Computer Models and Analysis

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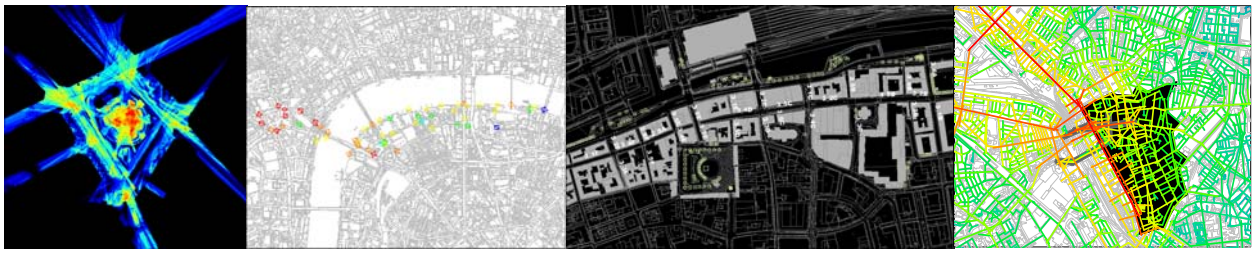
AGORA CITIES FOR PEOPLE



D6.2: Computer Models and Analysis

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PREFACE

The deliverable reported in this document was produced by the AGORA consortium and part of Key Action "City of Tomorrow" in the 5th Framework.

The AGORA consortium consists of the following contractors:

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Note:

This report should be read in conjunction with the Agora D6.1 report, Local Databases – Working Methodology, which provides an explanation and exposition of the quantitative and qualitative data analyzed in this report and viewed in relation to the source data in the Local Databases, D6.1.

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CHAPTER 1: INTRODUCTION

1.1 The Objectives of the Deliverable

AGORA Cities for People develops a pan-European audit methodology in order to analyze human activity in European urban spaces and to identify best practice model for urban planning and design in four European cities studied in the project (Barcelona, London, Malmö and Utrecht). The AGORA partners will also study the transferability and applicability of this best practice model among the 4 studied cities and then to other European cities.

There are four stages in this process:

1. Developing a European Audit Methodology (WP2, 3, 4 and 5)
2. Implementation of the Developed European Audit Methodology (WP6)
3. Design Scenarios (WP7)
4. Best Practice: AGORA

The second stage (implementation) in the AGORA project is initiated with the establishment of an “Urban Design Observatory” – the vehicle for the gathering, analysis and discussion of research data. Implementation, as defined by the project proposal consists of:

1. Setting up of local offices (WP6.1)
2. Participatory Research (WP6.2)
3. Establishment of Local Databases (WP6.3)
4. Model Building and Analysis (WP6.4)

Through the completion of WP6, the project will accomplish project Milestone M3: Model for the Urban Design Observatory (UDO).

Deliverable D6.2, Computer Models and Analysis, is the second deliverable of Work Package 6. The main objective of this deliverable is to produce computer models and analysis (WP 6.4). This consists of:

1. Analyzing, interpolating and evaluating data.
2. Building computer models, developing GIS-based maps,
3. Utilizing space syntax analysis for capital routes.
4. Provide quantitative and qualitative analysis.
5. Provide comparative analysis
6. Evaluating the outcomes of the analysis

This introductory chapter explains the process of achieving these objectives by implementation procedures developed and reported in the first deliverable of Work Package 6, D6.1 Local Databases, as well as by a certain degree of innovation. It also outlines some technological aspects inherent in the production of the deliverable.

1.2 Characteristics of Computer Models and Analysis

Constructing computer models, using graph-representational and GIS-based 2D-technology is the logical step from the collection of data which was one of the objectives reported in D6.1, Local Databases. Leaving the difficulties of collecting data, as well as the participatory process of involving citizens in the process of changing their city behind for a moment, the Deliverable D6.2 and the methodology of WP6.4 focuses on the-reconstructing of that data into models and analysis which are intellectually graspable and problem-oriented. These models are the first crude analytical tools from which we aim to fashion better design tools. The transition in the project from its second stage (WP6: Implementation) into its third (WP7: Design Scenarios) is thus as much a factor in the process as the completion of WP6 itself. Although theoretically it is not until the next stage in the AGORA project that design proposals are to be put in front of the citizens and stakeholders, it is only through the process of WP6 such a step can be taken at all. The production of models and analysis - the last stages of Work Package 6 – aims to analyze the problems and potentials of urban spaces which are the seeds of such design proposals. Certain characteristics of the analysis can thus be defined:

1) It should identify relevant problems and/or potentials in the cities examined (Malmö, Utrecht, London, Barcelona) that possibly could develop the analysis into full-fledged proposals.

2) It should increase our understanding of the functions of the capital route of each city.

3) It should investigate how space and movement interact with other characteristics of the urban environment (by using the objective tools of the Technology Platform, WP3)

4) It should not limit itself to an objective approach alone, because we believe that such an approach is insufficient to tackle the human issues raised by the design of the built environment. Human nature is, to a certain extent, inherently unpredictable.

1.3 Implementation Methodology and Analysis

Contributions to AGORA Innovation

Part of the aims of AGORA's innovation is to understand and employ four distinct urban and institutional models (Malmö, Utrecht, London, Barcelona) in order to develop a complementary approach towards a "designerly" way of understanding" the urban environment and its needs. The relevant differences of each of the city-approaches should thus at once be acknowledged as important and valued precedents but also bridged by holistic attempts at developing a methodology that is pan-European and employable in a non-national way.

This, we believe, can only be achieved through a gritty, daily participatory involvement with planners, citizens, researchers, designers and stakeholders in those national settings as well as on the international level. No model bears any usefulness outside of the contexts it is used. The aim of involving the users of the model in its very production gives us as researchers a rare opportunity of applicability and us as practicing planners a perhaps even rarer moment of objective validation of our practical knowledge. Taken together, implementation contributes to innovation in a number of curious ways neither group might have expected.

Observation, participatory research, experiential sampling, cultural inventory does not only give research data it can analyze but it is also the living, changing framework and context within which that research can be used.

Therefore, we feel it is important to point out that implementation is not simply a production of answers to questions posed in another innovative process, but part of the process of research itself by for example validating research not by its inherent objective value of true/false but by its relevance to the citizens and users that can change or propose new solutions supported by the analysis. It is in the context of implementation that research is validated by its relevance in a situation where it can be used.

1.4 Technological Aspects of the Analysis

The development of existing space syntax and urban design research techniques forms the core of our innovative approach. Space syntax tools have been developed through a continuous dialogue between research and practice. In this project we have built on the "state-of-the-art" experience of space syntax researchers by bringing new stakeholders "to the table". New key groups, like local government officers from Malmö, local residents and business stakeholders have been involved through the process of consultation.

This process has been two-ways. By bringing other urban designers and practitioners into the process we have strengthened space syntax research in an area where it traditionally has been weak. We have "opened up" space syntax research to alternative and complementary approaches.

Forecasting pedestrian movement, one of the key facets of space syntax research, is stressed throughout the analysis as a central part of the social, economic and environmental success of the four cities involved.

1.5 The Process of Work Package 6.4

Looking back on the months that has passed between this deliverable (September 2005) since the delivery of the first part of Work Package 6 in May 2005 one must begin to say that we have been working under a very compressed time-table. Where the deliverable D 6.1 spanned over a long period by necessity (10 months), it was imperative that the D6.2 was produced in short order in order to go ahead with Work Package 7.

A critical stepping stone of the process was the Workshop in Malmö in mid-June, where the research questions were agreed to by all partners and the work of each partner in collecting and reviewing all the data from each partner was crystallized. This led to a common view on a number of matters, which, we cannot stress more, is probably the most important success factor of a project of this size. The partners needed to agree. And agree again.

The timetable set out at the workshop gave each city-team a very limited number of weeks to produce a comprehensive analysis of their city and the Space Syntax Limited another week to complete the comparative analysis. Each team marvelously managed also to do that.

All of the components showed a remarkable variety and the experience of living in urban space, irreducible as it indeed is, was nevertheless broken down and analyzed into complex matrices of urban thematic maps and analytical statements of the factors that constitute this reality. All the sounds, smells, floor planes, people counted, the walls, the rooms, the actions that happens in daily urban life. All of this and more, we tried to categorize and explain and put into neat schemes for us to improve. Of course, we were destined to fail to ever achieve the complete picture. However, look at what we can see. Through these components, through these representations of smell, sound, lights and activities we hope that some of the urban fabric becomes more visible to planners, decision-makers and architects and that decision-making and policy can improve through the use of these and other measures to see that which is hidden behind the cacophony of the street.

Thus final editing of the complete deliverable did take place during the month of September where the final document was edited by the Lund University team.

The collaboration and cooperation of each partner throughout the entire process was paramount in the production of the report.

1.7 The Structure of the D6.2 Deliverable

The D6.2 Deliverable consists of a written report consisting of 8 chapters whereof one is an introductory chapter, one is a concluding chapter and one chapter outlines and explains the research questions that the team considered to be the most relevant starting points for the analysis in all four cities.

The core part of the report is the four city chapters and the chapter on comparative analysis. Each chapter on one of the four cities (Malmö, Utrecht, London and Barcelona) and reports what each city-team consider to be the most relevant analysis and factors for the construction of design proposals in Work Package 7. The comparative analysis adds another layer to that analysis by pointing to the development of a holistic approach for a pan-European development of tools for city planning in Work Package 7.

CHAPTER 2: ANALYSIS – THE RESEARCH QUESTIONS

The large empirical work conducted in each of the four cities of the AGORA project used a whole set of pre-defined methods and methodologies. In order to fully utilize the possibilities of comparisons between these cities, the analyses of this empirical material is now also further structured by a set of general research questions, posed at two levels:

(1) – Component Level

(2) – Capital Route Level.

These two levels are defined by two of the main concepts used in the AGORA project and indicate the focus of the questions in terms of category. Each level is accompanied by a set of pre-formulated questions, as well as a choice of sub-questions, that each city has worked with in their analysis. All aspects of every question are not discussed by each city. The presentation of the research questions below should rather be regarded as an introduction to a whole set of questions within a specific field of research than as a total all-encompassing question battery that can cover all possible questions that are possible to pose in this context. The important issue here is to cover the primary aspects of urbanity and thus give a more holistic (than one-sided) description of the important characteristics and qualities of the capital route. When used as a starting point for any city that wish to formulate the research questions for their city it should be viewed exactly so, as a starting point.

2.1. Component Level

At the component level, we connect questions between different approaches, and focus on the relationship between different urban design components. The notion and relevance of approaches and urban design components were discussed in WP 4.1, and they were also used as a framework in the structuring of the empirical work made in WP 6. The components are co-dependent entities of urbanity and were developed in order to deal with aspects of the capital route without dividing the investigation into issues of either form or use. Instead, the components were based on the interrelation between the two. From this we can also deduce one of the main methodological points of the AGORA - project: the investigation of urbanity and urban design is not made by relating forms to functions, but rather by the relation of different urban components (each comprising aspects of both form and use).

The component level is structured by four questions, each accompanied with a number of sub-questions, and then followed by a short concluding discussion.

1) *– How is public information impacting on the activities and experience of the capital route?*

In this part we discuss the impact of public information on flows, assemblages and urban navigation. We investigate how the existing information fulfils its purpose and whether the information points are well placed. We also investigate in what ways public information contribute to a useful experience of the city for different groups of people, and how public information interact with other legible elements of the route such as recognisable elements/landmarks and elements of symbolical importance.

2) *– How do the characteristics of the urban walls relate to the activities that take place along the capital route?*

In this question we discuss how urban walls relate to land use and user activity, and how they affect the formation and constancy of flows and assemblages. We also try to pinpoint some of the components and subcategories of the urban walls that are important to these relations.

3) *– How do the affordances of urban rooms relate to actual activities that take place?*

This question deals with the offerings and possibilities of the urban rooms, and how well they correspond to the activities that are taking place there. We deal with aspects of how the affordances of urban rooms relate to flows and assemblages, and investigate how the actual activities relate to the opportunities afforded by different components and subcategories of the urban rooms.

4) *– How does the dynamic of flows affect the activities and experiences of the route?*

In this specific question we deal with the relation between flows and land use/activity, and investigate the activities and flows that are especially important in this relation. We also discuss in what ways flows and assemblages determine possible future spatial arrangements in the urban rooms.

5) *– Concluding remarks on 1-4.*

In the conclusions we briefly discuss any important or strong connections between certain approaches or urban components, and also how different urban components of the route affect the possibilities of future spatial arrangements and developments.

2.2. Capital Route Level

Capital route (described in AGORA Deliverable D.2.1) is a tool that, by defining important and socially complex routes on an urban level, enables comparative studies between different cities. The capital route is an important part of its city and to some extent it might even be representative of the city as a whole. Due to the important urban role of the capital route, the questions of its sustainability (how can the capital route survive and develop through time? how can the capital route be made more sustainable? etc.) always comes to the fore. This is also our focus at the capital route level: the sustainability of the capital route as a whole.

The question of how to create or maintain a sustainable capital route is not so easily reduced to a simple short answer. In order to deal with this, the question is divided into nine questions discussed within three separate fields: activity, identity and public space. This part then ends with a conclusion of findings and a discussion of some key aspects that constitute a sustainable capital route and how this affects the possibilities and benefits of spatial development. The three fields are added to the list of questions discussed at the component level above, and are thus numbered as follows:

6) *– The activities of the capital route.*

a) To what extent is there a diversity of activities that overlap spatially (in the urban rooms)?

In this question we investigate what kind of activities overlap, and where this happen. We also try to determine the characteristic of theses places, and how they relate to the capital route as a whole.

b) Do activities extend throughout a longer period of time (day/night)?

Here we initiate a discussion on the extent to which different activities overlap in time, if they extend throughout a longer period (of the day/night) and where this occurs.

c) Is there a variety of activities on the capital route?

In this question we discuss how the activities of the route supplement each other, if places of similar opportunities and activities could be found, and if there are any important activity agglomerations or magnet effects on the route.

7) – The identity of the capital route.

a) Do spaces of the route generate a sense of ownership and identification for end-users?

This question comprises such sub-questions as: What spaces are appropriated, and by whom? To what extent do different places contribute to a sense of identification for individuals and/or groups? And also: Are there places that generate a sense of civic pride?

b) Is there a consistent level of aesthetic and environmental quality in the area?

Here we try to pinpoint some of the most important aesthetic and environmental qualities of the route, that is, how experts, as well as end-users evaluate the aesthetic and environmental qualities of the route.

c) Do the spaces of the route provide adequate feelings of safety and comfort?

In this question we discuss if, and (if so) at what places, people experience feelings of comfort/discomfort on the route. We also try to describe some of the characteristics of these places, and furthermore if some specific groups or user types are particularly affected.

d) Is the route identifiable within the wider context of the city?

Here we try to say something on the identities and conceptions of the route, that is, if certain parts of the route has a stronger identity than others, and how the route connects to the wider context of the city (spatially and by association).

8) – The public spaces of the capital route

a) Is public mobility well supported?

In this question we describe the extent of which the capital route is supported by the existing regime of public mobility, that is, is public mobility is accommodated for, along the whole of the route.

b) Is there a sequence of well connected public spaces along the studied route?

Here we list the important public places and activities along the route, and how they connect to each other (as well public places outside the route) in terms of visibility, accessibility and configuration.

9) – Concluding remarks on 6-8.

In this final part we summarise the discussions of questions 6-8. We also have a more general discussion of what it is that constitutes the sustainability of the capital route and how this relates to the possibilities of new developments.

CHAPTER 3: ANALYSIS – MALMÖ

3.1. How Is Public Information Impacting on the Activities and Experience of the Capital Route?

Relevant Sub-Questions for the City of Malmö

Does the existing information fulfil its purpose? Is it well placed? Does it contribute to a useful experience of the city? To whom is it a useful experience? Does it help navigation?

Scale of the Investigation

An inventory of all formal public points of information was done in two adjacent urban rooms, Drottningtorget and Caroli, located in the middle of the Capital route.

Figure 1. Inventory of Two Urban Rooms: Caroli and Drottningtorget.

Data Sets Reviewed

The data sets that were reviewed in order to analyze the question in relation to the city of Malmö were: points of information, questionnaires, user activity, transport nodes, spatial analysis, gate counts and movement annotations.

Points of Public Information

The basic assumption for this question is that it is the relations between the points of information layer and the other layers that is the central relation to be analyzed. However, it was discovered during the process that relating different categories within the points of information layer itself was a fruitful avenue of investigation.

The public points of information investigated, adding up to a total number of 164 can be divided into nine main categories: road signs (84), street name signs (31), direction signs (12), billboards (12), monumental/historical signs (10), parking meters (9), billboards, bus stops (4) and destination sign (1).

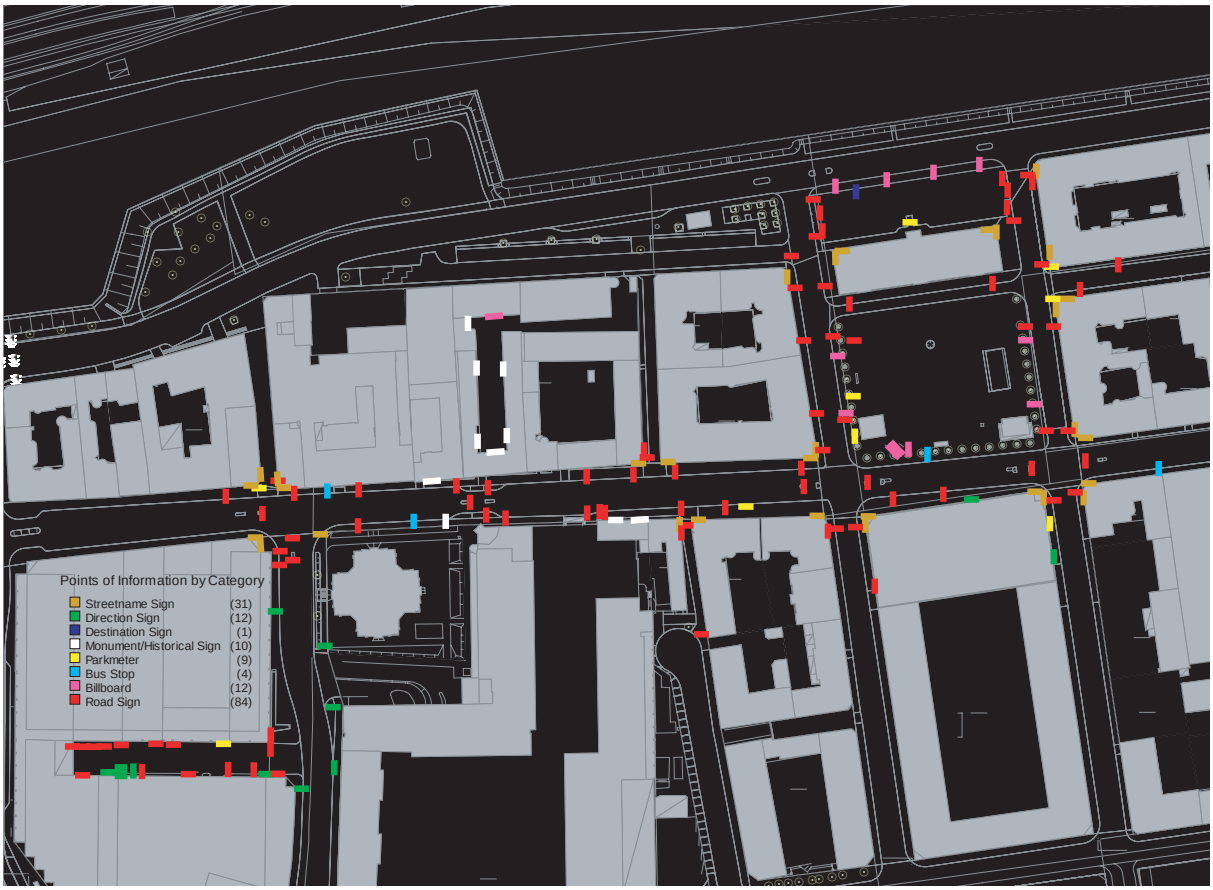

Figure 2. Points of Public Information Sorted by Category.

How then does this information impact on the activities and experience of the urban rooms? This question will be investigated by looking at the relation between different categories of public information as well as relating public information to activities such as movement, use and navigation.

Looking at the Relation between Different Categories of Public Information

What we can see from the survey is that the category of road signs by far outnumbers any other category of public information. In fact, more than half of the public information signs are road signs. The regulation of vehicular movement thus seems to be the most important purpose of public information in terms of number and resources. The vast number of road signs, as well as their placing and high level of conspicuousness seems to indicate traffic as a highly prioritized activity (see figure 1). Road signs are actually prioritized to the extent that they are allowed to conceal other forms of information such as commercial messages and billboards, street name signs, architectural details, etc.

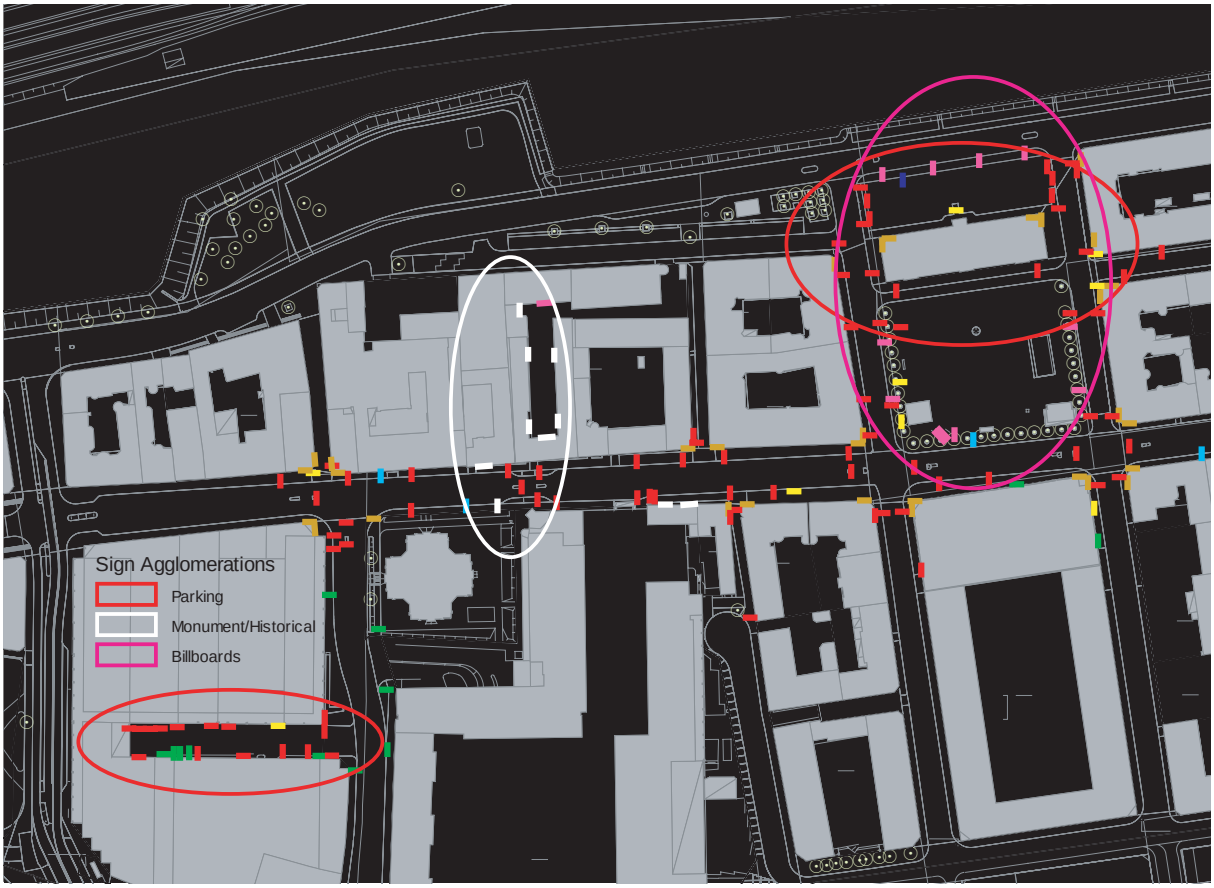

Figure 3. Some Important Sign Agglomerations.

Different categories of public information sometimes tend to be concentrated in certain places (see figure 2). Parking space seems to have the highest intensity when it comes to the total number of signs. There are two larger parking areas within the two investigated urban rooms, both about one block from the route. A relatively small parking place at Drottningtorget (for some 40 cars) includes about a dozen signs of parking information, and the street connected to the Caroli City parking area includes over twenty signs. Movement annotations shows that the small street at the Caroli City parking area is used as a short-cut to certain parts of the central town. Even though this, almost secret, passage seems quite strategically placed in terms of urban navigation on a larger city scale, the direction signs of the area only shows directions to places of that same street, such as to parking places and to the parking meter. The streetscape prominence of the car parks is sometimes also enhanced by the placing of park meters. These can be quite apparent in the streetscape, for example located to corners (visible from four

directions like ancient obelisks or equestrian statues) or along an axis. At Drottningtorget the park meter in the direction of Norra Vallgatan is, for example, placed at the very centre of the facade of Humanitetens Hus (right in front of the apse).

Although car parks are, in numbers by far, the place where the frequency of signs is the highest there are also other examples of sign agglomerations. For example, almost all billboards of the two investigated urban rooms are concentrated to Drottningtorget – adding up to eleven billboards of different forms and sizes located to the square. Ten of these are directed towards car drivers (big in size and directly facing the street), whereas just one of these is intended for pedestrians.

A final example of a place with a high frequency of signs in a certain category of information is S:t Gertrud (part of a block, with historical buildings, restaurant, etc.). Here, almost every building entrance has a sign stating the (historical) name of the building and the date of its construction. At S:t Gertrud the public information is thus a central part of a place-making strategy, mentally constructing S:t Gertrud as an important place of local and cultural heritage.

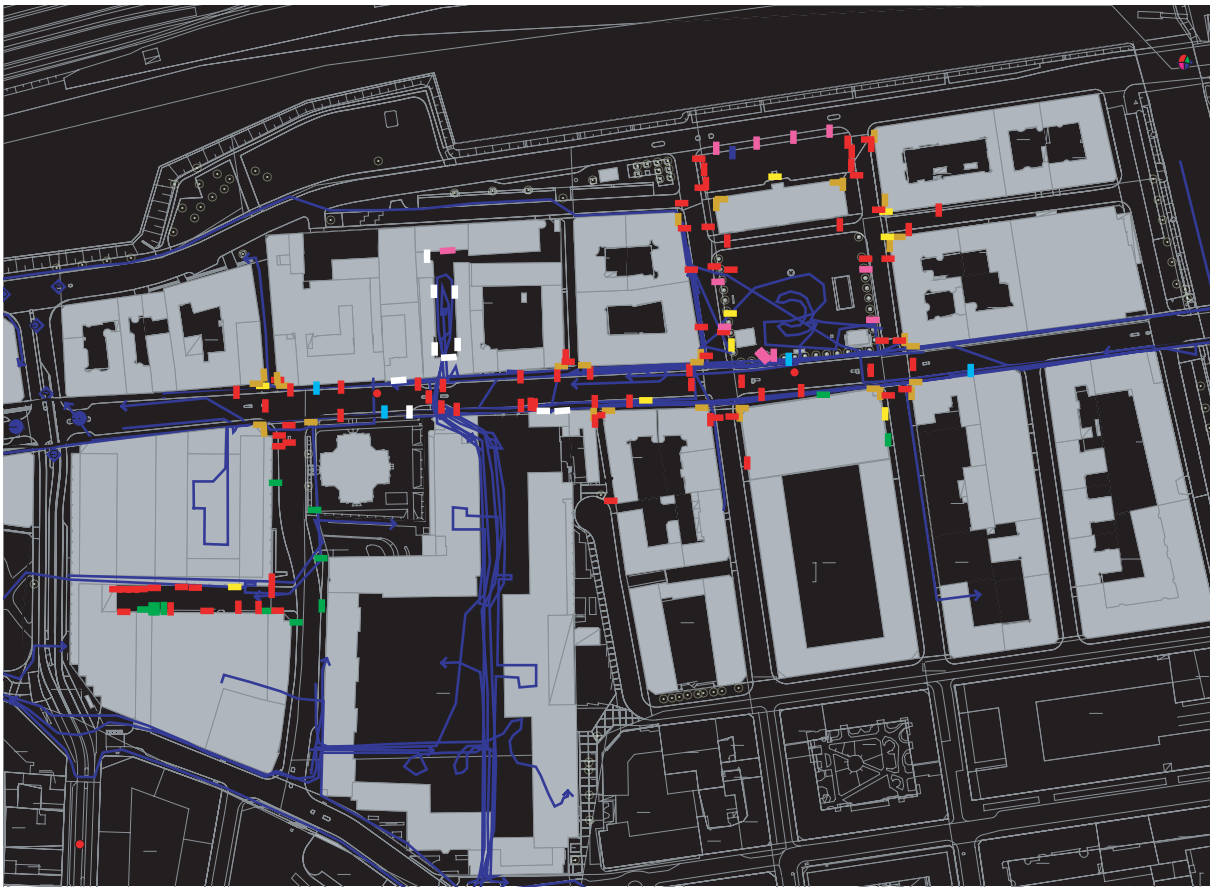

Figure 4. Sign Agglomerations. When examining the layers of movement annotations and points of public information, the Malmö team noted how movements correlate to some of the sign agglomerations mentioned above. There are also a lot of movements within the shopping mall Caroli City, where no points of public information was found. Important movements and short cuts that do not follow the capital route include movements across the square heading northwest to the railway station, and movements through the arcade heading west through the block towards the central city.

Relating the Points of Information to Other Layers

Public information can be seen as related to the movements and activities in the urban rooms in different ways. In general, information intensity does neither seem to relate to the number of cars or pedestrian, nor to the level of spatial integration – at least not at the scale of this analysis. However, some places are surely more sign intense than others. Studying the movement annotations of the two urban rooms, it is indeed possible to pick out some of these sign intense places, for example S:t Gertrud and Drottningtorget. Common to these places, as well as to the car parks mentioned above, is the fact that they are all more calm places adjacent to the route (rather than on the route). They are places where people (and cars, when it comes to parking places) slow down. They are also places where people who want to navigate in the environment can stop and contemplate their situation, location, etc.

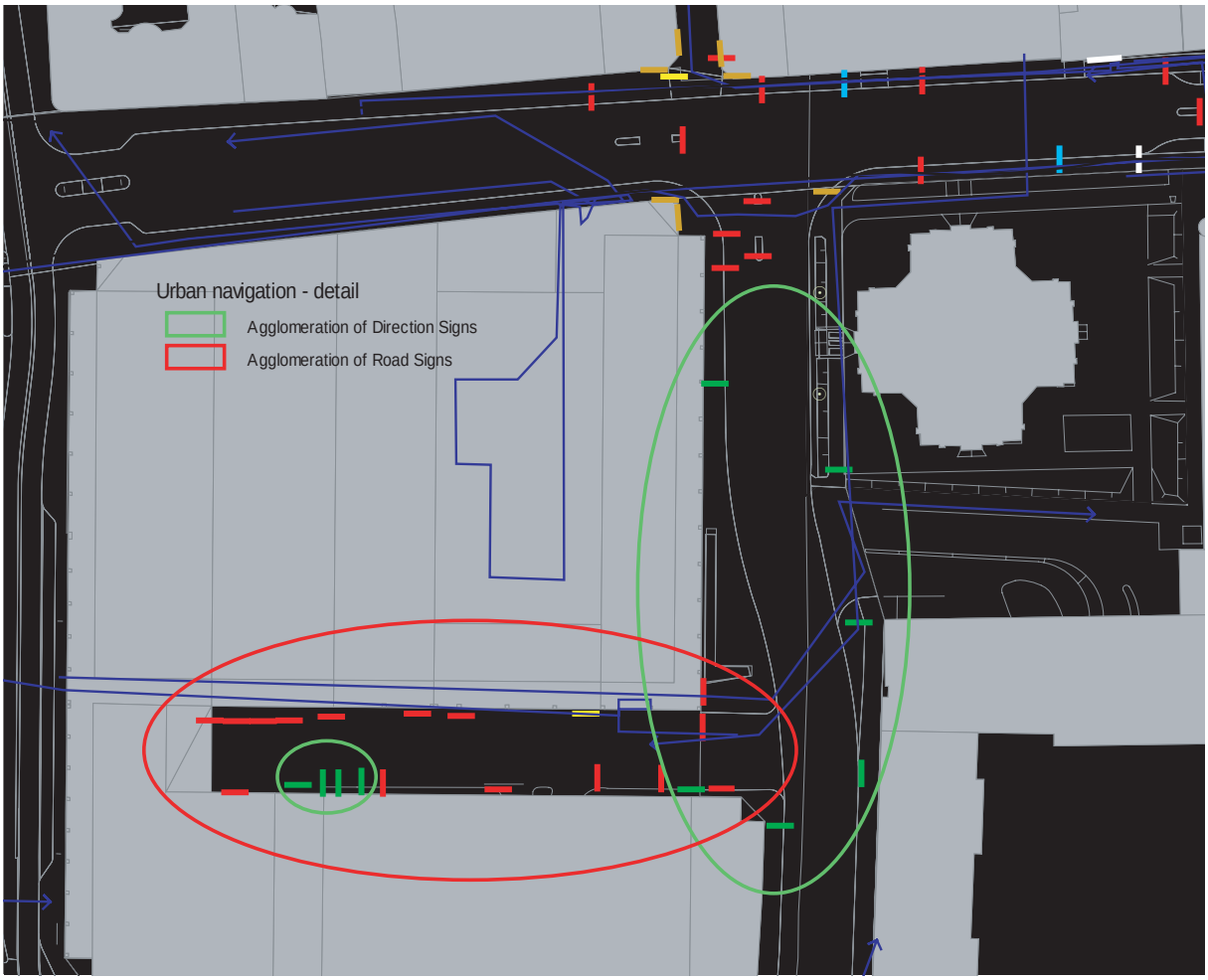

Figure 5. Urban Navigation – Detail. A study of agglomerations of direction signs that relate to parking signs revealed interesting findings. Although the arcade of this small street is used as a short cut to more central parts of the city, none of all the direction signs above referred to this (or to anything but parking).

There are just a few signs to help urban navigation, perhaps suggesting that these two urban rooms are primarily thought of as being used by locals (of Malmö) rather than by tourists. There are of course some direction signs, but the majority of these shows directions to parking meters or car parks (one exception being two signs showing directions for S:t Gertrud) – that is, they all work within a micro context pointing out things just around the corner, or across the street. The small maps located at the bus

stops are, as was pointed out by a tourist in the questionnaire, important exceptions to this rule. A request for public information, also pointed out in the questionnaires, is the need of direction signs pointing to places further from the route, showing the direction to important places such as Stortorget, The Railway station, etc., thus connecting the place at hand to the wider context of the city.

Conclusions

How then do people use, experience and make sense of all this information? The data is not sufficient to draw any general conclusions on the impact; however, it could help us to make some notes on the relationship between public information and use.

Most signs and points of information seem to fulfil their purpose well, and almost all of them are in an excellent condition (although there are a few exceptions to both of these statements). However, if most signs are well kept and well placed, at the same time there seems to be no overview or strategy on how the different points or categories of public information relate to each other. The signs of public information instead tends to:

1) – be related to certain areas of interest such as traffic, thus prioritizing certain categories, such as car drivers, while neglecting others, such as pedestrians, tourists, commercial interests. This also leads to a hierarchy among the signs where road signs are allowed to block or partly conceal other kinds of signs.

2) – be concentrated in certain places, thus constituting sign agglomerations or clusters, sometimes to the point as to where signs show up in numbers that almost make them redundant.

3) – be connected to micro, rather than meso, or macro scale contexts, i.e. showing directions to places five or twenty meters ahead, but not to places further away, thus connecting to the wider context of the city (for example giving directions to other important places of the route, such as Värnhemstorget, or the City Centre, such as Gustav Adolfs Torg, etc.).

The findings listed above are issues that are important to consider and revise in suggestions for new developments along the route. Public information is an important aspect of every day life in public space and should be dealt with more thoroughly by planners and designers. The two urban rooms chosen for this study are actually the least intense part of the route. Even so, the number of road signs are vast, whereas other signs, such as directions signs and destinations signs connecting to a wider spatial context proves to be missing. A more comprehensive study would of course enable a more elaborated discussions and comparisons between different places and activities of the route, and also to the location of certain strategic areas and places for further development.. The point is, however, that new suggestions for design could benefit from a holistic perspective on public information. Since bus stops, street name signs, road signs, etc. are part of a larger system, these questions would also have to be connected to a macro scale context and to the city as a whole.

Further investigation could include comparing formal public information with other forms of information, such as informal public information, commercial information, etc. (graffiti, newspaper placards, commercial signs and billboards at storefronts). Another possible extension of this study could be a more far-reaching study, covering larger areas.

3.2. How Do the Characteristics of the Urban Walls Relate to the Activities that Take Place Along the Capital Route?

Relevant Sub-Questions for the City of Malmö

How do the urban walls relate to land use and user activity? What kinds of activities are affected? What components and subcategories of the urban walls seem to be the most important to these relations?

Scale of Investigation and Data Sets Reviewed

The investigation of the urban wall was conducted on an expanded urban room level where certain characteristics were examined also in other relevant spaces of the capital route than the five selected rooms. The data sets reviewed were accessible space, building entrances, façade transparency, land use and user activity. The questions are answered by a discussion of the representational value of the data layers used by going through the urban rooms along the capital route and trying to discover general patterns that describe the impact of the urban walls in an urban setting. The analysis should be read in conjunction with the analysis of the next question: How do the affordances or urban rooms relate to actual activities that are taking place which treats each individual urban room more individually.

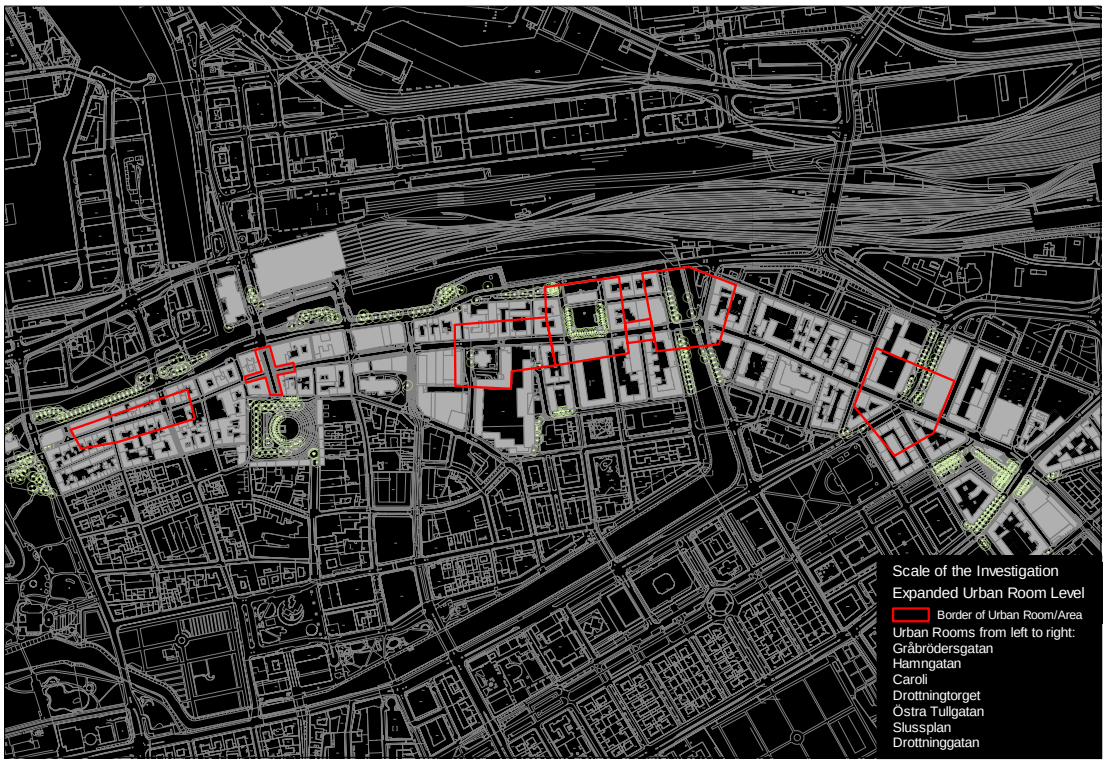

Figure 6. Scale of the Investigation – Expanded Urban Room Level Covering Most of the Capital Route

The Urban Wall and the Accessibility of Public Space

The basic assumption for this question is that the urban wall, as defined in the project (see deliverables D4.1 and D6.1), interacts with the activities that take place along the route, and the questions to be answered are how it does this and how much it does this. One important way that the urban wall can be represented to have an impact on public space is how it affects the accessibility of space, and here we can discuss both actual accessibility by foot, represented by the existence of entrances and accessibility by sight only as represented by the façade transparency layer. Another way of representing is by using the accessible space by day layer (figure 7).

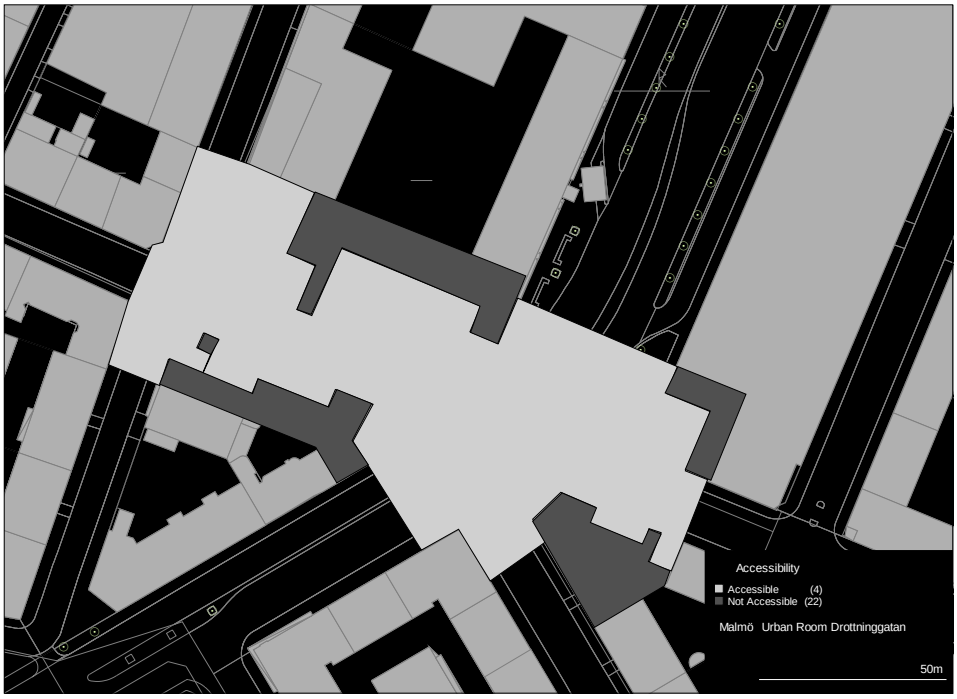

Figure 7. This and preceding page. Comparison of Two Ways of Representing the Urban Wall by Accessibility

Above, accessibility is represented by the location of public entrances and the depth of façade transparency. This way of representing gives us a key to certain visual characteristics of the capital route, i. e. the location of entrances which a passer-by would be scanning for and the transparency of the walls a passer-by would be trying to look through. It is thus a good representation to relate to activities that are connected to visual characteristics and activities which are analyzed on the basis of a constructed individual privileged user. If we want to know how an individual user could be navigating through the capital route, this would probably be a better representation to use. But let's not forget the merits of the representation below. That representation is not on that accessibility which we can see, but rather on the actual accessibility experienced by users (especially initiated or knowledgeable users who haven't necessarily relied on eyesight to find their way into this space. (They have an address for example). This type of map doesn't tell us where there are entrances or where there are windows but rather where we can expect to find people under any circumstances. It is thus a good representation to use in order to get a more complete picture of space use and the location of user activities than the left one. To conclude then, both representations are useful for different purposes. In the following, however, we have chosen to interpret the question in relation to the first (above) of these representations. We are thus representing the Urban Wall primarily in its aspects of entrance locations and transparencies. Now have a look at the other urban rooms using this representational view. (figure 8-13).

Even at a first glance, it is immediately obvious that there is a fairly correlated relation between the number of public entrances and a deep transparency of the buildings. This is to be expected even though there are some notable exceptions, for example the Skanska building on Drottningtorget where a first floor deep transparency of an office building doesn't add any public entrances to the square. It is fair to say that there is a difference between the ground floor transparency of an office glass building like that one and a number of small shops with negligible transparency and a real number of public

entrances like for example on Östra Tullgatan or the very active spot north of the Caroli Church. On the other hand the correlation seems to hold well on Gråbrödersgatan, dominated as it is by offices, keeping a low number of public entrances and a low level of transparency.

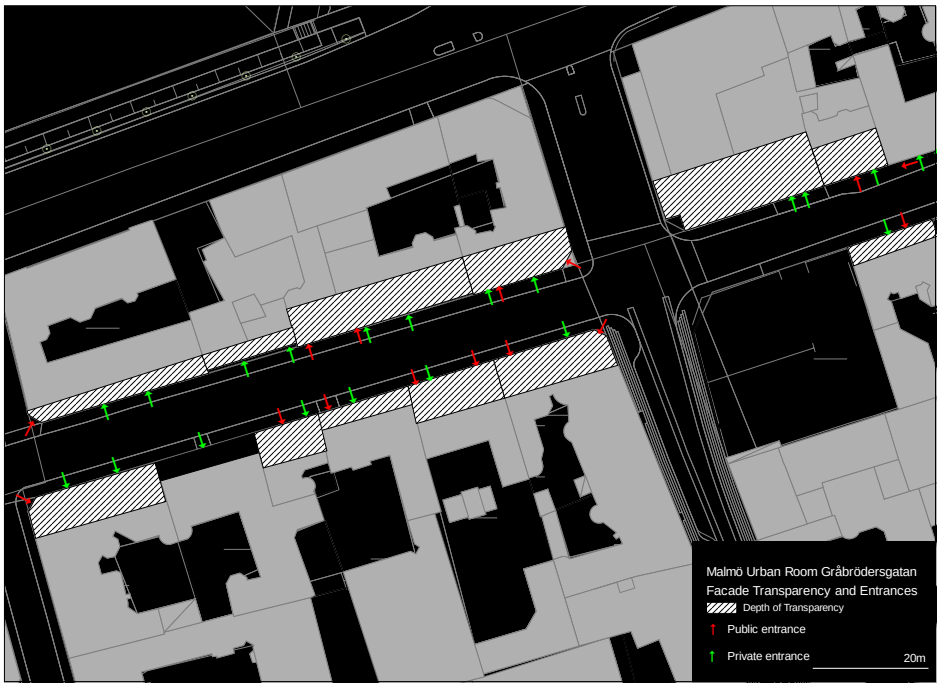

Figure 8. Malmö Urban Room Gråbrödersgatan, Accessibility by Entrances (Private/Public) and Façade Transparancy (depth).

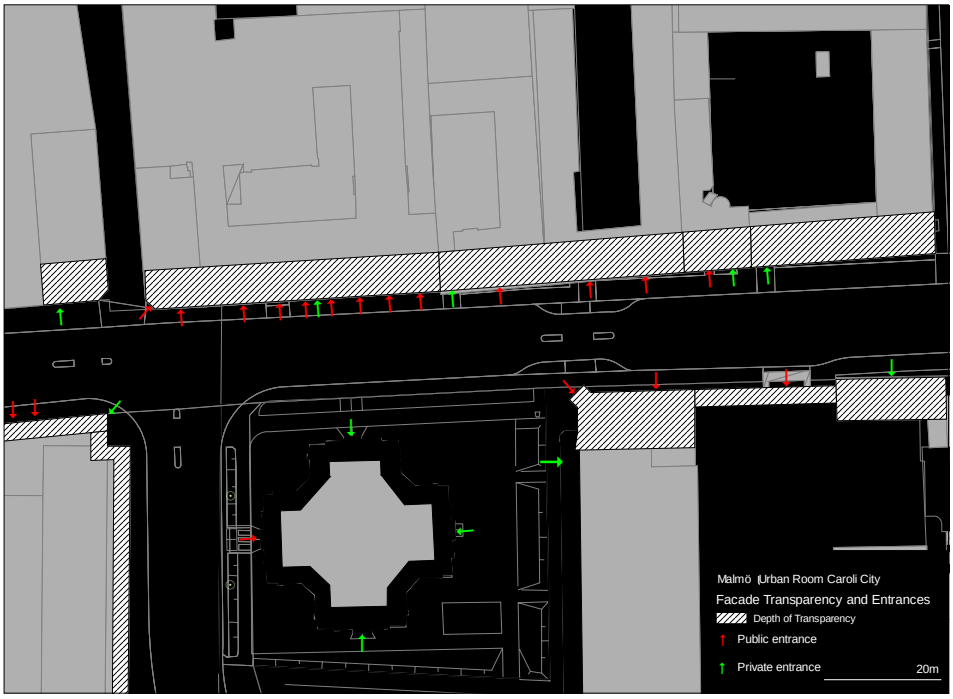

Figure 9. Malmö Urban Room Caroli, Accessibility by Entrances (Private/Public) and Façade Transparency (depth).

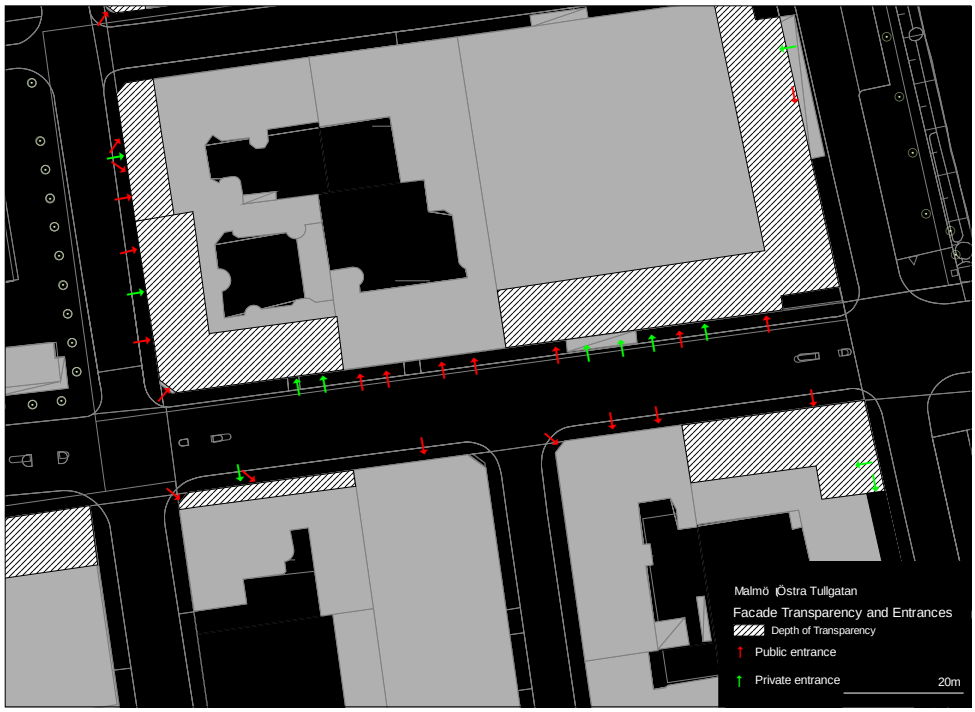

Figure 10. Malmö Urban Room Östra Tullgatan, Accessibility by Entrances (Private/Public) and Façade Transparency (depth).

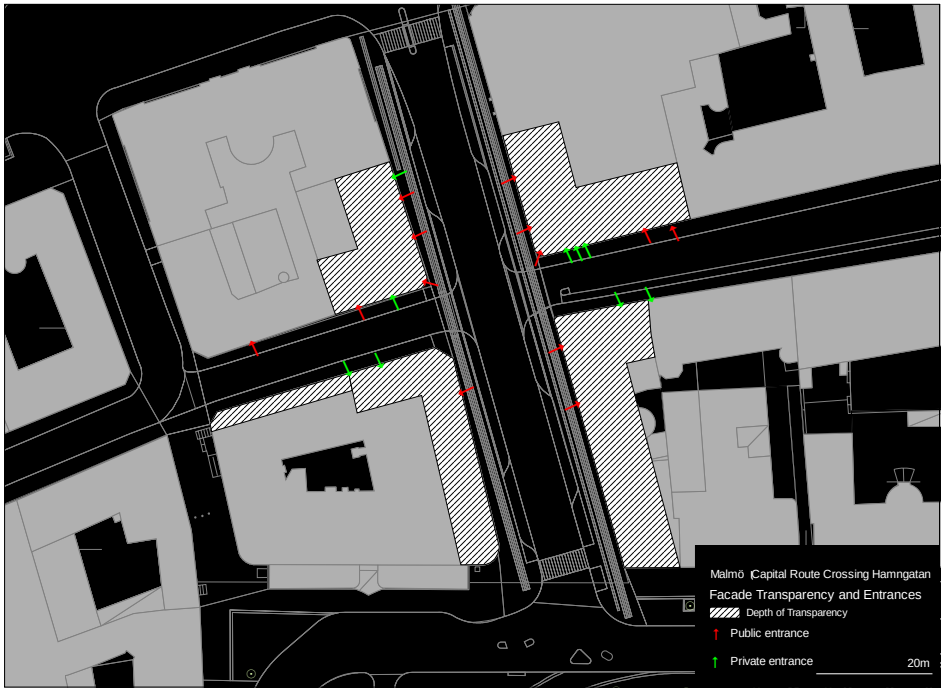

Figure 11. Malmö Urban Room Hamngatan, Accessibility by Entrances (Private/Public) and Façade Transparency (depth).

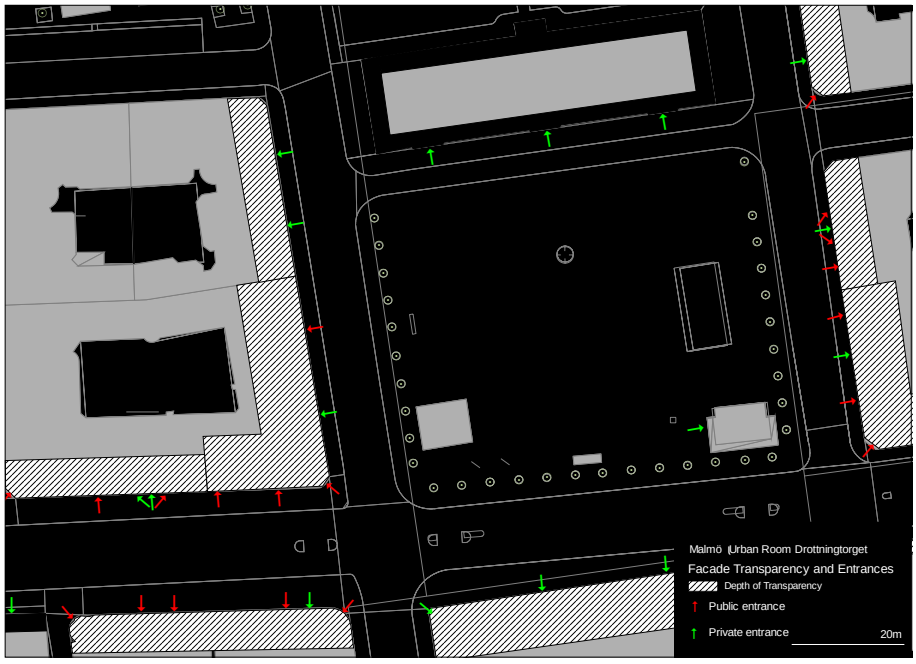

Figure 12. Malmö Urban Room Drottningtorget, Accessibility by Entrances (Private/Public) and Façade Transparency (depth).

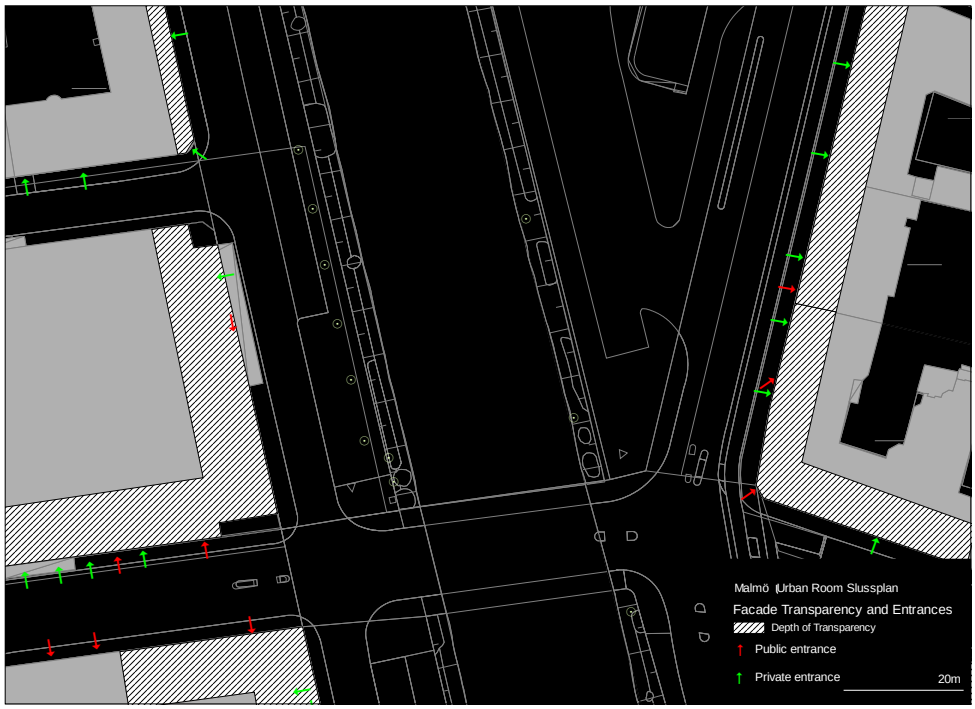

Figure 13. Malmö Urban Room Slussplan, Accessibility by Entrances (Private/Public) and Façade Transparency (depth).

The next step in our analysis is to examine how these characteristics of the urban wall (entrances and transparency) correlates with activity and landuse. First. Let's have a look at the uses of land along the Capital Route in relation to transparency and the location of entrances

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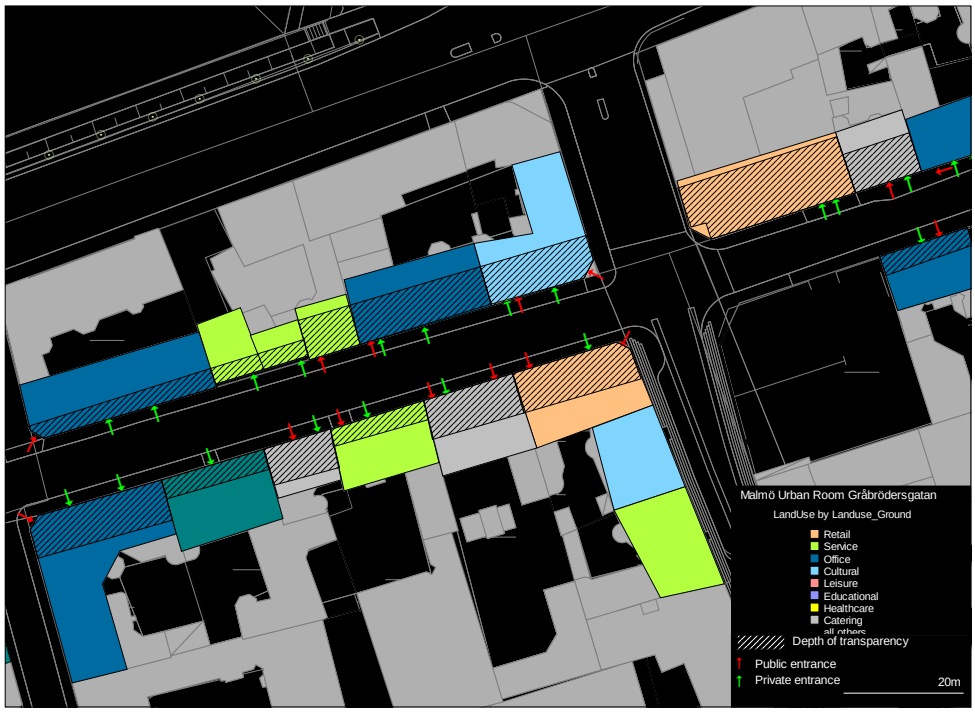


Figure 14. Malmö Urban Room Gråbrödersgatan, Ground Floor Land Use, Transparency and Building Entrances.

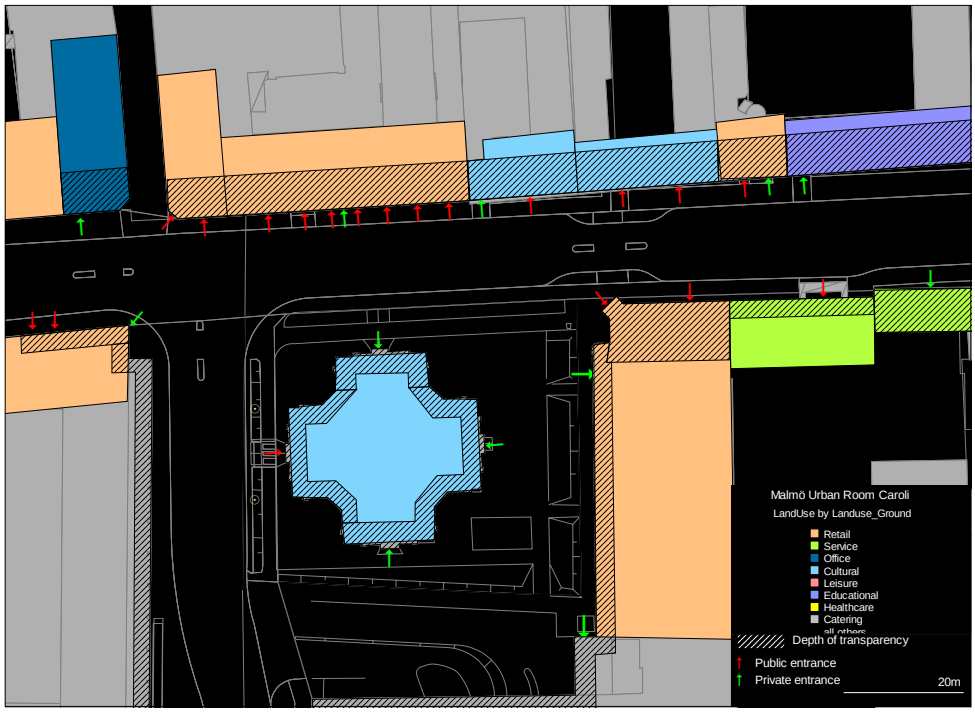


Figure 15. Malmö Urban Room Caroli, Ground Floor Land Use, Transparency and Building Entrances.

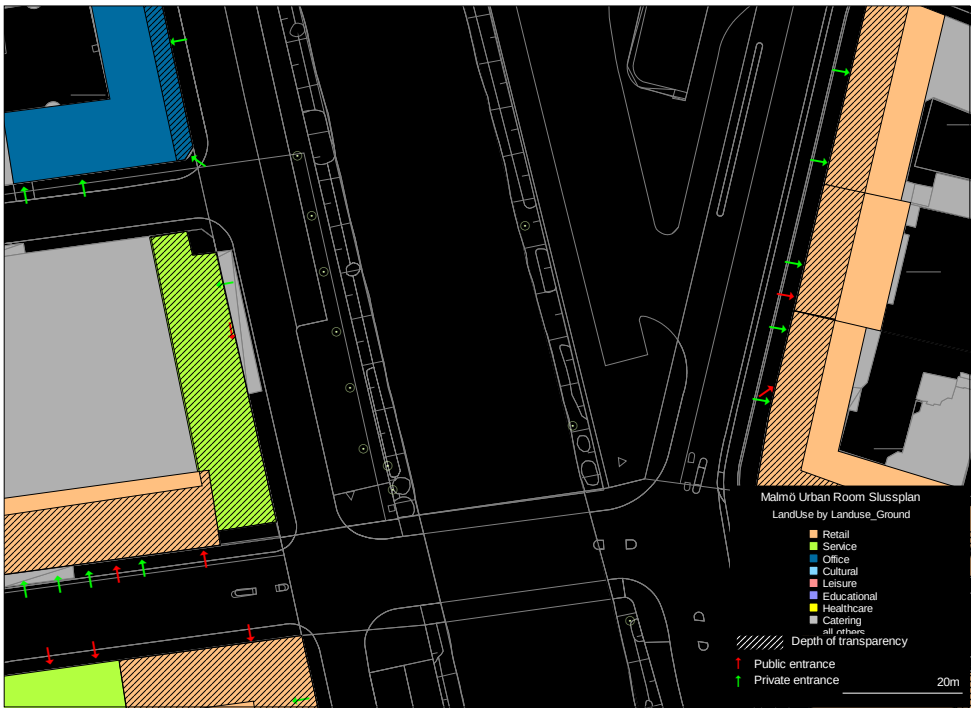


Figure 16. Malmö Urban Room Slussplan, Ground Floor Land Use, Transparency and Building Entrances.

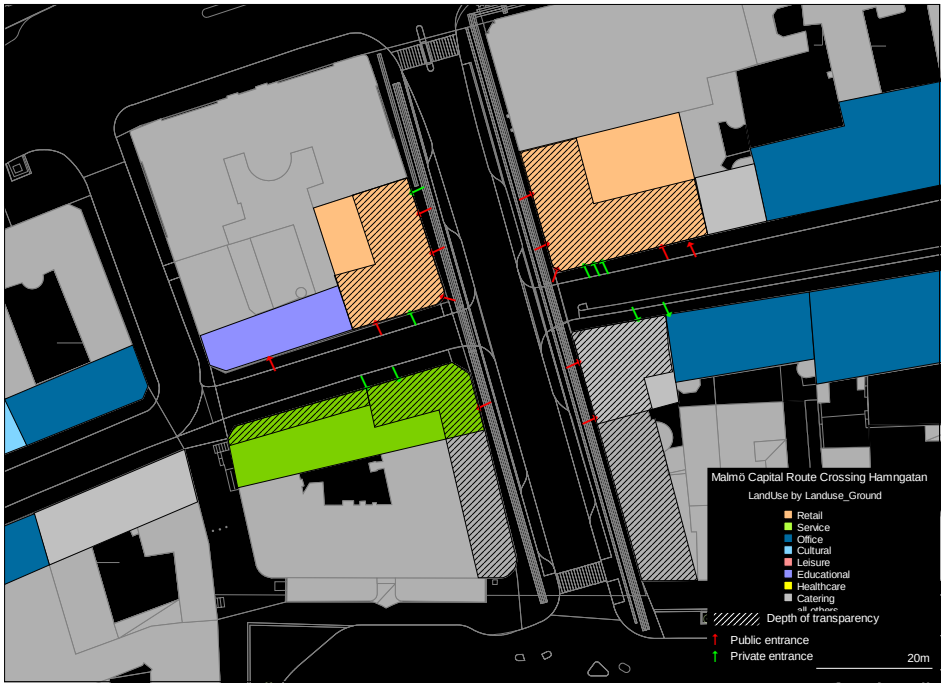


Figure 17. Malmö Urban Room Hamngatan, Ground Floor Land Use, Transparency and Building Entrances.

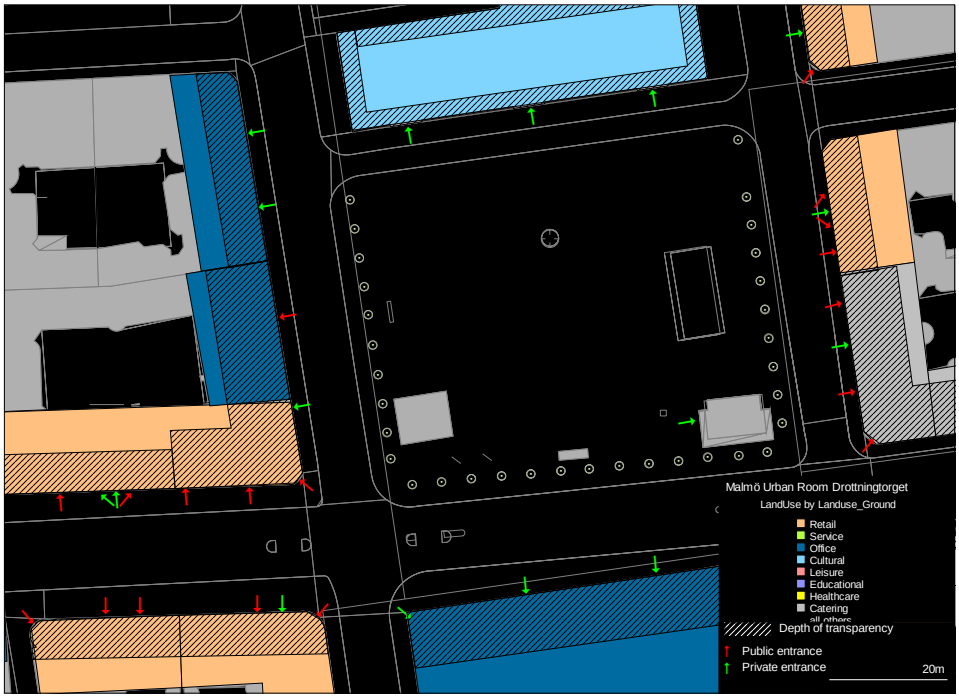


Figure 18. Malmö Urban Room Drottningtorget, Ground Floor Land Use, Transparency and Building Entrances.

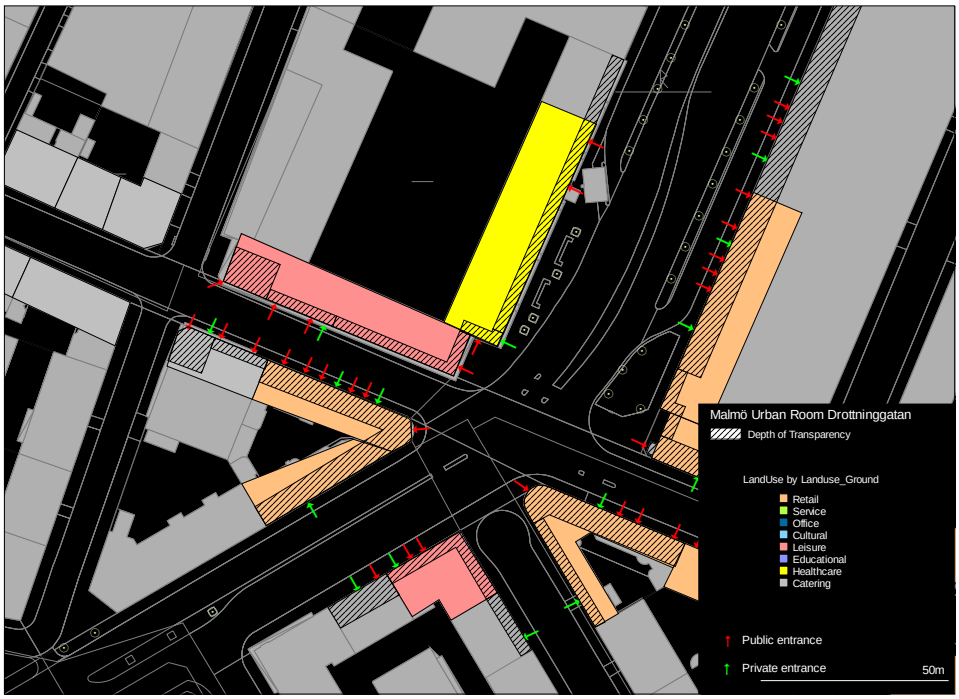


Figure 19. Malmö Urban Room Drottninggatan, Ground Floor Land Use, Transparency and Building Entrances.

How does the Urban Wall Relate to Land Use?

The Urban Room Gråbrödersgatan can be described as a capital route crossing. It is situated in an area with a lot of offices. This is reflected in a relatively low transparency of many of the façade segments. Notice also that the retailers are located at the commercially strategic positions of the corners where the route crossing actually is. The Hamngatan capital route crossing is a similar case. Transparency and retailers have taken the corners while offices are located further west or east. The Caroli urban room is different. Here there is no real traffic going north-south and retailers have instead chosen to locate in the vicinity of the "square", perhaps also relying on the magnet factor of the big shopping mall. These retailers don't seem to enjoy much transparency either. That the mall attractiveness probably is a bigger factor for the retailers than the square is clearly emphasized by the next picture of Drottningtorget, where the square itself is on two sides populated only by offices and on a third by a not so successful magnet which today houses "Humanitetens hus" – A Red Cross Museum. Only on the eastern side retail and catering dominate, and here they relate more to the short stretch of Östra Tullgatan where there are more retailers and catering, rather than to the square. Taken together it seems clear that Drottningtorget itself is part of the dividing factors of the Malmö capital route. Here land use and transparency seems to follow the more frequent pattern of relating retail and catering to a fairly high transparency level. Looking at the last two spaces, the important traffic crossings of Slussplan and Drottninggatan they again seem to follow the logic of the corner, where retailers and in the case of Drottninggatan also leisure land use is located. In the case of leisure however, it seems that the factor of the correct address is more important than the transparency of the building, as both façade segments wherein there is leisure land use are fairly non-transparent.

How does the Urban Wall relate to Activities?

For our last question, let's take a look at figure 20 below. Each recorded activity during a period of two morning hours was registered in order to try to find a relation between that activity and any form of interaction with the urban wall (including not only the ones we have used here in our analysis but also façade form and façade usability. The result give us that except for certain cases (as when a class of school-children are being guided by a teacher) the most common interaction seems to be with the transparency of the wall. This is due not only to the factor of being able to look into it and see something interesting but also due to that when the observation took place it was a fairly dark morning in December and the light that came from the windows had a non-negligible effect on the passers-by. Not less than 29 cases were observed. On the other hand at least 10, and more varied cases at that, were observed when the relation to the entrances seemed to be the most critical. This data is heavily influenced by the activities of loading and unloading which normally take place during these hours of the streets morning rhythm. But why were there no people behind the very transparent shops and some people behind the less transparent bank window, the trained observer may ask? Well, that is easily explained by the hours of work and the opening hours of Sweden, where the shops normally don't open before 10 am and the bank office personnel begins work at 8 am. Time, as always, is an important factor in any analysis of capital routes.

Figure 20. Malmö, Urban Room Hamngatan, Relation between Urban Walls and User Activity.This figure might give some first ideas/hints of interesting relations for further investigation.

3.3. How Do the Affordances of Urban Rooms Relate to Actual Activities that Take Place?

Relevant Sub-Questions for the City of Malmö

What are the offerings and possibilities of the urban rooms, and how well do they correspond to the activities that are taking place? How do they affect the formation and constancy of flows and assemblages?

Scale of the Investigation and Data Sets Reviewed:

Data was reviewed along the capital route on the urban room level with the addition of two spaces (Hamngatan and Östra Tullgatan) which were interesting enough to warrant their inclusion. This was identical to the scale of investigation in the previous question: How do the characteristics of the urban walls relate to the activities that take place along the capital route. See figure 7. The data sets reviewed were floor planes, building heights, land use and gate counts. These data sets were compared to the user activity layer from urban experiences. The questions were answered after a brief general description of the data layers used by going through the urban rooms individually and answering the questions directly in relation to each urban room.

Floor Planes and Building Heights – General Description

Generally the rock hard spaces of the Malmö capital route urban rooms consist of a large number of different hard surfaces, and softer surfaces like water or grass are very restricted in area. Building heights are on an international scale low and street width is wide which gives ample opportunities for the sun to reach down into the urban rooms of the capital route of Malmö.

Land Use – General Description

Generally the land use along the Malmö capital route is mixed-use. Either retail and offices share the same building or retail and housing does.

The Urban Rooms - Drottninggatan

Drottninggatan, as an example of an urban room along the capital route can be described as a room that is dominated by traffic. Each hour about 1200 vehicles pass through this point, most of them heading either north towards Lund, southwest towards the western and southern parts and suburbs of Malmö or east towards the eastern parts and suburbs of Malmö.

How does this affect the offerings and possibilities of the urban room? First of all, the land use on the ground level is dominated by retail and leisure. In addition, part of this leisure land use has a regional impact. The Big Bowl entertainment centre is a magnet attractor not only for residents of the city centre, for the city at large and for the suburbs but also for the region as a whole. Thus, if this example holds, it seems that traffic has a strong relation to the land uses of the ground level. However, looking at the land uses for the first floor, this picture drastically changes. Land use from the first floor and upwards is mainly housing and housing has a very different relation to traffic than ground floor use. Mixed use housing is clearly the picture in this important crossing. However, the prominence of vehicular traffic in an area with that much housing leaves us certain questions about the desirability and attractiveness of this spot. Pedestrians move in a different pattern, where the retail of Östra Förstadsgatan towards the southeast seems to play a prominent role. Also notable about Drottninggatan as a space is that the 1960's traffic solution with a created appendix street adjacent to the two crossing axis's creates some peculiarities in the floor plane which could easily be redesigned into something that is more relevant to the actual space use today. The extremely wide Drottninggatan that

includes not only the thoroughfare but also two parallel streets (50 m) is 20 m wider than the Ramblas in Barcelona (although it is still not as wide as Paseo de Gracia) holds some green space through the plantation of trees but is as a whole a space that could benefit from design interventions. Notice also that in these eastern parts of the route the street material of choice is concrete asphalt rather than the paving stones prominent in the western parts of the route (figures 21 to 24)

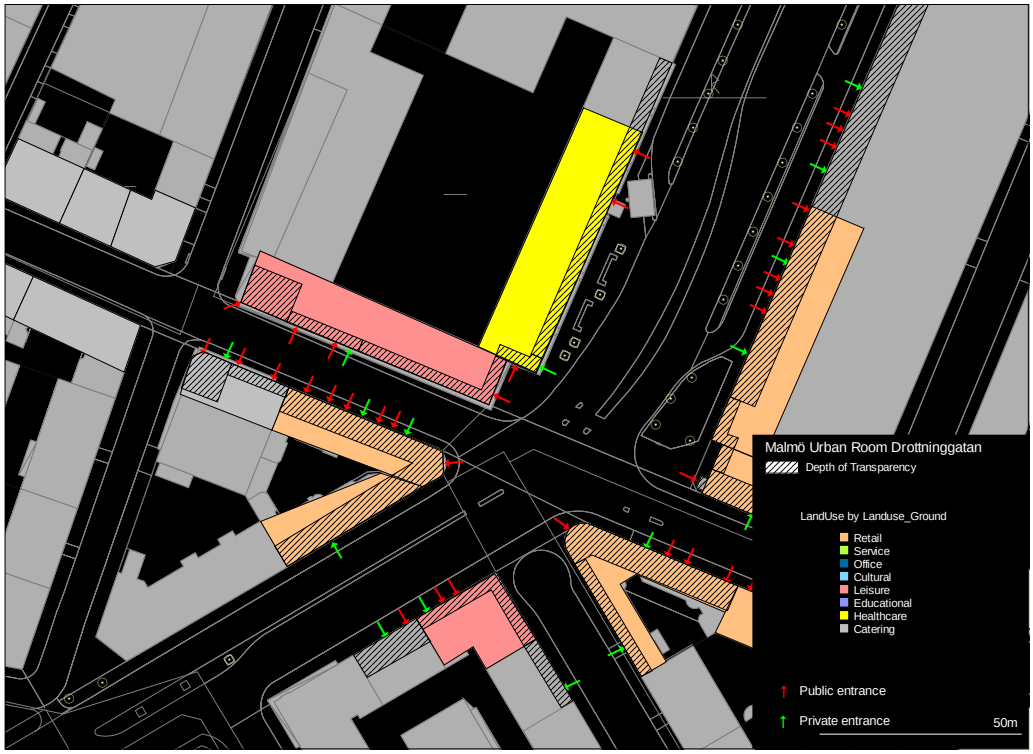


Figure 21. Malmö Urban Room Drottninggatan. Depth of Transparency, Land Use by Ground Level Land Use and Entrances by Public/Private.

Figure 22. Malmö Urban Room Drottninggatan. Floorplanes by Type and Building Heights by Number of Stories.

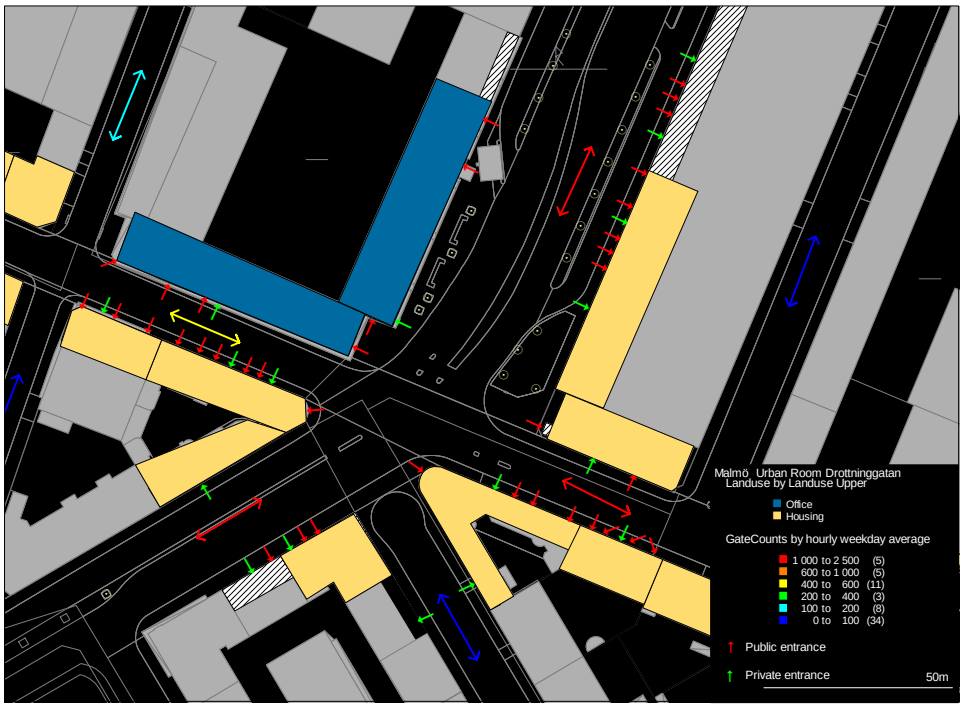


Figure 23. Malmö Urban Room Drottninggatan. Land Use by Land Use on the First Floor and Gate Counts by Vehicular Traffic on a Weekday Hourly Average Rate. Gate Counts Numbers in Parenthesis Refer to The Total Numbers of Gate Counts Along the Capital Route.

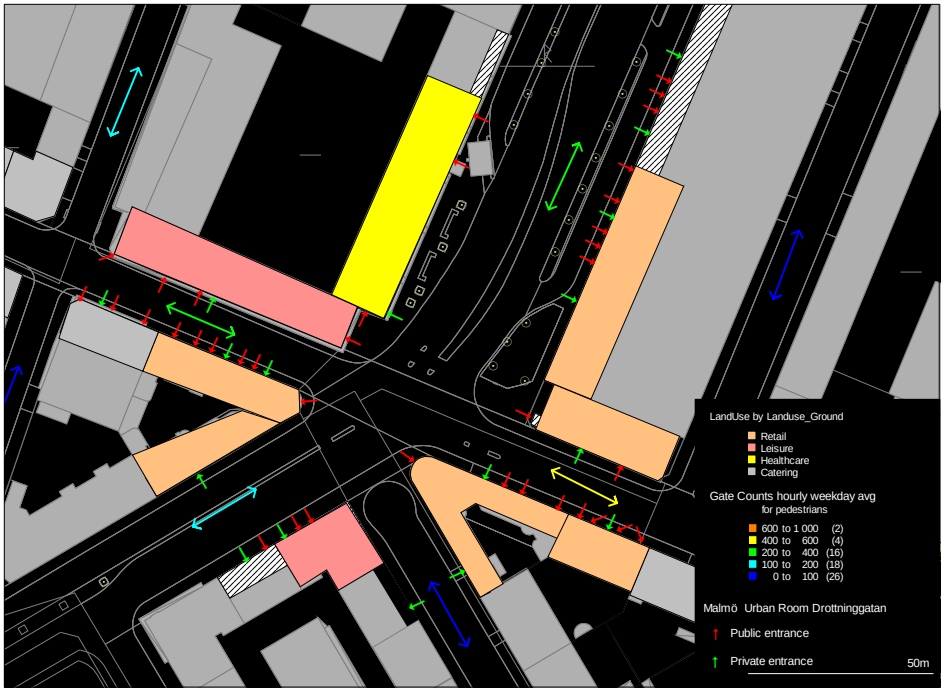


Figure 24. Malmö Urban Room Drottninggatan. Land Use by Land Use on the Ground Level and Gate Counts by Pedestrians on a Weekday Hourly Average Rate. Entrances by Public/Private. Gate Counts Numbers in Parenthesis Refer to The Total Numbers of Gate Counts along the Capital Route.

The Urban Rooms - Gråbrödersgatan and Hamngatan

Gråbrödersgatan and Hamngatan are located in the westernmost part of the route and are examples of spaces of the western part of the route. Although they share a number of important characteristics, they are also very different. Take a look at the land use difference in the first floor. Where Gråbrödersgatan is clearly part of a residential area – Hamngatan is not. The process of offices replacing housing along the southern axis – one of the two main candidates for the capital route set out in WP2 and WP3 has been completed along Hamngatan (although it can also be possible that this is an effect which has its origin in early 20th century commercial developments related to Hamngatan itself), while Gråbrödersgatan, an important north-south route indeed still is an area where housing and mixed use is predominant (A3_5 through A3_10).

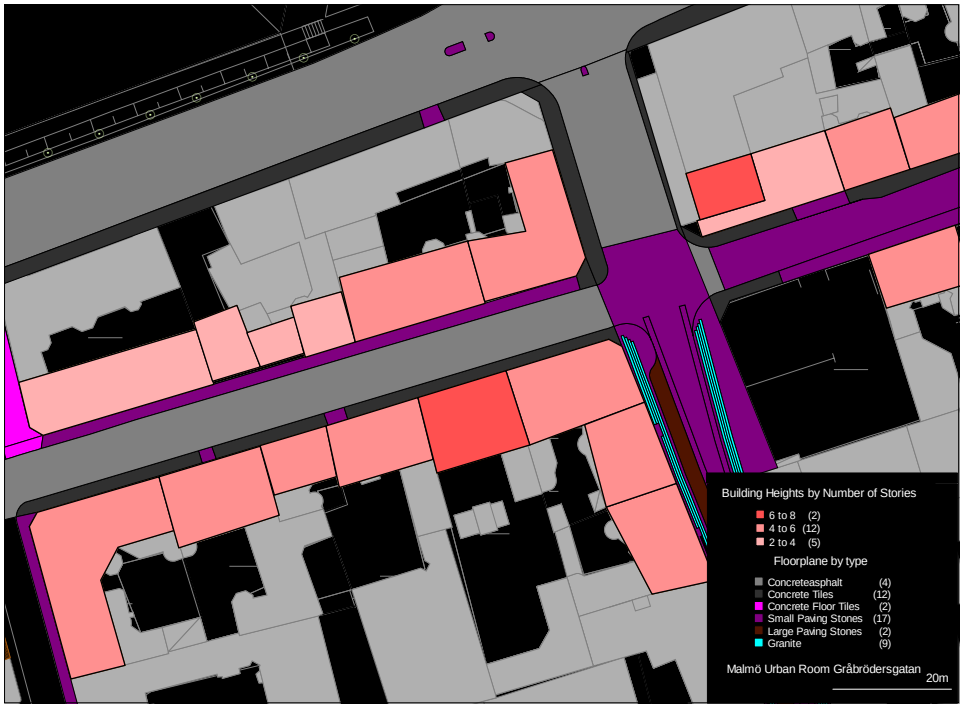


Figure 25. Malmö, Urban Room Gråbrödersgatan, Building Heights (by Number of Stories) and Floor Planes (by Type).

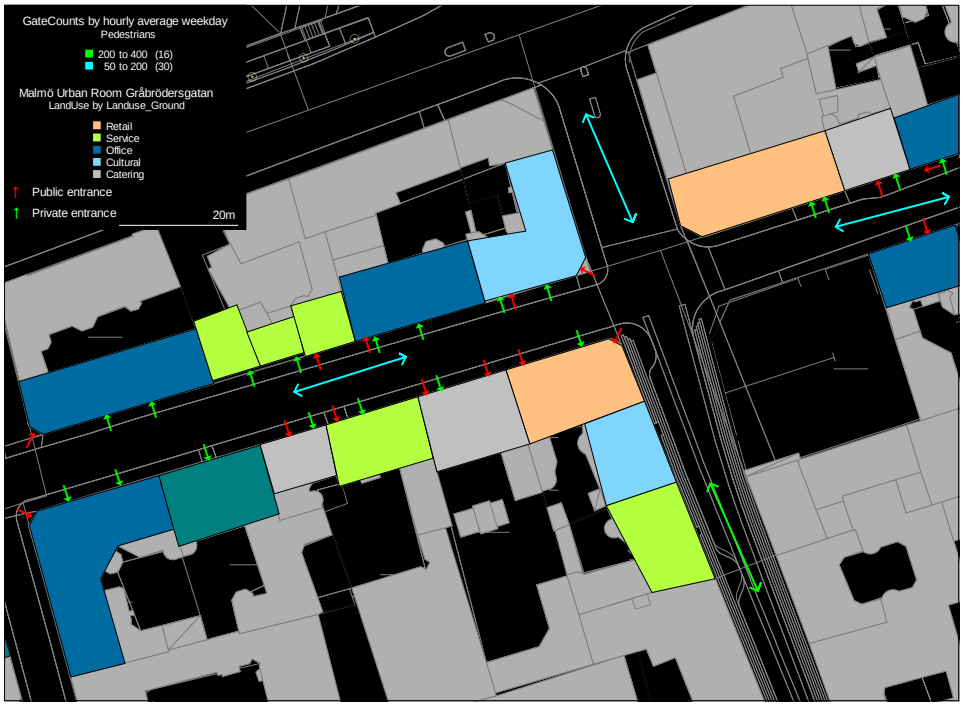


Figure 26. Malmö, Urban Room Gråbrödersgatan, Building Entrances (Public/Private), Ground Floor Land Use, and Gate Counts (Pedestrians, Weekdays).

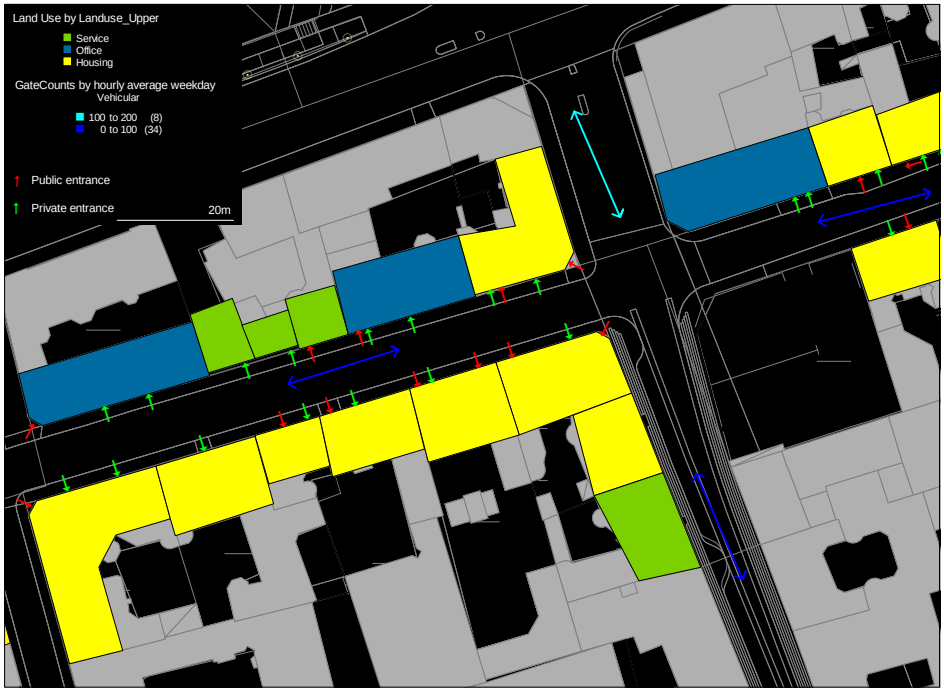


Figure 27. Malmö, Urban Room Gråbrödersgatan, Building Entrances (Public/Private), Upper Floor Land Use, and Gate Counts (Vehicles, Weekdays).

Figure 28. Malmö Urban Room Hamngatan, Building Heights (by Number of Stories), and Floor Planes (by Type).

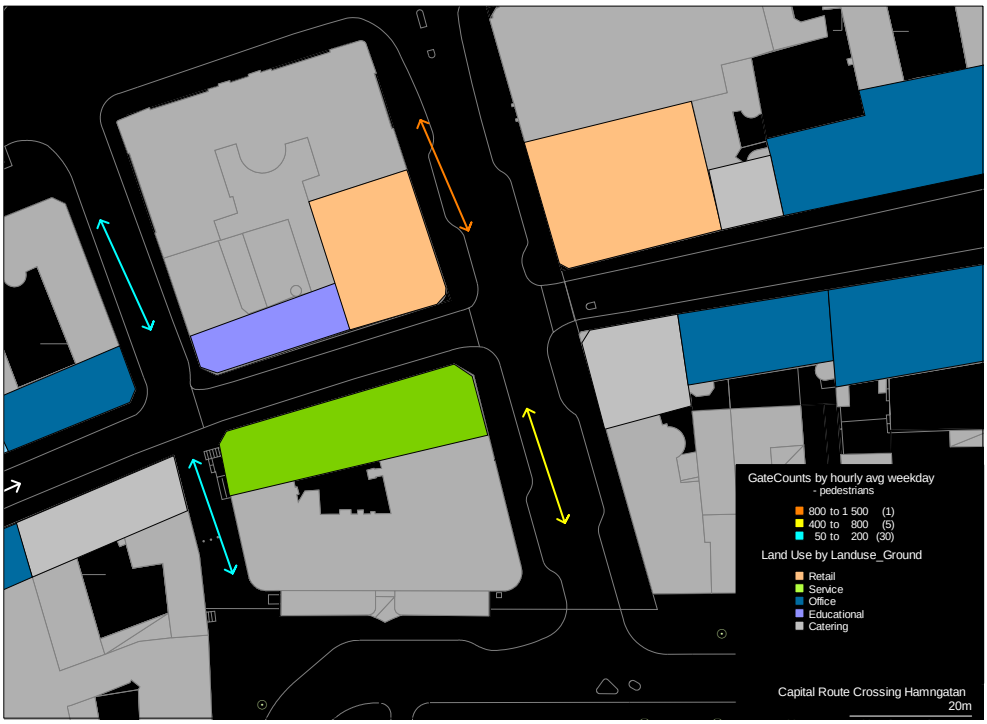


Figure 29.. Malmö, Urban Room Hamngatan, Gate Counts (Pedestrian, Weekdays) and Ground Floor Land Use.

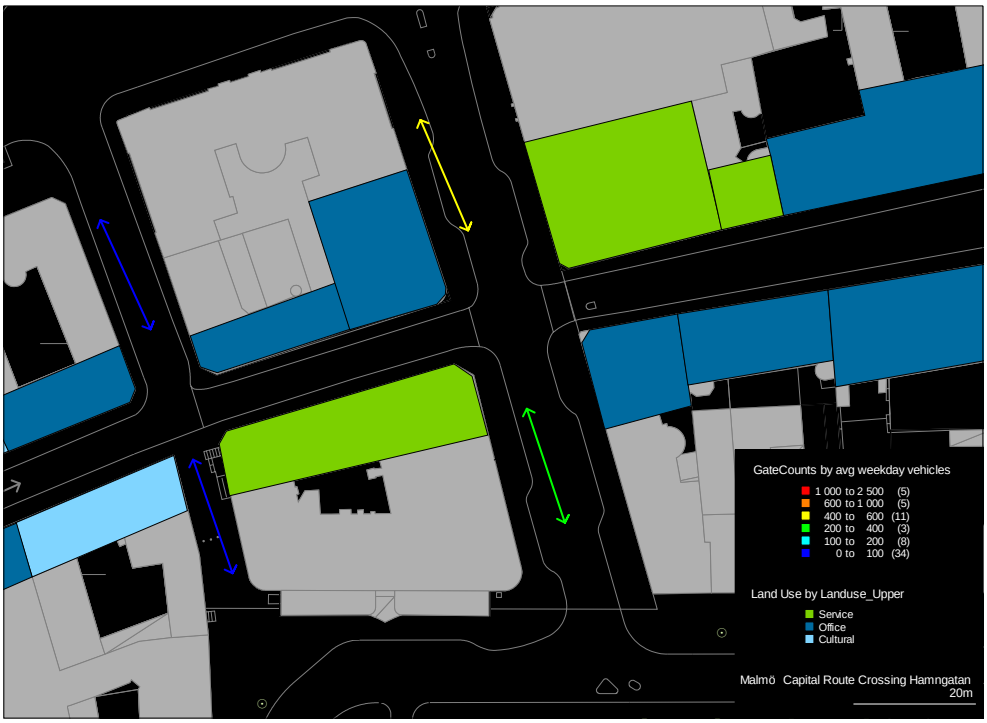


Figure 30. Malmö, Urban Room Hamngatan, Upper Floor Land Use, and Gate Counts (Vehicles, Weekdays).

The Urban Rooms – Caroli and Drottningtorget

These spaces, located in the centremost parts of the Malmö capital route are among the most interesting of the route. There are two concentrations of powerful spatial and social impact going on in these spaces:

1) It is the location of several historical and cultural sites of the highest interest on the Malmö route. The Caroli Church (19th century) replaced the older German Church which dated back to the important Hanseatic Malmö Medieval past. The S:t Gertrud cultural block houses activities in distinguished environments. The Drottningtorget square is a 19th century expansion beyond the medieval gate when the fortifications were torn down and has the old cavalry building from 19th century warfare still standing.

2) It is the location of the commercially largest in volume spot along the route today – the Caroli Mall.

These powerful spatial influences contend with a number of smaller what we can say spatial conflicts or problems that we can identify:

1) The retailers on the street receive very little of the ongoing pedestrian traffic which is concentrated to the entrance of the Caroli Centre. This is especially true for the retailers on the north-eastern side of Drottningtorget. The relations between the larger commercial powers (like the forces behind the Caroli Centre) and the smaller (like the retailers and catering entrepreneurs) can be a source of problems and potential in these spaces, as has also been seen in local discussions.

2) The amount of housing that is still situated on the Drottningtorget itself is very unusual in such a central part of Malmö, where other squares like Gustav Adolfs Torg or

Stortorget have been largely taken over by offices. (See Hamngatan where the Stortorget structure clearly is in effect). This could lead to contentions for rent between housing agents and office agents or it could mean a potential for mixed use futures.

The cultural agents, such as the City of Malmö or the Church of Sweden, having such a large influence in this area might develop spatial influence in one way or another here which can have a large impact on the future of these spaces, given the relative large amount of buildings which are controlled by these organizations (figure 31).

Figure 31. Malmö Urban Room Caroli. Floor Planes by Type and Building Heights by Number of Stories.

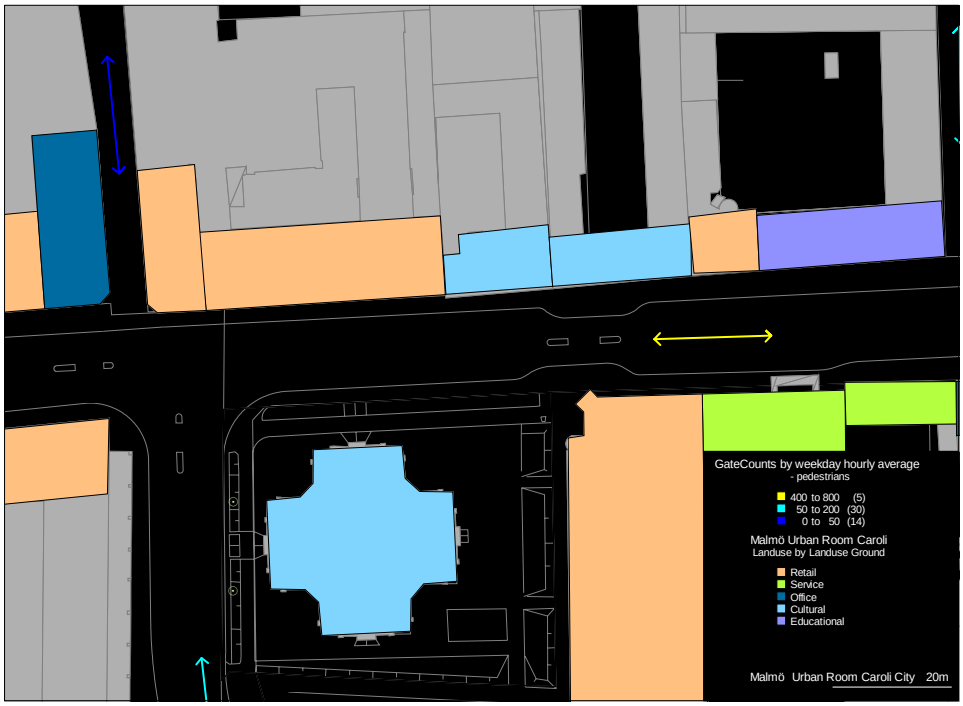


Figure 32. Malmö Urban Room Caroli. Land Use by Land Use on the Ground Level and Gate Counts by Pedestrians on a Weekday Hourly Average Rate. Gate Counts Numbers in Parenthesis Refer to The Total Numbers of Gate Counts Along the Capital Route.

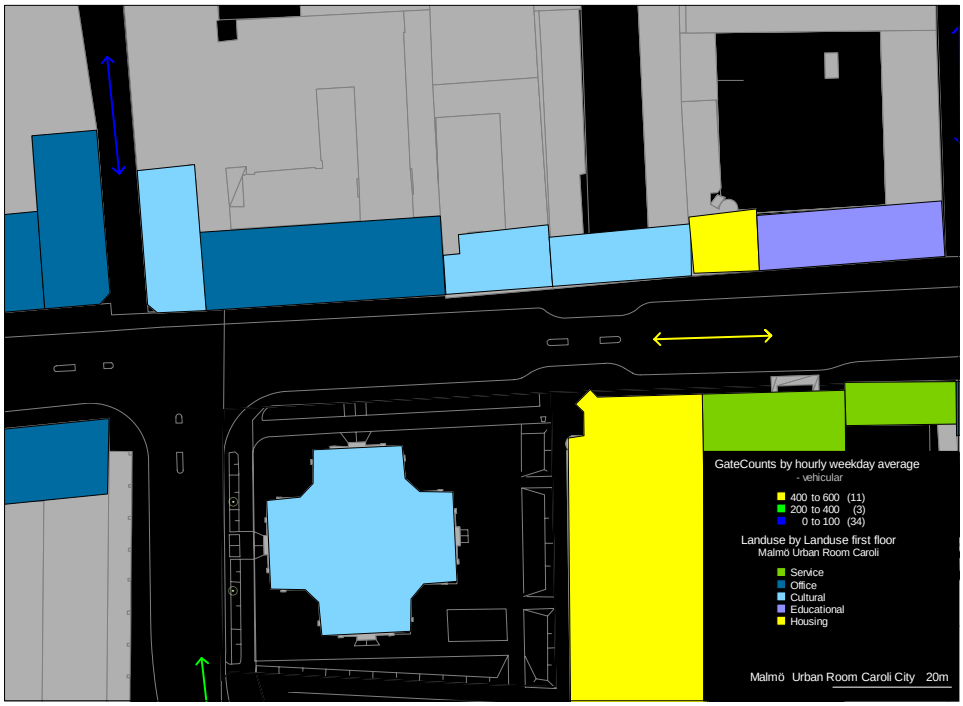


Figure 33. Malmö Urban Room Caroli. Land Use by Land Use on the First Floor and Gate Counts by Vehicular Traffic on a Weekday Hourly Average Rate. Gate Counts Numbers in Parenthesis Refer to The Total Numbers of Gate Counts Along the Capital Route.

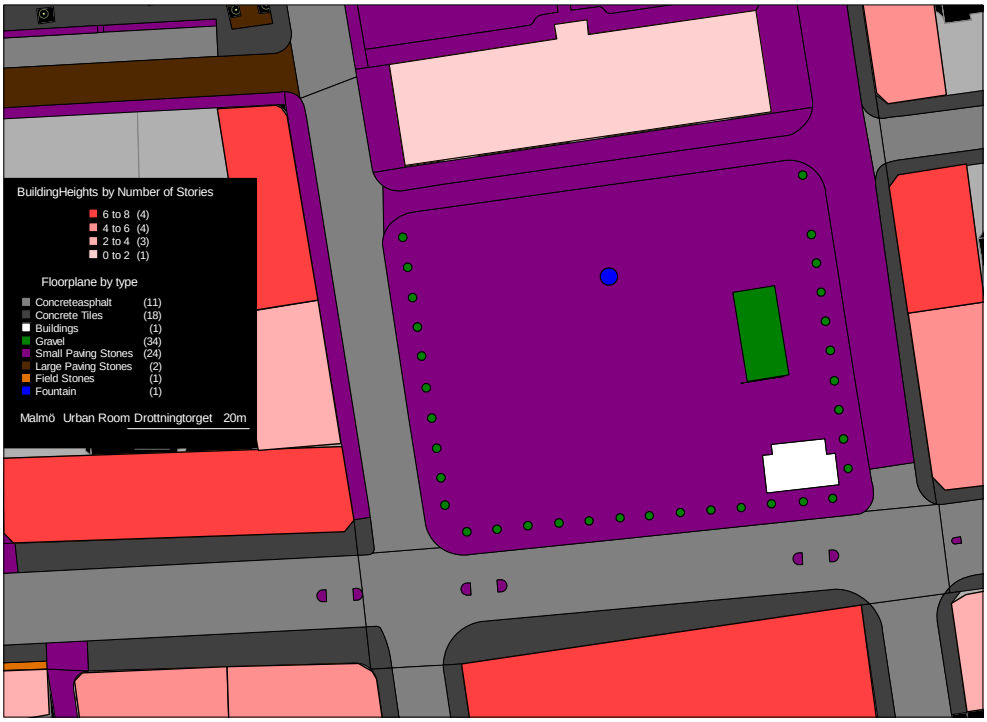


Figure 34. Malmö Urban Room Drottningtorget.Floor Planes by Type and Building Heights by Number of Stories.

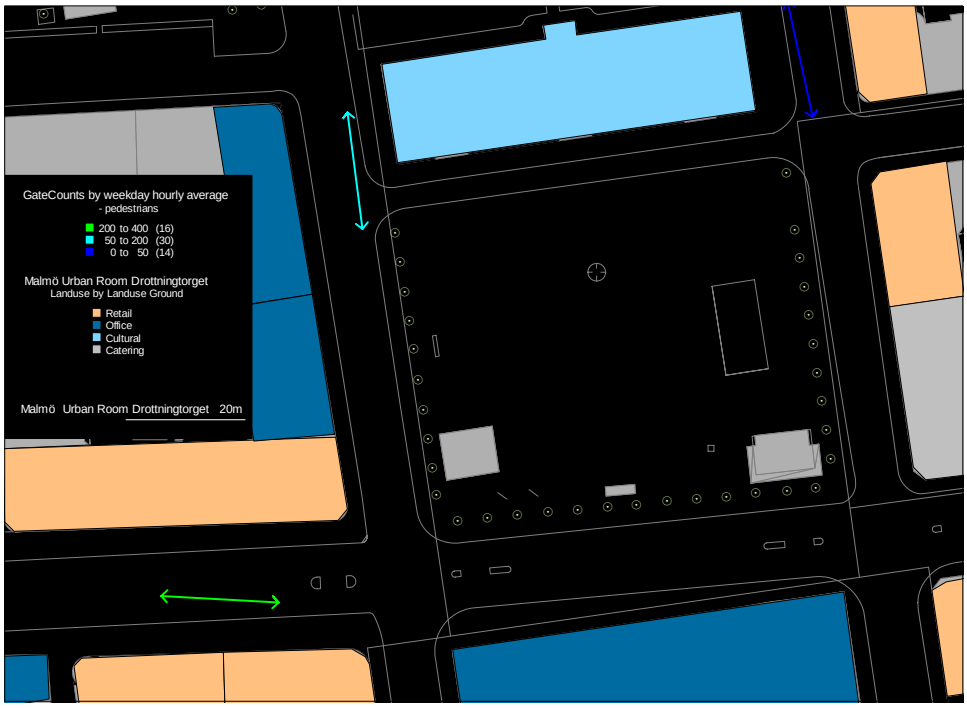


Figure 35. Malmö Urban Room Drottningtorget. Land Use by Land Use on the Ground Level and Gate Counts by Pedestrians on a Weekday Hourly Average Rate. Gate Counts Numbers in Parenthesis Refer to The Total Numbers of Gate Counts Along the Capital Route.

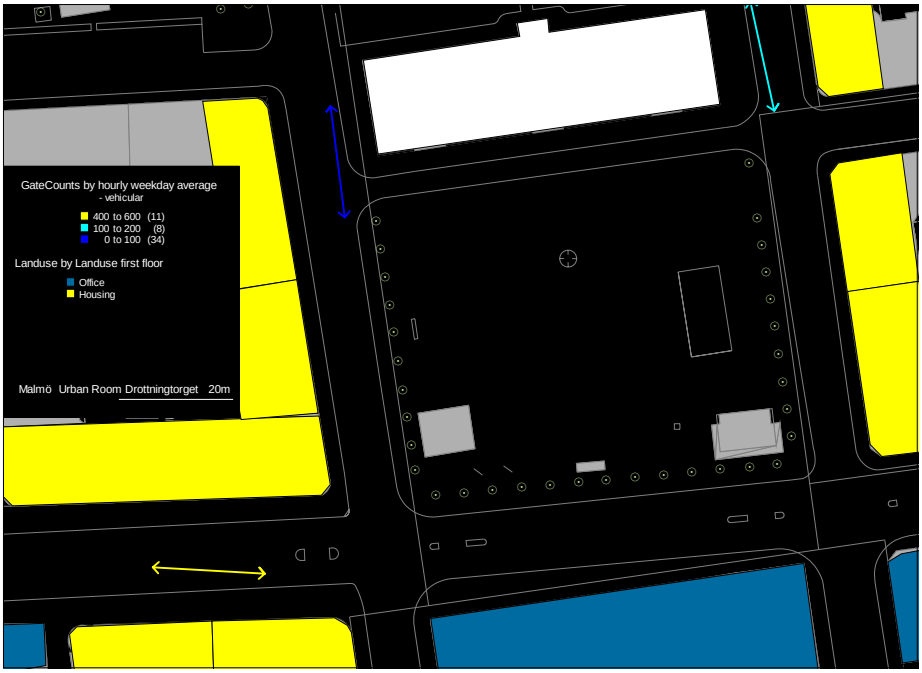


Figure 36. Malmö Urban Room Drottningtorget. Land Use by Land Use on the First Floor and Gate Counts by Vehicular Traffic on a Weekday Hourly Average Rate. Gate Counts Numbers in Parenthesis Refer to The Total Numbers of Gate Counts Along the Capital Route.

The Urban Rooms - Östra Tullgatan and Slussplan

Moving towards the eastern parts of the route, (which would be Drottninggatan, Östra Förstadsgatan and Värnhemstorget), there is a radical change in the spatial and social layout of the route. Slussplan itself dramatically emphasizes this break spatially by the presence of the canal (or rather: moat) and also socially by the switch into a classic mixed-use land use with retail on the ground floor and housing above. This is very much the land use championed by Jane Jacobs in the 1960:s as socially sustainable. But given a closer look at the floor planes where the main social interaction takes place on the sidewalk (according to Jacobs) this feature seems conspicuously absent in favour of vehicular spatiality. See the green line for the pedestrian gate counts signifying a large amount of pedestrians moving in that direction conflicting with the yellow vehicular lines signifying the importance of this space as a vehicular traffic space. The solving of this conflict should be high on any agenda for this part of the route (figure 37 through 42).

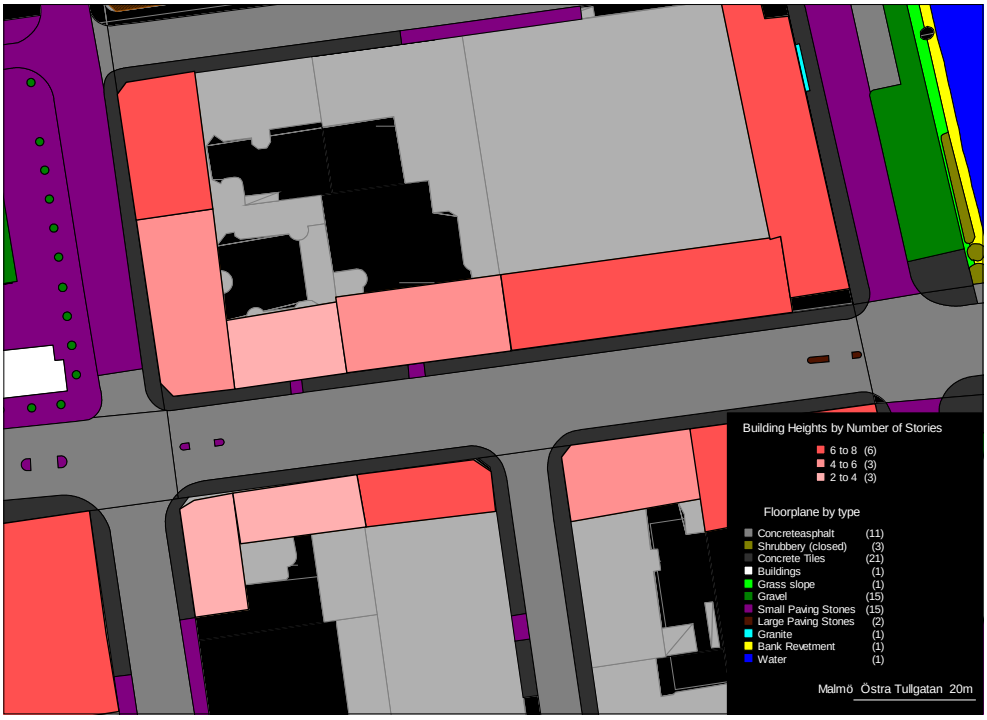


Figure 37. Malmö Urban Room Östra Tullgatan. Floor Planes by Type and Building Heights by Number of Stories.

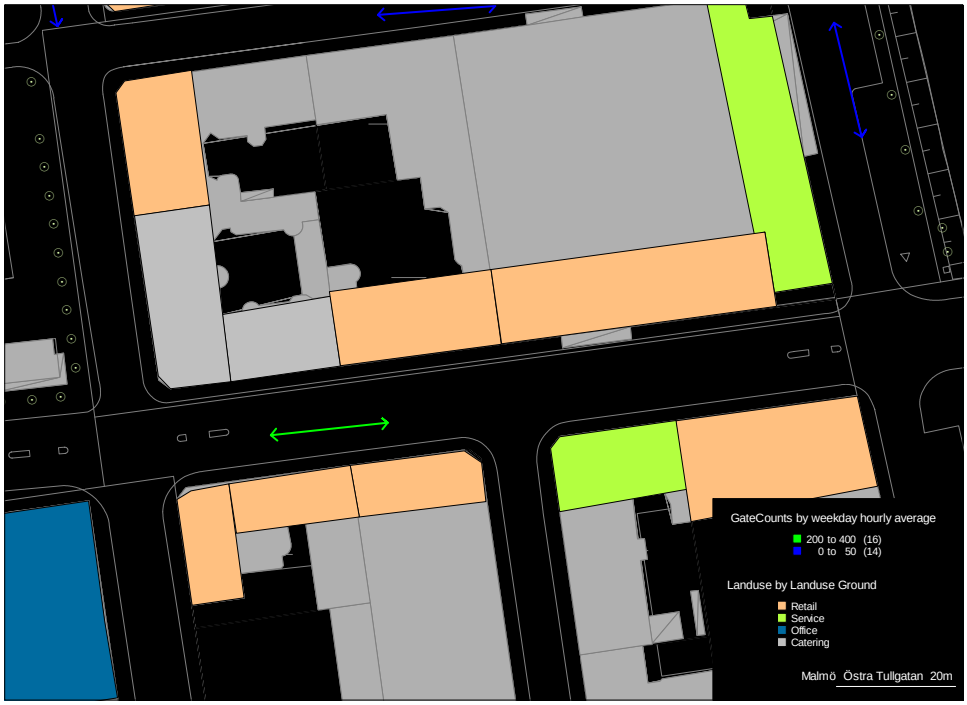


Figure 38. Malmö Urban Room Östra Tullgatan. Land Use by Land Use on the Ground Level and Gate Counts by Pedestrians on a Weekday Hourly Average Rate. Gate Counts Numbers in Parenthesis Refer to The Total Numbers of Gate Counts Along the Capital Route.

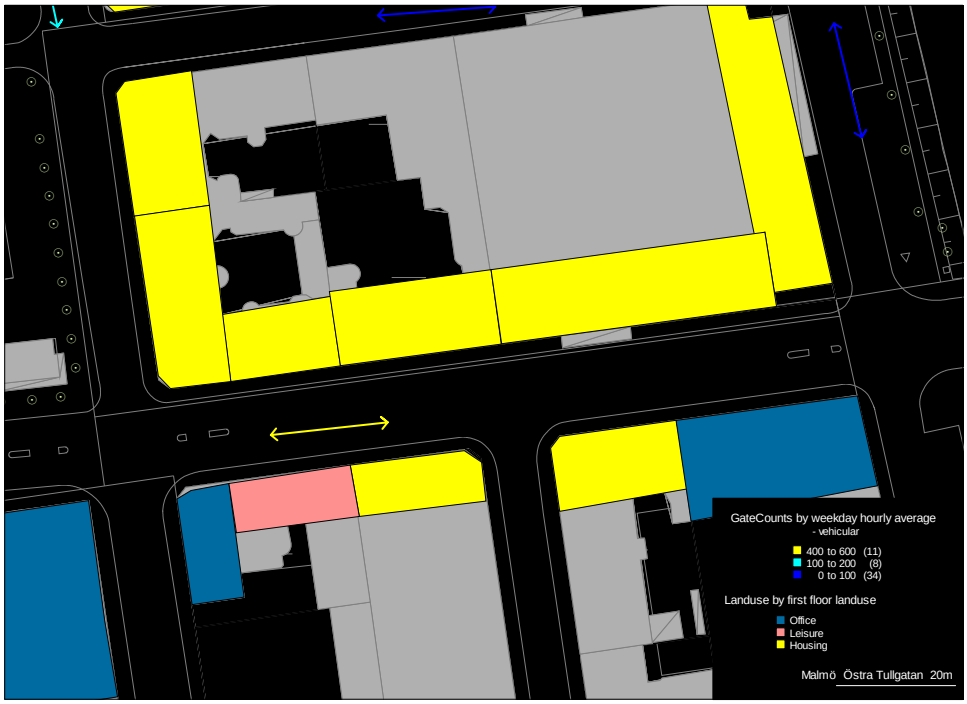


Figure 39a. Malmö Urban Room Östra Tullgatan. Land Use by Land Use on the First Floor and Gate Counts by Vehicular Traffic on a Weekday Hourly Average Rate. Gate Counts Numbers in Parenthesis Refer to The Total Numbers of Gate Counts Along the Capital Route.

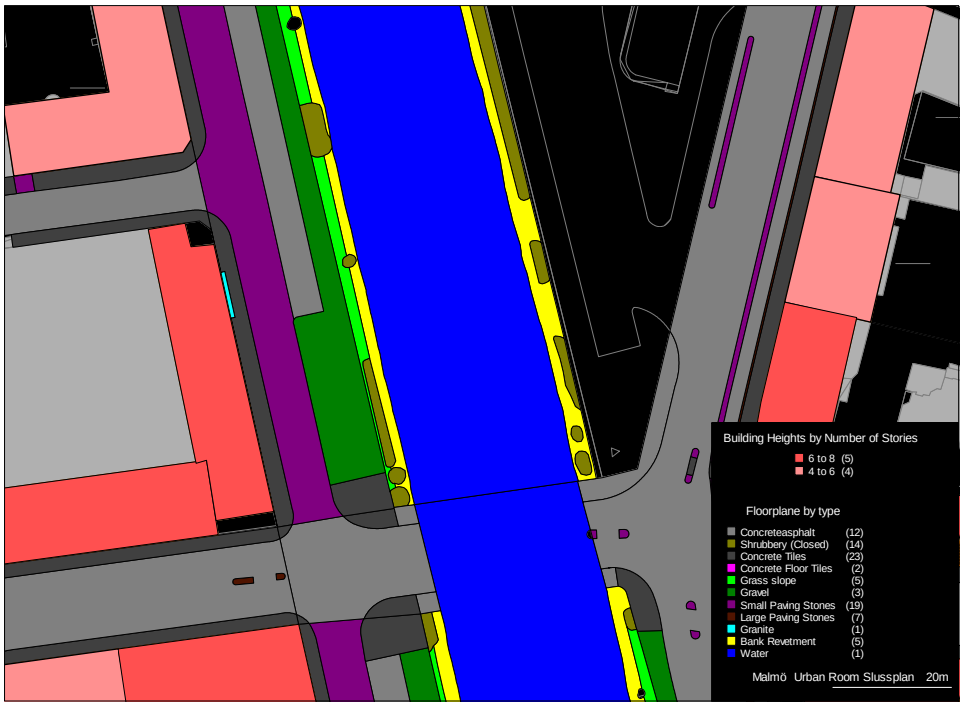


Figure 39b. Malmö Urban Room Slussplan. Floor Planes by type and Building Heights by Number of Stories.

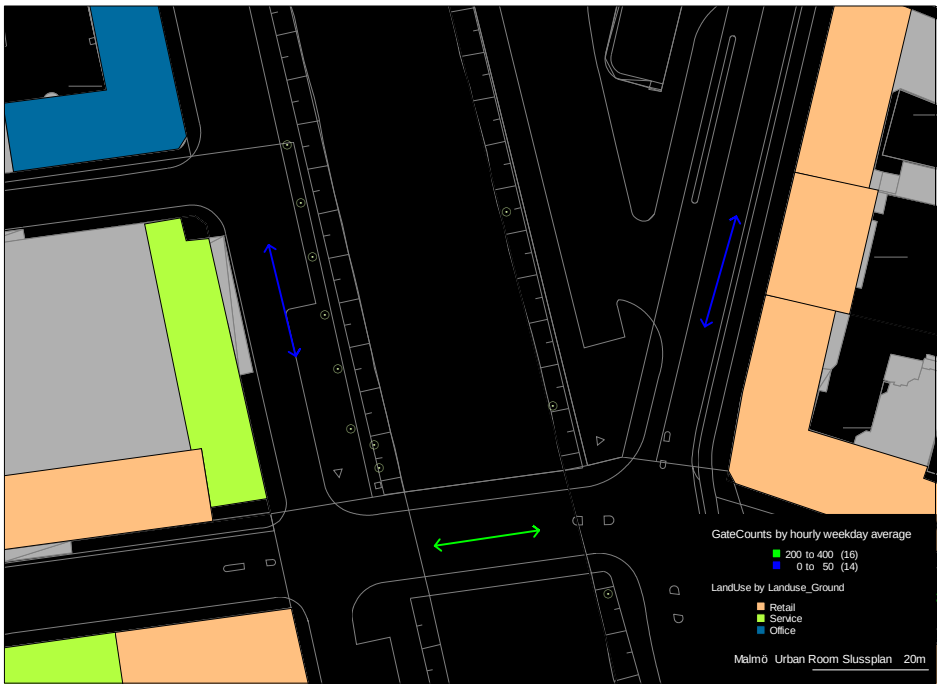


Figure 40. Malmö Urban Room Slussplan. Land Use by Land Use on the Ground Level and Gate Counts by Pedestrians on a Weekday Hourly Average Rate. Gate Counts Numbers in Parenthesis Refer to The Total Numbers of Gate Counts Along the Capital Route.

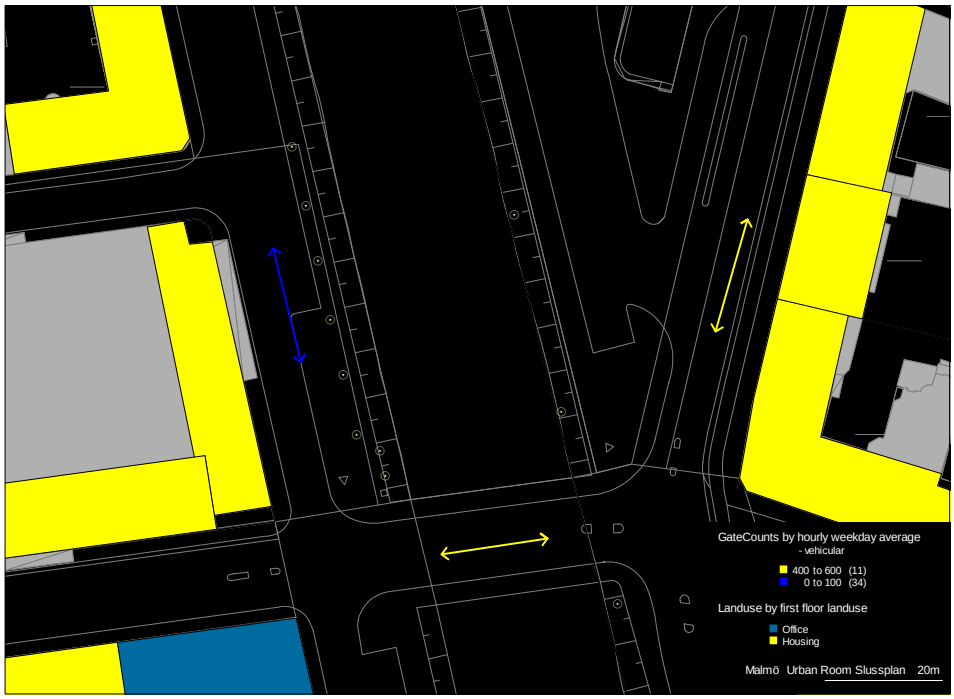


Figure 41. Malmö Urban Room Slussplan. Land Use by Land Use on the First Floor and Gate Counts by Vehicular Traffic on a Weekday Hourly Average Rate. Gate Counts Numbers in Parenthesis Refer to The Total Numbers of Gate Counts Along the Capital Route.

Conclusions: How Does the Urban Room Relate to Different Activities?

Below is another way of viewing people's activities in urban spaces as related to the floor spaces. This way of examining the dynamics on a micro-scale level leads to certain reflections on the relations between spatial and social layout on a given weekday morning in a European city.

1) Most people can still be defined as travelling through space, rather than experiencing it or having it as a destination.

2) The spatial layout is very directly involved in the production of environmental factors like light, sound and pollution together with the people who travel through space. The impact of the floor planes, building heights and lighting is hard to put into numbers but physically very present in the environment itself. Through observing space, and in representations such as these trying to present a few of the massive impressions which are experienced by any observer who takes his or her time to stop and look up, it becomes obvious that the design of the city is very involved in people's daily life. (And this it must be said, can be observed already in the city where there are the lowest number of people in the streets). Especially looking at the impacts of the sounds produced by the different floor planes and how the lighting of the streets, whether it is street lighting or the light from behind transparent shop-window, makes it clear that there is a relation here which hasn't received enough attention. This project has barely scraped at the surface of a full-scale investigation into these factors, but hopefully more research will follow (figure 42).

Figure 42. Malmö, Urban Room Hamngatan, Relations Between Urban Room and User Activity.

3.4. How Does the Dynamic of Flows Affect the Activities and Experiences of the Capital Route?

Relevant Sub-Questions for the City of Malmö

How do flows and assemblages relate to land use and activity? What activities and what flows are especially important in this relation?

Scale of Investigation and Data Sets Reviewed

An inventory of the dynamic of flows was done on capital route level, but also with a focus on how the capital route connects to its surroundings in terms of flows. The urban flows of the capital route were divided into four main categories: pedestrians, bicycles, vehicles and public transport, and then related to, for example, spatial structure and land use. The data sets reviewed were primarily movement annotation, gate counts, land use, transport nodes and spatial analysis.

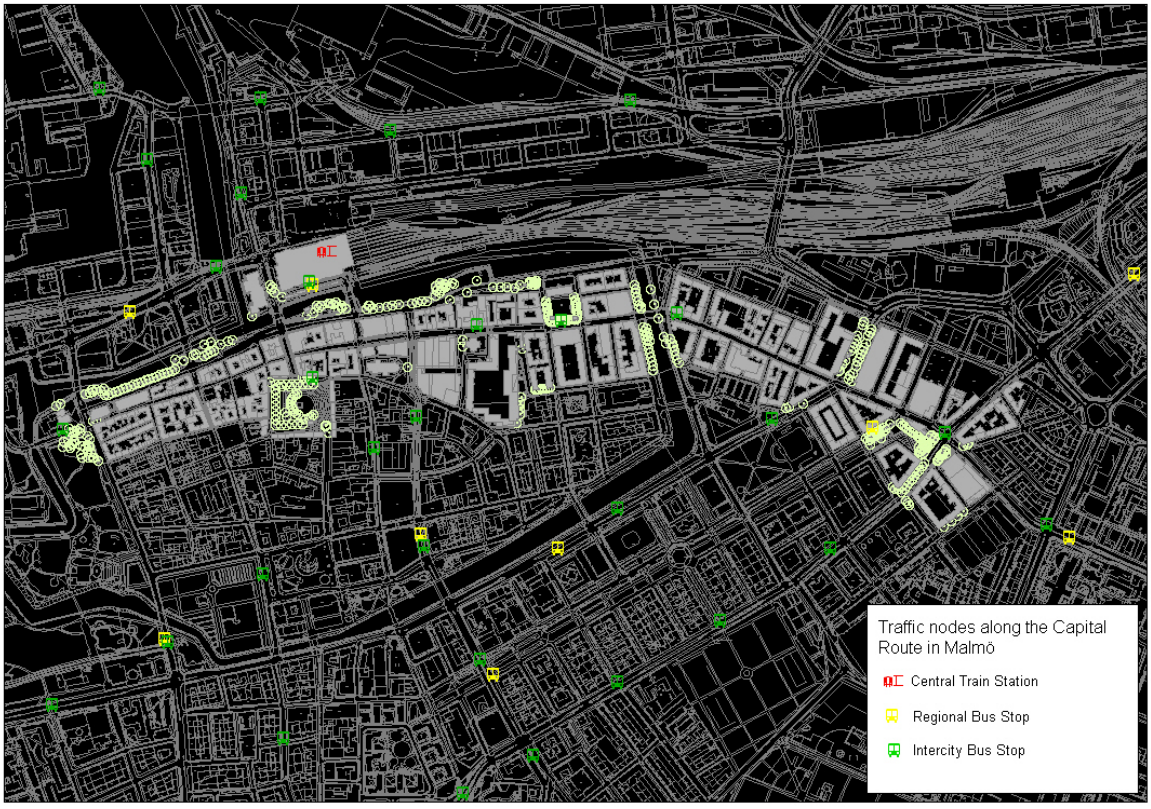


Figure 43. Public Transport Nodes Along the Capital Route.

Public Transport Nodes

Public transport does to a large extent affect the movements and flows of the capital route. Part of the route is quite heavily frequented by buses, and two of Malmös most important nodes of public transport (the Railway station and Värnhemstorget) are located on, or adjacent to, the route. These two places are quite dominant and do, to some extent, structure the traffic flows in this area of the city. As can be seen in the map of public transport statistics, below, there are also a couple of important bus stops in the middle of the route. Important public transport nodes seem to coincide with pedestrian flow peaks (see figure 47).

Figure 44. Public Transport Nodes Statistics.

Vehicle Flows

In general, the numbers of vehicles on the route tend to increase as one goes east. The adjacent streets crossing the route are more varied, with more traffic at Hamngatan, Kalendergatan, Slussplan, Regementsgatan and Föreningsgatan. Looking more in detail at the east part of the route one can spot a more heavily frequented I-structure connected to Värnhemstorget (the red arrows in A4_i3). This east (double-)gate of Malmö is an important traffic node leading cars and busses to and from the centre of Malmö.

Cycle and Pedestrian Flows

The cyclist flows of the route are relatively intense, and have increased during the last decade (as the route has become an important one for students on their way to the University). A lot of cyclists seem to use the route as an important cycle way, thus following a longer part of the route. Some important bicycle flows crossing the capital route can also be noted. Some of these flows coincide with vehicle flows (such as Kalendergatan), some with pedestrian flows (such as Hamngatan) whereas a lot of them seem to follow a logic of their own (notably, Gråbrödersgatan, Slussplan and Kungsgatan). This last category could be categorized as calmer routes, sometimes with attractive surroundings (such as park or canal), but always without a lot of vehicles, and without attractive ground floor land use such as retail or restaurants.

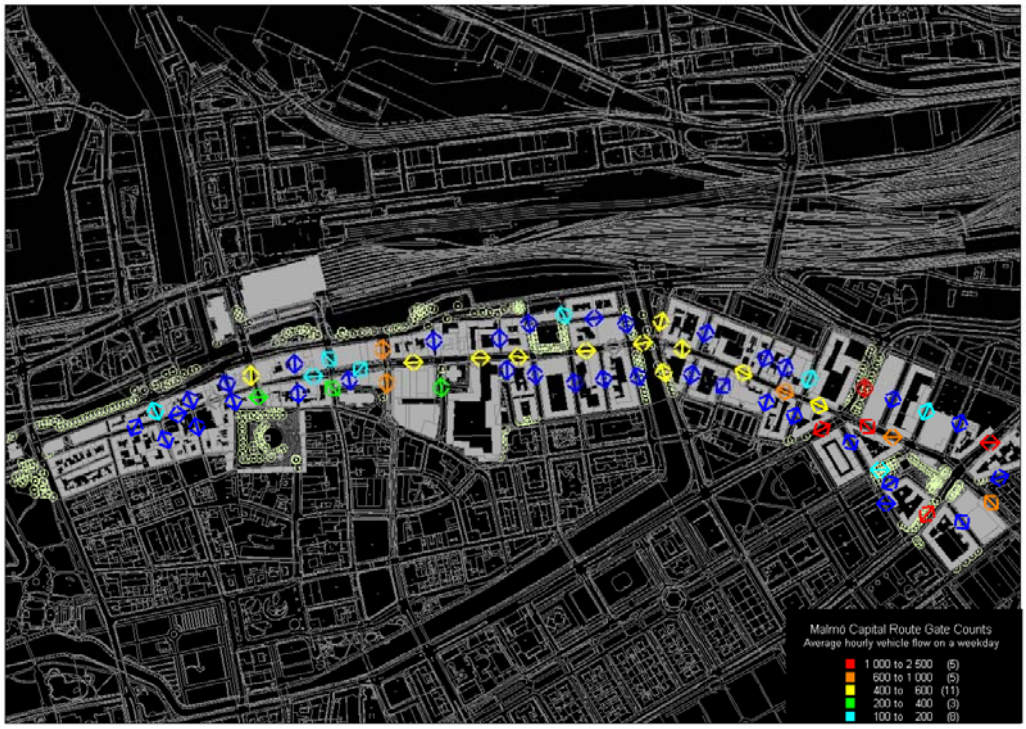


Figure 45. Vehicle Flows, Weekdays, 7.00-20.00.

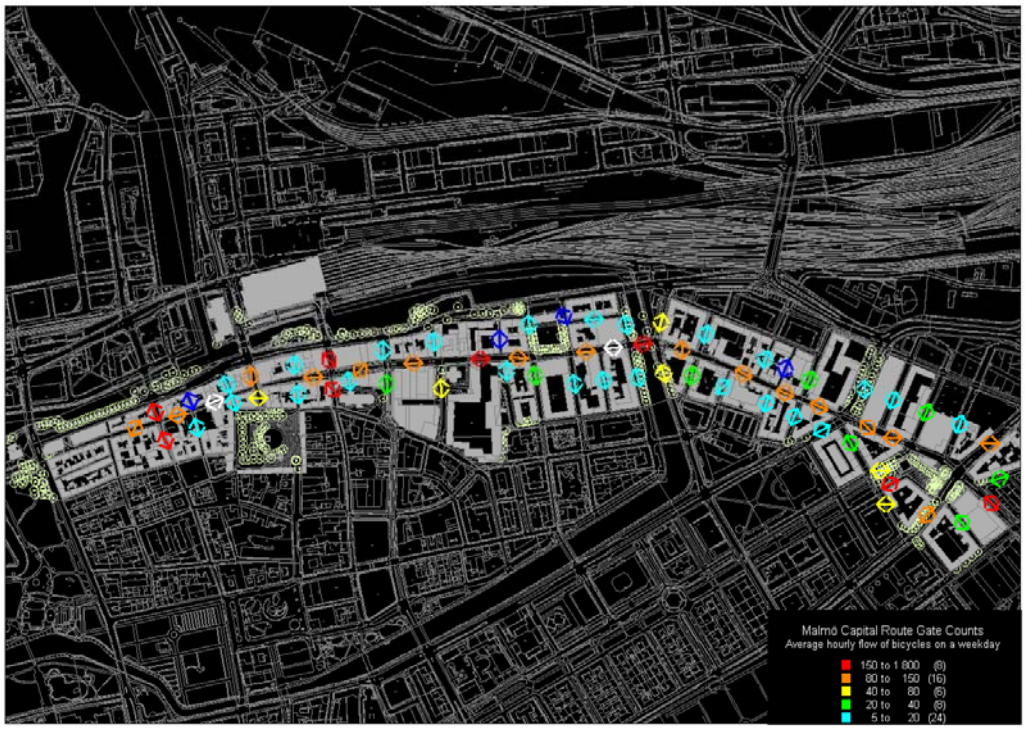


Figure 46. Bicycle Flows, Weekdays, 7.00-20.00

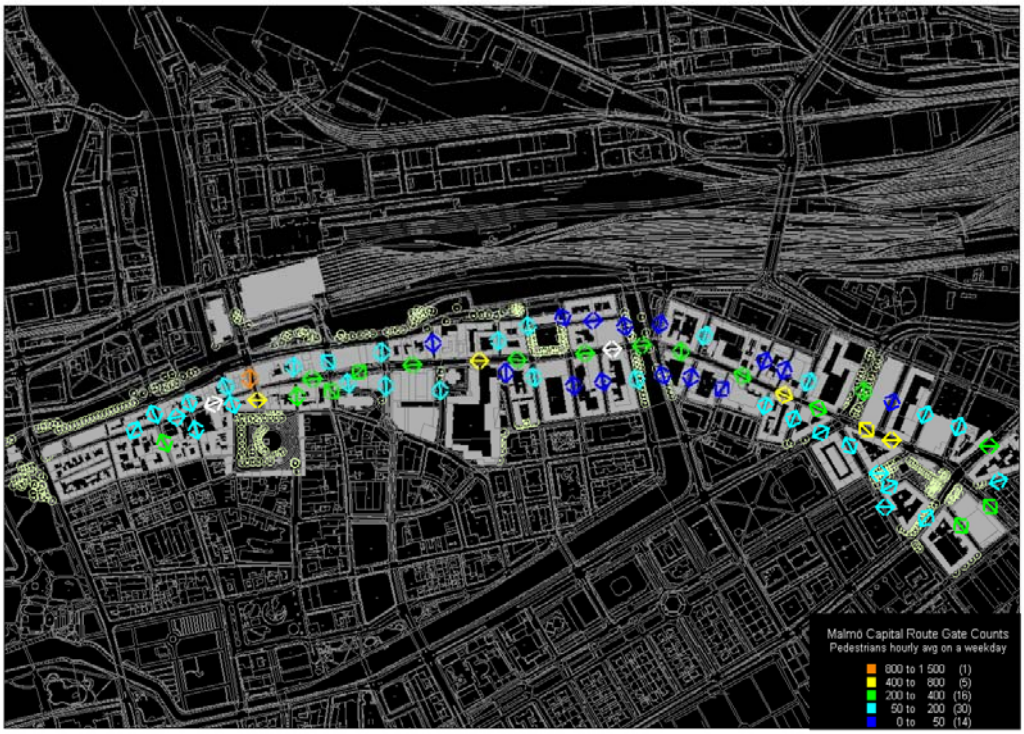


Figure 47. Pedestrian Flows,Wweekdays, 7.00-20.00

Some pedestrians certainly walk along the whole, or some larger part, of the route, but most of them tend to use just a smaller part of it. Although the places of large pedestrian flows seem to have a lot of cyclists as well, pedestrian flows seem to follow another and more locally determined logic. Thus, they might be more sensitive to local land uses (primarily retail), the placement of bus stops, local routes and spatial connections. Here, three areas can be distinguished as the most important. The first of these is Hamngatan, one of the most heavily used streets (in terms of pedestrians) in Malmö, leading from the Railway station (Harbour and University) to the centre of the town. The other important area for pedestrians is the retail and bus area around Värnhemstorget. A peak in the pedestrian flow can also, thirdly, be noted next to the shopping mall at Caroli. This part of the route is also the place of some cultural activities (that might be improved or added to).

Flows and Use

The capital route contains a lot of shops, restaurants and activities that of course generate movements, especially in the middle, and east parts of the route, whereas the west part is more dominated by offices. The movement annotations that we made, show some important places which seem to affect the pedestrian flows. These places are attractors or destinations such as large transport nodes (the Railway station and Värnhemstorget), or shopping areas (such as Caroli or the pedestrian streets of the central city). There are also places that seem to offer a possible detour or short-cut to these attractors. Drottningtorget is such a place, an open space in the dense urban grid that enables a short-cut for people moving along the route to and from the Railway Station. Another well used thoroughfare is the mall at Caroli. Important destinations for cyclist and pedestrians following the route (going west and north) are the Railway Station and the University, and (going east) Värnhemstorget and the residential areas beyond.

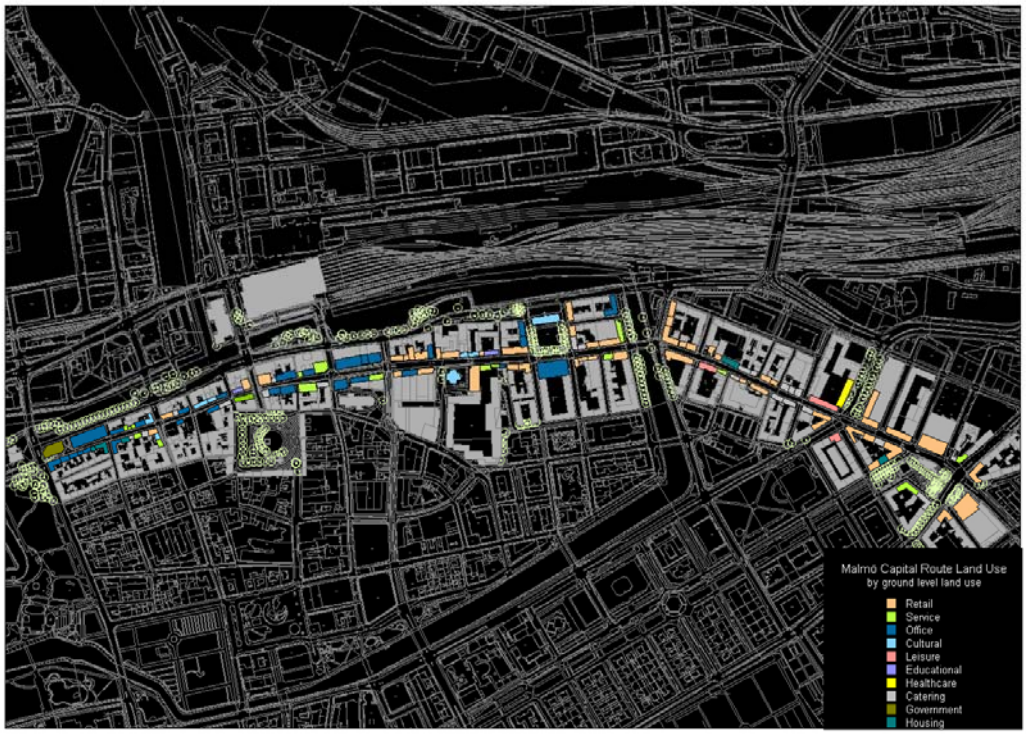


Figure 48. Land Use at Ground Level.

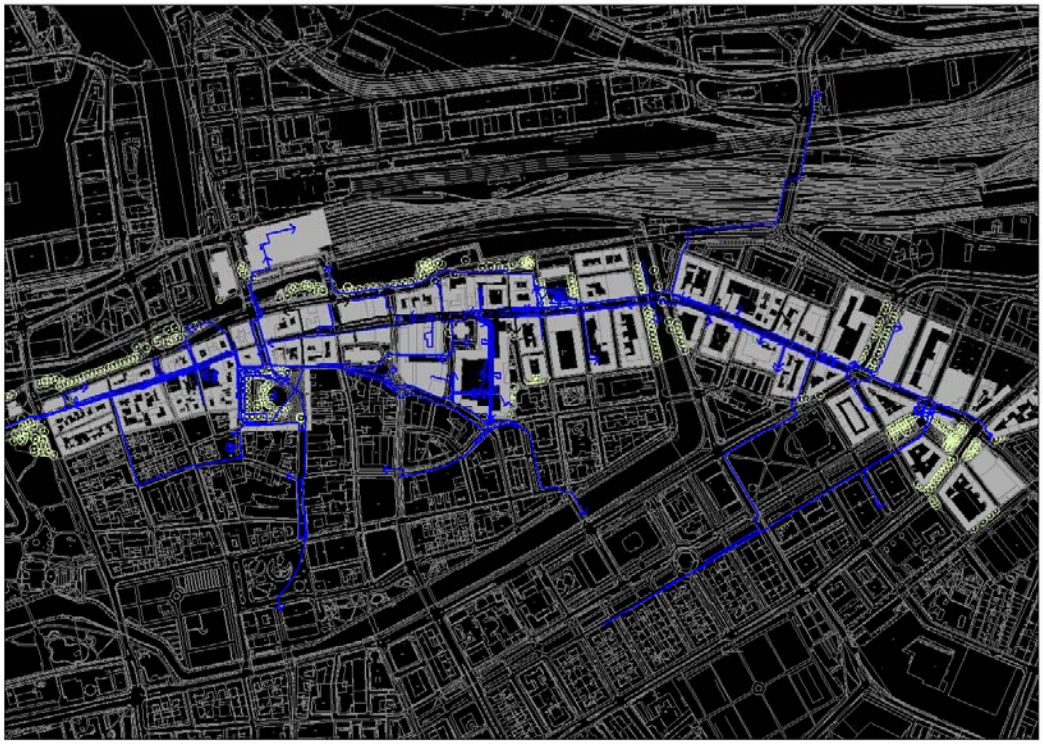


Figure 49. Movement Annotations Conducted Along the Capital route.

Flows and Spatial Analysis

The space syntax analyses show that the route consist of at least three different axial lines of different integration values. The difference within the route is larger at a radius-3, than at radius-n level, indicating that there are some notable local spatial differences along the route. However, seen from the viewpoint of the city as a whole, the route seem to be more homogenous (spatially), and could thus be compared with other different routes within the city. This spatial analysis is in a way confirmed by the differences noted above between pedestrian flows, on the one hand, and vehicle and bicycle flows, on the other. The overall importance of the east side of the route are also confirmed, both from the perspective of local and global integration.

It is interesting to note that some of the important thorough ways crossing the route – that could not so easily, in any definite sense, be explained by important destinations, attractors or ground floor land use – were picked out as routes of relative high spatial integration by the space syntax analysis (note for example Gråbrödersgatan, Kalendergatan and Slussplan in the radius-n map).

The flow maps (and to some extent the radius-n map) indicate a spatially legible identity of the route. The vehicle and cyclist flow maps indicate that there is a continuity of flows on the route. For vehicles this continuity can be seen in terms of a steadily increasing/decreasing number of cars as one goes east/west along the route (that is, there is a linear connection as opposed to a non-linear one). The strength of the route is perhaps even more apparent in the flow map of bicycles, above. Here the large and steady number of cyclists along the route can be compared to the large differences that exist if one compares the streets directly connected to the route.

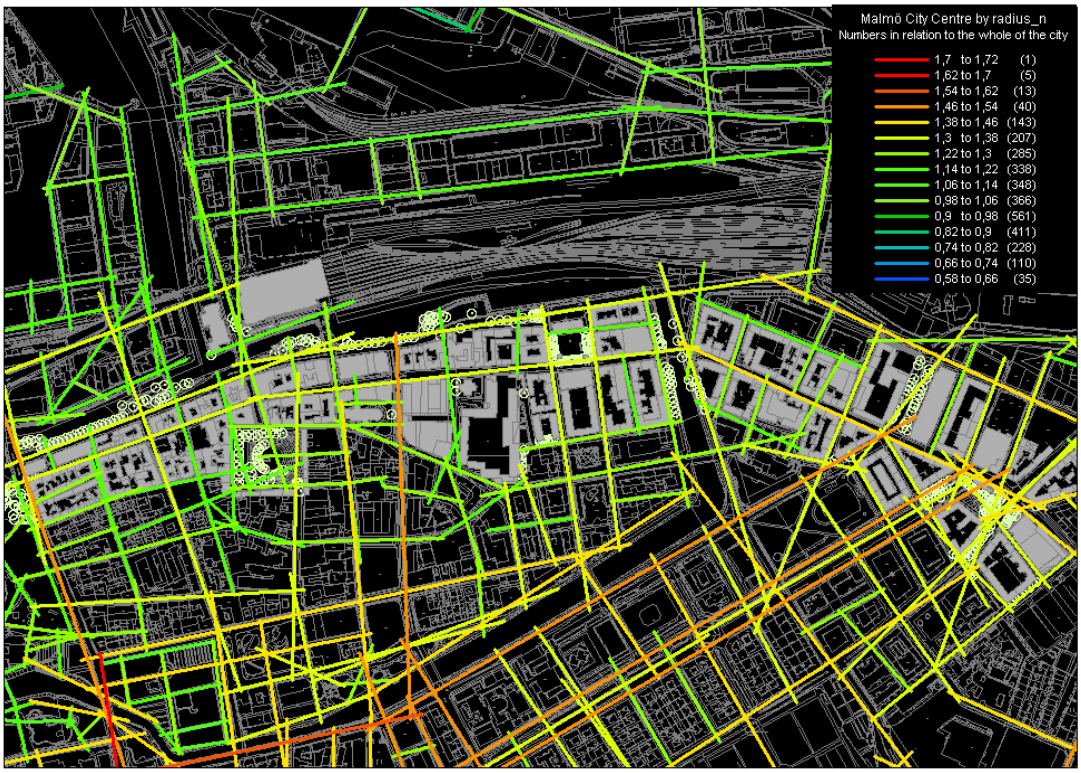


Figure 50. Malmö City Centre – Radius-n.

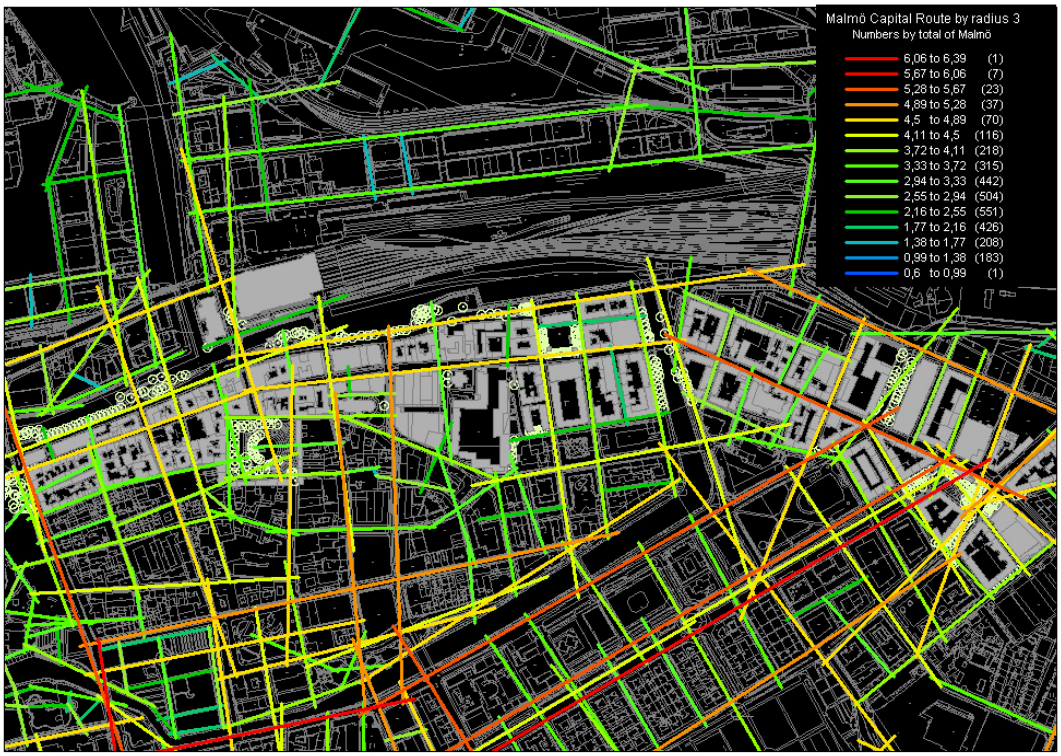


Figure 51. Malmö City Centre, Radius-3.

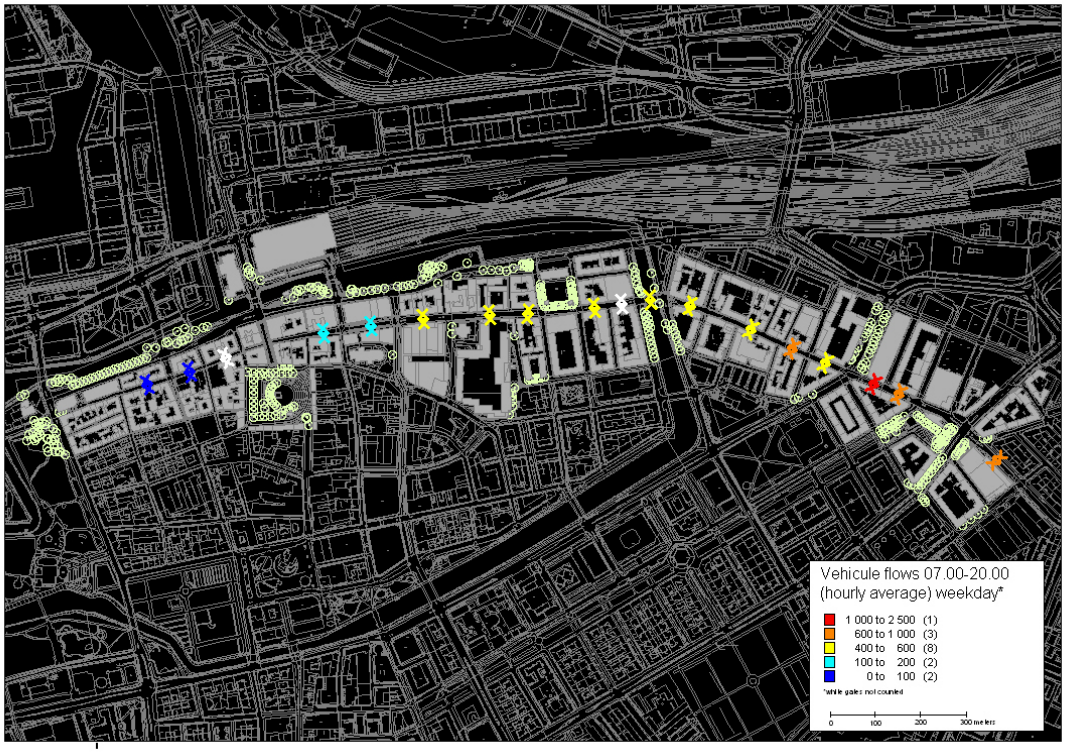


Figure 52. Vehicle Flow on the Capital Route.

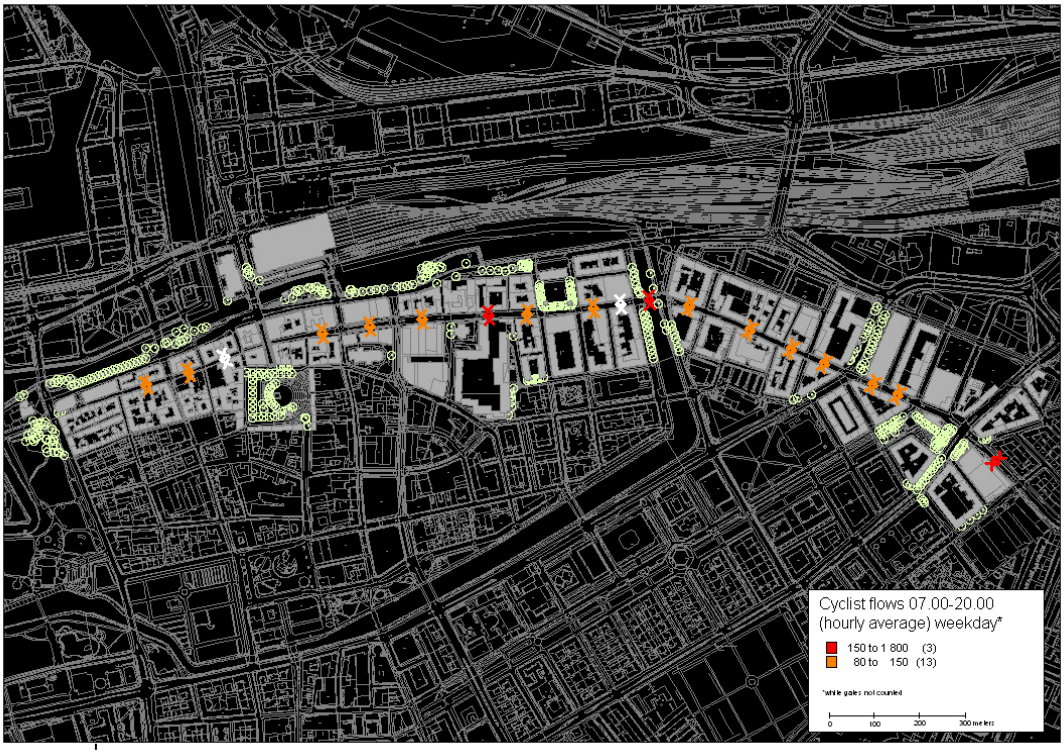


Figure 53. Cyclist Flow on the Capital Route.

Conclusions

How do the dynamic of flows affect the activities and experiences of the route? So far we have only sketched the more general outlines of this question as related to the route. The capital route is an important one, connecting the east part of Malmö to the Railway station, the University and other important places. The east part is also an important gate to Malmö from the east, leading traffic not only to the route, but also to other major arteries of the city, whereas, for example Hamngatan is an important pedestrian gate from the north, leading people from the Railway station and in to town. The flows of the route are quite complex and disparate – different kinds of traffic do to some extent follow different patterns – which complicates an analysis. Pedestrian flows are more related to local ground floor land use patterns, whereas cars and bicycles are more related to the spatial structure at a larger scale. The route does also connect a lot of different thorough ways, ways that are part of other important routes in Malmö. Even so, the capital route seems to have a kind of spatial identity and also a flow identity. Over all the route is quite varied in scale, no specific category of traffic tend to dominate, and this gives the route a certain quality and complexity in terms of activities and land use. This quality is important to consider in the planning of any future spatial arrangements. Some strategic places could be noted and affordances of these places investigated. In terms of traffic the most important places are the east part (Värnhemstorget-Regeringsgatan) and Hamngatan (pedestrians). However, there are also other interesting places where important flows coincide (such as, Kalendergatan, Slussplan), places dominated by a specific kind of traffic (bicycles at Gråbrödersgatan) as well as calmer places where possibilities for breaks and detours might be improved or further investigated (such as Caroli and Drottningtorget).

3.5. Concluding Remarks on 3.1.-3.4

In question 3.1 to 3.4 we focused on the relationship between different urban components. These questions were mostly dealt with at the urban room level. In 3.1, the points of public information were found to need more coordination as well as a strategy for a better and more conscious connection to the spatial structure of the grid, actual movements and important magnets or attractors. Land uses, such as retail, catering and leisure, were in 3.2 found to be located to corners and other places of more intense traffic. Retail and catering were also to a large extent related to public entrances and facade transparency. In the discussion on the affordances of the urban rooms we gave further examples of the different relations between spatial design and activity on a more local level, for example discussing issues of land use, land owners and floor planes as related to some of the different urban rooms on the route. In 34, flows were found to be intimately connected to different attractors, user activity, land use, and sometimes also to spatial structure.

These relationships are of course expected and hardly surprising, however, the discussion of 3.1-3.4 was not an attempt to find more general relations or correlations between different urban design components. It was more of an investigation on how these relations and components appear and act in the context of the specific urban rooms on this capital route in Malmö; and so it dealt with the lack of way directing signs on Drottningtorget and Caroli, it dealt with the need for more pedestrian adjusted design on Drottninggatan, and with the importance of street corners at Gråbrödersgatan. Although this discussion surely informs us on some of the particularities of urban design component relations, we need to address these issues on a larger scale in order to draw any general conclusion. The relations so far, addressing the more local scale of certain urban rooms in Malmö, will also be reflected upon more generally through the comparisons between the four cities of the Agora-project later on in this report.

Generally, the varieties of flows, floor planes, building heights, land uses, transparencies and on an even more general level: the spatial structure itself interacts with an equally diverse and lively social environment that would benefit only from a sustainable and careful re-development that takes these aspects of the route into account.

3.6. The Activities of the Capital Route

Relevant Questions for Malmö

In order to analyse the activities of the route we have posed three more general questions:

(1) To what extent is there a diversity of activities that overlap spatially (in the urban rooms)?

(2) Do the activities extend throughout a longer period of time (day/night)?

(3) Is there a variety of activities on the capital route?

Scale of Investigation and Data Sets Reviewed

The three questions posed will be discussed on capital route level and treated rather shortly, except for question number 2, where we have done a more thorough study. The data sets reviewed have mainly been gate counts, assemblages, network nodes, user narratives, observer narratives and user activity.

The Diversity and Overlapping of Activities

Both ground floor land use (A4_i6) and user activity layers show that the route is quite complex in terms of activity. A lot of these activities tend to be territorialized in quite obvious ways (like walking on the pavement, driving in the street, shopping at the mall, sitting at the benches, parking at the parking lot, waiting at the bus stop, etc.). Some places are also used for different kinds of activities, that is, activities sometimes tend to overlap and share the same space. This is, however, not a possibility that is used to its full potential on the route. The streets are quite wide in comparison to the flows of traffic and the territorial conflicts in the area seem to be relatively few. This is an important issue to discuss in future spatial development. A potential for further overlapping of activities

Figure 54. User Activity at Hamngatan, Weekday, 8.00-8.30. There is a lot of movement at this time of the day and the density of people is quite high. This most often leads to territorialized (non-leisure) activities, as can be seen in this illustration.

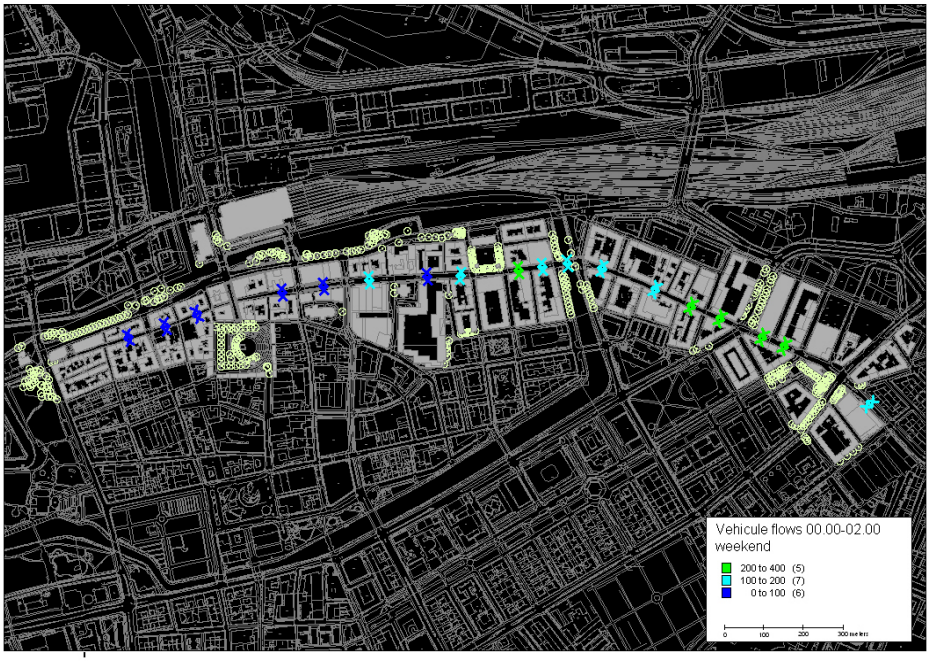


Figure 55. Vehicle Flows at 0.00-2.00.

can especially be found at the western and middle parts of the route, where traffic is comparatively low, and most obviously at open public spaces such as Drottningtorget and Caroli church. Adding new activities to public space could be a way of utilizing space and making it more accessible for different functions and groups in society. Though one has to be careful, the introduction of new activities might lead to the unintentional erasure of others. At places of intense traffic and activity, new territorializations might be needed so that important flows and functions do not collide. No such place was however found at the capital route (with the possible exception of Drottninggatan and Värnhemstorget, where the heavy traffic makes the question of territorial division a quite crucial issue).

Do Activities Extend Throughout a Longer Period of Time (Day/Night)?

To what extent do different activities overlap in time? Where does this occur? What are the characteristics of these places?

Activities tend to differ at different times. There is a difference between day and night, between different times of the day, between weekdays and weekends, etc. The observation narratives also show a huge difference in use between a cold winter day and a sunny spring day. In winter time people hide behind thick clothes and walk fast and steady. In summer time walking is quite a different form of activity.

The difference between day and night has a large effect on activity, both in terms of quality and intensity. Gate counts of vehicles shows that the vehicles increase in number as one goes east along the route. Although the number of vehicles surely decreases at night (gate counts have been done between 00.00 and 2.00), this relation remains the same. The structural differences are larger when it comes to cyclists and pedestrians.

The map illustrating gate counts of cyclists during daytime shows a quite homogenous number of some 80-150 bicycles per hour along the route, the only exceptions being just outside the shopping mall (Caroli City), at Slussplan and just south of Värnhemstorget. During the night the map is somewhat more differentiated. The most radical change is along the canal at Slussplan, a place that is not so attractive during night time (and

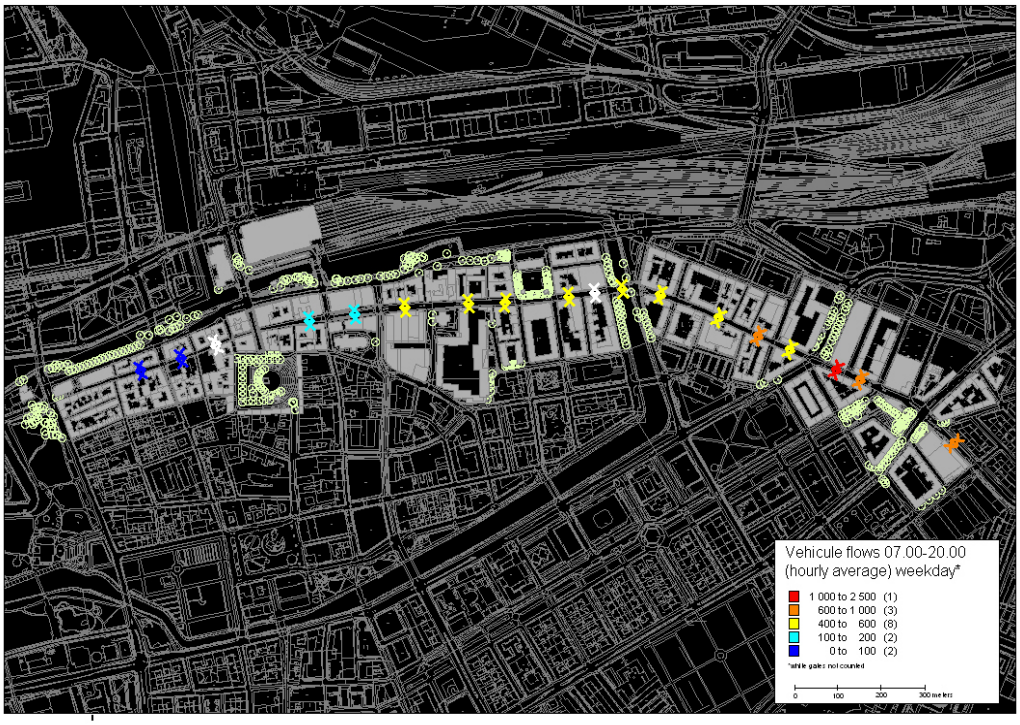


Figure 56. Vehicle Flows at 07.00-20.00.

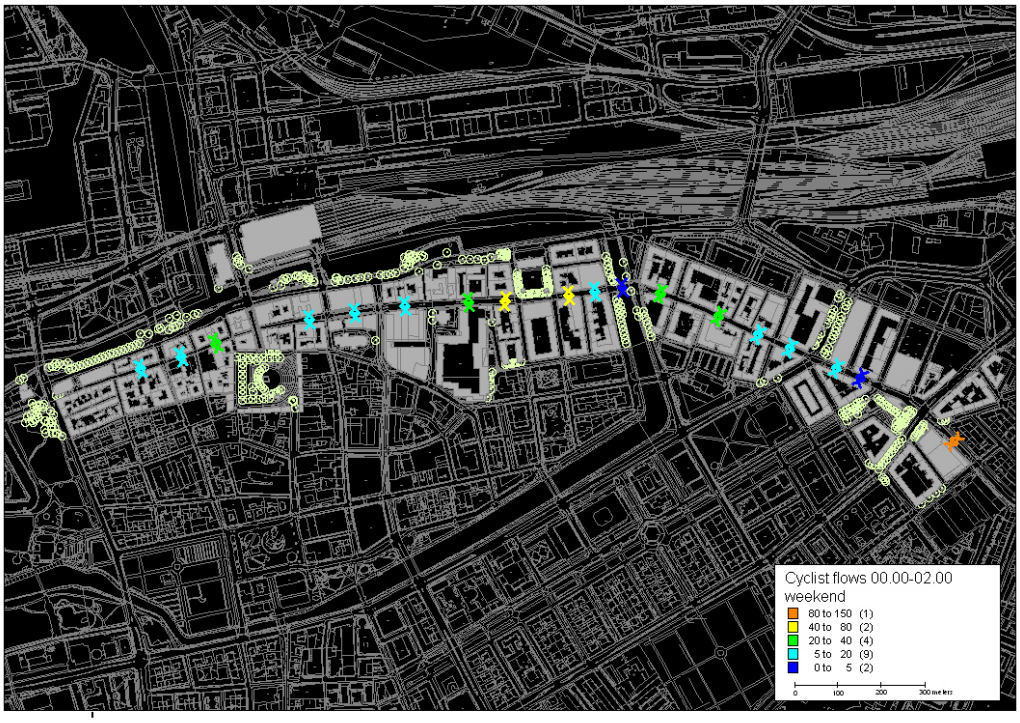


Figure 57. Cyclist Flows at 00.00-02.00.

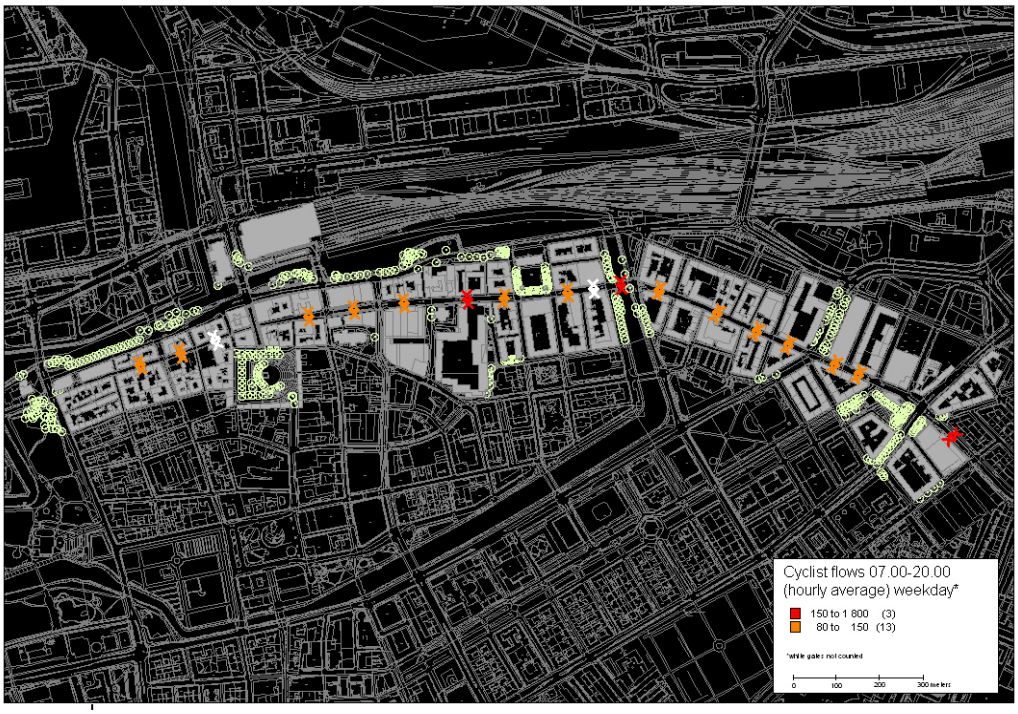


Figure 58. Cyclist Flows at 07.00-20.00.

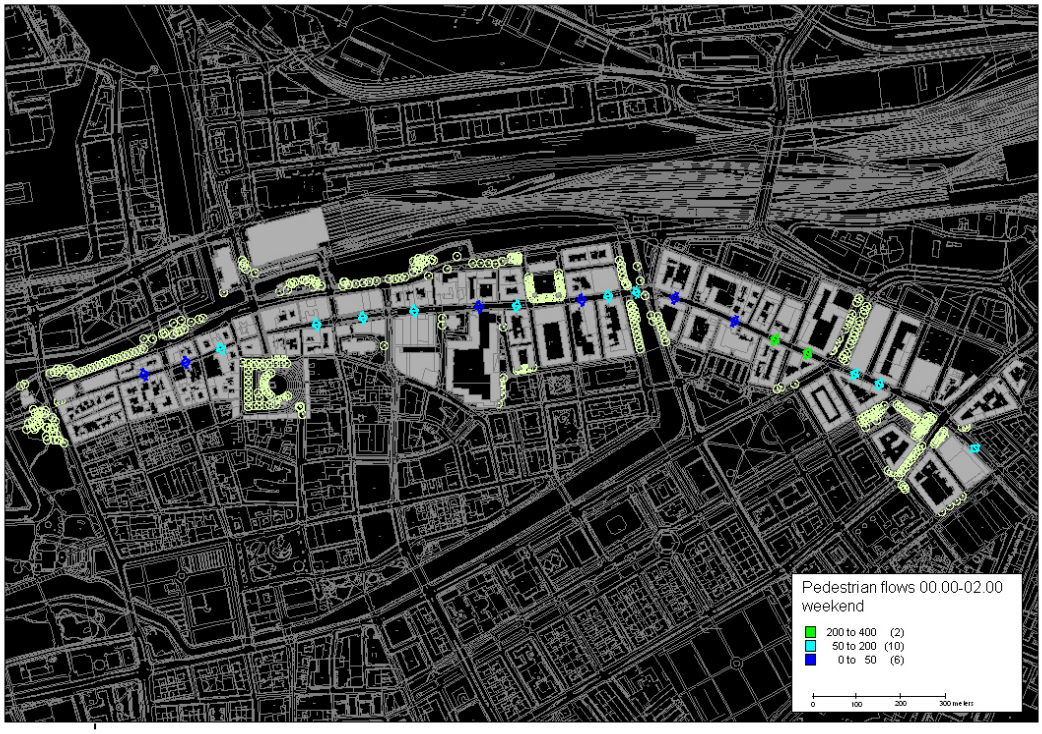


Figure 59. Pedestrian Flows at 00.00-02.00

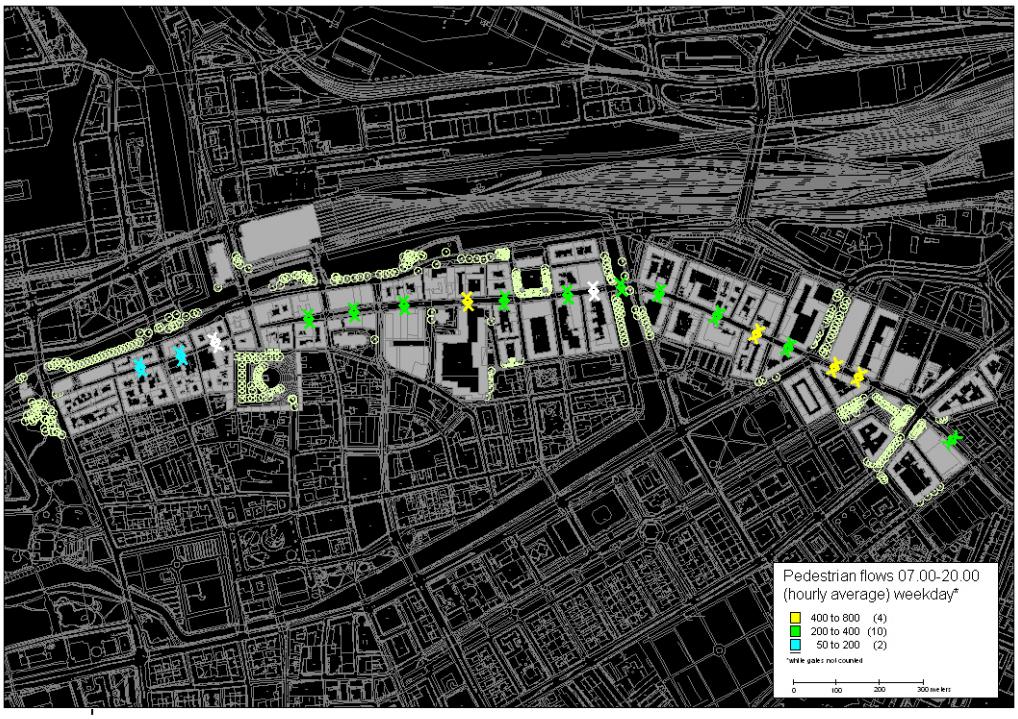


Figure 60. Pedestrian Flows at 07.00-20.00

probably not perceived as safe). The number of cyclists outside the shopping mall is naturally also lower during the night.

The largest local differences between gate counts of day and night along the route can be found in the number of pedestrians. The map clearly points out the night time district of restaurants and leisure activities at the east part of the route.

Daily Variations of Pedestrian Flows – a Case Study

To more fully understand the dynamics of activities on the route, one has to do a more detailed study of how the route changes during different hours of the day. To look more carefully into these daily variations we have conducted a small case study illuminating the different structures of daily flow variation (figure 63 to 74). This study is done by twelve different selections of gate positions, all of which illustrates a certain pattern of use.

The case study shows that the most common flow variation type of the route is the M-structure, meaning that pedestrian flows increase during lunch time and in late afternoon (around 18.00). This was found at 30 out of 68 gate positions. This is especially typical for the middle part of the route (Caroli and Drottningtorget, although lunch traffic here sometimes tended to be slightly heavier), and the east part of the route (where evening traffic tended to be somewhat heavier, although the differences were rather small).

Some places have large flows of pedestrians during lunch but not so much at other hours (at least 10 out of 68 followed this structure very clear). This is most evident at the west part of route, where there are a lot of work places (but not much shopping or evening entertainments). On this western part of the route, the highest flows can be seen in connection to the parking places. However, a couple of streets directly connected to, and crossing the capital route, like Gråbrödersgatan (3_6F and 3_5F) and Frans Suell-gatan (3_5E and 3_4E), are actually even better examples of this lunch peak structure. These streets connect large work places north of the city core to the restaurants at, for example, Stortorget and Lilla torg.

The opposite trend, that is higher flows in the evening than at lunch, is primarily found in the east part of the route. At Värnhemstorget and streets leading up to Drottninggatan this is most evident, where evening flows of pedestrian are more than twice as high as the lunch flows. Large pedestrian flows in the afternoon can also be found in this area, especially in, and adjacent to, Kungsgatan. This is a long, popular and spatially well integrated walk way in Malmö.

The street with the highest flows of pedestrians in the area of the capital route is Hamngatan. This street also has high lunch and evening traffic, but not an M-structure, since the evening traffic keep rising after 18.00. Hamngatan is important as the north gate of the city centre, connecting the centre to the Railway station. It is interesting to note that even though this is the most important way to and from the trains, it does not have a commuter structure (high morning and afternoon flows) – perhaps indicating that the complex and multiple uses of the city centre are a bit more dominated by restaurants and shopping than by work places and residential areas (although these certainly exists).

Very few gate positions of the route have higher flows in morning than lunch, though there are a few exceptions. These are places that completely lack attractors such as bus stop, shopping or restaurants, and that are primarily used in order to get to other places. Examples of this is 3_4D, a short part of the capital route dominated by offices and banks. Another example of relatively large morning traffic is the passage between the capital route and the church of S:t Petri (3_6C). This place is furthermore almost exclusively used in the morning. At evenings this place is perhaps too dark (desolated and well hidden from the 'eyes upon the street') to feel safe. Another type of street that follow this pattern are the small streets connecting residential areas to the eastern part of the route.

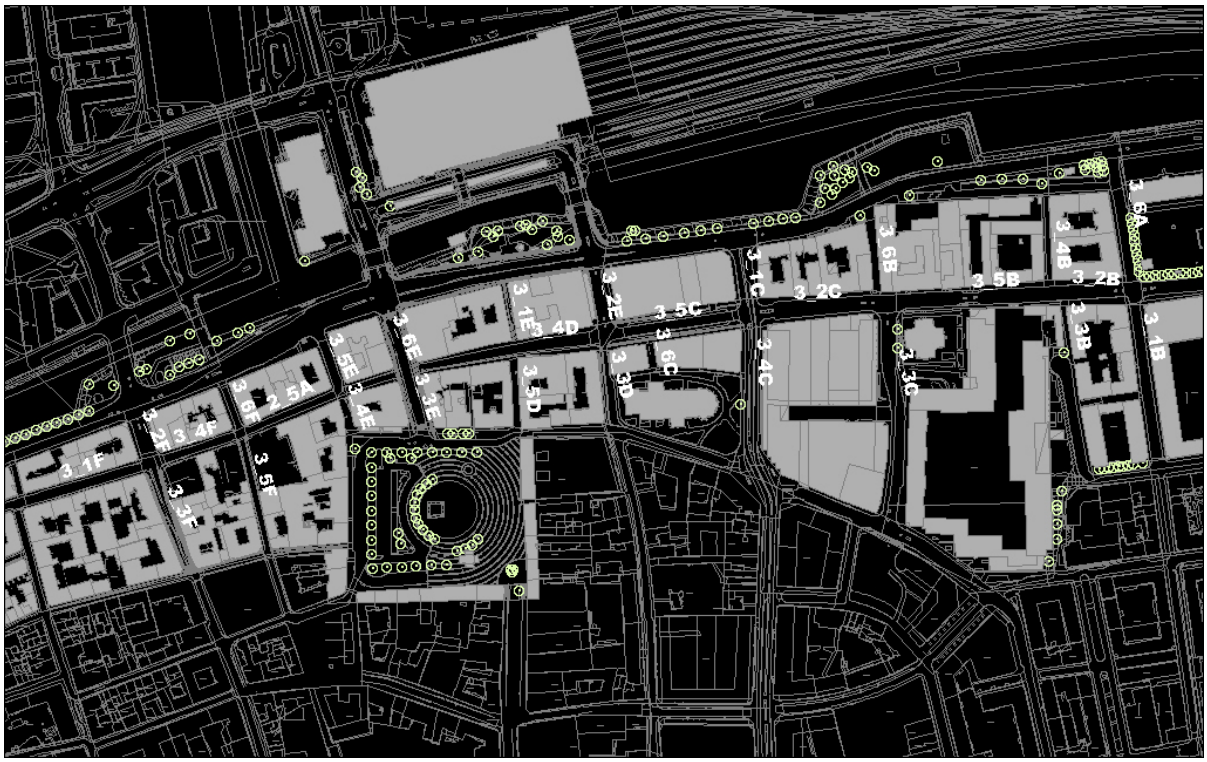


Figure 61. Gate Count Position Numbers, West and Middle Part of the Route.

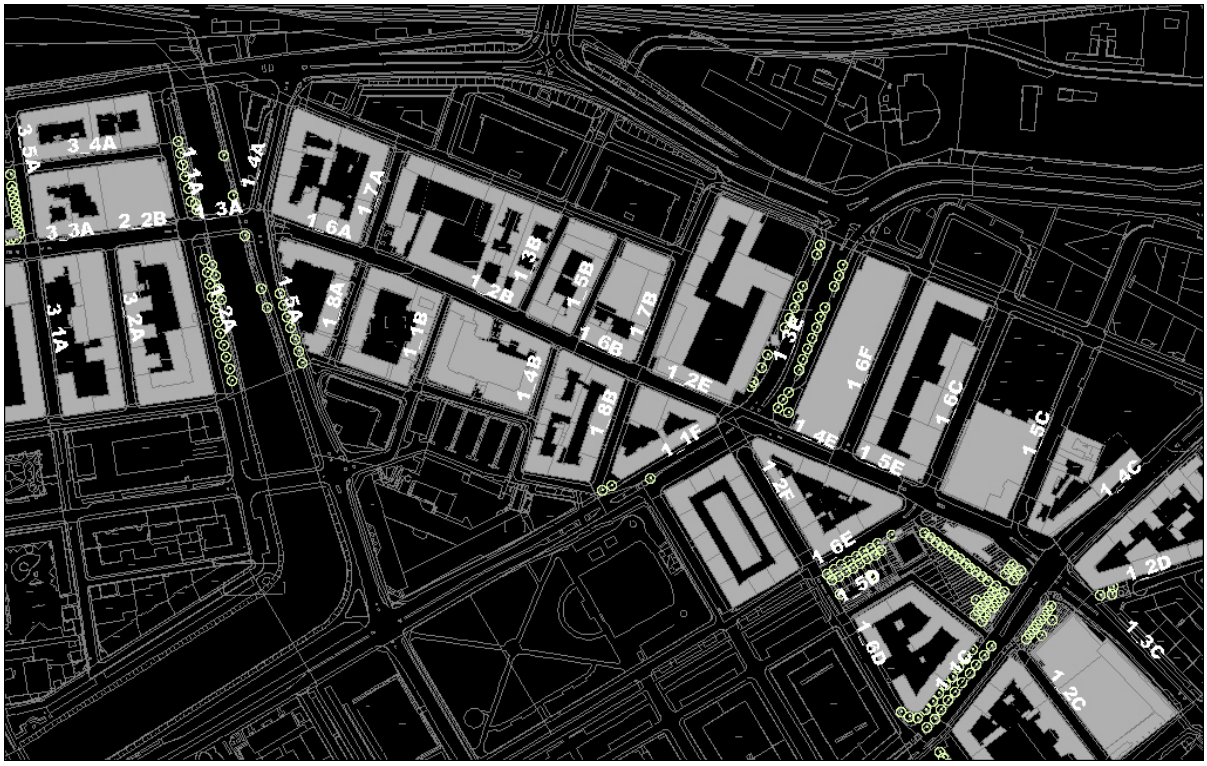
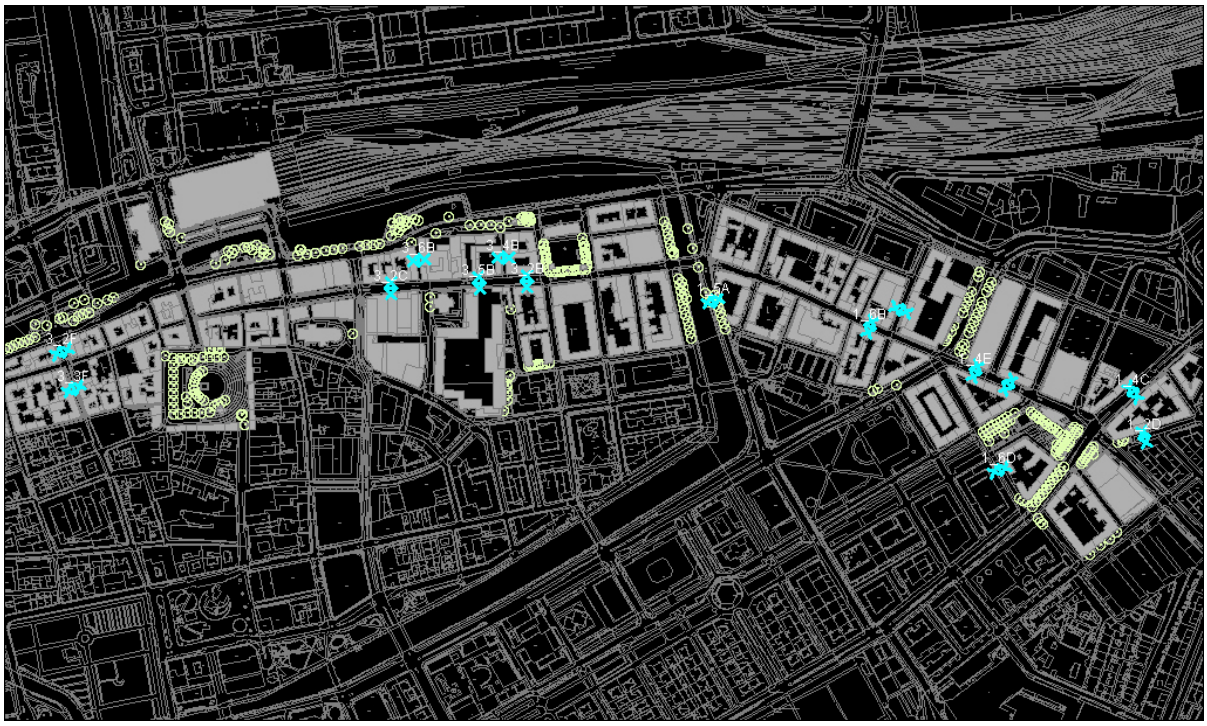


Figure 62. Gate Count Position Numbers, East Part of the Capital Route.

To sum up, the different places of the capital route exhibits a surprisingly great diversity in terms of the daily variations of pedestrian flows. Even so, there is a dominant pedestrian structure of the route, taking the form of an “M” with high lunch and late afternoon/evening peaks. The capital route is close to large travel destinations such as the bus stops at Värnhem and the railway station, and it is located at the rim of the city core. There are also some important offices and work places present at the route, but the restaurants and shops are more dominating. The pedestrian flows are to some extent characterized by commuters and people passing by, but perhaps even more by people shopping, on their way to lunch, dinner and evening entertainments. The flows of the route indicate that the route is important (and has further potentiality) for restaurants, leisure and cultural activities. Activity is to a large degree dependent and structured by movement. It is thus important to note that the structures of the pedestrian flows along the route are quite intricate and complex (as discussed above), with large local differences even between places just next to each other. A study of vehicle and bicycle flow variations would further complicate this discussion (and they would perhaps also reveal other important structures than the M-structure). A design proposal could benefit from a careful analysis considering the variation of flows in detail, in order to understand the possibilities and limitations for activities and spatial development..



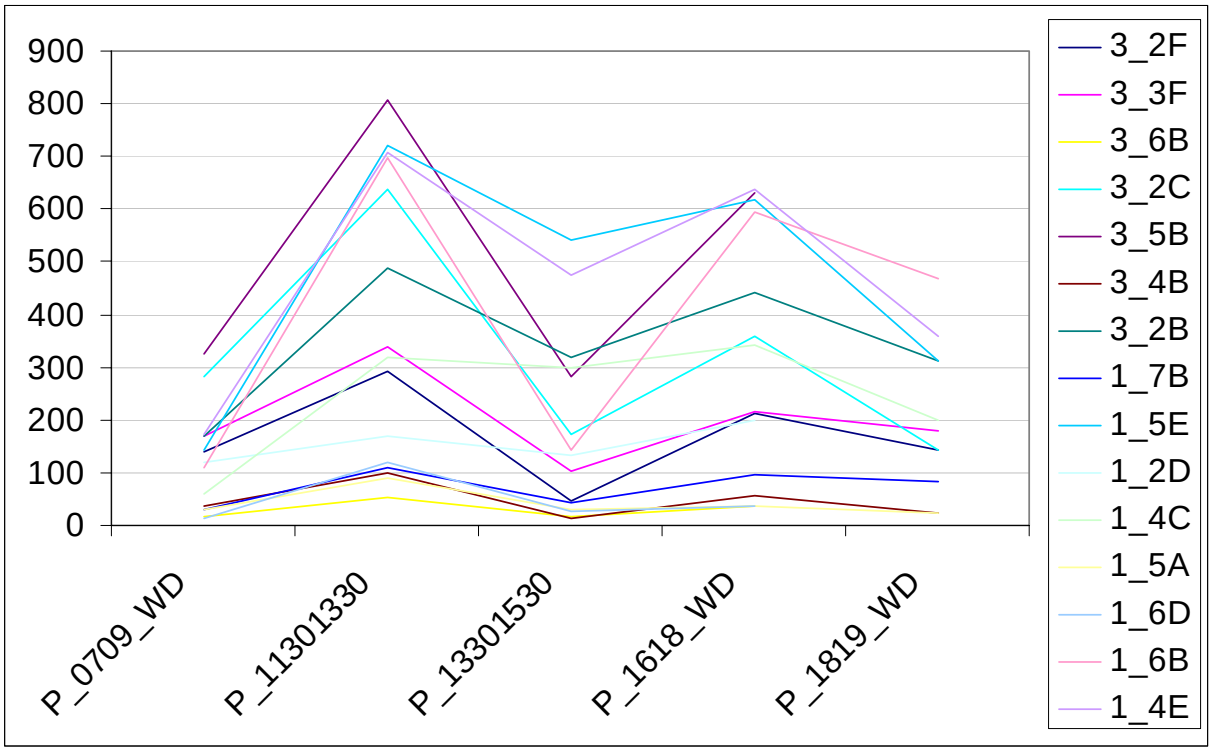
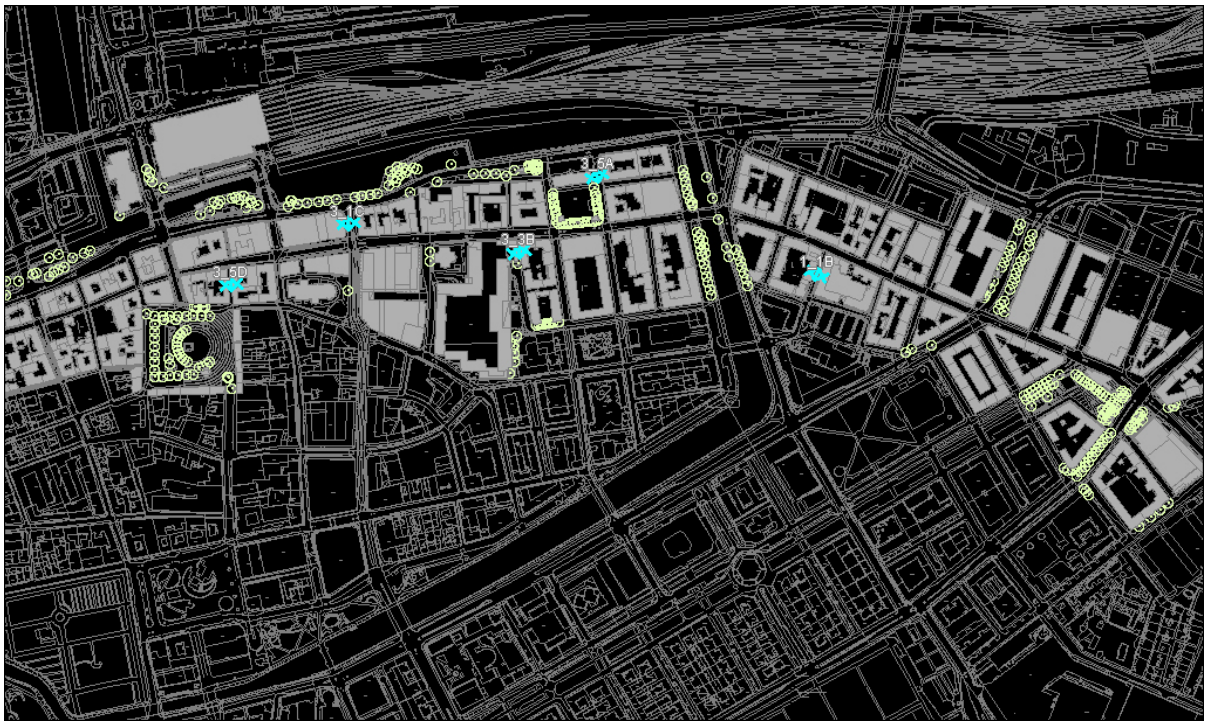


Figure 63. Pedestrian Flow Variation, Selection 1.

M-structure: The first selection (selection 1) of gate counts illustrates the most common type of pedestrian flow during the course of a day (from 7.00 to 19.00), that is a peak at lunch time and a somewhat smaller peak at the afternoon rush (around 17.00).



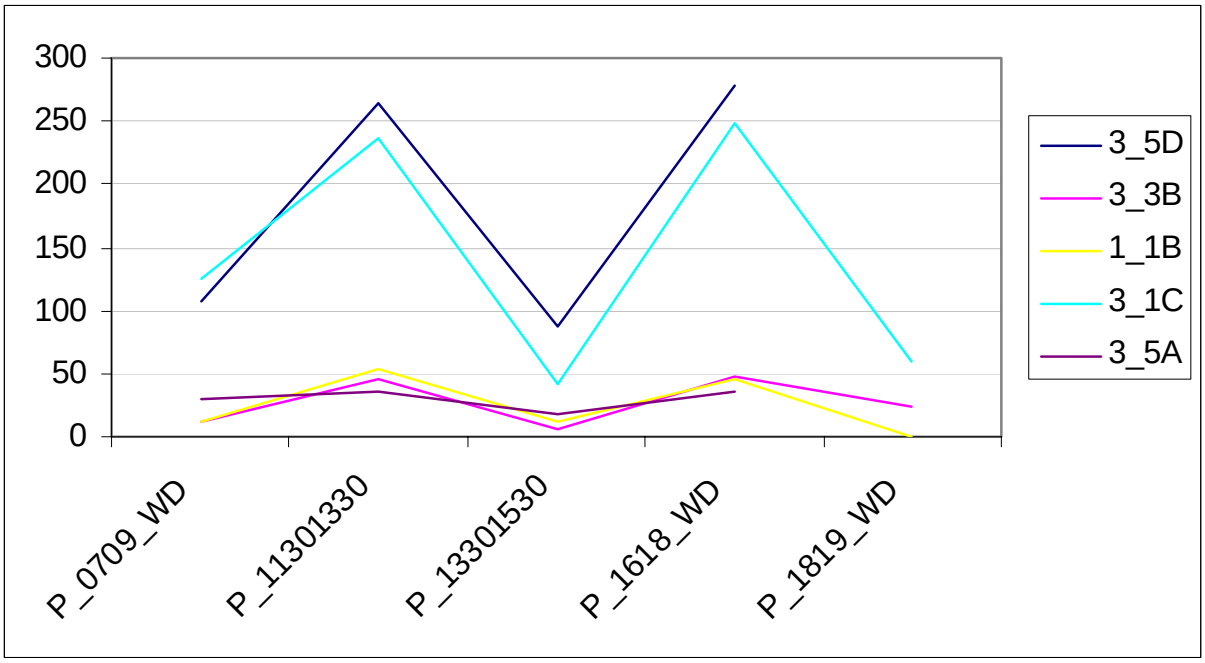
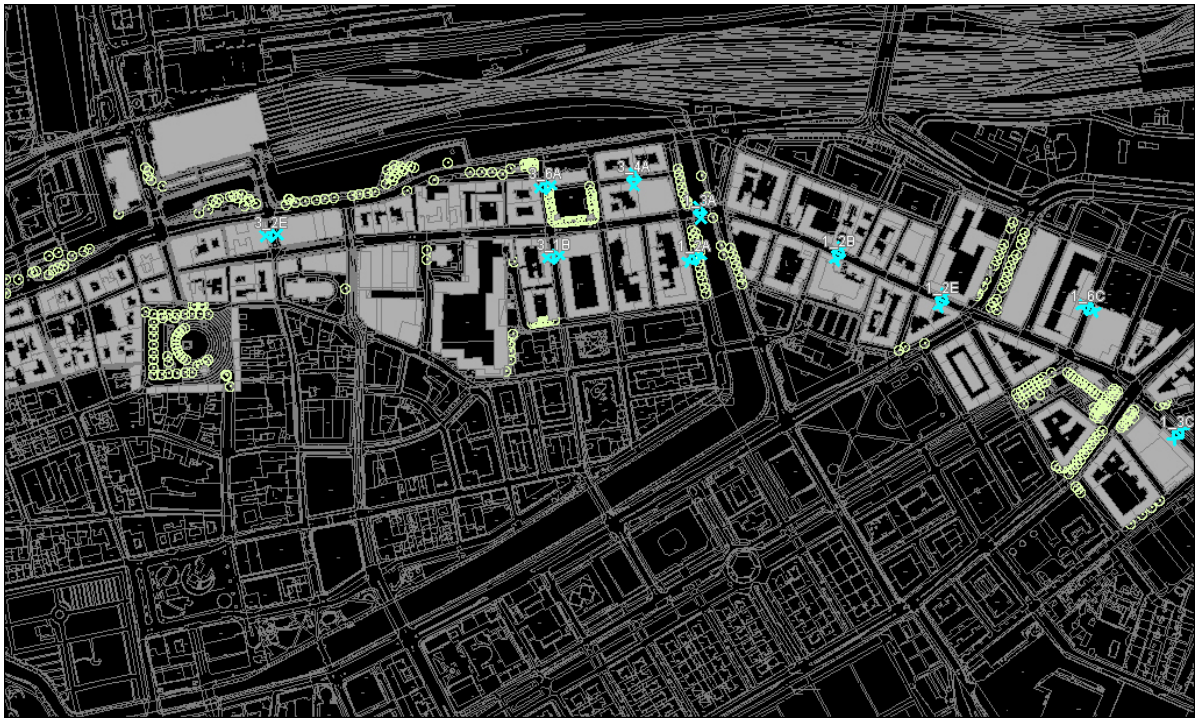


Figure 64. Pedestrian Flow Variation, Selection 2.

M-structure: The second selection illustrates a variant of that type, where the lunch rush is just as high as the afternoon rush. The selection also illustrates the difference of the M-structure between different streets.



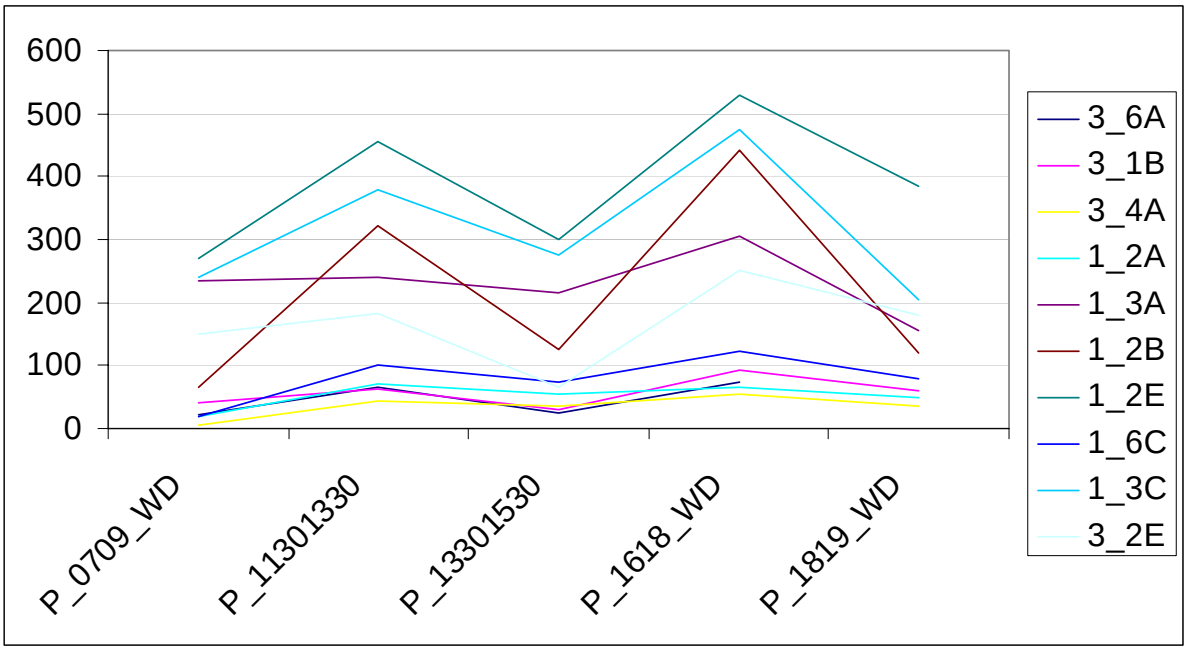
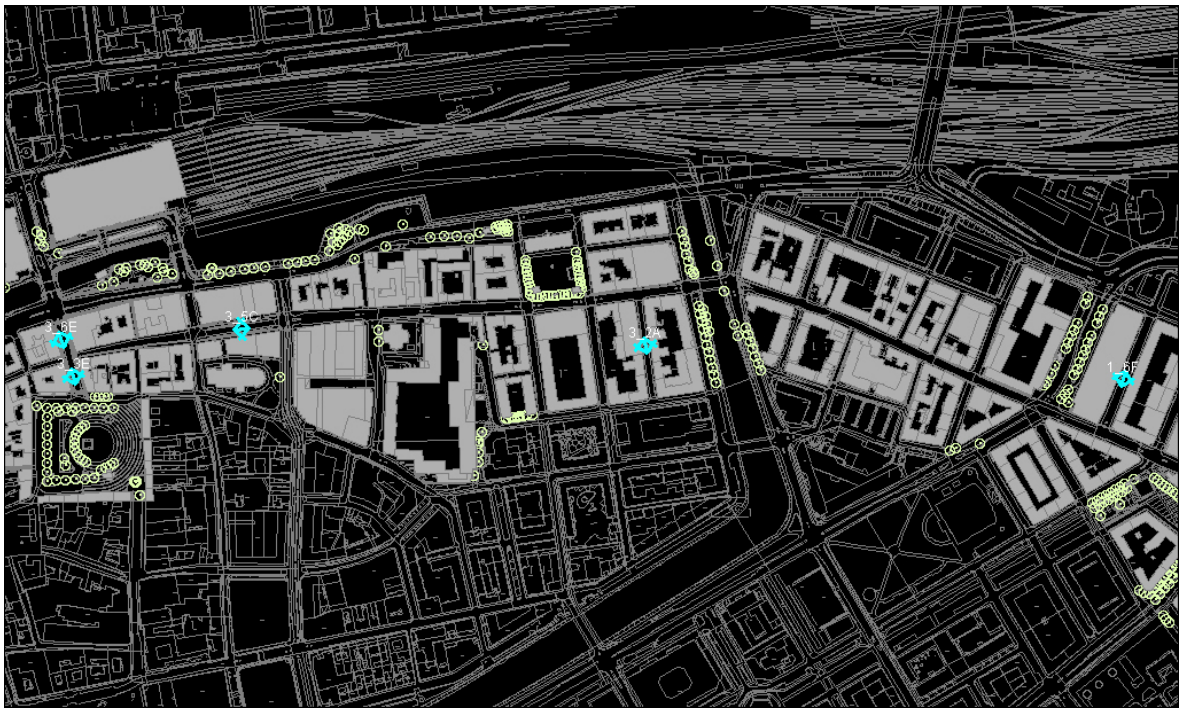


Figure 65. Pedestrian Flow Variation, Selection 3

M-structure: The third selection shows some places where the afternoon rush flow is somewhat larger than the lunch flow.



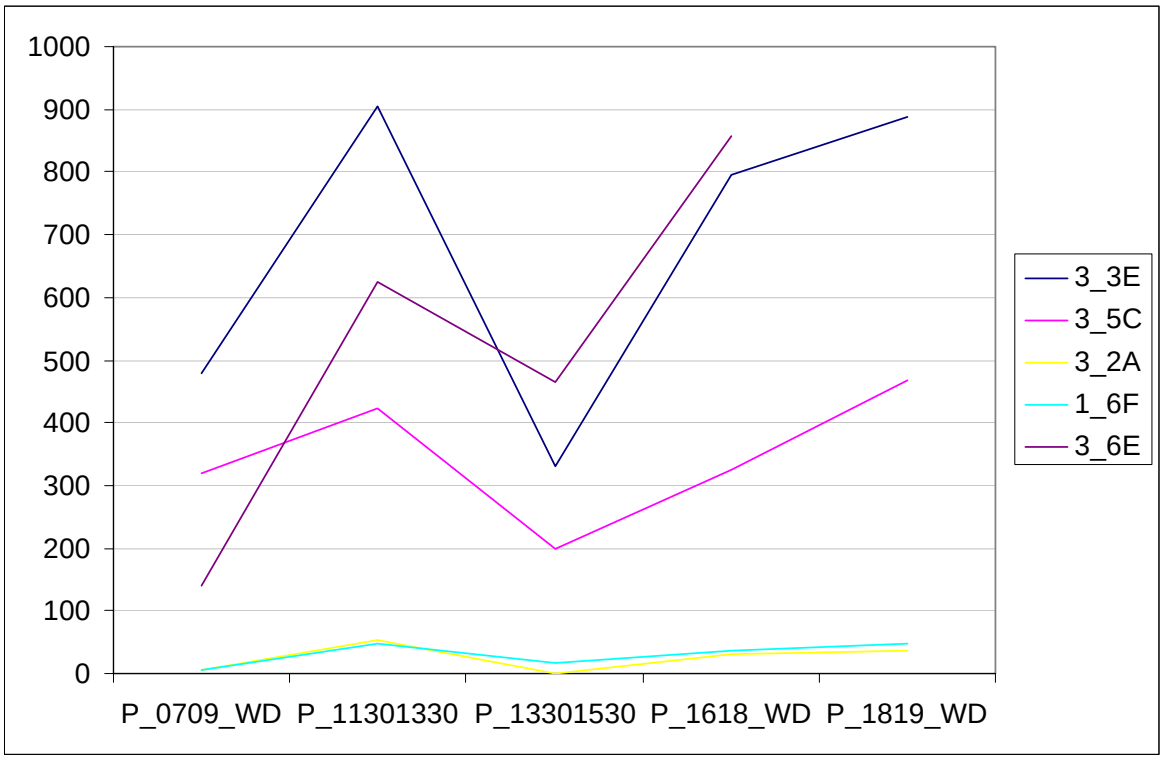
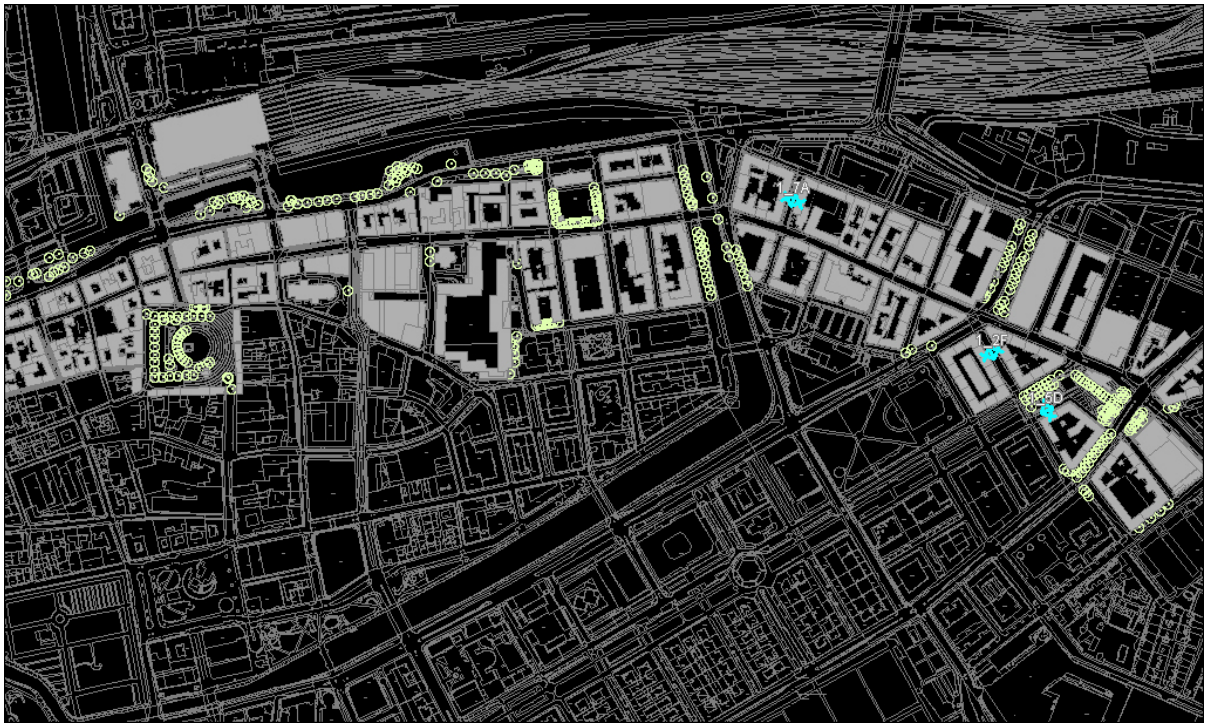


Figure 66. Pedestrian Flow Variation, Selection 4

Evening peaks: The fourth selection shows some gate counts with both evening and lunch peaks.



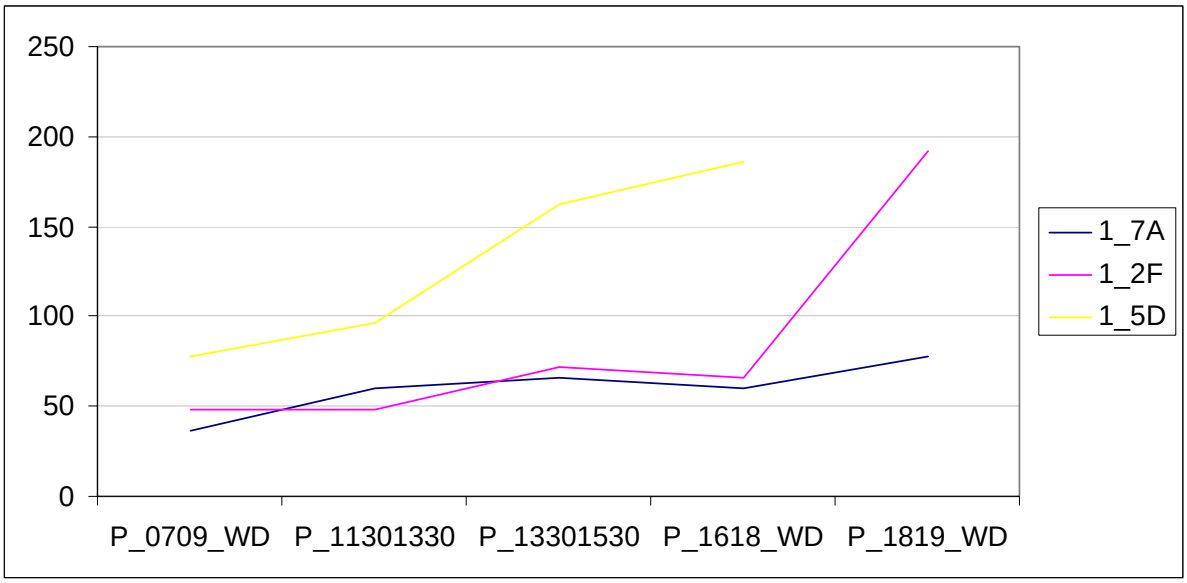
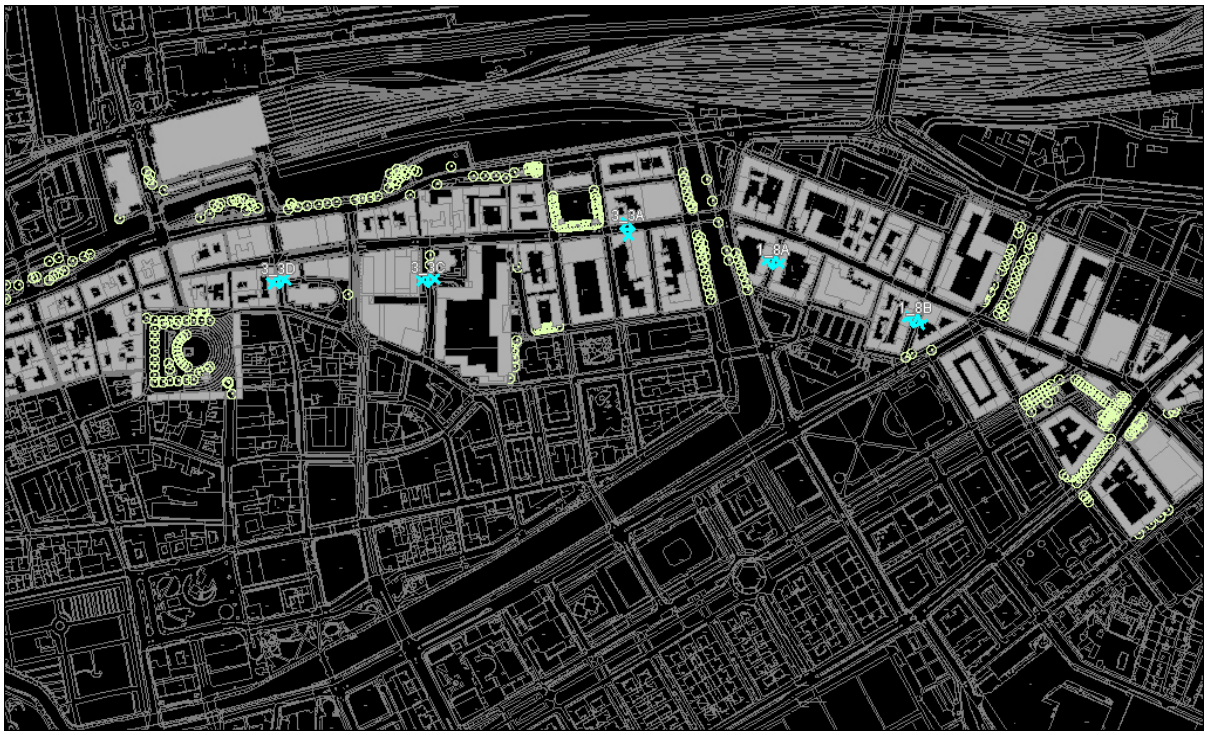


Figure 67. Pedestrian Flow Variation, Selection 5.

Evening peaks: The fifth selection shows evening peaks where pedestrian flows tend to grow from early on in the afternoon.



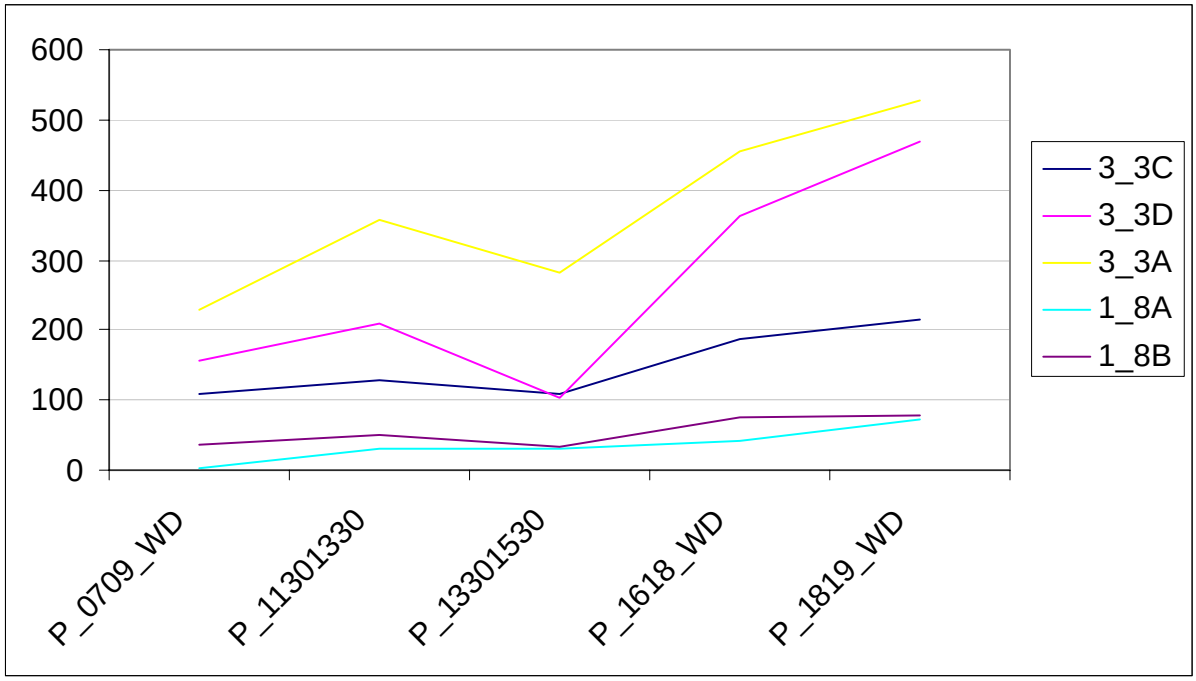
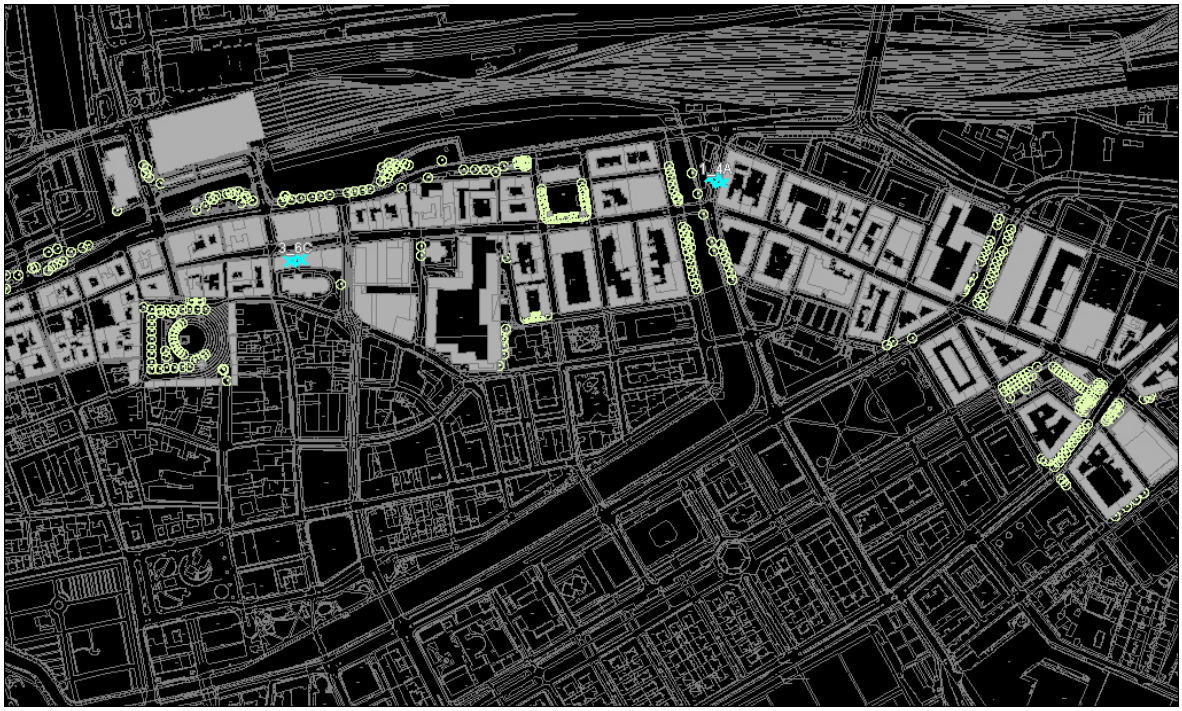


Figure 68. Pedestrian Flow Variation, Selection 6

Evening peaks: The sixth selection shows low flows with a dip in the afternoon and peak in the evening.



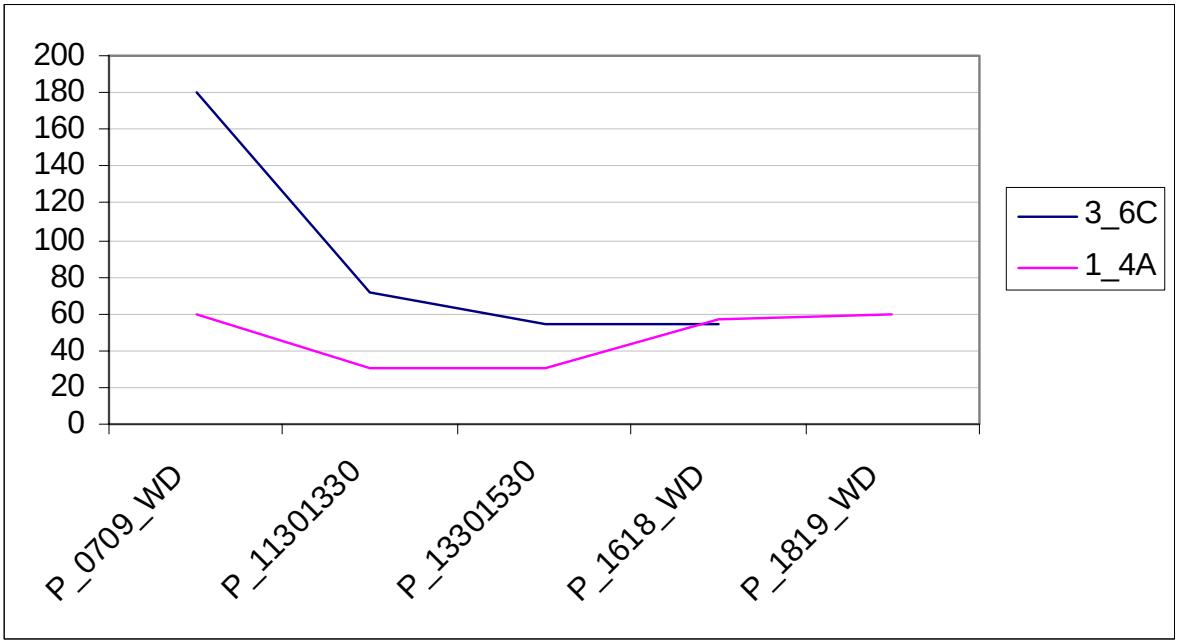
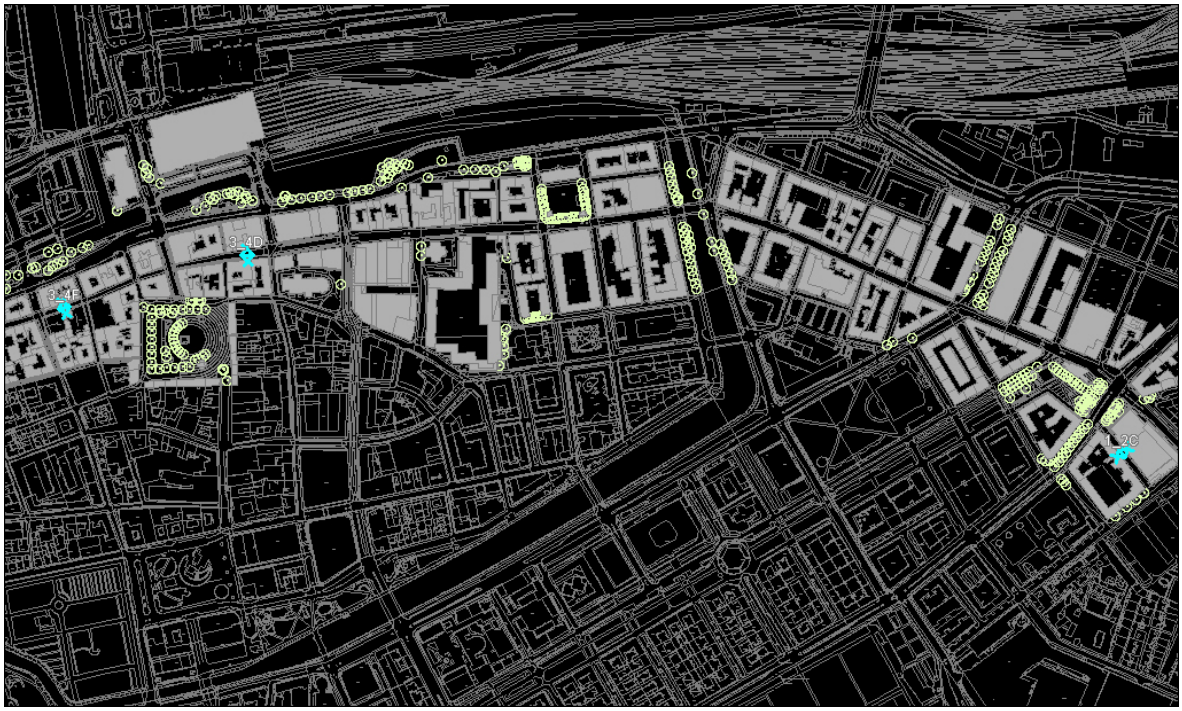


Figure 69. Pedestrian Flow Variation, Selection 7

Morning peaks: The seventh selection illustrates the quite rare places of the route where morning hours are the most intense in terns of pedestrians.



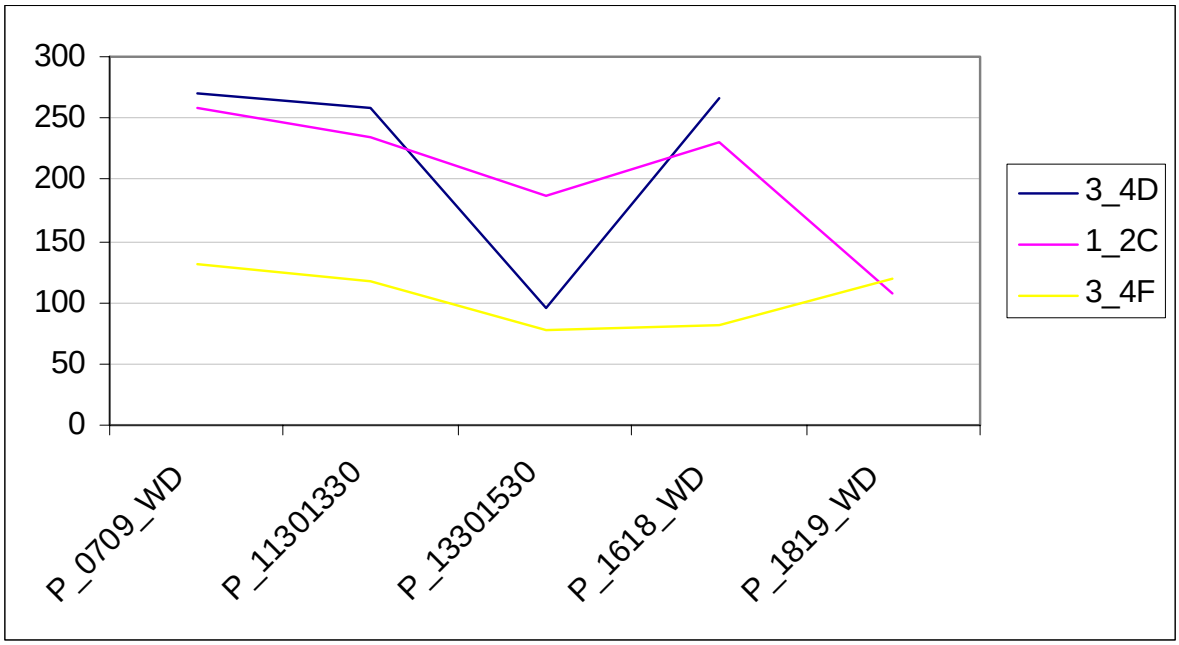
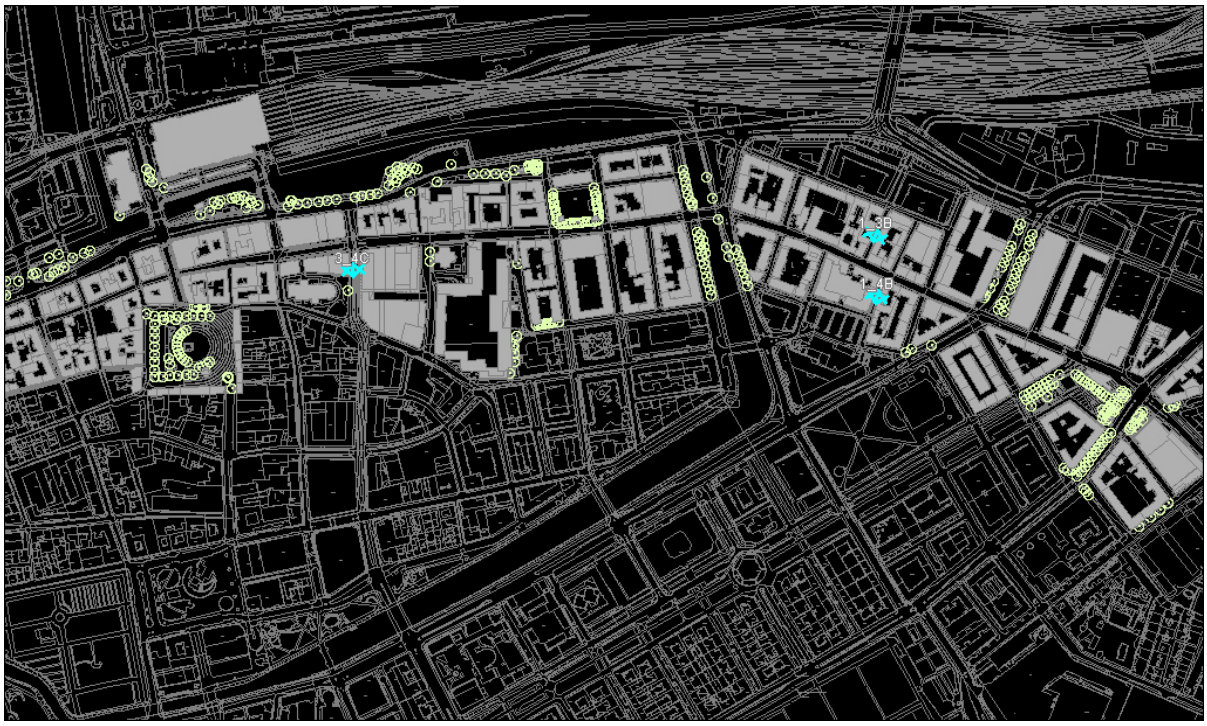


Figure 70. Pedestrian Flow Variation, Selection 8.

Morning peaks: The eighth selection shows places with morning peaks but with low flows at noon and in the early afternoon.



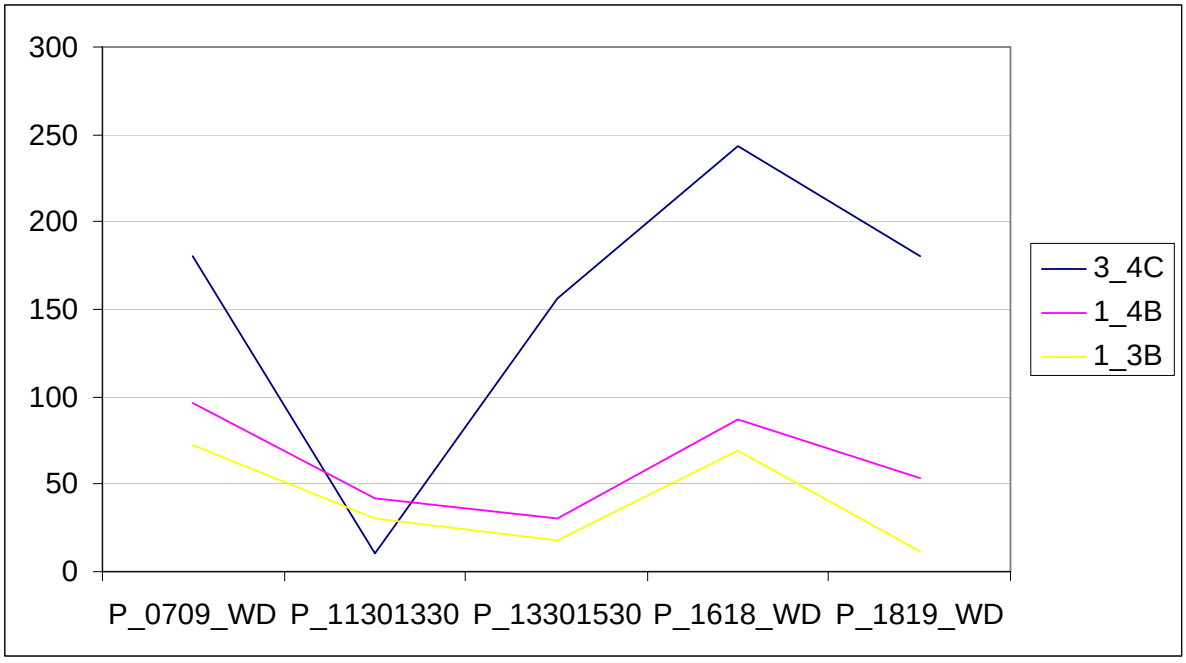
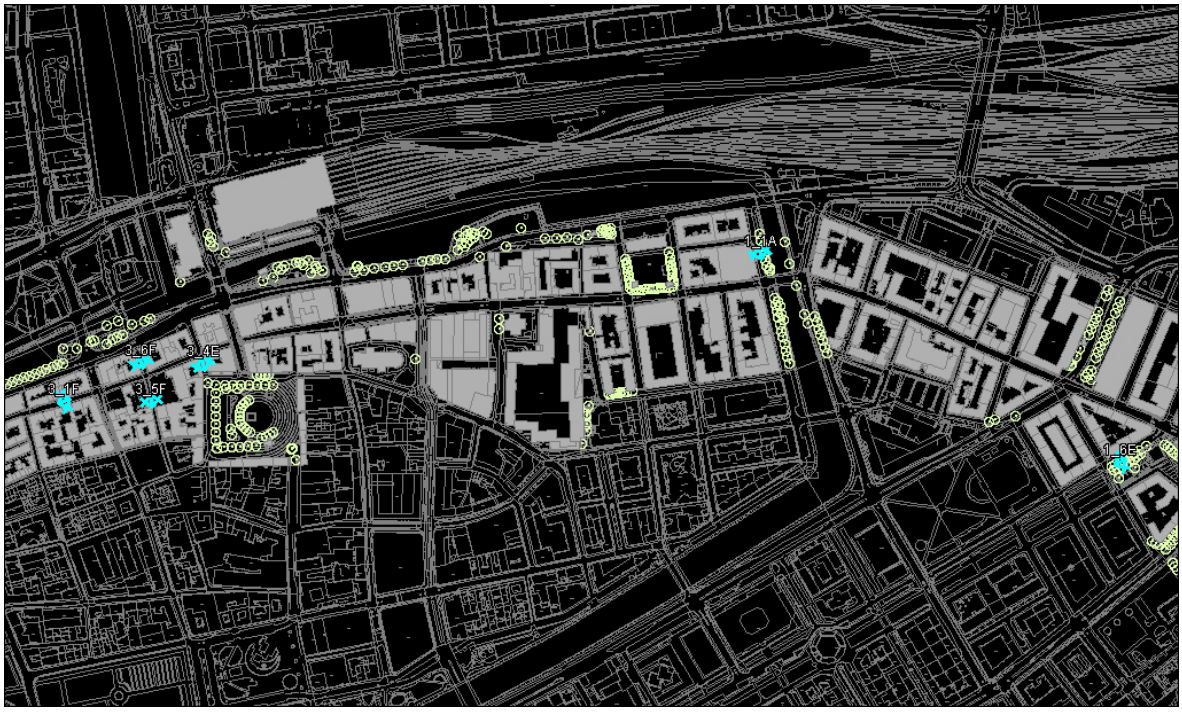


Figure 71. Pedestrian Flow Variation, Selection 9

Morning peaks: The ninth selection shows places of both high morning and evening flows.



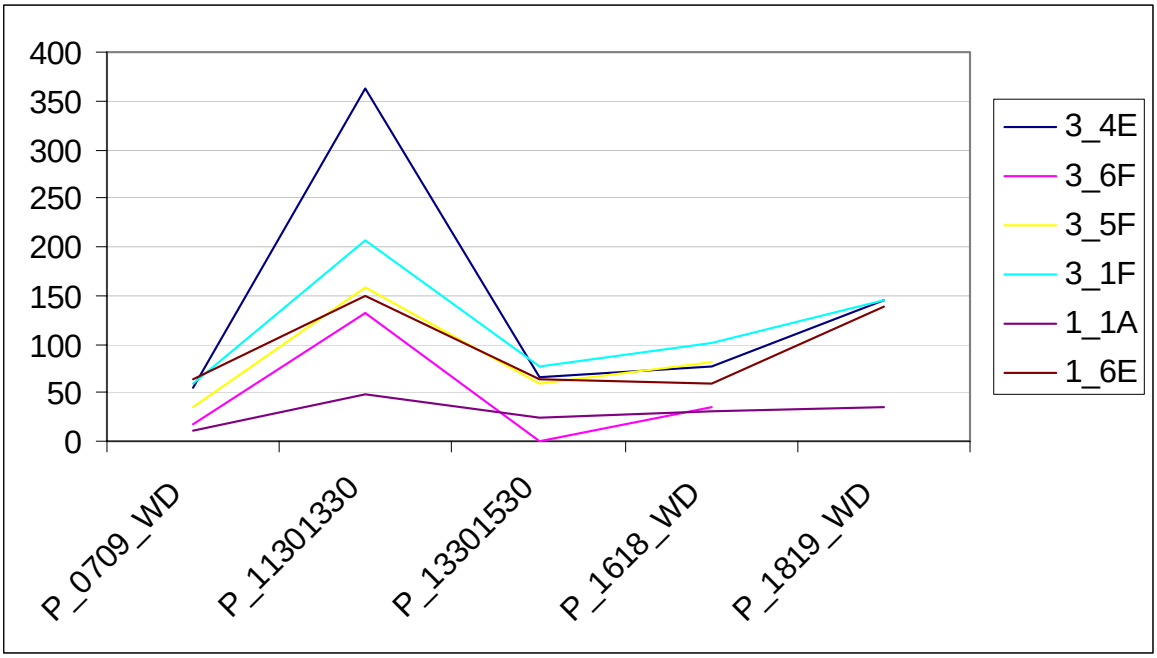


Figure 72. Pedestrian Flow Variation, Selection 10

Lunch peaks: The tenth selection shows places dominated by high flows at lunchtime, and flows increasing at evenings.

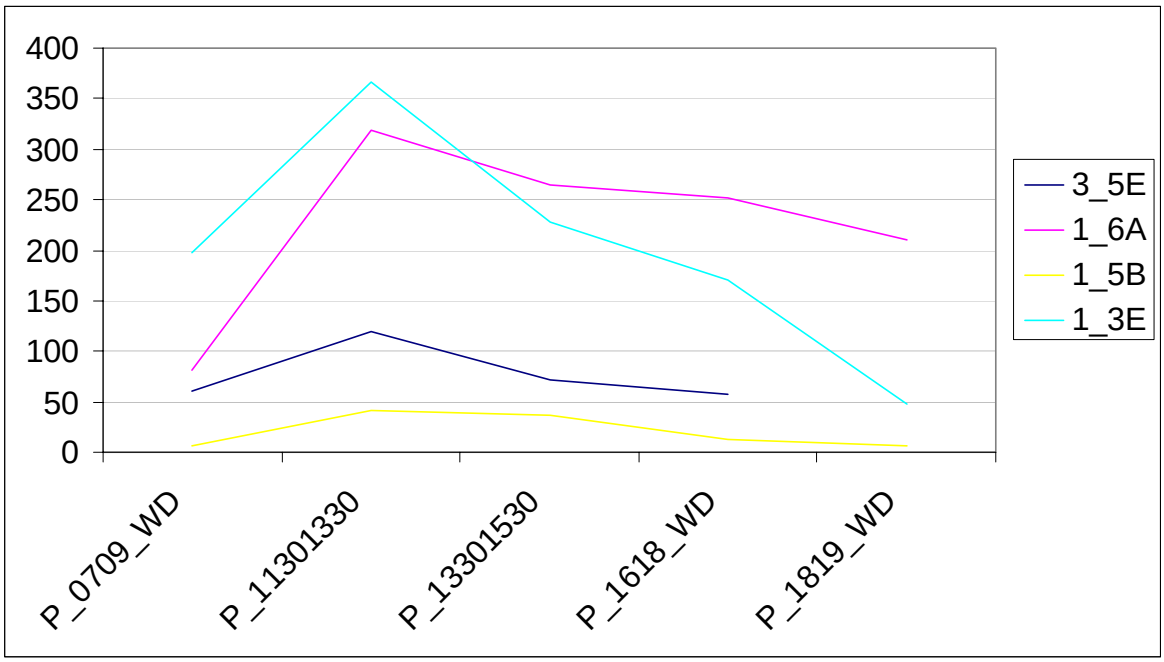
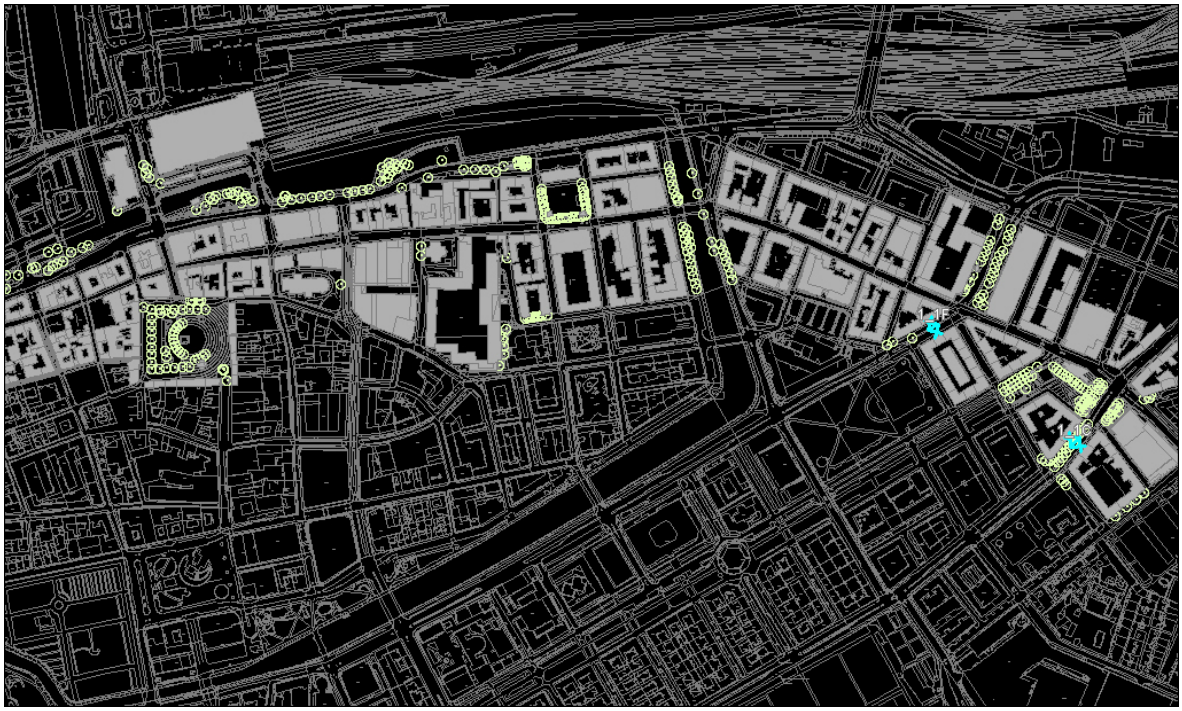


Figure 73. Pedestrian Flow Variation, Selection 11

Lunch peaks: The eleventh selection shows places with high flows at lunchtime and early afternoon (but not evenings).



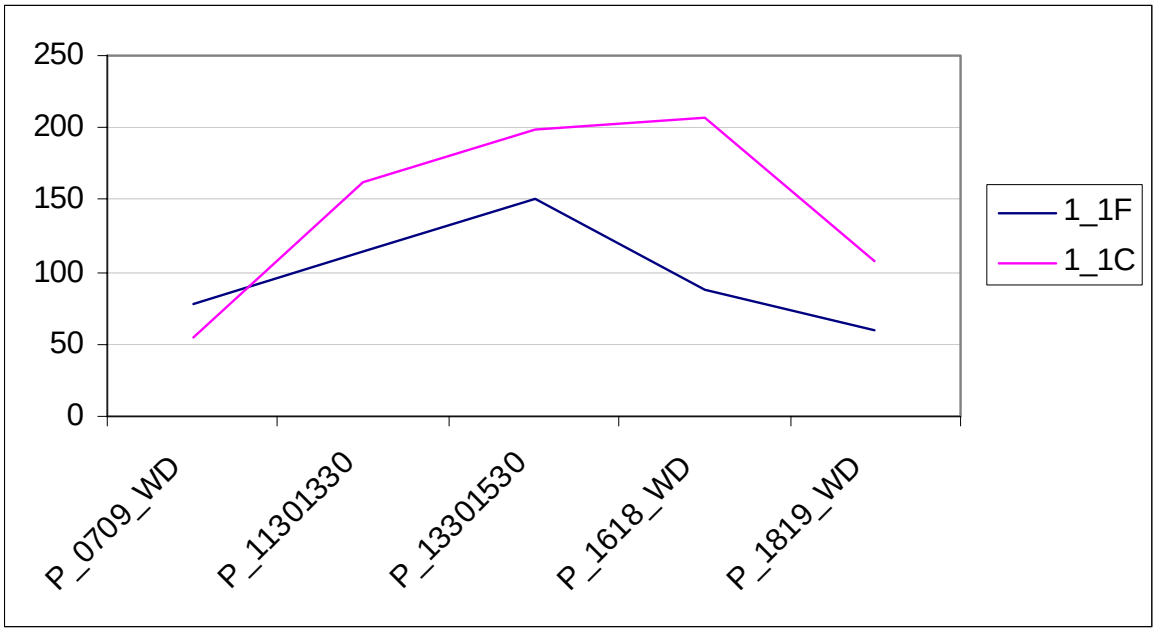


Figure 74. Pedestrian Flow Variation, Selection 12

Lunch peaks: The twelth selection shows places with high flows both at lunch and all through the afternoon.

Is there a Variety of Activities on the Capital Route?

There is a great variety of activities on the capital route. This is made clear in, for example, the ground and upper floor land use maps, (above in 3.4), in the user activity layer and in the gate counts analyses. It is also evident in the study of building entrances, where public and private entrances seem to overlap almost along the whole route. This variety of activities has also become apparent in the discussions above. Even though the variety of activities seem to be high, there are also some activity agglomerations (or tendencies of activity agglomerations) along the route. This can be seen both at a smaller scale (such as the shopping mall at Caroli) and at the scale of the capital route. For example, offices and residential buildings tend to dominate the west part; hotels, banks and shops tend to dominate the middle part, whereas restaurants, shops and evening entertainments tend to dominate the east part.

Should activity agglomerations be sustained, or perhaps even further developed? This is a question that probably should not be answered with a simple yes or a no, but with a discussion on *to what extent* different agglomerations could be allowed to dominate a place (as well as a discussion on the scale and scope of these agglomerations). On the one hand, similar activities might benefit from each other. On the other, the variation of activities is an immanent part of urbanity and a sustainable (not car-oriented) and comfortable urban everyday life. The variation of activities is thus an important factor consider in any future spatial development. A lot of redevelopments during the last decades have, from a global perspective, intentionally or unintentionally, resulted in some kind of spatial homogenization (and the coining of concepts such as commercialization, mallification, gentrification, disneyfication, etc), where certain groups, activities or fields of activities are territorialized at the expense of others. One of the important qualities of this capital route is the rich variety of activities, movements and forms – there is a mix of cultural activities, restaurants, large and small scale commercial activities, work shops, hot dog kiosks, etc., all of which contributes to a certain quality and strength, distinguishing the route from the global genotype of the contemporary western, urban shopping street. This multiplicity needs attention in order to be sustained, since it could easily be undermined by uniform design schemes and strategic commercial planning, turning the route into yet another anonymous shopping street (or, for example, Drottningtorget into yet another redesigned cappuccino place).

Activity of the Route – A Short Conclusion

The activities of the route were found to be quite varied, both in terms of land use, user activity and flows, although some tendencies or cases of activity agglomeration were found. The case-study of pedestrian flow variations managed to map a lot of local differences when it comes to how the flows changed during a day (as perhaps would be expected of a route, such as this, integrated in a deformed grid structure of a pre-modern city core). The commonness of the M-structure indicated that there might be a certain domination of shopping, leisure and restaurants along the route, but the route also proved to be used by residents, workers, commuters, etc. This mix of uses around the clock makes the spatial economics (and economic sustainability) of the route quite good, and a qualified guess is that this must be one of the most varied and well used streets in the city. One can for example compare it with routes and areas more dominated by just one use, such as shopping, traffic, offices or housing, where the use of space is much more time-related, and where the route might even be empty of people at certain hours. Even so, the capital route seems to have a potential for further use and spatial overlapping increasing the density of public activities, especially at some of the open public spaces along the route.

3.7. The Identity of the Capital Route

Relevant Questions for Malmö

In order to investigate the identity of the route we have focused on three more general questions:

(1) Is there a consistent level of aesthetic and environmental quality in the area?

(2) Do the spaces of the route provide adequate feelings of safety and comfort?

(3) Is the route identifiable within the wider context of the city?

Some of these questions have partly been dealt with previously, but they will here be addressed in a more direct manner.

Scale of the Investigation

A discussion on identity will be done at capital route level, but with a focus on the fifteen urban rooms that together constitute the route. The data sets reviewed have primarily been urban rooms, gate counts, land use, transparency, points of information, five selected rooms, floor planes, building heights, observer narratives, questionnaires, and spatial analysis.

Is there a Consistent Level of Aesthetic and Environmental Quality in the Area?

The aesthetic and environmental qualities of the area are quite varied. The buildings along the route represent a lot of different styles and times, the paving differ from place to place, as do the activities and the flows. The route has a history that goes back to the Middle Ages – Adelgatan used to be the market place of Malmö during the Middle Ages – and some of the older buildings, from 16th century and onwards, are piously restored (e.g. S:t Gertrud). Most of the buildings are from the late 19th century and onwards, with Värnhemstorget as one of the most recent urban design projects (totally remodelled during the late 1990's). The great variations of times, styles and materials on the route could to some extent be seen as an important quality.

The largest part of the route represents a kind of mixed urban street environment. The route also has a couple of squares, a church and a canal. Trees and benches are almost exclusively found at these places, whereas the rest of the route is dominated by hard, paved surfaces. This contrast between the urban street and the more green open spaces may be worth considering in any future redevelopment plans.

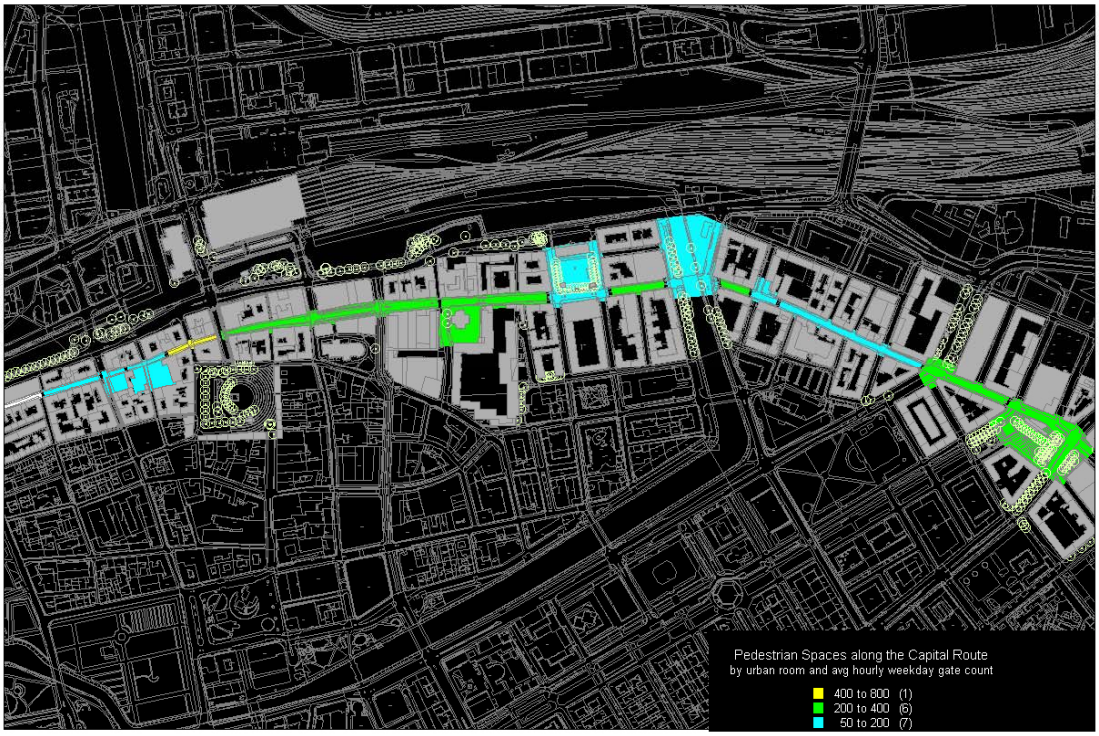
The pollution of the urban rooms is illustrated in figure 75 below. The most polluted rooms are the eastern part of the route (Värnhemstorget-Drottninggatan), followed by Östra Förstadsgatan, and then Adelgatan. If we take a closer look at the relation between pedestrians and pollution, we see that the area around Hamngatan is the place most used by pedestrians and, at the same time, it has quite low rates of NO_2. The highest rates of NO_2 as combined with a large amount of pedestrians were, not unexpectedly, found at Värnhemstorget and Drottninggatan (figure 77), where buildings are tall and traffic heavy. The middle of the route (Caroli and Drottningtorget) had the lowest values of NO_2, and a fairly high (or at least route average) amount of pedestrians.

Now, let´s take a look at figure 78. Crowding does not seem to be a problem in this part of Malmö. Väster/Frans Suellsgatan is (due to the the high number of pedestrians on Hamngatan) the densest room, whereas Drottningtorget and Slussplan seem to be the calmest (in terms of pedestrians per m^2). Although there surely are some large differences between the urban rooms, differences that one should perhaps be aware of in considering possible spatial redevelopments, the table does not indicate any acute problems. The table might, however, be useful in discussions, since it indicates places of

Figure 75. Pollution Value (NO_2) in the Urban Rooms. (Pollution data appears courtesy of Håkan Kristersson, CR4)

low density, possibly for revitalization (vs. places of high density). A differentiation of pedestrian density along the route can be regarded as a quality, though one should hold in mind that any decision on revitalization (or change) also must contemplate on other factors, such as land use, spatial integration, etc., in order to decide how pedestrian density differentiation best should be structured and spatially organised along the route (or in this area of the town).

Generally, the capital route seems to be a place of fairly good aesthetic and environmental qualities, although further and more detailed studies are needed. The middle part of the route seems especially interesting in terms of pedestrian use. It is a calm part of the route with some large public spaces, trees and a good air quality. It even has a high transparency rates, and these factors taken together suggests that these places could benefit from more pedestrian oriented activities. The same is perhaps true of the west part of the route, although this part is more of a residential/office area, and a possible revitalization of public activities should be done with this in mind. Perhaps it is the streets that cross the route that are the strategically most important ones here. These streets have quite large flows of pedestrians and cyclists (Hamngatan, Frans Suell-gatan and Gråbrödersgatan). At the eastern and most populated part of the route, the environment for pedestrian could perhaps be improved, both in terms of air and spatial quality. The possibilities of such an improvement are surely there, for example at the very wide Drottninggatan (as was noted above in 3.3).



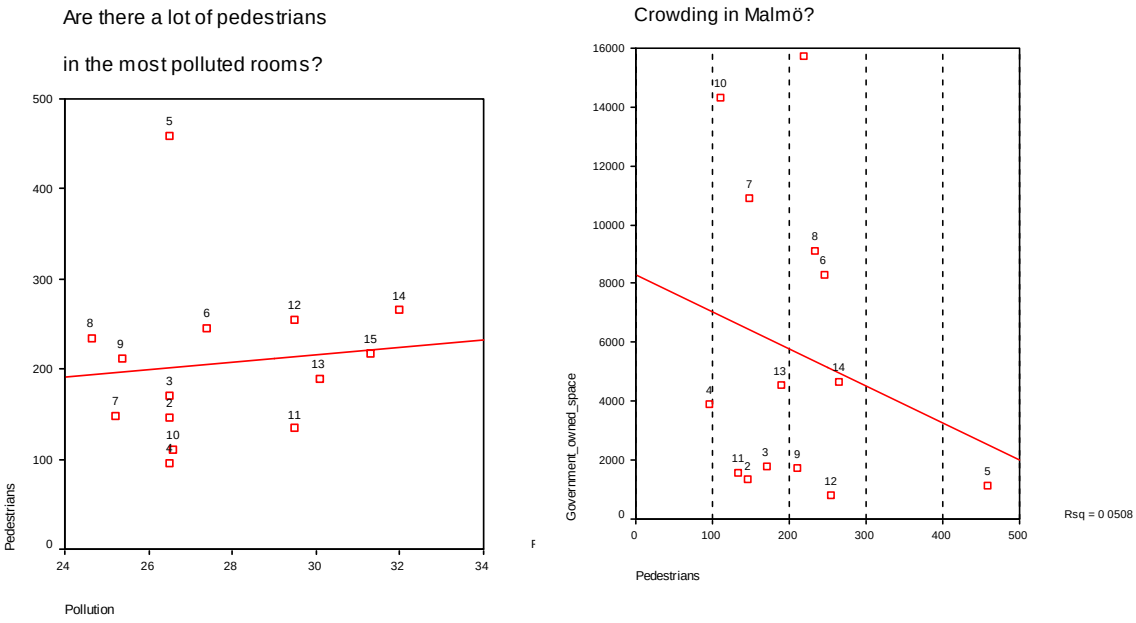


Figure 76-78. Pedestrians In the Urban Rooms. Urban rooms in the tables: 1. Väster/Slottsg., 2. Väster/Långgårdsg, 3. Väster/Gråbrödersg., 4. Väster/Mäster Johansg., 5. Väster/Frans Suellsg., 6. Mitten/Adelsg., 7. Mitten/Drottningtorget, 8. Mitten/Caroli, 9.Mitten/Östra Tullg., 10. Mitten/Slussplan, 11. Öster/Gyllenpalmsg. 12. Öster/Excersisg., 13.Öster/Östra Förstadsg., 14. Öster/Drottningg., 15. Öster/Värnhemstorget. (Pollution data appears courtesy of Håkan Kristersson, CR4)

Do the Spaces of the Capital Route Provide Adequate Feelings of Safety and Comfort?

This question has to some extent been touched upon previously. Some smaller streets have for example been noted as not used by pedestrians at evenings (above, for example S:t Petrigatan), and could thus perhaps be regarded as unsafe. This did also seem true for Slussplan, a larger place on the route where the difference between the numbers of cyclists at day and night was large (3.6). Perhaps it is fair to say that the size of the movement network in use, decreased at night time, as movement tends to concentrate to larger, more well-lit and populated streets frequented by vehicles. We can also find a lot of places that seem to be perceived as quite safe to use (judging from its popularity) both at evenings and at night (Hamngatan and Drottninggatan).

There might, however, be other aspects of safety at stake here. The question of safety is more complex and affects more things than just the choice of a certain route before others. Apart from populated and well-lit streets, safety could, for example, also be related to populated buildings and a mix of residents and workers. There are people living almost along the whole route, which means that the area of the capital route also has a night time population (even when bars are closed). Figure 79-80 gives us one picture of the night and day population through the mapping of the employed population, and the inhabitants. One should bear in mind that these maps do not tell the whole truth, there are a lot of people at the route in daytime, eating lunch, shopping, etc. even though they do not work at the capital route. There are also people at the restaurants, the bowling alley, etc., at evenings and nights, who do not live at the capital route (or not even close by). Nevertheless, the mapping of employed and inhabitants seem to indicate that there are both day and night populations along the route, with the possible exception of some blocks in the middle-west part.

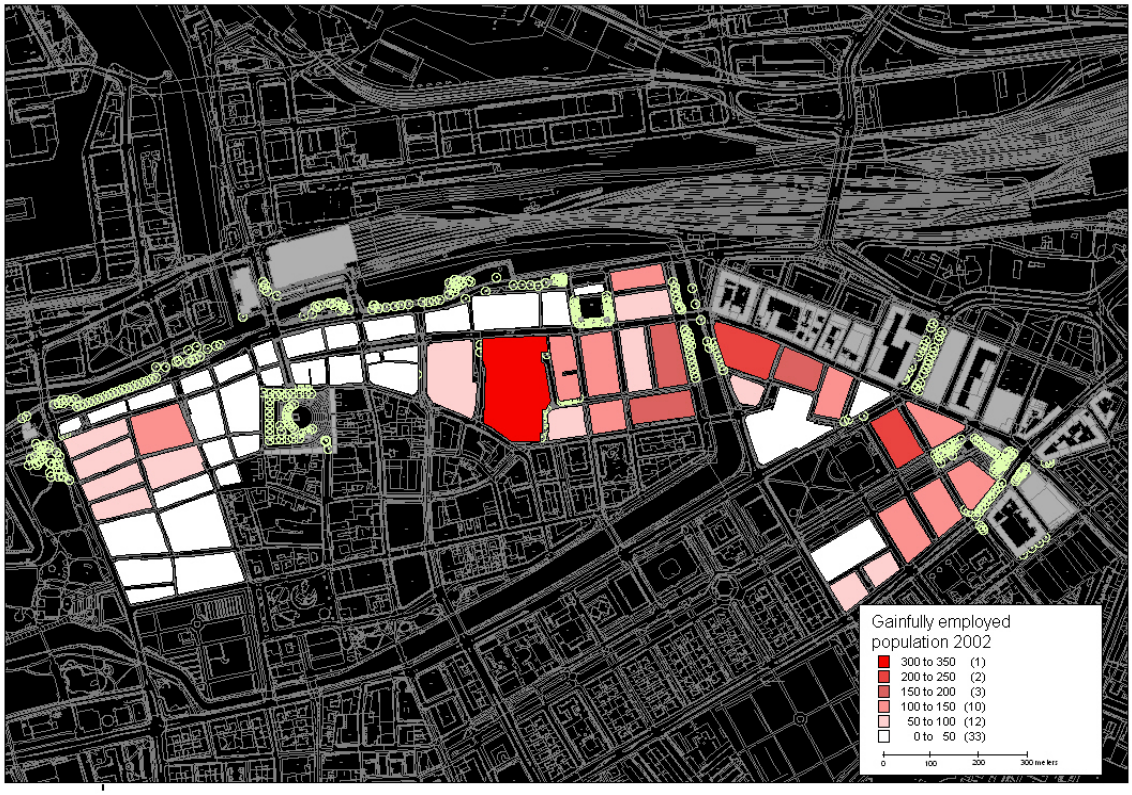


Figure 79. Employed Population (Part of the Daytime Population).

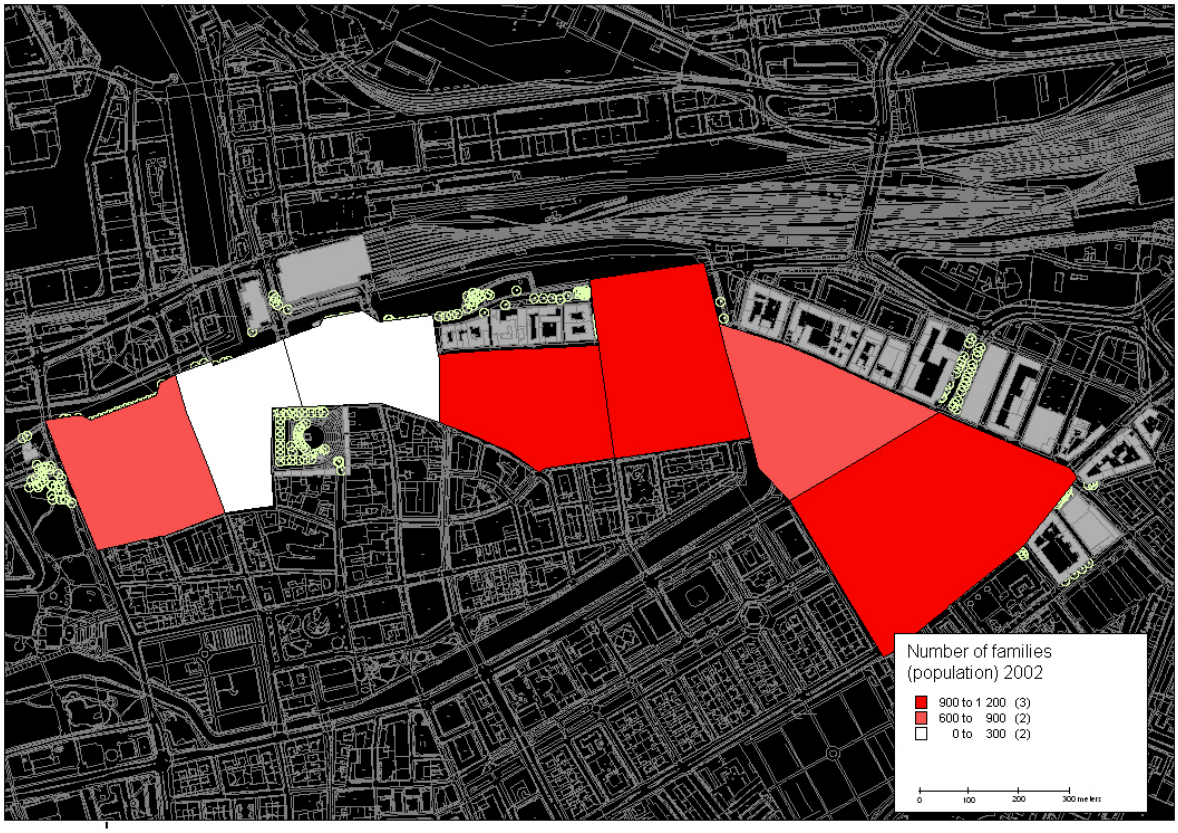


Figure 80. Inhabitants (Number of Families).

This part is dominated by offices, hotels and banks. As was noted, Hamngatan is an important street and populated almost 24 hours a day (which does not show in these statistics). The large red block in the middle of figure 79 is the shopping mall at Caroli city. The blocks in the middle-east and east part of the route has the highest numbers of employed population.

The relation between different areas on figure 80 inhabitants, resembles the one on employed population above, indicating that the swift between night and day is not so strong here as it is at a lot of other places in the city – the capital route is to a large extent a populated area 24 hours a day.

Finally, it could be noted that the gate counts seem to be a productive method that to might be used in the investigation of urban safety, although it is important to complete such an investigation with more qualitative data, such as questionnaires and observation studies that are specifically focused on these issues. Such data need to address both users and, for example, put these into the context of the relevant environmental conditions (such as lighting, entrances, etc.) of the route.

Is the Route Identifiable within the wider Context of the City?

This question has also, to some extent, been dealt with above. The route has an old history and it has for hundreds of years been the east passage into Malmö (Östertull). The historical identity of the route is quite manifest. The spatial identity of the route was to some degree verified by the space syntax analysis (the radius-n map above, in 3.4.), and by gate counts and flow analysis (bicycles and buses do indeed use large part of capital route as a route), though it should probably be obvious by now that there are also important local differences between different parts of the route. The discussions and analyses conducted so far have often tended to divide the route into three parts:

1) – A western part, that is more of a residential area with offices,

2) – A middle part of the route (located between the quite busy places of Hamngatan and Slussplan), with shopping, restaurants, hotels and offices (but still, a relatively calm part of the route, and last,

3) – The east part of the route, a very lively part with some heavy traffic, buses, shopping, restaurants and an active night life.

Out of these three, the first, western part, is perhaps the one least integrated in the route (judging from flow analyses and ground floor land use).

Apart from this division into three, one could also note that some of the urban rooms on the route, such as Värnhemstorget and Drottningtorget, also have a strong identity of their own.

The Identity of the Route – Concluding Remarks

In this section of the analysis we have discussed the identity of the route from three different perspectives: aesthetics/environment, safety and the context of the city. We found that the route is very varied both in terms of age, materials and architectural styles, a variation that seems to be a kind of quality in itself. There are some important open places with trees, benches and even water along the route, marking an important contrast to the dominating urban streetscape. There were no signs of crowding. Pollution seemed quite high at the east part of the route but low in the middle. The route seemed to be regarded as relatively safe, and was to large extent inhabited around the clock. There were also some important evening activities and flows along the route. Most flows did of course decrease during night time, but a lot of streets were still used. The number of streets used for movement did however decrease, especially the ones without vehicular traffic and a couple of places that seemed to be regarded as unsafe were picked out in the analysis. The capital route has a historical and spatial identity, but there were also differences found between different parts of the route. The route was divided into three different parts, each of a different character, where the west part seems to be the least integrated in the capital route.

What can we then say about a more general identity of the route? The mix of residential areas, shopping, restaurants and offices is a good resource in the construction of a strong place identity. This means that there are people who see themselves as inhabitants of a place, but also others who are shop owners or workers of that same place. Different networks of socio-territorial belonging are constructed at different levels. At the same time a lot of people visit or pass through the route, recognizing it as an important and identifiable part of Malmö. The route belongs both to its inhabitants, its workers, its shop owners, its commuters its visitors, etc., and in a way, one could describe the identity of the route as constituted by all the images and doings of these different people and groups that use it, some of which might coincide while others vary. This is also what makes the identities and qualities of the route sustainable in the long run, it is not an entity in the hands of just one, or a few groups.

It should be noted that, although the route surely is the arena of important identifications and attachments, these attachments primarily connect to other scales and levels than the

capital route. The division of the route into three parts, each of quite different character, was for example discussed above – one is not the inhabitant of the capital route but of Gamla Väster or Värnhemstorget (or at a smaller scale, Drottningtorget, or Gråbrödersgatan, etc). Since the route does not have a name, but consists of several different streets and places, the identity of the route as a singular entity is probably weak (or even non-existent). It is surely debateable whether the construction of an identity at the capital route level is desirable or not. However, the route is important to a lot of identities and places in this area, and as such it has a very important function as a link of different places and areas. If the capital route is to be made more identifiable as an entity (branded), one must acknowledge that this route connects a lot of places with quite strong identities, and make sure that such an enterprise of implementing a conceived identity is not made at the cost of the lived ones.

3.8. The Public Spaces of the Capital Route

Relevant Questions for Malmö

The discussion on public space has been divided into two questions:

(1), Is public mobility well supported?

(2), Is there a sequence of well connected public spaces along the route?

Scope of Investigation

The questions are discussed rather briefly in relation to the capital route as a whole. The data sets reviewed were gate counts, transport nodes, points of information, five selected rooms, urban rooms, land use, accessible space day/night, façade transparency and movement annotations.

Is Public Mobility Well Supported?

The capital route is quite well served by public transport (as can be seen in 3.4.), the route has four bus stops, of which at least one (at Värnhemstorget) is important on an urban and even regional level. The capital route is also close to the Railway Station and the bus stops located there. The spatial structure of the route is quite well integrated with the urban grid and the route has an important role to play in different large scale movements across the city. The western part of the route is perhaps an exception from some of these statements – although some important thoroughfares crosses the street, the street itself does not have a lot of traffic nor any nodes of public transportation.

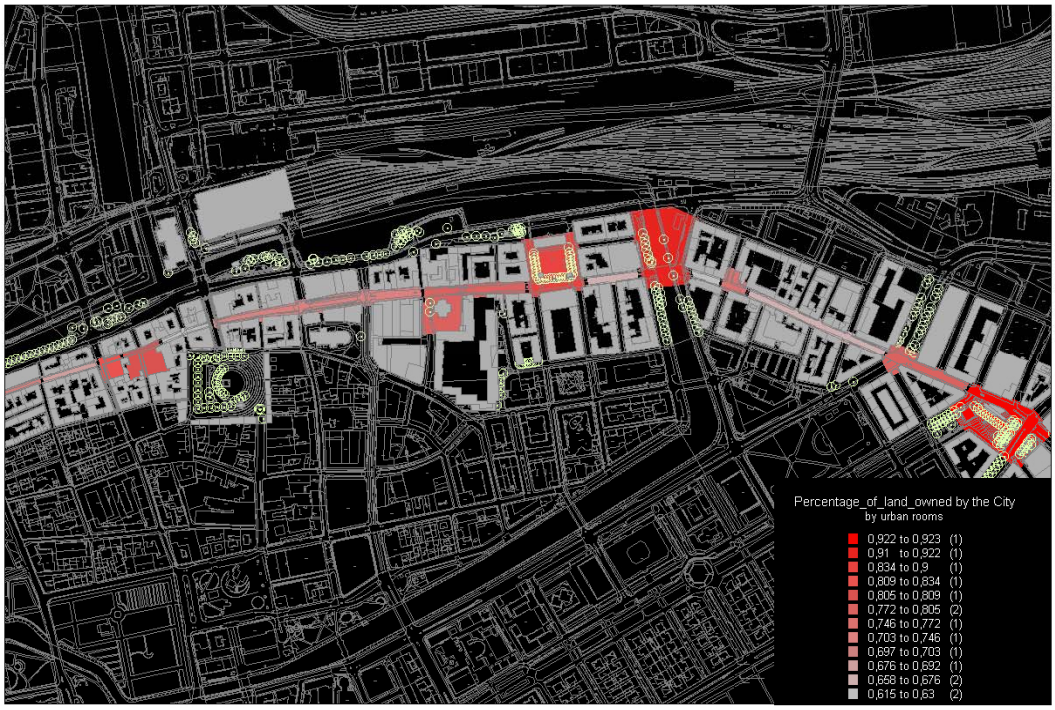


Figure 81. Percentage of Land Owned by the City.

As was concluded in chapter 3.1, the points of information of the route could be improved in order to support public mobility on a larger scale. This is not just a question of signage, but also a more general question of a legible urban landscape, where short cuts and important routes can be identified as such, and where urban design is used in order to support urban navigation.

Is there a Sequence of Well Connected Public Spaces along the Capital Route?

First of all, let us say something on the question: where is public space? In figure 81 mapping outdoor space owned by the City, we can get a clue. Here, the urban rooms with the highest amount of public space are the most intensely coloured, and vice versa. As one can see, figure 81 echoes the selection of the five urban rooms (with the exception of Värnhemstorget) – these are the ones with the highest amount of public space, and so they might also be expected to offer good possibilities for redevelopment and vitalization. The analysis made so far could of course be used to select rooms from other, and perhaps more complex, criterions than available space. Some places, such as Hamngatan and Drottninggatan, might for example be interesting since they coordinate a lot of functions and traffic in a rather limited space. Adelgatan might be interesting due to its historical past as a market place, as well as its present role as an important traffic node where people seem to be passing by in high numbers, but where the possibilities for occupation (and staying in the room) seem to be somewhat undeveloped.

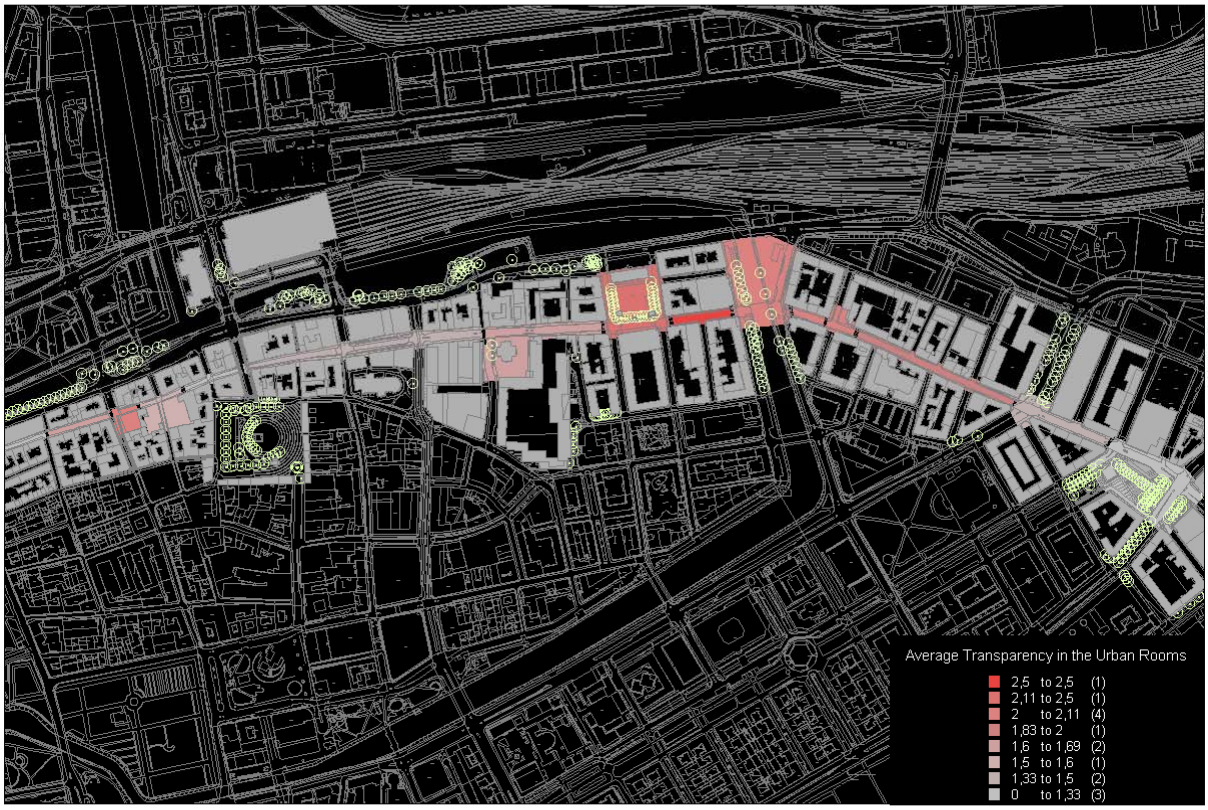


Figure 82. Average Transparency, Urban Rooms.(The data on average transparency appears courtesy of Håkan Kristersson, CR4)

Indoor public spaces are harder to track due to the lack of more comprehensive accessible space studies (although some were done). The inventory of public entrances indicates, however, that there to some extent are indoor public spaces all along the route. We can also take a look at transparency and visual accessibility (figure 82). As was noted in 3.2. there seem to be a correlation between a high number of public entrances and a high transparency rate. Reading the map of transparency together with outdoor space owned by the City, one could put the finger on three urban rooms – Väster/Gråbrödersgatan, Drottningtorget and Slussplan – with a high degree of transparency combined with a lot of available space. To this we might add, relatively good environmental quality and a fairly intense pedestrian/bicycle activity, indicating that this might be places where possible improvements for public activity could be taken into consideration.

How then do the different public spaces connect? As we can see, the capital route consists of a number of large open public spaces that to some extent connect visually. These rooms contribute to the life and activities of the capital route in different ways, and to different degrees. Värnhemstorget is a busy square with a lot of traffic, bus stops, shops, etc., Drottningtorget is a traditional square with a farmers' market, a kiosk, benches, trees etc. Other rooms are used in a more homogeneous manner, such as Caroli, turned into a dead spot by the shopping mall and parking garages, or the open spaces at the west part of the route primarily used for parking. Most of the open spaces could thus be further developed in order to accommodate for more activities and a better connection to the capital route (and other important places or streets in the area). This approach of improved connections is important to investigate and to weigh against the strategy of spatial enclosure so much favoured in contemporary urban design proposals (shopping malls, entertainment centres, amusement parks, etc.). It is also one of the great advantages of the route-perspective – public spaces are not treated as entities but put into a spatial context (at times, extended in order to comprehend the city as a whole). Such an approach suggests that there must be both differences and similarities between the public spaces of the route, where each space must be seen both as working within a context of its own, and, as being part of the same route as the others.

How does the Capital Route Function as a Public Space? A Concluding Remark

Although there are no large public buildings or institutions, such as libraries, museums or theatres, on the capital route there is a vivid public life going on. The route consists of a continuous space of varied activities, and this is also to some extent what gives the route a good public quality – there is a richness of activities allowing car drivers, cyclists, pedestrians, inhabitants, clerks, shoppers, hot dog eaters, hotel guests, strollers, street sleepers, bankers, taxi drivers, parents with children, etc. to intermingle at the same places.

3.9. Some Concluding Remarks on 3.6-3.8

The questions of 3.6-3.8 were posed for the sake of their own interest, but also with the overall aim of investigating the sustainability of the route. A perspective of sustainability is a perspective that acknowledges the world as a place of limited resources. In the perspective of the capital route this could mean a lot of things – for example, putting the capital route into the context of a global and environmental perspective. In this discussion we will, however, focus on more local issues and questions like: Is the route fully utilized? Are the affordances of the capital route well used? Could these affordances be changed or improved?

The activities and flows of the route are very varied. A basic assumption would be that this also constitutes a certain stableness, since the loss or change of a certain flow or activity does not necessarily have to change the situation entirely (leaving a majority of activities and flows unchanged). This makes the route more stable than places dominated by just one or two forms of activity. People will use the route even if this or that shop closes. This persistence is further strengthened by the fact that the capital route is well used over time, there are not a lot of dead hours and not a lot of dead space (especially not if compared with areas outside the city centre). The multifaceted, ongoing use and movements of the capital route is an important factor in the constitution of sustainability: the spatial heterogeneity of the capital route sustains functions for different groups and activities at different hours of the day. Actually, in some ways the spatial resources of the capital route seem to be even better utilized than it is at some of the more central pedestrian areas of Malmö.

Nevertheless, there certainly is room for more activity, especially at the open public spaces along the route. Furthermore, the route could benefit from a spatial planning that looked to the capital route as a whole, letting the different places of the route relate and complement each other, as well as to adjacent places and attractors of importance.

In the discussion on identity (3.7) we concluded that the route could be divided into three parts. The west part can perhaps be considered as the weakest in term of capital route integration. Here the streets crossing the route tended to be quite strong. This makes the street corners along the route – such as the parking place at Gråbrödersgatan – especially interesting for any spatial development plans. Here, it could be important to further improve the connection to the route, for example by way of public transportation, or just by locating more activities along this part of the route (although this must not be taken to mean that this part of the route should be turned into a shopping street).

The middle part of the route has good qualities and a large potential for a more activities. Here, the connections to areas north and south of the route could be strengthened at some places. The spatial logic of the mall at Caroli works like a total stranger in this area, and both route and mall could benefit from a spatial co-operation, making better use of the fact that the most concentrated place of retail is located on one of the calmest and uneventful parts of the route.

The eastern part, from Slussplan to Värnhemstorget could be more adjusted to pedestrians. Slussplan is perhaps one of the strategically most important places here, it is the east gate to the old city centre and it connects the east and the middle part of the route. It is also an important place for traffic going in a north-south direction. There were some measures indicating that Slussplan was not perceived as safe at evenings, which also indicates that the potential of the place is not fully utilized.

Finally, it should be remembered that the stable and sustainable qualities of the route is not the same as to say that the capital route is adaptable to large changes, since one large scale spatial development – such as turning part of it into a pedestrian precinct, or a through route – might wipe out a whole battery of activities. On the contrary, a sustainable area is always much more delicate to handle and exploit than a non-sustainable one (where any spatial development might lead to improvement). Improvements and small changes must always be done in order to sustain the qualities and functions of the capital route over time. To have something that actually works does not mean that one should halt, preserve, and run the risk of turning it to into a fetish. Changes should however be accompanied by well-informed analyses and an understanding of what it is that makes the route vital and well-used by different actors.

CHAPTER 4: ANALYSIS – UTRECHT

4.1. How is Public Information Impacting on the Activities and Experience of the Capital Route?

Scale of the Investigation and Data Sets Reviewed

An inventory of all formal public information points was done at capital route level, where all signs that were put on the street or on buildings (private and public) were investigated. Even though commercial displays inside shop windows give lots of information to the public and therefore influences the experiences in public space, these were not included here. This subject is taken under examination when considering the sub-component appearance of the component urban room in chapter 4.3). The data sets that were reviewed were: points of information, questionnaires, user evaluation, observer narrative, transport nodes, spatial analysis, follow the flows, assemblages

Points of Public Information

In total we found 527 public information points along the capital route. From this we can conclude that there is a lot of information to be found. But at the same time, this high amount of information makes the whole image of a place a bit blurry, and it is hard to find the information you need. Most of the information points that we found give information to vehicular traffic, mainly showing regulations and directions. A lot of these signs were combined on one pole. We recorded these as instances of just one sign.

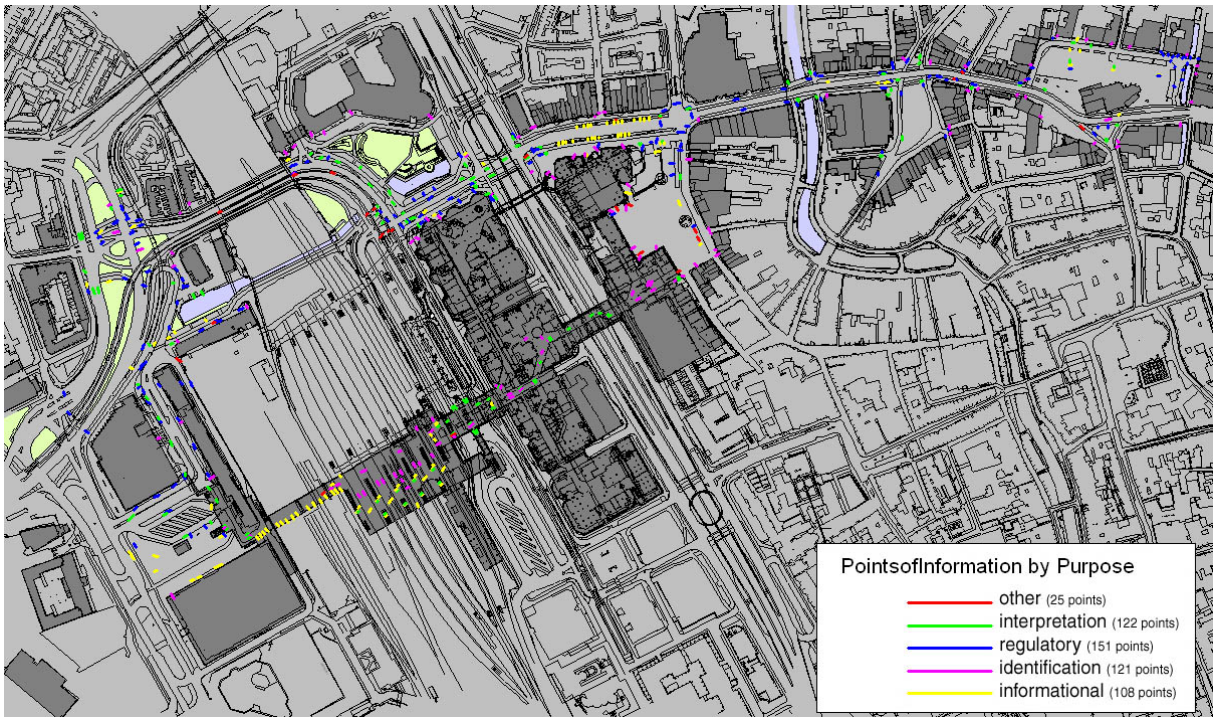


Figure 83. Points of Information by Purpose. This image shows the different purposes of the information points along the capital route. It's clear that most regulatory signs are close to vehicular flows. Most identification signs are seen along pedestrian flows.

The majority of the public information points are situated along the route where there are many passers-by. This shows that there is a clear connection between public information points and urban flows. There are also more signs for vehicular and cyclist flows than for pedestrian flows. The signs are different in character as well; pedestrian information points are more informational and commercial while information points for vehicles and bikes are more focused on prohibitions and directions. We can conclude that the function of most signs on our capital route doesn't have much to do with the pedestrians. The information is about goods coming in, parking regulations etc. However, the signs do physically determine the route of pedestrians. They frame the flow so to speak.

Comparative studies on data showing locations for the information points and the flows that exist on the route reveal that there is a correlation between the two. The question is whether the flow was there first and is now supported by the signs, or that the signs actually determine the flow. Perhaps it is a mix of both; either way it becomes clear that the two components are related. A more interesting finding, however, is that people that follow the routes that are articulated by signs, they do not seem to follow them because of the information the signs give, but are guided by the flows physically. Further research will have to make clear to what extent this is true. Such research could for example ask questions like: What can be said about the size of the signs that work as flow indicators? Or how is the distance between signs and their configuration as a family of objects working?

Figure 84. Vredenburg with and without Market

Vredenburg Square is an example of this; the ways the signs are positioned indicate a split in the area. The square is not experienced or used as a square, and the signs only seem to promote movement along the edges of the place (this is historically grown). The signs stimulate the route physically as if the centre is permanently in use as a market. Research showed that only people that are familiar with the environment tend to move across the square, because they are familiar with the short cuts. Other people tended to stay close to the façades. One might say that the impact of the market is present at all times, because of the fact that the entire arrangement of elements is focused on those two days a week that the square will be used to its maximum capacity. This feature will be analysed further when we look at the urban room component (chapter 4.3).

Generally signs are positioned on the edges of the flows. The signs are placed along straight lines, facing the directions of the flows. Yet when situations become more complicated, like they do at crossings, it becomes confusing, because people tend to come from different directions. The number of signs has grown and the situation has become cluttered. The more signs there are the more information one has to take in. It makes the crossings confusing and hard to understand when moving through them.

Our observations show that there is a relationship between the type of sign, the level of height the sign is positioned at, the type of room, and the speed in which people move. Roughly speaking there are two types of signs: wall-mounted signs and freestanding

signs. Analysing the information given on these two archetypes, it was found that freestanding signs above eyelevel are flow regulating: they stimulate movement. The same signs on eyelevel are more informational; city maps, facts about buildings etc. These signs are studied by pedestrians more carefully and for a longer time span, hence the fact that gatherings occur around these signs quite frequently.

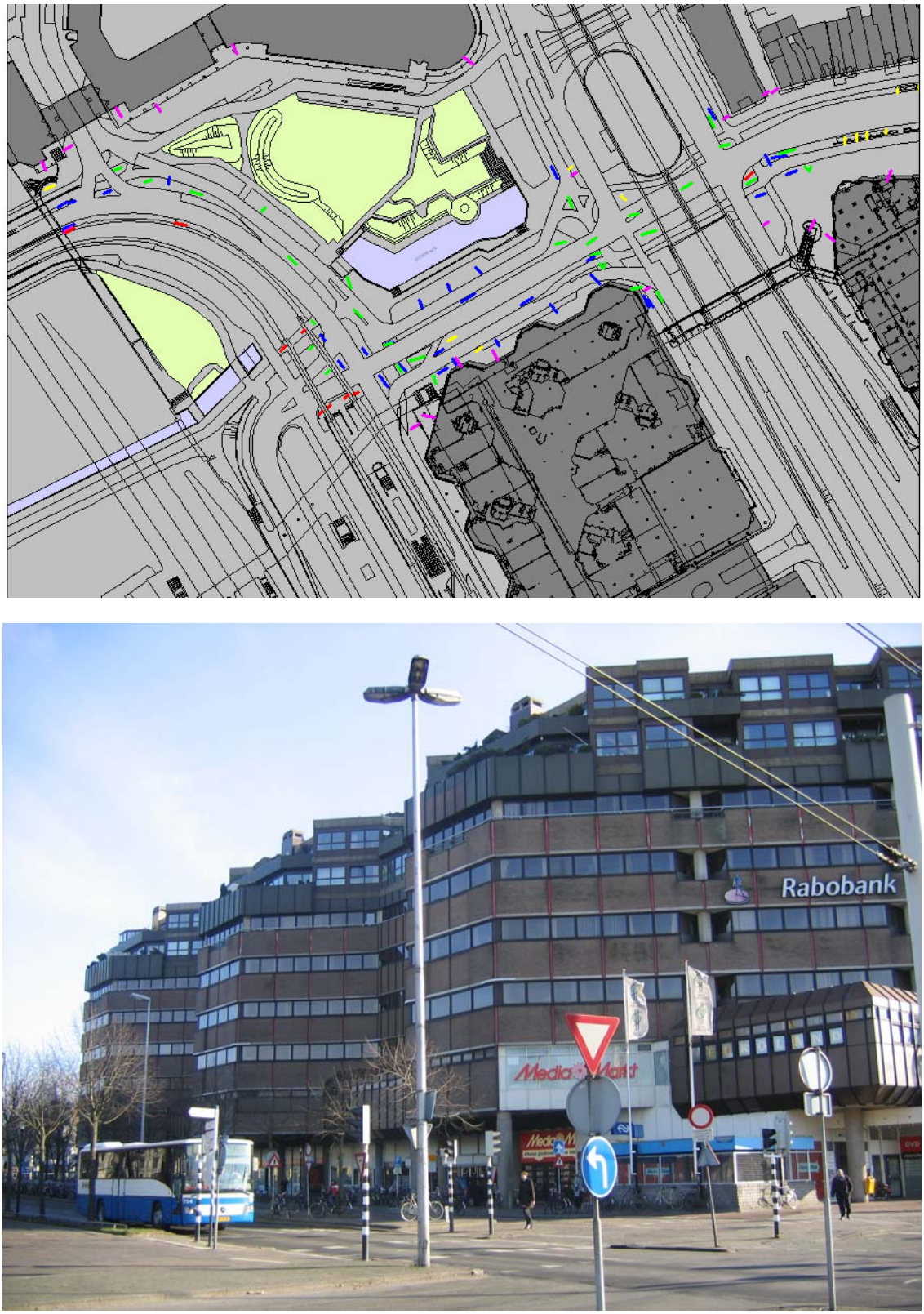


Figure 85. Smakkelaarsveld: Lots of Signs Facing Different Directions.

With wall mounted signs it is the other way around: flow regulating signs are more on eyelevel, however this time not stimulating movement, but decreasing the speed. These signs are mostly for prohibition. Informational signs (commercial branding etc.) are put up above eyelevel. This is done in order to create a bigger range of visibility: i.e.; seen by many people and from a larger distance.

Taking a closer look at signs and the configuration of rooms it seems there is a relationship between the type of sign (its position) and the type of room it is in. In convex rooms, the signs are mostly positioned on eyelevel generating lower pace and reason to dwell, in rooms that are more linear the signs are positioned higher up, stimulating movement and stretching the visual filed in height, in the absence of width.

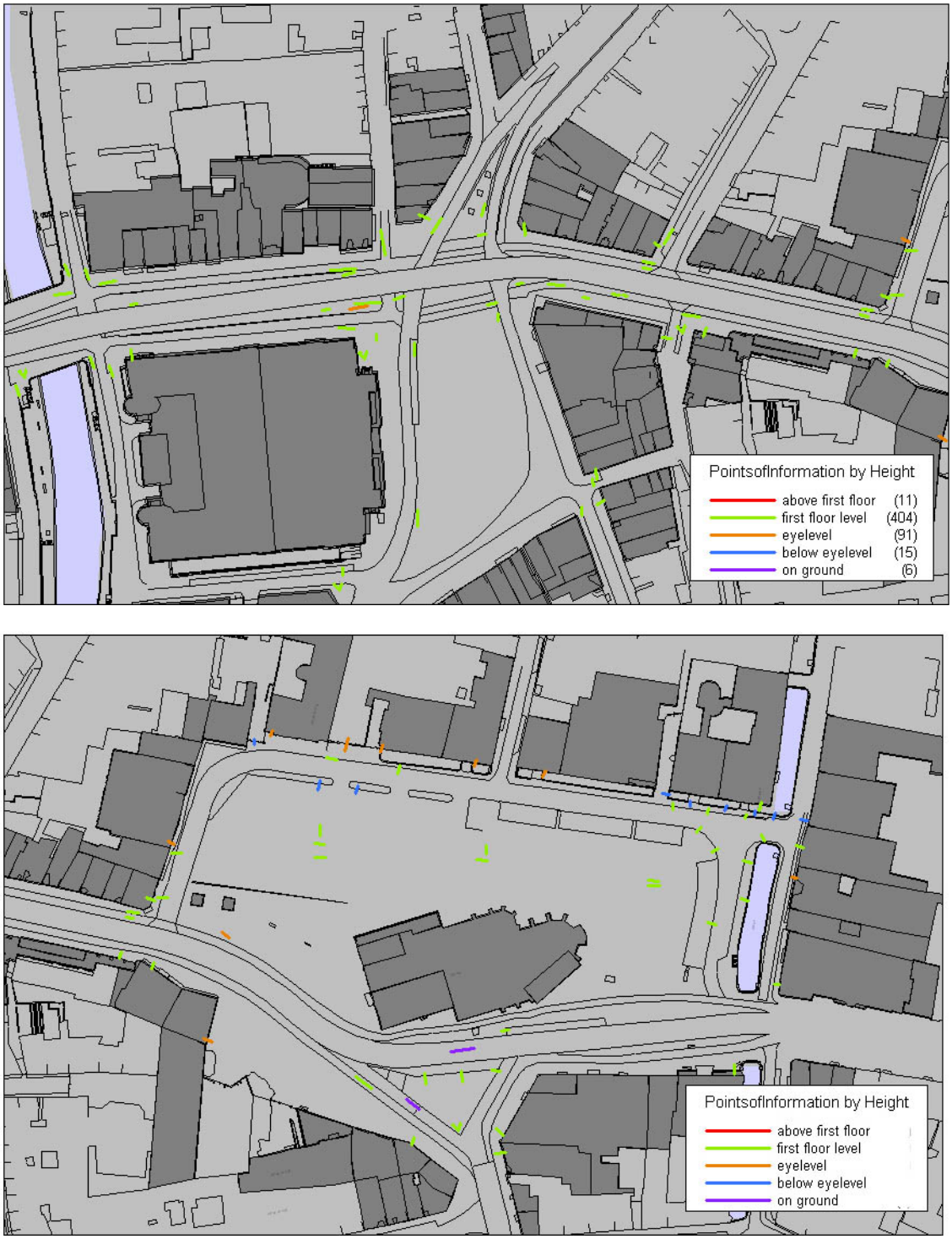


Figure 86. Above - A Linear Room Showing Signs Mainly Above Eyelevel. Below - A Convex Room that Has Many More Signs on Eyelevel and Below.

Even though the position of directional signs in Hoog Catharijne is positioned on the right level (underneath the ceiling), questionnaires point out that users don't feel they know where to go here. This has to do with the type of information: the names that are noted in the information points do not correspond with the experience of the area that the users have. Such names don't convey much information these days (or so it seems). Hoog Catharijne is divided into parts, each of which has a different name, comparable to street names. Nobody can identify with these names however. What makes it worse is that there is no sign that states what the direction to the city centre is. The only directions that are given are stated in brackets below the names of the areas and even so those are unclear (e. g. city centre southern end).Often the signs just display too much unwanted information in the wrong directions (i. e. not the directions people want to go). What this results in is that shop owners have put up signs at eyelevel on the pillars, revealing in which direction certain shops are. Now the areas are identified as the 'H&M-part', the 'HEMA-part' etc. which perhaps is the best temporary solution. Still it is not clear how to get to the city centre.

Figure 87. Signs in Central Station and in the Shopping Centre: Hoog Catharijne.

From the interviews we conclude that people want more orientation plans. This wish most likely has to do with the lack of orientation points in this area. Both Hoog Catharijne and the Central Station are indoor environments and have no windows. This fact combined with the heavy pedestrian flows and a lot of curved sightlines, which makes the view limited, makes it hard to find your way. It is no surprise that the manned information point in the middle of the shopping area is being frequently used by visitors (400 times a day), who need to ask directions. The use of this information point, as well as reports from police officers and security people that get 'directional questions' all the time, shows that there is a lack of public information points in this area.

The wish for more orientation plans can also be a result of the change in the way that people orient themselves. Interviews made clear that a lot of people use internet to pre-locate themselves in the area, especially when the user is unfamiliar with the area in question. A lot of people use printed plans in combination with those on the street. This was also revealed in our data on narratives and assemblages: - people tend to read signs more (geo-) graphically these days.

Another observation is that locals orientate themselves not by points of information (they seem to be hardly aware of them), but by earlier experiences. From these they create mental maps that guide them through the city. Often these mental maps are related to journeys they frequently undertake. The non-locals make these maps also, yet on a more limited scale: their maps mostly start at Central Station and Hoog Catharijne (because this is the point from where they usually start their journey). Non-locals coming in to the city by car orientate themselves at Croeselaan/Jaarbeursplein and Catherijnesingel. Both groups also use high buildings as the Dom and the Oudegracht to orientate themselves in the old city. The influence of those strong way-finding elements seems to be quite extensive. It is as Kevin Lynch said: landmarks are an important feature in a city. Not only do landmarks direct people through the urban fabric, they also enable the city's identification, but that is another topic.

Conclusion

Even though there is a large amount of pedestrians in Utrecht, most information signs are focused on vehicle traffic and bikes, mainly declaring regulations and prohibitions. Their position is related to the configurations of the space and the type of information they are giving. Signs can influence and even regulate the speed of the flows and the orientation and way-finding of the users. The pedestrians of Utrecht are in fact in need of more identification signs and information signs regarding routing through the public realm. This is most clearly demonstrated in the investigations indoors, where every sense of connection with the bigger realm of the city is completely lost. In the outdoors pedestrians, like car drivers and cyclists, use more contextual points of way-finding (landmarks and historical buildings) to orientate. These public information points seem to be part of a bigger picture: the mental maps people create based on journeys that were undertaken before.

4.2. How Do the Characteristics of the Urban Walls Relate to the Activities that Take Place Along the Capital Route?

Scale of the Investigation

An inventory of urban walls was done at capital route level, where all the facades are judged on transparency, usability and form / rhythm including all building entrances. The data sets reviewed were: building entrances, assemblages, follow the flows, gate counts, facade transparency, movement annotations, derive, facade form, land use, room typologies, observer narratives, facade usability and spatial analysis.

Urban Walls

Our data showed that on some places user activity indeed relates to urban walls. This is obvious at walls where people are window-shopping or where they use the cash machines that are integrated. There is a relation between the type of land use and the form of the façade that influences the use of the urban wall.

The appearance of the wall can furthermore influence the intensity of use and the experience of a place as a whole. This is noticeable after closing time, when most facades are blinded. The walls interact with their surroundings very differently. Shops that seal off their windows with roll shutters become less attractive to look at, and people pass by in a different pace and generally stay in a place for a shorter time.

The opening hours also determine the type of use of the wall. During the day people gaze in shop windows, gather along the facades or hide from the rain pressed against it. At night however, the walls are also used by groups hanging around, people leaning (and at times urinating) against it. From interviews it became clear that especially women like to walk along facades of shops at nighttimes. The light and goods displayed give them something to look at as an alternative to looking at other people; and they feel safer because of it.

The amount of entrances along a wall indicates the possibility of interaction between inside and outside. This means potential exchange of people increases with the amount of entrances. This gives the user an idea of the dynamics of the room, whether the entrance is used or not.

Figure 88 Assemblages Along Facades on Vredenburg and, figure 89, Lange Viestraat.

Rooms like Vredenburg, Neude and Hoog Catharijne that have interactive walls (high level of transparency, differentiation in functions, etc.) have activities and flows along the facades. Rooms like Jaarbeursplein and Smakkelaarsveld have less activities and flows located near or at the walls. The activities that occur around the walls seem to correspond to the possibilities or the affordances they offer. More transparency, and variety in form and rhythm generates a more active and diverse use of the wall.

Transparency

Our research generally showed that the more transparent the wall is, the less form it has. Therefore the wall gives less affordances and user qualities. Generally publicly accessible walls are more transparent than private walls. This is due to the purpose of public walls: to lure people in. They are not focused on the use outside, for instance hiding, phoning, sitting, etc.

Blank formless walls are generally not appreciated, whether they are transparent or not. Transparency of walls therefore must not been mistaken for more possibilities and use: glass generates a wall just as massive as concrete. The depth is not experienced from every angle, especially not when the sun is shining. The influence of the flat transparent walls is that the activities become oriented inwards. This is mostly seen in commercial areas where facades are very transparent, and focused inwards to promote the displaying of products and luring people in behind the wall.

The difference in the transparency of walls between day and night, also give different impacts on the activities. During daytime, the walls reflect sunlight, and can almost be regarded as blank walls, whereas during the night these walls actually attract people due to the intensity of artificial light. Not only do people feel safer walking along the lighted walls, there is also the pleasant activity of looking at shop windows.

Generally transparent walls that show people and activities beyond the wall generate a sense of social control in public space, which makes a place pleasant to stay in. Even though we did not study this thoroughly, this assumption is verified in different interviews at Smakkelaarsveld, where people don't feel safe, and where all facades were closed or semi-transparent.

Figure 90. Facade Transparency Along the Capital Route. Light bleu corresponds to the highest degree of transparency. This level is mostly seen in commercial areas.

Usability

In our research it became clear that historical facades offered more using possibilities than modern buildings. Due to their shape and materials historical buildings provide shelter and sitting/hanging possibilities. Modern buildings usually are less decorated and have a lot of glass, which makes the facades less attractive to use (other than to look at or into).

Wall-oriented functions like take-away counters or cash points have a clear relation with the urban wall. In fact they are a part of the wall. These walls are 'thickened' and users will orient themselves toward the façade. They tend to stop, wait and assemblages are originated.

Other functions, like catering and bars, use their walls to get attention of people, and therefore they make their walls more usable. Next to making them semi-transparent, focused on showing peoples activities inside in order to get the attention of the people outside, they also offer sitting possibilities like terraces and benches to make it more attractive to stay (and to look at).

Figure 91. Facade Usability Along the Capital Route. Dark green corresponds to the highest degree of usability. This level is not seen much on the route. Where they occur there are ledges or height differences.

When we compare data on the wall-components discussed above, there seems to be an interesting link between the appearance, function and purpose on the one hand, and the way people interact with the wall, and ultimately with the entire room, on the other. There are generally four categories of walls that can be identified. In the scheme below these categories are listed, based to begin with on their level of transparency. Next to that the relation with land use, the role of the wall and the activity it generates are stated, revealing wall types, identified by the effect they have on the user.

TYPE OF TRANSPARENCY	OCCUPANCE/ LANDUSE	PURPOSE	GENERATED EFFECT ON USER
Closed	Private	division inside outside	focus on the room entirely
Semi transparent	Catering	dwelling around façade	focus away from the wall, toward room
Transparent	Commercial	attraction inside	focus on beyond the wall
Wall as actual space	Functional	attraction to wall itself	focus on wall

Figure 92. Urban Wall Correlation Scheme

Form / Rhythm

Research shows that walls rich in form and rhythm are rated as aesthetically attractive. Because the public appreciates them these walls are more sustainable in time. Generally these walls are historical, quite closed, not transparent and rich in detail.

The orientation is more focused on the outside space itself, you are aware of the room as a whole, not focused on just the plinths of the buildings. This is due to the fact that those facades are not made to lure you toward them; they were built to separate the outside from the inside, the private from the public. The doorways that separate both worlds are also quite important. Even though they can be private, they provide an awareness of the connection between inside and outside, and besides that, it can provide shelter and sitting possibilities.

Figure 93. The Entrances of the Buildings Along the Capital Route. The green arrows are open to public the red ones are private.

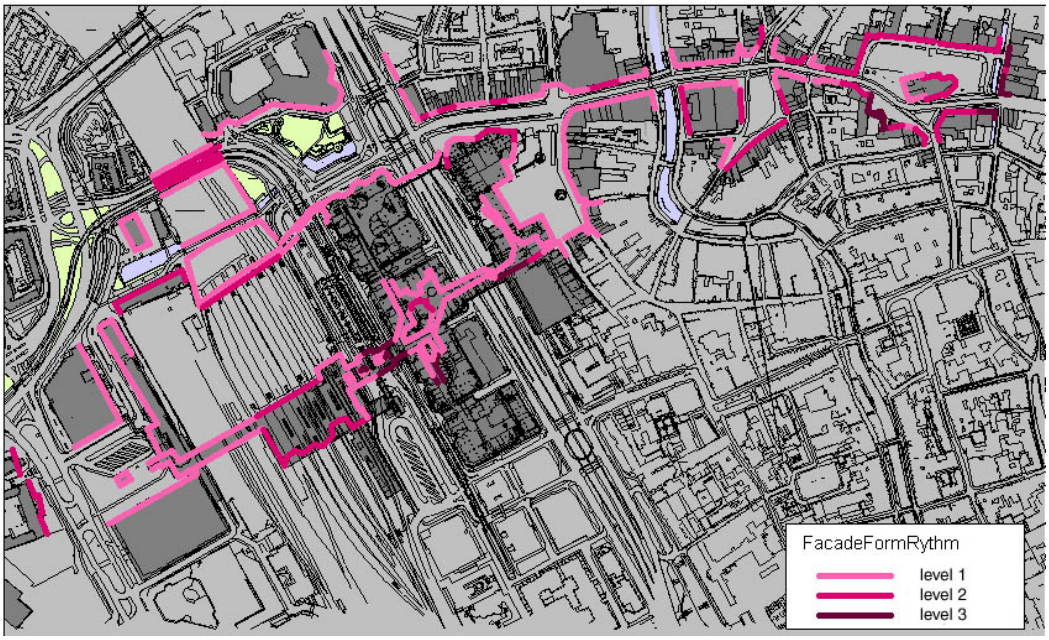


Figure 94. The Richness in Form and Rhythm of Façade Along the Capital Route. Purple corresponds to the highest degree of richness. This level is mostly seen on historical buildings and in areas where a lot of temporary commercial activities take place (market like).

Commercial areas tend to purely focus on luring people inside. And because most shopping occurs on ground level, this generates a purely horizontal and eyelevel awareness of the place. This means that contact with the upper floors is completely lost, which becomes even more apparent when the upper floors are not used. The experience of space as an urban room is non existent then; the public place has no physical identity and people have no reason to stay there. The walls just stimulate you to move in and out again, or just to pass by.

Conclusion

A relation between activities and the characteristics of the wall has become clear (see wall correlation scheme). Not only does the character of a wall influence wall related activities, it also has impact on the way the entire room is perceived. It seems as if the way we focus in the room visually is related to the type of walls it consists of. I.e. a transparent wall draws the focus and flow toward the wall, whereas a closed, solid wall seems to turn the focus back to the interior of the room.

Specific features and qualities of the urban walls, like deep window sills where people can sit for instance, determine the use of the wall and assemblages around it. Walls that contain these facilities offer possibilities for the user, thus creating lively city atmospheres. These facilities are often determined by the type of land use related to the wall.

4.3. How Do the Affordances of Urban Rooms Relate to Actual Activities that Take Place?

Scale of the Investigation and Data Sets Reviewed

An inventory of urban rooms was done on five selected rooms out of the 29 that we found in our capital route. These five selected rooms represent the route as a whole. Some are historic, some modern and some are placed inside the shopping mall Hoog Catharijne. They differ in size and intensity of use, but they are all physically experienced as individual entities. The five rooms will be analysed separately, in order from west to east along the capital route. The data sets reviewed were: accessible space, building entrances, assemblages, follow the flows, gate counts, facade transparency, movement annotations, derive, facade form, land use, room typologies, observer narratives, facade usability, objects, floor planes, lighting, clusters, room typology, sensorial evaluation, transport nodes and spatial analysis.

Figure 95. Overview of the Urban Rooms Found Along the Capital Route in Utrecht.

1. Jaarbeursplein (back entrance of station)

2. Hoog Catharijne ('snackstreet')

3. Smakkelaarsveld ('junky paradise')

4. Vredenburg (central market square)

5. Neude (recreational square)

1. Jaarbeursplein

Jaarbeursplein is a square with a clear set up and a wide lay out. Large-scale buildings with offices, a parking garage and the back entrance of the Central station, surround it. It is the main connection between the Trade Centre 'Jaarbeurs' and the Central station. When there is a fair programmed, the pedestrian flow is very dense, generally however it is a quiet square, with peak moments when buses depart to or arrive from far destinations like southern Europe or the Alpes.

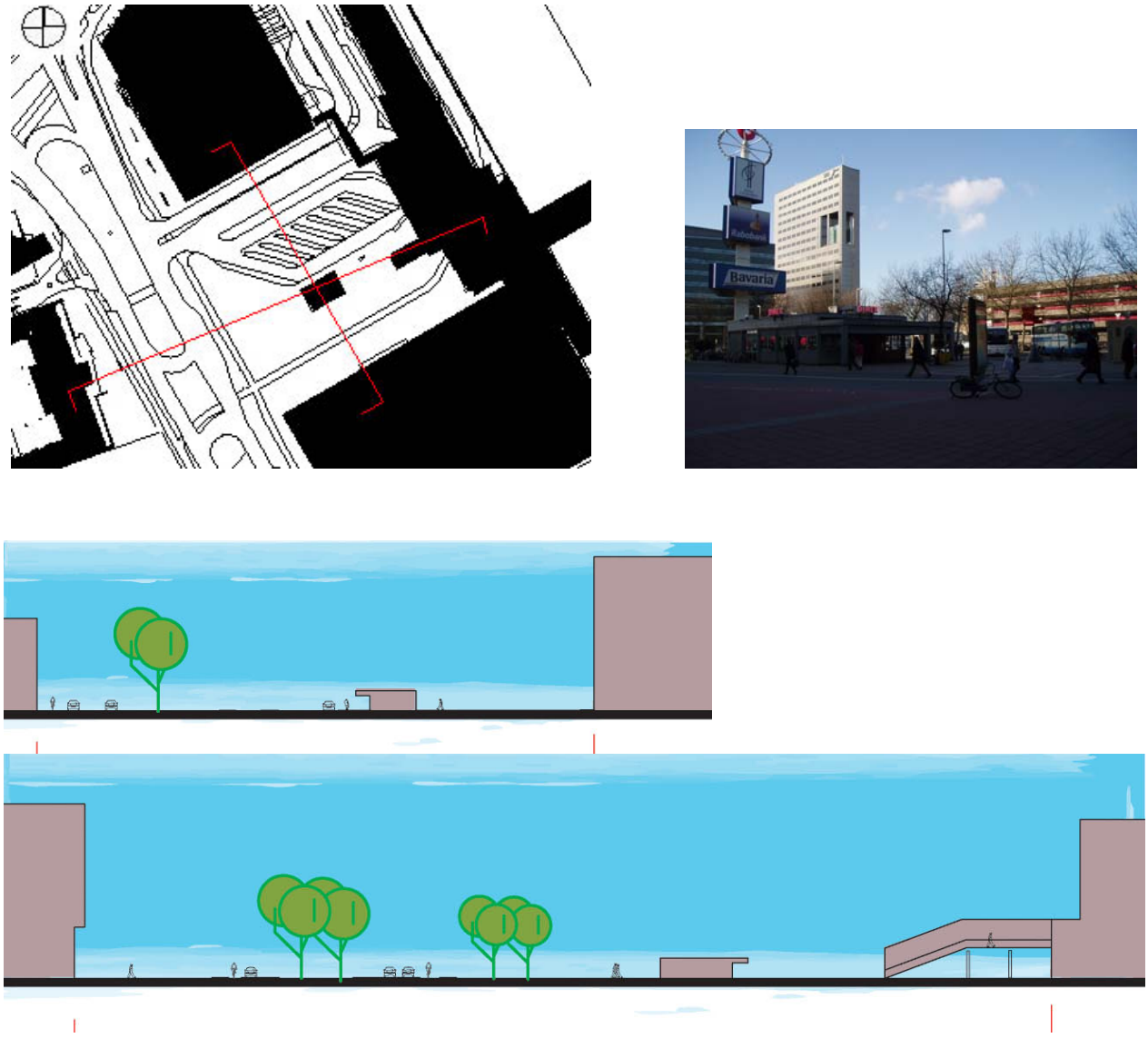


Figure 96-99, Jaarbeursplein.

Envelope

The information on the wall of the theatre communicates cultural messages to the public. This gives the room a positive atmosphere. The other walls seem less positive in their atmosphere. The wall toward the Jaarbeurs complex is a traffic wall. The wall of the parking garage might be transparent, yet it is not interesting at all, so it becomes dead since there is no other activity there. The entrance of the station is relatively small. It is situated in line with the axis that runs cross the place, along side the theatre and toward the road. Basically the room is divided in two spaces; the bus station and the transition zone from the station entrance to Croeselaan. Again the space offers opportunities, yet

the walls and the floor do not support this, they just encourage people to move on, or to go in, away from the open space. This is also the purpose of this place, so in that sense it works very well. The nice thing here is that you actually have room to do what you need to do. Often it is empty, but it fulfils its purpose. The square is an entrance to the other side of the city as well as a transition zone

Arrangement

The elements seem well organized and well structured; this is greatly influenced by the parking lanes of the busses. Everything in this room follows this bus station situation: the floor, the trees, the elements, the lighting. All users have their own spaces and lanes; this is very clear, and creates a peaceful situation. The square is big and has potential for much more activity, yet this activity is not al all supported by any elements.

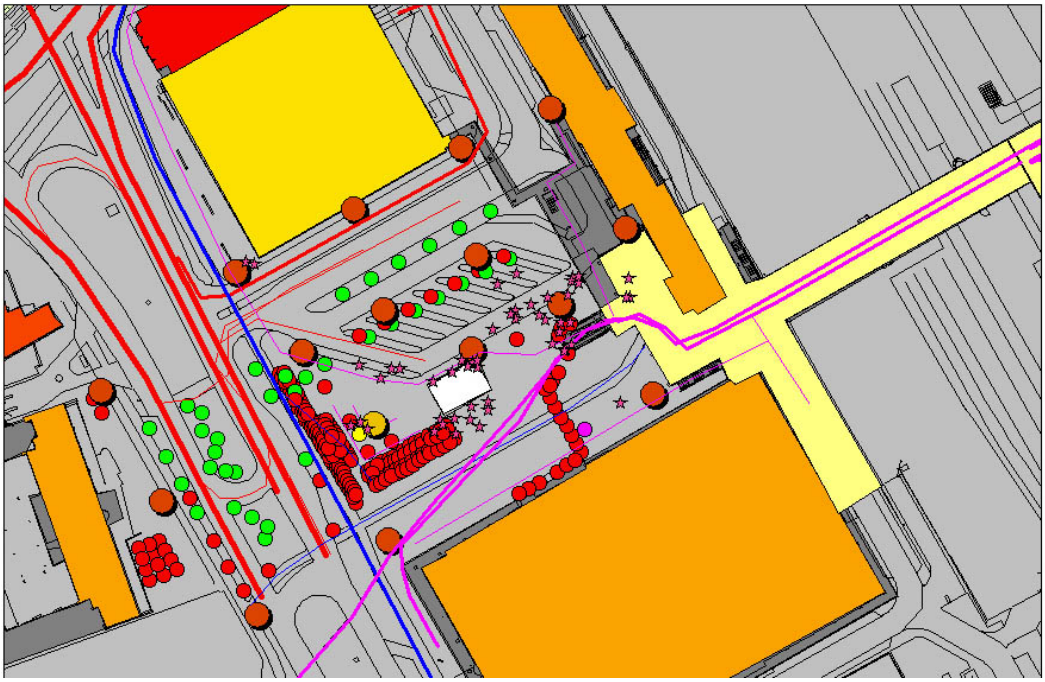


Figure 100. Elements, Assemblages and Movements on Jaarbeursplein.

Appearance

The facade of the theatre works fine, there is room to take shelter from the rain, and the fact that there is a theatre is clear due to the big banner outside, which is also visible from the trains. Yet if the facade were more transparent, the activities on the inside would be extended outward as well. The other facades do not invite to interact at all. The square is oriented inwards, and the activities are located around the centre. The small bar where you can have drink and wait for the departure of the buses also supports these activities. The only other facade that is really interesting is the bar/restaurant upstairs. It forms a balcony from which you can observe the activity below. Lighting here also serves it purpose well. It feels empty at night but not unsafe.

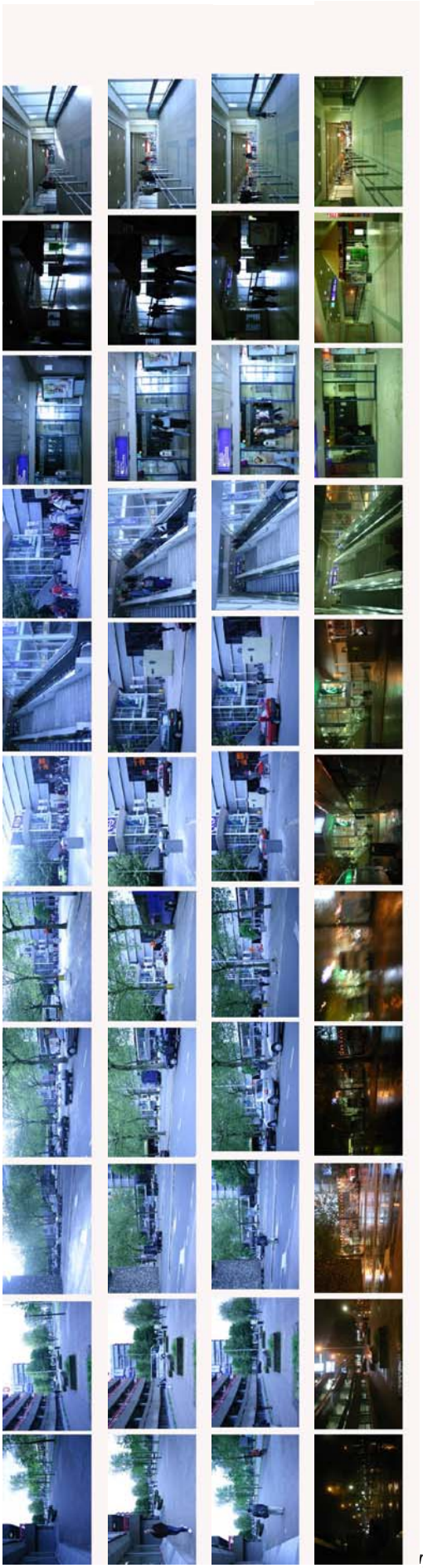


Figure 101. Storyboard of Jaarbeursplein, the series are taken in morning, midday, afternoon and evening.

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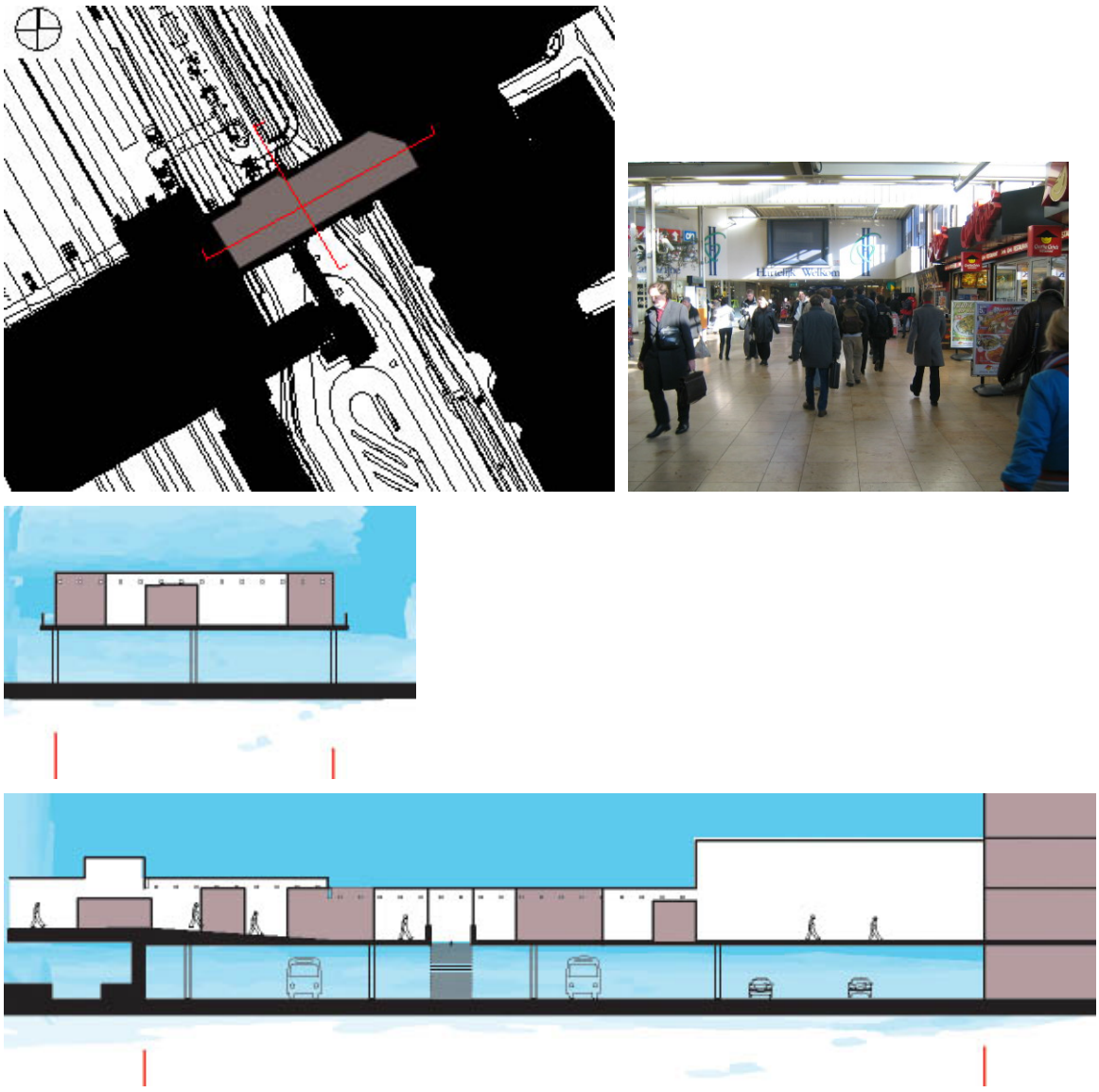


Figure 102. Hoog Catharijne

2. Hoog Catharijne

This part of Hoog Catharijne is the passage between the Central Station, the local busses, taxi platform and the shopping centre of Hoog Catharijne. It is a very small room, with a lot of cluttered features. It is placed inside on 1+ level and has a view on the underlying bus station. A lot of people call it the 'patatstraat' or 'snack street', because you can buy a lot of fast-food here.

Envelope

The ceiling is very important for the envelope of this room. It creates an extra boundary just like all the corners and freestanding walls that are there. This gives the place a crowded feeling. The walls of the kiosks and commercial activities interact strongly with the flow, due to the fact that the facade has a specific eating / take-away function. At rush hours the flow of people is so dense that it is hard to get to these walls. Assemblages only last for a short while at these hours and they always consist of people standing. Since there are hardly any facilities for sitting and resting, people make use of the wastebaskets and plant boxes instead.

Arrangement

All elements that are found in this room are focused on commercial activities and they are particularly focused on eating. Because of the intense use of the place (and the possibility to eat) there are a lot of wastebaskets. Next to all these elements, there are kiosks that are experienced as (large) objects too. Besides the intense use (the room is the entrance to the Central station) the arrangement is market-like. At night, when the walls are closed, all the commercial elements that crowd the place during the day (flowers stands, postcard displays, etc) disappear as well. The room looks much bigger then. The area at night is a bridge, crossing Catharijnesingel above ground level; it is no longer felt as an entity with its own purpose.

Figure 103. Elements, Assemblages and Movements in a Hoog Catharijne Urban Room

Appearance

This room appears as a smelly and noisy room. There are a lot of different bright colours. This makes the room look rather cheap. In combination with the dense flow this only promotes short time use. Due to the multiple faces of this room, it can hardly be a sustainable room. The physical changes are too rapid and too frequent to generate an identity that will exceed the image of ‘snack street’, during the day and ‘nonexistent’ at night. But whether that is indeed problematic in the bigger scheme of the city-fabric is not exactly clear.

Figure 104. Storyboard of Hoog Catharijne Shopping Centre, the series are taken in morning, midday, afternoon and evening

3.. Smakkelaarsveld

Smakkelaarsveld is the greenest room on the capital route. The room is surrounded by a lot of roads that connect the inner city to the bus station and the Central station. The envelope is shaped by three walls made of buildings and one constituted by the edge of the train tracks. As an exception to the other rooms, this place contains grass and water, which generates a park like feeling. The pressure of the buss roads and other traffic is so dense however, that the park identity gets quite lost.

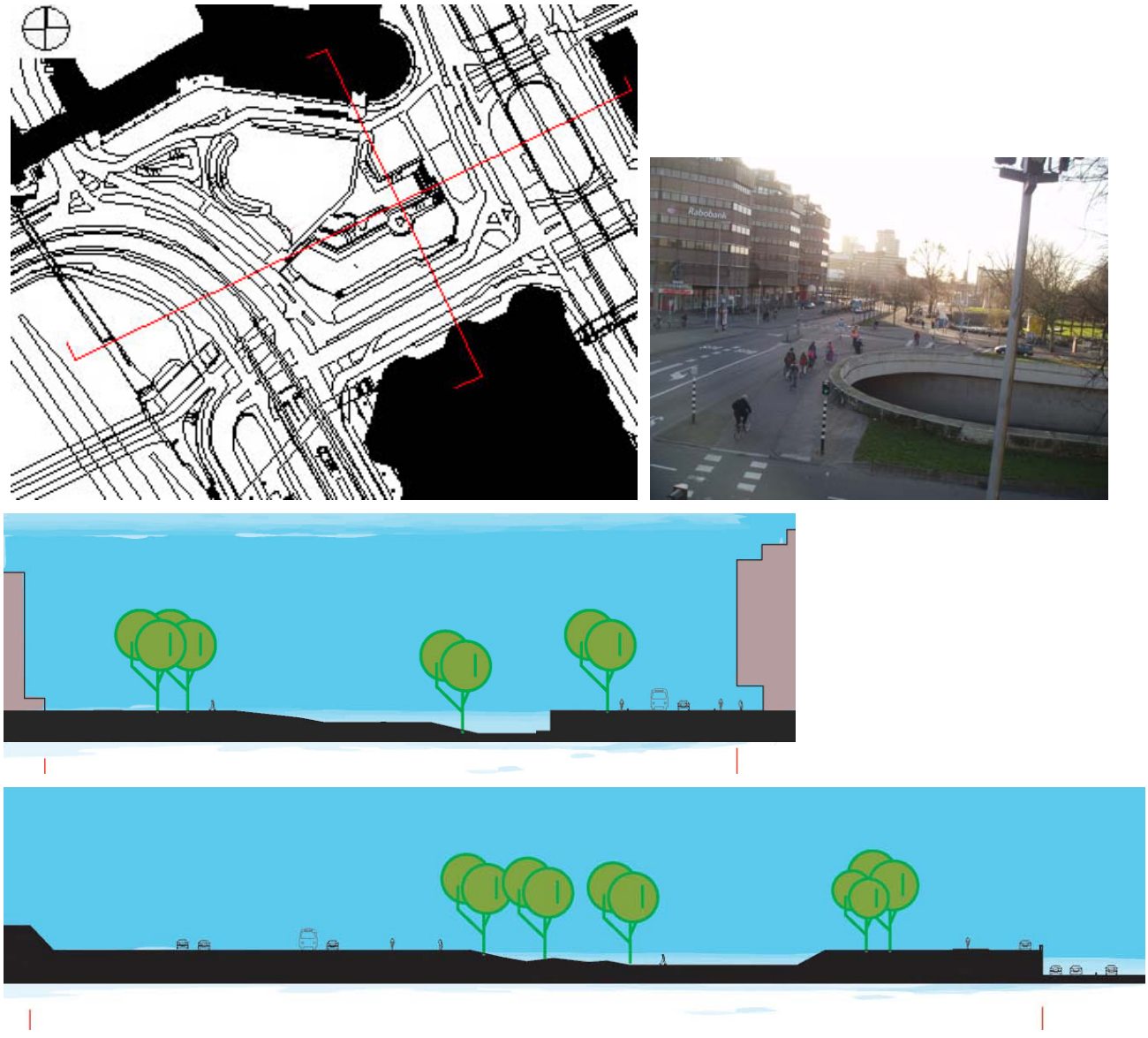


Figure 105. Smaakelaarsveld

Envelope

The two opposite (building-) walls are too far from each other to interact. Even though the train tracks are positioned quite high, they do not compete with the other walls, they do not generate any back covering, or backdrop to the room. This effect is enhanced by the fact that there is no wall opposite to the tracks. The edge there is shaped by the Catharijnesingel. As mentioned before, the park is isolated by intense traffic that goes around the place. This dynamic part of the room is bigger than the peaceful part. This

makes the park hard to reach, and therefore this room is experienced as divided. The park area actually offers some quite interesting typologies. It contains of different levels, smaller wall, green areas, benches and water. The fact that it is ill used is due to the fact that it is cut off by traffic on one side, and the blind wall, with no activities buried inside, at the other. There is potential here, the room is large and there should be room for both parts to function in a more sufficient way.

Arrangement

Objects available mainly support stalling bikes. There are a few wastebaskets. Elements are focused on supporting the station network. The area is a typical transition zone; people do not stay here for long. No other activities are generated other than parking bikes and moving to and from the station. Nevertheless, this is the greenest room in our selection. It is a park with a lots of trees. The positive qualities of the trees are not evident to the user, due to the configuration of the envelope. The space is green, soft and quiet, yet the traffic zones are so extended, they become barriers that are impossible to overcome, and they do not invite you to stay and take a closer look. Only people that know about the green area along side the water use the space, and it is appreciated by a small group of people, but no one ever sits there all by themselves. The area unfortunately has a serious safety issue. In order to break this feeling of discomfort, the area is greatly supported by artificial light. This space is actually the most well-lit of all, compared to other rooms.

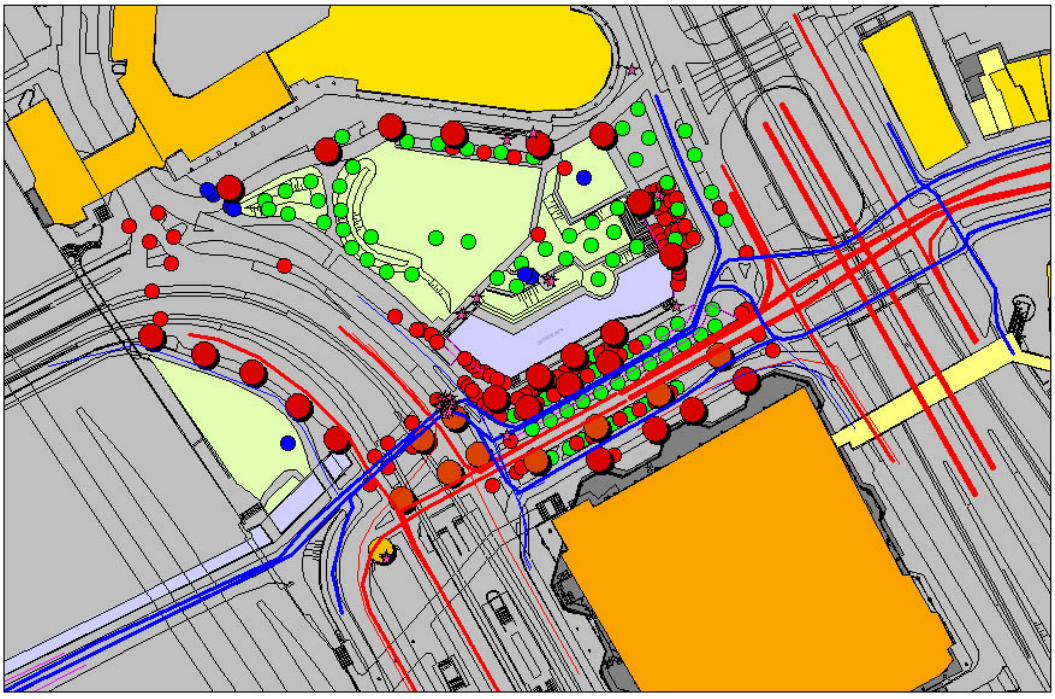


Figure 106. Elements, Assemblages and Movements (lines) on Smakkelaarsveld.

Appearance

The facades are blank, not transparent, have no expressive form and are not historically interesting. There is no reason what so ever to linger around them. The materials used are grey in expression and hard physically. The appearance does not try to be more than supportive to the (motorised) vehicles that pass through. The soft edge of the park is pleasant, the focus in these room however is lead away. As stated above; the challenge for this room is to break this focus, and make users aware of the opportunities.

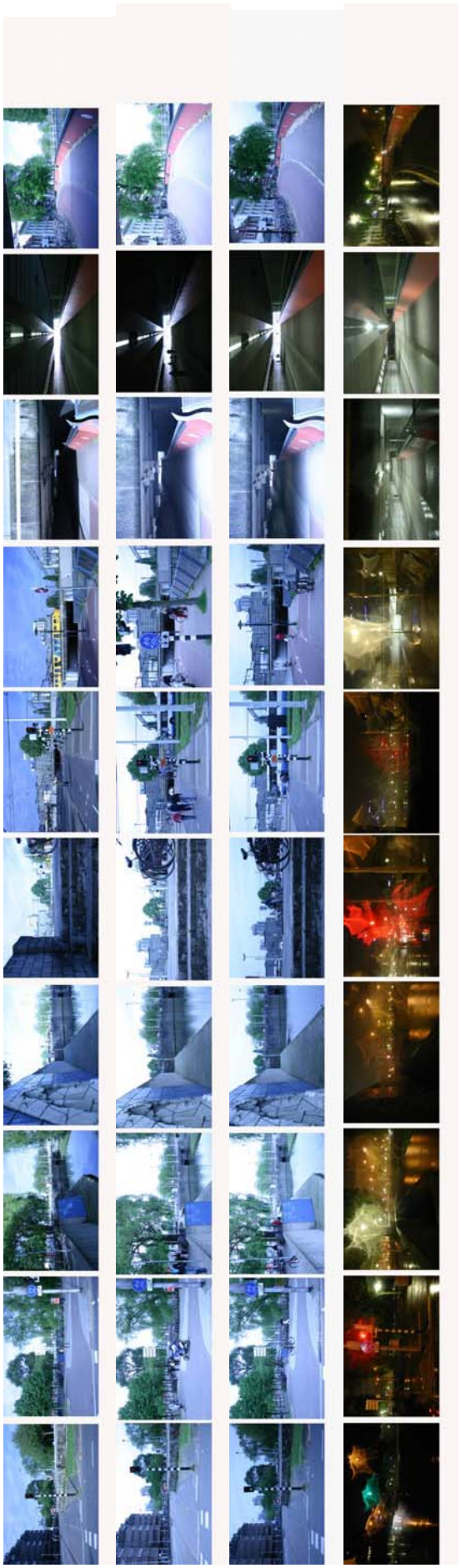


Figure 107. Storyboard of Smakkelaarsveld, the series are taken in morning, midday, afternoon and evening

4. Vredenburg

Vredenburg is a well known square in Utrecht because it connects the shopping centre Hoog Catharijne (and by this, also the Central station) to the historic part of Utrecht, and it boats a lot of well know shops and the music centre Vredenburg. Underneath the square there is a parking garage and on the square itself a market is being held two times a week.

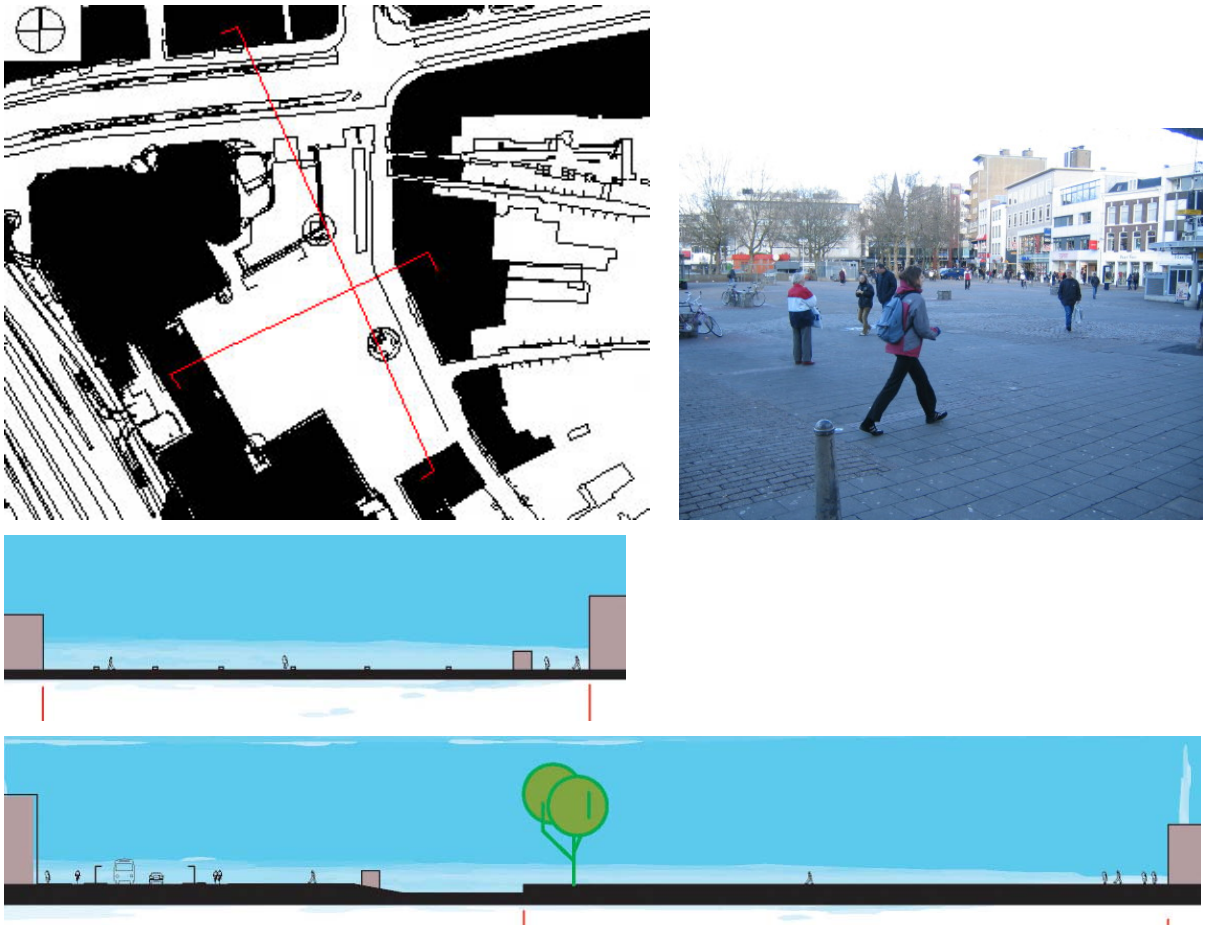


Figure 108. Vredenburg

Envelope

The long and linear wall with shops at Vredenburg is extremely dominant in many ways: in function, in rhythm, in style and in measurement. The wall becomes the focus of perception, a tendency that is further supported by the materials on the floor and the objects in the room. This also makes the place hard to orientate on. One must enter the room before one is able to orientate oneself.

It is not that Vredenburg has no space to offer, it is more about a lack of balance or proper scale proportion. The pocket in the back is too far away, it is too big and the walls are not quite high enough. There is no way this wall/pocket can compete with the wall opposite with all the shops and program in it. The unattractiveness of this room is revealed by the lack of activities in the pocket, and on the rest of the square. The arrangement and program behind the western wall of Vredenburg is also very poor. This does not promote people to use the shops or the exits there, so no activity is revealed from the inside out either. The bike parking (maisonette) seems to be part of the room if you look at the plan. Yet it is not experienced as part of the room. The parking is below

ground level, an undefined space with very specific purpose. It becomes a barrier and marks the entrance of the room.

The flower kiosk also strengthens the orientation toward the Steenweg and away from the open space of the square. It is merely because people use the exit of Hoog Catharijne so much, coming in hundreds from the Central station, that the exit/entrance is not noticed at all from the square. This is the only way for people to move to the station and the mall, it has nothing to do with the physical quality.

Arrangement

There are a lot of elements and objects that have a specific purpose: they support the market. There are hardly any objects that support any other activities. The result is that the existing objects determine the flow in great terms. The activities on the square are related to the shops and the route going past it and a little recreational activity around the café on the corner. People are not invited to engage with the place otherwise.

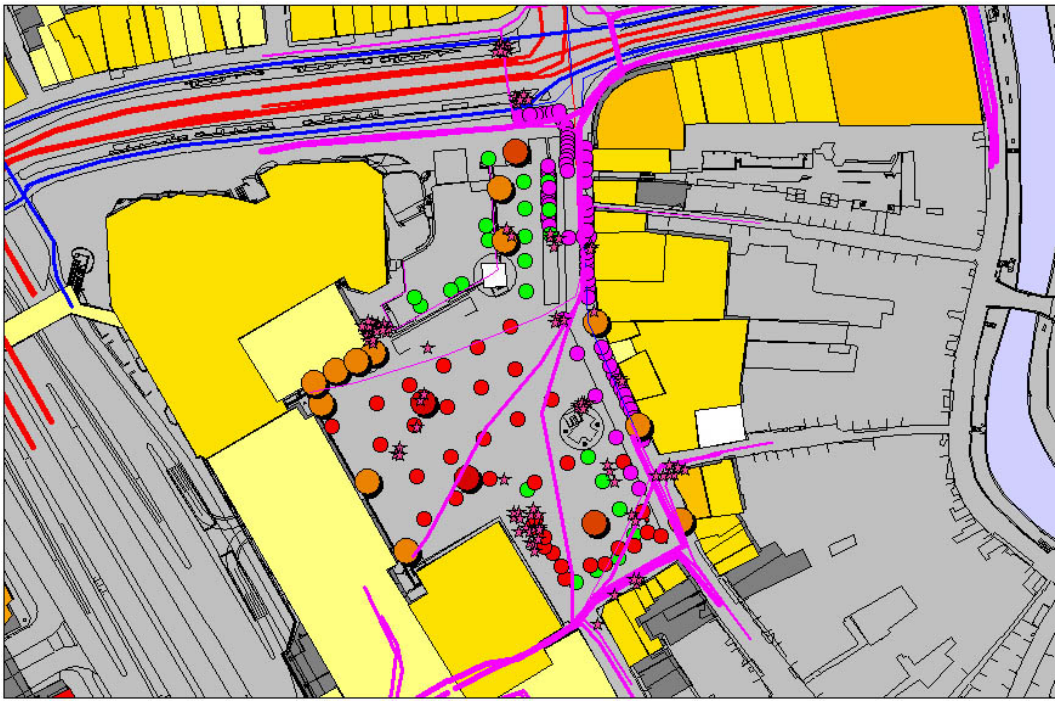


Figure 109. Elements, Assemblages and Movements on Vredenburg

Appearance

The room appears monotonous both in material and colour. Yet, if one looks closer, the variety of different tiles used is surprising. The appearance does not benefit from this however. Perhaps this is because it appears cluttered rather than exclusive. The use of many different street tiles also make the place more in need of maintenance, because parts of it can break and the surface is no longer flat, thus becoming uncomfortable to walk on. It appears neglected, especially when it's empty and without the market activity. Other empty marketplaces however seem to be impressive even for their emptiness and the large open space (like Blaak in Rotterdam). This goes to show that a market place has 'no excuse' for being dull when noting is happening; it is more a matter of careful care taking and clever design and detailing.

At night the room is more of a coherent place, probably due to the fact that the difference between the walls is less noticeable. However, the room is only lit on the sides, so people will not use the middle of the square, and they will never cross the square diagonally. The room does get more faces at night though, the existence of the music theatre is clearer for instance, and the room is more intimate on the whole. It has to be said that this room does function perfectly as a market place.

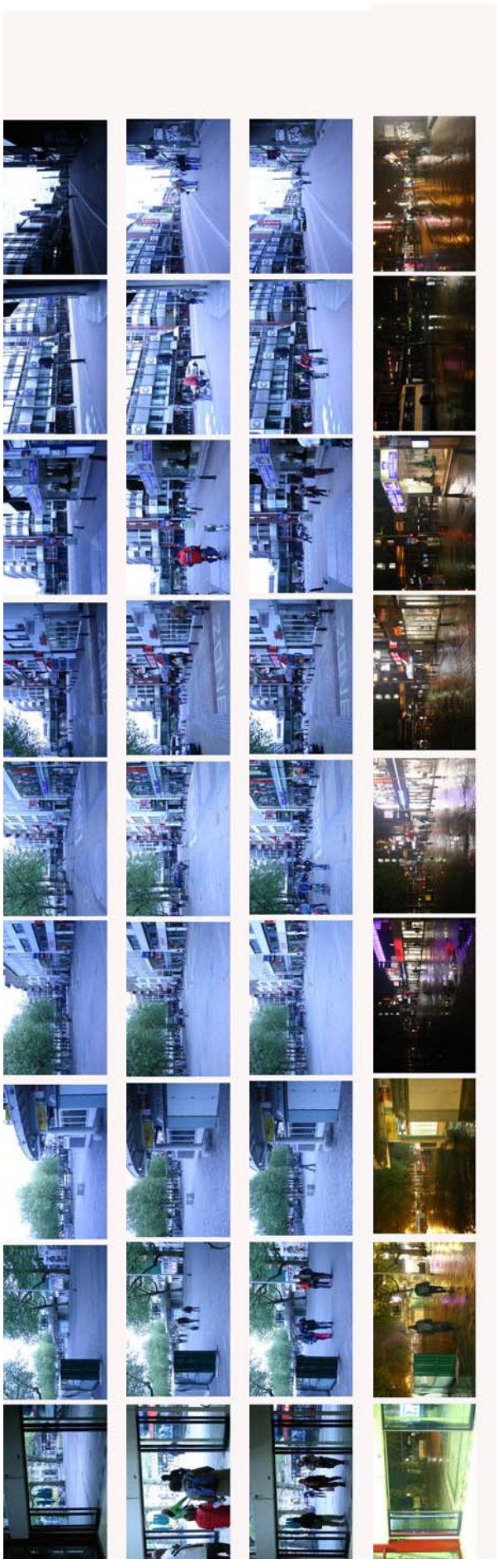


Figure 110. Storyboard of Vredenburg: the series are taken in morning, midday, afternoon and evening.

5. Neude

Neude is the oldest room that we studied on our capital route. It is surrounded by buildings that differ in style, height or function. Especially the catering functions and the post office affect the image of the room. These functions attract people, especially when it is sunny. The centre of the room is clear of objects, with a busy road going through.

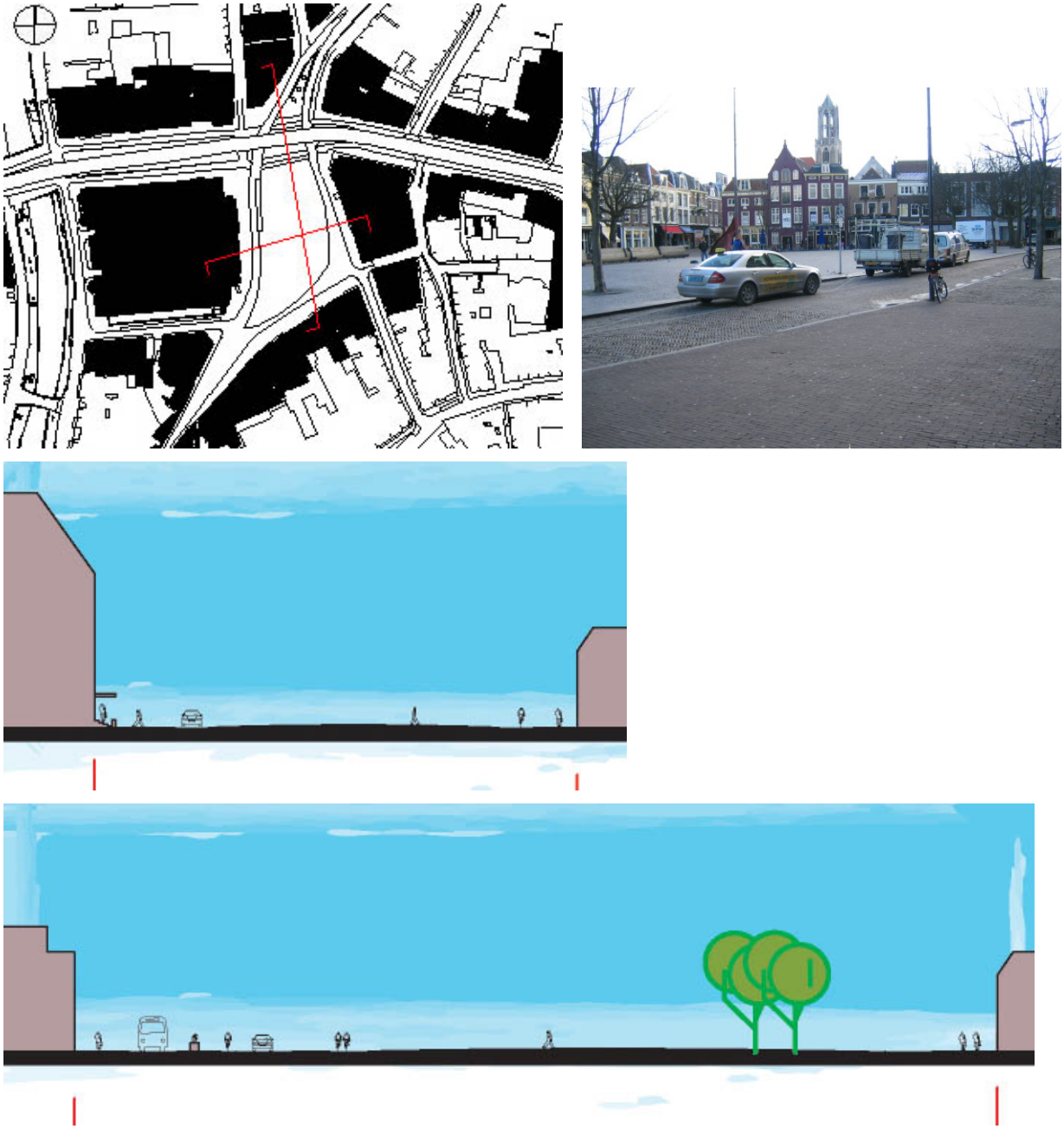


Figure 111. Neude.

Envelope

Neude is constituted by four walls, which form a curve towards the old city centre. The floor plane in the middle is lifted and accentuates the configuration of the walls; so it is like an offset of the outline of the room. The crossing with Voorstraat is an important entrance for users from the northern part of Utrecht (bikes and pedestrians) towards the

centre; hence the dense flow from north to south. The road crossing this movement is an equally busy flow from west to east. The first flow supports bikes and most importantly the public transport. The other flow (east to west) is also defined by bikes, but mainly by pedestrians. Neude as an entity is a key orientation point for the entire urban fabric. This is why this square is a dynamic place. Balancing this vivid dynamic place, the facades offer room to escape from all that dynamics. Restaurants and bars are located here, and the game of watching and being watched is a favourite waste of time here.

Arrangement

Lots of bike elements are situated along the facade. Together with the parked bikes these determine the look and feel of the room. These elements (and the large numbers they come in) make the pavement unpleasant and too narrow. It forces the users to find an alternative route. Because of this we notice much more diagonal movement crossing the square. An extra steppingstone for this kind of use can be found in the cluster of benches on the square. These benches are mainly used by younger people as a gathering place. The benches themselves are designed in such a way that they face the square, whereas the backs are directed towards the traffic that passes behind. The statue on the Lange Vie street that faces the square is an important landmark.

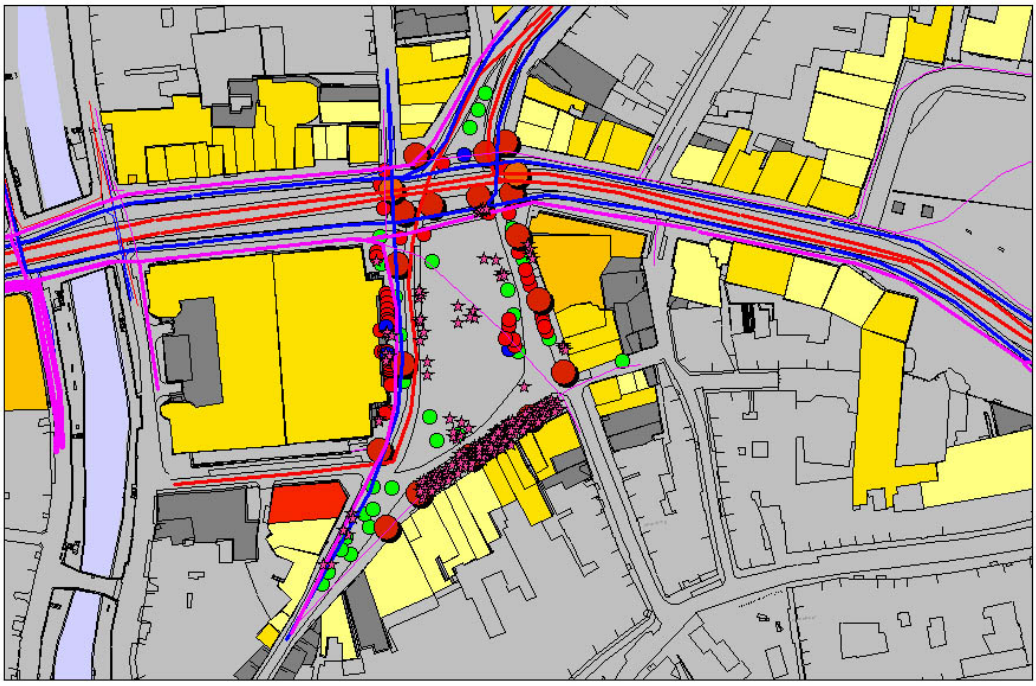


Figure 112. Elements, Assemblages and Movements on Neude.

Appearance

The walls of this room are in balance. They match not only in scale but also in material and texture. Even though the land use is quite diverse, this does not disrupt the unity they form together. The monumental building of the post office adds character to the place; and the smaller historical dwellings with bars add a pleasant atmosphere. The high Neude office flat does not interfere with this entity; it is even shifted to the back. At night the square is pitch dark with hardly any artificial light, which might explain the fact that it is far less used. Perhaps we can learn from Malmö here. Lilla Torg has the exact same qualities as Neude, yet Malmö extends the season and daytime hours there extendedly by using light and not to forget; heaters.

Figure 113. Storyboard of Neude, the series are taken in morning, midday, afternoon and evening

Conclusion

The affordances of the urban rooms does relate to the activities that occur, but not every room is strongly perceived or experienced as a room and the activities that take place differ a lot. To make the connection more clear we divided the perception of the room into three levels: the envelope (configuration of the walls and floor) the arrangement (configuration of objects and elements) and the appearance (the materiality and detailing). As we reviewed the rooms according to these three levels we will discuss the affordances within those categories separately too.

Envelope

Generally there are two types of envelopes: convex and linear. The convex envelopes are open spaces, such as squares. The linear envelopes are smaller and narrower, such as streets. These two envelope typologies each afford different activities. The linear envelope promotes movement and passing by, the convex envelopes create room for assemblages.

The distance between the walls influences the location of activities and flows. The bigger the distance the more people are drawn to the facades. Flows and activities occur more on the side in bigger rooms. Smaller rooms invite crossing diagonally more than larger rooms. The scale of the room is important here. Whenever the measurements of the envelope correspond to a scale that relates to proportions humans can perceive and comprehend, people seem to feel free to move around. Whenever this scale is exceeded, people draw towards elements that generate activities (walls, landmarks, objects, etc). Even though we do not have concrete data on what measurements exactly determine this ‘human scale’, it can be said that for Utrecht Smakkelaarsveld and Jaarbeurs exceed this scale, whereas the other three rooms correspond to it.

Arrangement

Objects that are situated in a room attract people and activities. They invite for interaction, and a lot of assemblages emerge here. This strongly depends on the function of the elements. Benches and objects that supply shelter (as a bus stop or a tree) are most interactive, and there is a strong need for these on the capital route. Elements that can function in more than one way attract different kind of people, they make the room pleasant to stay in and creates possibilities for meeting other people. Trees are very important elements and have positive influences on how people feel about a place. A part from giving shelter, they have a big impact on the appearance.

Appearance

The variation in time has a big impact on the rooms. Rooms that are not so strong during the day can be stronger during the night (and camouflage any disharmony between walls), or the other way around (bad lightning can turn a good place into a bad one). So, artificial light is an important tool that can be used in order to influence the appearance and the use of a place.

The diversity in colours and materials may also influence how a room is perceived. Especially if one stays there for a longer time. Too many pulses can have a negative effect, and make people want to leave quickly. Too few pulses can do the same. There should be a balance in the richness of materials and colours that people can cope. But people themselves do also play an important part in the appearance of a room. Trees are often liked by the users and they create a continuing interplay between shade, light and wind that makes them pleasant to look at. Even throughout the seasons they change, and they form an important link between city life and nature.

4.4. How Does the Dynamic of Flows Affect the Activities and Experiences of the Capital Route?

Scale of the Investigation

An inventory of the dynamic of flows was done on capital route level. This is combined with activities and experiences that were investigated in the five selected urban rooms. The following data sets were reviewed: movement annotation, user narratives, observer narratives, questionnaires, follow the flows, gate counts, assemblages, transport nodes, and spatial analysis.

Flows

The various flows on Utrecht's capital route are separated and physically different. This is due to the railway track that generates specific passages for specific flows. For pedestrian flows the relation between land use and activities (generating flow) on the capital route is evident. This is not the case however for vehicle and cycle flows. This relation is found on a larger scale. The heavy flows of the motorised vehicles stretches out beyond the capital route, all the way to surrounding highways and neighbourhoods. A big part of the flow is therefore not only located on the capital route, but relates to traffic structures of a larger scale, just running through the route. This is mostly noticeable at Westplein, Croesestraat and Catherijnesingel. From these places less intense flows go in to the city centre. On the capital route itself it is the public transport and the taxis that form the largest flows. For cyclists the flow is centralised on the capital route itself. From various directions this flow comes together at Lange Viestraat and Catherijne singel. The tunnel underneath the train tracks is also heavily used by cyclists. The Central station is the main destination here, where bicycles are parked and people walk towards the trains. Therefore the land use function parking is very visual in connection to the flows of vehicles and cycles.

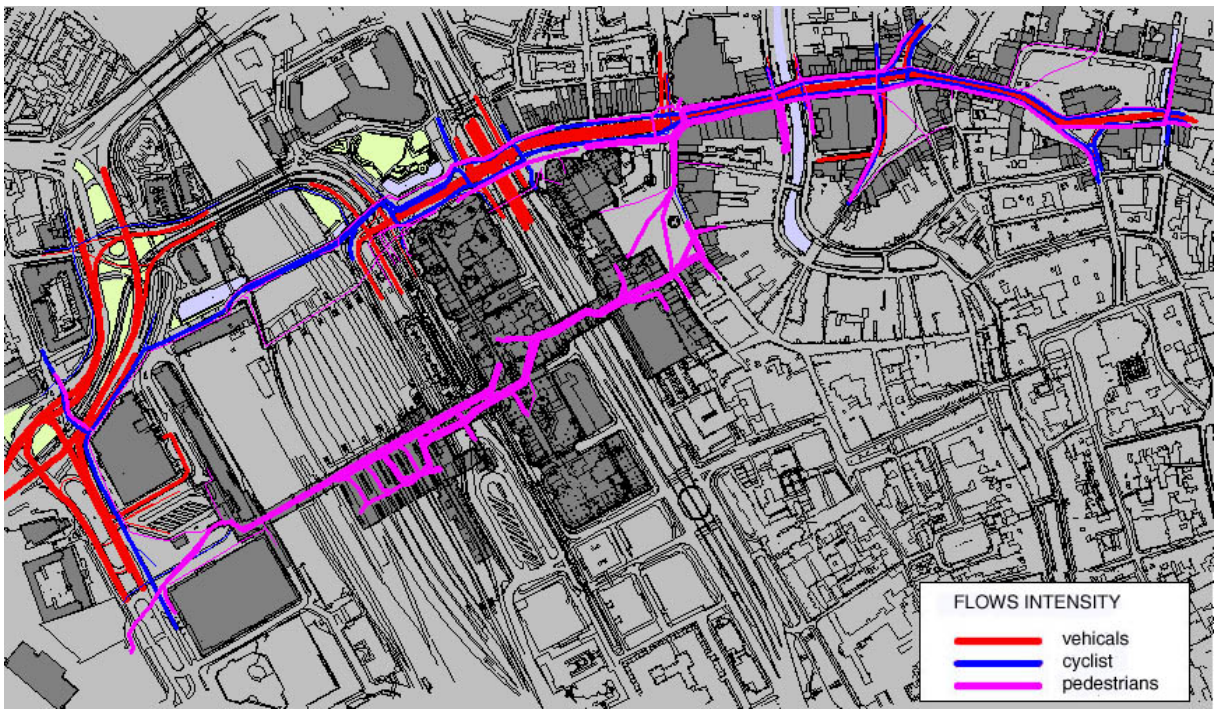


Figure 114. The Average Flows on the Capital Route. The more intense the flow is, the thicker the lines.

The flow of pedestrians is strongly to the Central station, busses and shops. This is most obviously seen in Hoog Catharijne shopping centre and the Central station itself. The train station generates a lot of passengers and pedestrians, and it also functions as an individual goal in itself. This is why the speed of the pedestrian flows is quite fast and fluctuates heavily during rush hours. People only stay in the station area for an average of seven minutes. This is due to the function itself, but also because of the lack of sitting and resting possibilities. Interviews made it clear that the users miss such facilities here. The reason that benches are not provided for is because the city, and others, try to prevent unwanted guests to stay there for a longer time (the homeless and sorts). This means there is flow here, but no platform to watch it, and no place to have a rest. The flows connected to the shops are more stable and less frantic.

Figure 115. The Average Hourly Flow of All Pedestrians Along the Capital Route During a Weekday in Utrecht.

Figure 116. The Average Hourly Flow of All Cyclists Along the Capital Route During a Weekday in Utrecht

In our narratives is it clearly observed that events influence flows heavily. This is best seen at Jaarbeursplein. This square is normally quiet and focused on picking up passengers, but when an event is held in the Jaarbeurs it becomes an intensively used square. Because the Jaarbeurs building is set back from the actual square and due to the lack of functions on the square itself, these events generate flows, yet no assemblages. For Neude square this is different. Several events were organised there during our research, and on all occasions it did generate assemblages. This is because there were more possibilities on the square itself (the organisation of those events create a lot of possible activities especially for the occasion).

Besides the issues mentioned above, there are the city-logistics and maintenance activities that do influence the flow as well, but in more subtle manners. Mainly at morning hours these activities interrupt regular flows, and generate other ones. This can for example be seen on Neude when supplies are being delivered to cafés and restaurants, and on Vredenburg square when the market is being set up or broken down.

Conclusion

Utrecht has a specific dynamic of flows generated by the train station. This fact largely determines the way flows evolve, their density and peak moment. This is clearly shown when the train employees are on strike or during a holiday season.

The train station mostly generates pedestrian flows, flows that in turn attracts businesses and the activities that come along with them. The ‘better’ the flow, the more commercial outlets, and the more expensive the rent or land becomes. But at the same time, the same flow can form a barrier; when the density of the flow is very high, it discourages people to take part in activities other than the flow itself, and the accessibility of the commercial outlets are affected.

In this way a strong flow of one particular type of movement can also become a barrier for other flows. However, when the flows are separated, the speed of the flows increases and people are less aware of their environment. Whenever flows intersect, people are forced to be more careful and slow down. The dynamics of flow are experienced most vividly when they intersect, the city becomes more vibrant.

As noted before, the inner urban fabric mostly attracts the pedestrian flows. These attract activities such as commercial outlets, bars, cafés etc. In their turn, these activities generate flows of cars and bikes. Wherever there are activities, people will come by bike or car, then changing their mode of transport and walk towards the activities.

The pattern of pedestrian flows is different during the night. People stick together more at night times so that the flows then cover less area.

4.5. Concluding Remarks on 4.1. - 4.4

In question 4.1 to 4.4 we focused on the relationship between different urban components, investigating how these components appear and act in the context of the specific urban rooms of the capital route in Utrecht.

In 4.1, we concluded that the points of public information were focused on vehicle and bicycle traffic. Pedestrians were given less information, and they use other orientation points. These points were for example well known shops and contextual points (such as landmarks). It became clear that the starting points of a lot of journeys (on the capital route) were often also important contextual points in the mental map of users; such starting points could for example be the Central station or the shopping area that is connected to it. These places are large indoor environments where people orientate themselves by signs, because there is no overview. The problems of these areas are that the signs are inefficient and that there is no connection to the wider context of the city. There is a difficulty of orientation that makes it hard to understand ones position in the urban fabric.

In 4.2, we discussed relations between activities and the characteristics of the urban walls, where walls for example related very clear to activities connected to cash machines or places of take away food. Activities and assemblages emerge here more often than at walls that don't have such interactive characteristics. The type of land use, often determines the facilities that a wall offers. The characteristics of a wall do however also impact on a larger scale; such as the perception of an entire room. The visual performances of a wall can draw the focus of attention toward the wall (luring people in) or, it can turn the focus to the room as a whole.

4.3 Showed that the affordances of a room depended on the physical shape of the envelope. It's form and shape, and the distance between the walls influences the location of activities and flows. The physical proportions of a room are important in respect to the users that are in it. The scale that people feel comfortable in must not be exceeded. If the arrangement of a room consists of objects that provide shelter and resting possibilities, it attracts more people (and thus activities) than rooms that don't utilize such objects. The appearance of a room is strongly influenced by the richness of materials and colors, as well as to the quality of lighting.

In 4.4, pedestrian flows were found to be attracting business and activities, which in turn attract flows of vehicles and bicycles. When a flow is too dense, it can form a barrier, and when flows speed up (this happens when different kind of flows are separated) people also become less aware of their environment. When flows mix, the speed slows down and the city becomes more vibrant.

4.6. The Activities of the Capital Route

Questions and Data Sets Reviewed

The activities of the route were investigated through the discussion of three different aspects: the overlapping of activities, the time-span of activities and the variety of activities. The data sets reviewed were typologies, gate counts, follow the flows, assemblages, network nodes, images/media, user narratives, derive, observer narratives, points of information, questionnaire, movement annotations, five selected rooms, land use, objects, clusters, floor planes, lighting, accessible space day/night, building entrances, facade usability and spatial analysis.

Overlapping of Activities

A lot of activities that take place tend to overlap in the old centre of Utrecht. In historical rooms as Neude Square, Vredenburg and the streets that are in between, different kinds of gatherings and assemblages have been observed. They strongly fluctuate in time, but they remain differentiated. Most assemblages occur just next to the flows of pedestrians or cyclists. These assemblages last only a short while. Long lasting assemblages occur further away from the flow. Looking at the activities that we have found on the capital route in Utrecht, we can differentiate these activities in four character types, based on the time they last and their position related to the position of the flow: transition, gathering, consuming and staying.

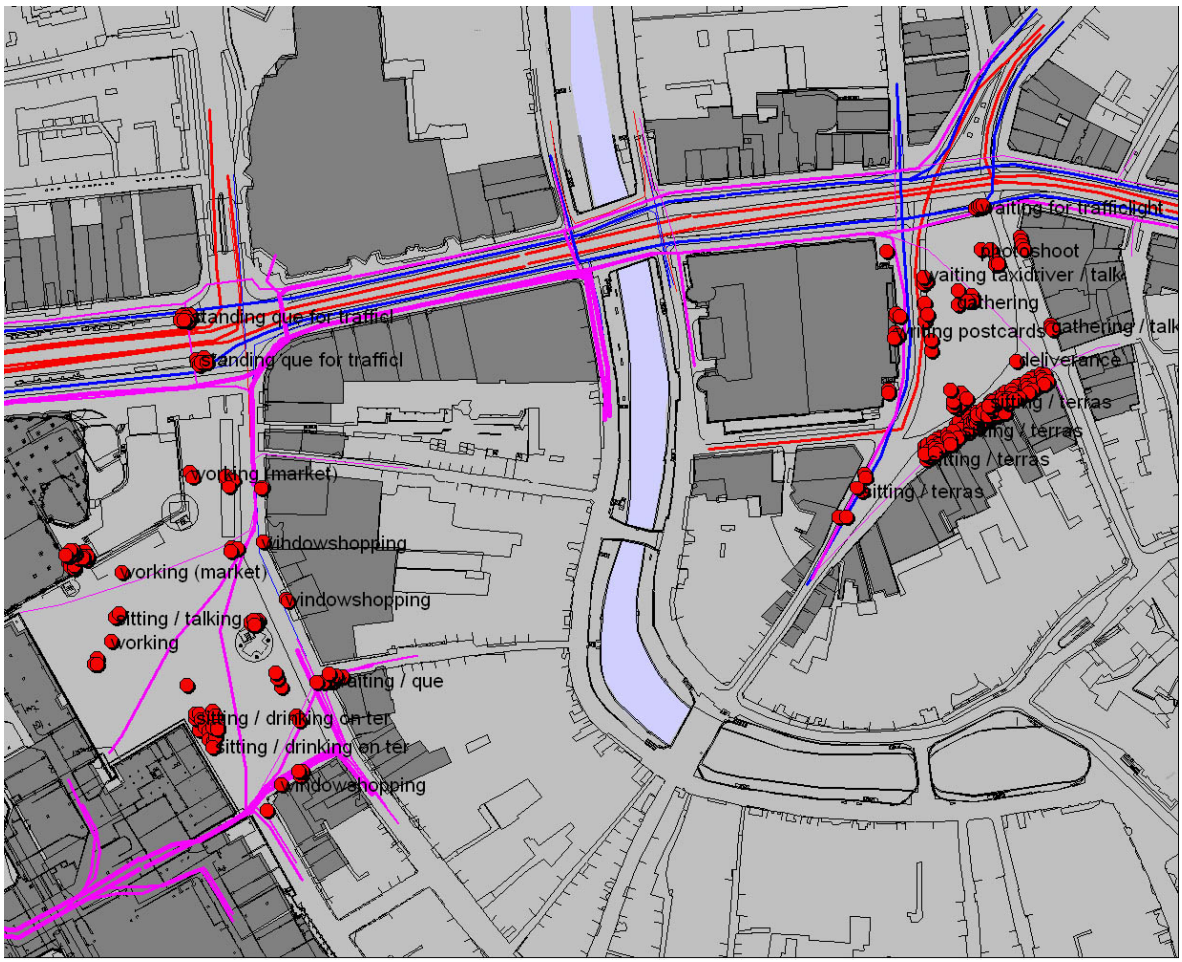


Figure 117. The Two Urban Rooms Neude and Vredenburg, with Different Kinds of Activities

Transition

As the word already implies, the activities that are part of the transition category are not static, but part of an interchange, a shift of movement, activity or occupation. These activities are not always noted as assemblages due to the fact they are part of the flow. The transitions consist of people changing their way of transport; locking their bike, walking on, stopping, and getting on the bus for example. Especially at Jaarbeursplein this is an activity that occurs frequently (see plan below).

Figure 118 -119. On Jaarbeursplein there are a Lot of Transition Activities

Gathering (10 min to 20 min)

This activity takes place directly outside the flow. This can be a spontaneous, unexpected meeting, or an appointment between people on a fixed spot. These places generate possibilities for meetings and are chosen near the flow because of the high density of people. They also make a safe waiting point; and due to the density there is social control. On Utrecht's capital route this activity is found along the facades (and flow) around Vredenburg Square and the post office on Neude square.

Figure 120-121. Gathering on Vredenburg and Neude

Consuming (15 min - 2 hours)

This activity is fairly disconnected to the flow, and more connected to places that provide the user with some quietness to consume in a pleasant way, however it is always situated in direct visibility of the flow. The activities are mostly planned and not spontaneous. This activity is heavily influenced by surrounding land use and the facilities that are offered by those functions (tables, terraces). Even though it generates a lot of assemblages and a great variety of people, they all conduct the same business: eating or drinking. Besides the consumption, they talk and watch each other. It seems as if people that attract other people is a fact here.

Figure 122. Consuming on the Terraces of Neude Square.

Staying (1 hours or more)

This activity takes place on more remote spots far from the heavy flows. To find a suitable place, the place has to offer qualities of its own; people want to be at ease here and they want to relax Thus it has to attract people by offering facilities such as comfortable sitting space, shelter or a well maintained lawn. The activities undertaken here are more intimate or interactive. It invites for a long-period stay, for example playing street soccer. But couples kissing tend to choose such places also.

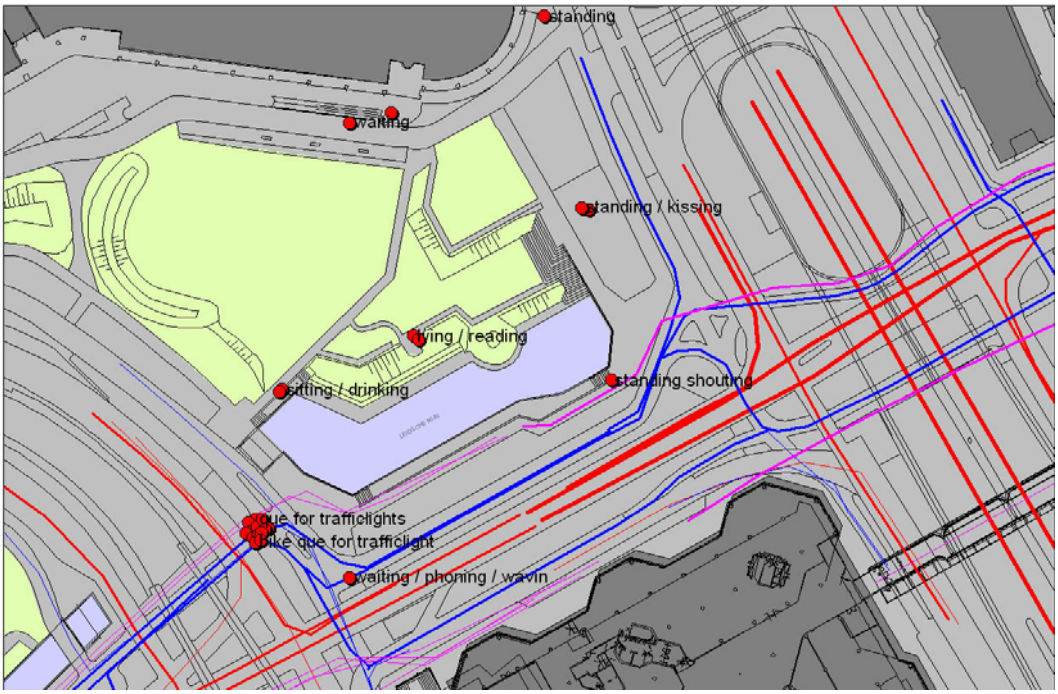


Figure 123-124. Staying Activities on Smakkelaarsveld

A good place for staying activities is only found once on our capital route. This would be Smakkelaarsveld and it is actually poorly used. Although it offers a lot of possibilities (lawn, sitting places, height differences, green shelter) it has no good connection to the flow. Actually, there is no pedestrian flow here at all. There are enough vehicles and cyclist moving along, but no pedestrians. This is why the public does not know the place. And for those who do pass it, it is bad connected, it lies too low and there is no social control. Interviews revealed that people tend to feel unsafe in this area.

Apparently there is a direct relation between pedestrian flows and assemblages. When the intensity of motorised movement increases, in combination with a decreasing pedestrian flow, the number of assemblages shrinks.

Time Span of the Activities

It is evident from the data that moving from a to b, is an activity that continually takes place on Utrecht's capital route at peak hours when people go to work or school, but also during the day it generally remains busy on our capital route. The opening hours of shops are of big influence on the amount of activities during the day. In the evening when the shops close the nightlife consists of flows to and from restaurants or bars. These flows are clearly less intense. If we look at the user types we can notice different users and

other activities than during the day: more young people, less single women, more people moving in couples, and less gatherings on the street. In summertime some gatherings occur in the public realm at night, but most of the time people meet inside (this is a cultural thing). Survey results show that spontaneous meetings in public space do not occur a lot at night.

Most activities that extend throughout the day are directly linked to the flow or to land use. Picking up, or leaving, people at a central point, is an activity that takes place during the day as well during evening hours. The places where this activity takes place seem to be fixed spots in the urban fabric. They are easily accessible by different kinds of transport. Jaarbeursplein and Neude are good examples of this.

Some shops or restaurants along the capital route have long opening hours. The activities that occur around such places are parking bikes, small gatherings and waiting. These activities stay the same during day and night. Because surrounding functions are closed at night, these activities become more noticeable. Younger people visit these places more often, and this user group tends to stand out visually more than other groups. This fact alone can cause other people to feel unsafe, and these groups also seem to be intimidating to users that, for instance, walk alone.

Figure 125. Gathering of Young People in Hoog Catharijne Shopping Area, Near Bus Station

Feelings of being unsafe seem to generate a specific flow. Vredenburg has a flow that sticks close to the facades during the day, at night this tendency is even increasing. This has to do with the poorly illuminated square. It is obvious that people rather walk along illuminated shop windows, than in the dark.

But lighting does not tell everything. The park of Smakkelaarsveld for example is the best lit room out of the five chosen that we have observed, but it isn't used much at all at night. Those who did pass it passed it quickly.

If we look on capital route level it becomes clear that not all places are used throughout a longer period of the day. We can conclude that people use the same places at evening

hours as in daytime. This does not work the other way around. If places are not on a *mental map* (a person's perception of the world is known as a mental map. A mental map is an individual's own internal map of their known world) during the day, then they are definitely not used during the night.

If we look at the characteristics of the places that are being used both in daytime, and night time, then shelter, overview and accessibility are important. Shelter is important when we talk about the different seasons of the year, and at times it has an enormous impact on the use of public space. Overview and accessibility however are always important. At night time use is greatly determined by lightning.

Variety of Activities

The activities that take place on the capital route are quite diverse. Transition activities are undertaken in the west (at Jaarbeursplein), consuming activities in Hoog Catharijne, Vredenburg and at Neude, staying both at Smakkelaarsveld and Neude, and gatherings were noted everywhere along the route. These different activities definitely supplement each other. It has to be noted that activities are very dependent on land use. This can be seen in the intensity of the activity (no interactive land use results in less activities) and after opening hours. This diversity in use gives a pleasant mix of quiet and crowded places along the route. The route does however have quite a few physical and social barriers that make it hard to experience this diversity. The big shopping area Hoog Catharijne is part in this. This centre was build to lead people along commercial shops, not along a differentiated route. This is why other parts of the route are less used and only few activities take place. A lot of places are thus not used to their fullest potential.

All rooms have quite a lot of different opportunities. These different opportunities spring from a variety in land use and historical background. Only the strip in Hoog Catharijne might be called homogeneous to some extent. The activities however are quite similar at places; each room has a place where people can walk, stand or sit. It can be that each room is used by another user type, but this is not noted in our observations. (one exception was Vredeburg square, where there are lot of people, over 40 years during daytime). One exceptional activity was noted at Jaarbeursplein where a Turkish family was having a picnic in the back of their car. This could not have been done somewhere else along the capital route.

Some rooms do form important agglomerations or magnet effects. Central Station is a good example of such a place. It creates and generates a lot of activities, which by themselves generate new ones. The station area is characterised by good shelter, so these activities can take place throughout the season and throughout the day, and the flow of trains make sure that there is a continuous flow. This flow (all pedestrians) form good customers for nearby shops, and because of the long opening hours of these shops can also attract people who need a last minute present or so.

Conclusion

Each of the four activities (transition, gathering, consuming and staying) can be found on the capital route. Together they make a lively setting. Because of the dynamics of the train and bus station, the most observed activities are those of transition. The shopping area generates lots of gatherings and consuming activities. Staying is less common on the capital route. These differences in activities relate to the purpose of a room and the possibilities it offers. The possibilities (affordances) of a place were not always used. For example at Smakkelaarsveld one could say that there are more than enough affordances to use. But we have seen that the potential for various activities is not totally exploited along the whole capital route.

4.7. The Identity of the Capital Route.

Questions and Data Sets Reviewed

The identity of the route was investigated through the discussion of four different aspects: Sense of ownership and identification, aesthetic and environmental quality, feelings of safety and comfort, and finally, identification within the wider context of the city. The data sets reviewed were gate counts, follow the flows, network nodes, images/media, user narratives, derive, observer narratives, questionnaires, movement annotations, points of information, urban rooms, five selected rooms and spatial analysis.

Sense of Ownership and Identification

In relation to senses of ownership and identification we discovered that these feelings seemed to be more of negative than positive. Although we have to bear in mind that, generally, people like to complain, it remains a striking observation. Especially the Hoog Catharijne shopping centre has a very negative image. Even though the shopping area is well maintained by the stakeholders and it does functions as a successful commercial area, people do not regard it as pleasant to stay in, or share any pride in it. If people were to explain their negative feelings, they start to talk about how pleasant it was in the old days, and how the new big concrete building has made the charm of the old place disappear. Younger people (who are unfamiliar with the old situation) explain their negative feelings by saying that it is too complex and that they cannot find their way in the shopping centre. They are less negative in their judgements about the place, but not nearly as positive as they are about places in the old city. If we look at the base of the Hoog Catharijne complex we visually notice the lack of respect for these surroundings by the high level of graffiti, posters, dirt and overflowing waste bins. This can also be seen along infrastructure of Westplein.

Interviews show that nobody has a sense of ownership for the route as a whole. Users don't experience it as such. The route has a clear split up, where the west end of Jaarbeursplein and the east end of Janskerkhof do not seem to be connected.

Figure 126. Aerial View of the Capital Route in a Wider Context

The places with the strongest identity are Neude and Vredenburg square. The route itself has no strong identity, although a part of the route between the Central Station and Oudegracht can be experiences as an entity. It is unclear if this is due the qualities of this part of the route or due to the enormously strong mental image and identity of the Oudegracht. Utrecht's´ civic pride is the surroundings of the Dom and the Oudegracht, both historic monuments that show the medieval and cultural character of the city. Utrecht does however besides civic pride have a good sense of national pride: this lies in the largest indoor shopping centre Hoog Catharijne and the largest Railway station, known and appreciated by people all over Holland. This ensures that large parts of the city are not only used by inhabitants but by a wider audience. Does this mean Utrecht belongs to every one, and not just the locals? In what ways can the Utrechter share pride as inhabitant of the city? Can this be one of the reasons for the Utrecht inhabitants to be so negative about Hoog Catharijne?

> "There is a whole lot different problems than a few years ago. Vandalism is something of all times, alcoholics too. But petty crime, the harassment so to say, is new. Kids hanging around and messing about. Drugs has always been the same. It is a hot spot, literally, it is warm and dry and there is music. The last time something happened was with Moroccan groups. That escalated really badly. It was even in the news the other day. ." Quote from interview4

> "It is not an attraction anymore. There is a bad image, although the City centre is a safer. There is big competition with other shopping areas, now. There are newer and more beautiful shopping areas than HC." quote from interview 4

> "Does the old building "the Utrecht" mean anything to you? There was much said about that building because it was torn down for the building of Hoog Catharijne. Afterwards people regretted that (show photo's from that time). People didn't really see what they would be losing. It is not till afterwards. All those lovely houses were really broken down without much notice." quote from interview 7

> "It used to be a lot cosier. Now you walk through and you have got the Mediamarkt…, giant, full of noise. See I don't want to buy anything but I don't know the way there… there are different kind of clothing stores meant for a different kind of public." quote from interview7

Here we can find four different reasons for these negative feelings. The first reveales the unsafe image the place has. It is clear that the media influences these feelings. The second one is about fashion; when an area is not the newest or hippest, people look for alternatives that are offered by competitive investors and cities. The third quote has more to do with the knowledge of the past. Because people know what was here first, they judge the new structure sharply and they find it hard to identify themselves with the new place (even after 25 years) The last quote points out most clearly what the problem of Hoog Catharijne is. Not being able to find their way, nor a quiet place to just relax. This results in a negative judgement.

Aesthetic and Environmental Quality

There is no consistent level of qualities along the capital route, as the route is very fragmented. The most aesthetically appreciated spots on the route are Janskerkhof and the Neude square. Both spots are historically embedded and the surrounding buildings are abundantly detailed (see urban wall analysis, chapter 4.2). Modernistic buildings are clearly less appreciated.

The historic growth of Utrecht has made the western part of the capital route (west of the trains) less attractive, and the building of the Hoog Catharijne shopping area which seems to make a wedge between the two parts, make this contrast even bigger. The confrontation between these modernistic buildings and the old inner city is too harsh, and the route (and city) is divided in two parts. The municipality now attempts to unify the city, among other things by the redesigning the historical canal structure. This waterway is seen as an important image for identity to the city and one of high aesthetic value.

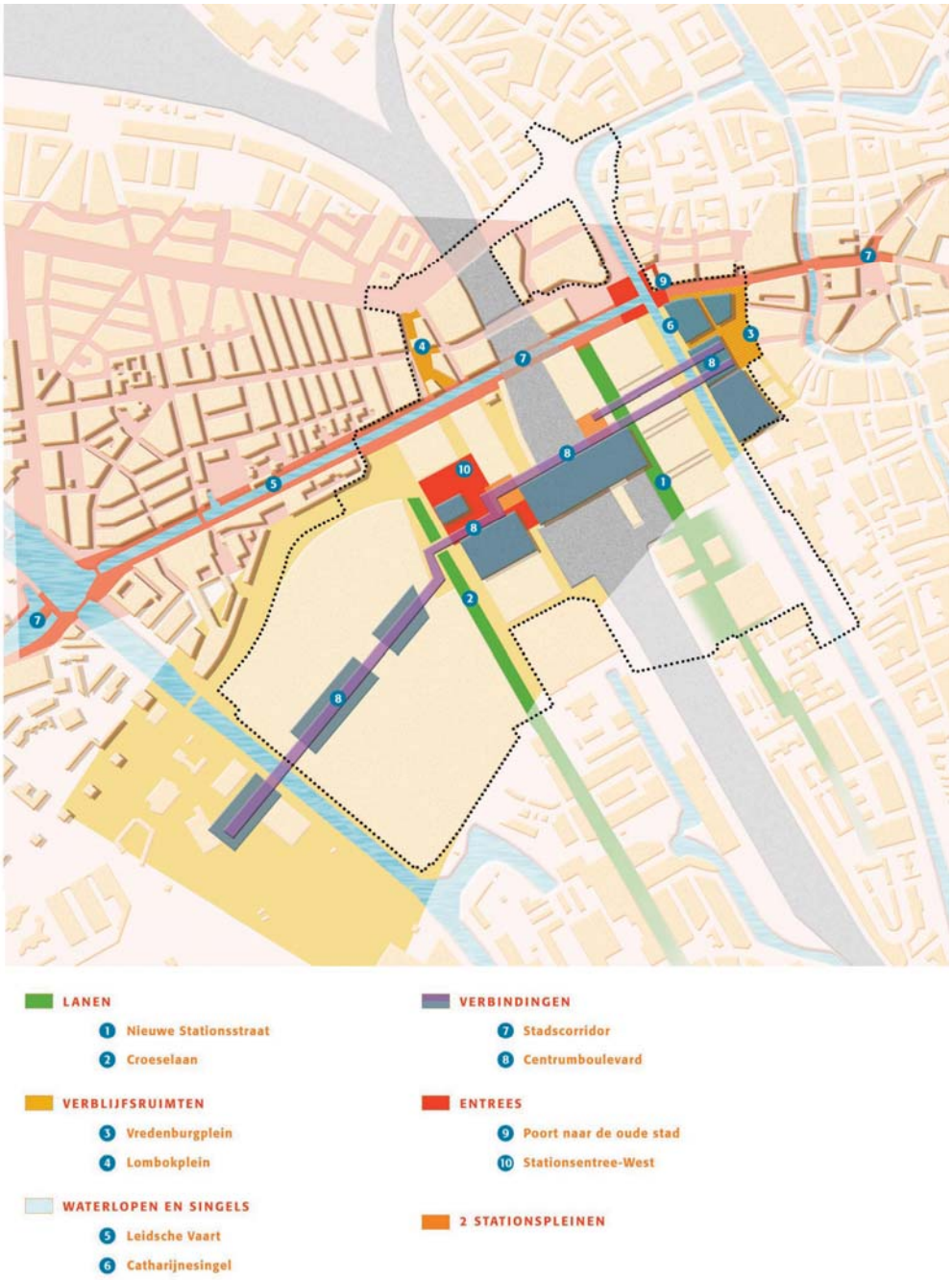


Figure 127. The New Master Plan of Public Space Around the Central Station Area: green represent the lanes, yellow; staying places, bleu; water, purple; connections, red; entries. The small picture shows the rough structure and general ambitions.

Figure 128-129. North Side of the Central Station Area. Current situation (left). Future plans (right) with new towers and infrastructure underground. The waterway of Leidse Rijn is renovated

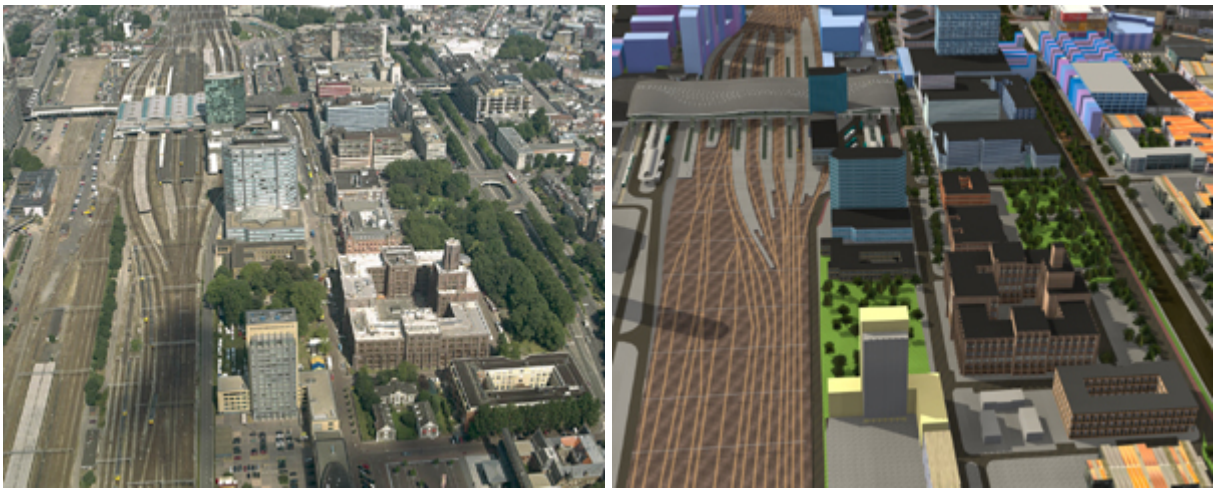


Figure 130-131. South Side of the Central Station Area. Current situation on the left. Future plans on the right with a new Central Station and a renovated canal of the Singel.

Adequate Feelings of Safety and Comfort

During the Agora research we found different kind of feelings of safety and comfort. Some came up during interviews, others were observed during narratives or assemblages. In a negative sense we found out that Hoog Catharijne shopping area was considered as a crowded place, safe during the day, but unsafe after closing hours. From that moment the homeless and junkies become highly visible in the area. Drug dealing is observed here as well. Because of such activities the owners of Hoog Catharijne recently closed a large part of the area during the night, and the municipality invested in a shelter for homeless people and drug addicts.

The Hoog Catharijne area is located next to the station and is a passage from the Central station to the city, and this makes it the most logical route to take for people on their way home, however, not always the safest one. The only alternative is to go down below and walk on ground level, where the lighting is poor and where there is no activity, a part from homeless people walking to and from the shelter.

Walking through the Hoog Catharijne area one must often go past the groups which stand there. Their presence of these can be quite intimidating. Some of them gather outside the cinema entrance, where most shows that are on are aimed at young crowd. At times, the tension between youngsters can be very tense. Even though there is an intense surveillance of the area, there is definite room for improvement here.

Figure 132-134. Measures to Enhance Safety

On the other hand, the areas in Utrecht for people to go out for food, drinks and dance are pleasant, comfortable and feel safe. The user groups are very mixed and there is more than one-way to get in and out the area: there is a freedom of movement and different choices of direction are available. At places however, where specific user groups are served, the situation sometimes gets a bit uncomfortable. It seems as if spots where large assemblages of specific users occur also could become intimidating to other users. Groups that, by their presence, claim an area to themselves may not always be a bad thing. If these groups are positively aware of this, they can make a difference and give something in return. Sense of pride is difficult to reach amongst teens perhaps, but there are cases where this occurs. Grift Park for instance (a park in Utrecht), is getting more and more popular, especially for immigrants. There were times when the atmosphere became hostile toward other users. A group of Moroccan boys showed the initiative of turning this situation around. They organised events and created awareness among people so as to make the park a safer place. Such projects are perhaps not easy to organise, but possible.

There are two situations where clusters of people occur on our route so as to create feelings of being unsafe. One is related to the physical environment, and relates to the accessibility (freedom of choice in movement) and to the arrangement of walls, floors, objects and lighting. The way accessibility and movement is provided for (or not), generates specific patterns of use. For instance one can regard how the grouping of people outside the cinema in Hoog Catharijne, might force women to take an unsafe route elsewhere. The other situation is a specific type of land use that attracts certain people (Mac Donald's in the Lange Vie street for instance). This however is often more temporary, fleeting and easier to manage.

Identification within the wider Context of the City

The railway that goes in a north-south direction creates a barrier on the route. In the past, almost no one crossed the train tracks, and all major investments were made on the east side of the railway. When the inner city became too crowded the west side became developed too, and by that time the passage way to the west side of the station area became more used. One of the first developments on the west side was the Jaarbeurs Expo buildings.

Figure 135. Picture of Vredenburg Square in 1939, when all investments were done in the city centre east of the train tracks. You can see the Jaarbeurs buildings that later (when the area became too small) were moved to the west side of the train tracks.

Figure 136. Aerial of Current Position of Jaarbeurs on the Westside of the Train Tracks.

Despite the developments on the west side, the entire city is still cut in two by the train tracks. This split is nowhere felt as harsh as around the Central station area. This area is however the main connection to the heart of the city and therefore extremely important. Nevertheless, the capital route is regarded as the main route from east to west, even though the separate parts are different in use and character. This has most likely to do with the fact that one route is mainly (at points even purely) for pedestrians, and the other for vehicles and bicycles. The two routes together facilitate all means of traffic and movement from east to west and vice versa. It is Utrecht's challenge as a city to enhance the perception of the two as one main capital route or boulevard as they refer to, and to allow for this route to take on the increasing pressure of the city core with future developments in sight.

One of the biggest problems with the identification of the route is the fact that the identity of Hoog Catharijne is so strong; it overrules the identity of the route as a whole. There is no clear continuity in configuration. The flow is brutally interrupted, not only by the fact that it goes from an indoor space into the outdoor realm of the city, but also due to lack of signs, landmarks and indications of what lies beyond the mall and where. The fact that Hoog Catharijne is purely pedestrian does not help the continuity or identification either. Basically the route has two identities. One based on a national perception, the other more on the inner circle of the city itself. Outsiders do perhaps not know of much more than Hoog Catharijne, the old canal and Neude, whereas inhabitants know that the route extends far longer and that it is the most vital option if you want to go from west to east.

Politically, Utrecht claims it wants to grow and compete with the other three big cities of Holland. They emphasize the fact that Utrecht has the largest station of Holland. But this is exactly where the danger lies: in the identification of the city as a huge traffic node. If we dwell on this too long, the city will never be more than that, running the risk of developing no other than that of mobility. Utrecht should be more focused on improving the use of the centre. One also needs to shift the focus from the old canal, and realize that there are a lot of potentials in the very well preserved areas around the medieval

core. Utrecht's capital route is a good start if one wants to balance the use of the centre, since it crosses the well-established old canal and has historically always been an import part of the urban fabric.

Conclusion

The capital route is not strongly identifiable within the wider context of the cities. This is due to the historical growth (large impact of the train tracks) and because of the Hoog Catharijne shopping area that makes the barrier even bigger. Because of this, the capital route is only experienced partly, mainly from the Central station area, through Hoog Catharijne and to the east. This makes it impossible to generate a sense of ownership and identification by end users. There are however some highlight spots on our capital route that do function in this way, (for example Oudegracht and Hoog Catharijne) but not the route as a whole.

New developments are made to enhance the connections to the western side of the city. This enlarges the possibilities on the west side, and by that the construction of an identity of the route. Future developments can take away the focus on the historic centre, giving it more space, and opening opportunities for the western part of the city to develop. Safety and aesthetics are two important aspects that need to be addressed in order for this to happen.

4.7. The Public Spaces of the Capital Route

Questions and Data Sets Reviewed

The public spaces of the route were investigated through the discussion of two different aspects: public mobility and sequence of well-connected public places. The data sets reviewed were: spatial analysis, flows, network nodes, public information, movement annotation, room overview, five selected rooms, typology, observer narratives, user narratives and questionnaires.

Public Mobility

The route is very well supported by public mobility. Sometimes public traffic could even become an obstruction, since public transport of the entire city runs through our area, ranging from local public transports (taxis, city busses, mobile transport for elderly people) to regional bus lines and national railroads.

Vredenburg contains a large amount of bus stops. The area surrounding it is however arranged so that the pedestrian mobility is completely canalised. One has to meander through the newly put up fences that were put there for safety reasons. This makes it impossible to try to cross to the other side. Only people that have to take a bus will go there. The problem is that due to the large number of bus stops this is creating a huge barrier for pedestrian flows. This barrier is even emphasized by the fact that the cyclist flows goes in the same direction (as the one heading for the bus stops) and that the bicycles take precedence over the pedestrians. Unfortunately this means there is hardly any spatial relation between public mobility and more stationary activities. Utrecht does not have a subway. Subways usually generate the opportunity for small businesses like flower stands, magazine shops etc. There is one flower stand near the bus stops on the Janskerkhof. Yet, this is more likely due to the fact that the flower and plant market is located there every Saturday and not due to the public transport facility.

There are still talks about putting a tramway through this part of the city. Indeed this can help to alleviate the negative effects of the buses (fences, streets that are hard to cross) and make the stops more easily accessible.

On the upside, the public mobility is in fact heavily accommodated in the line of the route. All bus routes covering the eastern part of the city run across the capital route, and also the regional bus services take the capital route in direction of De Bilt, Zeist, Hilversum, etc. Actually the eastern part of our route used to be the motorway to Zeist, up until not too long ago (about 40 years), and this can still be felt. But if one wants to go from east to west over the train tracks, one still has to walk due to the lack of direct bus connections.

Sequence of well-connected Public Spaces

The Utrecht capital route consists of three different sequences, each dominated by its own type of transport or mobility: vehicles, bikes and/or pedestrians, and each showing different origins. The vehicle sequence is situated on the north-west side of the capital route. It runs along Jaarbeursplein, bending over underneath the train tracks, ending at Smakkelaarsveld. The Central station hall and the Hoog Catharijne shopping mall, ending up in Vredenburg square, mainly constitute the pedestrian sequence. The bicycle route starts at the other end of the route, running from Janskerkhof to Smakkelaarsveld.

As separate sequences each of these are well connected and used by a great variety of people. However, the dominance of each different means of transport on the three parts is so evident that it intimidates other types of users; which divides the route as a whole into parts. The joints of these sequences do not actually join the flows; they merely confront them with each other, in a way almost forcing the users to switch to another mode of transport. We refer to these places are transition zones. These zones are important in cities, yet if the areas of transition do exactly only that, the place becomes poor, and flows are interrupted.

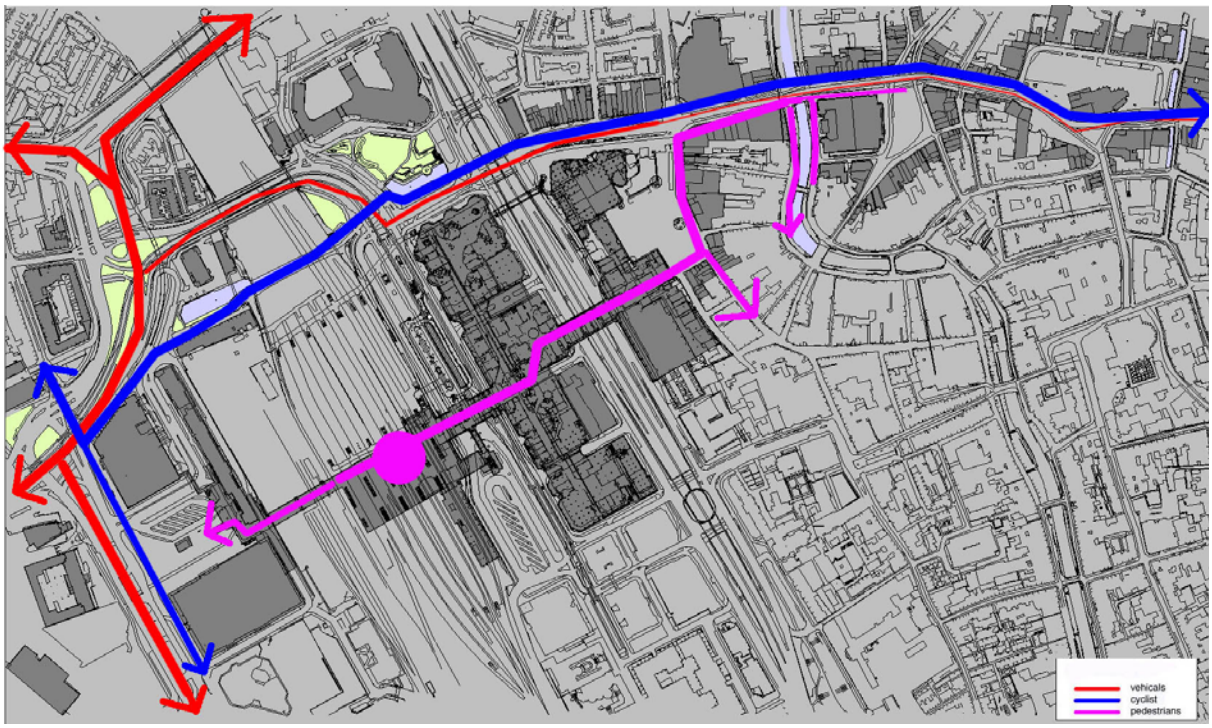


Figure 137. The Main Movements of Each Flow and Its Origins.

If we look at flows of movement, four gestures of motion are evident. One is coming in from the north (dominated by vehicles), the second one comes in from out of the city (trains) the third from the west (vehicles) and the fourth runs in from the west/south (mostly used by pedestrians).

The flows from different directions in the city all access our route at one point and intersect other flows. The flow from the rest of country goes round in a circle and hardly intersects with any of the other flows.

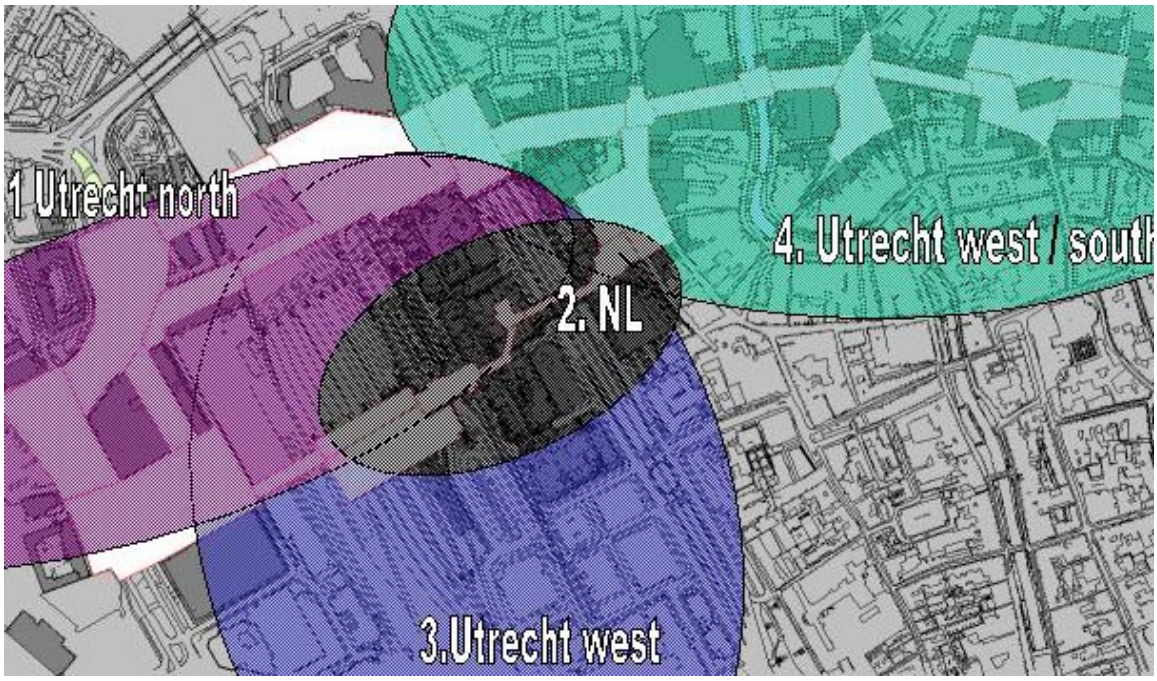


Figure 138. Four Gestures of Motion (Flow Directions).

If we combine the idea of three sequences with the notion of four flows, we start to understand the qualities and the bottlenecks of this capital route. First of all; our route turns out not to be a route, but a huge intersection of many routes. It is however one entity that is worth improving and sustaining, because it has the potential of a strong route in the future. The importance however is first to acknowledge what the zone consists of now, before we can start to put in ideas for decades to follow.

The most characteristic ingredients of our route are:

1. It contains three separate sequences
2. It consists of four different flows
3. It is a huge node, both within the city, as well as in the country

Because the sequences as such are all in the capital route, it is most interesting to look at the areas where they intersect. Those transition areas now mainly function as points of interchange. As described before, a city needs areas that allow for these changes. Yet the way it works on this route today is that even if there is no need for a change, you are physically forced to do so anyway. This has to do with two things:

There are physical barriers that make it impossible to judge what the continuation of the journey will bring, so one chooses to use the means of transport offered; around the station area, Jaarbeursplein and Smakkelaarsveld. Or worse: one makes loop and turns around, not being able to orientate, and turning seems the only clear option: exit Hoog Catharijne at Vredenburg.

There is no overlap between the sequences, which forces you to physically change your mode of transportation when you want to continue the journey along our route.

This means the areas located at these intersections of flows and sequences are crucial in relation to the sustainability of the entire capital route. The rooms referred to here are most importantly Smakkelaarsveld, Vredenburg and Jaarbeurplein. These areas are now merely poorly functioning transition zones, unable to guide us along the route or into the city, and unpleasant to stay in. It is no coincidence that these are the exact same spots where we experienced a lack of social control, feelings of unsafely, etc.

We discovered that there are basically four characteristics that define the type of an urban room:

1. A place to remain in, spend a longer period of time.
2. A passage, or a place to pass through onto another area.
3. Place of orientation, to position oneself in the city and identify the area.
4. Place of transition.

Smakkelaarsveld, for instance, is the perfect location for an orientation spot. This is where one leaves the station and enters the city. This room is actually an entrance to the city and historically it always has been. However, it is not at all designed as such. Stating that it is an area embedded between the old centre and the station, it could be a perfect area to meet and wait for people, or pass time before taking a train. Again; the place has nothing to offer in this sense. The same goes for Jaarbeursplein, which especially with an eye on the future extension of the route to the west would be great as an orientation spot, revealing how to get to that part of town, in stead of just being a clear bus station for international journeys. Vredenburg faces an equal challenge. It is well known that only a small percentage of the people that roam Hoog Catharijne actually find their way into the city centre. When exiting the shopping mall, the distance to the next spatial sequence is too big, there is no buzz of the bicycles, as can be felt at Neude. The arrangement of the square forces the users to move along one side, or even to turn. Besides the market, on Friday and Saturday, the room has no identity and most definitely does not feel like a place to stay any longer then necessary.

The reason Neude works well for Utrecht is first and foremost because there is no other place on the route that commutes with it, that has the same variety of ingredients; it is place for staying, due to the bars etc, it is a place for orientation and identifying the different flows that occur and actually overlap without overriding each other.

The challenge Utrecht will take on in their design scenarios is to see whether our node and interchange areas can be transformed into well functioning urban rooms, enhancing the quality of the entire capital route and the connection of this route with the rest of the city.

Conclusion

Hardly any room consists of just one of the four stated characteristics. Mostly, there is an unbalance between the four, where one or two characteristics dominate and determine the main occupation or purpose of the room. The rooms where our three sequences intersect are not balanced due to the fact they only possess one of the four stated characteristics, whereas there is need for at least one or two more at each spot.

4.9. Some Concluding Remarks on 4.6-4.8

The questions of 4.6-4.8 were aimed at investigating the sustainability of the route as a whole, spatially (connections and use) but also socially (feelings and identity). We tried to find out how conditions could be improved, and whether future plans would contribute to the sustainability of the capital route.

In 4.6 we found that most of the dynamics on the capital route is connected to the Central station (and the Hoog Catharijne shopping area that is connected to it) in the middle of the route. This determines a lot of the movements and activities that take place on the capital route. Even though some rooms had more affordances when it came to use, a lot of rooms around the train station were mainly focused on transition. There are only a few rooms along Utrecht's capital route that are suitable for a longer stay; most rooms don't have the necessary facilities, they are hard to get to, and do not support social control which makes people feel uncomfortable or even unsafe.

The Central station is the main attractor of the route, but it also forms a barrier in its middle that is hard to overcome. In 4.7. we discussed this and concluded that this problem is especially due to the physical shape of the station (it is a large indoor area above street level with only few entrances). Future developments can improve the connections of the route, but even here there is a risk that the problems remain: in contrast to the public spaces of the historic city, this area is indoor, massive and above street level.

Research in 4.8 showed that pedestrian flows mainly originate at the Central station. Vehicle and cyclist flows have different origins, destinations and even take different routes; all intersecting around the Central station, making it a huge traffic node. Due to the functional layout of the area, most places along the capital route are dominated by just one kind of sequence, making these places unattractive to use for other purposes. When flows intersect, the environment is more lively and dynamic. It became clear that each room needs more than one function to ensure that it is a vibrant and pleasant room to stay in. The capital route needs different types of rooms in order to make it an attractive and sustainable route as a whole.

CHAPTER 5: ANALYSIS – LONDON

5.1. How is Public Information Impacting on the Activities and Experience of the Capital Route?

Sub-Questions and Scale of the Investigation

Does the existing information fulfil its purpose? Is it well placed? Does it contribute to a useful experience of the city? Useful to whom? Tourists or locals? What is the impact of public information on flows and assemblages? Does it help navigation? How do aspects of public information interact with other legible elements of the route such as recognizable elements/landmarks and elements of symbolical importance?

Of the five urban rooms on the capital route, an analysis of the public information points (PIP) was carried out in two of them: Tate Modern (TM) and Falcon Point (FP).

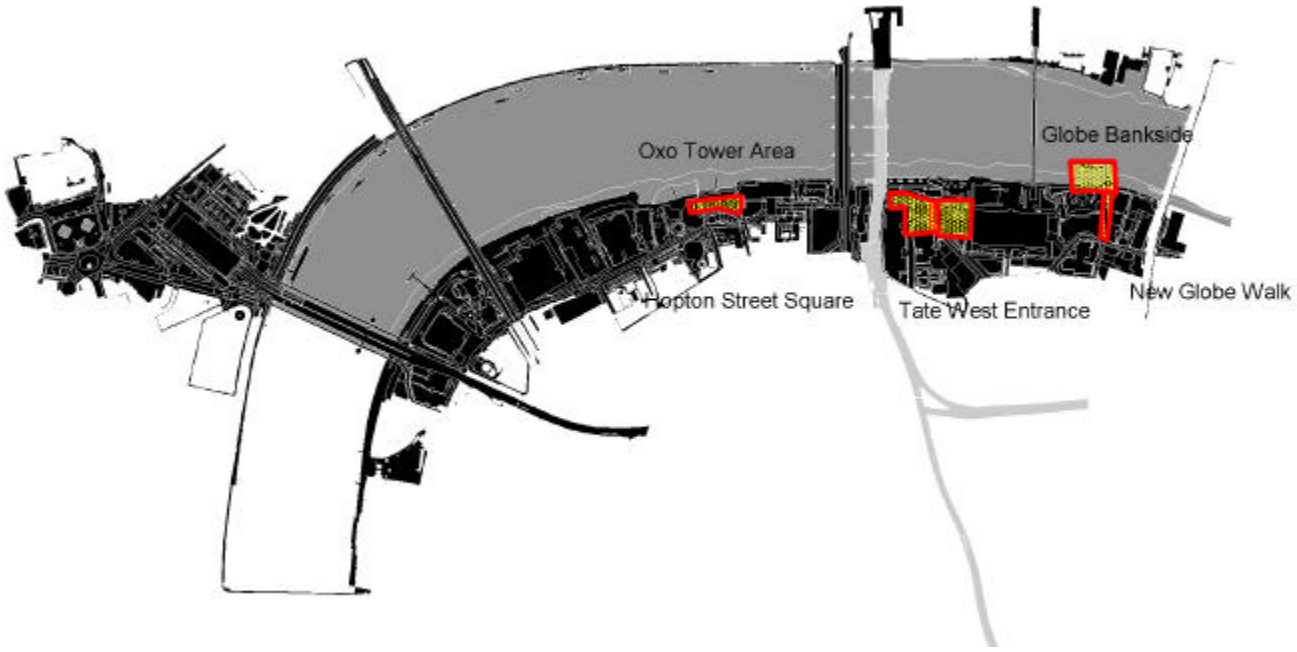


Figure 139. The Five Urban Rooms Along the Capital Route

Public Information Points

Before embarking on any sort of diagnosis, it should be emphasised that although adjacent, the two urban rooms are very different in their general physiognomies, urban typology and spatial configuration; the former is free of any vehicular movement and overwhelmingly pedestrian in character (with what we have identified as a medium cyclist flow) while the latter is almost equally devoted to vehicular and pedestrian circulation -with a low cyclist flow.

As a result, the respective PIP landscapes are also diverse. In TM, more than sixty percent of the signs are related to the activities of Tate Modern (i.e. simple, high level large banners visible from a long distance and smaller composite billboards at eye or waist level which can only be read when standing close to them) while less than twenty percent of the signs serve the purpose of giving directions to pedestrians and cyclists alike.

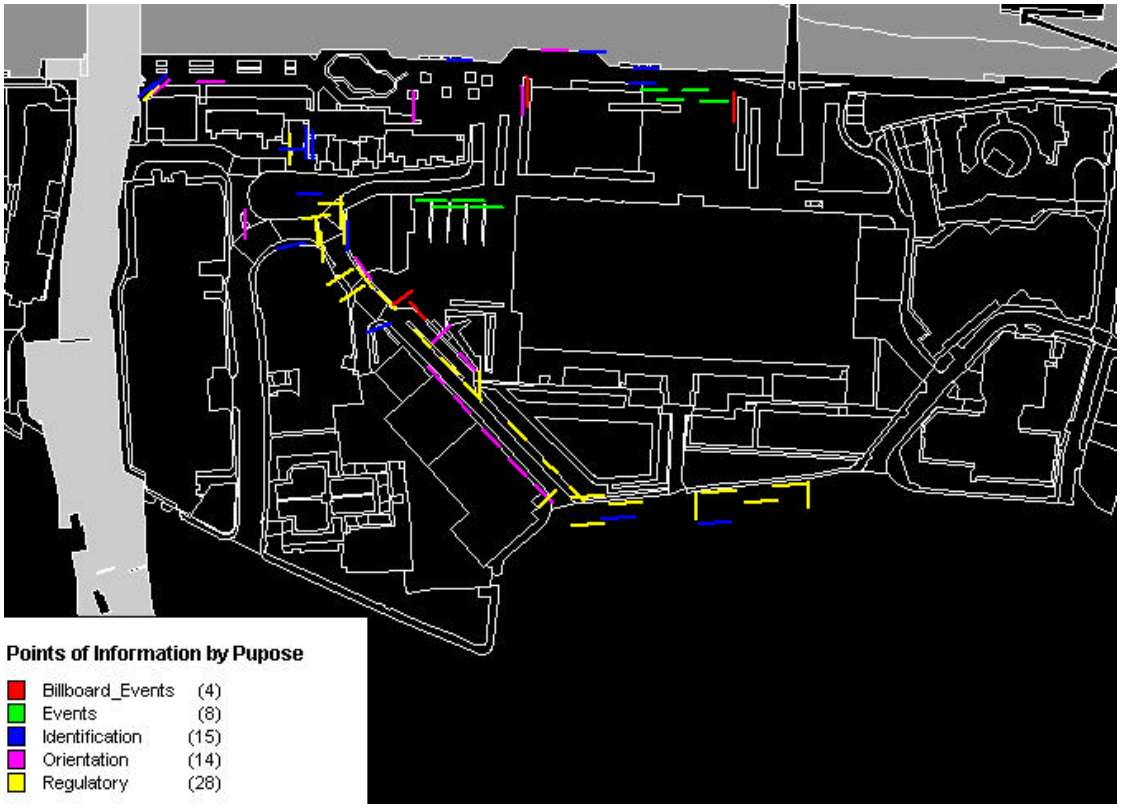


Figure 140. Points of Information by Purpose

Tate Modern is both a final destination and a transitory zone. The gate counts provide us with some highly interesting pieces of information. First of all, those who reach Tate Modern use –almost equally- all the three major access routes available: from the west (Blackfriars Bridge and Queen's Walk) and the east (mainly the Millennium Bridge and to a lesser extent Shakespeare's Globe) as well as from the south (Southwark tube station).[1] In addition, it is the tourists who -on average- form the overwhelming majority of those present at Tate Modern.

[1] This pattern changes during the summer months, when the majority of the people reach the TM either from the east or the west. The riverside passage that stretches from Blackfriars Bridge to Shakespeare's Globe is also known as the Jubilee Walkway.

Figure 141. Average Cycle Flow

Figure 142. Average Vehicle Flow

Figure 143. Average Pedestrian Flow

Tate Modern is one of the most visited indoor spaces in London, with more than four and a half million visitors in 2004 while the first six months of 2005 saw an increase of around ten percent (Data provided by Tate Modern's information office on July 2005). Yet, in spite of the continuously increasing amount of visitors ever since Tate Modern opened in 2000, one becomes aware that the signage which is not related to the Tate has accrued on an incremental basis over many years without the benefit of a general strategy of design discipline.

Figures 144-145. Typical Examples of Signage Not Related to the Tate Gallery Along the Jubilee Walkway.

Successful leisure and tourist environments (i.e. shopping malls and airports) have high quality, integrated signage. TM is an important destination, yet for the millions of its visitors there is very little way-finding information (on both a micro and medium scale). Furthermore, when such information exists, its positioning makes it difficult to operate in a competent manner. A characteristic example is the sign that points towards Tate's West Entrance when one arrives from the west end of the Jubilee Walkway.[2] Although adequately conspicuous when nobody is in front of it, its shoulder-tall height makes it highly indiscernible when people are standing or passing in front of it.[3]

Figure 146. Sign Indicating Tate Gallery's West Entrance

More interestingly, for those who arrive from the direction of the Millenium Bridge, there is no sign at all about Tate's West Entrance. Hence, assemblages occur due to the absence or low conspicuousness of certain way-finding signs. Similarly, when exiting the Tate, way-finding is of use only to those who want to go south, towards the Southwark tube station. The visitors who want to reach other places of interest in the area (i.e. Shakespeare's Globe, St. Paul's Cathedral and London Bridge), or even go to Southwark station through a different route have to rely on their instinct or ask for directions.

[2] The Tate has two entrances: The River Entrance is situated either side of the chimney and is reached via the Jubilee Walkway. Access is directly to Level 2 from which there are lifts and staircases to all floors. The West Entrance (also referred to as the Main Entrance by Tate Personnel) is on Holland Street. Entry to the gallery is via a ramp extending to Tate's cardinal space, the Turbine Hall and level 1.

[3] A similar situation also emerges as a result of the positioning of the electronic information kiosk on the Jubilee Walkway. Placed on the same line with the trees in front of the River Entrance, the kiosk's conspicuousness decreases by the passers by and the thick foliage in the summer months.

Yet, because way-finding problems are not confined to the quality of the signs alone, they typically cannot be resolved by adding more signs. Instead, such problems can be unravelled by designing an environment that identifies logical flow patterns that enable people to move easily from one spot to another with the least confusion possible. Signs cannot be a panacea for poor architecture and illogical space planning. Luckily, TM's topology (the river Thames functions perfectly as a barrier and a point of continuous reference which most people are drawn towards and stroll along in an almost subconscious way), Tate's architecture and spatial layout (the trees in the landscaped area in front of Tate's river entrance, the low rise building in front of Tate's side entrance and the apparently inaccessible north side of the Falcon residences) seem to effectively control the visitors' flow and enhance their capacity to navigate Way-finding can be described as a person's ability, both behavioural and cognitive to reach spatial destinations. Navigation on the other hand can be regarded as the act of moving through space, without however being directed towards a desired destination.

Figure 147. View from Tate's West Entrance with St. Paul's Cupola in the Background Acting as a Way Finding Sign.

Looking at the gate counts, one also notices that the amount of those who either visit or pass through TM decreases dramatically as we enter the late evening hours, when Tate closes its doors to the public. We can therefore understand the absence of any imaginative lighting scheme that might attract more visitors.

When looking at the adjoining urban room, we notice that the majority of signs in FP (more than fifty percent) are regulatory ones. Almost every single one of them is found on Holland Street; the only street from which vehicular access to the Tate is possible. Hence, the positioning, conspicuousness and amount of signs divulges that the regulation of car traffic -and cyclist movement to a much lesser extent- is undoubtedly the principal point of concern in this urban room. Yet, Holland Street is also part of the shortest pedestrian route to Southwark tube station when one leaves the Tate, and the orientation signs'

positioning (in the form of orange lampposts with the name of the station drawn on them) on the west side of the street seems to work very well.

Figures 148-149. General View (left) and Detail of Falcon Point's Signage

Figures 150-151. Combined Direction Signage System (Billboard and Lampposts)

The vast majority of the Points of Public Information in Falcon Point appear to perform in an adequate manner: they are all clear and legible, in a good condition, with strong colour contrast to distinguish them from their background. Most of them are within visual range of eye level and well lit and where information concerns only the locals, then this is displayed in places where visitors are less likely to access.

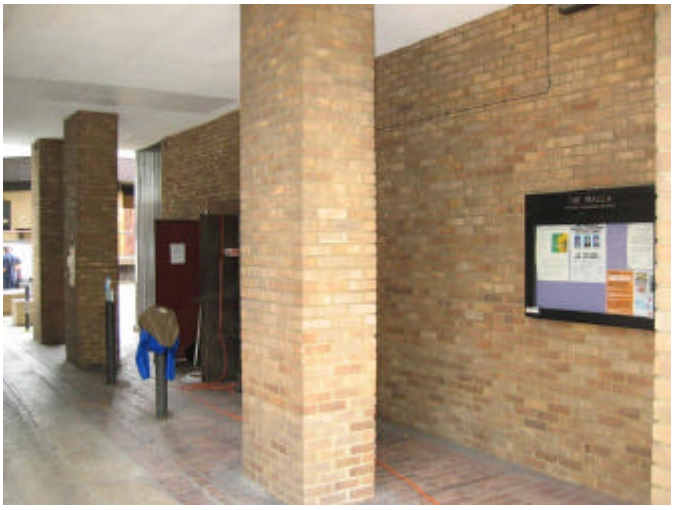


Figure 152-153. Information Related to Locals is Found in Areas Where Visitors Are Unlikely to Visit.

Interestingly enough, the signs do not affect the flow of the pedestrians in a direct way, since it is principally Falcon Point's urban configuration which influences the routes that people will follow (for those entering Falcon Point from the West Tate's ninety nine metre tall chimney acts as a perfect point of reference, in the same way as St Paul's cupola does for those exiting Tate's west entrance). Nevertheless, the successful regulation of vehicular traffic in Falcon Point has a considerable positive knock-on effect on the pedestrians' quality of experiencing and moving in the room.

Regardless of the relatively high amount of the signs in Falcon Point and in spite of its rather small and fairly close spatial nature, the information given to drivers and cyclists alike seems to be easily comprehended. This is due to the signs' conspicuousness, good positioning and consistent character whenever more than one signs are placed together.

Figure 154. Similarities in Form, Colour and Type of Information Make This Otherwise Complex Sign More Intelligible

Pedestrians however may find that the performance of the signs in Falcon Point is far from sufficient. Unfamiliar urban environments make special demands upon people. Even the simplest of settings can involve a jumble of information that has to be sorted and processed before it becomes meaningful. This is exactly the case with the pedestrians in Falcon Point, for whom the information related to the cyclists' routes for example does not facilitate their wayfinding requirements.

In particular, those who exit Tate's west entrance and go to Falcon Point are given no direction whatsoever to some of the major attractions along Thames' south bank, i.e. the Royal Festival Hall, the National Theatre, the London Eye, the Shakespeare's Globe etc. More surprisingly, there is no information to suggest that Falcon Point is only a few metres away from the Thames and that the west part of Hopton Street is a cul-de-sac.

In buildings, where way finding is an important aspect of the overall design strategy, signs are placed at decision making areas (i.e. entrance, lobby, elevators, corridor intersections, etc). Similarly, the most suitable place for inserting a comprehensive information system for pedestrians would be Falcon Point's Square, which represents the most strategically placed piece of pedestrian land use in the whole of the urban room.

Conclusion

In conjunction with other well-designed urban features, a signage system clarifies the entrance and arrival sequence for the people visiting any part of the capital route. The signage system also highlights key destinations, which are targeted for different user groups. The implementation of a clear and consistent visitor way finding system is intended to increase user friendliness, reinforce the overall identity of the capital route and attract more visitors to Thames' south bank.

Several core principles inform the guideline strategy:

-clear way finding solutions should be provided for the first time visitor and the local community

-the system should build awareness and a positive image of the whole capital route

-all important landmarks along the capital route should be promoted and linked throughout the system,

-a way finding strategy which employs important landmarks should be considered and exploited,

-the signs and environmental graphics should be unique, attractive, well maintained and complement the physical environment, both built and natural.

The signage system is first a functional way finding and information system. Nevertheless, as it features prominently on the capital route, it is also an opportunity to reinforce route's positive aspects. Materials, scale, form and proportions should be harmonious with other streetscape elements such as lighting, benches, planting, etc.

Sign graphics can contribute to the overall image –whether the look is historic, utilitarian or contemporary. It is important to consider all these elements and formulate a design vision for the streetscape prior to advancing signage designs. The consistent use of these graphic elements on points of public information will help the user to recognise the signage as a useful information system, and will contribute to the identity of each urban room.

TATE

Monthly Attendance Figures 2004

Tate Britain

Month	Weekday	Sunday	Month Total
January	100688	1408	102096
February	65607	1891	77498
March	99385	4688	104073
April	78135	2670	80805
May	60764	2551	63315
June	66720	1907	68627
July	90563	3780	94343
August	106036	2541	108577
September	68905	3851	72746
October	113572	2910	116482
November	111307	3474	114781
December	82887	1765	84652
Total	**1054569**	**33436**	**1088005**

Tate Modern

Month	Weekday	Sunday	Month Total
January	292801	73853	366654
February	325631	104212	429843
March	311655	68849	380504
April	264031	40960	304991
May	255421	63824	319245
June	332046	61720	393766
July	399234	60660	468903
August	423285	89522	512807
September	259470	60640	3209110
October	294925	66370	361295
November	254482	54216	308698
December	240449	33910	274409
Total	**3653480**	**787745**	**4441225**

Tate St Ives

January	4869	863	5632
February	8035	1466	9501
March	9313	1633	10946
April	16740	2327	19067
May	11701	1461	13162
June	18089	2050	20139
July	23983	2489	26472
August	26301	4634	30935
September	18933	2436	21369
October	12618	2095	14713
November	5253	479	6091
December	5612	479	6091
Total	**161447**	**22745**	**184192**

Barbara Hepworth Sculpture Garden

January	735	64	817
February	1262	201	1463
March	1595	280	1875
April	4012	479	4491
May	4167	417	4584
June	5645	582	6227
July	6556	650	7115
August	6465	890	7446
September	5230	573	5803
October	3086	452	3538
November	994	111	1105
December	848	60	908
Total	**40613**	**4759**	**45372**

Liverpool

January	25012	6613	31625
February	37186	10598	47784
March	30217	8336	38553
April	39721	9614	49335
May	36133	12591	48724
June	46504	12946	59450
July	58357	13091	71448
August	52959	13856	66815
September	42056	8538	50591
October	49785	13582	63367
November	29488	6656	36144
December	20186	2895	23081
Total	**467684**	**119313**	**586917**

Tate Online

	Monthly Total
January	340872
February	367977
March	409503
April	348163
May	404400
June	333776
July	308677
August	333747
September	419222
October	502934
November	523183
December	456344
Total	**2728798**

Figures are based on attendance during public opening hours and events from 1 January–31 December

Figure 155.Attendance Statistics.

5.2. How Do the Characteristics of the Urban Walls Relate to the Activities that Take Place Along the Capital Route?

Sub-Questions

How do the urban walls relate to land use and user activity? How do they affect the formation and constancy of flows and assemblages? What kinds of activities are affected? What components and subcategories of the urban walls seem to be the most important to these relations?

Scale of the Analysis and Data Sets Reviewed

The analysis of the urban wall was undertaken on the whole of the capital route with special attention paid to the five selected Urban Rooms. The sets of data reviewed were façade usability, façade transparency, façade form rhythm and entrances.

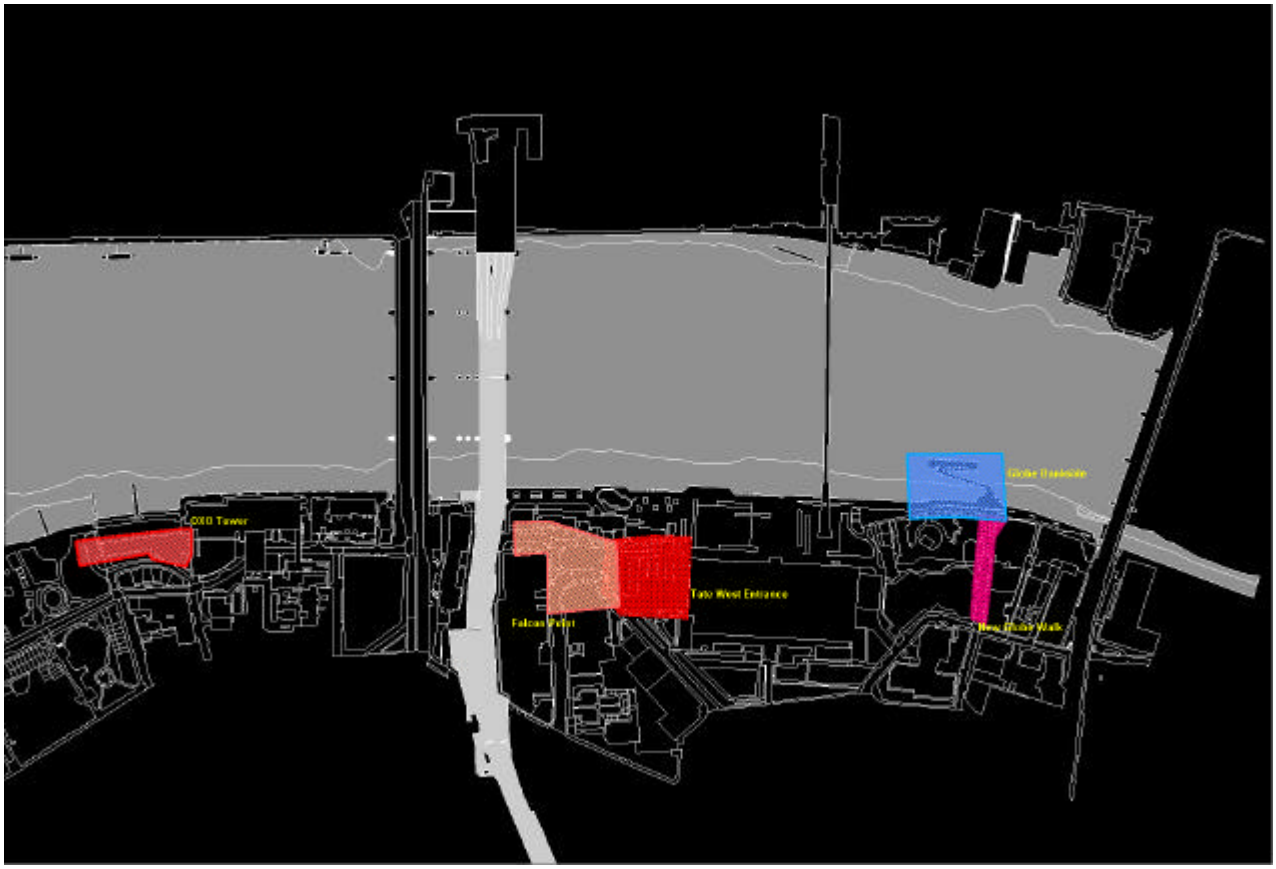


Figure 156. The Five Urban Rooms from Left to Right: Oxo Tower, Falcon Point, Tate West Entrance, Globe Bankside and New Globe Walk.

The Walls of the Urban Rooms

The physical make and design and of urban walls contribute greatly to the overall image of the urban rooms. Each has it own unique cultural qualities and attracts residents, customers and tourists. The distinctive characteristics of each urban wall can become an important asset, and are often the most interesting and satisfying aspect of the urban room.

Our analysis showed that the specific features of the urban walls influence the behaviour of the users (to a certain extent) and the overall perception of the urban rooms (to a much higher degree).

A better relationship between the users' activities and the urban walls was noticed when:

- large windows allow the maximum amount of visibility into the inside of public buildings

- apart from large windows, doors that contain plenty of glass were also employed

- pulling back the entrance from the building façade needs to be treated carefully, since most of the times this creates unusable outdoor space that often collects trash and provides space for loitering.

- positive aspects of recessing need to be explored with care and combined with good control and accessibility

- lighting of the façade makes the street feel lively, inviting and secure.

- lighting accentuates the architectural features of a building and clarifies spatial relationships as well as potential presence of other people a a security enhancer

- lighting has been used in order to draw attention to windows displays and inside activities, i.e. in this way lighting enhances transparency.

- quality signage on the facade communicates the identity of a public building and adds visual interest to the experience of the street (especially when incorporating illumination of a sign at night as an integral part of the sign's design)

- security grilles allow lighted displays to be seen at night (especially when these security grilles are installed inside rather than outside of the display glass)

- solid blank portions of the facades are almost always the inviting canvas for the graffiti.

- areas of urban wall not exposed to the controlling eye of the passers by are often targeted for rubbish and delinquency.

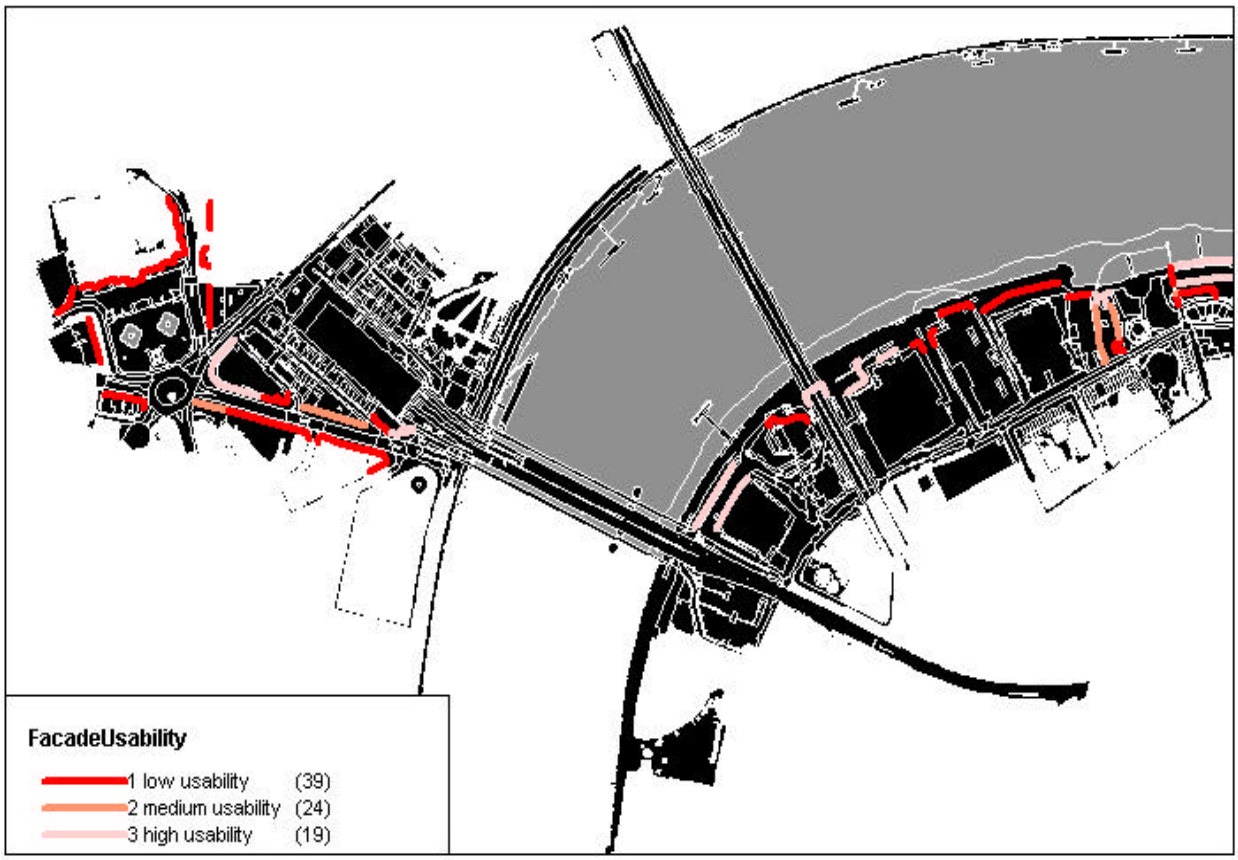


Figure 157. Façade Usability

Figure 158. Façade Usability

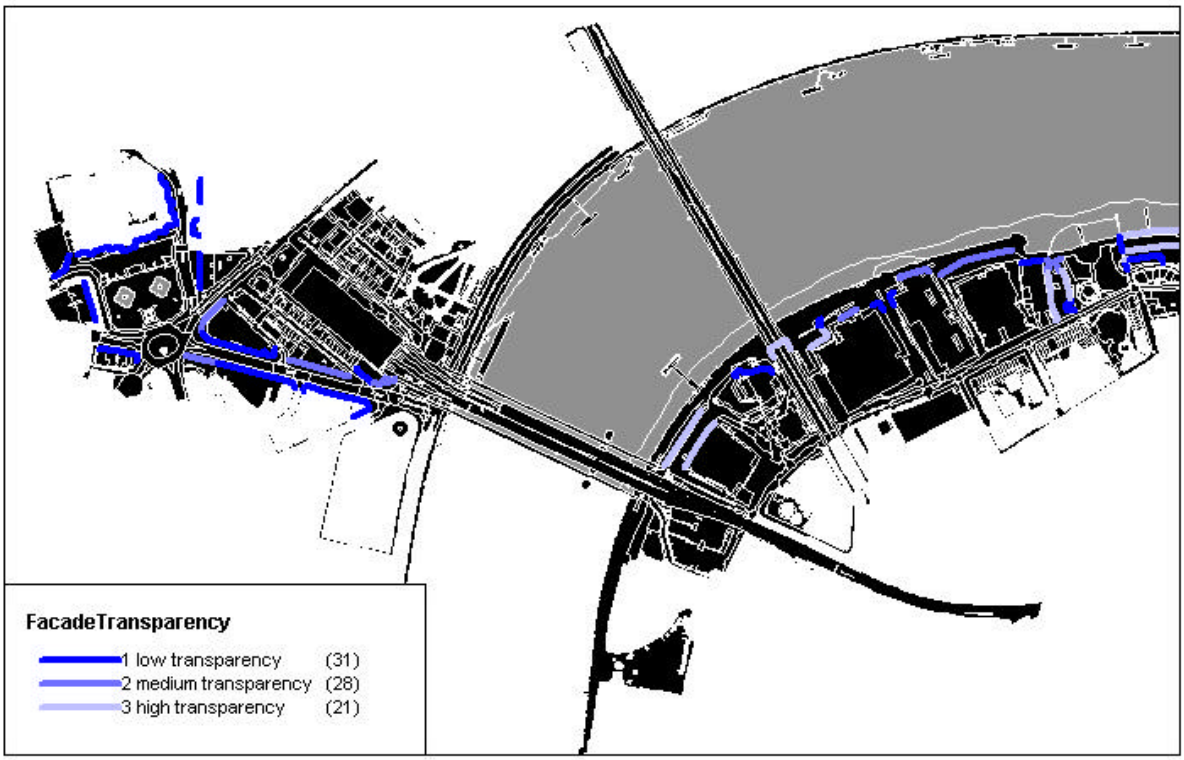


Figure 159. Facade Transparency

Figure 160. Façade Transparency

Figure 161. Building Entrances

Figure 162. Building Entrances

Figure 163. Façade Form Rhythm

Figure 164. Facade Form Rhythm

Figure 165. Falcon Lofts (left) and IBM Building (right)

Figure 166. Disused Warehouse (front) and Tate Modern (back)

Figure 167. Falcon Bankside

Falcon Point

Falcon Point is a collage of old and new, seamlessly knitted together. At the core of the mixed-use office, cultural and residential room there is a disused warehouse, somewhat battered by wartime bombing, still kept for its resource value rather than its historic or aesthetic interest. To its south-east is the commercial-residential development of

Bankside Lofts, to its north is Falcon Bankside, while to the east and west one finds the IBM building and Tate Modern respectively.

What becomes immediately evident of the buildings' facades in question is the variety of architectural styles. The post-modern appearance of Bankside Lofts with its strong yellow colour, is juxtaposed with IBM's brutalist concrete architecture, while Falcon Bankside's council estate physiognomy along with Tate's unmistakeably industrial exterior make the whole streetscape uneasy to the passerby's eyes. The boarded up Victorian warehouse only makes things more complicated.

In addition, apart from the evident differences in appearance, what becomes also apparent is the degree of dissimilarity in the dynamics of the façades; variations have been noticed in key factors such as usability, accessibility, transparency, building entrances and interface integration.

Falcon Lofts is the building with the largest percentage of transparency. The big glass panels which accentuate the commercial nature of the ground level – two shops occupy the ground floor area: a furniture retailer and a bookshop- are also employed, although in slightly smaller dimensions, for the entire height of the façade. The IBM building on the other hand is far from see-through. The ground floor is utterly opaque and the three horizontal rows of windows that run all along the façade do little to change one's initial perception of the building as a solid, non transparent volume.

The most interesting building in terms of transparency is Falcon Bankside, for our analysis are identified several different types of visual connections between the exterior and its interiors. On the whole, the residential part of the building lacks the transparency which someone would expect from a similar building. Although every flat looking onto the piazza has its own balcony, their recessed character minimizes the transparency effect.

On the ground level, the several shops generate transparencies of various intensities. Some maintain their transparent quality throughout a twenty four hour period (i.e. Holywell Music Ltd) while others lose it once the shutters are rolled down after they close their doors to their customers (i.e. the shop corner). From all these places of commercial interest, the Powerhouse gallery and coffee shop (a previous hair salon) seem to have the most important influence on the area. Not only does the latter's character and customers make the building more inviting and relaxing but in both cases visual connections are also established between the square and the promenade along the river and vice versa.

Figures 168-169. Detail of Falcon Bankside with the recessed balconies and the entrance of the Powerhouse gallery (left) and a view of the coffee shop from its north side. Notice how in both pictures, one can see from the square to the promenade and vice versa.

Figure 170. View of Tate's Café

Tate Modern's ground floor café offers a good example of a successful combination of transparency and public space. Apart from aesthetically breaking the monotony of the museum's brick external envelope, it also creates a point of reference and security for those passing or sitting outside. Hence, we have noted assemblages formed right in front of it, while those resting on the benches tend to often look towards the café.

Falcon Bankside presents us with another interesting finding. Although it has a number of passages that allow direct and fast access from the promenade to the square and subsequently the Tate, our analysis discovered that a very limited amount of pedestrians makes use of them. This is principally due to an unfavourable combination of architecture and deficient signage. Upon exiting the Tate one sees the Falcon Bankside, yet due to its zig-zag plan one is unaware of the existence of these passages. Hence, for the most part it is the local residents who pass through them.

Figures 171-172. View of Falcon Bankside from Tate's West Entrance (left) and One of the Passages Linking the Square with the Promenade.

Conclusion

The main finding of our analysis has been that when examining the relationship between the users' activities urban walls, the most important factor appears to be their degree of transparency. The highest percentage of transparent walls was noticed in areas with a high concentration of shops and public buildings. Accordingly, where offices and certain exclusive institutions dominate the capital route (Northumberland Avenue), the amount of transparent facades decreases significantly. A look at how the intensity of transparencies changes along this particular avenue is probably the best manifestation of such a finding. The more someone walks away from Trafalgar Square towards the river, the more opaque façades he or she encounters.

Once however we reach the Southbank we immediately become aware that not only do urban walls affect the urban room, but also that the configuration of the latter has a vital influence on the perception of the former. Walking along the Thames, the physiognomy of the facades (i.e. height, transparency, materials, colours etc) appear less important for the part of the route from the Royal Festival Hall until the Oxo Tower. The openness of the space and the views of the north bank render the façades less significant.

Hence, the façade of Oxo Tower (where pedestrians have to pass through a bottle neck passage) becomes more important than the façade of the London Television Centre.

In these spaces however where urban walls play a seminal role, we noticed that apart from transparency, aspects such as accessibility, appearance, lighting, form and usability become crucial. The analysis of Falcon Point (the most interesting space in terms of urban walls) shows that quite clearly.

5.3. How Do the Affordances of Urban Rooms Relate to Actual Activities that Take Place?

Sub Questions

What are the offerings and possibilities of the urban rooms, and how well do they correspond to the activities that are taking place? How do the affordances of urban rooms relate to flows and assemblages? How do the actual activities relate to opportunities afforded by different components and subcategories of urban rooms?

Scale of the Investigation

The capital route is marked by the diverse nature in which it affords to have a variety of uses and activities. It moves from Trafalgar Square in the centre of London to Tate Modern, heading southeast along the southern bank on the river Thames. It combines historical and modern landmarks, major transport nodes, entertainment venues, commercial activities and residential dwellings.

Following the selection process to identify the urban rooms on which to focus our investigation on, five were selected. The main focus of data gathering and post analysis has been along the south bank of the river, taking in the Oxo Tower, Falcon Point, Tate Modern, Shakespeare's Globe theatre area and Globe Walk. In this evaluation of the affordances at the Urban Room level two areas have been singled out for comments, Falcon Point and Tate Modern West Entrance.

Urban Rooms

The improvement of the urban quality of Falcon Point implies a special attention to the key aspects that characterise its environment; that is, on the one hand to the physical structure where tourists visit and locals spend their time, and on the other hand to the social structure and to the related ways of life. The quality of the specific urban environment depends therefore on a convoluted interlacing of functional, spatial, aesthetic and cultural aspects; in particular, the quality of the spaces dedicated to locals and tourists alike is tightly related to their possibilities of mobility, relaxation, of exchange and of relationship. The quality of urban spaces is affected by the users, depends on the physical structures and their mutual relationship. Above all it is modified with times and with the related culture, habits, tastes and considerations; affordance can therefore be only regarded as a relative value, and as such it is not easily defined and cannot be settled once for all.

When we deal with urban quality (and its derivative affordance), it is necessary to deal contemporarily with two different aspects; on one side with the users' expectations and cultural habits, and on the other one with the urban room's possibilities. The more these two aspects meet, the higher level of overall quality is reached. The expectations (closely related to the room's offerings and possibilities) belong to two different levels: one related to the urban structure, the other related to the urban space. The general needs or desires are linked to the first one. At this level the analysis is concerned with the availability and potential of places where to perform the required activities.

In the design analysis therefore, affordance is considered to be the capability of the urban rooms' environmental configuration of meeting, in both quantitative and qualitative terms, all the material and immaterial requirements of the users.

It is very important to understand that all the elements that characterise the urban spaces play a double role: as thought by the designers (architects, urban planners, engineers and so on) and as read by the people using these spaces. There are elements in all five urban rooms of the capital route that are thought to be "beautiful" and "attractive" by decision makers; but are they really read as such by the users? Often a gap is growing between the ideal world of the experts and the actual world of the users. Furthermore, there are

some elements that seem to work only for a brief period of time. Hence it is imperative to understand the mechanisms behind the urban elements' ability and failure to maintain several aspects of their overall quality. Good urban spaces immensely enhance the quality of urban life. They support social, economic and other human activities that make cities vibrant.

Falcon Point and Tate

The quality of urban spaces is to a large extent determined by the nature of the urban furniture, i.e. types and materials of urban space furniture, the manner in which the furniture is physically organized and constructed as well as the degree to which constructed urban space furniture is manageable.

An analysis of the furniture in Falcon Point provides us with some interesting findings. First of all, the positioning of the wooden benches is quite adequate: they avoid causing any obstruction to the main lines of movement while at the same time seating, where there is a poor view of those approaching, this is also avoided. Furthermore, in the summer months, Falcon Point offers the public benches in both sunny and shaded positions. Yet, due to the different styles of architecture in Falcon Point, it is impossible for the benches to reinforce the visual character of the square. In contrast, the benches in front of Tate Modern seem to strengthen the overall aesthetics of the specific urban room; yet the absence of any armrests and backs to assist the elderly shows that aesthetics and not functionality has been the major concern of the designers.

Figure 173. Falcon Point and Tate: Lighting by description and objects by description

Figure 174-175. View of the Benches at Falcon Point (left) and Tate Modern (right)

Two other closely linked types of urban furniture in Falcon Point are the bollards and the cycle stands. The former are mainly used to restrict vehicle movement on pedestrian areas. The general principle when installing bollards is to use them as sparingly as possible and to select a design most appropriate for their setting (cycle stands pose far less aesthetic problems since their design is largely standardized). Although their neutral appearance seems to blend well with the overall character of the square, their excessive number in some parts of Falcon Point makes the square less pretty. Undoubtedly, the square would look much better if the employment of bollards was restricted to a minimum, if -where possible- tree planting or other items of street furniture was used instead of bollards, or if the opportunities for fixing signs to bollards to avoid use of additional posts had been better considered

Figure 176-177. View of the Cycle Stands (left) and Bollards (right)

The provision of litterbins in any urban environment is first and foremost a functional matter, but it can also have a considerable impact on the appearance of the street, square or location in general. The bins in Falcon Point fall short of satisfying both aesthetic and functional requirements: unnecessary embellishment is not avoided (i.e. the gold bands tend to look tawdry and clash with the rest of the street furniture) while their ergonomic design and positioning can sometime result to a littered square.

Figure 178. View of Falcon Point's Bins

Oxo Tower

Originally a power station, and later a cold storage warehouse, the people who work and live in the Oxo Tower would probably frown on being called a mall. But this complex is a place for shopping, eating and panoramic views of London's skyline. It was reborn when the abandoned warehouse was turned into flats and designer studios for local artisans.

Since its opening to the public in September 1996, Oxo Tower Wharf has become a thriving site of London interest. On its rooftop is the famous Oxo Tower restaurant, bar and brasserie and public viewing terrace which takes full advantage of its outstanding location. The residential area below consists of five floors of flats with their own entrance, lifts and parking. On the first two floors are thirty three design shops where some of the country's leading designers work and sell jewellery, fashion, textiles, ceramics and glass, lighting and furniture. On the ground level is EAT café, Coin Street Exhibition and the gallery@oxo which features a changing programme of exhibitions showing contemporary art, design and architecture.

The room in question is a cul-de-sac situated between Oxo Tower (north) and Barge House (south). The way in is from the west while a two metre tall brick wall prevents access to the Thames from the room's eastern side.

Although only a few metres away from the river, and more importantly at the point where the Thames Walk broad promenade becomes a bottleneck, the space is surprisingly quiet[4] (apart from a limited number of sunny days in summer, when the café puts a few chairs and tables), almost giving the impression that it tries to avoid the thousands of passers-by that visit the area every day.

[4] This is the norm, apart from the few sunny days in summer when the café puts a few chairs and tables.

Figure 179. OXO Tower: Lighting by description and objects by description

Figures 180-181. Detail of Barge House's Façade and a View of the Room Facing East.

Factors such as the poor appearance of the Barge House's façade, the lack of any objects (and greenery) or any activities in the late afternoon, combined with its spatial layout, make it look unattractive and unsafe. Furthermore, the relationship between the height of the surrounding buildings and the distance between them make the space feel sinister and claustrophobic. Hence, once seeing the space, people are hardly encouraged to walk down towards its eastern end; and those who do, find it most of the time to be disappointing.

It should be stated however that very seldom does an opportunity present itself with such compelling potential in the heart of the city. Yet, several things ought to happen before this room becomes truly sustainable. Apart from improving Barge's façade, the main modification ought to be the creation of a more conspicuous passage between the eastern part of the room and the Thames. This would not just decongest the bottleneck pathway in front of the Oxo Tower, but it would also dramatically change the character of the space, transforming it from an unwelcoming place to a busy and exciting visiting and transition zone.

Globe Bankside and New Globe Walk

Undoubtedly, these two adjacent urban rooms are dominated by Shakespeare's Globe; one of the most important tourist attraction in the capital, it consists of the main theatre, and associated development for mixed use. The theatre is one of the finest spaces in the world for watching theatre (at least when it is not raining). It sits on a great concrete raft

Figure 182. Globe Bankside and New Globe Walk: Lighting by description and objects by description

that is elevated above the river and clearly seen from the north bank, while its characteristic sixteenth century appearance makes a refreshing statement on this part of the riverwalk. The Globe Café and Restaurant, as well as some of the administrative offices are housed in the building to the east of the theatre, which was also designed in a historicist manner (the similarities between some of its external features and the work executed by Charles Mackintosh at the end of the nineteenth century for example is difficult to ignore). Yet, despite the evident differences in style, the whole Globe is not aesthetically unsettling; on the contrary what is achieved is a pleasing *jeu d'esprit*.

Regarding the room's envelope, the combined commercial/residential edifice which lies on the eastern border of the room is also built in a different architectural style, yet it fails to create an interesting relationship with the Globe.

Figure 183. The Three Different Styles of Architecture in Globe Bankside.

Nevertheless, since Globe Bankside borders the river, its stylistic discrepancies seem to matter much less than they would if we were dealing with a room completely surrounded by buildings (i.e. like Falcon Point).

An analysis of the flows has shown that the majority of those visiting the Globe Bankside come from the west (i.e. the Tate and the Millennium Bridge) and through a wide even footpath. This however narrows nearer Shakespeare's Globe and can get very crowded in summer. A ramp descends to Shakespeare's Globe.

Figure 184. The Ramp Leading to the Globe.

Despite the large assemblages and high pedestrian flows present in the room, the urban furniture fails to create a comfortable and enjoyable environment. The benches, for example, are too few to cope with the high amount of visitors during the summer months. Hence, elements of the urban fabric, such as steps, railings and so on are also used as improvised sitting furniture.

Figures 185-186. Views of the Sitting Conditions on a Busy Summer Day.

Conclusion

At the heart of this somewhat ambiguous issue of affordances is therefore a concern with the different layers of urban facilities in five urban rooms. In London, like in almost every other city, there are many layers. First of all there is the physical layer: most cities exhibit complex topologies that operate on more than three dimensions. Then, there is a layer of urban heritage: physical settings reflect aspects of their historical evolution (i.e. Barge house's façade). And finally, there is a (sometimes predominant) layer of many forms and objects related to commercial, religious, civic and secular experience.

The first conclusion of our analysis is that the space is organised not just physically but also culturally; cultural understandings provide a frame for encountering a space as meaningful and coherent, and for relating it to human activities. Cross cultural explorations of urban experience can draw attention to these issues.

-The second conclusion is that urban environments are all about boundaries and transitions and their intersection with human and social practice.

-Finally, there is already a complex interaction between space, infrastructure, culture and experience. The spaces in which changes might occur and new designs might be implemented are not stable, not uniform and not given. Design proposals can destabilise and transform these interactions, but will only ever be one part of it. We need to design not simply for settings, but for the processes by which practice and meaning evolve.

5.4. How Does the Dynamic of Flows Affect the Activities and Experiences of the Capital Route?

Figure 187. View From the New Pedestrian Bridge Towards the Flows in Northumberland Avenue and the Thames - North Bank

Figure 188. Pedestrian Flows and Assemblages at the Bankside Marina on the South Bank with the Millennium Bridge and St Paul's Cathedral.

Data sets reviewed

The data sets reviewed were movement annotation, user narratives, observer narratives, questionnaires, follow the flows, gate counts, assemblages, transport nodes, spatial analysis.

Sub-Questions

How do flows and assemblages relate to land use and activity? What activities and what flows are especially important in this relation? How do the flows and assemblages determine possible future spatial arrangements in the urban rooms?

The Dynamics of Human Movements and Activities

The dynamics of human movements and activities is the main dynamic force in the urban context. Historical evidence points out that this dynamism has determined the cities and their layouts.

In the area of architecture and urban design the dynamic forces were always recognized as the main factor in determining the design. The architects' responses differed depending on how they understood life and space at a particular point in time.

One of the most significant influencing factors was formation of the defensible space that would provide for the rituals and security of the citizens in their everyday life. Later on the priorities included internal movement, processions and gatherings as well as the control of the spaces and activities. In the modern metropolis the dynamism of transportation on all levels is the major determining factor of any urbanism.

For the sustainable city the most important dynamic force are the pedestrian flows, which need to be developed in conjunction with the sustainable design and management of transportation.

Scale of Investigation

An investigation into the dynamics of flows was made on the capital route level. This data is combined and juxtaposed with the data on activities and experiences within five selected urban rooms. This analysis of flows will address the whole of the capital route and Oxo Tower urban room in more details.

Geo-Morphological Configuration and the Dynamic of Flows

At the beginning of the project, during the process of selection of the capital route for London, it was not clear which one of the six candidates would be selected as the site of AGORA investigation. The process was carried through according to the pre-determined criteria, and despite some expectations the route that had less shopping and retail activities was selected. The walking route has a great geo-morphological position as it is by the river Thames and therefore clearly marked on the grand scale.

The Thames was historically the first biggest transport artery of London. In the past almost all transport of London went by this waterway.

Transport Nodes and their Effects

A very important factor which improved the connectivity of this area to the rest of the city was the extension and the development of the Jubilee underground train line and the opening of the new underground stations along it.

On AGORA site they include the following Southwark, London Bridge and an extension to Waterloo underground station.

Charing Cross and London Bridge are also national rail terminals.

Waterloo station is the major transport hub which apart from buses and London underground also houses national and international railway terminals

Bus lines are still a very important means of transport for this area and they are positioned transversally along the major bridges leading to the city of London and longitudinally parallel to the river. There is also a local bus covering the area of Southbank and Bankside with the link to Waterloo.

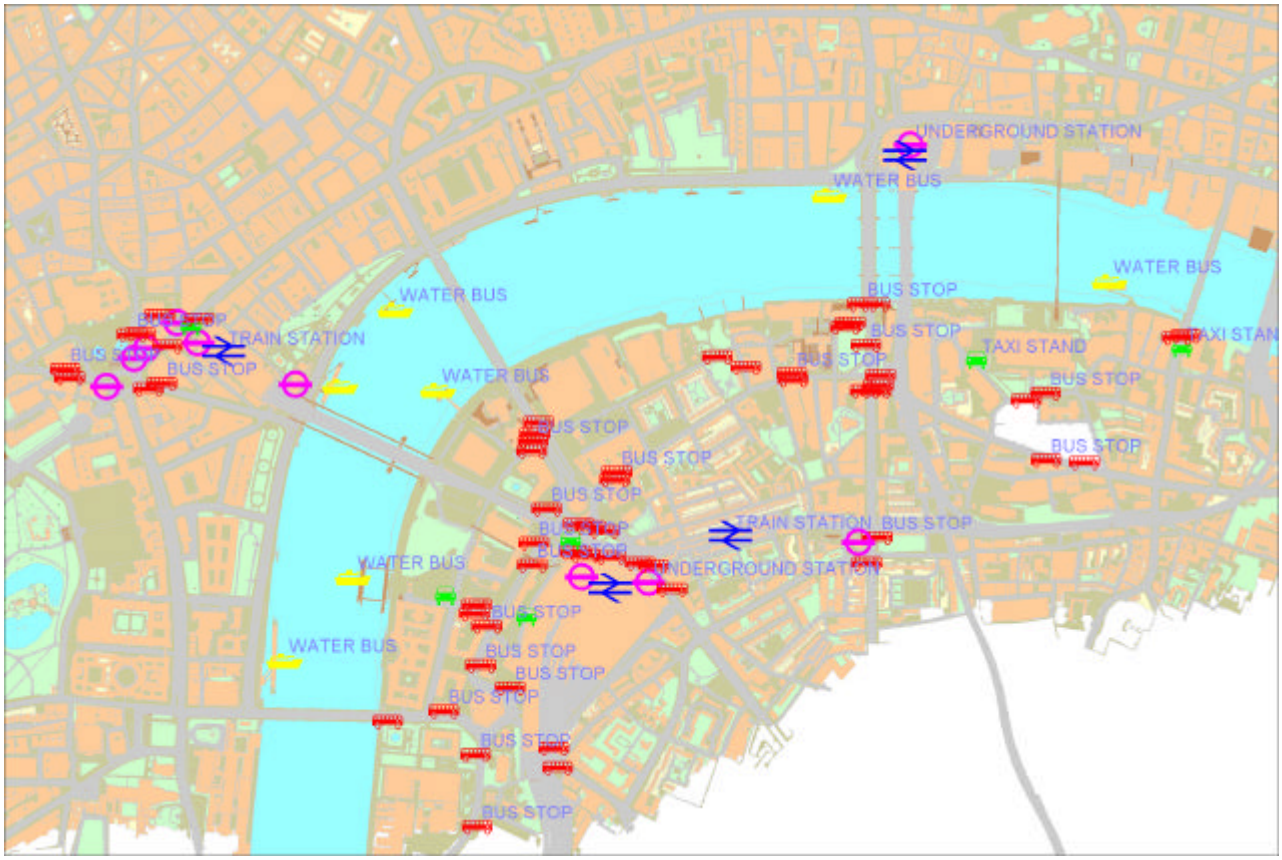


Figure 189. This Picture Indicates Transport Nodes (for buses, trains, underground and taxis) in the Selected areas of Trafalgar, Southbank and Bankside of London

Flows, Movements and Activities

The way to truly understand the route is to follow the pedestrian flows and observe movements, activities and events around them.

The route contains many cultural activities as it houses the National Gallery, Royal Festival Hall, National Theatre, Tate Modern, The Globe, The Hayward Gallery, Museum of Moving Images etc.

London capital route contains a great deal of businesses such as publishing houses, IBM building, small practices such as those of design and crafts as well as the activities related to river transport and tourism.

This mixture of businesses and cultural activities gives a particular quality of the spatial experience to the pedestrian walking along our capital route.

Major pedestrian flows are the main feature of the capital route. Sometimes these routes are popular with cyclists, and in some areas they can include vehicular transport as well.

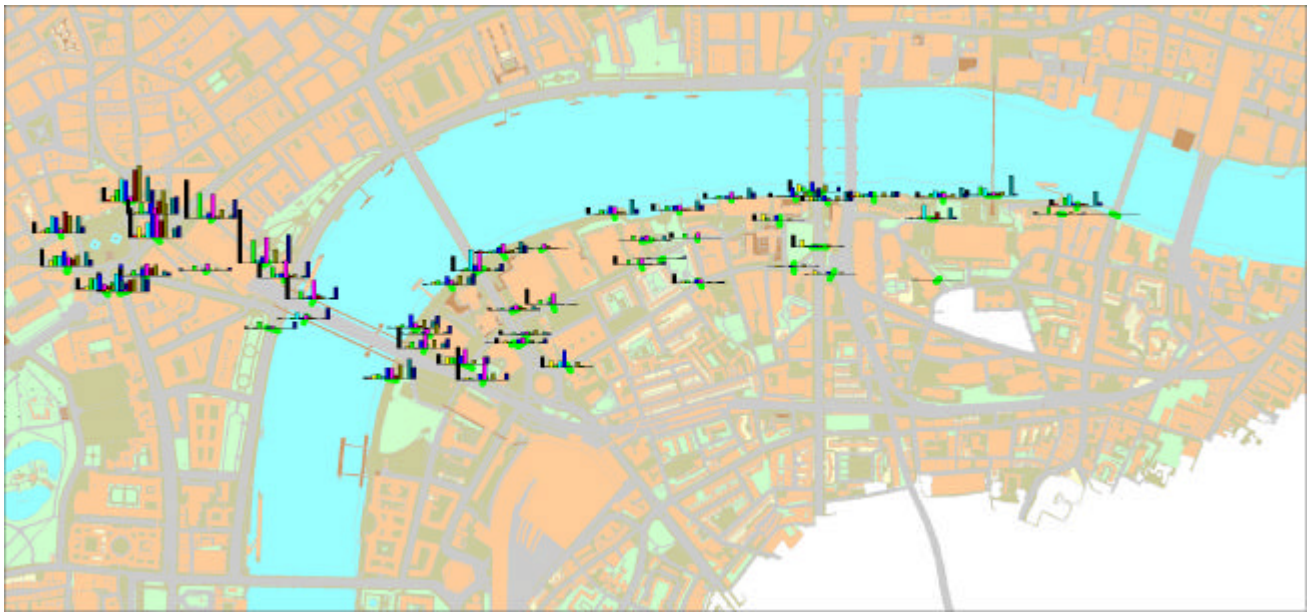


Figure 190. Gate Counts of Pedestrian Flows Along the Capital Route on Weekdays Rush Hours and Weekends. The charts are broken down into the categories of user types (workers, visitors and residents). The workers (black) are the dominant user type during week days.

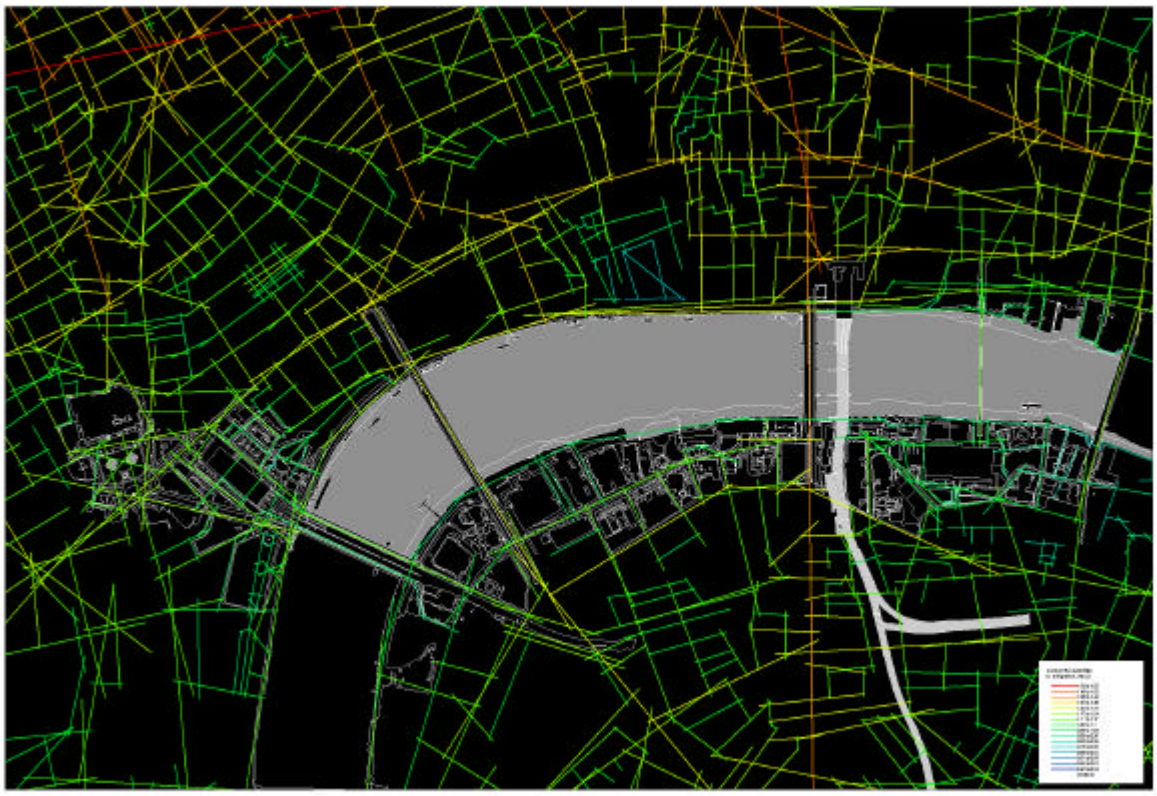


Figure 191. Axial Map

Spatial Analysis showing Spatial Integration as Developed by the Space Syntax Method

From the SSx analysis above we can see that the Southbank area is presented as an area of low integration. Low resolution radius analysis would therefore suggest that we should expect poor pedestrian flows in the area.

This however is not the case. The pedestrian flows are very intense which could be seen in our gate counts.

Pedestrian Flows and their Effects

When one descends from London's Trafalgar Square to the shores of the river Thames, one is driven by the source of gravity and an acceleration resulting from the power of the waterway. The enormous movements of tides which extend via the river Thames give citizens of London a shadowy reminder of the vicinity of the sea, the awareness of the moon and the reminder that Britain is an island.

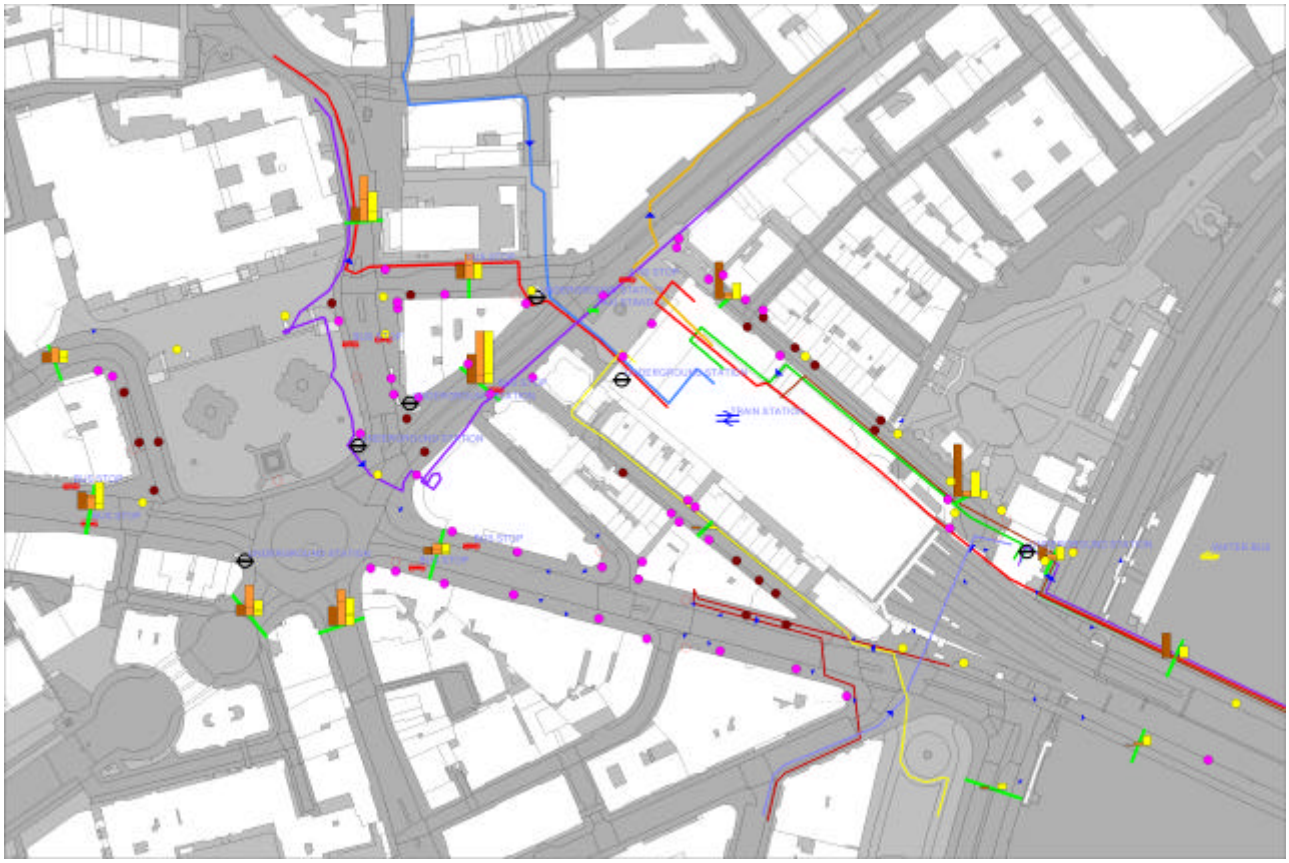


Figure 192. Trafalgar Square With Bar Charts of the Counts of the Pedestrian Movement on a Weekday Morning. Movement annotation lines are obtained by path-following, coloured dots represent signage along the main route.

The ground level at the National Gallery compared to the Embankment area at the foot of the new pedestrian bridges by the Thames shows the difference in height of almost eight meters. This gives a special dynamics to the experience of the pedestrians in the flow, when their views widen at the point of reaching the river. Any future urban design should make the most of this spatial condition by responding to the striking dynamics of the flows descending and dramatically opening towards water.

Reaching the river from Trafalgar Square in the most direct way is still not fully discovered by many Londoners and visitors alike. The majority of the public walks towards the Embankment and the new pedestrian bridges via the Strand, Charing Cross and Villier Street, instead of taking the more direct Northumberland Avenue.

According to our analysis, this is mainly due to the present land use policy and to some visual connections not being emphasized and fully explored. On the other hand, Villier Street has many shops and its urban walls possess greater transparency and depth while Northumberland Avenue contains ground floor facades with hardly any transparency and

no occupiers which would provide attractions that could lead to a wider range of pedestrian activities.

The relatively new concourse of Charing Cross station which hangs parallel to the street carries another significant portion of busy commuters to and from the towns in Kent and East Sussex. This flow is often faster and it consists mainly of commuters rushing to the trains.

Figure 193. The New Pedestrian Bridge Viewed From the Southbank.

Whatever way one may choose to reach the under-passage next to the Embankment underground station one will ascend and be uplifted by the experience of the light stairs taking the walkers up to the suspended bridge structure. The new light steel bridges flank from the old heavy railway overpass structure that resemble giant white spiders holding onto the Victorian rocks.

Figure 194. The Structure of the New Pedestrian Bridge Attached to the Old.

The two bridges are separated by the heavy flow of trains entering Charing Cross station. The walk over the bridges brings into perspective the two grand experiences of the Thames. Eastwards, we see the panorama of the City of London marked by Saint Paul's Cathedral and more recent skyscrapers and landmarks such as the Lloyds building and the Swiss Re building (known as the Gherkin). They form a dense high-rise structure on the north bank resulting in an exuberant roofscape.

Westwards, the view is dominated by Big Ben and the Houses of Parliament to the north and the old County hall and the London Millennium Wheel to the south..

These are by all means the best elevations of London today, to which we can add drama of the choreography of movement related to the river as well as the moody and spectacular sky. These elements conjure up the spatial dynamism of the London experience.

It is different from the well known Turner's painting but it has some of the same ingredients to it.

The Southbank of the river is porous, consisting of open blocks more accessible to pedestrians of all kinds. The dominant activities are culture, leisure and businesses.

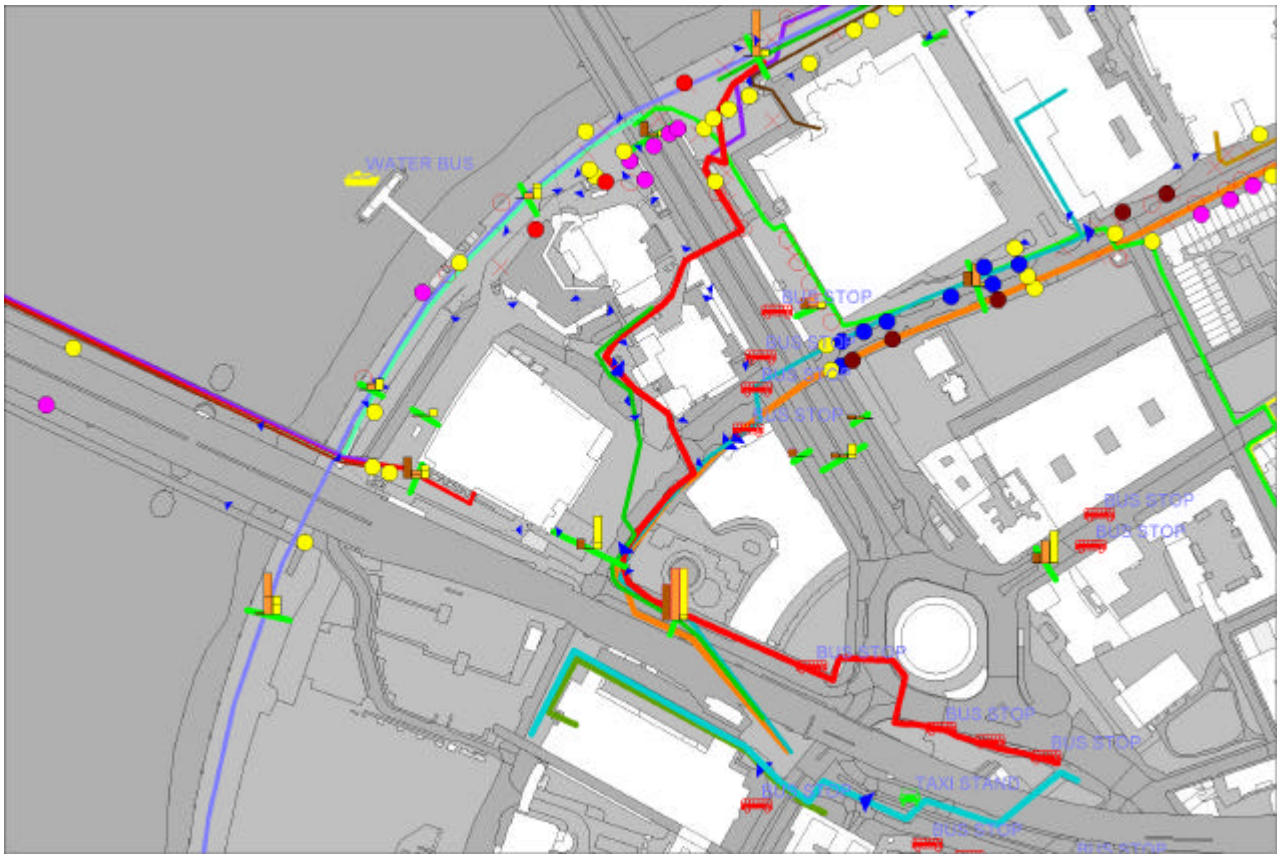


Figure 195. Plan of the Southbank Near Waterloo Showing Arrival of the Pedestrian Flux via the New Bridges. Pedestrian flow counts are indicated in bar charts. Coloured lines are movement annotations and dots are various types of signs

According to the data from our questionnaires, during weekdays the pedestrian flows predominantly contain working people and commuters on their way to work via the main transport nodes such as Waterloo, Charing Cross and London Bridge. During the weekend, on the other hand, the flows are dominated by leisurely dressed visitors, families, tourists, joggers, cyclists, skate boarders.

Upon arrival on the Southbank by Hungerford Bridge, the pedestrian flow parts in three directions. One stream continues towards Waterloo station, another turns to the left towards the National Theatre and the third one to the right towards the London Wheel.

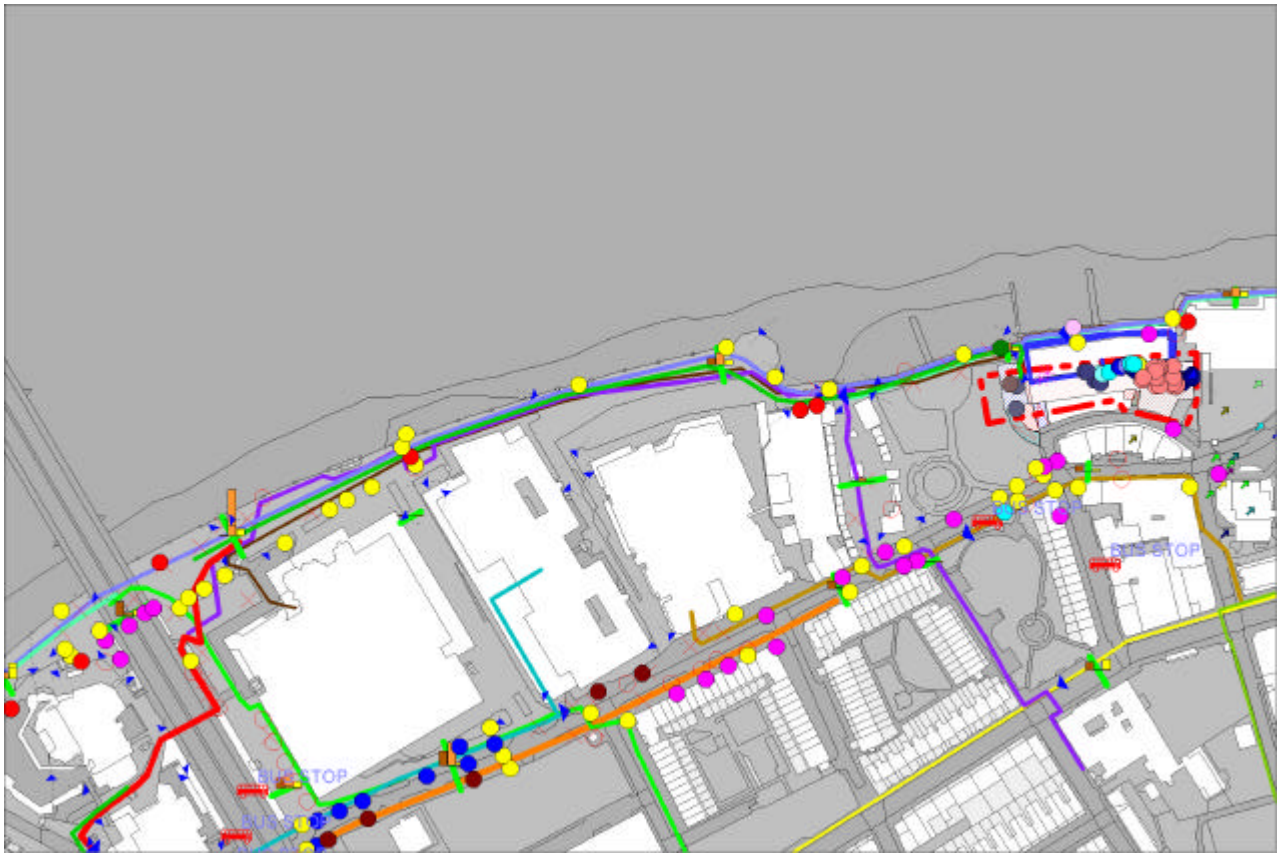


Figure 196. Southbank Area and the Oxo Tower Environs. The coloured lines indicate pedestrian movement annotations obtained by path-shadowing, coloured dots are signage along the route.

The dominant flow takes the pedestrians by the Royal Festival Hall, Southbank Centre, National Theatre, National Film Theatre, London Television Centre etc. The flow of people is strong, varied and above all walking public only.

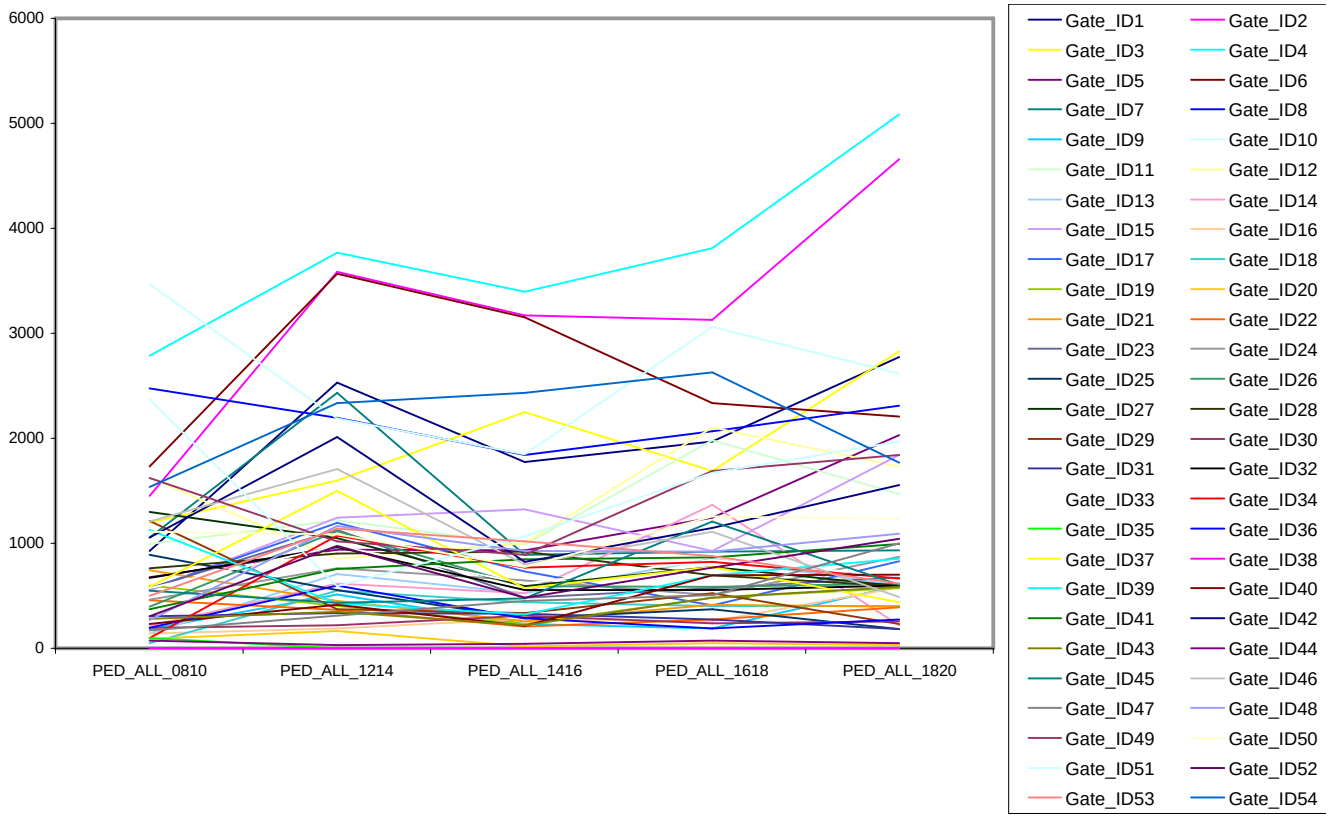
One passes by the favourite meeting place of the skateboarders, and continues around the gentle curve towards the Gabriel's Wharf where there are crafts shops placed around the courtyard. This route is entirely pedestrian, the riverside is relaxing, there is some green, plenty of children, elderly, joggers, skate-boarders.

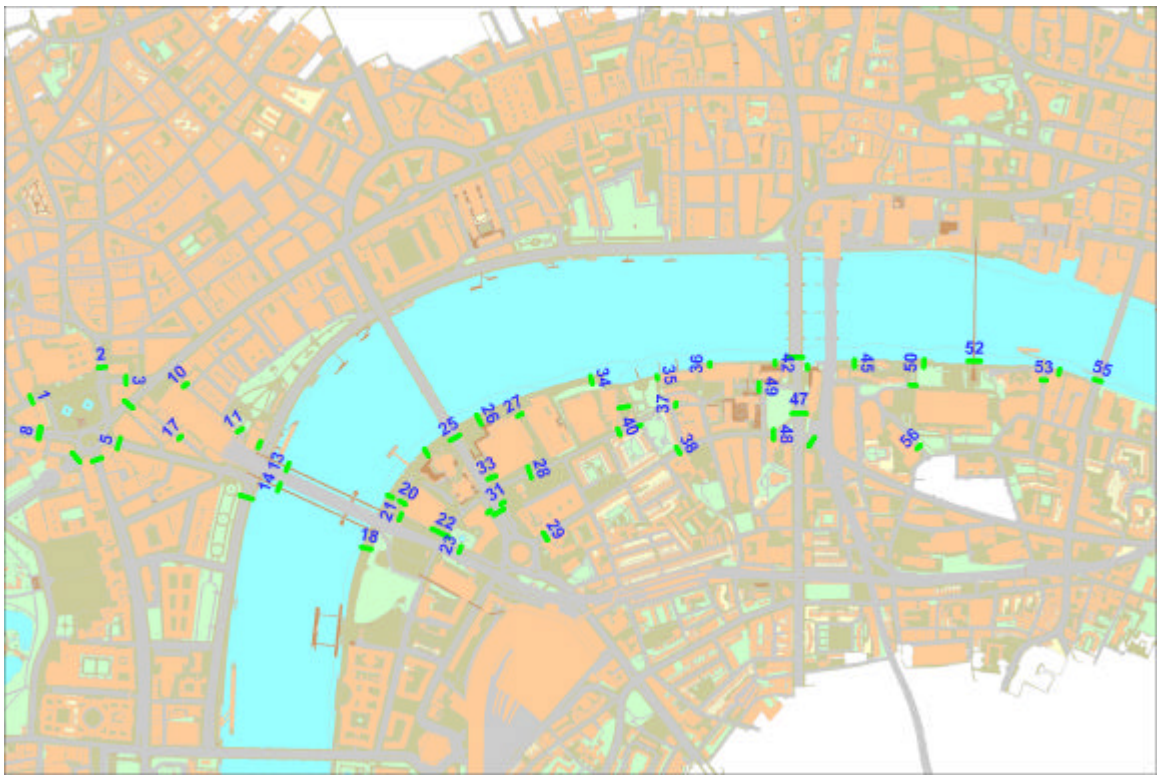
The main pedestrian flow follows towards the Oxo Tower with its galleries and shop fronts. Under its arches there is a mix of people and activities such as those related to arts, retail, design and community affaires. The path becomes narrower at this stage of the river walk.

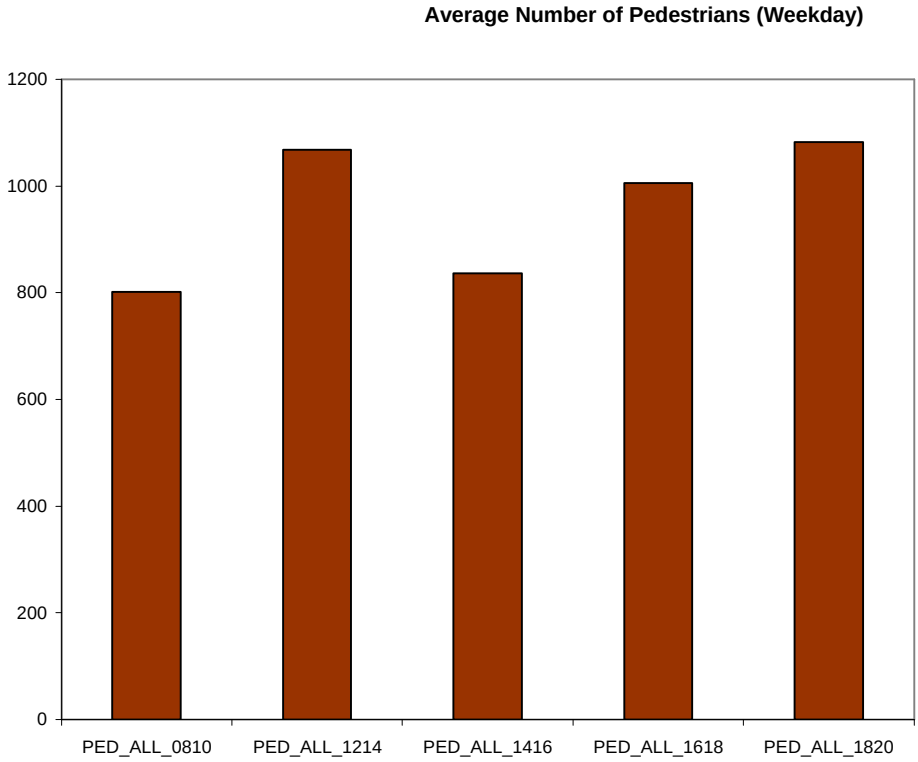
If we analyse the Oxo tower area and its immediate surrounding we can observe that there is plenty of quality vacant space at the back. Presently it is almost private and under-used by public. The area could be improved by redesigning the main pedestrian path which would redistribute the major pedestrian flow on both sides of the Oxo Tower.

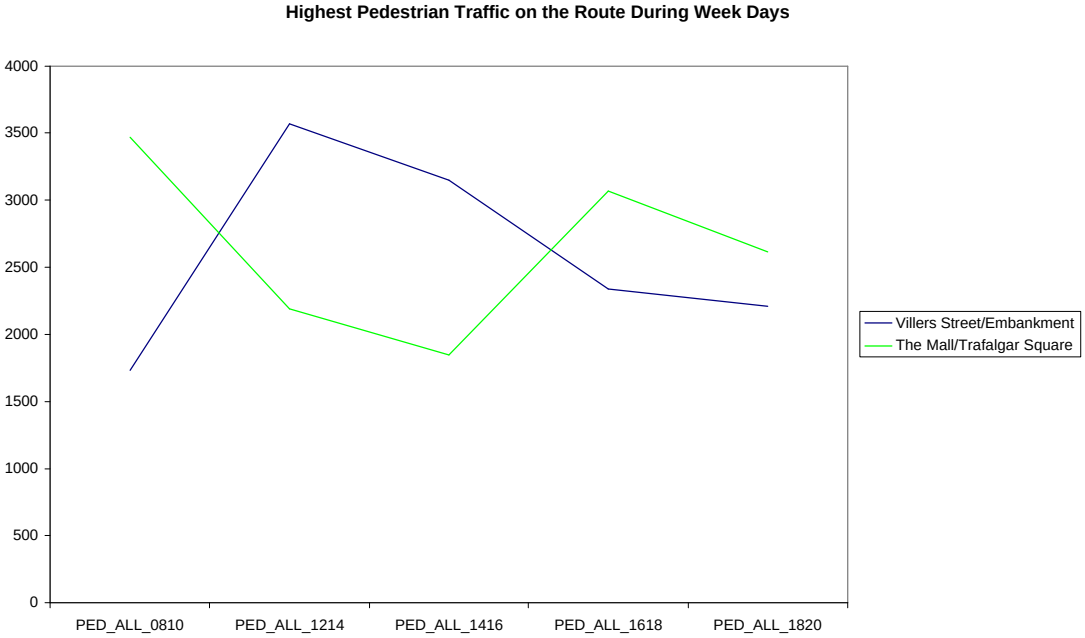
Statistical Data

Figures 197-198. Average Number of Pedestrians per Gates During Different Times of the Day on the whole of the Capital Route (table and map)

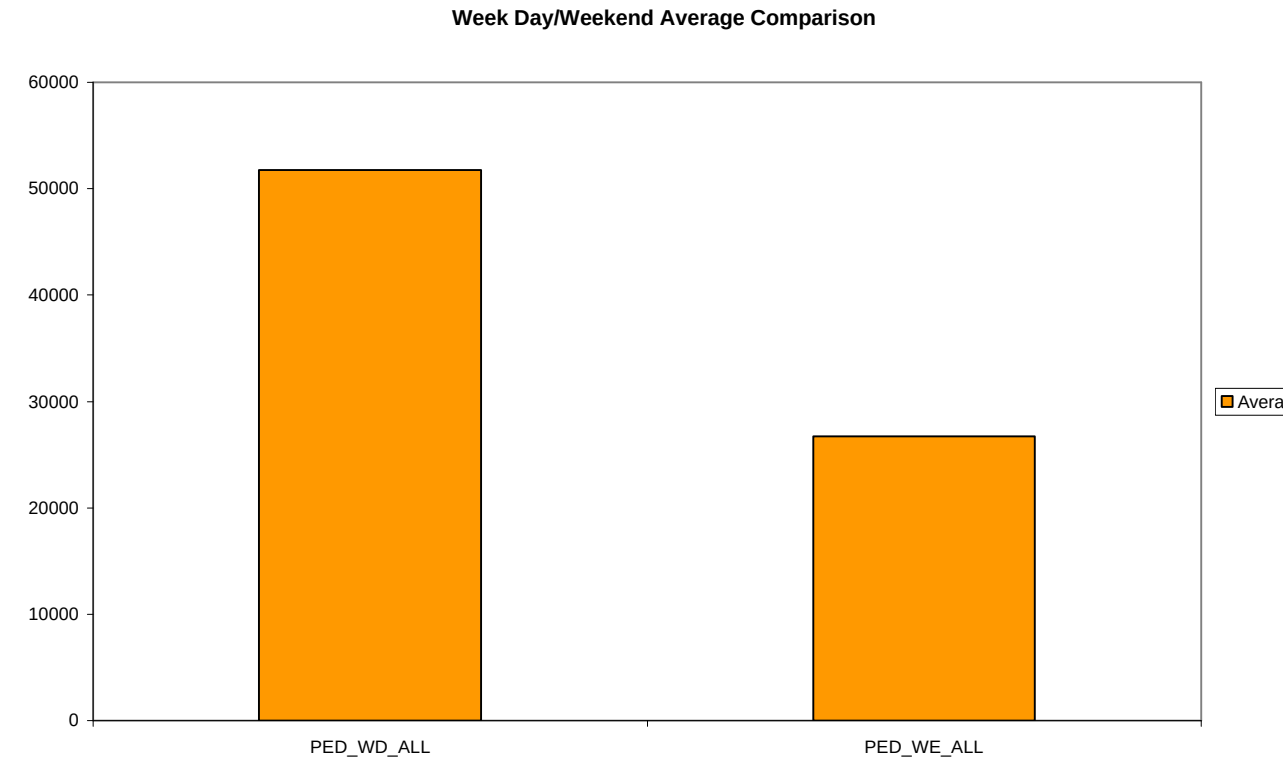




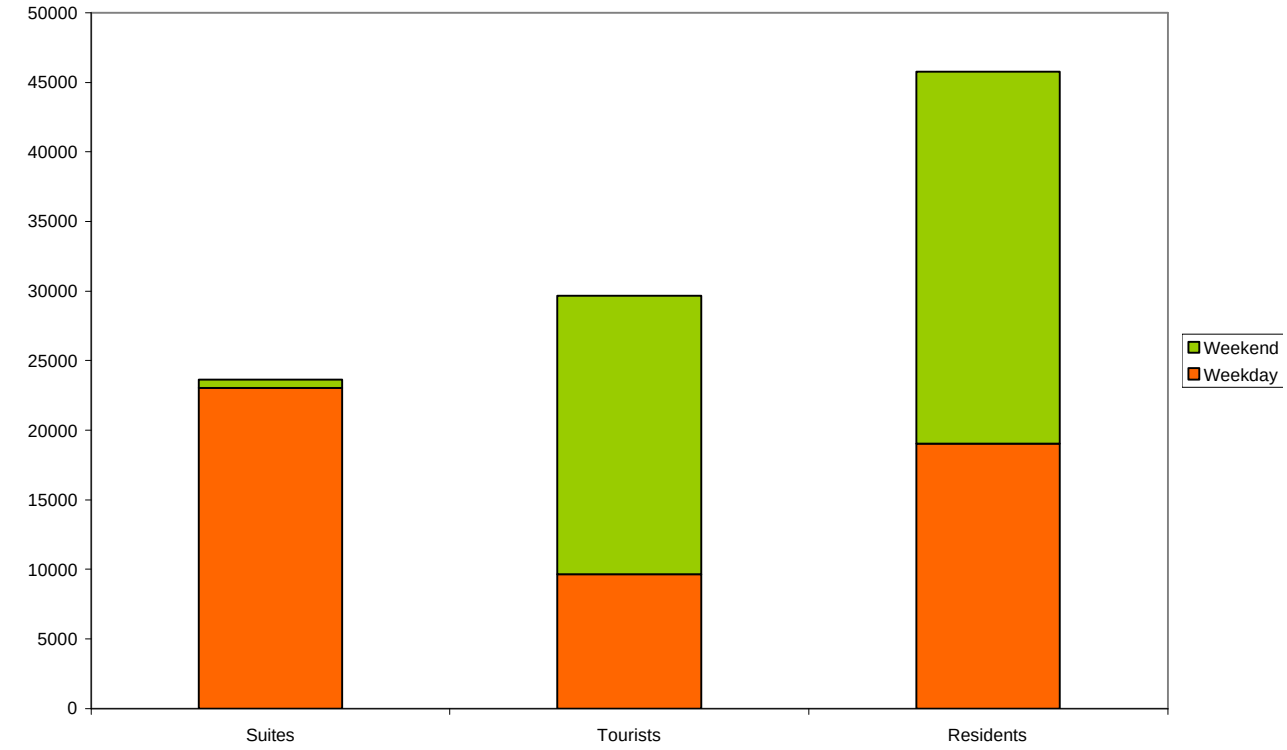




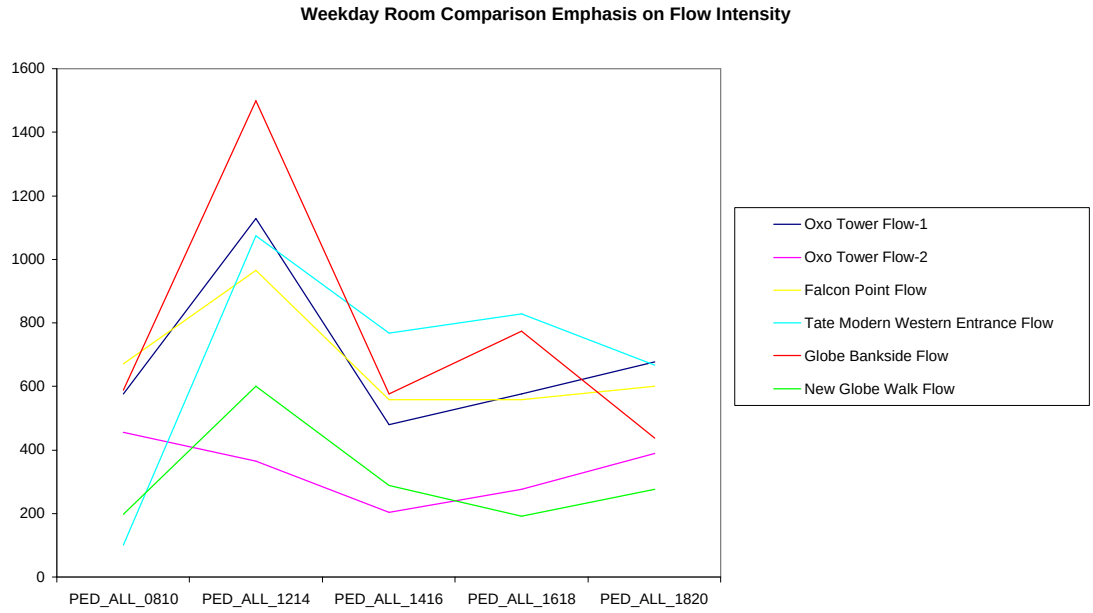
Figures 199-200. Average and Highest Number of Pedestrians (Weekdays)

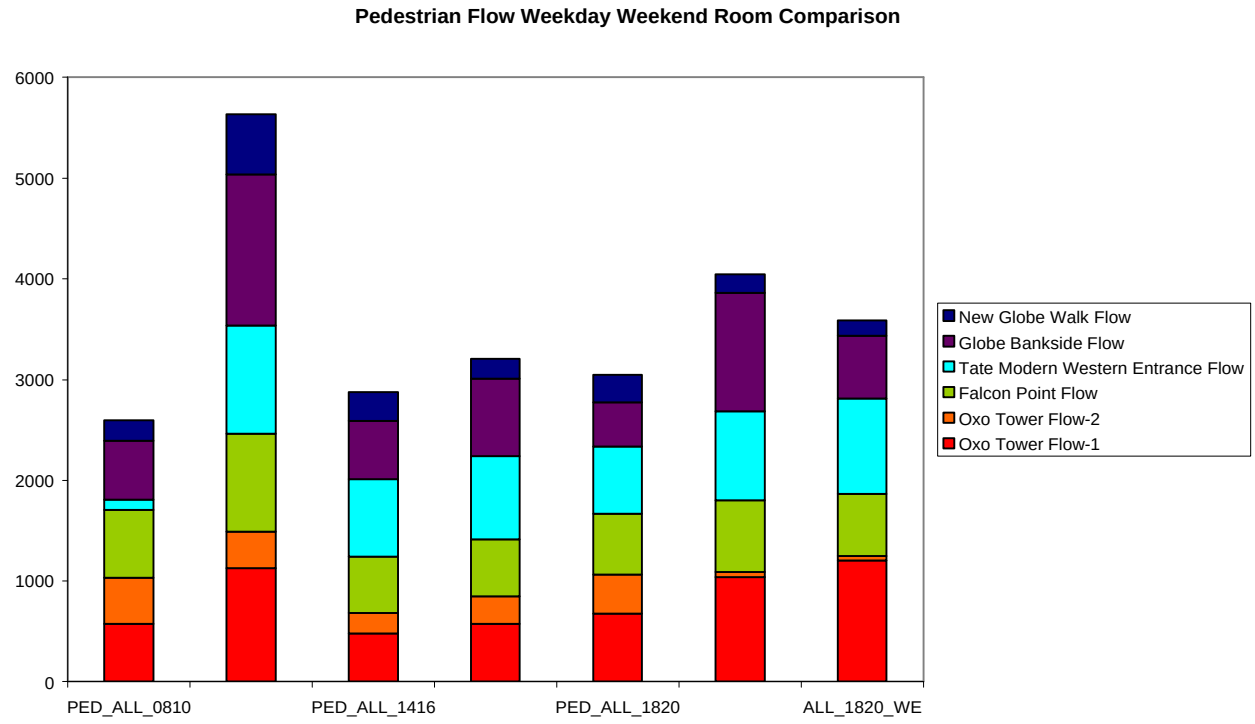


UserType Weekday/Weekend Comparison



Figures 201-202. Pedestrians and User Types, Weekday/Weekend Comparison.





Figures 203-204. Pedestrian Flows, Urban Room Comparison

The Analysis of Urban Flows in the Area of Oxo Tower

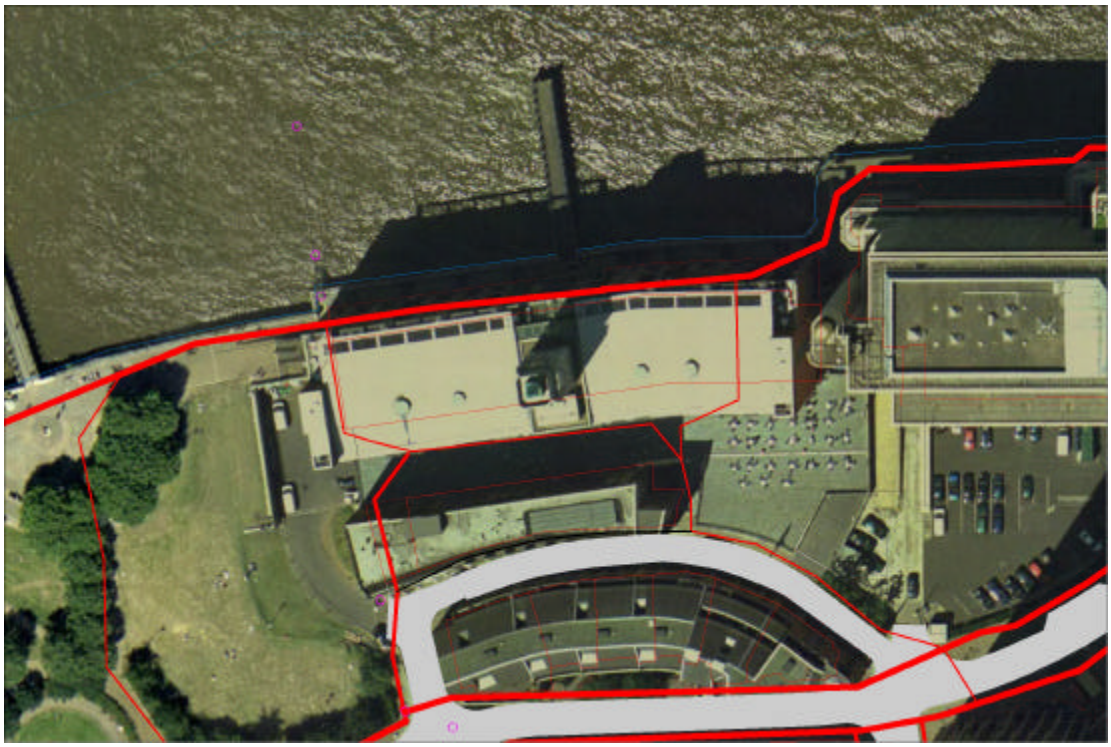


Figure 205. Oxo Tower Aerial Views with Pedestrian Flows.

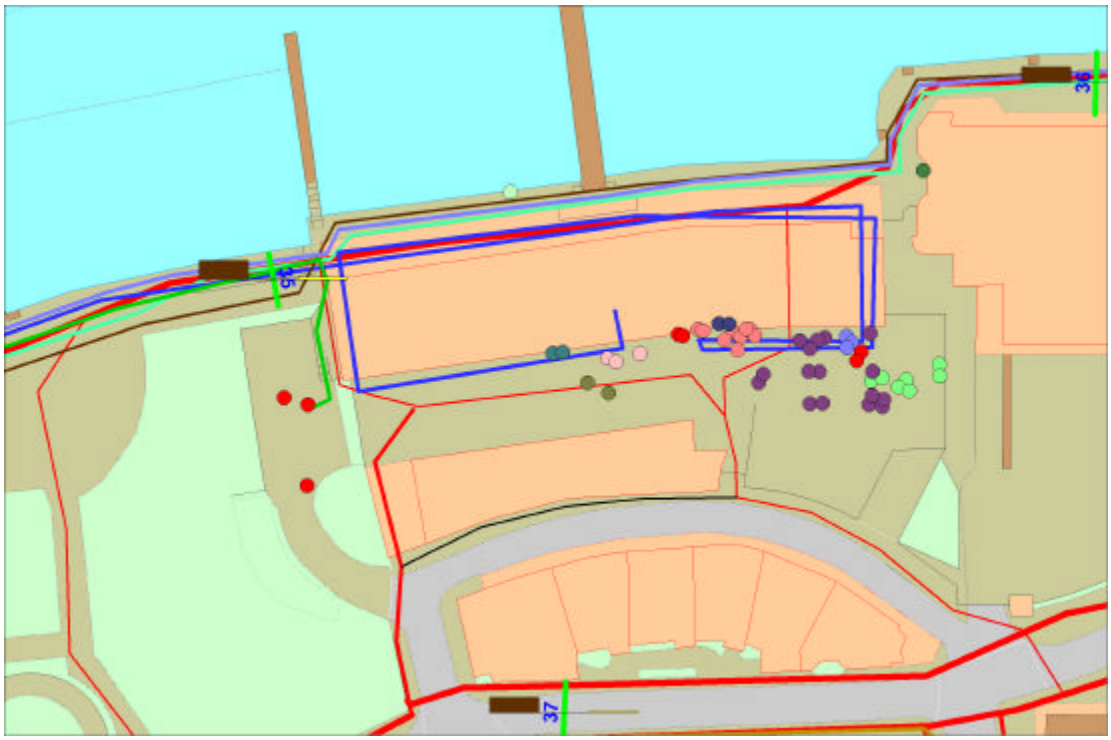


Figure 206. Oxo Tower Analysis of Movement Annotations, Pedestrian Flows (Weekday Morning) and Assemblages The analysis indicates that the area at the back is spacious and that pedestrian stream could be enriched by a assemblages at the back.

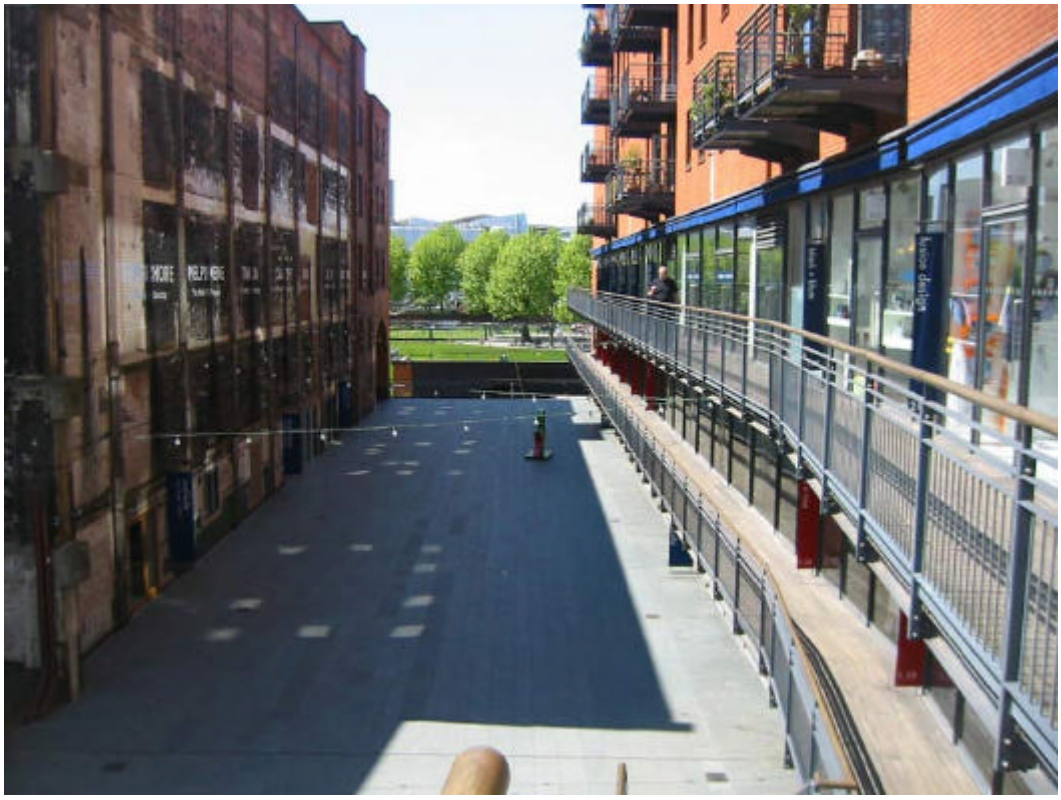


Figure 207. The Photo above shows the Spacious Area at the East Side of the Oxo Tower back that could be more Available to the Pedestrians.

Figure 208. The Picture shows Seating Assemblages on the West Side of the Urban Room.

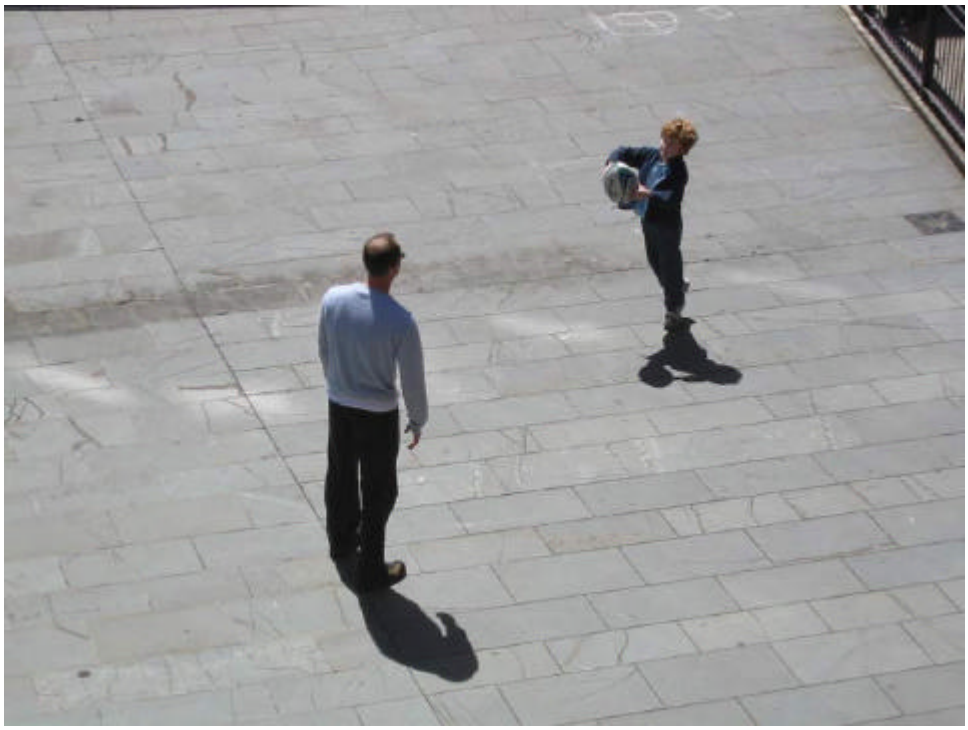


Figure 209. Playtime Activities During Weekends in the Courtyard Behind Oxo Tower

Figure 210. Pedestrian with a Dog at the Riverside Walk in Front of Oxo Tower - Weekend Afternoon

The Oxo Tower is interesting as it develops its public contents on the ground floor plus two mezzanine levels. They overlook the main arcade to the front and the courtyard at the back (see picture 14). They all feel like public space. People who live and work there are content with the environment and the conditions for work. But as there is a good sense of community they are also interested in future improvements. They do not have any crime problems as the courtyard at the back is closed in the night and there are guards. This is not the case in some other surrounding buildings.

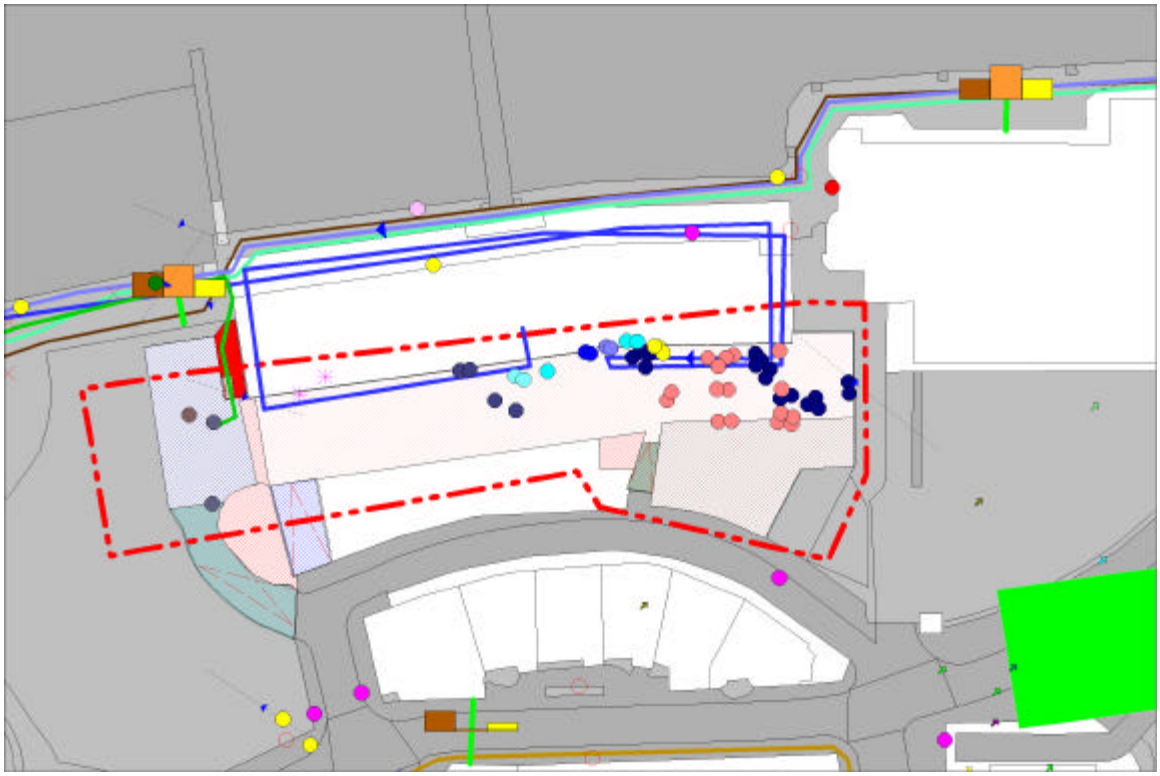


Figure 211. Oxo Tower Urban Room with bar charts of the pedestrians on a weekday lunch time, coloured lines are movement annotations obtained by path shadowing, assemblages are coloured dots indicating different activities (peak data - lunch time).

The Barge building at the back of the Oxo Tower is of a great potential. Its sporadic use is not the best way to explore this versatile building. Any future redesign of the public space should take into account this building as well as the conditions of the dominant flows. Another element that should be drawn in for consideration is the park to the west towards Gabriel's wharf. The space of the park is not well designed and used and needs improvement. This in turn opens up the question of the design of the Gabriel's wharf itself. Therefore we recommend that all this area could be improved and redesigned in synchronicity.

The eastern limit of the capital route

After passing under the busy Blackfriars Bridge, the walker would gradually approach the site of Tate Modern at Bankside.

During the weekends the big space in front of the Tate building is usually full of people. The success of the Tate and Millennium bridge development exceeded all expectations. During the weekdays the space is less busy with visitors but more frequented by professionals and working people.

Figure 212. Blackfriars Bridges - Old and New, Vehicular on the Left and Rail Bridge on the Right. Thames - Low Tide.

Figure 213. Crowds Sitting in Front of Tate Modern on a Sunny Weekend became Regular Occurrence

For the purpose of the follow the flow observation exercise we went around and detected the other flows approaching the gallery either from the south (Southwark underground station, parking areas, buses), from the east (London Bridge Station) or from the west as we have arrived.

Figure 214. The Flows of the Millennium Bridge in front of Tate Modern.

We have spent some time at the foot of the new Millennium Bridge as strong pedestrian flows stream up and down the bridge towards St Paul's Cathedral on the opposite side of the Thames. We followed the flow eastwards towards the Globe and decided to stroll into the New Globe Street which runs perpendicular to the riverbank, whilst the main flow of people continues by the river towards the London Assembly and the Tower Bridge area.

This turn inwards brings us into the street, which is of much smaller scale and broad views disappear. What remains as we go south and away from the Thames, is the narrow glimpse of the City.

We then experience the increase of the new flow of the people coming from the Borough Market and London Bridge Station.

The riverbank and the flux of people continue down the Thames, which is again becoming the true heart of the city, its main artery and city's best promenade.

Figure 215. Selling Assemblages as an Effect of Busy Flows and their Junction at the Foot of the Millennium Bridge in front of Tate Modern.

Conclusion to Question 5.4

Therefore the study of the pedestrian flows would suggest a clear relationship between the pedestrian flows, land use and related activities. This is however not the case for the vehicular and cyclist flows they relate better to the prediction as per SSx integration radius n map.

The activities which are particularly important are those that give character to the whole area – i.e. related to the arts and cultural life, as these generate further visits like those of the tourists. As said this process was particularly clear during the building and development of Tate Modern. This globally recognized leading institution of modern art was a magnet for the development of the whole Bankside area (1997 -present).

Movement of people exemplified in our analysis of flows and assemblages ought to determine any future design as it is the major dynamic force in that respect.

5.5. The Activities of the Capital Route

Reviewed Data Sets

The data sets reviewed were gate counts, assemblages, network nodes, images/media, user narratives, derive, observer narratives, questionnaire, movement annotations, user activity, land use, floor planes, accessible space day/night, facade usability and spatial analysis.

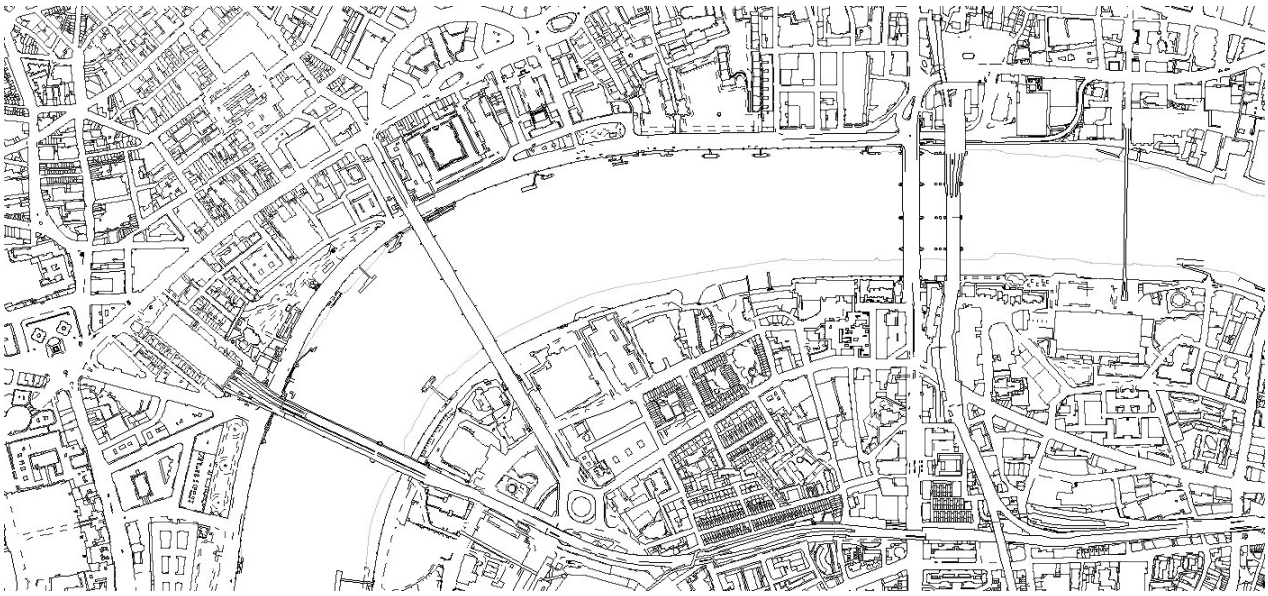


Figure 216.The London Capital Route

To What Extent is there a Diversity of Activities that Overlap Spatially (in the Urban Rooms)?

The chosen site of London route is characterized by variety of activities which are happening along it.

Some indication of these activities has already been mentioned in the analysis of the dynamics of the flows (question No4) where the impact of the flows on the activities along the route has been addressed.

The diversity and overlapping of activities is characteristic of all urban places and of our capital route in particular as it was one of the criteria in the designation process (see D2.2).

The variety of activities which are linked to the route can be grouped as: commuting to work place (walking, use of bikes and public transport), business related activities (mailing, sending/receiving packages, loading/unloading), residents' activities (children play, local shopping), leisure activities (walking, relaxing, taking sun, taking out animals, singing and playing instruments), sport (jogging, exercising), cultural activities (visiting galleries, theatres, tourist activities (observing, taking photos, writing postcards), educational activities (drawing, writing, listening) shopping and retail activities.

It is the characteristic of our predominantly Southbank route that these various activities overlap and that people of various background and different affiliations happen to meet on the route. Therefore according to our survey on a typical working day/afternoon we can meet a mixture of city people walking down towards Waterloo station on their way home, mothers walking with their children, audience going to TV studios for talk shows,

tourists visiting the sites, messengers, people delivering goods, joggers etc. A great overlap of activities is a rule. (Please refer to our database D.6.1 questionnaires data for further details).

This is different on weekends when the public is mainly involved in activities of leisure, family outings, visits to exhibitions etc. However even then we can talk about overlap with different kind of activities at stake. The dominant group on the weekends is the visitors as opposed to workers who are in greater numbers on a working day.

The places of overlap are primarily along the main riverside promenade. As a prime space the river attracts audiences of all kinds. As a natural landmark the riverbank tends to unconsciously inscribe itself in the mind-map of the people.

The overlapping of activities happens around the bridges, near major cultural attractors (such as the Royal Festival Hall, the National Theatre, Tate Modern, and the Globe) and in the area of major transport nodes where various flows tend to meet or join. Characteristic of these areas is that they relate to other possible major routes as they are places of confluence of the flows.

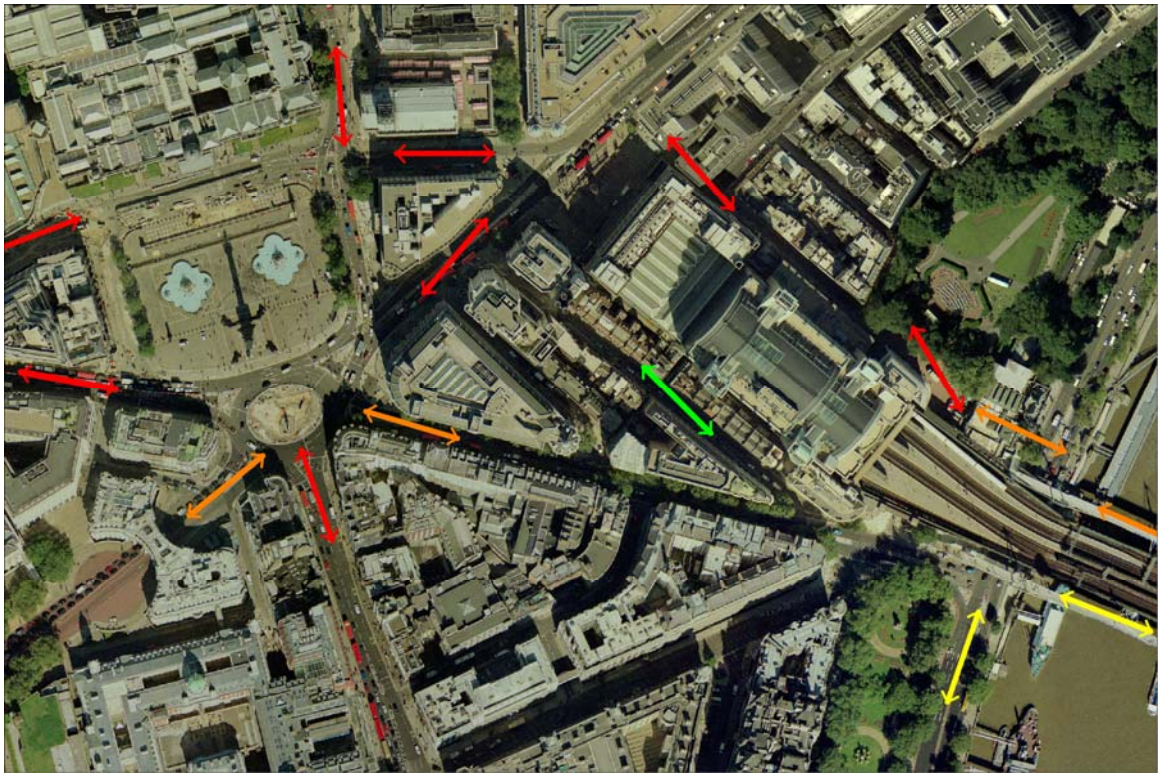


Figure 217. Pedestrian Flows on Trafalgar Square

Figure 218. Pedestrian Flows on the Southbank

Figure 219. Pedestrian Flows at the Oxo Tower

Figure 220. Pedestrian Flows at Tate Modern Floor planes also indicated

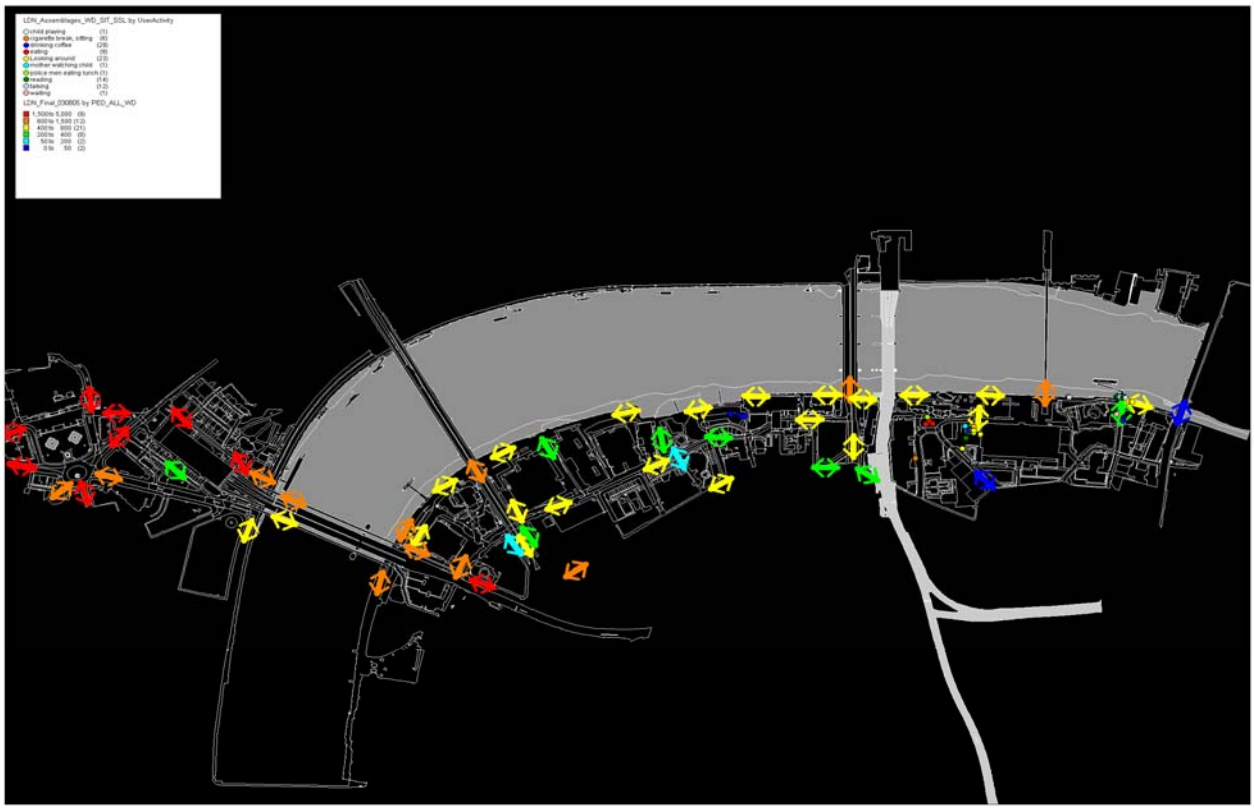


Figure 221. Pedestrian Flow Counts and Activities on the London Capital Route

Figure 222. Activities and Pedestrian Flow Counts in Area of the Southbank Urban Rooms

Figure 223. Oxo Tower Back, Entrances , Flow Counts and Activities

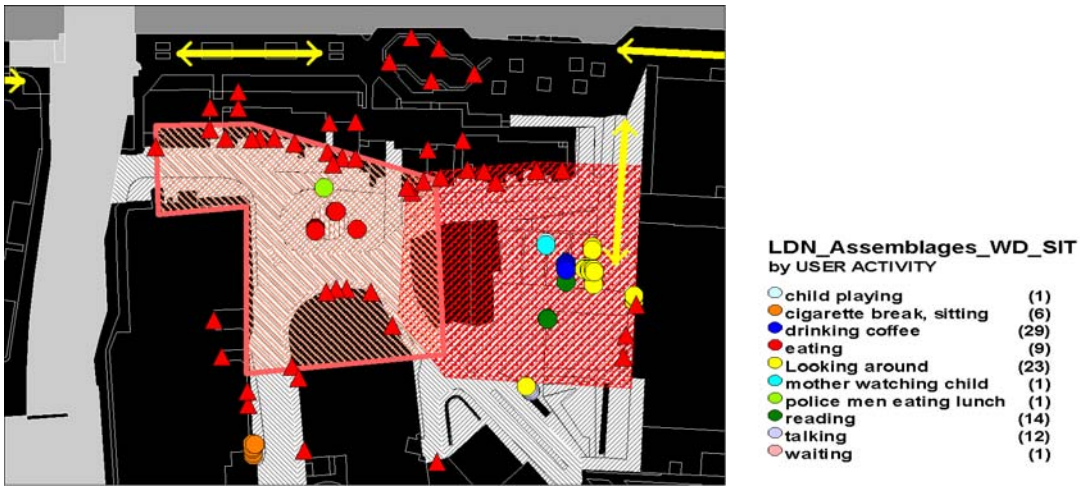


Figure 224. Falcon Point Piazza & Tate West: Entrances , Flow Counts and Activities

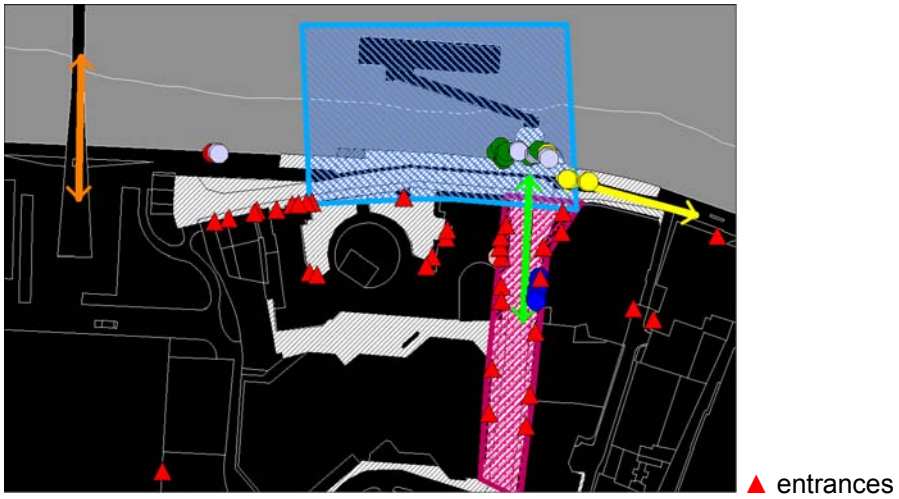


Figure 225. Globe Riverside & New Globe St.: Entrances , Flow Counts and Activities

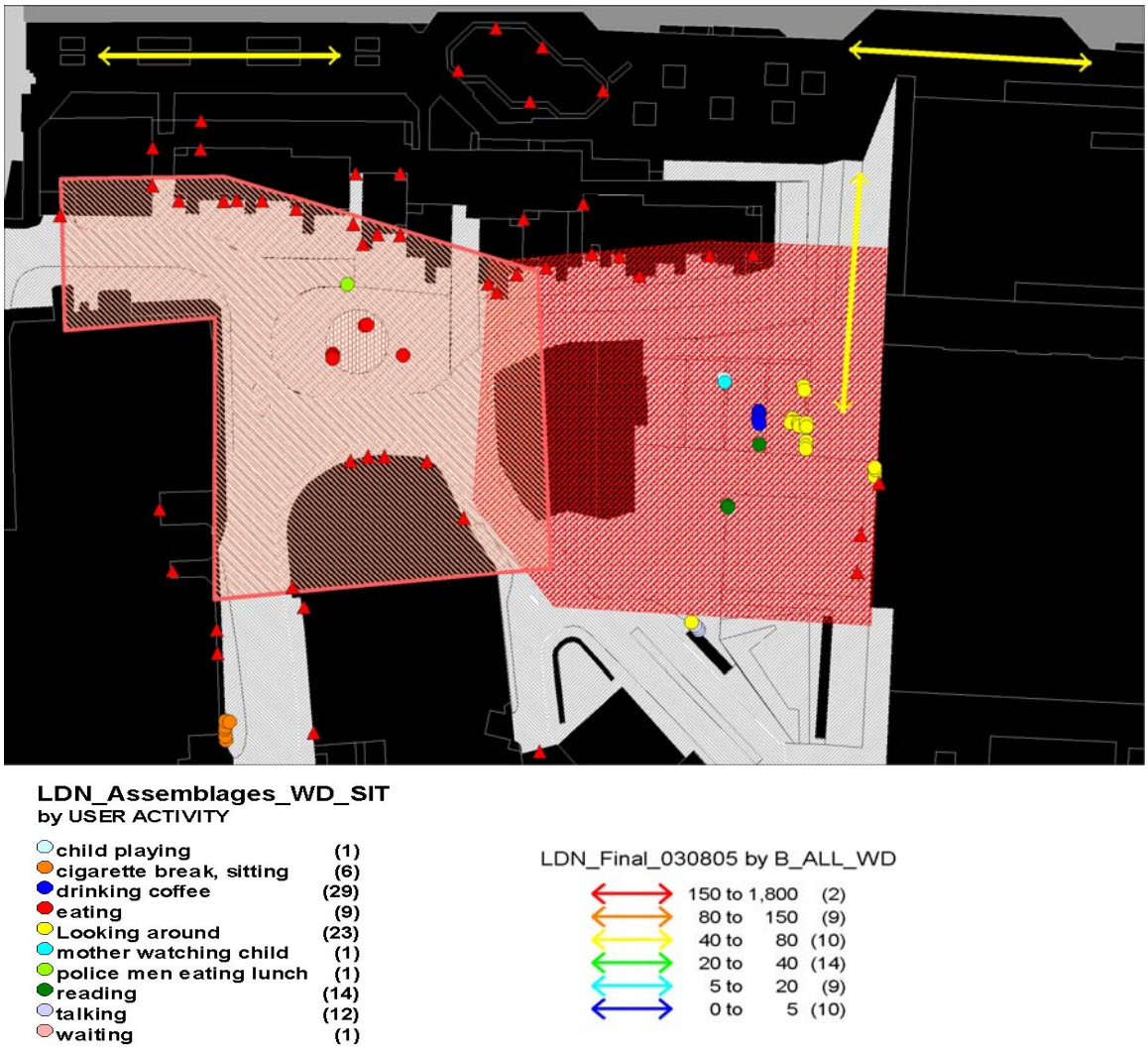


Figure 226. Falcon Point Piazza & Tate West Entrance – Pedestrian Flows and Activities.

Figure 227. The Globe Area with the Indication of Floor Planes

Figure 228. The Oxo Tower Area with the Indication of Floor Planes

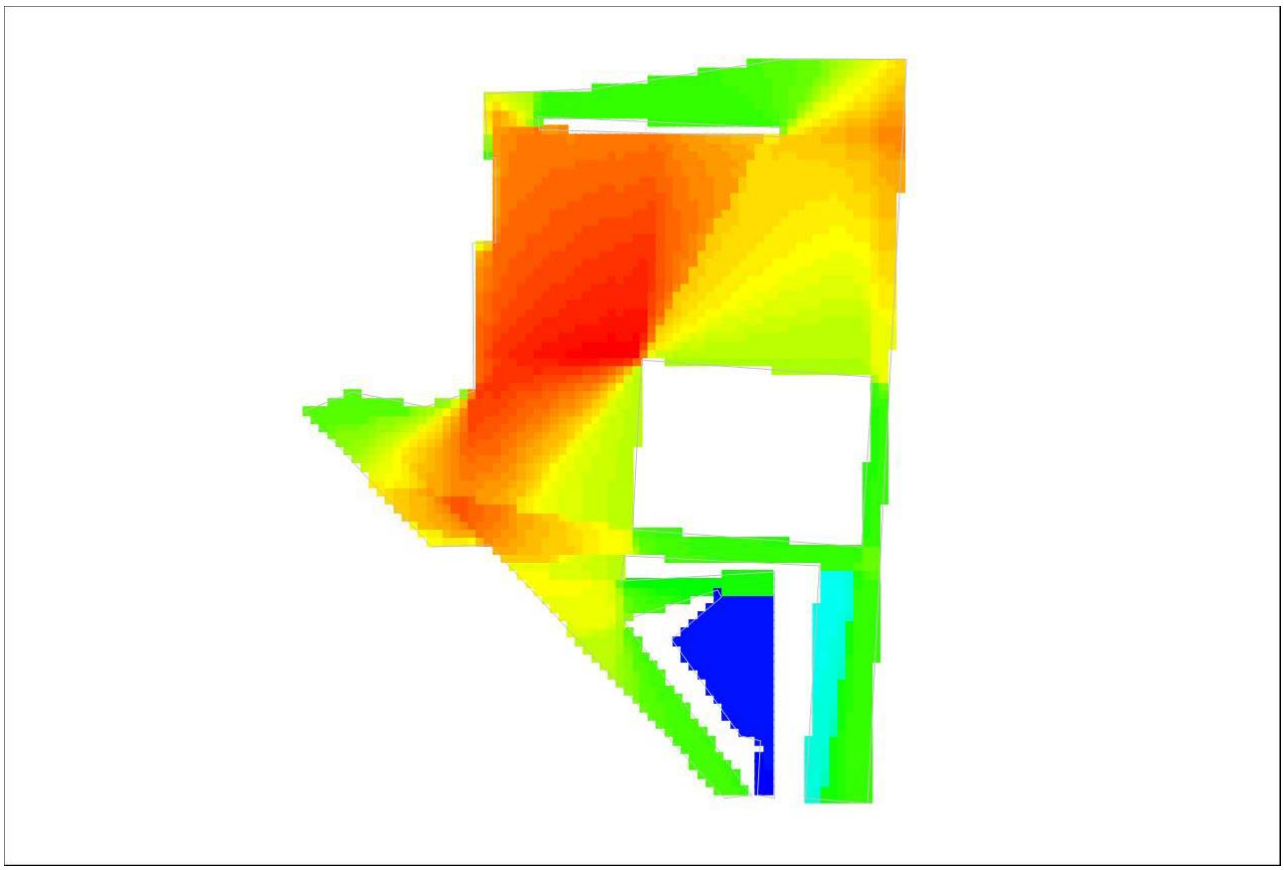


Figure 229. VGA Analysis of the Tate West Entrance-

Red colour indicates highest visibility (sitting area and trees), blue lowest (hidden behind the bushes), the big ramp is not represented.

5.6. The Identity of the Capital Route

Reviewed data sets

The data sets reviewed were assemblages, gate counts, follow the flows, network nodes, movement annotations, room typology, accessible space day/night, building entrances, building heights, room overview, land use, objects, clusters, images/media, user narratives, derive, observer narratives, questionnaires, points of information, five selected rooms, objects, floor planes, lighting, skin evaluation, facade transparency, facade form, facade usability and spatial analysis.

Figure 250. The View From the Southwark Bridge

Do Spaces of the Route Generate a Sense of Ownership and Identification for End-Users?

The identity of the route is very clear on both local level and within the larger area of the city, as it follows the river Thames in most parts. At the Embankment area the route is linked to Trafalgar Square. The choice of the route via Northumberland Avenue implies our wish to promote this link that despite its directness has not established itself as the main conduit between Trafalgar Square and the Thames/ Southbank.

In regards to the identity of the Southbank itself we can analyze it on at least two levels: for the local residents and for the wider public. For the local residents and stakeholders the area has developed a clear sense of identity in particular in the last decade. Local residents have become organized into coops and have actively taken part in discussions about the development of the Coin Street Area and the Oxo tower.

All the local stakeholders have been involved in the organization called Southbank Employers Group who in turn has been energetically taking part in urban issues in regards to maintenance, promotion of public transport etc. SBEG were instrumental in organizing the local bus, for example. Similarly the stakeholders and the residents from

Figures 251-252. The Businesses and Residents of the Oxo Tower Block (above) Have a Strong Sense of Ownership

the area to the east of the Blackfriars Bridge have been organized in the association called Better Bankside. It has been equally involved in dealing with urban issues in respect to development and maintenance of the area. (Details on the work of both of these entities could be seen in our database D6.1).

On another level the identity of this route has likewise become established for the population of London as a whole. The groups that visit the area more than others are the people who work locally and therefore visit it daily. They are followed by the people who attend the events in theatres, concert places and galleries. However the population of visitors extends beyond these groups as people also come and visit the area for the pleasure of walking by the river and crossing the Thames along two major pedestrian bridges built recently. The Millennium Bridge and the pair of pedestrian Jubilee bridges flanking from the Hungerford Bridge have themselves become the target for visitors.

Figures 253-254. The New Pedestrian Bridges Give the Route Its Identity and Superb Views of London

It is important to mention that, in addition to all the places of culture the creation and the positioning of the London Eye on the river have largely contributed to the popularity of the area. It is constantly attracting the tourist population that seems to come from Parliament square and cross the river at Westminster Bridge.

Figure 255. The London Eye

In that sense it is clear that the identity of the area naturally extends beyond the limits drawn for the purposes of the project. In a way the capital route extends from the Houses of Parliament/ Old County Hall along to the Tower of London/ Design Museum. Indeed the route relates to both sides of the river and further development of the pedestrian bridges could be seen as something which is both desirable and necessary as we are predicting that the revival of London's close relationship to the river will tend to carry on.

The recent developments linked to the London hosting of the Olympic Games in 2012 and the development of Thames Gateway give us some parameters for the future.

Figures 256-257. Trafalgar Square – Assemblages and Public Interaction

Is There a Consistent Level of Aesthetic and Environmental Quality in the Area

The question of the aesthetic and environmental quality is an interesting one to explore. We can argue that there are three environmentally different parts to the designated route: the first part, is the Northumberland avenue area, that is a street with built urban tissue on both sides of the road; the second part is the bridge - route across the river and third part is the riverside area primarily consisting of the buildings built on the one side.

In regards to the aesthetic unity we can argue that the buildings are of diverse nature in aesthetic sense. Trafalgar Square and the Northumberland avenue consist of the typical late nineteenth century buildings organized within closed city blocks with the heights up to the 5 floors maximum. While they are consistent in style and aesthetic appearance these buildings are not particularly uplifting. There are some interesting remnants of earlier developments as well as some interesting older courtyards (such as Craig's court at the back of Whitehall near Trafalgar square). Embankment's complex infrastructure is reflected in the architecture of the station and the bridges, built at different times during the past century.

The South bank area is an interesting mixture of old and new. Royal Festival Hall was built in the 1950s for the Festival of Britain - a series of events organized in order to celebrate country's postwar enthusiasm and achievement. The building is currently being renovated, but we can safely call it one of the finest examples of the architecture of the time. Building is still very well loved and used.

Figure 258. The View From the Hungerford Pedestrian Bridge.

Next to it there are: Southbank cultural centre with its concert halls, the Hayward Gallery, National Theatre, and National Film Theatre, all built in the 1970s. Museum of Moving Image belongs to a 1980s edition that has not managed to find its way to survive. The museum has been recently closed. There is a feeling of disunity between these objects resulting in numerous residual spaces which many architects have addressed in their subsequent schemes for the renewal of this area.

The IBM building is a modernist slightly terraced structure with confusing entrances that have changed over time. The London Television Centre is another separate island. Isolated, these two buildings do not relate to the route as the other buildings of public life and culture do. The capital route spaces are picked up through the eye of the TV cameras, which frame the river and the cityscape as backdrop to the presenters of the local news programmes.

The area around Gabriel's wharf is standing out in sharp contrast to the renewed slick building of the Oxo tower which became very popular with its designer shops and well established restaurant and cafe.

This line of buildings to the east is followed by some unmemorable structures that house offices. They carry on until the Blackfriars bridge area. After the bridge the feeling of the spaces changes as we enter the Jubilee walkway of the Bankside area. The Falcon Bankside housing development that faces the river is the legacy of the 1980s and predates the development of Tate Modern and fashionable Bankside Lofts.

Tate Modern is a refurbished disused power station from the 1940s. It has been reconstructed in the late 1990s according to the Herzog and De Meuron project and has become a successful piece of modern architecture and the icon of the south bank.

The route continues with the new Globe theatre and the museum that are well appreciated for their historic and aesthetic values. The designated promenade ends with a closed block of flats and many restaurant buildings towards Southwark Bridge built in the last decade. These are built with plenty of glass and stainless steel and contrast with the Victorian buildings behind, including Peabody Housing estate.

Do the Spaces of the Route Provide Adequate Feelings of Safety and Comfort?

Overall it could be argued that spaces on the route provide adequate feelings of safety and comfort. This however applies mostly to daytime as the route is well attended and therefore controlled by the views of many passersby. In the evenings and in the night in particular (after 22 00 h) the route is not completely safe. This is however the situation with most of London areas. Muggings do occur. Unfortunately the streets of London are prone to other forms of crime including violent crimes such as murders.

There are therefore areas which have been known as sites where muggers operate. This was reported to us by the employees who work in the office buildings along Stamford Street (see interviews section in the database). In the evenings parts of Stamford Street and surrounding pockets would be considered unsafe. The same characterization would apply to the areas under the bridges in particular under Blackfriars Bridge. The crimes therefore occur in the areas that cannot be controlled after certain hours such as deserted offices. These are often the places where break-ins are reported. We were able to detect special security grills made for the ground floor office spaces along the riverside between the Blackfriars Bridge and the Oxo tower. Oxo tower itself has a 24 hours porter and the control access to the communal parts which regularly close in the night. This has been reported to us as a successful measure in crime prevention.

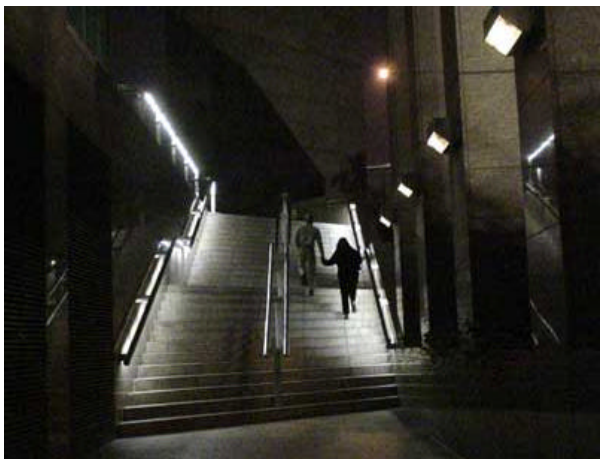


Figure 259. Blackfriars Bridge Staircase

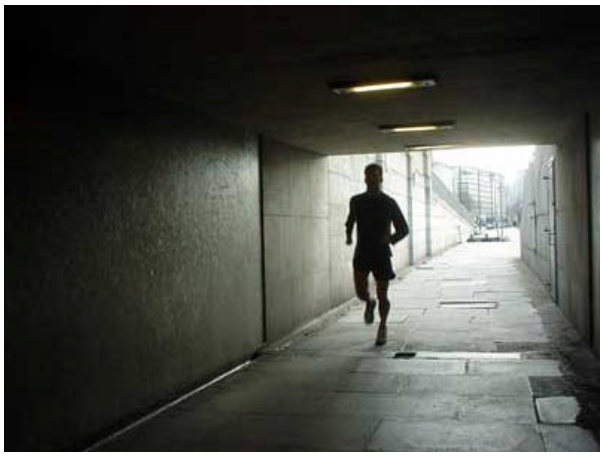


Figure 260. Jogger at the Southbank

Conclusions

In conclusion we can argue that the designated capital route is highly recognizable within the wider area of the city as well as more locally. This is primarily due to its favorable geographic position which places it by the river Thames and recent developments which have been shifting the heart of London back to the Thames.

5.7. The Public Spaces of the Capital Route

Reviewed Data Sets

The data sets reviewed were: gate counts, follow the flows, network nodes, images/media, room overview, user narratives, observer narratives, questionnaires, movement annotations, points of information, five selected rooms, land use, objects, floor plans, lighting, accessible space day/night, transport network and spatial analysis.

Is Public Mobility well Supported?

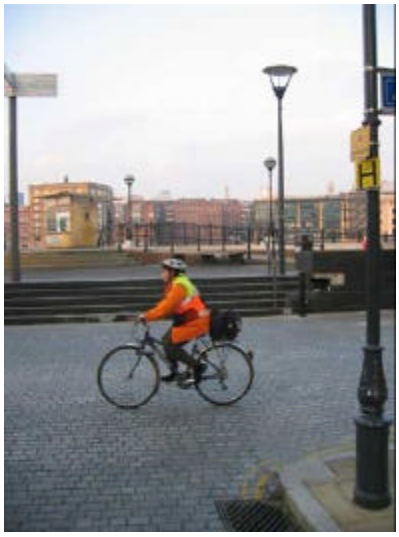
The designated route is very well supported in terms of public mobility. It provides multiple choices for public to move around and connect to the general network of transport in London, England and abroad.

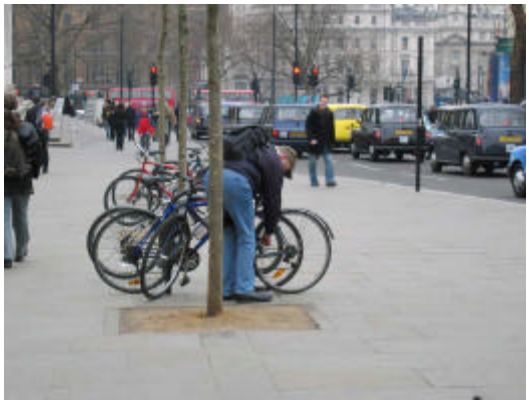
In our area of investigation there are two main train stations out of which Waterloo is also an international terminal for Eurostar trains for Paris and Brussels. Underground stations are available on recently extended Jubilee line on the south side of the river. There is a range of lines at Embankment and Waterloo underground stations. There are numerous buses that cut the site as they mainly link south London with the central areas of the city and pass across the bridges.

There is also a local bus that covers the Southbank and Bankside area. The stops are well distributed along the route. (Please refer to our map indicating the full sum of transport nodes in question A.4.)

Cycling is a very visible means of transport in the area, especially among the local residents. There are also cyclists who cross the bridges on their way from south London to the city centre. We have identified that cyclists' paths are not adequately marked and their design suffers from inconsistency. Unfortunately this had some tragic consequences. The Blackfriars Bridge has been a black spot for the cyclists and one of our priorities would be to redesign the transportation lanes on the bridge itself.

There are plenty of cyclists along the riverside and we foresee that in the very near future the promenade would benefit from a new separate and well designed cyclists route.





Figures 261-262. Cyclist at Bankside and Cyclists at Trafalgar Square

Figure 263. London Bus

Pedestrian mobility is well supported and many people already walk in this area. However this is the most important mobility that Agora project wishes to promote and further improve. In that sense our interventions will concentrate on detailing future improved spaces for the pedestrians. The locations which have been identified as critical in that respect are: Gabriel's Wharf, Oxo tower, Falcon Point Piazza, Tate Modern area and Globe surrounds.

The area around the Royal Festival Hall and the Hungerford bridge underpasses are currently being renovated. The assessment of this area was therefore not fully possible. However there is a need to assess the situation after the completion of works.

The pockets on the route where homeless reside are not strictly an urban design problem but a social issue as well. In that sense there should be a joint effort in resolving this problem involving social services and local authorities. Architects and urban designers however need to be aware of the issues related to the problem and take part accordingly.

Is There a Sequence of well Connected Public Spaces along the Studied Route?

There is a series of well connected public spaces along the capital route. However there is also a scope for improvement for many of these spaces. The forces of change are strong and there have been many competitions and schemes proposed for this area of London. The main reason for that is that the area has been changing its character dramatically.

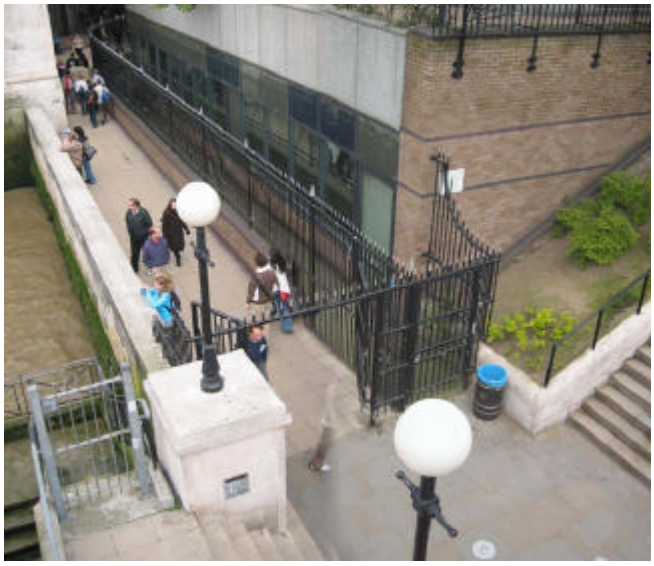
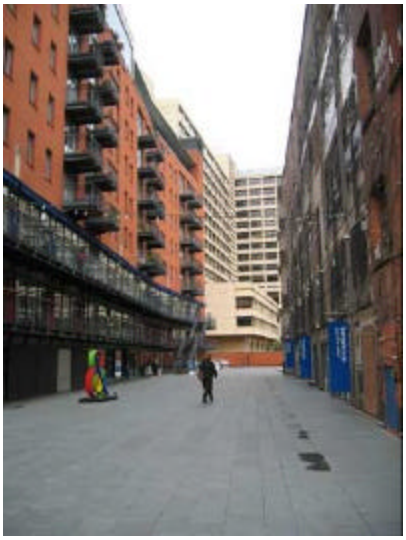
Figures 264-266. Public Spaces in the Southbank Area


Figures 267-268. The National Film Theatre Surroundings on the Riverbank

The last spur of change has brought such a dramatic stimulus that the existing communities of residents had problem in following the speed of change. As a consequence we find situations such as in Flacon Point Piazza where we have social housing next to the block of up-market penthouse apartments with their respective residents arguing for different priorities. There is also a world-wide known and extremely well visited landmark such as Tate Modern next to the social housing of the Peabody housing estates. The tensions here are about the different visions for the future. There are difficulties between public versus private space, as in the contradictions marked by the extremely diverse economic power of stakeholders. (These tensions emerged clearly when we interviewed the representatives of residents and of the businesses in the Better Bankside).

Figures 269- 270. The Hayward Gallery and the National Theatre

On the route as a whole the locations that have been identified as attractive and motivating for future interventions are: Gabriel's Wharf, Oxo tower – back and the park in between, the Falcon Point Piazza, Tate Modern west entrance, Globe surrounds, Waterloo bridge area (in particular on the side of the Museum of Moving Image and the Southbank centre), the area around the Royal Festival Hall / Hungerford bridge underpasses (currently being renovated).

Figures 271-273. Tate Modern, Blackfriars' Surrounds and Oxo Backs



Figures 274-276. The Globe Area to the East and to the West

In our research, centered on five selected rooms we have been looking at the potential of improving the surrounding area around the Oxo tower including its relationship to the park.

The second area was the west entrance to the Tate Modern and the surrounding Falcon Point Piazza which need further improvement (two urban rooms).

The final area that calls for significant improvement in public spaces is the surrounding of the Globe and its relation to the Tate. There is a scope for improvement of this relationship, which would upgrade the semiprivate obscure looking areas in between into contemporary good quality public space.

Conclusion

In order to be able to conclude about the character of the public spaces on our London site it is possible to summarize the research based analysis as following. The initial expectations about the public spaces on the route have proven to be right. The area is both very promising and convenient due to its geographic position, and second, it is rich as a potential for further development.

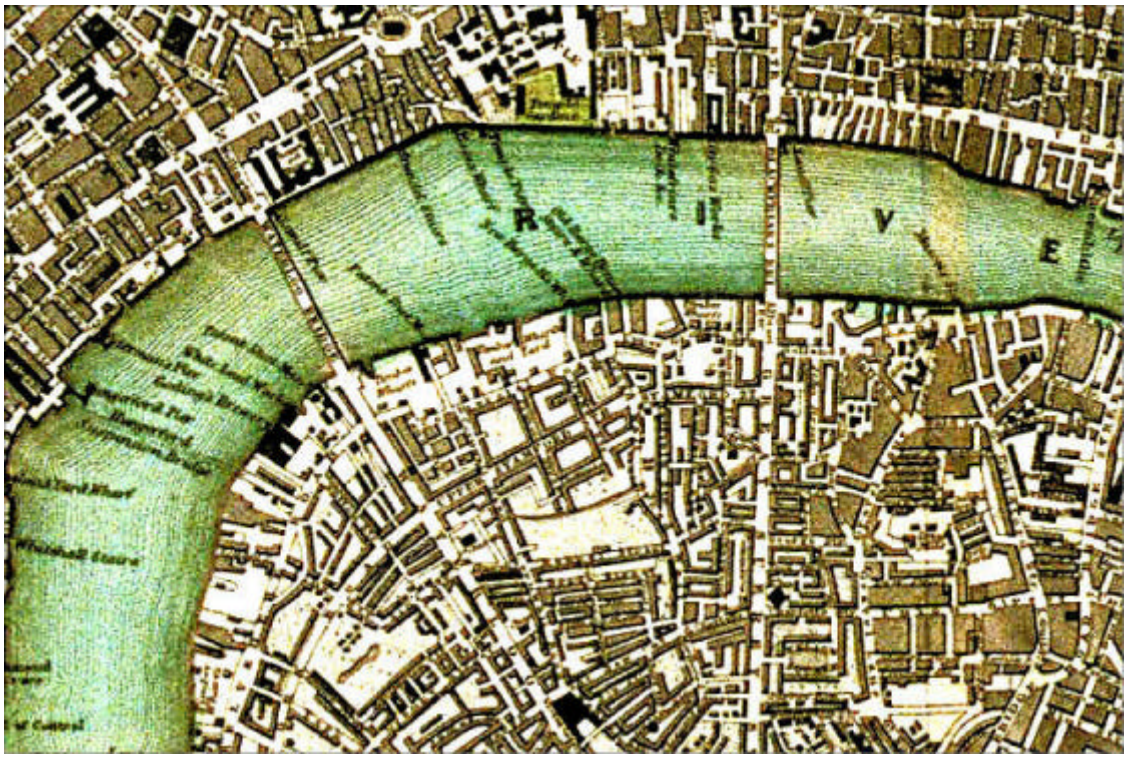


Figure 277. Capital Route Area – London 1854

Historical examination of the site in the nineteenth century (see map from 1850s) shows how the whole area was covered with warehouses which spread to the river in order to facilitate loading of transported goods. The warehouses had big yards which were open so that workers could circulate freely. There was also big brewery on a site of the present Royal Festival Hall. The character of the area was therefore predominantly industrial. This is what most of the schemes that analyze the area usually come up with.

If however we go further back and look at the historical evidence about the area in the sixteen and early seventeenth century we can detect a very different character of the place. It had a rich public life as it was the place of the theatres. The Globe, the Swan, the Rose were all there. These were the sites where Shakespeare's plays were first

performed. The area was the place of transgression as the theatres were the places avoided by the puritans and moralists at the time.

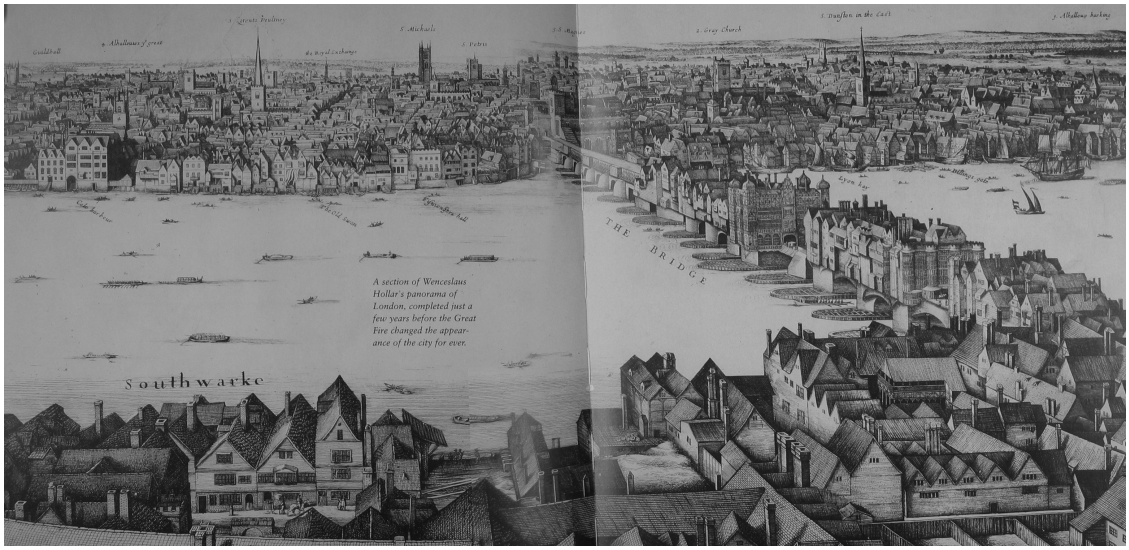


Figure 278. Wenceslaus Hollar's Panorama of London from the south 1660s

Present revival of the places on the Southbank somehow relates to both traditions, the one that is about industry and the one about theatres. At present the latter one is more dominant and in terms of the character of the public spaces more relevant. The area is marked by the great institutions of theatre and of the arts and the whole process of the latest revival of the Southbank has been fueled by the cultural institutions such as the Tate and the Globe.

5.8. Conclusions

What constitutes the sustainability of the Capital Route?

In order to conclude on the sustainability aspect of our route we should again be reminded that the sustainability we understand as ability of the urban space to live, maintain itself and keep a positive grow on three levels:

on the level of the **environment,**

(*walkway to the river*)

on the **social** level

(*community carnival*)

and on the level of each particular **individual.**

(*Roy the Big Issue seller*)

AGORA project maintains that all three of these are interrelated and that they all contribute to the overall sustainability of the city. It is clear also that Agora did not aim to deal with all of them and that social and individual sustainability were the guiding presuppositions in leading this research. Social and individual life of the people was studied in relation to the environment and its conditions in order to highlight the nature of this relationship better. Movements, activities, experiences and attitudes of people were observed, collected and mapped down. This then is used as a driving force for any intervention. Physical aspects of the site were depicted in the form of a looking and mapping of the urban wall and its characteristics, while more detailed depiction of the physical spaces is presented in the urban design components of urban rooms.

We have qualified the positive aspects of the route on the environmental level they are: good geographical position which produces good microclimate and air quality in terms of the air quality. The downside is that this link to the river has to be controlled and maintained so that the adverse effects of the water potentially linked to global warning are prevented.

On the social level, the overall social mix is a great quality and the potential of the area. In order not to have some of the identified social tensions slide into conflicts, qualitative social life needs to be maintained in a democratic and fair manner with access to decision making available to all residents and stakeholders. Residential communities need to be preserved and the social houses should not all be sold for penthouses. This would have negative effect on the community which should be preserved in its mixture. Therefore facilities for social and health needs of the local population should be well catered for including schools, nurseries and old people's homes.

On the individual level our conclusions are based on in depth interviews as well as on the questionnaires and spontaneous discussions carried out with people on site. (50 short questionnaires, 10 recorded in depth interviews with residents, 2 major meetings with the representatives of the local stakeholders and many informal talks on the visits). Most of the people we talked were talking about this area in positive terms. The residents especially tend to grow much attached to it and some have even become involved in studying its history. Even the homeless person who had applied for the flat told us that he would probably get the council flat next year. He still liked staying/ sitting out and begging on a nice day, almost as a hobby or a past time. In the winter the picture is not that rosy.

The residents are very protective and proud of their area, to the point that some less well off would prefer not to see further improvements as they fear that might mean more pressure on them to move out. Some residents were concerned with the fact that their immediate neighbourhood became world wide known public space, while the others marvelled in it.

CHAPTER 6 – ANALYSIS BARCELONA

Introduction: Toponymic References

The purpose of this introduction is merely to introduce usual toponymic and visual references used along the analysis document for a faster comprehension of it.

Figure 279. General View of Plaça Catalunya from El Corte Inglés Building

Figure 280. Orthophotomap of Plaça Catalunya

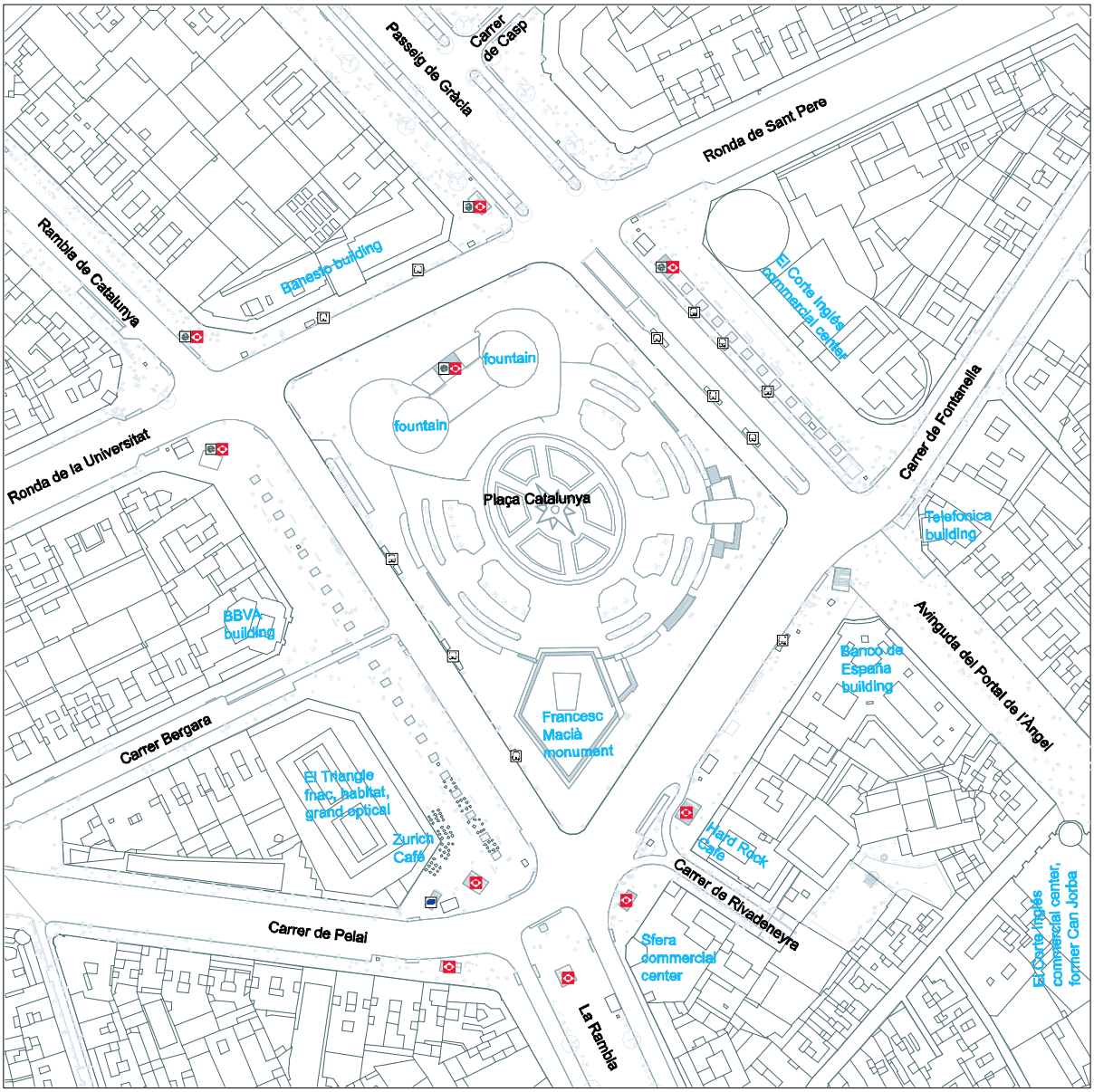


Figure 281. Contextual Map of Plaça Catalunya Showing Street Names and the Main Landmarks Used in this Document. All public transport nodes are included.

6.1. How is Public Information Impacting on the Activities and Experience of the Capital Route?

Selected Sub-Questions

Does the existing information fulfil its purpose? Is it well placed? Does it contribute to a useful experience of the city? Useful to whom? To tourists or locals? What is the impact of public information on flows and assemblages? Does it help navigation? How do aspects of public information interact with other legible elements of the route such as recognizable elements/landmarks and elements of symbolical importance?

Scale of Investigation and Data Sets Reviewed

The data sets reviewed were: points of information, questionnaires, user evaluation, observer narratives, transport nodes, spatial analysis, lighting, follow the flows, gate counts, assemblages (and on legibility, also: building heights, objects, clusters, floor planes, facade form, urban rooms, room typology, land use, room overview, images/media).

Plaça Catalunya, the largest and most complex urban room in Barcelona's Capital Route, is the subject of this Public Information Access report document. We start off with visual documentation of all existing Public Information Access points, capturing images of these information elements at different distances: contextual / panoramic, mid-range, and reading. This approximates the actual experience of a user in the urban space, first discerning the element from a surrounding visual and spatial context, coming closer to it and finally interacting with it at the proper viewing / reading distance.

This visual documentation, along with evidence of physical reality and functional make-up of the square, constitutes what we determine as being "facts". With facts in hand, we examine them relating to different data sets, creating a coherent work space for the analysis. Hence, all existing facts are substantiated and supported by data representation, which are as objectively stated (and demonstrable) as possible.

General Description

Plaça Catalunya is a major transport node, gathering metro, inner/outer city rail, national rail, taxi, bus (inner city, outer city, airport, inner city tours, international tours, shopping lines, etc.) (figs. 282-3) and in accordance to this, a high percentage of the total PIP count is mobility signs (fig. 286). In addition, it was found that the signals of higher conspicuousness and intelligibility levels coincide with metro entrances and areas of intense pedestrian flow (fig. 287). It was also found that high-density pedestrian flows are in the periphery, not in the square itself (fig. 287).

If high-density pedestrian flows are in the periphery, and the underground transportation entrances and exits are also located in the periphery, coinciding with most of the public information points, we can say that intense peripheral flows are due, in part, to underground public transportation entrances and exits. The abundance of attractors on the periphery and the lack of them in the centre contribute immensely to this situation. Additionally, spatial understanding of the square from certain decision/access points is not entirely clear, as evidenced by VGA maps, We can also infer that the square itself (as in the circular central space) is not the actual destination of people who arrive at Plaça Catalunya.

PIP by Purpose

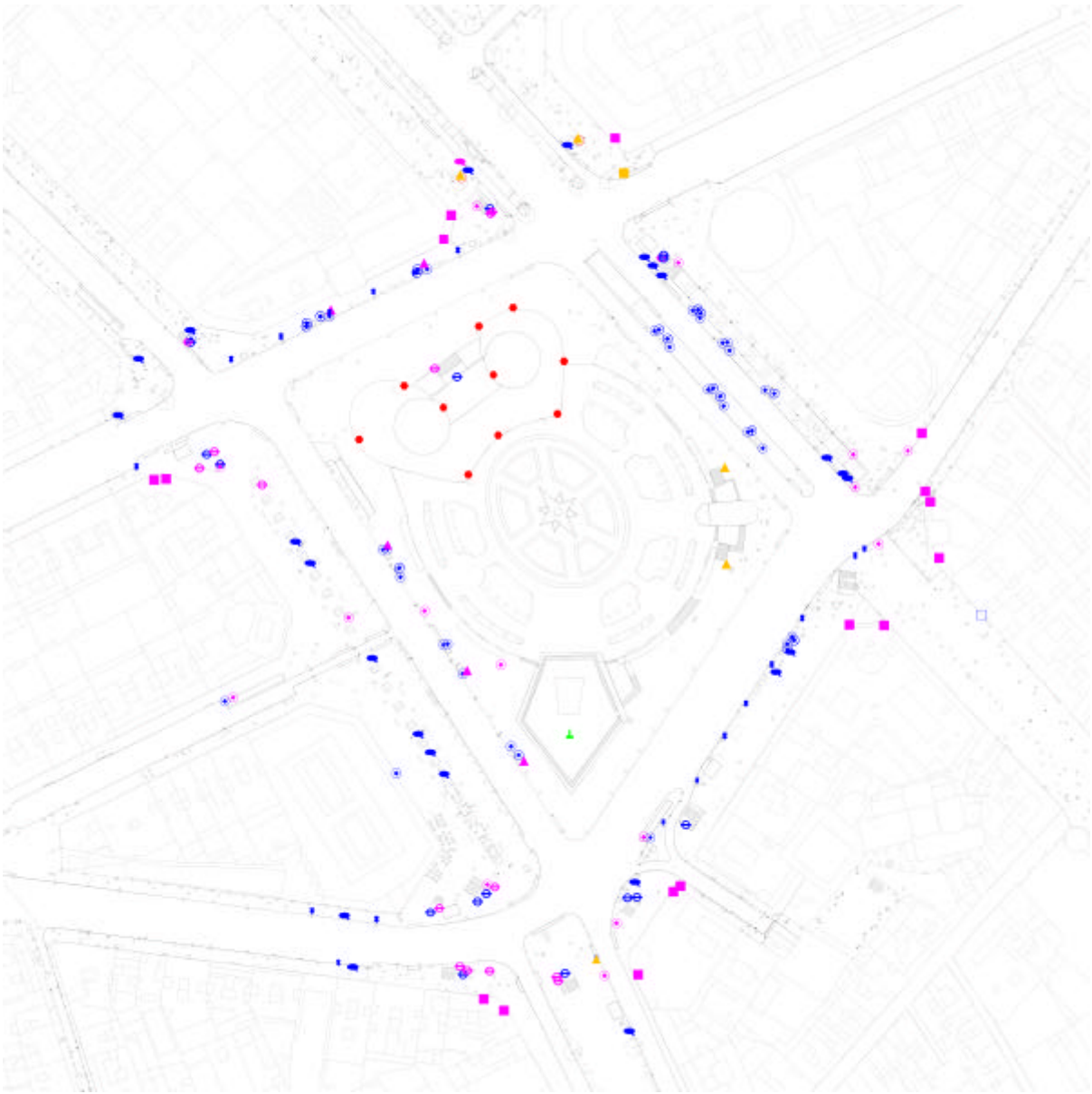
Identification	(52)
Informational	(119)
Regulatory	(12)

PIP by Category

Mobility/ground	(78)
Mobility/rail	(30)

Fig 282. Public Information Points (Mobility) Plaça Catalunya

Figure 283. Barcelona Rail Transportation Map
Highlighted: Plaça Catalunya Station



PIP by Purpose

Identification	(52)
Informational	(119)
Interpretation	(1)
Orientation/direction	(6)
Regulatory	(12)

PIP by Category

Activities	(19)
Interpretation	(1)
Mobility/ground	(78)
Mobility/rail	(30)
Other	(1)
Regulatory	(10)
Resources	(10)
Resources/Communication	(24)
Toponomy	(17)

Figure 284. Public Information Points (all)
Plaça Catalunya

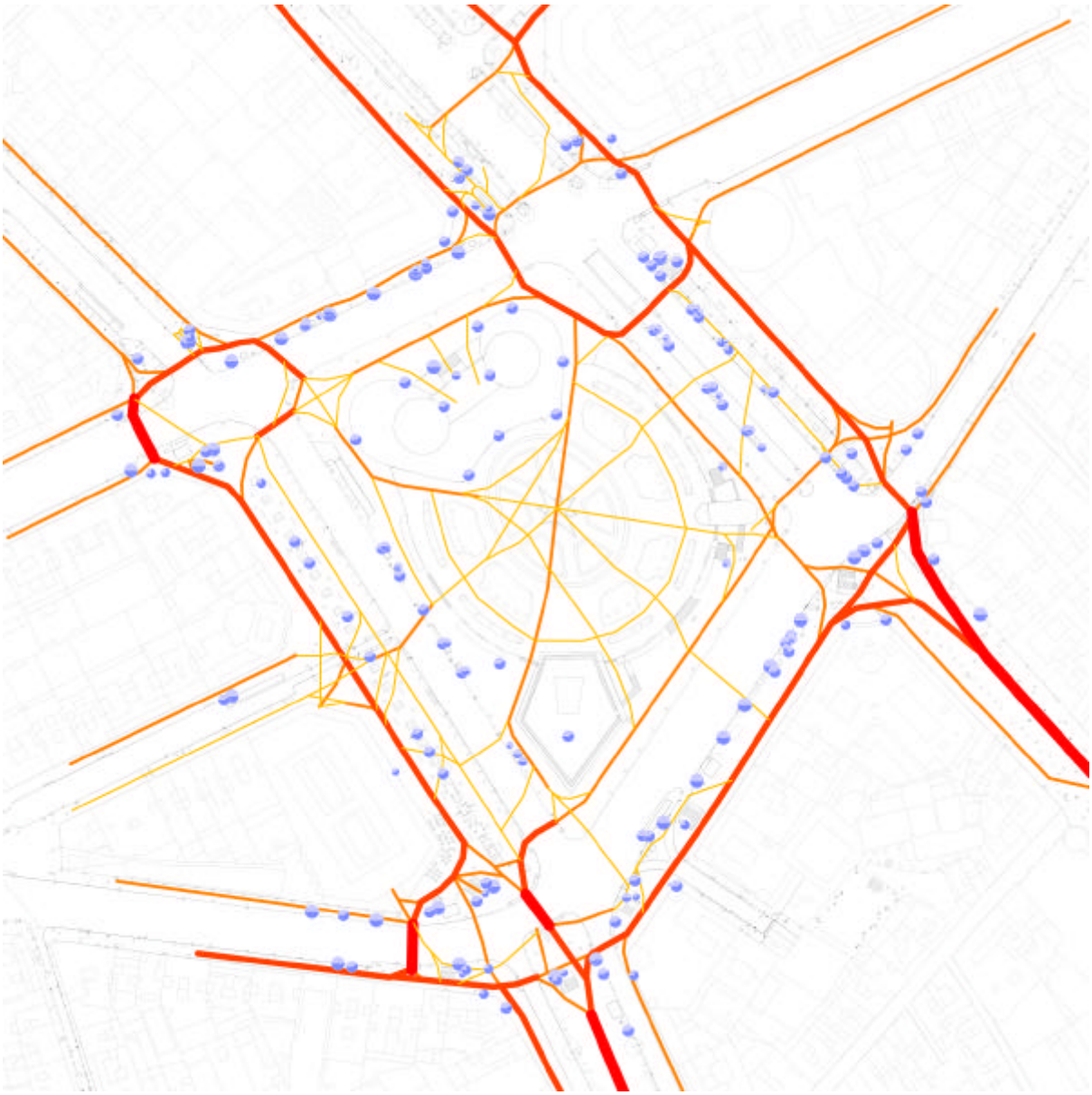


Figure 285. Pedestrian Flows &
PIPs by Conspicuousness and Intelligibility
Plaça Catalunya

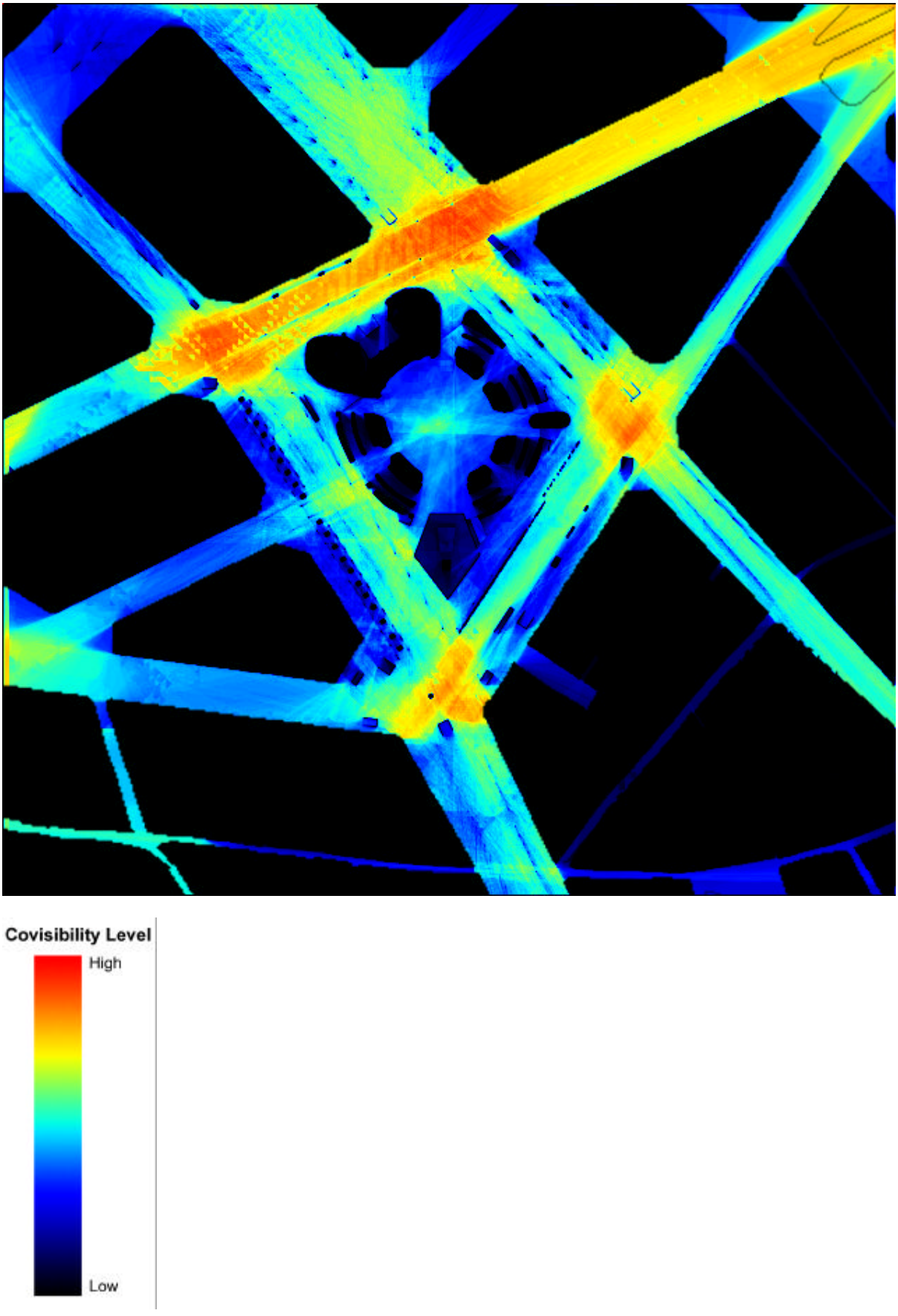
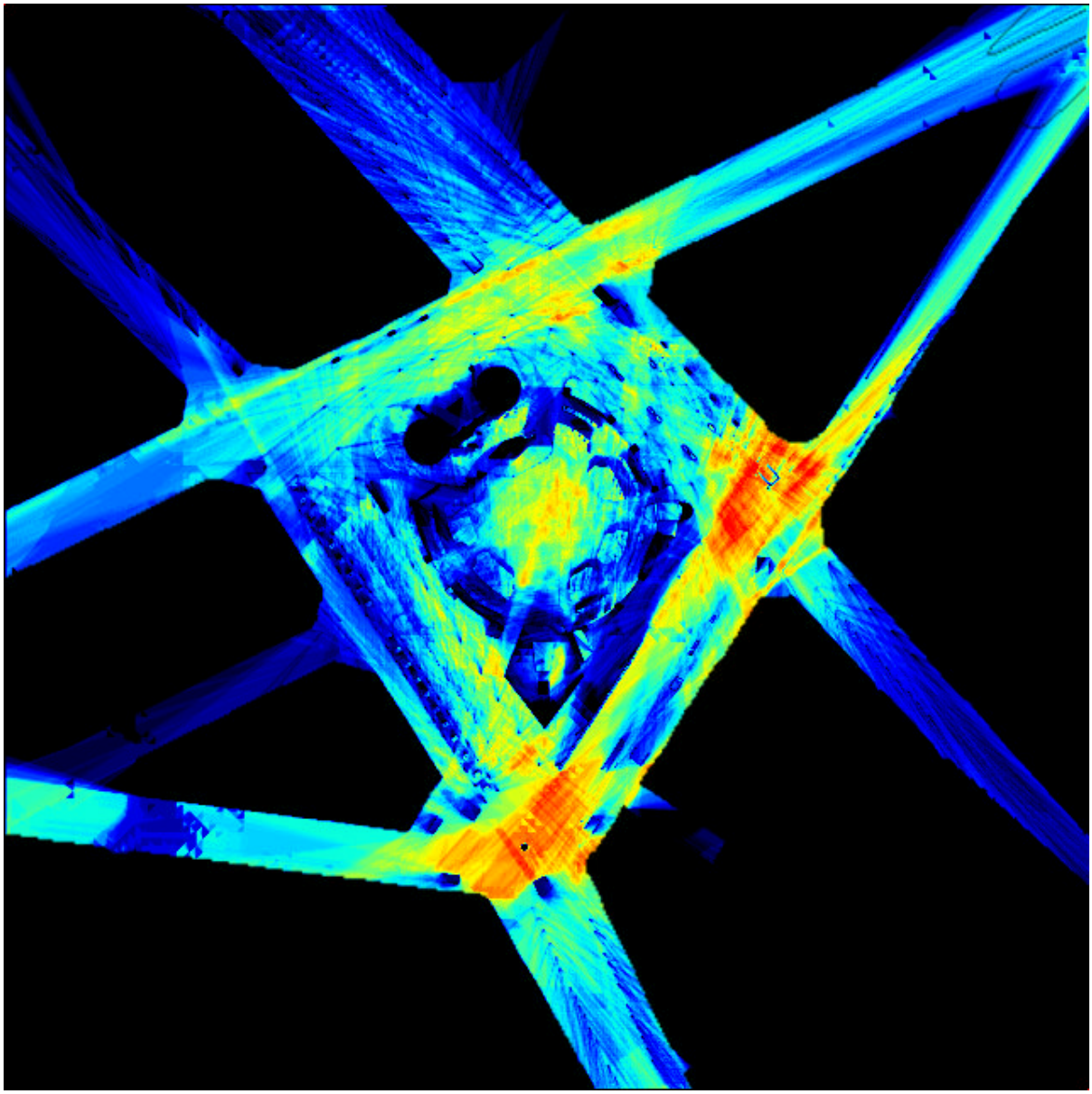


Figure 286. VGA - Global Accessibility Map
Plaça Catalunya



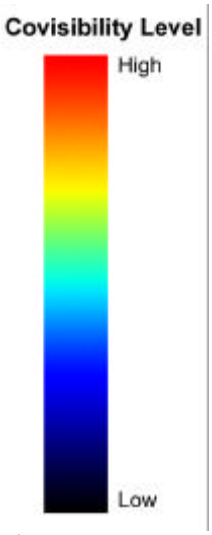
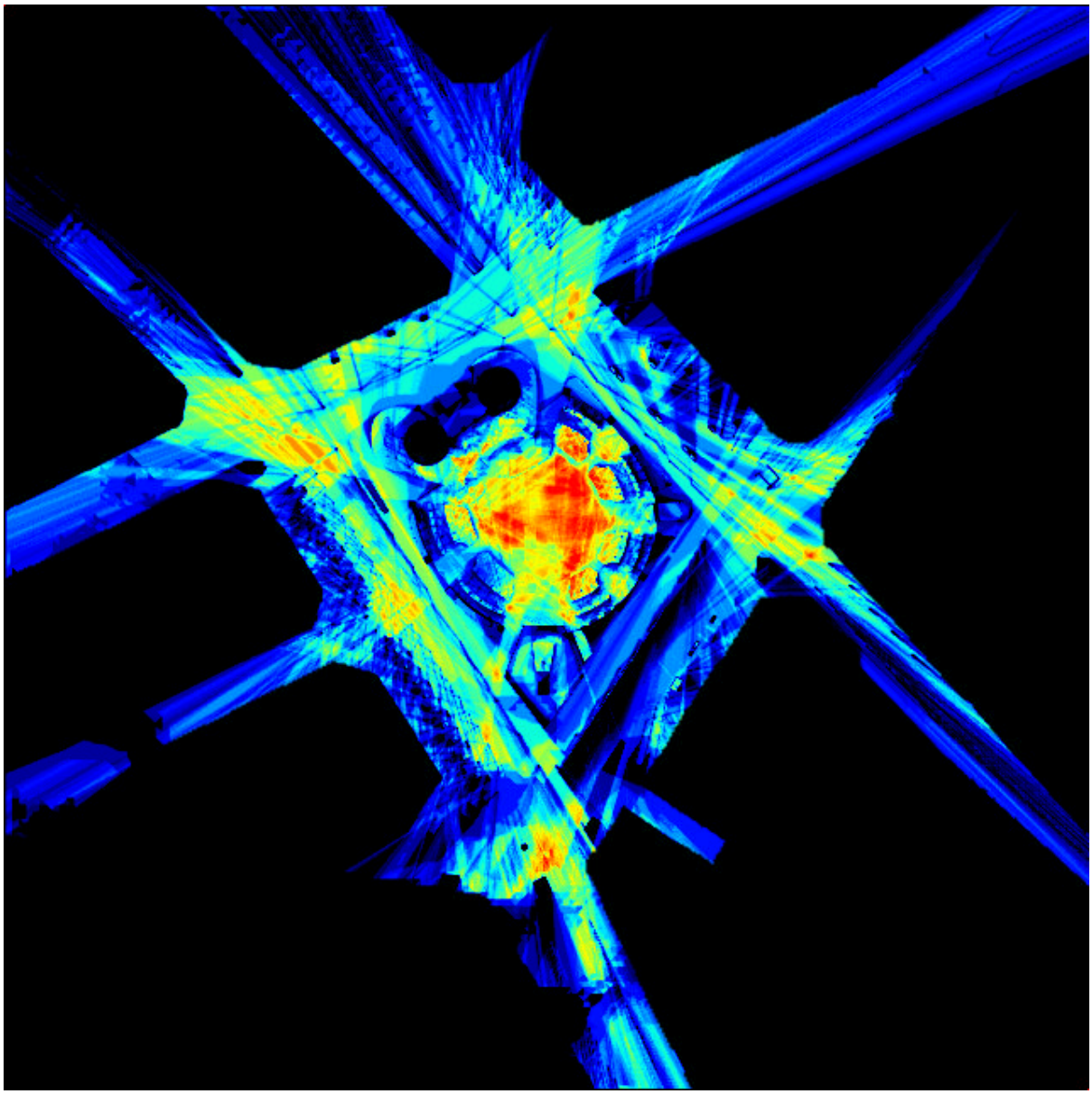


Figure 287. VGA - Ground Level Co-Visibility
From Outer Square Decision Points (see fig. A1.i11)
Plaça Catalunya



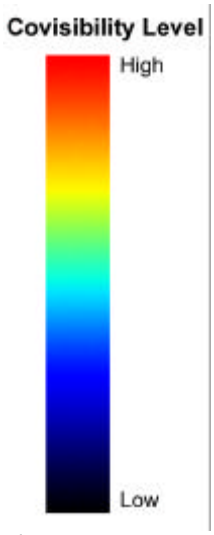


Figure 288. VGA - Ground Level Co-Visibility
From Inner Square Decision Points (see fig. 5.3)
Plaça Catalunya

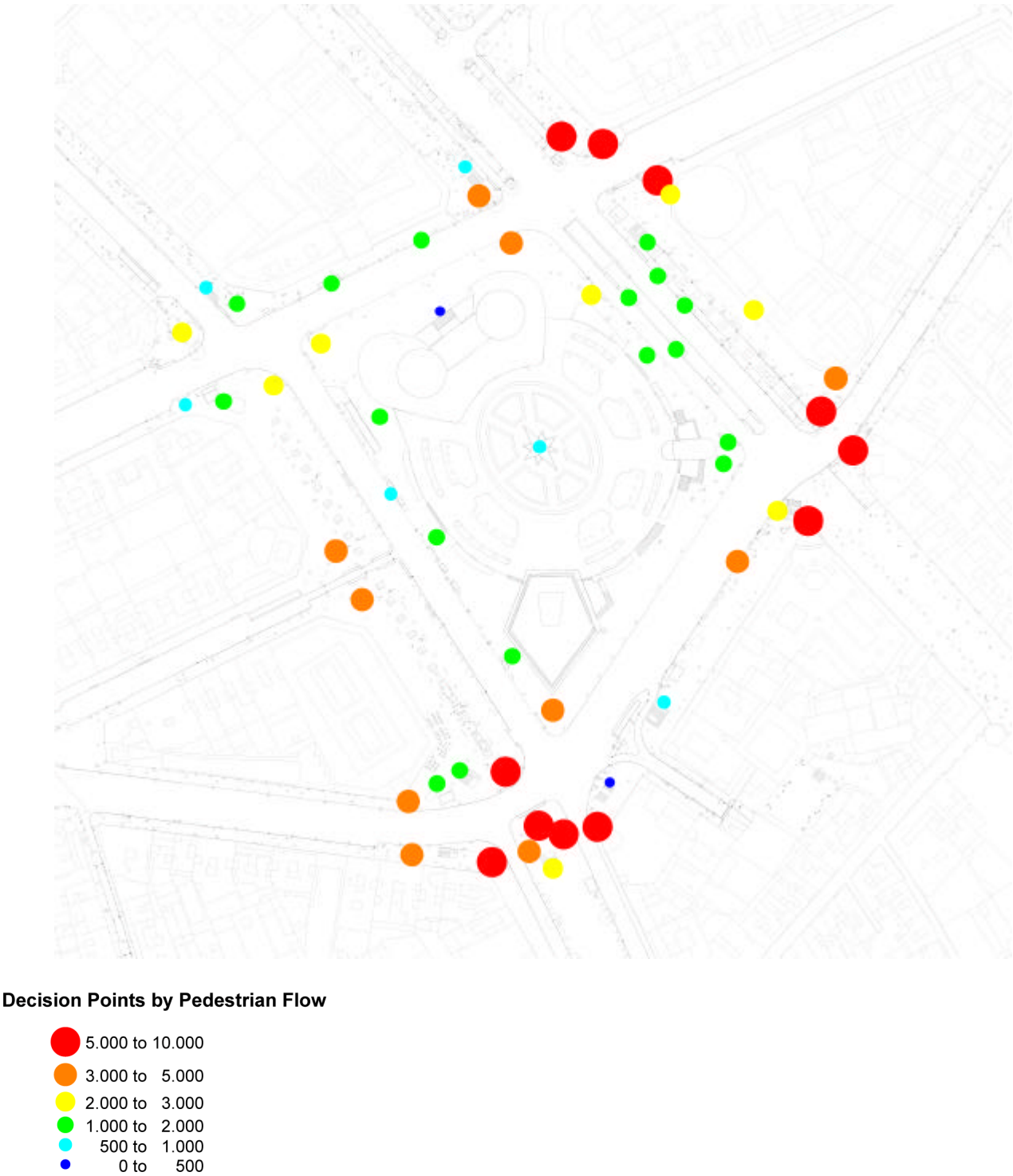


Figure 289. Decision Points Relative to Pedestrian Flow Density
Plaça Catalunya

The fact that the square is a major transport node and that, due to its location, it connects different urban typologies and spatial configurations (fig. 290) make Plaça Catalunya one of the main meeting points people use to get together before engaging in other activities or going elsewhere. Several points/landmarks within the square serve this purpose, the most known is the Zurich Café –at the corner of Carrer Pelai and La Rambla-, also extensively used are both corners of the El Corte Ingles store, the Hard Rock Café, etc.(fig. 291-2).

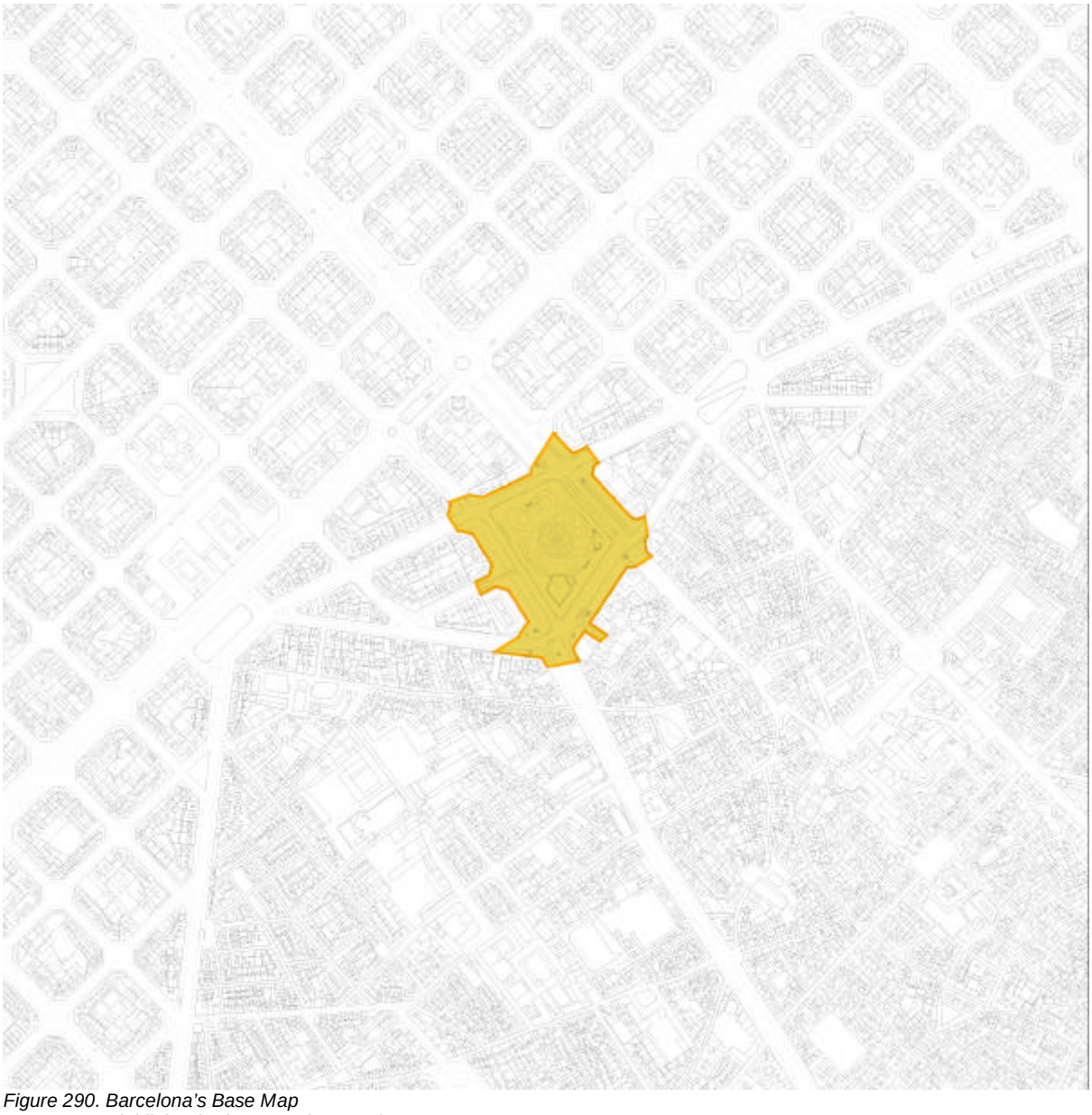
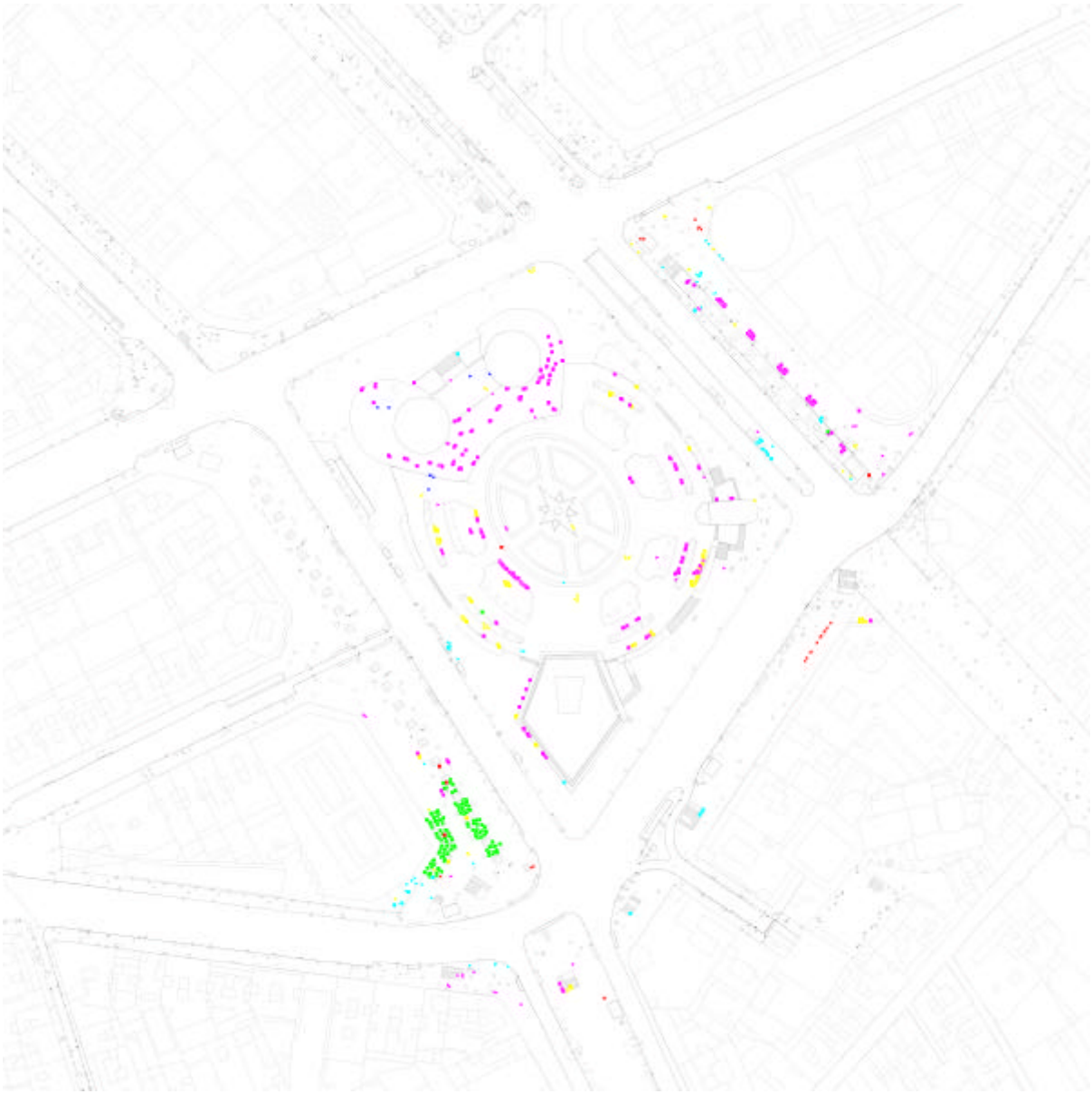


Figure 290. Barcelona's Base Map
Highlighted: Plaça Catalunya Urban Room



Assemblages by Activity

commercial	(27)
eating/drinking	(142)
photo taking	(8)
resting	(276)
talking/gathering	(153)
waiting	(71)

Assemblages by Assemblage Type

gathering	(16)
interaction	(98)
sitting	(497)
viewing	(62)
waiting	(4)

Figure 291. Assemblages by Type & Activity
Plaça Catalunya

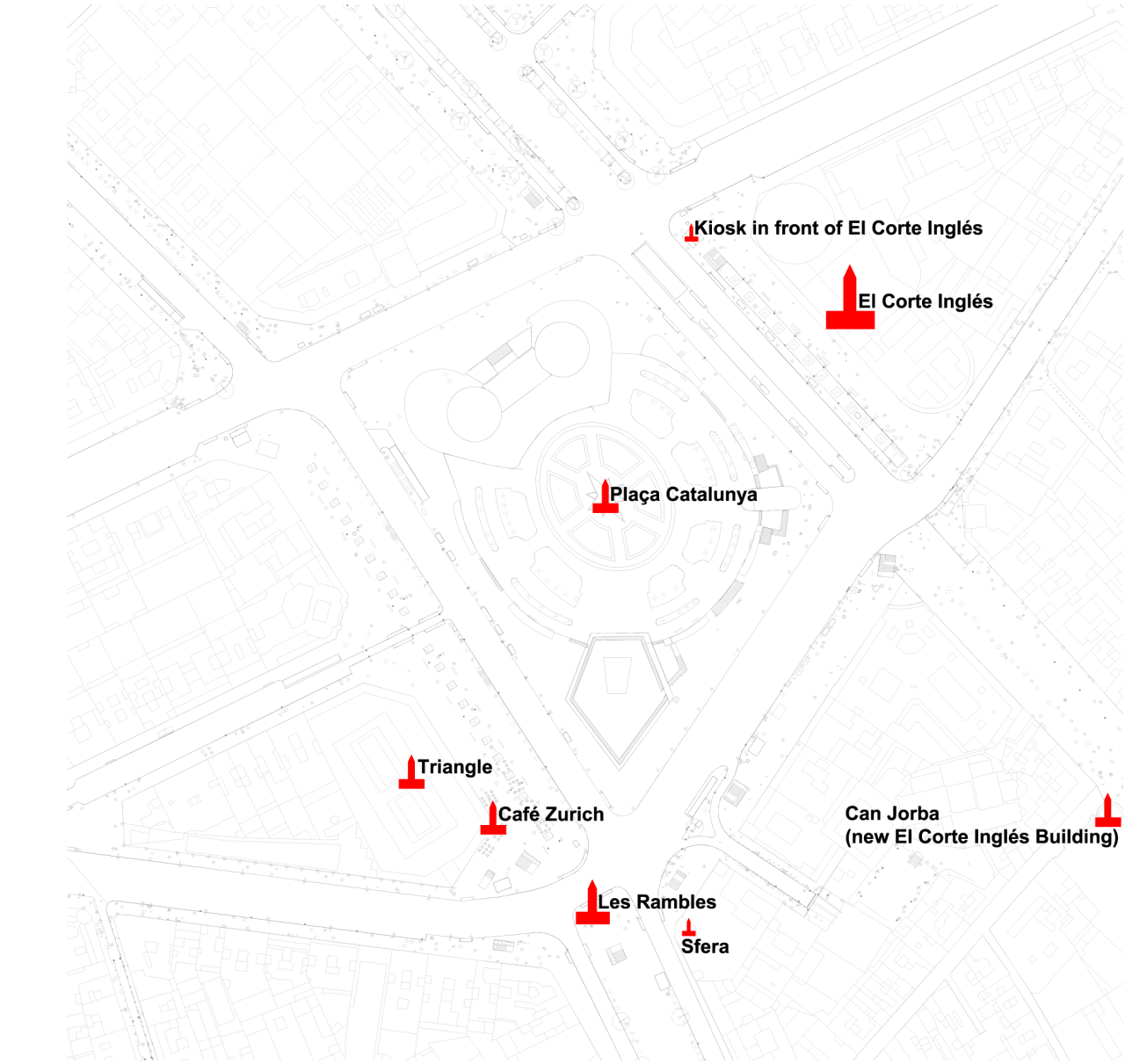


Figure 292. Landmarks as Reported by Street Interviews Plaça Catalunya

There is virtually no information related to the cultural or civic activities (some on ephemeral events, scarce or none on permanent attractions such as historical buildings, museums etc.) This constitutes a missed opportunity to make people (local and foreign) aware of city resources and activities. With likely the heaviest pedestrian flows in the city the square becomes an unparalleled/ideal spot to disseminate information (figs. 293-4) and placing Information of this sort at a major transportation node is all the more useful to people, since they become aware of the resources available at a spot where they have the means to access them.

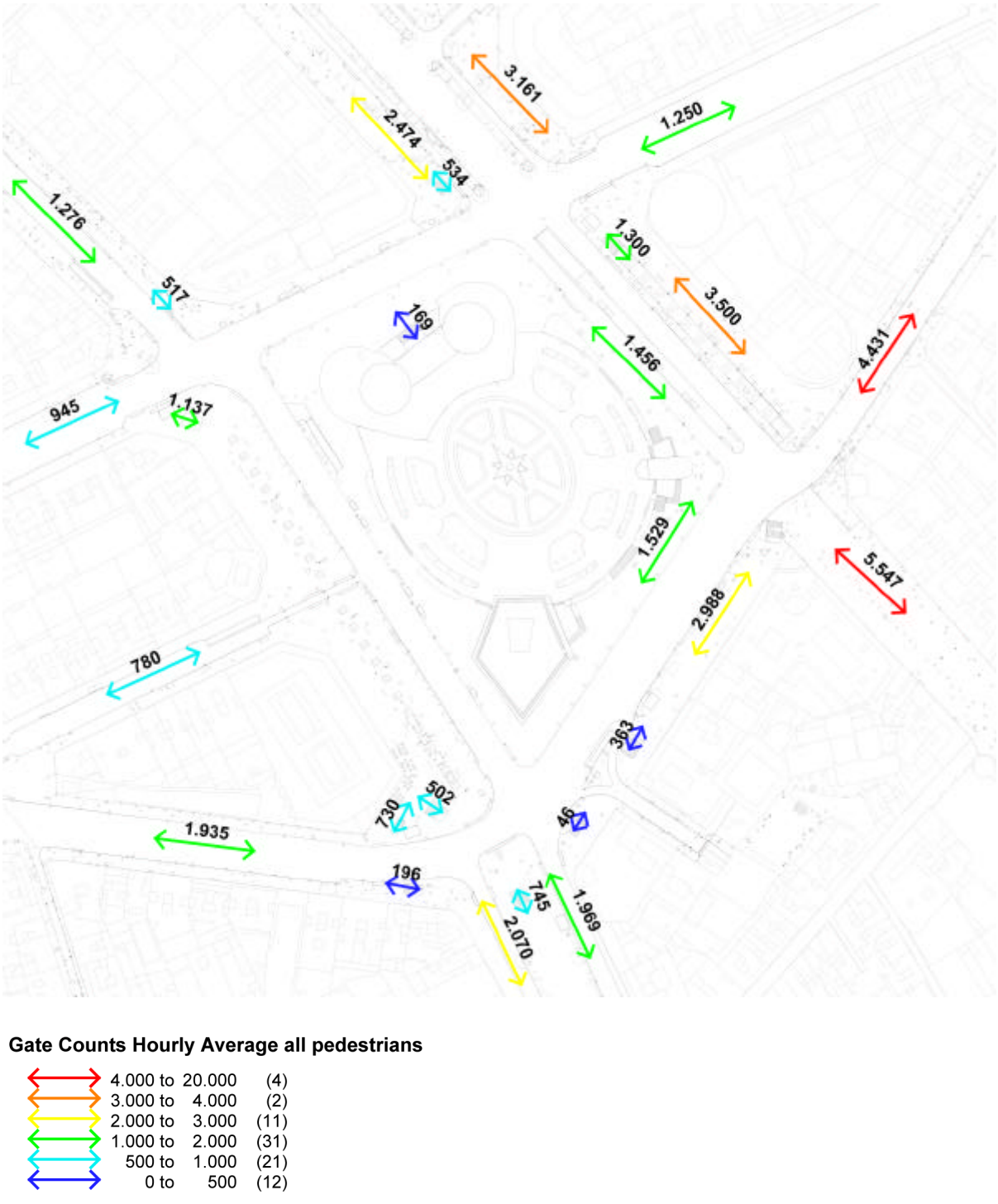


Figure 293. Gate Counts Weekday (Hourly Average)
Plaça Catalunya

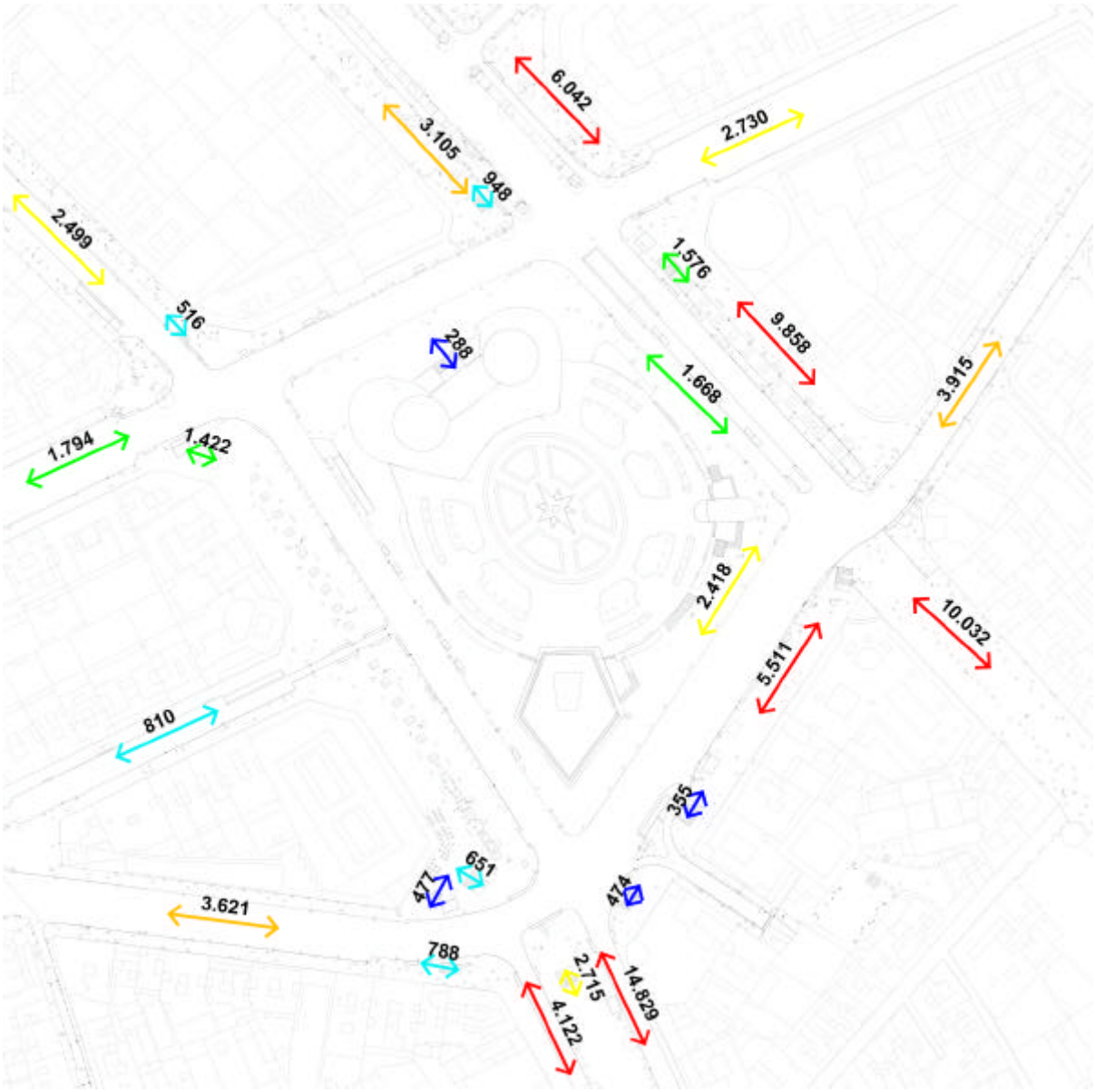


Figure 294. Gate Counts Weekend (Hourly Average)
Plaça Catalunya

It was observed that extreme social mix occurs in the area, from highly paid executives to illegal immigrants and homeless. This is a very important fact to take into account since this degree of social/economic mix implies great differences in education, from highest levels to difficulties in reading and writing. Public information must be accessible and comprehensible to all users.

Observer Narratives

Reference Map: ON SA07-02

Date: 05/07/08
Time Period: Weekday 19:00-21:00

(...) The mix of people sitting on the benches is quite incredible, because you have from senior citizens, which apparently are local, to tourists reading books, to immigrants, students, all sorts of people, all mixed together, very eclectic. But I would say that the majority seems to be not from here, they seem to be immigrants, I would say.
(...)
Sergio wanted to comment on the fact that all the benches are occupied by, either immigrants, elderly people or tourists. And we looked on one half of the square and all the benches were like that, and now we've looked at the other half and it is exactly the same pattern, so the entire square is being used in the same fashion.
(...)
People of all ages and from everywhere, locals, tourists, elderly people, teenagers, the mix is amazing. It's a bit confusing to be here because people are just moving around constantly, you never see the same person twice, very dynamic and at the same time colorful.

Date: 19/03/2005
Time Period: Weekend 18:30-20:30

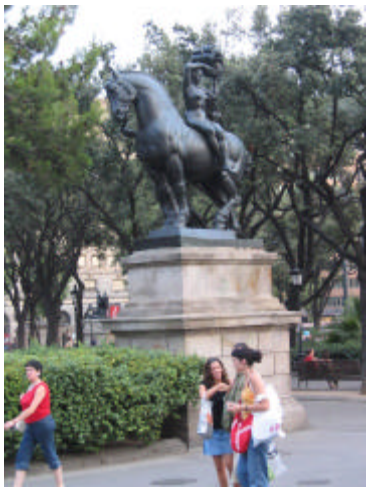
(...) I see other kinds of people, there are quite a lot of tourists, I see a young boy with luggage, some people with bags, some of them from El Corte Inglés, some of them from somewhere else. (...)There's a homeless in #9, who seems to be reading the newspaper

Date: 05/04/2005
Time Period: Weekday 13:30-15:30

(...) Let's see what kind of people come through. Some middle aged people, some young people, one tourist and one local, with El Corte Inglés bags. Some students. I think there are not many workers here around.

Navigational choices within the square, especially concerning public transport stops and exits (underground to ground), are hindered by the fact that the transport information system nomenclatures relate systematically to physical/toponymic references (i.e. a bus stop is named after a statue –Al·legoria a Barcelona-, one of 11 unidentified statues within the square). (figs. 296-97) Toponymic nomenclatures bear no relation to attractors or landmarks, they usually bear no relation to user's destinations or the landmarks they intuitively use to orient themselves. This is highly unfavourable to user experience.

Bus stop: “Plaça de Catalunya-Al·legoria a Barcelona”



Statue: “Al·legoria a Barcelona“

Figures 295-297. Physical/Toponymic Nomenclature
(Example A)
Plaça Catalunya

1. Rivadeneyra metro exit (underground)

2. Rivadeneyra St. (a dead end street with no attractors)

Figure 298-300.. Physical/Toponymic Nomenclature (Example B) Plaça Catalunya

Regulatory information –i.e.: “Don’t step on the grass”- are systematically ignored, as shown by assemblage observations. The latter forbids one of the few activities that can actually take place within the central part of the square. This shows that there are user needs that are not being properly covered by the affordances the space has to offer.

Observer Narratives

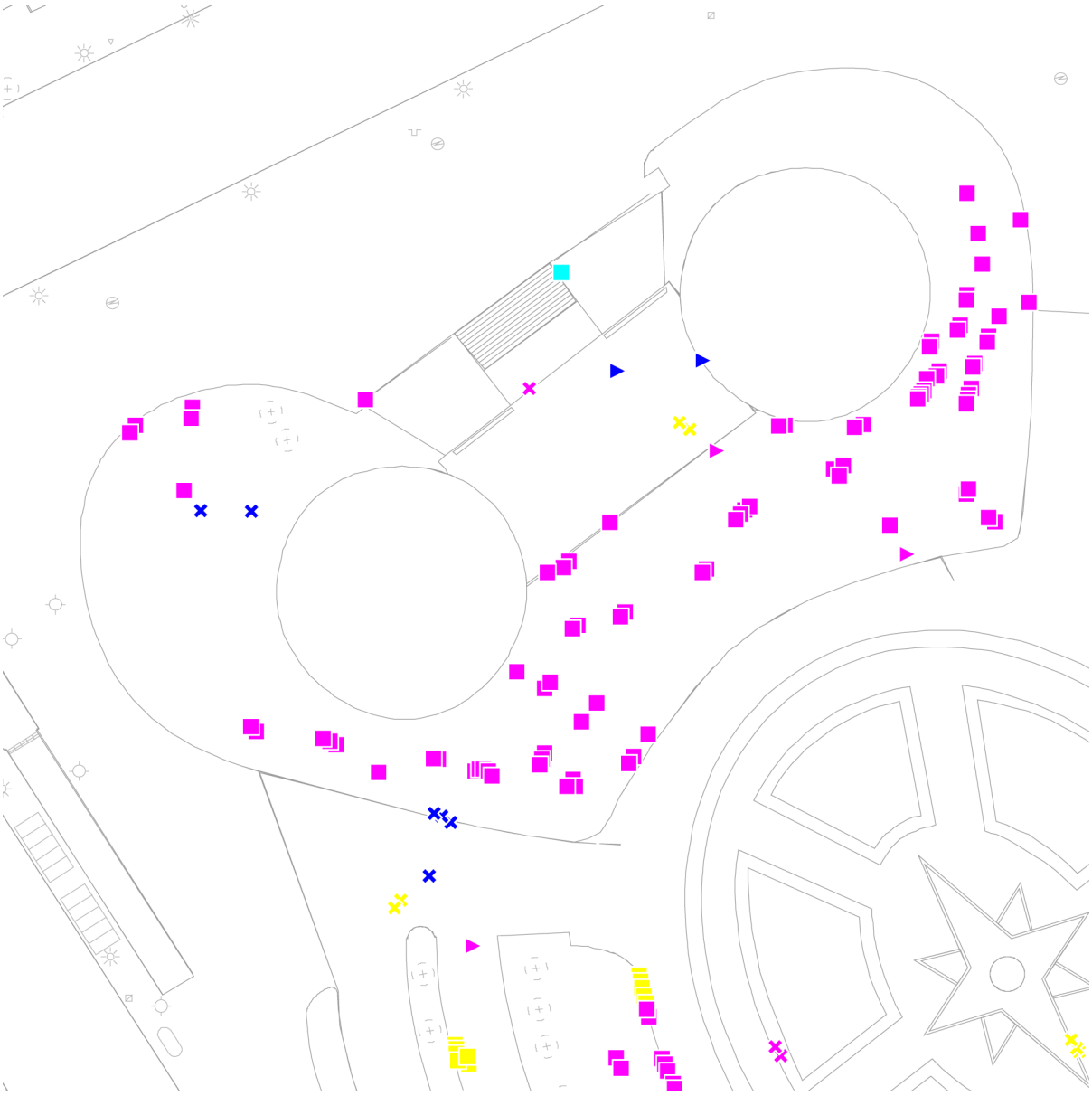
Reference Map: ON SA07-02

Date: 19/03/2005
Time period: Weekend 18:30-20:30

(...) OK I can see that there are people already sitting on the grass, next to the fountain, the fountain that is #6. People are sitting there even though there are signs that say “don’t step on the grass”, but people sit there, some tourists taking a photo just in front of the fountain. Some people are going to the fountain and trying to get their hands wet.

(...) I can see people sitting on the grass, what kind of people.. There are some dark colored immigrants, which is quite usual for this area, they are standing up, this is #13, there’s a bunch of men, there are seven or eight of these, right next to the fountain and the fountain is not turned on. There’s like a group of tourists more on the right, #14, three blond girls. Next to them a girl reading something. There is a man, #15, sitting on those things that are supposed to be there for you not to step on the grass, which separate the grass from the rest of the... (a fence, a small one, not tall) this man is sitting there eating a sandwich. There’s more people there’s a couple of tourists in one those benches... lets finish with the grassy area because there’s really a bunch of people lying there... OK there’s another group of men, six men gathered together, one of them completely lying down the others are just lazily sitting down, they are in front of the first group and will be #16, one of them is drinking something, there is something in the middle, like a piece of white paper, like there was food there, like a pic-nic. Then there’s like two more immigrants, sitting dressed almost the same, now they are standing up and leaving, but they are not like the ones behind them... there’s one guy sitting like the one before, in the little... that would be #17. There’s another boy sitting in the grass behind him, and then one behind him who is putting on his shoes or something, that would be #18, and the there is nobody else sitting down because there is a bunch of birds, doves, a huge amount of pigeons eating, apparently somebody threw food there or something, let’s see what they are eating, why they are here... bread.. There’s a kiosk where they sell food for the pigeons, and then behind the pigeons there are again the same type of immigrants we saw in the first group, in #13, and then we have another group just like it but much larger, sitting again on the rail and on the grass, I can’t count them, they are too many, that would be #17 also, about 20 people, sitting on the rail, some of them are carrying bags, I think, looks like all the people that are here... oops! Birds flying all over the place... curiously enough, there are more people sitting around Plaza Catalunya than actually in the middle, in the middle there’s only people crossing but nobody is sitting or stopping really. This is because in the middle it is quite unpleasant, to sit down on top of where the doves... the immigrants.. There are like 40 people just sitting around doing nothing, it’s amazing, it’s really crowded.

Figure 301-302. Assemblages on the Grass & the Sign that Forbids Them
Plaça Catalunya



Assemblages by Activity

commercial	(27)
eating/drinking	(142)
photo taking	(8)
resting	(276)
talking/gathering	(153)
waiting	(71)

Assemblages by Assemblage Type

● gathering	(16)
✖ interaction	(98)
■ sitting	(497)
▶ viewing	(62)
▮ waiting	(4)

Figure 303. Assemblages by Type & Activity
Plaça Catalunya

The tourist information office located in the square is sign posted with very large pylons at the entrance (fig. 304), nonetheless, people have trouble identifying and locating it. This should be looked into, the pylons are crowded with advertising and commercial information, and this makes the signpost unclear to users. The white on red “i”, which is a common way to identify information points, is not being recognized as such.

Figures 304-305. PIPs for Tourist Information Office Plaça Catalunya

Zebra crossing placement and dimensions do not support observed natural pedestrian flows: some are extremely crowded during most part of the day and people have to go beyond the striped area – and sometimes very close to vehicles- to be able to cross. Also, a great number of people were observed during all time periods crossing the street –at certain specific points of the square- at areas not marked as zebra crossings, this happens even though it is forbidden and clearly dangerous.(fig. 306)

Figure 306: Pedestrian Flows by Intensity
Corner Passeig de Gràcia / Ronda de Sant Pere
Plaça Catalunya

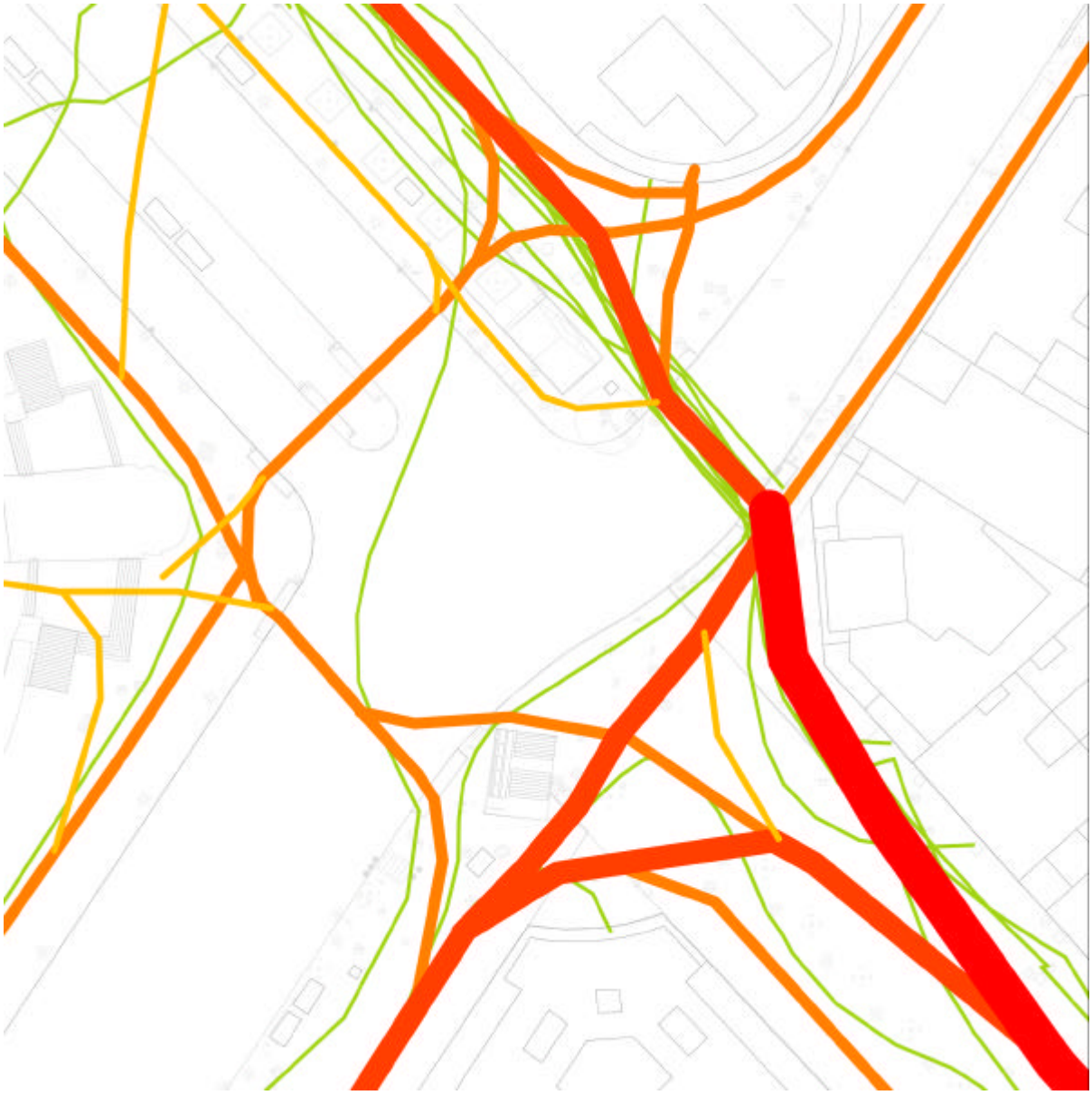


Figure 307. Pedestrian Flows by Intensity
Corner Avinguda del Portal de l'Àngel / Carrer Fontanella
Plaça Catalunya

Figure 308. Pedestrian Flows by Intensity
Corner La Rambla/Carrer de Pelai
Plaça Catalunya

Figure 309. Pedestrian Flows by Intensity
Corner Ronda de la Universitat / Rambla de Catalunya
Plaça Catalunya

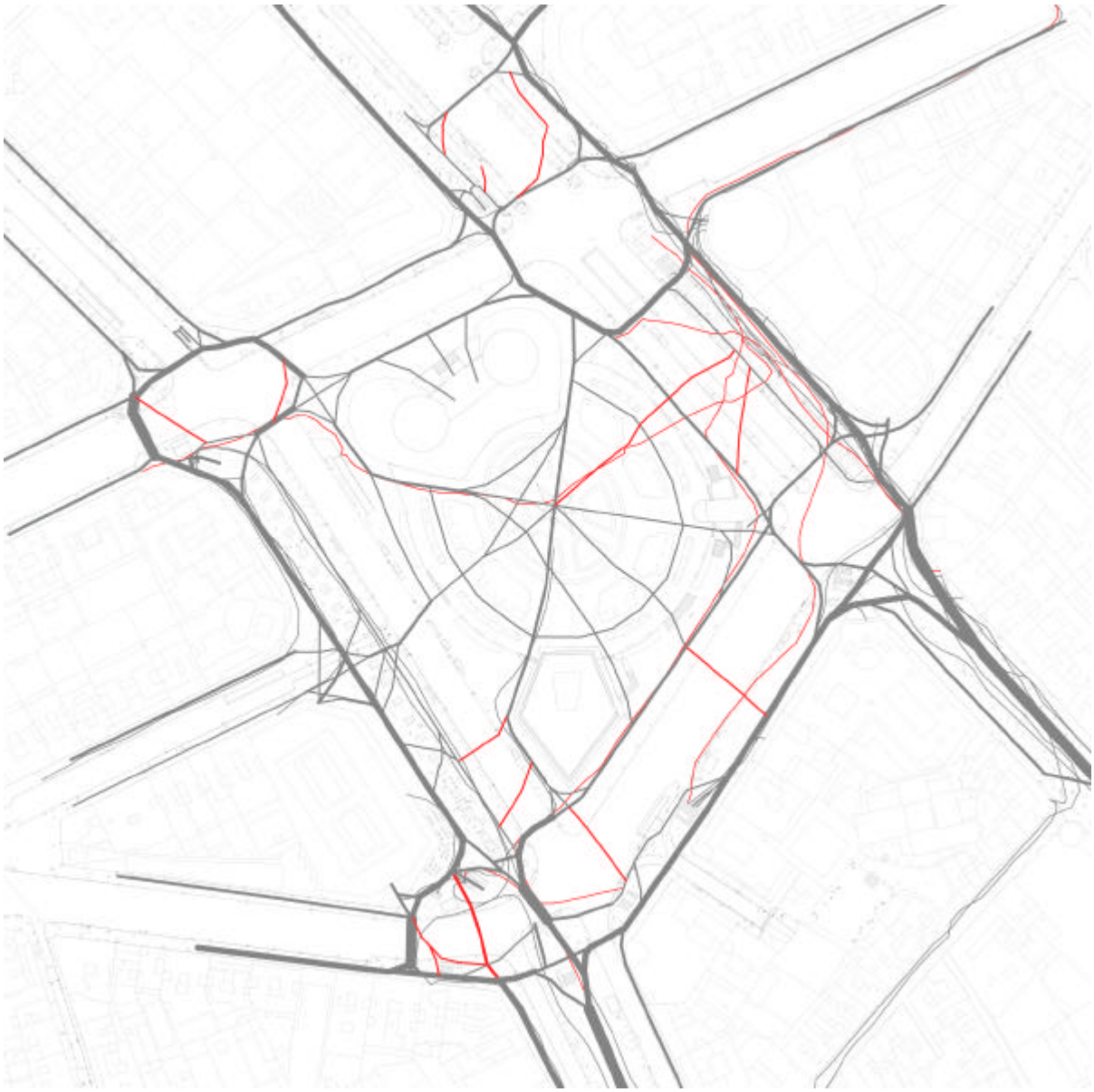


Figure 310. Pedestrian Flows
Highlighted irregular crossings
Plaça Catalunya

There are three different underground rail transportation systems: TMB Metro (local/city), Ferrocarils Catalans (local/regional) and RENFE (with regional, national and international services). Each of these systems has its own platform infrastructure independent from the others but connected to them by a complex set of tunnels. This complex underground configuration of tunnels and platforms is ill reflected on the ground level system of identification of exits and entrances. In addition, these different transportation systems coexist in the same physical supports (such as maps and pricing/fare zone diagrams) generating in users the expectation of a physical integration of services, which is not the case.

From an information standpoint, the low integration between these different underground rail systems is highly unfavourable to the effective use of public transport. This generates confusion and misunderstandings regarding what is available to the users and where.

Contributing to the complexity of the situation, the Rivadeneyra metro entrances are not sign posted with the usual pylon, or with any other signal, making them very hard to identify from a distance. This could be one of the reasons why these are two of the least congested entrances to underground transportation. And one of two underground parking entrances at the corners of Portal de l'Àngel and Fontanella is not identified as such. This is quite confusing since these entrances physically resemble existing metro entrances.

Figures 311-312. Rivadeneyra Metro Entrances (Missing the Usual Identification Pylons) Plaça Catalunya

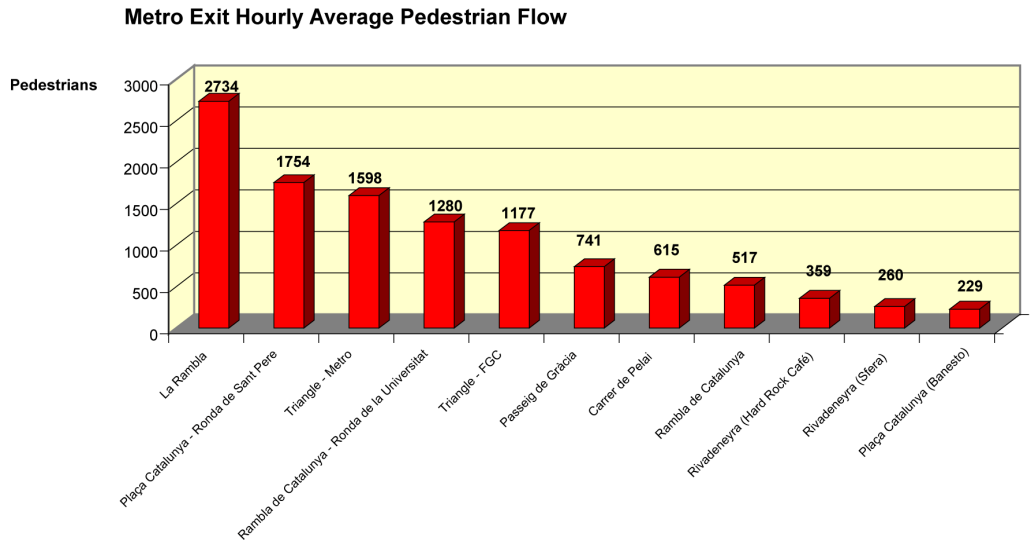


Figure 313. Hourly Average Pedestrian Flow at Metro Entrances
Plaça Catalunya

Figure 315. Metro-Resembling Underground Parking Entrances
Plaça Catalunya

Figure 316. Metro-Resembling Underground Parking Entrances
Plaça Catalunya

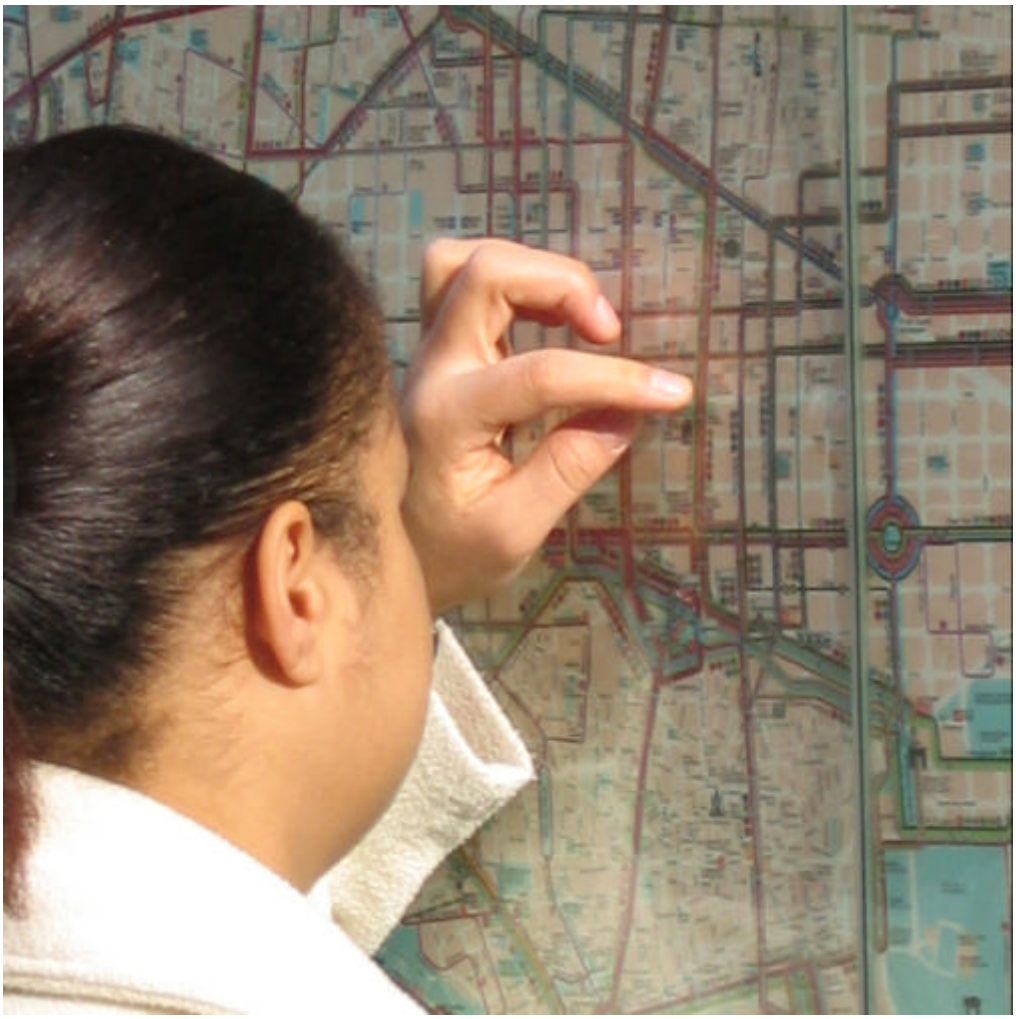
There are several independent bus networks offering their services all over the city (municipal inner and outer city lines such as Bus, Nit Bus and Bus Turistic, privately owned such as Tomb Bus, Tibi Bus, Aero Bus). Even though all these lines provide autonomous services and have clearly differentiated graphic identities, they use the same bus shelter structures and in some cases share shelters and stops. This makes the use of these public transportation services confusing and dysfunctional.

Commercial information and advertising in bus stops have more visual presence than the functional and navigation information regarding the public transportation systems, which are also segregated to the back of the shelters and sometimes severely damaged or faded. This hinders the functionality of the bus stops and the efficiency of the transportation system.

People were observed having all sorts of problems understanding the maps and line diagrams, as well as stopping buses to ask the driver if this particular bus passed by the user's destination. Drivers were observed to be accustomed to these events.

Figures 317-318. Different Bus Networks Sharing Shelters
(Municipal Bus, TombBus, TibiBus and Aerobus)
Plaça Catalunya

Figures 319-320. Different Bus Networks Sharing Shelters (Municipal Bus, Nit Bus and Aerobus) Plaça Catalunya



Figures 321-322. This and preceding page. People Attempting to Use Bus Network PIPs Plaça Catalunya

The area of the square near Carrer Rivadeneyra, at the corner of Hard Rock Cafe was, during observations, discovered to be a loading/unloading area for international coach lines, even though it is not properly identified as such. This generates a lot of pedestrian congestion on the sidewalk as well as vehicular congestion due to large buses parked on the side of the street. Aside from the fact that this may not be the best location for the loading and unloading of large number of tourists, this points to the absence of regulatory information that could help alleviate the congestion this generates and to a missed opportunity to situate information relative to pedestrian orientation, landmarks, activities, etc.

Figure 323 International Tour Buses
(Parked for loading and unloading passengers)
Plaça Catalunya

Conclusions

Plaça Catalunya, given its spatial configuration and functional make up, resembles an immense shopping mall with two major anchor stores (attractors) on opposite ends (FNAC and El Corte Inglés). The center of the square itself can be conceived as an area destined for rest / leisure, the periphery as major circulation axis, and the square's ramifications as major shopping / commercial activity zones radiating from the centre. This "shopping mall" vocation is greatly reinforced by ample underground parking facilities, ease of access by all means of public transport (bus / rail / taxi), dense pedestrian flows and the square's several points / landmarks traditionally used as meeting points. Nonetheless, information pertaining to the extensive commercial offer to be found in the area is ostensibly missing. Square users do not have any directory-like information at their disposal, something one would expect to find in any major commercial complex.

This area of Barcelona's capital route consistently generates what are possibly the heaviest flows of pedestrian traffic in the entire city. Aside from the extremely high number of pedestrians in and around the square, the social mix component in the flows and assemblages is also extreme, typifying social polarities (high executives / illegal immigrants) and representing Barcelona's social strata. These facts bear great significance concerning public information access as they point to the inherent diversity of users, and consequently of user needs, their tasks, use of the space, and comprehension/interpretation abilities.

The square is also a major point of arrival and departure of tourists via public transport, airport shuttle, city tours or international tour buses. Gate counts indicate highly significant proportions of visitors, pointing to an evident need of information/orientation for this type of users. Tourism is already the number one economic activity and revenue source for the city of Barcelona and the port of Barcelona is the busiest passenger terminal in the Mediterranean with almost half a million visitors a year. These facts bear great significance in the use of city resources, circulation/mobility, wayfinding, access to sites of interest, and consequently in the need for multilingual, strategically placed, public information.

Being as it is, a point of confluence and heavy concentration of users of all kinds, and exhibiting major economic and mobility roles within the capital route, Plaça Catalunya is possibly the most important public information access area of the city. Our observations of how users appropriate the space have revealed initiatives, natural tendencies, or needs which, at this point, are not fully supported. The meeting points, the seating /resting areas, the vantage points, are examples of such space use/appropriations which constitute opportunities for information access of various kinds to exist. Even density/flow unbalances on the surface or at the underground transport entrances could be improved with clear, more effective sign posting.

Clearly, well integrated public information access constitutes a key factor of functionality for this capital route segment and for its sustainability.

6. 2. How Do the Characteristics of the Urban Walls Relate to the Activities that Take Place Along the Capital Route?

Sub-Questions

How do urban walls relate to land use and user activity? How do they affect the formation and constancy of flows and assemblages? What kinds of activities are affected? What components and subcategories of the urban walls seem to be most important to these relations?

Scale of Investigation

The urban walls component has been studied in depth in the area of the Capital Route from Passeig de Gràcia/Gran Via to Portal de l'Àngel, covering, in addition, the entire urban room of Plaça Catalunya. This allows us to compare walls with other data sets especially in the square.

Data Sets

The data sets reviewed were: accessible Space, building entrances, facade transparency/form/usability, gate counts, follow the flows, observer narratives, questionnaires, assemblages, spatial analysis (VGA maps and axial maps), and land use.

General description

Passeig de Gràcia, as stated before, is the main thoroughfare of the Eixample in terms of social and commercial activity, and the largest in scale of our capital route. The Eixample district is built on an almost regular grid of chamfered square blocks where spatial patterns are repeated, and thus the relation of walls with flows and activities is quite consistent along the whole length of the boulevard. Most of the district was built around the turn of the XIXth to early XXth century, so many of the buildings still keep the original ornaments and facades. Over the years some of the buildings were replaced by new ones, so many different styles can co-exist in a single block, although most of them keep the original style.

This is also the case in the last stretch of Passeig de Gràcia before reaching Plaça Catalunya. There is a high level of aesthetic consistency, due in part to the fact that many of the buildings have very similar character, textures and materials. The walls of the urban room keep a good balance between original architectural features and their current use as commercial buildings. By and large commercial signage in storefronts tends to be respectful of original facades. The whole street features a wide range of high fashion franchises, hotels, banks, and a couple of architectural landmarks by Gaudí.

Figure 324. View on Passeig de Gràcia. The view shows the degree of consistency: mainly old and ornamented buildings together with modern ones.

Figure 325 View on Passeig de Gràcia. The view shows the intersection with Carrer Casp and how a fashion shop respects the original architectural elements while still displaying its own strong commercial visual language.

This degree of consistency is also found in Portal de l'Àngel, which can be considered another urban room in itself. Given that it is closed to vehicle traffic (except for municipal services, delivery vans, etc), that it has high shop density, uniform pavement, and that the street becomes narrower at the end, it is perceived as a single urban space. This street connects Plaça Catalunya with the gothic quarter and other smaller commercial streets in the area. It is significant to point out that Portal de l'Àngel is the densest commercial access of Barcelona, and retail space rent price is the highest in the entire city.

Figure 326: View on Portal de l'Àngel - the pedestrian-only most dense commercial access of Barcelona, which also keeps a high degree of aesthetic consistency.

Plaça Catalunya, on the other hand, is the opposite from an aesthetic point of view. Among a mix of many styles, the square is dominated by the very large, contemporary grey building of El Corte Inglés department store. Plaça Catalunya is perceived as a single space primarily for the fact that the buildings that surround it are visible from any point of the square. Nonetheless, visual obstacles such as fountains, trees, bushes, balustrades, a whole array of object types, as well as the pronounced slope of the terrain, impairs the comprehension of accessibility through the square, and in some cases even hinders the visibility of streets that connect to it.

Fig. 327. View on Plaça Catalunya - dominated by the 9 floor grey building of El Corte Inglés department store.

Walls and activities

As the flow study will explain in a more detailed way (chapter 6.4), this stretch of the capital route comprises the highest pedestrian flows of Barcelona. There is a bidirectional relation between flows and activities, since people tend to go where activities take place, and conversely activities prosper where large numbers of people are. Plaça Catalunya has a couple of big commercial centres in two opposite corners: El Corte Inglés (a huge 9 floor department store) and El Triangle (featuring a 3 floor FNAC among other well known shops). In terms of activities the main surrounding commercial streets generate important pedestrian flows (especially Portal de l'Àngel, La Rambla, Pelai and Passeig de Gràcia). Plaça Catalunya, as mentioned before, is a major connection space between different areas of the city, and also a major public transport node. This means that not all the flows that occur in the square bear direct relation to activities.

From Passeig de Gràcia at the Gran Via intersection to Plaça Catalunya, the transparency, form and usability levels are quite high, which coincides with the presence of a number of shops. All the facades to the left side of the street (left when going down) keep a high level of form complexity. This is not necessarily the case on the right side from the Carrer Casp intersection to the square, where, at this point a row of banks/financial institutions occupies the buildings. There is the special case of Zara (a major fashion franchise), at the corner of Gran Via and Passeig de Gràcia. It's windows and entrance are frequently used as a resting place, as shelter in case of rain, and meeting point as a result of its conspicuousness and the wide range of affordances at the entrance. All shops apply their own commercial visual language while respecting the architecture, so one finds very modern interiors and shop windows housed under highly ornamented buildings and entrances (see figs.1 and 4). This end stretch of Passeig de Gràcia presents high levels of transparency, usability and form, as well as accessible space. A couple of big restaurants in both corners of Carrer Casp (and others along this street) allow longer periods of accessibility, and attract patrons, this helps maintain flows and extend activities throughout the day and night.

Figure 328. Affordances in a Shop Entrance and High Levels of Transparency

There is an observed coincidence of stationary activities such as talking, sitting on benches, window-shopping, etc. in front of walls that have high levels of transparency and form. The opposite becomes more evident on the right side of this stretch of Passeig de Gràcia (from Casp to Plaça Catalunya), where there is almost no transparency at all, as it is occupied by banks, which except for one, are quite opaque. Buildings on the left side, however, have many delicate and fine ornaments, and the balconies (which do not exist on the right side) project themselves over the sidewalk, giving the sense of a greater sense of intimacy.

Plaça Catalunya is, on the other hand, much simpler in terms of form. Most old buildings are in fact branches of well-known banks, big monolithic blocks and rather monumental types of architecture. Human scale is lost, except maybe for a couple of buildings: the Sfera department store, and La Rambla corner.

El Corte Inglés is a solid grey building, whose ground floor has several long windows and three public entrances. This can be verified by the maps that show the extent of transparencies and entrances along the main wall facing the square. The shop windows are not designed as such: you can see inside the store, but they tend not to work for window-shopping. Instead, they are the backs of counter spaces in the interior. As it happens with the previously described Zara store, there are assemblages in front of the entrances of El Corte Inglés, some even in front of the windows, but none in front of the opaque areas. There, people just walk along. This ground level has a cornice all along it, which people use as shelter in case of rain or extreme sun heat, but as a form it certainly doesn't have the subtlety of the shelter effect found in the ornamental balconies at Passeig de Gràcia.

Figures 329-330. El Corte Inglés at Ground Level. There are assemblages next to the Ronda de Sant Pere door. In front of the opaque areas, people just walk along.

Plain and opaque walls are also found between Ronda de Sant Pere and Ronda de la Universitat, where the block is occupied by two banks with low form and transparency levels. Half of the windows are covered by thick black metal bars. This building (that houses the Banesto bank) generates little or no activity in front of it, except for people waiting for buses.

Figure 331. The Banesto Building with No Transparency and No Accessibility. The only activity is usually people waiting for the bus

The area between Rambla de Catalunya and La Rambla is the opposite (except for the BBVA bank corner that has the same morphology as Banesto). The El Triangle building, despite being very simple, has a high degree of transparency and houses Café Zurich, which has maintained a long standing tradition of being a meeting point (it is also in front of two underground transport exits). The stretch closest to Rambla de Catalunya also has a café and another metro exit, but has less activity than La Rambla corner.

Figure 332: El Triangle Commercial Centre in the intersection with Carrer Bergara, featuring high levels of transparency and a big accessible space

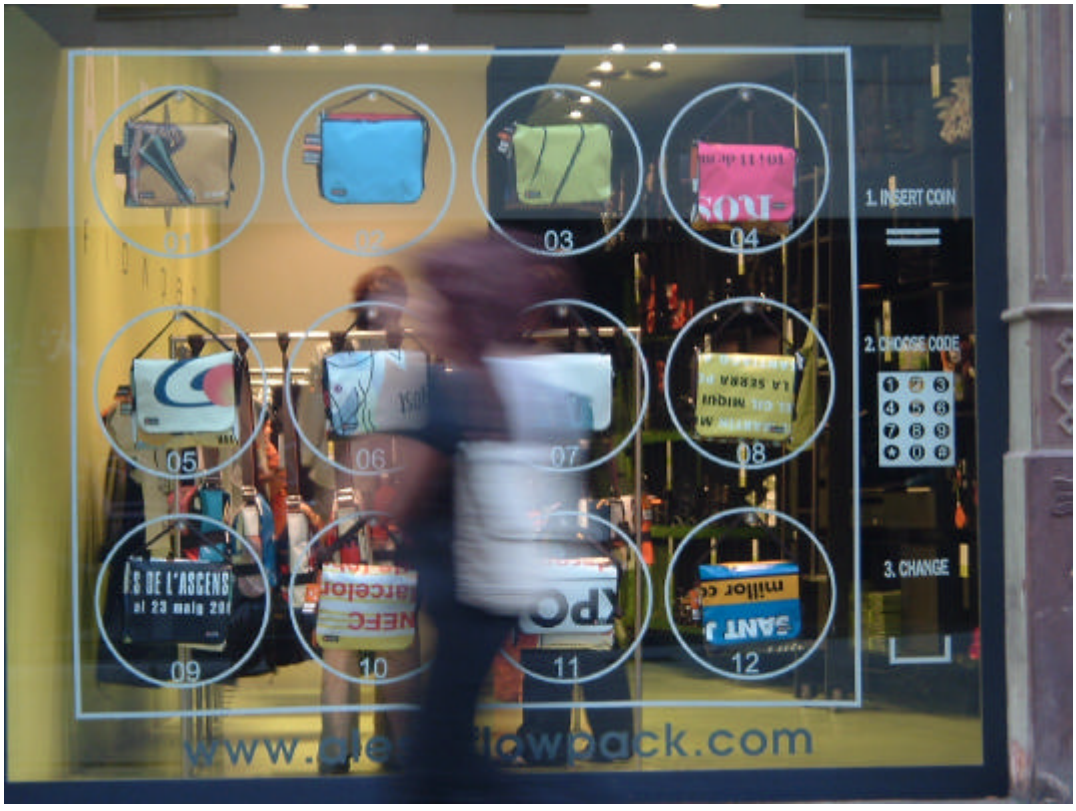
Finally, in Plaça Catalunya there is the Portal de l'Àngel to La Rambla stretch, which has very different wall qualities. The Banco de España building at the Portal de l'Àngel intersection (another big monolithic block with no transparency or accessible space) has some stairs in the corner, which are often used as a sitting area. There are two more banks on this side that have low transparency, form and usability levels. In contrast, there is an ice cream shop, the Hard Rock Cafe and the Sfera department store with higher levels of these measures. Some of the activities that take place in front of these walls keep a relation with the characteristics of the wall. In the same way as El Corte Inglés, the lack of transparency and accessibility in some areas make people walk along them, and at the same time are often used by beggars or illegal vendors to develop their activities. The tourist proportion of the flows in this area is higher than average because there are many of them coming from La Rambla, and also the fact that this area is a loading and unloading place for international buses. Groups of tourists tend to assemble in front of Hard Rock Cafe, which is a well known international restaurant chain, it has a metro exit in front of it with several affordances for sitting, waiting and gathering. The Sfera department store does not generate flows comparable to El Triangle or El Corte Inglés, and its transparency is not very high. This non-uniformity of the walls, the complete isolation from the central area of the square (there are no zebra crossings towards the center that, in addition, has a motorcycle parking along the inner sidewalk), and the particular flows that are formed along this side coincide with the non-uniformity of the distribution of activities.

Figure 333. Banco de España Building in Portal de l'Àngel Corner. No activities take place here, except a beggar with a dog.

Portal de l'Àngel, as stated before, is much more uniform in terms of wall properties. The only part that has low levels of transparency, form and usability is that of the Banco de España building. However, the area in front of the bank is often occupied stands for hand crafted product fairs or big event ticket sales. This counteracts the impact that such low levels have on the activities on the street.

The rest of Portal de l'Àngel has a high density of shops, mainly devoted to fashion, and most of them present high levels of transparency. Since most of the buildings are old, there is also a consistent level of texture and form uniformity. The attractiveness of the shop windows and relatively wide range of fashion shops allows the creation of assemblages in front of them. Almost all movement annotation that were done in the area shows curves that go from shop to shop. A notable consequence of this eminently commercial nature is that once the stores close (around 9:00pm), the changes drastically: accessible space and transparency almost completely disappear. This affects the dynamics of flows and the activities that take place in the street: flows tend to gradually disappear and the pace accelerates, no one stops to do anything, and the overall impression is that of a place that has been abandoned. In this sense and compared to Passeig de Gràcia and Plaça Catalunya, Portal de l'Àngel has a shorter activity period.

Figures 334-335. Portal de l'Àngel. two general views, by day and night. Notice the level of aesthetic consistency of the buildings, and the effect that the lights of shops create in the street.



Figures 336-337. Portal de l'Àngel.On these pictures we see that the commercial visual language respects original architecture while keeping its own character.

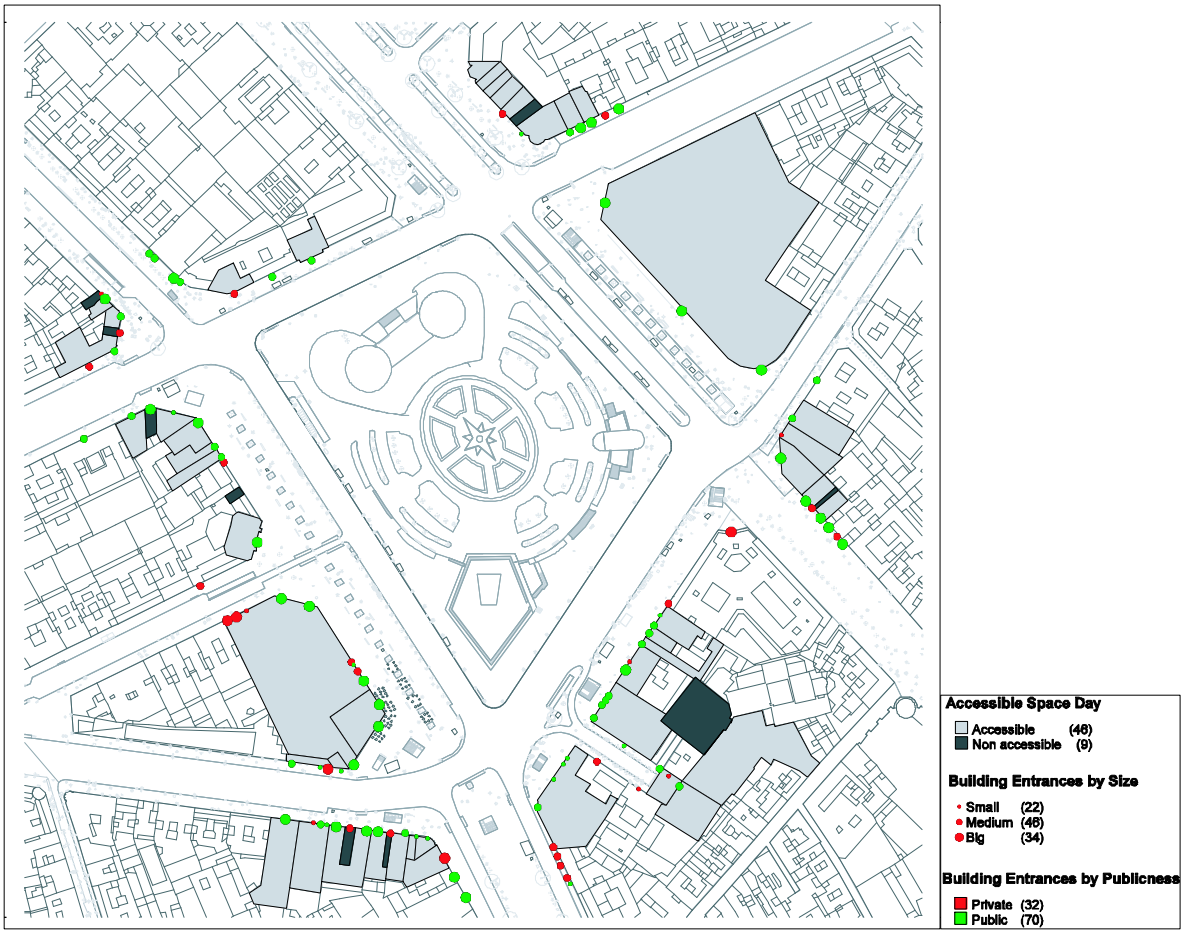
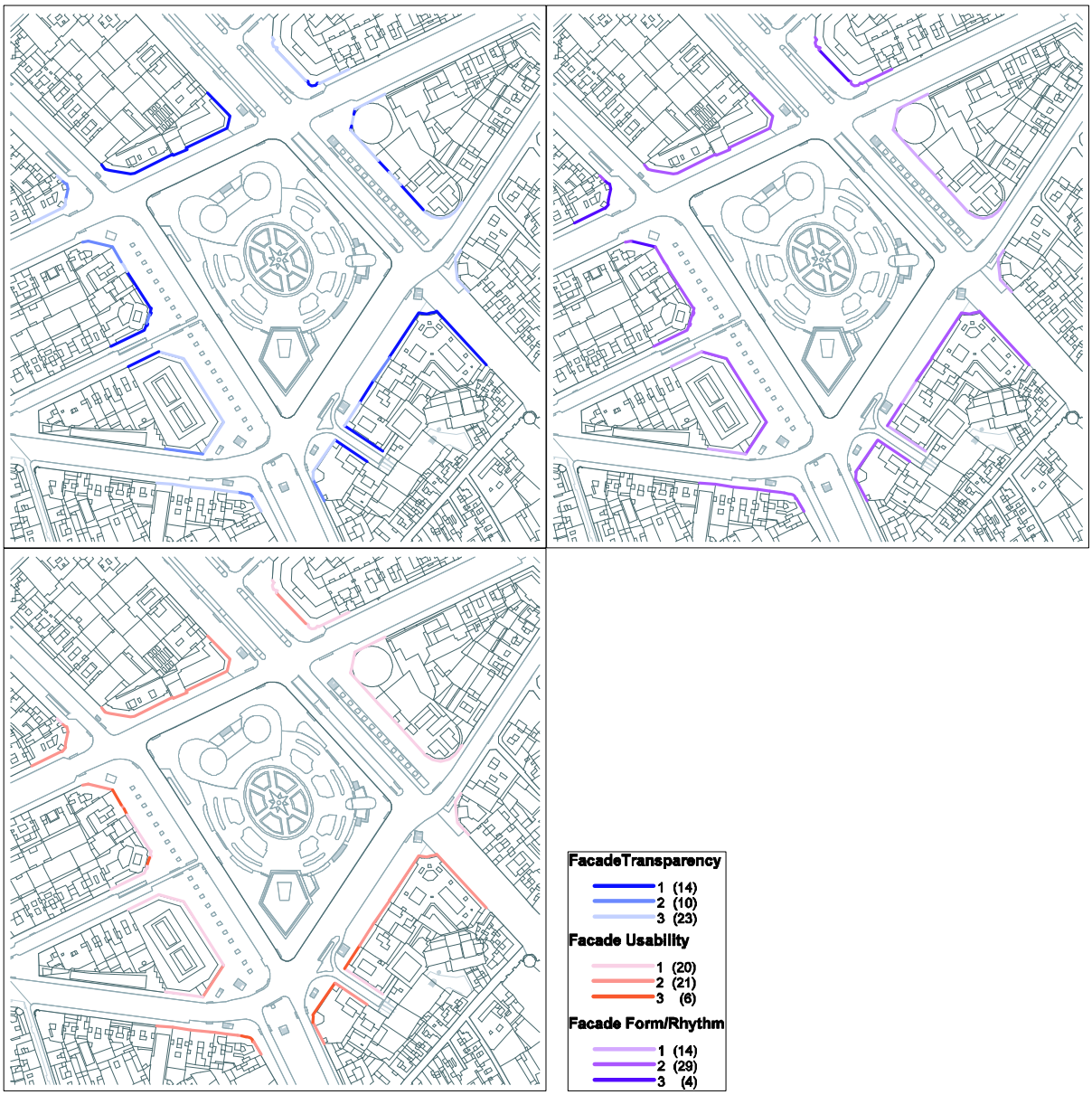


Figure 338. Accessible Space During Day and Building Entrances by Size and Public/Private Relation



Figures 339-341. Facade Transparency, Usability and Form/Rhythm

Concluding Remarks

There is an observed relationship of urban walls characteristics, land use and activities. In general, high levels of transparency and accessible space are related to the formation of small assemblages and gatherings. Flows have been observed to be slower in those areas where you can look inside the walls, since it invites to “window shop”. Low transparency and accessibility walls, such as those occupied by certain banks, show a lack of activities in front of them, as well as an increase of walking speed.

The combination of these factors together with other wall parameters such as form and usability help explain why the flows in one sidewalk of Passeig de Gràcia are noticeably higher than the other. Form and usability in general are complementary to the effect of transparency and accessibility, and do not affect flows significantly. Usability is clearly related to the formation of certain kinds of assemblages, namely those of people waiting, resting, or sitting.

Totally opaque walls, promote the presence of beggars and illegal vendors who, attracted by the high flows of Plaça Catalunya, use these flat walls to perform their activities.

Extreme cases of high transparency and accessibility levels that change abruptly to opaque and inaccessible –as seen in Portal de l’Àngel when shops close–, create big contrasts both in the perception of the urban space and its use. The impossibility of performing almost any activity there causes people to abandon the street.

6. 2. How Do the Characteristics of the Urban Walls Relate to the Activities that Take Place Along the Capital Route?

Sub-Questions

How do urban walls relate to land use and user activity? How do they affect the formation and constancy of flows and assemblages? What kinds of activities are affected? What components and subcategories of the urban walls seem to be most important to these relations?

Scale of Investigation

The urban walls component has been studied in depth in the area of the Capital Route from Passeig de Gràcia/Gran Via to Portal de l'Àngel, covering, in addition, the entire urban room of Plaça Catalunya. This allows us to compare walls with other data sets especially in the square.

Data Sets

The data sets reviewed were: accessible Space, building entrances, facade transparency/form/usability, gate counts, follow the flows, observer narratives, questionnaires, assemblages, spatial analysis (VGA maps and axial maps), and land use.

General description

Passeig de Gràcia, as stated before, is the main thoroughfare of the Eixample in terms of social and commercial activity, and the largest in scale of our capital route. The Eixample district is built on an almost regular grid of chamfered square blocks where spatial patterns are repeated, and thus the relation of walls with flows and activities is quite consistent along the whole length of the boulevard. Most of the district was built around the turn of the XIXth to early XXth century, so many of the buildings still keep the original ornaments and facades. Over the years some of the buildings were replaced by new ones, so many different styles can co-exist in a single block, although most of them keep the original style.

This is also the case in the last stretch of Passeig de Gràcia before reaching Plaça Catalunya. There is a high level of aesthetic consistency, due in part to the fact that many of the buildings have very similar character, textures and materials. The walls of the urban room keep a good balance between original architectural features and their current use as commercial buildings. By and large commercial signage in storefronts tends to be respectful of original facades. The whole street features a wide range of high fashion franchises, hotels, banks, and a couple of architectural landmarks by Gaudí.

Figure 324. View on Passeig de Gràcia. The view shows the degree of consistency: mainly old and ornamented buildings together with modern ones.

Figure 325 View on Passeig de Gràcia. The view shows the intersection with Carrer Casp and how a fashion shop respects the original architectural elements while still displaying its own strong commercial visual language.

This degree of consistency is also found in Portal de l'Àngel, which can be considered another urban room in itself. Given that it is closed to vehicle traffic (except for municipal services, delivery vans, etc), that it has high shop density, uniform pavement, and that the street becomes narrower at the end, it is perceived as a single urban space. This street connects Plaça Catalunya with the gothic quarter and other smaller commercial streets in the area. It is significant to point out that Portal de l'Àngel is the densest commercial access of Barcelona, and retail space rent price is the highest in the entire city.

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Plaça Catalunya, on the other hand, is the opposite from an aesthetic point of view. Among a mix of many styles, the square is dominated by the very large, contemporary grey building of El Corte Inglés department store. Plaça Catalunya is perceived as a single space primarily for the fact that the buildings that surround it are visible from any point of the square. Nonetheless, visual obstacles such as fountains, trees, bushes, balustrades, a whole array of object types, as well as the pronounced slope of the terrain, impairs the comprehension of accessibility through the square, and in some cases even hinders the visibility of streets that connect to it.

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Walls and activities

As the flow study will explain in a more detailed way (chapter 6.4), this stretch of the capital route comprises the highest pedestrian flows of Barcelona. There is a bidirectional relation between flows and activities, since people tend to go where activities take place, and conversely activities prosper where large numbers of people are. Plaça Catalunya has a couple of big commercial centres in two opposite corners: El Corte Inglés (a huge 9 floor department store) and El Triangle (featuring a 3 floor FNAC among other well known shops). In terms of activities the main surrounding commercial streets generate important pedestrian flows (especially Portal de l'Àngel, La Rambla, Pelai and Passeig de Gràcia). Plaça Catalunya, as mentioned before, is a major connection space between different areas of the city, and also a major public transport node. This means that not all the flows that occur in the square bear direct relation to activities.

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Finally, in Plaça Catalunya there is the Portal de l'Àngel to La Rambla stretch, which has very different wall qualities. The Banco de España building at the Portal de l'Àngel intersection (another big monolithic block with no transparency or accessible space) has some stairs in the corner, which are often used as a sitting area. There are two more banks on this side that have low transparency, form and usability levels. In contrast, there is an ice cream shop, the Hard Rock Cafe and the Sfera department store with higher levels of these measures. Some of the activities that take place in front of these walls keep a relation with the characteristics of the wall. In the same way as El Corte Inglés, the lack of transparency and accessibility in some areas make people walk along them, and at the same time are often used by beggars or illegal vendors to develop their activities. The tourist proportion of the flows in this area is higher than average because there are many of them coming from La Rambla, and also the fact that this area is a loading and unloading place for international buses. Groups of tourists tend to assemble in front of Hard Rock Cafe, which is a well known international restaurant chain, it has a metro exit in front of it with several affordances for sitting, waiting and gathering. The Sfera department store does not generate flows comparable to El Triangle or El Corte Inglés, and its transparency is not very high. This non-uniformity of the walls, the complete isolation from the central area of the square (there are no zebra crossings towards the center that, in addition, has a motorcycle parking along the inner sidewalk), and the particular flows that are formed along this side coincide with the non-uniformity of the distribution of activities.

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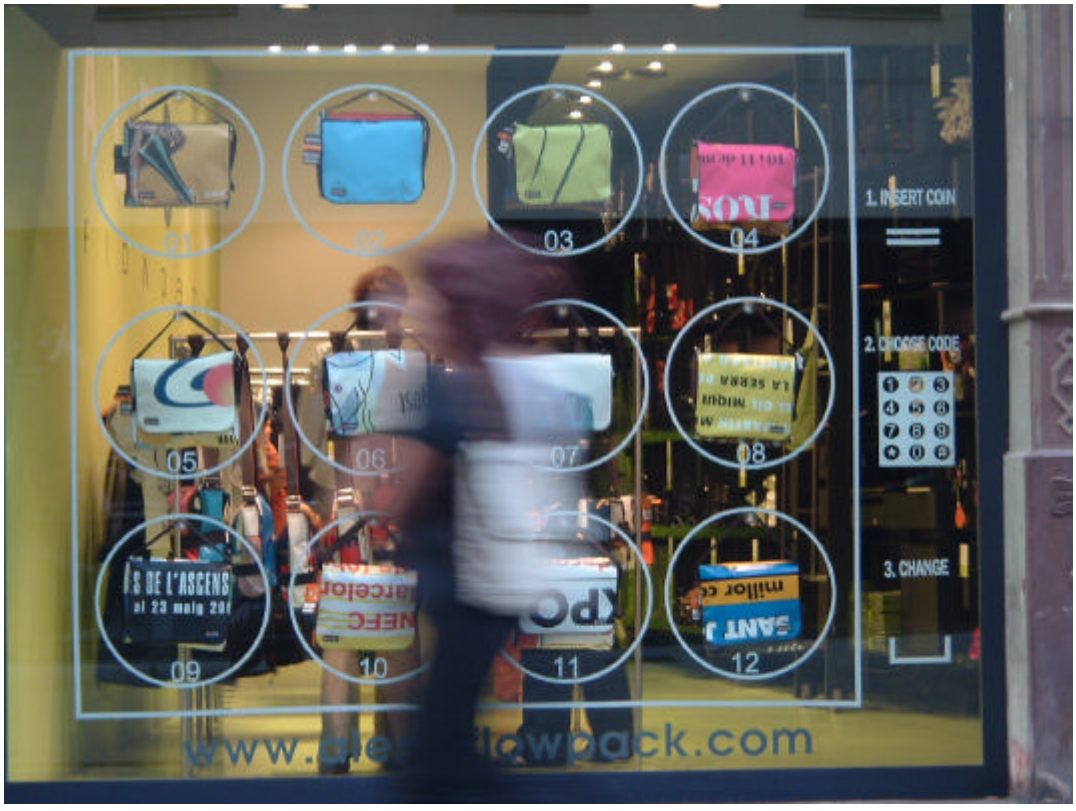

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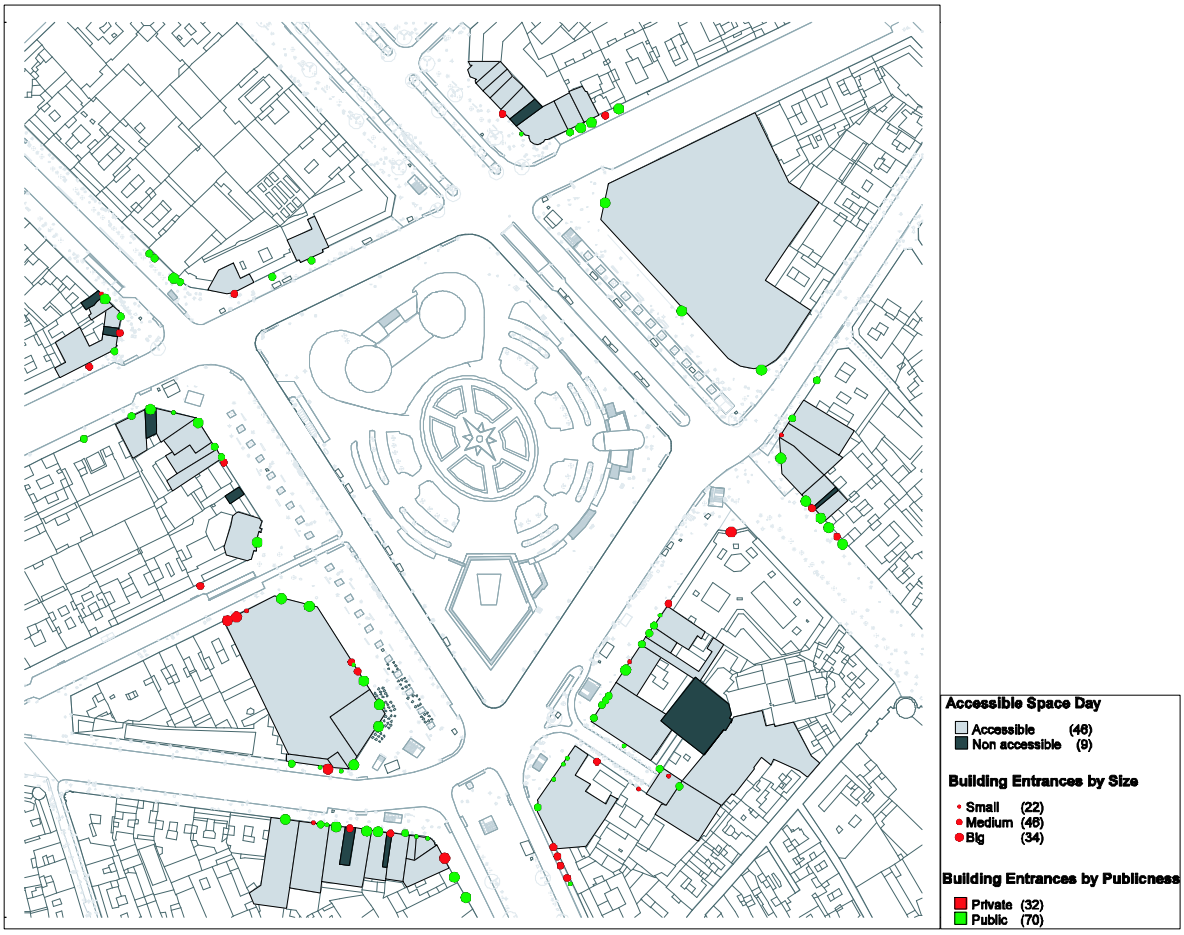

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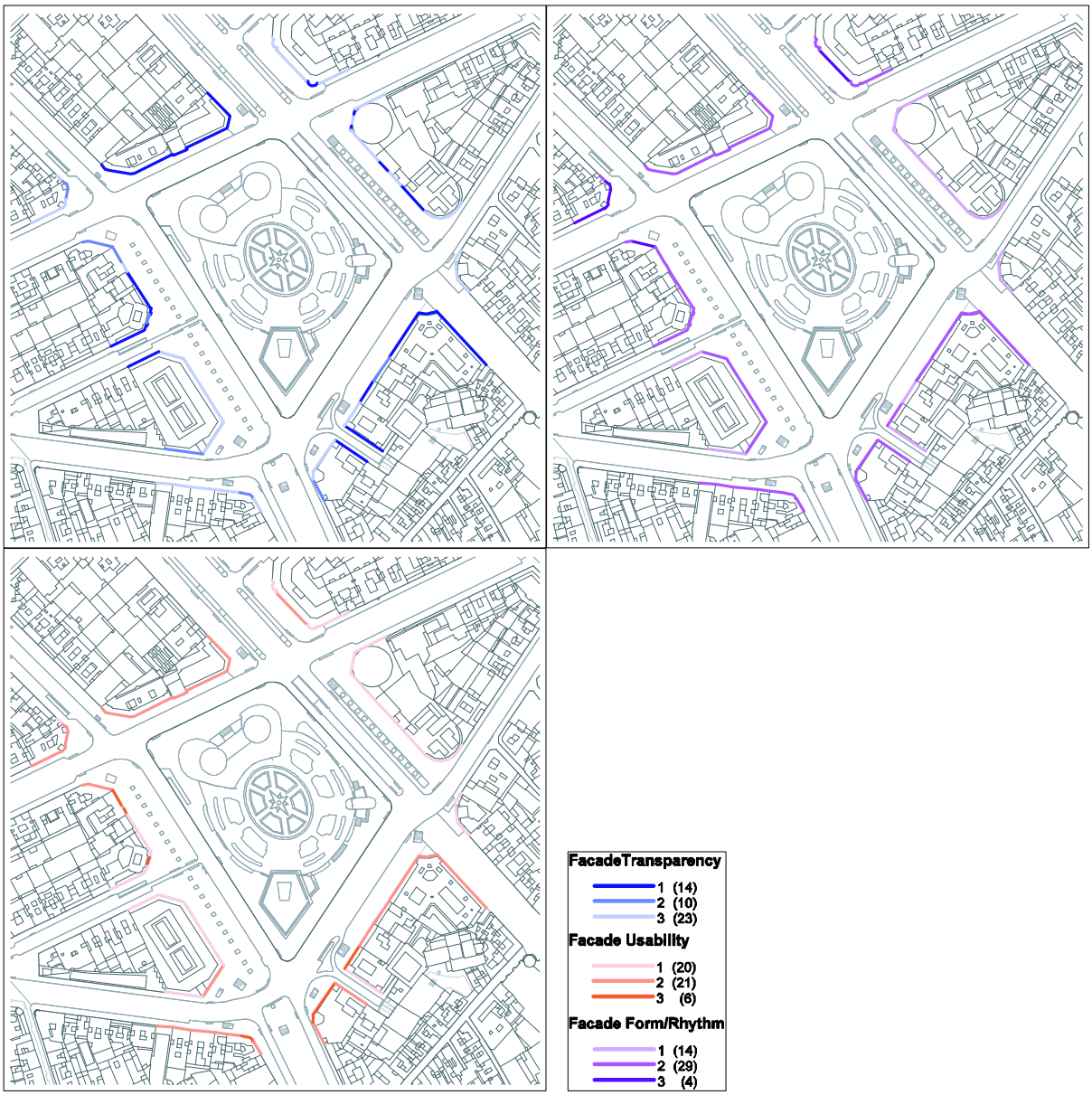

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Concluding Remarks

There is an observed relationship of urban walls characteristics, land use and activities. In general, high levels of transparency and accessible space are related to the formation of small assemblages and gatherings. Flows have been observed to be slower in those areas where you can look inside the walls, since it invites to “window shop”. Low transparency and accessibility walls, such as those occupied by certain banks, show a lack of activities in front of them, as well as an increase of walking speed.

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6.3 How Do the Affordances of Urban Rooms Relate to Actual Activities that Take Place?

Sub-Questions

What are the offerings and possibilities of the urban rooms, and how well do they correspond to the activities that are taking place? How do the affordances of urban rooms relate to flows and assemblages? How do the actual activities relate to opportunities afforded by different components and subcategories of the urban rooms?

Scale of Investigation

Data sets related to flows and observer narratives have been performed along the whole extent of the capital route, but the more intense data collection that allows the crossing of several data sets is concentrated in Plaça Catalunya. This square is the largest and most complex urban room in Barcelona's capital route.

Data Sets

The data sets reviewed were: accessible space, building entrances, assemblages, follow the flows, gate counts, facade transparency, movement annotations, derive, facade form, land use, observer narratives, facade usability, objects, floor planes, transport nodes, spatial analysis (VGA maps and axial maps).

General description

Squares along Barcelona's capital route are the places that allow more affordances in terms of outdoor stationary activities, and in fact it's there where more activities take place. When analyzing affordances in an urban space one has to understand how intended (this is, designed) and non-intended (non-designed) affordances relate to actual use.

From all the outdoor activities that take place along the Capital Route there is a major and common one: resting. Benches are in general the intended elements that provide an affordance for that activity, though the ones inside the inner part of the flat circular area and the ones in front of El Corte Inglés are usually very crowded. However, resting is an activity that happens in many other places. Plaça Catalunya, for instance, has many affordances beyond benches to rest, many of them unintended. The balustrades around the central circular flat area, the base of some light fixtures, the big base of the trees, planters, the large and low pentagonal structure in one of the corners, are often used like that. The most obvious case is the grass around the two big fountains, where despite the "don't step on the grass" signs, is widely used by many people (both groups and individuals) who lie or sit there.

Plaça Nova, where the cathedral is found, is another place where resting occurs beyond its intended affordances. A step that stretches along all the square is used by many people to sit down, specially groups of tourists. Planters there are also used that way.

Figures 342-345. Intended Affordances to Sit Down Along the Capital Route. From left to right: Benches in front of Fontana metro station in Gràcia district; Gaudí benches in Passeig de Gràcia; benches in Plaça Catalunya central flat area; square stone blocks in Portal de l'Àngel

Figures 346-351. Unintended Affordances to Sit Down. From left to right: on the grass and on the border of the grass area at Plaça Catalunya (note the "don't step on the grass" signs); on the water pools walls at Plaça Catalunya; on a light fixture base at Plaça Catalunya. Bottom: on a planter and on a step at Plaça Nova.

Another activity which in Barcelona's capital route is found along Passeig de Gràcia and Plaça Catalunya and around it is very popular, is eating or having a drink in terraces on the sidewalk. This activity, which is very controlled, gives a lot of vitality wherever it is placed. It also affects the flows, since terraces can act as a sort of obstruction to pedestrians, but usually this is not very significant.

Figure 352. People Having a Drink in Cafè Zurich Terrace. In front of this café there is an important meeting point

A particular case, which mostly happens in Plaça Catalunya, is that of the meeting points. There are some meeting points in Plaça Catalunya that have a social importance. The most well known is in front of Cafè Zurich, but there are others, such as the the metro exit of El Corte Inglés and the metro exit of Ronda Universitat. Metro exits are where people coming by public transport usually arrive at the square, but are also places that offer some affordances to wait: you can lean against the wall, or even sit down on top of it. The area in front of Café Zurich is very special, because there are three exits there (two metro and one rail) that offer places to lean against. At the same time, the terrace of Café Zurich allow people to have a drink while waiting, and El Triangle entrance offers more walls to lean against, as well as a shelter in case of rain. The need to sit down or lean against something while waiting is not entirely covered. It is actually so that nothing there except the Café Zurich is intended to support an activity such as waiting for someone. The metro exit of Fontana, in Gran de Gràcia is another meeting point which is used more than its intended affordances allow. Along the observations, it has been seen there that people sit on benches and also on the bases of trees. To conclude: everything points towards a clear relation of public transport nodes and the appearance of important meeting points.

These examples of appropriations of the space show needs that are not entirely covered by intended affordances, where people invent or discover them. They become clear indicators of the needs of end users.

The opposite would be the use of objects or areas with an intended affordance in a way that is not the intended one. Benches can become a sort of beds to homeless people,

stairs become seats, and balustrades become bike parking. At this point it is necessary to come into what would be called desirable and non-desirable activities. There are several levels of classification of what it could be desirable or not: The legality is a parameter, which may or may not coincide with what can be socially acceptable or civic behaviour. Socially accepted activities which are illegal can be that one of the people on the grass and the illegal vendors (called top manta). In that case, lying on the grass could be turned into an allowed affordance. Illegal sales, even if they are socially accepted, are a different case because economic transactions are all supposed to be charged with taxes. Actually Plaça Catalunya, Portal de l'Àngel, Passeig de Gràcia and Plaça Nova already hold different kinds of fairs (old books, antiquities, Christmas stuff...), which is a way to sell on the street in a legal way.

Figures 353-356. Socially Unaccepted Activities, from left to right: homeless people sleeping on a bench and on a metro exhaust, and beggars sitting on a bench and in front of a shop.

Portal de l'Àngel has two areas where there are some square stone blocks which can be used to sit in many ways, and usually they are quite crowded (see fig. A3_i1). They provide several ways of interaction between the people who are all sitting on one of these blocks and people sitting on contiguous ones.

Plaça Catalunya houses along the year other organized activities such as concerts and Christmas celebrations, which contribute in giving a symbolic and identity meaning to the square.

From Plaça Catalunya until the end of our Capital Route (Portal de l'Àngel, Plaça Nova and Carrer del Bisbe) there is this phenomenon of the street artists: music bands, dancers, living statues and other performances. They sometimes generate big assemblages around. They have licenses to do their performances, although along our observations we have seen the police asking a band to stop playing. The opposite would be some tarot card and hand readers, and a phenomenon known as "trileros" (a kind of trick game which consists in guessing where a ball is after the organizer has moved it quickly between three small caps or boxes). These are illegal activities and the last one is organized by gangs that cooperate to lure people (usually tourists) making them believe it's easy to win money. Tarot readers have been observed operating in Plaça Catalunya, though "trileros" now almost don't do anything there, and now they prefer La Rambla since the massive "top mantas" have attracted more police presence.


Figures 357-358. Legal Outdoor Activities: an Antiquities Fair and a Street Artist.

Figures 359-361. Illegal Outdoor Activities. From left to right: "top mantas", "trileros" and a tarot cards reader, all of them in Plaça Catalunya

Along the capital route there are places which afford homeless people to sleep: benches, some hidden corners in Plaça Catalunya, some sheltered building entrances, and indoor cash machines. There is quite a debate these days about what should be allowed and what not, and there are several points of view among the local authorities regarding permissions. For example, not specifically along the capital route, but in many streets around it, specially in Gràcia and in the Gothic quarter, the use to pee on the streets is quite extended, which of course is not an intended affordance.

Conclusions

In general all intended affordances along the capital route are used as such. This includes both indoor activities (which happen in a very controlled environment that usually does not allow anything else but what spaces are intended for) and outdoor ones.

However, outdoor activities go far beyond the intended affordances. Here a point is reached where authorities have to decide on what comes from socially accepted needs of people to perform some activities (i.e. lying on the grass), what comes from socially unaccepted needs (i.e. homeless sleeping on benches), and what comes from just permitting a need - something that happens (i.e. peeing on the street), all this beyond the fact of the activity being legal or not.

Plaça Catalunya, being a very complex space houses many non intended activities which are important enough to be addressed in a way or another. Among all these, it is important to mention people lying on the grass and sitting on other places apart from benches, the area in front of Café Zurich as a meeting point, and illegal vendors.

6.4. How Does the Dynamic of Flows Affect the Activities and Experiences of the Capital Route?

Sub-Questions

How do flows and assemblages relate to land use and activity? What activities and what flows are especially important in this relation? How do the flows and assemblages determine possible future spatial arrangements in the urban rooms?

Scale of Investigation

Flows have been studied along the whole capital route, but the more intense data collection was carried out in Plaça Catalunya. Thus the crossing of several data sets is concentrated in this square. Plaça Catalunya is the largest and most complex urban room in Barcelona's Capital Route, and therefore the main subject of this document where the relationship between flows, experience and activities is analyzed.

Data Sets

The data sets reviewed were: gate counts, follow the flows, movement annotations, observer narratives, questionnaires, assemblages, transport nodes, objects, floor planes, spatial analysis (VGA maps and axial maps).

General description

The square is a major transport node, gathering metro, inner/outer city rail, national rail, taxi, bus (inner city, outer city, airport, inner city tours, international tours, shopping lines, etc). This creates a constant flow of people who arrive and leave the area through these transport systems. Since it is also one of the main nodes for night buses, pedestrian activity extends until nighttimes.

There are two big commercial centres at the corners of the square: El Corte Inglés, a huge 9 floor department store, and El Triangle, featuring a 3 floor FNAC shop among other shops. Also beginning at the square there are 4 extremely crowded streets: Passeig de Gràcia, Portal de l'Àngel, La Rambla and Carrer Pelai. La Rambla is a very popular tourist attraction, and the others are streets with intense commercial activity. Portal de l'Àngel connects the square with the gothic quarter and other smaller commercial streets; it is closed to vehicle traffic and features many popular fashion franchises. Passeig de Gràcia, where the Capital Route continues, is the most important street of the Eixample (a neighbourhood built at the turn of the XIX century, unique for its chamfered blocks) featuring a wide range of high fashion franchises, hotels, banks, and a couple of Gaudí buildings. Thus Plaça Catalunya becomes a connecting area between streets that represent very different characters of the city, and also a transfer/distribution point for public transport users. The fact that night-time activities are abundant in the surroundings of La Rambla and throughout the Eixample, provides the square –which offers scarce activities at this time period- with flows of people during the night, besides the previously mentioned night bus node factor. This is one of the 24h long intense flow areas.

Gate counts show how this area holds extremely high pedestrian flows (fig. 362).

1

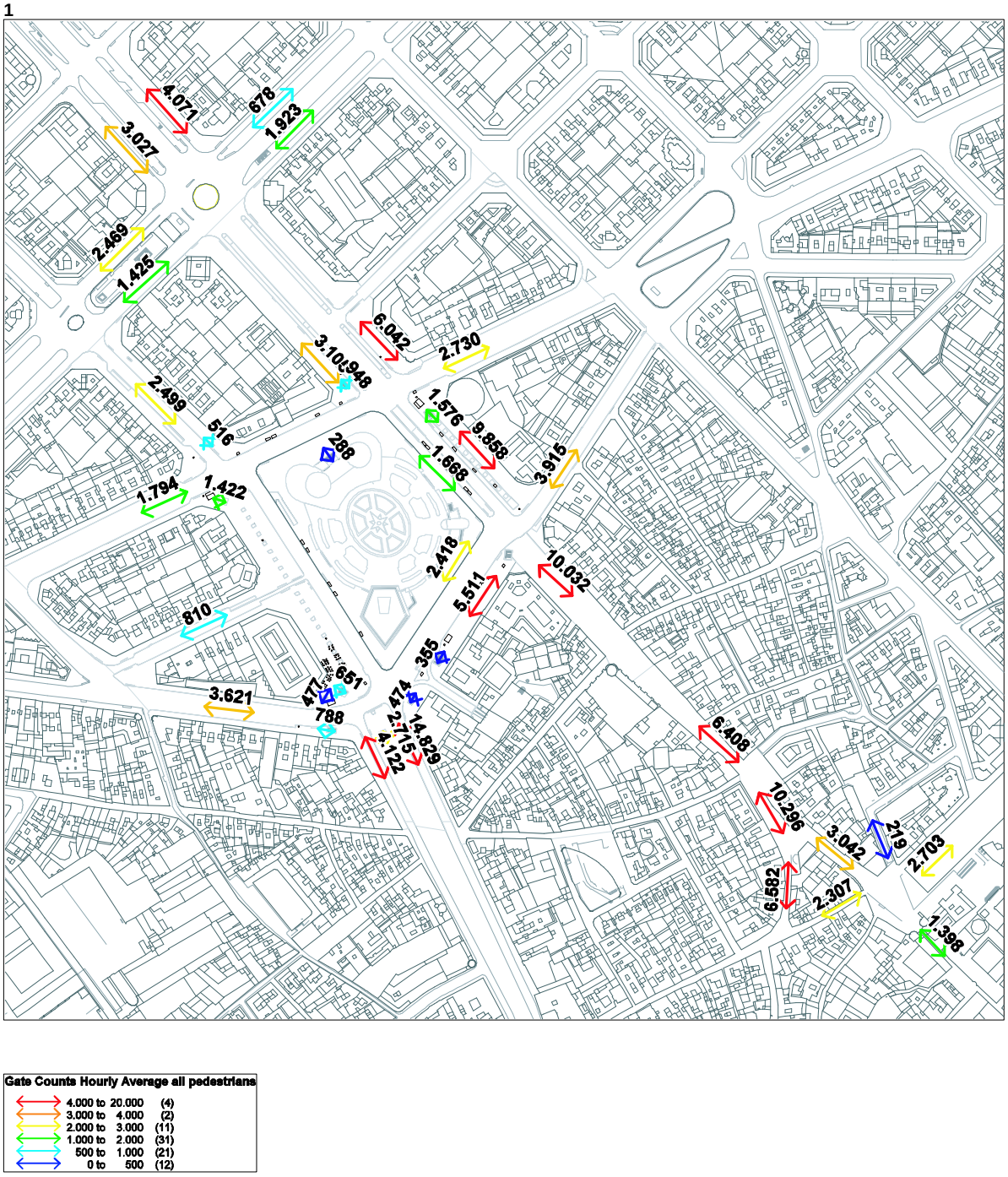

Figure 362. Weekend, Gate Counts , Hourly Average of All Pedestrians. Covering part of Passeig de Gràcia, Plaça Catalunya, and Portal de l'Àngel.

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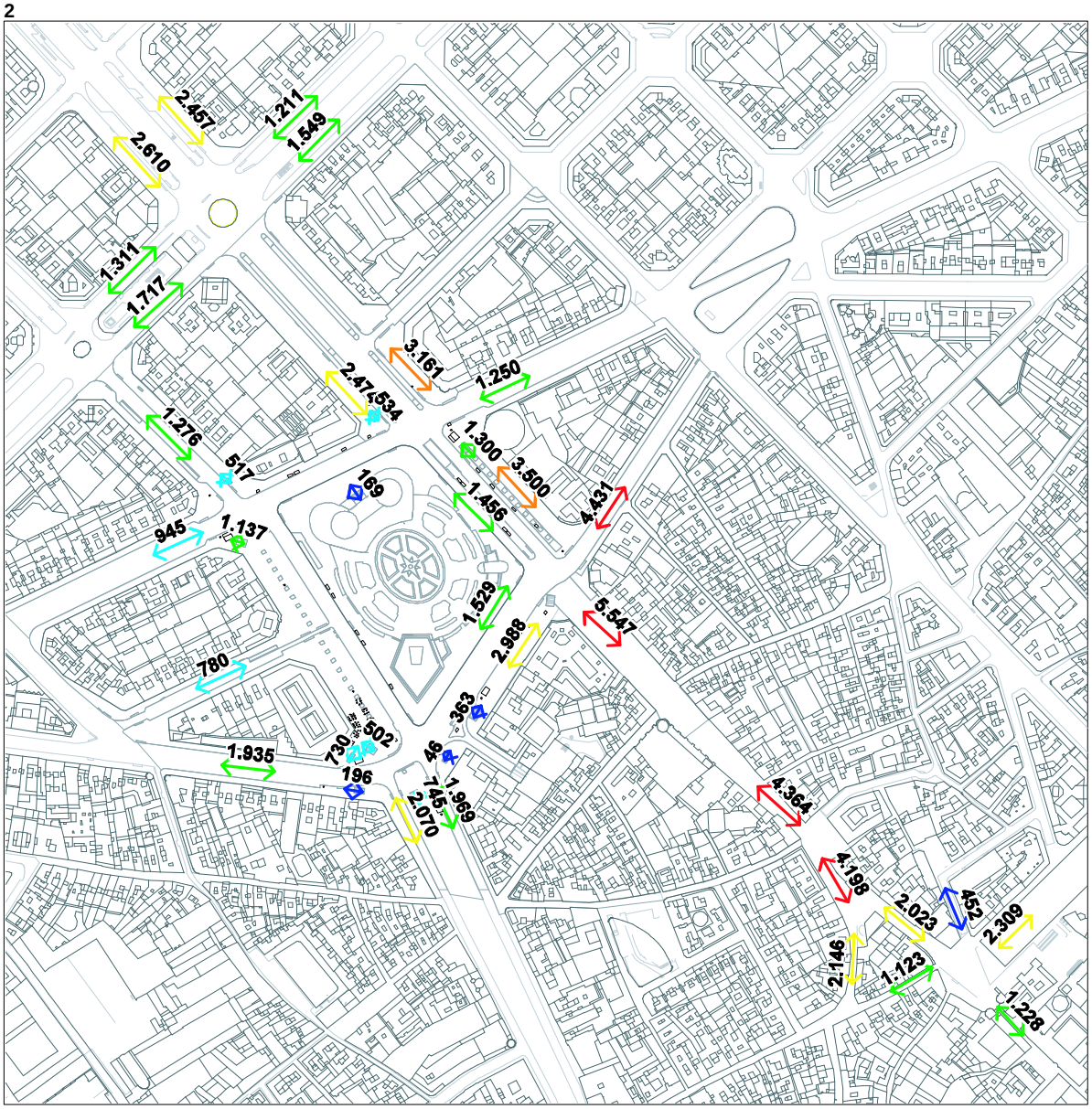


Figure 363. Weekday, Gate Counts Hourly Average All Pedestrians. Covering part of Passeig de Gràcia, Plaça Catalunya, and Portal de l'Àngel.

Morphology of the flows

As flow studies and gate counts reveal, pedestrian flows in Plaça Catalunya are concentrated in the periphery. The flows at the corners of the square are extremely affected by the dynamics of vehicle traffic. This generates significant accumulations of pedestrians waiting to cross –and doing so at the same time in opposite directions- and creates non-constant wavelike pedestrian flows caused by traffic lights turning red and green. This effect is aggravated by peak hour vehicular and pedestrian traffic. Moreover, some zebra crossings do not seem to be placed in accordance with the natural tendency of the flows. The detection of many irregular crossings at specific areas show the need to cross the streets of this square at other points other than the existing zebra crossings.

There is yet another particular characteristic of the flows: The Portal de l'Àngel/La Rambla side is a loading/unloading area for international coaches. People waiting to load generate dense assemblages that impair flows in this area and big groups of tourists that, once unloaded, crowd this side of the square. These have no other choice than to circulate towards either Portal de l'Àngel or La Rambla, since there's no way to reach the central part of the square-an ideal place to stop and study maps, decide what to visit, where to go, etc.

Contrary to what was observed in the periphery, the central area of the square shows minor flows, mainly of people that cross it diagonally.

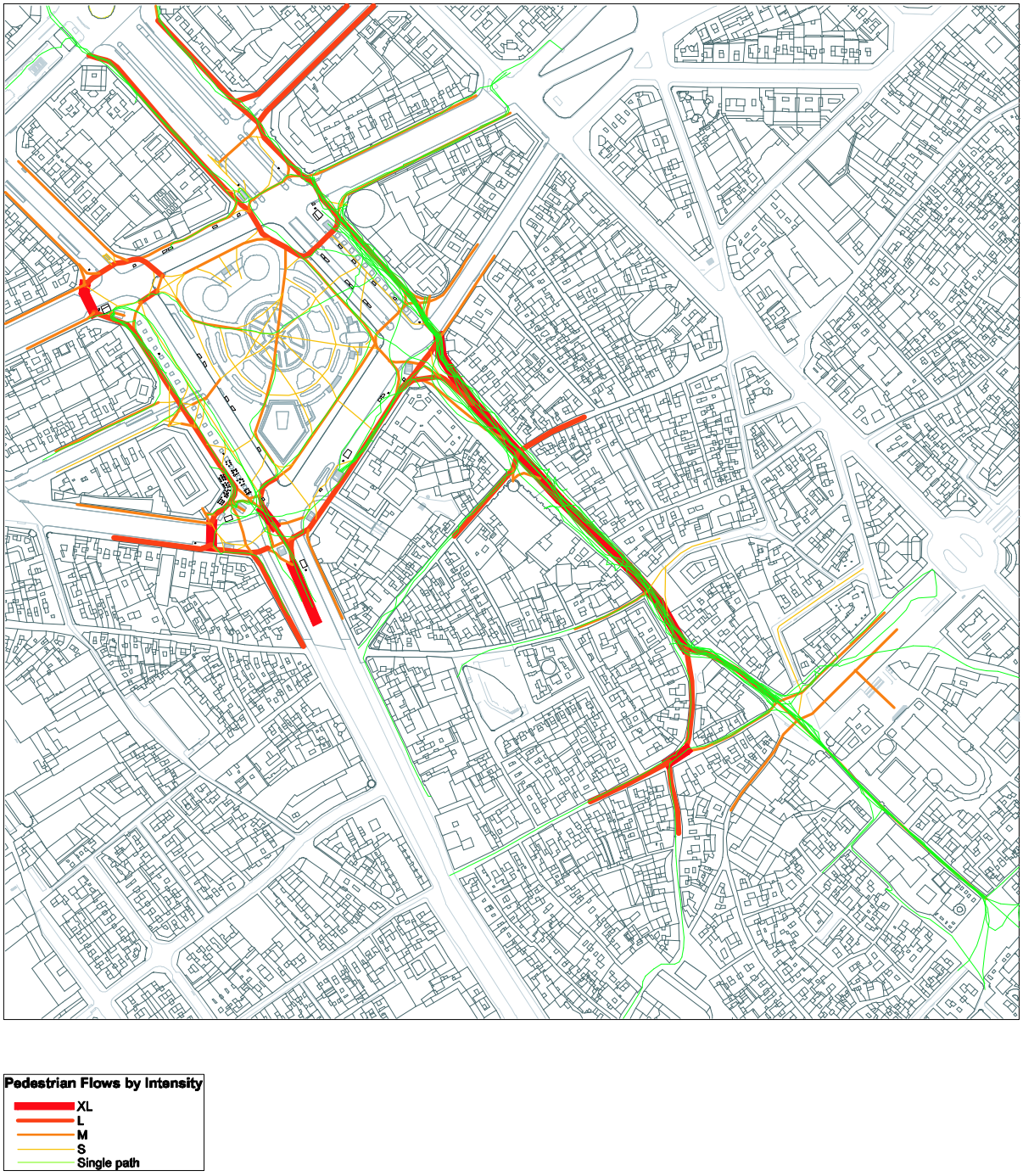


Figure 364. Pedestrian Flows and Movement Annotation along the End Part of Barcelona's Capital Route.

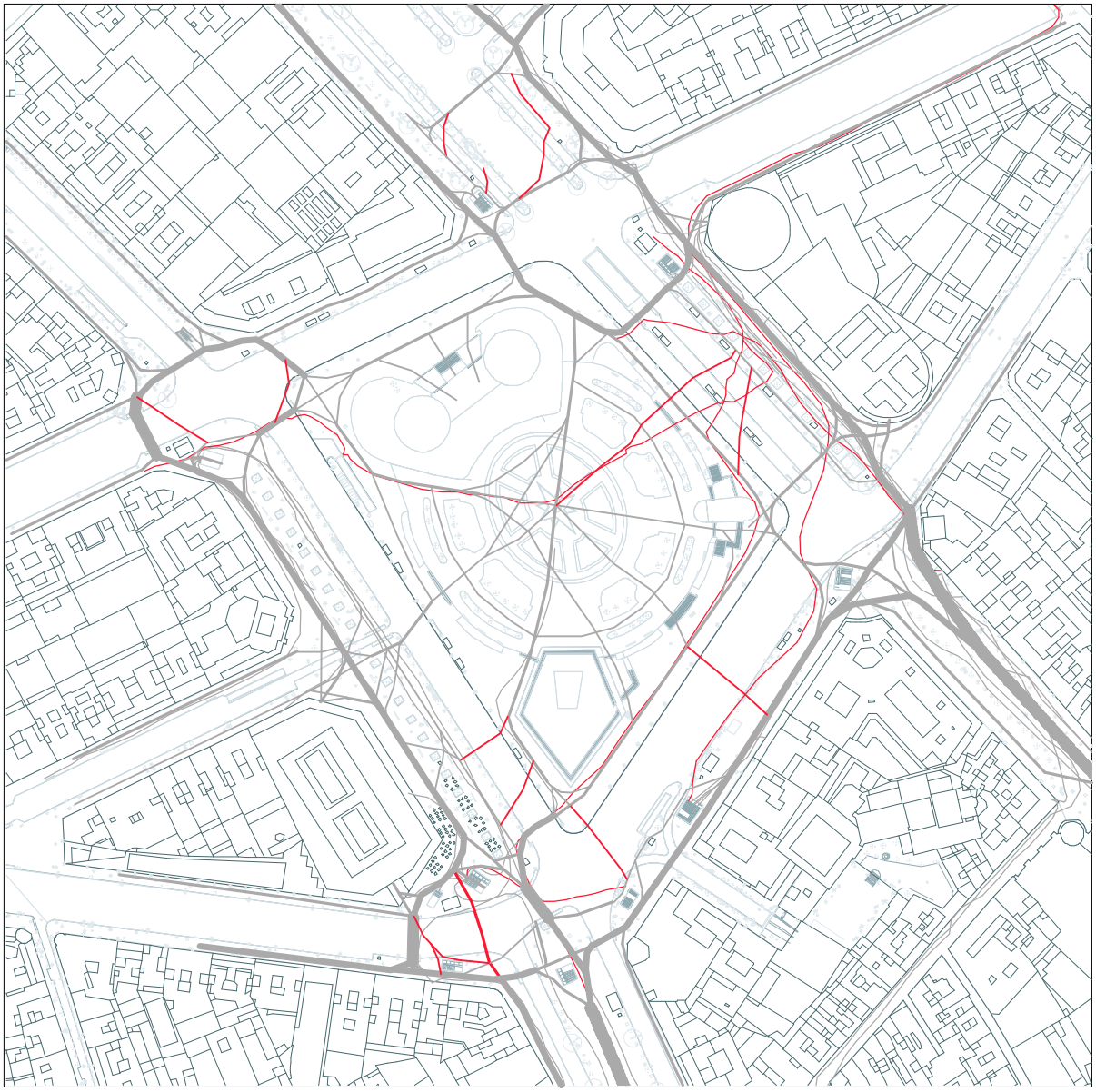
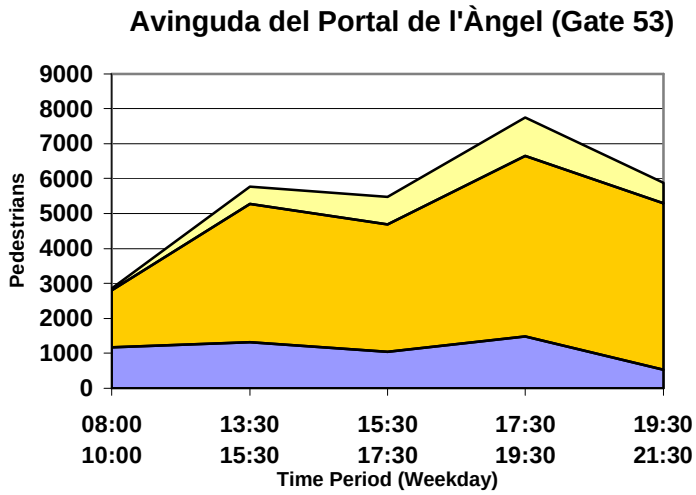
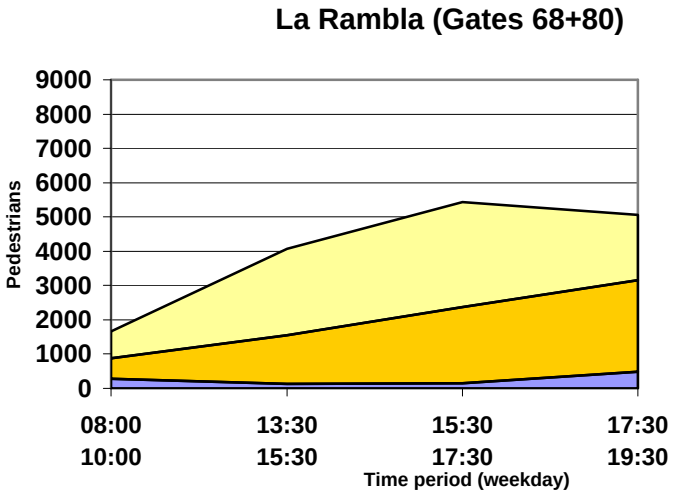
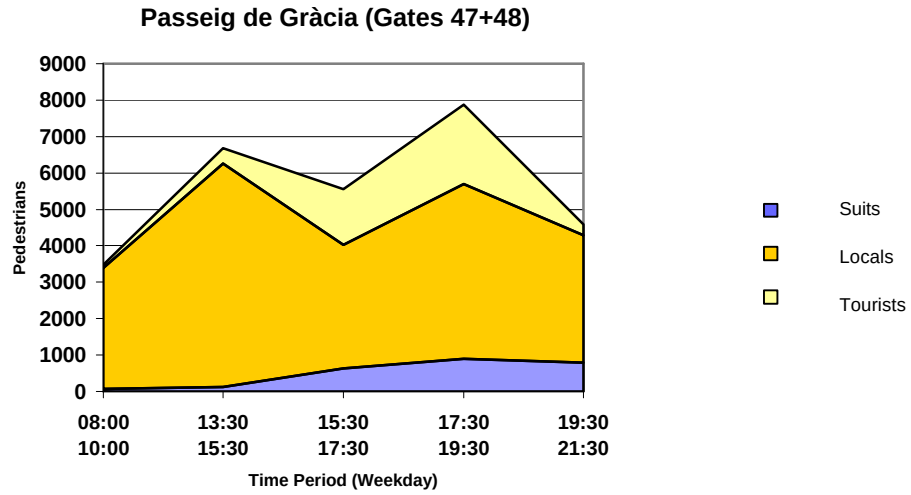


Figure 365. Flows and Movement Annotation in Plaça Catalunya. The red ones are flows and paths crossing the streets not along zebra stripes.







Figures 366-368. Graphs Showing the Daily Evolution of the Main Streets that Arrive at Plaça Catalunya.

Figure 369: Zebra Crossing Congestion in Passeig de Gràcia / Ronda de Sant Pere Corner.

There are several reasons that explain why this particular morphology and partial congestion occurs.

The peripheral sidewalks in the square are in general wide enough to absorb high flows. However, there are obstacles at some points which narrow or even hinder the flows noticeably: permanent objects such as press and ice cream kiosks, metro entrances, phone cabins, bus stops, lamp posts, chairs and tables at cafés, rows of trees with a big base, benches, lifts to access the metro, etc; also temporal elements such as illegal street vendors -that can occupy a high percentage of the sidewalk- and stands or stalls for annual events such as book fairs, music festivals, etc. The sum of all these elements significantly reduces the capacity of the sidewalk, obstructing flows and contributing to the overall congestion.

Figure 370. Area in Front of Café Zurich and El Triangle Commercial Centre. Notice the obstacles that affect high pedestrian flows (metro and rail exits, a press kiosk and the Café Zurich terrace).

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Figure 371. Detail of the Flows and Movement Annotation in Front of Café Zurich, El Triangle, and the Carrer Pelai and La Rambla Intersection. The reddish lines express the flows by intensity, while the green ones are single paths.

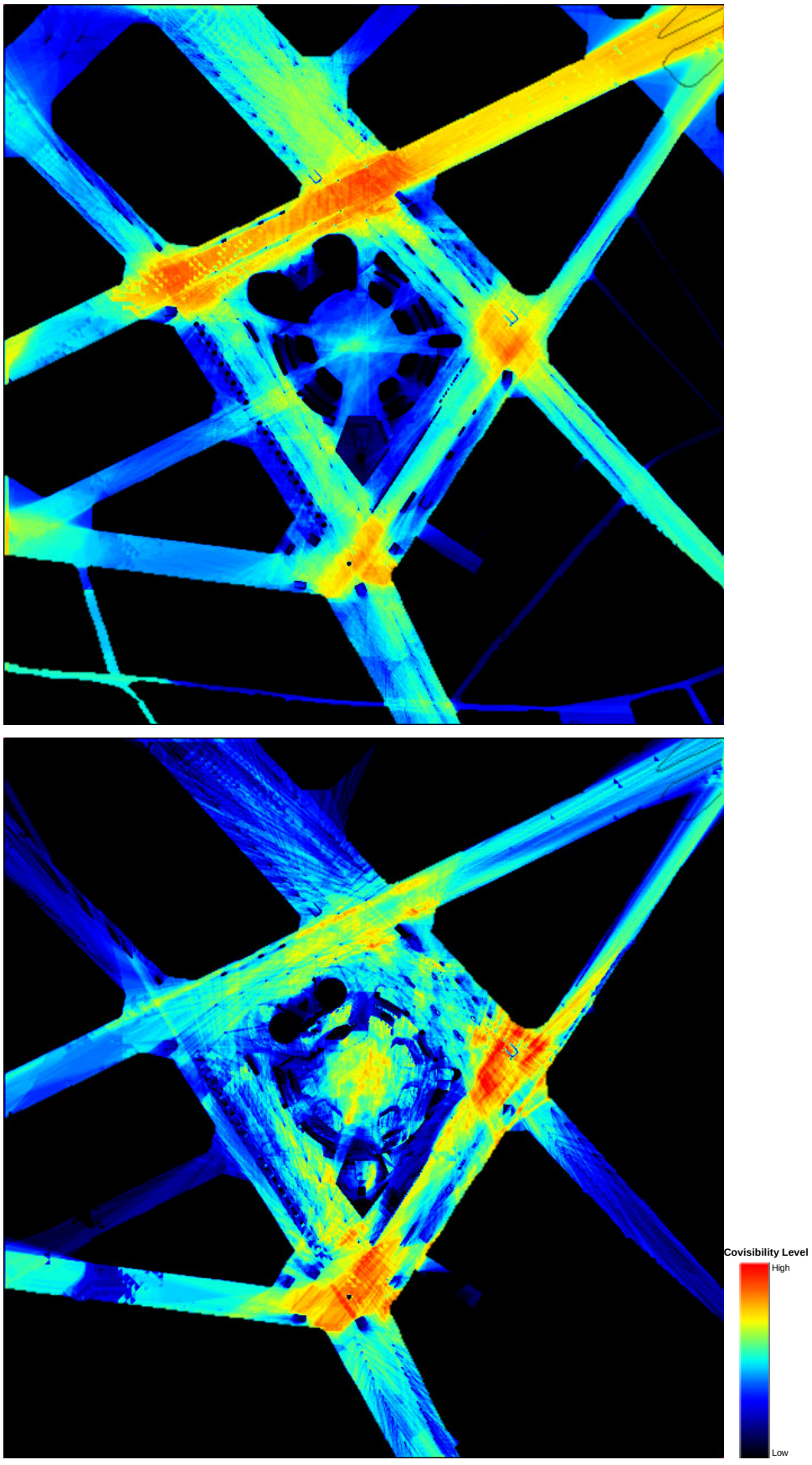
Why does the intensity of flows differ so significantly in the inner and outer parts of the square? Even though Plaça Catalunya was built on sloped terrain – as is most of Barcelona, which descends from mountain to sea- the central circular part of the square presents a less pronounced slanted surface. The resulting level difference between this area and the sidewalk that encircles it was compensated by sets of stairs at the seaside access points, where the difference in level is more pronounced. The height difference between the highest and lowest points of the square at ground level amounts to 5.8m. This is verifiable both by visual inspection as by topographic data found in the local administration maps.

This means that one must climb stairs to access the square from La Rambla and Portal de l'Àngel. There is a balustrade around the central circular area interrupted only by the access points/entrances. In addition, there are two concentric rows of trees and bushes, two big fountains in the Passeig de Gràcia/Rambla de Catalunya side, a large pentagonal low structure in the corner of La Rambla with an approximately 10 meter high concrete sculpture and water mirror, also a two-row motorcycle parking along the whole length of the La Rambla/Portal de l'Àngel side.

Figure 372-373. Tthe Stair-Accesses to theCentral Circular Flat Area of the Square. The first one shows on the left the balustrade that surrounds this area. Both photos are taken from the lowest parts of the square between Portal de l'Àngel and La Rambla.

Figure 374. Photo Showing the MotorcycleParking that Stretches Along a Whole Side of the Inner Sidewalk of the Square.

Given these circumstances, the VGA maps of the square in terms of accessibility make evident that the central area is very segregated from the periphery, which makes people avoid it. The VGA map of the co visibility at ground level from peripheral decision points (where people have the opportunity to decide whether to enter the square or to cross it instead of going around it), show that the comprehension of the inner part of the square is not high. The high density of vehicle traffic around the square isolates the area even more.



Figures 375-376. VGA Maps. Top: Accessibility map of Plaça Catalunya. Bottom: Visibility at ground level (for spatial understanding) from outer decision points of the square. Decision points exist whenever a pedestrian has the chance to change its direction in order to reach its destination. The central circular flat area becomes clearly segregated in terms of visibility and accessibility.

VGA maps also reveal that the space around and inside the two concentric rows of trees and benches is among the most segregated areas in the square. As Space Syntax studies have proven, low integrated areas next to high-integrated ones are a favorable factor for crime development. In Plaça Catalunya these areas are often used by illegal immigrants that have nowhere to go and street vendors hiding from the police. At night, these areas are also occupied by groups of young people.

Relation with activities

The activities that take place in the central part of the square are very sparse even though it appears to be crowded at any point of the day. The assemblages recorded show that the main activity is resting. Even though it is not allowed, people use the grass area around the fountains to rest and the benches are usually very crowded. Other activities include feeding the doves, playing football, meeting others, etc.

In the periphery the benches are also very crowded, people also sit at terraces and outdoor cafés such as Cafè Zurich, Farggi, etc. People stand around talking, waiting for busses, waiting to meet others –a very popular place for this is Cafè Zurich, which has become a landmark). Indoor activities are mostly commercial and are mainly absorbed by El Corte Inglés and El Triangle shopping centres, which attract a large number of people. Illegal vendors usually establish themselves at areas of intense flows and in Plaça Catalunya they choose the Passeig de Gràcia/Portal del Angel side.

Figures 377-378. Some of the Activities that Take Place in Plaça Catalunya.Lying on the grass; having a drink at Café Zurich.

Figures 379-380. Some of the Activities that T ake Place in Plaça Catalunya. Sitting on benches; meeting point in front of Café Zurich and El Triangle

There seems to be a significant difference between the amount of people that pass through the square and those who actually stay there to perform an activity. This contributes to the idea that this space is an important distribution center, a connection between the immediate surrounding areas of the city and a major public transport node.

Concluding Remarks

The connection of several high flow streets and transport systems makes Plaça Catalunya a large connection point between different areas of the city -immediately surrounding and remote-. Tension is created in the corners of the square where important streets begin, since these coincide with shopping centre and underground transport entrances. These spots are flow inlets and outlets, so people circulate between them along the periphery of the square.

As noted before, flows are irregularly distributed, with the highest intensity occurring in the periphery. The spatially segregated central area in terms of visibility and accessibility, does not invite pedestrians to cross it to get to the opposite side of the square. People tend to go around the square, contradicting the natural instinct to seek the shortest most direct route to a destination, and contributing to the over- congestion of the periphery. This congestion is due to the intensity of pedestrian flows, the amount of permanent and temporal obstacles on the sidewalks and the questionable placement of zebra crossings.

One of two clearly distinguishable and highly legible axis framing the square, Passeig de Gràcia-Portal de l'Angel (our capital route). Passeig de Gràcia, originally conceived as a connecting route between the old city and the Gràcia Quarter, remains so, and has become the most emblematic street of the Eixample in commercial, architectonic and historic terms. Plaça Catalunya, a concourse to Passeig de Gàcia and our capital route, connects other important and highly congested streets, such as La Rambla, Rambla de Catalunya, Ronda Universitat, etc. and redistributes flows to and from the capital route.

6.5. Conclusions on 6.1 – 6.4

After all the component level analysis, one can find several reasons that explain the main parameters under which activities and people relate to urban spaces. In the particular case of Barcelona's capital route it is important to remind that it holds the highest flows of all the city, concentrated mainly in some of the streets that are connected to Plaça Catalunya.

The fact of Plaça Catalunya being a major transport node is a key factor to help maintain high levels of pedestrian circulation, since it connects the square and the capital route to other parts of Barcelona and outside it. This is not the only essential factor, since another big transport node as it is Plaça de Sants (which has exactly the same amount of rail, metro, bus and taxi nodes), does not hold the same amount of flows.

The other key factor in attracting people is activities found around this transport node. As we have detailed in the previous component level analysis, Plaça Catalunya connects very different and strong in character parts of the city, which sum up a high diversity and density of activities. Plaça Catalunya has the attractiveness of being a both a destination (for its commercial centres) and the first step into l'Eixample district through Passeig de Gràcia, the historical Gothic quarter through Portal de l'Àngel, and La Rambla. These streets, together with Carrer Pelai (which is also an access to l'Eixample like Rambla de Catalunya) have an extremely high and diverse commercial activity, from high fashion shops to cheaper ones, as well as restaurants and night life in the immediate surroundings. Passeig de Gràcia is also a main office street, which connects to Diagonal, possibly the main financial office street of Barcelona.

This density and variety of activities attract very different kinds of people. The bidirectional relation between flows and activities conditionate the morphology and use of the space. Since the capital route crosses mainly historical areas of the city which will not suffer major changes, in general all changes in the morphology of the space are limited to the facades of the buildings, and in Barcelona there is the tendency to respect original architectural elements. Public information for pedestrians, an easier to change feature of urban spaces, is until now mainly devoted to public transport.

In terms of the use of the space, it is necessary to mention that the massive flows that are found along the capital route, and especially in the areas around Plaça Catalunya, were not the expected ones when these areas were built. After all the observations, it is evident that especially Plaça Catalunya is overwhelmed by the way vehicle and pedestrian traffic circulate through it. There is a spatial arrangement in the square that does not allow a fluid and smooth circulation of such big flows of people that come attracted by the many activities that can be performed around, which ends up in an irregular distribution of flows across the square. There are also those artefacts that come from high flows and an awkward spatial configuration, such as illegal activities and safety problems that need to be arranged.

No major changes are likely to happen in the spatial arrangement of the capital route because of the historical areas it crosses. Apart from vehicle traffic regulations, public information (which after the analysis we have found that there is a number of missed opportunities here), and how objects are arranged along the street are actually the only things that can help in a better way to keep the capital route under more sustainable parameters. However the big urban room of Plaça Catalunya is the only area that can really change in terms of spatial arrangement. Any intervention there should be directed in help its actual use as a major connection space between the surrounding streets and areas, supporting at the same time the needs and expectations of actual users of the square, and stimulating all parameters under which urban spaces become sustainable. These parameters will be reviewed in relation to the Barcelona's capital route in the global level analysis.

6.6. The Activities of the Capital Route

To What Extent is There a Diversity of Activities That Overlap Spatially (in the Urban Rooms)?

User activity layers indicate a complex use of the capital route. Barcelona's capital route is characterized by a diverse and complex pattern of land use which to a large extent, tends to determine the type of activities that take place. This mixed use pattern is in fact very characteristic of most of the city where the overlap of business, leisure, commerce, study and worship is co-existent within relatively reduced areas. The capital route, and by extension most of Barcelona, can be thought of as a patchwork of districts with very complex patterns of activities. This is in fact has been the result of local municipal administration policies keen to take advantage of the high densities found in the urban fabric, both in physically built space (every square meter is occupied) and from the population density itself.

The phenomenon of activities in the capital route is a clear expression of such densities and mixed-use. At any given moment, accessible public spaces are choreographed by different functions and social groups. Obviously, upper zones of the capital route, such as the Gràcia district retain a small town feel and the relatively narrow streets tend to limit some kinds of activities, but foster others typically found in a residential zone with an abundance of small family owned shops. Passeig de Gràcia exhibits vibrant commercial and work related activities, as well as intense but localized use of sidewalks and sidewalk cafes by tourists, shoppers, business people and citizens taking leisurely strolls and window shopping. The later has historical roots and a review of photographic archives with images of Passeig de Gràcia at the beginning of the century reveals it as a preferred boulevard for the local bourgeoisie, elegantly dressed to see and to be seen. This is still true today particularly on weekends.

Plaça Catalunya brings a scenario of intense traffic and flows, many overlapping activities, some determined by land use, others by its condition of major transport node and centre of the urban mobility network, in addition to several ephemeral and even illegal activities that can take place there. It is unquestionably the most complex space of the capital route regarding activities. Further down, Portal de l'Àngel tends to segregate certain kinds of activities, given its evident commercial vocation, with intense pedestrian flows engaged primarily in shopping, eating, etc. Street entertainers however take advantage of abundant captive audience and scarce vehicular traffic to perform acts or play music. This periodically occurs, changing the dynamics of use of navigable space, with the clustering of spectators (stationary) and constant and simultaneous pedestrian flows around them. Morning hours bring an amazing number of delivery vehicles; unloading goods for the myriad of shoe and fashion stores which tend to constitute the majority of business in this area.

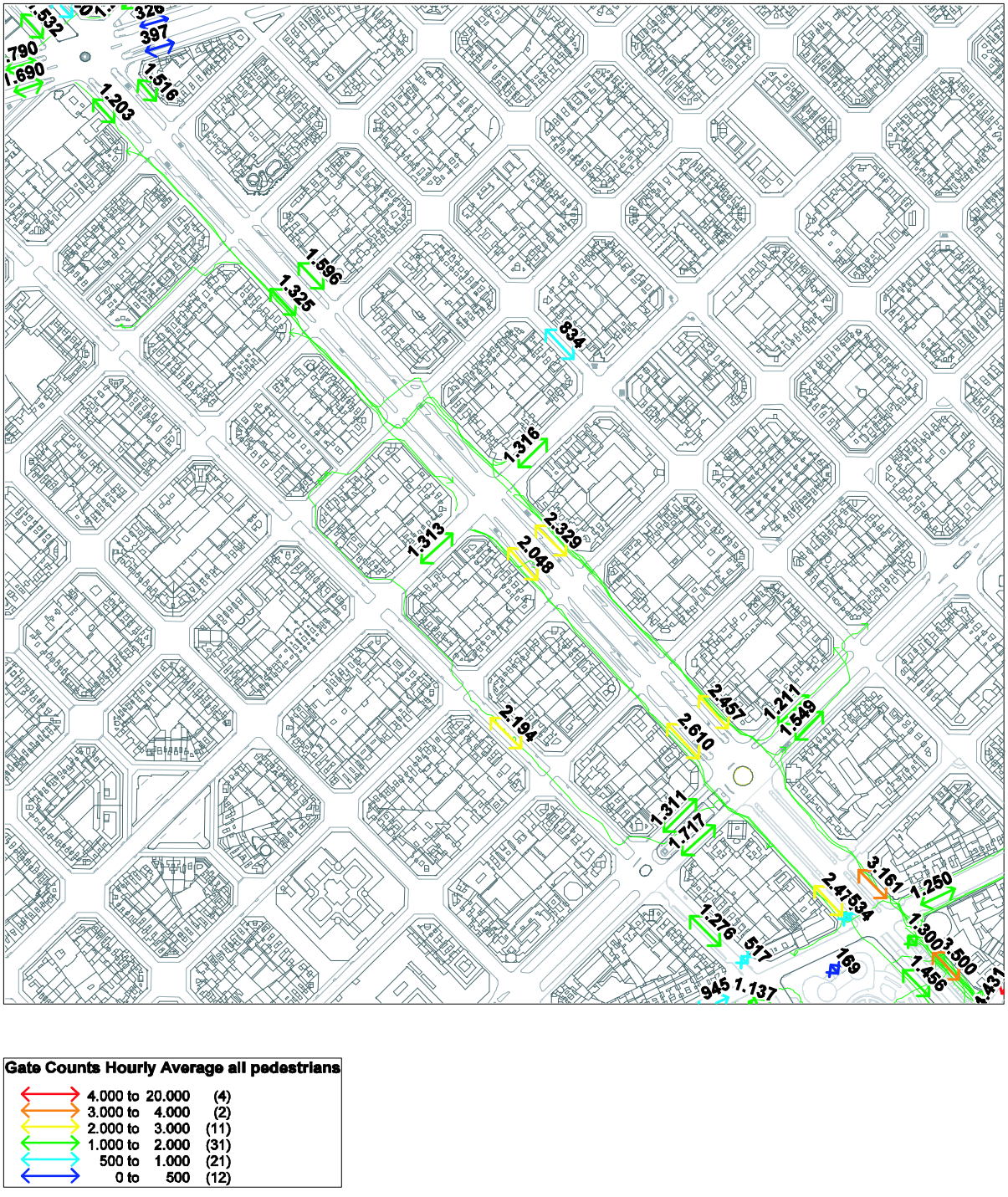


Figure 381. Movement Annotation Showing Long Single Paths Along Passeig de Gràcia. Strolling becomes an activity, since there is the possibility to make the trip much shorter in time by getting a metro line or any of the several bus lines that go along all Passeig de Gràcia.

Figure 382. Carrer del Bisbe, the End of the Capital Route in the Gothic Quarter

Plaça Nova and the Gothic Quarter are less diverse at all times being essentially occupied in a similar throughout the day and the week. Strolling and sight seeing are intense and shopping is far more specialized as most of the commercial points are craft and specialty stores offering unique items.

Barcelona's Capital Route supports many opportunities and activities. While some repeat themselves through the full length of our route, the differences in urban architectural and spatial configuration, along with differences in land use, cause the overlaps to change in nature, forming clusters of users with a rather defined "activity identity".

Do Activities Extend throughout a Longer Period of Time (Day/Night)?

Barcelona's shopping hours, in addition to local habits of extended lunch hours and late dinner, tend to unquestionably influence our capital route's pattern of activities. Furthermore, high population densities influence the presence of human activity, irrespective of business/commerce hours by the sheer number of users. At any given time of day or night people take to the streets, being gregarious by nature, and undeterred and stimulated by usually benign weather as even the colder months bring very mild temperatures. While shops are closed on Sundays – significantly reducing commercial activity- the very popular habit of family outings for a Sunday lunch does ensure a good number of pedestrians around the areas where restaurants are. However, it can be said and confirmed by gate counts that our Capital Route may not be the most active and lively area of the city on Sundays, except by tourist attractors such as La Rambla.

Usually high real estate rents prevent many smaller bars and restaurants to install themselves in the entire stretch from Diagonal/Passeig de Gràcia to Plaça Nova in the Gothic quarter, so for all practical purposes the closing hours of most department stores, big fashion outlets and the like also mean a change in use of the space which tends to become more of a circulation "corridor" for the innumerable leisure/eating places that populate most of the Eixample district. In that sense, long stretches of the Capital Route become less of a destination zone and more of a transit zone to and from adjacent attractors, nightlife leisure spots, movie theatres, etc.

6.7. The Identity of the Capital Route

Do Spaces of the Route Generate a Sense of Ownership and Identification?

Along Barcelona's capital route there are two areas that could characteristically be described as prompting a sense of ownership and identification. One is the stretch of Gran de Gràcia (traversing the Gràcia district) with a small town local feel and the large resident population (it is fundamentally a residential neighbourhood); the other is the area of Plaça Nova where the Cathedral is located, with both a spatial configuration and symbolic significance suitable to the manifestation of civic pride and Catalan cultural identity.

The Gràcia district holds an annual well known local "fiesta" with decorated streets, the result of voluntary resident effort, with prizes awarded to the best decorated streets, all reinforcing and promoting citizenship and local pride. Plaça Nova on the other end of the capital route is the site of Christmas fairs, sardana dancing (the most emblematic and traditional of Catalan national folklore and a spontaneous form of cultural bonding for Catalans), as well as other religious and civic acts. These activities are presided by the imposing presence of the Barcelona cathedral and remaining vestiges of the city's roman past (part of the aqueduct and watchtowers to one of its fortified entrances).The mix of these kinds of activities with such a historic setting are reminders and strong symbolic expressions of Agora's interpretation of "ownership and identification".

Other parts of the Capital Route such as Passeig de Gràcia and Plaça Catalunya are preferred sites for civic manifestations and, on occasions, have attracted crowds close to the staggering number of 800,000 to 1,000,000 citizens. These large gatherings indicate that people in Barcelona do not hesitate to appropriate public space when defending a collective cause of political essence.

Figures 383-385. Celebrations Along the Capital Route: Gràcia district festivities with an award winning decorated street (August 20 2005), Carlinhos Brown rua in Passeig de Gràcia as part of the Fòrum de les Cultures 2004 (May 15 2004) and local sardana dance in Plaça Nova (December 10 2004)

Is There a Consistent Level of Aesthetic and Environmental Quality in the Area?

Characterizing the entire capital route as having a consistent level of aesthetic and environmental quality would mean a risky generalization. It could be said however that large segments do maintain a high level of formal architectural elegance, with a high proportion of buildings with ornamented facades, entryways, doors and windows. This is true in the entire length of the route, except in Plaça Catalunya where by virtue of scale, function and style, buildings tend to be less attractive. Environmental quality, if interpreted as a combination of affordances and public amenities, does vary from stretch to stretch, a good example of this would be Passeig de Gràcia with its wide sidewalks and tree-lined boulevard feel, lending an unquestionable impression of “urban quality”. However, if one interprets environmental quality also taking into account factors such as maintenance, management of garbage and residues, the upkeep of urban furniture, etc. the capital route as a whole is facing current and future challenges as the environment shows signs of increasing levels of vandalism and the effects of uncivil behaviour. One cannot speak of quality purely from a physical standpoint. The way spaces are used, appropriated and maintained is integral to any responsible analysis of its overall quality.

Figures 386-387. A View from Casa Milà of Passeig de Gràcia, with its characteristic tree-lined boulevard aspect, and a vandalized mail box in the same street.

Barcelona's capital route has several highly characteristic stretches with noticeable and evident spatial and architectural congruence with the particular districts they traverse. This is obvious from an expert evaluation standpoint, by simply inspecting these spaces, and it can be also confirmed by urban wall components, transparency levels, gate counts, flow analysis, etc. The route is well connected and integrated (syntax analysis) and any of its stretches exhibits an urban typology much in congruence with its immediate context

and consonant with the street lay-out around it. In that sense it is a “logical” transept both form a physical standpoint, as well as from an activity and choreography point of view.

The route is also quite diverse in architectural styles and urban form, a fact of great significance within, for instance, the regularly grid area like the Eixample district which could otherwise impart a feeling of monotonous sameness. The route has great historical and spatial identity, spanning in space and time an amazing 2000 years of Barcelona’s urban growth, with stretches within the Gothic Quarter still corresponding to the original street lay-out of the roman town of Barcino.

Do the Spaces of the Route Provide Adequate Feelings of Safety and Comfort?

The question of safety is not a simple one to answer. Agora Barcelona has no collected data regarding crime (what kind and where it does occur) along the route, so statistically we have no available evidence to ascertain if particular areas present higher levels of threat to users or conclusions regarding the potential relation between such occurrences with any particular aspect of spatial configuration, the presence (or absence) of local police, or variables such night time or weekends. Furthermore, the so-called feeling of safety may be an entirely subjective and personal perception. One may at times be at a place with a statistically higher probability of being a victim of some kind of crime but have instead the “feeling” of being perfectly safe. This is what typically occurs in high density pedestrian flow areas where acts like pick pocketing are common, and victims (typically tourists) are very much at ease and the perpetrators can quickly mingle in the crowd and disappear. The situation is different with burglaries and robberies and where they typically occur: frequently they take place in spatially segregated areas, with little or no presence of pedestrians, as these forms of crime require more time and expose criminals to the risk of being spotted.

Generally speaking, the regular presence of law enforcement (local police/national police) patrolling along the capital route is not particularly high. Nevertheless, during the summer season when there is a big influx of tourism city administration is prompted to increase the presence of police officials on the streets and the deployment of patrol cars to strategic spots often quite visible, as a form of deterrence by virtue of their presence.

Figure 388. A Police Car Patrolling Plaça Catalunya. Police often patrols in this square to stop illegal vendors ("top mantas") to continue with their activity. However, as observations have demonstrated, as soon as police leaves, "top mantas" go back to their business area.

Spaces along the capital route are generally very well lit, movement of people high day and night–with extreme concentrations along the important commercial zones -and the route is also favoured by its characteristic mixed use and increasing resident population as many older office buildings, particularly those along Passeig de Gràcia, are in a current process of refurbishment and conversion into expensive flats, as this is prime real estate in the city. The Gràcia district being primarily residential also causes streets to be populated practically 24 hours a day, a fact enhanced by the presence of many late closing bars and restaurants in the area, which lends a characteristically bohemian feel to the zone at night.

The exceptions regarding feelings of safety and comfort late at night would be from Plaça Catalunya all the way down to Plaça Sant Jaume. Some acts such as robberies and aggressions have been reported in the area, but these occurrences would need to be contrasted with spatial context data in order to establish any significant environmental, configuration or land use factor associated with these delinquent acts. Generally speaking, more qualitative data would be needed to be collected in order to categorically affirm if the Capital Route provides feelings of safety and comfort.

Is the Route Identifiable Within the Wider Context of the City?

To claim that the entire route is identifiable within the wider context of city, and that it has its own "route identity" is possibly a subjective proposition. No Barcelona citizen would ever refer to it as such, or even have a mental map of the route itself. What we have instead are sequences of recognizable and important urban spaces, configured in a strong, very rectilinear axis, which descends from the mountain side of the city to the Mediterranean. An urban river, if you will, with a well-integrated network of tributaries.

Certain parts of the route have a weaker identity and perhaps a corresponding weaker level of spatial and contextual integration with their surroundings, This is perceived at the bottom of Gran de Gràcia and Jardins Salvador Espriu where Eixample district takes place. The urban floor/landscaping and sidewalk design does not entirely favour transitional function and there is a sense of spatial ambiguity. The area is not entirely lacking in environmental qualities but it is certainly weaker in the expression of an urban personality. Many users are not even sure of the name of this area and its use is limited and assemblages are scarce.

Figure 389. The Area Where Gran de Gràcia Becomes Passeig de Gràcia. This is where Jardins Salvador Espriu are found, viewed from Gran de Gràcia. Despite its name, there is no such a garden, but instead it is a half grass area and half asphalt covered, with a parking entrance. After a major crossing with Diagonal and Carrer Còrsega, the last remaining of Passeig de Gràcia gets narrow in an ambiguous space.

6.8 The Public Spaces of the Capital Route

Is Public Mobility Well Supported?

By and large, public mobility is very well supported along the capital route. In fact, the city's most important transportation node, Plaça Catalunya, is part of the route. From there users can board on buses, metro, regional and long distance trains, airport shuttles, shopping bus lines and taxis. The choices are extremely diverse.

All along the stretch from Plaça Catalunya all the way up to Lesseps, the route is served by buses and metro thus providing multiple choices of stops and interchange options. Catalan rail (Ferrocarrils de la Generalitat) also serve a significant portion of the route, so it is safe to affirm, and gate counts and flows demonstrate, that the capital route is one of Barcelona's main public transport corridors, with unquestionable significance for public mobility within the route itself as well as the city and metropolitan region.

The pedestrianized zones of the route are not segregated from public transport and places like Portal de Angel, Plaça Nova, or Plaça Sant Jaume are within a five-minute walk from either metro entrances or bus stops. This abundance of public transport resources can be demonstrated as a factor (evidenced through gate counts and flows) to the highly significant pedestrian densities to be found all along the route, and even of extreme concentrations at particular zones.

Is there a Sequence of Well Connected Public Spaces along the Studied Route?

Public spaces along the capital route form a chain of well connected urban environments, at times as a row of discrete and modular urban rooms resulting from the urban planning of the Eixample, in other cases providing a rather monumental and symbolic feel such Plaça Nova (Cathedral square), or just the urban commercial vitality and density found in Portal del Angel. These environments while lacking in green spaces and amenities for contemplative leisure do provide instead a sense of a city with a very intense pulse, with an almost uninterrupted vocation for commerce and social activity, and this undoubtedly lends a stimulating rhythm to this area of central Barcelona. As mentioned before the physical connection of these spaces and the good network of public transport enhances the feeling of constant action and urban choreography. There are as previously mentioned some spots of spatial discontinuity or decreased identity but the enormous success of the zone from a business, touristy and commercial standpoints point to a corresponding successful connection of spaces that provide both continuity and variety to citizens and visitors.

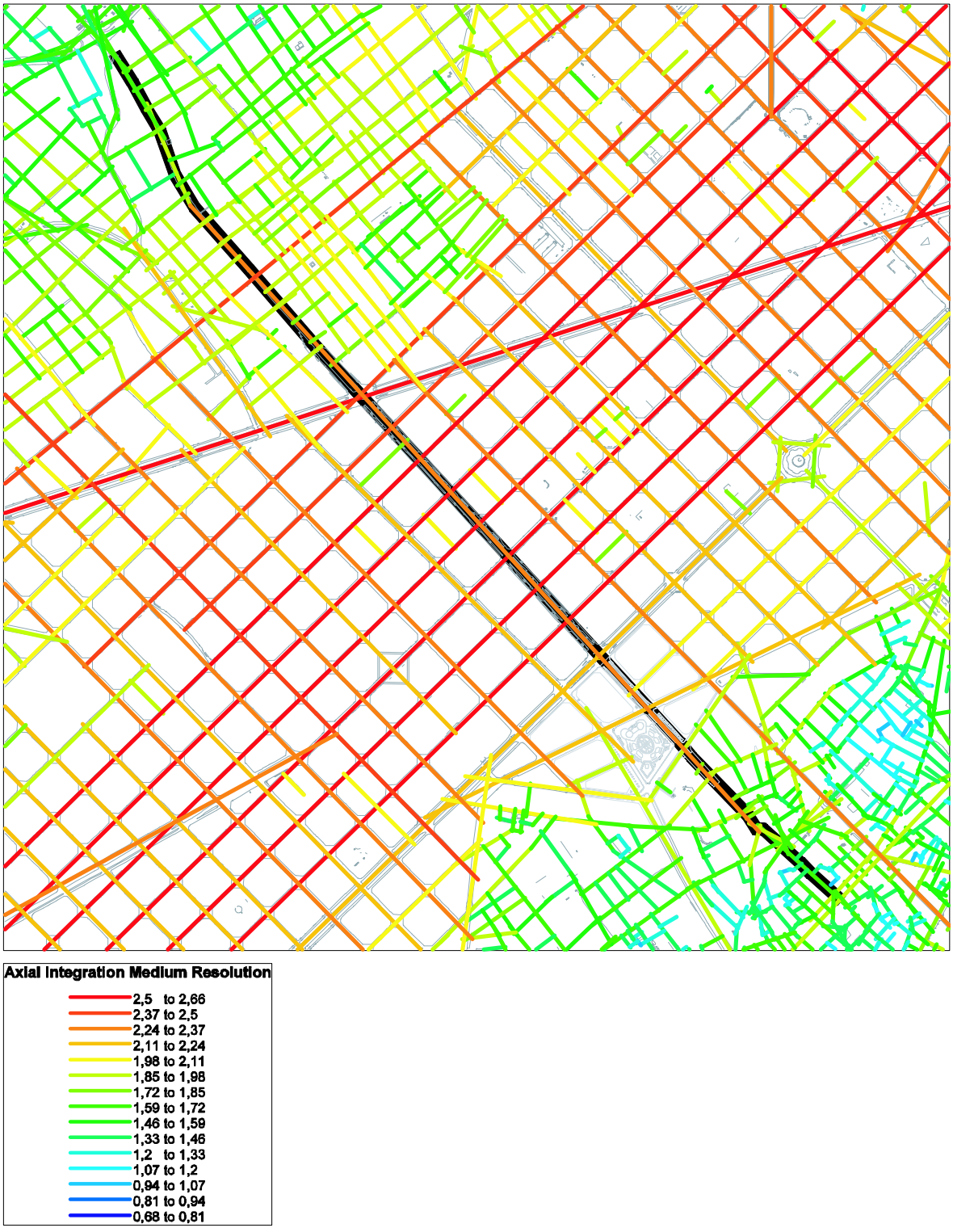


Figure 390. Axial Integration Map. The axial integration map shows the Capital Route (in a thick black line) clearly well connected to the integrated core of the city, primarily made of the long streets of Eixample district. This means that besides public transport, the Capital Route of Barcelona has a good connectivity with the rest of the city. It even penetrates into the historical center (the Gothic quarter) and into the Gràcia district.

6.9. Conclusions on 6.5-6.8

The capital route could be described as a rather unique patchwork of urban spaces, each with a personality and socio-territorial character of its own but rather harmoniously interconnected by factors of history, physical layout, deliberate planning and certainly by the consistent levels of urban density to be found not just in the route, but in the city as a whole. *Density* and *variety* could be words which define much of Barcelona, being one of its most important virtues, and but also factors to be closely monitored as numerous challenges of environmental sustainability, management of energy and resources, maintenance, and safety derive from this condition. The coexistence of many things and many individuals is intrinsically good, but its balance is very delicate, as territories, rights, spaces, and functions tend to overlap, at times rather generously, and occasionally generating undesirable transgressions.

Sustainable conditions for the route may not come from any drastic physical changes, in fact not many spaces along the route would be susceptible to such interventions, nor would changes be apparently needed at present. Traffic circulation, better public information, and overall maintenance of urban equipment would on the other hand constitute much needed improvements. The above mentioned patchwork of urban spaces would require attention to detail, rather than physical changes of a significant nature.

A notable exception to this would be Plaça Catalunya. Here our research findings indicate that the sustainable qualities of the route are at great risk. The square is no longer able to support the current patterns of use, and much needed changes are in call. It is felt (and substantiated by data analysis) that spatial developments and changes would lead to visible improvements. These can be incremental, less traumatic at first. However, their sum should amount to a rethinking of spatial arrangement and configuration, improvements in urban walls, public information access, etc. and the square's critical role as a major transportation and circulation node would alone justify a keen effort to plan its immediate and long term future.

This perception is strongly shared by the Barcelona AGORA team.

CHAPTER 7: COMPARATIVE ANALYSIS

7.1. Introduction

This chapter presents a comparative analysis of urban design data from four Agora partner cities. It compliments the individual analyses of each city and attempts to identify larger commonalities and characteristics of capital routes which may elude the analysis of individual cases.

The work is divided into four sections; introduction, comparative analysis, discussion and key findings, and conclusion: key suggestions for spatial development. The introduction briefly discusses the approach taken by this research, the methods used, and the limitations of such a study. It also introduces and summarizes the main findings of this document. The second section, findings, presents the detailed results of this research. The discussion integrates the findings of each individual question and addresses main overarching questions about the capital route. These questions are:

1. What is a capital route?
2. What are the important variables which influence a capital route?
3. What makes a capital route sustainable?

Finally, the conclusion section presents key design outputs that can be used for WP 7.

Methodology and Limitations

WP6.1 outlined several questions at the component and capital route levels. In addition to the data gathered in WP 6.1 and the comprehensive spatial analysis presented in WP3, a variety of additional quantitative and qualitative methods were used in conducting this analysis. These techniques included:

1. Descriptive statistics of the density and distribution of various components
2. Visual correlation and thematic overlays
3. Statistical correlation
4. Visibility Graph Analysis (VGA)

The use of density and distribution analysis was a common technique used to answer each question. This involved comparing the relative number, densities, and locations of key components relative to each other and to other variables. An example can be found in question 1, which examined the type, location, and densities of different points of information along each capital route. This level of descriptive analysis proved useful to illuminate the basic parameters of each question and was sufficient in most cases.

Where more complex answers were required, thematic overlaps and visual correlations were used. This process involved overlaying several different types of data to identify key clusters of components or relationships between components which simple descriptive statistics may miss. An example of this type of technique is question 2, where land uses and movement levels were qualitatively explored using thematic overlays, then quantitatively tested.

In some cases more rigorous analyses were called for, such as a quantitative comparison between axial integration values and movement flows. In these cases, a type of simple statistics known as linear regression was used. This common technique measures the variance between two variables and quantified the influence of one on the other. It scores the relationship between variables using a “goodness of fit” measure, known as the “r-squared” value. This expresses the degree of co-variance between variables, with an r-squared value of -1 or 1 meaning a perfect correlation between two variables. In these cases, a change in X produces an equally proportional change in Y, meaning that X

has a measurable influence on Y. An r-squared value of less than this described a less perfect correlation. This type of analysis proved very useful for quantifying the factors which influenced activity on the capital route.

The fourth and final technique which was used was Visibility Graph Analysis. This approach uses a custom space syntax software package named Depth map to analyze co-visibility relationships in public spaces. VGA is a method of analyzing the effect of urban and architectural form on visibility; the main sense through which humans experience and understand space. It does this by dividing space into equally sized cells and then ranking them based on how visible each cell is to every other cell. The combined result produces a picture of co-visibility which has been shown to relate strongly to certain kinds of social and static activity. This process was described in detail at the beginning of WP6 as part of a project workshop and in WP3.2, which should be used for further reference.

There are several important limitations of this Comparative Analysis as well. First and foremost, some data was collected in different ways and at different times for each city. Data was also missing in some cases for some partners, and in lesser cases for all partners. Data was also further updated and refined in some cases after the Comparative Analysis began, resulting in slightly different analyses from each individual city then that included in this report. Finally, different coding techniques and different observational categories further hampered the comparative effort. Although these challenges limit the conclusiveness of the comparative analysis every effort was be made to make these comparative limitations clear and should be kept in mind when reading the findings of this analysis. It should be noted that the most important objective of WP6 was to set up a process for analyzing the phenomenon of capital routes, not necessary to produce authoritative and final analyses. This process has been achieved in this Work Package and, in spite of these inconsistencies, serves as a valuable contribution to the Agora research effort.

7.2. Comparative Analysis – Component Level Questions

Question 1: How is Public Information Impacting on the Activities and Experience of the capital route?

Public information along the capital routes was analysed in relation to their location and quantity (number of signs per square kilometre of studied area), form of signs, the conspicuousness of signs, and their purpose. However, the data is not comprehensive in the case of Barcelona and Malmö as the information was collected for a very small area of the capital route. In the case of Barcelona just 16 signs were located and in Malmö the number was 50, London had a total of 216 and Utrecht had 527 at the time of this writing. Data on static activities did not include a category of people looking at signs, which would have been useful in order to understand for the usability of these points of information.

Conclusion and Recommendations

Since the sample sizes in two of the cities (Malmö and Barcelona) were too small for statistical analysis (and the coding in London was different than the standard), it was difficult to draw conclusions based upon the existing data. However, some suggestions can be made and these are presented below.

1. Higher numbers of signs do not necessarily make better urban environments.

Qualitative research (in particular the interviews and observer's narratives), urban spaces with too many signs can have a negative effect on the quality of space and urban experience. It is appears to be the case that in the areas with a high number of public information people tend to use them less.

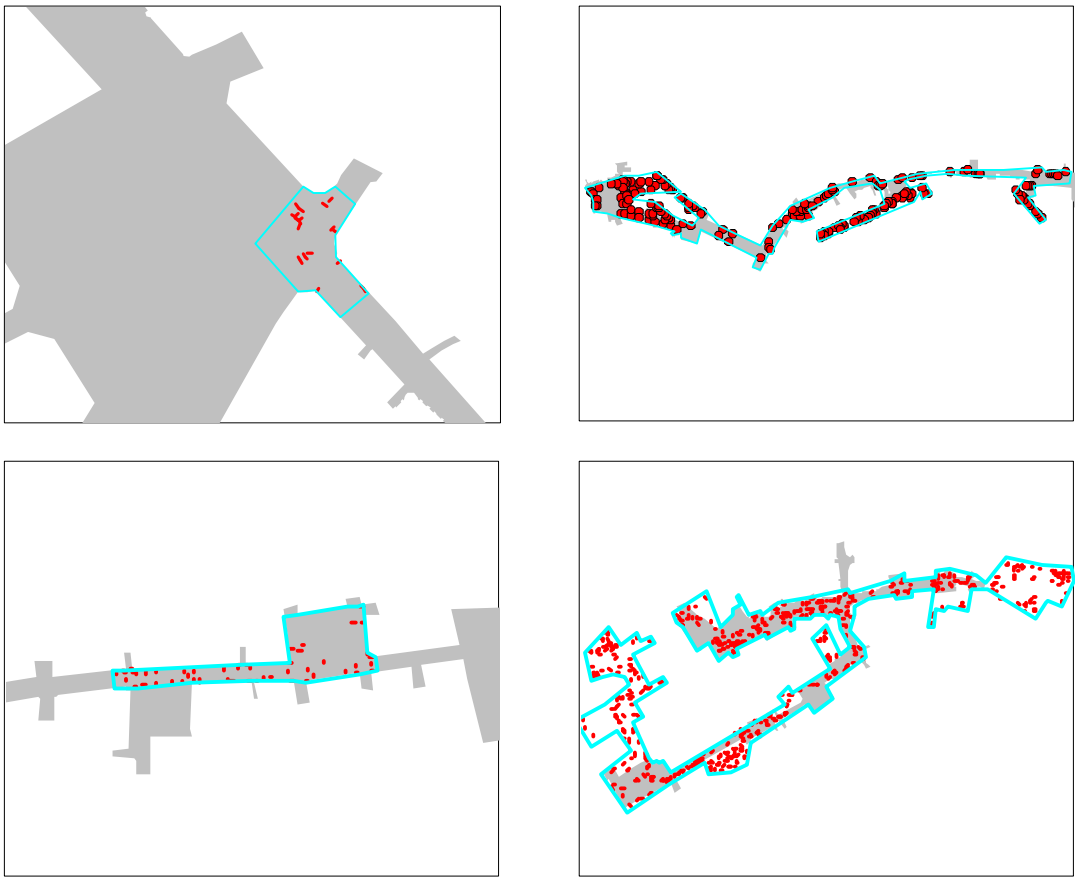
2. Attention should be paid to the place and allocation of signs

It is advised to use less signs and pay more attention to the design and placement of them.

Key Findings

1. Different cities pursued different signage location strategies:

The maps below show the distribution of public information signs. The data in Barcelona and Malmö was not complete at this stage therefore, so that cross comparison between cities could not be elaborated further. However in the case of London and Utrecht public information seemed to be evenly distributed along the studied area (although some concentration were found to be near busy areas like in Trafalgar Square in London as well as near the train station in Utrecht).



Figures 391-394. Maps Indicating the Points of Information in Each City. From top left; Barcelona (a small corner of Plaça Catalunya), London (along the capital route), Malmö (an area of the capital route) and Utrecht (along the capital route). Data are missing from Barcelona as this report was compiled before the final data set was assembled.

2. Each city had different densities of signage:

The location of signs was not recorded along the entire capital routes of all cities, making density comparisons difficult. In order to calculate the density of signs, the number of signs was divided by the area within which the data was collected. This analysis showed that London had the least number of points of public information per km² along the capital route (1093 signs per km²), which was significantly lower than that of Utrecht with 3102 signs per km². However it is important to note here that London's capital route has a different character, firstly because it is not a primary vehicular road and therefore it contains less traffic signs, and secondly because it is a single route it doesn't contain many street name signs. Furthermore, the capital route includes the Thames River which acts as a type of attraction itself by generating and guiding movement along its bank. This creates a broad visual field where people can easily see different attractions or buildings from one side to the other as well as along the river itself and may therefore require less signs for navigation and explanation.

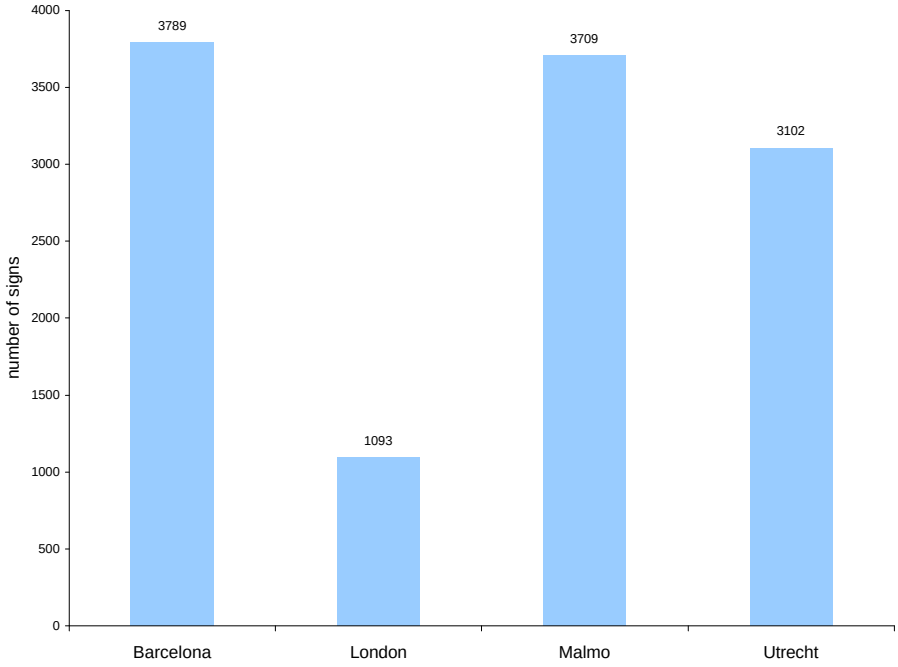


Figure 395. Comparison of the Number of Signs per km² of Studied Area.

3. The majority of public information signs are moderately conspicuous:

The analysis of the conspicuousness of the signs showed that the majority of public information signs in all cities were moderately conspicuous. This is an indication that the high number of signs does not necessarily coincide with high conspicuousness, for example Malmö which has very high number of signs which are only moderately conspicuous.

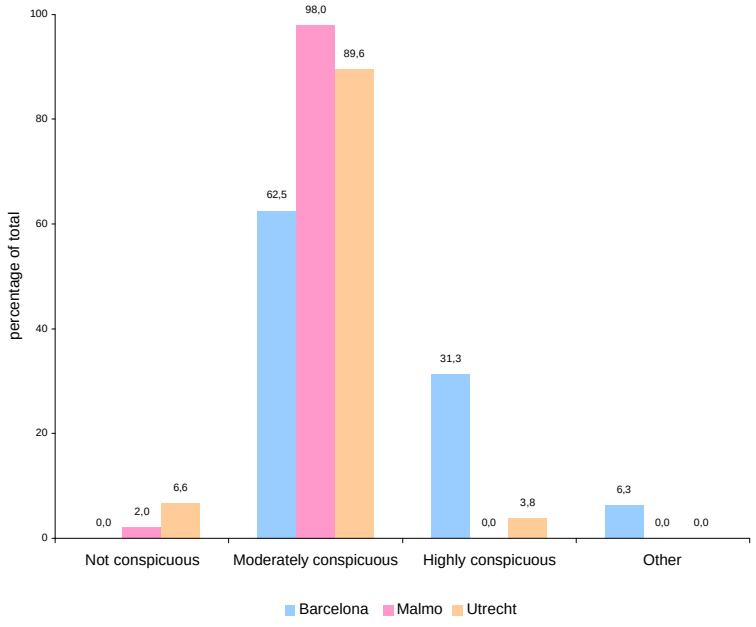


Figure 396. Comparison of the Percentage of Conspicuousness of the Signs of each City. Data for London are missing as these were coded in a way that did not allow for comparison with the other cities.

4. Identification and information signs were the most common in all three cities:

Identification and informational signs consistently existed in all three cities. Identification signs were found to be in the highest percentage in Barcelona (50% of the total sings) and 28% and 23% in the case of Malmö and Utrecht.

5. Street names and traffic signs were the most common types of sign:

The data on the typology of signs was collected for all four capital routes, however London's data has not been utilised in this section because during the collection of the data different coding system than this of other cities was used from the team. The analysis of the sign typology revealed that the most of the signs were street name signs and traffic signs. Utrecht appeared to have a high percentage (20%) of direction signs as well.

6. The majority of signs were in the native language of the country or use pictograms only:

The result of the analysis of the language of signs revealed that use of the local language is the most dominant way of communication in textual signage giving a percentage between 37% to 76% in different cities. The next highest method of communication was graphic signage which varied between 23% to 36% among the cities.

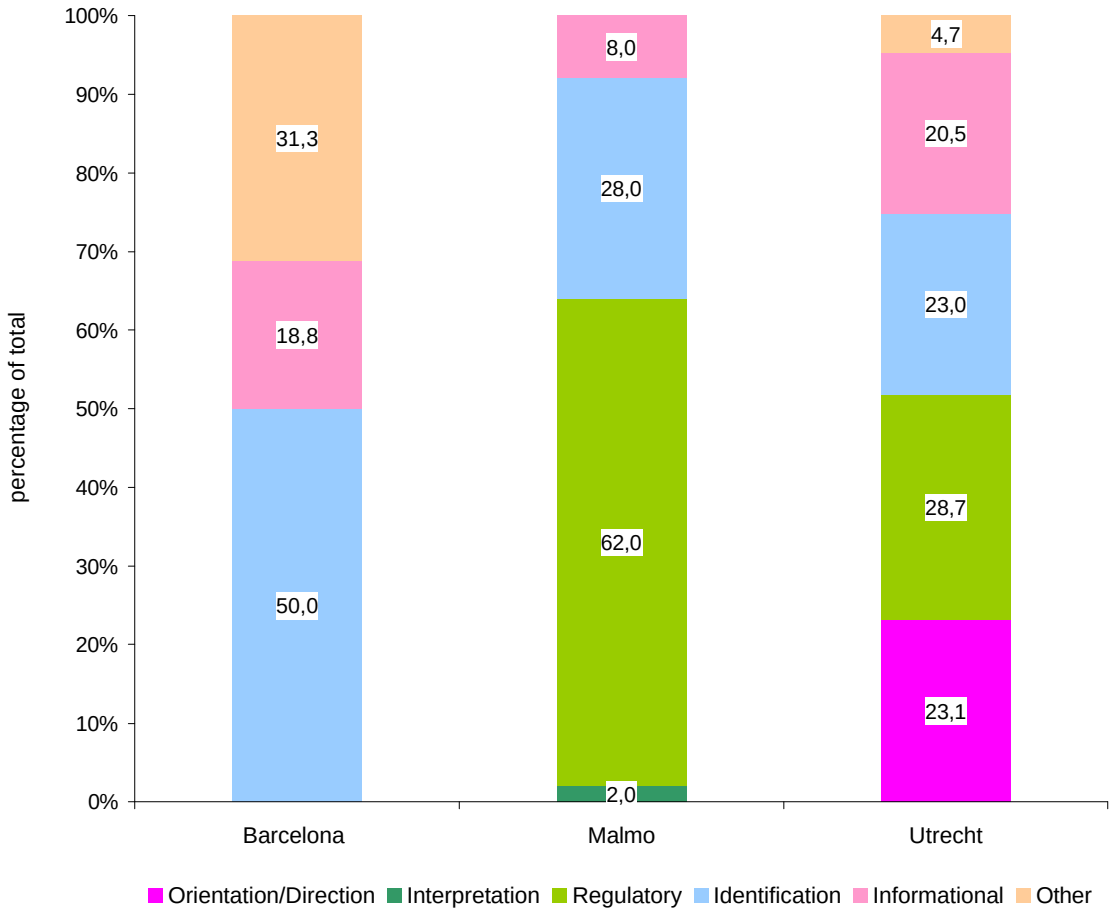


Figure 197. Comparison of the Purpose of Signs. Data for London are missing as these were coded in a way that did not allow for comparison with the other cities.

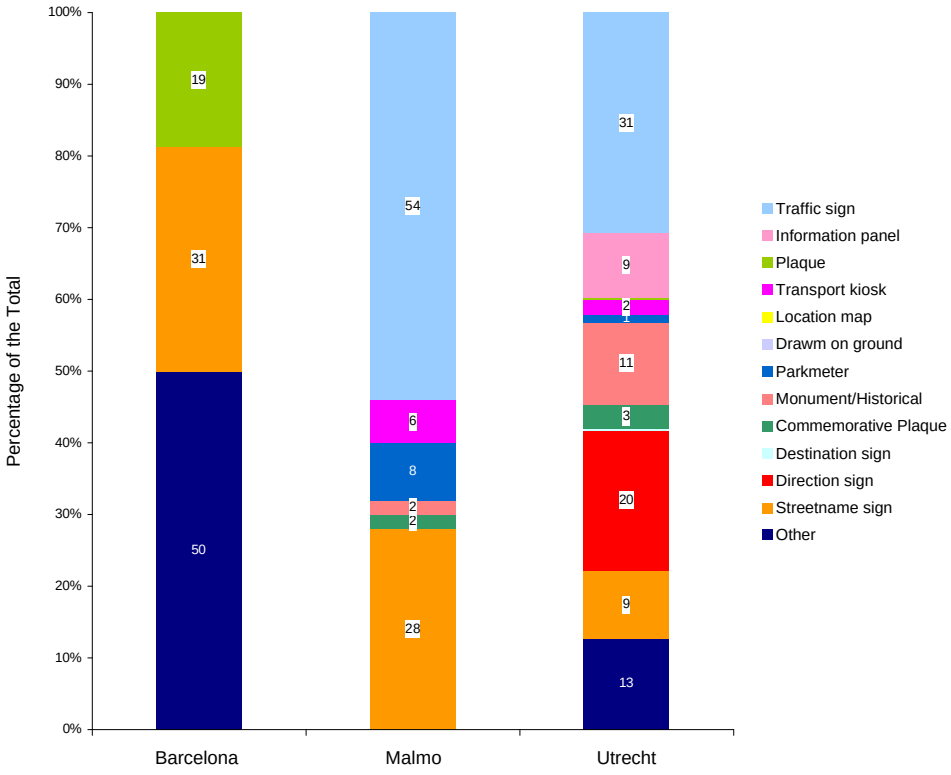


Figure 398. Typology of Points of Public Information. Data for London are missing as these were coded in a way that did not allow for comparison with the other cities.

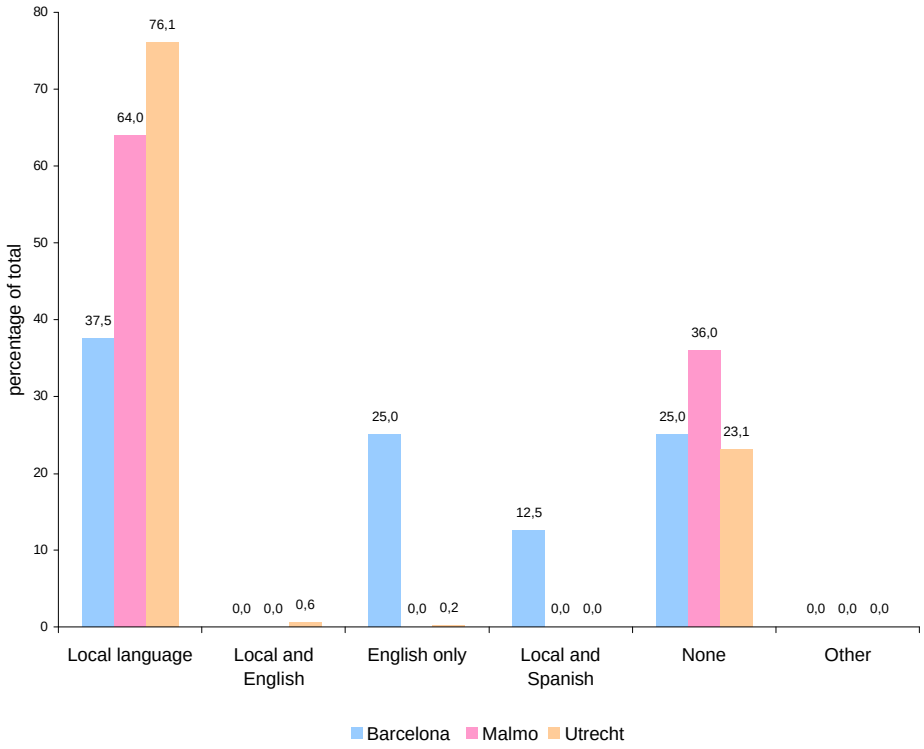


Figure 399. Comparison of the Language of Signs. Data for London are missing as these were coded in a way that did not allow for comparison with the other cities.

Question 2: "How do the Characteristics of the Urban Walls relate to the Activities that take Place along the capital route?"

Pedestrian movement flows were analysed in relation to the transparency, usability and form of the urban walls as well as land use and building entrances along the capital routes.

Conclusion and Recommendations

The analysis found a relationship between pedestrian movement, façade transparency and land use for all capital routes. Conversely, no clear relationship was found between pedestrian movement flows and form and usability of urban walls. It is suggested that pedestrian movement is related to façade transparency as a by-product of the relationship between pedestrian flows and certain types of land use.

Analysis of the data suggested that movement flows were affected by land use. Successful retail, catering facilities, cultural buildings, trains or tube stations attract people. Yet, unlike the usability and form of the building facades, retail and catering facilities often use the transparency of their facades as a way to minimise the physical barrier between the street and the interior of the building. From the design point of view, a good mix of retail, as long as supported by natural movement flows, may bring a diversity of activities along capital routes.

Key Findings

1. A correspondence between the percentage of highly transparent facades and movement flows was observed for all four cities.

There appeared to be a relationship between the percentage of highly transparent facades and movement flows as these are highest in the cities with the highest percentage of highly transparent façades (Barcelona: 1476 people per hour, Utrecht: 1085 people per hour, London: 940 people per hour, and Malmö: 184 people per hour).

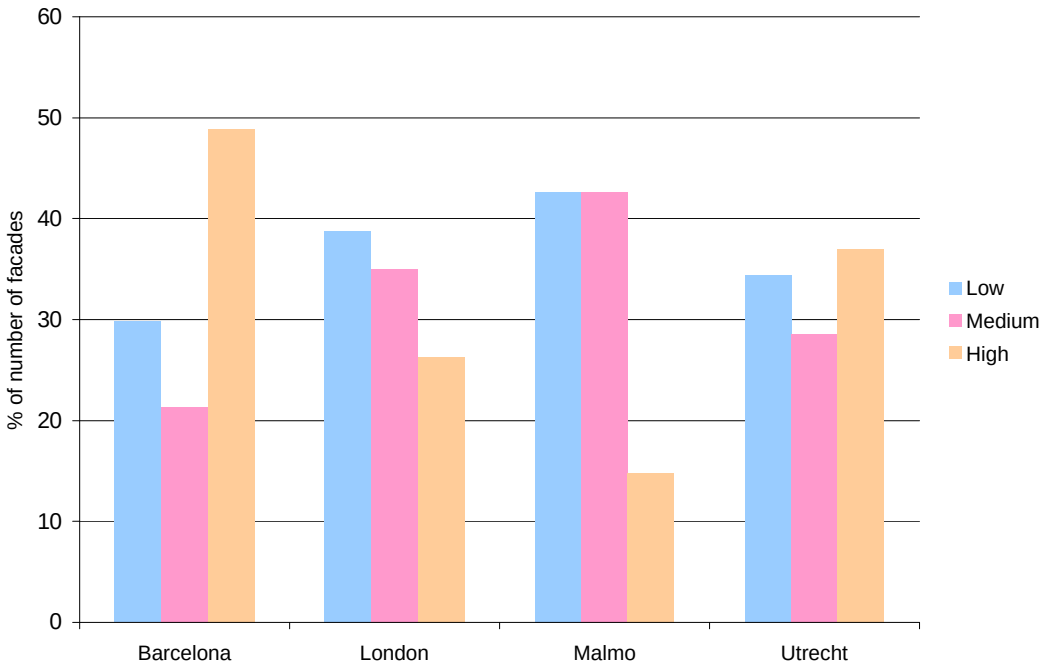


Figure 400. Percentage Distribution of Facades Transparency Levels According to Cities

2. A correspondence between movement flows and land use was observed for London, Malmö and Utrecht.

In Malmö, analysis of the data found a relationship between the location of retail and high pedestrian flows. In Utrecht the highest flows were found in the pedestrianised area that crosses a major train station, with good pedestrian flows in areas with clustering of retail. In London, the relationship between land use and pedestrian flows was less apparent. The highest pedestrian flows were found in Trafalgar Square, with above average pedestrian flows throughout the Queen's Walk, which combines cultural and leisure facilities with some retail (There was no information on land use for Barcelona capital route).

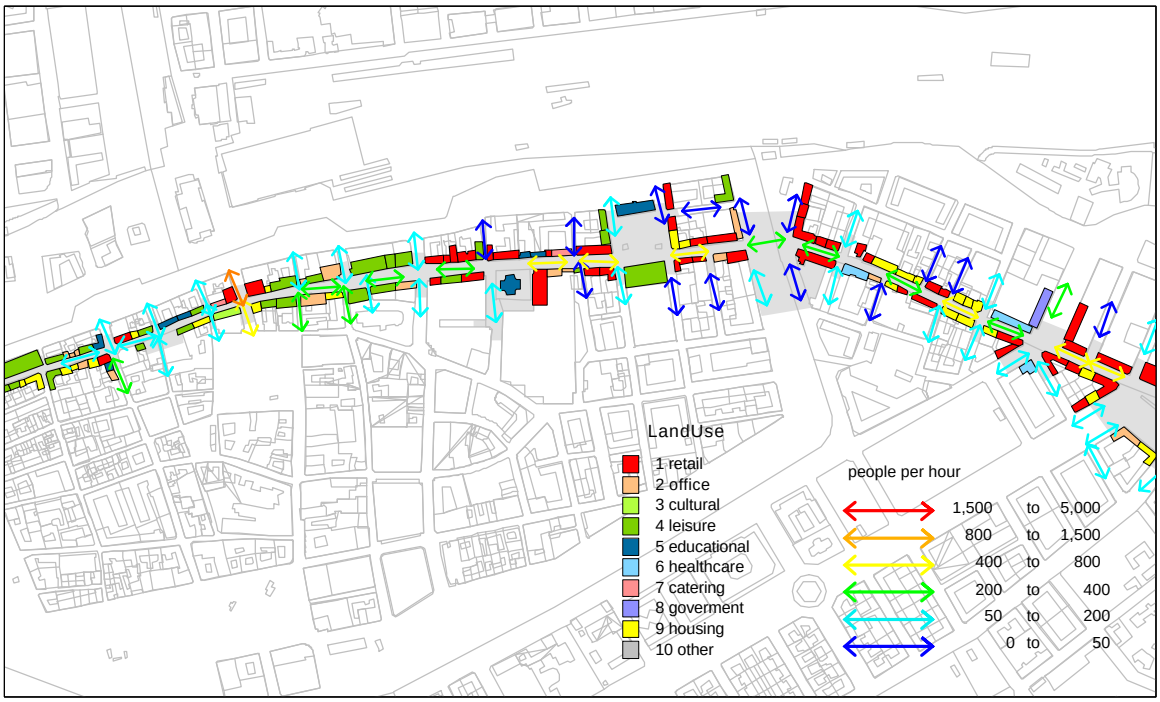


Figure 401 - Malmö. Land Use and Pedestrian Movement (average all day for a Weekday).

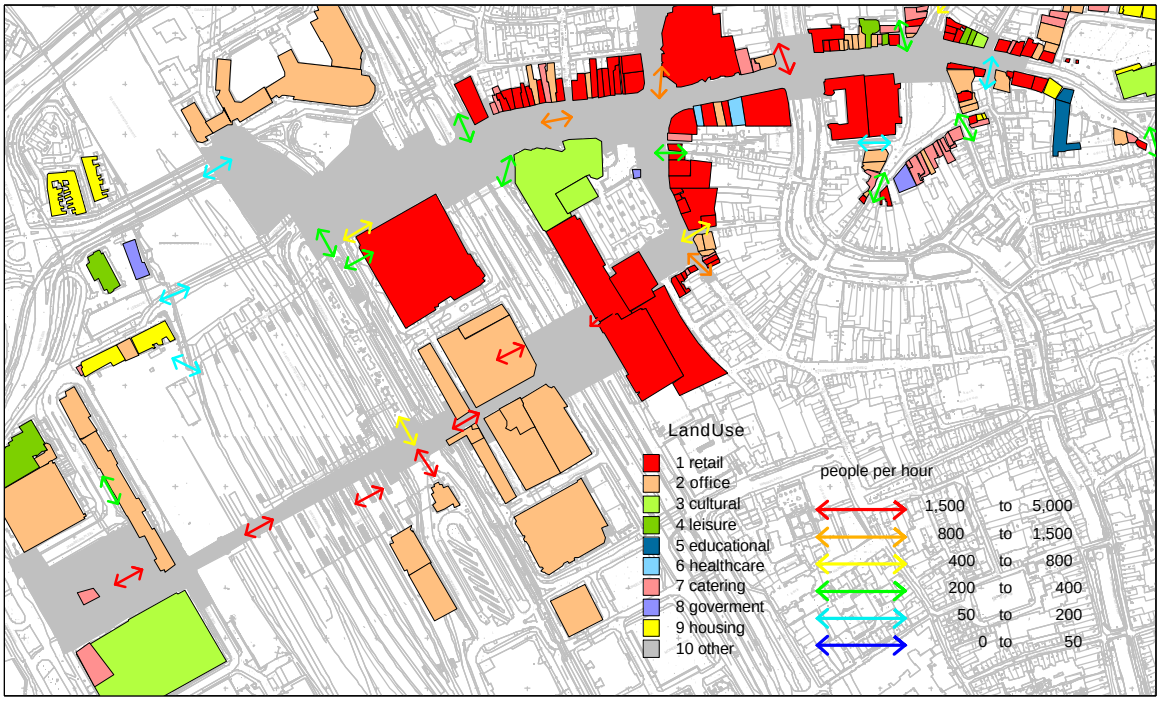


Figure 402. Utrecht. Land Use and Pedestrian Movement (average all day for a Weekday).

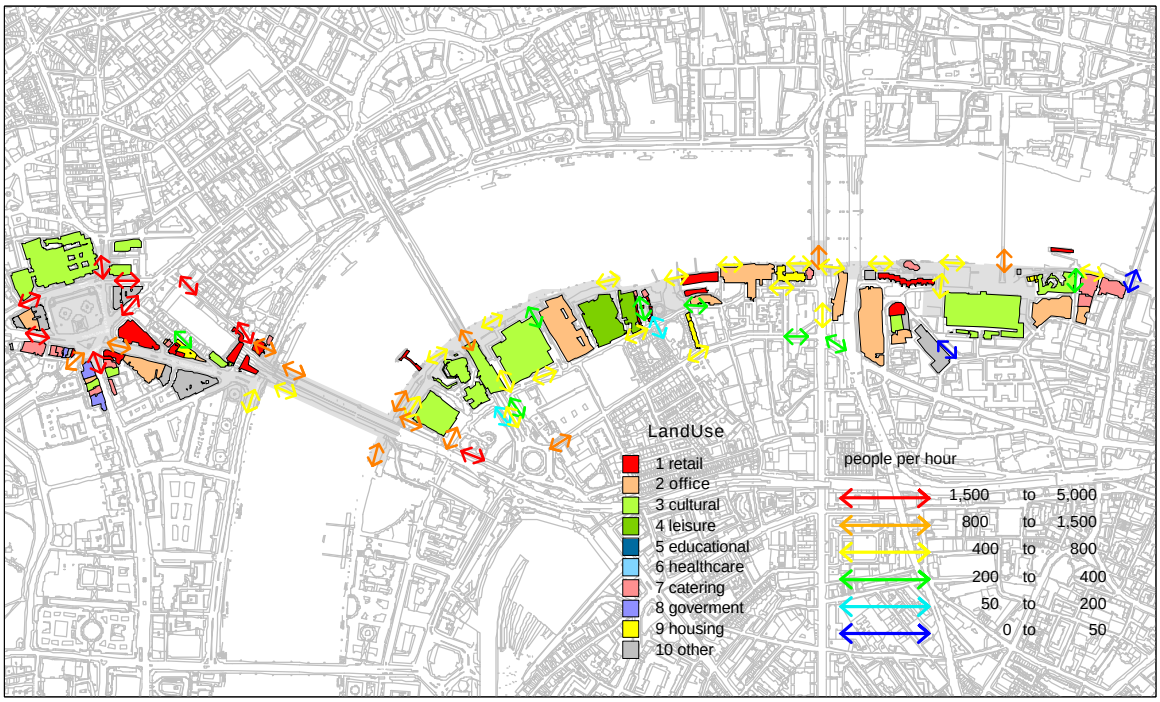


Figure 403. London. Land Use and Pedestrian Movement (Average all day for a Weekday).

Question 3: How do the Affordance of Urban Rooms relates to Actual Activities that Take Place?

Assemblage data, also referred to as stationary activity, was analysed in relation to the urban rooms' morphological characteristics, land use, urban walls, i.e., transparency, form and usability of the facades of the surrounding buildings, points of information and pedestrian flows.

Conclusion and Recommendations

Analysis of the data suggested that there may be a correspondence between clustering of stationary activities and the morphological characteristics of Urban Rooms, as well as land uses and transparency and form of building facades. Crucially, a good correspondence was found between pedestrian flows and levels of stationary activity for all four cities.

Past research has found that there are two fundamental elements for successful public spaces - the density of moving people and the degree of easy access between the public space and the surrounding areas. The character of a public space will therefore be a result of how these two elements are combined, from lively and busy to more secluded and tranquil. The correspondence between pedestrian flows and levels of stationary activity for the four capital routes confirmed this.

Analysis of the data has shown that stationary activity was more likely to take place in slightly segregated spaces off-set from the highly visible areas of the Urban Rooms. The relationship between clustering of stationary activities and the morphological characteristics is therefore fundamental as the layout of Urban Rooms can be evaluated in order to meet the brief requirements towards sustainable capital route.

The positive relationship between clustering of stationary activities and land uses, transparency and form of urban walls address a third important property. Likewise with pedestrian flows, it is suggested that clustering of stationary activities was related to façade transparency as a by-product of the relationship between stationary activities and certain types of land use. Catering facilities, if successful, will attract people. Quite often, retailers will use some of the outdoor space to provide sitting areas for their customers. The transparency and form of building facades are used to minimise the physical barrier between the outdoor and interior space.

From the design point of view, the affordances of Urban Rooms, and the capital routes as a whole, were related to the natural pedestrian movement levels in the area, the morphological characteristics of the Urban Rooms and their degree of accessibility to the surrounding areas, added to land use patterns of the surrounding building and the fine scale design of the inner space.

Key Findings

1. Stationary activities profile.

Analysis of the data showed that all stationary activities observed taking place along the capital routes could be grouped into six main categories: talking/gathering, resting, eating and drinking, waiting/queuing, photo shooting, and street selling. Talking/gathering includes any kind of social interactions. Resting includes activities like viewing landmarks, reading, writing or simply relaxing. Eating/drinking covers is in-door and out-door activities. Waiting/queuing includes waiting for people, food, drinks, or waiting to buy goods, window shopping, etc. Photo shooting relates to people taking photographs. Street selling includes activities related to market or stall selling or other kinds of entertainments like crafting street entertainments. Out of these six main activities, the results of the analysis of assemblages' data show that regardless of the configuration and location of the Urban Rooms in every given capital route, talking/gathering was the most common activity with 37%, followed by resting with 28% and eating/drinking with 23%.

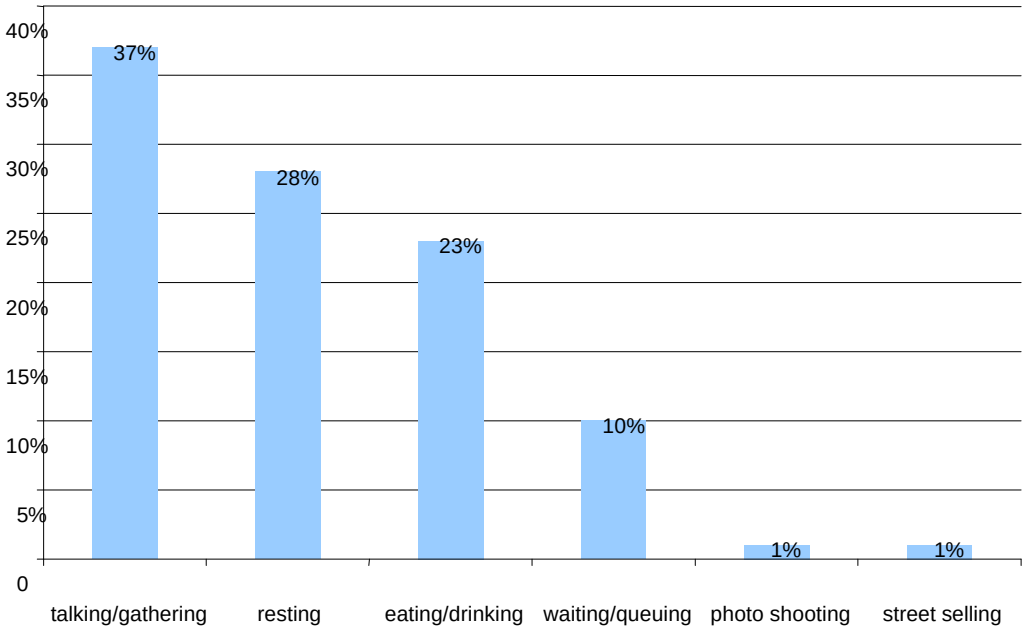


Figure 404. Average Percentage Distribution of Stationary Activities for all Four Cities.

When the analysis was broken down according to cities, resting was the most popular activity for Barcelona and London whereas, talking/gathering were the most popular activity for Malmö and Utrecht. Malmö may have classified resting as part of talking/gathering activities, which would have limited the range of observed activities in comparison to the other 3 remaining cities. Similar percentage of eating/drinking was observed for all 4 cities, making it the dominant consistent activity. The remaining three activities, in particular photo shooting and waiting/queuing showed to be not a popular activity in any city.

Users in the selected urban rooms were also noted according to sitting or standing (this data was not recorded in Utrecht). The analysis showed a wide spectrum of results directly related to the amount of adequate sitting facilities. In Barcelona 88% of all observed people were sitting compared to 26% in Malmö.

Figure 405. Percentage Distribution of Stationary Activities According to Cities

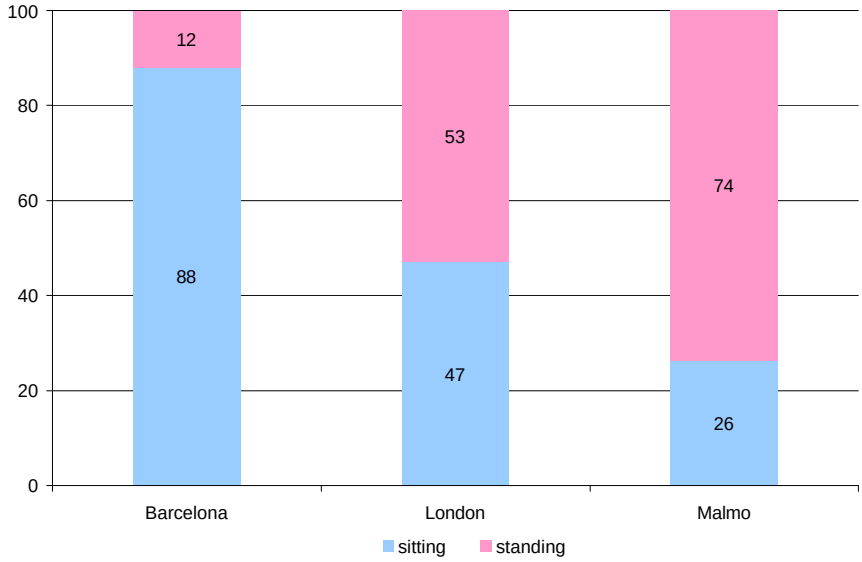


Figure 406. Percentage Distribution of Sitting or Standing according to Cities. Utrecht is not shown in this graph as positions were not recorded.

2. There is a good correspondence between pedestrian flows and levels of stationary activity for all four cities

Assemblage data was also found to be correlated with pedestrian flows. The analysis found that there was a good correlation between the two, i.e., the higher the pedestrian movement flows in through and around the public space, the higher the levels of stationary activity. This finding may indicate a fundamental property how public space functions and, in the case of Agora, how Urban Rooms may work. Assuming that the Urban Rooms are well connected to the surrounding area, the degree of space use of a public space will be directly affect by the number of pedestrians in the immediate area.

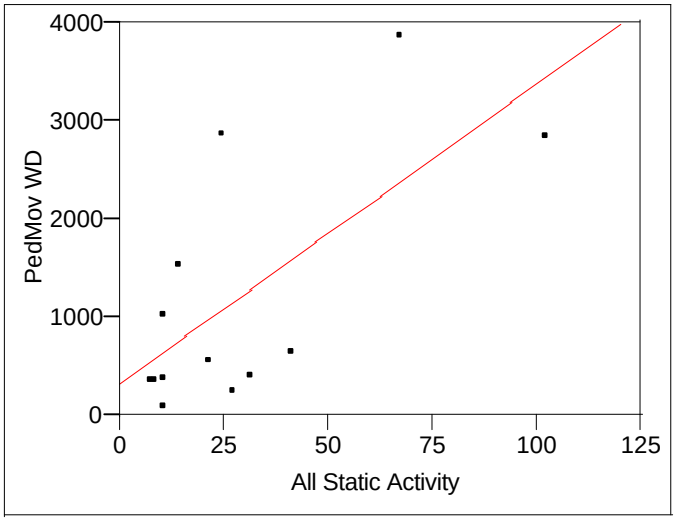


Figure 407. Correlation between Pedestrian Movement Flows and Assemblages (R^2 = 0.47, P = 0.009). In Barcelona 2 locations were analysed (the south and east pavements in Placa Catalunya). In London 3 locations were analysed (Tate West Entrance, the street east of the Globe Theatre and the stretch of river walk opposite the pier). In Malmö and Utrecht each of the Urban Rooms were analysed.

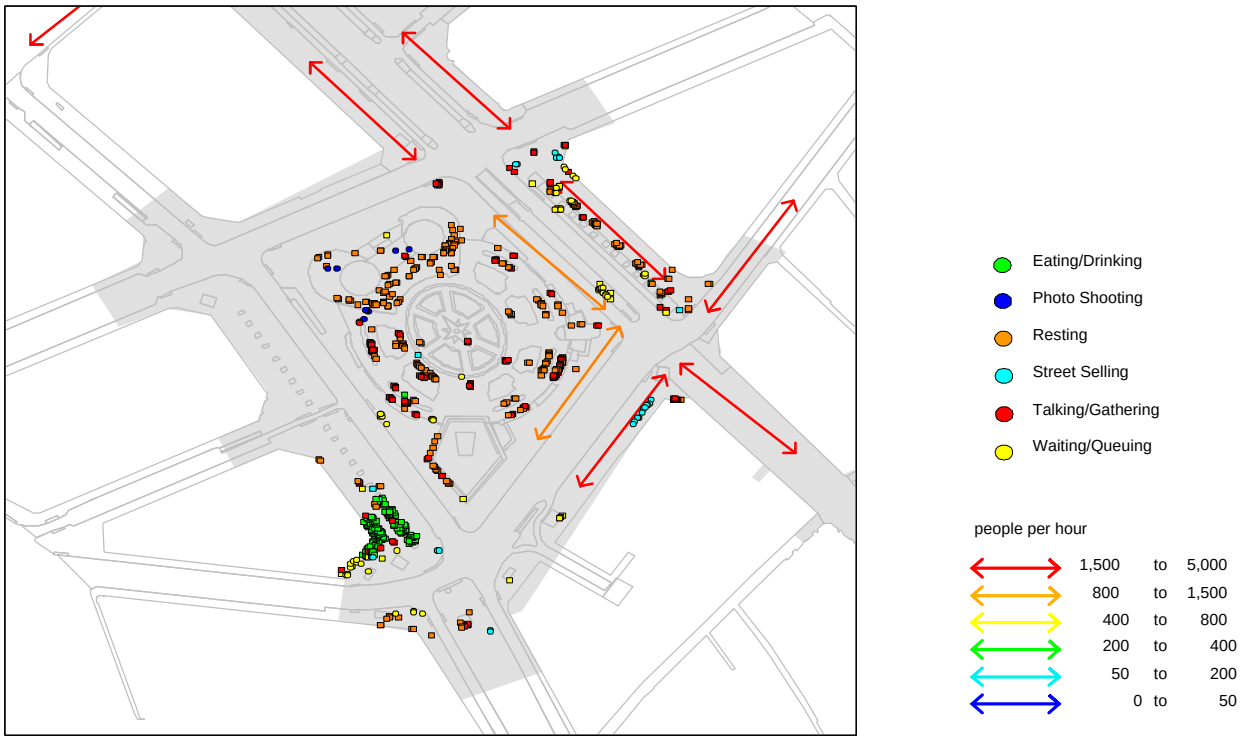
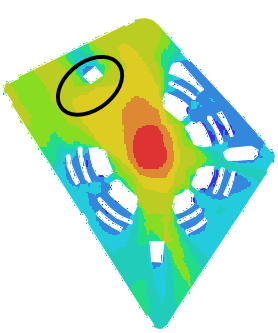


Figure 408. Example of Pedestrian Movement Flows and Assemblages: Placa Catalunya, Barcelona.

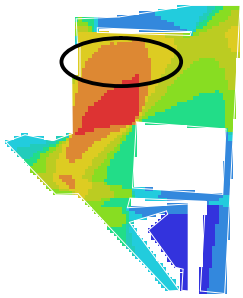
3. Stationary activities location

Clustering of stationary activities were found to correspond with the morphological characteristics of the capital routes and respective urban rooms, as well as to land uses and some aspects of urban walls.

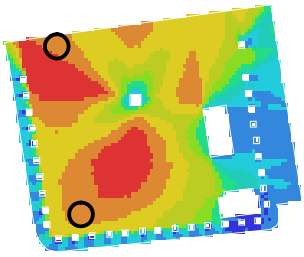
Preferable location of stationary people was analysed for one urban room per capital route (Placa Catalunya in Barcelona, Tate West Entrance in London, Drottningtorget in Malmö and Neude in Utrecht). Analysis shows that there is a good correspondence between the level of internal visibility of the Urban Room and predominance of stationary activity. Research on the preferable location for stationary activities has shown that stationary activity is more likely to happen in slightly segregated spaces off-set from the main integrated areas (Arruda Campos M. B., 2000; Arruda Campos M. B., 1999; Arruda Campos M. B., 1997), as an intuitive away of balancing good visual fields from where one is stationary but at the same time not being over-exposed to the surrounding. Hence, the user is in control of how far one wants to be visually exposed but without losing the ability to see. This pattern is observed in all Urban Rooms, as highlighted by the black circles.



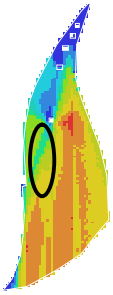
Barcelona – Placa Catalunya



London – Tate West Entrance



Malmö – Drottningtorget



Utrecht - Neude

Figure 409. Visibility Graph Analysis of 4 Urban Rooms and clustering of assemblages. Red=high integration, and Blue=low integration.

Preferable location of stationary activity was further correlated against land use (here we have no information on Barcelona), points of information and urban walls.

Across all capital routes (London, Malmö, Utrecht), there was a strong correspondence between land uses, in particular retail and catering facilities and clusters of stationary activity. This is confirmed when the analysis is broken down according to activities as most of the observed activities near catering building was related to eating/drinking.

The analysis of stationary activity and form, transparency and usability of the facades showed a positive correspondence between clustering of assemblages and both form and transparency of building facades for all 4 cities. It could be argued that retail and catering (the main land uses identified as corresponding with assemblages) do need to enhance the complexity and levels of transparency of the building facades as an away of attracting users. Level of usability, however, showed not to be a relevant factor. Figure 410 illustrates the relationship between stationary activities and façade transparency levels for Barcelona.

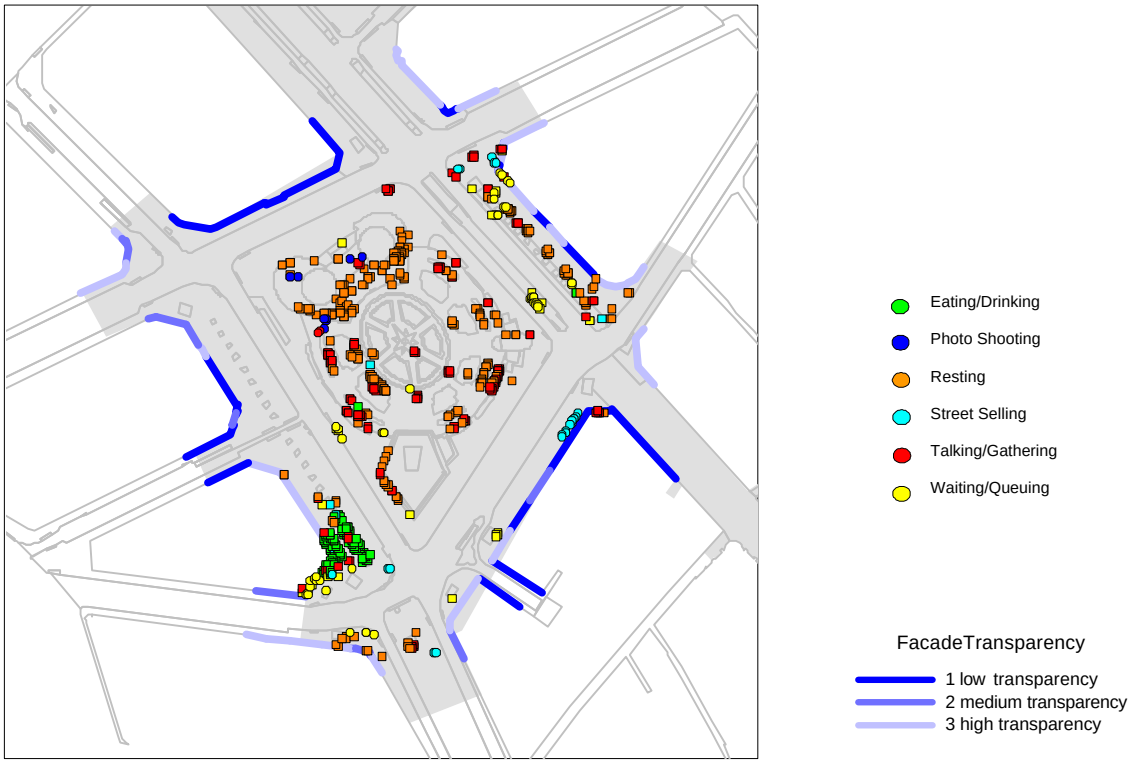


Figure 410. Barcelona: stationary activities and façade transparency levels.

The analysis of stationary activity and points of information revealed a different picture. From the data available, there was no indication that stationary activity was positively or negatively affect y the location of signs.

Literature: Arruda Campos M. B. (2000) 'Urban Public Spaces: A Study of the Relation Between Spatial Configuration and Use Patterns'. PhD, University of London; Arruda Campos M. B. (1999) 'All That Meets the Eye: Overlapping Isovists as a Tool for Understanding Preferable Location of Static People in Public Squares'. In Proceedings of the Second International Symposium on Space Syntax, Brasilia: University of Brasilia; Arruda Campos M. B. (1997) 'Strategic Spaces: Patterns of Use in Public Squares of the City of London'. In Proceedings of the First International Symposium on Space Syntax, London: University College London

Question 4: How does the dynamic of flows affect the activities and experiences of the route?

In answering this question it must be considered that movement flows are actually an activity and experience in *themselves*, and that it is difficult to disentangle the causal relationship between these variables to the degree necessary to produce a defensible, evidence-based answer to this question. It would be wrong, for example, to claim that "flows affect activities and experiences" when the converse may equally be true - "activities and experiences affect flows". In order to say anything meaningful about this question, it is therefore necessary to correlate flows against a third, independent variable, such as spatial accessibility or land use. Previous space syntax research has found strong connections between spatial configuration and movement flows, so this question was answered by examining the association between the urban accessibility of the four capital routes and the movement flows which they experienced.

Pedestrian movement, cyclist movement, and vehicular movement were all compared against the integration values of each capital route using linear statistical regression. This process compared how one variable changed relative to another, and then scored the relationship based on a "goodness of fit" measure, known as the "r-squared" value. An r-squared value of -1 or 1 means a perfect correlation between two variables, such that a change in X produced an equally proportional change in Y. An r-squared value of less than one described a less perfect correlation, meaning that X caused less of a change in Y and was therefore less important when trying to understand and predict what caused Y.

In the examples below, r-squared varied between 0.08 (which meant that no significant relationship was found) to 0.64, which meant that integration explained just under 65% of observed movement. These findings were then used to understand the precise importance of spatial accessibility on movement along the capital routes.

Conclusion and Recommendations

1. Local spatial accessibility was an important influence on pedestrian volume in Malmö, moderately important in Barcelona, but not as influential in London or Utrecht.
2. Medium scale spatial accessibility had a very strong influence on cyclists in all cases.
3. Medium scale spatial accessibility had a very strong influence on vehicle flows in London and a moderately strong influence in Malmö and London.

Key Findings

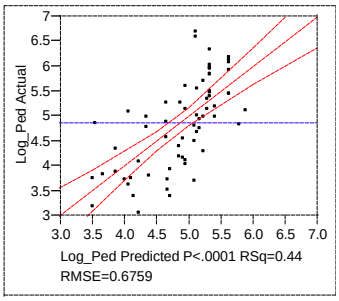
1. Spatial accessibility was an important influence on pedestrian volume in Malmö, moderately important in Barcelona, but not important in London or Utrecht.

Local spatial accessibility (Radius 3) was found to be an important but not dominant influence on pedestrian flows in Malmö's capital route. Barcelona's movement flows were also strongly influenced by local spatial accessibility, but to a lesser degree than Malmö. Axial accessibility analysis of Malmö reveals that its capital route is one of the strongest east-west connectors south of the train station and north of the canal, suggesting that this route plays an important role in pedestrian traffic going in these directions. Local spatial analysis of Barcelona equally identifies the capital route as more locally integrated than it's surrounding streets, but the city's strongly regular grid provides more alternate routes for pedestrian travel, thus weakening the relationship between accessibility and movement.

No valid statistical relationships were found for London or Utrecht. In London's case, the capital route is itself relatively locally spatially segregated, because of its position on the edge of the Thames River, which isolates it from the highly accessible urban grid to the north or the Thames. Thus other factors, such as the capital route's major attractions and scenic, clearly marked tourist pathway are most likely responsible for its high movement rates.

Finally, Utrecht's capital route includes a very low integrated series of streets that experiences extremely high pedestrian flow due to the train station along it's length. This mismatch of local spatial accessibility and high volume movement results in much lower correlation.

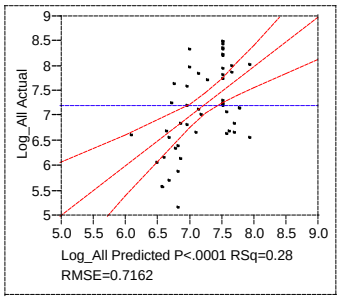
Malmö



R-squared = 0.44, p < 0.0001

Radius 3

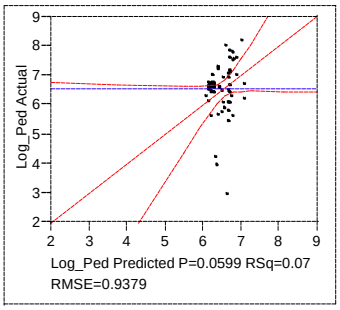
Barcelona



R-squared = 0.28, p < 0.0001

Radius 3

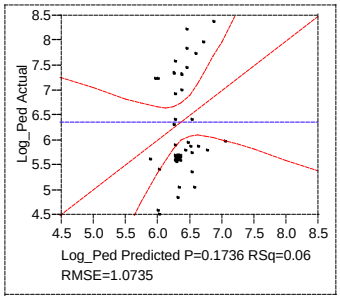
London



R-squared = 0.07, p < 0.9379

Radius 3

Utrecht

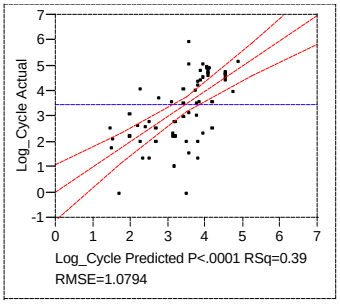


R-squared = 0.06, p < 0.1736

Radius 3

Figure 411. Correlation of Local Integration (R3) to Pedestrian Movement.

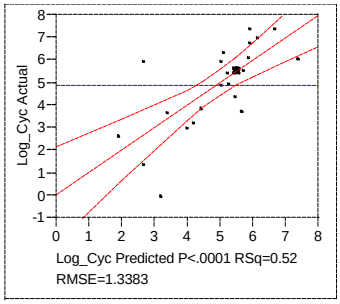
Malmö



R-squared = 0.39, p < 0.0001

Radius 3

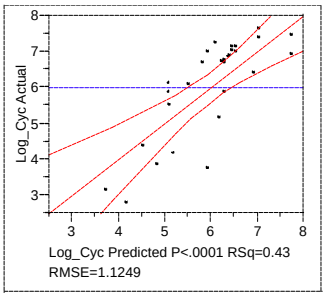
Utrecht



R-squared = 0.52, p < 0.0001

Radius 3

London



R-squared = 0.43, p < 0.0001

Radius 3

Figure 412. Correlation of Local Integration (R3) to Cyclist Movement. The graph for Barcelona is missing as data on cyclists were not collected.

2. Medium scale spatial accessibility had a very strong influence on cyclists in all cases

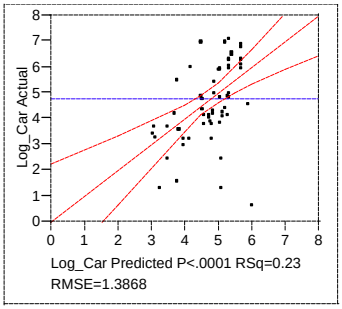
Medium scale spatial accessibility (radius 8) was found to have a strong influence on cyclist volumes in all three cities where this data was collected. The strongest example found was Utrecht, where accessibility correlated to slightly more than 50% (r-squared = 0.52) of cyclist volume. Accessibility was also found to explain approximately 45% of variation in cyclist volume in London and 39% in Malmö. This implies that medium scale spatial accessibility is an important determinant of cyclist route choice and hence, volumes.

3. Medium scale spatial accessibility had a very strong influence on vehicle flows in London and a moderately strong influence in Malmö and Utrecht.

The strongest association of spatial accessibility and movement flows was found between vehicles and medium scale accessibility in (radius 8). In this case approximately 65% of vehicular movement flows were explained by accessibility alone, suggesting that the hierarchy and alignment of streets around London's capital route is a strong determinant of urban movement in this area.

The correlation was lower in Malmö and Utrecht, however. Malmö's vehicular flows were found to correlate to less than 25%, which is a significant but much weaker finding. Utrecht was slightly stronger, with an r-squared of 0.33. It is likely that other factors significantly influence vehicular flows in these two cases – particularly in Malmö.

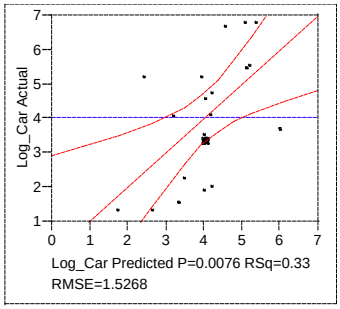
Malmö



R-squared = 0.23, p < 0.0001

Radius 3

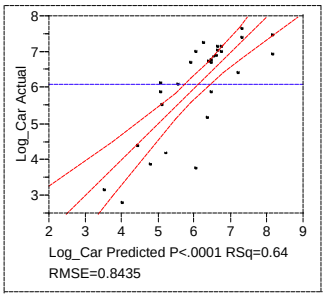
Utrecht



R-squared = 0.33, p < 0.0001

Radius 3

London



R-squared = 0.64, p < 0.0001

Radius 3

Figure 413. Correlation of Local Integration (R3) to Vehicular Movement. The graph for Barcelona is missing as data on vehicles were not collected.

7.3. Comparative Analysis – Capital Route Level Questions

Activity of the Route – Question 1: To What Extent is There a Diversity of Activities that Overlap Spatially (in the Urban Rooms)?

Movement and static activities were analysed in relation to land use, accessibility and façades along the capital route using both visual correlation and descriptive statistics.

Generally, London and Utrecht displayed a similar pattern of activities. Malmö and Barcelona were more unique in their activity characteristics, although Malmö appeared to have a similar potential to London and Utrecht. Unfortunately Barcelona's limited data made it hard to compare this city to others at the capital route level.

Conclusion and Recommendations

One common characteristic of all the capital routes is that they have a high percentage of live land uses along them (retail, cultural, leisure and catering accounted for 55.5% of total land use in Utrecht and London and 58.5% in Malmö).

Malmö's retail land uses (34%) are less spread out along the route, however, with a stronger concentration on the eastern half, where the highest pedestrian and vehicular flows are found. This suggests that Malmö may have a similar potential as the other two cities for maintaining movement rates and retaining static activity along the entire route.

The analysis points out that areas which attract a variety of static activities are those which:

a. offer enough space to perform the activities

b. are next to the capital route, but not on the main flows and

c. offer facilities to sit either in terms of street furniture or different floor heights

d. are located near a variety of accessible to public land uses which provide for high volumes of pedestrians and pedestrian activity.

It can be concluded that:

1. Capital routes are constituted by a variety of land uses with a high percentage of leisure uses.
2. Their nature and success is affected by the distribution of land uses, the transparency of the façades, the location and arrangement of public spaces.
3. Capital routes are sustainable if the movement supports the land uses, their distribution, the arrangement of public spaces and vice versa. This is because services and public spaces will be under-used unless they have the advantage of natural movement near them. On the other hand, if the land uses and public spaces are not provided, people will choose different routes and use public spaces elsewhere.
4. Capital routes should provide areas which offer possibility for mixed use

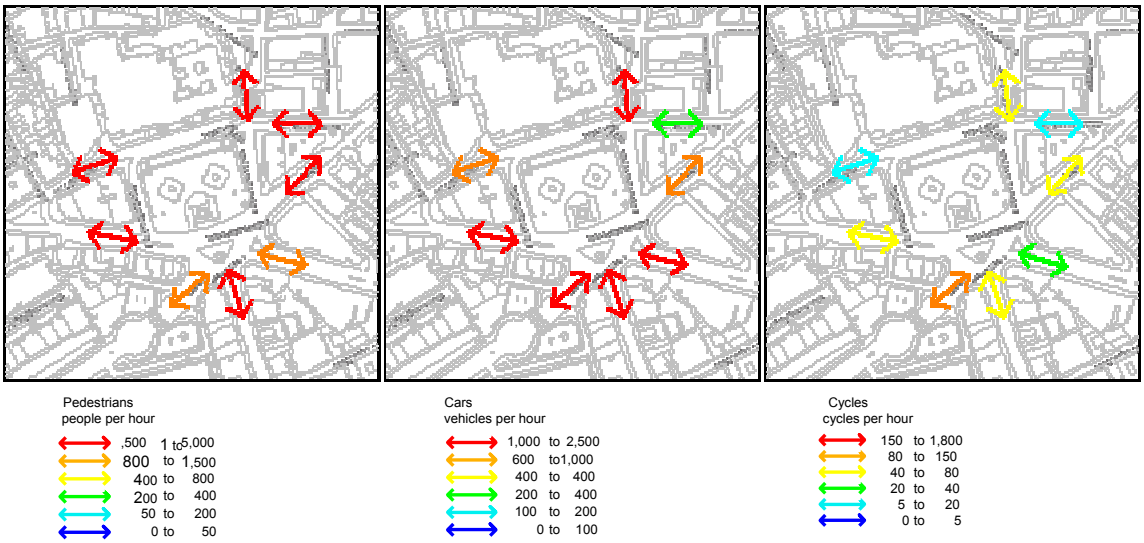
All capital routes seem to fit the above criteria with a few exceptions:

1. In Malmö the distribution of land uses affects movement flows negatively. Efforts should thus be made to encourage mixed live land uses throughout the route rather than having agglomerations of them (retail on the east and leisure/cultural on the west).
2. In Malmö all Urban Rooms produce the same small mix of activities. It is thus recommended that these are reviewed so that some will produce single use activities and others a wide variety of activities.

Key Findings

1. Different types of movement flows supplement each other.

In London, Trafalgar Square was found to be the consistently busiest area for all means of transport. The pattern of vehicular and cycle flows were similar, with the highest flows found in the same areas.



Figures 414-416. Average Weekday Pedestrian, Vehicular and Cycling Movement around Trafalgar Square in London.

Pedestrian and cycle flows were consistent throughout the Queen's Walk as well (the riverside walk between Westminster Bridge and Southwark Bridge), with slightly higher rates nearer to the West End. Because most of the capital route was pedestrianised, there was a strong separation of cars from pedestrians and cycles. It is therefore estimated that the high flows throughout the route are related to the high percentage of cultural, leisure, retail and catering facilities in these areas.

Figure 417. London (Queen's Walk) – Average Weekday Pedestrian Movement.

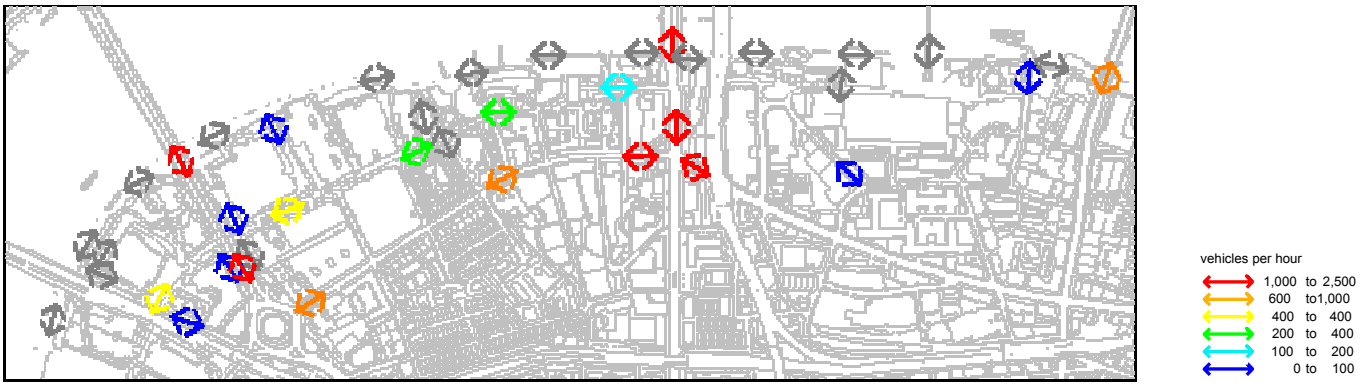


Figure 418. London (Queen's Walk) – Average Weekday Vehicular Movement.

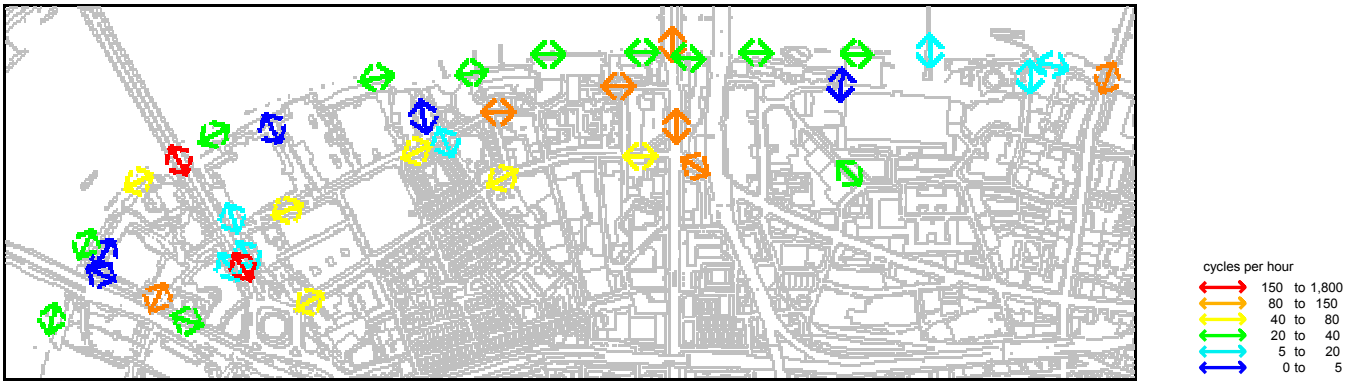


Figure 419. London (Queen's Walk) – Average Weekday Cyclist Movement.

Utrecht showed a similar pattern to that of London, with the highest cycle rates found on the main roads along with cars. Pedestrian movement was also consistent throughout the pedestrianised area (particularly near the train station) but was lower in the vehicular zones of the route.

Figure 420. Utrecht – Average Weekday Pedestrian Movement.

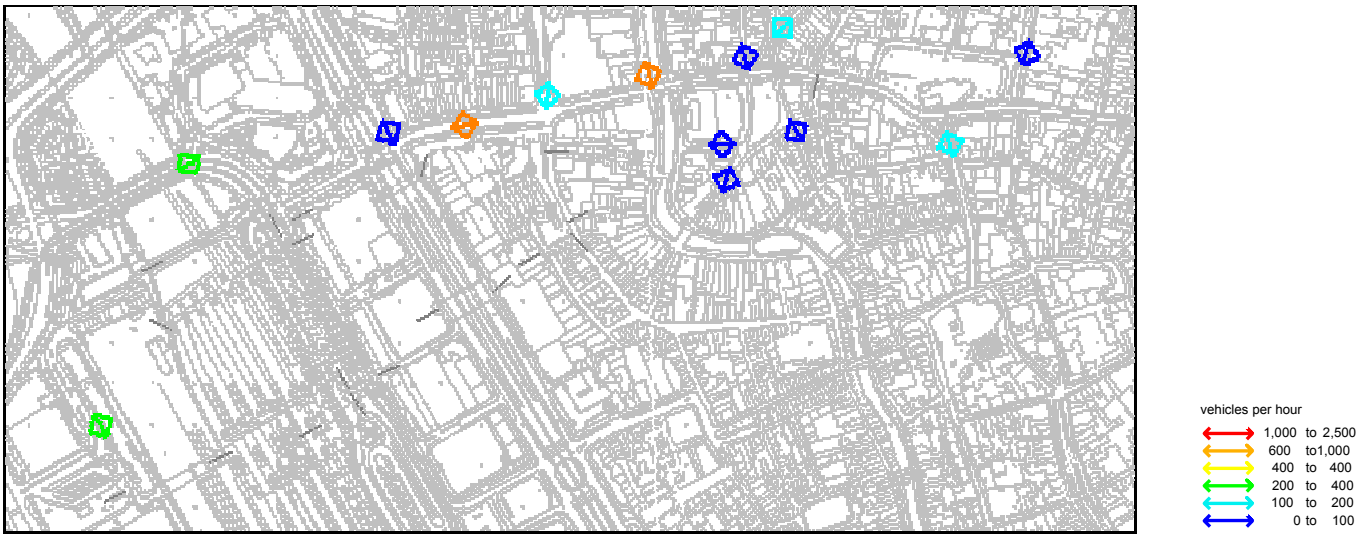


Figure 421. Utrecht – Average Weekday Vehicular Movement.

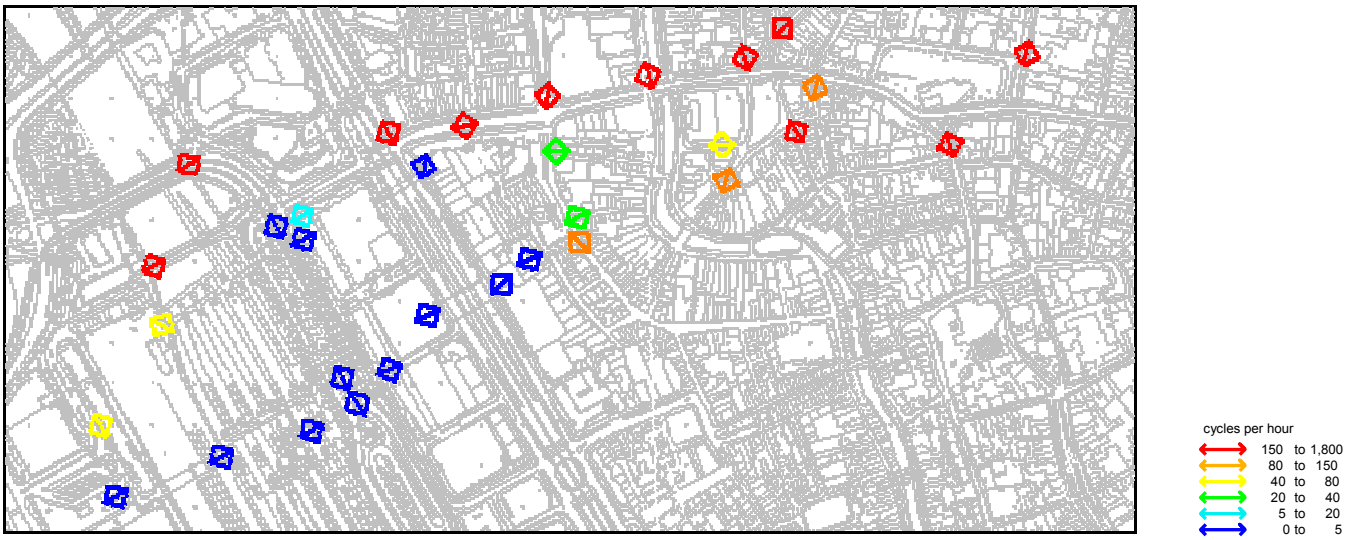


Figure 422. Utrecht – Average Weekday Cyclist Movement.

In Malmö the three modes of transport overlapped along the length of the capital route, but only cycles were consistently widespread throughout the whole of the route. High numbers of pedestrian and vehicular flows were found, but were restricted to shorter stretches of the route.

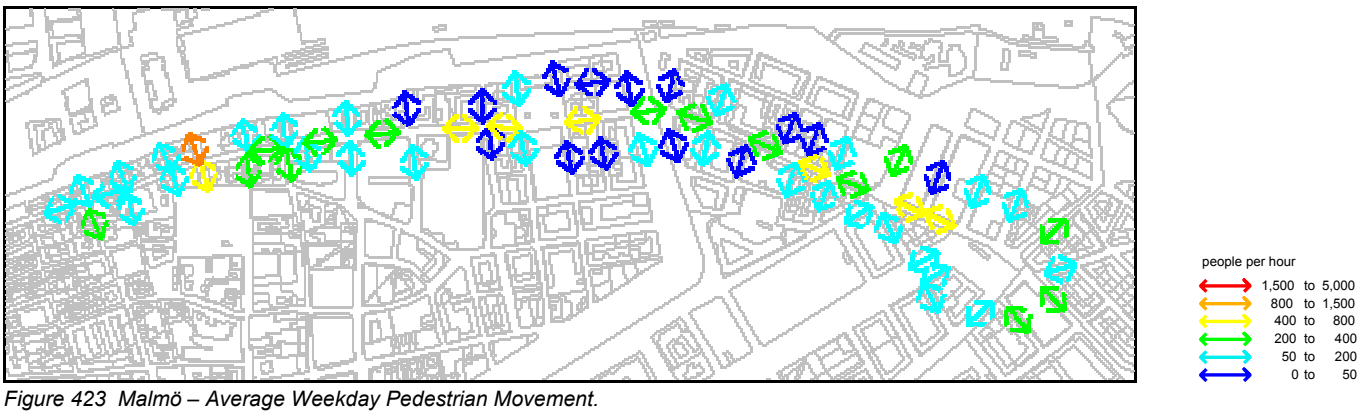


Figure 423 Malmö – Average Weekday Pedestrian Movement.

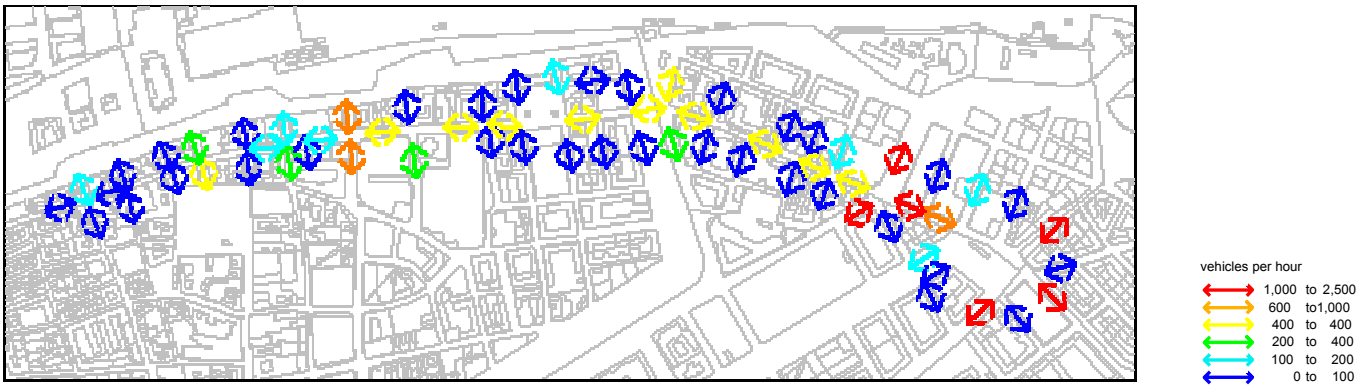


Figure 424. Malmö – Average Weekday Vehicular Movement.

Figure 425. Malmö – Average Weekday Cyclist Movement.

In Barcelona pedestrian flows were consistently high throughout the capital route. No other data was gathered on vehicles or cyclists.

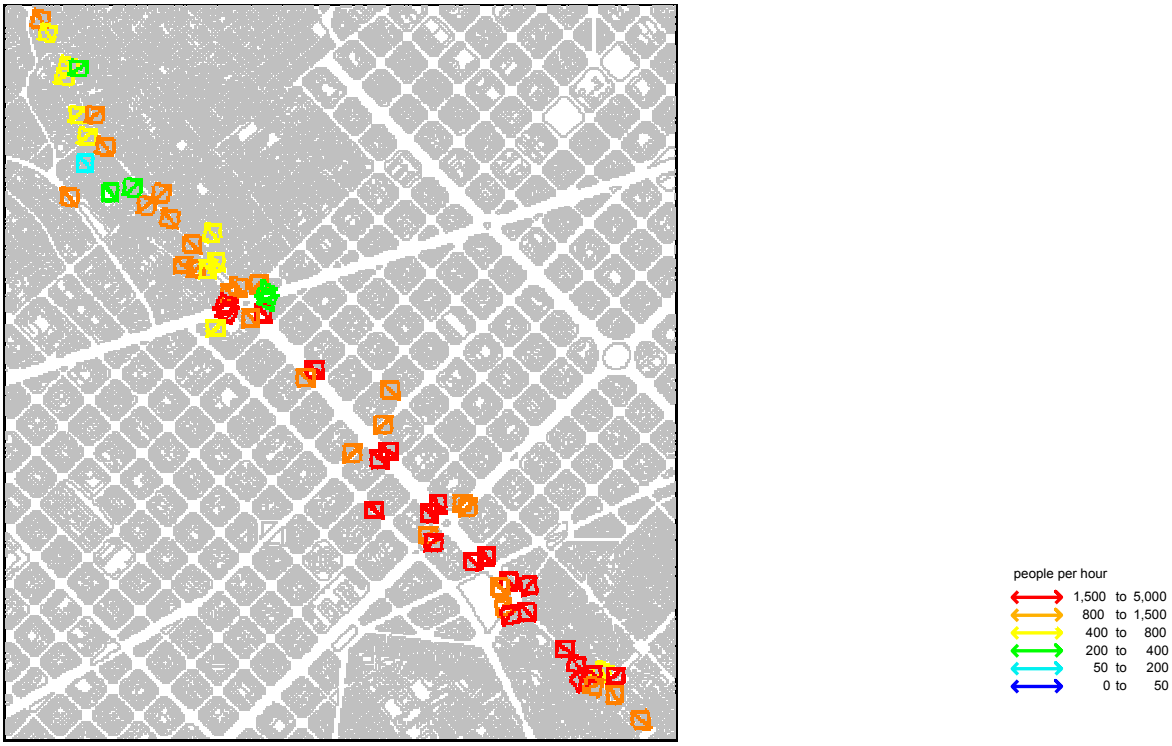
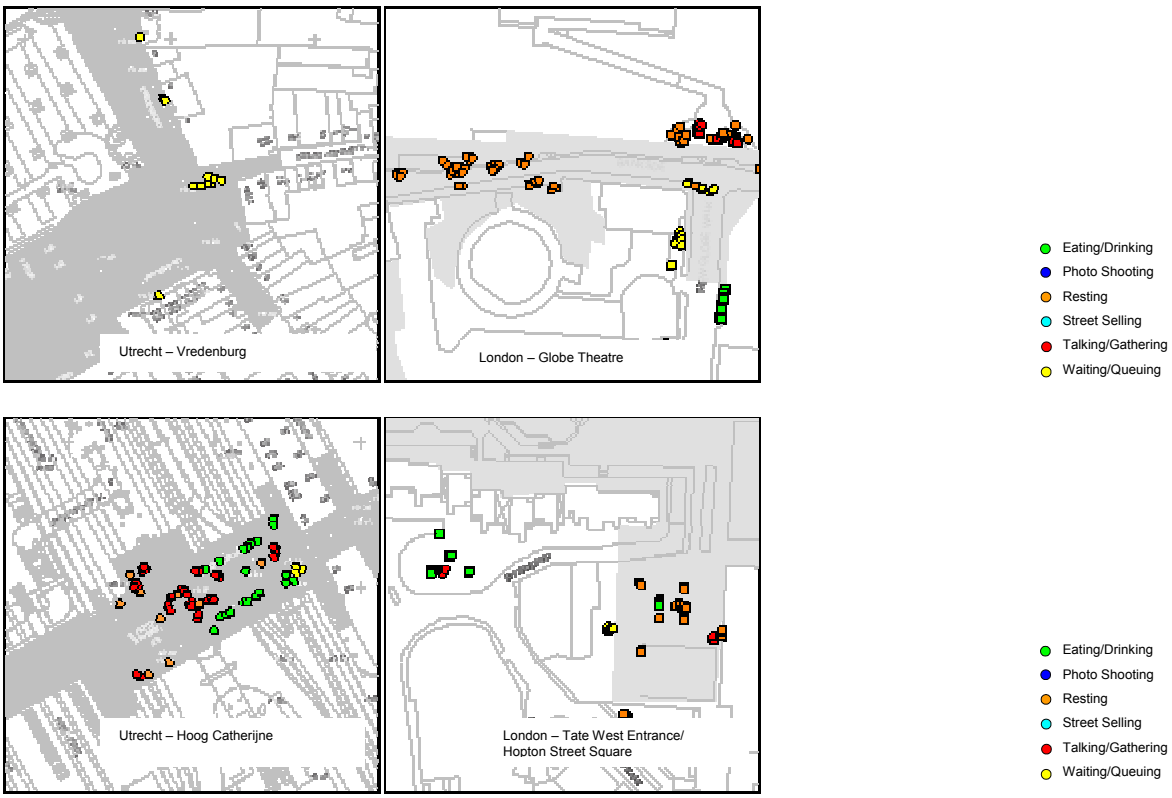


Figure 426. Barcelona – Average Weekday Pedestrian Movement. There are no maps representing vehicular and cyclist movement for Barcelona as these data were not collected.

2. Different Attractors Produce Different Static Activities.

The activities recorded in London revealed an agglomeration of activities according to the facilities provided. The dominant activity at the OXO Tower was eating and drinking while seated. This is because of the catering facilities along the ground floor, although the building was classified as retail in this case due to other ground floor retail. The area of the Globe Theatre produced a similar effect: a majority of one type of activity. For the Globe this was waiting and queuing/resting while standing in front of the theatre or the ticket office on the pier. A wider range of activities within one area were found to the west of the Tate Modern and in Hompton Street Square. This is probably due to the lower numbers of through-movement in these areas, as these are slightly off the main routes of traffic. Each of these areas also had many different urban design features such as street furniture and trees that were conducive to these types of activity.

The pattern was similar in Utrecht, where one area showed a wide variety of activities (Hoog Catharijne) and the others a majority of a single type of activity (such as waiting/queuing in Vredenburg.) as shown in the figures below:



Figures 427-430. 'Single-use' static activity in an Urban Room in each city (top) and 'mixed-use' static activity in an Urban Room in each city (bottom).

Malmö revealed an even smaller range: mostly talking and gathering and some eating while standing. This was probably due to the fact that the capital route had vehicular movement throughout and no large convex spaces with different planes where pedestrians could gather.

In Barcelona, the Plaça Catalunya had a wide variety of diverse activities. Many of these were carried out in the central space of the square, with the others scattered throughout the west, south and east sides. Activities in the middle of the square seemed to be related to the different levels of the floor of the square, which provided for different types of seating facilities. The activities on the sides of the square may also be related to the high accessibility of many of the buildings on this side, as demonstrated by their long stretches of transparent façades. This was not the case on the northern side.

Some clusters of activities, such as the high number of people sitting and eating on the eastern pavement, may be related to catering land uses, although these data were not collected.

Activity of the Route – Question 2: Do activities extend throughout a longer period of time (day/night)?

The data on pedestrian, cycling and vehicular movement throughout the day was used to understand the flow of movement and activity along the capital routes for each city. Assemblage data was not collected over an adequate time period to allow comparison through-out the day and night, so therefore was not utilized for this analysis.

Conclusion and Recommendations

1. The movement levels should be considered in the context of other movement levels in the same city and especially with the movement levels on adjacent streets.

The data presented below suggest that several factors are important to create a lively and mixed use capital route. First, larger cities can be expected to experience more overall movement than smaller cities. This may seem to be an obvious finding, but is an important one when comparing different cities across the European context. Just because a city experiences less pedestrian activity than a major capital does not mean that its capital route is less functional or successful. If a city the size of Malmö were to experience movement levels akin to Barcelona, the capital route would be congested and overrun. So more movement is not necessarily better. Every intervention designed to increase or decrease activity should always be considered relative to the size and context of the capital route.

2. Increasing activities later in the evening time helps in creating livelier capital routes and this can be done by cultural, leisure and catering facilities.

The second important finding was that evening time was the busiest time for most capital routes. This suggests that a necessity for increasing activity during other time periods exists, especially if the existing facilities cannot adequately accommodate this peak of movement. Certain key land uses also (catering and cultural facilities) appeared to stimulate pedestrian activity later in the evening. It was found that catering and cultural uses helped to extend the activity and liveliness of the capital routes past usual business hours. This suggests that balanced interventions which increased the level of these offerings would be a successful strategy for cities wishing to increase late night activity on their capital routes.

3. Different users' categories use the capital routes differently and in different times.

Third, different users are active along the capital routes at different times. It was found that tourist movement levels remained constant through-out the day in Barcelona, but that the movement of Suits and Locals varied significantly. Tourists varied more significantly in London, with very few tourists active in the morning but more active at lunchtime and after. These factors should be considered if business and services aimed at different sectors of the urban population are to succeed. Restaurants aimed at tourists would clearly be more successful at lunchtime and evening time in London or should put extra effort to attract them at other hours, but transit or information services for suits would experience the greatest need in the morning. These factors must be considered in their local context to provide appropriate design or service offerings.

Key Findings

1. Movement along each capital route was not necessarily proportionate to overall city size

Overall hourly average of pedestrian movement along the four capital routes was highest in Barcelona (1476 people per hour), followed by Utrecht (1085 people per hour) and then London (940 people per hour). Malmö had the least movement of the four cities, with an average movement rate of only 184 people per hour. This may be explained by the relative population sizes of these cities, although it is likely that Utrecht's higher than

average movement rate is the result of the major train station found in the middle of its capital route. London's capital route was also found to experience lower pedestrian movement then elsewhere in the city, suggesting that capital route's may not necessarily be the highest movement areas in each city. Comparison between average movements on the four capital routes is presented in the graph below.

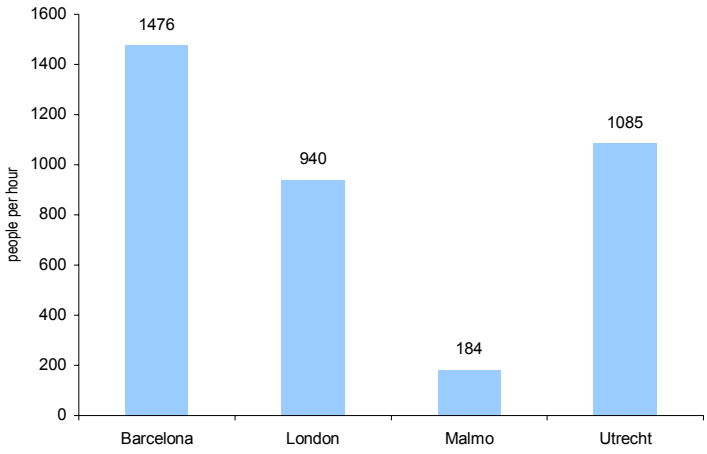


Figure 431. Average Weekday Pedestrian Movement.

2. Weekday movement peaked in the late evening for larger cities.

Weekday Movement levels varied through time following different patterns in each city. Barcelona and London experienced a lunchtime peak, followed by a general drop in movement in the early evening. Pedestrian movement then increased to reach its highest peak in the evening time, between 8 pm and 10 pm. Malmö experienced a similar pattern with a lunchtime and evening peak, but evening movement levels peaked earlier in Malmö than Barcelona and London and decreased as the evening progressed. Unlike the other three cities, Utrecht displayed a different pattern. Movement levels rose steadily from the mid-morning, peaking sharply in the early evening and then declining rapidly thereafter. The following graph displays the pattern of movement through-out time for the four cities below.

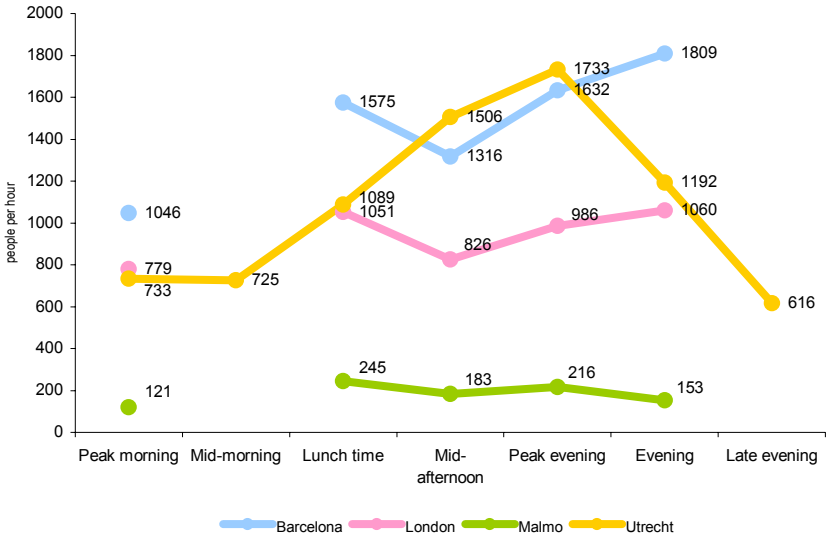


Figure 432. Pedestrian Movement Comparison among the Cities.

3. Different user types are active on the capital route at different times

Different user groups were found to move through capital routes in different ways and at different times of the day. Data on demographic categories was only collected for London and Barcelona, however. This data is presented below, and is organized into three different categories: workers (called “suits”), residents (called “locals”), and tourists.

It was found that throughout the day, Barcelona has higher levels of locals while London has higher levels of suits. This could be due to the fact that the London capital route area is not residential while the Barcelona one appears to have more mixed uses with residential uses along with other. Furthermore, It was found that suits comprised a higher percentage of total weekday movement in the morning and evening peaks, with morning being the strongest in London and evening being the strongest in Barcelona (75% for London and 19% for Barcelona). London also displayed a higher percentage of tourists, with the highest movement of this user group occurring in the mid-afternoon for both cities (27% for London and 13% for Barcelona).

Local people were found in the greatest concentration in the evening in Barcelona (85%), while London’s peak was in the mid-afternoon (44%).

The following tables illustrate the percentage of movement groups through-out time in London and Barcelona.

4.. Cultural facilities seem to extend the movement throughout longer period of time

The relationship between land use and the evening time movement levels was also investigated where this data was available. Peak levels of night time movement level in Barcelona and London seemed to be related to the high percentage of cultural land uses (16% in the case of London) and the existence of clusters of catering and leisure facilities along these cities’ capital routes. Catering facilities also proved to be consistently high in all cases. This suggests that the presence of catering and cultural facilities provide activities to support pedestrian movement late into the evening.

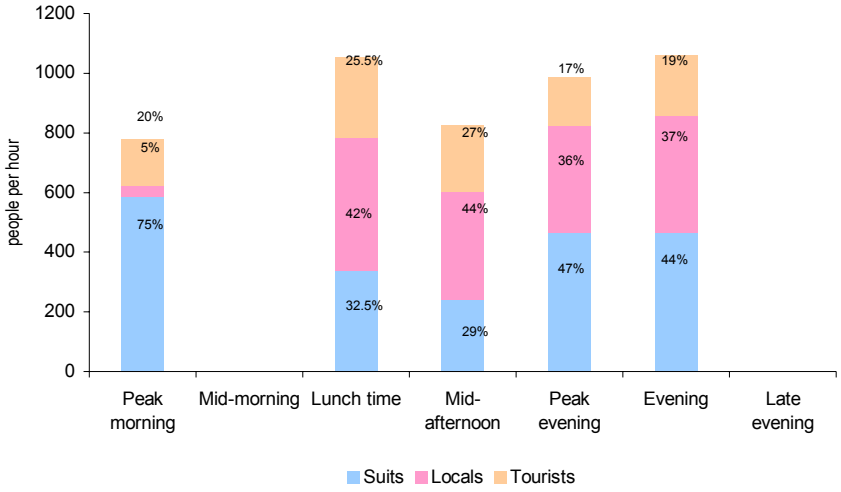


Figure 433. London. Movement Profile through Time and Category.

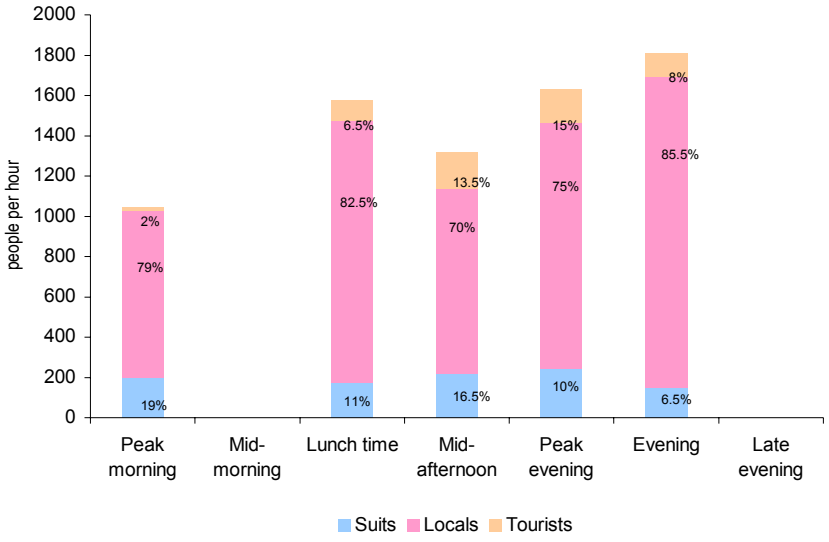


Figure 434. Barcelona. Movement Profile through Time and Category.

Graphs for Malmö and Utrecht are not shown as data for categories were not collected in these cities.

Activitiy of the Route - Question 3: Is There a Variety of Activities on the Capital Routes?

The brief answer is yes, there is. In terms of movement, different categories of flows supplement each other in three cities (Barcelona's sample includes only pedestrian flows). In terms of static activity, there was a variety in London, Utrecht and Barcelona, but Malmö seems to lack variety of static activities along its capital route: only 65 people were observed performing two types of static activities in the Urban Rooms of Malmö, compared to 108 in Utrecht, 214 in London and 677 in Barcelona performing a variety of activities.

Conclusion and Recommendations

1. The variety of activities, the way they supplement each other and overlap is closely linked to the affordances of the capital route and their distribution.
2. Land use, accessibility, building entrances, floor planes, arrangement and façades all affect activity, with London being an exemption of the relation of facades and activity, probably because of the presence of the river on one side of most of the route.

For the capital routes to be sustainable it is important that their affordances are distributed well in relation to movement flows and that high levels of both movement and static activities are retained throughout. To this respect both London and Utrecht perform well and so does Barcelona in terms of pedestrian movement. It should thus be highlighted that:

1. Malmö seems in need to develop more pedestrian-friendly areas.
2. High flows and number of static activities in Plaça Catalunya suggest that this may actually be congested and therefore in need to divert activities to other areas on the capital route, however the lack of data does not allow to establish its relation to the rest of the route.

Key Findings

1. Movement flows relate to the affordances of the capital routes.

Within each city there are several places with similar opportunities for movement flows: areas that are accessible by all categories and those that are accessible by both pedestrians and cycles in the case of London and Utrecht. The land use, number of accessible areas, percentage of public entrances and transparency of the facades make the opportunities within each capital route and between the different cities similar, however, the distribution of land uses, the lower percentage of public entrances, the small number of accessible areas and transparent façades in Malmö reduces the extension of pedestrian and vehicular flows in this city. The percentages are shown below:

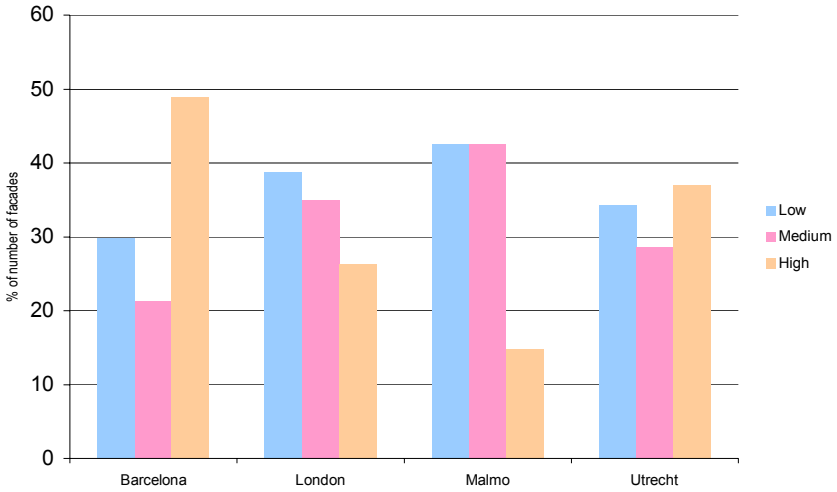


Figure 435. Facade Transparency among the Cities.

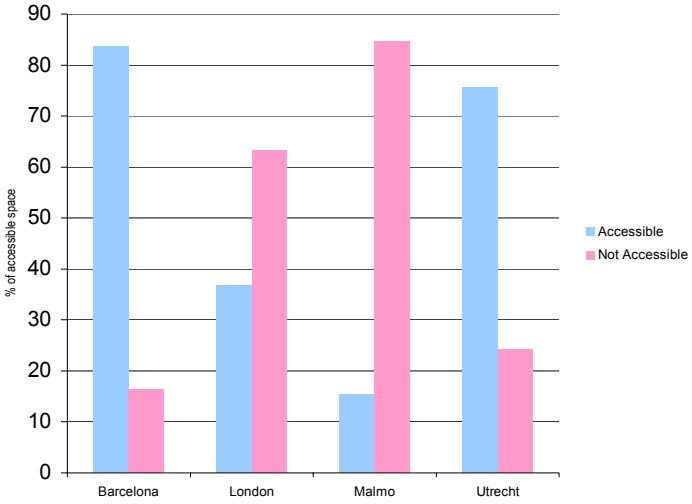


Figure 436. Accessible Space, Day.

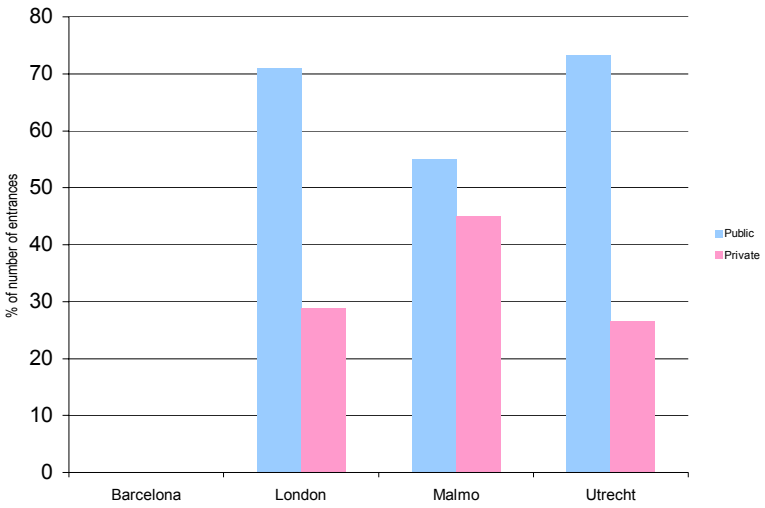


Figure 437. Character of Building Entrances. Barcelona is not shown as these data were not collected.

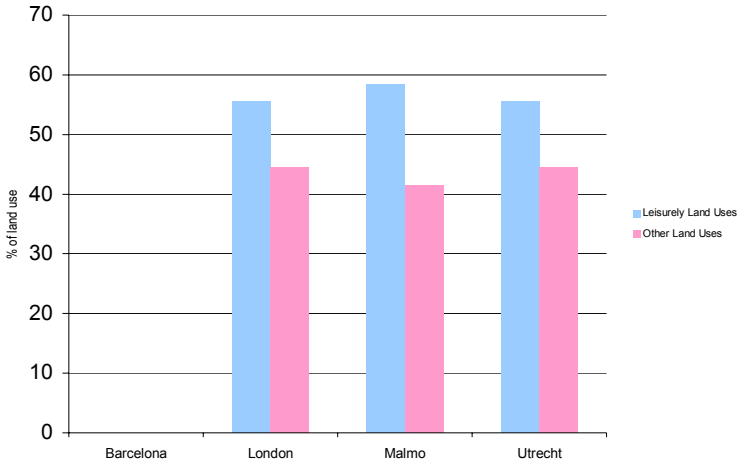


Figure 438. Leisurely (retail, catering, cultural and leisure) and other Land Uses. Barcelona is not shown as these data were not collected.

2. The variety of static activities is related to the variety of affordances.

In London and Utrecht static activities supplement each other at the capital route level because different places offer different opportunities for activities or a variety of activities: single attractors, such as a major catering facility or tourist attractions produce one type of activity (Globe Theatre or Vredenburg), while the Urban Rooms with a variety of features attract a variety of activities, so these are spread out throughout the route, but also overlap in certain areas.

This is not true for Malmö, which is lacking both strong single attractors and multiple-use areas.

In Barcelona offers a variety of opportunities which makes it similar to the Tate West Entrance/Hopton Street Square and Hoog Catherijne, but the variety and distribution of activities is much greater than in London or Utrecht, which may be due to more highly differentiated floor planes. The data does not show if there is a relation to the land use as these data were not collected or if there are other similar areas along the route or single-use attractors as only Plaça Catalunya was surveyed.

Identity of the Route – Question 2: Is there a consistent level of aesthetic and environmental quality in the area?

From the available data, the data used to examine the consistency of aesthetic and environmental quality in the area was based on the form and transparency of the façade, on the artificial lighting of the areas and on the building heights. These data is discussed either by looking at their consistency along a given capital route or by their consistency amongst all four capital routes.

Conclusion and Recommendations

The conclusions drawn from the data as presented below, show that there is a consistent level of aesthetic or environmental quality within each capital route but not among the four capital routes themselves. This means that there is a lot of diversity in the aesthetic and environmental characteristics among different cities. Especially the environmental characteristics should be seen in relation to topological characteristics in order to be more rigorous.

Two of the findings related to the building heights is that modern capital routes have higher mean number of stories than historic capital routes and that routes which include monumental or public buildings tend, in general, to have higher mean number of stories, than residential or retail character routes.

These findings show that each route should be standardised to a consistent level of quality but that design interventions related to aesthetic characteristics should be unique in each case. Unfortunately the data available are not sufficient to link factors of environmental quality to behavioural outcomes, so it is up to the designer to interpret the appropriate design response to this variation.

Summarising, here are the most important issues to be taken into account in the design.

1. Each route should be unique and different in order to accentuate its variety.
2. Each route in a city should be standardised to a consistent level of aesthetic quality all along.
3. Squares should have higher densities of lighting than vehicular streets.
4. Lighting is consistent within each capital route but it can vary from city to city.
5. Vehicular routes have lower need in lighting than pedestrian routes.
6. In each capital route, there could be areas or places which have special need in lighting which should be examined separately, like covered or indoors areas, in which case consistency is probably not desirable.

Key Findings

1. There was consistency in lighting along each capital route but not between the capital routes.

Lighting data was only available for London and Utrecht. Lighting was found to be inconsistently distributed among these cities' capital routes. Data from five Urban Rooms along each capital route was found in varying densities when compared to the Urban Room's total area. London's Urban Rooms appear to be quite consistent in lighting density except Urban Room 1 which is Hopton square, the small square west of Oxo tower. This could make sense if we consider that all the Urban Rooms are all streets, pedestrianised or not, except of this one. Similarly, Urban Room 3 in Utrecht is a closed space, inside the station, so the need of lighting is much higher. Utrecht, on the other hand, appears to have much lower densities than London, Utrecht's mean density is 5466 lights/km^2 (1724 lights/km^2 without UR3) and London's 7329.5 lights/km^2 (6174 lights/km^2 without UR1). The reason that London has higher density than Utrecht could be due to the fact that four out of six of the Urban Rooms three are on pedestrian routes and one is

a square. Vehicular routes, usually have an extra level of luminance because of the cars, which pedestrian routes lack, which explains the higher densities of London . Although this is an imperfect method for evaluating aesthetic quality (an even lighting distribution does not necessary make the most aesthetic or interesting environments), it does produce a useful measure of lighting distribution within an Urban Room. This in turn can be used as a measure for environmental quality, where fewer lights per square meter imply lower illumination levels at night.

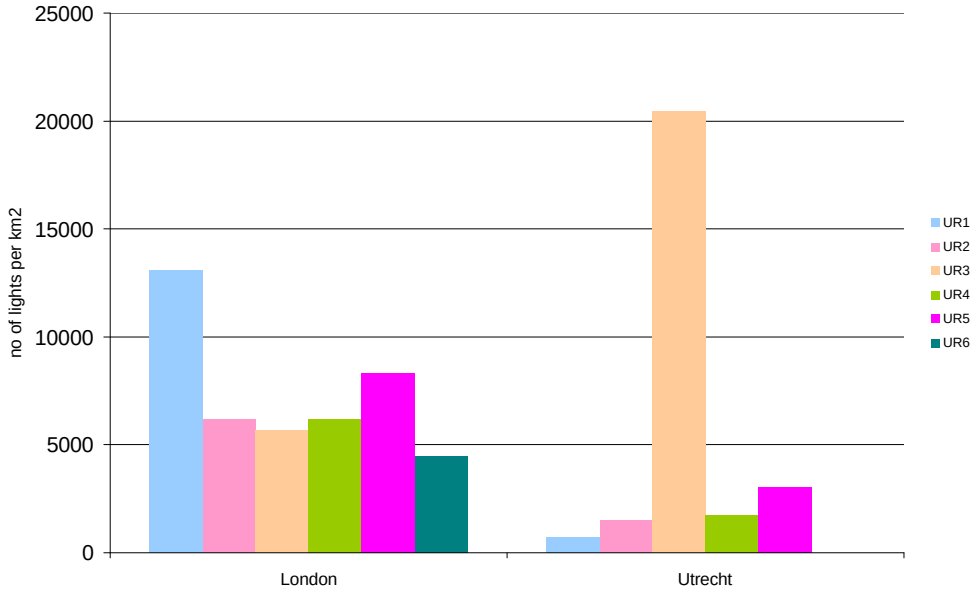


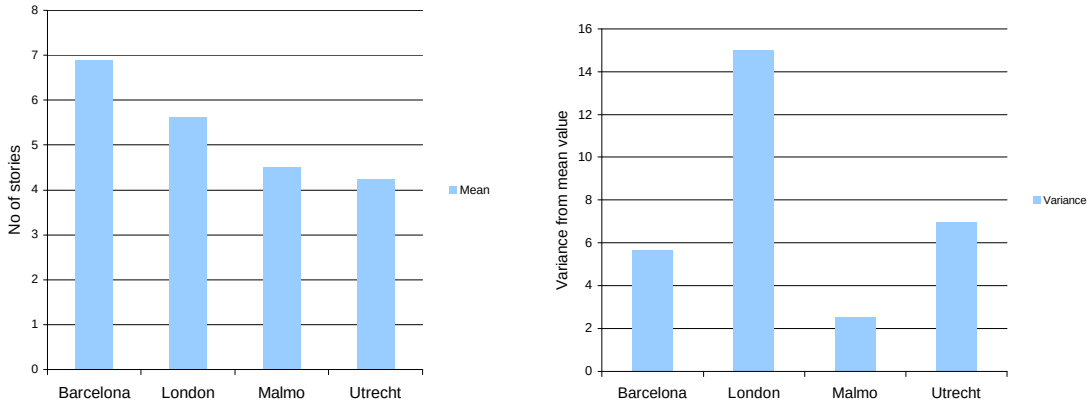
Figure 439. Lights Density per Urban Room. Barcelona and Malmö are missing as these data were not collected.

2. There was diversity in building heights along each city's capital route.

The height of the buildings is an important element that defines the environmental quality of an area. The height defines the light and air penetrating an area, as well as giving visual clues to the purpose and activity of a route. However, the environmental characteristics depend a lot on the topology of the area as well. London's capital route, for example, is by the river which by itself means better air flows in the area. The average number of stories along all four capital routes was found to be approximately 5 stories, which can be used as a benchmark for comparison between cities. Barcelona was found to have the highest average building height (~7 stories), while Utrecht had the lowest (~4 stories). This variance between cities could be due to the fact that modern areas, like Barcelona's and London's capital routes, appear to have higher buildings than historic/old areas, Malmö's and Utrecht's capital routes, which have older and lower buildings.

Comparing the average variance of building heights along individual capital routes provides an estimation of the consistency of building heights within each city. High variance means there was great variation in building heights, while low variance means that most buildings are close to the average building height. London was found to have the greatest variety in building heights, suggesting the least consistency (variance ~ 15). Malmö found to have the lowest variance (~ 3), while Utrecht and Barcelona experienced similar levels of variance. This indicates that London has less consistent building heights along its capital route and Malmö the most. This could possibly be explained by the function of the buildings along the capital route. London's capital route has many public, big scale, monumental buildings, which have cultural use, like Royal Festival Hall, National Theatre and Tate modern, which are distinctively higher from other buildings along the capital route. On the contrary, Malmö and Utrecht have mostly retail, offices

and residential uses, which do not deploy in big scale buildings, except in some cases, like high rising housing estates or high rise offices, which is not though the case in the Agora cities.



Figures 440-441. Mean Building Heights (left) and Building Heights Variance (right).

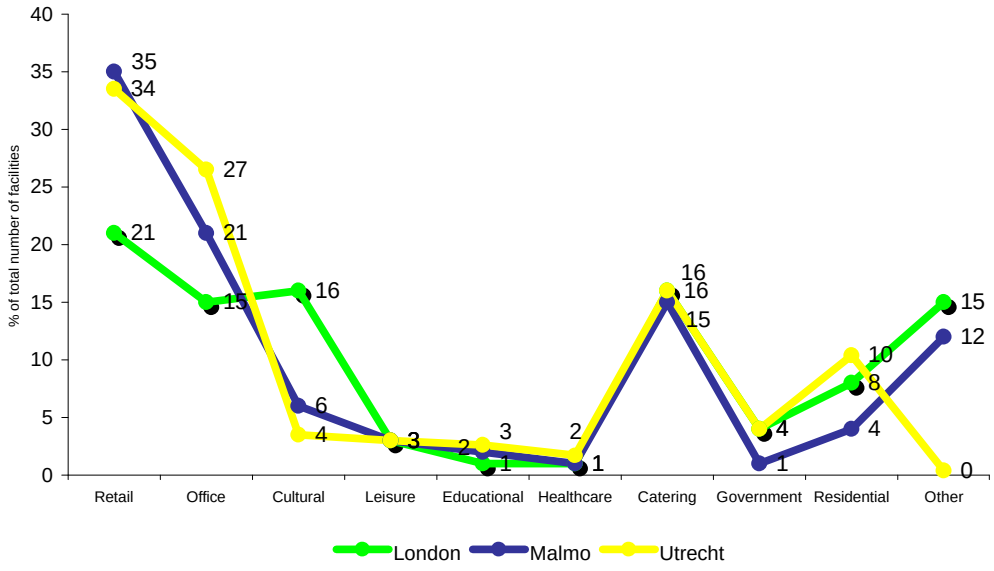


Figure 442. Comparison of the Different Land Uses among the Cities. Barcelona is missing as these Data were not Collected.

3. Façade transparency is highly varied between the four capital routes.

The transparency of the facades along a route could also be considered as an aesthetic and environmental quality. The “attractiveness” of a transparent façade could be tested by examining the assemblages and movement counts in areas with high transparency as opposed to those with low. The images below show that there is a correlation between transparency and assemblages in all cases, although transparency is strongly related to land use, so this may be the ultimate reason for the assemblage.

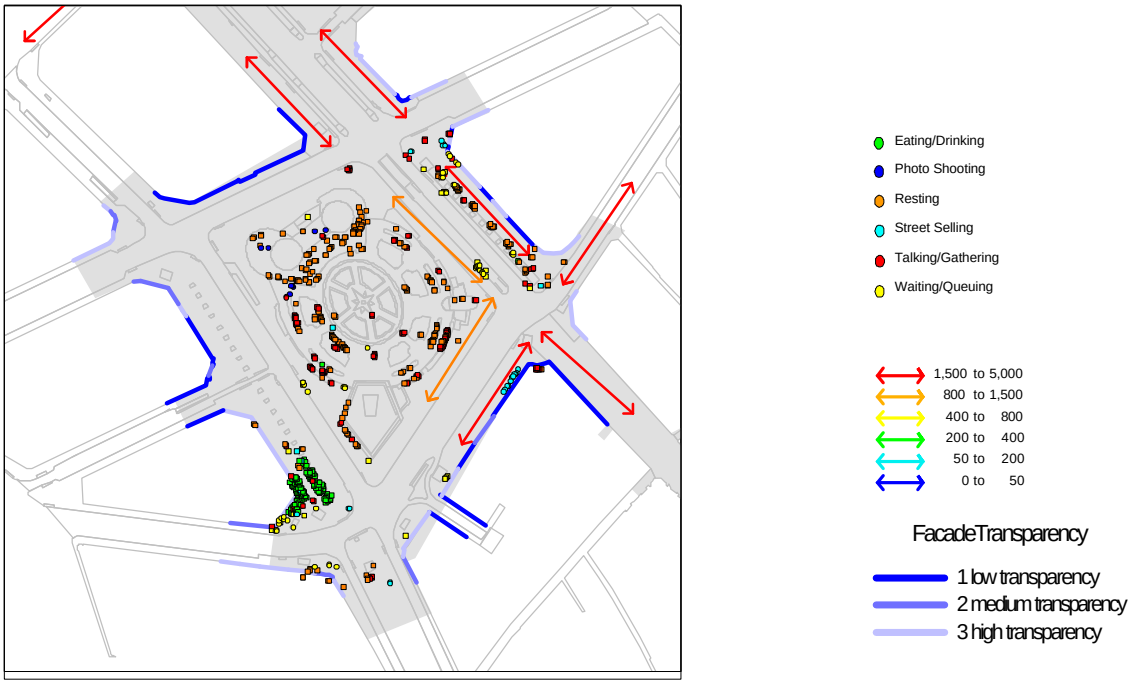


Figure 413. Barcelona. Façade transparency, assemblages and pedestrian flows.

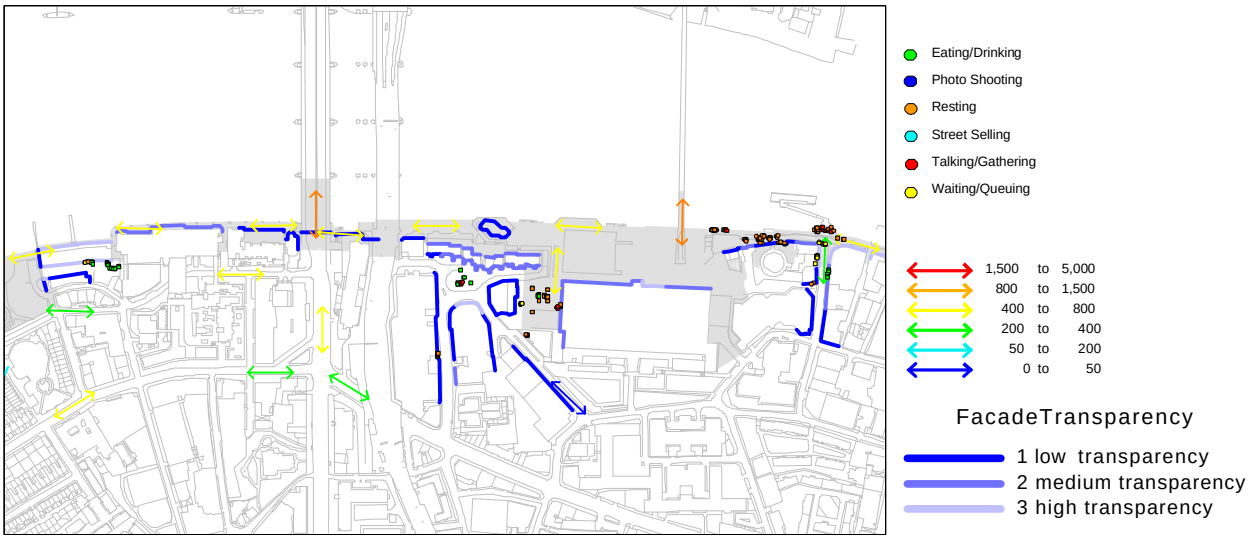


Figure 444. London. Façade transparency, assemblages and average weekday pedestrian flows.

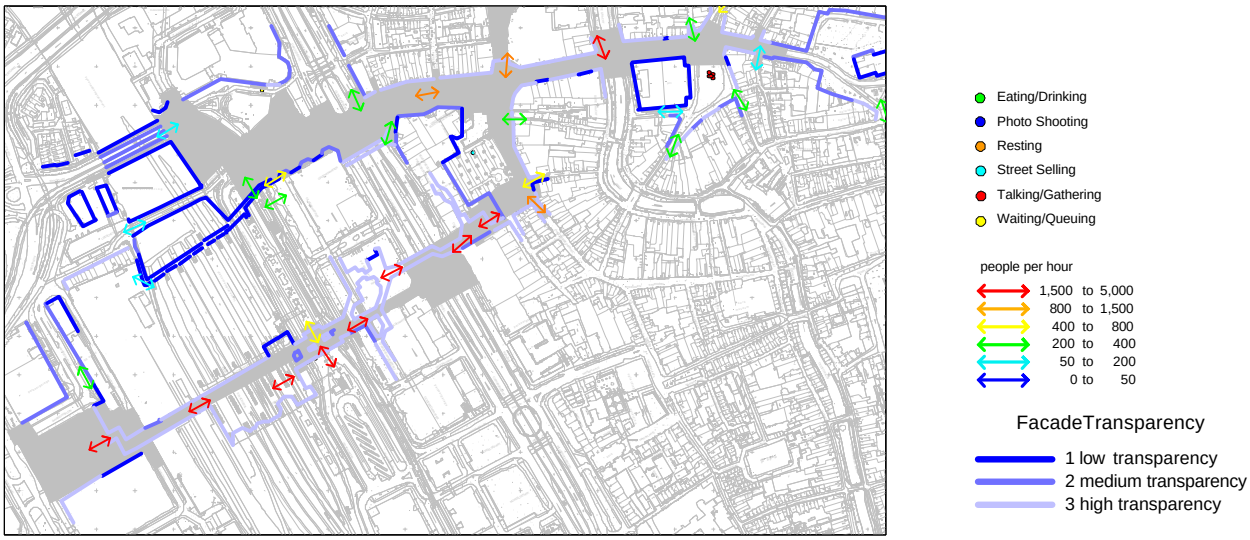
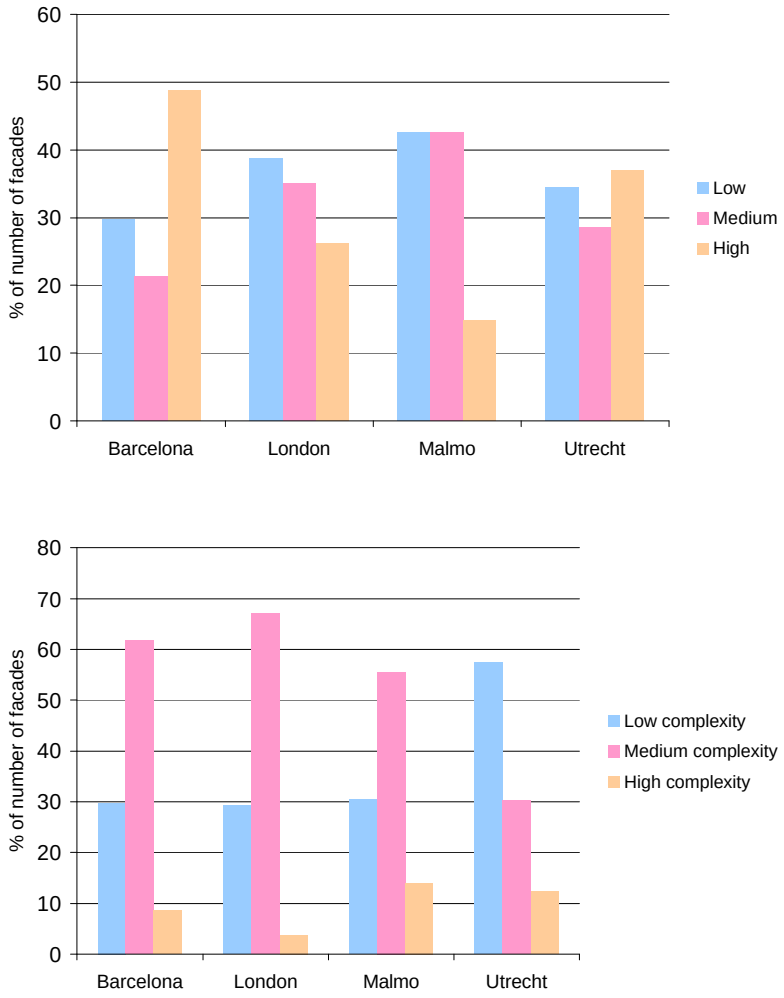


Figure 445. Utrecht. Façade transparency, assemblages and average weekday pedestrian flows.

Figure 446. Malmö. Façade transparency, assemblages and average weekday pedestrian flows.

London was found to have one of the lowest percentages of highly transparent facades (26.25%) of all four capital routes. This is likely due to the fact London's capital route parallel's the Thames River for most of its length, resulting in a lower number of façade transparencies. Barcelona was found to have the highest levels of transparency, which suggests more visual and aesthetic variation within its Urban Room. Furthermore, the façade transparency is strongly related to the land use as discussed in questions 2 and 3.

It should be noted that environmental factors such as climate may strongly influence the percentage of façade transparency. High transparency facades in colder cities such as Malmö would result in significant temperature loss during the winter and are likely unpractical for this reason. Nonetheless a comparison between facades provides some useful indication of aesthetic variety between the capital routes.



Figures 447-448. Façade Transparency (top) and Façade Form (bottom).

4. Façade complexity was found consistent in all cities except Utrecht.

Façade form complexity was found to be quite consistent between Barcelona's, London's and Malmö's capital routes. These cities had a high percentage (over 50%) of medium complexity facades, with approximately 30% low complexity and 5 to 10% high complexity. Utrecht was a strong exception of this pattern. London was found to have the lowest percentage of high complexity facades and the highest percentage of medium complexity facades. Malmö was found to have an average percentage of low complexity facades but the highest percentage of high complexity facades. Utrecht had a high percentage of high complexity facades, but paradoxically the highest percentage of low complexity facades as well. Finally, Barcelona had an average percentage of low, medium, and high complexity façade forms.

Identity of the Route - Question 3: Do the spaces of the route provide adequate feelings of safety and comfort?

Past research on safety and the perception of safety has shown that these factors are strongly influenced by the presence of other pedestrians, the accessibility of the buildings on a route, and the transparency and activity of façades along a route. The presence of other people, as measured by the gate counts, was used to measure this factor on the four Agora capital routes. The presence of transparent, usable facades and public buildings was also examined to help estimate feelings of safety along each capital route.

Based on these factors, the findings of this analysis suggest that the sense of safety and comfort along all four capital routes is satisfactory. Caution should be exercised when applying this finding, however, because a "sense of safety and comfort" can be highly relative between cultures, and therefore areas of cities with distinct populations, and may not be tied to the factors presented below in all cases.

Conclusion and Recommendations

Pedestrian co-presence, façade transparency and usability, and public entrances all provide increased opportunities for interaction between people and their built environment. These factors also influence people's feeling of safety and comfort in urban areas. Based on these measures, the four capital routes examined in this analysis suggest that the Agora cities contribute to feelings of safety and comfort amongst its users.

Additional effort could be made to enhance these feelings. Both London and Malmö could benefit from an increased percentage of publicly accessible spaces during the day, and all cities could benefit from additional accessible spaces at night. London and Malmö would also benefit from an increase in usable facades. Finally, additional retail, catering, and cultural facilities as they have a public character would provide a higher sense of safety.

Design output:

1. Important factor for the sense of safety is the feeling of co-presence which means streets which can attract an adequate level of pedestrian movement. This means that streets should be easily accessible, mostly at a local level. Streets that are not easily accessible do not produce as high levels of movement and are therefore more isolated spaces. As a result they may become unsafe or feel unsafe.
2. A balanced mixture of public and private buildings along the capital route is needed. The public buildings are attractors for people, increasing the co-presence in this way, and also provide a kind of shelter for anyone who can access them.
3. High levels of accessibility and visibility in the buildings provide also sense of safety. Transparent facades where it can be applicable in relation to accessibility offers a place to run to in case of emergency. Further more, transparent facades, create sense of co-presence among the people outside and those inside.

Key Findings

1. Co-presence of people along a street creates a sense of safety.

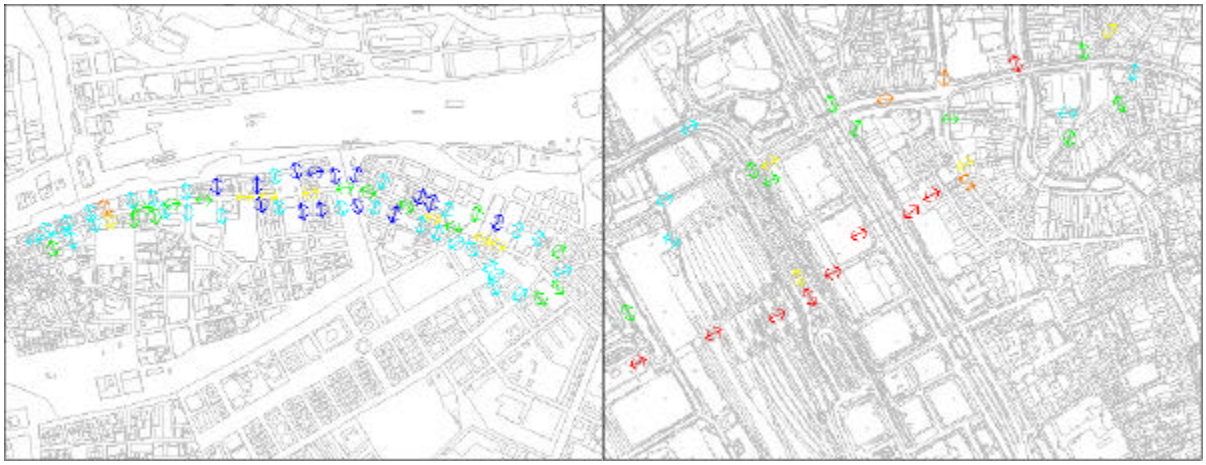
The presence of other pedestrians has been shown to have a positive effect on the sense of safety and comfort in urban environments (see B. Hillier and O. Sahbaz, High Resolution Analysis of Crime Patterns in Urban Street Networks: an initial statistical sketch from an ongoing study of a London borough, Proceedings of 5th Space Syntax Symposium, Delft, 2005; Safer Places, The Planning System and Crime Prevention,

2004, Office of the Deputy Prime Minister, London , UK). Pedestrian movement levels may therefore be an important element in measuring the sense of safety along the capital routes.

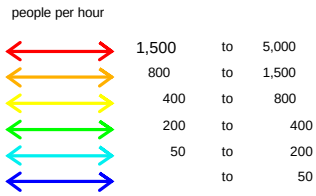
Pedestrian movement in Barcelona was found to be consistently high throughout the day and evening. In London, Trafalgar Square and the area around the Royal Festival Hall were found to be active throughout the day, although the entire South Bank was relatively quiet in the early morning. The Vastergatan Urban Room in Malmö was found to be busy throughout the day, as well, as were the capital route's other Urban Rooms. In Utrecht, the Jaarbeursplein, Hoog Catherijne and the subway towards the Vredenburg were found to exhibit high levels of movement with only a slight decline into the late evening.

These data suggest that movement levels in all four capital routes experience an adequate level of pedestrian co-presence through-out the day and evening. This suggests that from the perspective of pedestrian activity, the four capital routes examined foster a relatively safe and affable environment.

Barcelona London



Malmö Utrecht



Figures 449-452. Average weekday pedestrian movement.

2. Public entrances and accessible spaces contribute to the sense of safety.

The greater the number of public entrances and accessible spaces along a capital route, the greater the possibility for interaction between members of the public and those within buildings. This can be another important factor which can enhance the feeling of safety and comfort in urban environment.

Of the three capital routes of which we have building entrance data, London, Utrecht, and Malmö had over 55% to 70% public entrances. This suggests a generally high level of animation and interaction with the buildings lining the capital routes.

Utrecht and Barcelona have a high percentage of accessible spaces during the day which drops during the night which means that the area may feel less safe during the night than during the day.

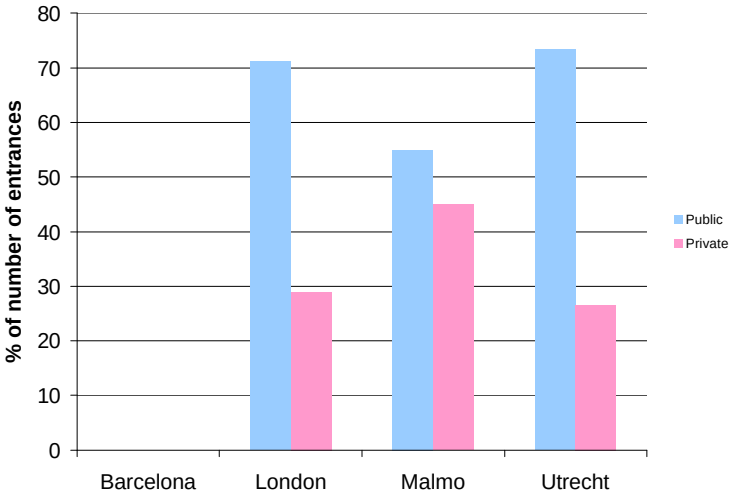
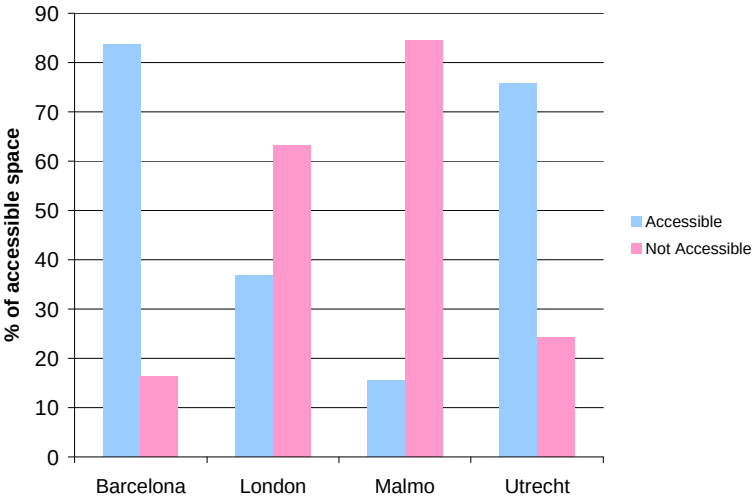
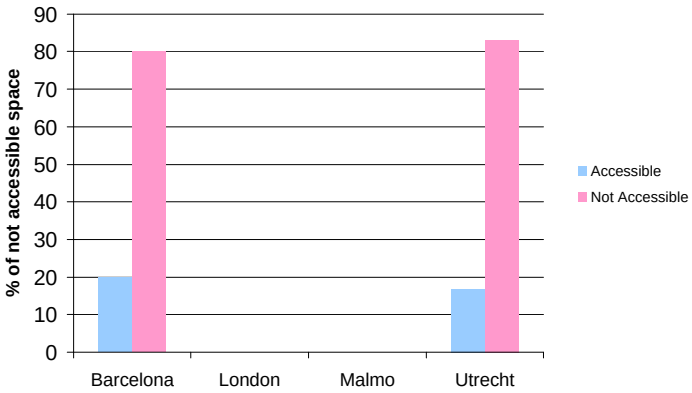


Figure 453. Character of Entrances along the Capital Routes. Barcelona is missing as these data were not collected.





Figures 454-455. Accessible Space by Day (top) and by Night (bottom). The night time data for London and Malmö are missing as these were not collected in Malmö and were incorrect in London.

3. Specific kinds of land uses contribute to the sense of safety

Another factor which influences the feelings of "publicness" along a capital route is the particular mix of land uses which it offers. Retail and catering were the dominant land uses in the three cities where this data was collected (for retail 21% in London, 34% in Utrecht, and 35% in Malmö and an average of 15.7% for retail). Offices also comprised approximately 21% of the land uses on all three capital routes. This suggest that the average capital route land use profile contains a high percentage of retail and catering, combined with offices and cultural facilities.

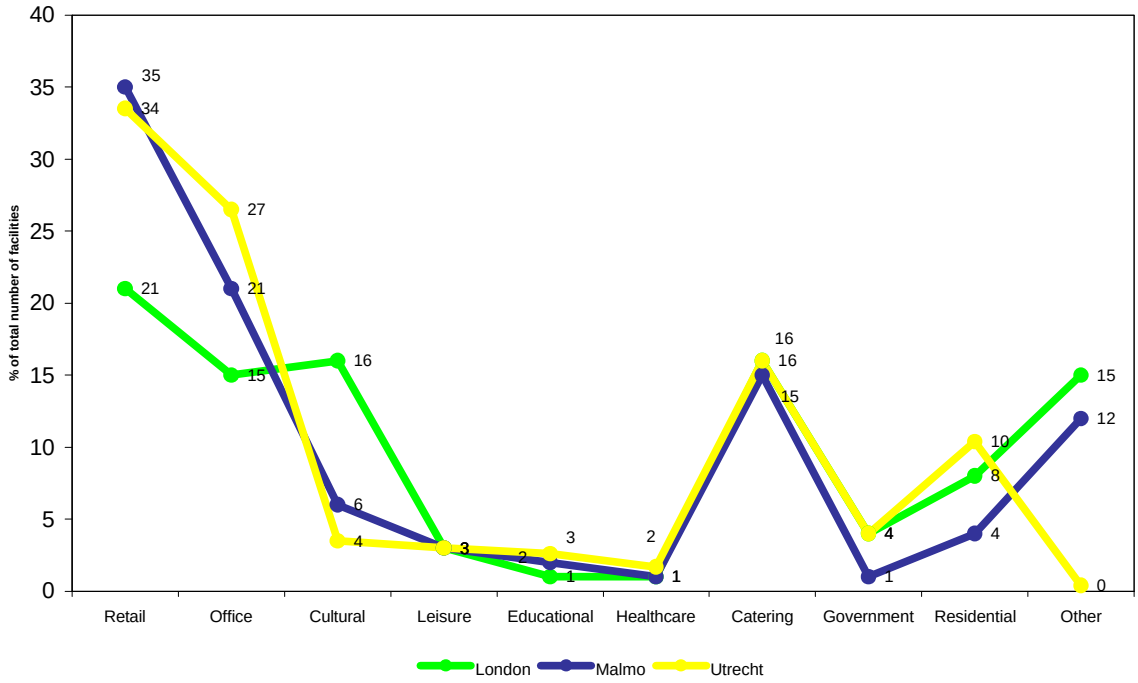
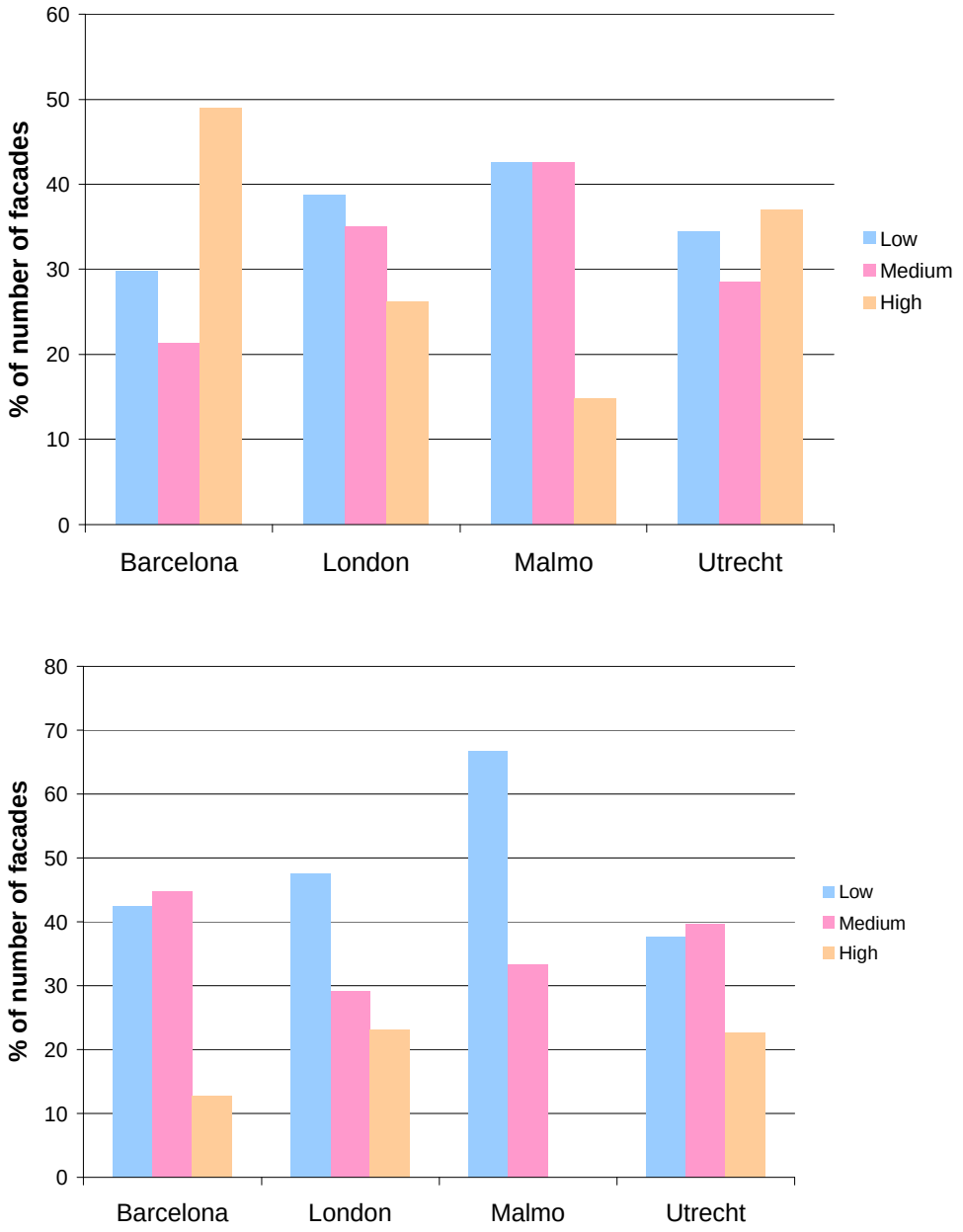


Figure 456. Comparison of the Different Land Uses in Each City. No data on Barcelona.

4. Higher levels of transparency and usability enable the interaction of the people with the buildings and therefore provide better sense of safety and comfort.

Façade transparency and usability are also important factors contributing to feelings of comfort and safety. Very low transparency or usability means less interaction between the pedestrians and the buildings, which can limit a pedestrian's possibility for escape or rescue in a dangerous situation. High levels of transparency, provide a sense of co-presence with the people inside the building.

The transparency of façades in London and Malmö are not well distributed, with most of the facades having low transparency and usability. This may result in feeling of decreased safety when considered on this variable alone. Both Barcelona and Utrecht have high transparency and better distribution of usability, which is likely to provide a better feeling of safety. These contrasts are displayed in the graph below.



Figures 457-458. Façade Transparency (top) and Façade Usability (bottom).

Identity of the Route – Question 4: Is the Route Identifiable Within the Wider Context of the City?"

Space syntax axial maps and integration data have been found to uncover the structure of movement and legibility in many urban environments. This approach was used to determine how well connected and integrated each city's capital route was within its surrounding context. These were then compared to pedestrian, cyclist, and vehicular movement levels to discover if the capital route displayed identifiably different movement levels than its surrounding streets.

It should be noted that extensive spatial analysis was conducted in WP3 and that these findings should be read in reference to that intensive study.

Conclusion and Recommendations

Space syntax configurational analysis found that each capital route has its own distinct spatial character, resulting from its morphological relationship to its surrounding neighbourhoods. Local analysis also revealed that although each Route may not be the most integrated route in the city, it was strongly connected to other important arterials and exhibited a higher level of traffic than its surroundings (if vehicular movement was not restricted). These findings suggest that design proposals for each capital route should be sensitive to their configurational context and enhance, highlight, or take advantage of each route's unique location within the city.

Design output:

1. The capital route should be spatially associated with the city centre.
2. The capital route should be historically sustained, which means it should be strongly related to the historic cores of the cities.
3. The capital route should be highly accessible from any part of the city, which means highly integrated. Higher accessibility will result to higher human presence which will promote the route's sustainability.

Key Findings

1. There is a strong association between capital routes and their city centre for all cities.

Spatial analysis found that the entire or major segments of each capital route were found within their city centres. Standard space syntax research practice suggests that the location of a city's centre is determined by the relationship of highly integrated lines relative to its most built up and active areas. The images below reveal the centre of each city and the relation of the capital route to its current core. It can be seen that each capital route clearly overlaps the city centre in all cases.

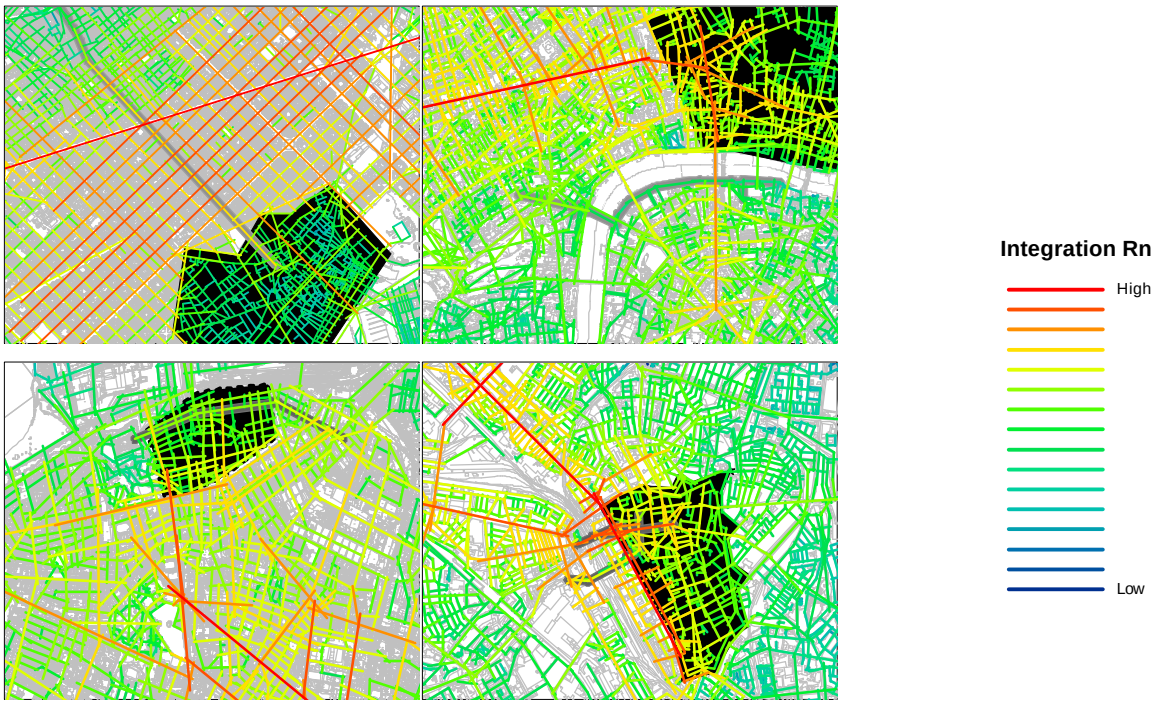


Figure 459. The Global Lo-Res Integration Map of Each City. The capital route highlighted in grey, the historic core with black background. From top left, Barcelona, London, Malmö, Utrecht.

2. Capital routes are strongly related to the historic cores (or the oldest part) of the cities.

The spatial analysis also revealed that each capital route was strongly connected to the historic cores of its city. In more organic cities, like London and Utrecht, the relationship of the capital route to the historic centre of the city is stronger than in the cities that have experienced massive urbanisation, like Barcelona and Malmö (see figure above). But in all cases there is a direct or near direct connection between the capital route and its historic core.

3. Capital routes are highly integrated in their local context

Analysis of the local spatial characteristics of each capital route (using Radius 3 Integration values) also demonstrated that they were highly integrated routes with their local context. This does not necessarily mean that they were the most integrated routes, however, but that they were directly connected to other medium and high integration routes through the city. Older routes within the historic core of each city tended to have lower integration values when compared to modern streets, which were longer and straighter (therefore had higher visibility) than the capital routes themselves and thus more locally integrated. London's capital route is a good example, which had a lower local Integration because it was along a curving river, but was directly connected to important local cross-streets. The figure below displays the local integration of each capital route in the context of its surrounding environment.

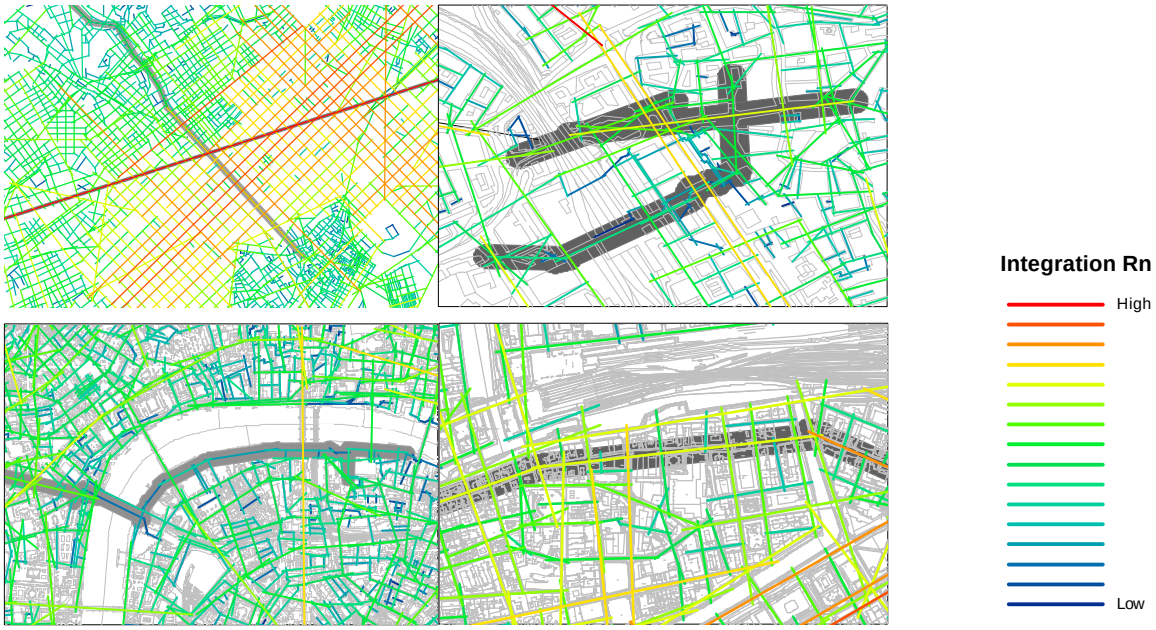


Figure 460. Local Integration (Hi-Res R3) of the Capital Route Area in each City (from top left, Barcelona, Utrecht, London, Malmö).

4. The capital routes demonstrated higher levels of pedestrian movement then their adjacent streets

Pedestrian flow data indicated that each capital route experienced higher levels of pedestrian movement on the capital routes than their surrounding streets. This was also true for vehicular and cycling levels in Malmö, where the capital route is also accessible both for bikes and cars. In London cars are not allowed on long sections of the capital route, but pedestrian and cyclist levels are quite high. A large segment of Utrecht's capital route was similarly pedestrianised but had very low levels of cyclist movement. One possible explanation for this aberration is that Utrecht's capital route has significant height variation of its floor surface along the length, potentially making other routes more attractive for local cyclists. Aside from this notable exception, all four capital routes experienced higher movement than their surroundings, as demonstrated by the figures below.

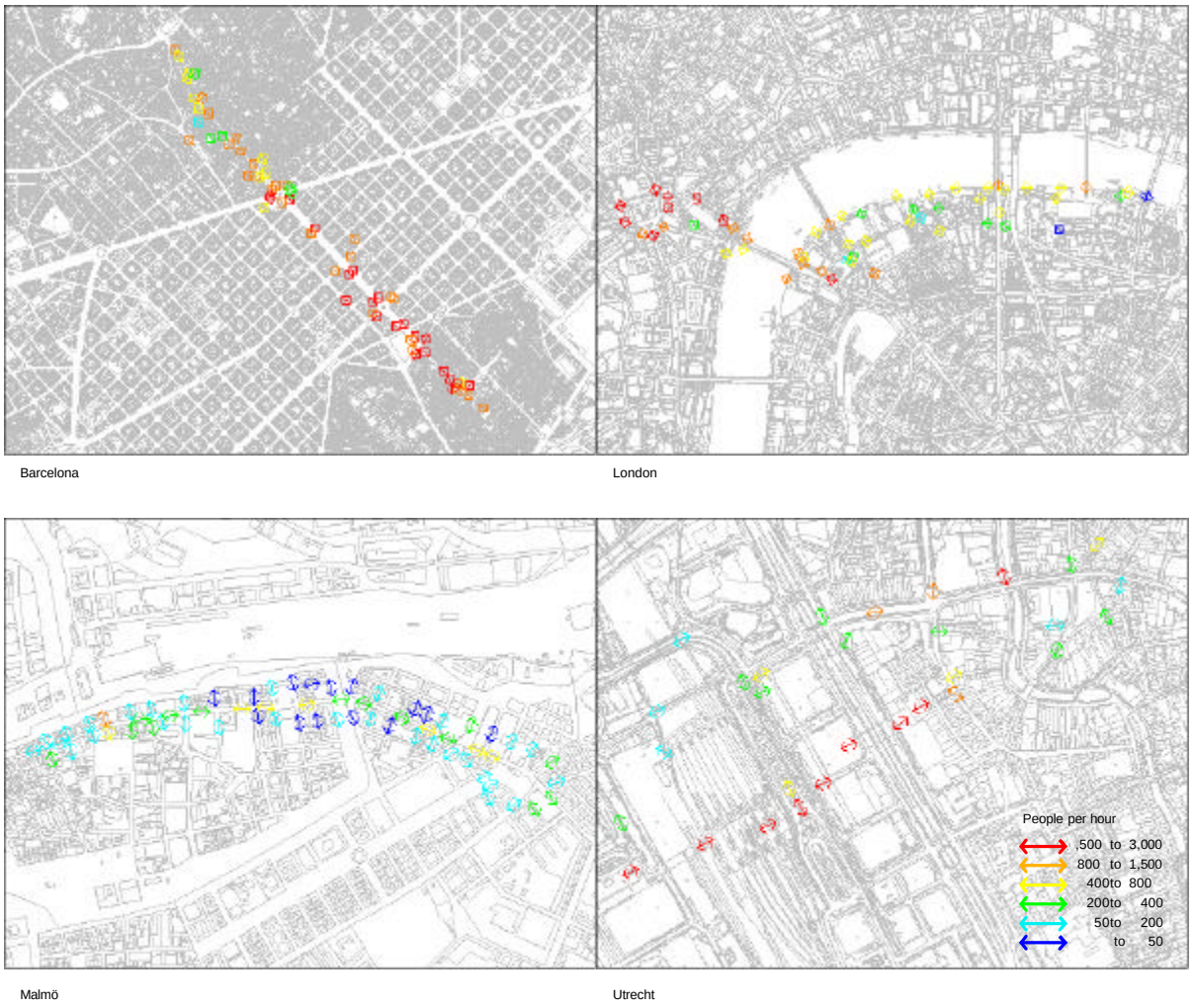


Figure 461. Average Weekday Pedestrian Movement.

Public Spaces of the Route - Question 2: Is there a sequence of well connected public spaces along the studied route?

The spatial integration of each Urban Room along each capital route was used to determine the degree of connectivity between public spaces on each capital route. This was then compared to difference in land uses and movement flows along the extent of the capital route.

An important measure of spatial continuity is “integration”, which measures the relative accessibility of a space within a spatial system. The average global integration (rn) for all five urban rooms in each city was calculated to determine their average connectivity with their surroundings. This was done by averaging the global integration value of each axial line intersecting an urban room. An average was then calculated for each urban room and for each capital route. The higher the average integration value is, the more accessible an urban room or capital route is in relation to its surroundings. If the rooms on a capital route have few connections that lie “deep” within the system, they have lower average integration value and often experience lower levels of activities. The higher the number, the better the spaces are connected and accessible along the urban route.

Conclusion and Recommendations

1. Accessibility and connectivity to surrounding urban area as a measure for sustainability.

The findings of the analysis suggest that on average, the spaces along each city’s capital route are well connected and easily accessible to their surrounding urban context. The more accessible and connected the capital route is the more movement will be generated and that will influence the dynamics of the capital route. More movement brings a variety of activities and land uses which in turn attracts even more movement. Accessibility and good connectivity to the neighbouring urban fabric seems to be one of the fundamental characteristics of a sustainable route.

2. Special attention should be paid to the overall configuration in designing urban spaces.

It is strongly recommended that in the process of creating and designing urban spaces along the routes special attention should be paid to the effect of the new spaces and buildings in the overall configuration and accessibility.

Key Findings

1. All the Urban Rooms along the capital routes appear to have a consistent level of integration in the context of the city.

The results of the spatial analyses found that four capital routes were well connected to the core of each city and were therefore highly accessible to important public places outside the routes. The configurational analyses also showed that the capital routes were very well connected to the historic core in each city and also the neighbouring local areas.

The graph below reveals the average global integration of Urban Rooms for each capital route. It was found that London had the lowest integration value with the average integration value of 0.97 (meaning that its Urban Rooms were the least accessible to its surroundings). Utrecht followed with an average integration value of 1.24, followed by Malmö at 1.31. Barcelona was found to be the capital route with the best connected public spaces, with the average integration of 1.45.

As a result a capital route is not only an integrated route in its whole but all the areas along it seem to be quite integrated as well.

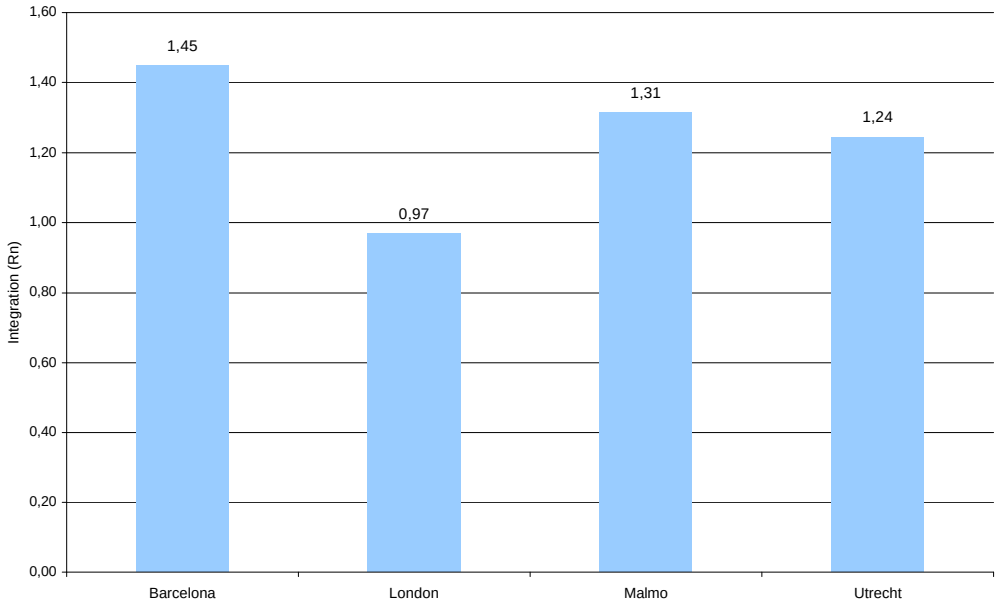


Figure 462. Average Global Integration (Rn) of Urban Rooms.

7.4. Discussion and Key Findings

Comparative data analysis provided insight into how different urban components relate to each other. But also, and perhaps more importantly, they provided the information necessary to answer the more general question of the Agora research. The three main questions were:

1. What is a capital route?
2. What are the important variables which influence a capital route?
3. What makes a capital route sustainable?

A summary of key findings for each question is presented below.

What is a capital route?

Several common characteristics were found in all four capital routes. First, all four capital routes had a high percentage of public land uses, including retail, catering, cultural, and leisure facilities. It was found that approximately 50% of all land uses on the capital routes fell within these categories. Second, capital routes displayed a higher level of movement flows then their surrounding area, although they were not necessarily the locations of highest movement in the city. Average daily movement rates varied between approximately 1,500 pedestrian per hour in Barcelona to less than 200 pedestrians per hour in Malmö. Movement also extended through a greater period of time on most capital routes, reaching their highest levels in the peak evening period. Finally, static activities tended to cluster near public land uses with accessible entrances and transparent facades, suggesting that these may be defining characteristics of capital routes in general.

In summary, the analysis of capital routes demonstrated that they:

1. Have mostly public land uses, including retail, catering, cultural, leisure.
2. Are highly used by pedestrians.
3. Offer public amenities and experience activities which extend throughout the day and into the evening.
4. Offer diverse activities and experiences.
5. Are used by different categories of users who are not directly related to the area, like residents would be.
6. Have sub areas which are well connected to each other and to the rest of the city.
7. Provide a safe and public environment.

What are the important variables which influence a capital route?

Like any complex environment, no single variable was found to influence the performance of capital routes. Instead, an interrelated complex of interaction between several variables was observed.

First, one basic requirement for any activity is people - moving or static - and past research has found that network accessibility strongly influences movement in most urban environments. In the Agora cities, spatial accessibility was found to correlate strongly with cyclist and vehicular movement in most capital routes studied, but often to a less degree (approximately 30%) for pedestrians. This indicates that although spatial integration is important (especially at the city-wide scale) other factors have an important influence on local movement through-out the area. This confirms that no matter how accessible capital routes are within the context of their city, it will not be able to sustain flows and activities unless it has other factors to help support it.

The comparative analysis also revealed that the type of land use was an important element in the sustainability and reinforcement of activities. Public activities such as retail, cultural, and catering, were particularly important. Where such land uses were present, other elements such as accessible entrances and transparent facades served to focus and reinforce static clustering of urban assemblages.

The key variables which influence a capital route are:

1. Well connected and accessible spaces which provide basic movement potentials to the capital route.
2. Diverse land uses, with an emphasis on public activities, which reinforce activity.
3. Public entrances and transparent facades, which focus assemblage and static activity.

What makes a capital route sustainable?

Although many different definitions of sustainability exist, it is generally accepted that activities which meet the needs of today without sacrificing those of tomorrow are "sustainable". This usually relates to issues such as efficient resource usage, building social capital, increasing economic competitiveness, and fostering a healthy natural environment. For the purpose of this Comparative Analysis, it is suggested that factors which attract different types of people, offer different types of activities, and maximize economic and social flexibility while minimizing environmental impacts are more sustainable than those which do not. Taken in this light, it is suggested that increased diversity of people, activities, and land uses along a capital route is the key indication of sustainability. Different types of land uses (particularly the presence of a limited number of housing units) are more likely to increase different activity levels and user types.

7.5. Conclusion: Key Suggestions for Spatial Development

The importance of the data analysis is lying in the usability of the findings to produce suggestions for the design process which will take place in the next phase of Agora, in WP7. Further down, there are some suggestions which have derived from the analysis of the data and should be taken into account in any design of a capital route. The key points are summarized as follows:

Urban context

1. The relationship of the capital route with it's the local and global context is paramount for its character and sustainability. Design proposals for each capital route should be sensitive to their configurational context and enhance, highlight, or take advantage of each Route's unique location within the city.
2. The capital route should be spatially associated with the city centre.
3. The capital route should be historically sustained, which means it should be strongly related to the historic cores of the cities.
4. The capital route should be highly accessible from any part of the city, which means highly integrated. Higher accessibility will result to higher human presence which will promote the Route's sustainability.
5. Within the capital route, special attention should be paid to the accessibility of the Urban Rooms in so far as they are well integrated within its local context.

Public information

1. Attention should be paid to the place and allocation of signs, in some cities there were high numbers of signs and low percentage of conspicuousness.

Sense of safety

1. Important factor for the sense of safety is the feeling of co-presence which means streets which can attract an adequate level of pedestrian movement. This means that streets should be easily accessibly, mostly in a local level. Streets which are not easily accessible do not produce movement and therefore are isolated spaces where assaults can take place unnoticeable.

The Urban Realm Envelope / Arrangements and Appearance

Aesthetics

1. Each route should be standardised to a consistent level of aesthetic quality but design interventions related to aesthetic characteristics should be unique in each case.

Land use and properties of building facades

1. A good mix of retail, as long as supported by natural movement flows, will bring a diversity of activities along capital routes.
2. Cultural activities, catering and leisure extend the busy time of a capital route later in the evening.
3. Mixed uses along a capital route make it being used all day long.
4. There should be a balanced outcome of public and private buildings along the capital route. The public buildings are attractors for people, increasing the co-presence in this way, and also provide a kind of shelter for anyone who can access them.
5. Pedestrian co-presence, façade transparency and usability, and public entrances all provide increased opportunities for interaction between people and their built environment.
6. The more the public entrances, the accessible buildings and the transparent facades, the more the pedestrian movement they attract.

Lighting

1. Squares should have higher densities of lighting than vehicular streets.
2. Vehicular routes have lower need in lighting than pedestrian routes.
3. In each capital route, there could be areas or places which have special need in lighting which should be examined separately, like covered or indoors areas, in which case consistency is probably not desirable.

CHAPTER 8: FINAL REMARKS

In this report we have analyzed the functions, characteristics and components of four capital routes in four different European cities (chapters 3-6). The results of these analyses were then further discussed, compared and summarized in chapter 7. The analysis of each city identified relevant areas and fields of spatial developments, as well as listed some key aspects and potentials that future developments should consider. Some general suggestions for such design processes were also summarized in chapter 7.

In this final chapter we do not aim at yet another conclusion of the analysis, (such conclusions have been made both within each separate city, and even more thoroughly discussed in the comparisons of the previous chapter). Instead we would like to dwell on some more meta-theoretical aspects of this report.

8.1 On Methodology and Methods

First of all, a few words about the methodological development and the development of methods. A large set of methods (introduced and discussed earlier in the project) have been used in order to produce the analyses. These methods were revealed to be useable in different contexts and have also enabled a more thorough and coherent comparative analysis between different capital rotes. However, one should not be too quick to jump to conclusions about the systematization and comparison of method results. Results from large cities, such as Barcelona or London, do not necessarily have the same bearing in Utrecht or Malmö. One can not expect that the cause-effect relations necessarily stay the same between such different environments. Thus, if we find a relation in one city, it will almost certainly be different in another city. Even where such relations seem to coincide it must also be acknowledged that the different cities all face problems of their own, and that it is the specifics of each city that needs attendance first of all.

The capital routes of London and Barcelona are places known all over the world, whereas, for example, the capital route of Malmö mostly faces local battle of recognition (is the retail of Östergatan competitive in relation to the shopping mall in Burlöv), whereas the capital route in London houses institutions that play in the World Series (Tate vs. Guggenheim). Furthermore, the methods can be of good help to designers and spatial developers only if they are accompanied by a set of normative principles or decisions based not only on an analysis of the area at hand, but also of some kind of analysis of the city and society as a whole (what kind of city/society do we want?), that is, design interventions need to be informed by a dialogue between both local and global issues

The strength of the methods lies in the way they capture urbanity as a heterogeneous mix (and they also do this by using both quantitative and qualitative methods). The methods also do this without dodging the difficult question of how to describe the capital route as a whole, in all its complexity. We are of course fully aware of the fact that such a description is never complete, even so, such efforts are important, since they make us fully aware of the problems of theories and manifestos that spin around just one aspect or one cause of action (economical sustainability, homogenous design programmes etc). There is never just one question involved in spatial development. It is never just an issue of making a certain area more attractive for pedestrians, or improving conditions for retail. Such efforts do immediately mobilize a whole set of new questions, aspects and groups that in turn affect even more and other groups, aspects and questions.

Another important quality in our methodological enterprise is the fact that each and every method, as well as each one of the research questions posed, open the door to a whole field of investigation, that could be further developed (which, however, is beyond the scope of this report).

8.2 On Design Proposals and Work Package 7

The AGORA project does not end with this report. Already the process of building design scenarios (Work Package 7) and proposing spatial change to the citizens in the four cities have started. The final test of the methodology, methods and analysis seen in this report will be conducted during this time. Whether the conclusions, the exposed problems and the seen potentials in this report show themselves to be relevant for the choice of design proposals put forth to stakeholders, citizens and other users during the course of Work Package 7 will show us more of what this analysis means. The methodology, painstakingly developed both to be relevant in any planning context at all times and to be relevant for each of the four cities in this context and in this time, has yet another needle's eye to pass before we are seeing the final AGORA methodology.

This needle's eye is the process of urban design, an enigmatic process at times, which aims to demonstrate how objective research methodology can be used. Here we will see the AGORA 'best practice' model's final stage. And it is here the results of WP6 will be evaluated. It is here where the concept of a capital route will be re-defined and refined.

It is only our hope that this analysis, the D6.2 Computer Models and Analysis will contribute adequately to the continuation of the AGORA project.