

Inclusive Streets

What can we learn from Oxford Street?

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Abstract

There has been a longstanding desire to transform Oxford Street into a pedestrian friendly environment. It was hoped that the pedestrianised space would encourage greater levels of walking, cycling and public transport use. This would also help to address on-going pedestrian crowding, air quality, noise, and road safety issues in the Oxford Street district.

However, the proposed transformation impacts the area's accessibility, particularly for people who experience mobility or other (cognitive and sensory) impairments, and influences people's ability to visit and enjoy Oxford Street. The needs of older and disabled people are often overlooked when the aim is to improve the quality of the built environment. Some measures thought to improve urban space for everyone (e.g. schemes that are often referred to as 'shared space') can marginalise specific groups of disabled people.

This paper shares key lessons about inclusive urban design and highlights the challenge of creating urban spaces that meet everyone's needs. It will disseminate good practice on defining key principles early in the scheme design including aspects such as road space delineation, types of seating and placement, provision of public conveniences, wayfinding and connectivity from arrival/departure transport nodes.

The findings offer recommendations for future inclusive street design and will be of interest to public space transformation project managers, urban planners and inclusive mobility research.

1. Introduction

In 2017 the Mayor of London, Sadiq Khan, published a draft transport strategy setting out policies and proposals to reshape transport in London over the next 25 years. The strategy puts people's health and wellbeing at the heart of planning the city's transport. The key conclusion was that it is essential for London's residents, workers and visitors to walk, cycle and use public transport more to improve their health, environment and keep London moving.

This presented an opportunity to address identified long-standing pedestrian crowding, air quality, noise, and road safety issues in the Oxford Street district. The introduction of the Elizabeth line (Crossrail), which was intended to open in late 2018 (now expected to open 2020/21), provides a greater opportunity to tackle these challenges while turning the district into the world's best outdoor shopping experience and an unrivalled place to live, work and visit.

Oxford Street is a key Westminster destination found in London's West End, which runs from Marble Arch to Tottenham Court Road via Oxford Circus. It is Europe's busiest shopping street, with around 3.5 million visitors each week and represents a landmark location that is famed for its department stores and Christmas lights.

The proposed transformation impacts the area's accessibility particularly for people who experience mobility or other (cognitive and sensory) impairments, affecting their ability to visit and enjoy Oxford Street. The needs of older and disabled people are often overlooked when the aim is to improve the quality of public space. Some improvement measures thought to improve urban space for everyone (e.g. shared space) marginalise specific disabled groups.

Our team provided inclusive design advice to TfL (Transport for London) and WCC (Westminster City Council) to ensure that the proposed transformation for the Oxford Street District complied with the Equality Act (2010). Balancing the needs of all users was challenging, and some key lessons - specifically around accessibility and inclusive design considerations - are set out in the following sections of this paper.

Although detailed work on the scheme by TfL was halted in summer 2018¹, when Westminster City Council² withdrew support from the scheme and elected to develop district-wide proposals, the lessons we learned will be relevant to future Oxford Street proposals, and similar schemes elsewhere, to the benefit all potential users.

¹ <https://www.bbc.co.uk/news/uk-england-london-44405730>

² <https://www.westminster.gov.uk/announcement-regarding-future-oxford-street>

2. Understanding who uses the space and how might that change?

'Where will people and vehicles go if Oxford Street's pedestrianised 24/7?' was a key local concern. Understandable when you consider that currently, even when the main department stores are closed, Oxford Street is busy with people passing through, heading to Tube stations or waiting for buses. It does not take long to notice that relatively few people evidently experience some form of mobility impairment or disability. Talking with disabled and older people's representative groups revealed that Oxford Street was perceived as hard to get to, too crowded, difficult to navigate, and very challenging to get around (*Figure 1-1*).

Figure 1-1: Oxford Street was perceived as hard to get to, too crowded and difficult to navigate by less mobile groups



While it's hard to predict the impacts of major public space transformation projects, evidence from New York, Paris and Mexico City often focuses on two outcomes. One is the empirical reduction in total vehicle trips, as some people switch travel modes. The second is the subjective sense of reclaimed roads yielding more vibrant public spaces that unlock new opportunities for leisure and recreation.

What is often overlooked in the analysis is who comes to use these places before and after they are transformed. Discussions with older and disabled people who experience different kinds of impairments that affect their mobility highlighted their aspiration for Oxford Street to become a more accessible and accommodating London attraction post-transformation.

Plan alternative forms of access, for everyone

Maintaining accessibility for the 12,000 people each day that use buses to make short-hop trips along the 820m stretch from Oxford Circus to Selfridges was a challenge specific to Oxford Street (*Figure 2-1*). While blind and partially sighted people's groups welcomed

complete traffic removal, as it reduced a significant mobility risk they encounter, many wheelchair users and people with walking impairments were understandably concerned about how they would access destinations given the distances.

Figure 2-1: Maintaining accessibility for the 12,000 people each day that use buses to make short-hop trips along the 820m stretch from Oxford Circus to Selfridges was a challenge



Developing alternative mobility service options was complicated by the need for Hostile Vehicle Mitigation (HVM) at points of entry. It was concluded that any such service would either need to run on parallel streets, regularly crossing Oxford Street to provide access to department store/rail station side-entrances, or travel along Oxford Street itself. The latter required HVM to be more widely-spaced than is desirable, or able to raise and lower - which is more expensive and operationally demanding. Either way the most appropriate vehicle was considered to be a fully accessible, electrically-powered, small form-factor bus staffed by a driver who could be on-hand to assist passengers, as needed.

Neither option was universally popular, but either could have been trialled to scope demand while works were underway. It was recommended that the service was available for everyone and integrated with Oyster; recognising that short-hop trips are also made by parents with small children, people carrying heavy shopping bags, and those avoiding bad weather.

Practical challenges of designing level public spaces and perceptions of 'Shared Space'

The potential need for Oxford Street to function as a service access road overnight and a pedestrian priority space during the day is common to several prospective inclusive streets; with pedestrian numbers justifying traffic removal at certain times of day, but servicing needs requiring vehicular access at others. Shared Space is defined in DfT's Local Transport Note 1/11³ as:

"A street or place designed to improve pedestrian movement and comfort by reducing the dominance of motor vehicles and enabling all users to share the space rather than follow the clearly defined rules implied by more conventional designs"

The Equality Act's (2010) public sector Equality Duty requires public authorities to give due consideration to how different people are likely to be affected by new scheme proposals, giving regard to the effect they will have on protected groups. Pedestrian Priority or 'Shared Space' treatments to streets raise issues which affect these protected groups, including:

- Shared, level surfaces better suit some groups of people (notably people who experience walking impairments and wheelchair users) than others (notably blind and partially sighted people).
- Tactile delineators that are typically implemented to assist blind and partially sighted people with safe wayfinding of streetscapes are often challenging for wheelchair users and people who have trouble with walking.
- The removal of traditional delineators between pedestrians and vehicles (such as kerbs and controlled crossing points) and the mixing of pedestrians and vehicles in the same street space has been identified as a specific issue by the Chartered Institution of Highways and Transportation (CIHT⁴).
- Evidence provided to the *Building for Equality: Disability and the Built Environment* review by the House of Commons Women & Equalities Committee⁵, and in a report commissioned by Lord Holmes⁶ made it clear that a significant number of blind and partially sighted people feel excluded by 'shared spaces' where walking areas are not evident, and kerbs are removed. This is primarily the result of being

³ DfT (2011) *Shared Space (LTN 1/11)*. Available at: <https://www.gov.uk/government/publications/shared-space>, last accessed on 28/06/19.

⁴ CIHT (2018) *Creating better streets: inclusive and accessible places – Reviewing shared space*. Available at: https://www.ciht.org.uk/media/4463/ciht_shared_streets_a4_v6_all_combined_1.pdf, last accessed 08/07/2019

⁵ House of Commons Women & Equalities Committee (April 2017) *Building for Equality: Disability and the Built Environment*. Available at: <https://www.publications.parliament.uk/pa/cm201617/cmselect/cmwomeg/631/63102.htm>, last accessed: 28/06/19.

⁶ Lord Holmes (2015) *Accidents by Design*. Available online at: <http://chrisholmes.co.uk/wp-content/uploads/2015/07/Holmes-Report-on-Shared-Space-.pdf>, last accessed: 28/06/19.

unable to, or having difficulty with, detecting which side of delineation cues the 'safe' walking areas lie on. It also emerges from concern over crossing the areas that vehicles can circulate in, since traditional crossings are often not present to designate where it is safe to cross.

While there is 'ongoing' debate about 'Shared Space' concepts it is particularly important to consider the kinds of space this creates and implications this has for design. This is particularly important given the lack of evidence on good practice approaches to managing this balance while meeting everyone's needs.

3. Define and revisit key principles

To ensure the proposed designs complied with the Equality Act (2010) it was vital to define a set of guiding accessibility principles before proposals were being tabled, so that highway and urban design teams could adopt them as desirable aims. These principles were revisited when competing demands appeared to move the design in a less inclusive direction and served as a reminder that encouraged more inclusive thinking.

This section discusses key inclusive design principles and provides recommendations for future schemes, including:

- Road space delineation;
- Wayfinding;
- Seating;
- Toilets; and
- Connectivity.

Road space delineation

From a young age we are taught to stop at the kerb to check if it is safe before crossing the road. The kerb (vertical height between 120mm – 150mm) is the most common form of delineator in the UK. For blind and partially sighted people the kerb acts as a cue to assist them to navigate pedestrian environments and know when they are at the edge of the footway. However, these kerbs are often challenging for wheelchair users and people who have trouble with walking.

It is often suggested that, to make pedestrian friendly streets, kerbs can be removed, and level surfaces created for pedestrians and vehicles. The removal of the kerb results in an area without clear delineation between the space reserved for pedestrians and space used by vehicles. Without a clear delineator it makes some pedestrians, particularly blind and partially sighted people more anxious in these 'shared space' environments who rely on physical cues for safe wayfinding.

A consistent approach to road space delineation is required to achieve a streetscape which meets all users needs. Inconsistencies in design guidance (TfL, WCC and DfT in the case of Oxford Street) ideally need to be resolved to ensure that materials are consistently applied to enhance the experience of place for blind and partially sighted people. Inconsistent applications of tactile and non-tactile surfaces are being used to delineate road space on a regular basis across the UK, which is what is prompting safety concerns among groups of disabled people. In other locations traditional surfaces used for guidance are being applied to distinguish pedestrian areas from those used by vehicles (e.g. corduroy surface has been applied on Exhibition Road⁷).

A crucial issue when considering a means of delineating the boundary between a 'safe zone' and a zone intended for vehicles is that the delineation should both be readily detectable for blind and partially-sighted people (using a range of mobility aids), and suitable for wheelchair users and other people with a mobility impairment to cross in safety and comfort. Our recommendations on kerb delineation included:

- The boundary between 'safer' areas and the main roads that cross Oxford Street should be marked using a kerb with a vertical face of at least 60mm in height from the carriageway in line with national guidance published by DfT. This was intended to ensure awareness of where the main north/south roads were.
- Consider testing, through consultation with disabled and older people's groups, a new form of tactile delineator that distinguishes between 'exclusively pedestrian' and 'occasional carriageway' areas.
- Consider using tonal contrasts and street furniture which have been strategically placed to delineate road space from pedestrian areas, whilst creating resting and calm spaces sited in pedestrian areas for visitors to use.
- Consider entry signage and speed limits in 'shared space' environments to make it clear to drivers and pedestrians the environment they are entering.
- Involvement of blind and partially sighted people, alongside other groups of disabled and older people, in the inclusive design of accessible public spaces going forward.

Wayfinding

Wayfinding encompasses all information systems which people use to orientate themselves in a physical space and how they navigate between them. It is particularly important within complex built environments to enhance peoples understanding of a space and contributes to a sense of well-being, safety and security.

⁷ <https://www.bbc.co.uk/news/uk-england-london-16839016>

Within complex environments people need visual cues such as maps, directions, and symbols to help guide them to their destinations (this maybe a transport node, public convenience or retail store). Blind and partially sighted people use tactile paving, audio cues and assisted technology to navigate such spaces.

However, both the baseline accessibility audit and initial stakeholder involvement discussions highlight the disorienting nature of the current Oxford Street environment. A lack of street signs, identifiable landmarks and distinguishable side streets – often obscured by street trader kiosks – means Oxford Street can feel like a continuous high street rather a series of connected localities. This also makes it hard for disabled and non-disabled people relying on assistive technology (and personal / wearable technology) to enjoy their visits and discover new areas of Oxford Street.

Recommendations to enhance wayfinding in Oxford Street's complex environment included:

- Introduce distinctive wayfinding points at helpful intervals along Oxford Street
- Consistent application of accessibility principles (tactile/tonal/wayfinding/surfaces), even if public realm is differentiated between pedestrian areas.
- Inclusion of distinct sounds to aid wayfinding.
- Inclusion of form, texture and colour to create a sense of identity to distinct 'zones' along Oxford Street.
- A set of walking surface standards that can be consistently applied to ensure safe, comfortable and convenient use in all weathers.
- Use of emerging assistive technologies / smartphone-driven solutions to improve wayfinding around Oxford Street for people with sensory/cognitive impairments.
- Consider the delivery of calm and recovery spaces and meeting spaces (for more details see the section on seating).
- Creating distinct pedestrian areas along Oxford Street. This could simplify wayfinding by focusing on points of arrival/departure, meeting points, and key destinations in each 'zone'; while outlining adjacent 'zones' and distances to them in less detail.

Seating

Accessibility is a key component of sensory design, and early consideration at the planning and design stages of development is crucial to enable everyone to participate equally, independently and confidently in everyday activities.

Consideration of the seating configuration and placement within the transformed space was essential, including along pedestrianised areas and in key side streets that link the Oxford Street with departure and arrival nodes. Additional, resting points were intended along

pedestrian routes, consisting of leaning posts of individual seating, for people who cannot walk longer distances to bus stops/taxi ranks/ accessible parking locations without a pause.

To help consider the needs of different visitors, a series of seating areas were defined (illustrated in figure 3-1) which offers different users an 'island' of physical infrastructure that is thoughtfully designed to meet their needs and appeal to their interests. This 'island concept' enables planning where seating could be placed within the transformed public space to maximise inclusion and accessibility for disabled and older people with specific needs.

Figure 3-1: Core patterns models for seating 'islands'



It was expected that the island spaces could have been used as follows:

- Gateway Area:** these spaces are at the entrance points into the Oxford Street pedestrian area (particularly for people arriving by public transport from streets alongside the area). They provide clarity in defining each section of the street (reducing confusion and lowering cognitive load) with maps and seating providing both information and rest to visitors before continuing their journey along Oxford Street.

- **Playful Space:** these spaces are for parents, guardians and children to have fun and be noisy. The idea of playful seating has already been discussed for the overall scheme and these islands would use that concept.
- **Social Space:** the most universally-appealing island is designed to enable visitors to meet and socialise. These areas need seating and tables to allow people to meet in small and large groups to talk and to eat. It is expected that these spaces will be busy and open.
- **Mindful Space:** these spaces have two key, related uses. They will enable visitors to orient themselves on arrival in the area (so wayfinding and maps are key parts of the infrastructure), but also provide calmer areas for people who experience cognitive and/or mental health impairments to decompress following the stress of travel, and to take some time-out from visiting the busy shops and attractions on Oxford Street. These spaces need seating and tables for groups but also some sheltered seating that is screened to provide a sense of calm, quiet and privacy.

Recommendations and rationale for the location of each of the seating / resting space is included in Table 3-1.

Table 3-1: Rationale for placement of difference seating / resting areas

Type of seating / resting area	Rationale for locations
Gateway area	<ul style="list-style-type: none"> • Close to key entry/exit points. • Allow for orientation and resting before/after leaving and arriving. • Potential to integrate within Hostile Vehicle Mitigation designs.
Resting points	<ul style="list-style-type: none"> • Frequently placed to break-up longer walking routes. • Used on side-streets as well as Oxford Street to allow for rest when transferring to/from bus, taxi and Blue Badge parking bays.
Mindful space	<ul style="list-style-type: none"> • Set-back from Oxford Street itself to maximise tranquillity. • Naturally quieter, sheltered locations identified through site visit. • Scope to enhance with planting and green vegetative 'walls'. • Ideally at least two such spaces along the length of Oxford Street.
Social space	<ul style="list-style-type: none"> • Sited along Oxford Street thoroughfares between store-front desire lines. • Maximise parks and active frontages with outside seating. • Enhance the quality of key trip attractor environments.

Type of seating / resting area	Rationale for locations
Playful space	<ul style="list-style-type: none"> • Sited close to, but not necessarily along, Oxford Street thoroughfare. • Located in 'safe' busy places with natural surveillance. • Transformative impact on existing seating areas. • Ideally at least two such spaces along the length of Oxford Street.

Toilets

It is well established that access to toilets is particularly critical for older and many disabled people, and that a lack of toilets is a major deterrent to independent mobility. Many older people suffer from "urgency issues" which means they need frequent access to toilet facilities within close range. In addition, people who experience conditions such as Crohns & Colitis, or Prostate Cancer, also need frequent and immediate access to toilets. Without such provision they, like many older people, may be severely restricted in their ability to travel and to visit places like Oxford Street.

Given that most visitors to Oxford Street will have arrived by public transport, car or taxi; many will need a toilet as soon as they arrive, as well as at intervals during their time in the area. For the growing number of people who experience dementia, clear information about toilet location will be key to avoiding confusion and distress.

Current toilet availability, which relies largely on poorly located and difficult to find facilities in the major Department stores, does not meet either legal or best practice requirements.

To meet the needs of the population arriving and visiting Oxford Street it was recommended that following two approaches were pursued as alternatives or as a combined approach:

- Well-located free-standing toilet units on or immediately adjacent to Oxford Street. These would need to be placed at regular intervals along the street (every 200 to 300 metres) and be clearly signed and well-marked.
- There should ideally be at least one '[Changing Places](#)' facility close to Oxford Street for people with specific needs.
- Authorities pay businesses a monthly to open their toilets facilities for the public. (in Germany this is known as the Nette Toilette scheme⁸). This is a compromise solution that may achieve a lower level of accessibility and convenience for some visitors, but potentially at significantly lower expense.

⁸ <https://www.die-nette-toilette.de/>

Mobility, accessibility and connectivity

The new Bond Street Elizabeth Line station will establish an additional step-free means of travelling to and from Oxford Street (West). The transformation should also increase the number of nearby taxi rank and accessible Blue Badge parking bays. However, direct and through bus service access will worsen following the proposed transformation.

Some walking distances between key destinations and relocated bus stops, taxi ranks, and accessible Blue Badge parking bays are expected to change in length post-Transformation, with some getting slightly shorter and others lengthening. This may affect a range of groups of people visiting Oxford Street; including disabled and older people, parents with small children, and people carrying heavy shopping bags.

In 2017, it was estimated that 12,000 people make short-hop bus trips along Oxford Street each day (est. ~300 of these are 'disabled people' and 1,200 are 'older people' based on average Freedom Pass usage). The removal of through bus routes from Oxford Street will increase transfer distances to re-located stops from Oxford Street (west) destinations and Tube/rail stations, as well as increasing the likelihood of bus journeys requiring interchange.

The relocation of taxi ranks from Oxford Street may also be placed an increased distance away in less evident rank locations, making it harder for some to find/hail a taxi.

To help assess the impact the relocation of arrival / departure points may have on affected groups, key walking routes from transport nodes (including disabled parking bays, taxi ranks, bus stops and tube stations) and key destinations point on Oxford Street were assessed for mobility, accessibility and connectivity issues and challenges.

Within this context mobility, accessibility and connectivity refer to:

- **Mobility:** is the ability and level of ease of moving
- **Accessibility:** the quality of travel e.g. is this suitable for people with different needs – step free access.
- **Connectivity:** the relative location to Oxford Street and describes how well difference places / transport nodes connect to each other.

To meet the needs of the population arriving on Oxford Street it was recommended that the public space designs sought to:

- Maximise accessible, step-free public transport connectivity for people travelling to, and interchanging through Oxford Street.
- Ensure taxi ranks are provided in visible and accessible locations as close as possible to OSW destinations and public transport stops.
- Provide accessible drop-off and pick-up locations for disabled car passengers and accessible parking spaces for disabled drivers.

- Ensure people with specific mobility needs can find information and mobility assistance for getting around the transformed Oxford Street area.
- Bus stop locations and taxi rank/parking bays are considered in relation to service directions and managed traffic flows and potential visitor journey origins/destinations.
- Where longer walk distances are unavoidable, then mitigate by: enhancing quality/width of pedestrian footways, consistent crossings over minor roads with appropriate tactile/tonal contrast treatments, regular (~50m interval) placement of resting places and seating, and clear wayfinding/information signage along the walking routes.

Conclusion

This paper shows that major public space transformation projects often focus on changing travel modes and improving the quality of open space. However, the impact on groups who experience mobility difficulties or impairments is often overlooked. It is a significant challenge to pre-emptively design inclusively for all users to ensure they can safely, independently and confidently visit and enjoy transformed public spaces both during, and post-construction.

The following key lessons can be applied to future schemes on Oxford Street and public space transformation schemes elsewhere:

- What is often overlooked in the analysis of public transformations projects is who comes to use these places before and after they are transformed.
- Shared, level surfaces better suit some groups of people (notably people who experience walking impairments and wheelchair users) than others (notably blind and partially sighted people).
- A consistent approach to road space delineation is required to achieve a streetscape which meets all user's needs. The boundary between a 'safe zone' and a zone intended for vehicles should be detectable for blind and partially-sighted people (using a range of mobility aids), and suitable for wheelchair users and other people with a mobility impairment to cross in safety and comfort. It needs to be obvious which side of such a delineator constitutes 'safe' pedestrian space, and where/how an area where there may be vehicles circulating can be navigated and crossed.
- Provide a range of seating areas which offers different users an 'island' of physical infrastructure that is thoughtfully designed to meet their diverse needs and which appeals to their interests.
- Consider all users when introducing distinctive wayfinding points at helpful intervals along Oxford Street.

- Well-located free-standing toilet units on or immediately adjacent to Oxford Street, including at least one 'Changing Places' facility close to Oxford Street for people with specific needs, should be considered essential rather than optional.
- Assess the impact that relocated arrival/departure points may have on protected groups under the Equality Act (2010). Consider mobility, accessibility and connectivity along key walking routes from transport nodes (including disabled parking bays, taxi ranks, bus stops and tube stations) and key destinations point on Oxford Street.