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Research Article

London's Strand: From Pedestrianisation to Humanisation

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Abstract: When busy urban areas are pedestrianised, the relationship these places have with those using them changes. Most obvious is the topographical increase in the availability of space for those traversing it on foot or bicycle. Nevertheless, there are more subtle changes as well. Regular users of pedestrianised spaces begin to forge routes, habits and responses, shaping the way the (newly) available space is used in practice. In this paper, we describe a project at King's College London which sought to explore this in the context of the newly pedestrianised area of the Strand, one of Central London's main thoroughfares, which abuts KCL's campus estate. We used methods drawn from deep mapping combined with quantitative and qualitative observations of research participants' walking experiences. Through GPS traces of their walking routes and qualitative interviews, we focused on understanding the benefits of pedestrianisation, the impact of new street furniture on pedestrian habits, and the transformation of the space into an area for both dwelling and traversing. Such spaces give rise to conceptual and intangible "labyrinths" constructed and mediated through people's individual experiences and through digital locative media. This study demonstrates the potential of the deep mapping paradigm in enhancing our understanding of the pedestrian walking experience in newly pedestrianised areas such as the Strand. We show how deep mapping can support spatial analysis and contribute to developing a comprehensive research and design strategy for urban areas by integrating geospatial technologies and participatory research methods.

Keywords: Deep Mapping; Locative media; Pedestrianised urban areas

Highlights:

- Application of spatial analysis through quantitative and qualitative methods.
- Discussion on pedestrians' relationship with the surrounding urban environment, which is conditioned by a range of tangible and intangible artificial structures.
- Discuss the current dynamics of locating and navigating in cities from both the birds-eye and street-level perspectives.

1. Introduction

Increasing traffic and congestion in cities is a cumulative process that builds up over time, requiring city authorities to react, adapting and developing the streetscape and street plan to accommodate increased vehicle flow (Wen et al., 2020). By contrast in this context of urban complexity and increased mobility, pedestrianisation programs are planned and proactive processes which remove or reduce vehicular access (González, 2017). This "top-down" process of design has the effect of suddenly decluttering the space, which in turn entails a shift in people's relationships with it. Like most major cities, London has undergone numerous urban planning programs to reduce the flow of traffic and access to space, including those of pedestrianisation (Department of Transport, 2020; National Heart Forum, 2003). The pedestrianisation of the Strand/Aldwych area in Central London, close to the cultural heart of London's West End, is a case in point. The Strand, which has been a conduit of traffic throughflow for centuries, links the historic political centre of London in Westminster with the financial centre of the City of London. It has therefore always been a medium of connection, not only of places but of people and ideas. In 2015, a consortium of local stakeholders under the auspices of Westminster City Council began a programme of pedestrianisation at the eastern end of the Strand, which in recent years had become a highly congested traffic bottleneck. Vehicular access was removed, creating a new public space of 7000m2. The first phase of the project was completed in December 2022 (Figure 1). For the organisations with premises adjacent to the Strand, including King's, this has had the effect of creating a shared public space.

The result is an area of streetscape which is newly accessible to pedestrians, with direct frontage links to major cultural and governmental organisations such as the Somerset House arts venue, the Lyceum theatre, the consulates of Australia and India and two churches, St Mary-le-Strand (which is physically incorporated into the pedestrianisation), and St Clement Danes at the eastern end (see Figure 1). This physical change in the streetscape has the aim of creating "a wealth of benefits to the local area, including a more people-friendly experience for pedestrians and

cyclists and enhanced connections to Covent Garden, the City, Holborn and the West End"1. The collective flow of footfall in the space is now unconstrained by vehicular traffic. As a result, the pathways which have been laid out, the ingress and egress routes, street furniture and temporary installations such as the "Voiceline"2 now enable and encourage more social and communal use of the space: quite simply, it is no longer a route to travel between east, west and back again, subject to the flow and contraflow of vehicular traffic, with the ever-present physical dangers this presents inhibiting and restricting movement. It is a space for new possibilities, which in turn invites reevaluation of the social and cultural potential of technology when placed in the hands of people traversing the cityscape on foot.

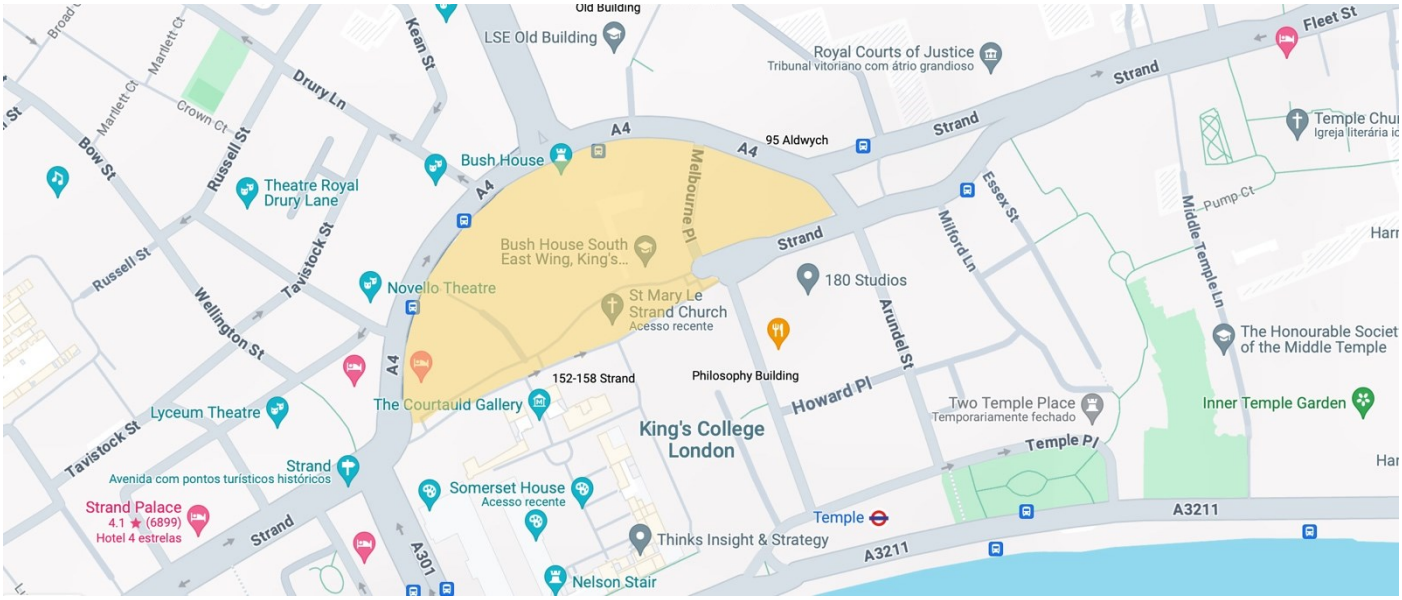

Figure 1. The area highlighted corresponds to the Strand pedestrianised area. Source: Screenshot of Google Maps with the highlights made by the authors.

This paper reports on the initial findings of a scoping project conducted in May and June 2023, Unmapped Strands3, which investigated the impact of the pedestrianisation programme on its regular users. Utilising qualitative and quantitative methods, we collected in-depth data from a set of seven research participants to explore their tangible and intangible responses to the space. On the quantitative side, we gathered GPS traces generated by these participants, who regularly used the Strand, of their typical trajectories through the space in a two-week period. The participants were recruited via an open call to the King's community. Between them, they produced a total of 47 GPS traces of 52,9 km in total length. After the traces had been generated and gathered, semi-structured interviews were conducted with the same individuals to gather their personal reflections on the space. In this way, we were able to compare "real-time" trajectories with post hoc perspectives based on memory.

Comparing these small quantitative and qualitative datasets allows preliminary insights into how the newly pedestrianised eastern Strand can be interpreted as a "humanized" or "socialized" space, or as what Lefebvre called a "practico-sensory realm" (Lefebvre, 1991, p.15). The freedom to move with physical obstacles removed (or greatly reduced) enables the construction of individual "taskscapes", to use the language of Tim Ingold (1993) - micro-processes of movement, mobility, response and interaction which, collectively, "*carry forward the process of social life*" (Ingold, 1993, p.157). A key factor in our study is the extent to which these individual taskscapes are defined (or dictated) by the physical urban environment, versus how they are constructed by individuals according to their needs, preferences and responses to that environment. The pedestrianisation of a populous (and popular) street implies that there should be a shift away from the former and towards the latter. Unmapped Strands sought to test this assumption.

In our discussion, we draw on the idea of "deep mapping", a concept which has come to the fore in the Spatial Humanities in the last fifteen years (Roberts, 2016, p.04). Deep mapping is a diffuse and broadly defined concept, which focuses on the capture of human, experiential and emotional processes, in contrast to the quantitative certainties of two-dimensional Cartesian space. In this context, deep mapping is an idea which invites humanists and sociologists to look "beneath" familiar cartographic methodologies and into elements of human history, culture and society which are inherently hard to map - elements such as the "taskscapes" examined in this project. This lies at the centre of the fundamental enquiries presented in this article, delving into the intricate journey of plotting through the labyrinth that a complex urban environment can be. In the humanities context, a deep map has been described as:

"*A finely detailed, multimedia depiction of a place and the people, animals, and objects that exist within it and are thus inseparable from the contours and rhythms of everyday life*." (Bodenhamer et al., 2015, p.03).

Our sample gives us a preliminary insight into how the "contours and rhythms of daily life" change in response to pedestrianisation, while at the same time, the non-Cartesian focus of deep mapping and its obvious and inherent focus on "depth" encourages us to re-examine the idea of the street as a "surface". In its obvious sense, a (path or street) surface is a plane along which individuals move, and in doing so, they may inscribe traces of their trajectories over time. This was evident during the COVID-19 pandemic, when footpaths changed, divided and diverged as walkers sharing them observed social distancing guidelines (Figure 2). Ingold has noted that we "encounter the ground as a surface of support for

[1] https://www.strandlines.london/2021/09/02/a-qa-with-ruth-duston-the-northbank-bids-ceo-on-the-pedestrianisation-project/
[2] It is an immersive audio installation was launched in the newly Strand Aldwych pedestrianised area. https://www.somersethouse.org.uk/whats-on/voiceline-nick-ryan
[3] Unmapped Strands, a project supported by the Centre for Attention Studies at King's College London.

our activities, a terrain either cleared for cultivation or building or inscribed with the traces of our passing such as footprints, paths, and tracks." (Ingold, 2018, p.137). In addition to these physical traces, however, pedestrianisation such as that carried out on the Strand invites us to consider the intangible, psychological (or psychogeographical) traces which are left by passers-by on a similarly conceptual surface, and the intangible "barriers" which direct those traces across it. Many of these are simply encoded in human memory, both individual and collective. However, in the digital age, elements of these traces are more literally encoded in the digital traces left by the trajectories and activities people carry out within the space.

Figure 2. A footpath dividing and diverging as a result of social distancing during the COVID-19 pandemic, June 2020. Source: photo by Stuart Dunn.

Modifications to a physical street surface such as the Strand also invite reconsideration of what "depth" means in terms of human responses and reactions, of emotional interactions both *in* place (between different human actors in the same location) and *with* place, that is between human actors and locations themselves. These situations become more nuanced and complex when we consider how humans relate to and walk through place via processes driven by their own agency and choice, for pleasure and leisure, rather than walking undertaken for purely functional purposes (Gath Morad et al., 2023, pp. 15-16). In theory, pedestrianisation encourages the former while continuing to facilitate the latter. This is one of the aims of the Strand pedestrianisation project as stated on its website[4]. Such "attract and repel" relationships between pedestrians and individual points within the space form Ingold-style taskscaspes. We might also think of these as invisible labyrinths formed in real time by individuals and overlaid on the street surface. Pedestrianisation encourages this on the Strand: the pathways around St Mary Le Strand allow for more ingress and egress, and the street furniture and artistic installations enable and encourage more social and interactive use of the space. This becomes evident in the GPS traces created by participants (see Figure 6). From these, it becomes clear that the space is no longer a route to travel between east, west and back again, subject to the flow and contraflow of vehicular traffic with the ever-present physical dangers this presents inhibiting and restricting one's movement. It has become an urban scenery for new and imaginative possibilities.

The idea of the "non-physical" labyrinth in the cityscape is not new; neither is the idea that political, social and cultural factors create barriers which while intangible, nonetheless create spatial divisions within and between communities. Famously, the term *Die Mauer im Kopf*, "wall in the head," was used in the twentieth century to describe the psychological as well as the physical boundary presented by the Berlin Wall (Schneider, 1998). Cityscapes contain many restrictions on pedestrian movement for reasons of health and safety, efficiency, the separation of private and public spaces and the ways in which routeways have developed historically. Some of these can be seen and touched in the physical world, some

[4] https://strandaldwych.org

cannot (see Figure 3) In many cityscapes, pedestrianism is integrated into the transport infrastructures (e.g. Figure 4). Despite this, the need to locate oneself (in cognitive and spatial terms) within the cityscape, knowing where one is in real-time and how one can go somewhere, is a natural impetus, yet remains challenging. An individual's relationship with the surrounding urban environment is, therefore, conditioned by a range of intangible and intangible structures, which both direct and shape the individuals' responses to them. This abstract framework of understanding the "conceptual labyrinth" in terms of what, where and how pedestrians' trajectories are guided and shaped provides a backdrop for considering more focused and event-based activities that the space might enable. For example, the spring and summer of 2023 saw several informal and/or impromptu performances and shows in the Strand space, primarily by members of the King's community, as well as formal installations and features.

Figure 3. Temporary regulation of pedestrian movement in the streetscape near the Strand, London. Source: photo by Stuart Dunn.

Figure 4. Pedestrianism acknowledged in the key to the London Underground Map. Source: https://content.tfl.gov.uk/standard-tube-map.pdf

Our "labyrinthine" approach to pedestrianisation is closely related to the psychological sense of being-in-the-world (*dasein*, according to Heidegger), and the idea of situatedness. The urban physical (tangible) and information (intangible) infrastructures which form the urban labyrinths that we examine contribute to situatedness by enabling pedestrians to understand (and therefore to represent) where they are while simultaneously restricting and directing their movement.

At the same time, the digital realm, mediated by smartphones and other connected devices, also directs, influences, and impinges upon pedestrian movement, forming another "surface" of the labyrinth. Digital mapping as part of navigation is an act both of data consumption and participation in its creation. It is a natural result of epistemological processes and technological developments, which contribute to the abstraction of spatial representation. As Kurgan states

"*Historically, maps and data have shaped urban lives. With its capacity to represent the spatial world, data has the power to operate on, intervene in, and change the built environment around us.*" (Kurgan, 2019, p. 06)

Consequently, the use of mobile devices to navigate, socialise, and inform us in open spaces has dramatically impacted how they have been experienced over the past two decades. This impact is thrown into sharp relief when an urban space (like the Strand) is suddenly de-cluttered, cleared of vehicular access, and opened to pedestrian movement. This is contextualized by how digital mediation impacts the intertwining process of navigating cities, and how the use of locative media affects the connection and perception of bystanders' physical experience within the urban environment.

As described above, we approach the Strand space as a major, traffic-heavy area that has been deliberately re-appropriated for pedestrian use. While we employ Ingold's "taskscape" concept as a model for understanding pedestrian responses to this newly freed space, the potential for there to be recreational and communal elements to those responses renders it limiting – there is more than "tasks" in play in these responses. This is why we turn to the idea of the labyrinth and to deep mapping. Identifying and exploring the labyrinths – tangible, intangible and digital – which emerged as a result of pedestrianisation require a set of research methods to gain insight into how pedestrians use the space and how they would *like* to use it. The deep mapping approach employed in this study aimed to document the experiential nature of the responses from both a bird's eye view (the quantitative GPS traces) and a street-eye-level perspective (the qualitative interviews) – see Figure 5.

2. Methodological approaches

To capture the GPS traces, participants downloaded and used the GPX App (compatible with Apple) and A-GPS Tracker App (compatible with Android). Through a 10 to 15-minute online call, all participants were given explanations of how to use the app and had any queries clarified. This first contact with them was key to keeping them engaged, and provided them with a sense of confidence and responsibility for participating in the study. Semi-structured interviews were conducted after the GPS traces collection with the same user group to gather their perceptions, views and memories of the places they had documented withy GPS. The aim was to understand the perceived benefits of pedestrianisation, the impact of new street furniture on pedestrian habits, and the transformation of the space into an area for both dwelling and traversing. The project was a methodological proof of concept whose aim was to identify the kinds of data that could be gathered by working with users of the Strand space, how their physical and emotional responses could be understood, and how the deep mapping methods could be bought to bear on those data and personal/emotional histories.

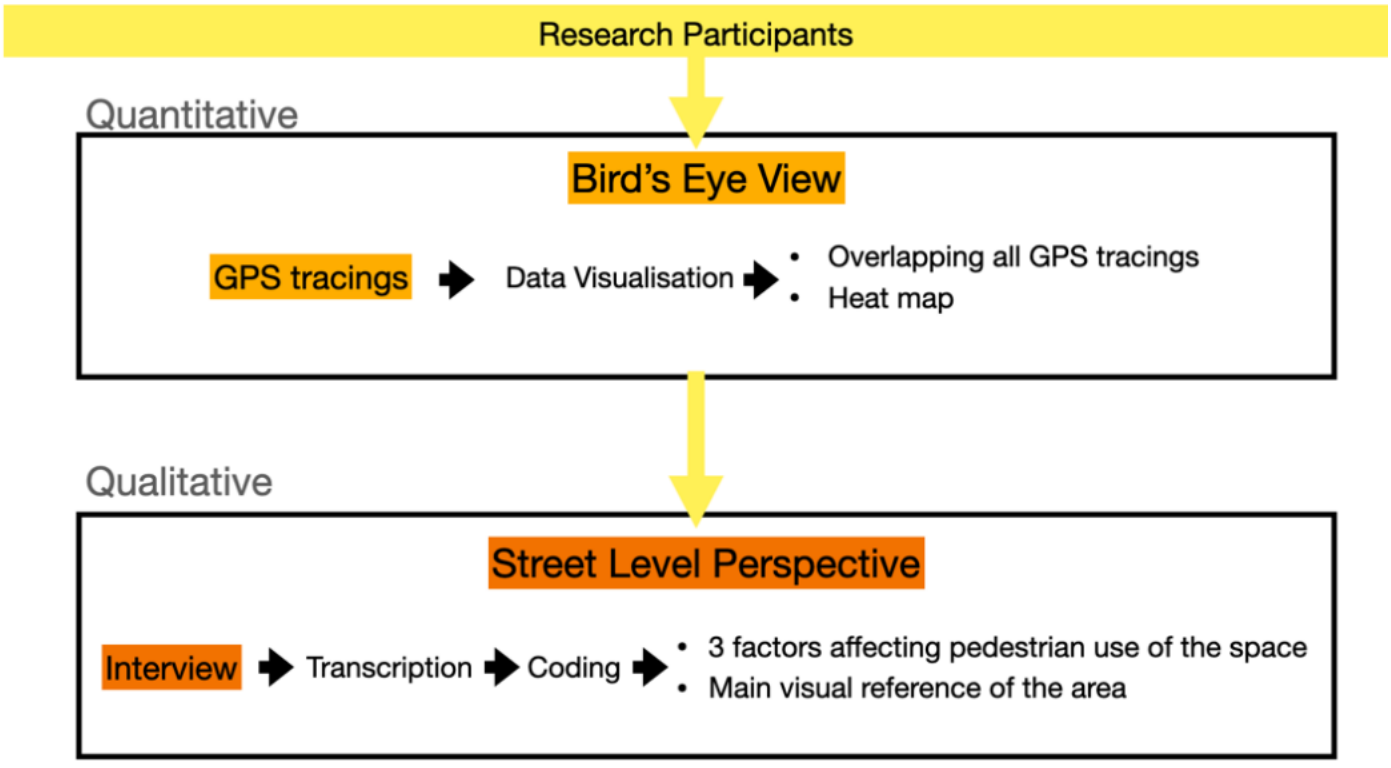

Figure 5. Diagram illustrating the study methodology. Source: Authors

Both staff and student members of the King's College London community were targeted via an open call. The aim was to collect GPS data from ~10 pedestrians and interview them for a final experience assessment. The recruitment efforts resulted in 12 immediate responses, with seven officially accepting and signing consent forms. The participants were students from different fields at King's College London Strand campus, at both undergraduate and postgraduate levels. We can therefore assume that all participants had some kind of existing relationship with the space, as the KCL Strand Campus forms approximately a third of the southern edge of the pedestrianised area, with the campus's main entrance opening directly on to it. To be eligible, participants had to be adults (18 years and older), be regular smartphone users, and be familiar with walking in the Strand/Aldwych Pedestrianized area. Important variables such as age, physical ability or otherwise, gender, etc, were not factored in, nor were broader longitudinal factors that might have affected interpretation, such as the time of year. This is recognised as a limitation of the present study, and obtaining a larger and more representative sample will be a key priority for future research.

The GPS traces were overlaid and visualised using QGIS, an open-source Geographical Information Systems (GIS) package. The aim was to visually identify hotspots and popular trajectories within the area, and to identify points of convergence and divergence within the sample study. Approaches such as this have been used in the past to create GPS artworks, either using the layout of streets and pathways to "draw" imagery (Lauriault & Wood, 2009) or visualising heavier footfall with thicker lines[5]**.** The GPS traces are overlaid on the street plan of the pedestrianised area in Figure 6 and Figure 7. Additionally, through the interview transcripts, we sought to identify factors that enable pedestrians to navigate the city: what makes them linger in a space, what encourages them to traverse it, and what factors impact their sensory experience. Doing so requires us to review the dynamic of the use of locative media and the physical spatial perception, that is, how locating oneself requires following dots and arrows on a bird's eye view digital map and the process of experiencing the trajectory physically.

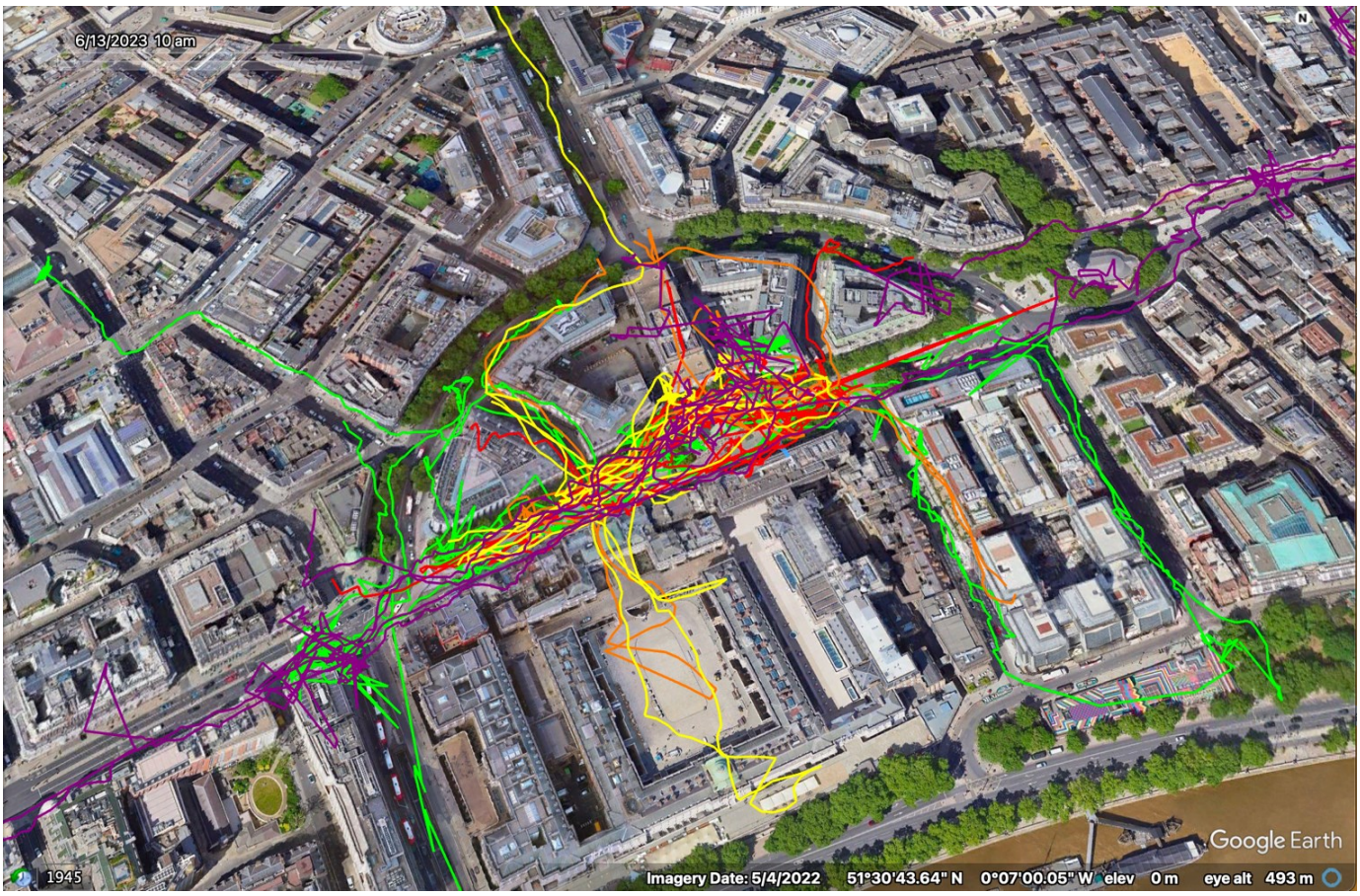

Figure 6. The 48 GPS traces overlaid on the Strand footprint. Source: Image produced by authors using Google Earth.

The traces are depicted overlaying the 2D footprint of the Strand in Figure 6. Meanwhile, Figure 7 represents a "heatmap" that visualises the concentration of individual data coordinate points collected by smartphone software at 1-meter intervals. This provides visual insight into the concentration of footfall at individual points over the two weeks of the study. Both images demonstrate, unsurprisingly, a clear concentration of footfall activity in the main Strand area itself, especially to the west of St Mary Le Strand. Clusters of activity are also visible at the main road crossing points at Waterloo Bridge, at Wellington Street, at the three pedestrian crossing points across Aldwych, and at the large pedestrian crossing at the western end of Fleet Street. The clustering around the pedestrian crossings, in particular, is visually obvious. Whilst, as noted, no statistical significance can be attached to these samples, a larger sample study, weighted as a cross-section of vital characteristics, could yield insights into what influences pedestrian behaviour by identifying and examining further point clusters. In particular, this clustering of activity invites us to ask what factors cause pedestrians to stop in the space and spend time there. Which of these factors has been introduced as a result of the pedestrianisation? Similarly, which factors work against the clustering and cause people to traverse through the space without stopping? And finally, what are the external sensory factors acting on people as they both stop in and traverse the space?

[5] See https://gpstracklog.com/2014/10/gps-tracks-art.html

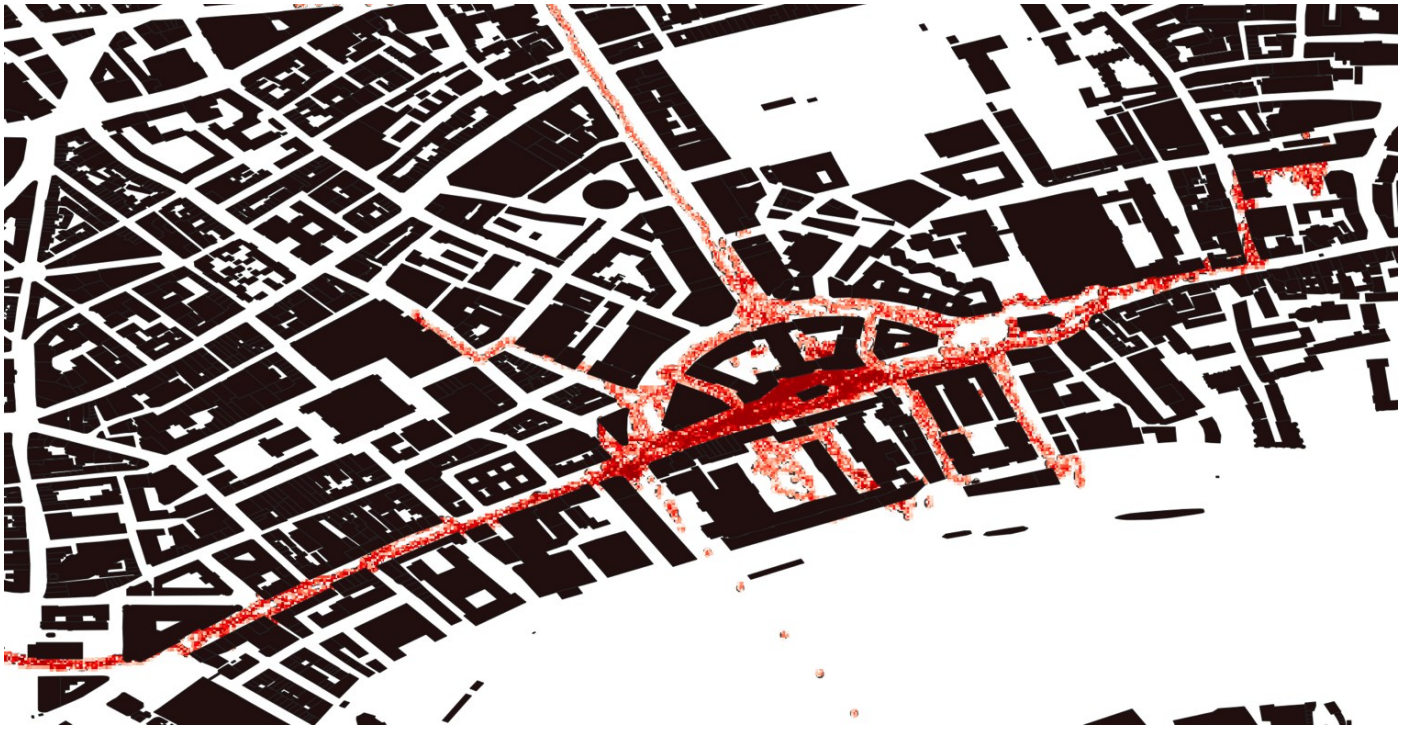

Figure 7. Heatmap showing the concentration of points generated by the combined GPS traces, taken at 1-meter intervals. Source: Image produced by authors using QGIS.

We could envisage a larger and more longitudinal study in which "clustering" from a larger and more diverse group of participants is tracked over time, comparing the situations at different times of day and night, on different days of the week (e.g. weekdays and weekends), at different times of the year, during major events in the area such as protests or demonstrations (with close ethical supervision), and in response to different weather conditions. Such a dataset would provide a dynamic, shifting map of the space. When combined with the other factors identified in this pilot experiment, this holds up the possibility of a participatory "deep map" of the Strand space (see Bodenhamer et al., 2010).

Subsequent interviews were conducted to capture the qualitative responses of the users. After coding the transcriptions of these, it was possible to identify three high-level categories of factors affecting pedestrian use of the space. These three factors were stopping factors, drawing-through factors, and sensorial stimuli. 'Stopping factors' was the most common of the three, which participants referred to, with 17 mentions identified, followed by different forms of sensory impact (11 mentions). 'Drawing through' factors had the lowest concentration of occurrences, with eight mentions. Most "stopping factor" observations focused on the area's urban furniture and the shops. "The pedestrian has a right to sit down for long periods of time." (Participant 07)- see Figure 8. "Drawing through" factors also identified street furniture as a key aspect: "[..] tend to walk more in the middle now usually I tend to walk on the sides, but because there's usually chairs there, I have to adjust where I usually walk" (Participant 12)- see Figure 9.

There is a great deal of overlap between all three factors, and all are closely related. It was also noteworthy that key architectural features in the space, such as St Mary Le Strand, provide a common focal point that both directs people's trajectories and draws visual attention, which is reflected in the verbal descriptions of the space. It was ascertained from the interviews that "stopping factors" were the most common of the three types, followed by sensory impact and, finally, the "drawing through" factors. The aspects that resulted in most observations of "stopping factors" were the area's fixed features, urban furniture and the shops. This highlights that pedestrianisation not only provides its users with physical, literal space, but it also provides experiential space and points of engagement, which cause people to stop, slow down, and interact with the streetscape visually and tangibly. While pedestrianisation ostensibly "liberates" passers-by to use space in less constrained ways, in reality, a "labyrinth" is formed in an intangible and positive sense, where movement is "restricted" and "directed" in ways which reflect a positive and enjoyable response to the space.

During the semi-structured interviews, participants were also asked to identify three specific location references within the pedestrianised area of the Strand. The findings underscore a prevailing emphasis on architectural landmarks as noteworthy points of interest. St. Mary Le Strand and Somerset House emerged as prominently cited landmarks, with all participants singling out St. Mary Le Strand, underscoring its central and easily identifiable nature. Alongside architectural landmarks, participants also mentioned the colourful chairs and wooden benches as noteworthy elements within the area, albeit to a lesser extent (Figure 10). The prevalence of references to architectural landmarks, especially St. Mary Le Strand, suggests their pivotal role as orientational aids within the locale. The pronounced clustering of participants' GPS tracking data around the church and the main buildings provides empirical support for the inference that individuals rely on prominent architectural features for orientation and navigation within labyrinthic space.

Figure 8. All traces collected from Participant 7 throughout the two-week data-gathering phase. The image illustrates how this participant focused shorter traces around seating areas. Source: Authors

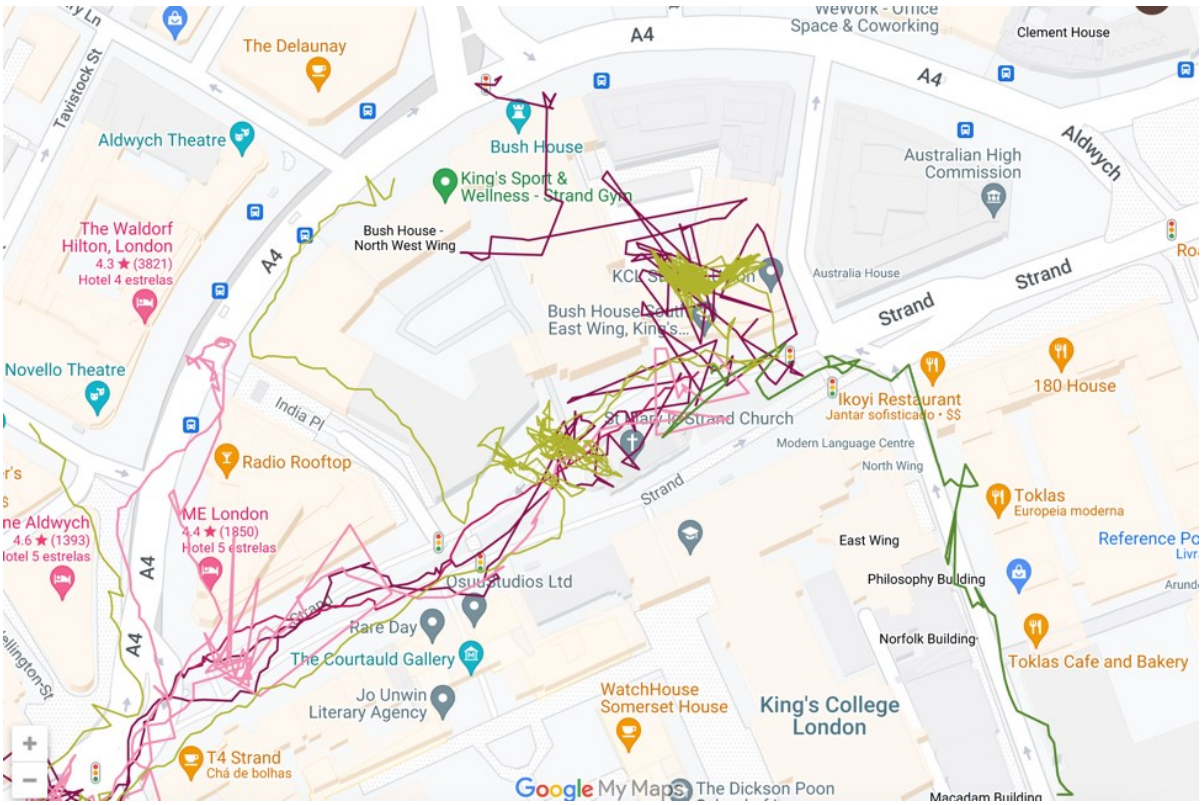

Figure 9. All traces gathered from Participant 12 during the two-week data collection period. The image displays a higher concentration of traces in the central area, near St Mary Le Strand Church, as noted in the interview. Source: Authors

Figure 10. Colourful chairs – fixed street furniture on the north side of the pedestrianised area. Source: photo by Stuart Dunn

3. Deep mapping the Strand

Unmapped Strands presents an opportunity to apply the principles of deep mapping as described by (Bodenhamer et al., 2010) by facilitating spatial understanding through the integration of digital and ethnographic materials and methods and to formulate a participatory research and design strategy. In this case, the elements which are currently visible are the GPS traces. In our model, the images presented in Figures 6 - 9 do not, in themselves, constitute a deep map. However, the use of locative media, which led to them, including our process of curation and the choices made in its presentation, can be said to do so. The same is true of the contextual information which we gathered from the participants after the event. This is in line with broader definitions of locative media itself. (Lemos, 2010), for example, defines locative media as "a set of technologies and info-communicational processes whose informational content binds to a specific place" (Lemos, 2010, p. 405). This is very similar to the definition of a deep map provided by (Bodenhamer et al., 2010) and quoted at the beginning. The notion of "binding to place" at the individual level is central to our argument that the pedestrianisation of urban space, in fact, makes room for intangible labyrinths to develop. This exercise demonstrates that locative media is more than just a category of technology. Beyond the purely technological and functional, it enables a synchronous physical and virtual presence through mobility, aggregating spatial presence in the tangible and intangible realms through networks of information. Portable digital devices contribute to the contemporary processing of locating, navigating, and connecting. As such, this widespread connectivity keeps us constantly connected to Eco's (2013) networked labyrinth model within the highly specific context of the Strand as a web, a rhizomatic information system.

An obvious consequence of the emerging Strand deep map is its problematisation of the relationship between the bird's eye view and the experience of the user at the street level perspective (Figure 11). The familiar process of easily switching from viewing a standard digital map to zooming out to see the entire planet or zooming in to focus on the details of the ground with just a few simple gestures has redefined our relationship with place (Farman, 2010). However, this straightforward process of distancing and approaching is displayed as a series of frames, determining what is emphasised or concealed and the specific sequence and editing choices made for us. The Strand pedestrianisation re-anchors it in a "real" place. This further highlights the complex differential relationship between physical space and digital space, which is in itself a process deeply rooted in the history of twentieth-century science and technology. As James Corner has stated, by the end of the 1990s, spatiality had become detached from physical objects and become attached to "a variety of territorial, political and psychological social processes that flow

through space" (Corner, 1999, p.227). The constant entanglement of the physical and digital has presented the "networked city", whose micro-cosmic alterations we have been able to visualise in the pedestrianised Strand space. The city has technological and cultural complexity that directly impacts social interactions and how the city is used and perceived (Hemmersam et al., 2015).

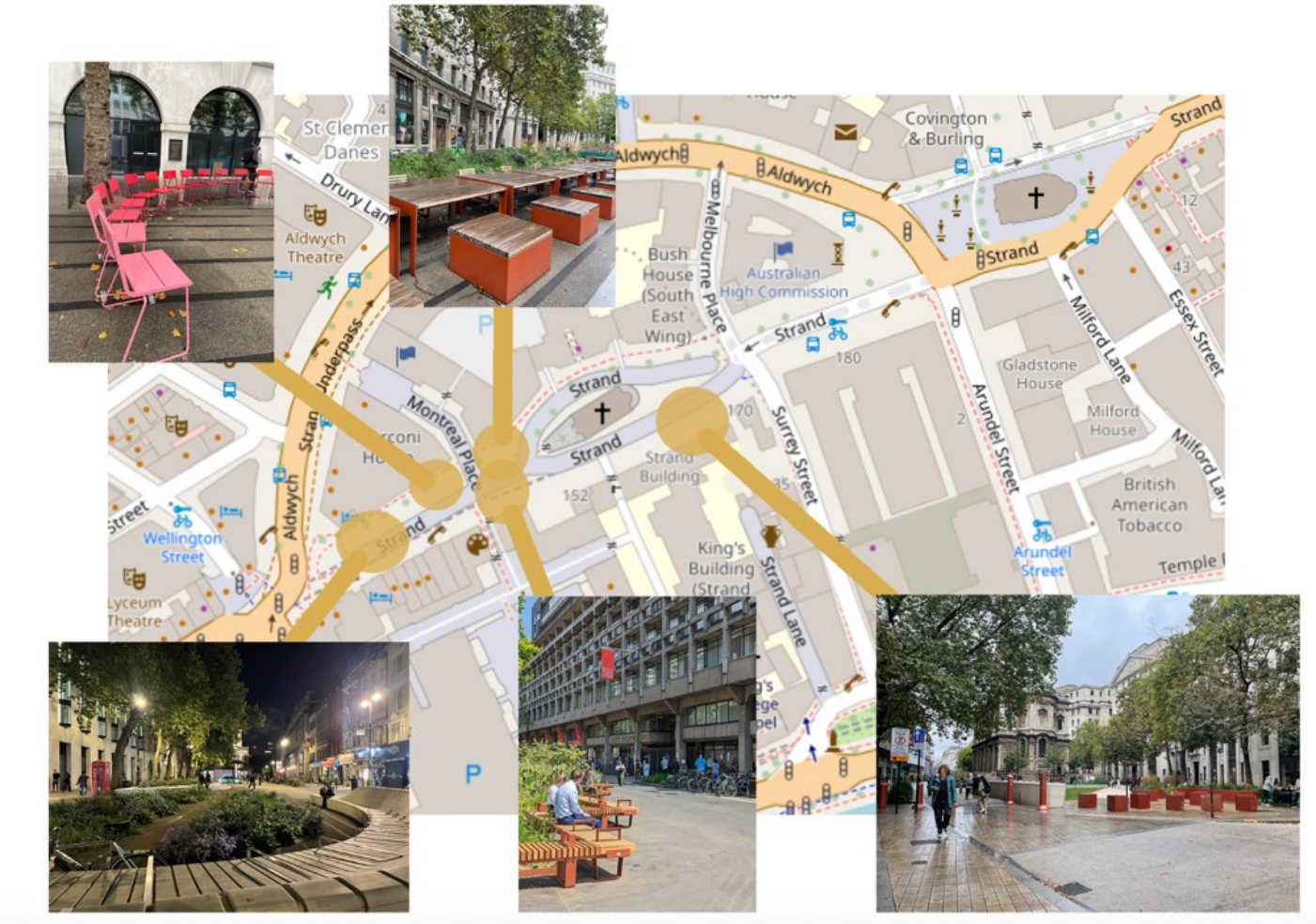

Figure 11. The image displays the newly pedestrianised area on Open Street Map. The location of the main seating furniture (Stopping Factors) is marked by yellow circles connected to the corresponding pictures. This illustrates the contrast between the experience of digital maps -through a digital mediation and the lived experience by walking and the lived experience.

More broadly, the use of mobile digital devices has operationalized how this flow of processes is fed and built. With constant collective digital information flow, people experience places without physical presence or geographical coordinates. However, even though digital interfaces allow instant annotation of the lived experience (physical or virtual), there is a false idea of homogenisation of information and data. The deep map approach acknowledges that the visualisation is still non-neutral, as any map and mapping practice ever was. However, how much of the city design implicates the self-locating and self-tracking dynamic through locative media? Does the 'labyrinth' format impact how you navigate it? However, before answering these queries, it is vital to understand the scales and perspectives people are localising and tracking themselves in the cities through digital mediation. The bird' s-eye perspective predominates in how things, people, and places are located in digital interfaces. The perspective is looking down and zooming in and out through a simple gesture on the screen.

4. Discussion and conclusion

In this initial study, we have sought to develop a deep mapping approach to explore the potential of a small dataset, creating a representation of an historically significant area as it transitioned from being a channel for vehicles to being a space for people. In doing so, we bring attention to the the sensory, transitory, ephemeral, and emotional experiences – the taskscapes – it contains. By considering the impact of this transformation on daily human interactions with the environment, we identify new opportunities for digital placemaking within the Strand area. Digital placemaking, as defined by Halegoua and Polson, is "the use of digital media to create a sense of place for oneself and/or others - to embrace digital media affordances in order to cultivate or maintain a sense of attachment to place" (Halegoua & Polson, 2021,p.574).

Utilising a deep map approach allowed us to explore the complex layers of this historically and symbolically important site, showcasing how our modest dataset can provide a detailed, if selective, representation of the area. Despite having a small number of participants, resulting in a limited amount of GPS traces and interviews, our methodology facilitated an essential examination of how urban open spaces like the Strand/Aldwych create a user-generated "labyrinth" appearing in diverse physical, intangible, and digital forms. The GPS traces and interviews merge two distinct perspectives of the city: the bird's eye view often presented by locative media and the street-level experience that shapes our direct

perception. This approach is crucial for highlighting the importance of the human experience—an ethnographic perspective—in spatial analysis and deep mapping processes. This reflection not only serves to reshape our understanding of the space but also presents an opportunity to engage with the digital realm in a manner that enriches and sustains our connection to the urban landscape. Ultimately, our study emphasises the transformative potential of digital placemaking in re-envisioning our relationship with urban spaces, emphasising the intersections between technology, culture, and the built environment.

Furthermore, the deep map approach of documenting experiential and emotional factors builds on the framework outlined above of the "conceptual labyrinth" concerning what influences, where, and how pedestrian trajectories are shaped. Therefore, we aimed to explore the two perspectives through which places are represented to find a way to navigate the complex urban environment: the bird's eye and the street-level perspectives. Both allow a different spatial expectation and experience. On the one hand, the bird's eye view enables navigation, where the user is situated at the centre of the device screen, with urban surroundings changing in accordance with the user's movement. In the second case, the street-level perspective, the physical and phenomenological experience, is key, involving the user's own mental mapping and the physical references. Both perspectives were able to be contemplated through the combination of qualitative methods, including crossing the GPS tracings and ethnographic methods, the semi-structured interviews. The GPS traces were able to point to important 'clusters' of routes and directions, whilst with the interview, the participants could confirm their visual references.

In conclusion, this study emphasises the potential of deep mapping to deepen our understanding of the pedestrian experience in newly pedestrianised areas, with the Strand in London presented as a case study. Combining basic GIS visualisations with participatory research methods demonstrates how deep mapping can enhance spatial analysis, informing a holistic research and design strategy for urban environments. This initial investigation marks a step in connecting digital methodologies with ethnographic approaches, illustrating the significant role that deep mapping can play in humanities research. Through this approach, we gathered GPS data on research participants walking and engaged with them through interviews to capture their experiences and insights on the strand area. Overall, the findings indicate that deep mapping is a powerful tool that can facilitate a richer comprehension of complex urban landscapes, setting the stage for future research and practical applications in the field.

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