



## 1. INTRODUCTION

After the 2017 Grenfell Tower, where 72 occupants perished, systemic problems were uncovered in 30 additional residential towers. Shockingly, all 30 examined towers were deemed too dangerous for the residents to inhabit (Merrick, 2017).

Keywords:

Asymmetry, membrane, disparity, deprivation, territory, assemblage

In the case of the 2017 Grenfell Tower, the fire affected those who were already socio-economically underprivileged. Many residents of the Grenfell tower did not just become homeless or lost personal belongings, approximately two-thirds suffer from post-traumatic stress (Strelitz, 2018, p. 46). Such systemic disparities in the built environment as well as their consequence are often obscure due to systems' complexity and dependency on external influences. Disparities and potential consequences remain largely hidden. According to Mau "we live our lives within these invisible systems, blissfully unaware of the artificial life, the intensely developed infrastructures, that support them." (Mau, 2003, p. 3).

Unsafe residential towers, such as the Grenfell Tower, are typologies of deprivation, which are characterised by an unreasonably large disadvantage. In this case the disadvantage refers to the disproportionate fire safety risk. The Grenfell Towers are situated in an area with relatively low income and low education levels. Such an area forms a territory of deprivation: a territory with an unreasonably large disadvantage. In the case of the Grenfell towers, the typologies of deprivation are embedded in the territory of deprivation.

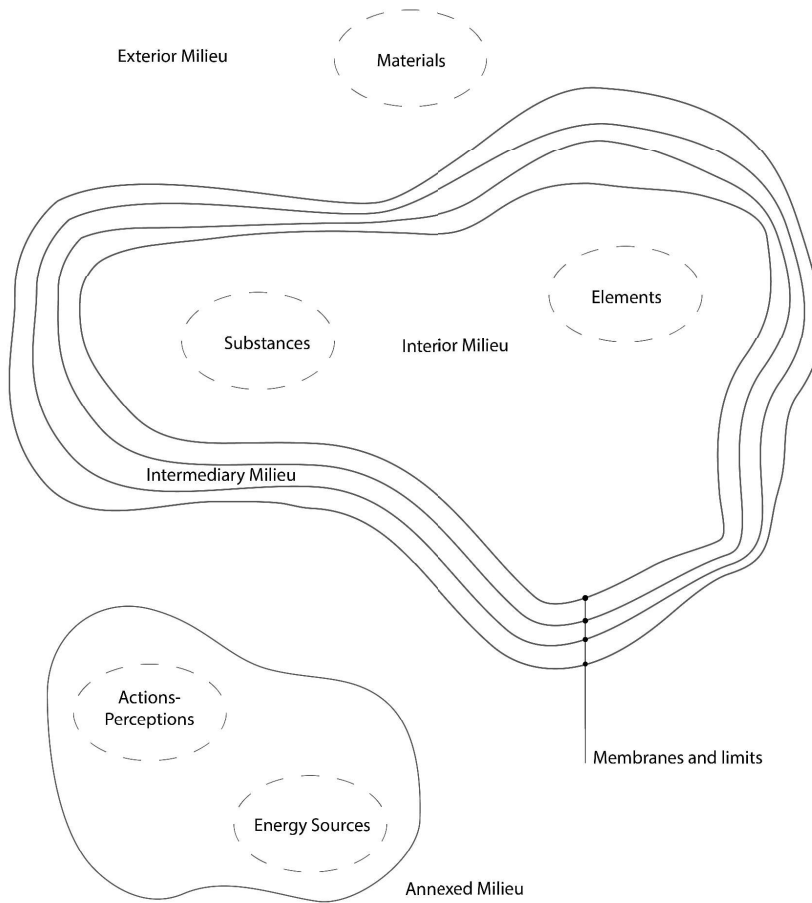
According to Deleuze and Guattari "the territory is made of decoded fragments of all kinds, which are borrowed from the milieus but then assume the value of properties" (Deleuze & Guattari, 1987, p. 504). Such decoded fragments can be physical, in the case of the residential towers, or non-physical in the form of for example income levels.

The territory is "an act that affects milieus and rhythms", that "territorializes" them (Deleuze & Guattari, 1987, p. 314). The territory has an interior milieu, an exterior milieu, an intermediary milieu, and an annexed milieu (Deleuze & Guattari, 1987, p. 314). The interior milieu consists of a collection of elements and substances that characterise the territory. The intermediary milieu is defined by a multiplicity of membranes and limits that delineate the interior from the exterior milieu. The collection of edges<sup>1</sup> of these territories of deprivation can be conceptualised as an intermediary milieu: they are gradient – a smooth space – that intensifies and de-intensifies throughout the territory as visualised in figure 1.

<sup>1</sup> "Edge" is used to describe the territorial limits. "Boundary" delineates the condition between territories.

On the other end of the spectrum from territories of deprivation, we find territories of affluence – characterised by an unreasonably large advantage. Private helipads and underground bunkers of London's billionaires are typologies of affluence. These typologies may be embedded in a territory of affluence characterised by an unreasonably large socio-economic advantage.

Figure 1- definition of territory and membrane



Collectively the territories of affluence and deprivation (TADs) indicate an asymmetry, for example socio-economic asymmetries. The culmination of territories can be modelled as layers in assemblage: an assemblage of disparity. Socio-economic disparities are investigated by dichotomising the territories within the assemblage. The dichotomy is more unilateral than binary; there is no hard singular boundary between TADs, instead there is a so-called “smooth space” between the two states. Analogue to the organisation of milieus of a territory, the limits and membranes of a territory are multiple and constantly varying in extent and permeability and constantly subjected to re-de-territorialisation<sup>2</sup>.

<sup>2</sup> The combination of territorialise, reterritorialise, and deterritorialise.





*An assemblage, in its multiplicity, necessarily acts on semiotic  
flow, material flow, and social flows simultaneously [...]*

(Deleuze & Guattari, 1987, pp. 22-23).

Asymmetry is no new phenomenon in London; London has long struggled with wealth disparity. In the late 19th century Charles Booth found that approximately 30% of Londoners were living in poverty<sup>3</sup>. Simultaneously the privileged profited from the fruits of the recent industrialisation. From 1941 to 1992 the economy of London underperformed, and its population declined rapidly. Due to its poor housing quality, pollution and closing of industrial plants London's population declined by a fifth. Following Margaret Thatcher's 1983 'Big Bang' policy of deregulating financial markets, London emerged yet again as a global financial capital (Deloitte, 2019).

To this very day London remains a global economic powerhouse. Yet, London is still confronted with the duality of being a global economic centre and its pervasive struggles of socio-economic inequalities on the local scale. In the example of Canary Wharf, high-end real estate was created within a clearly marked territory for a highly specialised target group: bankers, brokers, and financial institutions. Since this target group is willing and able to pay relatively high commercial rents, this drove up the rents for housing as well, resulting in an enclave of privilege. It becomes an introverted semi-autonomous and specialised territory, strongly separated from its surroundings, in turn increasing the asymmetry and degree of disparity. The semi-autonomy of the territory allows a clear demarcation of responsibility, tasks, and specialisations (Ungers, 1978, p. 85).

The debate around inequality has recently been revived with studies highlighting that inequality also manifests itself in the climate debate: studies have found that the carbon inequality is also valid for English areas (CREDS, 2018). Globally, the richest 10% were responsible for over half the GHG-emissions between 1990 and 2015 (Oxfam, 2020). Climate change is known to primarily affect the underprivileged.

Although it is evident that disparities continue to persist, it remains unclear how asymmetries are interconnected, what role the built environment plays in the perpetuation of disparities, and how the asymmetries can potentially be addressed.

Asymmetric membranes are indicators of disparities, they are defined by an asymmetric permeability. In the example of the Grenfell tower, one of the membranes delineating the Grenfell towers from its surroundings is the safety of its residents. The membrane in this instance is asymmetric since residents who live in an economically deprived area are more exposed to fire risk (Hastie, 2016, p. 14).

Disparities continue to persist in modern-day London. Some are apparent, others hidden. These disparities are dependent on the relation between territories of affluence and deprivation (TADs) as indicated by the Grenfell tower example. The built environment plays a critical role in TADs: socio-economic asymmetries manifest as material and immaterial asymmetric membranes in the built environment; the built environment is at risk of being a part of perpetuating and

<sup>3</sup> Charles Booth employed various socio-economic indicators such as income level, education, quality of housing to study poverty of various neighbourhoods in London (Booth, 1902). Booth's investigators shadowed police officers to derive safety and crime related data, to be included in the poverty maps. In doing so Booth posits that poverty is not merely rooted in socioeconomics but dependent on a multitude of factors, including living conditions, illness, and crime. Maps such as the poverty maps may provide an initial understanding of what determinators were characteristic for those most affected by socio-economic disparities.

polarising existing asymmetries.

Inspired by Deleuze and Guattari's assemblage theory, disparities are analysed as an assemblage of territories and the manifestation of membranes. Territories of affluence and deprivation (TADs) can be described as a "plane of consistency" defined by a certain multiplicity, say the multiplicity of income levels, or the multiplicity of criminal activities. TADs manifest themselves as lines<sup>4</sup>, and are continuously affected by territorialisation, deterritorialisation, and reterritorialisation (Deleuze & Guattari, 1987, p. 3). The territories are in constant flux.

<sup>4</sup> Lines as described by Deleuze and Guattari refer to lines of flight, in this context the multiplicity of lines of flight as boundary conditions of territories,

In the city of London, Camden, Hammersmith-Fulham, and Islington are characterised by both a relatively high deprivation rate (top 10), as well as some of the highest average incomes of London's boroughs (Ministry of Housing, 2019). Therefore, these boroughs will be investigated more closely in terms of disparities and how TADs, including their membranes and idiosyncrasies, are manifested throughout the boroughs.

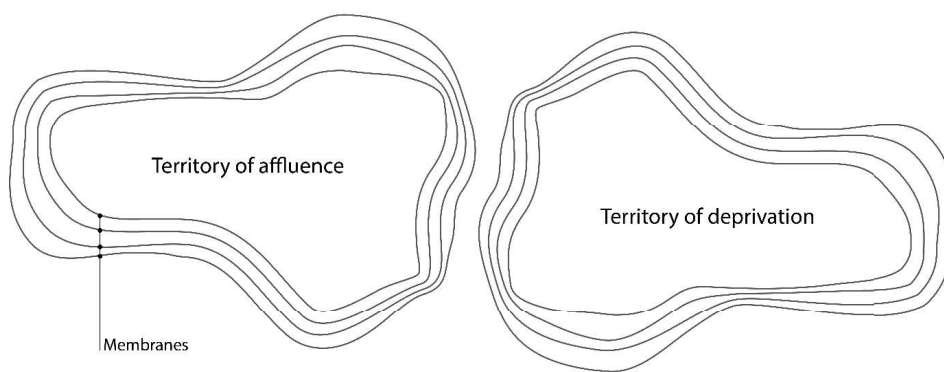


Figure 2 – Territories affluence and deprivation, and membranes

## 1.1 Hypothesis

Socio-economic disparities are extracted by dichotomising territories of affluence and deprivation within an assemblage. This dichotomisation manifests itself as a multiplicity of membranes. The asymmetry within this multiplicity of membranes characterises the disparity.

London's socio-economic disparities are expected to be embedded in an assemblage of stratified systems that interact with one another on different scales where various flows and generic or specific idiosyncrasies influence the dynamics of socio-economic inequalities. These systems range from visible/ tangible systems on the local scale to invisible/ intangible system on the global scale.

It is expected that typologies of deprivation, such as unsafe residential towers, tend to overlap with territories of deprivation, such as areas with low income or education level, both spatially as well as temporally. By mapping these typologies and territories on a projected layer, this hypothesis can be tested.

Socio-economic disparities are anticipated to be most severe for actors who experience a multiplicity of deprivation indicators in combination with highly asymmetric membranes that result in a systemic perpetuation of deprivation. In such cases deprivation may have a long-standing history, and are entangled within their systems. Arguably a high concentration of disparities embedded within asymmetric membranes have the greatest urgency to be addressed.

The stronger the edge condition of the territories – the more impermeable the membranes are -, and the stronger the degree of culmination of territorial edges, the more likely it is the territory has entered a perpetual state. In the perpetual state disparities are highly entangled within the assemblage and cannot be changed due to persisting and embedded asymmetries. In turn the dichotomy solidifies; the territories disconnect from one another and become more introverted.

*The middle is by no means an average; on the contrary, it is where things pick up speed. Between things does not designate a localizable relation going from one thing to the other and back again, but a perpendicular direction, a transversal movement that sweeps one and the other away, a stream without beginning or end that undermines its banks and picks up speed in the middle.*

(Deleuze & Guattari, 1987, p. 46)

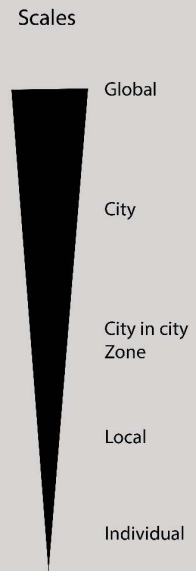
## 2. ASSEMBLAGE OF DISPARITY

The territories of affluence and deprivation, as well as their boundary conditions, are interrelated with other systems and should therefore be analysed as an assemblage. For example, typologies of wealth are embedded in financial systems. Typologies of deprivation, such as inadequate housing, are correlated with other systems, such as accessibility to green space, and proximity to ground-level railway tracks. Therefore, these systems will be added as analytic strata to the assemblage. In doing so we can understand which idiosyncrasies are related to the manifestation of TADs.

The territories and asymmetries are analysed on three different scales:

1. Borough
2. 1x1 km<sup>2</sup> sites
3. Photographic material and sketches

The three scale are conceptually represented in figure 3, the disparities are expected to transverse the three investigated scale – from global to local/individual. On each layer the territories are affected by idiosyncrasies which make them spatio-temporality unique.



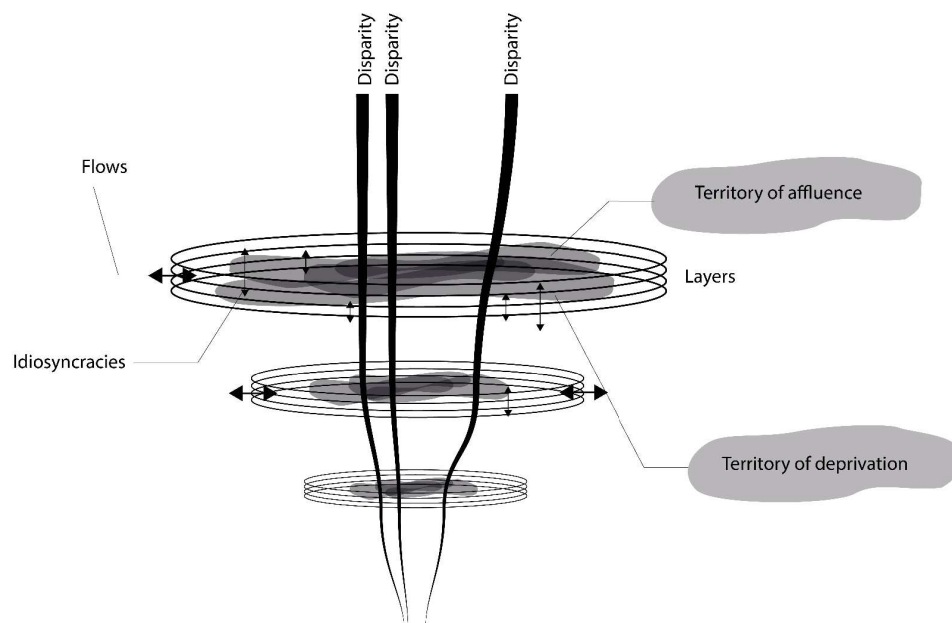


Figure 3 – Layers, territories, idiosyncracies, flows, and disparities on various scales

The analysis on first two scales is primarily data-driven. The indicators for territories of affluence and deprivation are indicated in table 1. Data is extracted from the Index of Multiple Deprivation (IMD) from 2019 as well as 2011 LSOA (Lower Super Output Areas) data. The underlying indicators from the ID 2019 are selected based on their socio-economic relevance and relevance to the built environment. The median household income data is from 2011, although this data is somewhat outdated, it is available on the LSOA-level, which give a relatively detailed income indication on the local scale. The data is mapped across London's LSOA's as shown in figure 4.

Layering the various territories of deprivation and affluence in combination with other relevant systems forms an assemblage of disparity. The assemblages will first be created on borough scale, which will then be used to extract several 1 km<sup>2</sup> sites of disparity based on the boundary conditions between TADs. From these sites of disparity, asymmetric conditions will be induced.



| Indicator                              | Territory of affluence                                    | Territory of deprivation                                  | Source         |
|--|---|---|----------------|
| Median income                          | 50.000,- GBP or higher                                    | 35.000,- GBP or lower                                     | LSOA 2011 data |
| Education level                        | University level degree or equivalent                     |   | IMD, 2019      |
| Proximity to amenities                 | Distance to primary schools and GP practices < 400 meters | Distance to primary schools and GP practices > 800 meters | IMD, 2019      |
| Road traffic accidents                 |   | More than 1,5 accidents per 1000 residents                | IMD, 2019      |
| Housing in Poor Condition <sup>5</sup> |   | More than 15%   | IMD, 2019      |
| Housing Affordability                  |   | Above index 3,4   | IMD, 2019      |
| Overcrowded                            |   | More than 45%   | IMD, 2019      |

Table 1 – Indicators for territories of affluence and territories of deprivation

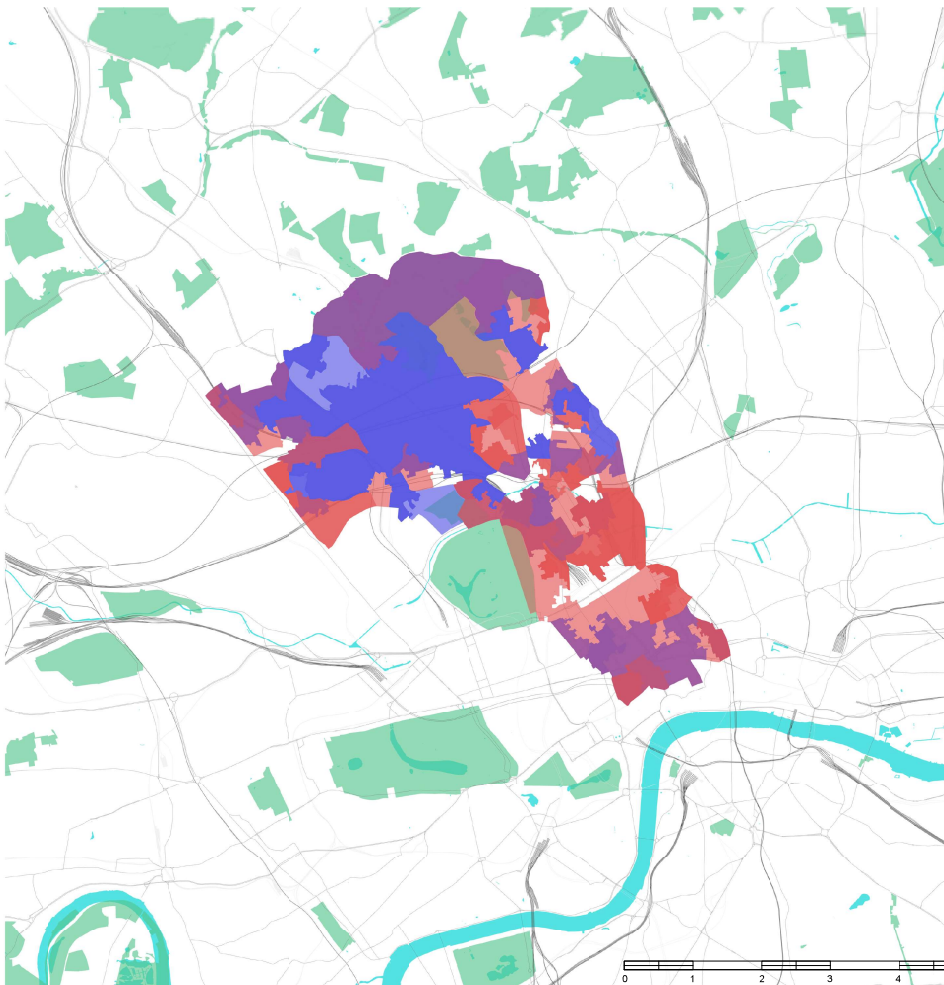


Figure 4 - The first step of analysing the TADs is mapping the data described in table 1 per borough.

## 2.1 Disparity in Three Boroughs

As introduced in chapter 1.1 TADs are investigated for the three boroughs Camden, Islington, and Hammersmith-Fulham as the largest disparities are expected to be found here.

### 2.1.1 Camden

In the case of Camden, we find that the territories of affluence concentrate themselves around parks, and distance themselves from infrastructure such as train stations, railway tracks, and main roads. Around Chalcots Estates, located slightly north of Primrose Hill we find an enclave of deprivation despite its proximity to the park and distance from infrastructure. The territory of affluence surrounds the enclave of deprivation.

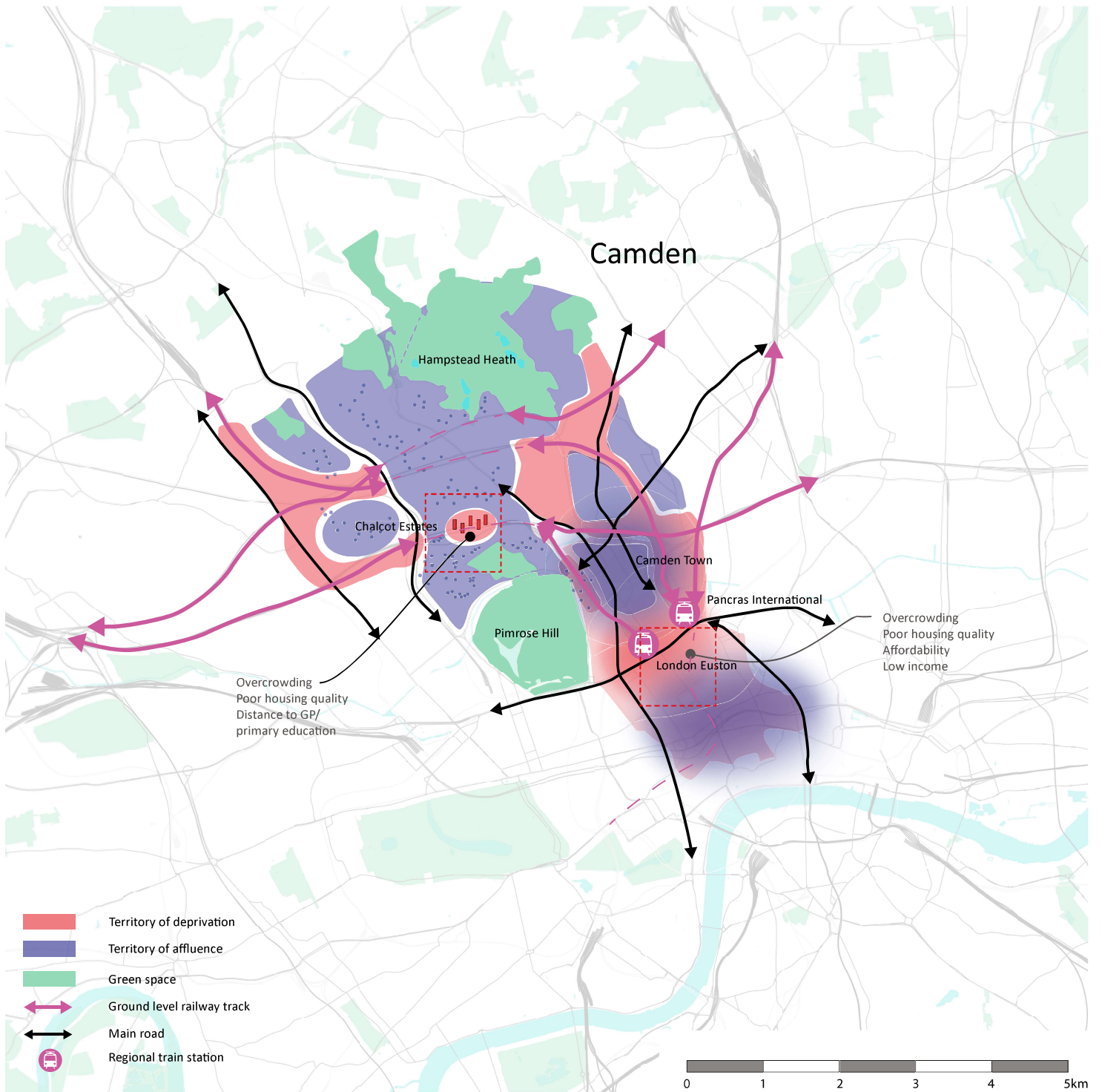


Figure 5 - Territories of affluence and deprivation in Camden

### 2.1.2 Islington

In Islington the territories of deprivation are highly concentration around some of London's main arteries: the A1 and the A501. The further north in the borough we find more territories of affluence.

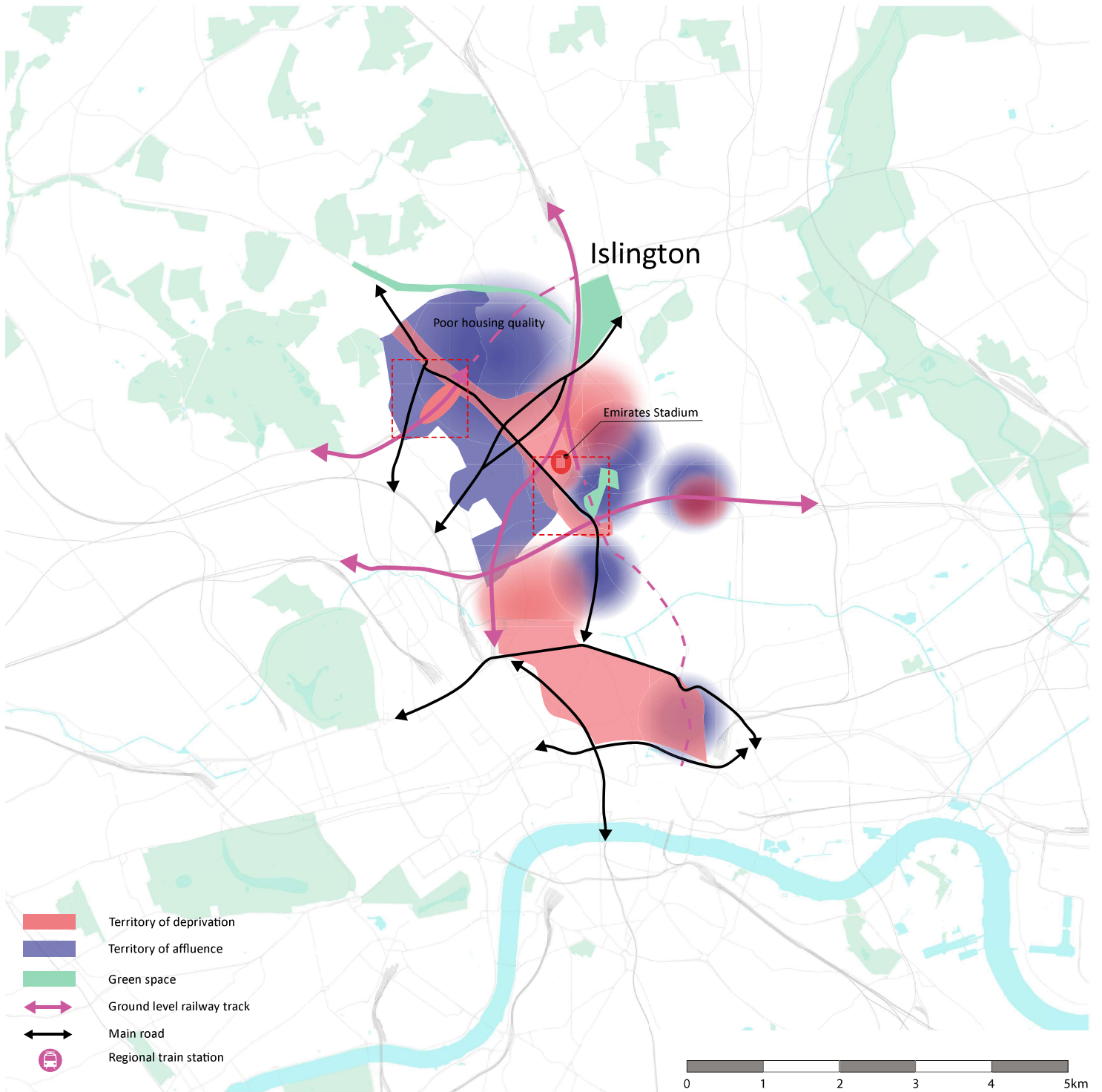


Figure 6 - Territories of affluence and deprivation in Islington

### 2.1.3 Hammersmith-Fulham

In Hammersmith & Fulham territories of deprivation surround the Westway, another main traffic artery as shown in figure 7.

On the borough scale both hard and soft boundary conditions between the territories of affluence and deprivation are defined, within each borough one site with a soft boundary, and one site with a hard boundary. The selected sites are shown in figure 8 on the next page.

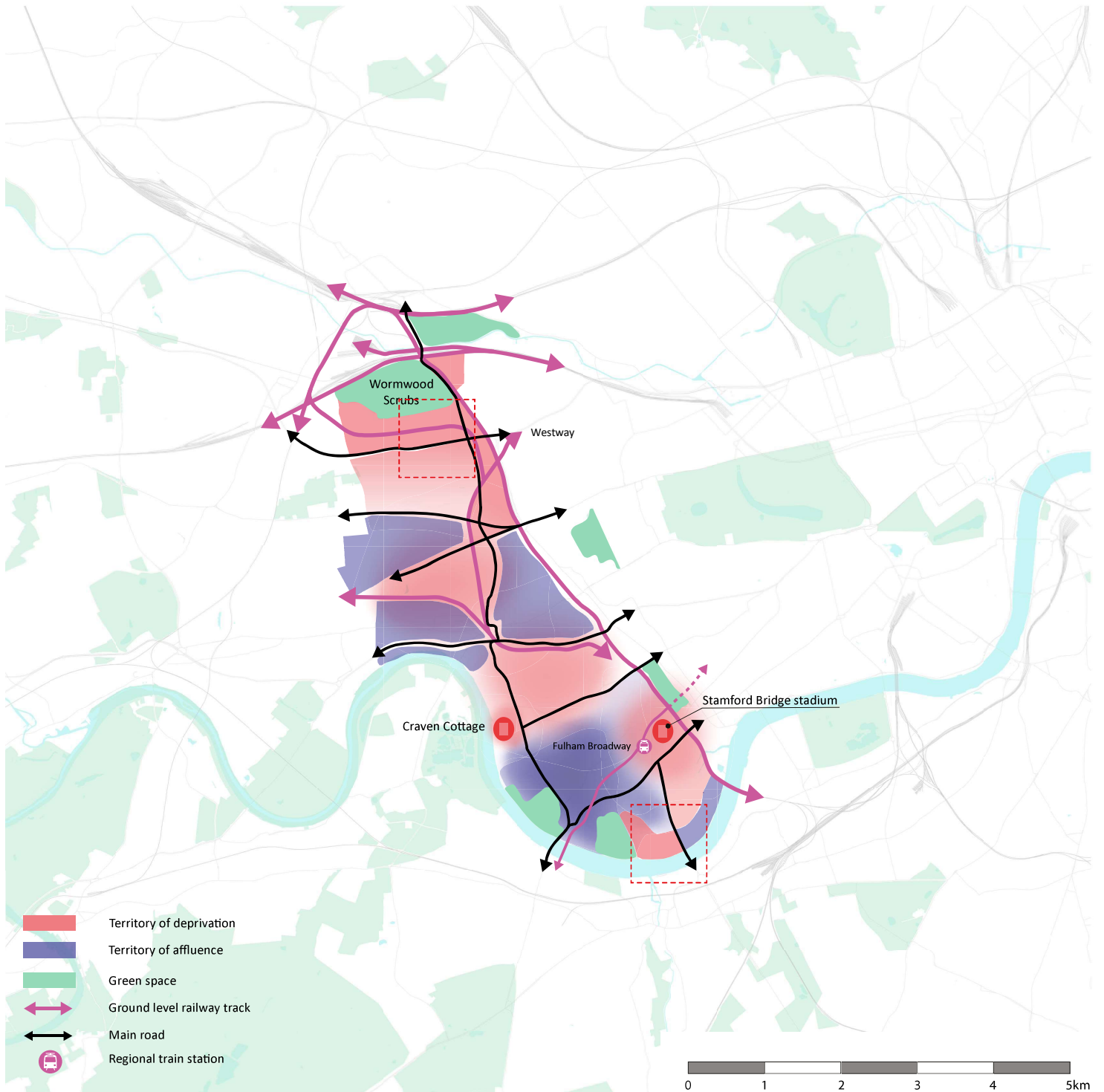


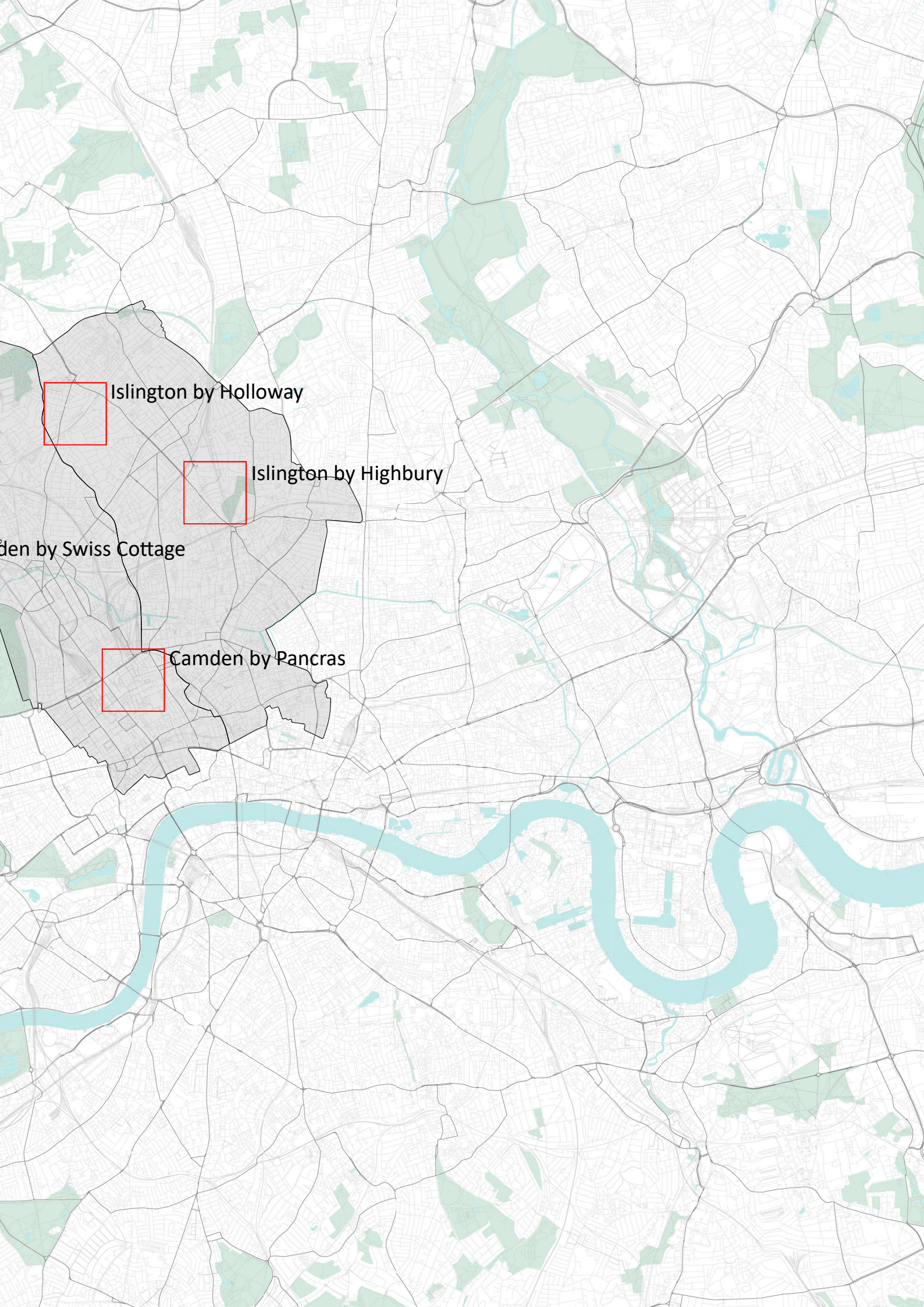
Figure 7 - Territories of affluence and deprivation in Hammersmith & Fulham



Figure 8 - Sites of Disparity







Islington by Holloway

Islington by Highbury

den by Swiss Cottage

Camden by Pancras



## 2.2 Territories of Affluence and Deprivation

By zooming in to the scale of 1 km<sup>2</sup>, it become possible to localise idiosyncrasies which define the TADs, and by extension the disparity. For each of the three boroughs two sites are selected based on the presence and proximity of TADs. The assemblages for the six selected sites are shown in appendix 2. From the six case the following six the following six types of territories are induced.

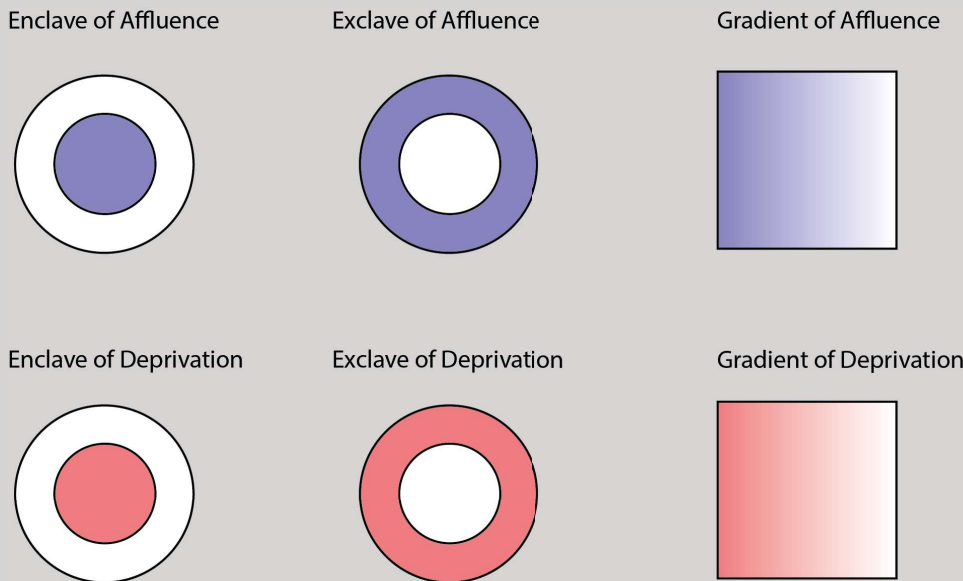


Figure 9 – Six types territories of affluence and deprivation

### 2.2.1 Enclave of Affluence

In Fulham and Hammersmith there are examples of enclaves of affluence, such as White City Place, the former BBC Broadcasting headquarters. The district is an inward-looking business hub detached from its surroundings by infrastructural barriers and lack of embedding in local systems. Its employees travel from afar, and locals do not have access to amenities in the hub, such as restaurants and sports facilities.

In the case of Fulham, highly educated individuals and couples settle in a certain area for the highly accredited private schools, such as the Thomas' Fulham private primary school, in turn the area will produce more highly educated individuals, increasing the level of education in the territory even further. This in turn strengthens the asymmetry of education with the surrounding neighbourhoods – potentially increasing the socio-economic disparity and divide. This vicious cycle can be witnessed in Fulham by a strong concentration of typologies of affluence, i.e. private schools, within the territories of affluence, with a high education level – fuelling a self-fulfilling prophecy of affluence.

### 2.2.2 Exclave of Affluence

In Camden by Swiss Cottage the exclave of affluence surrounds an enclave of deprivation. It is defined by a high median income as well as a high average education level. The exclave of affluence is correlated to the building typology – consisting largely of semi-detached Victorian townhouses, with or without other typologies of affluence, such as luxury basements.

### 2.2.3 Gradient of Affluence

In the cases of Islington by Holloway, Islington by Highbury, and Camden by Pancras, we find that the territories of affluence gravitate towards a specific phenomenon. Such gravitational forces include cardinal directions (south-east in the case of Islington by Holloway), or for example proximity to public parks (in the case of Islington by Highbury). The closer to the phenomenon, the stronger the manifestation of the territory. In the case of Islington by Highbury there is a stronger degree of overlap the closer one gets to the phenomenon.

### 2.2.4 Enclave of Deprivation

The Chalcot Estate towers in Camden, defined by their asymmetric membrane of safety risk are an example of an enclave of deprivation with a culmination of deprivation indicators such as low income, low education, and overcrowding.

### 2.2.5 Exclave of Deprivation

In Fulham the Hurlingham Club and specific neighbours can be described as an enclave of affluence. Surrounding this area we find an exclave of deprivation with more noise pollution, as well as lower income and education levels.

### 2.2.6 Gradient Territory of Deprivation

In Islington by Holloway, the concentration of infrastructural arteries attracts territories of deprivation; the closer to the arteries the more deprivation the area become.

Disparities have been found to be particularly present on six planes: sound, reflection, social, exchange, recreation, and accessibility. Together the disparities on the planes form the assemblage of disparity. The asymmetry depends on the degree of affluence and deprivation of the analysed territory or machine.

## 2.3 Asymmetric Membranes

Photographic material and sketches, shown in appendix 2, are produced on street-level to provide a human-centred perspective on the manifestation of TADs and give insights into characteristics of asymmetric membranes.

The extent of a territory is marked by the presence of multiple membranes. These membranes have varying permeabilities with asymmetric dependencies. The membranes are investigated through sketches and photographs as well as an analyses of machines within the territories. These machines are case-studies, such as clusters of buildings, or grounds that act as highly independent and specialised machines, or cities-within-cities. The machines typically have highly impermeable material and immaterial membranes. Together they give insight in the asymmetric conditions that perpetuate, strengthen, and initiate disparities.

The accessibility to a specific territorial machine such as the elites' Hurlingham Social Club in Fulham depends on various factors such as ableness to afford the joining fee, network, and proximity.

From the analysis of machines and streets, asymmetric membrane conditions have been induced. These conditions are visualised in figure 10. Membrane asymmetry depends on the extent to which a territory is deprived or affluent. For example, the more affluent a territory is the more impermeable the membrane of the social plane becomes. This refers to needing social connections materialised as letters of recommendation in order to join exclusive territories.

Another example of an asymmetric membrane is the walkability; affluent territories have greater access to safe walking routes, such as Riverwalk apartment complex in Fulham. More so than being situated in proximity to the river, it forms a barrier towards the territory behind it - further fueling the asymmetric condition.

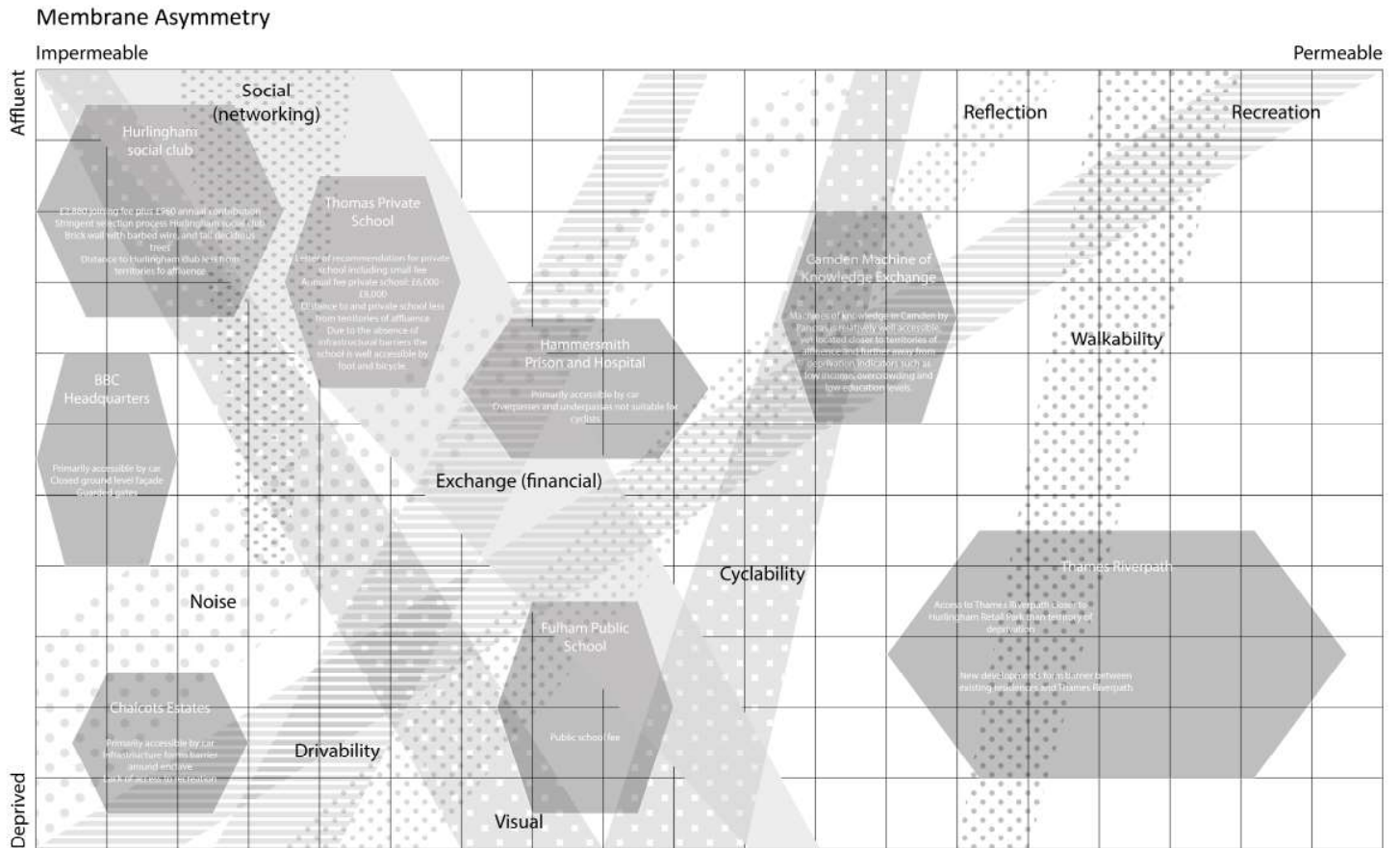


Figure 10 – Machines and asymmetric membranes

### 3 The Middleground

This chapter analyses precedents that address socio-economic disparities and/or present concepts that are relevant in reducing the disparity of TADs. Two projects of different characters have been selected; one is conceptual design proposal for housing by James Wines for a site in the US, and the other is a multi-use project proposal by Lacaton & Vassal in France.

#### 3.1 Highrise of Homes, James Wines

James Wines, a member of the group SITE (Sculpture in The Environment), described The Highrise of Homes, as a project to “accommodate people’s conflicting desires to enjoy the cultural advantages of an urban center, without sacrificing the private home identity and garden space associated with suburbia.” (Cline, 2002). It provided a new framework, a middle-ground – neutral and facilitating in its design – that allows for individual infill, whilst simultaneously creating new interconnected communities on each level. Although each floor would literally be striated, the residents share gardens, shops, office, and other amenities on the ground and middle floors. It is focussed more on what the residents need and want, than on who they are, allowing the actors to shape their own community.

Latour describes the social as the “tracing of associations”, indiscriminate of the nature of the associated elements, whether homogenous or heterogenous, human or non-human (Latour, 2005, pp. 5-6). Latour introduces the Actor Network Theory (ANT) in which he sees the social as a collective or aggregate and their internal associations or relations. ANTs should aim at reassembling, not on deconstructing, the social (Latour, 2005, pp. 10-11). Arguably in the Highrise of Homes, residents are able to retrace their relation with each other, as well as with their surroundings.

#### 3.2 Lacaton & Vassal, Maison des Métiers d’Art

Lacaton & Vassal designed a common, multifunctional framework for a 2016 competition that allows for diversity within. Despite its introversive character the project developed a common ground, a continuity in the form of a garden that extends both “horizontally and vertically” (Lacaton & Vassal, 2016). This garden acts as a rhizome, a middle-ground, that provides comfort and pleasure to the occupants and acts as a cohesive medium that brings a multitude of diverse functions and interests together.



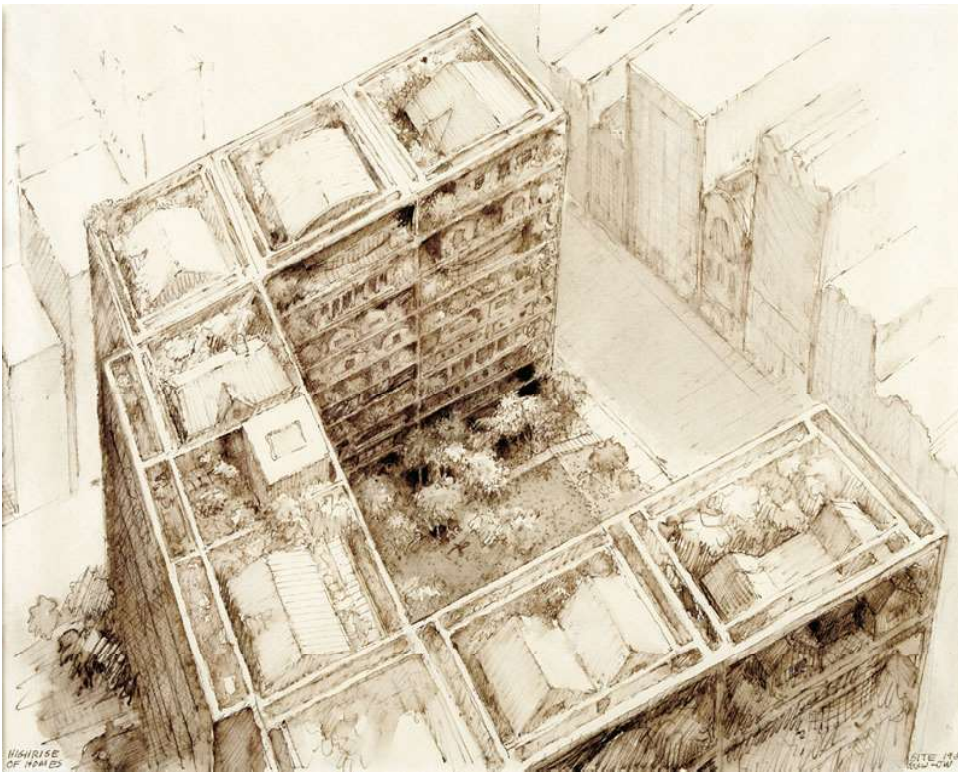


Figure 11 - SITE (James Wines) Highrise of Homes, 1981, perspective. Ink and wash on paper.

Image source: Philippe Magnon, SITE (James Wines), 1981, <https://www.frac-centre.fr/>, retrieved on 21-12-2021.



Figure 12 - Lacaton & Vassal, Maison des Métiers d'Art, 2016, perspective

Image source: Lacaton & Vassal, 2016, <https://www.lacatonvassal.com/index.php?idp=101#>, retrieved on 21-12-2021

## 4 CONCLUSION

The conclusion is divided into two parts, corresponding to the body of this essay.

### Assemblage of Disparity

Territories of affluence/deprivation consist of a multiplicity of lines of flight or membranes. The territories of affluence tend to overlap in the investigated boroughs and sites. The same is valid for territories of deprivation. Moreover, the more impermeable and asymmetric the membrane, the more likely it is that there is a high degree of overlap between the typologies of deprivation and the territories of deprivation. When the manifestation of TADS is strong with little smooth space in between, it is likely that the territory has entered a vicious cycle: a positive feedback loop that continuously solidifies the degree of affluence or deprivation respectively. Membranes' permeability is highly asymmetric, favouring select actors.

From assemblages of disparities on the 1km<sup>2</sup> scale, subcategories are induced for territories of affluences and deprivation: enclave, exclave, and gradient. Their manifestation depends on the interconnection with other territories, as well as the occurrence of idiosyncratic conditions such as the proximity to infrastructure, parks, and amenities.

Repeating asymmetries on the borough scale are representative of London's disparities on the city-scale. By analysing and understanding specific disparities for a select number of sites, a position and approach can be developed that has the potential to address disparities that echo throughout the city of London, and possibly beyond.

### Challenging Asymmetric Membranes

What the precedents have in common is that they deal with conflicting interests. Despite the variety in scale and character of the three precedents they all focus on providing a means, a framework, that facilitates and stimulates both diversity and interconnectivity. Whether this is done through creating a social platform, a structural framework, or a green rhizome is of secondary importance. It is a middle-ground that bridges a gaps between socio-economic divides and privileges, between individual and collective, or between public and private. Through agency and initiatives, they allow for the reassembly of the social aggregate.



## 5 DISCUSSION

The definition and development of the territories of affluence and deprivation (TADs) may help generate discussion on previously invisible or hidden disparities, contributing to the political debate. The assemblage has the potential to uncover how asymmetries are embedded in various strata's and related to various idiosyncrasies, possibly leading to novel approaches to address the asymmetries. By investigating how the TADs result in hard and smooth boundaries, we can begin to understand the how socio-economic disparities are embedded in a complex assemblage of intertwined and striated systems.

Studying precedents has led to a conceptual design position, which may be employed in architectural design projects that address socio-economic disparities. However, there are only few examples of successful middle-ground architectural project and requires further proof of concept.

London is a megacity. According to Leite “megacities universally deal with a multiplicity of issues such as exclusion, access to mobility, governance, housing, and environmental issues” (Leite, 2013). Leite suggests that megacities can benefit from each other's approaches and strategies, despite the varying extremity of the issues. Since other megacities struggle with similar issues as London, they too may benefit from the middle-ground approach. However, idiosyncratic conditions may be crucial in other megacity contexts, both in terms of socio-economic disparity as in the potential design approach.

As territories of affluence aggressively territorialise anew through transnational links of capitalism (as in the example of Canary Wharf) and viciously defend their enclave, can new agents initiate or continue to deterritorialise TAD's by absorbing them into their own territory? How do we know if the agency of the middleground is strong enough to counteract the agency of transnationally linked territories of affluence?

How can the middleground be potent enough to territorialise TAD? If the middle-ground architecture is neither part of territory a nor territory b, yet part of both, can it then be adequately rooted both in place and time? If the middleground can territorialises territories of strong dichotomy, can the degree of disparity be reduced?

The middleground aims to challenge the trends of perpetual inequalities, fragmentation, and exclusivity. Designing the middleground as a multiplicity of membranes creates a sequence of spaces that mediate in varying degrees between public and private. This proof-of-concept intends to show how the middleground approach can promote inclusivity on the various planes considering the multiplicity and complexity of disparities.

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## Glossary

|                            |  |
|----------------------------|--|
| Archipelago                | A subcategory of a territory; a cluster of enclaves with similar boundary conditions   |
| Assemblage                 | The assemblage consists of strata (layers) with territories that continuously transform with varying speeds; they expand, shrink, break apart. These speeds are related to the character of the membranes; their viscosity defined by the membranes permeability.  |
| Assemblages of disparities | The multiplicity of dichotomised territories from which disparities emerge across multiple strata.   |
| Binary                     | The binary is rooted in a fixed state and does not react to impulses of disruption or deterritorialization. Only when the forces is of such overwhelming strength that it surpasses the threshold, the state may flip.   |
| Biunivocal                 | The biunivocal allows for the disruptions of smooth space in between various states. The biunivocal can give way to an entirely striated system, but on the other end it allows for the possibilities of a smooth space (Edric, 1995).   |
| Boundary                   | The delineation between two entities, typically territories  |
| Disparity                  | (from Latin: non-equality, “unfairly unequal”), an unfair or unreasonable asymmetric distribution  |
| Edge                       | The condition of the limits, often territorial limits  |
| Infrastructures            | networked systems; infrastructures may be a system which consists of networked typologies or bound by other conditions   |
| Membrane                   | The limit between exterior and interior (Deleuze & Guattari, 1987, p. 71). its nature defined through permeability.  |
| Milieu                     | Milieu as used by Guattari and Deleuze should be read as a combination of the “surroundings”, the “medium”, and the “middle” (Deleuze & Guattari, 1987, p. xvii).  |
| Parity                     | “fairly equal”, a comparability of strength, opportunity, or intensity   |
| Social                     | The root of social is seq-, sequi which means ‘to follow’. The Latin socius means a companion, or an associate (Latour, 2005, p. 6). Social therefore refers to the relationship of entities.  |
| Territory                  | According to Deleuze and Guattari (p.504) the territory is made of decoded fragments of all kinds, which are borrowed from the milieus but then assume the value of “properties”. The territory itself has an exterior milieu, an interior milieu, an intermediary milieu, and an annexed milieu (p. 314). |

## APPENDIX 1 - Territories of Affluence and Deprivation

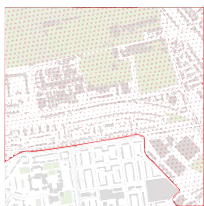
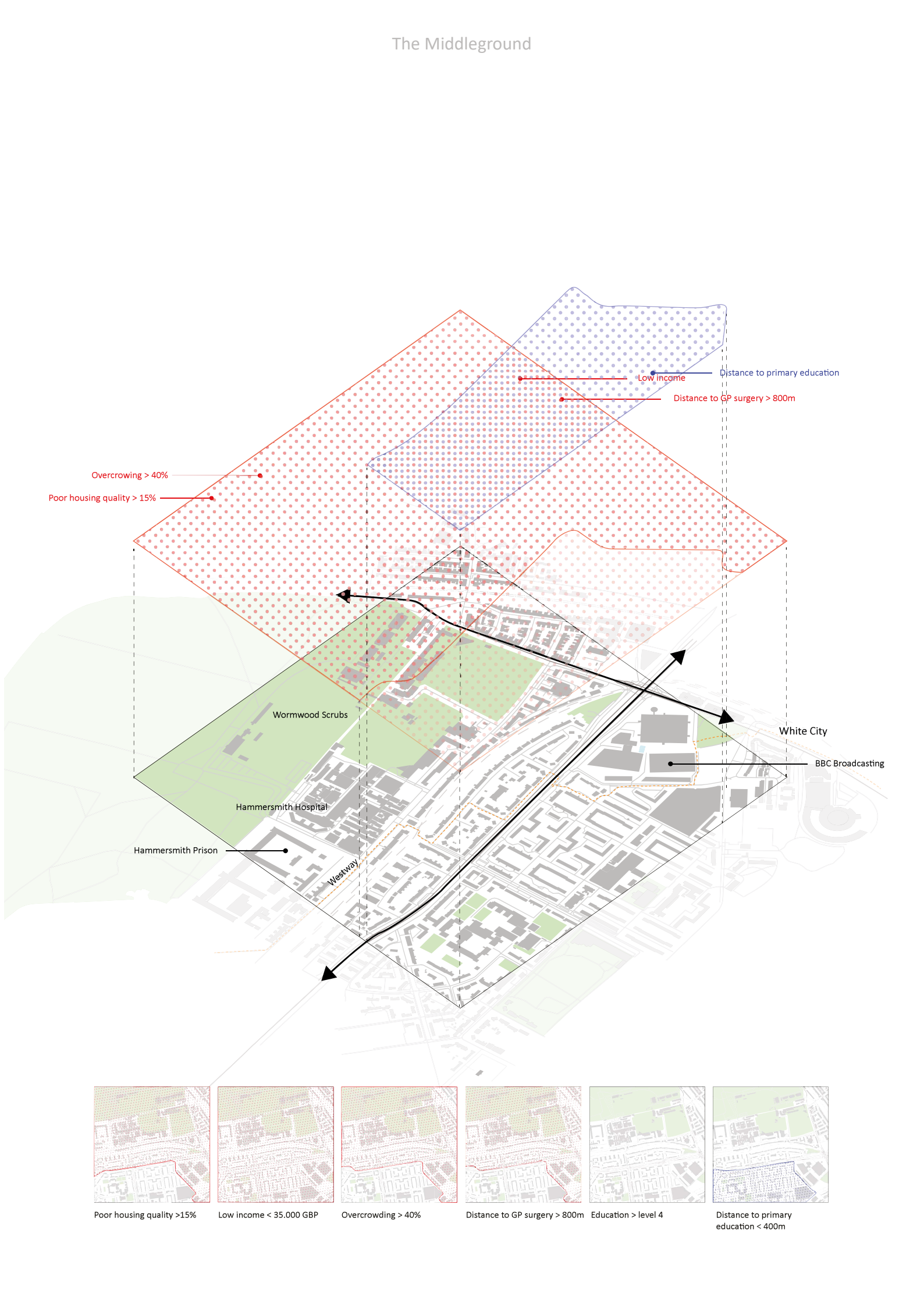


## Appendix 1.1 - Hammersmith

The territories of deprivation are more prevalent towards the north of Hammersmith and are concentrated around the park Wormwood scrub. Although one might not expect territories of deprivation to cluster around parks, this clustering may be explained by the presence of the Hammersmith Prison, a lacking accessibility to the park, and a lack of visual connections from the public spaces in the areas towards the park. Although households with high incomes and high education are underrepresented in the area, we do find fewer territories of deprivation south of the Westway A40 - a major strategic infrastructural connection.

Moreover, south of the Westway we find indicators of more affluence, such as a closer proximity to education. The westway A40 acts as a line of demarcation in the transition from the territories of deprivation towards territories of affluence. At the line of demarcation we find a higher concentration of deprivation indicators, such as trash and unsafe passages to transverse the barrier. The BBC has some of its major office buildings along the Westway in close proximity to White City underground station. The office cluster, however, acts as an isolated entity with its own access points, parking, restaurant, gym, and supermarket - disconnecting itself from the surrounding neighbourhoods. Despite the potential the complex had to stimulate activity in the area, it alienated itself from its surroundings.

The Middleground



Poor housing quality >15%



Low income < 35,000 GBP



Overcrowding > 40%



Distance to GP surgery > 800m



Education > level 4



Distance to primary education < 400m

There is a large fragmentation in terms of systems in Hammersmith. For example Hammersmith Prison and Hammersmith Hospital act as abstract machines - as enclaves that operate independently from their immediate surroundings.

The abstract machine of the prison is both a “prisoner” to its own stratum, an island in an archipelago of nation-wide prisons, as well as an entity that cuts across all strata, be it in varying intensities (Deleuze and Guattari, p.77). The annexed prison systems connect the prison to other strata; employees connect the prison to the stratum of residences, the flow of prisoner food connects the prison to the stratum of food production.

### **Plane of Accessibility**

The territories of deprivation are fragmented. Infrastructural veins act as highly impermeable membranes to the inner milieu of inaccessibility. It is worth noting that the territories of deprivation are situated in narrow strips inbetween the infrastructural lines, despite the Westway providing access from West London to the London Inner Ring Road. Ironically, it makes the territories inaccessible.

### **Plane of the Social**

Isolated enclaves with a lack of access to amenities are paired with poor living standards. Little to no access to space for reflection, exercise, or leisure within walking distance. Little to no access to space of bonding, where one can socialise, bond, in an environment of trust and intimacy.

Amenities such as a primary school, community centre and community garden, are clustered south of the A40 highway resulting in an efficient machine of services, however due to its centralisation and the presence of infrastructure, territories beyond the barriers have limited accessibility to these amenities.

### **Correlation**

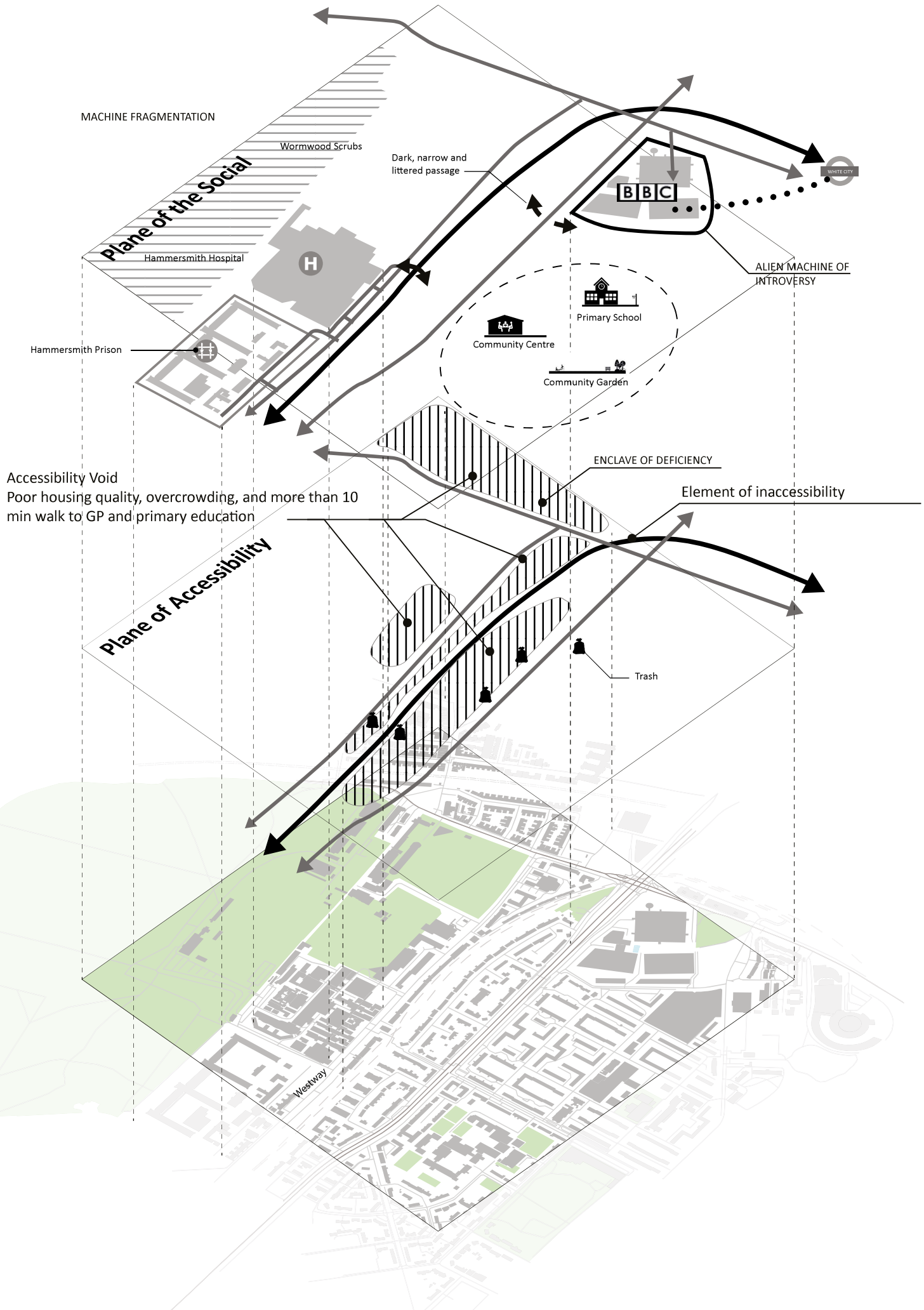
On the one hand the planes of the Social and Accessibility are correlated since the infrastructural lines of road and train traffic fragment the neighbourhood into inaccessible territories. On the other hand the proximity of modalities act as a magnet that draw exclusive and introverted engines towards it, strengthening the connection to annexed milieus, but reducing the connection to its immediate neighbourhood and community.

### **Membranes**

- Infrastructure
- Trash density
- Walkability
- Cyclability
- Visual
- Accessibility by car
- Amenity clustering



# The Middleground



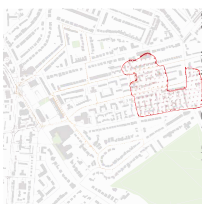
## Appendix 1.2 - Camden by Swiss Cottage

The territory of affluence defined by a high median income and higher average education level surrounds an enclave of deprivation. The enclave of deprivation is defined by the multiplicity of deprivation including overcrowding, poor housing quality, distance to GP surgery and low income levels.

# The Middleground



Poor housing quality >15%



Low income < 35,000 GBP



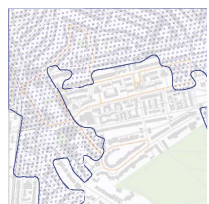
Overcrowding > 35%



Distance to GP surgery > 800m



Income > 50,000 GBP



Education > level 4

### **Plane of Recreation**

The interior milieu of leisure is defined by the presence of leisure facilities such as tennis courts, theatres, leisure centres, a library and sports facilities. The enclave of deprivation, initially defined by its poor housing quality, low income, overcrowding and distance to GP, finds itself within the exterior milieu of leisure; the distance is larger than that in the exclave of affluence, which surrounds the enclave of deprivation.

The sports facilities, cultural and educational institutions are clustering in a U-shape around the enclave of deprivation - which also becomes an exterior milieu of leisure. Potentially the clustering of amenities can improve permeability if the cluster is inclusively accessible. In this case the clustering is worrisome since it gravitates away from the enclave of deprivation.

### **Plane of Accessibility**

In Camden by Swiss Cottage the enclave of deprivation is enveloped by local roads, the east-west connection is prevalent. The infrastructural veins form impermeable membranes to the surrounding areas.

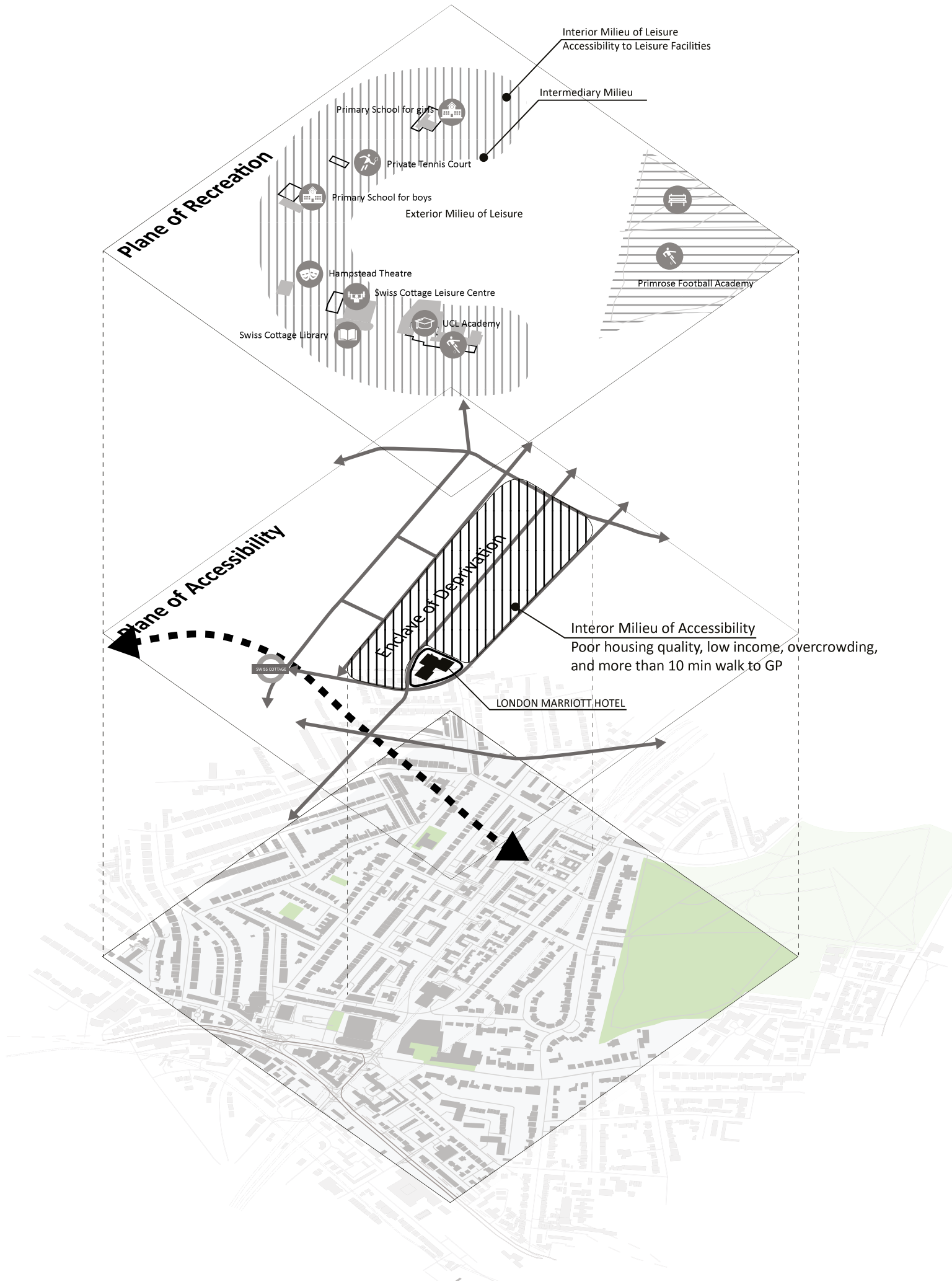
### **Correlation**

The planes of accessibility and recreation are interrelated since the enclave of deprivation appears to repel the clustering of recreational elements. The local roads, as well as difference in building typology, form the membrane between the territories.

### **Membranes:**

- infrastructure
- walkability
- proximity to leisure amenities
- distance to GP

# The Middleground



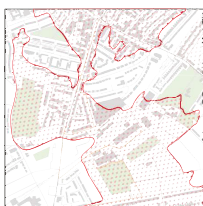
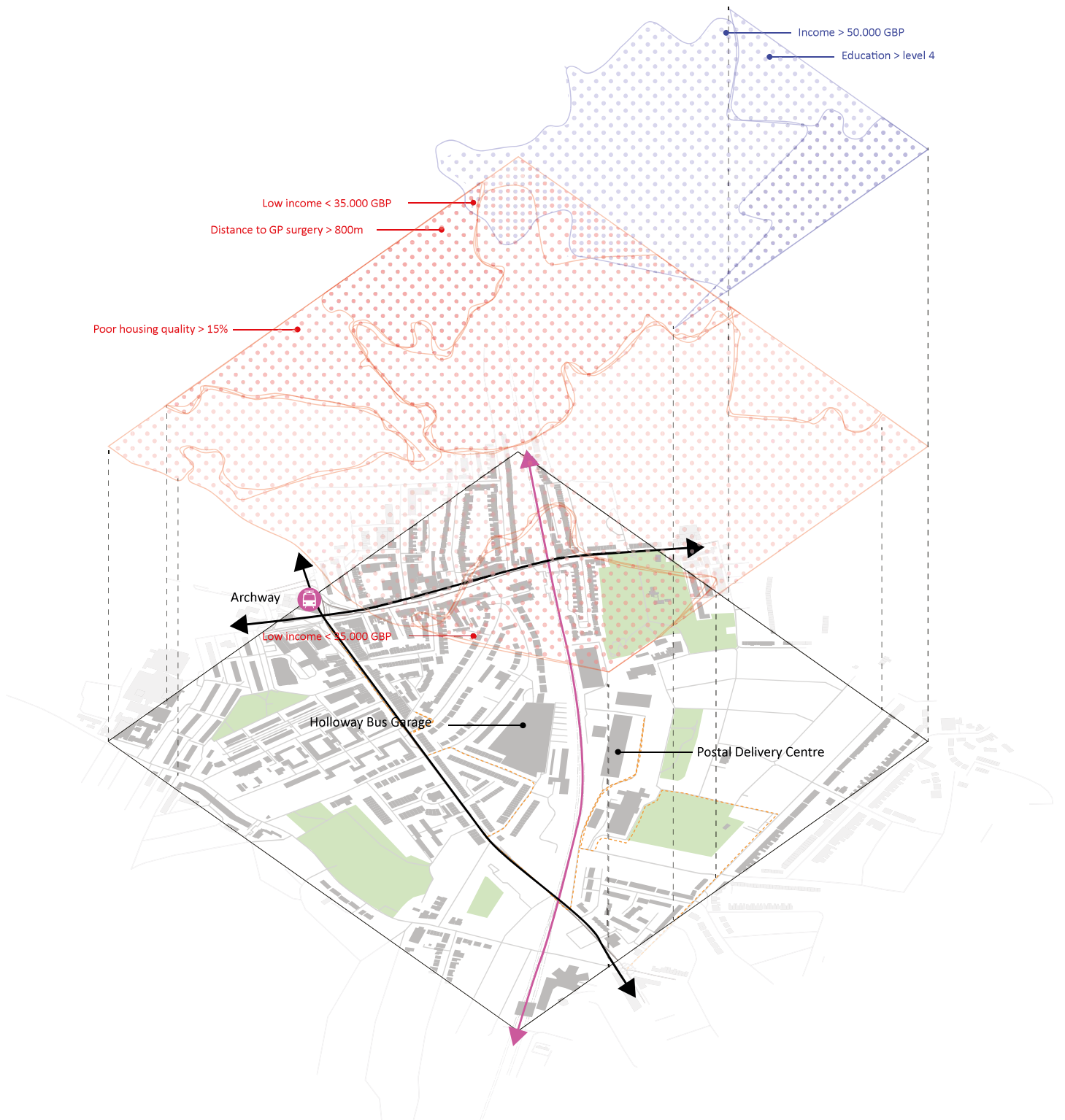
### Appendix 1.3 - Islington by Holloway

Within the triangle formed by main access routes and the railway we find only find a small fraction of a territory of affluence; the area is characterised by an amalgamation of territories of deprivation: territories of low income, poor housing quality, and large distance to essential amenities.

Further away from the triangle we find more territories of affluence, which also tend to overlap with eachother.



# The Middleground



Poor housing quality >15%



Low income < 35,000 GBP



Housing affordability



Distance to GP surgery > 800m



Income > 45,000 GBP



Education > level 4

### **Plane of Sound**

The inner milieu of noise coincides with the enclave of deprivation (low income, poor housing quality, distance to amenities).

### **Plane of Recreation**

The enclave of deprivation with low income and poor housinga also has a large distance to exercise facilities resulting in a culmination of deprivation indicators - since there is little access to essential amenities, housing prices drop and households with low incomes concentrate. The enclave of deprivation acts as a gravitational force that attracts deprivation indicators.

### **Correlation**

Territories of recreation are repelled away from elements of noise. Within the triangle of noise there is a void of recreation. This triangle of noise, the void of recreation overlap with the territory of deprivation.

### **Membranes:**

- infrastructure
- sound
- distance to leisure amentities



## The Middleground

### Noise Territory

Coincides with low income, poor housing quality, and large distance to essential amenities.

Annexed Milieu:  
Motorised vehicle  
transport

### Element of Noise: busy roads

Average noise level, more than 55 dB [1]

[1] 24 hour annual average noise (Lden) for railways and roads, Department for Environment, Food and Rural Affairs (DEFRA), 2017

Plane of Sound

Noise Void

low income, poor housing  
quality, and large distance to  
essential amenities.

Archway

Outdoor Gym

Whittington Park Football Pitch

Indoor Gym

### Recreation Void

Limited access to exercise facilities,  
coinciding with enclave of deprivation with  
low income, poor housing quality, and large  
distance to essential amenities.

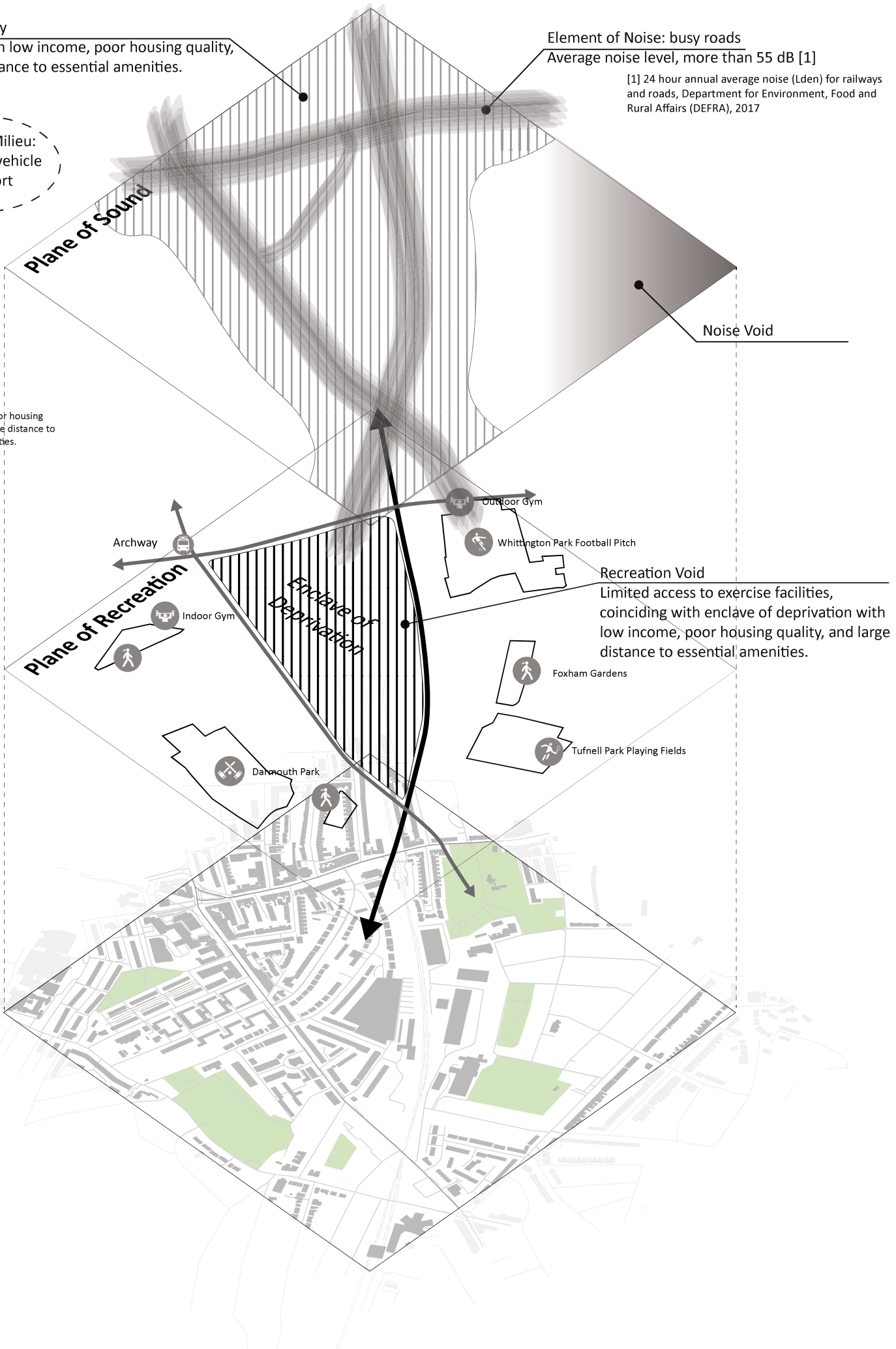
Foxham Gardens

Tufnell Park Playing Fields

Darnmouth Park

Enclave of  
Deprivation

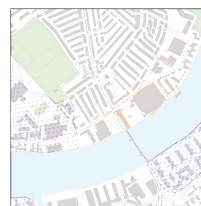
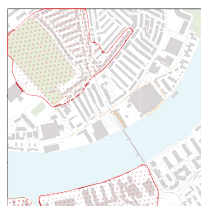
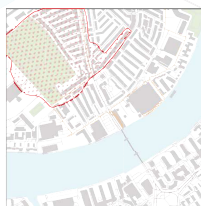
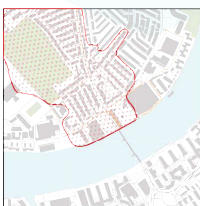
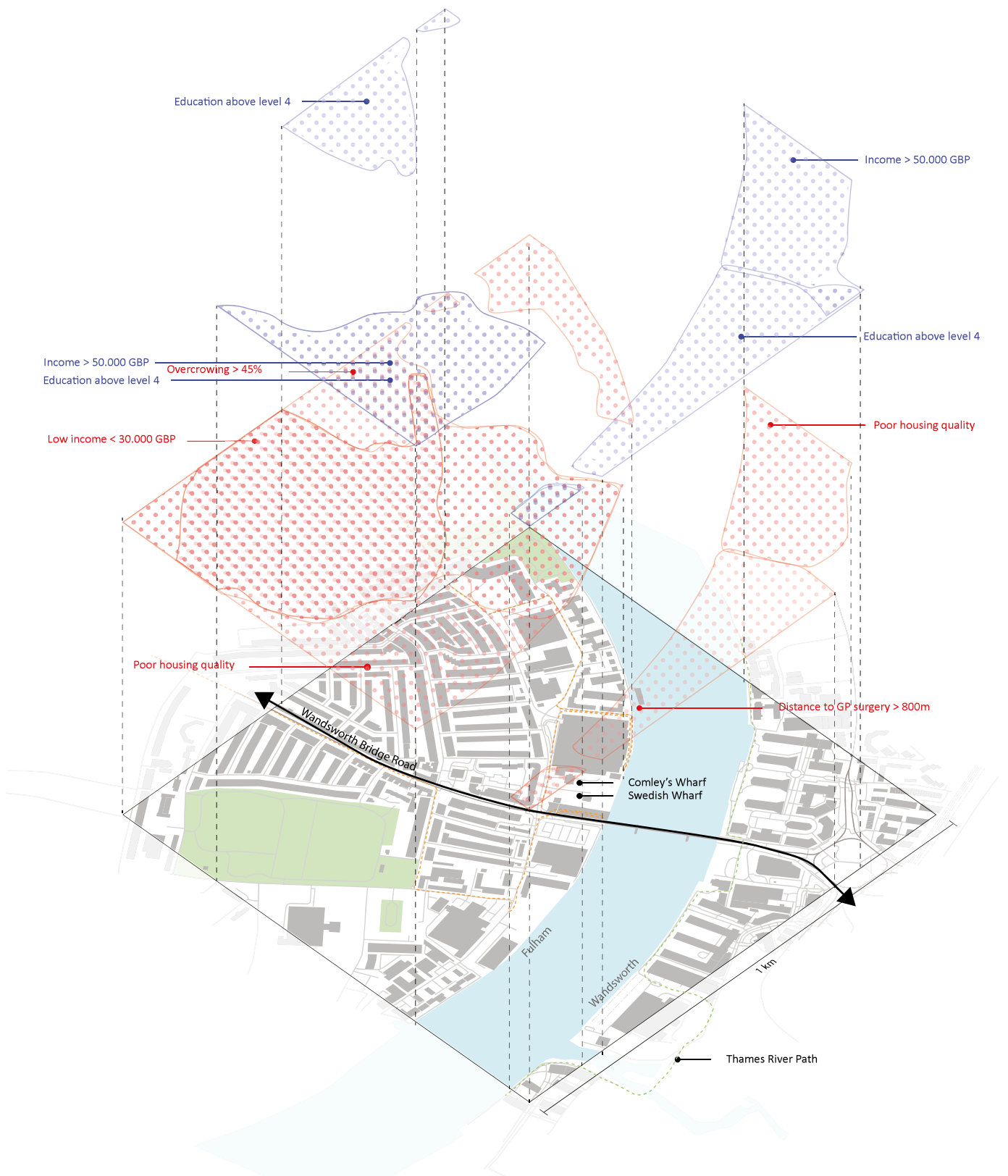
Plane of Recreation



## Appendix 1.4 - Fulham

We find fragmented territories of affluence distributed across Fulham. On the other side of the river in Wandsworth, there is a larger degree of territories of affluence with fewer territories of deprivation. In Wandsworth there is a larger density than in Fulham, with more dense residential complexes. The territories of affluence in Wandsworth coincide with the Thames River Path.

# The Middleground



The Piper Building is an industrial heritage site and was converted into luxury residences through division into so-called “shells”<sup>1</sup>. Residents could either commission an architect or adopt the architect’s generic plans. This process enabled residents to adapt the shell to their personal preferences and demands. The complex includes a communal rooftop area, discounted access to fitness area, and flexible workspaces.

<sup>1</sup> The Piper Building, retrieved 10-3-2022 from <https://www.thepiperbuilding.co.uk>

The Piper Building is an introverted social machine, an inner milieu, with strong impermeable membranes towards its exterior milieu. Within the private sphere one has access to the Piper Building Art’s exhibitions, the rooftop garden, as well as low-threshold (discounted) access to the gym<sup>2</sup>. The access to this social machine through the intermediary milieu consists of a multiplicity of material membranes: a steel fence in front of bushes, a closed gate, a brick wall, and a private entrance to the building.

<sup>2</sup> The Piper Building, retrieved 10-3-2022 from <https://www.anytimefitness.co.uk>

### Plane of Noise

Excessive noise is known to increase stress hormones such as cortisol and adrenaline. Traffic noise is “in a major part related to annoyance, cognitive impairment, and sleep disturbance”, moreover “chronic low-level noise exposure can cause mental stress associated with known cardiovascular complications” (Hamad, 2019 p.1). The high-end apartments are typically situated further from objects of noise. Moreover, they are more likely to be equipped with mechanical ventilation and cooling - reducing the need for natural ventilation, and in effect reducing noise pollution even further.

Hamad O. (2019) Environmental Noise-Induced Effects on Stress Hormones

The taller one’s home is situated, the more daylight one receives, and the less noise there is. As a result, the high-end territory of deprivation is more exposed to such effects than the territory of affluence with high-end apartments.

### Plane of Reflection

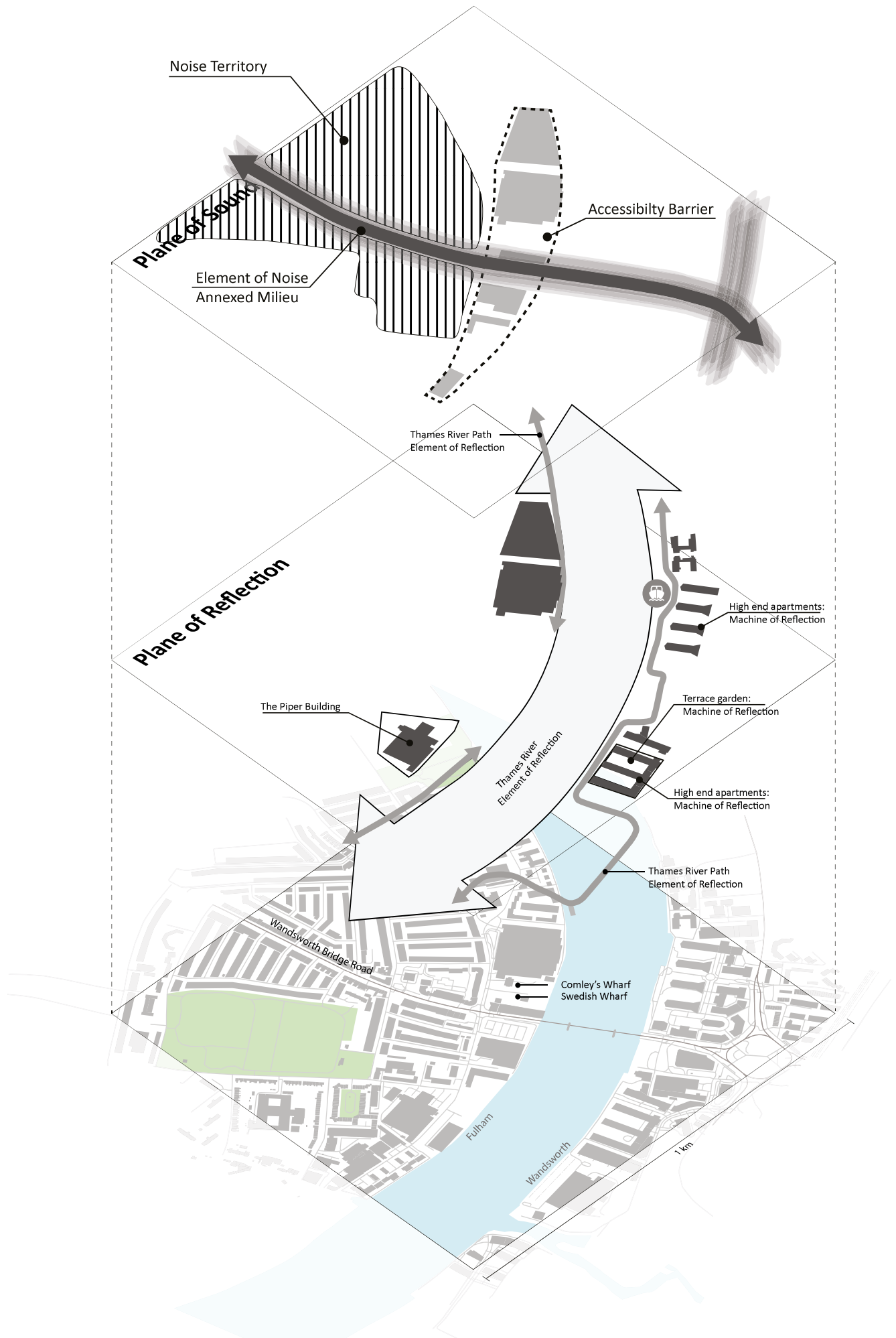
One’s “inner milieu of reflection”, consists of one’s body, mind, and personal space - such as one’s home. The Machines of Reflection are typically situated in proximity to the Thames River Path. They have more access to wide views, quiet courtyards. The more quiet and less polluted one’s home is, the easier it is to have a good night’s rest, have low stress levels, and find space and time for inner and exterior reflection. It is easier to reflect and find inner peace when one’s home is not overcrowded, and not disturbed by noise pollution.

### Correlation

There is a negative correlation between the presence of noise territories versus machines of reflection; the further elements of noise are situated, the more present leisure machines are.

### Membranes

- Knowledge of high-brow activity
- Proximity to social club
- Financial to social club
- Visual
- Social networking
- Proximity
- Walkability
- Cyclability
- Public transport range
- Accessibility by car

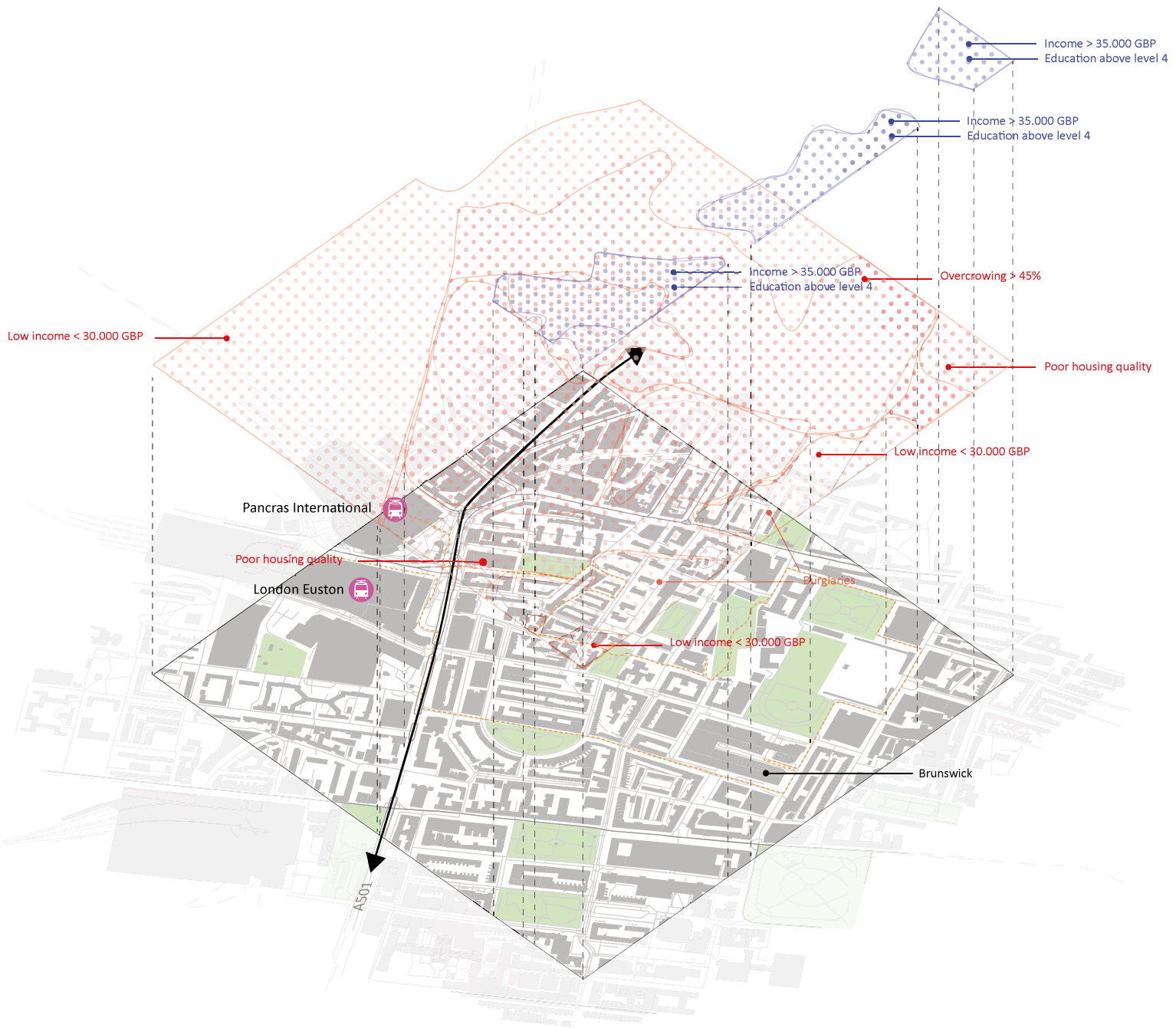


## Appendix 1.5 - Camden by Pancras

Camden by Pancras International is characterised by the presence of a major public transportation hub: Pancras International and London Euston. Here passengers can transfer from international to regional trains, as well as to multiple lines in the underground system. Due to this presence there is a large flow of passengers. The LSOA's direct surrounding the transportation hub are typically more deprived than the areas further from the hubs.



# The Middleground



Poor housing quality >15%



Low income < 30,000 GBP  
(large student population)



Overcrowding > 45%



Burglary > 50 / year



Income > 35,000 GBP



Education > level 4

### **Plane of Recreation**

Elements of recreations, such as educational and cultural institutes, as well as sports amenities, concentrate around territories of affluence.

### **Plane of Exchange**

Institutions of knowledge exchange, such as university buildings and library, fuel the knowledge machine. Absence of such elements coincide with a knowledge void. Brunswick centre works as an engine of exchange: of goods and services.

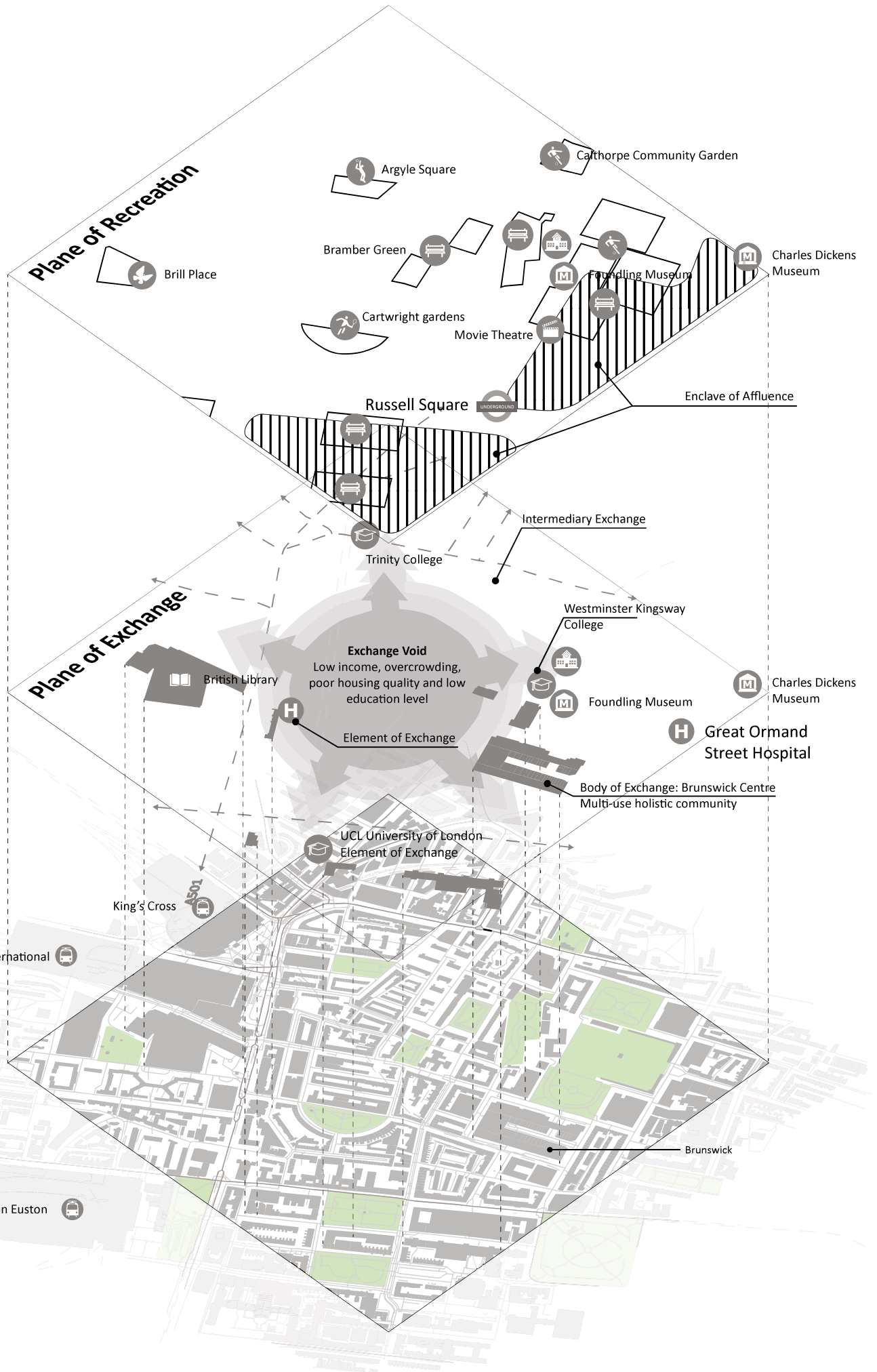
### **Correlation**

Elements of recreation are typically located away from the exchange void.

### **Membranes:**

- distance to recreation amenities
- distance to amenities of exchange and knowledge
- distance to transportation hubs

# The Middleground



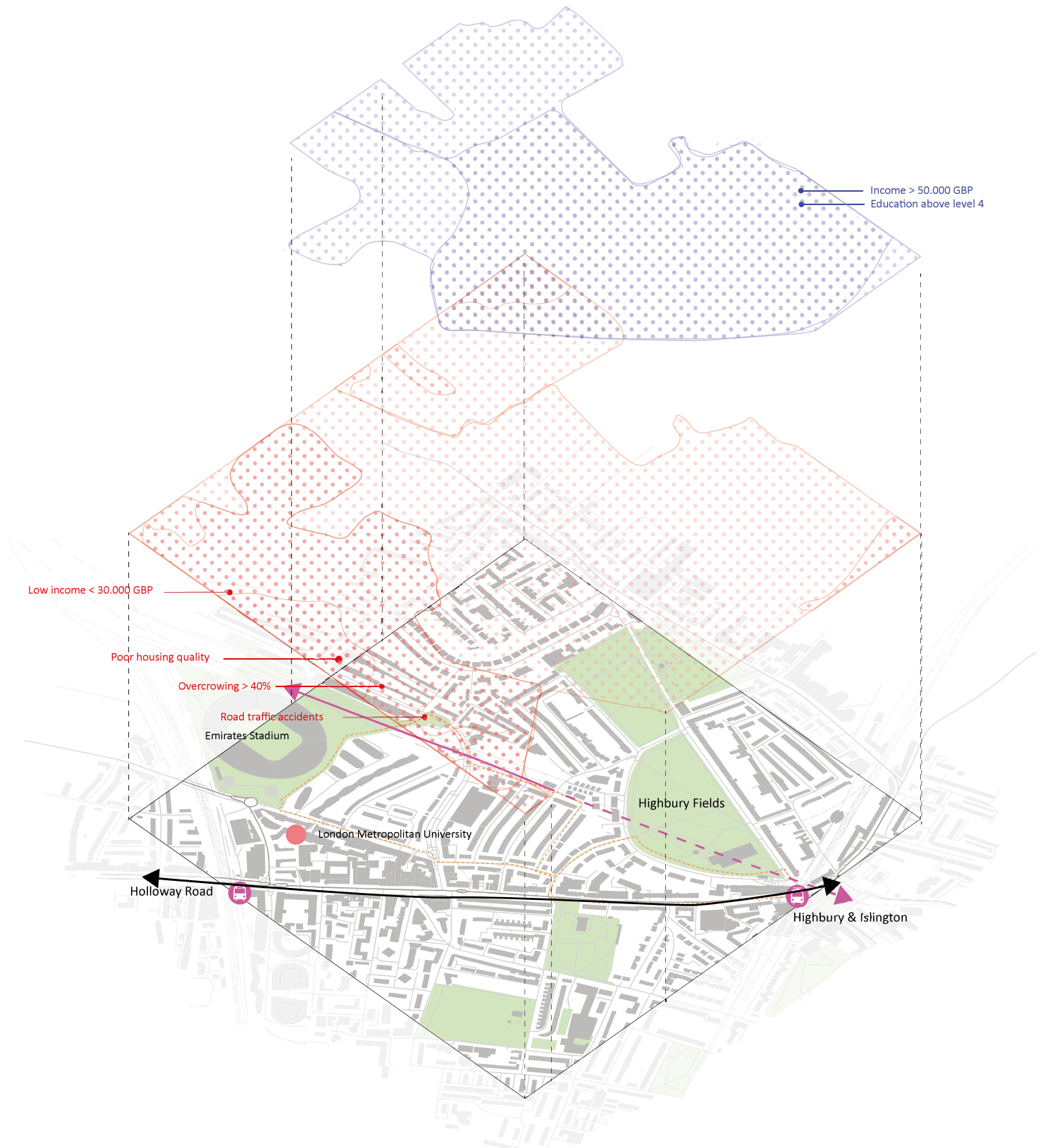
## Appendix 1.6 - Islington by Highbury

Territories of high education and high income concentrate around high quality urban space, such as Highbury Fields. These territories of affluence tend to overlap.

Territories of low income and poor housing quality also overlap, especially around Holloway road and London Metropolitan University.



# The Middleground



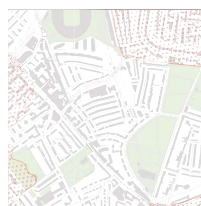
Poor housing quality >15%



Low income < 30,000 GBP



Overcrowding > 40%



Road traffic accidents  
more than 1,5 accidents per  
1000 persons



Income > 50,000 GBP



Education > level 4

### **Plane of Recreation**

Recreation amenities are located further away from territories of deprivation than from territories of affluence.

### **Plane of Sound**

Territory of Noise overlaps with territories of deprivation when they are in close proximity to the objects of noise (busy roads and railway tracks)

### **Correlation**

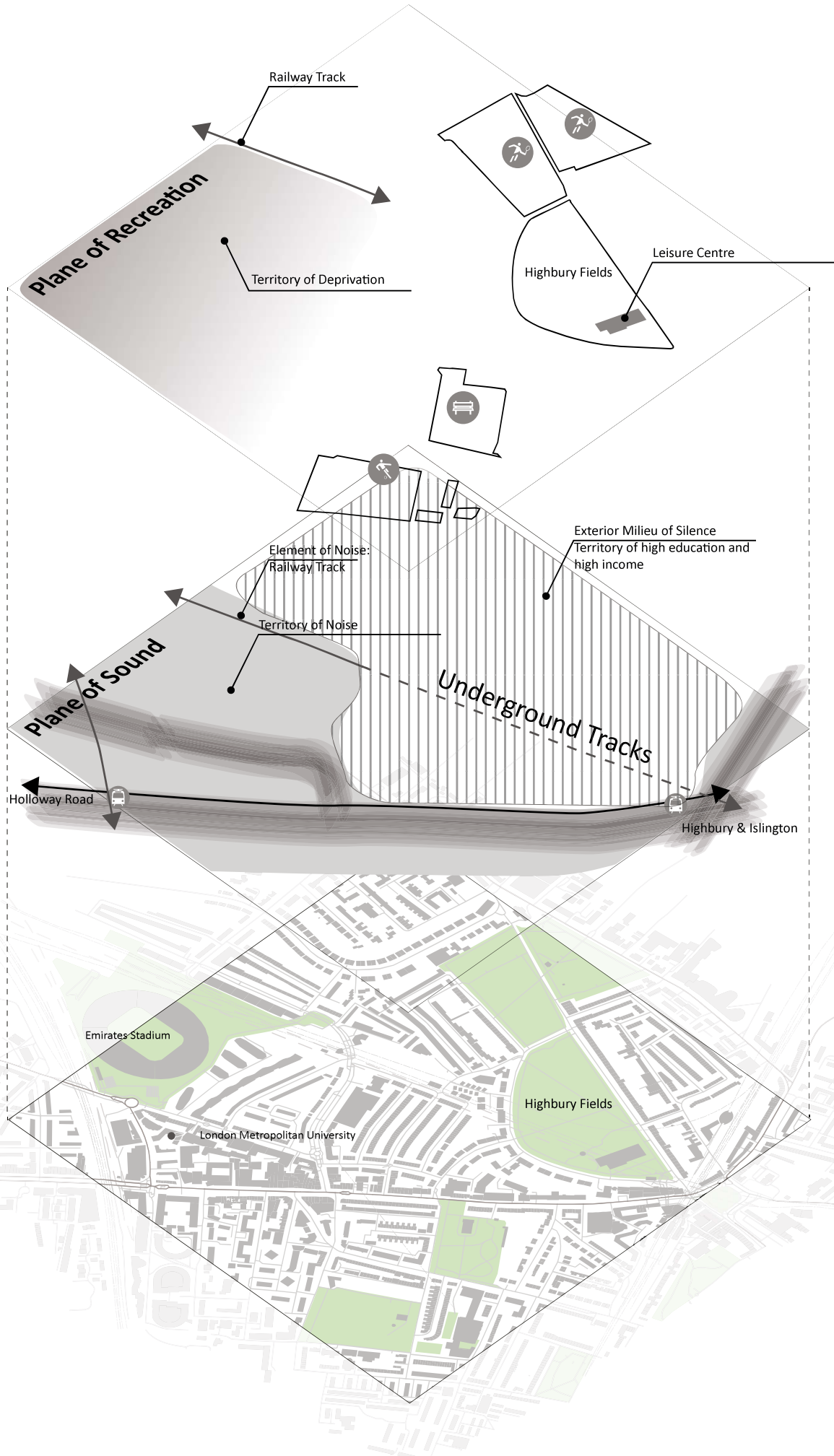
Territories of deprivation are not only situated far from leisure amenities, they are also located in closer proximity to infrastructure and exposed to more noise.

### **Membranes:**

- noise
- distance to leisure amenities
- infrastructure



# The Middleground



## APPENDIX 2 - Photographic Material and Sketches

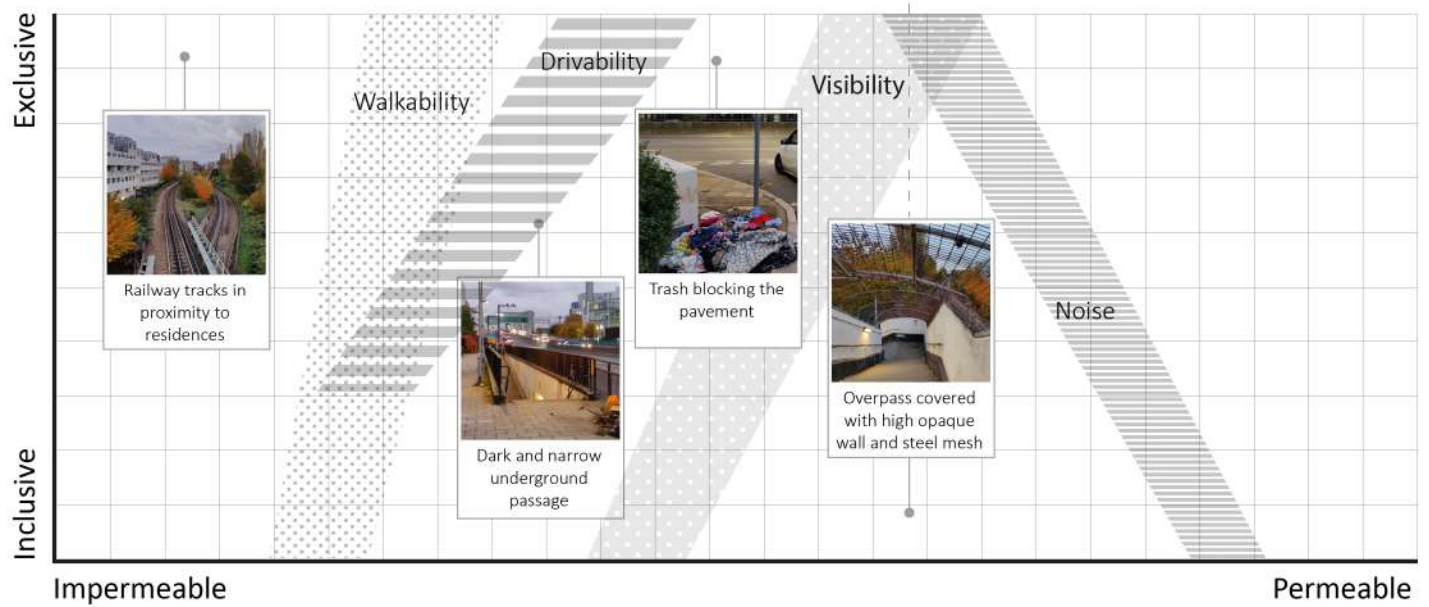


## Appendix 2.1 - Hammersmith

In Hammersmith infrastructural barriers divide the borough into multiple highly disconnected fragmented. There are relatively few pedestrian crossings or public modes of transportation connecting the fragments, resulting in isolated fragments. The fragments, however, are more inaccessible to those who do not own a car, making accessibility more permeable dependent on this exclusivity condition - i.e. owning a car.

Moreover, the available crossing are often derelict, littered and narrow, resulting in asymmetric visibility and accessibility conditions.

# The Middleground



## Appendix 2.2 - Camden by Swiss Cottage

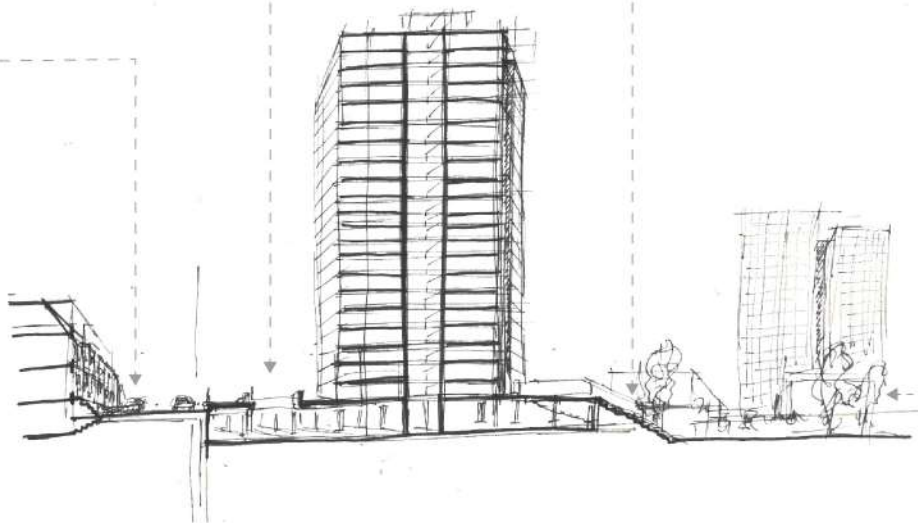
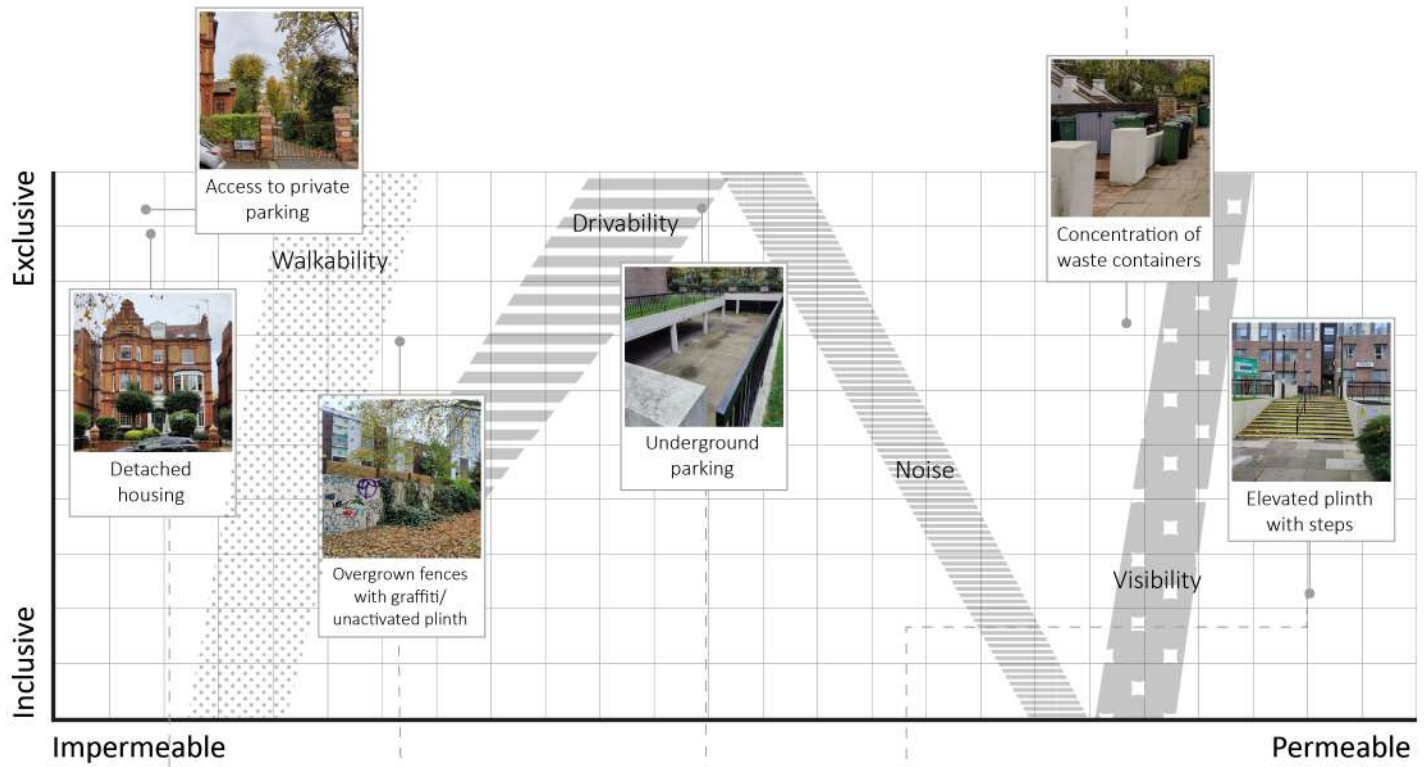
In Camden by Swiss Cottage we find the Chalcots Estates. Taking into account the investigated survey data, this location of the section is where territories of affluence and deprivation meet.

We witness that detached houses, which are located in territories of affluence typically have private parking spots which indicates an asymmetric drivability. Private parking is an exclusive element that asymmetrically benefits from car infrastructure, making the drivability membrane more permeable.

Visibility conditions are improved in the more exclusive and affluent territories due to the absence of waste containers and graffiti, as well as private or above ground parking.



# The Middleground

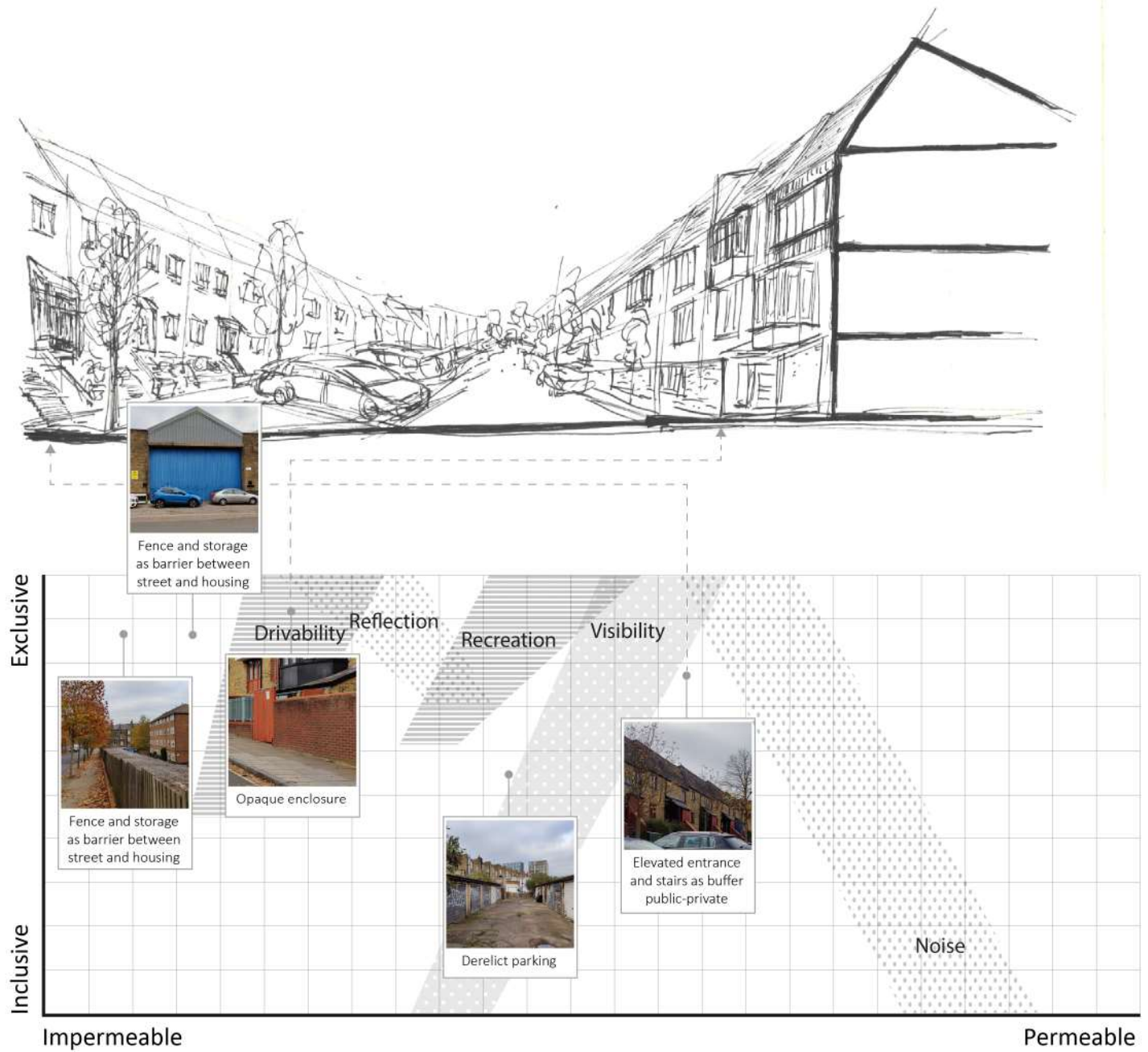


## Appendix 2.3 - Islington by Holloway

Fences, storage units, and other opaque enclosures act as impermeable barriers, detrimental to the area's visibility. Visibility is an important safety indicator.

More affluent housing typologies such as townhouses typically have fewer direct neighbours, and less noise nuisance as a result - a typically asymmetric condition.

Those who own a car have the exclusive possibility to park close to their home will typically spend more time travelling and are more dependent on third parties for their transport.

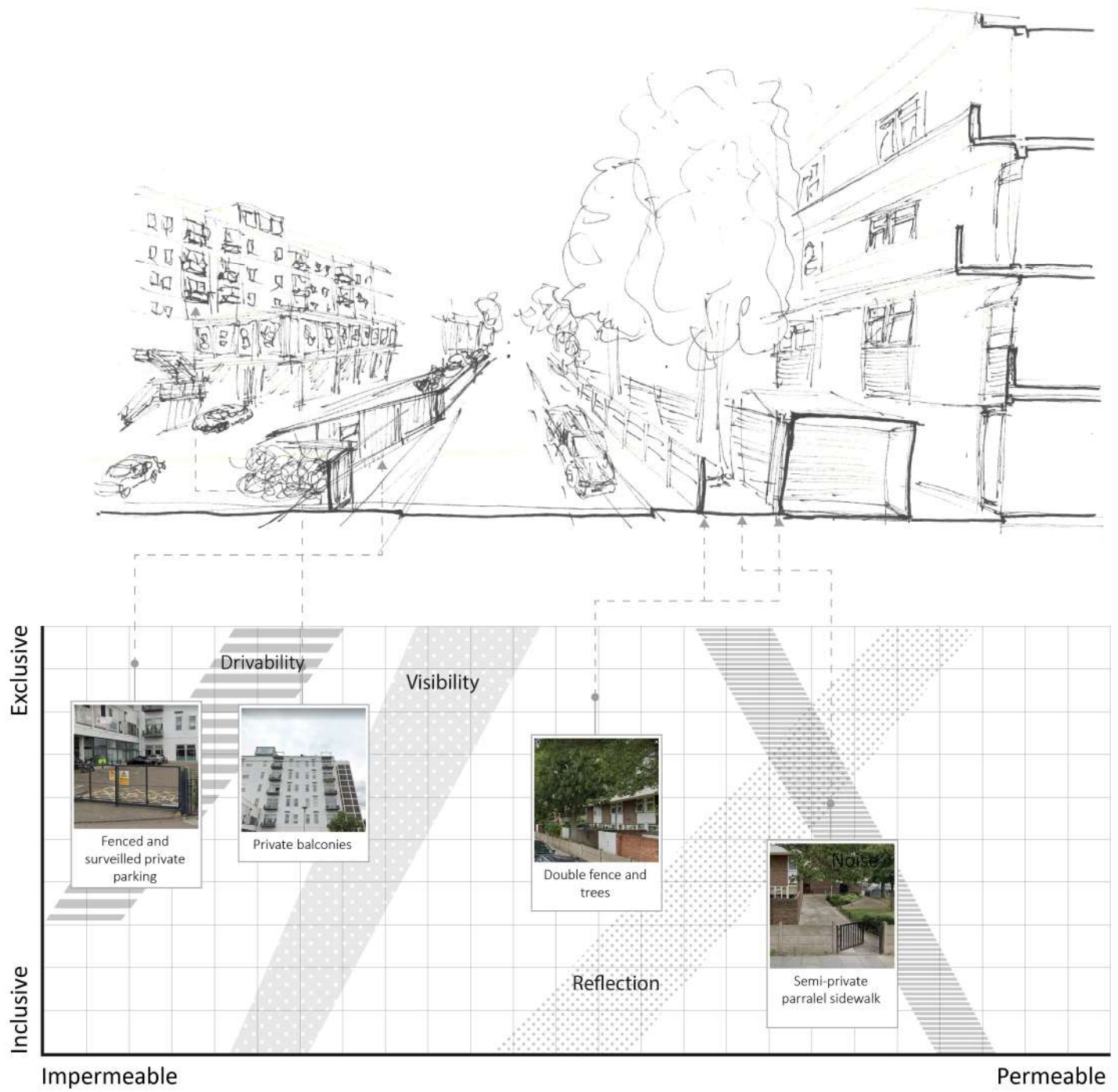


## Appendix 2.4 - Fulham

In Fulham there are multiple machines of exclusivity such as the Hurlingham Retail Park, The Hurlingham Club, and The Piper Building. The Piper Building with its fenced and surveilled private parking distances itself from its surroundings, providing peace and quiet for its residences but inevitably isolating itself as well. Its private balconies provide wide views of the surroundings, allow for appropriation of its space, and as a result allow for more reflection.

The presence of multiple fences result in a buffer space between the public street and the private storage unit. Although in some instances this space mediates between the individual and the collective, in other cases it acts as a stronger barrier and distances the home from the street.

# The Middleground



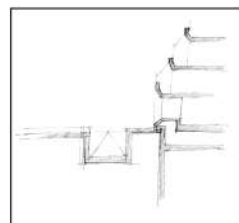
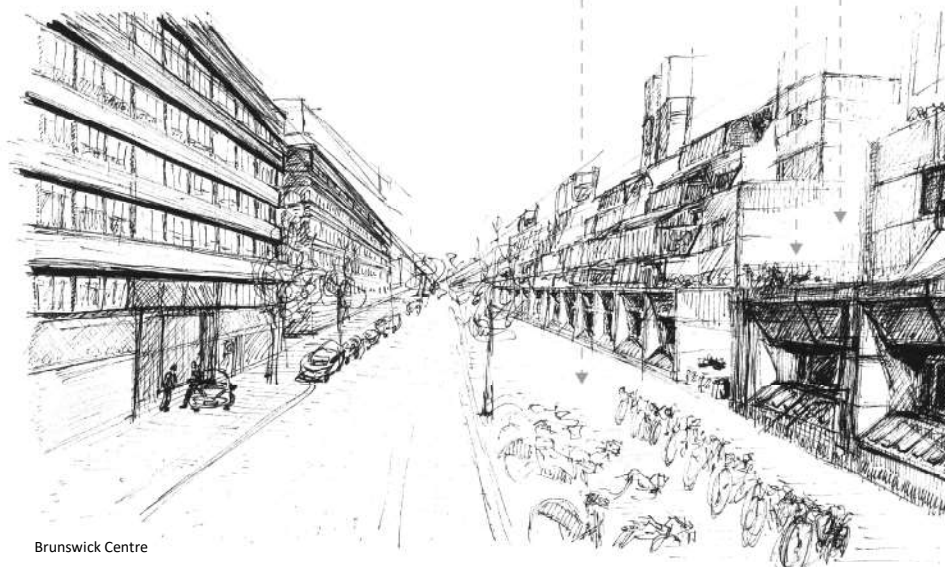
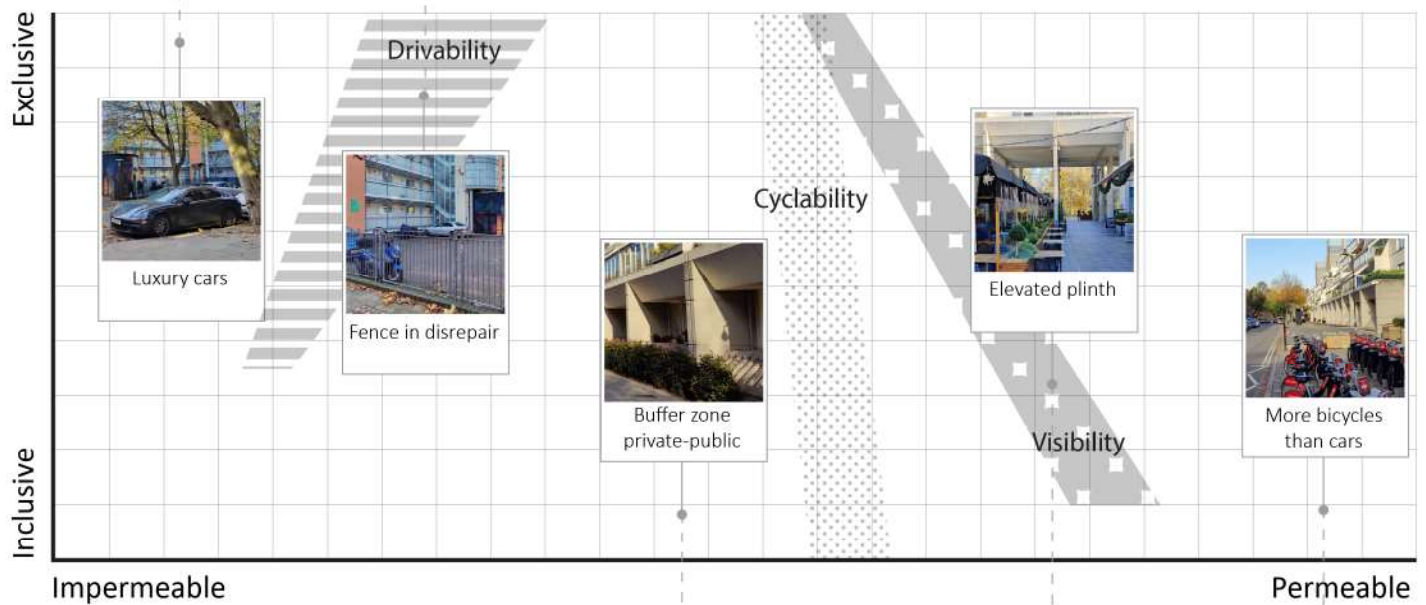
## Appendix 2.5 - Camden by Pancras

In Camden by Pancras many asymmetries are obscure from the street. The more affluent in 19th century townhouses enjoy larger floor heights than the apartments opposite the street. The apartment block depicted has a multitude of deprivation indicators such as mold, single pane glass, and fences in disrepair.

In the case of the Brunswick Centre, designed as a holistic multi-use community, the visibility membrane is more permeable; from the publicly accessible raised plinth there are views in all directions. Despite having underground parking, the Brunswick Centre has shared bicycles available making the project inclusively accessible to all that can ride a bicycle.



# The Middleground



## Appendix 2.6 - Islington by Highbury

Townhouses in Islington by Highbury are exclusive assets that come with a multitude of permeable membranes such as access to the plane of recreation, such as a Highbury Fields with running routes and ample light and fresh air. The railway tracks here are situated below ground-level, ensuring there is little to no noise nuisance.

# The Middleground

