New Oxford Street Ltd

21-31 New Oxford Street

Transport Assessment

RP/230602/007

Planning | 5 September 2014

Job number 230602-12

Ove Arup & Partners Ltd
13 Fitzroy Street
London
W1T 4BQ
United Kingdom
www.arup.com

ARUP

Contents

Tables

Figures

Drawings

1 Introduction

1.1 Background

Arup is appointed by New Oxford Street Ltd to prepare a Transport Assessment (TA) to support a planning application for the development of the former Royal Mail Sorting Office, 21-31 New Oxford Street, London Borough of Camden (LBC). This TA considers the transport implications of the proposed development.

The site is a part eight, part nine storey building formerly used by the Royal Mail as a sorting office. It ceased to be used as a sorting office in the 1990s. The building currently provides approximately 30,000m^2 of floorspace.

The location of the site is shown in Error! Reference source not found.. The site forms part of a triangular block, bounded by High Holborn to the south, Museum Street to the west and New Oxford Street to the north. Due to the previous use of the site, there is access to the Mail Rail system, which runs underneath the building.

1.2 Consultation

A scoping report was prepared in April 2014 and this set out a description of the work that this TA will consider. The content of the scoping report was discussed and agreed in principle with LBC and Transport for London (TfL) at pre-application stage.

In addition to the scoping report, general meetings were held with LBC transport officers to discuss technical design and planning issues. The transport issues were also discussed at a meeting with the Greater London Authority (GLA) and TfL.

1.3 Report structure

Following this introductory section, the remainder of the report is structured as follows:

- **Section 2** outlines the current national, regional and local transport planning policy relevant to this proposal;
- **Section 3** provides a description of the existing development;
- A review of the existing local transport facilities is provided in **Section 4**;
- **Section 5** provides a description of the proposed development, including highway alterations and parking provision;
- **Section 6** presents the trip generation and mode split of the proposed development;
- **Section 7** outlines the anticipated transport impacts of the proposed development;
- **Section 8** outlines servicing and waste management strategies;

- **Section 9** introduces the Travel Plan Framework (included as Appendix C; and
- **Section 10** summarises the Transport Assessment.

2 Policy context

2.1 Introduction

This section outlines the national, regional and local transport policy and planning guidance upon which the proposed development will be assessed.

2.2 National policy

2.2.1 National Planning Policy Framework (Department for Communities and Local Government, 2012)

The *National Planning Policy Framework (NPPF)* was published by the Department for Communities and Local Government (DCLG) and replaces previous planning policy guidance and planning policy statement documents. One of the core principles of the *NPPF* states that development should "actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable".

The *NPPF* also indicates that developments should be located and designed, where practical, to:

- Accommodate the efficient delivery of goods and supplies;
- Give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;
- Create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;
- Incorporate facilities for charging plug-in and other ultra-low emission vehicles; and
- Consider the needs of people with disabilities by all modes of transport.

The *NPPF* states that a key tool to facilitate the above will be a Travel Plan i.e. all developments which generate significant amounts of movement should be required to provide a Travel Plan.

2.2.2 Inclusive Mobility (Department for Transport, 2002)

The overarching aim of the document is to provide guidance on designing and constructing infrastructure for the disabled. Such infrastructure includes pavements and surfaces, road crossings, car parking bays and bus stops. Following the guidance will support social inclusion. However, it also considers the requirements of many other people including:

- Those with small children;
- Those carrying luggage or heavy shopping; and

- People with temporary mobility problems.

The document focuses on barriers and obstructions which cause problems for pedestrians, including street-works, advertisement boards, over hanging vegetation and cycles and cars parked on footways. Measures to counteract these issues are considered.

2.2.3 Planning Practice Guidance (DCLG, 2014)

On 6 March 2014, the DCLG launched a planning practice guidance web-based resource. This was accompanied by a written ministerial statement that included a list of the previous planning practice guidance documents cancelled when the site was launched.

Under Planning Practice Guidance is a section titled *'Travel plans, transport assessments and statements in decision-taking'*. The relevant points to note are:

- Travel Plans, Transport Assessments and Statements are all ways of assessing and mitigating the negative transport impacts of development in order to promote sustainable development. They are required for all developments which generate significant amounts of movements;
- The development of Travel Plans and Transport Assessments or Transport Statements should be an iterative process as each may influence the other; and
- Transport Assessments and Statements can be used to establish whether the residual transport impacts of a proposed development are likely to be "severe", which may be a reason for refusal, in accordance with the *National Planning Policy Framework.*

2.3 Regional policy

2.3.1 The London Plan (Greater London Authority, 2011)

Produced by the Greater London Authority (GLA), the Mayor of London's *London Plan* details an integrated economic, environmental, transport and social framework for the development of London to 2031.

The *London Plan* outlines a number of policies on the integration of transport and development, including the consideration of development proposals in terms of existing transport capacity and supporting sustainable transport in London. The following policies are of relevance:

Policy 6.1 Strategic approach

- *the Mayor will work with all relevant partners to encourage the closer integration of transport and development through a number of measures including:*
  - *encouraging patterns and nodes of development that reduce the need to travel, especially by car;*
  - *seeking to improve the capacity and accessibility of public transport, walking and cycling;*

- *supporting development that generates high levels of trips at locations with high public transport accessibility;*
- *seeking to increase the use of the Blue Ribbon Network (London's strategic network of water spaces), especially the Thames for passenger and freight use;*
- *supporting measures that encourage shifts to more sustainable modes and appropriate demand management; and*
- *promoting walking by ensuring an improved urban realm.*

Policy 6.3 Assessing effects of development on transport

- *Development proposals should ensure that impacts on transport capacity and the transport network, including the cumulative impacts of development, are fully assessed.*
- *Transport Assessments should be in accordance with Transport for London's (TfL's) Transport Assessment Best Practice Guidance document and Travel Plans and Servicing Plans for developments should be secured.*

Policy 6.7 Better streets and surface transport

- *There should be direct and pleasant walking routes to public transport connections from the proposed development.*

Policy 6.9 Cycling

- *Measures to increase cycling mode share in London to 5% by 2026. Measures include completing the Cycle Super Highways and expanding the London cycle hire scheme.*
- *To support this, developments should provide cycle parking, provide showers and changing facilities and facilitate the major cycling schemes in London (Superhighways / Cycle Hire).*
- *In all circumstances, long stay cycle parking should be provided within the site.*

Policy 6.10 Walking

- *The use of shared space principles with simplified streetscape, de-cluttering and access for all.*
- *Developments should therefore ensure high quality pedestrian environments and emphasise the quality of pedestrian and street space. It points to the 'Legible London' pedestrian way finding system as a successful measure to support walking journeys.*

Policy 6.13 Parking

- *Appropriate balance being struck between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use.*

Paragraph 6.44 supporting Policy 6.13 Parking

- *This policy recognises that developments should always include parking provision for disabled people. Despite improvements to public transport, some disabled people require the use of private cars. Suitably designed and located designated car parking and drop-off points are therefore required.*
- *Boroughs should take into account local issues and estimates of local demand in setting appropriate standards and should develop monitoring and enforcement strategies to prevent misuse of spaces.*
- *Applicants for planning permission should use their transport assessments and access statements to demonstrate how the needs of disabled people have been addressed.*

Paragraph 6A.2 supporting Parking Addendum to Chapter 6

- *Developments should provide at least one accessible on or off street car parking bay designated for Blue Badge holders, even if no general parking is provided. Any development providing off-street parking should provide at least two bays designated for Blue Badge holders.*

2.3.2 The London Plan – Revised Early Minor Alterations (GLA, 2013)

In October 2013, the Mayor published *Revised Early Minor Alterations to the London Plan (REMA).* From this date, the *REMA* are operative as formal alterations to the *London Plan* and form part of the development plan for Greater London. The following alterations are of relevance:

Paragraph 6.7 supporting Policy 6.1 Strategic Approach

- *This close co-ordination of land use and transport planning is crucial to effective and sustainable spatial development and is supported by the approach taken by the Government in the NPPF.*

Paragraphs 6.35 and 6.36 supporting Policy 6.9 Cycling

- *New developments should provide cycling parking and cycle changing facilities to encourage more cycling.*
- *Planning briefs and masterplans should include principles to encourage a high quality, connected environment for cyclists.*
- *Developments will need to address the needs of both long stay (staff, residents) and short stay (visitor) cyclists. Where it has been demonstrated that it is not practicable to locate all cycle parking within the site, developers should liaise with neighbouring premises and the local planning authority to identify potential for, and fund appropriate off-site visitor cycle parking.*
- *In all circumstances, long stay cycle parking should normally be provided on site.*

Cycle Parking Standards

Table 1: Cycle parking standards, The London Plan REMA (2013)

Cycle parking standards	
Use Class	
C3 Residential	1 per 1 or 2 bed unit + 1 per 40 units for visitors 2 per 3 or more bed unit + 1 per 40 units for visitors
Al Food	in centre: 1/125 for staff and visitors out of centre: 1/350 for staff and visitors
A1 Non Food	in centre: 1/300 for staff and visitors out of centre 1/500 for staff and visitors
A3 Restaurants and cafes	1 per 20 staff and 1 per 20 customers
B3 - Business offices	1/150 for staff and visitors

2.3.3 The London Plan – Draft Further Alterations (GLA, 2014)

On 15 January 2014, the Mayor published *Draft Further Alterations to the London Plan (FALP)* for a twelve week period of public consultation. The *FALP* has been prepared primarily to address key housing and employment issues emerging from an analysis of census data (released since the publication of the *London Plan* in July 2011), which indicates a substantial increase in the capital's population.

The following altered policies are of relevance:

Policy 6.9 Cycling

- *The Mayor will work with all relevant partners to bring about a significant increase in cycling in London, so that it accounts for at least 5 per cent of modal share by 2026.*
- *He will identify, promote and implement a network of cycle routes across London which will include Cycle Superhighways and Quietways and continue to operate and improve the cycle hire scheme.*
- *Developments should:*
  - *provide secure, integrated, convenient and accessible cycle parking facilities in line with the minimum standards set;*
  - *provide on-site changing facilities and showers for cyclists;*
  - *contribute positively to an integrated cycling network for London by providing infrastructure that is safe, comfortable, attractive, coherent, direct and adaptable; and*
  - *provide links to existing and planned cycle infrastructure projects including Cycle Superhighways, Quietways, the Central London Grid and the 'mini-Hollands'.*

Paragraph 6.35 supporting Policy 6.9 Cycling

- *Planning briefs and masterplans should clearly demonstrate how new developments will contribute to creating a high quality, connected environment for cyclists.*
- *They should highlight where highways are likely to require dedicated cycling infrastructure, where street environments will be safe for cyclists to share with other modes and where off-highway routes and green spaces will form part of the cycling network.*
- *Cycling issues should be addressed in detail in development proposals as part of an integrated approach to sustainable transport, health and local economy. Proposals should ensure that cycling is promoted and that the conditions for cycling are enhanced.*
- *They should also seek to take all opportunities to improve the accessibility of town centres, places of work, and places of education, leisure facilities and transport nodes to residential areas.*

Para 6.35a supporting Policy 6.9 Cycling

- *Developments will need to address the needs of both long stay (staff and residents) and short stay (visitor) cyclists.*
- *Where it has been demonstrated that it is not practicable to locate all cycle parking within the development site, developers should liaise with neighbouring premises and potential for, and fund appropriate off-site visitor cycle parking. In all circumstances, long stay cycle parking should normally be provided on site.*
- *Cycle parking should be designed and located in accordance with best practice set out in London Cycling Design Standards (or subsequent revisions).*

Cycle Parking Standards

Table 2: Cycle parking standards, The London Plan - FALP (2014)

Cycle parking standards		
Use Class	**Long Stay**	**Short Stay**
C3 Residential	1 space per dwelling up to 45 sqm 2 spaces per all other dwellings	1 space per 40 units
A1 Food	from a threshold of 100 sqm: 1 space per 175 sqm	from a threshold of 100 sqm: first 750 sqm: 1 space per 40 sqm thereafter: 1 space per 300 sqm
A1 Non Food	from a threshold of 100 sqm: first 1000 sqm: 1 space per 250 sqm thereafter: 1 space per 1000 sqm	from a threshold of 100 sqm: first 1000 sqm: 1 space per 125 sqm thereafter: 1 space per 1000 sqm

Cycle parking standards		
A3 Restaurants and cafes	from a threshold of 100 sqm: 1 space per 175 sqm	from a threshold of 100 sqm: 1 space per 40 sqm
B3 - Business offices	inner/ central London: 1 space per 90 sqm outer London: 1 space per 150 sqm	first 5,000 sqm: 1 space per 500 sqm thereafter: 1 space per 5,000 sqm

The *FALP* proposes higher standards for cycle parking. These will be met where possible. It is not expected that the *FALP* will be adopted before this application is submitted.

2.3.4 Mayor's Transport Strategy (GLA, 2010)

The *Mayor's Transport Strategy (MTS)* sets out his transport vision for London and details how TfL and partners will deliver the *MTS* over the next 20 years. It is a key part of a strategic policy framework to support and shape London's social and economic development. Of particular importance is the implication for 'making London an accessible city', by:

- Improving the efficiency, effectiveness and reliability of London's transport system;
- Encouraging and enabling patterns of land use that support sustainable patterns of travel;
- Integrating transport, spatial development and economic development policies to ensure sustainable access for people and goods;
- Identifying and creating locations with good public transport access to encourage the appropriate scale, form and type of development in ways that reduce car travel; and
- Improving travel choice and quality.

The following strategic policies are of relevance:

Policy 9

- The Mayor, through TfL, and working with the Department for Transport (DfT), Network Rail, train operating companies, London boroughs and other transport stakeholders, will use the local and strategic development control processes to seek to ensure that:
  - *All high trip generating developments are located in areas of high public transport accessibility, connectivity and capacity (either currently or where new transport schemes are committed);*
  - *The design and layout of development sites maximise access on foot, cycle and to public transport facilities, for example, via safe walking and cycling routes and provision of secure cycle parking;*
  - *Access for deliveries and servicing maximise the opportunities for sustainable freight distribution where possible;*

- *Land for transport use is safeguarded in line with London Plan policy and Supplementary Planning Guidance; and*
- *Planning contributions are sought for transport improvements where appropriate.*

Policy 11

- *The Mayor, through TfL, and working with the DfT, Network Rail, train operating companies, London boroughs and other stakeholders, will seek to reduce the need to travel, encourage the use of more sustainable, less congesting modes of transport (public transport, cycling, walking and the Blue Ribbon Network), set appropriate parking standards, and through investment in infrastructure, service improvements, promotion of smarter travel initiatives and further demand management measures as appropriate, aim to increase public transport, walking and cycling mode share.*

Under the strategic policies are a number of proposals which will help to achieve the policies. The relevant proposals are:

Proposal 54 for Policies 9 and 11

- *The Mayor, through TfL, and working with the London boroughs and other stakeholders, will deliver improvements to cycling infrastructure and training to support the cycling revolution.*

Proposal 57 for Policies 9 and 11

- *The Mayor will seek to use his planning powers and work with the London boroughs to encourage cycling by supporting development that:*
  - *Provides cycle parking to an appropriate standard;*
  - *Integrates the needs of cyclists into the design;*
  - *Promotes the co-location of key trip attractors to make cycling a more viable and attractive travel option; and*
  - *Provides cycle hire docking stations dependent on sufficient demand and feasibility studies.*

Proposal 60 for Policy 9

- *The Mayor, through TfL, and working with the London boroughs and other stakeholders, will improve the walking experience by enhancing the urban realm and taking focused action to ensure safe, comfortable and attractive walking conditions, including supporting developments that emphasise the quality and permeability of the pedestrian environment.*

Proposal 116 for Policy 11

- *The Mayor, through TfL, and working with the London boroughs and other stakeholders, will use smarter travel initiatives across London to facilitate more efficient use of the transport system, achieve mode shift to cycling, walking and public transport and encourage the take-up of healthier travel options.*

Proposal 126 for Policy 9

- *The Mayor, through TfL, the London Development Agency (LDA), and working with the London boroughs and other stakeholders, will seek to ensure that new developments generating significant volumes of freight activity provide adequate off-street lorry parking and waiting facilities.*

2.3.5 The Mayor's Vision for Cycling in London Transport Strategy (GLA, 2013)

The Mayor's vision is that cycling in London will become an integral part of the transport network. The document outlines the Mayor's ambitions and intentions for cycling in London. The key outcomes of the *Mayor's Vision for Cycling* are:

A Tube network for the bike - London will have a network of direct, high-capacity, joined-up cycle routes. Many will run in parallel with key Underground, rail and bus routes, radial and orbital, signed and branded accordingly: the 'Bakerloo Superhighway'; the 'Circle Quietway', and so on. A 'bike Crossrail' will run, substantially segregated, from west London to Barking. Local routes will link with them;

Safer streets for the bike - London's streets and spaces will become places where cyclists feel they belong and are safe;

More people travelling by bike - Cycling across London will double in the next 10 years. The Vision will 'normalise' cycling, making it something anyone feels comfortable doing; and

Better places for everyone -The new bike routes are a step towards the Mayor's vision of a 'village in the city', creating green corridors, even linear parks, with more tree-planting, more space for pedestrians and less traffic. Cycling will promote community safety, bringing new life and vitality to underused streets.

2.3.6 London Housing Supplementary Planning Guidance (GLA, 2012)

This document sets out guidance to supplement the housing policies in the *London Plan*. Design Standard 3.3.2 states that "Each designated wheelchair accessible dwelling should have a car parking space". Annex 3 of the document provides more guidance on addressing the *London Plan's* policy on car parking.

2.3.7 Transport Assessment Best Practice Guidance (Transport for London, 2010)

Best practice guidance was originally prepared by TfL in 2006 to assist those submitting planning applications for major developments in London where a TA is required. Since then there have been a number of changes including the introduction of new planning powers for the Mayor of London, the introduction of pre-application advice and the publication of national guidance on transport assessments issued by DfT.

The purpose of this document is to provide high-level guidance to improve the process for TfL and its Land Use Planning Team (LUP). *The Guidance* covers the

scoping process, a TA's structure, inputs, analytical inputs, mitigation and travel plans.

2.3.8 Guidance on Travel Planning (TfL, 2013)

In November 2013, TfL updated its guidance on the requirements for travel plans for new developments in London. This guidance includes an explanation of the process, when a travel plan is required, what it should contain, and how to monitor, secure and enforce travel plans. It supersedes the previous TfL guidance, *Travel Planning for New Development in London: Incorporating Deliveries and Servicing*.

2.4 Local Policy

2.4.1 Camden Local Development Framework – Core Strategy (London Borough of Camden, 2010)

LBC's *Core Strategy* set out the key elements of the Council's planning vision and strategy for the borough. It is the central part of the Council's *Local Development Framework (LDF)*, a group of documents setting out its planning strategy and policies.

The *Core Strategy* has four overarching themes/objectives. The themes/objectives of relevance are:

1 A sustainable Camden that adapts to a growing population

- To reduce the environmental impact of transport in the borough and make Camden a better place to walk and cycle.

3 A connected Camden community where people lead active, healthy lives

- To reduce congestion and pollution in the borough by encouraging more walking and cycling and less motor traffic and to support and promote new and improved transport links

These objectives are supported by policies to promote efficient use of land and buildings (CS1 Distribution of Growth) and encourage walking, cycling and public transport usage (CS17 Promoting sustainable and efficient travel).

The Council also commits to working with its partners to ensure that walking links are improved around Tottenham Court Road station in order to accommodate the expected increase in pedestrian activity in the area.

2.4.2 Camden Local Development Framework – Development Policies (LBC, 2010)

LBC's *Development Policies* form part of the Council's *LDF*. The document contributes towards delivering the *Core Strategy* by setting out detailed planning policies that the Council will use when determining applications for planning permission in the borough. The following policies are of interest:

DP16 The transport implications of development

- *The Council will seek to ensure that development is properly integrated with the transport network and is supported by adequate walking, cycling and public transport links.*

DP17 – Walking, cycling and public transport

- *Development should make suitable provision for pedestrians, cyclists and public transport and where appropriate, will also be required to provide for interchanging between different modes of transport.*

DP18 – Parking standards and limiting the availability of car parking

- *Development should comply with the Council's parking standards. Where the Council accepts the need for car parking provision, development should not exceed the maximum standard for the area in which it is located (excluding spaces designated for disabled people). Developments in areas of on-street parking stress should be 'car capped'.*

DP20 – Movement of goods and materials

- *In order to minimise the movement of goods and materials by road the Council will expect development that would generate significant movement of goods or materials both during construction and in operation to minimise the movement of goods and materials by road, and consider the use of more sustainable alternatives such as rail and canal link.*

2.4.3 Camden Planning Guidance – CPG7 Transport (LBC, 2011)

Camden Planning Guidance provides advice and information on how LBC will apply its planning policies. *The Guidance* has been drafted to support the policies in their *LDF*.

CPG7 covers transport and the points relevant to the proposed development are:

Chapter 2 – Assessing transport capacity

- *A Transport Assessment is required for all schemes which will generate significant travel demand.*
- *Guidance applies to planning applications that involve a change in the way that a site is accessed from the highway, and planning applications that will alter how people or goods are moved, how many trips they make, and when the trips take place.*

Chapter 3 – Travel Plans

- *The requirements of a Travel Plan will be tailored to the specific characteristics of the site and the development.*
- *Guidance applies to all planning applications that involve a significant impact on travel or the transport system. It will also guide consideration of Travel Plans submitted where the impacts are less, but where the transport provision does not have capacity for increased demand, and where demand management measures are desirable to address sustainability concerns.*

Chapter 4 - Delivery and servicing management plans

- *Transport Assessments represent the best tool to consider how a development can most appropriately be serviced.*
- *Guidance applies to all development proposals which are likely to generate delivery and servicing movement and therefore may incur significant noise and disturbance impacts.*

Chapter 5 – Car free and car capped development

- *Car-free development and car-capped development should be designed taking into account the needs of disabled car users.*
- *Minimum parking standards apply to parking for people with disabilities, and 1 parking space for people with disabilities is required per 10 general-purpose dwellings.*
- *In addition, where car-free and car-capped developments contain wheelchair housing, the Council will expect a parking space to be provided for each wheelchair dwelling.*

Chapter 6 – On street car parking

- *Disabled parking should be in line with the Mayor's Draft London Housing Design Guide SPG (July 2009), which states in paragraph 3.3.2 that "Each designated wheelchair accessible dwelling should have a car parking space 2.4m wide with a clear access way to one side of 1.2m wide".*

Chapter 8 - Street and public spaces

- *New development should contribute to the creation of attractive, clean and well-maintained public places.*

Chapter 9 – Cycling facilities

- *Guidance on the implementation of minimum cycle parking standards for new development, the design and layout of cycle parking and cycle hire and cycle stations.*

2.4.4 Wheel Chair Housing Design Brief (LBC, 2013)

The *Brief* has been designed to ensure the necessary standards are achieved for wheelchair users. With regards to car parking, technical advice is given for:

- Designated wheelchair accessible parking bays;
- On street bay parking;
- Surfaces;
- Parking in communal bays; and
- Car parking behind automatic gates.

2.4.5 St Giles to Holborn Place Plan (LBC, 2012)

This *Place Plan* has been prepared as part of LBC's place-shaping approach to understanding and addressing the needs, priorities and opportunities in different parts of the borough. The St Giles to Holborn area of focus covers the immediate area around St Giles Circus, where Camden meets Westminster, the corridor of New Oxford Street and High Holborn to the area around Holborn Station.

The vision for the Place Plan includes four themes:

1. Benefits from major developments;
2. Public spaces and movement;
3. Supporting community needs; and
4. Supporting business.

As part of the second theme, **Objective 4** seeks to improve the quality of experience for pedestrians and cyclists with reduced traffic dominance and fewer one-way systems. The following actions are highlighted in the Action Plan to try and achieve this Objective:

- **4.1** Continue to work together with in Midtown to explore opportunities for public realm improvements;
- **4.2** Continue to review the Holborn Gyratory system and consider options to address the issues of concern;
- **4.3** Undertake public consultation on proposed junction alterations and public realm improvements around Holborn;
- **4.4** Continue to work with partners to investigate opportunities to address congestion issues at Holborn Station; and
- **4.5** Work with partners to continue to promote, develop and maintain cycle routes across the borough as well as improve their legibility.

2.4.6 Planning Framework for Tottenham Court Road station and St Giles High Street Area (LBC, 2004)

This purpose of this *Planning Framework* is to provide a guide for decision-making for the area and to ensure that developments achieve maximum and widely distributed benefits to Camden as a whole. The document details a series of 'boxes' which provide useful guidance. The boxes of interest include:

Box 6: 21 - 31 New Oxford Street Site

- *Camden's brief for the development of the 21-31 New Oxford Street Site seeks a mixed-use development that will include residential use, including affordable housing, provide new business and commercial development, as well as some new community, cultural, retail, and tourism uses.*

Box 8: Proposed Cycle Routes

- *Eastbound route (and possibly westbound), running east along Andrew Borde and St Giles High Streets and up Museum St to join Bloomsbury Way.*

- *Westbound route along New Oxford Street and into Oxford Street using the bus lane.*
- *Northbound from Drury Lane, across High Holborn, along Museum Street, east along Bloomsbury Way and north in to Bury Place.*
- *South down Bury Place, crossing Bloomsbury Way into Bury Place, east along New Oxford Street and High Holborn and then south into Newton Street.*
- *South down Bloomsbury Street, crossing New Oxford Street, to Bloomsbury Way and Endell Street.*

Developments will be expected to make provision for these routes in their designs and to provide safe and secure bicycle storage facilities.

Chapter 5, entitled 'Transport and Circulation Objectives' has one key objective: *"Development will assist in reducing the dominance of traffic and improving walking, cycling, public transport and the environment"*. This advocates the preparation of Transport Assessments, measures to improve pedestrian accessibility, and promotion of the cycle network.

2.4.7 Planning Brief for 21-31 New Oxford Street (LBC, 2004)

This *Planning Brief* has been prepared to ensure a comprehensive approach to the development of land at 21-31 New Oxford Street. Its purpose is to secure development which accords with the Council's planning objectives, and maximises the benefits of development.

Part 8 of the brief considers Access, Vehicular Movement and Parking. The key points to note are:

- A primary requirement for the development is that it should minimise vehicle usage generally, and the number of car parking spaces in particular;
- Due to the existing one-way traffic system, the principal vehicular access into the site is likely to be off High Holborn. A long-term objective for the area is to restore many of the one-way streets in the area to two way working to help calm the streets and create a better environment. Vehicular access to the site may need to be designed to allow for such future adjustments;
- New development is expected to provide for off-street servicing for commercial premises wherever practicable and must not hinder the servicing of adjacent buildings;
- Car parking in residential developments should be kept to an absolute minimum, and indeed, new homes could be car free given the good level of public transport provision in the area;
- Secure cycle parking is required for all developments. Cycle parking should be provided at all commercial premises at 1 space per 250m² of gross floor area with additional parking to cater for 10% of visitors;
- A comprehensive Transport Impact Statement should be submitted with any application for planning permission to develop this site. This should examine all the traffic impacts of development on all components of the transport network. Developers should demonstrate that their proposals would not lead to any unacceptable impacts on public transport, highway networks and the

wider environment, taking into account the likely phasing of developments over time, plans for local capacity improvements and user patterns; and

- To mitigate transport impact, developers should also prepare a Green Travel Plan that occupiers will be required to sign up to before occupation.

2.5 Policy Compliance

The proposed development is considered to meet the objectives of current national, regional and local policy for a number of reasons:

- The site has excellent accessibility to public transport, with many local bus, main line rail and Underground services available within a short walking distance from the site. This fulfils a number of policy objectives;
- Secure cycle parking and associated facilities for cyclists will be provided thus achieving a number of cycling standard at regional and local level;
- The proposal does not include the provision of general car parking; and
- Two disabled car parking bays will be provided, therefore complying with local parking and *London Plan* policy.

3 Existing Building

This section describes the existing building on the application site, including the existing land use, access, parking facilities and servicing arrangements.

3.1 Site location and existing land use

The site is located in the London Borough of Camden. It forms part of a triangular block of buildings with High Holborn to the south, Museum Street to the west and New Oxford Street to the north (Error! Reference source not found.).

The site, 21-31 New Oxford Street, is a part eight, part nine storey building and was formerly used by the Royal Mail as a sorting office. It ceased to be used for that purpose in the 1990s. The site currently provides approximately 30,000m^2 of floorspace. The application site also includes land on Museum Street and pavements on High Holborn and New Oxford Street adjacent to the site.

3.2 Existing access arrangements

Due to the site's previous use, there is access to the Mail Rail system, which runs underneath the building. When the Royal Mail ceased its operations in the building, access to the Mail Rail system was 'capped off' and the system is no longer used. There is no access to the system from the building, other than a small pedestrian maintenance access for Royal Mail use only.

The existing vehicular access is on New Oxford Street, where there are separate entrance points for cars/vans and servicing vehicles. A separate entrance point on High Holborn provides access to Dunn's Passage, which is a narrow pedestrian lane to the east of the site. Dunn's Passage is closed off. A separate vehicle route is provided within the boundary of Commonwealth House and borders the development to the east.

All existing entrance points are boarded up and currently out of use.

4 Baseline Transport Data

4.1 Introduction

A review of the existing local transport facilities is provided in this section of the report. This includes public transport, walking infrastructure, cycling infrastructure, the local highway network and parking arrangements.

4.2 Public Transport

4.2.1 PTAL

The Public Transport Accessibility Level (PTAL) of the proposed development has been calculated using TfL's approved methodology. This assumes a walk speed of 4.8 kilometres per hour and considered rail stations within a 12 minute walk (960m) of the site and bus stops within an eight minute walk (640m) as accessible.

Using this methodology, the site for the proposed development has a PTAL rating of 6b[1]. This is rated as 'Excellent' (with 1a being the lowest accessibility and 6b being the highest accessibility).

Public transport services in the vicinity of the site are shown in Error! Reference source not found..

4.2.2 London Underground

There are two London Underground stations within 960m walking distance of the proposed development. These are:

- Tottenham Court Road: within 400m west of the site and serving the Northern and Central lines; and
- Holborn: within 500m east of the site and serving the Piccadilly and Central lines.

A summary of these services and their frequencies are provided in **Table 3**.

Table 3: London Underground Services

Line	Origin/ Destination	Frequency*
Central	Hainault/Epping – Leytonstone – Stratford – Mile End – Liverpool Street – Bank – Oxford Circus – Marble Arch – White City – Ealing Broadway/West Ruislip	Every 2-3 minutes
Northern	Edgware/High Barnet – Camden Town – Euston – King's Cross St Pancras – Bank – Moorgate/Tottenham Court Road – Waterloo –Kennington/Morden	Every 2-4 minutes
Piccadilly	Uxbridge– Acton Town – Hammersmith – Green Park – Leicester Square – King's Cross St Pancras – Finsbury Park – Cockfosters	Every 2 to 3 minutes

*Peak hour frequency per direction

[1] For more information on PTAL's see http://data.london.gov.uk/datastore/package/public-transport-accessibility-levels

4.2.3 National Rail

Euston station is the closest national rail station to the proposed development, approximately 1.7km walking distance to the north.

4.2.4 London Buses

There are a number of bus routes available within 640m walking distance of the proposed development. The routes, which serve a wide variety of locations are summarised in **Table 4**.

Table 4: London Bus Services

Route No.	Origin/ Destination	Frequency*
1	Canada Water Bus Station – Tottenham Court Road Station	Every 6-10 minutes
7	Russell Square Station – Telford Way (East Acton)	Every 5-10 minutes
8	Bow Church – Tottenham Court Road Station	Every 4-7 minutes
10	Hammersmith Station – King's Cross Station	Every 6-10 minutes
14	Putney Heath – Warren Street Station	Every 3-7 minutes
19	Battersea Bridge/Hester Road – Finsbury Park Interchange	Every 6-10 minutes
25	Holles Street (Marylebone) – Hainault Street (Ilford)	Every 5-8 minutes
29	Trafalgar Square/Charing Cross Station – Wood Green Station	Every 3-6 minutes
38	Victoria Bus Station - Lea Bridge Roundabout (Hackney)	Every 2-6 minutes
55	Lea Bridge Road/Bakers Arms (Walthamstow) – Oxford Street	Every 5-9 minutes
59	Wharfdale Road/London Canal Museum (near King's Cross) - Streatham Hill	Every 8-10 minutes
68	Euston Station – West Norwood Station	Every 5-9 minutes
73	Victoria Bus Station – Stoke Newington Common	Every 2-4 minutes
91	Northumberland Avenue/Trafalgar Square - Rosebery Gardens (Crouch End)	Every 5-8 minutes
98	Red Lion Square (Willesden) - Knockholt Pound/Three Horseshoes (Holborn)	Every 6-9 minutes
134	Tottenham Court Road Station – Tally Ho Corner (West Finchley)	Every 3-7 minutes
168	Dunton Road (Hampstead Heath) - South End Green (Southwark)	Every 5-8 minutes
171	Museum Street - Catford Garage (Bellingham)	Every 6-10 minutes

Route No.	Origin/ Destination	Frequency*
176	Tottenham Court Road Station - Penge/Pawleyne Arms	Every 6-10 minutes
188	Russell Square Station – North Greenwich Station	Every 6-10 minutes
242	New Oxford Street – Homerton Hospital (Homerton)	Every 7-11 minutes
243	Waterloo Station/Tenison Way - Wood Green Station	Every 7-10 minutes
390	Palace Gardens Terrace (Kensington) – Archway Station	Every 6-10 minutes
521	London Bridge Station - Waterloo Station /Mepham Street	Every 2-5 minutes
RV1	Tower Gateway Station - Covent Garden/Catherine Street	Every 9-11 minutes
X68	Southampton Row (Holborn) - West Croydon Bus Station	Every 15 minutes

*Peak hour frequency per direction

The bus routes outlined above are served by the following bus stops (approximate walking distances shown in brackets):

- Bloomsbury Way/New Oxford Street (65m);
- High Holborn Post Office (100m);
- Bloomsbury Way (105m);
- Bloomsbury Street/Shaftesbury Avenue (195m);
- High Holborn/Newton Street (220m);
- Bloomsbury Square (315m);
- Bloomsbury Street (345m);
- New Oxford Street Centre Point Building (360m);
- Tottenham Court Rd (370m);
- Shaftesbury Avenue (450m);
- Holborn Station/Kingsway (460m);
- Southampton Row/Theobalds Road (465m);
- High Holborn/Proctor Street (490m);
- Red Lion Square (490m);
- Tottenham Court Road/Dominion Theatre (505m);
- Oxford Street/Tottenham Court Road Station (505m);
- Cambridge Circus (570m);
- Conway Hall (590m); and

- Covent Garden/Russell Square (610m).

The local bus stops and routes in the vicinity of the proposed development are shown on Error! Reference source not found..

4.3 Pedestrians

4.3.1 Pedestrian Facilities

The proposed development is highly accessible on foot. All roads in the immediate vicinity (New Oxford Street, High Holborn and Museum Street) have good quality pavements and provide routes to key local stations and destinations such as Tottenham Court Road station, High Holborn station and The British Museum. The local pedestrian network is heavily used in the morning and evening peak periods, primarily by commuters travelling between the nearby Underground and various commercial or retail premises.

High traffic flows are experienced on New Oxford Street (from the junction with Tottenham Court Road to the proposed development) and High Holborn whereas Museum Street and New Oxford Street on the north side of the development experience lighter traffic flows.

Three signalised pedestrian crossings are located adjacent to the proposed development:

- **New Oxford Street/Bloomsbury Way:** north-west of the site. This provides a key connection to both roads;
- **New Oxford Street/High Holborn:** east of the site. This provides a key connection to destinations east of the site; and
- **High Holborn/Museum Street/Drury Lane:** south-west of the site. This is a crossroads with crossings on all four sides of the cross roads. The crossings on the southern and eastern arms are signalised; the crossings on the western and northern arms operate as ‘walk with traffic’.

4.3.2 Pedestrian Environmental Review System (PERS)

In order to review the pedestrian network surrounding the proposed development, a Pedestrian Environment Review System (PERS) audit was undertaken on 9 May 2014. This assessment evaluates the quality of the local pedestrian network, identifying the extent to which it meets pedestrian needs. The PERS audit considers how pleasant, coherent and convenient the pedestrian facilities are. The audit allows for the identification and prioritisation of problems for pedestrians in the area so that resources can be targeted to improve the walking environment in the most efficient and effective manner.

The full audit is provided in **Appendix A**. The audit has highlighted some specific themes for improvement in the vicinity of the proposed development as shown in **Appendix A**. The key findings are summarised as follows:

- The local pedestrian network is moderately used in the morning and evening peak periods;

- The PERS audit has shown that the pedestrian environment is generally in good condition with direct routes to local tube and train stations;
- There is adequate width on all footways to cope with the existing volume of pedestrians on most of the footways surrounding the proposed development;
- The majority of dropped kerbs are located at the appropriate places and are generally aligned with the pedestrian desire line;
- There is good signage within certain locations of the study area. Way-finding maps and signs are provided outside Underground stations, which help with navigation in the area. However, when travelling south of the proposed development along Drury Lane, the level of continuous signage to trip attractors decreases. This could be improved with intermediate signing in this area;
- The majority of pedestrian crossings are satisfactory for the level of users; and
- Public transport waiting areas (i.e. bus stops) performed positively in the audit. Despite this, the lack of real time information at some bus stops could be addressed.

Following the PERS audit, the following headline recommendations can be made to improve the pedestrian environment in the vicinity of the proposed development:

- More attention/action should be given to improve the physical environment of High Holborn (at and close to its junction with Museum Street) and Museum Street. The PERS showed that the quality of environment for pedestrians was not pleasant. Maintenance of the route could be improved to develop the physical environment;
- The functioning of the crossing on New Oxford Street could be improved to enable pedestrians to directly cross Bloomsbury Way at the junction;
- The waiting areas for Bus Stop C on Bloomsbury Way and Bus Stop S on High Holborn could be improved;
- The amount of unnecessary obstructions on footways could be reduced to free up space for pedestrians. This is especially relevant of routes south of the site (e.g. Drury Lane); and
- More way-finding maps could be introduced en route to Covent Garden station in order to guide pedestrians to trip attractors.

4.4 Cyclists

4.4.1 Cycle routes

There are a number of cycle routes available in the vicinity of the proposed development. According to TfL's Central London cycle map, Museum Street is a 'quieter road that has been recommended by other cyclists'. An off road cycle path is located on High Holborn leading to New Oxford Street, north west of the site. All cycle routes are shown on Error! Reference source not found..

A number of new cycle routes are proposed as part of the Central London Cycle Grid. A number of proposed routes will pass near the site. These include:

- Route EW7 from Tottenham Court Road to Clerkenwell;
- Route EW8 from Charing Cross to Holborn; and
- Route NS1 from Regents Park to Great Queen Street.

4.4.2 Public Cycle Parking

Public cycle parking facilities are available at a number of locations in the immediate vicinity of the proposed development. These stands are located at:

- Museum Street (4 spaces);
- New Oxford Street (5 spaces);
- New Oxford Street (9 spaces);
- High Holborn (4 spaces); and
- High Holborn (10 spaces).

4.4.3 Barclays Cycle Hire

The closest Barclays Cycle Hire docking stations to the site are (approximate walking distances and number of bicycles shown in brackets):

- High Holborn, Covent Garden (this station is immediately adjacent to the site, 16 bikes);
- Bury Place, Holborn (140m, 21 cycles);
- Southampton Place, Holborn (320m, 19 cycles);
- Earnshaw Street, Covent Garden (320m, 18 cycles);
- Drury Lane, Covent Garden (320m, 27 cycles);
- Great Russell Street, Bloomsbury (320m, 26 cycles); and
- Newton Street, Covent Garden (485m, 23 cycles).

4.5 Highway Network

The proposed development is bounded by the following roads:

- **New Oxford Street:** on the northern perimeter. From the junction with Tottenham Court Road, traffic is one way from west to east with a bus contraflow. Traffic flows are generally heavy. The stretch of New Oxford Street adjacent to the site experiences lower levels of traffic and is a one way street with traffic travelling east to west. There is vehicular access to the existing site via New Oxford Street. New Oxford Street is part of the Strategic Road Network and, as such, LB Camden is the highway authority but TfL must be consulted on any alterations which may have an impact on traffic flow.
- **High Holborn:** runs along the southern edge of the proposed development. Traffic travels in a one way direction from east to west and the street generally experiences heavy traffic flows. There are some waiting restrictions for lorries (over 5T) and coaches. High Holborn is part of the Strategic Road Network.

- **Museum Street:** This bounds the site to the west. The street is narrower in comparison to New Oxford Street and High Holborn and therefore experiences lighter traffic flows. Traffic travels in a south to north direction. Museum Street is a minor road and is managed and maintained by LBC.

In the wider area, the highway network south of the site (Drury Lane, Stukeley Square, Smart Place) are narrower, quieter roads which experience generally lower flows of traffic. Bloomsbury Way (A40) is a key local route which branches off New Oxford Street to the north-west corner of the site. Traffic flows are generally heavy and the route is west to east with a bus contraflow.

4.6 Parking

4.6.1 On-street parking

Parking is not permitted on any of the streets in the direct vicinity of the site. However there are some Pay and Display parking bays on High Holborn adjacent to Bloomsbury Court. The maximum stay is for two hours Monday-Saturday 08:30-18:30. This also includes one space for permit holders. New Oxford Street, immediately north of the site, has a diplomatic vehicle parking bay.

4.6.2 Off-street car parking

There is one NCP car park in the vicinity of the site. Shaftesbury Car Park is accessible from Museum Street, immediately to the west of the site, and has capacity for 228 vehicles.

4.6.3 Car club spaces

Car clubs provide access to short term car hire, reducing the need for people to own a private car. There are two car club parking bays within walking distance of the site, each with capacity for one vehicle, with vehicles in the following locations:

- Bury Place – Toyota Yaris, 160m (City Car Club); and
- Parker Street – Volkswagen Golf, 320m (Zipcar).

4.6.4 Motorcycle parking

There is one motorcycle parking facility in the vicinity of the site on Museum Street, to the north west of the site.

4.7 Future transport proposals

4.7.1 The West End Project

In conjunction with TfL and Westminster City Council, LBC is exploring changes to the main roads and junctions between Euston and St Giles. This work is known as the West End Project. The Project aims to create more civilised streets with less traffic, lower traffic speeds and better public spaces on the street. These changes

would involve a more attractive Tottenham Court Road with wider footways and remodelled junctions at:

- Euston Circus (above the Euston Underpass);
- St Giles Circus (the southern end of Tottenham Court Road);
- Cambridge Circus (Shaftesbury Avenue/ Charing Cross Road); and
- Princes Circus (Shaftesbury Avenue/ High Holborn).

Alterations to traffic flows on these roads and junctions could have a significant influence on traffic and pedestrian movements across Fitzrovia, Bloomsbury and beyond.

Further details are provided in the *Fitzrovia Area Action Plan* drawn up by LBC. The scheme is expected to be delivered by 2016.

4.7.2 Holborn Public Realm Project

LBC are currently investigating the reduction or removal of traffic on the Holborn gyratory in order to improve conditions for walking, cycling and for bus travel. In broad terms this area extends west to east from Museum Street to Gray's Inn Road. The gyratory includes the following major roads:

- Bloomsbury Way/Vernon Place/Theobald's Road;
- New Oxford Street;
- High Holborn;
- Drake Street /Procter Street; and
- Kingsway/Southampton Row.

The Holborn scheme is considered to be an extension of the West End Project to remove the traffic gyratory from Tottenham Court Road and Gower Street, which LBC is currently consulting on. It is worth noting that the project proposals are still at an early stage.

4.7.3 Crossrail

Crossrail will deliver a high frequency, high capacity service to 40 stations linking Reading and Heathrow in the west, to Shenfield and Abbey Wood in the east via 21 km of new twin-bore tunnels under central London. New Crossrail stations are being built across London, one of which is Tottenham Court Road. Buildings have been demolished from the area bounded by Dean Street, Diadem Court, Great Chapel Street and Oxford Street to make way for the modern ticket hall.

The new station is expected to open in late 2018 and will provide 24 trains per hour during peak times. Journey times to Canary Wharf will be 12 minutes, Stratford in 13 minutes and Heathrow in fewer than 30 minutes.

4.7.4 Tottenham Court Road Station

Tottenham Court Road is benefiting from more than £1 billion of investment towards a new Crossrail station and a London Underground station that will be rebuilt by 2016. The full upgrade will help it meet the estimated demand of more than 200,000 journeys per day once Crossrail is built. Benefits include: a new, larger ticket hall, new entrances and a public plaza outside the Centre Point tower, additional escalators, new lifts to provide step-free access from street to platform level, new access to the Northern and Central line platforms to reduce congestion, and improvements to safety for visually impaired passengers.

5 Proposed Development

5.1 Introduction

This section outlines the proposed development and how access and parking will be managed.

5.2 Description of Proposed Development

The proposal is for redevelopment of 21-31 New Oxford Street from its existing use to a mixed use development for office, residential and retail use. The proposed development will have a total of nine levels (not including the basement), with a mezzanine floor included on levels one, two and eight.

The majority of the building is proposed to be for flexible office use (approximately 34,836m² Gross Internal Floor Area (GIFA)) taking advantage of the existing double height internal spaces and inserting mezzanines around a new core. The development will include the provision of active public uses at ground and lower ground floor levels to reactivate street frontages, with a mix of uses such as shops, cafés, galleries and restaurants (approximately 4,167m² GIFA). There will be up to 21 new affordable homes in the south east corner of the site fronting High Holborn. Public realm enhancement works are also proposed as part of the development, including reopening Dunn's Passage and creating a new public open space on Museum Street.

5.3 Access

The main vehicular access to the site is proposed to be on High Holborn, giving access to the servicing areas and Blue Badge Bays. The access will take the form of a simple crossover. A Stage 1 Road Safety audit will be prepared at a later date to consider the proposed access arrangements.

Access for pedestrians and cyclists will be on New Oxford Street. All servicing will take place off-street at ground level, with vehicles entering and exiting the proposed development in forward gear.

5.4 Highway Alterations

The proposed development will include improvements to the public highway in Museum Street in order to provide a high quality environment for all users.

A pedestrian-friendly environment is proposed to enhance the local public realm and facilitate improved pedestrian accessibility. It is anticipated that way-finding signs, in line with Legible London, will be installed to facilitate pedestrian navigation. Landscaping works are proposed to enhance the physical environment. The proposed layout is shown in **Gillespies' Drawing OX5160-110 P03 Hardworks**.

As part of wider opportunities to enhance pedestrian connectivity in the local area, discussions have taken place with LBC transport and planning officers in relation to the following potential improvements:

- An improved pedestrian crossing and public realm environment at the junction of Museum Street with New Oxford Street and Bloomsbury Way. Indicative proposals are shown in **Drawing 230602-12-001**; and
- An improved pedestrian crossing and public realm environment at the junction of Museum Street with High Holborn and Drury Lane. Indicative proposals are shown in **Drawing 230602-12-002**.

However, improvements to junctions and crossing facilities are outside of the red line boundary of the current planning application for 21-31 New Oxford Street.

5.5 Parking

5.5.1 Car Parking

In accordance with Policy 6.13 of *The London Plan*, there will be no car parking with the exception of designated bays for Blue Badge holders. Two car parking bays for Blue Badge holders will be provided, in compliance with the parking addendum to chapter six of the *London Plan*, which states that developments should provide at least one accessible on or off street car parking bay designated for Blue Badge holders, even if no general parking is provided.

The *London Housing SPG* and LBC's *Wheelchair Housing Design Brief* stipulate that each designated wheelchair user dwelling should be allocated a parking space. The scheme will provide 21 residential units in total, and 10% will be wheelchair accessible.

The intention is to provide two Blue Badge bays in total at ground floor: one for the office use, and one for the residential units, at a rate of 5% Blue Badge provision rather than 10% for the residential units. Experience of other schemes has shown that 5% Blue Badge provision reflects actual demand in an area of high public transport accessibility and is acceptable to LBC.

5.5.2 Cycle Parking

With regards to cycle parking for the proposed development, a total of 486 basement parking spaces and 49 parking spaces at-grade will be provided. The level of provision of cycle parking reflects the sustainable aspirations of the proposed development and the anticipated level of demand. The provision exceeds minimum standards set by LBC, adopted and emerging *London Plan* standards (refer to **Table 2**) and is in accordance with the Planning Brief for 21-31 New Oxford Street (refer to Section 2.4.7).

Table 5 shows the breakdown of where cycle parking will be provided by each land use of the proposed development vis-à-vis the requirements of the draft *Further Alterations to the London Plan (FALP)* which have the highest cycle parking standards.

Table 5: Proposed cycle parking

	Requirements of FALP		Provided	
Land use	**Long Stay Spaces**	**Short Stay Spaces**	**Basement Spaces**	**At –Grade Spaces**
Residential	42	1	46	2
Office	395	16	398	16
Retail	26	31	42	31
TOTAL	**463**	**48**	**486**	**49**

6 Trip Generation and Mode Split

6.1 Existing Trip Generation

The building at present is vacant; therefore the site does not generate any regular trips. However there are occasional events on site thus generating trips to and from the site.

6.2 Proposed Office Trip Generation

6.2.1 Introduction

This section provides an analysis of trip generation and modal split carried out for the office element of the proposed development. The trip generation and modal split analysis have considered the morning and evening peak hours which are between 08:00-09:00 and 17:00-18:00. The methodology is based on TRICS. It is the UK and Ireland's national system of trip generation analysis, containing over 6,657 directional transport surveys at over 110 types of development. TRICS 7.1.2 Online was used for this exercise.

6.2.2 TRICS Site Selection

The selection of comparable sites in TRICS has key site characteristics, such as PTAL rating, location and size of development. The following sites have been identified as suitable for assessment:

- 50 Cotton Street (Bank, City of London), EC4N 6JJ;
- Ely Place (Holborn, Camden), EC1N 6SN;
- Grays Inn Road (Clerkenwell, Camden), WC1X 8HN; and
- Battersea Park Road (Battersea, Wandsworth), SW11 3BY.

All of the selected sites are land use Class B1 (office), are in an inner or central London location, a PTAL rating of 5-6b and are of a similar size. As a result, the travel behaviour observed for these sites has been considered comparable with that of the proposed development. The complete TRICS site report is included as Appendix B.

6.2.3 Office Development Trip Generation

The average and total trip rates for the office element of the proposed development have been calculated and are shown in **Table 6** and **Table 7** respectively.

Table 6: Average person trip rates / 100m^2 GFA

	AM Peak Hour			PM Peak Hour		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Average	2.8	0.3	3.1	0.3	3.0	3.3

Table 7: Total person trips

	AM Peak Hour			PM Peak Hour		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Total	931	88	1019	104	998	1102

6.2.4 Office Development Modal Split

The modal split for all trips generated by the office element of the proposed development has been based on Neighbourhood Statistics (i.e. census data) from the Office of National Statistics. The Ward for the proposed development is Holborn and Covent Garden. In order to ensure that the modal split for the site is an accurate representation, the modal split detailed by the Neighbourhood Statistics has been adjusted to suit the site's characteristics and the transport modes available in the local area.

Table 8 summarises the original modal split predicted by Neighbourhood Statistics and the adjusted modal split. The percentages of 'Driving a car/van' and 'Passenger in car/van' have been reduced to 1% given that there will be no car parking spaces provided within the development, with the exception of two disabled parking spaces. The percentage for 'Bicycle' has been increased due to the central location of the proposed development and the cycle parking facilities provided within the proposed development.

Table 8: Predicted office development mode split

Mode of Transport	Modal Split	Modal Split Adjusted
Bicycle	3%	10%
Bus/minibus/coach	9%	9%
Driving a car/van	9.5%	1%
Motorcycle/scooter/moped	2%	2%
Other	0%	1%
Passenger in a car/van	1%	1%
Rail	36%	36%
Taxi/minicab	0.5%	1%
Underground	35%	35%
Walk	4%	4
Total	**100%**	**100%**

6.3 Proposed Residential Trip Generation

6.3.1 Introduction

This section provides an analysis of trip generation and modal split carried out for the residential element of the proposed development. The trip generation and modal split analysis have considered the morning and evening peak hours which

are between 08:00-09:00 and 17:00-18:00 respectively. The methodology is based on TRICS.

6.3.2 TRICS Site Selection

The selection of comparable sites in TRICS has key site characteristics, such as PTAL rating, location and size of development. The following sites have been identified as suitable for assessment:

- 9 dwellings, Shoreditch, Hackney, N1 6NN;
- 21 dwellings, Islington, N1 2XR;
- 16 dwellings, Notting Hill, Kensington, W8 7TQ
- 32 dwellings, Aldgate, Wandsworth, E1 1LS; and
- 30 dwellings, Clapham Junction, Wandsworth, SW11 2JW.

All of the selected sites are land use Class C3 (residential), are in an inner or central London location and have a PTAL rating of 5-6b. As a result, the travel behaviour observed for these sites has been considered comparable with that of the proposed development. The complete TRICS site report is included as Appendix B.

6.3.3 Residential Development Trip Generation

The average and total trip rates for the residential element of the proposed development have been calculated and are shown in **Table 9** and **Table 10** respectively.

Table 9: Average person trip rates / per residential unit

	AM Peak Hour			PM Peak Hour		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Average	0.1	0.4	0.5	0.2	0.1	0.3

Table 10: Total person trips*

	AM Peak Hour			PM Peak Hour		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Total	2	8	10	4	1	6

*Note that figures may not sum due to rounding

6.3.4 Residential Development Modal Split

The modal split for all trips generated by the proposed development has been based on Neighbourhood Statistics (i.e. census data) from the Office of National Statistics.

Table 11 summarises the original modal split predicted by Neighbourhood Statistics. It was felt that these did not require adjustment as they reflect the local area and the transport modes available.

Table 11: Predicted residential development mode split

Mode of Transport	Modal Split
Bicycle	6%
Bus, minibus or coach	17%
Driving a car/van	5%
Motorcycle/scooter/moped	1%
Other	3%
Passenger in a car/van	0%
Rail	6%
Taxi/minicab	1%
Underground	18%
Walk	43%
Total	100%

6.4 Proposed Retail Trip Generation

It is assumed that the proposed retail facilities serve the development and the local area, and will not be major destinations in their own right. It has been assumed that all trips to these facilities will be 'pass-by' trips.

This means that the retail unit (s) will be only visited by people who are already circulating around or past the building and that no new trips will be generated.

6.5 Trip Generation Summary

The total net development trips only take into account the office and residential elements of the proposed development. This is presented in **Table 12**.

Table 12: Peak hour trips by mode

Mode of Transport	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Bicycle	93	9	102	11	100	110
Bus/minibus/coach	86	9	96	10	93	103
Driving a car/van	9	1	11	1	10	11
Motorcycle/scooter/moped	19	2	20	2	20	22
Other	3	0	3	0	3	3
Passenger in a car/van	8	1	9	1	9	10
Rail	339	33	372	38	364	402
Taxi/minicab	5	1	5	1	5	6
Underground	331	33	363	38	355	392
Walk	39	7	46	6	42	48
Total	**933**	**96**	**1029**	**108**	**999**	**1107**

*Note that figures may not sum due to rounding

7 Transport Impact

This section assesses the net impact of the proposed development on individual modes of transport based on the net changes in trip generation described in Section 6.

7.1 Impact on Public Transport Network

7.1.1 Impact on Rail

As stated in **Section 6.5**, there will be a net increase of 372 rail trips in the AM peak hour as a result of the proposed development. Currently the nearest rail station to the site is Euston station at 1.7 km. Due to the distance, rail trips are expected to be linked to other trips, as rail passengers will use buses, walking, cycling, or London Underground to access the proposed development.

The proportion of proposed trips on buses, walking, cycling and London Underground was calculated in relation to total trips in the AM peak hour so that rail trips could be redistributed to each mode. **Table 13** shows the number of trips that were redistributed to each mode.

Table 13: Distributed rail trips*

Mode of transport	Distribution of rail trips	New total trips
Bicycle	17% (63 trips)	166
Bus	16% (59 trips)	155
Underground	60% (223 trips)	586
Walk	7% (26 trips)	72

*Note that figures may not sum due to rounding

7.1.2 Impact on Crossrail

Crossrail services will be available from Tottenham Court Road station from 2018. Crossrail has already undertaken analysis of entry and exit numbers at the station, including trips from proposed development in the area such as 21-31 New Oxford Street. The Impact of Crossrail on Visitor Numbers in Central London (2014) presents primary assumptions and analysis of Crossrail visitors projected for Tottenham Court Road station and its vicinity. It sets out potential changes in entry and exit flows by considering residential and commercial developments planned for the station area. Therefore we have not undertaken analysis of the impact on Crossrail as part of this Transport Assessment.

7.1.3 Impact on London Underground

There will be a net increase of 363 Underground trips in the AM peak hour as a result of the proposed development. Taking into account the redistribution of rail trips onto the Underground network (an additional 223 trips), this increases to 586 trips.

It is assumed that the additional 223 trips from the redistributed rail trips can only be apportioned to the Northern line as this is the only London Underground line that serves Euston station and links up with the Underground stations in the vicinity of the proposed development (i.e. Tottenham Court Road station).

For the purposes of assessing the impact of trips generated by the proposed development, the 363 trips were distributed equally to all London Underground lines within walking distance of the site and the 223 trips were distributed only to the Northern line which serves both Euston and Tottenham Court Road stations. This is shown in **Table 14**.

Table 14: London Underground trips generated by the proposed development

Station	Train Arrivals	Additional Trips per Station	Additional Trips per Train
Tottenham Court Road	48	182+223 = 405	9
Holborn	25	182	8
Total	**73**	**587**	**17**

*Note that figures may not sum due to rounding

It is anticipated that during the AM peak hour, due to the proposed development, an additional 405 passengers will arrive at Tottenham Court Road station and 182 passengers will arrive at Holborn station. This equates to approximately nine additional passengers per train at Tottenham Court Road station and approximately eight additional passengers per train at Holborn station. The increases in passenger numbers per train are considered marginal and will be accommodated within the existing station and line capacities.

7.1.4 Impact on London Bus Network

It is estimated that an additional 96 bus trips will be generated in the AM peak hour as a result of the proposed development. Together with the redistributed rail trips from Euston station, this results in 155 trips (59 trips redistributed from rail as stated in **Table 13**). In the absence of trip origin and destination data, trips were distributed onto bus routes based on the frequency of service for each route.

For the purposes of assessing the impact of trips generated by the proposed development, 96 trips were distributed to all bus services within walking distance of the site and 59 trips (redistributed from rail) were distributed only onto the following bus routes that serve Euston station, again based on the frequency of services:

- Route 10: Hammersmith Station – King's Cross Station (16% of rail-based trips have been redistributed to this bus route);
- Route 59: Wharfdale Road/London Canal Museum (near King's Cross) - Streatham Hill (13% of rail-based trips have been redistributed to this bus route);
- Route 68: Euston Station – West Norwood Station (18% of rail-based trips have been redistributed to this bus route);
- Route 91: Northumberland Avenue/Trafalgar Square - Rosebery Gardens (Crouch End) (19% of rail-based trips have been redistributed to this bus route);

- Route 168: Dunton Road (Hampstead Heath) - South End Green (Southwark) (19% of rail-based trips have been redistributed to this bus route); and
- Route 390: Palace Gardens Terrace (Kensington) – Archway Station (16% of rail-based trips have been redistributed to this bus route).

The proportion of the total number of bus trips for all bus routes is outlined in **Table 15**.

Table 15: Additional Trips per Bus Service

Route No.	Bus Arrivals	Distribution	Additional Trips per Bus Route	Additional Trips per Service
1	8	3%	2.83	0.35
7	9	3%	3.19	0.35
8	12	4%	4.17	0.35
10	8	3%	12.14	1.52
14	14	5%	5.06	0.35
19	8	3%	2.83	0.35
25	10	4%	3.45	0.35
29	15	6%	5.31	0.35
38	20	7%	7.08	0.35
55	9	3%	3.30	0.35
59	7	2%	10.24	1.52
68	9	3%	14.16	1.52
73	23	8%	7.96	0.35
91	10	4%	14.79	1.52
98	8	3%	2.95	0.35
134	14	5%	5.06	0.35
168	10	5%	14.79	1.52
171	8	3%	2.83	0.35
176	8	3%	2.83	0.35
188	8	3%	2.83	0.35
242	7	3%	2.48	0.35
243	7	3%	2.58	0.35
390	8	3%	12.14	1.52
521	21	8%	7.43	0.35
RV1	6	2%	2.15	0.35
X68	4	1%	1.42	0.35
Total	**271**	**100%**	**156**	**16**

It is expected that during the AM peak hour, there would be less than one additional passenger per bus as a result of the proposed development, excluding services carrying passengers who will have transferred from rail to bus at Euston. Between one and two additional passengers per bus will be expected on services

which stop at Euston station. The increase in the number of passengers per bus is considered minimal and will be easily accommodated within the existing bus network.

7.2 Impact on Highway Network

The proposed development is not expected to generate any vehicular trips during the AM peak hour. The 20 trips as a car or van driver or passenger (**Table 12**) could be associated with: dropping people off at the site; using the NCP car park on Museum Street; and the two disabled car parking spaces. It is therefore concluded that the proposed development will have a negligible effect on the local highway network and no further assessment has been carried out.

7.3 Impact on Cycle Network

A total of 102 cycle trips will be generated during the AM peak hour as a result of the proposed development. With a redistribution of rail trips, this results in 166 cycle trips. The cycle parking demand will be accommodated by the cycle parking facilities provided within the proposed development. It is anticipated that the additional cycle traffic would not have any significant impact on the capacity of the local cycle network during the AM peak hour.

7.4 Impact on Pedestrian Network

A total of 46 walking trips will be generated during the AM peak hour as a result of the proposed development. This is the number of trips where walking is the main transport mode. A small proportion of rail trips associated with the development are expected to use walking as a connecting mode, despite the distance of Euston station. Therefore the anticipated number of walk trips is 72.

7.4.1 Pedestrian Comfort Assessment

The purpose of a Pedestrian Comfort Assessment (PCA) is to understand the pedestrian experience as people walk down a street. Locations in the vicinity of the proposed development were assessed to review the level of comfort and how this may change due to changes in street furniture or footway width.

The footway assessment for the area within the vicinity of the proposed development includes the following streets:

- New Oxford Street – southern footway bordering the site;
- Museum Street – eastern footway bordering the site; and
- High Holborn – northern footway bordering the site.

An assessment was undertaken when the clear width changed along each footway length. For example static objects such as street furniture, change the available width for pedestrian movement. The PCA results range from A (most comfortable) to E (least comfortable) and is measured in people per metre minute (ppmm).

Existing pedestrian flow data was taken from a study for the proposed development by Space Syntax titled ‘Urban Baseline Study & Spatial Layout

Design Advice'. This is shown in **Table 16** along with the width of each footway, which was calculated using technical drawings.

Table 16: Existing Pedestrian Flows

Street	Average Flow (Weekday)	AM Peak Hour Flow	Footway total width
New Oxford Street	747	Not given	4m
Museum Street	186	202	2.5m
High Holborn	157	142	5m

The width is reduced by street furniture on all three footways and the widths of the following were taken into consideration:

- New Oxford Street – a phone box (1m);
- Museum Street – a lamppost (0.2m); and
- High Holborn - High Holborn, Covent Garden Barclays Cycle Hire docking station (2m).

Based on the information set out above, the assessment results show the three streets in the vicinity of the proposed development (with or without street furniture) have footway widths that are comfortable for its users with an average score of A (comfortable).

This is excluding the location of the Barclays Cycle Hire docking station as footway width is reduced. This location scored an F. A building overhang on High Holborn creates space for pedestrians to walk; however this has not been counted as footway and was not included in the PCA. Nevertheless, a review of this location should be considered to create as much space as possible for walking.

7.5 Mitigation Measures

The proposed development is not expected to create significant adverse implications for the local transport network. Nevertheless the following issues have been identified:

- As part of the public realm improvements to High Holborn, it is proposed that an alternative Barclays Cycle Hire docking station site should be considered for the High Holborn, Covent Garden docking station. This docking station is currently adjacent to the site. A new site for the docking station is required as there will be insufficient space for the current docking station and the required pedestrian footway with the new development building line (which extends to the ownership boundary). In addition, High Holborn will be the vehicular access to the site, and conflict between vehicular and cycle movements should be avoided. After consultation with TfL, the removal of the docking station has been agreed in principle, upon the assumption that the developer will fully fund the cost of its removal and reinstallation, and that a suitable alternative location will be identified after 21-31 New Oxford Street is granted planning permission. This undertaking will be subject to a Section 106 agreement between the developer and LBC and set out in the Heads of Terms as part of the planning application submission;

- In order to assist the pedestrian movement in the local area, the development proposes to support way-finding through additional signage provided as part of the Legible London programme. The details of a contribution to Legible London will be discussed in due course with TfL;
- Construction and Logistics Plan (CLP) – a preliminary plan has been produced by Arup to support the planning application. It will be necessary for the main contractor to adopt and develop this plan to reflect the construction work as a condition of the planning permission;
- A Delivery and Servicing Plan (DSP) will be provided as a condition of the planning permission in order to ensure that operational delivery activity is managed satisfactorily; and
- An Interim Travel Plan will be agreed prior to initial occupation in order to support long-term travel to and from the site by sustainable modes of transport.

8 Servicing and Waste

8.1 Introduction

This section outlines the servicing and waste management strategies for the proposed development. The daily delivery and servicing vehicle trips for the development were calculated using an Arup in-house vehicle generation tool. The generation tool utilises a range of information from similar developments in the UK, including: - Arup research, other survey information, and relevant design guidelines. This information is used to determine vehicle trip rates (vehicles per 100m² of Gross Internal Area per day) for deliveries and servicing by type of building use. The vehicle trip rates are then applied to the relevant building areas to calculate the daily delivery and servicing vehicle trips for the development.

8.2 Servicing

Service Vehicle Trips

The estimated number of vehicles generated as a result of the proposed development has been calculated based on other survey information from similar developments in London. The vehicle trips rates used are based on the gross internal areas (GIA) of the development and are as follows:

- 0.07 vehicles per 100m² GIA per day for the residential land use;
- 0.2 vehicles per 100m² GIA per day for the office land use; and
- 0.53 vehicles per 100m² GIA per day for A1 retail land uses.

It was assumed that retail space would be split between A1 and A3 retail land use. For A3 retail land use, calculations were based on typical delivery rates for an average-sized A3 retail unit rather than vehicle trip rates. This equated to a total of 17 service vehicle trips per day.

The proposed development will comprise the following (in GIA):

- 3,068m² residential space;
- 34,836m² office space; and
- 4,167m² retail space.

There will be eight intermediate rent units (four two-bed units and four one-bed units) and 13 affordable rent units (four three-bed units, two two-bed units and seven one-bed units).

Based on these areas, 11 peak hour servicing trips for the proposed development are anticipated. These will require a total of three loading bays, which are shown in **Drawing 230602-12-003**.

The types of servicing vehicles and their typical turnaround times are shown in **Table 17**.

Table 17: Typical Turnaround Times for Servicing Vehicles

Vehicle Type	Vehicle	Characteristics	Turnaround Time (mins)
LGV - Light Goods Vehicle, 6m Rigid		3.5 Tonne, vehicle length 6m	15
MGV - Medium Goods Vehicle, 8m Rigid		7.5 Tonne, vehicle length 8m	20
HGV - Heavy Goods Vehicle, 10m Rigid		17 Tonne, vehicle length 10m	20

Servicing Locations

All servicing is designed to be consolidated through one internal service area, accessed from High Holborn. Additional vehicle movements on New Oxford Street would not be compatible with plans to improve the pedestrian experience at the north-west corner of the site. There will be three loading bays within the internal service area at ground level. Vehicles will enter and leave the yard in forward gear.

A swept path analysis of the loading bays has been undertaken and is shown on **Drawing 230602-12-003**. This shows that access to the loading bays can be achieved without compromising the operation of the Blue Badge bays.

8.3 Waste Generation and Storage

All waste is designed to be collected and managed within the site. Dedicated commercial and residential stores have been designed in the basements, while retail units would store their waste within their respective demises.

Waste will be collected by contractors' vehicles from the internal service yard with material transferred from store rooms to a presentation area prior to collection. Waste will not be transferred to the presentation area via the public highway.

8.3.1 Residential

The London Borough of Camden requires residential developments with more than seven dwellings to provide a dedicated store sized to hold eight days' waste generation. This is to ensure sufficient storage for a weekly collection of refuse and recyclable waste.

Waste is calculated as $0.2m^3$ per week for two habitable rooms and $0.25m^3$ per week for three habitable rooms. To future-proof food waste collections, the waste store will have space for two 240 litre bins for food waste. **Table 18** shows the waste storage requirements for the residential element of the scheme.

Table 18: Residential Waste Storage

Weekly Collection	Weekly Volume (m^3)	No. 1,100 litre bins	No. 240 litre bins	Waste Room Area (m^2)	Bulky Waste Area (m^2)
Refuse	1.53	2	-	18.8	7.5
Recycling	3.57	4	-		
Food Waste	-	-	2		
Total	5.10	6	2	18.8	7.5

Residents will require a waste room sized at 18.8m² (4.9m x 3.83m) to hold six 1,100 litre bins and two 240 litre bins.

Office

In order to calculate the amount of waste produced by the office space and its storage requirements, it is assumed that each office worker occupies 12m² floor space (net) and generates 50 litres of waste per week. This indicates waste generation of 98,000 litres per week. **Table 19** sets out the storage requirements for office waste, assuming storage will be provided for two days' waste.

Table 19: Office Waste Storage

	2 Day Volume (m^3)	No. 360 litre bins	No. 100 kg Bales	Waste Room Area (m^2)
Refuse (30%)	**11.76**	-	-	-
Recyclables (70%)	**27.44**	-	-	-
Cardboard	-	-	7	**52**
Paper	-	-	10	
Plastics	-	-	1	
Glass	-	2	-	
Metal Cans	-	3	-	
Total	**39.20**	**5**	**18**	

Office refuse will require one 10m³ compactor located on a loading bay 12m x 4m with 5m clear headroom over the compactor. This will be provided in the internal service yard, as indicated by **Drawing 230602-12-30**.

Recyclable waste will require a waste room sized at 52m^2 (6.8m x 7.6m) to hold eighteen 100 kg bales (two per pallet) and five 360 litre bins.

Retail

In order to determine a worst case scenario for waste generation and storage requirements, it is assumed that the retail space will be split 50:50 between A1 and A3 uses.

With this assumption applied to the floor areas, weekly waste for the A3 use is anticipated to be 46,500 litres per week, with two days' waste generation amounting to 15,500 litres. Weekly waste for the A1 use is expected to be 13,950

litres per week, with two days' waste generation amounting to 4,650 litres. The storage requirements for the retail waste are set out in **Table 20**.

Table 20: Retail Waste Storage

	Area (m^2)	2 Day Volume (m^3)	No. 1,100 litre bins	Waste Room Area (m^2)
A1 Retail	1,395	4.65	5	50.2
A3 Retail	1,394	15.50	14	
Total	**2,789**	**20.15**	**19**	**50.2**

This level of retail waste would require a waste room sized at 50.2m^2 (13.2m x 3.8m) to hold nineteen 1,100 litre bins.

9 Travel Plan Framework

The design and location of the proposed development offers numerous opportunities for individuals to travel to the site in a sustainable manner. A Travel Plan developed for the main elements of the site will ensure good travel patterns are established upon occupation and set in place a long-term strategy for encouraging sustainable modes of travel.

As it is a mixed use development, the Travel Plan for the site only seeks agreement for the proposed framework which will be developed further with future occupiers.

The Travel Plan framework is attached in **Appendix C**.

10 Summary and Conclusions

10.1 Summary

Arup is appointed by New Oxford Street Ltd to prepare a Transport Assessment (TA) to support a planning application for the development of the former Royal Mail Sorting Office, 21-31 New Oxford Street, London Borough of Camden (LBC). This TA considers the transport implications of the proposed development.

The development proposals are for a mixed use development for office, residential and retail use. The proposed development will have a total of nine levels (not including the basement), with a mezzanine floor included on levels one, two and eight. The majority of the building is proposed to be for flexible office use (approximately 34,836m² Gross Internal Floor Area) taking advantage of the existing double height internal spaces and inserting mezzanines around a new core. The development will include the provision of active public uses at ground and lower ground floor levels to reactivate street frontages, with a mix of uses such as shops, cafés, galleries and restaurants (approximately 4,167m² GIFA). There will be up to 21 new affordable homes in the south east corner of the site fronting High Holborn. Public realm enhancement works are also proposed as part of the development, including reopening Dunn's Passage and creating a new public open space on Museum Street.

The site benefits from a Public Transport Accessibility Level (PTAL) rating of 6b[2]. This is rated as 'Excellent' (with 1a being the lowest accessibility and 6b being the highest accessibility). The site is within walking distance of Tottenham Court Road and Holborn Underground stations and 19 bus stops are within a short walk of the site.

The trip generation assessment estimates that the proposed development will generate 1,029 net additional person trips during the AM peak hour. The distribution of these trips to the pedestrian, cycle and public transport networks indicates that the proposed development will have a minor impact on the operation of the local transport network.

A series of proposed mitigation measures have been outlined in this TA. These include: a Construction and Logistics Plan (CLP); a Delivery and Servicing Plan (DSP); and a Travel Plan. Potential public realm improvements are also proposed.

10.2 Conclusion

This TA demonstrates that the proposed development can be accommodated within the existing traffic and transport infrastructure surrounding the development site. The site is well served by public transport and the expected trip demand can be accommodated on the local transport network. Design proposals will help to enhance the pedestrian network surrounding the site, and mitigation measures will address any adverse impacts as a result of the proposed development.

[2] For more information on PTAL's see http://data.london.gov.uk/datastore/package/public-transport-accessibility-levels

Figures

Legend

Site location

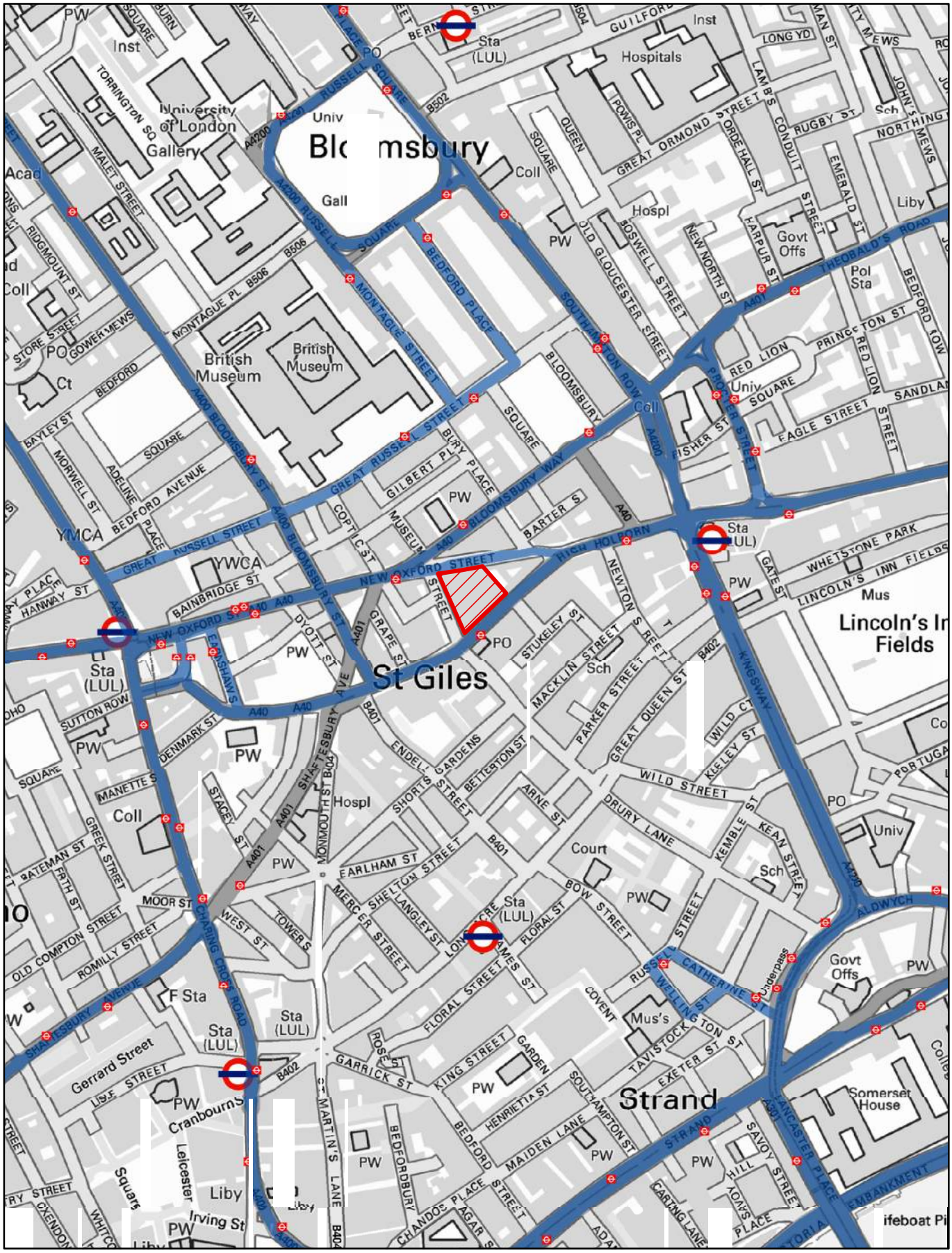
DLR

Overground

Underground

Project LT

Figure 1 Site Location

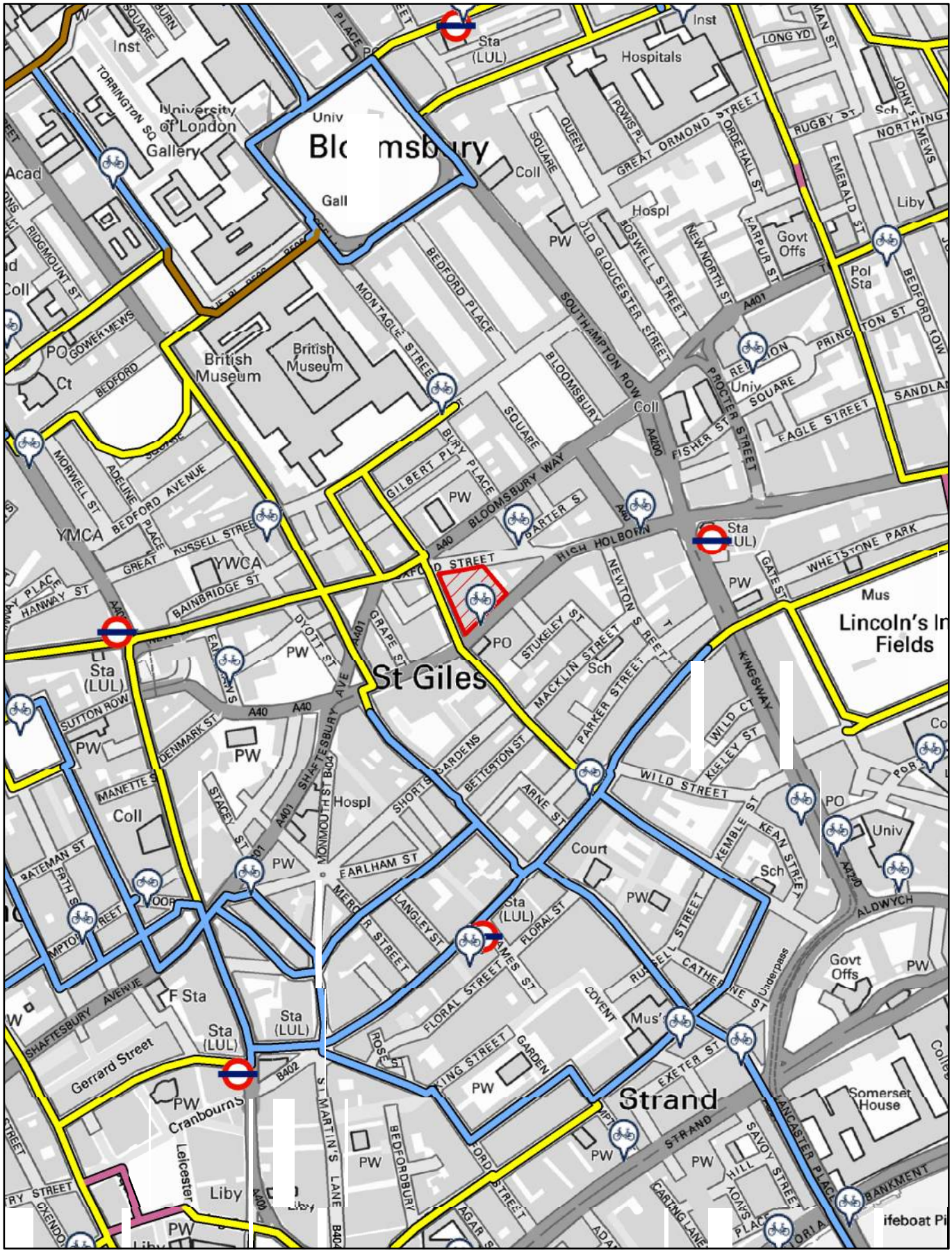


Legend

- Site location
- London Bus Stops
- Bus Routes
- DLR
- Overground
- Underground

Project LT

Figure 2 Public Transport



Legend

- Site location
- Barclays Cycle Hire Station
- DLR
- Overground
- Underground
- Off Carriage
- Signed Route
- Advisory
- Park or Canal Route
- Pedestrian Link

Project LT

Figure 3 Cycle Facilities

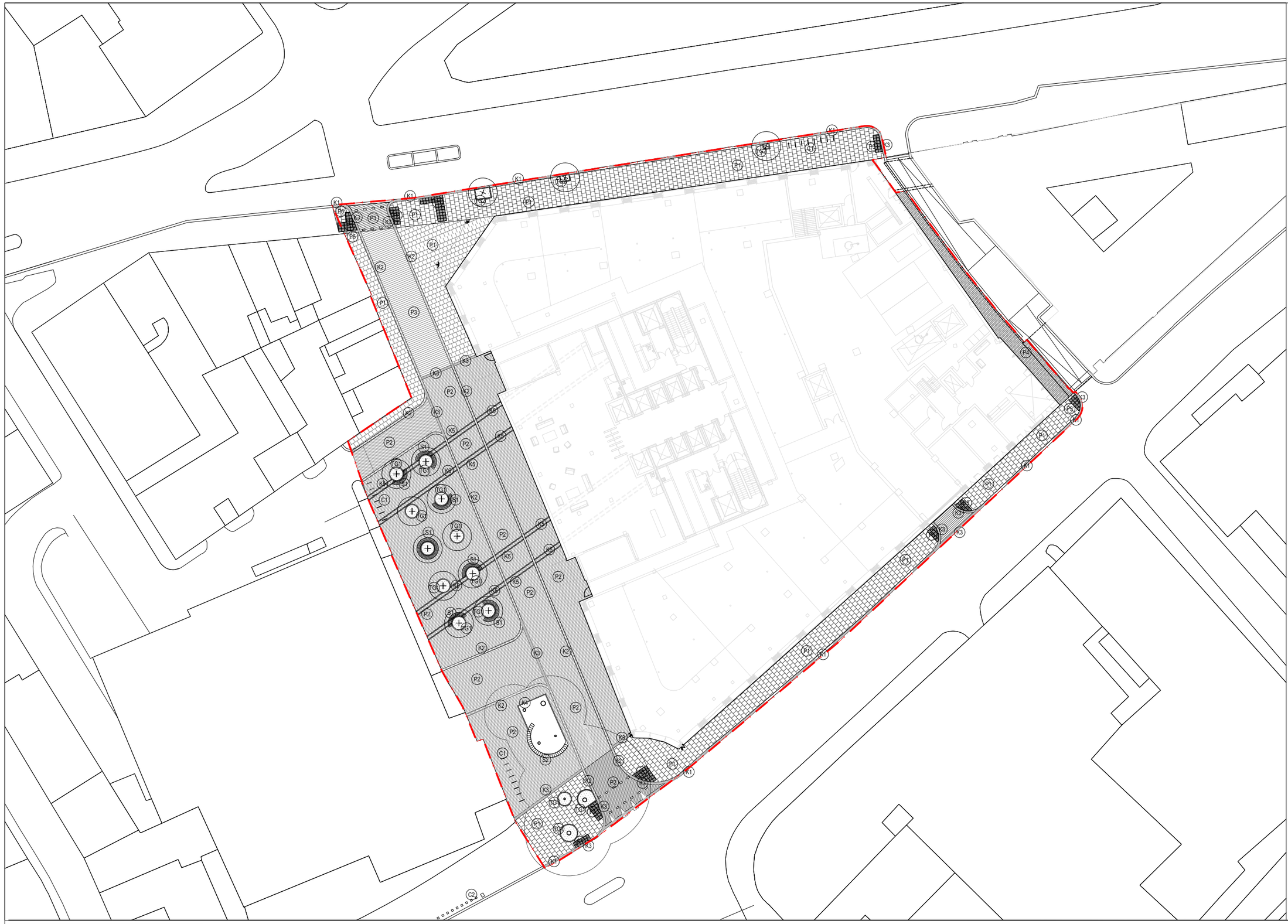
Drawings

Drawing 1 OX5160-110 P03 Hardworks

Drawing 2 230602-12-001 Museum Street/New Oxford Street/Bloomsbury Way Junction Layout

Drawing 3 230602-12-002 Museum Street/High Holborn/Drury Lane Junction Layout

Drawing 4 230602-12-003 Proposed Ground Floor Service Yard Swept Path Analysis



LEGEND

HARD WORKS AND FURNITURE

- PLANNING APPLICATION BOUNDARY
- BUILDING OUTLINE
- P1 PAVEMENT TYPE 1 — Large unit natural stone paving slabs, staggerred bond
- P2 PAVEMENT TYPE 2 — Natural stone sett paving mixed colours
- P3 PAVEMENT TYPE 3 — Natural stone sett paving mixed shades of grey
- P4 PAVEMENT TYPE 4 — Natural stone small unit paving
- P5 PAVEMENT TYPE 5 — Tactile warning paving to crossing natural stone
- P6 PAVEMENT TYPE 6 — Existing paving material retained
- K1 KERB TYPE 1 — 300mm wide, silver-grey granite 125mm up-stand
- K2 KERB TYPE 2 — 300mm wide, silver-grey granite 50mm up-stand
- K3 KERB TYPE 3 — 300mm wide, silver-grey granite flush
- K4 KERB TYPE 4 — Planter edge
- K5 KERB TYPE 5 — Inset paving strip, contrasting colour
- S1 SEATING TYPE 1 — Circular timber seat surrounding tree
- S2 SEATING TYPE 2 — Circular timber seat with planter
- TG1 TG1 Round permeable resin bound gravel tree surround
- TG2 TG2 Rectangular permeable resin bound gravel tree surround
- C1 C1 CYCLE STAND C1 — Camden 'M', black
- C2 C2 CYCLE-HIRE SCHEME DOCKING STATION — Potential alternative location (under discussion with TfL)

DRAFT

rev	details	by	date
P00	Issued for Information	AS	27.06.2014
P01	New Base Plan, planter update	AS	23.06.2014
P02	Amendements to Museum St. width	AS	10.07.2014
P03	Application Boundary updated	AS	16.07.2014

rev	details	by	date

Notes

1.0 Do not scale from drawing, use figured dimensions only
1.1 All dimensions to be checked onsite
1.2 This drawing to be read in conjunction with all other Gillespies drawings and specifications

N

Project title
PROJECT LT

Drawing title
Public Realm - Hardworks

Drawing number
OX5160-110

Drawing Status: PLANNING
Revision: P03

Date	Scale	Drawn	Checked
04.06.2014	1:250 @ A1	AS	NM

Client
New Oxford Street Limited

45-46 Berners Street
London W1T 3NE
P: 2074 368 288 F: 7872 813 750

GILLESPIES
1 St John's Square, London EC1M 4DH
P: 020 7253 2929 F: 020 7253 3900 E: london@gillespies.co.uk

A3

Issue	Date	By	Chkd	Appd
A	28/03/14	JD	AG	MR

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44(0)20 7636 1531 Fax +44(0)20 7580 3924
www.arup.com

Client
New Oxford Street Ltd

Job Title
Project LT/NOX

Proposed Junction Improvements
New Oxford Street/
Bloomsbury Way
Option 5

Scale at A3
1:500

Discipline
Transport Planning

Job No	Drawing Status
230602-12	**Preliminary**

Drawing No	Issue
230602-12-001	**A**

Do not scale

A3

B	01/04/14	JD	AG	MR
Crossing Points Revised				
Issue	Date	By	Chkd	Appd

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44(0)20 7636 1531 Fax +44(0)20 7580 3924
www.arup.com

Client
New Oxford Street Ltd

Job Title
Project LT/NOX

Proposed Junction Improvements High Holborn/ Museum Street Option 2 - West End Project

Scale at A3 1:500

Discipline Transport Planning

Job No **230602-12**

Drawing Status **Preliminary**

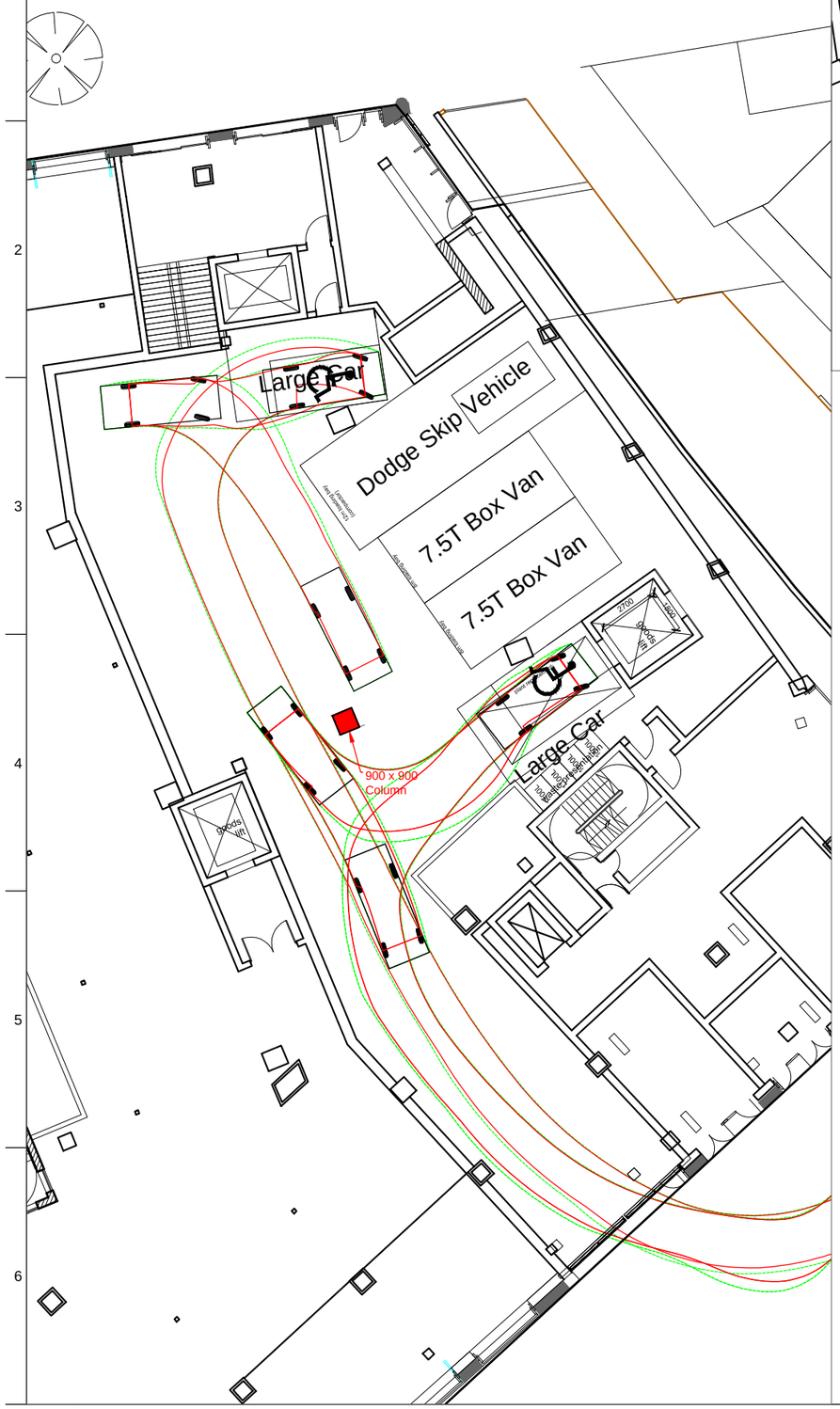
Drawing No **230602-12-002**

Issue **B**

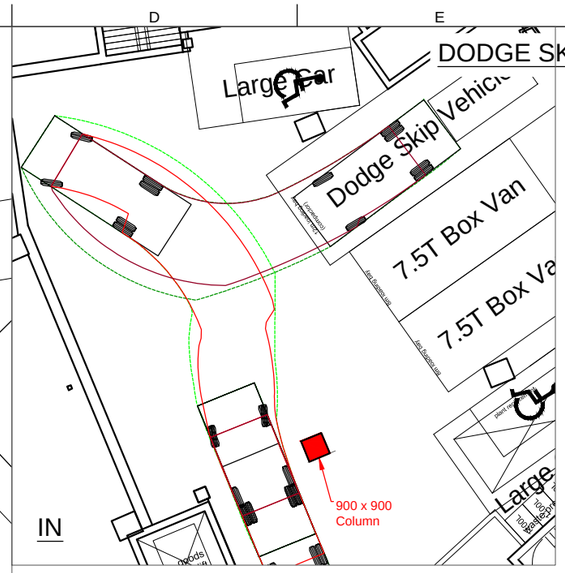
Do not scale

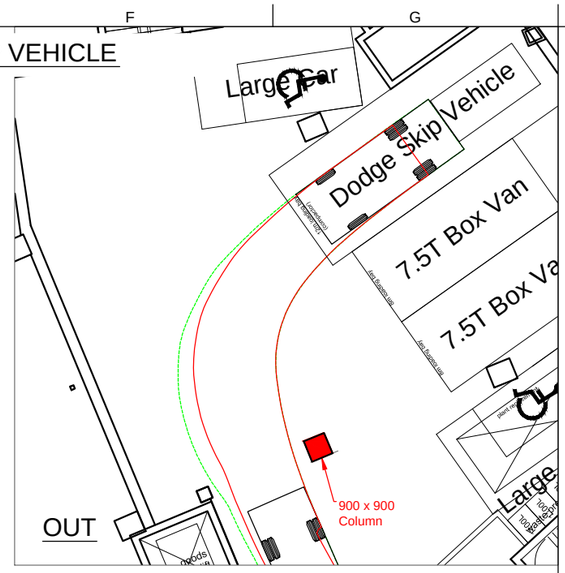
A3

LARGE CAR

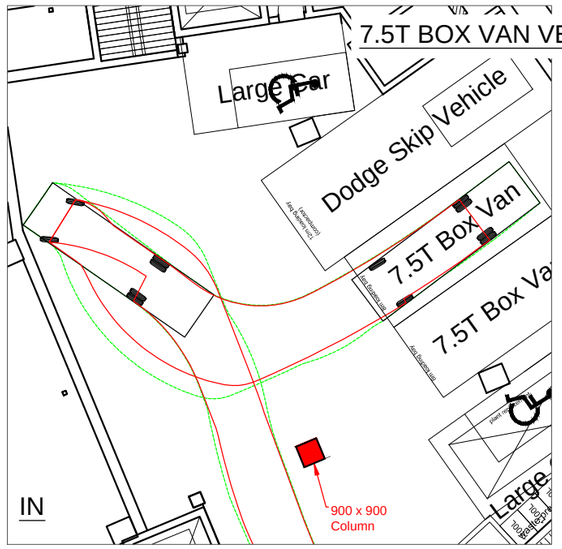


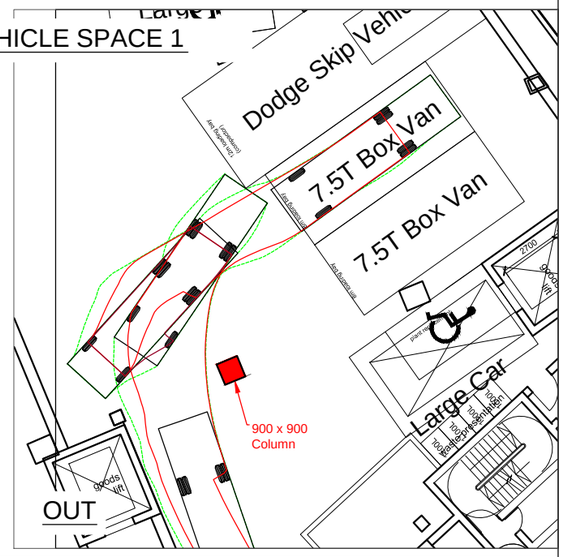
DODGE SKIP VEHICLE



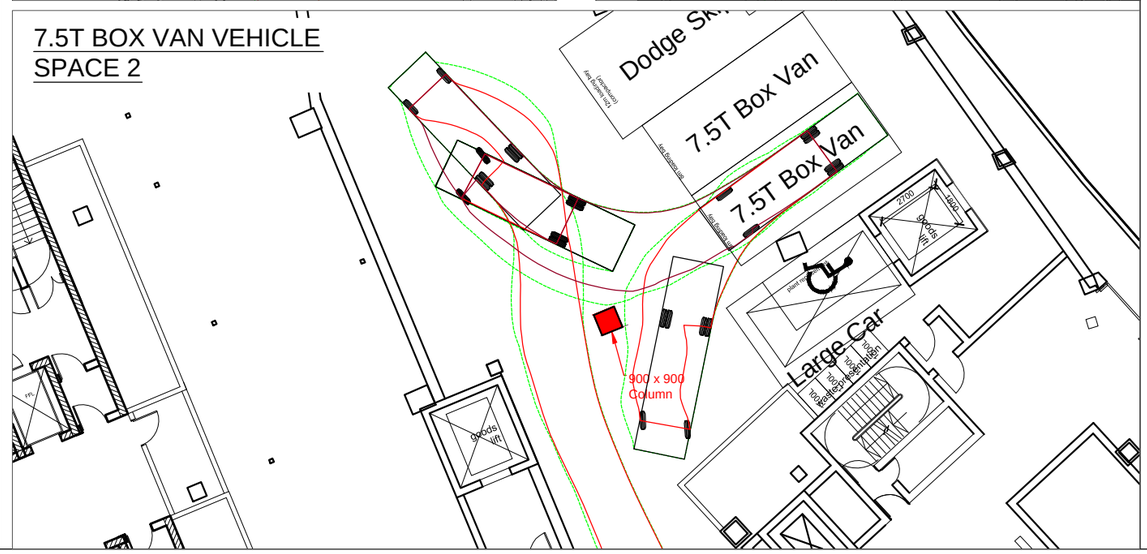


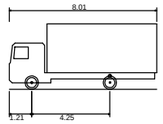
7.5T BOX VAN VEHICLE SPACE 1





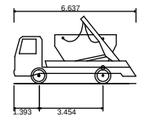
7.5T BOX VAN VEHICLE SPACE 2





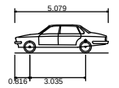
7.5t Box Van

Overall Length	8.010m
Overall Width	2.100m
Overall Body Height	3.556m
Min Body Ground Clearance	0.351m
Track Width	2.064m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	7.400m



Dodge Skip Vehicle

Overall Length	6.637m
Overall Width	2.500m
Overall Body Height	0.438m
Min Body Ground Clearance	0.437m
Track Width	2.500m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	8.382m



Large Car (2006)

Overall Length	5.079m
Overall Width	1.872m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	5.900m

Issue	Date	By	Chkd	Appd
I1	08/05/14	TB		MR
-	08/05/14	TB		MR

ARUP

Central Square, Forth Street
Newcastle upon Tyne NE1 3PL
Tel +44 (0)191 261 6080 Fax +44 (0)191 261 7879
www.arup.com

Client
New Oxford Street Ltd

Job Title
Project LT/NOX

Proposed Ground Floor
Service Yard
Swept Path Analysis

Scale at A3 1:250

Discipline Transport Planning

Job No **230602-12**

Drawing Status **Final**

Drawing No **230602-12-003**

Issue **I1**

C:\Users\jake.walton\Desktop\New folder\001.dwg 21 Aug 2014 12:05:45

Appendix A

PERS Audit

New Oxford Street Ltd

21-31 New Oxford Street

PERS Audit

230602-12

Planning | 5 September 2014

Job number 230602-12

Ove Arup & Partners Ltd
13 Fitzroy Street
London W1T 4BQ
United Kingdom
www.arup.com

ARUP

Contents

Appendices

1 Introduction

This report describes the results of a Pedestrian Environment Review System (PERS) audit of the area in support of a planning application for the proposed redevelopment of 21-31 New Oxford Street, London Borough of Camden (LBC).

The PERS Audit will inform the pedestrian assessment of the proposed development undertaken as part of the Transport Assessment (TA). Background information relating to the project is described in **Section 3**.

The audit allows for the identification and prioritisation of problems for pedestrians in the area so that resources can be targeted to improve the walking environment in the most efficient and effective manner.

1.1 Applying PERS

The PERS audit of a pedestrian environment is based around two key principles:

- That the quality of the pedestrian environment may be evaluated according to the degree to which it meets pedestrians' needs; and
- That in evaluating the degree to which the needs of pedestrians are met by the environment, the objective should be to satisfy as many people as possible while considering the "standard" pedestrian to be towards the more venerable end of the spectrum.

PERS recognises the varying needs of pedestrians, from those undertaking journeys on foot to those who are using public spaces for leisure and non-transport uses. While carrying out a PERS audit, the reviewer must consider the extent to which the pedestrian environment being used provides convenient, pleasant and coherent conditions for all its users. PERS aims to achieve an optimal environment for all its users.

1.2 Report Structure

The following chapters of this report outline the following:

- Overview of the PERS methodology;
- Background information;
- PERS Audit which includes graphical displays of the audit results and key findings of the PERS audit;
- Key conclusions; and
- Outline recommendations from the audit.

2 Methodology

2.1 Introduction

The PERS audit of the area surrounding the proposed development at 21-31 New Oxford Street follows a five-step methodology. These steps are:

- Stage 1: Definition of the study area.
- Stage 2a: Desk-top identification of links, crossings, routes, and spaces to be reviewed.
- Stage 2b: Optional collection of existing information.
- Stage 3: On-street evaluation.
- Stage 4: Data analysis using the PERS software.
- Stage 5: Display and review outputs.

Each of the above processes will be described in detail in the following sections.

2.2 Definition of the Study Area

Before carrying out an on-street evaluation, a number of key actions should be carried out at desk-top level. The area to be audited must be defined using a base map which indicates all links, crossings, areas and spaces to be reviewed. The study should also identify key routes to key trip attractors that need to be assessed in the audit. The objectives of this study may determine whether a public space, public transport waiting area or interchange space review is required.

This preliminary map-based study establishes the boundaries of the review and the plans provide a basis for carrying out the on-street assessment.

In the case of this audit, the proposed development must also be taken into consideration. This is particularly important in identifying the routes to be audited as will be discussed later in this report.

2.3 Desk-top Identification of Links, Crossings, Routes and Spaces to be Reviewed

The review of a pedestrian environment carried out by PERS is separated into review frameworks which apply to specific components of the pedestrian environment. These are described as follows:

- **Link Review** – Any complete footway, footpath or highway or any section of one that is specified by the reviewer. These may be divided into sections if the level of service varies along the link;
- **Crossing Review** – Should be carried out where significant crossing points exist and is used to review the quality of a given crossing, highlighting where any improvements are necessary. Crossings of side road junctions, whether formal or informal crossings can be included as individual crossings at the discretion of the reviewer;

- **Route Review** – A way that links trip origins to trip destinations such as that from a public transport interchange to a school. A route can consist of a number of links and crossings but also has some characteristics specific to itself;
- **Public Transport Waiting Areas** – A designated area where people wait in order to use public transport, including bus-stops and underground stations. Larger public transport waiting areas or those supporting a variety of services or modes of transport may be considered to be interchange spaces and are reviewed separately;
- **Interchange Spaces** – The areas around and between public transport stops or termini. These spaces act as gateways to the wider area itself or to the areas they serve for those arriving and leaving by public transport. Interchange spaces generally allow people to change between public transport modes and services. This review framework is used to assess the external public transport interchange space instead of the interior of interchange buildings; and
- **Public Spaces** – The purpose of Public Spaces is to allow people to informally rest and relax. A public space may be a definable area and can range in scale from a small plaza to a city park. Pedestrians may use all or part of a public space as a route and it can also be a space for social activities with things for people to do and see.

The above framework is used to identify the links, crossings, routes and spaces that are to be audited in each specific situation.

2.4 Optional Collection of Existing Information

This optional stage helps to assess the pedestrian environment by collecting existing information about the area being audited to provide a valuable foundation for the review. This information may affect specific PERS outputs but can also be used as a guide for the reviewer. The type of information that can be included in this section is:

- Accident statistics for the area;
- Crime data; and
- Land-use data.

2.5 On-Street Evaluation

Once the above stages have been completed, the on-street evaluation can be completed. For each review framework, a review form is available for manual entry while on site. Each framework consists of a number of parameters and the Reviewer must score and comment on each parameter for each link, crossing, route and space. Each parameter is scored from -3 to +3, where +3 is the highest score and -3 is the lowest. A parameter that scores +3 is generally of very good standard that can be identified as best practice. 0 is an average score with N used when the parameter is considered irrelevant. The score should reflect the level of service to the user with comments made to support each score and highlight key issues. The parameters that require evaluation are shown in **Table 2.1.**

Table 2.1: Review Parameters

Link Review	Crossing Review	Route Review
Effective width	Crossing provision	Directness
Dropped kerbs	Deviation from desire line	Permeability
Gradient	Performance	Road safety
Obstructions	Capacity	Personal security
Permeability	Delay	Legibility
Legibility	Legibility	Rest points
Lighting	Legibility for sensory impaired people	Quality of the environment
Tactile Information	Dropped kerbs	
Colour contrast	Gradient	
Personal security	Obstructions	
Surface quality	Surface quality	
User conflict	Maintenance	
Quality of the environment		
Maintenance		
Public Transport Waiting Area Review	Interchange Space Review	Public Space Review
Information to the waiting area	Moving between modes	Moving in the space
Infrastructure to the waiting area	Identifying where to go	Interpreting the space
Boarding public transport	Personal safety	Personal safety
Information at the waiting area	Feeling comfortable	Feeling comfortable
Safety perceptions	Quality of the environment	Sense of place
Security measures	Maintenance	Opportunity for activity
Lighting		
Quality of the environment		
Maintenance and cleanliness		
Waiting area comfort		

The auditor must then decide whether the audit area should be considered to be of strategic or local importance. For example, a link or crossing on a high street may be considered to be of strategic importance while a residential road may be thought of as local importance. This places a higher weighting on the strategic components so that they receive a PERS score in relation to a particular environment. The forms are marked as neutral when no differentiation in weighting is required.

Once all of the audit forms have been completed on site for each of the links, routes, crossings and spaces, the data can be entered into the PERS software.

2.6 Data Analysis Using the PERS Software

For the audit area, the scores and comments from the on-street audit are entered in the PERS software. The weighting factors are applied to the scores when they are entered and this allows for differentiation between those elements that are more significant than others. The defaults weightings for each of the parameters are set as follows:

- Baseline: Of general importance to all pedestrians;
- High Significance: Of particular importance to some pedestrians; and
- Critical: Of major importance to a majority of pedestrians.

These groups are weighted at 1, 3 and 5 respectively with the weighting factor acting as a multiplier. **Table 2.2** shows the weighting bands for each parameter. Note that 'B' stands for baseline, 'H' stands for high significance and 'C' stands for critical.

Table 2.2: Weighting Band for each Parameter

Link review			Crossing review			Route review		
Factor	Weight Band	Default weighting	Factor	Weight Band	Default weighting	Factor	Weight Band	Default weighting
Effective width	C	5	Crossing provision	C	5	Directness	C	5
Dropped kerbs	H	3	Deviation from desire line	H	3	Permeability	H	3
Gradient	B	1	Performance	C	5	Road safety	C	5
Obstructions	H	3	Capacity	B	1	Personal security	C	5
Permeability	H	3	Delay	H	3	Legibility	H	3
Legibility	B	1	Legibility	B	1	Rest points	B	1
Lighting	H	3	Legibility for sensory impaired people	H	3	Quality of the environment	B	1
Tactile Information	H	3	Dropped kerbs	H	3	Link Audits and Crossing Audits	C	5
Colour contrast	H	3	Gradient	B	1			
Personal security	C	5	Obstructions	B	1			
Surface quality	H	3	Surface quality	H	3			
User conflict	C	5	Maintenance	B	1			
Quality of the environment	B	1						
Maintenance	B	1						
Public transport waiting areas review			**Interchange space review**			**Public space review**		
Factor	Weight Band	Default weighting	Factor	Weight Band	Default weighting	Factor	Weight Band	Default weighting
Information to the waiting area	H	3	Moving between modes	C	5	Moving in the space	C	5
Infrastructure to the waiting area	H	3	Identifying where to go	H	3	Interpreting the space	H	3
Boarding public transport	C	5	Personal safety	C	5	Personal safety	C	5
Information at the waiting area	H	3	Feeling comfortable	H	3	Feeling comfortable	H	3
Safety perceptions	C	5	Quality of the environment	B	1	Sense of place	H	3
Security measures	C	5	Maintenance	B	1	Opportunity for activity	B	1
Lighting	H	3	Link Audits and Crossing Audits	C	5	Link Audits and Crossing Audits	C	5
Quality of the environment	B	1	Route Audits	C	5	Route Audits	C	5
Maintenance and Cleanliness	B	1	PT Waiting Area Audits	C	5	PT Waiting Area Audits	C	5
Waiting area comfort	H	3						

For each audit form, the software produces an aggregate score and a percentage score ranging from -100% to +100% with an average of 25%. The software also bands the performance of a facility into red, amber and green (RAG score). At a neutral level, green represents good or very good provision, amber represents average provision and red represents poor or very poor and should be of most concern.

2.7 Display and Review Outputs

Having input the data into PERS, the software enables the user to produce bar graphs to aid the demonstration of results. It is possible to display these as individual components detailing parameter scores or as total scores so that the performance of particular links, crossings, spaces and routes can be compared. PERS outputs can be mapped on an image file to display the RAG ratings for all links, crossings, routes and spaces.

3 Background

Arup has been appointed by New Oxford Street Ltd to provide transport advice for the redevelopment of 21-31 New Oxford Street in London.

At present, 21-31 New Oxford Street is a part 8, part 9 storey building used as a Post Office sorting site. It ceased to be a sorting office in the 1990's and has remained vacant, occasionally being used as an exhibition site. The site is in the London Borough of Camden and forms part of a triangular block bounded by High Holborn to the south, Museum Street to the west and New Oxford Street to the north. The proposed redevelopment will be a mixed use development consisting of office, residential and retail space totalling 43,611m^2 gross external area (GEA).

The site is highly accessible on foot at both the northern and southern ends of the site. There is considerable pedestrian activity in the area due both to the site's proximity to key destinations (e.g. Tottenham Court Road, Covent Garden, and The British Museum) and the pedestrian-friendly nature of many of the smaller local streets, south of the site.

The site has a PTAL of 6b, rated as excellent (on a scale where 6b is the highest and 1a the lowest) and is therefore well located with respect to public transport services. This is supported by the fact that the site is within a short walking distance of all major modes of public transport.

There are also a number of Barclays Cycle Hire stations and cycle parking facilities within easy reach of the site.

4 PERS Audit

4.1 Introduction

The PERS audit of the pedestrian environment in the vicinity of the site was carried out on 9 May 2014 between the hours of 14:00 and 17:30. The weather conditions on the day of the audit were dry, windy and cloudy.

This section of the report presents the key findings of the PERS audit. This section is broken down into six sub sections. Each section includes a map, qualitative summary of the audit results and photographs of the pedestrian environment. Graphical displays of the results are shown in **Appendix 1 to 5.** The subsections are as follows**:**

- General Observations;
- Pedestrian Routes;
- Pedestrian Links;
- Pedestrian Crossings
- Public Spaces; and
- Public Transport Waiting Areas.

4.2 General Observations

Prior to providing a detailed account of the findings of the audit, a number of important observations about the audit area have been made:

- New Oxford Street - From the junction with Tottenham Court Road, traffic is one way from west to east with a bus contraflow. Traffic flows are generally heavy. The stretch of New Oxford Street adjacent to the site experiences lower levels of traffic and is a one way street with traffic travelling east to west. There is vehicular access to the existing site via New Oxford Street along with a loading bay.
- High Holborn: This street runs south of the prosed development. Traffic travels in a one way direction from east to west and the street general experiences heavy traffic flows. There is vehicular access to the existing site via High Holborn along with a loading bay. There are some waiting restrictions for lorries (over 5T) and coaches.
- Museum Street: The street is narrower in comparison to New Oxford Street and High Holborn and therefore experiences lighter traffic flows. Traffic travels in a south to north direction.
- Looking further afield, the highway network south of the site (Drury Lane, Stukeley Street, Smart's Place) are narrower, quieter roads which experience light flows of traffic.
- Bloomsbury Way (A40) is a key local route and is a continuation of New Oxford Street to the north of the site. Traffic flows are heavy and travels west to east with a bus contraflow.

4.3 Route Assessment

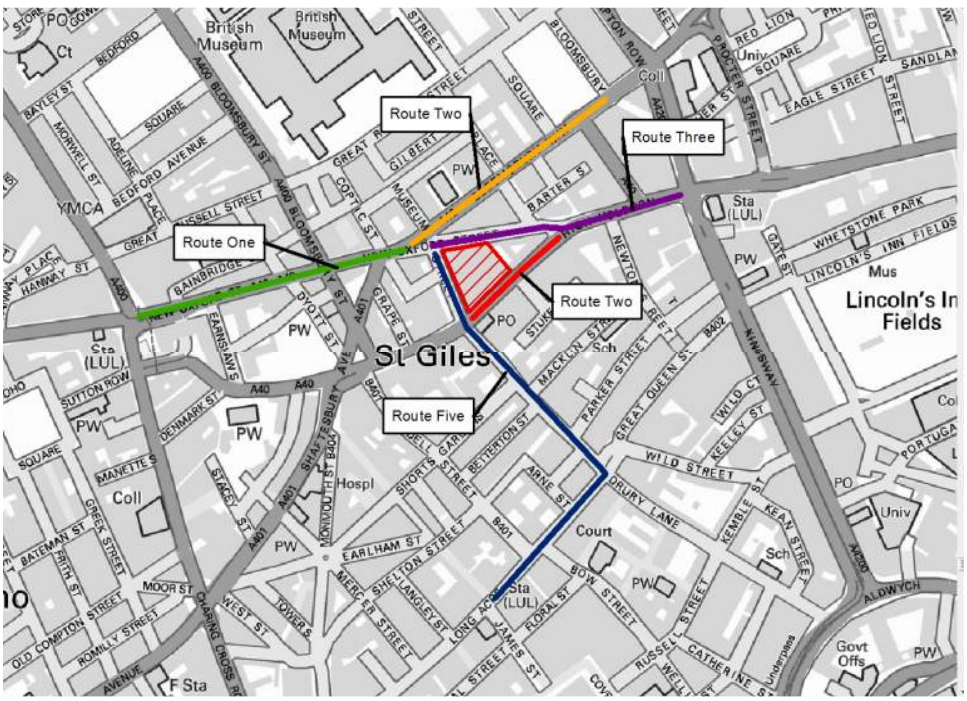
This section looks at the key routes to and from the site. There are five routes within a 960m radius of the site. The route ID and locations are shown at **Table 4.1** and **Figure 4.1**.

Appendix 5 shows the total and parameter scores for each route.

Table 4.1: Route ID and Name

Route ID	Route Name
R1	From Tottenham Court Road station to New Oxford Street/Bloomsbury Way
R2	From New Oxford Street/Bloomsbury Way to Bloomsbury Way/Southampton Row
R3	From High Holborn/Southampton Row to New Oxford Street/Bloomsbury Way
R4	High Holborn/New Oxford Street to junction with Museum Street
R5	Museum Street –Drury Lane – Long Acre – Covent Garden station

Figure 4.1: Map of routes



All routes in the study area scored positively with an average total score of over 90. The routes generally scored highly due to being direct, having a good level of personal security and having good quality links and crossings along the route.

Route 4 (High Holborn/New Oxford Street to junction with Museum Street) scored the lowest due to lack of legible signs. Route 3 to (from High Holborn/Southampton Row to New Oxford Street/Bloomsbury Way) scored the highest due to registering good scores in a number of parameters.

4.4 Link Assessment

This section looks at the results from the PERS audit and assesses each link in turn. The links are labelled according to their route. The location of each of the links is listed in **Table 4.2**.

Table 4.2: Pedestrian Links

Route	Link ID	Link Locations
R1	L1	New Oxford Street (from Tottenham Court station to Bloomsbury Street)
	L2	New Oxford Street (from Bloomsbury Street to Coptic Street)
	L3	New Oxford Street (from Coptic Street to Museum Street)
R2	L1	Bloomsbury Way (from Museum Street to Bloomsbury Square)
R3	L1	New Oxford Street/Museum Street to New Oxford Street/High Holborn
	L2	High Holborn (to Southampton Place)
	L3	High Holborn (to Southampton Place to Southampton Row)
R4	L1	High Holborn (from New Oxford Street crossing to Stukeley Street)
	L2	High Holborn (from Stukeley Street to Museum Street)
R5	L1	Museum Street (from New Oxford Street to High Holborn)
	L2	Drury Lane (from Museum Street to Short Gardens)
	L3	Drury Lane (from Short Gardens to Long Acre)
	L4	Long Acre (from Drury Lane to Bow Street)
	L5	Long Acre (from Bow Street to Covent Garden station)

Appendix 1 shows the total and parameter scores for all links. Each route and its links are shown in **Figures 4.2 -4.6.**

Figure 4.2: Link map for Route One

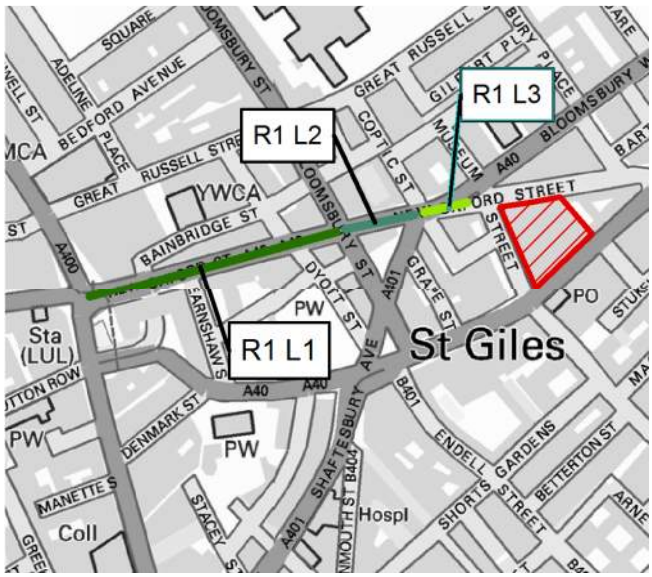


Figure 4.3: Link Map for Route Two

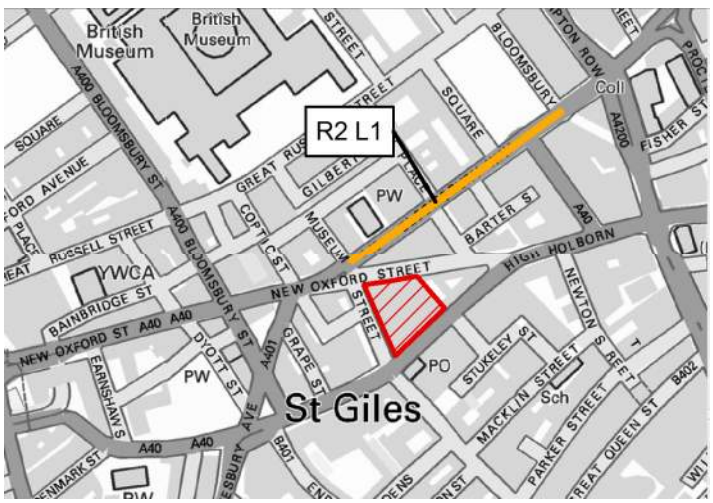


Figure 4.4: Link Map for Route Three

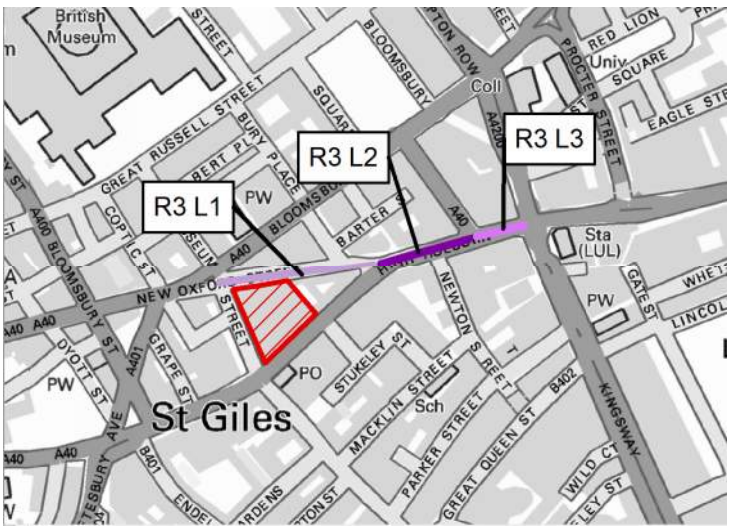


Figure 4.5: Link Map for Route Four

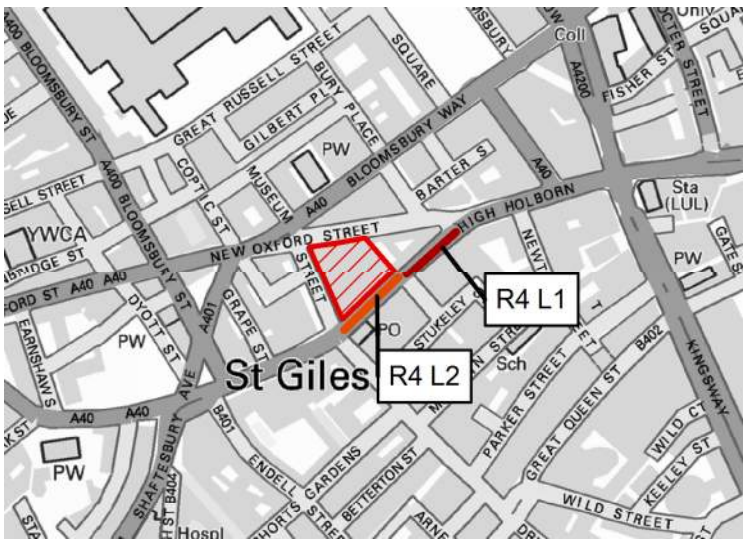
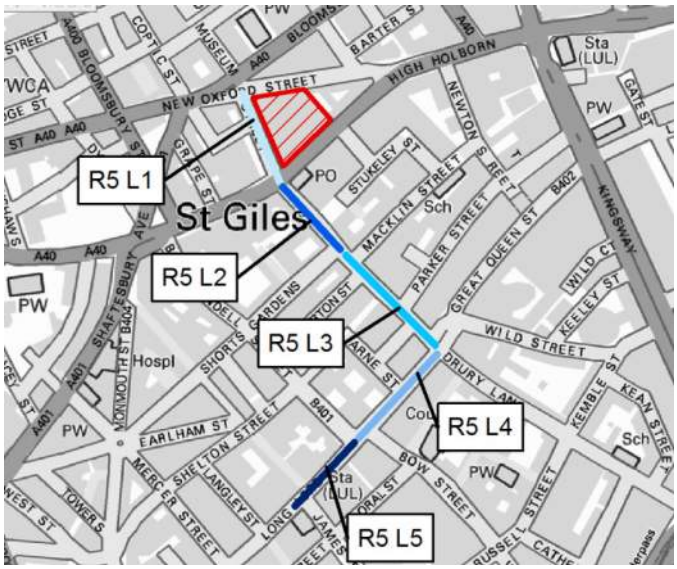


Figure 4.6: Link Map for Route Five



Looking at the links route by route, the following analysis can be given

Route One

- There are three links in total on this route. Generally all parameters achieved positive scoring.
- This resulted in all links scored positively when looking at total scores. Link 1 scoring the lowest and link 3 the highest. The reason for this was the negative scoring given for user conflict on link 1 (there is more chance of encountering conflict with other users on this link).

Route Two

- There is only one link on this route.
- The link scored positively on all parameters with the highest scores for effective width, personal security and user conflict (or lack of).
- The link scored the lowest on gradient – this was given a neutral score, therefore the link has a surface that has relatively few undulations that could be a hazard.

Route Three

- There are three links on this route.
- All links scored very positively with the average total score at just over 120.
- Link 1 scored the lowest due to low scores given for majority of the parameters in comparison to links 2 and 3.

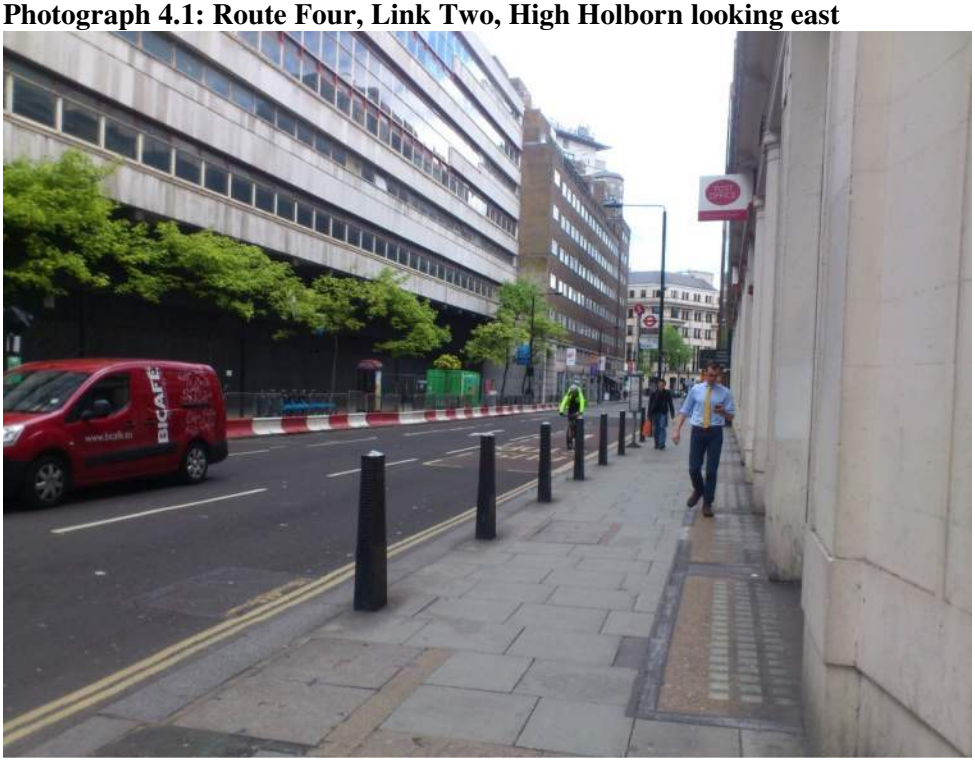
Route Four

- There are two links on this Route and both links scored almost identical total scores – 110.
- Both links scored highly on effective width and user conflict (lack of). Both links registered lower scores for quality of environment and maintenance. This would suggest that more attention/action could be given to improve the physical environment of the links.

Route 5

- There are five links in this route. The total score for all links was positive with an average score of 100. Link 2 scored the lowest and Links One and Five the highest.
- A general distinction to make for the links on this route and links in other routes is that the roads are narrower. This was reflected in the scoring as all links for this route scored lower for effective width when compared to other links (link two registered a negative score).
- Generally across all parameters, all five links registered a good positive score.

Photograph 4.1: Route Four, Link Two, High Holborn looking east



Photograph 4.2: Route Five, Link Four, Long Acre looking west

Photograph 4.3: Route Two Link Three, Bloomsbury Way looking east

Photograph 4.4: Route One Link One, New Oxford Rd looking west

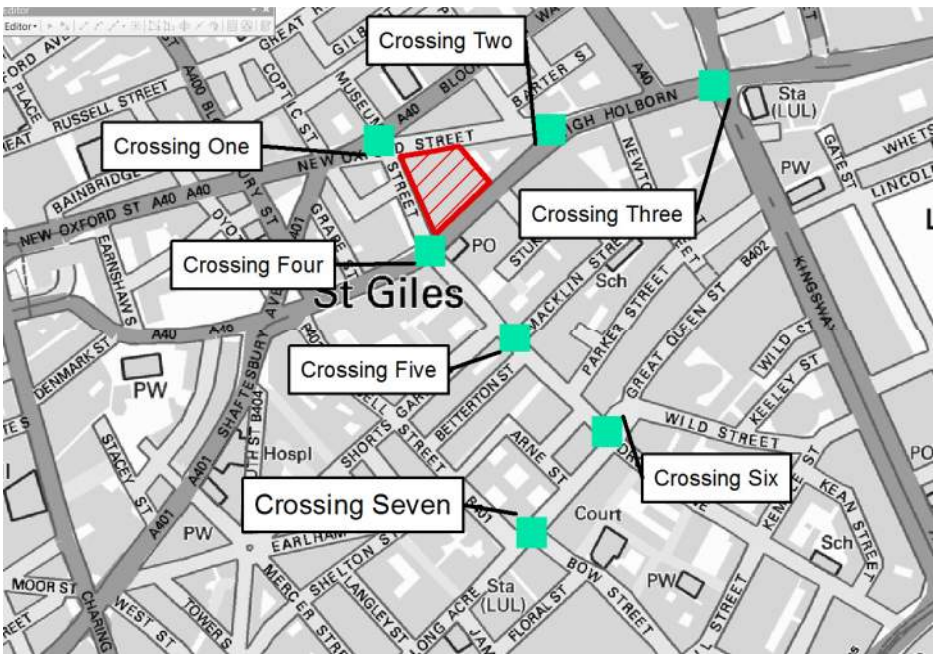
4.5 Crossing Assessment

This section looks at the assessment of seven pedestrian crossings in the audit area. The crossing references and locations are shown in **Table 4.3** and **Figure 4.7.**

Table 4.3: Crossing ID and location name

Crossing ID	Crossing Locations
C1	New Oxford Street/Bloomsbury Way
C2	New Oxford Street/High Holborn
C3	High Holborn/Southampton Row
C4	High Holborn/Museum Street
C5	Drury Lane/Macklin Street
C6	Drury Lane/Great Queen Street
C7	Long Acre/Bow Street

Figure 4.7: Crossings Map



Crossings C1-C4 are signalised crossings and C5-C7 are zebra crossings.

Appendix 2 shows the total and parameter scores for crossings 1-7.

The total scores for each of the crossings in the audit area show that no crossings scored an overall negative score. The crossing that scored poorest in the area despite attaining an overall positive score is Crossing One on New Oxford Street and Bloomsbury Way. This was due to a negative score for 'deviation from the desire line' There is no direct crossing from Bloomsbury Way. This means pedestrians would need to cross to New Oxford Street and Museum Street to get from one side of Bloomsbury Way to the other. It should be noted that the site north of the proposed development is being redeveloped and a handrail is in place, therefore forming a barrier.

Crossing Five on Drury Lane/Macklin Street scored the highest and is a zebra crossing. The crossing registered positive scores for all parameters, particularly for crossing provision and performance.

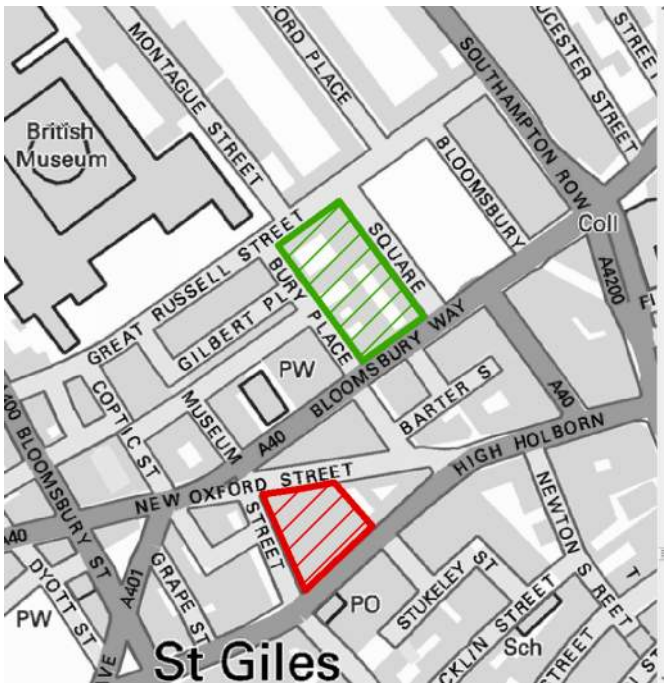
Photograph 4.5: Crossing One, looking west to New Oxford Street

Photograph 4.6: Crossing Seven, looking west to Long Acre

4.6 Public Space Assessment

This section looks at the assessment of public spaces in the area. There is one public space within the audit area – Bloomsbury Square, which is shown on **Figure 4.8**

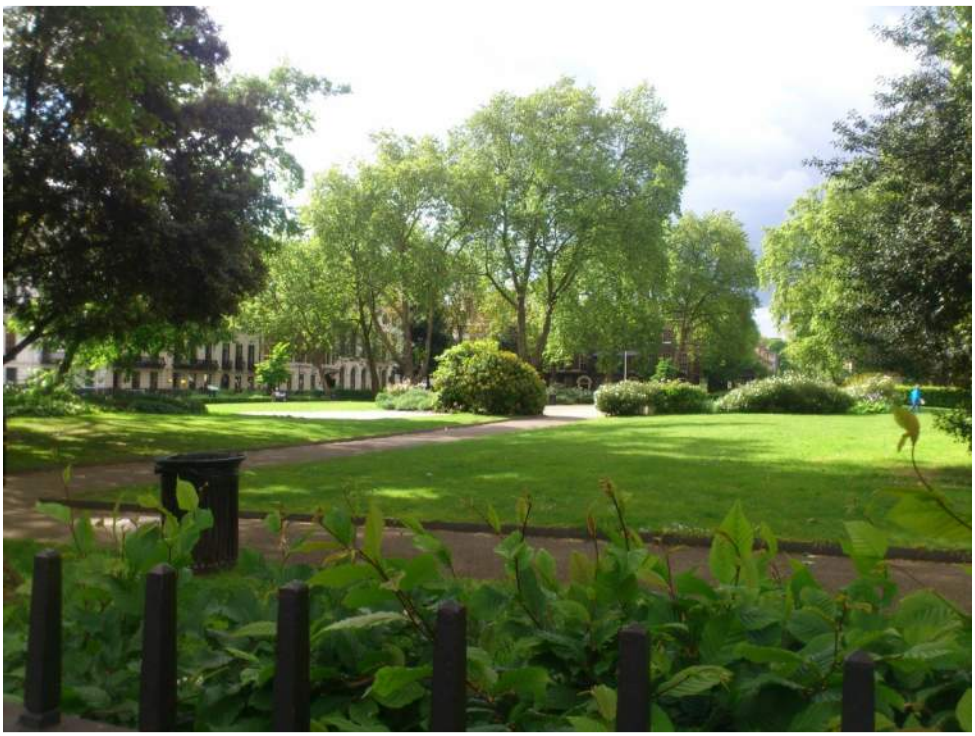
Figure 4.8: Map of public spaces



Appendix 3 shows that Bloomsbury Square scored positively for all parameters. The lowest score was given for 'opportunity for activity'. The auditor felt that although the public space was a pleasant area, there was little evidence of diversity of use. However there was little in the space to deter activity and no real sign of neglect.

Bloomsbury Square can be seen in **Photograph 4.7**

Photograph 4.7: Public Space One: Bloomsbury Square



4.7 Public Transport Waiting Area Assessment

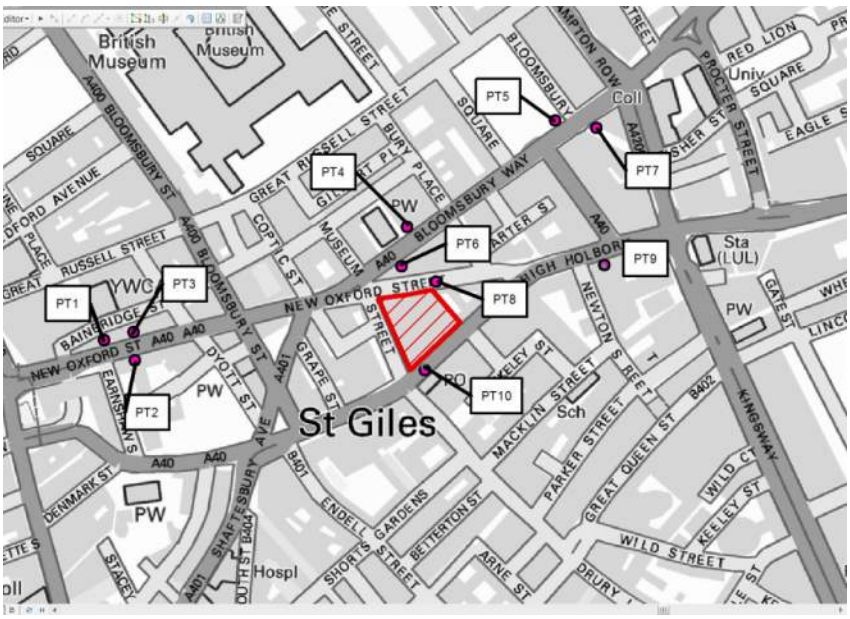
This section looks at the public transport waiting areas. There are ten public transport waiting areas within the audit area. The ID reference and location of the public transport waiting areas are show in **Table 4.4** and at **Figure 4.9.**

Appendix 4 shows the total and parameter scores for each public waiting area.

Table 4.4: Public Transport ID and name

Public Transport Waiting Areas ID	Public Transport Waiting Area
PT1	Bus Stop Y, New Oxford Street
PT2	Bus Stop X, New Oxford Street
PT3	Bus Stop Z, New Oxford Street
PT4	Bus Stop E, Bloomsbury Way
PT5	Bus Stop F, Bloomsbury Way
PT6	Bus Stop C, Bloomsbury Way
PT7	Bus Stop B, Bloomsbury Way
PT8	Bus Stop R, New Oxford Street
PT9	Bus Stop Q, High Holborn
PT10	Bus Stop S, High Holborn

Figure 4.9: Map of public transport waiting areas



All public transport waiting area scored positive total scores due to good scores for a number of parameters including the visibility, safety perceptions and boarding public transport.

All parameters for the waiting areas generally scored a positive score. Some bus stops did not provide real time information such as PT3 and PT9. However some bus stops such as PT6 and PT10 scored negatively in this area due to having no bus shelter, seating and less travel information. However this did not impact on their overall scores.

Photograph 4.8 shows PT8 which represents the majority of waiting areas within the audit area.

Photograph 4.8: Public Transport Waiting Area 8, New Oxford Street

5 Conclusions and Recommendations

5.1 Conclusions

This report has described the findings of the PERS audit of the proposed redevelopment of 21-31 New Oxford Street. Having completed the PERS audit of the area surrounding the proposed development, the following important issues have been identified:

- The local pedestrian network is moderately used in the morning and evening peak periods;
- The PERS audit has shown that the pedestrian environment is in a generally good condition with direct routes to local tube and train stations;
- There is adequate width on all footways to cope with the existing volume of pedestrians on most of the footways surrounding the proposed development. The majority of dropped kerbs are located at the appropriate places and are generally aligned with the pedestrian desire line;
- There is good signage within certain locations of the study area. Outside tube and train stations are way-finding maps and signs which help with navigation in the area, however travelling from the south of the proposed development along Route Five lacks continuous signage to trip attractors. This could be improved with intermediate signing in this area;
- The majority of the pedestrian crossings are satisfactory for the level of users and as such scored positively overall.
- The public transport waiting areas performed positively in the audit. Despite this, the lack of real time information at some bus stops and waiting areas could be addressed to increase the scores registered.

5.2 Recommendations

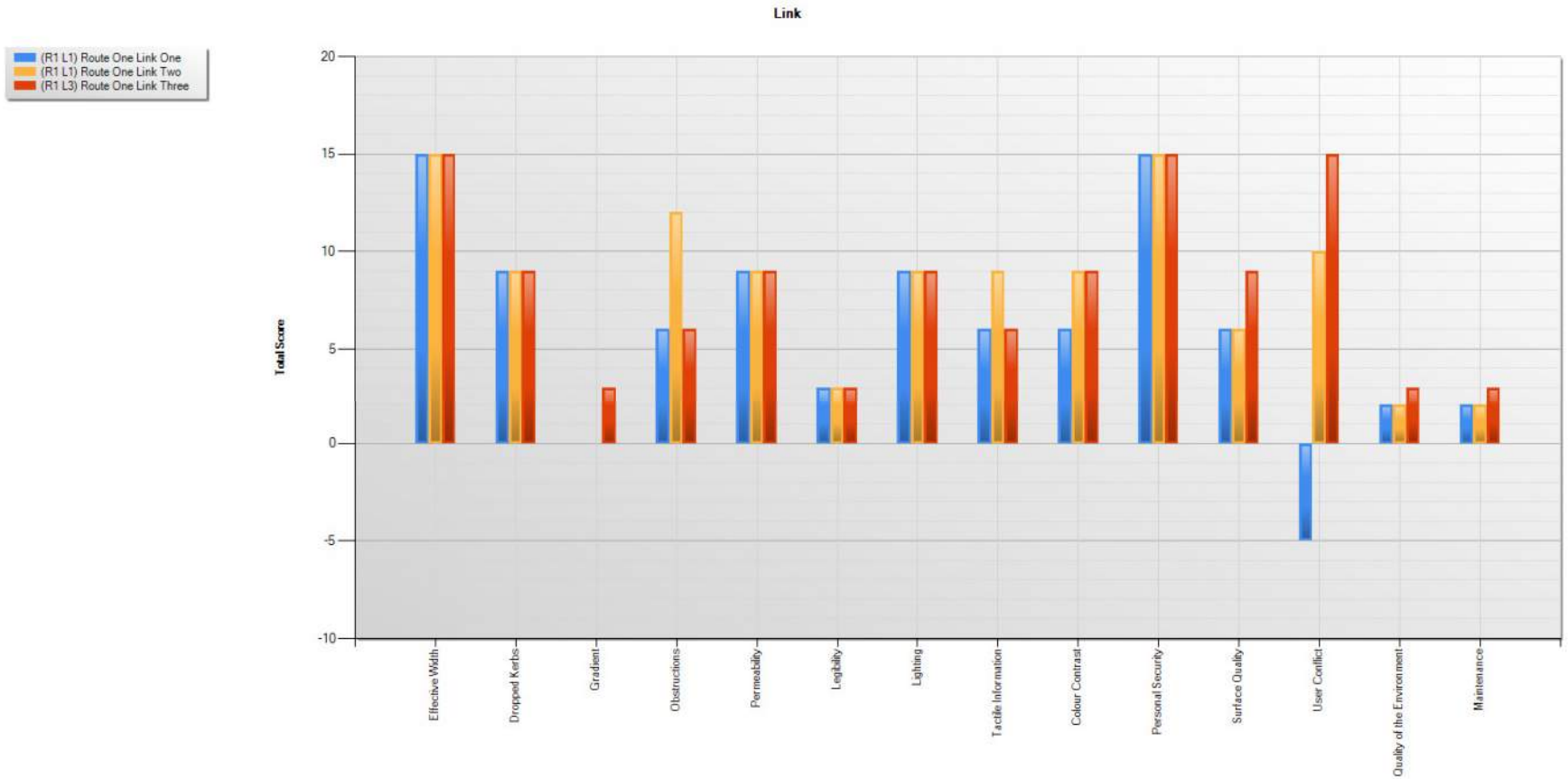
Following the PERS audit, the following headline recommendations can be made to improve the pedestrian environment in the vicinity of the proposed development:

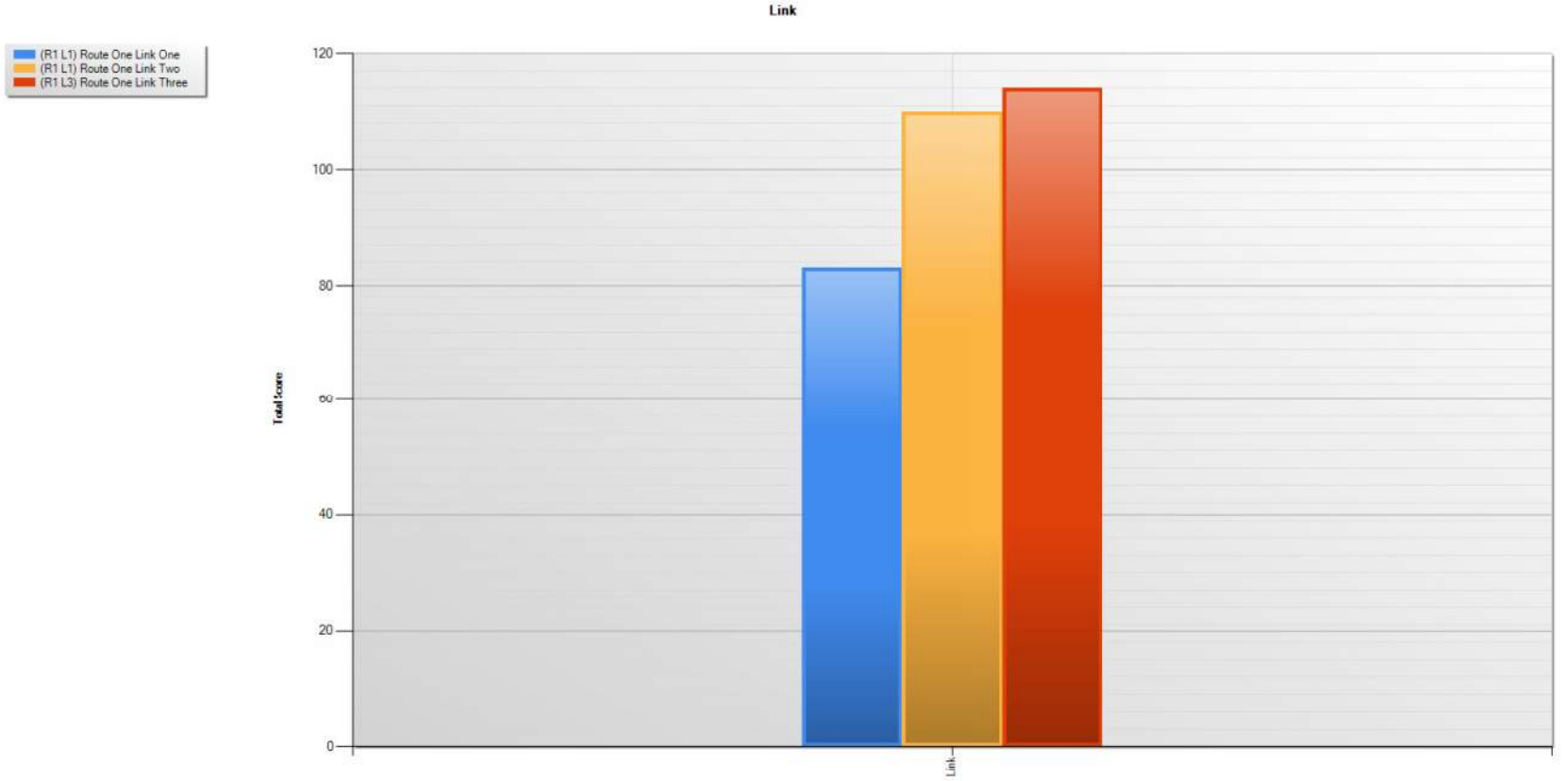
- More attention/action should be given to improve the physical environment of Route Four (High Holborn to junction with Museum Street) and Museum Street. The PERS showed that the quality of environment for pedestrians was not pleasant. Maintenance of the Route could be improved to develop the physical environment;
- Investigate the possibility of improving the waiting areas for Bus Stop C on Bloomsbury Way and Bus Stop S on High Holborn**;**
- Investigate the possibility of improving the function of the crossing on New Oxford Street and Bloomsbury Way to enable pedestrians to directly cross Bloomsbury Way at the junction;
- Reduce the amount of unnecessary obstructions on footpaths to free up space for pedestrians. This is especially relevant to links that make up Route 5; and

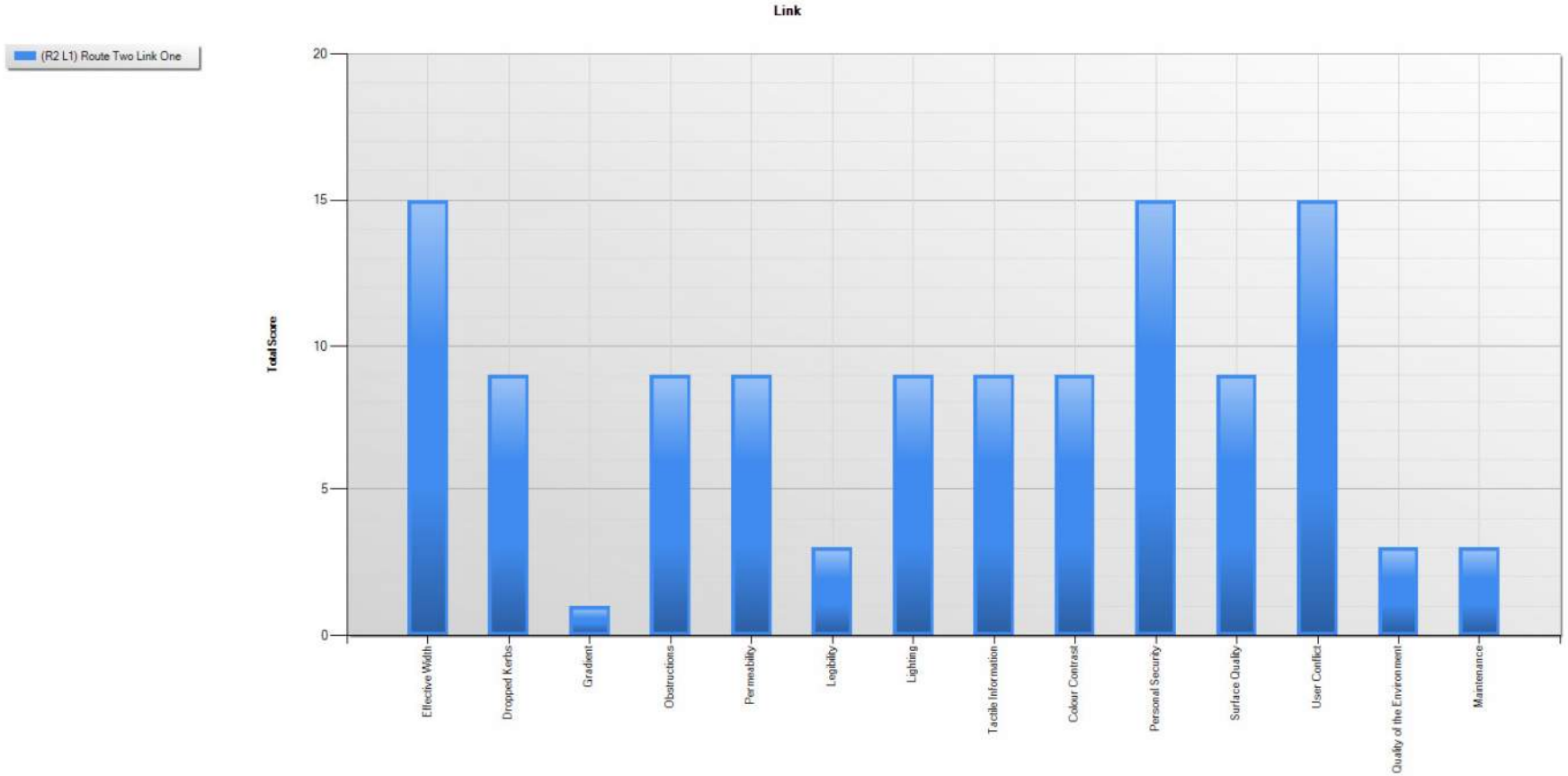
- Introduce more way-finding maps for Route Five to guide pedestrians to trip attractors.

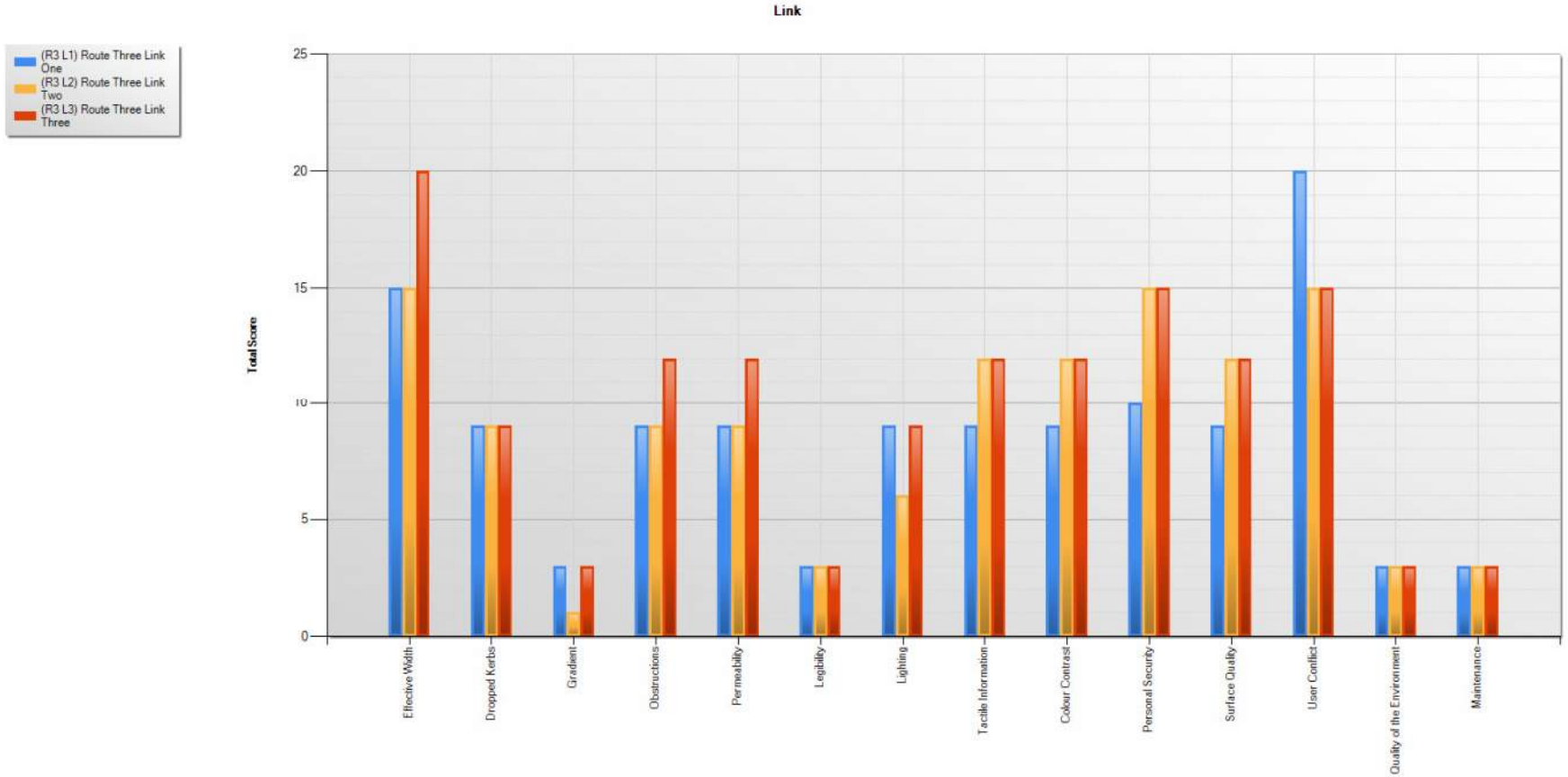
Appendix 1

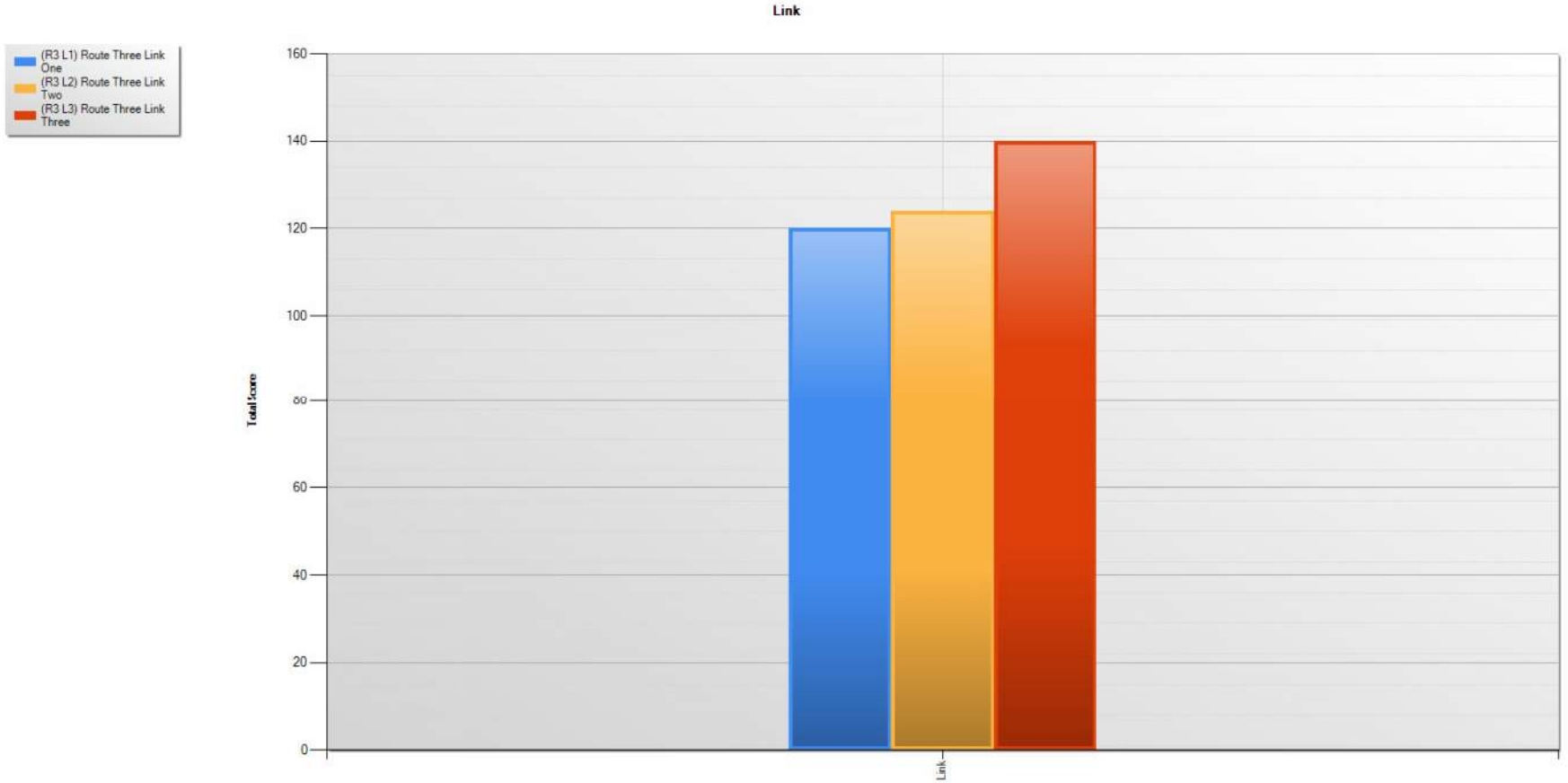
Link Results

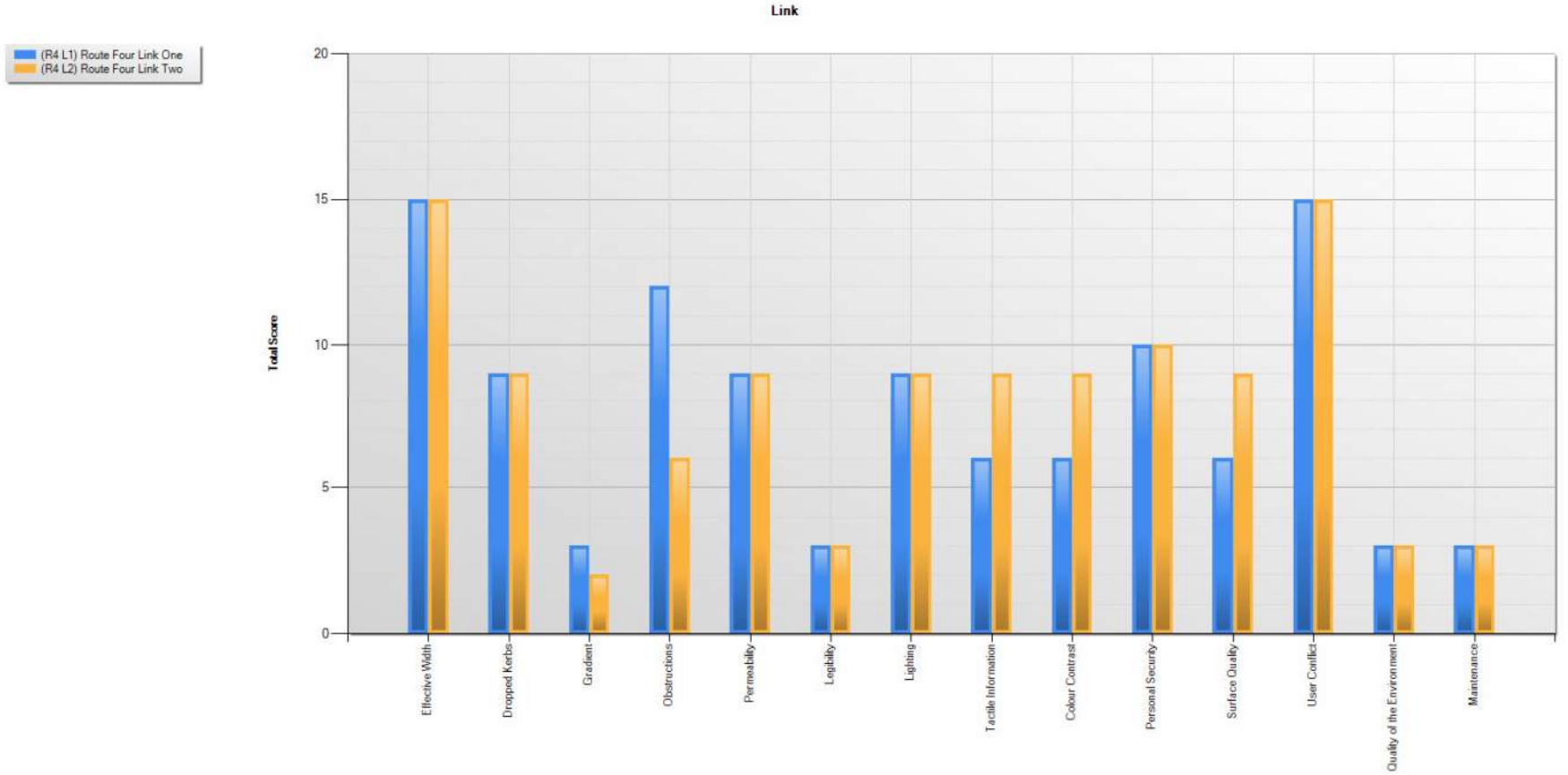

Link
(R1 L1) Route One Link One
(R1 L1) Route One Link Two
(R1 L3) Route One Link Three
Total Score
20
15
10
5
0
-5
-10
Effective Width
Dropped Kerbs
Gradient
Obstructions
Permeability
Legibility
Lighting
Tactile Information
Colour Contrast
Personal Security
Surface Quality
User Conflict
Quality of the Environment
Maintenance

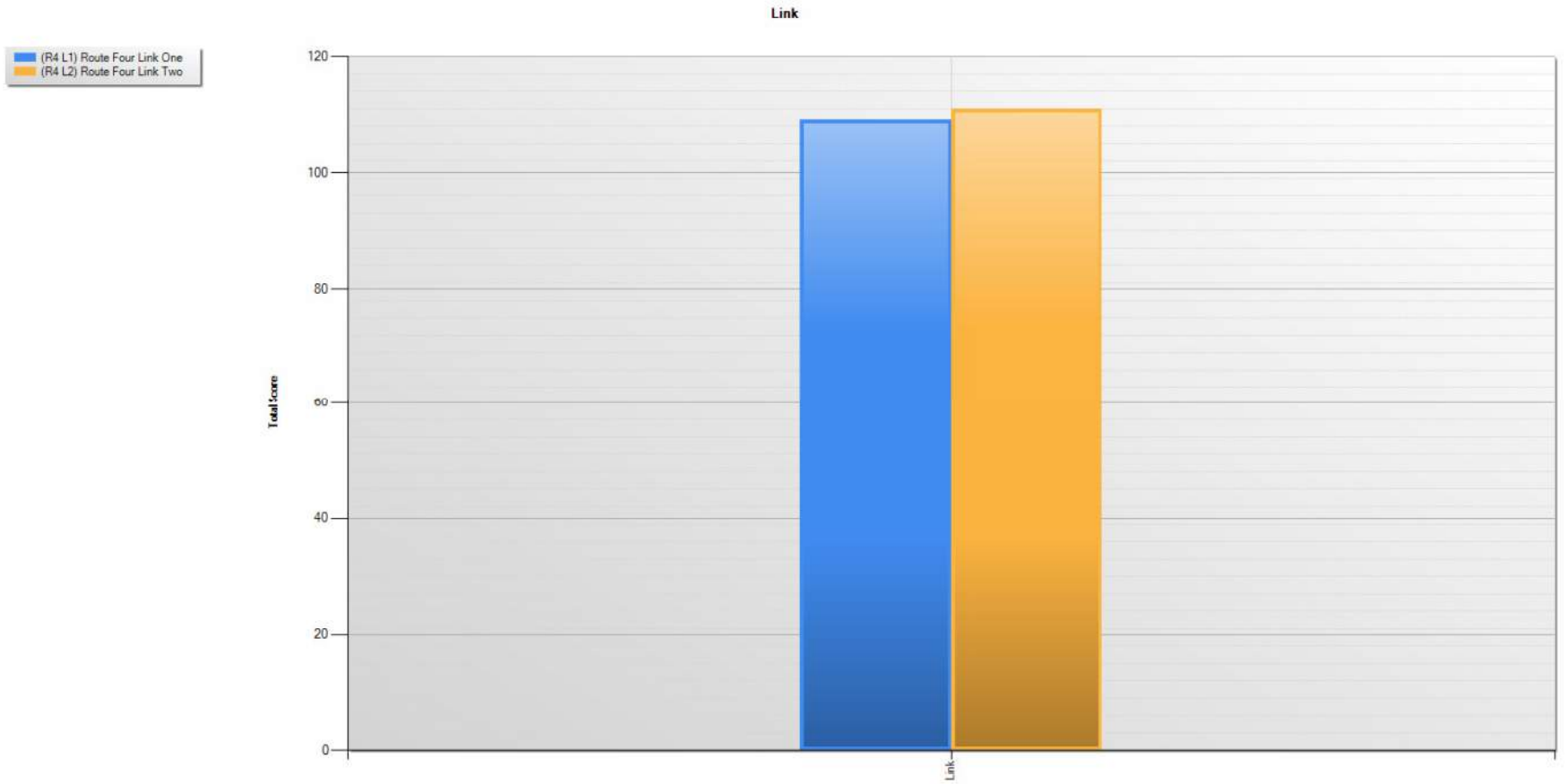

Link
(R1 L1) Route One Link One
(R1 L1) Route One Link Two
(R1 L3) Route One Link Three
Total Score
120
100
80
60
40
20
0
Link

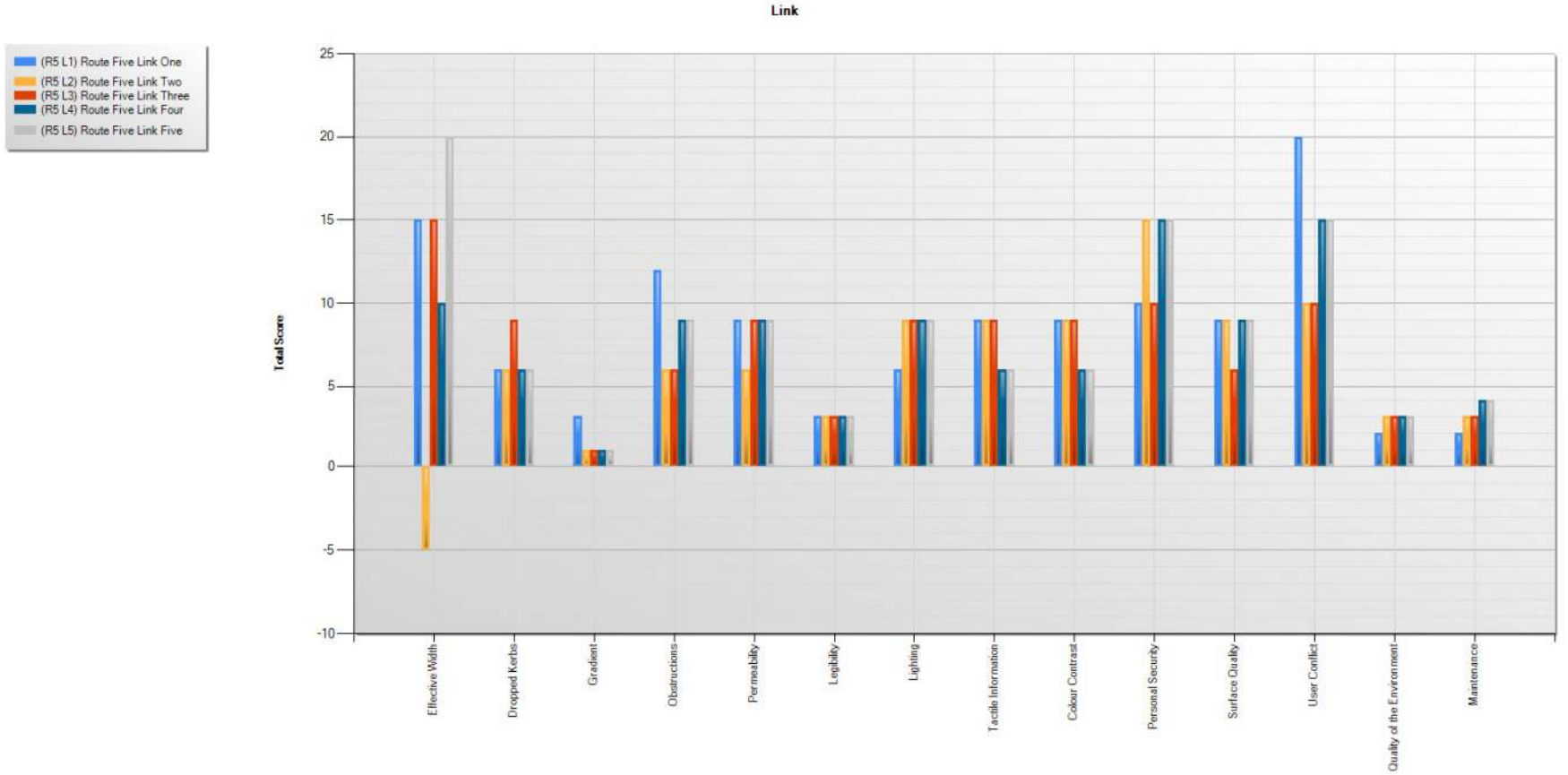

Link
(R2 L1) Route Two Link One
Total Score
20
15
10
5
0
Effective Width
Dropped Kerbs
Gradient
Obstructions
Permeability
Legibility
Lighting
Tactile Information
Colour Contrast
Personal Security
Surface Quality
User Conflict
Quality of the Environment
Maintenance

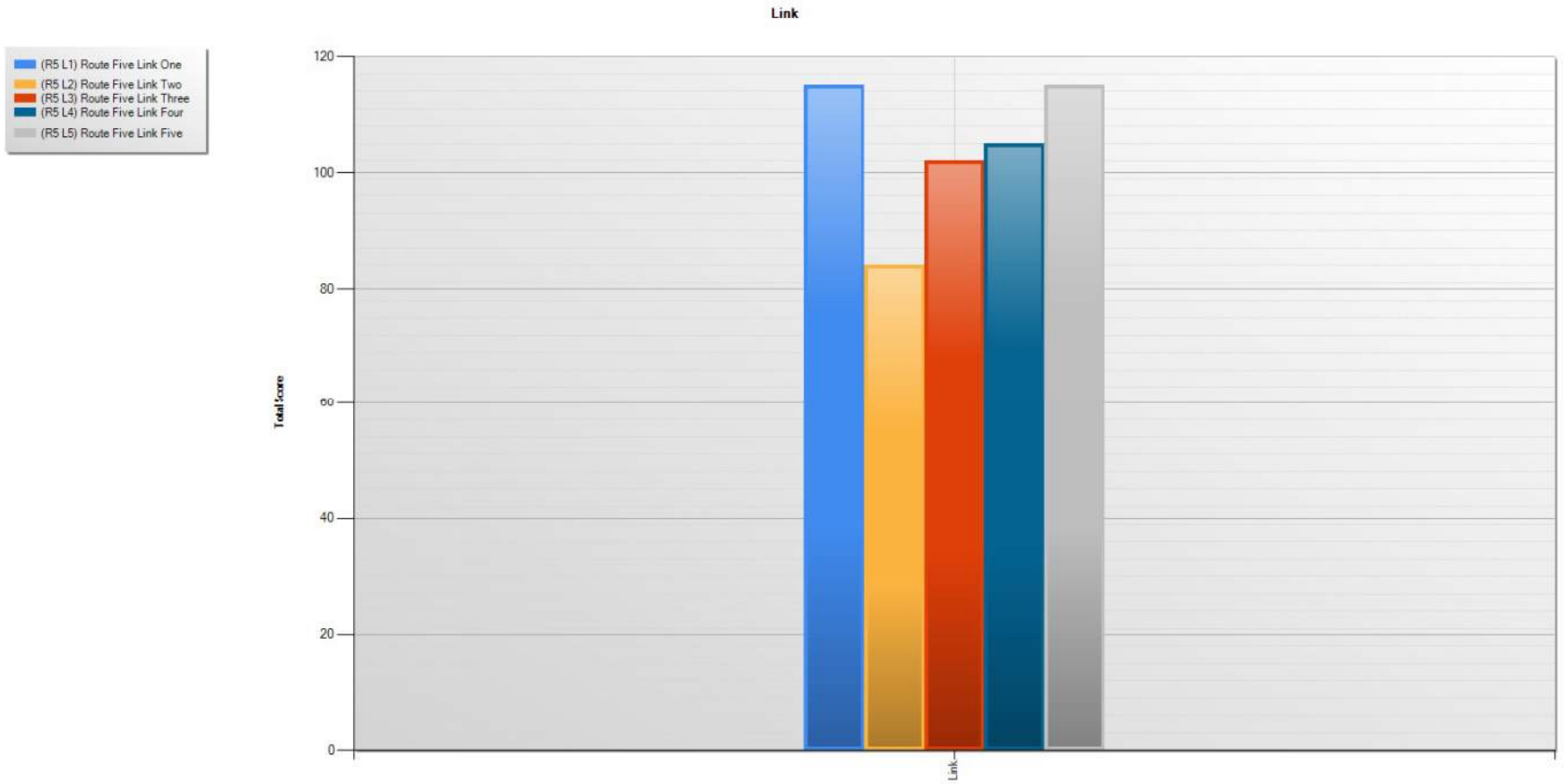

Link
(R3 L1) Route Three Link One
(R3 L2) Route Three Link Two
(R3 L3) Route Three Link Three
Total Score
25
20
15
10
5
0
Effective Width
Dropped Kerbs
Gradient
Obstructions
Permeability
Legibility
Lighting
Tactile Information
Colour Contrast
Personal Security
Surface Quality
User Conflict
Quality of the Environment
Maintenance


Link
(R3 L1) Route Three Link One
(R3 L2) Route Three Link Two
(R3 L3) Route Three Link Three
Total Score
160
140
120
100
80
60
40
20
0
Link


Link
(R4 L1) Route Four Link One
(R4 L2) Route Four Link Two
Total Score
20
15
10
5
0
Effective Width
Dropped Kerbs
Gradient
Obstructions
Permeability
Legibility
Lighting
Tactile Information
Colour Contrast
Personal Security
Surface Quality
User Conflict
Quality of the Environment
Maintenance

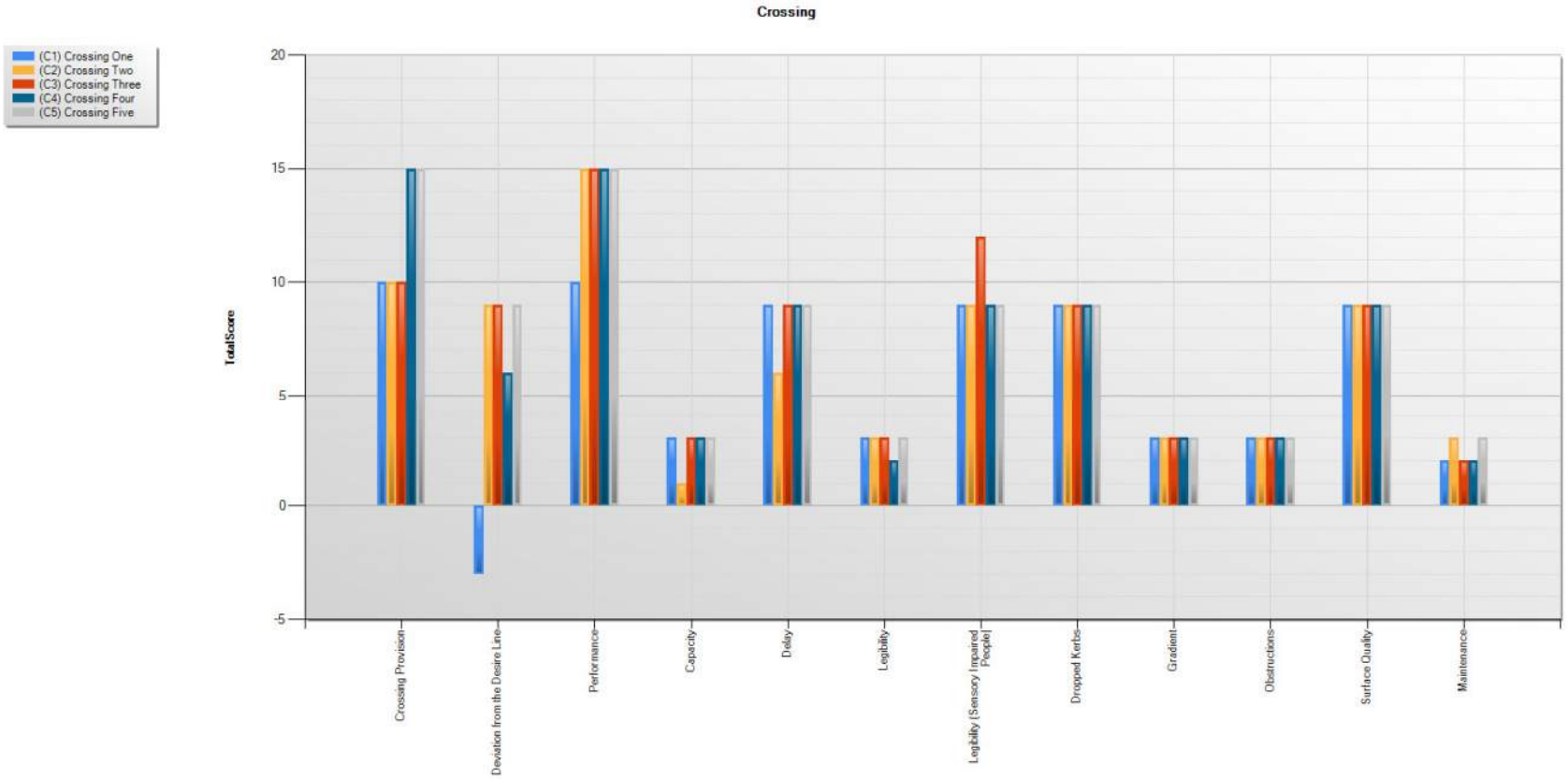

Link
(R4 L1) Route Four Link One
(R4 L2) Route Four Link Two
120
100
80
60
40
20
0
Total Score
Link

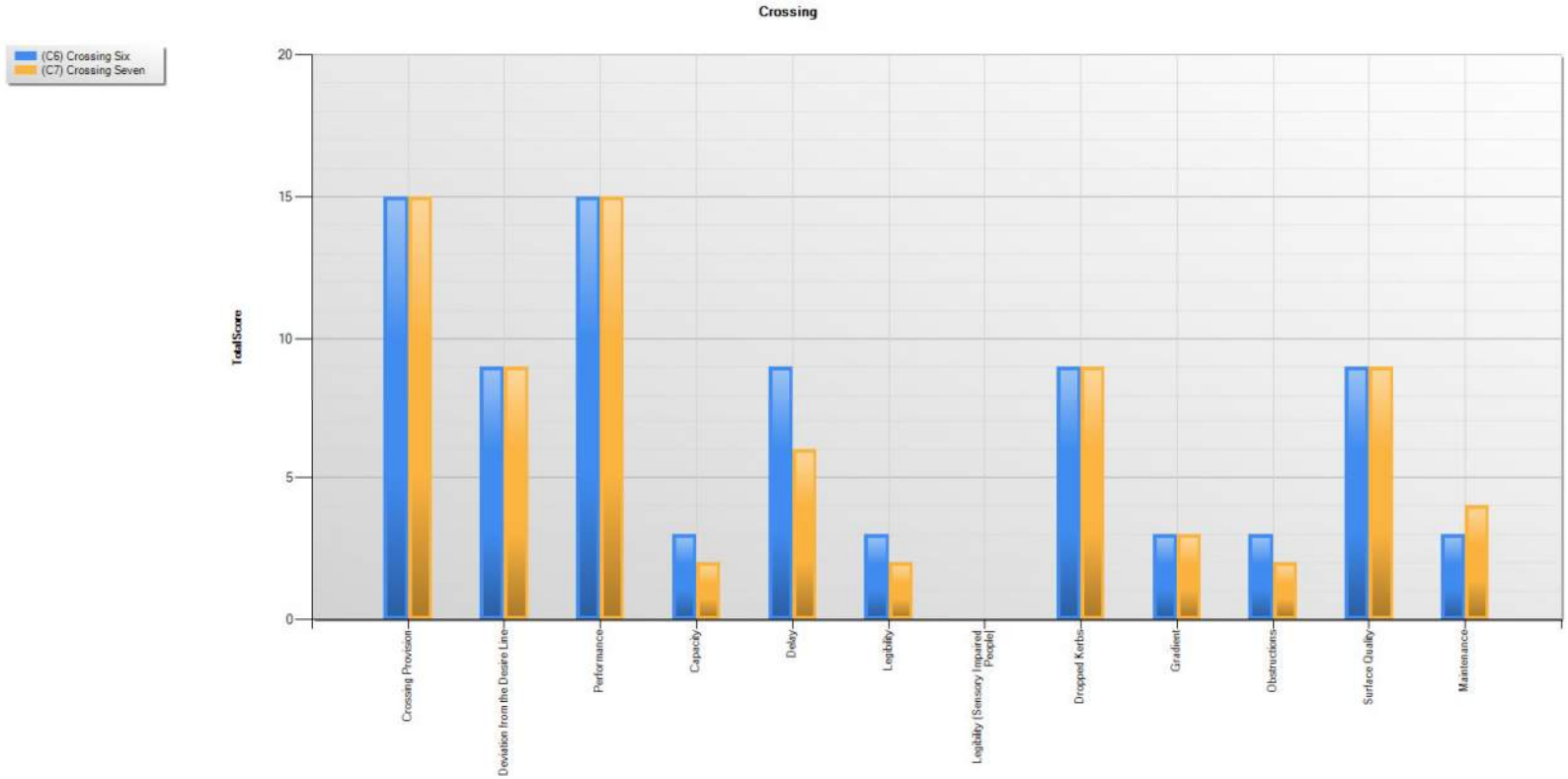

Link
(R5 L1) Route Five Link One
(R5 L2) Route Five Link Two
(R5 L3) Route Five Link Three
(R5 L4) Route Five Link Four
(R5 L5) Route Five Link Five
Total Score
25
20
15
10
5
0
-5
-10
Effective Width
Dropped Kerbs
Gradient
Obstructions
Permeability
Legibility
Lighting
Tactile Information
Colour Contrast
Personal Security
Surface Quality
User Conflict
Quality of the Environment
Maintenance

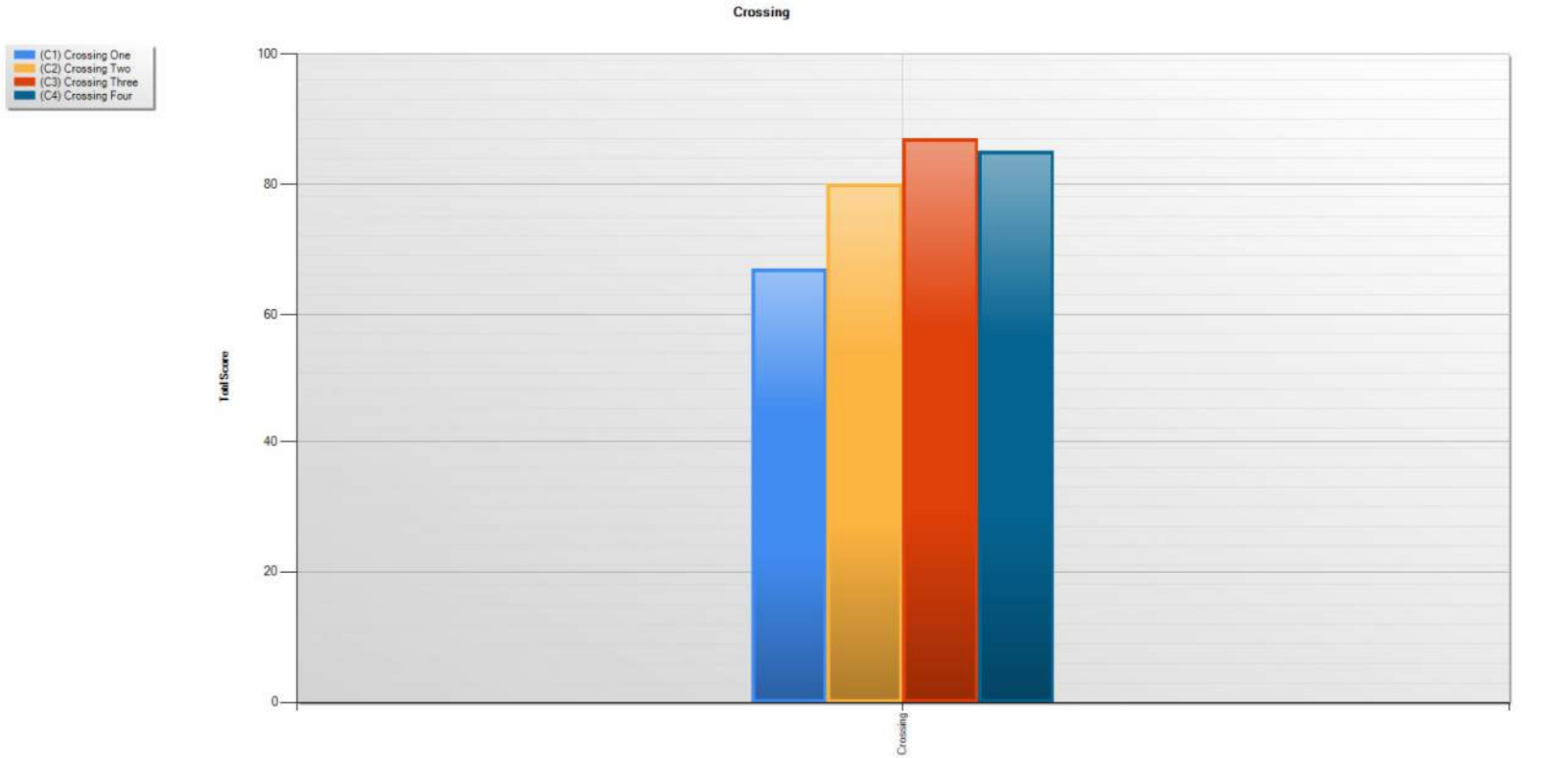

Link
(R5 L1) Route Five Link One
(R5 L2) Route Five Link Two
(R5 L3) Route Five Link Three
(R5 L4) Route Five Link Four
(R5 L5) Route Five Link Five
120
100
80
60
40
20
0
Total Score
Link

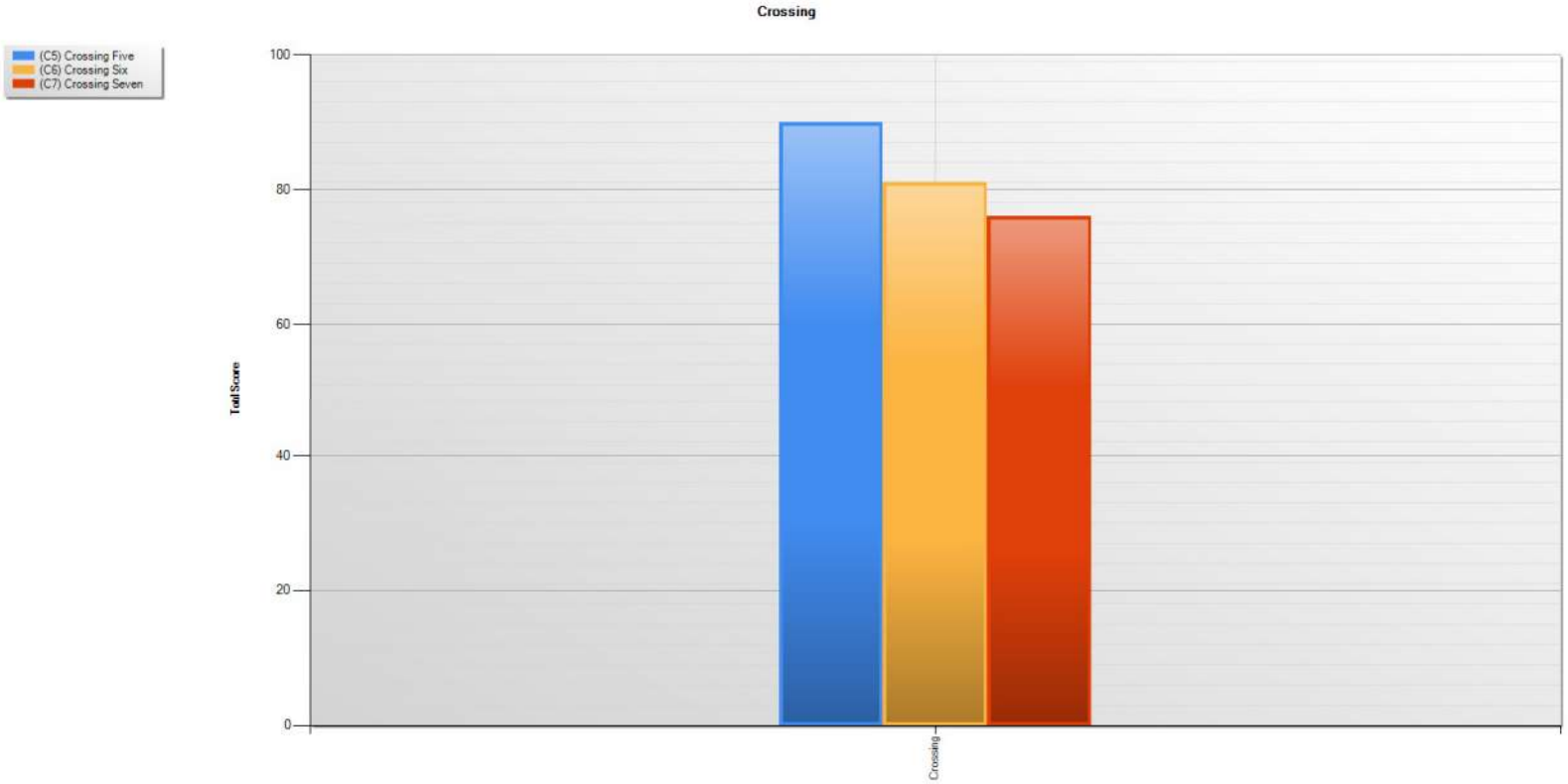
Appendix 2

Crossing Results


Crossing
(C1) Crossing One
(C2) Crossing Two
(C3) Crossing Three
(C4) Crossing Four
(C5) Crossing Five
TotalScore
20
15
10
5
0
-5
Crossing Provision
Deviation from the Desire Line
Performance
Capacity
Delay
Legibility
Legibility [Sensory Impaired People]
Dropped Kerbs
Gradient
Obstructions
Surface Quality
Maintenance

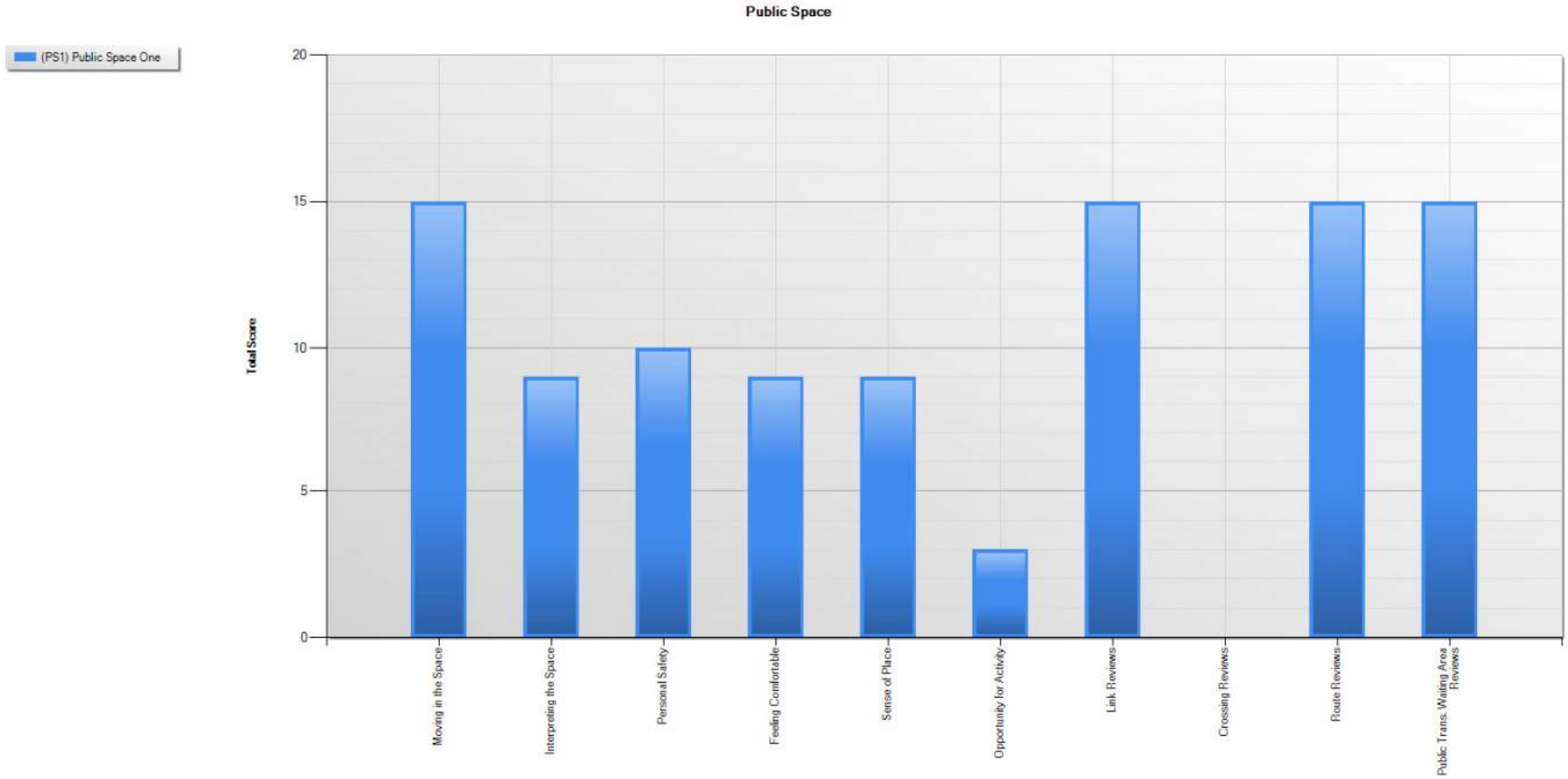

Crossing
(C6) Crossing Six
(C7) Crossing Seven
TotalScore
20
15
10
5
0
Crossing Provision
Deviation from the Desire Line
Performance
Capacity
Delay
Legibility
Legibility (Sensory Impaired People)
Dropped Kerbs
Gradient
Obstructions
Surface Quality
Maintenance


Crossing
(C1) Crossing One
(C2) Crossing Two
(C3) Crossing Three
(C4) Crossing Four
Total Score
100
80
60
40
20
0
Crossing


Crossing
(C5) Crossing Five
(C6) Crossing Six
(C7) Crossing Seven
Total Score
100
80
60
40
20
0
Crossing

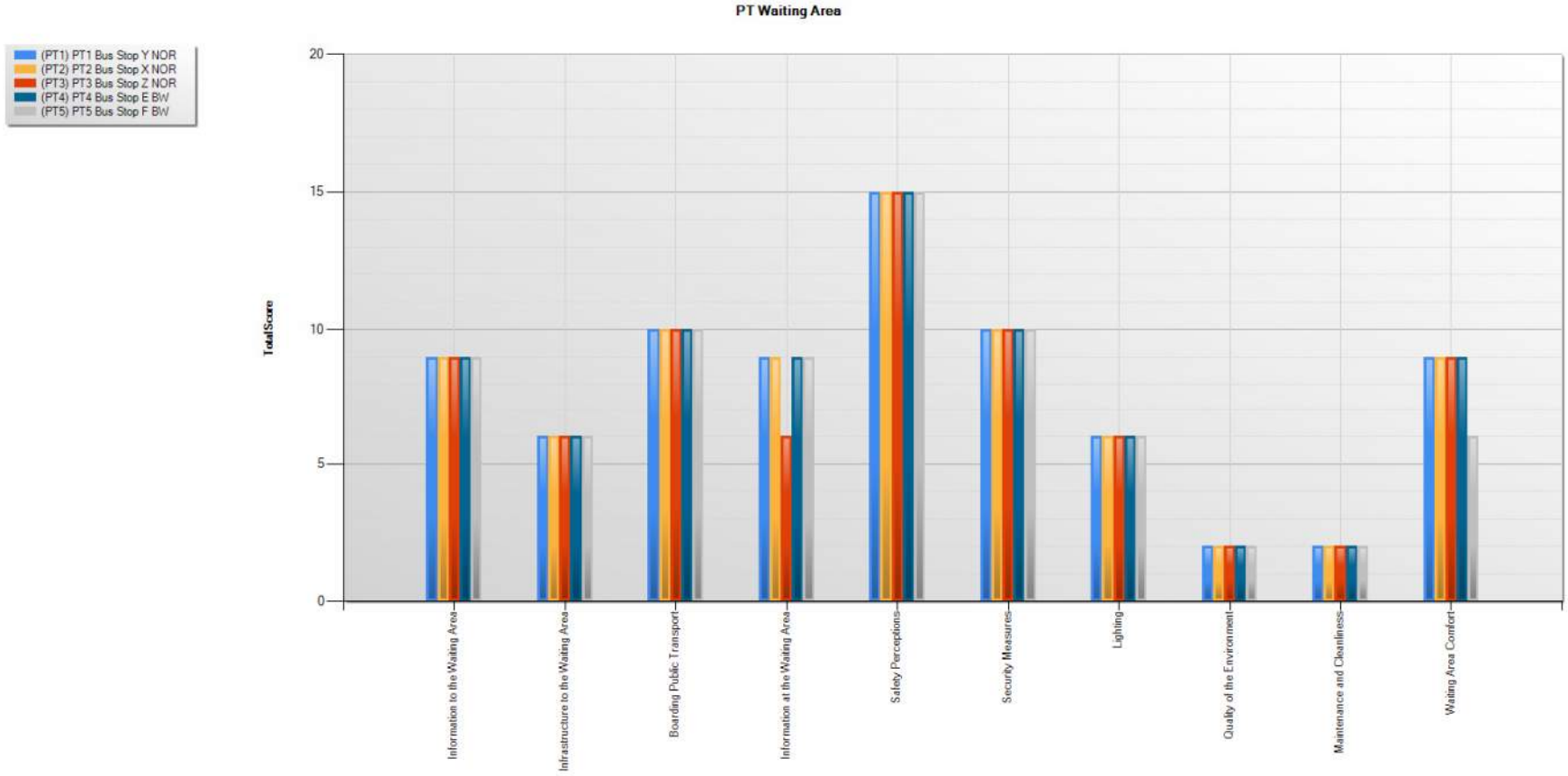
Appendix 3

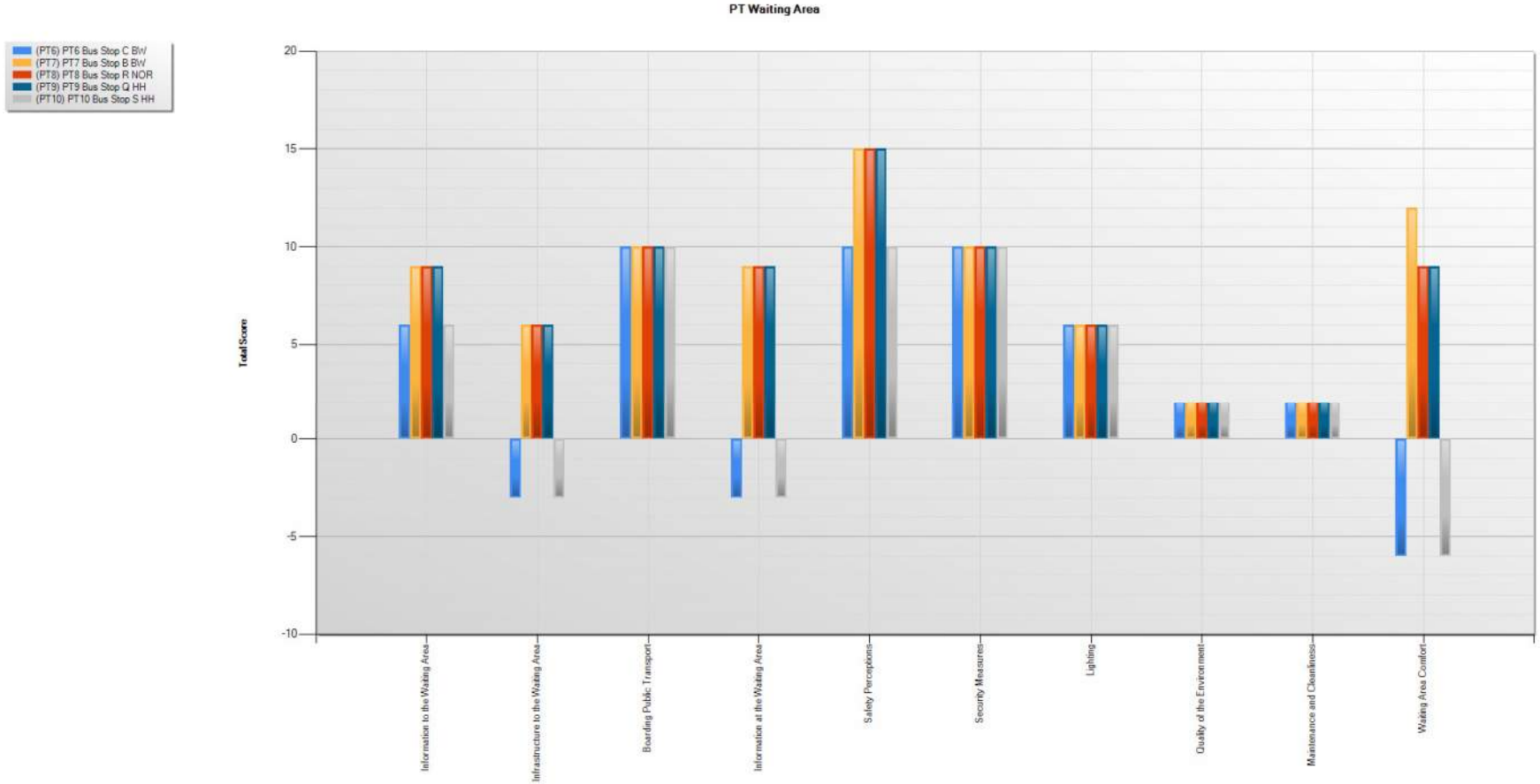
Public Space Results

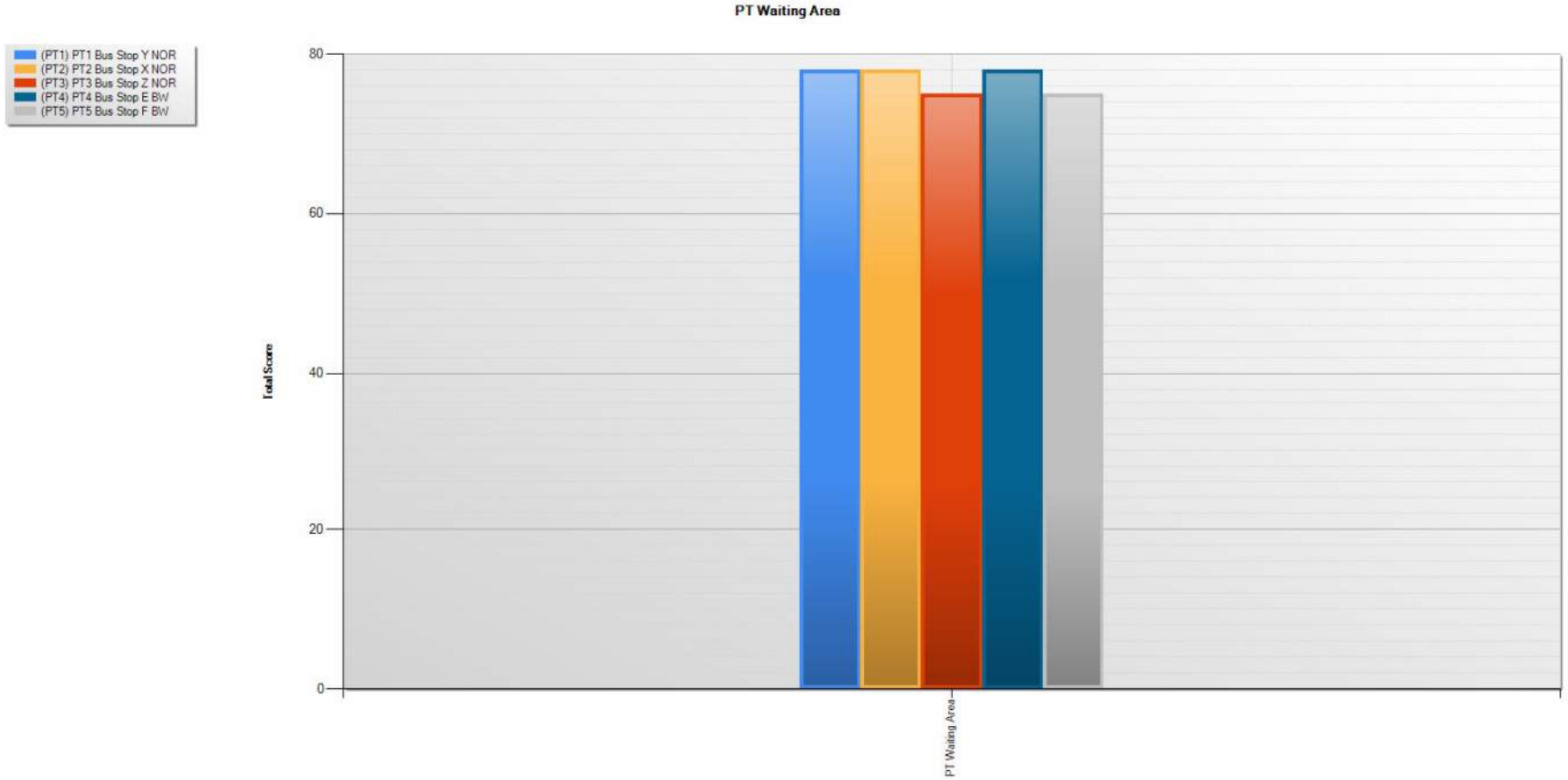

Public Space
(PS1) Public Space One
Total Score
20
15
10
5
0
Moving in the Space
Interpreting the Space
Personal Safety
Feeling Comfortable
Sense of Place
Opportunity for Activity
Link Reviews
Crossing Reviews
Route Reviews
Public Trans. Waiting Area Reviews

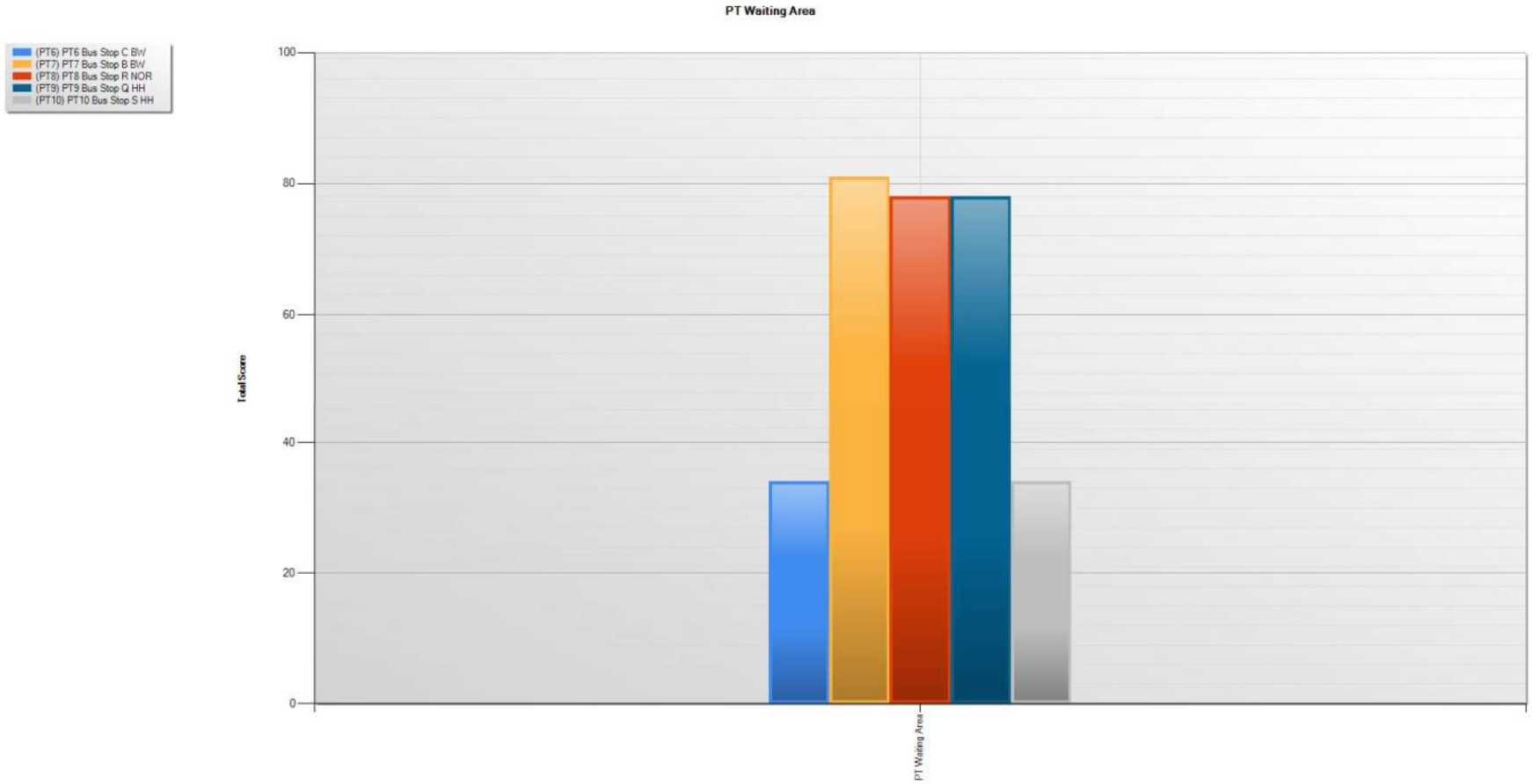
Appendix 4

Public Transport Waiting Area Results


PT Waiting Area
(PT1) PT1 Bus Stop Y NOR
(PT2) PT2 Bus Stop X NOR
(PT3) PT3 Bus Stop Z NOR
(PT4) PT4 Bus Stop E BW
(PT5) PT5 Bus Stop F BW
TotalScore
20
15
10
5
0
Information to the Waiting Area
Infrastructure to the Waiting Area
Boarding Public Transport
Information at the Waiting Area
Safety Perceptions
Security Measures
Lighting
Quality of the Environment
Maintenance and Cleanliness
Waiting Area Comfort

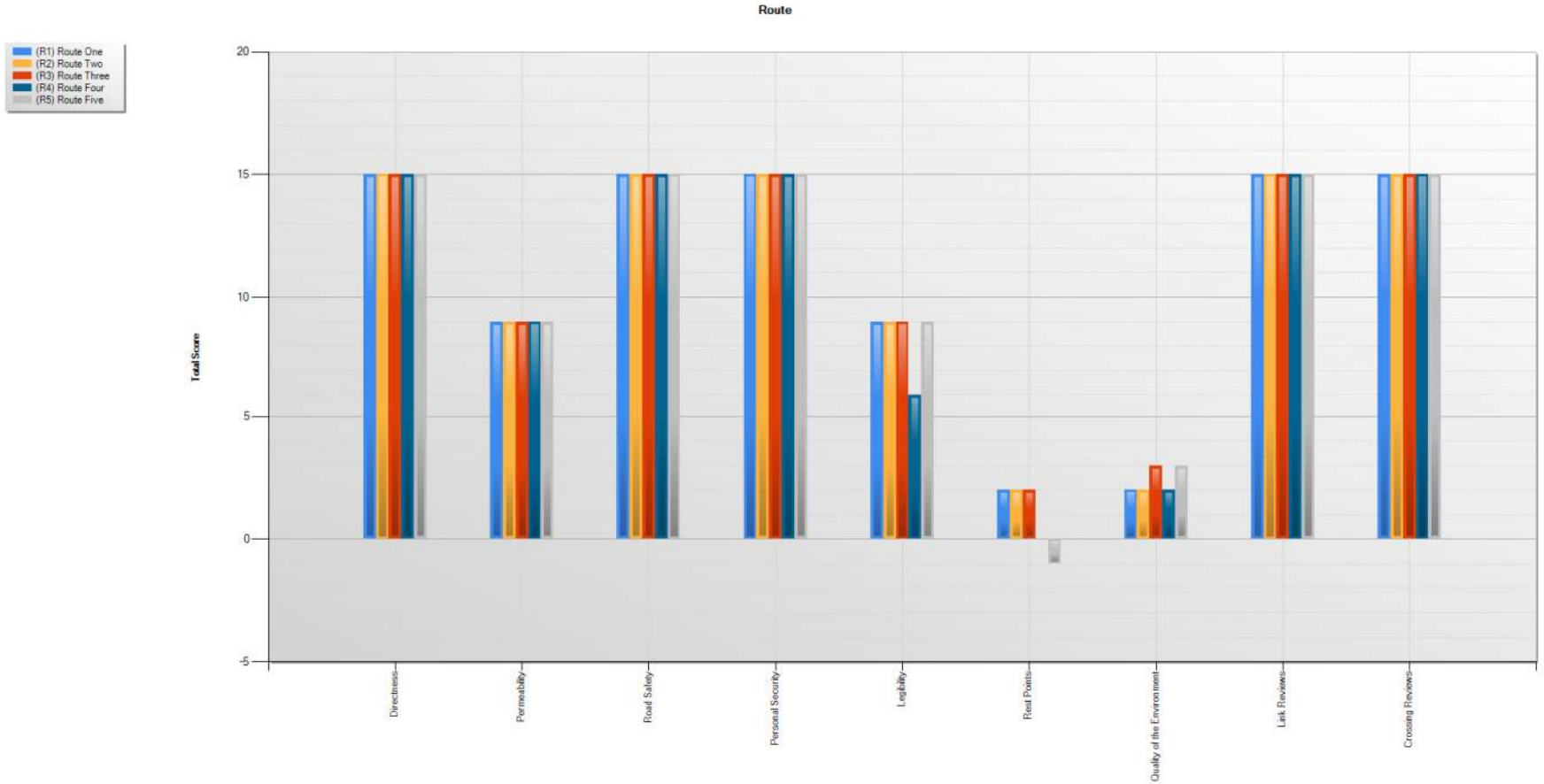

PT Waiting Area
(PT6) PT6 Bus Stop C BW
(PT7) PT7 Bus Stop B BW
(PT8) PT8 Bus Stop R NOR
(PT9) PT9 Bus Stop Q HH
(PT10) PT10 Bus Stop S HH
Total Score
20
15
10
5
0
-5
-10
Information to the Waiting Area
Infrastructure to the Waiting Area
Boarding Public Transport
Information at the Waiting Area
Safety Perceptions
Security Measures
Lighting
Quality of the Environment
Maintenance and Cleanliness
Waiting Area Comfort

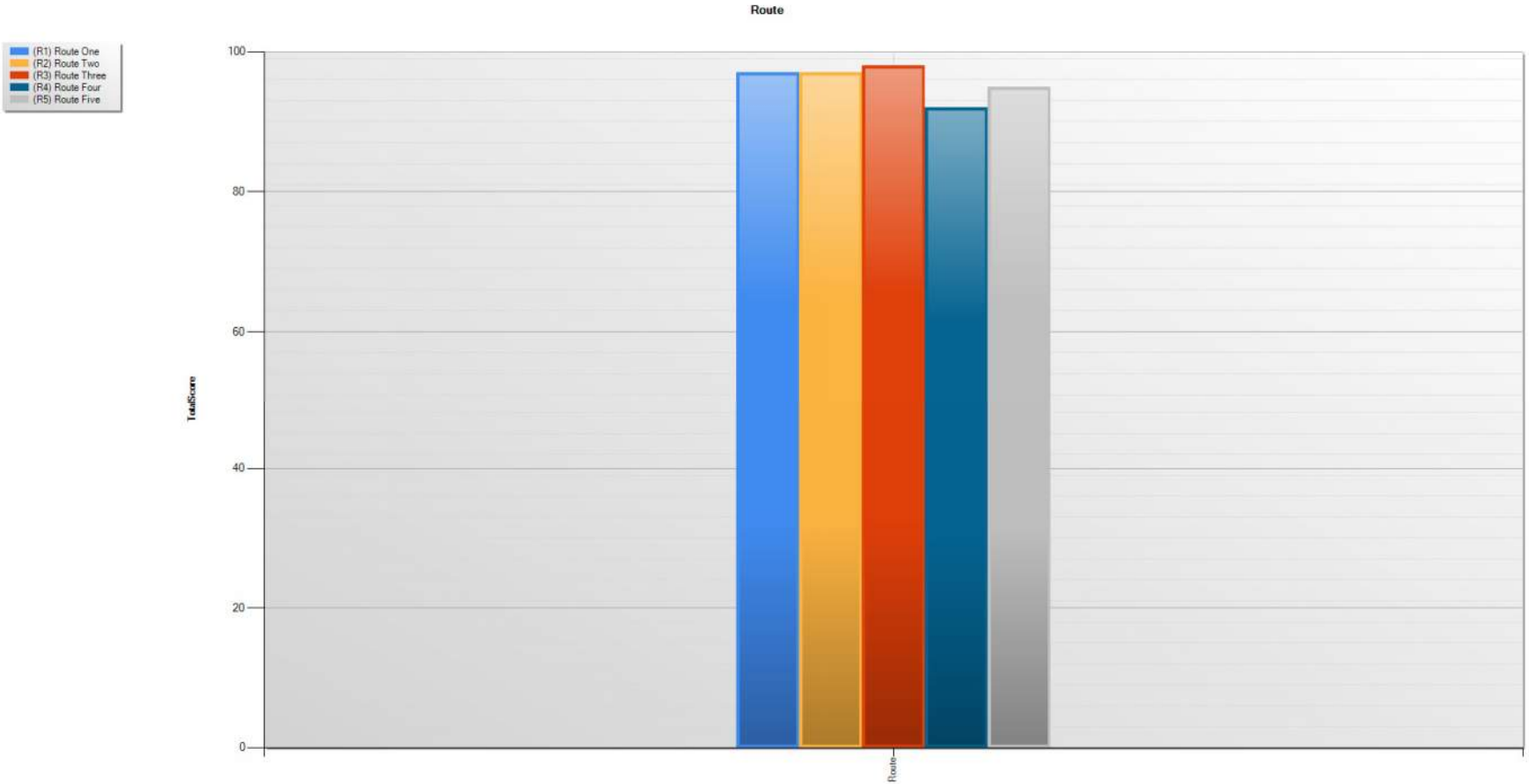

PT Waiting Area
(PT1) PT1 Bus Stop Y NOR
(PT2) PT2 Bus Stop X NOR
(PT3) PT3 Bus Stop Z NOR
(PT4) PT4 Bus Stop E BW
(PT5) PT5 Bus Stop F BW
Total Score
80
60
40
20
0
PT Waiting Area


PT Waiting Area
(PT6) PT6 Bus Stop C BW
(PT7) PT7 Bus Stop B BW
(PT8) PT8 Bus Stop R NOR
(PT9) PT9 Bus Stop Q HH
(PT10) PT10 Bus Stop S HH
Total Score
100
80
60
40
20
0
PT Waiting Area

Appendix 5

Route Results


Route
(R1) Route One
(R2) Route Two
(R3) Route Three
(R4) Route Four
(R5) Route Five
Total Score
20
15
10
5
0
-5
Directness
Permeability
Road Safety
Personal Security
Legibility
Rest Points
Quality of the Environment
Link Reviews
Crossing Reviews


Route
(R1) Route One
(R2) Route Two
(R3) Route Three
(R4) Route Four
(R5) Route Five
100
80
60
40
20
0
TotalScore
Route

Appendix B

TRICS Reports

TRICS 7.1.2

Trip Rate Parameter:	Gross floor area

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use	02 - EMPLOYMENT
Category	A - OFFICE
MULTI-MODAL TOTAL PEOPLE	

Selected regions and areas:

1	GREATER LONDON		
	CI	CITY OF LONDON	1 days
	CN	CAMDEN	2 days
	WH	WANDSWORTH	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Gross floor area
Actual Range:	1215 to 6056 (units: sqm)
Range Selected by User:	1000 to 6000 (units: sqm)

Public Transport Provision:

Selection by:	Include all surveys
Date Range:	01/01/06 to 29/11/13

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Wednesday	2 days
Thursday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:	
Manual count	4 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff whilst ATC surveys are undertaking using machines.

Selected Locations:	
Town Centre	3
Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	0
Edge of Town	0
Neighbourhood Centre (PPS6 Local Centre)	0
Free Standing (PPS6 Out of Town)	0
Not Known	0

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:	
Industrial Zone	0
Commercial Zone	0
Development Zone	0
Residential Zone	0
Retail Zone	0
Built-Up Zone	4
Village	0
Out of Town	0
High Street	0
No Sub Category	0

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

B1	4 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose which can be found within the Library module of TRICS®.

Population within 1 mile:

10,001 to 15,000	1 days
25,001 to 50,000	1 days
50,001 to 100,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

250,001 to 500,000	1 days
500,001 or More	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling within a radius of 5-miles of selected survey sites.

Travel Plan:

No	4 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	CI-02-A-01	OFFICES	CITY OF LONDON		
	50 CANNON STREET CITY OF LONDON BANK Town Centre Built-Up Zone Total Gross floor area:		1386 sqm		
	Survey date:	WEDNESDAY	21/10/2009	Survey Type:	MANUAL
2	CN-02-A-01	OFFICES	CAMDEN		
	ELY PLACE HOLBORN CIRCUS HOLBORN Edge of Town Centre Built-Up Zone Total Gross floor area:		4062 sqm		
	Survey date:	THURSDAY	23/10/2008	Survey Type:	MANUAL
3	CN-02-A-02	OFFICES	CAMDEN		
	GRAYS INN ROAD CLERKENWELL Town Centre Built-Up Zone Total Gross floor area:		6056 sqm		
	Survey date:	WEDNESDAY	22/10/2008	Survey Type:	MANUAL
4	WH-02-A-02	OFFICES	WANDSWORTH		
	BATTERSEA PARK ROAD BATTERSEA Town Centre Built-Up Zone Total Gross floor area:		1215 sqm		

Survey date: THURSDAY 10/05/2012 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site it displays a unique site reference code and site address the selected trip rate calculation parameter and its value the day of the week and date of each survey and whether the survey was a manual classified count or an ATC count.

Manually Deselected Sites

Site Ref	Reason for Deselection
CI-02-A-02	not appropriate
CI-02-A-03	not appropriate
SK-02-A-01	not appropriate
SK-02-A-02	not appropriate

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
Calculation Factor: 100 sqm
Count Type: TOTAL PEOPLE

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00									
07:00-08:00		4	3180 1.061	4	3180	0.11	4	3180	1.171
08:00-09:00		4	3180 2.823	4	3180	0.267	4	3180	3.09
09:00-10:00		4	3180 2.791	4	3180	0.401	4	3180	3.192
10:00-11:00		4	3180 1.046	4	3180	0.708	4	3180	1.754
11:00-12:00		4	3180 0.7	4	3180	0.967	4	3180	1.667
12:00-13:00		4	3180 1.565	4	3180	2.233	4	3180	3.798

13:00-14:00	4	3180	2.194	4	3180	2.186	4	3180	4.38
14:00-15:00	4	3180	1.753	4	3180	0.943	4	3180	2.696
15:00-16:00	4	3180	1.046	4	3180	0.991	4	3180	2.037
16:00-17:00	4	3180	0.425	4	3180	1.093	4	3180	1.518
17:00-18:00	4	3180	0.314	4	3180	3.027	4	3180	3.341
18:00-19:00	4	3180	0.197	4	3180	1.879	4	3180	2.076
19:00-20:00									
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			15.915			14.805			30.72

Parameter summary

Trip rate parameter range selected:	1215 - 6056 (units: sqm)
Survey date date range:	01/01/06 - 29/11/13
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	4

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first followed by the range of minimum and maximum survey dates selected by the user. Then the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRICS 7.1.1
Trip Rate Parameter:
Number of dwellings
TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use	03 - RESIDENTIAL
Category	C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE	

Selected regions and areas:

1	GREATER LONDON		
	HK	HACKNEY	1 days
	IS	ISLINGTON	1 days
	KN	KENSINGTON AND CHELSEA	1 days
	TH	TOWER HAMLETS	1 days
	WH	WANDSWORTH	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Number of dwellings
Actual Range:	9 to 32 (units:)
Range Selected by User:	9 to 294 (units:)

Public Transport Provision:

Selection by:	Include all surveys

Date Range:	01/01/05 to 11/05/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.
Selected survey days:

Tuesday	1 days

Wednesday	1 days
Thursday	1 days
Sunday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff whilst ATC surveys are undertaking using machines.

Selected Locations:

Town Centre	2
Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	0
Edge of Town	0
Neighbourhood Centre (PPS6 Local Centre)	0
Free Standing (PPS6 Out of Town)	0
Not Known	0

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	0
Commercial Zone	0
Development Zone	0
Residential Zone	2
Retail Zone	0
Built-Up Zone	3
Village	0
Out of Town	0
High Street	0

No Sub Category 0

This data displays the number of surveys per location sub-category within the selected set.
The location sub-categories consist of Development Zon, Industrial Zone, Commercial Zone, Residential, Retail Zone, Built up Zone, Village, Out of Town, High Street and No Sub Category

Filtering Stage 3 selection:

Use Class:

C1	1 days
C3	4 days

This data displays the number of surveys per Use Class classification within the selected set.
The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

10,001 to 15,000	1 days
50,001 to 100,000	3 days
101,000 or More	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

250,001 to 500,000	1 days
500,001 or More	4 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	3 days
0.6 to 1.0	2 days

This data displays the number of sele within a radius of 5-miles of selected survey sites.

Travel Plan:

No	5 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	HK-03-C-02	BLOCK OF FLATS	HACKNEY		
	HOXTON				
	SHOREDITCH				
	Town Centre				
	Built-Up Zone				
	Total Number of dwellings:		9		
	Survey date:	TUESDAY	11/11/2008	Survey Type:	MANUAL
2	IS-03-C-02	FLATS	ISLINGTON		
	COLLINS YARD				
	ANGEL				
	ISLINGTON				
	Town Centre				
	Built-Up Zone				
	Total Number of dwellings:		21		
	Survey date:	SUNDAY	16/11/2008	Survey Type:	MANUAL
3	KN-03-C-01	BLOCKS OF FLATS	KENSINGTON AND CHELSEA		
	UXBRIDGE STREET				
	NOTTING HILL				
	Edge of Town Centre				
	Residential Zone				
	Total Number of dwellings:		16		
	Survey date:	THURSDAY	15/10/2009	Survey Type:	MANUAL
4	TH-03-C-01	BLOCK OF FLATS	TOWER HAMLETS		
	BACK CHURCH LANE				
	ALDGATE				
	Edge of Town Centre				

	Built-Up Zone				
	Total Number of dwellings:		32		
	Survey date:	SUNDAY	09/11/2008	Survey Type:	MANUAL
5	WH-03-C-01	BLOCKS OF FLATS	WANDSWORTH		
	AMIES STREET				
	CLAPHAM JUNCTION				
	Edge of Town Centre				
	Residential Zone				
	Total Number of dwellings:		30		
	Survey date:	WEDNESDAY	09/05/2012	Survey Type:	MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site it displays a unique site reference code and site address the selected trip rate calculation parameter and its value the day of the week and date of each survey and whether the survey was a manual classified count or an ATC count.

Manually Deselected Sites

Site Ref	Reason for Deselection
CN-03-C-01	not suitable
HG-03-C-01	not suitable
HK-03-C-01	not suitable
HO-03-C-01	not suitable
IS-03-C-01	not suitable
KI-03-C-02	not suitable
KN-03-C-02	not suitable
KN-03-C-03	not suitable
RD-03-C-02	not suitable
TH-03-C-02	not suitable
TH-03-C-03	not suitable

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

Calculation Factor: 1 DWELLS
Count Type: TOTAL PEOPLE

	ARRIVALS			DEPARTURES		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00						
06:00-07:00						
07:00-08:00	5	22	0.028	5	22	0.324
08:00-09:00	5	22	0.093	5	22	0.37
09:00-10:00	5	22	0.13	5	22	0.157
10:00-11:00	5	22	0.065	5	22	0.176
11:00-12:00	5	22	0.111	5	22	0.13
12:00-13:00	5	22	0.093	5	22	0.056
13:00-14:00	5	22	0.111	5	22	0.139
14:00-15:00	5	22	0.102	5	22	0.167
15:00-16:00	5	22	0.38	5	22	0.065
16:00-17:00	5	22	0.102	5	22	0.056
17:00-18:00	5	22	0.204	5	22	0.065
18:00-19:00	5	22	0.13	5	22	0.028
19:00-20:00						
20:00-21:00						
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:			1.549			1.733

Parameter summary

Trip rate parameter range selected:	9 - 32 (units:)
Survey date date range:	01/01/05 - 11/05/12
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	2
Surveys manually removed from selection:	11

This section displays a quick summary of some of the data filtering selections made by the TRICS® user.
The trip rate calculation parameter range of all selected surveys is displayed first
followed by the range of minimum and maximum survey dates selected by the user. Then
the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally
the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

No. Days	TOTALS Ave. DWELLS	Trip Rate
5	22	0.352
5	22	0.463
5	22	0.287
5	22	0.241
5	22	0.241
5	22	0.149
5	22	0.25
5	22	0.269
5	22	0.445
5	22	0.158
5	22	0.269
5	22	0.158
		3.282

TRICS 7.1.1
Trip Rate Parameter: Gross Floor Area

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 01 - RETAIL
Category A - FOOD SUPERSTORE
MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

1 GREATER LONDON
CN CAMDEN 2 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 1710 to 1890 (units: sqm)
Range Selected by User: 1710 to 7899 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/05 to 21/06/10

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.
Selected survey days:
Monday 2 days
This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff whilst ATC surveys are undertaking using machines.

Selected Locations:	
Town Centre	2
Edge of Town Centre	0
Suburban Area (PPS6 Out of Centre)	0
Edge of Town	0
Neighbourhood Centre (PPS6 Local Centre)	0
Free Standing (PPS6 Out of Town)	0
Not Known	0

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:	
Industrial Zone	0
Commercial Zone	1
Development Zone	0
Residential Zone	0
Retail Zone	0
Built-Up Zone	1
Village	0
Out of Town	0
High Street	0
No Sub Category	0

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category

Filtering Stage 3 selection:

Use Class:

A1	2 days

This data displays the number of surveys per Use Class classification within the selected set.
The Use Classes Order 2005 has been used for this purpose which can be found within the Library module of TRICS®.

Population within 1 mile:

50,001 to 100,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

500,001 or More	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling within a radius of 5-miles of selected survey sites.

Petrol filling station:

PFS is present at the site and is included in the count	0 days
PFS is present at the site but is excluded from the count	0 days
There is no PFS at the site	2 days

This data displays the number of surveys within the selected set that include petrol filling station activity and the number of surveys that do not.

Travel Plan:

No	2 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 CN-01-A-03 SAINSBURYS CAMDEN
TOTTENHAM COURT RD.

BLOOMSBURY
Town Centre
Built-Up Zone
Total Gross floor area: 1710 sqm
Survey date: MONDAY 03/11/2008 Survey Type: MANUAL

2 CN-01-A-04 SAINSBURYS CEN. CAMDEN
KINGSWAY

HOLBORN
Town Centre
Commercial Zone
Total Gross floor area: 1890 sqm
Survey date: MONDAY 21/06/2010 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey and whether the survey was a manual classified count or an ATC count.

Manually Deselected Sites

Site Ref	Reason for Deselection
KI-01-A-01	not suitable

TRIP RATE for Land Use 01 - RETAIL/A - FOOD SUPERSTORE
Calculation Factor: 100 sqm
Count Type: TOTAL PEOPLE

	ARRIVALS			DEPARTURES			TOTALS	
No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip

Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00									
07:00-08:00		2	1800	18.25	2	1800	16.583	2	1800	34.833
08:00-09:00		2	1800	36.75	2	1800	33.472	2	1800	70.222
09:00-10:00		2	1800	26.694	2	1800	25.444	2	1800	52.138
10:00-11:00		2	1800	30.944	2	1800	28.417	2	1800	59.361
11:00-12:00		2	1800	32.417	2	1800	26.583	2	1800	59
12:00-13:00		2	1800	65.417	2	1800	62.556	2	1800	127.973
13:00-14:00		2	1800	84.75	2	1800	82.667	2	1800	167.417
14:00-15:00		2	1800	43.028	2	1800	41.056	2	1800	84.084
15:00-16:00		2	1800	35.528	2	1800	32.667	2	1800	68.195
16:00-17:00		2	1800	38.194	2	1800	44.556	2	1800	82.75
17:00-18:00		2	1800	44.583	2	1800	45.611	2	1800	90.194
18:00-19:00		2	1800	50.056	2	1800	48.694	2	1800	98.75
19:00-20:00		1	1890	26.561	1	1890	30.476	1	1890	57.037
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:				533.172			518.782			1051.954

Parameter summary

Trip rate parameter range selected:	1710 - 1890 (units: sqm)
Survey date date range:	01/01/05 - 21/06/10

Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first followed by the range of minimum and maximum survey dates selected by the user. Then followed by the range of minimum and maximum survey dates selected by the user. Then the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix C

Framework Travel Plan

New Oxford Street Ltd

21-31 New Oxford Street

Framework Travel Plan

Planning | 5 September 2014

Job number 230602

Ove Arup & Partners International Ltd
13 Fitzroy Street
London
W1T 4BQ
United Kingdom
www.arup.com

ARUP

Contents

1 Introduction

1.1 The proposed development

21-31 New Oxford Street is located in the London Borough of Camden (LBC). It forms part of a triangular block of buildings with High Holborn to the south, Museum Street to the west and New Oxford Street to the north. The site is a part eight, part nine storey building and was used by the Royal Mail as a sorting office. It ceased to be used for that purpose since the 1990s and has remained vacant apart from the occasional use as an exhibition space. The site currently provides approximately 30,000m^2 of floorspace.

The development proposals see the redevelopment of the site from its existing use to a mixed use development for office, residential and retail use. The proposed development will have a total of nine levels (not including the basement), with a mezzanine floor included on levels one, two and eight.

The majority of the building is proposed to be for flexible office use (approximately 34,836m² Gross Internal Floor Area (GIFA)) taking advantage of the existing double height internal spaces and inserting mezzanines around a new core. The development will include the provision of active public uses at ground and lower ground floor levels to reactivate street frontages, with a mix of uses such as shops, cafés, galleries and restaurants (approximately 4,167m² GIFA). There will be up to 21 new affordable homes in the south east corner of the site fronting High Holborn. Public realm enhancement works are also proposed as part of the development, including reopening Dunn's Passage and creating a new public open space on Museum Street.

The trip generation assessment estimates that the proposed development will generate 1,019 net additional person trips during the AM peak hour. The distribution of these trips to the pedestrian, cycle and public transport networks indicates that the proposed development will have a minor impact on the operation of the local transport network. Further information regarding trips to the proposed development is detailed in Section 6 of the Transport Assessment (TA).

1.2 Purpose of the Travel Plan

The location of the proposed development offers numerous opportunities for individuals to travel to and from the site in a sustainable manner. The site's PTAL rating of 6(b) will enable occupiers to use public transport to travel to/from the site. In addition to measures intrinsic to the design, a Travel Plan will provide a systematic approach to influence long-term travel choice.

A Framework Travel Plan (FTP) developed for the site will ensure that good travel patterns are established upon occupation and will set in place a long-term strategy for encouraging sustainable modes of travel.

At this stage the Travel Plan for the site only seeks agreement for the proposed FTP, which will be developed further. It is recommended that the Travel Plan will be secured, monitored and funded as part of the Section 106 agreement for the proposed development. A full Travel Plan, in accordance with the FTP will be

developed, and these documents should meet the Assessment Tool for Travel Plan Building, Testing and Evaluation (ATTrBuTE) requirements when produced.

1.3 Policy Compliance

The structure of this FTP has been informed by Transport for London's (TfL) guidance *Travel Planning Guidance* published in November 2013. This guidance provides advice on the requirements for travel plans for new developments in London. It includes an explanation of the process, when a Travel Plan is required, what it should contain, and how to monitor, secure and enforce travel plans. This guidance supersedes the *'Travel Planning for New Development in London - Incorporating Deliveries and Servicing' (2011).*

The FTP is considered to meet the objectives of current planning policy. For example:

- The *National Planning Policy Framework (NPPF)* states that "all developments which generate significant amounts of movement should be required to provide a Travel Plan";
- *Development Policies* as part of LBC's *Local Development Framework* states that "the Council will expect proposals to provide information to indicate the likely impacts of the development and the steps that will be taken to mitigate those impacts, for example using transport assessments and travel plans";
- *Camden Planning Guidance – CPG7 Transport* includes a chapter on travel plans. The document states that "the requirements of a Travel Plan will be tailored to the specific characteristics of the site and the development"; and
- *The Planning Brief for 21-31 New Oxford Street* states that "to mitigate transport impact, developers should also prepare a Green Travel Plan that occupiers will be required to sign up to before occupation".

1.4 Scope of the Travel Plan

The scope of this framework covers the residential units and office element within the proposed development.

1.5 Timescales

The Travel Plan will become effective upon occupation of the proposed development. In line with the TfL guidance, it is proposed that future occupiers will develop their own Travel Plans based on this framework produced for the building.

Within one year of occupation a baseline travel survey will be undertaken by each occupier to confirm and revise, (if necessary) the baseline mode shares applied in the FTP. Subsequent travel surveys will take place annually to monitor the progress of the Travel Plan.

1.6 Travel Plan Structure

This document sets out the Travel Plan proposals being developed as part of the planning application for the proposed development. The FTP forms a central element of the overall transport strategy and is part of a systematic approach to influence long-term travel choice. This document:

- Provides a summary of the existing transport network;
- Articulates a series of objectives for the development;
- Provides an indicative set of targets;
- Identifies and describes the initiatives proposed to support the objectives; and
- Proposes a management strategy for delivery and monitoring.

This FTP should be read in conjunction with the Transport Assessment (TA) for the proposed development, produced by Arup in 2014.

2 Existing Travel Situation

A full description of the existing travel situation is provided in Section 4 of the TA. The following section provides a summary of each facility.

2.1 London Underground and National Rail Services

There are two London Underground stations within 960m walking distance of the proposed development. These are Tottenham Court Road (serving the Northern and Central Lines) and Holborn (serving the Piccadilly and Central lines).

2.2 Bus Services

There are 26 bus services available within 640m walking distance of the proposed development with routes operating to a wide variety of areas in central and greater London.

2.3 Existing Pedestrian Network

The proposed development is highly accessible on foot. All roads in the immediate vicinity (New Oxford Street, High Holborn and Museum Street) have good quality pavements and provide direct routes to key local stations and destinations such as Tottenham Court Road station, High Holborn station and The British Museum.

Three signalised pedestrian crossings, located adjacent to the proposed development offer safe and direct routes to key destinations. Further details are documented in the TA.

2.4 Cycle Facilities

There are a number of cycle routes available in the vicinity of the proposed development. According to TfL's Central London cycle map, Museum Street is a 'quieter road that has been recommended by other cyclists'. An off road cycle path is located on High Holborn leading to New Oxford Street, north west of the site.

Public cycle parking facilities are available at a number of locations in the immediate vicinity of the proposed development. These include stands on New Oxford Street, High Holborn and Museum Street.

There are a number of Barclays Cycle Hire docking stations within 640m walking distance of the proposed development. The locations are: High Holborn; Bury Place; Southampton Place; Earnshaw Street; Drury Lane; Great Russell Street; and Newton Street.

2.5 Local Highway Network

The proposed development is bounded by the following roads:

- **New Oxford Street**: on the northern perimeter. From the junction with Tottenham Court Road, traffic is one way from west to east with a bus contraflow. Traffic flows are generally heavy. The stretch of New Oxford Street adjacent to the site experiences lower levels of traffic and is a one way

street with traffic travelling east to west. There is vehicular access to the existing site via New Oxford Street. New Oxford Street is part of the Strategic Road Network, where TfL must be consulted upon where changes are proposed;

- **High Holborn**: runs along the southern edge of the proposed development. Traffic travels in a one way direction from east to west and the street generally experiences heavy traffic flows. There are some waiting restrictions for lorries (over 5T) and coaches. High Holborn is part of the Strategic Road Network; and
- **Museum Street**: this bounds the site to the west. The street is narrower in comparison to New Oxford Street and High Holborn and therefore experiences lighter traffic flows. Traffic travels in a south to north direction. Museum Street is a minor road and is public highway managed and maintained by LBC.

The highway network south of the site (Drury Lane, Stukeley Square, Smart Place) are narrower, quieter roads which experience generally lighter flows of traffic. Bloomsbury Way (A40) is a key local route which branches off New Oxford Street to the north west corner of the site. Traffic flows are heavy and travel west to east with a bus contraflow.

2.6 Parking

Parking is not permitted on any of the streets in the direct vicinity of the site. However there are some Pay and Display parking bays on High Holborn adjacent to Bloomsbury Court. The maximum stay is for two hours: Monday-Saturday 8:30am-6:30pm. This also includes one space for permit holders. New Oxford Street, immediately north of the site, has a diplomatic vehicle parking bay.

There is one NCP car park in the vicinity of the site. Shaftesbury Car Park is accessible from Museum Street, immediately to the west of the site, and has capacity for 228 vehicles.

There are two car club parking bays within walking distance of the site, each with capacity for one vehicle. These are located in Bury Place and Parker Street.

There is one motorcycle parking facility in the vicinity of the site on Museum Street, to the north west of the site.

3 Aims and Objectives

3.1 Introduction

The overarching aims of the Travel Plan will be to:

- Influence the travel behaviour of residents, employees and visitors;
- Encourage travel by cycle, foot and public transport by improving their attractiveness; and
- Promote healthy lifestyles and a sustainable, vibrant community.

The site-specific objectives of the Travel Plan will respond to the aims through:

- Making alternative travel modes to the car very accessible and user friendly. The Travel Plan will be positively promoted whilst not aspiring to dictate development user lifestyles;
- Providing no car parking for employees for the retail units and residents to protect the environment for all users of the development. There will be a high availability and usage of cycle facilities and public transport; and
- Linking the development to the surrounding area by the strong promotion of walking, cycling and public transport, thus minimising the effect of the new development on the surrounding infrastructure.

3.2 Baseline Modal Shift

Targets for the travel plan will be based on modal shift data, which in turn are derived from trip generation data. For this FTP, the methodology for trip generation is based on TRICS. It is the UK and Ireland's national system of trip generation analysis, containing over 6,657 directional transport surveys at over 110 types of development. TRICS 7.1.2 Online was used for this exercise.

Table 1 shows the peak hour trips by mode for the office and residential elements of the proposed development and **Table 2** shows these figures converted to show the modal split.

Table 1: Peak hour trips by mode*

Mode of Transport	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Bicycle	93	9	102	11	100	110
Bus/minibus/coach	86	9	96	10	93	103
Driving a car/van	9	1	11	1	10	11
Motorcycle/scooter/moped	19	2	20	2	20	22
Other	3	0	3	0	3	3
Passenger in a car/van	8	1	9	1	9	10
Rail	339	33	372	38	364	402
Taxi/minicab	5	1	5	1	5	6
Underground	331	33	363	38	355	392
Walk	39	7	46	6	42	48

Mode of Transport	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Total	**933**	**96**	**1029**	**108**	**999**	**1107**

*Note that figures may not sum due to rounding

Table 2: Peak hour modal split*

Mode of Transport	AM Peak Total	PM Peak Total	Average
Bicycle	10%	10%	10%
Bus/minibus/coach	9%	9%	9%
Driving a car/van	1%	1%	1%
Motorcycle/scooter/moped	2%	2%	2%
Other	0%	0%	0%
Passenger in a car/van	1%	1%	1%
Rail	36%	36%	36%
Taxi/minicab	1%	1%	1%
Underground	35%	35%	35%
Walk	4%	4%	4%
Total	**100%**	**100%**	**100%**

*Note that figures may not sum due to rounding

3.3 Targets

In order for the Travel Plan to succeed, and to enable a measurement of success, targets must be set which allow for the assessment of its measures and data. Such targets need to be Specific, Measurable, Achievable, Realistic and Timed (SMART) ensuring that wherever possible, targets for modal spilt can be achieved. Targets set will be linked back to the Travel Plan objectives.

The preliminary targets for the office and residential element of the proposed development are focused on encouraging travel by sustainable modes. These will be reviewed once the site is occupied and baseline travel surveys have been completed. If, by the end of a particular year, travel surveys indicate that mode shifts are not following the aspired patterns, the effectiveness of the Travel Plan measures will be reviewed and adjusted accordingly.

The following draft targets shown in **Table 3** are directly related to the objectives provided earlier in the report:

- Maintain the mode share of walk and public transport trips, as in **Table 3**;
- Increase the modal share of cycling trips made to the site; and
- Decrease mode share for cars (both driver and passenger) and taxis to less than 1% (shown as 0% in **Table 3**).

Table 3: Mode Share Targets*

Mode	Base Year	Target Year 1	Target Year 3	Target Year 5
Bicycle	10%	11%	12%	13%
Bus/minibus/coach	9%	9%	9%	9%
Driving a car/van	1%	0%	0%	0%
Motorcycle/scooter/moped	2%	2%	2%	2%
Other	0%	0%	0%	0%
Passenger in a car/van	1%	1%	0%	0%
Rail	36%	36%	36%	36%
Taxi/minicab	1%	1%	1%	0%
Underground	35%	35%	35%	35%
Walk	4%	4%	4%	4%
Total	**100%**	**100%**	**100%**	**100%**

*Note that figures may not sum due to rounding

Monitoring of the Travel Plan will be undertaken throughout its duration. If necessary, changes to the implementation of the Travel Plan or the type of measures that it includes will be made to ensure that the overall targets are achieved within the timeframe set.

The development will be constructed in one phase and therefore the target modal share associated with development will be applied to the full build out of the development.

3.4 ATTrBuTE

The Travel Plan targets will be assessed using the online Travel Planning tool ATTrBuTE. The tool comprises a series of questions designed to test the extent to which a Travel Plan delivers against its objectives and is fit for purpose. It does not, however, predict whether the Travel Plan will achieve the targets set or whether the measures proposed are appropriate.

This FTP is compliant with ATTrBuTE. The FTP passes the ATTrBuTE test and scores 36. The ATTrBuTE summary report is provided in **Appendix A** of the FTP.

4 Initiatives and Measures

4.1 Introduction

The proposed development is located in an area of excellent walking, cycling and public transport accessibility and it is anticipated that a minimal number of car trips will be made.

Two car parking bays for Blue Badge holders will be provided in compliance with the parking addendum to chapter six of the *London Plan*. The *London Plan* states that developments should provide at least one accessible on or off street car parking bay designated for Blue Badge holders, even if no general parking is provided.

Despite this, a series of initiatives will still need to be implemented to further encourage the use of non-car modes and secure and promote incentives that actively encourage sustainable travel. Some measures will be applicable to all users of the development whereas others may be targeted at specific user groups.

4.2 Measures to Facilitate Walking and Cycling

Walking and cycling are the most sustainable modes of transport and have many benefits not only to the environment but also to the individual, including improved physical and psychological health. The location of the site will automatically result in many people walking and cycling to and from local facilities. The Travel Plan should aspire to increase use of these modes. Measures that will be applied include:

- Providing information on walking and cycling routes on notice boards within key areas of the residential and office element of the proposed development;
- Providing residents and employees with information packs about local transport options and include walking and cycling maps to key facilities and local destinations;
- Raising the awareness of the health benefits of walking and cycling through promotional material and events throughout the year; and
- Providing secure cycle parking to meet demands. The base provision is above the required standards and should therefore be sufficient to accommodate demand. It is suggested that a Cycling Steering Group could be established within the building, which will be responsible for ensuring the level of cycle parking provision is sufficient to meet growing demand.

4.3 Measures to Facilitate Public Transport Use

Measures that will be considered to facilitate public transport use include:

- Displaying up-to-date public transport information on notice boards located centrally within the site where all residents and employees can view them. Such information will include timetables, frequencies, maps and fares.

4.4 Measures to Manage Demand

The Travel Plan Co-ordinator(s) (further details in the next section) will be responsible for reviewing measures that reduce the need to travel at peak hours, including for example:

- Promoting all transport options (walking, cycling and public transport) that can be used to travel to/from the proposed development;
- Encouraging travel in 'off peak' hours; and
- Looking for ways to consolidate servicing and delivery trips to minimise the number of trips made to and from the site each day.

5 Management

In order to maximise the chances of success, it is important to have a clear implementation strategy and to identify roles and responsibilities to maintain the momentum of the Travel Plan.

Prior to each office tenant occupying the building, a Travel Plan Co-ordinator(s) should be appointed to oversee the implementation and monitoring of the Travel Plan for their company. The Co-ordinator(s) will have overall responsibility for:

- Establishing and co-ordinating a Travel Plan Steering Group with meetings as required;
- Identifying key milestones, deliverables and a programme to oversee the development and implementation of specific initiatives;
- Development and dissemination of appropriate marketing / information materials;
- Overseeing the implementation of Travel Plan measures in a timely manner;
- Liaison with any appropriate groups / organisations (e.g. London Borough of Camden transport officers) to ensure co-ordinated working;
- Undertaking appropriate monitoring of the Travel Plan, including any appropriate review and revisions;
- Monitoring and reviewing progress and identifying targets for taking the Travel Plan forward;
- Ensuring that the work of the Travel Plan is co-ordinated with other activities in the proposed development; and
- Ensuring that there is a sufficient amount of time to spend on the Travel Plan and to perform all their duties.

6 Marketing and Promotion

It is recognised that for the Travel Plan to be successful, it is essential that the target audience are involved and made aware of its implementation and evolution.

A detailed strategy for on-going promotion and awareness-raising of the Travel Plan will be developed by the Travel Plan Co-ordinator(s). The strategy will include:

- A series of meetings to explain the purpose of the Travel Plan;
- 'Branding' the Travel Plan to raise its profile and to make it instantly recognisable. All leaflets and publications produced as a part of the Travel Plan will take on this branding;
- An official 'launch event' to raise the profile of the Travel Plan;
- Resident and recruitment packs, which will include information about transport options and the Travel Plan; and
- Transport and travel information will be provided in areas where people congregate throughout the development.

7 Monitoring

An important part of any Travel Plan is the continual monitoring and review of its effectiveness. Regular monitoring and review will help to gauge progress towards achieving targets and objectives, and if necessary, allow the Travel Plan to be refined and adapted in order to improve.

It is proposed that the Travel Plan will be monitored annually for the first five years of occupation. In accordance with TfL recommendations the Travel Plan will also be subsequently monitored at Year eight and Year 10.

The monitoring will be the responsibility of the Travel Plan Co-ordinator(s) and will review:

- Travel patterns (via a travel survey) - comprehensive travel surveys will be undertaken with a commitment to review the Travel Plan targets at each monitoring phase. This review will identify elements of the Plan that are not working as well as others;
- Full Site audit – undertaken by the Travel Plan Co-ordinator(s). The audit will identify any barriers that obstruct walking, cycling and using public transport and make recommendations for improvements; and
- Bicycle parking counts.

The programme of monitoring will enable the review and refinement of the Travel Plan over the phase of development and beyond. It will assist in identifying priorities and reflect the needs and priorities of residents, employees and visitors to ensure their continued commitment to, and ownership of, the Travel Plan.

8 Travel Plan Funding

The developer will fund the preparation of the draft Travel Plan and will also procure the completion of the final Travel Plan, in consultation with the appointed occupants.

It will be the responsibility of the owner to take forward and monitor any actions that arise out of the final Travel Plan. The initiatives, measures and monitoring surveys will be funded through the service charges to tenants within the development.

The budget of the Travel Plan will be sufficient to deliver the initiatives required to ensure the success of the Plan. It is premature to consider the indicative service charge costs at this stage. Detail will be provided in the final Travel Plan.

An action plan will be developed which outlines the actions that will be the responsibility of the developer and subsequently the Travel Plan Co-ordinator (s) and Steering Group. The performance of all roles will be judged against the criteria contained within the action plan and the Travel Plan targets on a bi-annual basis.

A provisional action plan is outlined in

Table 4. This timetable will be reviewed and updated on submission of the first full Travel Plan.

Table 4: Provisional Action Plan

Date	Action
September 2014	FTP submitted with Planning Application.
Post planning permission	Construction Management Strategy prepared and approved in advance of construction phase.
TBC	Construction phase.
Development completion and tenant(s) known	Final Travel Plan prepared
Prior to initial occupation	Interim Travel Plan agreed with London Borough of Camden (LBC)
Initial occupation	Appointment of Travel Plan Co-ordinator
TBC	Modal split targets updated and agreed with LBC
Six months after occupancy	Initial Travel Survey Undertaken
TBC	Date of follow-up surveys agreed with LBC
End of Year 1, Year 3 and Year 5	Monitoring, review and feedback to LBC

Appendix A - ATTrBuTe Test Results

ATTrBuTe

Travel plan name	Project LT
Planning application reference number	
Name of travel plan author	Mala Bhardwa
Email address of travel plan author	mala.bhardwa@arup.com
Telephone number of travel plan author	
Name of travel plan assessor	Mala Bhardwa
Job title/role of travel plan assessor	
Plan Type	Local level | Framework | Travel Plan (occupiers not known)

The development		6/7
Does the travel plan include... a) full address of the development? b) contact details for the person responsible for preparing the travel plan?	NONE	2
Does the travel plan include... a) a breakdown of the different land uses expected on site? b) details of the size of each type of land use? c) details of how build-out of the development will be phased?	NONE	3
Does the travel plan include details of the number of users expected on site (including employees, residents, deliveries and visitors)?	This is a framework travel plan and details have yet to be confirmed	0
Does the framework travel plan include a commitment for occupiers of the site to develop individual travel plans within the context of the overarching plan?	NONE	1
Policy		2/2
Does the travel plan include reference to relevant national, regional and local / borough... a) transport and spatial policy? b) travel planning guidance?	NONE	2
Site assessment		3/3
To what extent does the travel plan clearly describe the accessibility and quality of... a) existing transport networks? b) existing travel initiatives available to all users?	Further information is detailed in the transport assessment.	3
Surveys		2/3

Are iTRACE (or TRAVL where specified by the borough)-compliant site user travel surveys proposed?	NONE	1
Are appropriate freight surveys proposed?	Not applicable	0
Is a baseline modal split (actual trip numbers and percentage of all trips) estimated for the site?	NONE	1
Objectives		3/3
Does the travel plan include objectives which reflect... a) Mayoral policy & strategic guidance? b) local / borough policy and guidance? c) the challenges and opportunities specific to the site?	NONE	3
Targets		2/2
Are there interim targets linking directly to each objective?	NONE	1
Have interim targets appropriate to the phasing of the development been set?	NONE	1
TP Co-ordinator		3/3
Has a site-wide travel plan co-ordinator been identified or is there agreement upon when a co-ordinator will be in place?	NONE	1
Has the framework travel plan co-ordinator.... a) roles and responsibilities been made clear? b) been allocated a sufficent amount of time to spend on the travel plan?	NONE	2
Measures		6/6
To what extent do the interim site-wide measures... a) support the objectives of the travel plan? b) reflect the context of the site?	NONE	3
Is the action plan clear on how and when travel plans will be developed among occupying organisations?	NONE	1
Is an action plan provided which includes... a) short / medium / long term actions? b) timescales and responsibilities?	NONE	2
Monitoring		2/2
Is it clear who is responsible for site-wide monitoring?	NONE	1
Is a clear site-wide monitoring programme that adheres to the standardised approach included?	NONE	1
Securing and enforcement		1/1
Is it clear how the travel plan will be secured?	NONE	1
Funding		6/6
Has a sufficient budget been set for the site-wide... a) travel plan co-ordinator post? b) measures?	NONE	3

c) monitoring programme?		
Have funding streams been identified for the site-wide... a) travel plan co-ordinator post? b) measures? c) monitoring programme?	NONE	3
Total - PASS		**36**