



Street Appeal

The value of street improvements
Summary Report

Report prepared by UCL as a commission
from Transport for London



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This study has been produced by a multi-disciplinary team led by Professor Matthew Carmona at the Bartlett School of Planning, University College London, as part of a commission by Transport for London (TfL).

The research team comprised Matthew Carmona, Tommaso Gabrieli, Robin Hickman, Terpsi Laopolou and Nicola Livingstone.

The full report can be found here: <http://www.sciencedirect.com/science/article/pii/S0305900617300636>



Investing in street appeal

Those cities that have failed to integrate the multi-functionality of streets tend to have lesser infrastructure development, lower productivity, a poorer quality of life ... social exclusion and generate inequalities in various spheres of life

UN-Habitat

(Streets as Public Spaces and Drivers of Urban Prosperity report 2013)

The quality of the street environment affects us all - whether we are walking to school, waiting at a bus stop, cycling to work, shopping, or even driving through a city. How streets handle the various, complex and often conflicting needs of users has a profound impact on our daily lives and wellbeing. At the same time streets are often highly constrained physically. This means that those responsible for managing streets need to make hard choices about which functions to prioritise and where.

These are choices that cities around the world are having to make. Increasingly cities are choosing to see streets as more than just corridors that facilitate the movement of traffic. Recognition of the vital 'place' function of streets reflects their role as environments within which we meet and socialise, where businesses are located, where we walk and cycle, and where the public life of the city thrives.

London has been investing in the quality of its street environment as part of a long-term strategy to secure a better balance between the 'movement' and 'place' based functions of streets. As with all changes to streets, space is limited and better provision for one street function may have knock-on impacts on others. More space for cyclists, for example, may mean less space for cars or pedestrians, or that their ability to move is in some way constrained by the new infrastructure, for example by re-positioning parking.

The re-design of the urban realm may also bring with it concerns from businesses or residents along the route. They may worry that parking, servicing and other amenities will be compromised, or that street improvements may lead to unintended impacts on the price of local housing. The danger is that these very real and tangible concerns can drown out consideration of less tangible and hard to measure benefits. Such benefits include more space to socialise and enjoy the environment, greater encouragement to walk, with associated health benefits, or the impacts on private investment in an area.

TfL itself has been on a journey in this regard, with recent innovations in street design reflecting a significant move from a network efficiency model of street management to a movement and place-based one. In this, streets are seen as places of complex social and economic exchange as well as channels for movement. This is a fundamental change in our understanding of the planning, design and use of streets, but the benefits and / or problems that flow from this still need to be better understood. It is these that the Street Appeal research attempts to understand.

The headline findings

The research found that improvements to the quality of the publically owned and managed areas of London's mixed streets, such as high streets and town centres, return substantial benefits to the everyday users of streets, and to the occupiers of space and investors in surrounding property in multiple ways:

- A one third uplift in the physical quality of the street as a whole from interventions in the publically owned street space.
- An uplift in office rental values equivalent to an 'additional' 4% per annum. This helps to support investment in business space in the face of pressures to convert to more profitable residential uses.
- A larger uplift in retail rental values equivalent to an 'additional' 7.5% per annum. This results from the more attractive retail environment that has been created and the encouragement this is giving to investment in these locations despite competition from on-line retail and 'out-of-town' shopping centres.
- A strongly related decline in retail vacancy leading to a sizable 17% per annum difference in vacancy rates between improved and unimproved street environments.
- A growth in leisure uses, and a greater resilience in the improved streets of traditional (AI) and comparison retail; all bucking the common trend of decline in such uses that is often seen elsewhere.
- An almost negligible impact on residential values, helping to counter concerns that street improvements, by themselves, will further inflate house prices and encourage gentrification.
- Inconsequential impacts, from the street improvements alone, on traffic flows or the modal choices made by individuals when travelling (unless road capacity is deliberately removed as part of an improvement scheme), but a reduction in serious or fatal accidents on those streets with higher pre-existing levels of collisions.
- A large 96% boost in static (e.g. standing, waiting, and sitting) and 93% boost in active (e.g. walking) street behaviours in improved over unimproved areas, with strong potential health benefits in the resulting more active lifestyles.
- A particularly large 216% hike in the sorts of leisure based static activities (e.g. stopping at a café or sitting at a bench) that only happen when the quality of the environment is sufficiently conducive to make people wish to stay.
- Very strong perceptions amongst both everyday street users and local property occupiers that street improvement schemes significantly enhance street character, walkability, ease of crossing, opportunities for sitting, and general street vibrancy.

Collectively the findings suggested a hierarchy of interventions to maximise the impact of future investment (Figure 1). The most important level of intervention, and the foundation for everything else, should involve improving the pedestrian experience by making adequate space for pedestrian movement and activity. Next comes the enhancement of social space, notably the creation of attractive and comfortable space for sitting, observing, socialising and so forth. Finally, and perhaps the most challenging to achieve, are interventions relating to the creation of environmentally unpolluted (from noise and air pollution) and more adaptable spaces. Adaptability, in this sense, refers to spaces that can be used in multiple ways with a good interplay between the public street and private ground floor frontages.

This research by UCL concludes that interventions should focus first on the lower levels of the hierarchy. Safety, ease, comfort and inclusiveness of pedestrian movement should come before enhancements to physical and / or social character of the street, or the pursuit of environmentally unpolluted and adaptable space. In terms of generating street appeal by enhancing the place qualities of streets, this is where most 'bang for the buck' will be achieved. Yet, as ultimately all these factors are intimately inter-linked, the most sophisticated improvement schemes will take a bolder multi-layered approach that tries to tackle all levels in the hierarchy. Thus more space for pedestrians and bicycles and less space (and slower speeds) for cars will open up the opportunity to deliver on the other factors that make for the highest quality street experience for all. The research suggested that improvement schemes delivered by TfL and London's boroughs are increasingly achieving this.

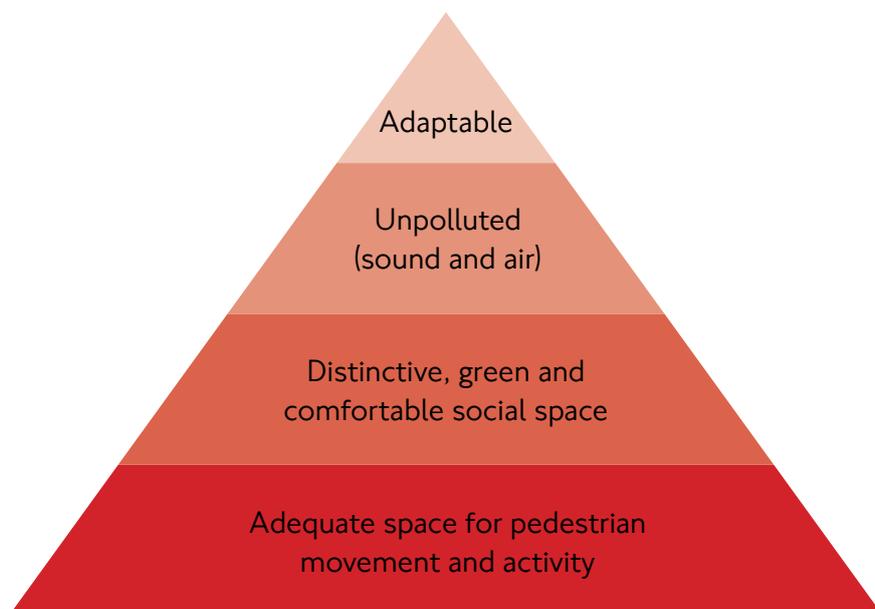


Figure 1: A hierarchy of interventions

Methodology and results

International evidence suggests that the more appealing streets are physically, the more likely they are to be locations where the social, economic and cultural life of the city will flourish. High quality street environments can help make residents healthier and even happier and more engaged with their local community too. In order to better understand these relationships in the context of London's streets, the research on which this summary report is based attempted to address the following question:

What is the 'value', in the widest sense, of place-based improvements in street design.

The Streets Appeal research aimed to gain a proper understanding of the impact of street improvement projects so that future investment in London's streets will be easier to make and justify. The research was conducted by a multi-disciplinary team led by Prof Matthew Carmona at UCL's Bartlett School of Planning and the full report can be found here:

www.sciencedirect.com/science/article/pii/S0305900617300636

Unfortunately, studies of this nature are fraught with practical and conceptual challenges. For instance, how to ascribe value to intangible qualities such as the well-being benefits of a more convivial walk to the shops, or the social benefits provided by a local café with external seating in a sunny spot. Whilst it is difficult to entirely overcome these sorts of difficulties, the aim must be to sufficiently overcome them in order to deliver reliable and testable results. First and foremost this requires a robust research methodology.

In an attempt to address head-on the multiple conceptual and practical challenges associated with this sort of research, a mixed

research methodology was adopted based on the comparison of five improved and five unimproved street environments. This was underpinned by a 'holistic' framework for analysis that avoided a fragmented or partial picture of street spaces and enabled a more rounded and nuanced understanding of value to emerge. The key features of the approach were:

I. Pairwise comparisons

Five locations that have benefited from street improvements were paired with comparable locations that have not yet been improved. The use of paired street environments allowed the impact of design interventions to be assessed while controlling, as far as possible, for extraneous factors, such as London-wide economic growth. The improved streets included cases from Inner and Outer London, in more and less prosperous parts of the city, as well as streets of varying accessibility and prominence as retail destinations. Their unimproved comparators were geographically close and, as far as possible, similar in physical, socio-economic and functional terms.

2. A holistic analytical framework

To overcome a key challenge encountered in previous value of design research studies, a holistic framework representing the key dimensions of streets was adopted (Figure 2). This extended the simple place / movement notion of streets into a four part framework in which 'place' was expanded to include built fabric, social/economic exchange and real estate.

3. Data selection, gathering and analysis

Data was selected and analysed with a focus on achieving an in-depth understanding of each dimension of the analytical framework (physical fabric, movement, exchange and real estate). This was done on both a case by case basis and across the paired locations, with the intention of understanding the consequence of investing (or not) in the street environment. A final task involved bringing the findings together from the constituent cases and across the various quantitative and qualitative data series in order to understand and compare locations.

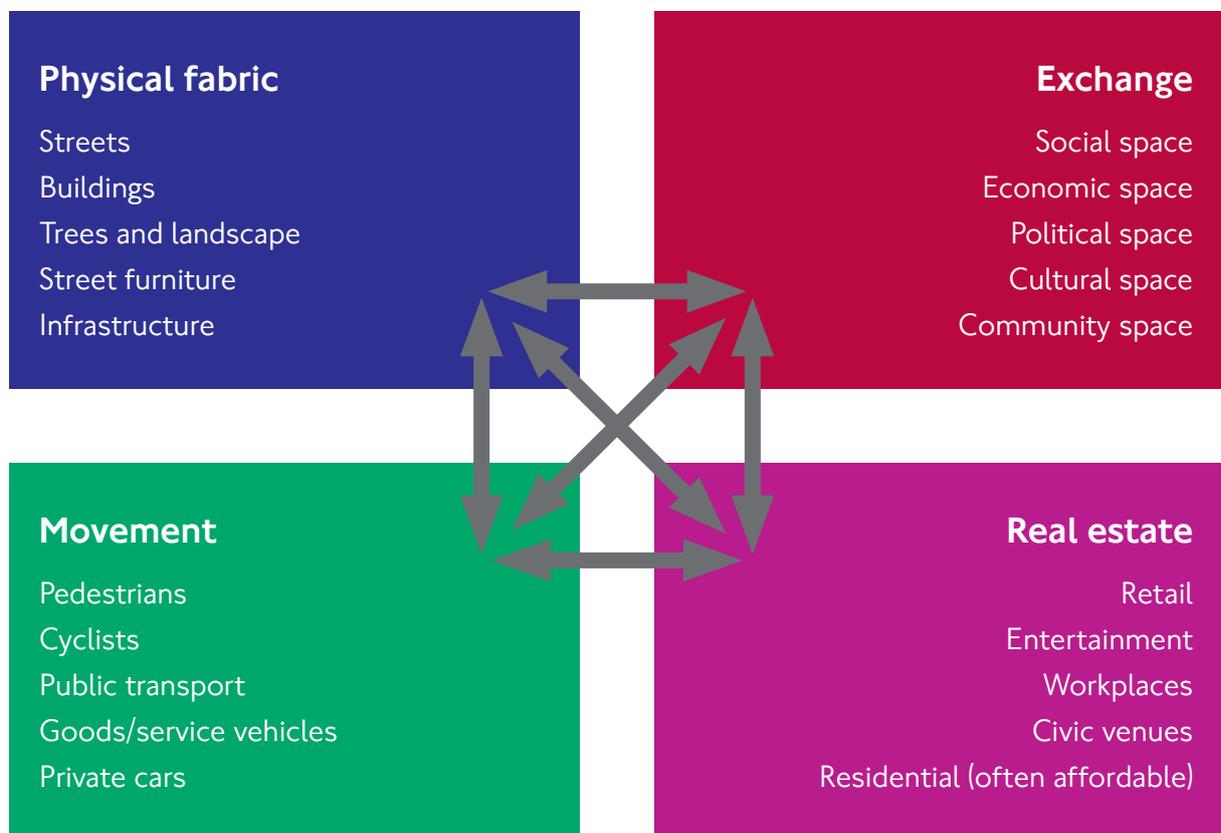


Figure 2: The four-part holistic framework for analysis

Ten mixed street environments

Five streets were chosen from the many TfL and borough schemes published in TfL's Better Streets Delivered series. Each had benefitted, since 2008, from improvement works that ranked as significant in TfL's own scale of street intervention. Investment typically involved recreating the public realm, rethinking traffic management, relocating and/or merging street functions, and generally tidying up and de-cluttering the street environment.

Initial shortlists of potential comparators for the improved schemes were compiled based on a range of GLA / TfL classification tools relating to London's street network (e.g. Town Centre hierarchy, PTAL and Street Types). The final pairs were decided after also taking into account socio-economic indicators at ward and borough scales (Figure 3).

Pairs	Borough	Improvement completion date
Bromley (North Village) (01)	Bromley	2014
Orpington (Town Centre) (01c)	Bromley	-
Hornchurch (Town Centre) (02)	Havering	2013
Upminster (Town Centre) (02c)	Havering	-
Clapham (Old Town/Venn Street) (03)	Lambeth	2011 (Venn Str.) / 2014 (Old Town)
Camberwell (Camberwell Green) (03c)	Southwark	-
Woolwich (Town Centre) (04)	Greenwich	2008-2012 for various sub-areas
Catford (Town Centre) (04c)	Lewisham	-
Walworth (Walworth Road) (05)	Southwark	2008
East Greenwich (Trafalgar Road) (05c)	Greenwich	-

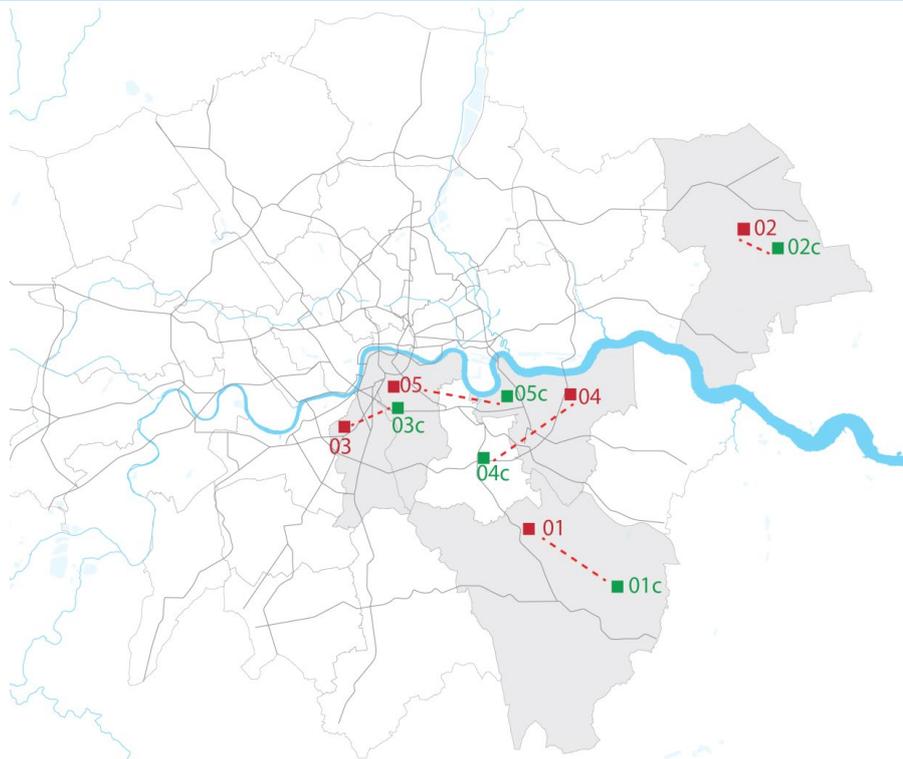


Figure 3: The improved street cases and their comparators

Bromley

As part of the Bromley Town Centre Area Action Plan, the improvement works in Bromley North Village aimed to create a more pedestrian-friendly leisure and shopping area and to better integrate the northern part of the High Street with the Market Square and an already pedestrianised part of the High Street leading to Bromley South. The scheme involved the re-routing of some local buses and the introduction of new paving, street furniture and improved pedestrian crossings in three main areas.

First, East Street was repaved as a shared street surface, for the most part without kerbs, and with a single-lane allowance for traffic. Bus routes were transferred out of the street to free up space and give local restaurants/cafes more opportunity for outdoor seating and new greening and lighting elements were introduced (Figure 4a). Second, the same paving design covered the whole of the Market Square area around the small core of buildings and was integrated into the pedestrian area of central High Street. The redesign of Market Square also included new trees, lighting and seating elements (Figure 4b). Finally, better links were created between Market Square and High Street North, by using the same paving materials to improve the pavements on High Street and to provide multiple new level crossings to Market Square. The continuity of materials, the removal of railings and the addition of new street furniture at the northern edges of Market Square all work to give pedestrians priority over traffic (Figure 4c).



Figure 4a, b, c: Bromley street improvements

Hornchurch

Hornchurch is a district centre in the borough of Havering, a suburban area with a street network largely oriented towards motor traffic. Guardrails line the side of all key junctions and the pedestrian space is often uninviting. Within this larger setting, the improvement works on the High Street focused on enhancing pedestrian accessibility and providing features to encourage more social uses of the space, beyond just passing through.

On the central part of the High Street, pavements were widened and traffic separated by a median strip with frequent raised crossings and distinctions in paving materials to provide implied priority to pedestrians throughout (Figure 5a & b). Traffic flows at a 20mph limit and cyclists are intended to use the full lane, as there is no separate cycle space (footways are kerbed except for at the crossings). The new street layout also features more trees, lighting and a range of street furniture (benches, bins etc.) with a consistent design across the High Street. These elements extend beyond the central part into the surrounding pavements, with the street furniture clustered mostly around bus stops and the new paving material gradually introduced onto the pre-existing road layout at the edges (Figure 5c).



Figure 5a, b, c: Hornchurch street improvements

Clapham

The first intervention around the area of Clapham Old Town was the repaving of Venn Street into a level shared surface, with increased footway space while retaining limited car access and parking spaces (Figure 6a). The scheme included a shared maintenance agreement with businesses on the street who contribute largely through the renting of outdoor space. The works on Venn Street were completed in 2011 and received positive feedback from locals, prompting the launch of a wider plan for Clapham Old Town aimed at improving the connectivity and overall quality of the public realm.

The core of a second phase of improvements was around The Pavement where a cluster of bus stands previously occupied the majority of the space and vehicles generally dominated the public realm. The scheme limited the bus stands and removed the pre-existing gyratory, opening up a small new square. This space was designed with a range of greening and seating elements and was linked to the surrounding pedestrian network via improved crossings (Figure 6b & c). The paths connecting the Old Town to Clapham Common and the High Street were also improved with widened pavements, new cycling provisions and renewed paving (Figure 6d).



Figure 6a, b, c, d: Clapham street improvements

Woolwich

The regeneration of Woolwich Town Centre consisted of various interconnected sub-areas at the core of which was the design of General Gordon Square into a terraced park and the repaving of the market area in the adjacent Beresford Square into a large, pedestrian-only space (Figure 7a). The latter hosts street market stalls that extend south along Greens End, while General Gordon Square acts as the local centre and often hosts events and screenings (on the BBC Big Screen placed at the edge of the square) (Figure 7b).

Alongside, and to enable these projects, works were undertaken in the surrounding roads (Woolwich New Road, Plumstead Road, Thomas Street, Wellington Street) to re-arrange bus circulation and improve pedestrian connectivity, especially around the DLR station. Bus stops were clustered together at the south and east sides of General Gordon Square, along Thomas Street and Woolwich New Road (Figure 7c), and the pedestrian space at Woolwich New Road / Plumstead Road was widened and fitted with new seating arrangements and street furniture (Figure 7d).



Figure 7a, b, c, d: Woolwich street improvements

Walworth

Walworth Road is a busy traffic corridor running south from Elephant & Castle towards Camberwell. It used to be laid out as a wide dual carriageway with separate bus lanes along almost its entire length. It is also an important local high street with a range of businesses and a street market along East Street. Pedestrians were, for a long time, squeezed into narrow pavements at either side of the road and constrained by railings at all crossings. The road was generally congested and had high accident rates; many involving pedestrians and cyclists.

The redesign to address these problems aimed to improve the safety and comfort of pedestrian paths, while retaining the road's ability to accommodate the necessary volume of traffic. The traffic lanes were reduced in width and the bus lanes were removed, leaving only 'bus gates' at either end of the road (Figure 8a). This allowed the pavements to be significantly widened and opened up space for street furniture, as well as for dedicated loading bays and limited parking (Figure 8b). Attention was paid to the design of details such as kerb heights, paving materials and crossing islands along the length of the road, with slight differentiations to indicate changes in priority. The central part around the junction with East Street is now the most pedestrian-friendly, with more frequent and convenient crossings and more provision for seating (Figure 8c). Towards the edges of the intervention area priority is gradually returned to motor traffic.



Figure 8a, b, c: Walworth street improvements

The comparators

For each improved street environment, a suitable location was chosen to act as the comparator. Initial shortlists of potential comparators were compiled based on the position of likely projects in the Greater London Authority (GLA) Town Centre Hierarchy (reflecting their importance as a retail / services location); their Public Transport Accessibility Level (PTAL) score (reflecting accessibility to public transport); and the TfL Street Type (reflecting a pre-existing assessment of the movement and place functions of each street). The final pairs were decided after also taking into account socio-economic indicators at ward and borough scales, and initial testing with CoStar™ data to determine market comparability.

The pattern (or grain) of the ten streets environments are compared in Figure 9. This shows that:

- Bromley was compared with Orpington, an area focussed on the High Street which features a range of earlier, less comprehensive, street improvements (Figure 9a)
- Hornchurch was compared with Upminster focussed on Station Road (Figure 9b)
- Clapham was compared with Camberwell, the streets adjacent to Camberwell Green (Figure 9c)
- Woolwich was compared with Catford, the town centre adjacent to the Catford gyratory (Figure 9d)
- Walworth was compared with East Greenwich, focussed on Trafalgar Road (Figure 9e)



Figure 9a, b, c, d, e: The grain of the improved street environments and their comparators (Crown copyright and database rights 2016 Ordnance Survey Digimap Licence)

The comparators for the Outer London cases (Bromley and Hornchurch) were located within the same borough, while for the three Inner London cases, comparators were sought in neighbouring boroughs and in locations with similar positions in their wider area networks. The selection had less to do with physical proximity but instead with an effort to match the pairs in as many other ways as possible (Figure 10a, b, c, d, e).



Figure 10a, b, c, d, e: The comparators, Orpington (a), Upminster (b), Camberwell (c), Catford (d), and East Greenwich (e)



Physical Fabric

Using the Healthy Streets Check for Designers as a starting point, a place quality checklist was developed to assess the quality of the physical fabric in the five improved streets and their comparators. The checklist was structured against ten themes, each of which was scored in the field using a series of defined indicators and scoring parameters. The result for each location was a chart representing how well the street scored across each of the themes (Figure 12).

Analysis of the physical fabric demonstrated that not all street improvements impact equally on place quality. Despite this, each of the improved schemes scored substantially better than their unimproved comparators and this typically occurred across all or almost all of the ten themes. If converted to percentages, the street improvements delivered, on average, a 31% increase in the quality of the street environment when compared to the unimproved locations.

Drilling down further, the four best performing streets exhibited a similar pattern, scoring high in two groups of the most closely interrelated factors. First, in the area of ease of crossing, and

safety, comfort and inclusiveness of movement; and second, in the area of place character, resting opportunities and activity. By contrast, significantly different degrees of environmental quality and shade and shelter provision were achieved across the streets.

The environmental quality scores were heavily informed by the presence of air and noise pollution, factors that the public realm interventions, in isolation, could not solve. The failures to fully provide good shade and shelter suggests that this area, which relates to factors such as the integration of green elements or the interplay between the public street and private ground floor frontages, is less developed as an aspiration and harder to deliver than, for example, issues relating to crossings or street furniture. Adaptability is also often relatively poorly handled. The creation of spaces that are flexible in use and which can easily accommodate potential alterations can be difficult to achieve given the physical constraints of London's historic streets.

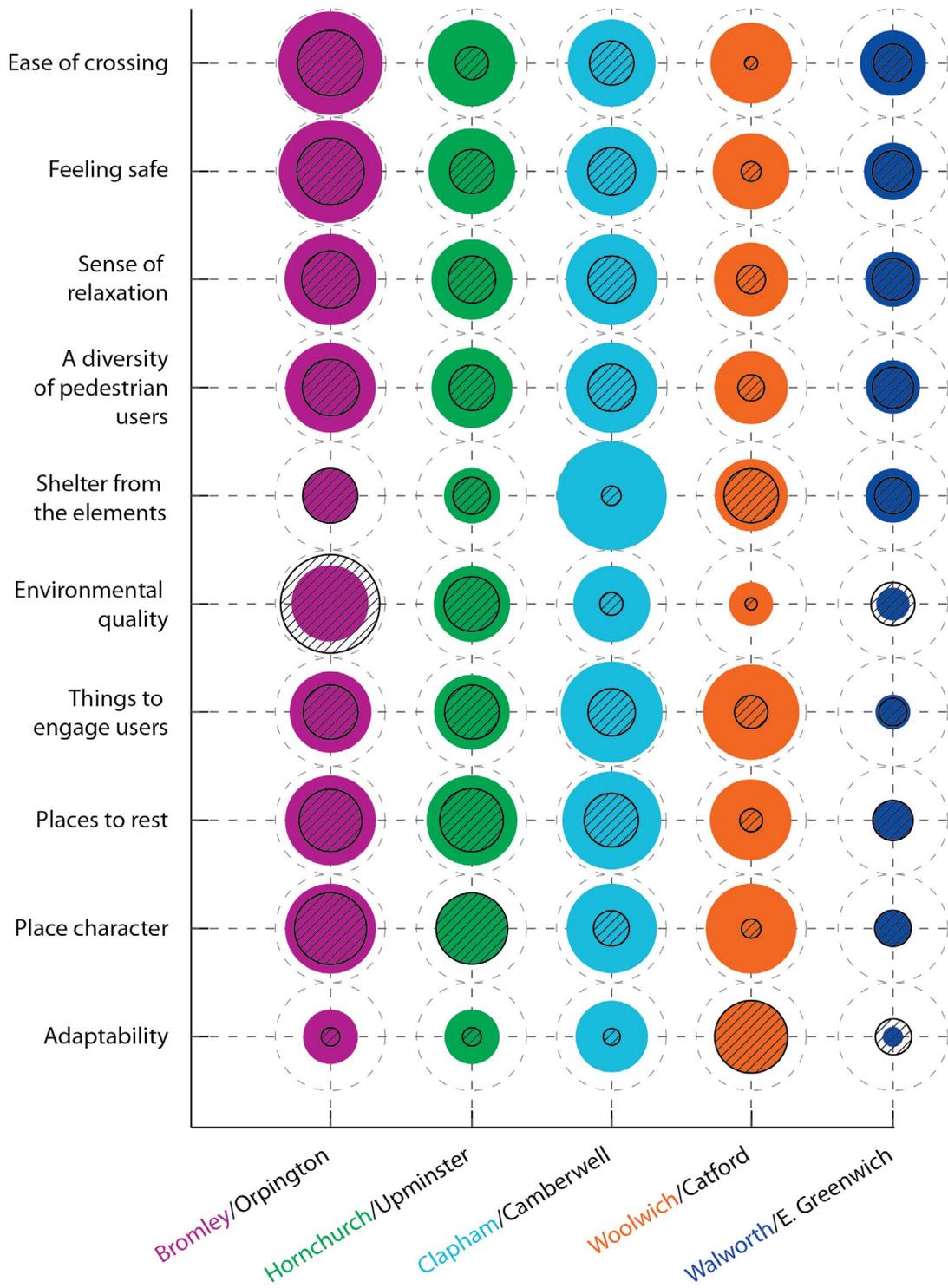


Figure 12: Street intervention cases compared

Real estate

Three real estate sectors were analysed in an attempt to achieve a comprehensive view of the property impact of street improvements. Each was assessed across three scales: at the level of the intervention only, at a larger mid area (including surrounding streets), and at the scale of the entire postcode.

The office market was analysed using rental values data from the CoStar™ data suite; the Land Registry House Price Index was used to measure the impact of the street improvements on the residential sector; whilst the retail sector was analysed using rental and vacancy data from the CoStar™ data suite supplemented with GOAD/Experian occupancy data. The latter offered a greater degree of granular detail in each case as regards shifts in the retail market and the resulting sub-classes of retail occupation. Data was examined for a six year period up until December 2016 for the more recent interventions and over a longer period (up to eleven years) for earlier interventions.

Office

In the office market (Figure 13) street improvements were strongly associated with growth in rents which trickle outwards from the immediate areas of intervention to surrounding streets. When the figures across the different cases were aggregated, office rents in the areas with improved street environments rose by 6.5% per annum over the study period. This reduced slightly when the wider (mid) areas were considered, although is still very significant with a 5% aggregate uplift. Whilst there will be other factors at play, often far more powerful than the street improvements themselves (e.g. the impact of the general economy or factors relating to the supply of space locally), this latter figure represents a 4% per annum increase in rental values in improved areas over and above that achieved in the unimproved comparator locations.

Residential

The story in the residential real estate sector was quite different (Figure 14). In this sector street improvements affected the market in a positive (upwards) direction, but that impact was small and much smaller than impacts caused by other factors such as general swings in the market, or investments in new transport infrastructure in an area. The research revealed a boost relating to the street improvements (over and above that caused by other factors) of just 0.25% per annum. It seems that public realm works affect residential prices, but only marginally and not to the extent that would impact on affordability or any of the sometimes negative associations with gentrification that are linked to public realm investments.

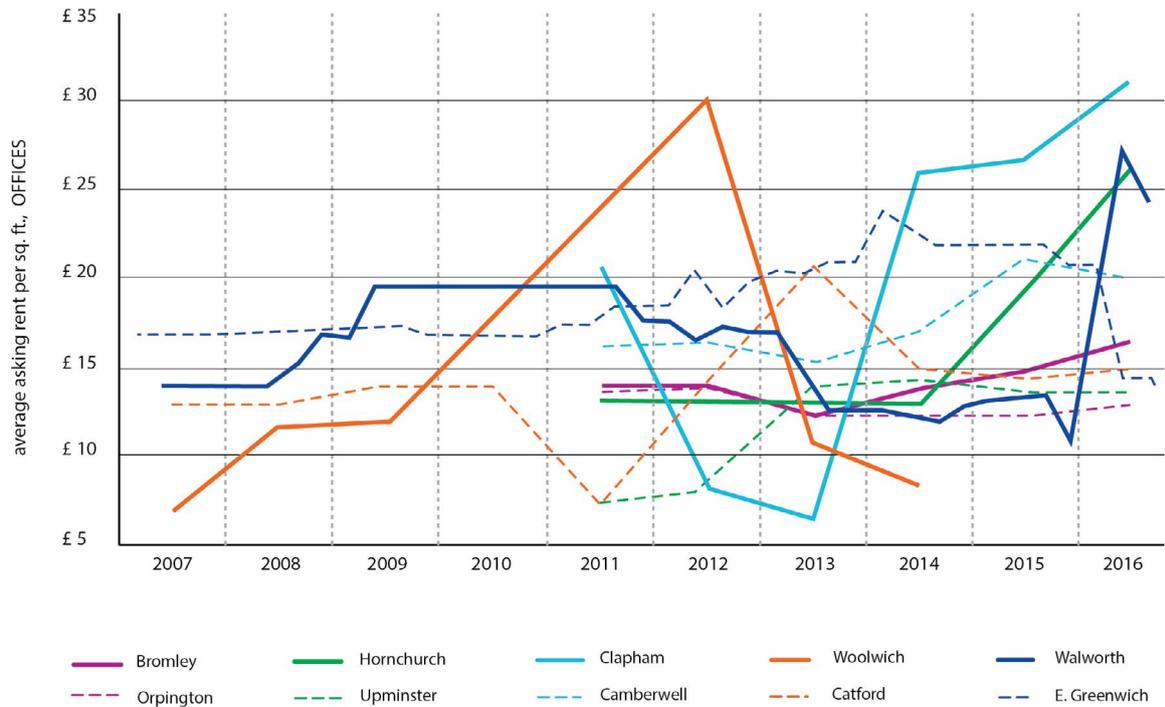


Figure 13: Ten office markets compared

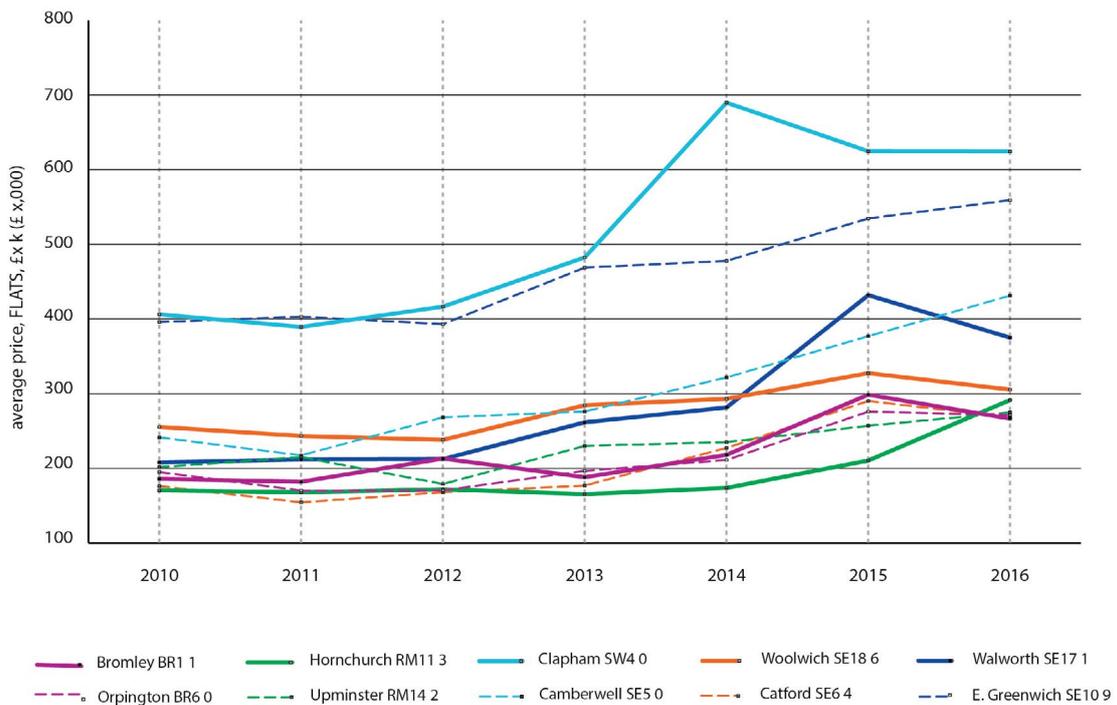


Figure 14: Ten residential markets compared

Retail

Turning to the retail sector, the impact of street improvements could be traced in changes to rental values (upwards) (Figure 15), levels of vacancy (downwards) (Figure 16), and in the greater resilience of under pressure retail formats, notably AI and comparison shopping. This suggests a desire amongst retailers to occupy retail space which is more attractive by virtue of its street location, and that this is feeding into higher levels of profitability. The impact was significant both in improved streets themselves and in surrounding streets with a discernable uplift in rental values across all of the case studies. Over the period of analysis, streets that had benefitted from improvements delivered a rental uplift of 7% per annum,

reducing to 5.5% when the wider (mid) areas were considered. By way of contrast, aggregate results from the mid area comparator locations showed a 2% per annum average decline in rental values; or a difference of 7.5% between improved and unimproved locations.

The retail vacancy data was equally compelling. Over the course of the study, intervention areas saw a 7% per annum fall in vacancy rates with a 2.5% fall in the larger mid areas that included surrounding streets. This compares to an average 14.5% per annum increase in vacancy rates in the mid areas of the unimproved comparator locations; or a huge difference in vacancy rates of some 17% between improved and unimproved locations.

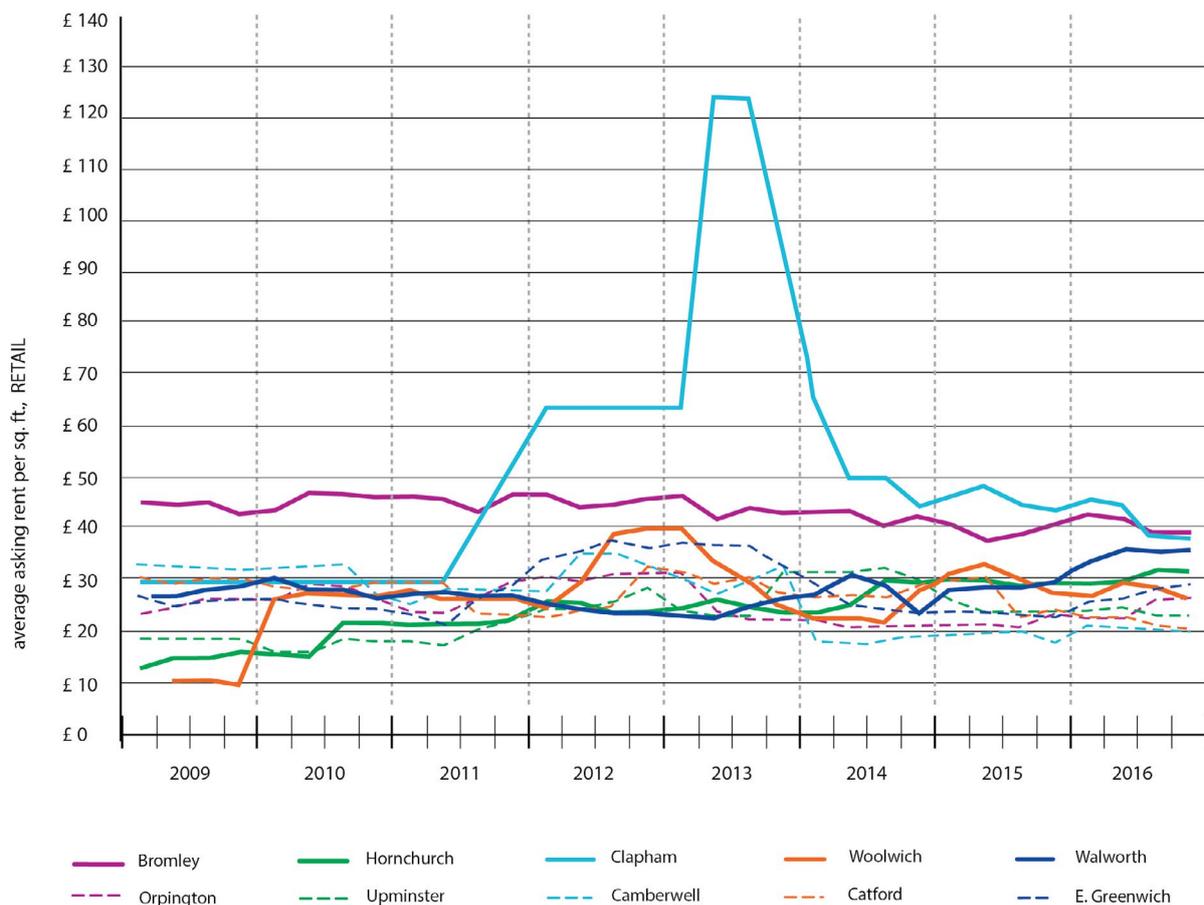


Figure 15: Ten retail markets compared

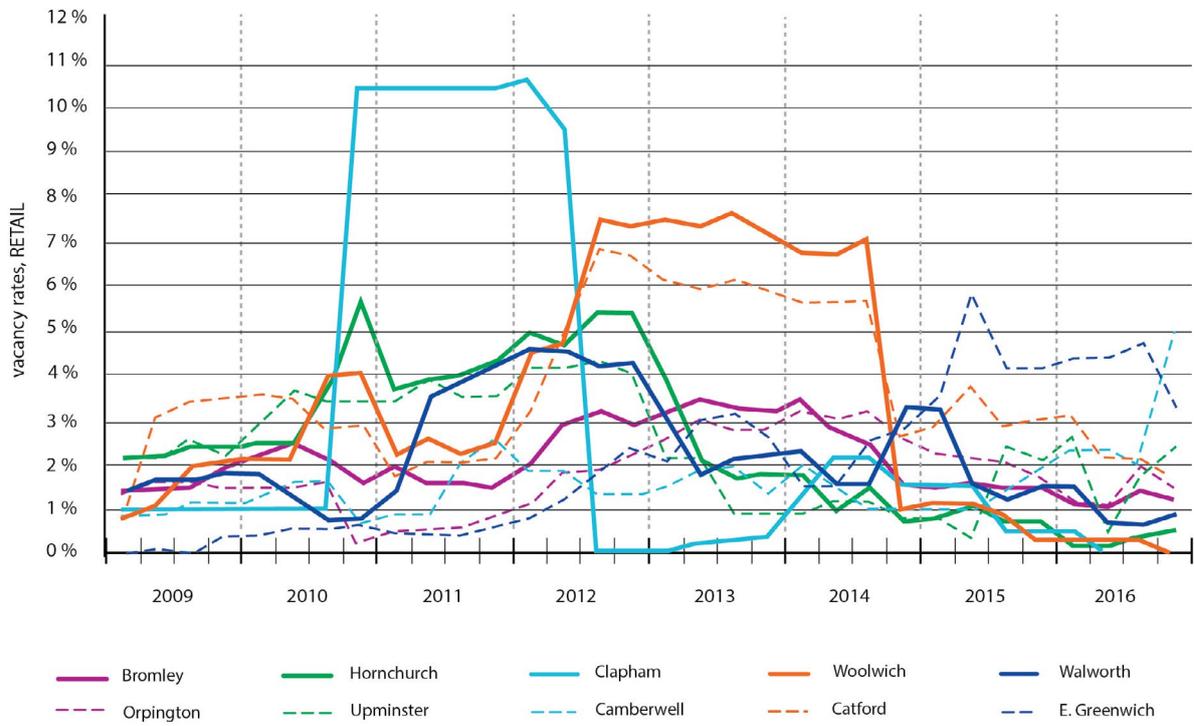


Figure 16: Retail vacancy compared

Movement

Three forms of analysis attempted to assesses the impact of the street improvements against their comparator areas in relation to how movement behaviours have changed. Static traffic counts were assessed, drawing on the available Department for Transport (DfT) National Road Traffic Census (NRTC) data, supplemented with data from TfL's own ad-hoc traffic counts. This data was not ideal as count sites were often poorly matched to the intervention areas and focussed largely on vehicle movements (including cycling), and only rarely included pedestrian movement. Consequently Street Life Analysis was also undertaken to give a more bespoke picture of pavement-based movement in each of the study locations. These techniques involve

observing and recording the behaviour of people in public spaces (e.g. how many people, where are they, what are they doing, etc.) (Figure 17). Observations were then converted into combined activity counts for comparative purposes. This provides a valuable indicator of the differences in levels and types of activity generated by the street improvements against their unimproved comparators. Levels of traffic accidents on improved streets were also analysed both before and after the interventions using readily available data from TfL's London Collision Map.

Traffic analysis

Whilst the traffic data was inconsistent, partial and often individually inconclusive, collectively across the improvement cases it revealed a very clear story. By itself, and without associated reductions in road capacity (removing traffic lanes), street improvements do not seem to impact on traffic flows or modes of travel. Some limited evidence was found of rising levels of walking, and particularly cycling, in the improved streets, but the limitations of the

data meant that this could not be tied directly to the street improvements. In the streets with higher pre-existing levels of collisions (prior to the interventions), evidence was also found of a reduction in levels of serious or fatal accidents in the improved streets, equivalent to a reduction of two accidents per year in the two cases concerned.

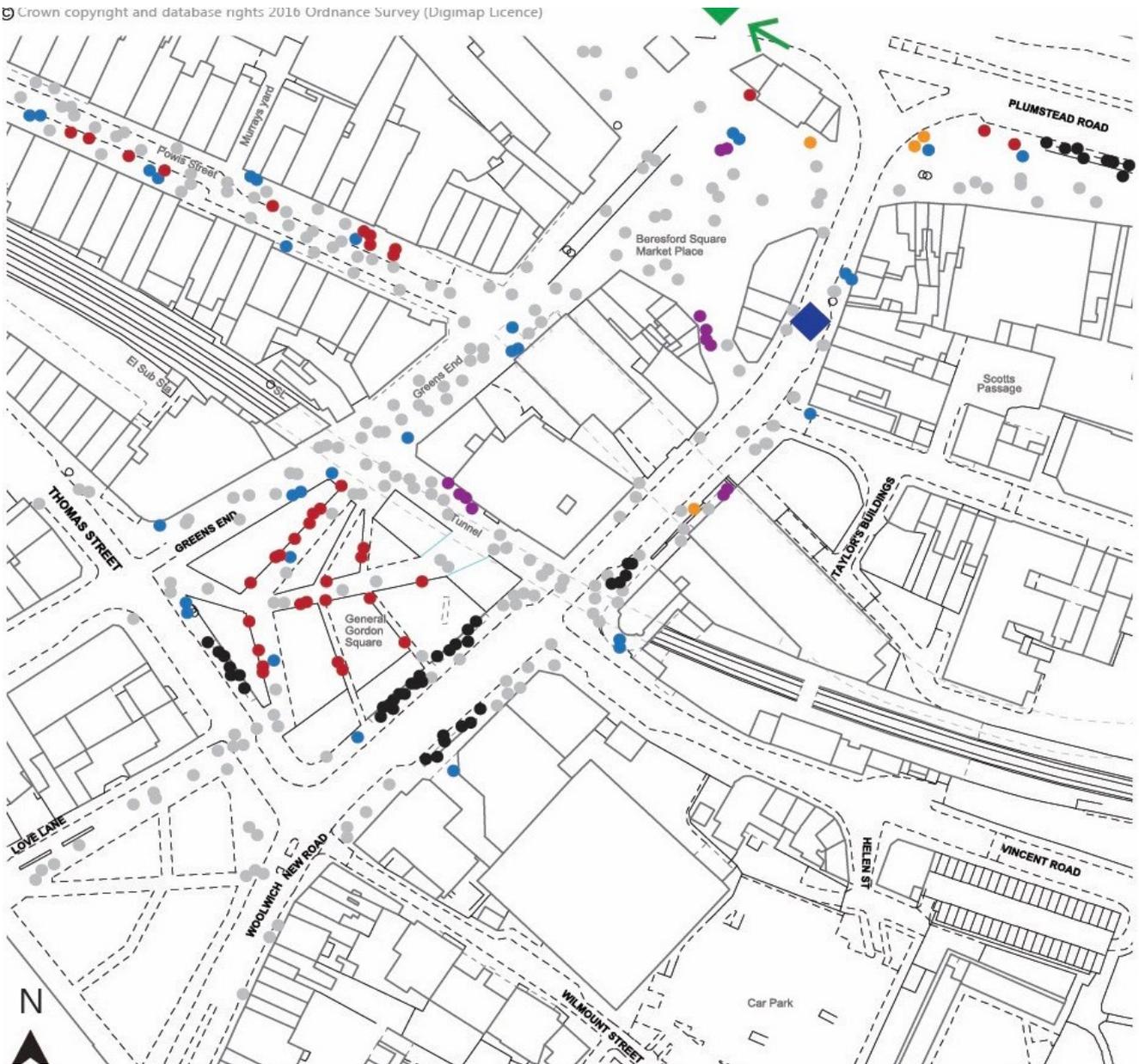


Figure 17: Example of street life analysis

Legend

- Walking
- Standing
- Waiting at bus stop
- Formal sitting (benches etc.)
- Informal sitting (ledges etc.)
- Cafe etc. sitting

count sites

- ◆ DfT NRTC site (AADF)
- ◆ TfL ad hoc count (various)
- ↑ count site outside of observation area

Street activity

The evidence on street activity was far more conclusive. Without exception the cases with street improvements far outstripped their comparators in terms of the range of static and active street behaviours that they hosted (Figure 18): in aggregate a 94% difference between the improved and unimproved cases. This is a difference that is highly significant and, given the other similarities between the paired cases, is very strongly associated with the street improvements.

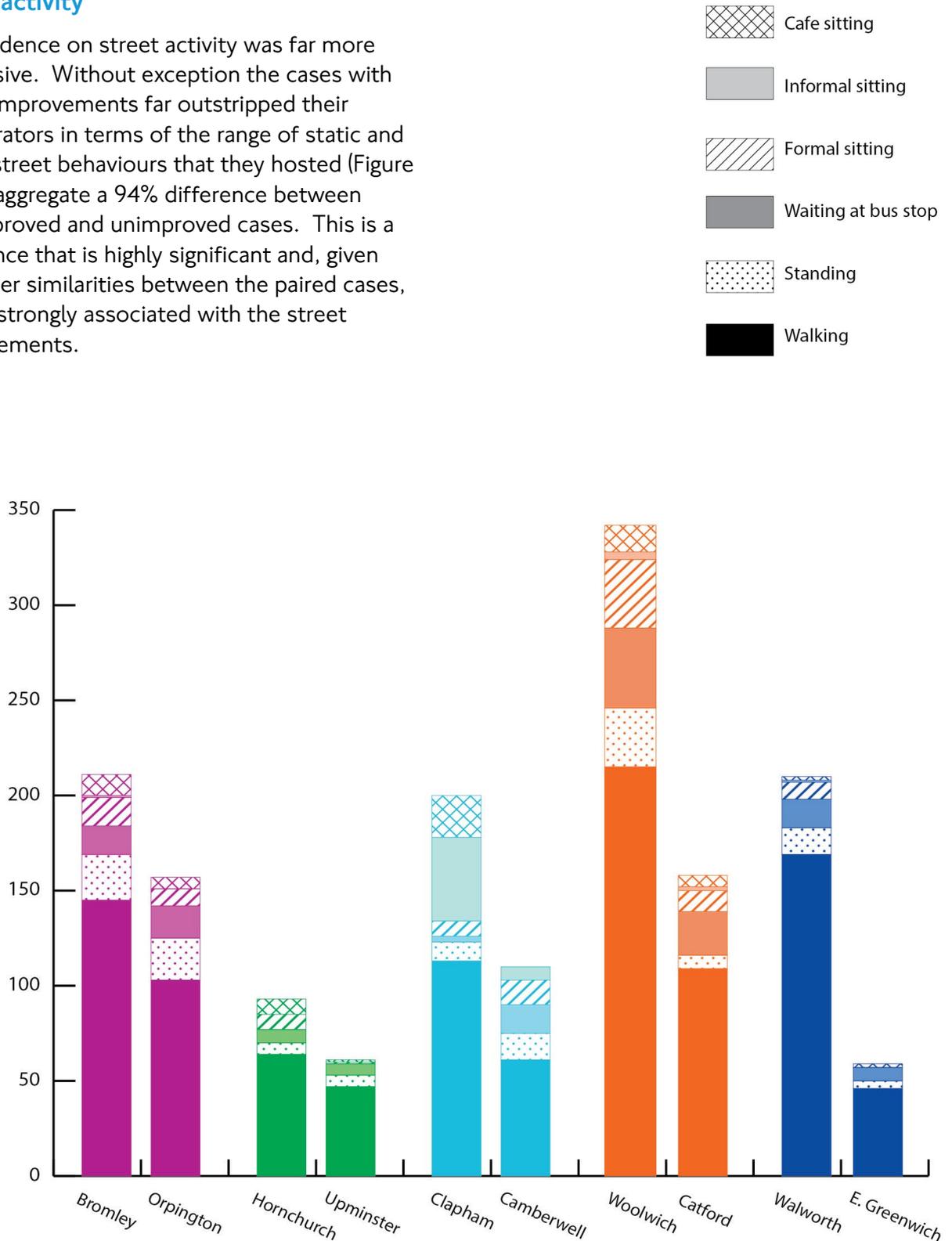


Figure 18: Street behaviours compared

Breaking it down further (Figure 19), the analysis demonstrated a 93% uplift in walking in the improved cases over and above the levels seen in the unimproved localities; a factor likely to deliver significant potential health benefits locally. Also a 96% uplift in static activities such as standing, waiting, and sitting of all types; and a huge 216% increase in the incidence of leisure activities such as relaxing on a bench or stopping at a café. These latter types of activity are particularly sensitive to the quality of the built environment and are therefore a strong indicator of place quality.

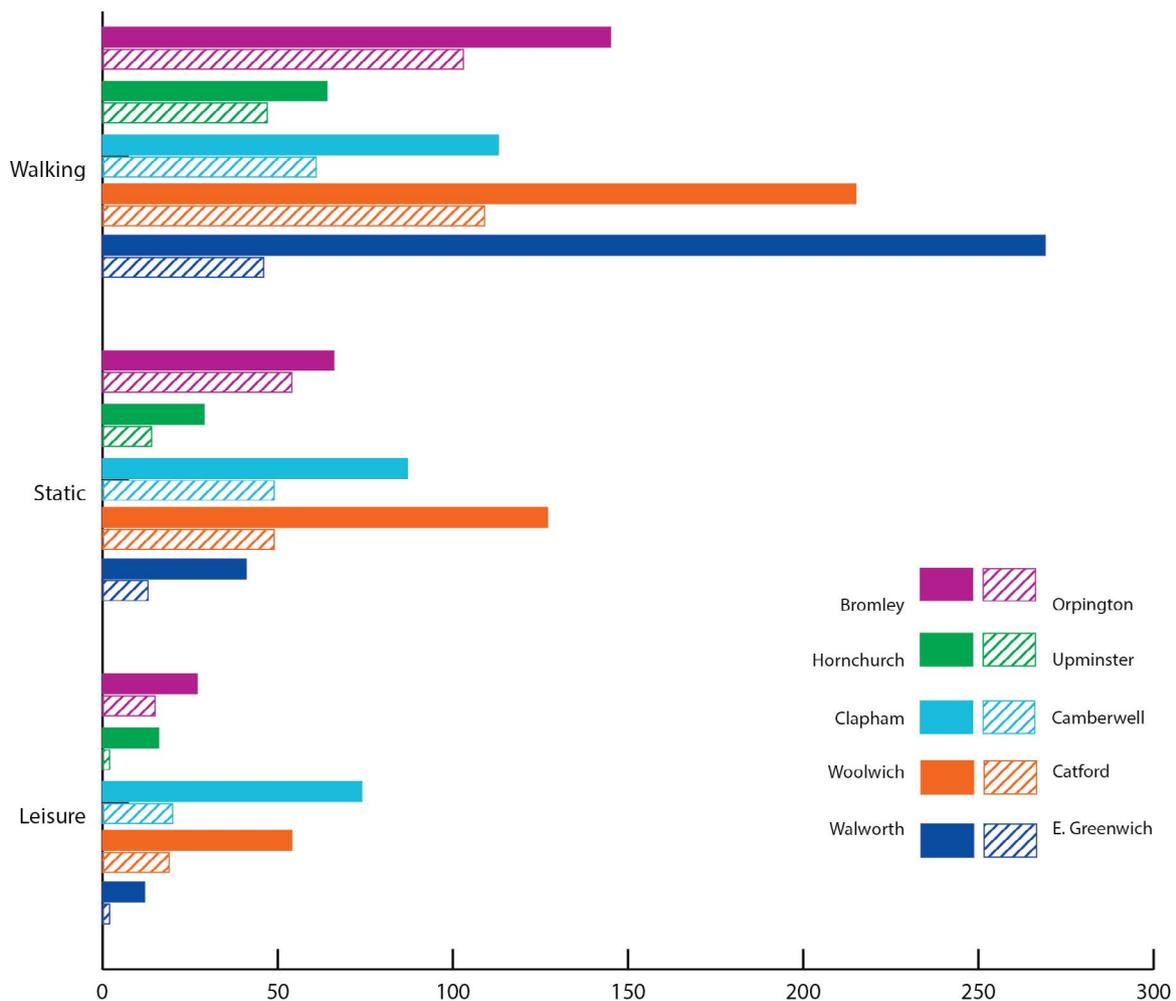


Figure 19: Walking, static and leisure activities compared

Exchange

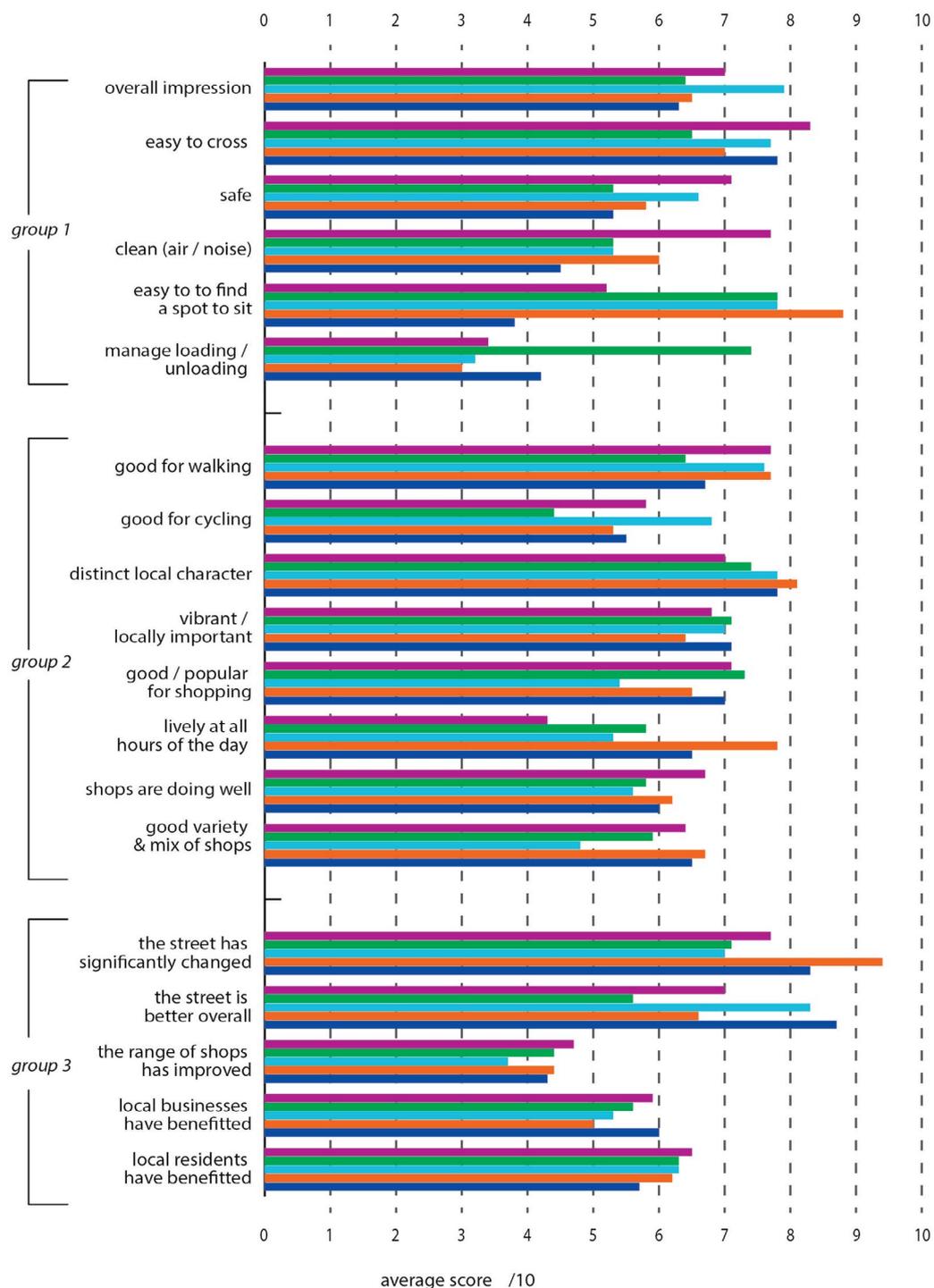
A critical component of street life is how streets are used as public venues for exchange: social exchange, economic exchange, even political and cultural exchange. To get a true understanding of this it is necessary to speak with the everyday users of streets.

Twelve interviews were conducted in each of the improved cases (60 in total). These were split between street users and occupiers (owners / managers or employees of local businesses) with a questionnaire modified for each of these two groups. No interviews were conducted in the comparator cases as the objective of this part of the study was to get perceptions specifically of the street improvements and their impact. Interviewees were asked to rate particular qualities of the space or to make statements about the space on a 1-10 scale. Answers were later aggregated to give an overall assessment (Figure 20).

Across the cases, respondents felt strongly (scoring 7.2/10) that the various street

interventions had led to noticeable and tangible changes for the better; notably improved street character, walkability, ease of crossing, good seating and enhanced vibrancy. Whilst this did not always manifest itself in a better range and quality of shops, improvements to the public realm were perceived to bring positive benefits for users and occupiers, and for the area at large. Conversely, issues that remained a concern in most of the streets included levels of congestion and facilities for loading and unloading.

For interviewees the degree of change seemed to be particularly important, and perhaps more important than the absolute level of quality as experienced. Thus areas that have journeyed from a very low base were scored better than those that have improved, but from an already higher base quality. In this respect dealing with (aka reducing) the fundamental traffic problems impacting on streets seemed to be more important than some of the more intangible factors associated with the street re-designs.



group 1: Rate the street environment on these qualities, on a scale of 1-10

group 2: To what extent do you agree that this street is / has ... (1-10)

group 3: To what extent do you agree that, since the intervention ... (1-10)



Figure 20: Aggregated user and occupier impressions

The potential costs of street improvements

The research findings fit squarely within a now overwhelming body of evidence from a large volume of allied studies (analysed during the course of the research) that consistently demonstrate tangible links between higher place/design quality and, in different ways, the value added to users. One aspect that has been little studied, but is often raised in discussions about such studies, is whether there are also costs associated with better design.

Clearly, there are costs to implement street improvement schemes of all types, and these will vary depending on the extent both of the intervention and how transformative it seeks to be. The cases varied from approaching £6 million in Woolwich to £2.5 million in Hornchurch. In this respect, whilst the current study did not seek to compare impacts against the costs of implementation, it was very clear that earlier schemes with a less transformative impact on their street environments, generally scored less well on all aspects of value added. Thus the more fundamental place-based strategies that are now being implemented by TfL and London's boroughs are delivering more for the streets, communities and businesses effected. It is strongly recommended, however, that TfL consider their approaches to monitoring these sorts of impacts, ideally through the systematic adoption of longitudinal (before and after) analysis in order to build a body of evidence about which sorts of interventions deliver most benefit, where, for whom, and how.

One fear that is commonly expressed in discussions around whether or not to invest in public realm schemes is that improvements to the built environment will stoke up gentrification pressures and lead to irrevocable social changes in the affected communities. In this respect the research revealed some interesting findings.

During the period under investigation huge price appreciation had occurred in the residential market across London. By contrast, the street improvement works seemed to have only an extremely minor impact on prices (0.25% per annum) and only in the area immediately adjacent to the improvements. Beyond that, no impact was detected. Given an average house price increase across the capital of around 7% per annum since the financial crash, this suggests that street improvements do not, by themselves, have a major impact on either house prices or economically driven gentrification.

The story in relation to office and retail property was quite different. In these two markets the street improvements had a direct and significant impact on raising rental levels and (in the case of retail) on reducing vacancy. Whilst, on the face it, rising rental levels in any sector may not seem to be to anyone's advantage (except property investors), it does provide a clear 'market signal' that street improvements are something that retail and office space occupiers are willing to pay for through their rents in the expectation that it will help to deliver higher profitability. It may also provide a ready means to counter other recent trends that have been undermining traditional mixed streets in London. These include the tendency to convert viable office / business space to more profitable residential uses, and the pressures the retail sector faces by way of the relentless rise of on-line shopping. If street improvements can, once again, make traditional high street locations more investable and viable, then rental hikes may be a necessary price to pay.

Final reflections

During the research a wide range of analyses were undertaken relating to the five improved streets and their comparators. If time and resources had allowed, any one part of the analysis might have been more rigorous and in-depth and all evidence is open to differential interpretation. Collectively, however, across the ten cases and across the holistic range of data sources interrogated, a range of robust and convincing findings were revealed.

These, as summarised in the Headlines already set out, suggest that improvements to the quality of the publically owned and managed street fabric return substantial benefits to the everyday users of streets, and to the occupiers of and investors in neighbouring property in multiple ways. Consequently they return significant value to London as a whole.

This study takes its place within a growing body of evidence focusing on how better place quality adds value to health, social, economic and environmental outcomes.

The author of this report has brought together and shared this evidence at www.place-value-wiki.net.