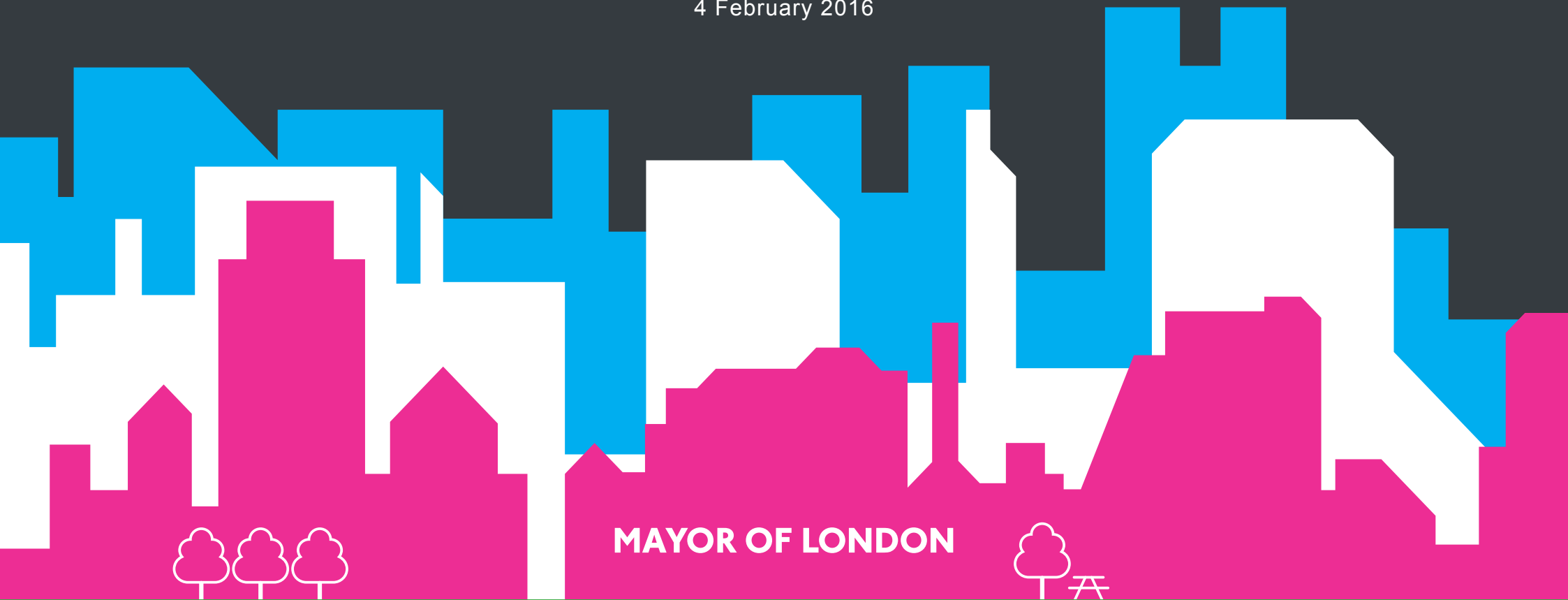


Park Royal Transport Strategy

LOCAL PLAN SUPPORTING STUDY

Draft for Regulation 18 Consultation
4 February 2016



Role of this study

This study has been produced to inform the draft Local Plan and should be read alongside other relevant studies, the draft Local Plan and the London Plan.

Study overview

Document title	Park Royal Transport Strategy
Lead author	SDG
Purpose of the study	Strategic assessment of the existing transport provision in Park Royal, the impact of the planned future growth and identification of the transport interventions required to mitigate those impacts.
Stage of production	Draft completed to inform Regulation 18 version of the Local Plan
Key outputs	<ul style="list-style-type: none">■ A review of the existing performance of transport modes in Park Royal■ Analysis of future demand in Park Royal and its impact on the transport modes■ Identification of six packages of interventions required to improve existing performance and to mitigate the impact of future demand on transport modes.
Key recommendations	Emerging recommendations include: <ul style="list-style-type: none">■ providing transport networks that enhance the communities they serve and help local business to operate and grow sustainably, both now and in the future.■ interventions for a variety of “Planning”, “Demand Management”, “Highway Interventions” and “Public Transport Improvements”.
Relations to other studies	Interfaces with the Old Oak Strategic Transport study, Public Realm, Walking and Cycling Strategy, North Acton study and the Smart Strategy Interim Report.
Next steps	The Strategy is in draft and is available for comment. Necessary revisions will be made following public consultation before the document is finalised to sit alongside the Regulation 19 consultation on the Local Plan. A shortlist of interventions will be defined and developed. This will include detailed costings of each intervention and potential funding sources.

Consultation questions

1. Do you agree with the recommendations of this supporting study? If not, please explain why.
2. Do you agree with the methods used in delivering the recommendations? If not, please set out alternative approaches and why these should be used.
3. Are there any other elements which the supporting study should address? If yes, please define these.

You can provide comments directly through:

opdc.commonplace.is



Park Royal Transport Strategy
Final Report
January 2016

TfL and OPDC

Our ref: 22857301

Client ref: Task 15

Prepared by:

Steer Davies Gleave

28-32 Upper Ground
London SE1 9PD

Prepared for:

TfL and OPDC

Windsor House / Union Street - London

+44 20 7910 5000

www.steerdaviesgleave.com

Park Royal Transport Strategy

Final Report

January 2016

TfL and OPDC

Our ref: 22857301

Client ref: Task 15

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Executive Summary

Overview

The Old Oak and Park Royal Development Corporation (OPDC) was officially established on 1 April 2015 with the purpose of managing the opportunity presented by investment in HS2 and Crossrail to develop an exemplar community and new centre in north-west London.

This **Park Royal Transport Strategy (PRTS)** is a joint study for OPDC and Transport for London (TfL) and forms a supporting consultation document to OPDC's draft Local Plan for the Old Oak and Park Royal Opportunity Area (OA).

It sets out a long-list of potential transport interventions to support the future expected growth in travel demand within the OA. Each intervention has then been ranked based on its ability to meet the strategic transport objectives for Park Royal and views are sought on these before a final shortlist of interventions is further developed at the next stage of consultation.

Park Royal Transport Vision & Objectives

In consultation with stakeholders, an overarching Vision for Park Royal's transport network was developed to guide the study. To meet this Vision, ten objectives were identified for the network across a range of criteria.

PARK ROYAL TRANSPORT VISION:

"Park Royal's transport networks should enhance the communities they serve and help local businesses to operate and grow sustainably, both now and in the future"

Provision of a transport network that will serve the existing and future needs of Park Royal by:

1. **CONNECTING:** Delivering an accessible and inclusive transport network that connects Park Royal with the existing and future strategic transport links;
2. **MITIGATING:** Managing, and mitigating, the cumulative wider OA construction and demand growth impacts upon the Park Royal transport network, for both businesses and residents;
3. **OPTIMISING:** Improving the quality, efficiency and interoperability of the existing transport infrastructure;
4. **SUPPORTING:** Enabling existing businesses to operate more effectively and enhancing liveability for existing residents;
5. **INNOVATING:** Delivering an innovative and aspirational transport network that is befitting London's leading industrial location;
6. **FACILITATING (HOMES):** Supporting the creation of a minimum additional 1,500 new homes on specific non industrial land in Park Royal;
7. **FACILITATING (EMPLOYMENT):** Supporting the growth and intensification of Park Royal businesses and facilitating the creation of 10,000 additional jobs;
8. **ENHANCING:** Improving the existing physical environment and creating opportunities for new green and public spaces that encourage healthy lifestyles, walking and cycling;
9. **SUSTAINING:** Supporting a modal shift for trips to/from Park Royal away from private motor vehicle trips towards more sustainable modes;
10. **PROTECTING:** Improving safety, particularly for vulnerable users, and providing streets where people feel secure.

Future Transport Challenges

There are numerous drivers of economic growth in the region, either within the Old Oak and Park Royal Opportunity Area itself or in other OAs and housing zones nearby. These include:

- **Old Oak & Park Royal OA –**
 - Park Royal will provide 10,000 new jobs and a minimum of 1,500 new homes concentrated in the north-eastern and south-western corners of Park Royal.
 - Old Oak will become a new commercial and office hub, providing 55,000 new jobs and approximately 24,000 new homes focused around the new Crossrail and HS2 interchange station.
- **Wembley OA –** with 11,000 new jobs and 11,500 new homes.
- **White City OA –** with 10,000 new jobs and 6,000 new homes.
- **Kensal OA –** with 2,000 jobs and 3,500 new homes.

The combined effect of these planned future developments will be to generate a significant increase in demand for all modes of travel across the area.

The Proposed Transport Interventions

Thirty transport interventions have been developed under four broad headings (Planning, Highway Improvements, Demand Management and Public Transport Improvements) to deliver the Transport Vision and address the future transport challenges.

To determine the most appropriate and effective interventions for Park Royal, an Assessment Framework was established based on the Park Royal Transport Objectives and the Mayor's Roads Task Force (RTF) Street Functions. Each of the 30 interventions was then scored using this framework.

OPDC seeks views as part of the Local Plan consultation process on the Park Royal Transport vision and objectives and on the list of interventions that has been developed.

Potential Funding Sources

The PRTS has also identified several funding options to support the introduction of new transport measures in Park Royal. This includes a range of public and private funding opportunities that will need to be leveraged to deliver the transport improvements needed to support the economic growth of the area.

Conclusions

This Park Royal Transport Strategy defines and presents a range of potential interventions to meet the Park Royal Transport Vision of *"Providing networks that enhance the communities they serve and help local businesses to operate and grow sustainably, both now and in the future."*

Following the first stage of the Local Plan consultation process on these interventions, further work will be undertaken to specify suitable funding options in more detail and to short-list a preferred package of transport interventions.

1 Introduction

Figure 1.1: Old Oak & Park Royal Opportunity Area – Transport Connections



Background

1.1 The Old Oak and Park Royal Development Corporation (OPDC) was officially established on 1 April 2015 with the purpose of managing the opportunity presented by investment in HS2 and Crossrail to develop an exemplar community and new centre in north-west London.

1.2 The OPDC, along with Transport for London (TfL), is tasked with securing the maximum benefits for London and Londoners from the transport investment planned for the area. To this end OPDC and TfL have jointly commissioned this Park Royal Transport Strategy to provide a framework for transport investment in the Opportunity Area.

1.3 Park Royal is a large business district which employs approximately 30,000 employees. There are also approximately 1,500 residential units in the area. It has excellent links to the strategic road network and is served by three Underground lines, London Overground and 15 bus routes. The layout of Park Royal and the main transport networks are shown in Figure 1.1.

Purpose of this Report

- 1.5 This report forms a supporting document to OPDC's draft Local Plan for the Old Oak and Park Royal OA.
- 1.6 It sets out a long-list of potential transport interventions to support the future expected growth in travel demand within the OA.
- 1.7 These individual interventions have been assessed and ranked to provide a coordinated and balanced approach for increasing transport capacity and managing future levels of demand.
- 1.8 Comments are invited from the community on the interventions and their prioritisation so that a preferred package of measures can be taken forward for inclusion in the adopted Local Plan.

Strategic Context

- 1.9 The Park Royal Transport Strategy has been developed in accordance with the national, regional and local planning policies described in the following sections.

The National Planning Policy Framework

- 1.10 The National Planning Policy Framework (NPPF), published in March 2012, sets out Central Government's planning policies for England and how these are expected to be applied.
- 1.11 The NPPF recognises that transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives.
- 1.12 In doing this, the transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel, but it must be tailored to the local area and its needs.

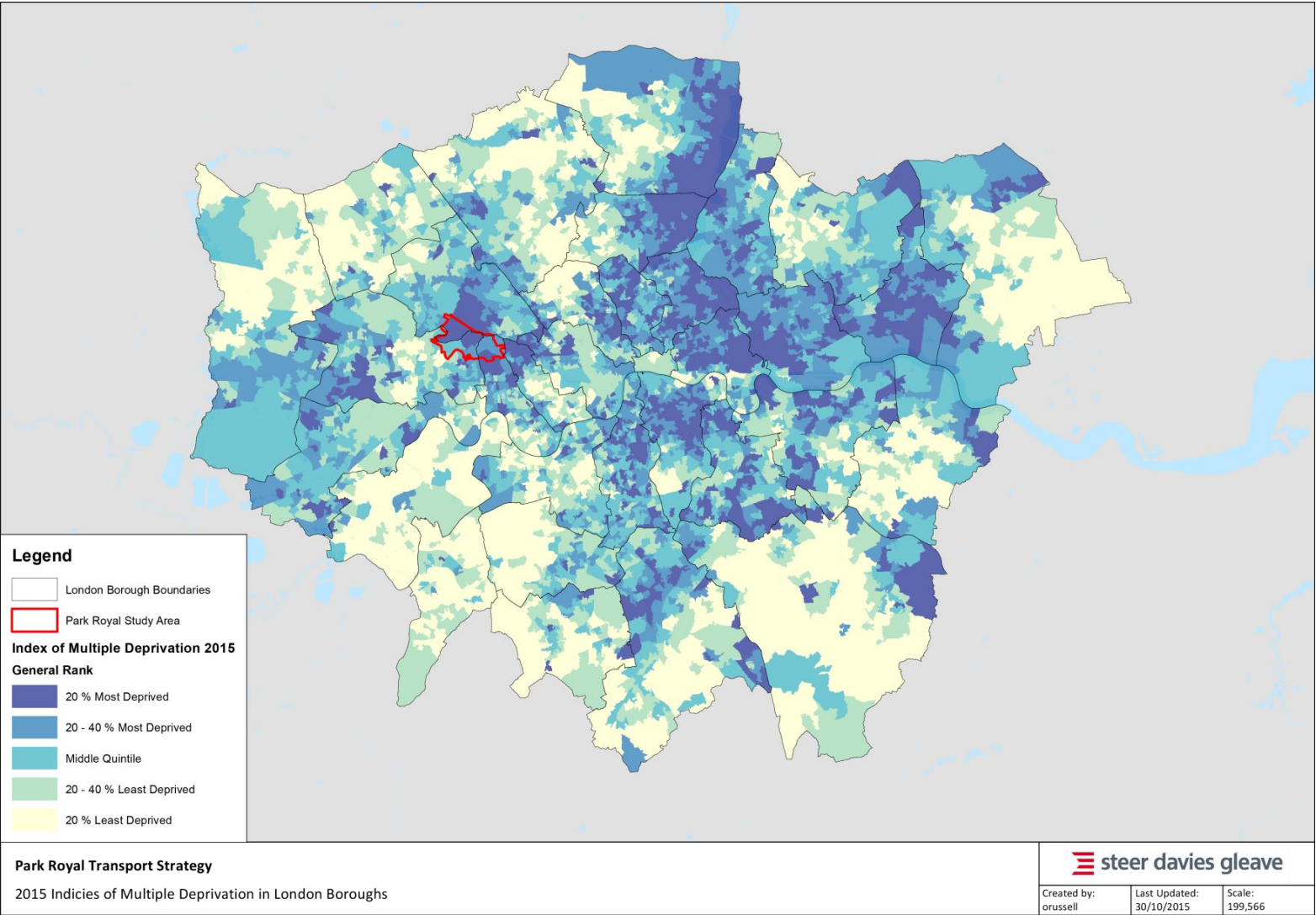
The London Plan

- 1.13 The London Plan is the overall strategic plan for London. It sets out a fully integrated economic, environmental, transport and social framework for the development of the capital to 2036 and forms part of the development plan for Greater London.
- 1.14 Within the London Plan the Park Royal area has been identified as an existing area of disadvantage, as demonstrated in Figure 1.2. The Indices of Multiple Deprivation is a Government

measure covering aspects of employment, housing, health, education and access to services.

- 1.15 Park Royal is already one of London's key industrial locations, with the potential to meet modern logistics and waste management requirements as well as other industrial type functions. A range of opportunities exist for industrial related development and, in selected locations outside of Strategic Industrial Land (SIL), for mixed-use intensification where there is good public transport accessibility.
- 1.16 The introduction of a new strategic public transport infrastructure hub, with the only direct interchange between High Speed 2 to Birmingham and beyond and Crossrail at nearby Old Oak Common, presents an opportunity to address the existing levels of disadvantage in Park Royal and unlock significant development potential. This development potential has been acknowledged by the identification of the Old Oak and Park Royal OA.

Figure 1.2: Index of Multiple Deprivation



Mayor's Transport Strategy

1.17 Developed in parallel with the London Plan, the Mayor's Transport Strategy (MTS) sets out the transport vision for London. The MTS prepares for the Capital's predicted growth of 1.25 million more people and 0.75 million more jobs by 2031 and supports sustainable growth across London.

1.18 Transport policy in London is shaped by this and other supporting documents such as the Major's Cycle Vision and as such they play a significant role in defining the transport priorities within Park Royal.

Old Oak & Park Royal Opportunity Area Planning Framework

1.19 The Old Oak & Park Royal Opportunity Area Planning Framework (OAPF) provides supplementary detail to the planning policies contained within the London Plan for the Old Oak and Park Royal areas.

1.20 The OAPF has recently been adopted as Supplementary Planning Guidance (SPG) to the London Plan following a consultation undertaken in March and April 2015.

1.21 The OAPF sets out an ambitious vision and planning guidance to capitalise on future transport improvements to deliver transformative change at Old Oak, regenerate Park Royal and continue the protection of Wormwood Scrubs.

1.22 One of the key challenges to achieving these ambitious targets is ensuring that a fit-for-purpose, multi-modal transport network is in place to support the inevitable increase in travel demand.

The Old Oak and Park Royal Local Plan

1.23 Local Plans, produced by the local planning authority, need to be in general conformity with the London Plan, and their policies guide decisions on planning applications.

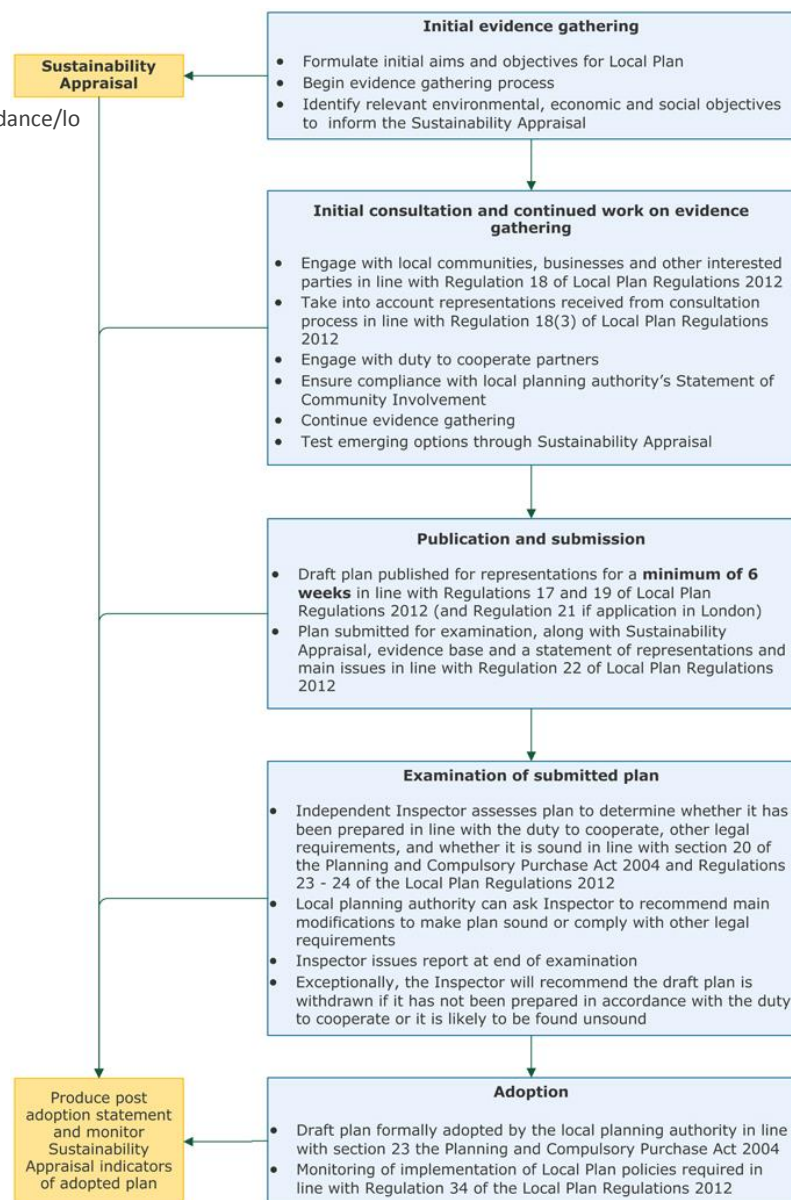
1.24 The OAPF, being linked to the London Plan, will in turn provide the basis for the production of the Local Plan for Old Oak and Park Royal. The Local Plan will provide greater detail, evidence and policies than are contained within the OAPF and has greater material weight in the determination of planning applications.

1.25 As the local planning authority for the Park Royal area, the OPDC is following the process set out in Figure 1.3 to produce, consult and adopt a Local Plan for the entire Opportunity Area.

1.26 A key element of the Local Plan is a supporting transport strategy that will address the future needs of the local area.

Figure 1.3: Local Plan Development Process

(<http://planningguidance.planningportal.gov.uk/blog/guidance/local-plans>)



Local Relevant Planning Guidance

1.27 Whilst the OPDC has adopted the role as planning authority within the Old Oak & Park Royal Opportunity Area, the local Borough's planning policies are still highly relevant, particularly when considering infrastructure connections beyond Park Royal.

1.28 Park Royal sits within three London Boroughs:

- Brent
- Ealing
- Hammersmith & Fulham

1.29 Relevant policies in relation to Park Royal for each of these boroughs are shown in Table 1.1.

Table 1.1: Park Royal - Borough Planning Policies

Borough	Relevant Policy	Assumed Development Potential within Park Royal
London Borough of Brent	Brent's Core Strategy (2010) recognises the need for regeneration in Park Royal to provide new business opportunities and jobs and Policy 12 states that the Council will work with the GLA and neighbouring Boroughs to secure the 'opportunity area' objectives for Park Royal.	4,400 jobs
London Borough of Ealing	Ealing Council's Core Strategy (2012) seeks to retain business and industry throughout Park Royal, promote Park Royal as a centre for green industry, to improve cycle access, promote the use of the Grand Union Canal for freight transport and promote a Green Enterprise District.	1,500 homes 2,000 jobs
London Borough of Hammersmith & Fulham	Hammersmith and Fulham's Core Strategy (2011) recognises Park Royal as a regeneration area with a long-term vision to transform it with substantial mixed-use development, made possible principally by the projected HS2 rail line and Crossrail.	5,000 jobs

Study Context

1.30 This Park Royal Transport Strategy (PRTS) has been commissioned by the OPDC, to make recommendations for improvements to transport infrastructure and planning processes to feed into the Local Plan and future stages of planning for the OA.

1.31 The PRTS has been developed in line with the policies set out earlier and in consultation with a broad range of local stakeholders that include:

- Park Royal Business Group
- London Borough of Brent
- London Borough of Ealing
- London Borough of Hammersmith & Fulham
- Royal Borough of Kensington and Chelsea
- TfL Surface Planning
- TfL Planning
- TfL Bus Planning
- TfL Freight Team
- WestTrans

1.32 The development of the strategy has included a highway modelling exercise to understand the level of increase in demand on the highway network, to aid identification of potential interventions and to provide justification for these measures.

Old Oak Strategic Transport Study

1.33 The PRTS builds on earlier analysis undertaken as part of the Old Oak Strategic Transport Study (OOSTS), published in February 2015. This study undertook wide area strategic modelling and forecasting to understand the future demands that would be placed on the public transport and highway network as a result of development at Old Oak.

1.34 The OOSTS identified a number of highway and public transport infrastructure measures focused on Old Oak but, when implemented in isolation, found they did not provide sufficient capacity to avoid future widespread congestion.

1.35 In order to limit congestion to reasonable levels, the study found mode shares similar to Canary Wharf would be required (i.e. approximately 5% of employees travel to work by car). Even with the full package of infrastructure and management measures there would still be some increase in congestion.

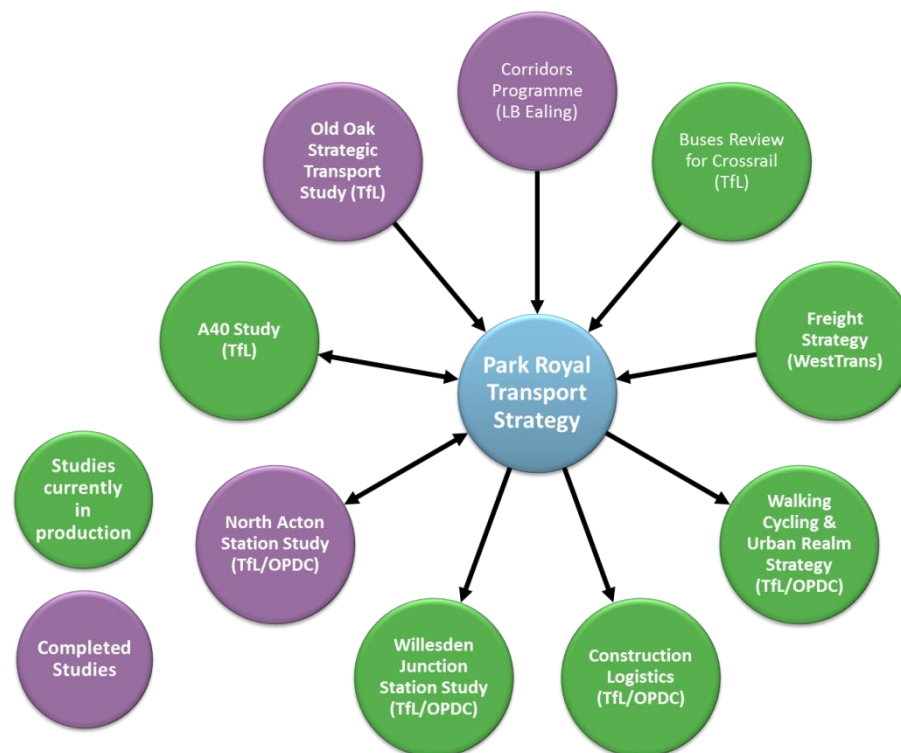
1.36 It is recognised that Park Royal would never achieve such mode share targets owing to its specific freight and employee needs, but the OOSTS study of the adjacent area demonstrates the challenges in delivering growth with existing modal splits.

Other Relevant Studies

1.37 The PRTS has a number of links with other studies in the area, some of which are running in parallel to feed into either OPDC planning policies or TfL's wider strategic planning.

1.38 These studies are illustrated in Figure 1.4 and they have been used to guide development of the interventions described in this report.

Figure 1.4: PRTS Related Studies



A40 Study

1.39 In parallel to the PRTS, TfL has commissioned a study focused on developing options to improve the operation of the A40 corridor between Hanger Lane and Savoy Circus. Given the importance of the A40 in providing connections to the motorway network, Heathrow airport and Central London, the outcomes of this study will benefit the Park Royal area. To ensure this parallel study integrates with the PRTS, representatives from the OPDC and TfL PRTS team form part of the A40 Study stakeholder working group.

Park Royal – Schemes already in the Pipeline

1.40 There are several transport schemes which have been developed by the local boroughs and which are in the process of being implemented. These schemes include:

- Further improvements around Coronation Road/Park Royal Road by TfL - delivery in 2016
- North Acton Station Square Improvement Scheme – delivery in 2017
- North Acton Gyratory improvements – study identifying £1.5m of pedestrian and cycle improvements – delivery over 2016 to 2017
- North Acton Station capacity and accessibility upgrades - implementation over 2016-2018

- Twyford Abbey Road/Rainsford Road Area scheme to reduce collisions, improve signage and enhance access to the Grand Union Canal towpath for cyclists – implementation over 2016-2018

1.41 Further schemes will be developed by the Boroughs as part of the preparation of the Local Implementation Plan for each Borough. These Plans will reflect the Park Royal Transport Strategy for schemes in the Park Royal area. Schemes are to be identified in summer 2016 for implementation in 2017 to 2020.

Park Royal - Transport Vision & Objectives

1.42 In consultation with stakeholders at several workshops, an overarching Vision for Park Royal's transport network was developed.

1.43 Based on this Vision, ten key objectives for Park Royal's transport network were determined following further consultation with the stakeholder group.

1.44 These objectives align with the wider OAPF Vision and recognise the specific needs of Park Royal due to its mix of residential and industrial uses.

1.45 The transport vision and objectives for Park Royal are shown in Figure 1.5 overleaf.

Figure 1.5: Park Royal Transport Vision & Objectives

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Provision of a transport network that will serve the existing and future needs of Park Royal by:

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9. **SUSTAINING**: Supporting a modal shift for trips to/from Park Royal away from private motor vehicle trips towards more sustainable modes;
10. **PROTECTING**: Improving safety, particularly for vulnerable users, and providing streets where people feel secure.

2 Existing Conditions

2.1 This Chapter describes current transport conditions in the Park Royal area. It begins by presenting existing Travel to Work (TTW) mode share data, before providing additional detail on the existing network provision and demand for each specific mode.

Travel to Work Mode Share

2.2 Due to the vast majority of land uses within Park Royal being employment generators, Travel to Work (TTW) statistics produced from 2011 Census data provide a good indicator of modal splits for journeys to and from Park Royal. The TTW mode share is shown in Figure 2.1.

2.3 Travel to work is heavily dominated by private vehicles (53%), with average car occupancy being extremely low at 1.06 people per vehicle compared to the Outer London average occupancy rate of 1.41 (Travel in London, Report 5, TfL 2012).

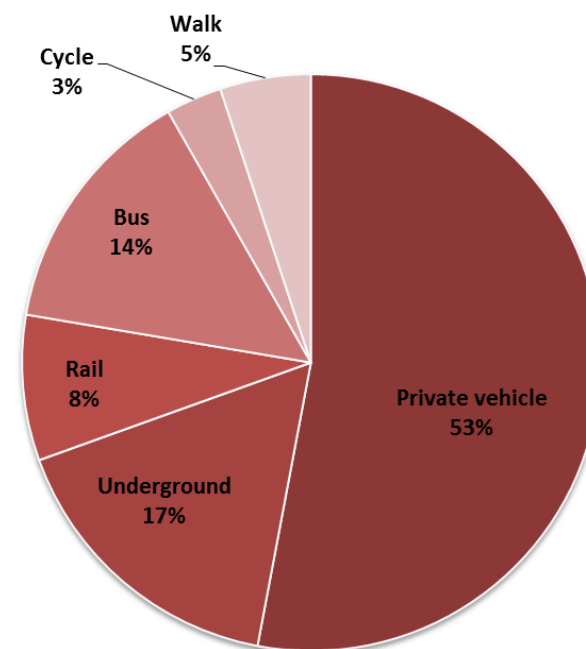
2.4 This dependence upon private vehicles is likely to be due to a combination of low accessibility to public transport, shift-working patterns of employees and a low-quality urban environment which does not encourage walking and cycling.

2.5 Although accessible by three Underground lines and also Overground services, only 25% of trips

are made by Underground and Rail. This is likely to be due to the stations all being located on the fringes of Park Royal.

2.6 This low public transport mode share is also a consequence of the poor walking and cycling conditions across the area which is reflected in the low walking (5%) and cycling (3%) shares.

Figure 2.1: Existing Travel to Work Mode Share



Source: Census 2011

Public Transport Accessibility Levels (PTAL)

2.7 TfL's PTAL measure provides a detailed and accurate measure of the accessibility of an area to the public transport network taking into account walk access time and service availability.

2.8 Each area is graded between 0 and 6b where a score of 0 is "very poor" access to public transport and 6b represents "excellent" access.

2.9 The PTAL scores for the Park Royal area are shown in Figure 2.2. This figure demonstrates the poor PTAL levels in parts of Park Royal with almost half of the study area scoring a PTAL below 3.

2.10 These poor levels of public transport accessibility discourage the use of public transport and contribute to the high level of car mode share as discussed in the previous section.

Figure 2.2: Park Royal PTAL Scores

Source: TfL WebCAT



Travel to Work Distribution

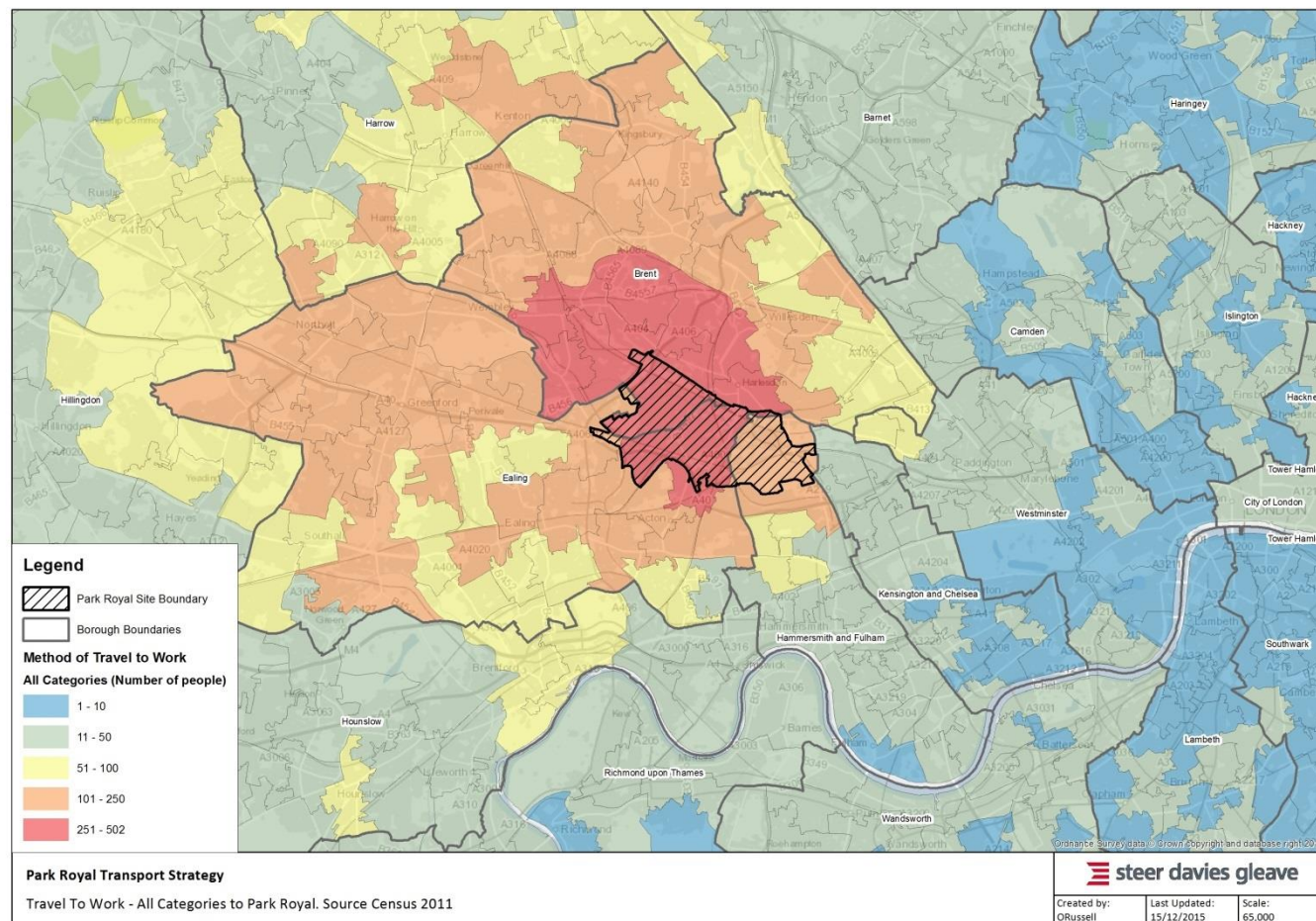
2.11 An employment study undertaken by the Greater London Authority and presented in the Park Royal Atlas indicated that over 30,000 people worked in the Park Royal area. Figure 2.3 presents further analysis of where these trips originated based on 2011 Travel to Work (TTW) Census data.

2.12 This data shows a significant majority of employees live to the west of Park Royal, likely due to the lower average pay levels of employees and the availability of more affordable housing further west.

2.13 It also shows that a significant number of employees either live within or in suburbs adjacent to Park Royal.

2.14 Within a 5km radius, approximately 60% of the employees come from Brent and 30% from Ealing.

Figure 2.3: Distribution of Employee Trips to Park Royal



Traffic & Parking

Existing Road Network

2.15 Park Royal is adjacent to the strategic highway network, with the A40 running along its southern boundary and the North Circular running along its western boundary, both of which are part of the Transport for London Road Network (TLRN). These strategic links provide a direct connection to central London, onward connections to the rest of the country via the motorway network (M1, M4, M40, M25) and access to Heathrow Airport. It is this level of connectivity that makes the area so attractive to businesses.

2.16 There are seven key internal roads that provide important connections to the strategic road network, as shown in Figure 2.4 and listed below:

- Abbey Road
- Acton Lane
- Chase Road
- Coronation Road
- Park Royal Road
- Twyford Abbey Road
- Victoria Road

2.17 Traffic congestion is a regular occurrence on the strategic road network surrounding Park Royal and on the roads providing links to the employment areas. This causes delays to businesses moving goods to and from the area.

Figure 2.4: Park Royal Key Internal Roads



Existing Car Travel to Work Data

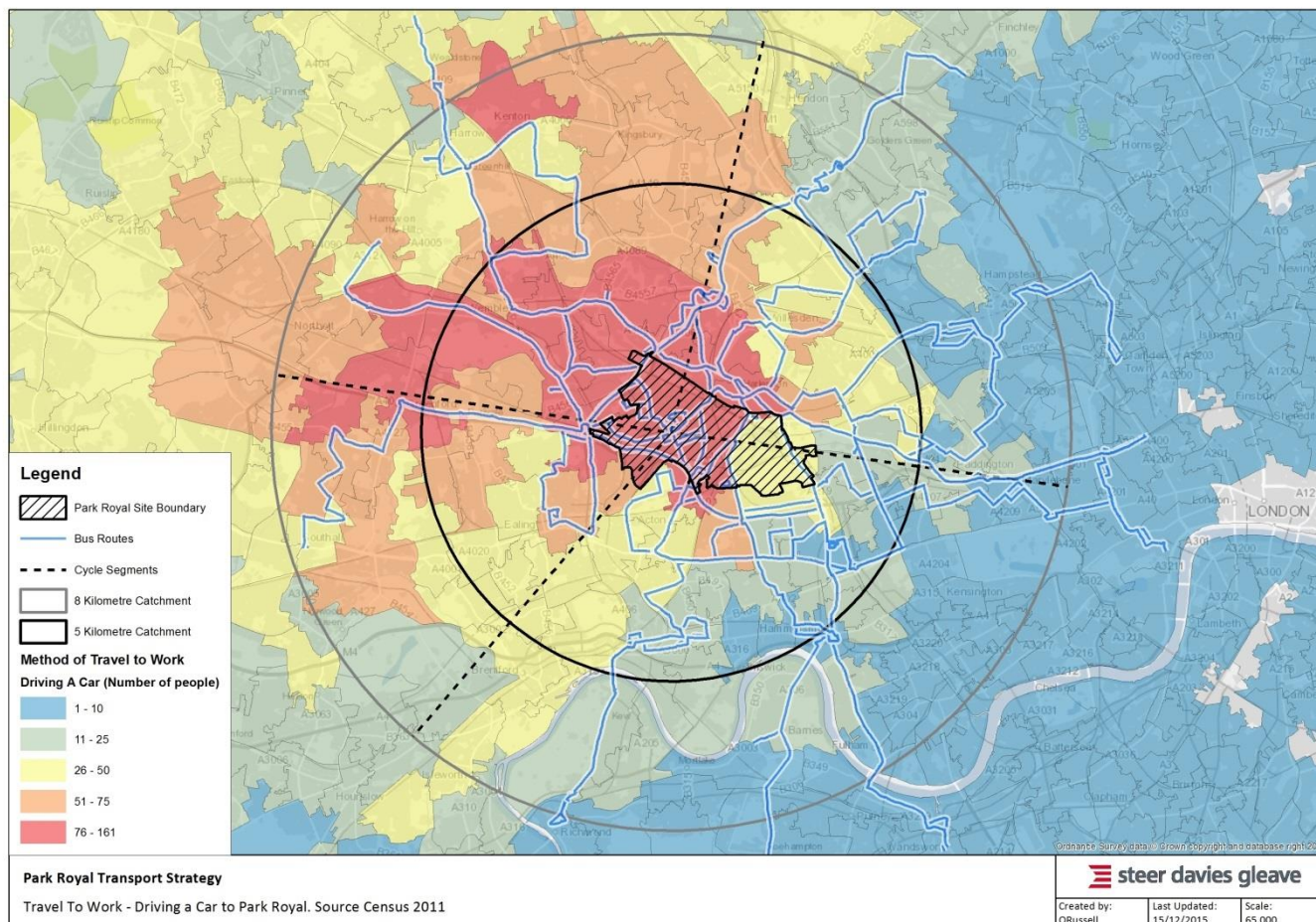
2.18 Analysis of TTW data for car trips shows that as with the general pattern for work trips, the majority of employees live to the west of Park Royal (see Figure 2.5).

2.19 Those areas with the greatest concentration of employees who travel by car live within an 8km radius of the centre of Park Royal. Approximately 40% of the total trips made by car are within this 8km radius.

2.20 Furthermore, approximately 35% of the total car trips are within a smaller 5km radius.

2.21 These distances are significant as 5km represents the average cycle trip length in the UK, while 46% of cycle trips in Central London were found to be of 5-8km in distance (Analysis of Cycling Potential, TfL 2010). As such they are car trips that could be made by sustainable modes rather than private car if suitable infrastructure is provided.

Figure 2.5: No. of Employees Travelling by Car to Park Royal



Existing Traffic Demand

2.22 Daily traffic flows on the TLRN and key internal roads to Park Royal are shown in Figure 2.6.

2.23 These figures show the dominance of the A40 and North Circular, both of which are in the top 10% of London's busiest roads.

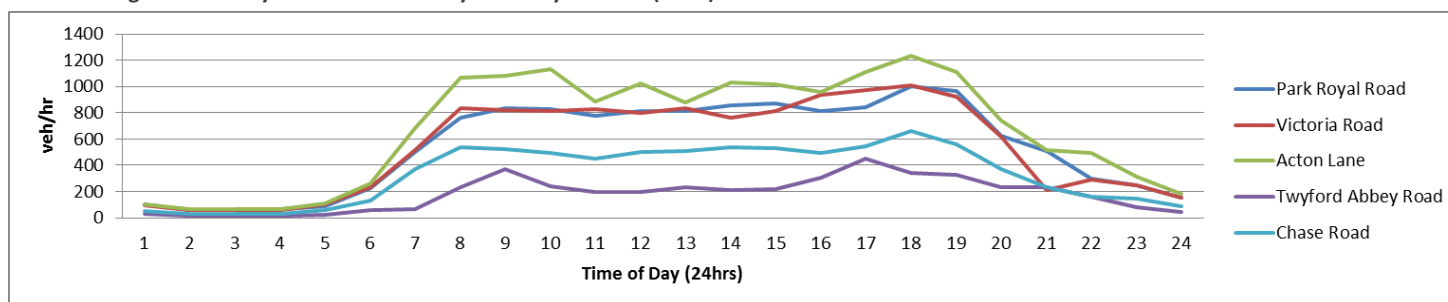
2.24 A number of the internal Park Royal Roads also carry a significant volume of traffic with Acton Lane carrying over 16,000 vehicles a day and Park Royal Road and Victoria Road each carrying over 13,000 vehicles a day. Figure 2.7 shows traffic demand on the internal Park Royal roads. The flows ramp up steadily from a low base overnight (10% of peak traffic levels) to a morning peak at about 8am. Traffic then tends to remain steady through the rest of the day, at levels approximately 15% below the morning peak hour. From about 3pm traffic flows begin to increase again until they reach a peak around 5pm, before traffic slowly dissipates over the late evening.

2.25 Congestion is a regular occurrence on the strategic roads surrounding Park Royal.

Figure 2.6: Total Daily Two-way Traffic Flows in Vehicles



Figure 2.7: Daily Flow Profile on Key Park Royal Roads (2012)



Existing Parking Demand

2.26 To understand the existing level of parking provision within the Park Royal study area, an analysis of aerial photography was undertaken that measured on-street and off-street parking provision. The analysis provides a breakdown of the following parking types:

- On-street formal parking (residential) – kerbside parking on the public highway in residential streets.
- On-street formal parking (employment) – kerbside parking on the public highway adjacent to places of employment.
- Off-street formal parking (employment) – parking on private employment land within marked bays or designated parking areas.
- Informal parking – parking that is not in defined parking areas. This is usually on private industrial land, but may also include ad-hoc parking on shared access roads such as Johnson’s Way.

2.27 This analysis is shown in Figure 2.8 and Figure 2.9 and identifies a total of approximately 20,500 existing car spaces across the Park Royal study area with the following breakdown of uses:

- Some 3,800 spaces are within residential areas and therefore assumed to be used solely by Park Royal residents.
- A further 15,000 are likely to be used by Park Royal employees based on the 2011 TTW data and transport assessments for more recent major employment generators (i.e. Origin Business Park and First Central).
- The 1,700 spaces that remain are therefore being used by a combination of commuters and other business uses, such as customer parking and delivery vehicles.

2.28 Approximately 7% of these parking spaces are informal, usually making use of any available private land that can be accessed by employees’ vehicles. The use of these areas may, in some instances, be in breach of planning conditions placed on the property, but given the age of many of these units it is likely that the majority of sites have no restrictions on on-site parking.

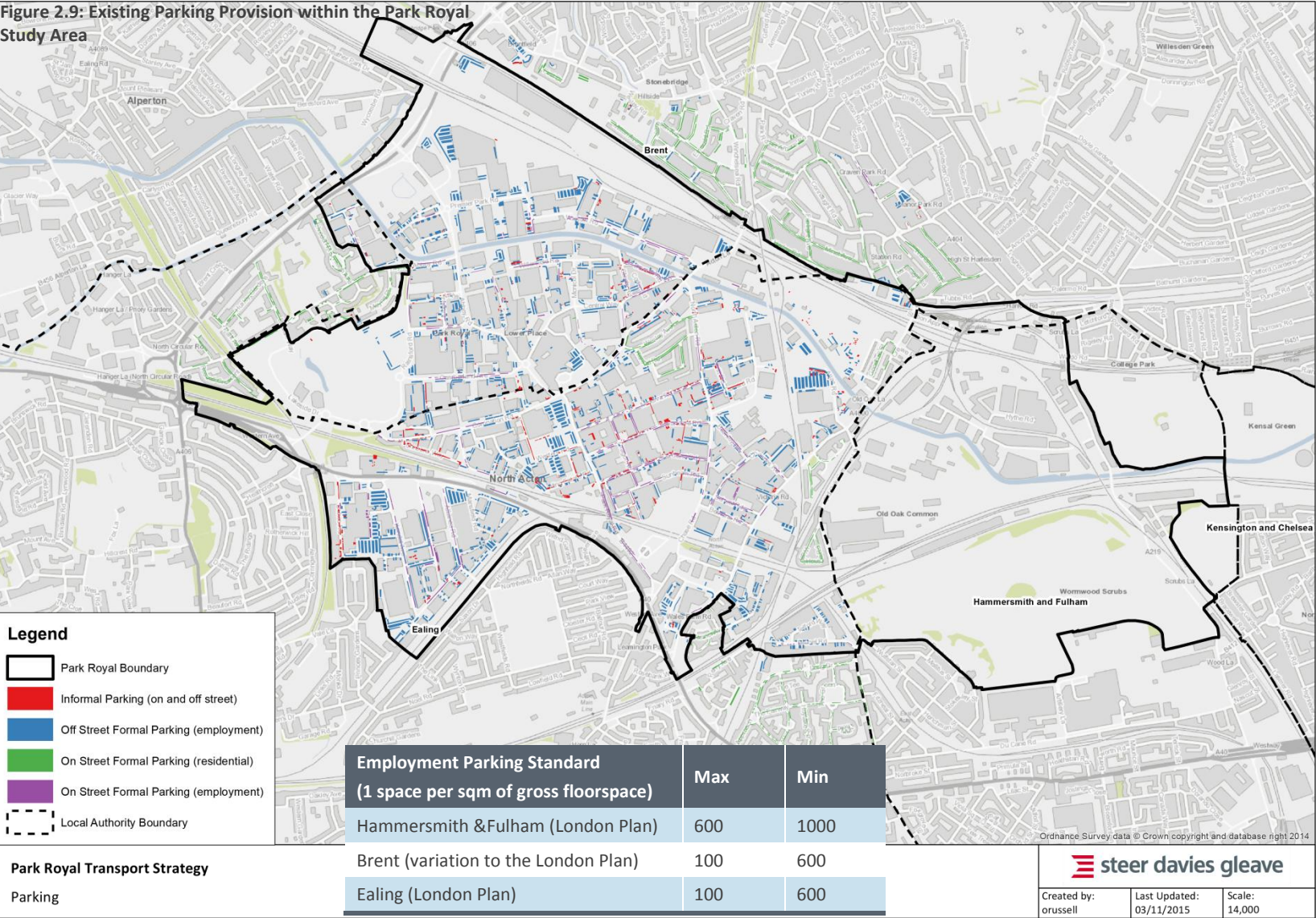
2.29 Based on the Park Royal Atlas total employment floor areas, the 16,700 non-residential spaces equate to 1 space per 140sqm, which is at the upper end of Ealing & Brent Parking Standards.

2.30 This high existing parking space ratio represents a challenge in reducing car use which

would require a behavioural change for employees. This could be made through the implementation of a range of measures including improved public transport services, pedestrian and cycle facilities and restrictions on parking provision through the planning system.

Figure 2.8: Estimated Parking in the Study Area





Freight

Existing Road Freight Demand

2.31 Daily freight (LGV and HGV) flows on the TLRN and key internal roads to Park Royal from 2012 are shown in Figure 2.10.

2.32 With the exception of Twyford Abbey Road freight movements are relatively evenly spread across Park Royal's internal roads along the north-south and east-west arterial roads.

2.33 The lower volumes of freight on Twyford Abbey Road could be influenced by the narrower width and predominance of largely residential uses.

2.34 LGVs and HGVs account for approximately 30% of daily traffic flows on these internal roads.

2.35 Of these, LGVs account for approximately 70% of the total freight movements.

Figure 2.10: 2012 Daily Two-way Freight Movements in Vehicles (%LGVs)



Source: Radial Cordon Counts (TfL, 2012)

Key Road Freight Movements

2.36 To aid understanding of the current freight movements into and out of Park Royal, analysis of TfL's AM peak WelHAM model for a base year of 2012 has been undertaken.

2.37 Victoria Road carries a significant amount of freight traffic, some 3,300 movements a day, but 90% or more of these movements are not associated with Park Royal. Victoria Road is the "eastern by-pass" for the Park Royal area with the North Circular providing a similar function to the west.

Inbound Road Freight Trips

- **Abbey Road** acts as the main inbound corridor from the north via the North Circular. Once within Park Royal, approximately 50% of freight movements have destinations before the junction with Coronation Road, with a further 40% continuing to destinations near Gypsy corner. A small percentage of LGV trips (10%) are through trips which continue south along Horn Lane.
- **Acton Lane** feeds traffic into Park Royal from dispersed origins to the north and east. It also acts as an alternative route for freight traffic that leaves the North Circular early to avoid congestion via Neasden Lane. Only a small

percentage of LGV trips (10%) are through trips which continue south along Horn Lane. A significant proportion of traffic (25-30%) is headed to the distribution centres off Waxlow Road, north of the Grand Union Canal.

- **Chase Road** acts as an alternative route to Park Royal Road from the A40 east (approx. 60% of Chase Road traffic originates from here) while the remaining comes from the south and west via Horn Lane and the A40 west respectively.
- **Coronation Road** acts as the major inbound corridor for traffic from the A40 west. The majority (60%) have destinations within Park Royal but circa 40% continue to destinations around Harlesden.
- **Park Royal Road** acts as the main inbound corridor from the east via the A40 and the south via Horn Lane and Noel Road. Approximately 10% of freight traffic are through trips that continue to the north past Harlesden station and onto Church Road.
- **Twyford Abbey Road** is not a heavily utilised inbound freight corridor.

Outbound Road Freight Trips

- **Abbey Road** acts as the primary heavy vehicle corridor out of Park Royal. Of freight traffic exiting via Abbey Road, approximately 70% of

freight trips travel northbound along the North Circular, while 15% head westbound on the A40 via Hanger Lane. The remaining 15% disperse across routes to the south and west.

- **Acton Lane** carries a significant amount of through freight traffic towards the northeast from the A40 west. Through trips account for circa 20% of LGV and 50% of HGV movements on Acton Lane.
- **Chase Road** does not appear to be heavily utilised by exiting Park Royal freight Traffic.
- **Coronation Road** acts as the main feeder for movements to the A40 east and central London. Some LGV/HGV movements also make use of the U-turn facility on the A40 at Mansfield Road to head westbound along the A40.
- **Park Royal Road** acts as a major feeder onto the A40 east and Horn Lane. Up to 30% of the total freight traffic exiting the OA via Park Royal Road are through trips from the North Circular, by-passing delays at Hanger Lane.
- **Twyford Abbey Road** carries twice the volume of outbound trips compared to its inbound movement due to its unsignalised entry to the Hanger Lane gyratory. From the gyratory, traffic disperses along all the key strategic routes.

Existing Rail Freight Lines

2.38 There is also rail freight activity within the wider Park Royal area utilising:

- Great Western Main Line (GWML)
- West Coast Main Line
- North London Line
- West London Line
- Dudding Hill Line

2.39 Rail freight facilities are available at and in the vicinity of Willesden Junction (e.g. the Euro Freight Terminal) and handle inbound flows of aggregates and cement and outbound flows of waste and mail.

2.40 Additional aggregate depots on the rail network are located just to the west of North Acton Station and south of the OA near Acton Main Line Station (Acton Goods Yard).

2.41 TfL is working with Network Rail as part of their Freight Network Study process to make the case for better utilisation of freight paths in the London area and to encourage, where possible, freight traffic to operate off-peak along routes that avoid London.

2.42 OPDC are working with TfL to produce a Construction and Logistics Strategy for the OPDC area to ensure a coordinated approach which will minimise the disruption to surrounding residents and businesses

WestTrans Freight Strategy

2.43 Westrans is currently in the process of developing a wider freight strategy for west London. Once complete this will form a framework for future freight planning and integration.

Buses

Existing Bus Network

2.44 Park Royal is served by 15 bus routes that serve a diverse set of origins and destinations as shown in Figure 2.11.

2.45 The focus of the existing bus network in Park Royal is the Central Middlesex Hospital.

2.46 The following bus priority measures are present in Park Royal:

- Bus gate on Coronation Road to allow buses to bypass queues on approach to the junction with Abbey Road and Park Royal Road.
- Bus only lanes on entry and exit from the hospital
- Bus lanes on Rainsford Road
- Westbound bus lane on Twyford Abbey Road between Abbey Road and Rainsford Road

2.47 The above measures are limited in terms of coverage and effectiveness and as a result, buses are subject to increased delays from traffic congestion which impacts journey time reliability.

Existing Bus Travel to Work Data Existing

2.48 TTW data for 2012 showed a 14% bus mode share with the distribution of trips shown in Figure 2.11.

2.49 As with the other modes this shows a concentration of employees within a 5km catchment, mainly focused to the north and west of the OA.

Existing Bus Demand

2.50 Existing bus demands and capacities by route for the AM and PM peak periods have been provided by TfL for a range of dates during 2014 and 2015. This Keypoint bus loadings data provides passenger demand and capacity by route at key stops. The figures presented in Table 2.1 and Table 2.2 are taken from stops either within or on the fringes of Park Royal.

2.51 AM Peak Bus Demand

Table 2.1: AM Peak Hour Existing Bus Demand & Capacity

Source: 2014/15 TfL Keypoint Bus Loadings

Route No	No. Buses	Demand (pax)	Capacity (pax)	Load Factor
7	9	170	590	29%
18	19	880	1240	71%
72	9	160	390	41%
83	9	390	590	66%
95	5	200	220	91%
112	4	130	170	76%
187	6	30	260	12%
220	12	240	780	31%
224	5	100	220	45%
226	7	240	300	80%
228	6	50	260	19%
260	6	190	390	49%
266	8	290	520	56%
283	9	100	390	26%
440	6	60	260	23%
487	4	160	170	94%
611	1	40	70	57%
Totals	125	3430	6820	50%

2.52 Whilst no routes suffer from overcrowding during the AM peak within the Park Royal area, some are close to capacity:

- Route 95 which runs between Shepherd's Bush station and Southall Town Hall via Park Royal Station and the A40
- Route 226 which runs between Golders Green and Ealing Broadway via the Central Middlesex Hospital
- Route 487 which runs between Willesden Junction and South Harrow via the Central Middlesex Hospital

2.53 All other routes in or around Park Royal have spare capacity with an average load factor of approximately 50%.

PM Peak Bus Demand

Table 2.2: PM Peak Hour Existing Bus Demand & Capacity

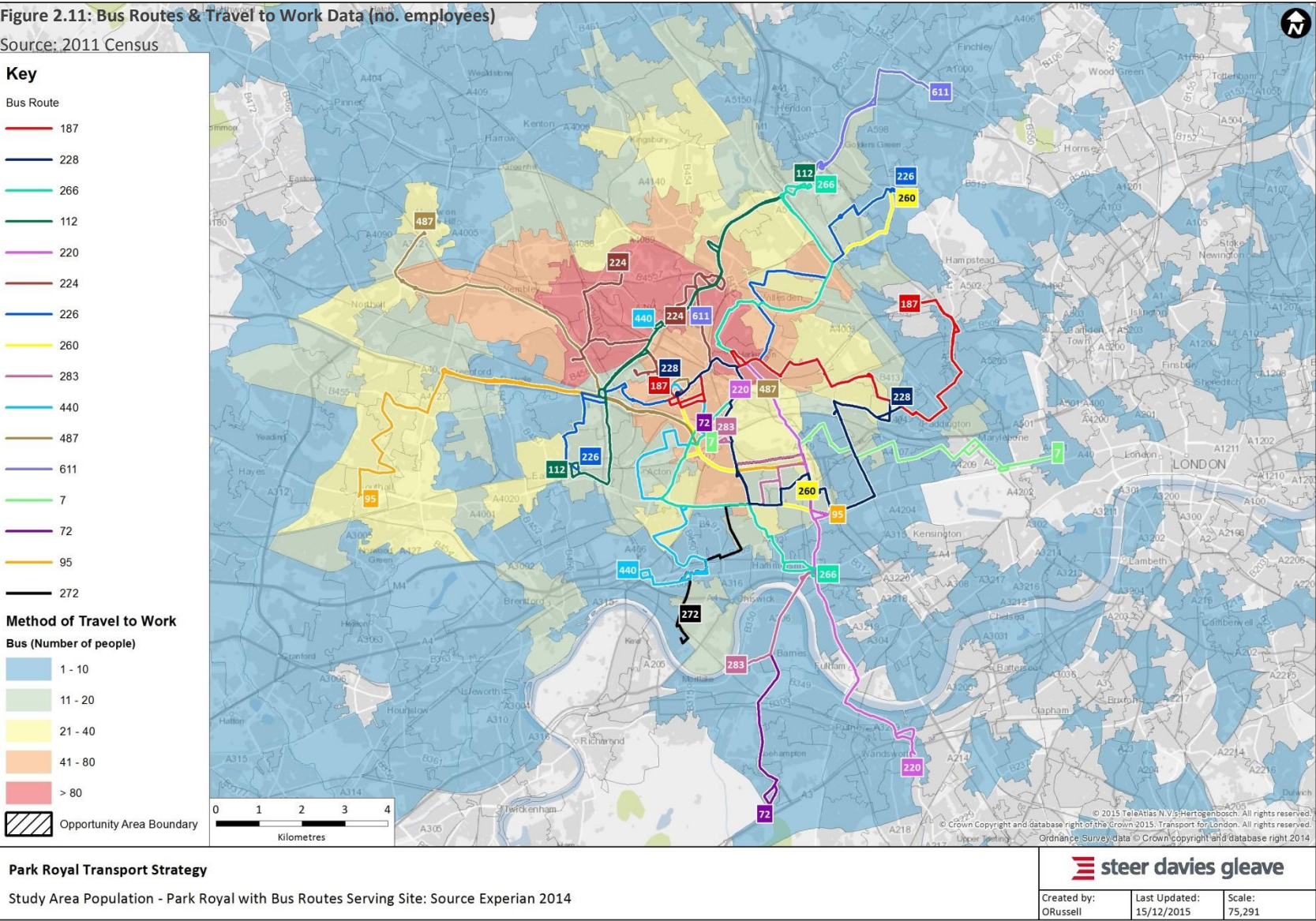
Source: 2014/15 TfL Keypoint Bus Loadings

Route No	No. Buses	Demand (pax)	Capacity (pax)	Load Factor
7	9	130	590	22%
18	20	770	1300	59%
72	9	110	390	28%
83	9	380	590	64%
95	6	170	260	65%
112	5	140	220	64%
187	7	10	300	3%
220	14	260	910	29%
224	4	90	170	53%
226	5	130	220	59%
228	6	50	260	19%
260	5	220	330	67%
266	9	220	590	37%
283	8	40	340	12%
440	5	80	220	36%
487	5	110	220	50%
611*	n/a	n/a	n/a	n/a
Totals	126	2910	6910	42%

*Special school service that operates outside the PM peak hour.

2.54 Total demand in the PM peak hour is approximately 15% lower than during the AM peak and as a result none of the existing routes experience overcrowding in or around the Park Royal area.

2.55 The reduced journey time reliability identified previously is likely a contributory factor to the low levels of bus ridership seen on a number of routes in the area.



Walking & Cycling

Existing Walking and Cycling Network

2.56 The existing cycling network has relatively good coverage as shown in Figure 2.12. However other than the off-road sections (shown in green), no segregation is provided for cyclists and supporting infrastructure such as bike stands and wayfinding is infrequent and of limited quality.

2.57 National Cycle Route 6 (NCR 6) runs along the Grand Union Canal. The route is popular with cyclists although its current width and facilities do not allow for a good level of service.

2.58 There are various points at which NCR 6 links to Park Royal but these points would benefit from better signage, maintenance and better facilities, including cycle parking.

2.59 A signed cycle route is also available along Coronation Road linking to Harlesden to the north and to Hanger Lane, via a green route, to the south.

2.60 A series of quiet routes, recommended for cyclists, is also available in the south-eastern part of the area, although some of these roads still carry significant traffic volumes and are important heavy vehicle corridors e.g. Park Royal Road.

2.61 There is a need for a more widespread and permeable network across Park Royal and better links to the already signed and formalised cycle routes.

2.62 The residential and employment areas are segregated and plots lack permeability making walking and cycling more difficult.

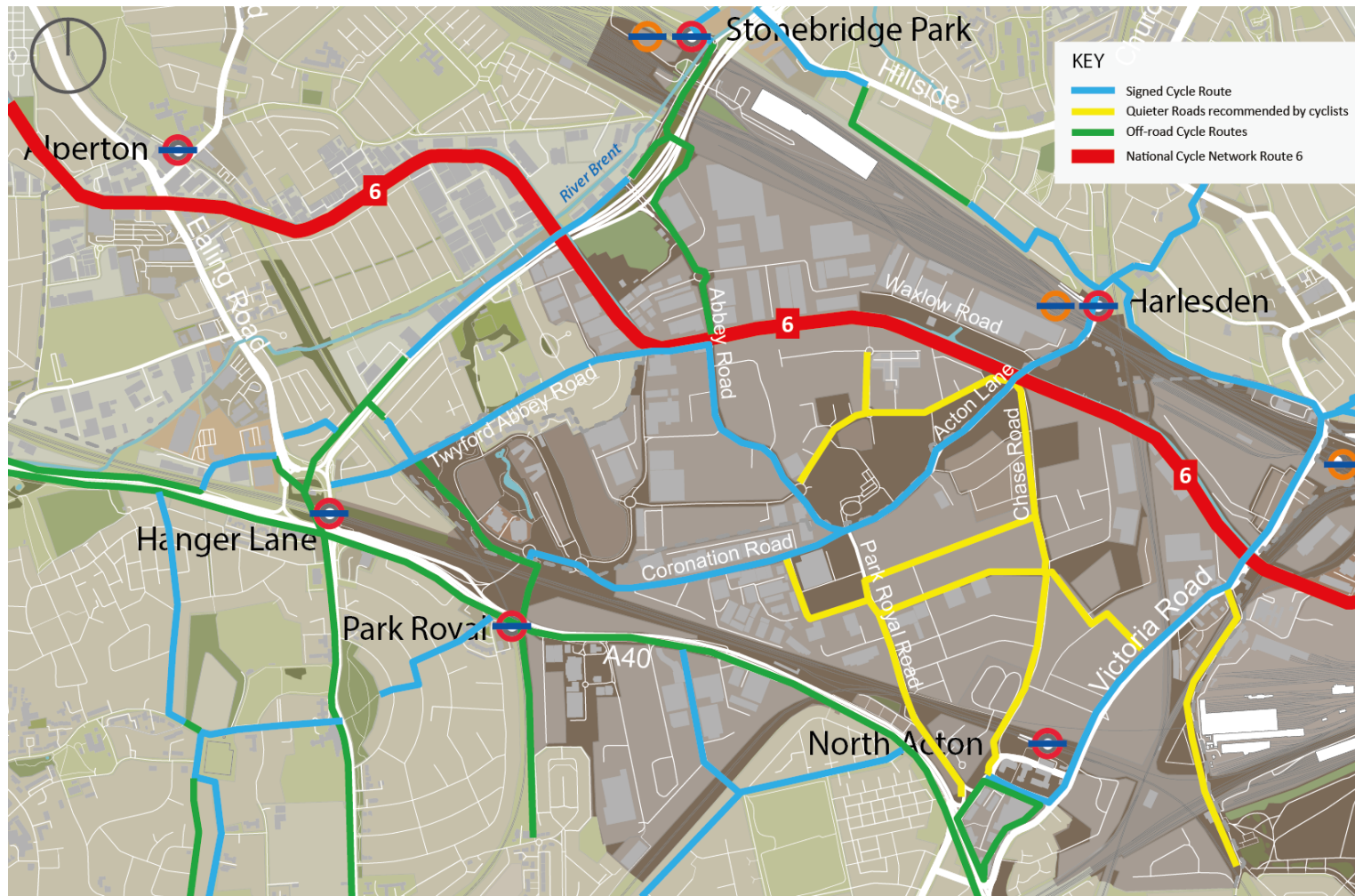
2.63 The existing main routes are dominated by vehicle traffic and parking. Footways tend to be relatively narrow, crossing facilities are very few and signage and maintenance is generally to a lower standard than other parts of London.

2.64 There is also a lack of active frontages to provide passive surveillance along most road corridors and, when combined with the lack of wayfinding, the area can be intimidating for both walkers and cyclists unfamiliar with the area.

2.65 Access to the canal for both residents and employees is limited and lacks seating or other facilities that would encourage usage.

2.66 Routes to/from the Underground stations, especially along the southern fringe, are narrow, poorly lit, inaccessible and lack consistent and comprehensive signage.

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TTW data (walking/cycling)

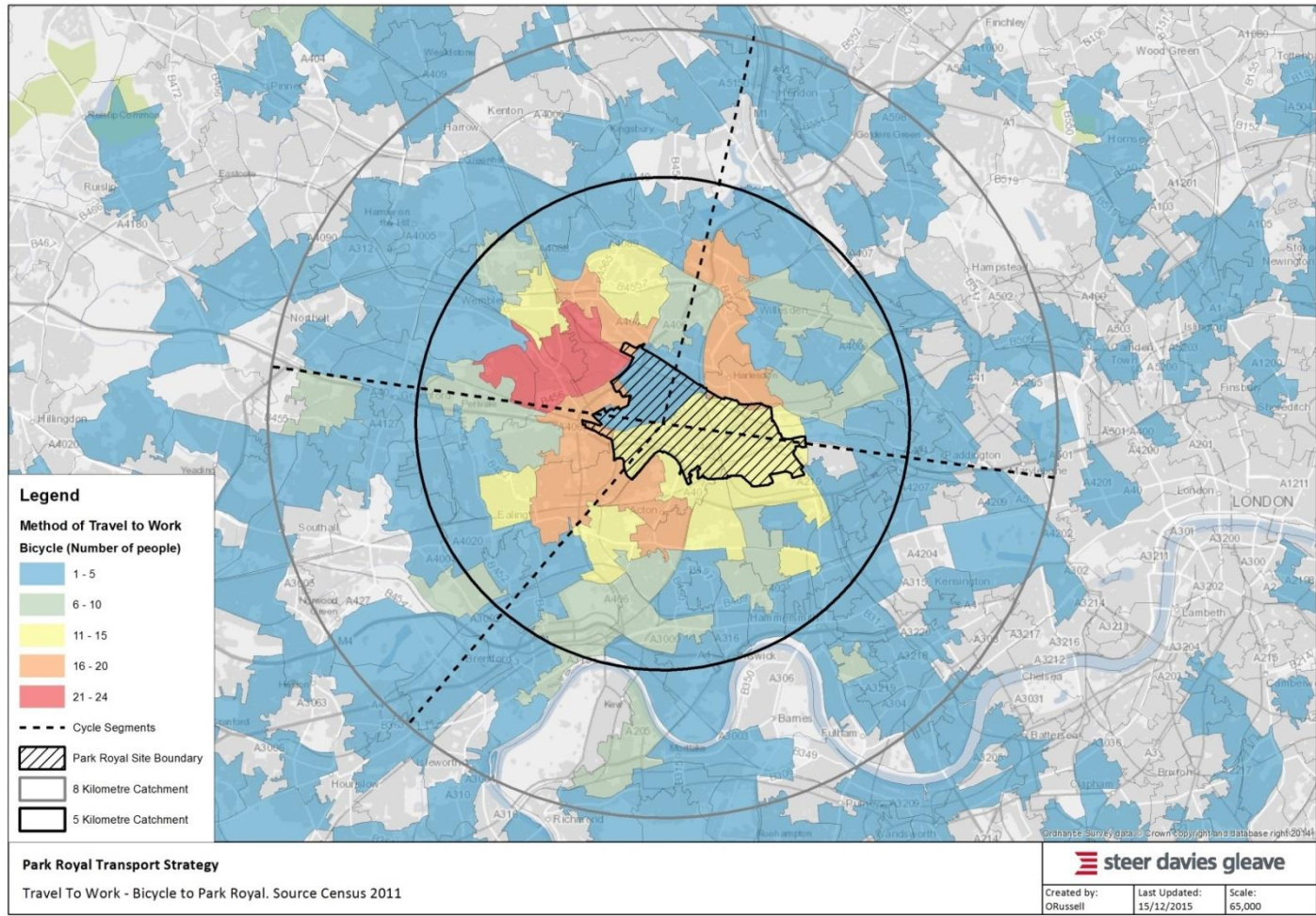
2.67 The TTW data shows that walking and cycling are more popular modes of travel for people living within 5km of Park Royal as shown in Figure 2.13.

2.68 Approximately 60% of the cycling trips and 85% of the walking trips come from within this 5km catchment area.

2.69 Walking and cycling account for 5% and 3% respectively of the travel to work trips. Employees that chose to walk mainly arrive from the areas immediately to the south west and north of Park Royal.

2.70 The high distribution of cycle trips from the northwest is likely due to the presence of the NCR 6 along the Grand Union Canal, offering a direct and segregated connection to Park Royal and further along the canal into Central London.

Figure 2.13: No. of Employees Cycling to Park Royal TTW Data



2.71 These numbers show there is potential for cycling and walking to service a higher numbers of employees.

2.72 Removal of barriers to walking and cycling, especially along the western (North Circular) and southern (A40) edges of Park Royal and better links to stations such as Park Royal and Hanger Lane are extremely important to maintaining and potentially improving the levels of cycling and walking.

Walking and Cycling Demand within Park Royal

2.73 No specific count data is available regarding walking within Park Royal itself. During the site visits, most of the observed walking trips were to/from public transport stops and to/from the Asda centre on Park Royal Road.

2.7.4 The overall number of walking trips from the Travel To Work Census captures roughly 1,440 employee trips. During the day, the internal walking trips within the site are likely to be higher than the reported travel to work trips, nevertheless the level remains relatively low compared to the total number of employees on site.

2.75 Surveys undertaken in April and May 2012 by TfL (TfL Radial Cordon Counts) show that the daily

numbers of cyclists along the main corridors are also very low (see Figure 2.14).

2.76 During the morning peak hour the most popular routes along Acton Lane and Victoria Road have approximately 85 cyclists.

2.77 In comparison to the total daily traffic recorded on the same routes, cycling accounts for a maximum 4-5% of vehicle flows.

2.78 There are no records of cycling activity along the canal but site visits confirmed the route is well used especially during the morning peak hours by both cyclists and pedestrians.

2.79 Due to the current level of maintenance it is believed that the canal is underutilised and represents an important asset that could be better integrated in future plans to increase levels of walking and cycling.

Figure 2.14: Daily Cycling Volumes (TfL, 2012)



Existing Challenges for Walking and Cycling

2.80 Due to its varied uses and multiple business typologies and sizes, the challenges for walking and cycling are very diverse.

2.81 For the purposes of this study, they have been grouped into the following categories:

- Junctions and crossing facilities
- Active frontages and street environment
- Access to stations
- Signage, wayfinding and branding
- Walking and cycling connections
- Grand Union Canal

2.82 Figure 2.15 shows examples of some of the key challenges identified on site in all of the above categories.

2.83 To address these challenges an overarching programme of rehabilitation and improvement of existing routes and places should be integrated with more radical interventions such as:

- Creating more walking and cycling links
- Designating public and green spaces
- Introducing new crossing facilities and
- Creating more active frontages and diversity of uses.

2.84 A Cycling Environment Review System (CERS) audit would assist in the identification and prioritisation of these interventions to improve cycle routes and public spaces, whilst supporting the effective targeting of resources.



Base map data © OpenStreetMap contributors
Cartography by Steer Davies Gleave 2015

Figure 2.15: Examples of Existing Challenges for Walking and Cycling



Rail

Existing Rail Network

2.85 Park Royal is well served by a total of six Overground and Underground rail stations; however these stations are all on the fringes of the OA as can be seen in Figure 2.16.

2.86 Park Royal station located in the south-western corner of the OA provides connections to Central London and Heathrow via the Piccadilly Line.

2.87 Hanger Lane station also located in the south-western corner of the OA provides connections to Central London and West Ruislip via the Central Line.

2.88 North Acton Station located in the south-eastern corner of Park Royal, is also on the Central Line.

2.89 Harlesden and Stonebridge Park on the northern side of Park Royal are both located on the Bakerloo Line providing connections to Central London and Harrow & Wealdstone and the London Overground Line to Watford.

2.90 Willesden Junction acts as a major interchange between the Bakerloo Line and London Overground services.

Figure 2.16: Existing Passenger Rail Network



Station Accessibility

2.91 Of the six stations serving Park Royal, only one, Willesden Junction, has step-free access from street to platform.

2.92 There are also limited onward journey facilities such as cycle hire docks and high quality bus interchange due to the age and constrained locations of these stations.

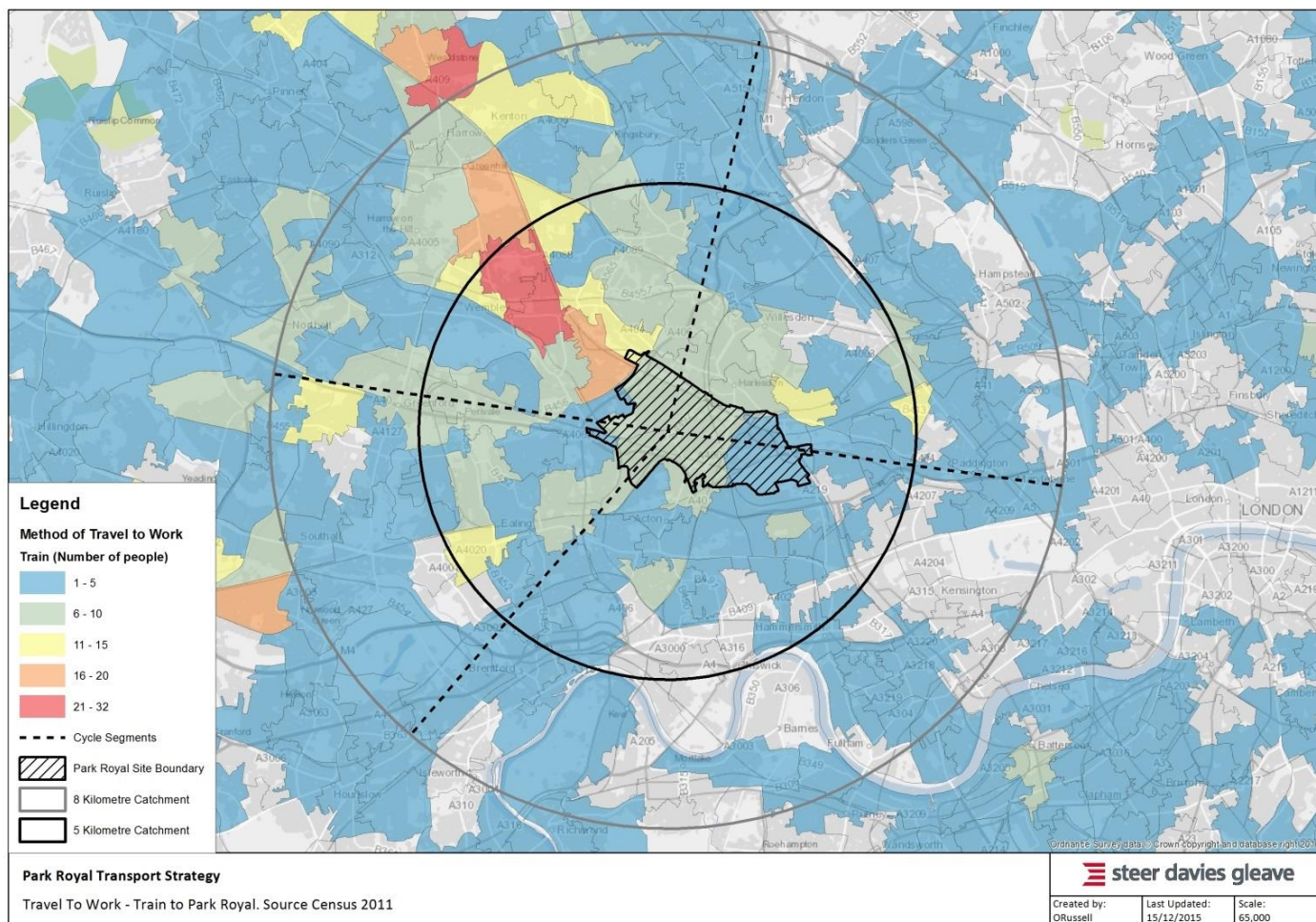
Rail and Underground TTW Data

2.93 TTW data for Park Royal employees travelling by Overground rail services is presented in Figure 2.17. It shows that only a very low number of employees use this mode with the vast majority living to the west at stations along the London Overground line to Watford.

2.94 Overall approximately 2,300 employees use rail to travel to work.

2.95 15% of these live within 5km and 26% within 8km of Park Royal.

Figure 2.17: No. of Employees Travelling by Rail to Park Royal

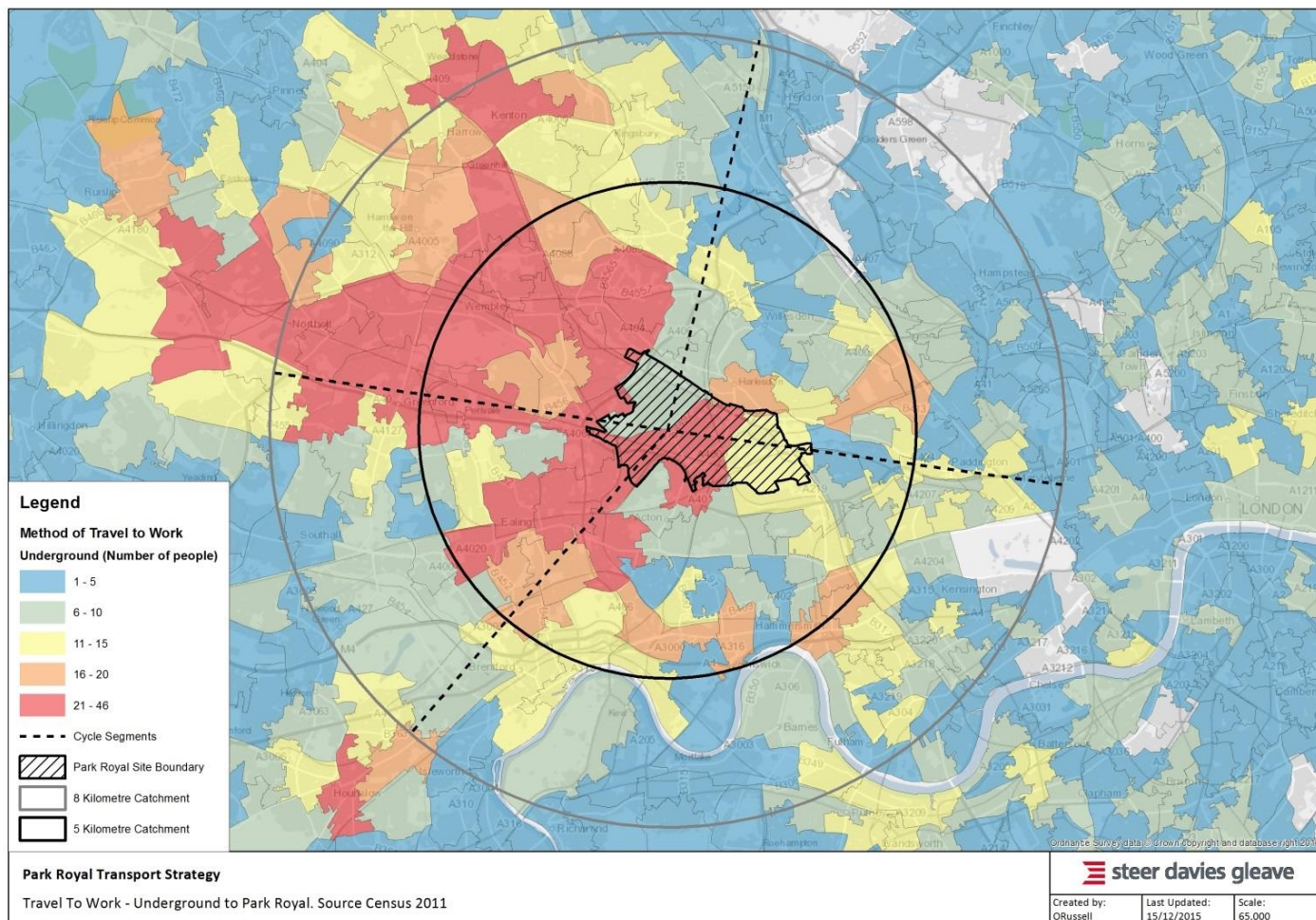


2.96 TTW data for Park Royal employees travelling by London Underground services is presented in Figure 2.18. It shows the 17% mode share is generally spread along lines running to the North West namely the Central and Piccadilly Lines.

2.97 A concentration of employees also live in the south west on the Heathrow branch of the Piccadilly line.

2.98 Approximately 40% of the Underground trips come from within an 8km radius of Park Royal.

Figure 2.18: No. of Employees Travelling by Underground to Park Royal



Existing Station Demand

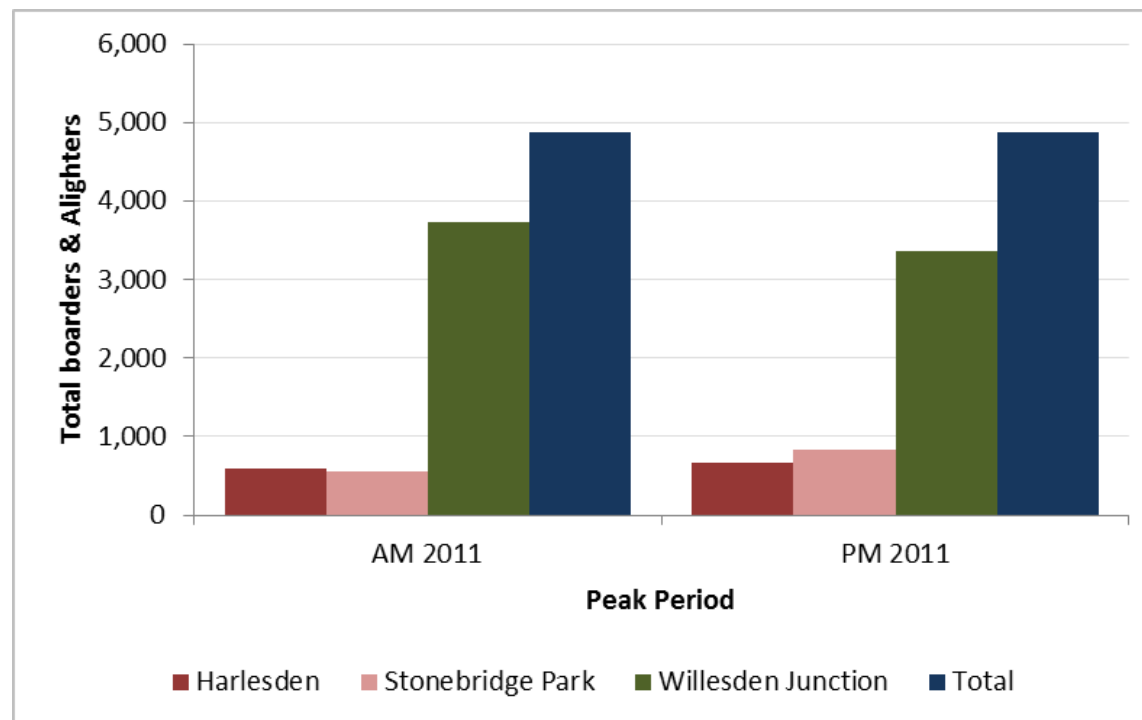
2.99 Existing peak demand in each of the AM and PM peak periods at the Overground stations has been extracted from TfL's 2011 RailPlan model. This demand comprises Park Royal employees as well as local residents and other users of the stations.

Overground Demand

2.100 These outputs are summarised in Figure 2.19 and show:

- Willesden Junction accounts for 70-75% of station movements across both the AM and PM peaks as a result of its important interchange status.
- In the AM peak total movements into and out of Stonebridge Park and Harlesden are similar at approximately 550 passengers.
- Both Stonebridge Park and Harlesden are busier in the PM peak with around 800 and 700 passenger entries and exits.

Figure 2.19: AM & PM Peak Overground Station Demand (pax/hr)



Underground Demand

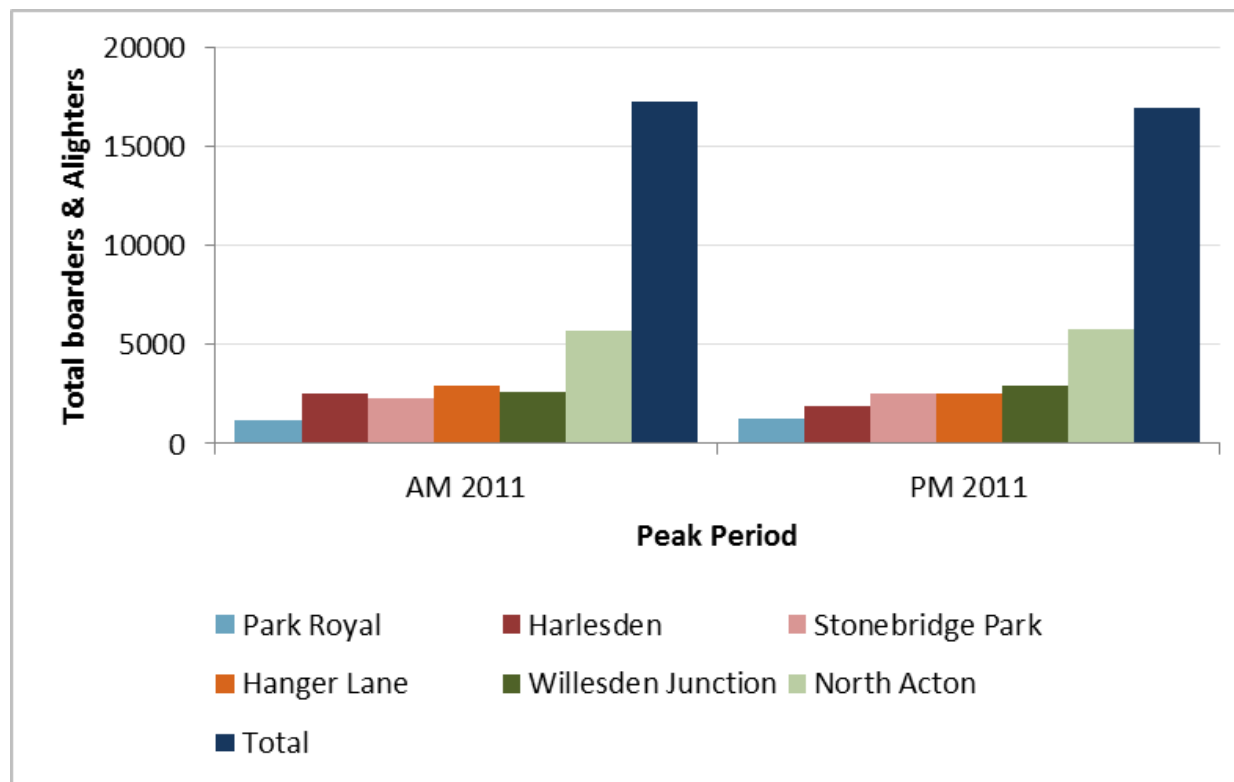
2.101 These outputs are summarised in Figure 2.20 and show:

- Total number of passengers using the six stations is around 17,000 during each of the peak periods
- North Acton is the heaviest used underground station in the area with some 6,000 entries and exits during each peak.
- Park Royal is the quietest station with around 1,200 entries and exits during each peak.
- Whilst Willesden Junction only has between 2,500-3,000 Underground passengers each peak it is a busier station when considering Overground passenger numbers as well.

Impact of Station Accessibility on Demand

2.102 The issues identified in paragraphs 2.93 and 2.94 relating to limited station accessibility and quality of onward connections, is likely limiting the attractiveness of rail as the preferred mode choice for Park Royal employees.

Figure 2.20: AM & PM Peak Underground Station Demand (pax/hr)



Grand Union Canal

2.103 The Grand Union Canal acts as a natural barrier along the northern edge of Park Royal.

2.104 Its movement and transportation function has diminished over time, nevertheless it remains a very important asset for the area that could play an important role in the improvement of the quality of Park Royal as a place to work and live.

2.105 The canal is fenced both on the northern and southern banks. The south embankment, which accommodates the only tow path, tends to be steep, poorly maintained, with overgrown vegetation and signs of illegal rubbish dumping as shown in Figure 2.21.

Figure 2.21: Local Environment along the Canal



2.106 There are various points along the canal where access to/from Park Royal is possible on foot and by cycle. Nevertheless these places are not very visible and generally lack seating or any other type of facilities.

2.107 The Power Day wharf is still functional on the north-eastern bank and can be seen below in Figure 2.22. Future improvements to the canal should consider the potential of utilising the facilities further and integrate them with proposals for freight and access along the canal.

2.108 The potential for greater freight use of the canal is also aided by the absence of locks in the area which provides quicker and easier access for barges.

Figure 2.22: Powerday Canal Wharf



3 Future Travel Demand

Drivers of Growth

3.1 There are numerous drivers of growth in the region, either within the Old Oak and Park Royal Opportunity Area itself or in other OAs and housing zones nearby (see Figure 3.1).

3.2 A new commercial and office hub, providing 55,000 new jobs and approximately 24,000 new homes is focused around the new Old Oak Common Station.

3.3 Alongside this investment, an additional 10,000 new jobs and a minimum of 1,500 new homes are planned in the north eastern and south western corners of Park Royal respectively.

3.4 To be able to capitalise on the substantial investment taking place, the connectivity and permeability between Old Oak and Park Royal needs to be increased by providing continuous routes and encouraging a more sustainable balance of travel modes.

Wembley OA

3.5 The Wembley OA Masterplan shows the potential for the area to create at least 5,500 new jobs and 5,000 new homes by 2026 with a further aspiration to more than double that in the future.

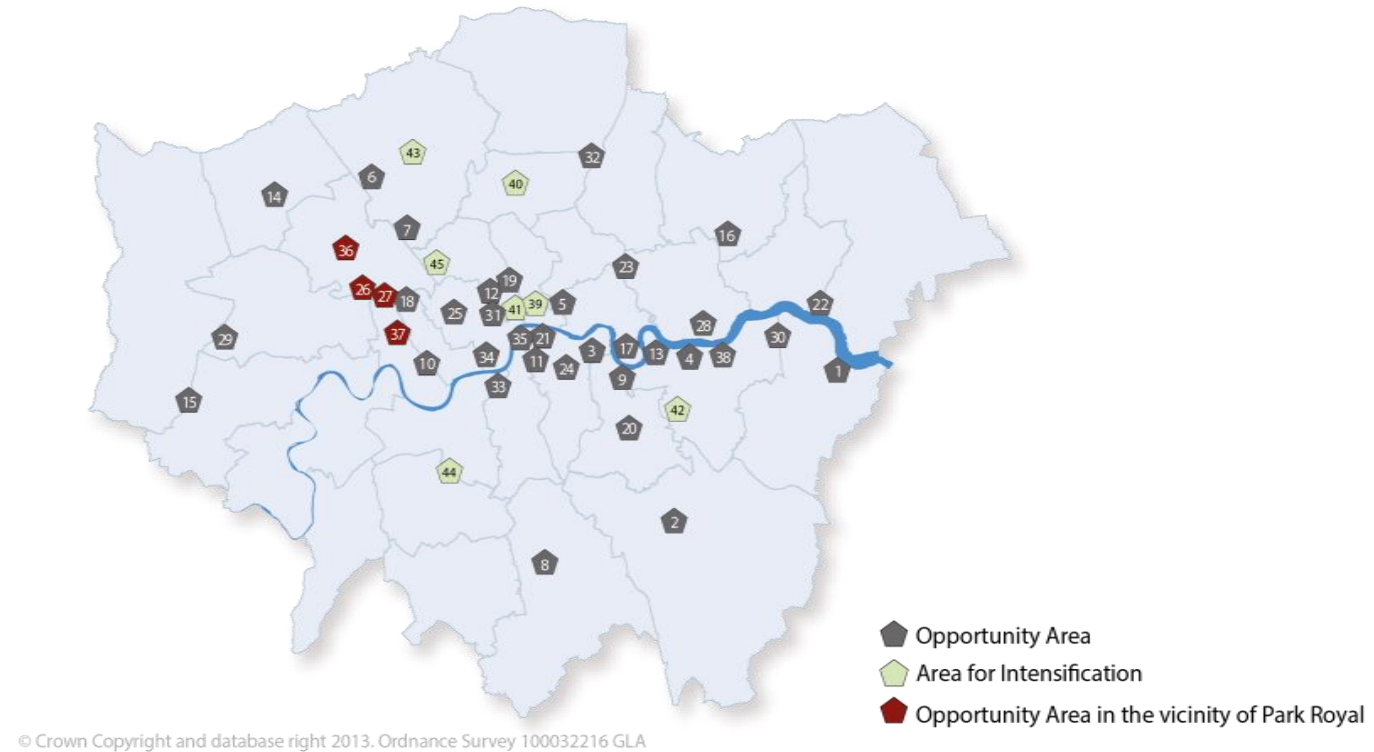
White City OA

3.6 The White City OAPF targets 10,000 new jobs, roughly 6,000 new residential units and further investment in the metropolitan town centre.

3.7 This development is likely to further increase the attractiveness of the White City/Shepherd's Bush leisure and shopping cluster and create demand for better connections to the northwest across the A40 into Old Oak.

3.8 The combined effect of these planned future developments will be to generate a significant increase in the demand for all modes of travel across the area.

Figure 3.1: Opportunity and Intensification Areas Overview (GLA, 2015)



Opportunity Areas

- | | |
|--------------------------------------|---|
| 1 Bexley Riverside | 20 Lewisham, Catford & New Cross |
| 2 Bromley | 21 London Bridge, Borough & Bankside |
| 3 Canada Water | 22 London Riverside |
| 4 Charlton Riverside | 23 Lower Lee Valley (including Stratford) |
| 5 City Fringe/Tech City | 24 Old Kent Road |
| 6 Colindale/Burnt Oak | 25 Paddington |
| 7 Cricklewood/Brent Cross | 26 Park Royal |
| 8 Croydon | 27 Old Oak Common |
| 9 Deptford Creek/Greenwich Riverside | 28 Royal Docks and Beckton Waterfront |
| 10 Earls Court & West Kensington | 29 Southall |
| 11 Elephant & Castle | 30 Thamesmead & Abbey Wood |
| 12 Euston | 31 Tottenham Court Road |
| 13 Greenwich Peninsula | 32 Upper Lee Valley |
| 14 Harrow & Wealdstone | 33 Vauxhall, Nine Elms & Battersea |
| 15 Heathrow | 34 Victoria |
| 16 Ilford | 35 Waterloo |
| 17 Isle of Dogs | 36 Wembley |
| 18 Kensal Canalside | 37 White City |
| 19 King's Cross - St Pancras | 38 Woolwich |

Areas for Intensification

- | |
|-----------------------------------|
| 39 Farringdon/Smithfield |
| 40 Haringey Heartlands/Wood Green |
| 41 Holborn |
| 42 Kidbrooke |
| 43 Mill Hill East |
| 44 South Wimbledon/Colliers Wood |
| 45 West Hampstead Interchange |

Future Walking & Cycling Conditions

Likely Growth in Walking and Cycling

3.9 Walking and cycling are very important aspects of the Mayoral Transport Strategy. The increased pressure and congestion on roads and public transport networks is expected to further increase the shift towards more active modes such as walking and cycling.

3.10 The cycling “revolution” is expected to deliver infrastructure and programmes that will support a considerable increase in cycling from 2% to 5% of the total mode share across London.

3.11 Also, significant investment is being channelled to improve walking conditions across London, and achieve increased levels above the current 24% mode share.

3.12 Within the OA, a significant growth in walking and cycling trips will occur as a result of people making onward journeys from the new Old Oak Common Station to their place of residence or work within Park Royal.

3.13 Links between existing public transport nodes and areas of significant future development such as First Central and the former HS2 construction site will

also see significant growth in walking and cycling trips.

3.14 One of the major investments that is likely to have a significant impact on cycling uptake in the area is the proposed East-West Cycle Superhighway (CSH) route along the A40 including the Westway (consultation planned to start at the end of 2015). This would create a continuous high quality connection between North Acton and Central London. As a result it will be important to ensure good cycle links to the new CSH route from Park Royal are provided.

3.15 Further investment is also being directed towards new Quietways through parks and along waterways across London.

3.16 Improved cycling and walking connections to/from Victoria Road and to/from future Old Oak Common Station have been investigated as part of the North Acton Pedestrian and Cycle Link Study developed by Farrells.

3.17 Although the main focus of the study was on the connectivity with Old Oak Common, it also recommended that a new east-west connection between Victoria Road and Chase Road, just to the north of the Central Line be provided. This is also

recommended as part of the proposed new northern entrance to North Acton station.

3.18 This could be tied into the existing footpath alongside the Central Line between Chase Road and Park Royal Road to provide a continuous link into Park Royal from Old Oak Common.

3.19 This existing route alongside the Central Line would need to be improved to ensure it is fully accessible, attractive and well lit.

3.20 In addition, the Gypsy Corner improvements proposed by LB Ealing will need to be complemented by formalising the currently quiet routes on Chase Road and Park Royal Road. This is likely to require a more detailed investigation regarding the transition at junctions.

3.21 The Grand Union Canal has strong potential to attract considerably more users and offers opportunities to improve both walking and cycling conditions.

Potential Walking and Cycling Improvements

3.22 A set of potential walking and cycling network improvements has been identified as part of this study and the improvements aim to address the current challenges as set out in Figure 2-14 and create an environment that can accommodate and sustain the planned future growth.

3.23 The focus of potential improvements that improve the general environment and urban realm for both cyclists and pedestrians is shown in Figure 3-2 and can be generally summarised as:

- increasing permeability across the site and at the fringes
- enhancing access to/from public transport nodes
- improving crossings and junctions for both pedestrians and cyclists
- integrating the canal within a wider, well signed walking, cycling and public space network.

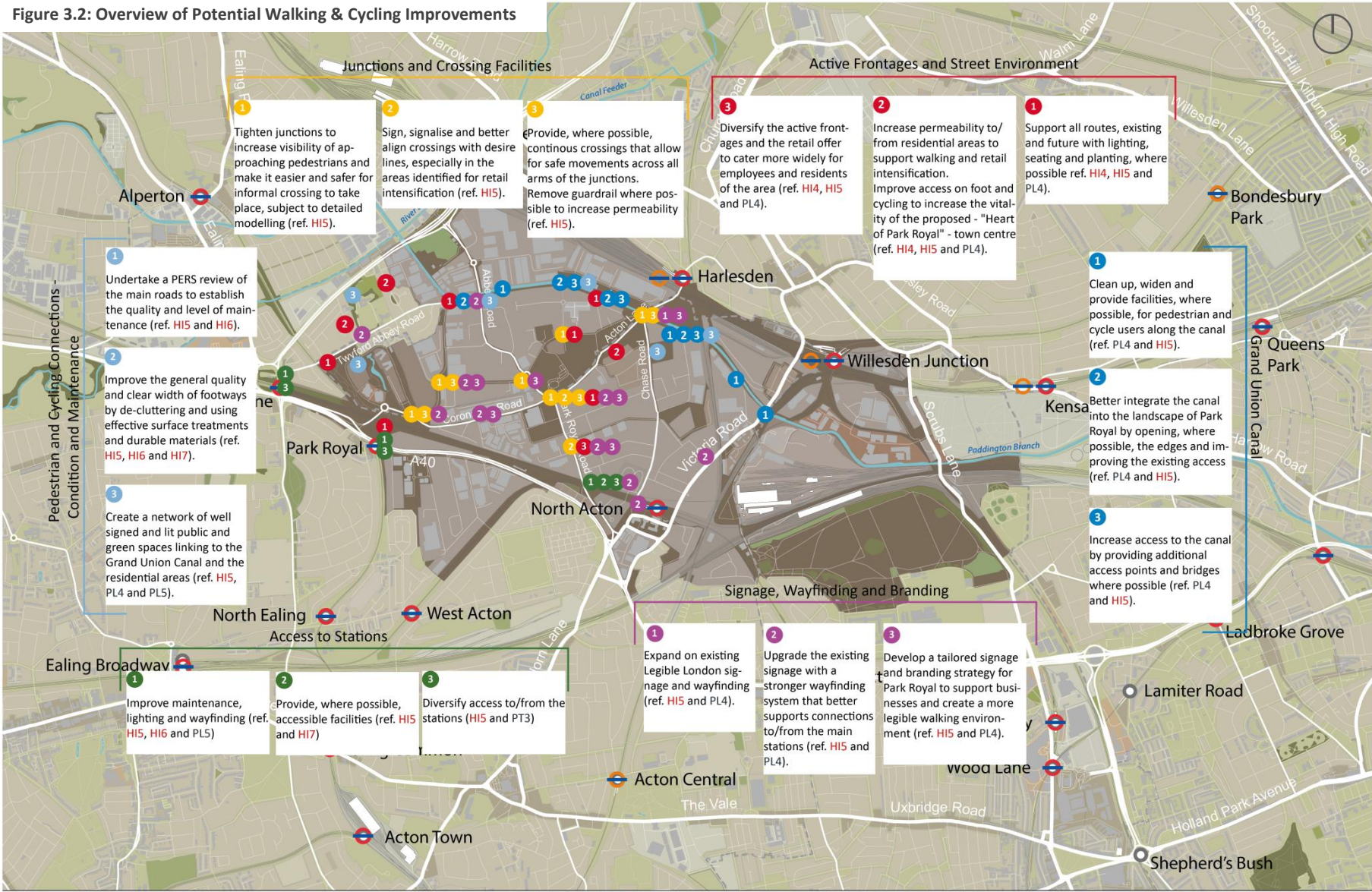
3.24 In parallel with these, further improvements to the signed cycle network as shown, in Figure 3-3, would provide missing connections, create more opportunities to join the National Route 6 along the Grand Union Canal and provide signage to ease wayfinding. These new connections also have the benefit of helping improve pedestrian connectivity.

3.25 Additional improvements to the walking network (see Figure 3-4) focus on higher permeability to/from residential areas and across some of the larger plots that would be beneficial for supporting short walking trips and also increase the viability of creating a “Heart of Park Royal” town centre.

Conclusions

3.26 All of the potential improvements identified will deliver benefits to walking and cycling and should be considered as an entire package where possible. However these will need to be subject to further analysis, design and prioritisation to ensure those elements that deliver the greatest value for money are bought forward first.

Figure 3.2: Overview of Potential Walking & Cycling Improvements



Base map data © OpenStreetMap contributors
Cartography by Steer Davies Gleave 2015



Examples of Potential Cycling Improvements and New Connections

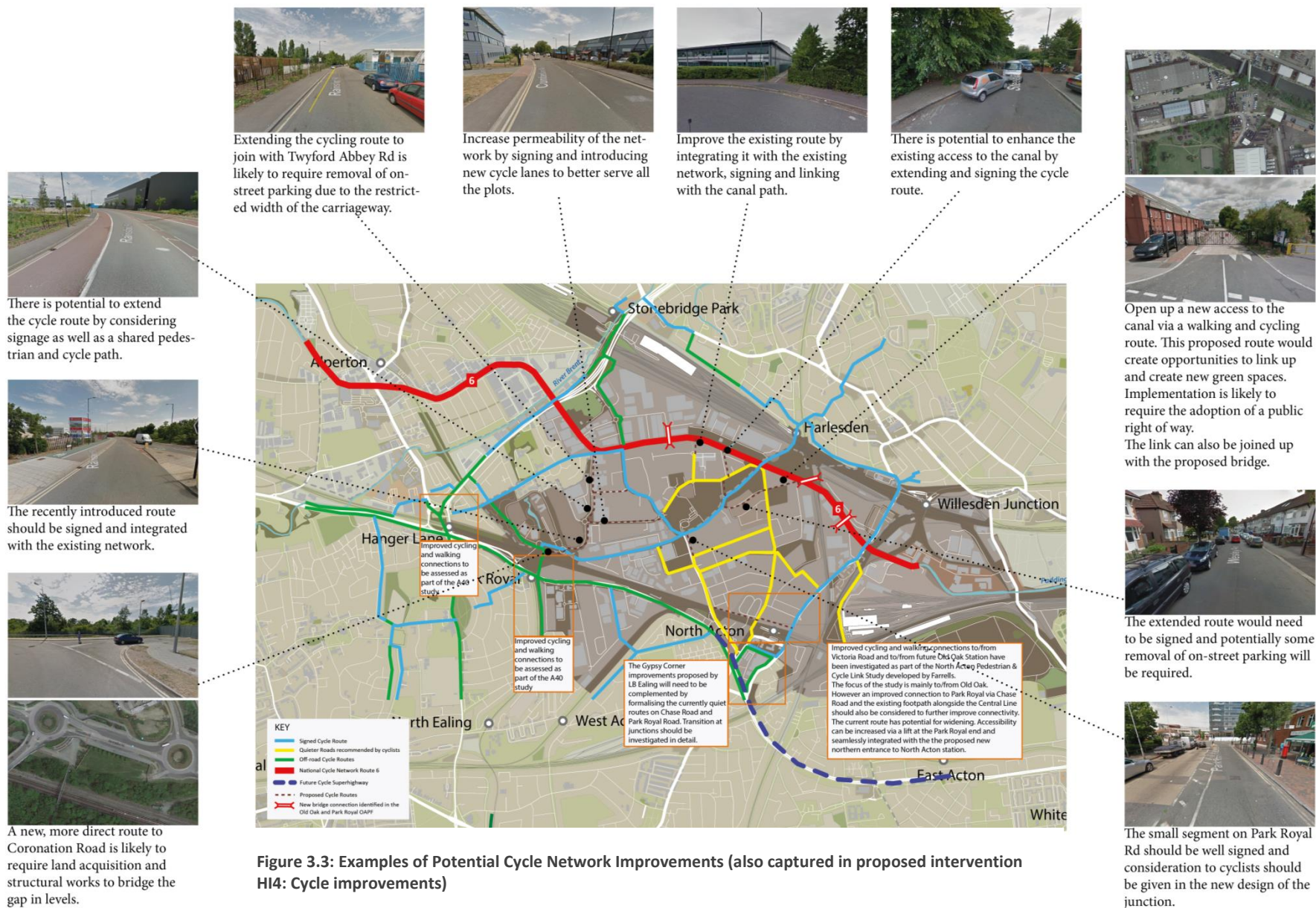


Figure 3.3: Examples of Potential Cycle Network Improvements (also captured in proposed intervention HI4: Cycle improvements)

Examples of Potential Pedestrian Improvements and New Connections



There is potential to enhance the existing access to the canal by extending and signing a walking and cycling route.



Potential to review the provision of crossing facilities and reduce corner radii to improve pedestrian visibility and safety at the junction.



Potential to formalise the existing pedestrian connection from Acton Lane to the Central Middlesex Hospital.



Potential new pedestrian connection increasing permeability for the residential areas and re-using a green space asset around Twyford Abbey.



The connection to Park Royal Station should be better signed, lit and, where possible widened.

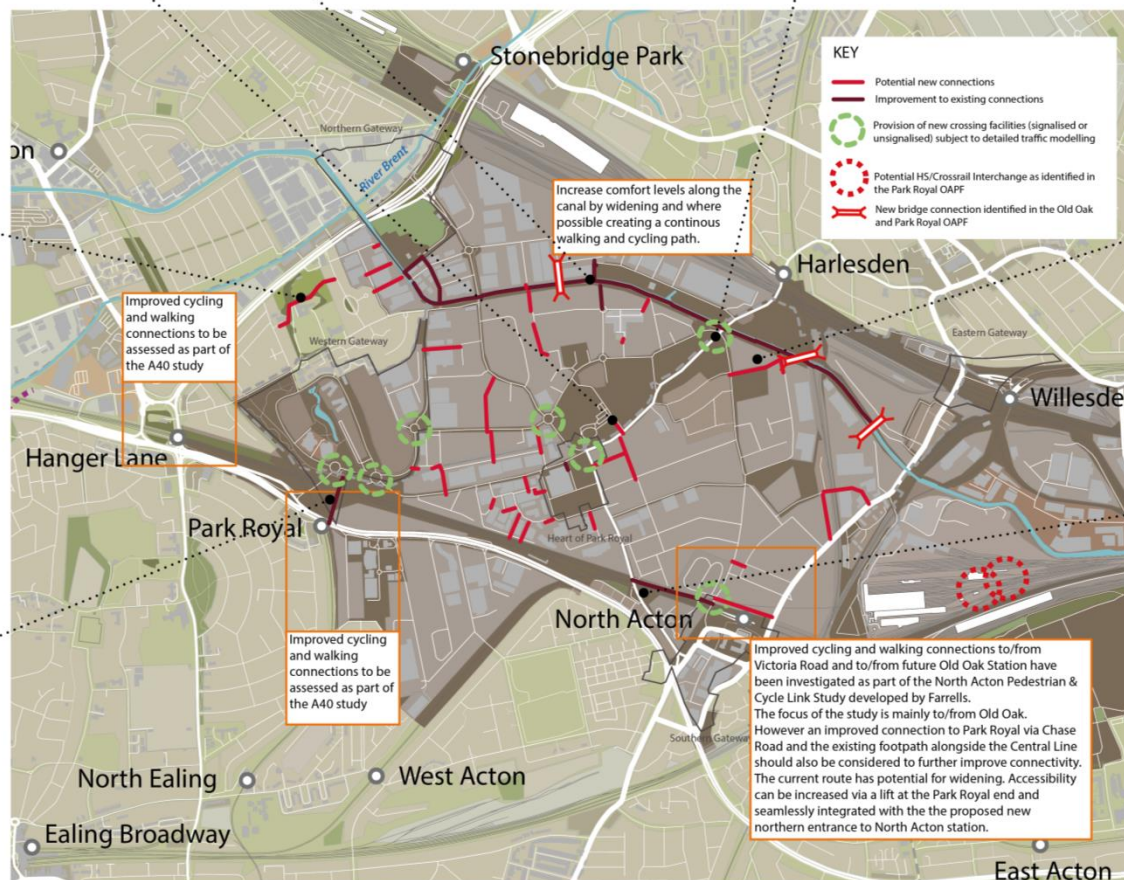


Figure 3.4: Examples of Potential Walking Network Improvements (also captured in proposed intervention H15: Pedestrian improvements and PL4: Greening of corridors and placemaking)



Open up a new access to the canal via a walking and cycling route. This proposed route would create opportunities to link up and create new green spaces. Implementation is likely to require the adoption of a public right of way. The link can also be joined up with the proposed bridge.



The current pedestrian connection to North Acton Station could be widened and accessibility increased.

Future Traffic Conditions

Overall Forecast Traffic Growth

3.27 TfL's WeLHAM traffic model has been used to determine forecast traffic volumes for three key future years:

- 2021 – during HS2 construction
- 2026 – Opening of HS2
- 2041 – Full build out of the OA

3.28 In and around the Park Royal Study area, traffic flows on the key roads are forecast to increase by about 5% by 2021 which is when construction of HS2 will be at its peak. This growth will consist of background traffic growth and additional construction traffic.

3.29 Between 2021 and 2026 when HS2 construction is complete and in operation, very little additional growth in overall traffic levels is forecast.

3.30 By 2041 however, traffic is expected to have increased by approximately 7-9% from current levels as a result of further background growth and full build out of the Old Oak and Park Royal OA.

3.31 The relatively modest increase in traffic volumes on the roads surrounding Park Royal is due to existing capacity constraints that prevent any further increases.

Changes in Traffic Flow on Key Roads

3.32 Traffic volumes on the key roads through the study area have been determined using TfL's HAM modelling which has been updated to provide greater detail in the Park Royal area as part of this study.

AM Peak Traffic Flow Changes

3.33 Table 3.1 summarises the key traffic flow changes on the network in the AM peak. All values quoted have been rounded in recognition of the level of confidence that can be attributed to this level of strategic road modelling.

3.34 The most significant flow changes in 2021 are:

- A total of 136 two-way heavy vehicle movements per hour associated with HS2 construction.
- A 35%-45% increase on Coronation Road is likely as a result of First Central and Origin Business Park developments being operational.
- A 10-15% increase in traffic entering Park Royal via Park Royal Road, Acton Lane and Abbey Road.
- A 15% increase in traffic exiting the OA via Abbey Road.

3.35 Flow changes in 2026 on the strategic road network are comparable to the 2021 scenario indicating that the capacity previously utilised by

construction vehicles on these roads is taken up by an induced through traffic demand and that HS2 does nothing to reduce local traffic volumes. However some key entry/exit routes to Park Royal see further increases:

- Coronation Road flows increase further to levels 40-70% higher than existing due to the full build out of the First Central Development which is assumed to accommodate all of the 1,500 additional homes in Park Royal.
- Traffic exiting Park Royal by Abbey Road is forecast to increase further with a 35% increase from existing levels. This is attributable to the trips from First Central heading to destinations in the north via the North Circular and to a lesser degree general employment growth across Park Royal.

3.36 The most significant flow changes in 2041, driven by the increased development demand are:

- A 10% increase on traffic accessing Park Royal via Park Royal Road.
- A 40%-75% increase on Coronation Road.
- A 45% increase in traffic exiting Park Royal via Abbey Road.

Table 3.1: AM Peak hour Traffic Flow Changes on Key Roads

Road and Direction of Travel	Existing Flow (pcu/hr)	2021		2026		2041	
		Flow (pcu/hr)	Change from Existing	Flow (pcu/hr)	Change from Existing	Flow (pcu/hr)	Change from Existing
A40 Eastbound (west of Hanger Lane)	4780	4760	0%	4820	1%	4890	2%
A40 Westbound (west of Hanger Lane)	3310	3480	5%	3430	4%	3590	8%
North Circular Northbound	3230	3260	1%	3300	2%	3310	2%
North Circular Southbound	3180	3330	5%	3350	5%	3410	7%
Park Royal Road Northbound	400	430	8%	410	2%	440	10%
Park Royal Road Southbound	270	290	7%	300	11%	290	7%
Victoria Road Northbound	430	440	2%	460	7%	450	5%
Victoria Road Southbound	680	660	-3%	630	-7%	600	-12%
Acton Lane Southbound	440	520	18%	520	18%	560	27%
Acton Lane Northbound	870	880	1%	890	2%	900	3%
Twyford Abbey Road Eastbound	160	170	6%	150	-6%	160	0%
Twyford Abbey Road Westbound	240	250	4%	250	4%	240	0%
Chase Road Northbound	240	240	0%	240	0%	220	-8%
Chase Road Southbound	190	170	-11%	180	-5%	200	5%
Coronation Road Eastbound	780	1060	36%	1070	37%	1090	40%
Coronation Road Westbound	270	390	44%	450	67%	470	74%
Abbey Road Southbound	770	900	17%	890	16%	910	18%
Abbey Road Northbound	640	740	16%	860	34%	940	47%
Total	20800	21890	5%	22150	6%	22590	9%

PM Peak Traffic Flow Changes

3.37 Table 3.2 summarises the key traffic flow changes on the network in the PM peak. All volumes have been rounded in recognition of the level of confidence that can be attributed to this level of strategic road modelling.

3.38 The most significant flow changes in 2021 are:

- A 30% increase in traffic accessing Park Royal via Coronation Road, likely as a result of First Central and Origin Business Park developments being operational.
- A 25% increase in traffic on Victoria Road northbound in part due to the HS2 construction traffic.
- A 30% increase in southbound traffic on Chase Road, although this is from a low base so is not a significant increase in total numbers.
- A 15% increase in traffic exiting the OA via Abbey Road.
- A 20% increase in traffic exiting the OA via Park Royal Road.

3.39 As with the AM peak, flow changes in the 2026 PM peak are comparable to the 2021 scenario, indicating that the capacity previously utilised by construction vehicles on these roads is taken up by

an induced through traffic demand and that HS2 does nothing to reduce local traffic volumes. The one exception to this is Coronation Road eastbound which sees further flow increases, to levels 50% higher than existing due to the full build out of the First Central Development which is assumed to accommodate all of the 1,500 additional homes in Park Royal.

3.40 The most significant flow changes in 2041, driven by the increased development demand, are:

- A 35% increase on traffic exiting Park Royal via Park Royal Road.
- A 20% increase in traffic on Victoria Road northbound, which represents a slightly lower increase when compared to the HS2 construction scenario.
- Further increases on Coronation Road resulting in 60% higher eastbound volumes than existing.
- Further increases on Chase Road southbound resulting in 70% higher volumes than existing.

Conclusions

3.41 The above flow increases of up to 75% on some key internal roads to Park Royal have the potential to significantly increase congestion and journey times to and from the area. These increases require targeted measures at existing key pinch

points in the network to address these potential future issues. The key pinch points are:

- Abbey Road between the North Circular and Twyford Abbey Road
- Junction of Park Royal Road / Coronation Road / Abbey Road
- Junction of Acton Lane / North Acton Road

3.42 In addition to the growth on the local road network, strategic roads and associated junctions such as the A40, North Circular, Hanger Lane and Gypsy Corner will also see demand increases. These strategic connections are vital to the operation of Park Royal businesses and residents.

3.43 To address the future challenges of these strategic connections, TfL is currently undertaking a detailed study into the A40 and its associated junctions in the vicinity of Park Royal.

Table 3.2: PM Peak hour Traffic Flow Changes on Key Roads

Road and Direction of Travel	Existing Flow (pcu/hr)	2021		2026		2041	
		Flow (pcu/hr)	Change from Existing	Flow (pcu/hr)	Change from Existing	Flow (pcu/hr)	Change from Existing
A40 Eastbound (west of Hanger Lane)	4340	4520	4%	4500	4%	4570	5%
A40 Westbound (west of Hanger Lane)	4260	4310	1%	4330	2%	4330	2%
North Circular Northbound	3440	3470	1%	3480	1%	3580	4%
North Circular Southbound	3080	3290	7%	3240	5%	3400	10%
Park Royal Road Northbound	450	450	0%	450	0%	440	-2%
Park Royal Road Southbound	290	350	21%	320	10%	390	34%
Victoria Road Northbound	510	650	27%	610	20%	610	20%
Victoria Road Southbound	470	460	-2%	460	-2%	480	2%
Acton Lane Southbound	770	690	-10%	700	-9%	710	-8%
Acton Lane Northbound	550	580	5%	570	4%	620	13%
Twyford Abbey Road Eastbound	90	100	11%	100	11%	100	11%
Twyford Abbey Road Westbound	320	300	-6%	300	-6%	280	-13%
Chase Road Northbound	170	140	-18%	150	-12%	160	-6%
Chase Road Southbound	70	90	29%	90	29%	120	71%
Coronation Road Eastbound	260	340	31%	390	50%	420	62%
Coronation Road Westbound	650	680	5%	710	9%	690	6%
Abbey Road Southbound	440	410	-7%	470	7%	510	16%
Abbey Road Northbound	920	1060	15%	1050	14%	1120	22%
Total	20990	21810	4%	21860	4%	22450	7%

Future Freight Demand

3.44 In February 2013 the University of Westminster produced a freight study for TfL entitled “High Speed 2 – Identifying opportunities for freight at Euston and Old Oak Common”.

3.45 This study established a series of forecasts for the increased level of road freight transport that could occur as a result of the construction of HS2 and the redevelopment of the Old Oak Common & Park Royal Opportunity Area. These forecasts, for a range of commercial development mixes, are presented below in Figure 3.5: .

Figure 3.5: Commercial Road Freight Trip Forecasts

Table 6: Forecast road freight transport vehicle trips generated by additional commercial development in the Park Royal City OA on a typical weekday (based on an additional 45,000 jobs)

Scenario	Daily vehicle trips
All office development only	2,520
All industrial development only	6,630
All retail development only – low estimate	11,340
All retail development only – high estimate	21,000
One-third office, one-third retail, one-third industrial – low estimate	6,830
One-third office, one-third retail, one-third industrial – high estimate	10,050

Source: High Speed 2 – Identifying opportunities for freight at Euston and Old Oak Common, 2013 (University of Westminster)

3.46 In addition to these commercial trips the study identified an additional 900 daily freight trips associated with the residential land uses.

3.47 This analysis provides a large range of daily trips between 3,500-22,000 vehicles per day.

Conclusions

3.48 Based on the mixed use low estimate scenario, circa 7,000 new daily road freight trips can be expected. This level of increase will place additional pressure on existing road infrastructure and highlights the importance of managing the growth through initiatives that can reduce the overall number of road freight trips made, without curtailing economic growth.

Future Bus Demand

3.50 Forecasts for bus passenger numbers by route have been determined for the future AM and PM peaks using RailPlan growth factors applied to the 2014/15 Keypoint Loadings provided by TfL.

3.51 These forecasts have been calculated for two future years: 2026 (HS2 opening); and 2041.

3.52 Buses could provide an important connection between Park Royal and the new Overground, Crossrail and HS2 links in Old Oak. As a result, demand for new direct east-west bus services could increase significantly.

Bus Passenger Forecasts 2026

AM Peak

3.53 Table 3.3 shows that during the AM peak within Park Royal, there is forecast to be an approximate 3% increase in bus passengers by 2026. This is mainly due to development at First Central and growth outside the OA at locations such as Alperton.

3.54 A 4% increase in bus capacity is planned and so a majority of routes do not experience significant additional overcrowding.

3.55 The exceptions to this are:

- Route 112 towards Ealing Broadway, whose demand increases by 15% and thus is operating close to capacity
- Route 226 towards Ealing Broadway (via the Central Middlesex Hospital) which experiences a 21% increase in demand and as a result is operating at capacity.
- Route 487 towards Willesden Junction (via the Central Middlesex Hospital) which sees a 13% increase in demand and so is operating at capacity.

3.56 These figures demonstrate a potential future need for additional capacity on certain routes that serve the hospital and central areas of Park Royal during the AM peak.

Table 3.3: AM Peak Hour 2026 Bus Demand Changes

Route No	Base Demand (pax)	2026 Demand (pax)	Change in Demand	2026 Capacity (pax)	Load Factor
7	170	240	41%	610	39%
18	880	740	-16%	1290	57%
72	160	190	19%	410	46%
83	390	370	-5%	620	60%
95	200	180	-10%	230	78%
112	130	150	15%	180	83%
187	30	40	33%	270	15%
220	240	250	4%	810	31%
224	100	110	10%	230	48%
226	240	290	21%	310	94%
228	50	60	20%	270	22%
260	190	200	5%	410	49%
266	290	290	0%	540	54%
283	100	100	0%	400	25%
440	60	120	100%	270	44%
487	160	180	13%	180	100%
611	40	40	0%	70	57%
TOTALS	3430	3550	3%	7100	50%

PM Peak

3.57 Table 3.4 shows that during the PM peak within Park Royal, there is forecast to be an approximate 5% increase in bus passengers by 2026. This is mainly due to development at First Central and growth outside the OA at locations such as Alperton.

3.58 A 4% increase in bus capacity is planned and due to the existing low levels of crowding in the PM peak all routes are forecast to continue to operate with spare capacity in 2026.

Table 3.4: PM Peak Hour 2026 Bus Demand Changes

Route No	Base Demand (pax)	2026 Demand (pax)	Change in Demand	2026 Capacity (pax)	Load Factor
7	130	180	38%	620	29%
18	770	690	-10%	1360	51%
72	110	130	18%	410	32%
83	380	360	-5%	620	58%
95	170	180	6%	270	67%
112	140	170	21%	230	74%
187	10	10	0%	310	3%
220	260	250	-4%	910	27%
224	90	130	44%	180	72%
226	130	150	15%	230	65%
228	50	60	20%	270	22%
260	220	250	14%	350	71%
266	220	240	9%	610	39%
283	40	40	0%	350	11%
440	80	120	50%	230	52%
487	110	100	-9%	230	43%
611*	n/a	n/a	n/a	n/a	n/a
TOTALS	2910	3060	5%	7180	43%

*Special school service that operates outside the PM peak hour.

Bus Passenger Forecasts 2041

AM Peak

3.59 By 2041 AM peak bus passenger demand within Park Royal is forecast to have increased by 10% from current levels, as shown in Table 3.5.

3.60 Between 2026 and 2041 no further increase in bus capacity has been considered at this stage. As a result a number of routes experience overcrowding due to the increase in demand:

- Route 95 towards Shepherds Bush is expected to see a 5% increase in passenger demand which results in the route operating close to capacity.
- Route 112 towards Ealing Broadway, whose demand increases by 30% and thus is operating at capacity
- Route 226 towards Ealing Broadway (via the Central Middlesex Hospital) which experiences a 40% increase in demand and as a result is operating over capacity.
- Route 487 towards Willesden Junction (via the Central Middlesex Hospital) which sees a 19% increase in demand and so is operating over capacity.

3.61 These results further demonstrate the need to increase capacity on bus routes servicing the

hospital and central area of Park Royal, a number of which will be overcrowded by 2041.

Table 3.5: AM Peak Hour 2041 Bus Demand Changes

Route No	Base Demand (pax)	2041 Demand (pax)	Change in Demand	2041 Capacity (pax)	Load Factor
7	170	290	71%	610	48%
18	880	600	-32%	1290	47%
72	160	220	38%	410	54%
83	390	430	10%	620	69%
95	200	210	5%	230	91%
112	130	170	31%	180	94%
187	30	50	67%	270	19%
220	240	240	0%	810	30%
224	100	120	20%	230	52%
226	240	340	42%	310	110%
228	50	70	40%	270	26%
260	190	250	32%	410	61%
266	290	310	7%	540	57%
283	100	100	0%	400	25%
440	60	130	117%	270	48%
487	160	190	19%	180	106%
611	40	40	0%	70	57%
TOTALS	3430	3760	10%	7100	53%

PM Peak

3.62 By 2041 PM peak bus passenger demand within Park Royal is forecast to have increased by 9% from current levels, as shown in Table 3.6.

3.63 Between 2026 and 2041 no further increase in bus capacity has been considered at this stage, but forecasts of future PM peak hour demand indicate all routes will still operate with spare capacity.

Table 3.6: PM Peak Hour 2041 Bus Demand Changes

Route No	Base Demand (pax)	2041 Demand (pax)	Change in Demand	2041 Capacity (pax)	Load Factor
7	130	180	38%	620	29%
18	770	570	-26%	1360	42%
72	110	140	27%	410	34%
83	380	400	5%	620	65%
95	170	200	18%	270	74%
112	140	180	29%	230	78%
187	10	10	0%	310	3%
220	260	270	4%	910	30%
224	90	140	56%	180	78%
226	130	170	31%	230	74%
228	50	60	20%	270	22%
260	220	290	32%	350	83%
266	220	270	23%	610	44%
283	40	40	0%	350	11%
440	80	150	88%	230	65%
487	110	110	0%	230	48%
611*	n/a	n/a	n/a	n/a	n/a
TOTALS	2910	3180	9%	7180	44%

*Special school service that operates outside the PM peak hour.

Conclusions

3.64 This analysis shows the need for additional buses to accommodate the predicted increases in demand during the AM peak on a number of routes that serve Park Royal (Routes 95, 112, 226 & 487).

3.65 The level of spare capacity on other routes through the area, particularly during the PM peak, may indicate that existing routes do not serve the optimal locations for Park Royal employees.

3.66 Improved usage of available capacity may offer a cost-effective approach of increasing bus mode share and should be considered as part of the bus planning process for the entire OA. This needs to include the improvement of connections between other OAs in west London such as Wembley and White City.

3.67 One such scheme that may be suitable for consideration is Fastbus, the Wembley Park to North Acton express orbital public transport route first proposed in 2009.

3.68 New bus priority measures would also help improve the quality of the services and make them more attractive for use by employees, so helping to reduce car use.

Future Passenger Rail Demand

3.69 The new Crossrail and HS2 connections provided by Old Oak Common Station along with TfL's proposals for two new Overground stations within Old Oak will transform the area's public transport connectivity.

3.70 The combined effects on rail demand at stations serving Park Royal as a result of these major pieces of rail infrastructure and the OA development, are presented in the following sections.

London Overground

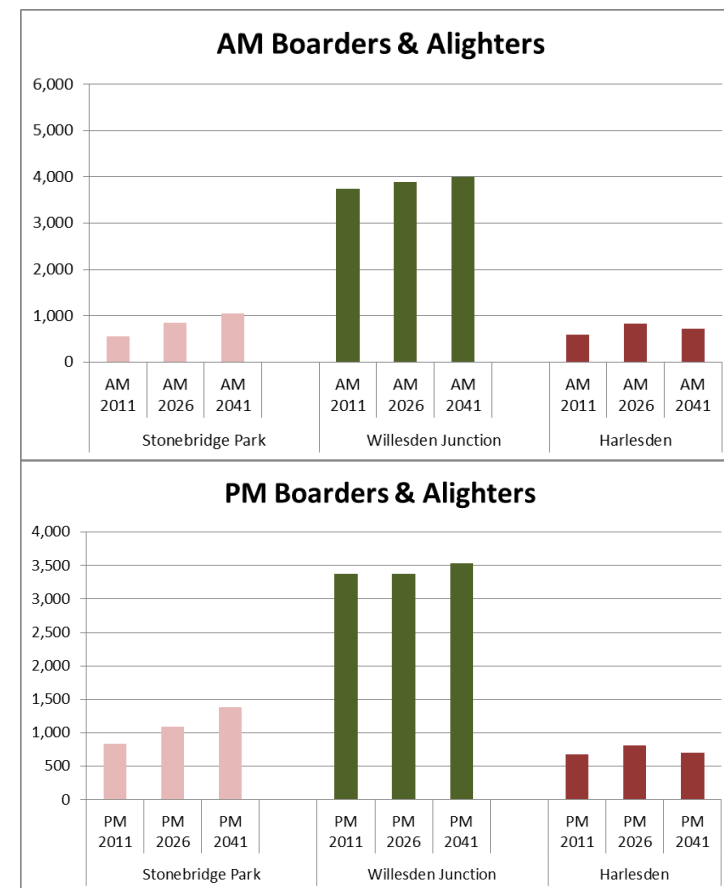
3.71 Forecast peak demand in each of the AM and PM peak periods at the Overground stations has been extracted from TfL's 2026 & 2041 RailPlan modelling and is shown in Figure 3.6.

3.72 Stonebridge Park shows a substantial increase in usage across the AM and PM peaks, albeit from a low base. It is forecast to be busiest in the PM peak with a 30% increase by 2026 and a 66% increase by 2041 to 1,400 passengers per hour.

3.73 Harlesden station is expected to see a significant increase in passengers by 2026 with a 40% increase to 820 pax per hour. However between 2026 and 2041 forecasts suggest passenger levels will fall slightly.

3.74 Willesden Junction will remain by far the busiest Overground station in the vicinity of Park Royal although growth will not be as great as at Stonebridge Park & Harlesden stations. It will be busiest in the AM peak when nearly 4,000 boarders & alighters are expected by 2041. This represents a 7% increase on current levels.

Figure 3.6: London Overground Future Peak Hour Boarders & Alighters



London Underground

3.75 Forecast peak demand in each of the AM and PM peak periods at the Underground stations has been extracted from TfL's 2026 & 2041 RailPlan modelling and is shown in Figure 3.7.

3.76 By 2026 the majority of stations are expected to see an increase in passenger activity in the region of 10-20%. The exceptions to this are:

- Park Royal and Stonebridge Park which are expected to see greater increases in the region of 30-50%
- Hanger Lane which is forecast to experience a slight reduction with the opening of Crossrail & HS2

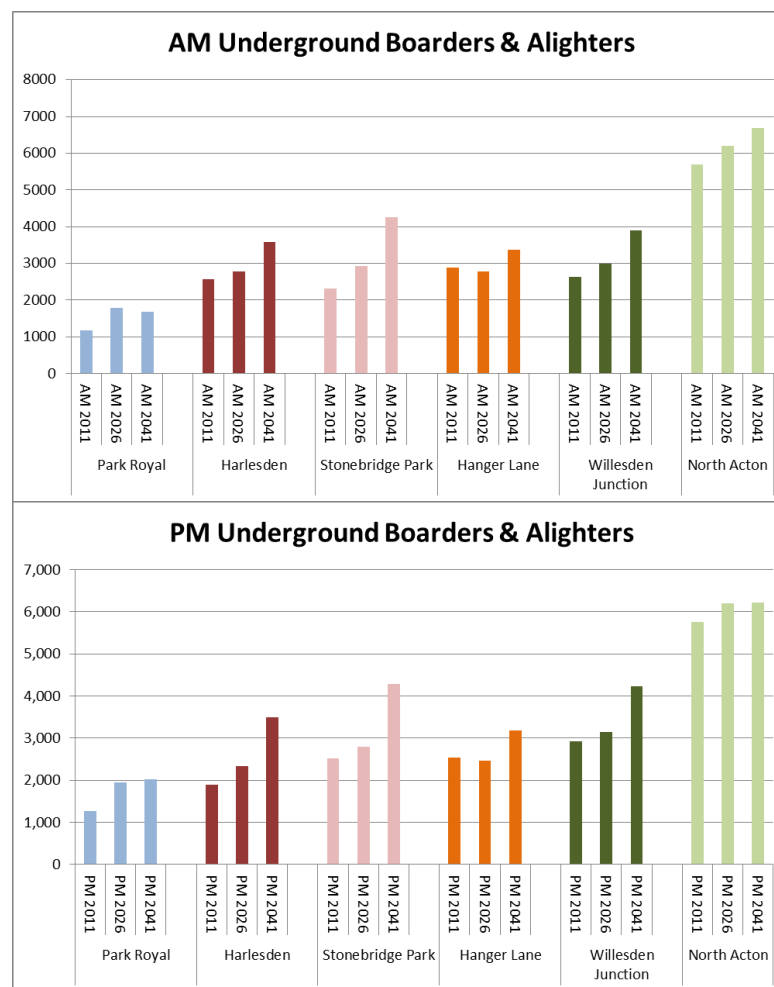
3.77 By 2041 all stations experience a significant increase due to the level of development in and around the OA. Generally these increases are in the range of 40-60% with the exception of:

- Harlesden in the PM peak is expected to see an 80% increase, which accounts for some of the reduced flow on Overground services at this station.
- Stonebridge Park is expected to see a 70-85% increase likely due to major developments at

Alperton as well as OA growth in Wembley & Park Royal

- North Acton growth is generally lower at 10-20% due to the draw of the new Old Oak station nearby.

Figure 3.7: London Underground Future Peak Hour Boarders & Alighters



Total Rail Demand

3.78 Peak hour rail passenger movements at the stations surrounding Park Royal grow from approximately 22,000 in 2011 to 25,000 by 2026, a 13% increase.

3.79 By 2041 there is a further increase expected to 29,000, a 33% increase on today's numbers.

3.80 The mode share between Overground and Underground rail services remains constant to 2026, but by 2041 a slight increase in Underground mode share is expected, indicating the nature of development associated with the OA will induce travel between locations better served by the Underground network.

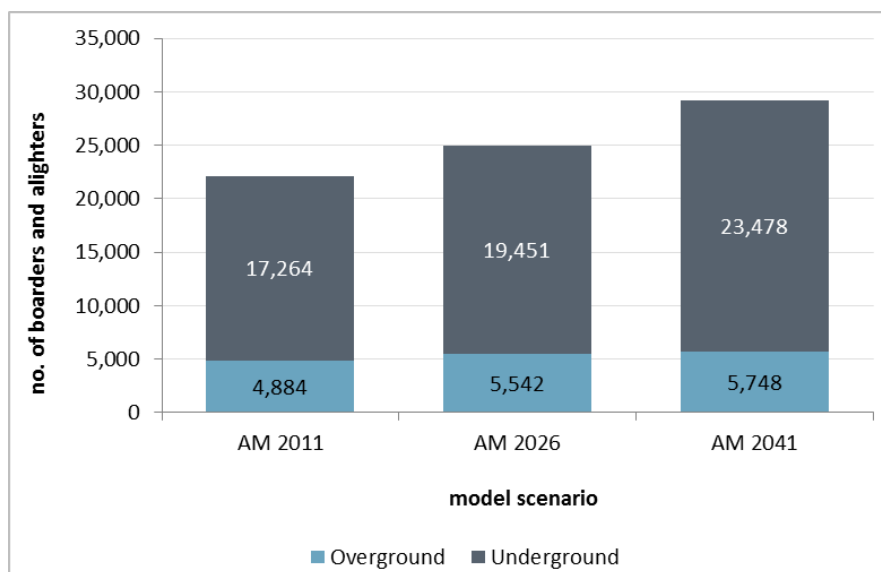
3.81 These total figures are shown in Figure 3.8.

Conclusions

3.82 These figures demonstrate the need to improve station facilities to accommodate the increased passenger volumes and ensure Rail and Underground are increasingly important mode choices for Park Royal employees and residents.

3.83 The increased passenger numbers will also place additional pressure on facilities that provide onward connections from stations in the vicinity of Park Royal such as cycle parking and connecting bus services.

Figure 3.8: Total Rail Demand Growth



Source: TfL Railplan

4 Proposed Transport Interventions

Intervention Objectives

4.1 Based on the future transport challenges and the Park Royal transport objectives presented in Chapter 1, a series of transport interventions have been developed to meet these needs.

4.2 The key challenges that are likely to arise as the OA is developed are a result of increased demand for travel in a constrained transport network.

4.3 The substantial uplift in public transport capacity and connectivity for the OA that results from HS2 and Crossrail will accommodate a large majority of the increased travel demand.

4.4 It will not however accommodate it all, particularly in relation to the forecast additional freight and servicing movements.

4.5 The strategic road network surrounding Park Royal is already at capacity at key locations such as Hanger Lane and Gypsy Corner. These pinch points in turn impact on feeder roads through the site either due to queues extending into the site e.g. Abbey Road on approach to the North Circular, or increased rat running on roads such as North Acton Road.

4.6 Any future increase in traffic demand at these key pinch points will result in a disproportionate increase in delay and congestion throughout the Park Royal network.

4.7 Further corridor and junction improvements along the A40 are being investigated as part of TfL's separate A40 study that is currently underway.

4.8 For these reasons an important focus of this study is to release existing capacity potential within the OA through more efficient use of existing road space, infrastructure improvements for sustainable modes (which are currently poorly catered for) and incentivising a modal shift.

4.9 Successful implementation of this multi-pronged approach will offer viable alternative modes, particularly during peak periods, to those users who have a greater potential to change their travel habits (e.g. commuters) and release that capacity for users with fewer options e.g. vulnerable users or freight.

Investigation of Potential Rail Schemes in Park Royal

4.10 During the development of the transport strategy, the potential to provide significant new rail infrastructure was considered. This could be in the form of a new station and /or rail lines to serve the central part of the Park Royal area – an area that currently suffers from low levels of public transport accessibility. Several studies have previously examined the potential for this type of scheme including:

- Connection between Willesden Junction and Ealing Broadway - both would require a station underground and a new rail tunnel
- New station on Central Line between North Acton and Hanger Lane
- New orbital rail route around London including stops at Acton and Old Oak (to be delivered 2040+)

4.11 Although these schemes would lead to a significant improvement in access to Park Royal by public transport, they would have extremely high costs in the order of hundreds of millions of pounds. They would also be highly challenging to deliver and would require an extended period of disruption due to construction. They would also necessitate the demolition of a large number of existing industrial

units. Introducing the new rail infrastructure would also potentially place pressure on industrial land-uses through a likely increase in land values.

4.12 These very high costs and difficulties in implementation mean that the potential for a new rail station or line through the Park Royal area has not been considered in detail as part of the preparation of this transport strategy. Further assessments being delivered by OPDC which examine the very long-term needs of the area (e.g. to 2080) are likely to consider the need for this type of fundamental change to public transport in the area.

Intervention Categories

4.14 Individual interventions fall into four categories which deliver against the transport objectives and help accomplish the vision set for Park Royal.

4.15 These categories recognise that not one approach to managing the impact of increased development and resulting travel demand can be successful in isolation.

4.16 Only a combination of interventions across all four categories will respond to the challenges and will maximise opportunities to deliver long-lasting physical improvements and behavioural change.

Long-List of Interventions

4.17 A total of 30 potential transport interventions have been identified across the four categories. These are summarised on the following pages with a short description of what each includes.

4.18 Further details of each intervention, its assessment score and how this was calculated can be found in Appendix A of this report.

Planning (PL)

Area-wide overarching planning controls for new developments and enforcement for existing developments to limit and discourage the use of the car as a main mode of transport and support sustainable travel choices

Demand Management (DM)

Multi – stakeholder/framework agreements and programmes to reduce car dependency, improve efficiency, reduce costs and lower emissions

Highway Improvements (HI)

Physical interventions to the highway, junctions and walking and cycling infrastructure to increase total transport capacity and interoperability

Public Transport Improvements (PT)

Physical interventions to improve the connectivity, accessibility and inclusivity of the public transport network

PLANNING	ID	Intervention Name	Intervention Description
	PL1	Transport Panel	Establishment of a stakeholder group, coordinated by OPDC and TfL, tasked with identifying and delivering the transport improvements identified in this strategy.
	PL2	Smart management of the transport network	Adoption of advanced technologies to manage the transport network and to maximise the efficiency of its use. Potential for Park Royal to become a test bed for emerging technologies to ensure it is first to benefit.
	PL3	Improved workplace cycle facilities	The provision of end of journey cycle facilities such as bike stands, lockers, showers as well as training and maintenance support and assistance encourage cycling uptake
	PL4	Greening of corridors and placemaking	The creation of green routes and corridors across the study area to create an environment more conducive to walking and cycling and to enhance quality of life for residents.
	PL5	Enhance personal security to encourage walking	Measures to improve personal security both perceived and actual. To include physical improvements such as lighting, CCTV coverage and security patrols but also improve levels of passive surveillance wherever possible.
	PL6	HGV corridors	Designation of HGV corridors to help focus these vehicle movements on specific routes with design enhancements focused on these users and those most vulnerable. Could also free up capacity on the remaining part of the network.
	PL7	Low emissions zone	Enforcement of a low emissions zone in and around Park Royal to encourage fleet reorganization and to bring vehicles up to the required emissions standards.
	PL8	Incentives for electric vehicles	Provision of facilities and financial incentives for residents and businesses that adopt electric vehicles
	PL9	Car club/car sharing strategy	Development of a strategy to ensure Car Clubs and Car sharing opportunities for residents and commuters to Park Royal are maximised to reduce local congestion levels and reduce on-street parking requirements

DEMAND MANAGEMENT	ID	Intervention Name	Intervention Description
	DM1	Development control strategy	Development control is an efficient way to manage future travel demand arising from new developments. It includes measures such as parking standards, servicing and delivery requirements and provision for cycle and walking including investment. The OAPF and Local Plan are the mechanisms by which this is implemented.
	DM2	Travel plans	A long term management strategy to encourage sustainable travel for new and existing developments. It sets out transport impacts, establishes targets and identifies a package of measures to encourage sustainable travel.
	DM3	Delivery and service plans	A Delivery and Servicing Plan (DSP) establishes a framework for the effective management of freight vehicle activity. Provides benefits to participating organisations, suppliers and the local community.
	DM4	Freight consolidation	Limiting the number of freight and servicing trips either through consolidation sites, provision of consolidated services to businesses, delivery coordination or a combination of all three.
	DM5	Parking and loading controls	Integrated, cross-borough Controlled Parking Zones (CPZ) can reduce confusion and facilitate enforcement. Combined with facilitation of kerbside loading facilities to allow businesses to function provides potential to better utilize existing road space.
	DM6	Waterborne freight movements	Movement of freight by water can be more efficient and environmentally sustainable than road freight. The Grand Union Canal running through the area provides a potential route for waterborne freight – Powerday have an operational freight wharf.
	DM7	Mode share targets	With the expected future growth in both employment and residential uses it is important to manage travel demand in order to achieve a reduction in the car mode split. The mode share targets can be delivered through framework agreements and strategies such as travel plans and development planning control.
	DM8	Rail freight	Park Royal is located in close proximity to the North and West London Lines and Dudding Hill Line with established freight facilities at Willesden Junction. Future investments in rail capacity may create opportunities for more freight to use this mode and be taken off the roads.

Highway Improvements	ID	Intervention Name	Intervention Description
	HI1	Abbey Road junction improvements	Conversion of roundabout to signals and coordination of traffic signals along Abbey Road between the North Circular and Twyford Abbey Road.
	HI2a	Park Royal Road junction improvements (Coronation Road to Standard Road) – Basic intervention	Review and installation of SCOOT to coordinate and optimise timings along Park Royal Road within existing layouts to improve performance and coordination of traffic movements
	HI2b	Park Royal Road junction improvements (Coronation Road to Standard Road) – Intermediate intervention	Adoption of designs identified by MVA in 2011 as part of a study commissioned by LB Ealing. Includes new controlled pedestrian crossings at the Central Middlesex Hospital junction, removal of bus gate on Coronation Road, provision of Advanced cycle stop lines and installation of SCOOT to optimise timings along Park Royal Road.
	HI2c	Park Royal Road junction improvements (Coronation Road to Standard Road) – Extensive intervention	Realignment of Park Royal Road at the Central Middlesex Hospital junction to remove stagger arrangement. This would require significant land acquisition from the existing ASDA car park.
	HI3	Acton Lane/North Acton Road junction improvements	Subject to local junction modelling improvements could include: Review and optimisation of traffic signals; Extension of parking restrictions along Barretts Green Road; Review of right turning movements with view to banning some to increase junction capacity.
	HI4	Cycle improvements	Cycle infrastructure improvements to encourage increased cycle use – focused on existing signed routes and provision of new connections to better integrate with major cycle infrastructure (NCR6 and proposed East-West Cycle Super Highway)
	HI5	Pedestrian improvements	Improved connections focusing on facilitating direct, safe walking routes from the stations to places of work with objective of improving rail catchments and use of sustainable modes
	HI6	Road resurfacing/repairs	Road surface and footway quality varies quite significantly throughout Park Royal, with some sections showing need of repair. A conditions assessment will identify and prioritise areas for maintenance.
	HI7	Decluttering of streets	Removal of unnecessary street clutter that reduces the attractiveness of an area and presents obstructions to pedestrian movement.
	HI8	New strategic road connections	New links through the site and with the strategic network to open up potential development sites and improve connections for existing users

PUBLIC TRANSPORT IMPROVEMENTS	ID	Intervention Name	Intervention Description
	PT1	Modified bus services in the Park Royal area	<p>Service improvements to be investigated in three main areas:</p> <ul style="list-style-type: none"> Improved frequency and route coverage between residential areas with high car mode share for journey-to-work trips to Park Royal. Potential to provide bus priority on key internal roads should DM5 (Parking Controls) be implemented. Review of bus stop locations to improve catchment area and junction operations
	PT2	Shuttle bus services	Provision of shuttle buses between stations and centres of work within Park Royal.
	PT3	Improved station facilities	<p>Existing station facilities are of a poor standard with lack of step-free access. Increased rail mode share could be achieved by improving the station environment and linking these with enhanced onward connections into the heart of Park Royal.</p>

Intervention Assessment

Scoring Criteria

4.19 To determine the most appropriate and effective interventions for Park Royal an assessment framework was established based on the Park Royal Transport Objectives and the Mayor's Roads Task Force (RTF) Street Functions. The interrelationship between these criteria is shown in Figure 4.1.

4.20 Each of the Park Royal Transport Objectives was used as an individual scoring criterion, all with equal weighting.

4.21 Each objective has in turn been mapped to the RTF Street Type Functions to ensure consistency between these local goals and the Mayoral Vision for London's street and transport networks.

Assessment Approach

4.22 Unweighted scores relating to the performance of each intervention against each objective were scored on a scale of 0 to 3 as follows:

Criteria Scoring	
0	Does not meet objective
✓	Partially meets objective
✓ ✓	Meets objective
✓ ✓ ✓	Meets objective across multiple criteria

4.23 In addition to these functional assessments each intervention was assessed in terms of deliverability using the following three criteria:

- Cost with five ratings:
 - Very Low Cost (<£2m)
 - Low Cost £2m-£10m
 - Medium Cost (£10m-£50m)
 - High Cost (£50m-£100m)
 - Very High Cost (£100m+)
- Difficulty level for delivery with five ratings:
 - Very Low (no/minimal infrastructure requirements, follows established processes)

- Low (minor works, small number of stakeholders affected, can be considered "business as usual" type works)
- Medium (requires substantive works, interfaces with multiple stakeholders and some short term negative impacts during construction)
- High (small scale land acquisition, multiple stakeholders with disbenefits to some and major closures during construction)
- Very High (large scale land acquisition, complex stakeholder interactions and long term disruption)
- Timescales for delivery with three ratings:
 - Short Term (0-2 years)
 - Medium Term (2-5 years)
 - Long Term (5 years+)

Summary of intervention scores

4.24 Following the above approach and scoring criteria, all options were initially scored and these draft scores consulted on with the stakeholder group over three workshops.

4.25 The agreed scores are presented overleaf in Figure 4.2.

Figure 4.1: PRTS Objective & RTF Function Mapping

RTF FUNCTIONS =>	Moving			Functioning	Unlocking			Living	Sustaining	Protecting	Deliverability		
PRTS OBJECTIVES =>	CONNECTING	MITIGATING	OPTIMISING	SUPPORTING	INNOVATING	FACILITATING (HOMES)	FACILITATING (EMPLOYMENT)	ENHANCING	SUSTAINING	PROTECTING	COST	DIFFICULTY	TIMESCALE

Figure 4.2: Individual Intervention Scores

		RTF FUNCTIONS =>	Moving		Functioning		Unlocking		Living	Sustaining	Protecting	Deliverability			
			PRTS OBJECTIVES =>			CONNECTING	MITIGATING	OPTIMISING	SUPPORTING	INNOVATING	FACILITATING (HOMES)	FACILITATING (EMPLOYMENT)	ENHANCING	SUSTAINING	PROTECTING
PLANNING	PL1	Transport Panel	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Very Low	Very Low	Short Term
	PL2	Smart management of the transport network	0	✓✓	✓✓	✓✓	✓✓	✓	✓	0	✓✓	✓	Low	Medium	Medium Term
	PL3	Improved workplace cycle facilities	✓	✓	✓	✓	0	✓✓	✓✓	✓	✓✓	0	Very Low	Low	Short Term
	PL4	Greening of corridors and placemaking	✓✓	✓	✓	✓✓	0	✓	✓	✓✓✓	✓✓	✓✓	Low	Medium	Medium Term
	PL5	Enhance personal security to encourage walking	✓	✓	✓✓	✓	0	✓	✓	✓✓	✓✓	✓✓✓	Very Low	Low	Short Term
	PL6	HGV corridors	✓	✓✓	✓	✓✓	✓	0	✓✓	0	0	✓	Medium	Medium	Medium Term
	PL7	Low emissions zone	0	✓✓	0	0	✓✓	✓	0	✓✓	✓✓	0	Medium	High	Medium Term
	PL8	Incentives for electric vehicles	0	✓	0	✓	✓✓✓	✓	0	✓	✓✓	0	High	Medium	Medium Term
	PL9	Car club/car sharing strategy	0	✓✓	0	✓	✓✓	✓	✓	✓	✓✓	0	Very Low	Low	Medium Term
DEMAND MANAGEMENT	DM1	Development control strategy	✓✓	✓✓	0	✓✓	0	✓✓	✓✓	✓	✓	✓	Low	Very Low	Short Term
	DM2	Travel plans	✓	✓✓	✓	✓	✓	✓	✓	0	✓✓	✓	Very Low	Low	Short Term
	DM3	Delivery and service plans	✓	✓✓	✓	✓✓	✓	✓	✓✓	0	0	✓	Very Low	Low	Short Term
	DM4	Freight consolidation	0	✓✓	✓	✓✓	✓	✓	✓✓	0	0	✓	Medium	Medium	Short Term
	DM5	Parking and loading controls	0	✓✓	✓✓	✓✓	0	✓	✓	✓✓	✓✓	✓	Very Low	Medium	Short Term
	DM6	Waterborne freight movements	✓✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓	✓	0	✓✓	Medium	High	Long Term
	DM7	Mode share targets	✓	✓✓✓	✓✓	0	✓	✓	✓	✓	✓✓	✓	Very Low	Medium	Long Term
	DM8	Rail freight	✓✓	✓✓	✓	✓✓	0	✓	✓✓	✓	0	✓	Medium	Medium	Long Term
HIGHWAY IMPROVEMENTS	HI1	Abbey Road junction improvements	✓✓	✓✓	✓✓	✓	0	✓	✓	✓	✓	✓✓	Low	Low	Medium Term
	HI2a	Park Royal Rd junction improvements - Basic intervention	✓	✓	✓✓	✓	0	✓	✓	0	0	✓	Very Low	Very Low	Short Term
	HI2b	Park Royal Rd junction improvements - Intermediate intervention	✓✓	✓	✓✓	✓✓	0	✓	✓	✓	✓	✓	Low	Low	Medium Term
	HI2c	Park Royal Rd junction improvements - Extensive intervention	✓✓	✓✓	✓✓	✓✓	0	✓	✓	✓✓	✓	✓✓	High	High	Long Term
	HI3	Acton Lane/North Acton Road junction improvements	✓	✓	✓✓	✓	0	✓	✓	0	0	✓	Very Low	Very Low	Short Term
	HI4	Cycle improvements	✓✓	✓✓	✓✓	✓	0	✓	✓	✓	✓✓	✓	Low	Medium	Short Term
	HI5	Pedestrian improvements	✓✓	✓	✓✓	✓	0	✓	✓	✓✓	✓✓	✓✓	Low	Low	Short Term
	HI6	Road resurfacing/repairs	✓	✓	✓✓✓	✓✓	0	✓	✓	✓✓	✓	✓	Very Low	Very Low	Short Term
	HI7	Deduttering of streets	✓✓	✓	✓	✓	0	✓	✓	✓✓	✓	✓	Very Low	Very Low	Short Term
	HI8	New strategic road connections	✓✓✓	✓✓	✓	✓✓	0	✓✓	✓✓	0	0	0	Very High	Very High	Long Term
PUBLIC TRANSPORT IMPROVEMENTS	PT1	Modified bus services in the Park Royal area	✓✓✓	✓✓	✓✓	✓	0	✓✓	✓✓	0	✓✓	0	Low	Medium	Medium Term
	PT2	Shuttle bus services	✓✓	✓	✓	0	✓	✓	✓	0	✓✓	0	Low	Medium	Medium Term
	PT3	Improved station facilities	✓✓	✓✓	✓✓	✓	0	✓✓	✓✓	✓	✓	✓	High	Medium	Long Term

Framework Interventions

4.26 Following an initial review it was clear that a number of the interventions were either covered by initiatives already underway or that represented sound transport planning practice.

4.27 These interventions were therefore considered to be overarching i.e. they would sit above all the other identified measures which are proposed.

4.28 All of the framework interventions listed below have either already been implemented or are in the process of being implemented.

Framework Interventions
PL1 : Transport Panel
DM1 : Development control strategy
DM2 : Travel plans
DM3 : Delivery and service plans

PL1: Transport Panel

4.29 Established in November 2015 the Transport Panel brings together senior representatives from the local Boroughs, WestTrans, TfL, Network Rail, Crossrail and HS2. Coordinated and led by OPDC and TfL, it ensures a cross-agency planning and delivery approach for the achieving the transport objectives for Park Royal.

DM1: Development Control Strategy (OAPF & Local Plan)

4.30 Having a clearly established development strategy in place is critical to ensuring infrastructure is efficiently delivered and of a standard capable of delivering the large levels of growth expected.

4.31 The OAPF provides this strategy whilst the Local Plan will provide greater detail, on the specific controls and standards in the determination of planning applications.

DM2: Travel Plans

4.32 Each travel plan is a long-term management framework for the OA to encourage sustainable travel for new and existing developments. It sets out transport impacts, establishes targets and identifies a package of measures to encourage sustainable travel.

It requires ownership, monitoring and enforcement together with selected/self-appointed champions.

DM3: Delivery and Service Plans

4.33 Delivery and Servicing Plans (DSPs) help commercial organisations to better manage deliveries, improve customer service and operate more efficiently. They are widely used across London and should as standard form part of the planning conditions for new commercial developments within the OA.

Interventions and Objectives

4.34 The assessment of each intervention shows how it meets the objectives defined for the Park Royal Transport Strategy. Figure 4-3 presents the results of this process, with the interventions ordered in terms of how well each intervention meets the defined objectives.

4.35 This ordering of the interventions does not take direct account of the cost or difficulty of implementing each scheme. These factors have been incorporated by including the scores for cost and difficulty which favours low cost, straight-forward schemes. The results of this process are shown in Figure 4-4.

4.36 OPDC seeks views as part of the consultation process on the list of interventions.

Figure 4.3: Interventions Ordered by Objective Scores

RTF FUNCTIONS =>		Moving		Functioning		Unlocking		Living	Sustaining	Protecting	Total Score	
Intervention Reference	PRTS OBJECTIVES =>	CONNECTING	MITIGATING	OPTIMISING	SUPPORTING	INNOVATING	FACILITATING (HOMES)	FACILITATING (EMPLOYMENT)	ENHANCING	SUSTAINING		PROTECTING
DM6	Waterborne freight movements	✓✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓	✓	0	✓✓	16
PL4	Greening of corridors and placemaking	✓✓	✓	✓	✓✓	0	✓	✓	✓✓✓	✓✓	✓✓	15
HI2c	Park Royal Rd junction improvements - Extensive intervention	✓✓	✓✓	✓✓	✓✓	0	✓	✓	✓✓	✓	✓✓	15
PL5	Enhance personal security to encourage walking	✓	✓	✓✓	✓	0	✓	✓	✓✓	✓✓	✓✓✓	14
HI5	Pedestrian improvements	✓✓	✓	✓✓	✓	0	✓	✓	✓✓	✓✓	✓✓	14
PT1	Modified bus services in the Park Royal area	✓✓✓	✓✓	✓✓	✓	0	✓✓	✓✓	0	✓✓	0	14
PT3	Improved station facilities	✓✓	✓✓	✓✓	✓	0	✓✓	✓✓	✓	✓	✓	14
PL2	Smart management of the transport network	0	✓✓	✓✓	✓✓	✓✓	✓	✓	0	✓✓	✓	13
DM5	Parking and loading controls	0	✓✓	✓✓	✓✓	0	✓	✓	✓✓	✓✓	✓	13
DM7	Mode share targets	✓	✓✓✓	✓✓	0	✓	✓	✓	✓	✓✓	✓	13
HI1	Abbey Road junction improvements	✓✓	✓✓	✓✓	✓	0	✓	✓	✓	✓	✓✓	13
HI4	Cycle improvements	✓✓	✓✓	✓✓	✓	0	✓	✓	✓	✓✓	✓	13
HI6	Road resurfacing/repairs	✓	✓	✓✓✓	✓✓	0	✓	✓	✓✓	✓	✓	13
DM8	Rail freight	✓✓	✓✓	✓	✓✓	0	✓	✓✓	✓	0	✓	12
HI2b	Park Royal Rd junction improvements - Intermediate intervention	✓✓	✓	✓✓	✓✓	0	✓	✓	✓	✓	✓	12
HI8	New strategic road connections	✓✓✓	✓✓	✓	✓✓	0	✓✓	✓✓	0	0	0	12
PL3	Improved workplace cycle facilities	✓	✓	✓	✓	0	✓✓	✓✓	✓	✓✓	0	11
HI7	Decluttering of streets	✓✓	✓	✓	✓	0	✓	✓	✓✓	✓	✓	11
PL6	HGV corridors	✓	✓✓	✓	✓✓	✓	0	✓✓	0	0	✓	10
PL9	Car club/car sharing strategy	0	✓✓	0	✓	✓✓	✓	✓	✓	✓✓	0	10
DM4	Freight consolidation	0	✓✓	✓	✓✓	✓	✓	✓✓	0	0	✓	10
PL7	Low emissions zone	0	✓✓	0	0	✓✓	✓	0	✓✓	✓✓	0	9
PL8	Incentives for electric vehicles	0	✓	0	✓	✓✓✓	✓	0	✓	✓✓	0	9
PT2	Shuttle bus services	✓✓	✓	✓	0	✓	✓	✓	0	✓✓	0	9
HI2a	Park Royal Rd junction improvements - Basic intervention	✓	✓	✓✓	✓	0	✓	✓	0	0	✓	8
HI3	Acton Lane/North Acton Road junction improvements	✓	✓	✓✓	✓	0	✓	✓	0	0	✓	8

Figure 4.4: Interventions Ordered with Cost & Difficulty Considered

RTF FUNCTIONS =>		Moving		Functioning		Unlocking		Living	Sustaining	Protecting	Deliverability			Total Score	
Intervention Reference	PRTS OBJECTIVES =>	CONNECTING	MITIGATING	OPTIMISING	SUPPORTING	INNOVATING	FACILITATING (HOMES)	FACILITATING (EMPLOYMENT)	ENHANCING	SUSTAINING	PROTECTING	COST	DIFFICULTY		TIMESCALE
PL5	Enhance personal security to encourage walking	✓	✓	✓✓	✓	0	✓	✓	✓✓	✓✓	✓✓✓	Very Low	Low	Short Term	23
HI6	Road resurfacing/repairs	✓	✓	✓✓✓	✓✓	0	✓	✓	✓✓	✓	✓	Very Low	Very Low	Short Term	23
PL4	Greening of corridors and placemaking	✓✓	✓	✓	✓✓	0	✓	✓	✓✓✓	✓✓	✓✓	Low	Medium	Medium Term	22
HI5	Pedestrian improvements	✓✓	✓	✓✓	✓	0	✓	✓	✓✓	✓✓	✓✓	Low	Low	Short Term	22
DM5	Parking and loading controls	0	✓✓	✓✓	✓✓	0	✓	✓	✓✓	✓✓	✓	Very Low	Medium	Short Term	21
DM6	Waterborne freight movements	✓✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓	✓	0	✓✓	Medium	High	Long Term	21
DM7	Mode share targets	✓	✓✓✓	✓✓	0	✓	✓	✓	✓	✓✓	✓	Very Low	Medium	Long Term	21
HI1	Abbey Road junction improvements	✓✓	✓✓	✓✓	✓	0	✓	✓	✓	✓	✓✓	Low	Low	Medium Term	21
HI7	Decluttering of streets	✓✓	✓	✓	✓	0	✓	✓	✓✓	✓	✓	Very Low	Very Low	Short Term	21
PT1	Modified bus services in the Park Royal area	✓✓✓	✓✓	✓✓	✓	0	✓✓	✓✓	0	✓✓	0	Low	Medium	Medium Term	21
PL2	Smart management of the transport network	0	✓✓	✓✓	✓✓	✓✓	✓	✓	0	✓✓	✓	Low	Medium	Medium Term	20
PL3	Improved workplace cycle facilities	✓	✓	✓	✓	0	✓✓	✓✓	✓	✓✓	0	Very Low	Low	Short Term	20
HI2b	Park Royal Rd junction improvements - Intermediate intervention	✓✓	✓	✓✓	✓✓	0	✓	✓	✓	✓	✓	Low	Low	Medium Term	20
HI4	Cycle improvements	✓✓	✓✓	✓✓	✓	0	✓	✓	✓	✓✓	✓	Low	Medium	Short Term	20
PL9	Car club/car sharing strategy	0	✓✓	0	✓	✓✓	✓	✓	✓	✓✓	0	Very Low	Low	Medium Term	19
HI2c	Park Royal Rd junction improvements - Extensive intervention	✓✓	✓✓	✓✓	✓✓	0	✓	✓	✓✓	✓	✓✓	High	High	Long Term	19
PT3	Improved station facilities	✓✓	✓✓	✓✓	✓	0	✓✓	✓✓	✓	✓	✓	High	Medium	Long Term	19
DM8	Rail freight	✓✓	✓✓	✓	✓✓	0	✓	✓✓	✓	0	✓	Medium	Medium	Long Term	18
HI2a	Park Royal Rd junction improvements - Basic intervention	✓	✓	✓✓	✓	0	✓	✓	0	0	✓	Very Low	Very Low	Short Term	18
HI3	Acton Lane/North Acton Road junction improvements	✓	✓	✓✓	✓	0	✓	✓	0	0	✓	Very Low	Very Low	Short Term	18
PL6	HGV corridors	✓	✓✓	✓	✓✓	✓	0	✓✓	0	0	✓	Medium	Medium	Medium Term	16
DM4	Freight consolidation	0	✓✓	✓	✓✓	✓	✓	✓✓	0	0	✓	Medium	Medium	Short Term	16
PT2	Shuttle bus services	✓✓	✓	✓	0	✓	✓	✓	0	✓✓	0	Low	Medium	Medium Term	16
PL7	Low emissions zone	0	✓✓	0	0	✓✓	✓	0	✓✓	✓✓	0	Medium	High	Medium Term	14
PL8	Incentives for electric vehicles	0	✓	0	✓	✓✓✓	✓	0	✓	✓✓	0	High	Medium	Medium Term	14
HI8	New strategic road connections	✓✓✓	✓✓	✓	✓✓	0	✓✓	✓✓	0	0	0	Very High	Very High	Long Term	14

Potential Funding Sources

4.37 Several funding options are available to support the introduction of new transport measures in Park Royal and they are described in the following sections. This analysis is based on a similar assessment undertaken for TfL/GLA on funding potential in the Upper Lee Valley.

TfL, DfT, Local Borough (LIP) Funding

4.38 There are several sources of capital funding for transport schemes in TfL and the local boroughs e.g. funds for safety schemes and junction improvements.

4.39 Each Borough will be preparing a Local Implementation Plan (LIP) in early 2016 and this will identify suitable transport schemes for introduction in 2017 to 2020. These LIPs could include schemes identified as part of the Park Royal Transport Strategy.

4.40 TfL and the Department for Transport also have funds available for “Major Schemes” and these would be applicable for larger schemes such as new rail lines or similar. Each potential schemes would need to be submitted and approved by TfL/DfT and would be competing against other schemes located across London to obtain funds.

Mayoral Development Corporations

4.41 The Localism Act 2011 granted the Mayor of London the ability to establish Mayoral Development Corporations (MDCs) and on 1 April 2015 the Old Oak and Park Royal Development Corporation (OPDC) was established to help transform the area which is to benefit substantially from investment in HS2 and Crossrail.

4.42 Within the boundaries of its jurisdiction, an MDC has the power to:

- purchase land;
- reclassify land;
- apply development levies; and
- allow the densification of an area in order to help maximise the value of developments.

4.43 There are two methods to consider in capturing greater value from developers using the MDC approach:

1. Applying an MDC specific CIL to MDC areas.
2. The MDC taking an active role in development of land in the MDC areas.

4.44 An MDC has planning and CIL-levying powers which are similar to those in a borough. Therefore Borough CIL would not apply in an MDC. Instead the MDC can apply an MDC- specific CIL (‘MDC CIL’). This

is a complex task which requires forecasting the amount that could be raised by developments and needs a significant number of assumptions, many of which are highly volatile – for example the annual rate of house price increases in London. Considerations need to be given to when developers will be expected to contribute within the development timetable.

4.45 The OPDC is currently developing its MDC CIL charging regime.

Mayoral CIL

4.46 Under London Plan Policy 8.2B, the Mayor introduced a CIL charging schedule to enable him to use the Levy to fund strategically important infrastructure. Mayoral CIL is currently being used to fund Crossrail. The Regulations restrict the Mayor to use of the CIL to fund “roads or other transport facilities, including, in particular, for the purposes of, or in connection with, scheduled works within the meaning of Schedule 1 to the Crossrail Act 2008” (Community Infrastructure Levy Regulations 2010 59(2)).

4.47 In the Crossrail 2 Funding and Financing Study¹, following the repayment of the Crossrail 1 loan, Mayoral CIL contributions have been assumed to become available to fund the Crossrail 2 project. Under the scenario where Crossrail 2 does not go ahead, Mayoral CIL could theoretically be used to fund transport infrastructure in Park Royal.

4.48 However, Mayoral CIL has been excluded from the base scenario as it is unlikely that Park Royal infrastructure would be considered strategic to London as a whole.

S106 Contributions

4.49 The introduction of a local CIL regime does not eliminate the potential for developers to provide funding for specific schemes directly associated with a new development. This includes localised highway changes, public realm improvements and new public transport infrastructure.

Tax Increment Financing

4.50 Tax Increment Financing attempts to isolate the increase in certain specific tax revenues which

arise as a consequence of a project. This additional tax can be captured and used to make a funding contribution to a given project. TIF has been used extensively for a wide range of infrastructure projects internationally and recently within the UK on the Northern Line Extension. The Northern Line Extension funding sources included an Enterprise Zone to capture Incremental Business Rates Income (IBRI). Borough CIL and S106 contributions arising from new developments were also included as separate funding streams.

4.51 A key benefit of an IBRI TIF is that it uses sources of taxation that already exist: it would neither require tax rate increases to be made, nor new taxes to be levied. Given that an IBRI TIF is a mechanism already used for other projects it is seen as a potentially useable value capture mechanism.

4.52 However, the nature of the development will have a substantial impact on the effectiveness of IBRI as a potential funding mechanism. The level of IBRI will be maximised in schemes which include high levels of commercial development e.g. Old Oak.

4.53 One of the challenges of an IBRI TIF mechanism is that in order to isolate the increase in tax revenues resulting from a specific project, a baseline business rate income level must be

established – the business rates revenue generated if the infrastructure investment did not go ahead. Once the baseline is established, any business rate income above this level is set aside as an additional source of funding.

Contributions from Council Tax

4.54 Council tax has been considered under two alternatives: a borough-wide levy; and using a proportion of the council tax revenue from the 1,500 proposed new homes.

4.55 An additional borough-wide levy could be raised on council tax that is set aside for the Park Royal area, if this was set up as an Authority. Similar levies are already paid as part of the council tax bill, for instance to the North London Waste Authority and to the Lee Valley Regional Park Authority. An increase in council tax is likely to be politically challenging for the boroughs and may require a local ballot to be held. In recent discussions with TfL regarding the funding of transport projects it was mentioned that when a similar scheme was proposed for the Bakerloo line extension (i.e. at the local level as opposed to the London-wide Olympic precept) this did not prove popular with the GLA.

4.56 An alternative to this is to ring-fence a proportion of the council tax on the proposed new

¹ PwC, 'Crossrail 2 Funding and financing study', 27 November 2014 (See <http://crossrail2.co.uk/funding/> for the full report)

homes to fund investment. Where 100% of the increased council tax revenue is not needed to provide additional services for the increased population, this could be used to fund the required infrastructure investment. Given the political challenges associated with council tax and the already stretched authority budgets, using this mechanism in practice is likely to be difficult. However, we have included the total council tax generated from the new homes within the model. The primary reason for this is to highlight the additional revenue which will be generated through new development. From this, it can be determined whether any of this additional revenue could be used to fund the required infrastructure or alternatively, whether it could be used in any negotiations with the boroughs on obtaining potential grant funding.

New Homes Bonus

4.57 Under the New Homes Bonus scheme, the Government matches the council tax raised on each new home (previously empty or entirely new build) for six years as a form of grant funding. Affordable homes obtain an additional £350 per unit. As a result of this measure, local authorities get an automatic, six-year, 100 per cent increase in the amount of revenue derived from each new house built in their area. Providing this scheme continues, local

authorities will have flexibility on how to spend the grant and this grant funding could therefore potentially be ring-fenced to fund new infrastructure. In London, 100 per cent of the grant goes to the London borough as opposed to GLA. For the circa 1,500 new homes proposed in the Park Royal, the grant funding from the New Homes Bonus could be used to pay for some of the strategic infrastructure needed, providing it is not needed to fund gaps in the budget for core services in the area.

4.58 There are two main challenges with using this mechanism. First, there is the possibility that the grant may not continue in its current form which would mean this funding may not be available once the properties in the Park Royal area are built. Second, given the stretched local authority budgets, local authorities may be intending to use the grant for delivering key services in the local area.

Contributions from Stamp Duty Land Tax

4.59 The building of c1,500 new homes will generate additional Stamp Duty Land Tax (SDLT) income. At present SDLT receipts are not devolved to London or its local authorities so this income would not be a local funding source and would instead benefit Her Majesty's Treasury (HMT). However the potential income from SDLT has been included to

highlight the additional revenue the scheme is likely to generate for central government. The analysis could potentially be used as a negotiation tool in trying to obtain grant funding for the scheme from central government. This approach has also been used by TfL for the Crossrail 2 Financial Case as part of the Strategic Outline Business Case submission to DfT.

Local Levy

4.60 A local levy is added to all council tax bills within the Thames River catchment area. This provides approximately £10.5m funding per year, the spending of which is controlled by a committee with representatives from the Local Authorities and Environment Agency. Little of the available funding has been spent within London boroughs in the past few years, so proposals within London may be received favourably. This is a potential source of funding for drainage and flood defence schemes within the Park Royal area.

Workplace Parking Levy

4.61 A Workplace Parking Levy (WPL) is a charge on employers who provide workplace parking. The Transport Act 2000 (Part III) put the legislation in place to allow local authorities to implement

congestion charging zones or workplace parking levies.

4.62 The scheme introduced by Nottingham City Council is the first of its kind. It was introduced to tackle problems associated with traffic congestion by both providing funding for local transport and by acting as an incentive for employers to manage and potentially reduce their workplace parking. In 2013/14 the scheme raised £7.6m net of expenses. The revenue is ring fenced for investment in improving public transport in Nottingham. Money raised from the WPL is to fund an extension to the existing tram system, the redevelopment of Nottingham Railway Station and supporting the Link bus network.

4.63 It is understood that Oxford City Council are planning to introduce a similar WPL in 2017.

4.64 Although feasible in Park Royal, implementing the levy in such a small area may cause businesses to relocate to other office or industrial units where they would not be liable to pay for the levy, to the detriment of the local workforce.

Business Improvement District

4.65 The mechanism of a Business Improvement District (BID) works by applying a small levy on non-domestic rate payers in a defined area. Its objective is to provide additional services and investment over and above the baseline provided by statutory bodies. The businesses who pay are the ones who benefit from the new activities.

4.66 Although BIDs have typically been used for city centre tourism related activities and other city centre services, such as street cleaning projects, Sheffield City Council has developed a BID to fund flood defence infrastructure in the Lower Don Valley. Over 90% of the cost of the project is to be financed by public funds, with a contribution of £1.4 million from the private sector raised through the BID.

4.67 Given that businesses in the Park Royal already pay the Business Rates Supplement put in place for Crossrail it could be a challenge to obtain a successful outcome from a ballot of local businesses which is required under legislation. There are already BIDs in place in London, for instance in Southwark and Hammersmith, however these are for measures such as freight consolidation and increased security patrols. A strong evidence base would need to exist which shows that the new infrastructure proposed

would significantly benefit the businesses that would be responsible for paying the levy. Similar to the WPL, forming a BID may cause businesses to relocate outside of the district where they would not be liable to pay for the levy, to the detriment of the local workforce.

EU and Transport Catapult

4.68 Both the EU and the UK's Transport Catapult are potential sources of funding, particularly for transport interventions involving new technology. Specific schemes would need to be proposed to each organisation for funding and would compete for funds against other schemes.

Summary of Suitable Funding Mechanisms

4.69 The most suitable sources of funding for transport interventions in the Park Royal area are therefore:

Large schemes:

- TfL and DfT through “Major Schemes” process
- MDC and Mayoral CIL providing funding over several years
- Tax Increment Financing

Medium and Small Schemes

- Borough funding via LIP process
- S106 contributions
- Contributions from Council Tax
- Business Improvement District
- EU funding / Transport Catapult

4.70 Council Tax, New Homes Bonus, Stamp Duty Land Tax, Local Levies and Workplace Parking Levies are not expected to be a significant source of funding for schemes in Park Royal.

5 Conclusions and Next Steps

Conclusions

5.1 As a result of major transport infrastructure improvements as part of Crossrail and HS2, the Old Oak & Park Royal Opportunity Area has been identified as an area suitable for significant growth in homes and employment.

5.2 An extra 10,000 jobs and 1,500 homes within Park Royal will require upgrades to existing transport infrastructure and supporting policies to ensure the resultant growth in travel demand does not adversely affect the local area.

5.3 The Park Royal Transport Strategy has defined and presented a range of potential interventions to meet the Park Royal transport vision of providing networks that enhance the communities they serve and help local businesses to operate and grow, both now and in the future.

5.4 These interventions have been assessed and prioritised in accordance with how well they meet the defined objectives for the area. The OPDC and TfL are seeking views on the proposed transport interventions and the priority they have been given as part of the Local Plan consultation process.

Local Plan Consultation

5.5 The programme for OPDC's Local Plan is set out below and is contained within OPDC's Local Development Scheme, which was published in August 2015.

Document:	OPDC Local Plan
Role and Content:	Sets out the vision, objectives and core policies for the area
Coverage:	Entire OPDC Area
Preparation:	July-December 2015
Consultation (Regulation 18):	February 2016 – March 2016
Consultation (Regulation 19):	Summer 2016
Submission:	Autumn 2016
Adoption:	Spring 2017

Next Steps in the Development of the Strategy

5.6 This document supports the Regulation 18 consultation. Following receipt of submissions a preferred package of transport intervention measures will be presented as part of the Regulation 19 consultation process.

5.7 Following consideration of the Regulation 18 consultation submissions received on the transport intervention packages, a short-list of interventions will be produced along with a final, preferred package. This preferred set of interventions will form the basis of the Regulation 19 consultation in the summer of 2016.

A Interventions

Long List

CONTROL INFORMATION

Prepared by	Prepared for
Steer Davies Gleave 28-32 Upper Ground London SE1 9PD +44 20 7910 5000 www.steerdaviesgleave.com	TfL and OPDC Windsor House / Union Street - London
SDG project/proposal number	Client contract/project number
22857301	Task 15
Author/originator	Reviewer/approver
Alex Roberts	David Bowers
Other contributors	Distribution
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