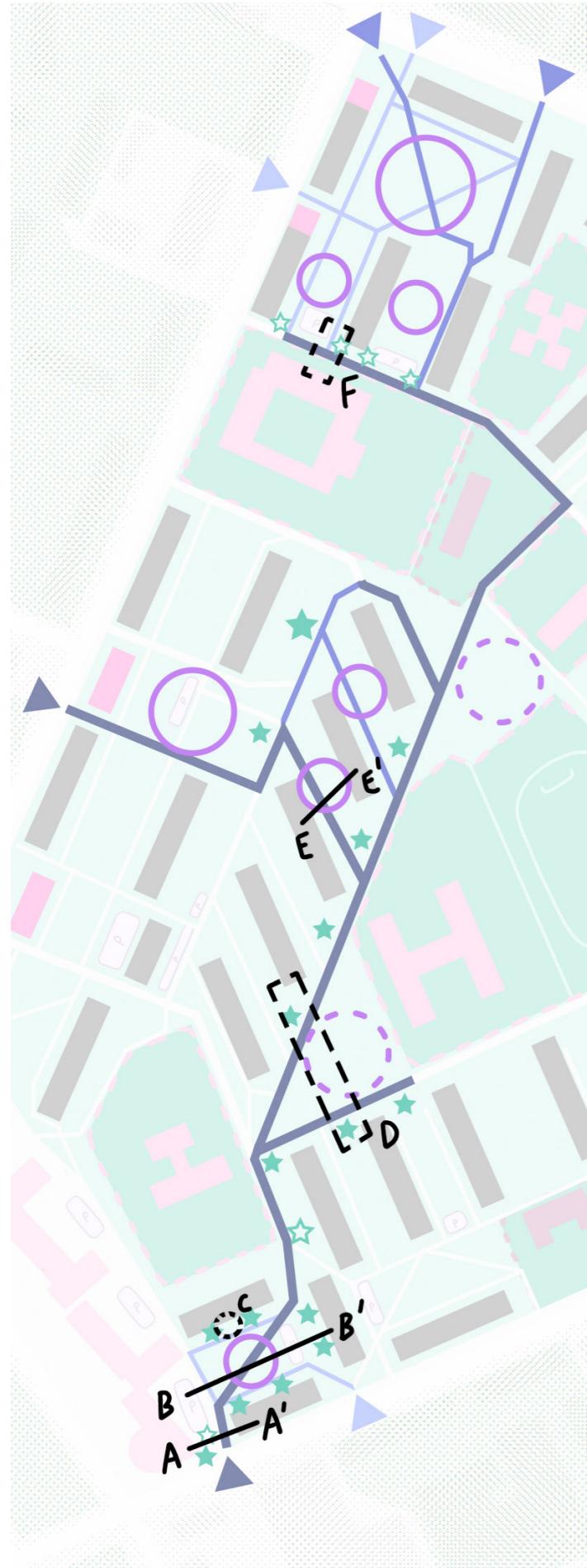


A-A': from obscured, unindicated primary guide to an actual primary guide.
 Patterns used: G1, V6, V9, V8, G_P1, S4, V4.

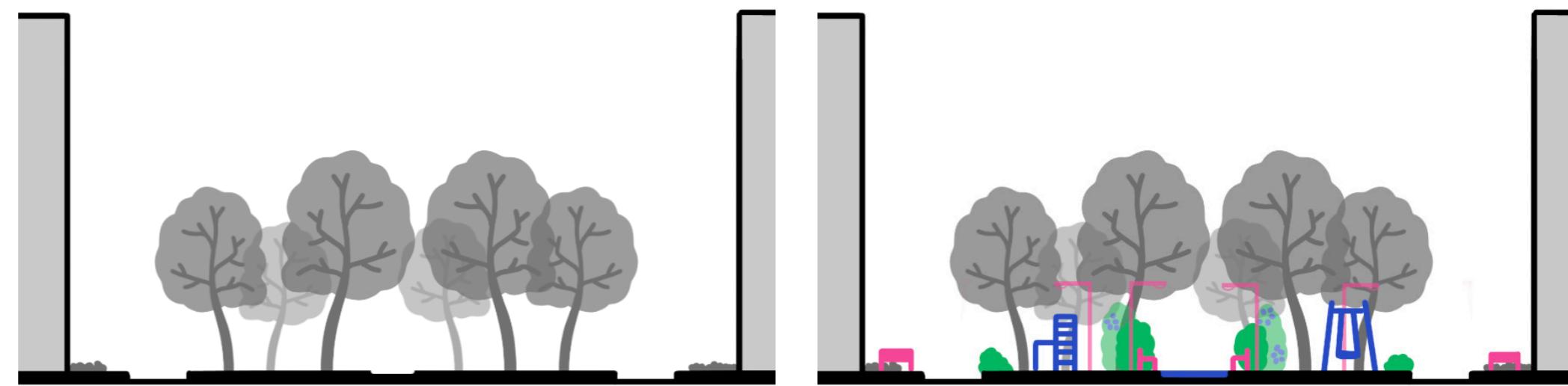


C: the residential-public to residential-private transition (above).
Patterns used: V8, V2, V7, V9, C1, S1.

D: the core space (below).
Patterns used: V10, V8, V9, V7, SPH1, V1, S_P2, C1.



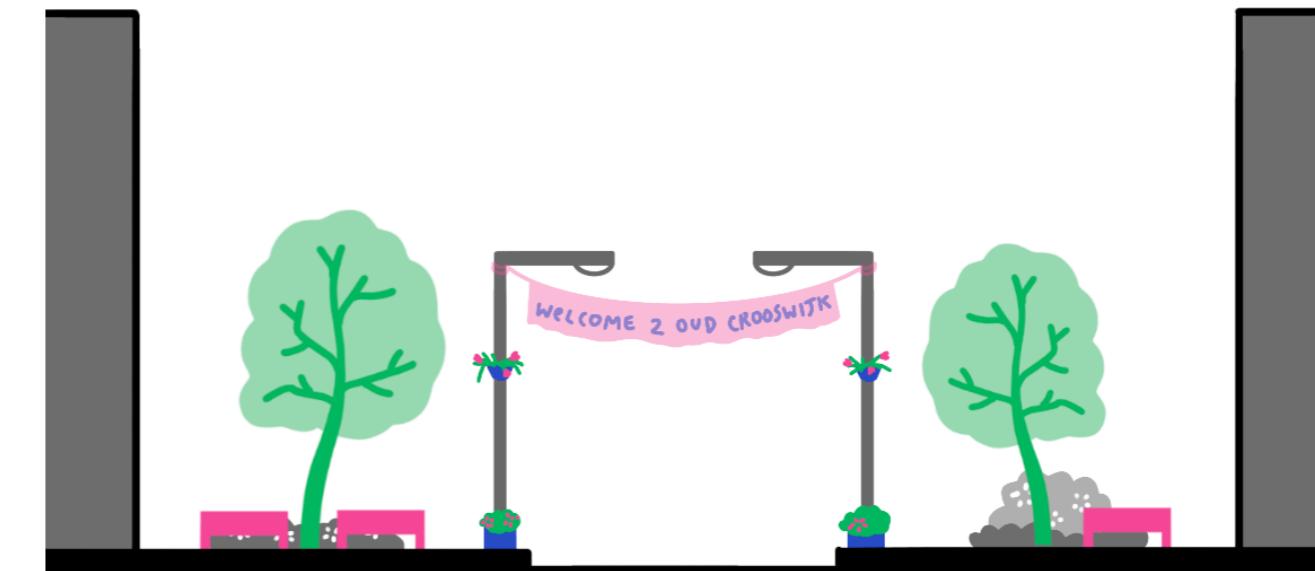
F: the two different realms.
Patterns used: V6, V5, S3, S1, C1, S4, S_P2, V1, V_P1.



E-E': facilitating visitors within the residential public space.
Patterns used: SPH2, V8, V9, SPH1, V1, S6, S1.

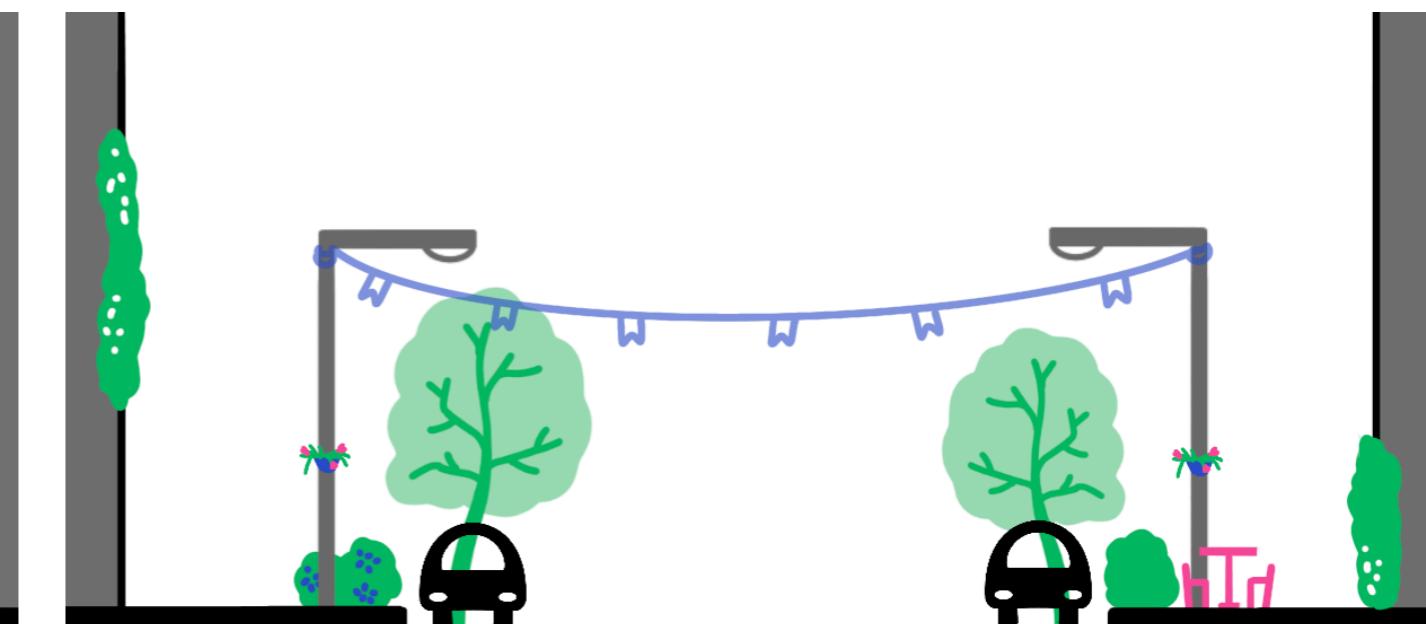


Figure 73: Masterplan with selected areas to experiment on -- Oud Crooswijk.



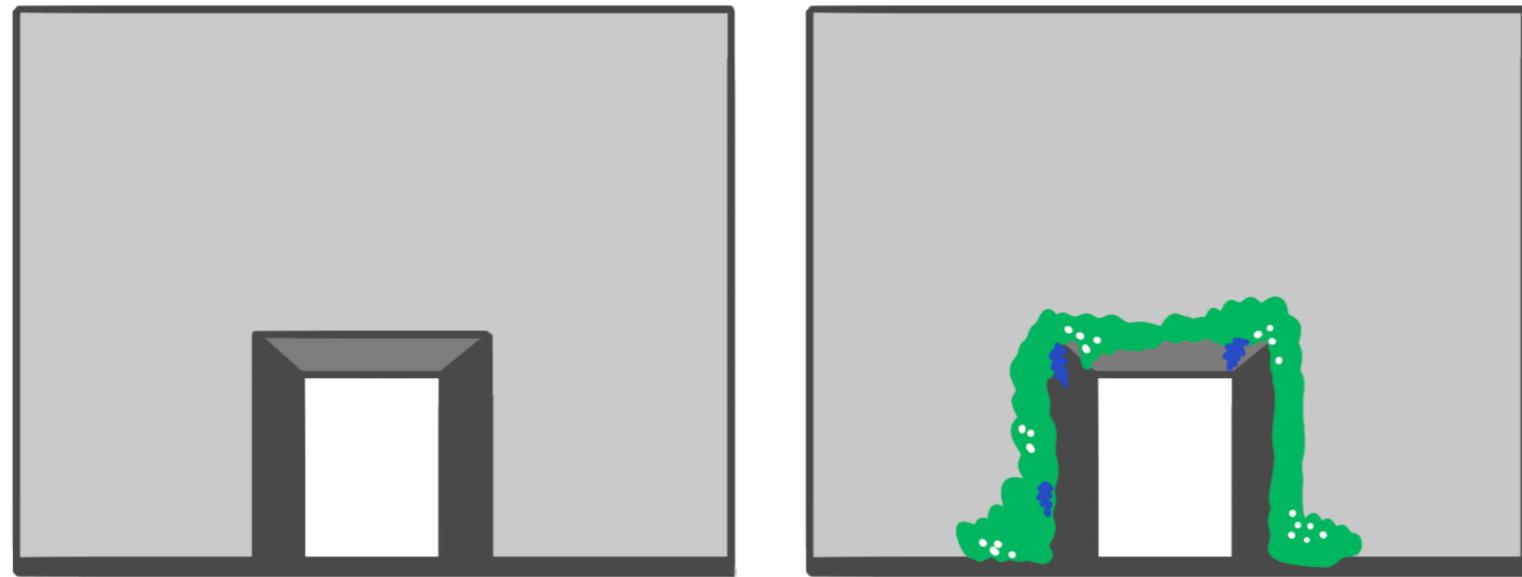
A-A': welcome to Oud Crooswijk.

Patterns used: S6, G_P1, G1, S_P2, V1, V9, V2, V7, V8, V10.



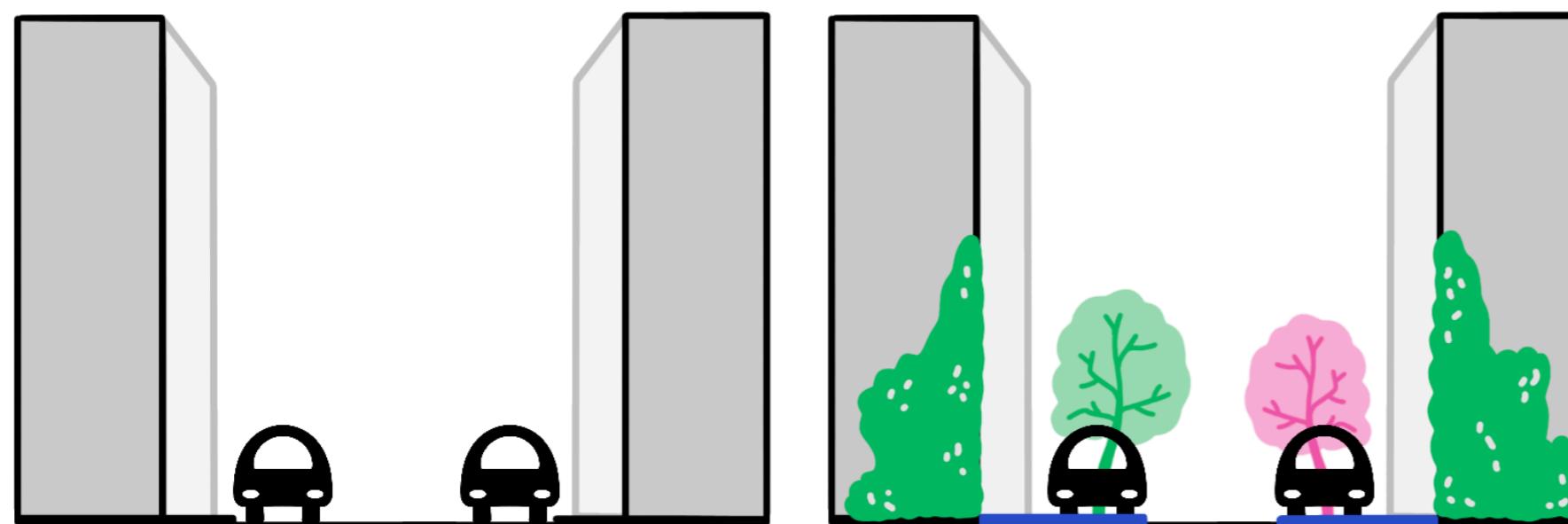
B-B': a portal to the city.

Patterns used: V10, V4, V2, V9, V1, S_P2, S1, S_P1, V5.



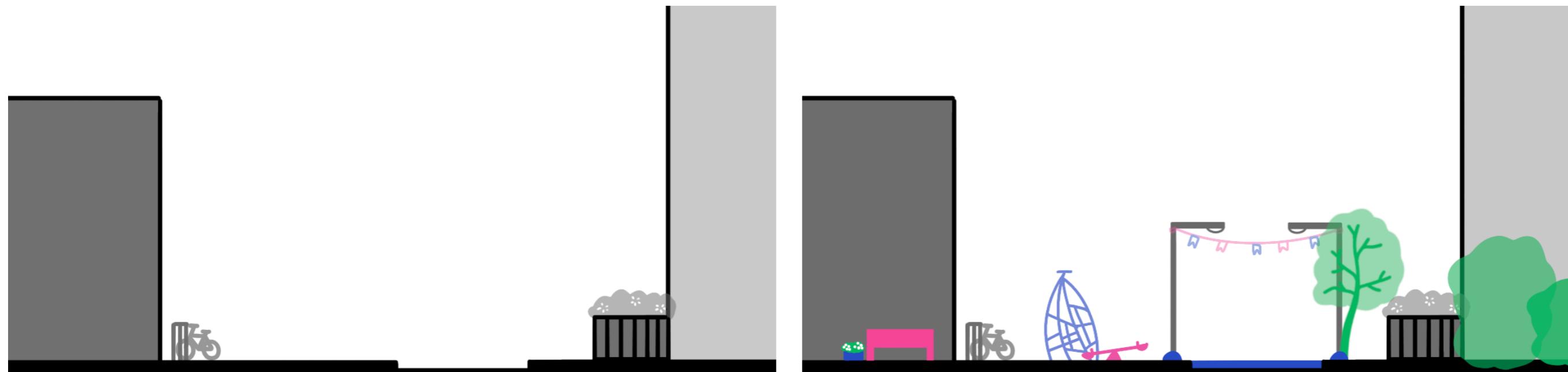
C-C': the law of attraction.

Patterns used: G1, V4.



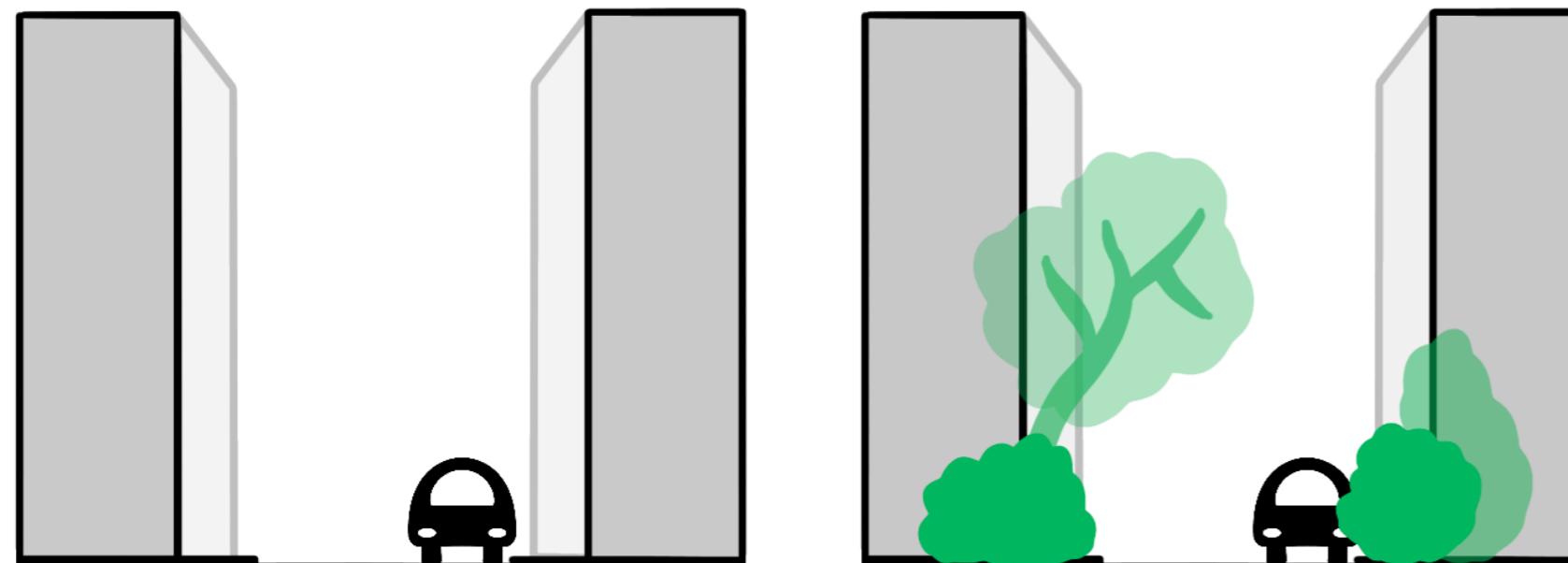
D-D': the primary guide.

Patterns used: G1, V4, G2, G_P1, V5.



E: resolving the alienation.

Patterns used: V6, S1, S2, C1, S4, V1, V_P2, V9, V_P1, V10.



F-F': the guide to obscurity.

Patterns used: G_T1.

REFLECTION



CHAPTER 06

When I was just starting my final year of master's, a year solely dedicated to working on the graduation project, the most crucial point for me was to come up with a topic so motivating that it would let me keep on working on it from September to summer, as I have never tackled a project as long and complex before. This implied that the subject definitely had to be personal and about something I feel strongly about, and after a quite long consideration I came to a conclusion that according to this reasoning my graduation project has to include the following: it must focus on improvement and uplifting of something neglected or marginalised, and it should be about an urban environment I am familiar with and have experienced personally. And so, this is exactly how this project came to be. Its focus is a typology I have spent the most of my life living in: flat or panel building based commuter neighbourhoods from the 1960-80s which are now in decline, and the aim is to explore this typology in such a way that elaborates its value and potential for the current and future demands of urban environment and society. An amalgamation of urban, societal, and at times politico-economic issues, this project is essentially a biography of a typology told by an urbanist reflecting on its past to understand its present and translate everything that has been uncovered into its future prospects, and, since the typology is residential, it touches upon its residents and their needs quite heavily as well, which once again emphasises how urban environments and their residents are interlinked and always shape and influence each other.

Preliminary considerations and relation to the study programme

Initially, I intended to focus on just one location: a neighbourhood in Minsk, Belarus, the city I come from and grew up in, which fit the requirements (commuter neighbourhood with panel buildings developed and built in the 1960s), however, because I could not visit it in person both due to the pandemic and the political situation in the country, it seemed logical to find another location for an in-person investigation, which is how the second location of this project (Oud Crooswijk in Rotterdam, Netherlands) was discovered. Just a necessity at first, it appeared to be an extremely valuable decision to focus on two and not one single location, because since then this has defined and guided the project in many ways, determining both the methods used and the outcomes envisioned.

How did this exactly influence the project so much? Despite the typology in question being "the same" both in Minsk and Rotterdam, it was crucial to confirm that the issues it faces on either of the locations are indeed similar, just as investigating the causes of these issues, their implications and manifestations in space, and what lead to that. Obviously, even without research, the backgrounds of Minsk and Rotterdam would happen to be exceedingly different, so having to consider and tackle that from the start indicated the need for a specific approach, which helped define the project's methodology immensely. It became apparent that such investigation requires a certain degree of abstractness and conceptuality, so utilising the pattern language approach became natural almost from the start, since it allowed to turn every noticeable finding into a pattern, which could be applied to the same typology, despite coming from different contexts. This also made it possible to identify patterns from different areas and approaches: from social and spatial patterns to

patterns found through research and observation.

Another important aspect I had to consider was making the interventions more tactical and strategic, since I wanted to avoid demolishing the buildings and displacing the residents as much as possible, which showed that I needed to learn to see, find and understand how fairly local interventions and adjustments can have an impact not only for the block, street or neighbourhood, but on a larger scale too. Aside from that, it was also imperative for me to not just enforce the proposed new patterns and behaviours onto the residents, but to create an environment of possibilities that lead to the desired outcome (solving the current issues of the investigated typology). This emphasised the connection between the spatial and social even further and put the emphasis on recognising, seeing and designing opportunities not just for a place or a population, but the people and space together, and also made it clear that rather than creating a single final design I would rather try to propose as many opportunities as possible to solve the same issue, which not only defined the project's methods and goals more, but exploring something I have not done before, which was also exciting.

All in all, every topic mentioned above directly relates to the studio I am in, as well as the master track and programme I am following. My graduation studio is Design of the Urban Fabrics, and some of its main characteristics is utilising the research through design approach from the early stages, focussing on human perspectives and perceptions of space, and working mainly within local scales, all of which fits my project quite perfectly, considering its socio-spatial focus, its scale, and especially the pattern language approach, which directly relates to the studio's line of inquiry. Heavily relying on the patterns to document, understand, create and propose from the beginning of the project not only helped me deepen my understanding of the method, but also hopefully contributed to it and showed new ways of utilising it. The project also incorporates several directions from my master track (Urbanism), from design and planning to policy making, and illustrates the multifacetedness of urbanism as a field too, showing how social influences the spatial and vice versa, and how the both can help alleviate the issues both of the fields are facing. As for my master programme (AUBS), it focusses on multi-disciplinary ways to create integrated and sustainable solutions for the built environment, which is what my project essentially strives to be, with how it borrows the inspiration and knowledge from social and spatial fields and aims to give an overlooked, vulnerable urban typology and its residents new realistic opportunities and a new future.

Relationship between research and design

The relationship between research and design in this project is an interesting one. At times, it even seems like they are impossible to tell apart from each other and makes one question whether it was design or research that has been utilised. Aside from more obvious examples (research indicating issues that design would solve), most of the time the research parts, even at the earliest stages of the project, did not feel like pure analysis, they also felt like inspiration, as if the world of opportunities to deal with discovered information was just presented. In a way, design

and research became one inseparable and endless process, because some direct findings would immediately become design possibilities and not issues to be solved completely. This cycle of research merging into design and design giving new directions for research is also what allowed this project to have a variety of options and suggestions as a final product rather than just one specific solution and design, because realistically, and especially in urbanism, design and research never end even after the project is completed, because the space will continue to grow and change when the designer leaves. Which is why it would definitely be more considerate to leave only after proposing an abundance of ways to change and develop, rather than determining a place's fate once and for all.

Scientific relevance

Aside from the utilisation of the pattern language approach, which hopefully would provide a useful example for other fellow urbanists who want to learn how to implement it in their works, I feel like the greatest and only scientifically relevant aspect this project offers is the investigation into how living environment influences its residents, with focus on the more vulnerable part of the population, and in which direction should this spatial impact go in order to let this population become more secure and empowered, and less socially vulnerable. The project also shows how spatial and social deprivation reflect each other and how it both manifests in space and society, which definitely can be used in other scientific fields aside from urban studies as well.

Societal relevance

With housing shortage and the demand but also the right for affordable and comfortable housing and living environment as central topics of the project, the societal relevance is not only quite obvious, but also quite high. It seems surreal that it has to be said, but profit-driven residential development is causing almost irreparable damage both to urban environment and society, especially the more vulnerable part of it, and since the government does not do enough about it, as an urban planner and designer I have to at least try to suggest realistic and implementable ways to counteract that process and prevent less fortunate neighbourhoods from being demolished, rebuilt and gentrified, and their residents displaced. Therefore, I hope that this project not only offers some perspectives and insights on how considerate urban regeneration could be done, but also makes convincing points about the importance of residential environments to be uplifting for its residents and how crucial it is to create spaces which can provide conditions to find and receive social support from, especially when the governing instances refuse to provide it.

Transferability of the project

Since the project's focus is not a specific location, but a specific typology, and it also culminates in a set of opportunities and not a specific design, ideally, the entire approach, from start to finish, is intended to be implemented on such typology everywhere, regardless of the context, because the project is designed to be adaptable to any context and conditions, if the typology requirements are met.

Ethical considerations

The project strives to preserve the affordable status of a typology considered “poor”, “unwanted”, “ugly”, “dirty”, “unsafe” and so on by quite a bit of people who likely would rather prefer these areas to be demolished, rebuilt and gentrified, since it would “better” the image of the city in their opinion, and on top of that it challenges the wishes of investors and property developers. However, if this project was to be implemented in real life, it would hopefully prove either wrong and show the real value these neighbourhoods have spatially, aesthetically and socially, and even financially.

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