Victoria Vision

Cycling Strategy

transport initiatives
local knowledge national expert

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Contents

Executive Summary

The **Victoria Vision** is being produced by Transport for London. Its main aim is to coordinate development of the public realm, transport and movement projects at Victoria Station and its environs to 2030.

This **Victoria Vision Cycling Strategy** has been produced to develop the role of cycling within the Victoria Vision. Its overall aim is to help to deliver a significant increase in cycling in and around Victoria, by both existing and new cyclists, by making it safer and more convenient.

Achieving the aims of the Victoria Vision will require:

- Integration of Victoria with Cycle Superhighways and the Central London Cycling Grid
- Integration of Victoria with the developing local network set out in Westminster City Council's draft Cycling Strategy
- A substantial improvement in the accessibility of key destinations in Victoria by bicycle

The Cycling Strategy has been informed primarily by the *Mayor's Vision for Cycling* and the new *London Cycle Design Standards*, as well as the *Road Task Force* report and the *London Plan*. It has also taken ideas from the *International Cycling Infrastructure Best Practice Study*.

The Strategy shows clearly that while there are areas already suitable for less experienced cyclists, these are severed by main roads. **There is no coherent network of routes for cyclists who are unprepared to use the busiest main roads at peak times.**

> *"By 2020 the London cycle network will be easily understood and heavily used. We want to change the nature of cycling, attracting thousands of people who do not cycle now."*
>
> *The Mayor's Vision for Cycling in London*

It concludes that **achieving a step change in cycling in Victoria will need a clear focus on addressing cycling as a major mode on a par with other modes**.

The Strategy assesses cycling in the context of the wider Victoria area. It sets out how easy or difficult it is to cycle in the area at present, based on:

- Existing cycling infrastructure
- Barriers that discourage cycling
- The level of cycling skill needed to use local roads
- Ease of reaching key destinations by bicycle
- Where (and how many) people are cycling

The key issues affecting cycling in Victoria are considered to be:

- Limited road space on main roads, especially the Inner Ring Road
- Main roads only suitable for experienced cyclists (and daunting even for these at peak times)
- Poor/limited cycle access to destinations
- Conflict between cyclists and buses/HGVs, including the location of bus stops and stands
- Capacity issues at junctions
- No paths free from motor traffic, or routes suitable for less experienced cyclists
- Approved developments which are not aligned with the Cycling Strategy objectives
- Lack of cycle parking, especially at key destinations including Victoria Station

The Cycling Strategy goes on to assess current proposals by TfL, Westminster City Council and other stakeholders to improve cycling in Victoria. It considers how the opportunity given by the development of the Victoria Vision can be used to develop these proposals to provide a step-change in conditions for cycling.

To deliver this step-change, the Strategy proposes a high-quality and coherent cycle network. The complete network would complement the currently proposed Cycle Superhighway and Central London Cycle Grid routes to meet the recommendations of the London Cycle Design Standards. Ultimately, this will make it safer and more convenient to cycle in and around Victoria.

Travelling to destinations is only part of the journey. The Cycling Strategy includes a range of proposals for improved access and cycle parking at key destinations.

The penultimate sections of the Strategy contain illustrations of best practice treatments and poor practice to show examples which should be followed or avoided.

The Cycling Strategy's final section sets out how it can be aligned with the wider Victoria Vision, followed by conclusions and recommendations for next steps.

Cyclists on existing LCN5, Pimlico Road

1 Introduction

The Victoria Vision is being produced by Transport for London with the main aim of coordinating development of the public realm, transport and movement projects at Victoria Station and its environs to 2030.

Space for both buildings and movement is severely constrained around Victoria. It is important to ensure that all considerations are addressed in relation to movement, interchange and enhancement of public realm. A key priority of the Victoria Vision is for the area to become better connected, with cycling becoming safer and more convenient. This Cycling Strategy is a key step to achieving this.

The Strategy has been developed with the overall intention of considering cycling in a strategic and integrated fashion, as a mode with similar status to all other modes of transport. It has been developed in line with the aims of the Mayor's *Vision for Cycling in London* and *Roads Task Force* report.

Development of the Strategy has followed the guidance set out in the new *London Cycling Design Standards* (published for public consultation in June 2014). It has also taken into account the extensive research carried out in 2013 for TfL as part of the *International Cycling Infrastructure Best Practice Study* (ICIBPS), to be published during 2014.

Cycling in Grosvenor Gardens

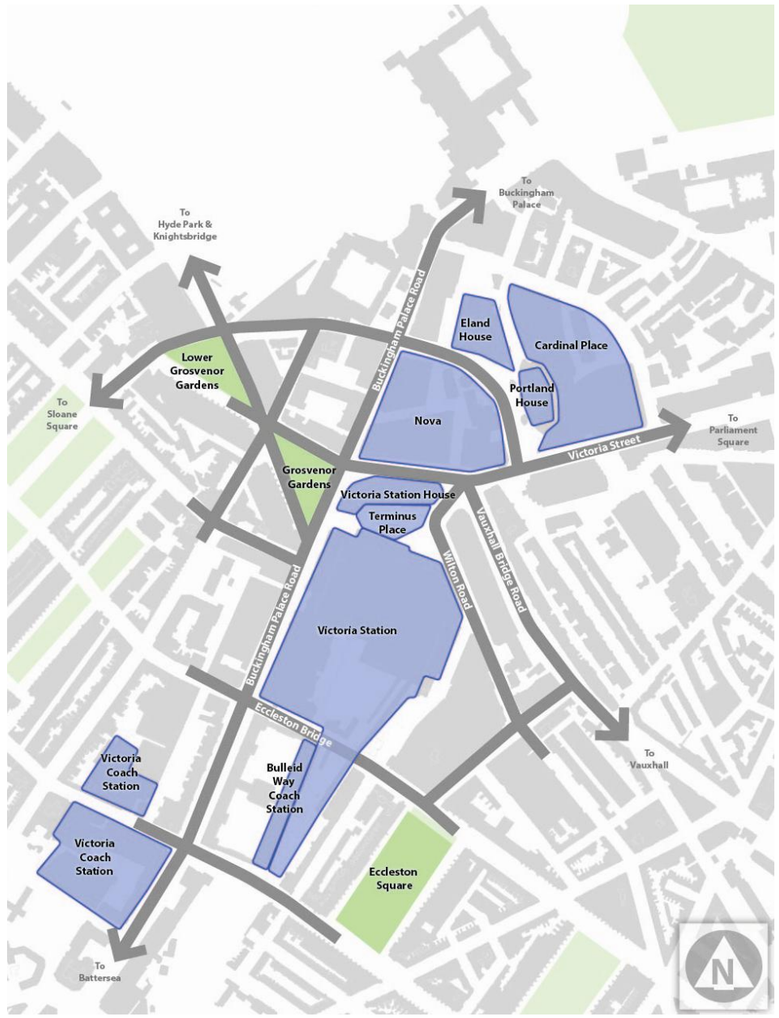
The overall goal of the Strategy is to deliver a significant increase in cycling in Victoria, by both existing and new cyclists. This will support the core aim set out in the Vision for Cycling of a 400% increase in cycling between 2001 and 2026.

Achieving this increase in cycling will require three key aims to be addressed.

- **Accessibility -** there will need to be a substantial improvement in the accessibility of key destinations in Victoria by bicycle, notably Victoria rail and Underground stations.
- **Integration -** the Victoria area must be well integrated with existing and proposed Cycle Superhighways as well as routes being developed as part of the Central London Cycling Grid and the draft Westminster Cycling Strategy.
- **Long-term -** There must be a comprehensive long-term approach to developing cycling in the area, rather than an opportunistic development of short links.

Delivery of these aims will require the following:

- Full consideration of cycling as part of proposed junction improvements on the Transport for London Road Network and Strategic Road Network, and in proposals for the long-term management of the Inner Ring Road
- Treating cycling as a significant mode of transport when addressing issues of competition for limited road space in the area around Victoria Station
- High quality provision along the East-West Cycle Superhighway and Cycle Superhighway 5 to provide for longer through trips by bicycle to and around Victoria
- Improved cycle parking provision around Victoria, especially at Victoria Station and other key destinations



Core Victoria Vision area

2 Context

2.1 Area context

The Victoria Vision area is at the centre of a rapidly developing district of central London. The Vision will significantly enhance the area's place and destination functions, as well as introduce much better provision for higher pedestrian numbers.

Victoria is also a place in a state of flux. Post-war government buildings being replaced by new office developments attracting multi-national corporations, notably Microsoft and Google. Land Securities led the way with their seminal Cardinal Place development combining large office floor plates with high quality shops and restaurants at ground level and a generous public realm. This typology is being repeated across a number of substantial redevelopment sites in the area.

Increased residential development has been added to the mix, such as the proposal for Portland House to change from office to residential. There are also many other developments in the area, which in other locations would be considered significant but which in the Victoria context are seen are relatively small.

Victoria Vision area context

The Victoria Vision area includes the following projects (some long-term):

- London Underground Victoria Station Upgrade (VSU)
- London Underground (District and Circle) Ticket Hall proposals
- Network Rail Victoria Station proposals
- Nova development
- Terminus Place
- Bressenden Place developments (Portland House / Eland House)
- Victoria Coach Station
- Crossrail 2 station

The area contains one of the busiest rail and Underground stations in London, as well as London's main coach station and a busy bus station. Pedestrian flows are high, with many thousands of people using the area every day.

Victoria itself is one of the most diverse transport interchanges in London accommodating mainline rail, three underground lines (Victoria, District and Circle), two coach stations and 19 bus routes, as well as pedestrians, cyclists, taxis, private vehicles and two tour bus operators.

The mainline rail station is the second busiest terminus in London, with around 70 million passengers annually. During the busiest weekday morning peak hour, around 30,000 passengers alight from National Rail services.

Victoria underground station is one of the busiest in London, accommodating 80 million passengers per year - predicted to increase substantially in the near future.

This demand will require upgrades to current transport modes as well as major new infrastructure such as Crossrail 2.

Many of the roads in the vicinity are one-way, creating circuitous routes for vehicular traffic and severing key cycle and pedestrian desire lines, including crossing movements to bus stops and the rail and Underground stations.

VSU will provide an additional pedestrian exit inside the Inner Ring Road, greatly improving access. However, even before the VSU the bus station was not able to contain all bus services, increasing pressure on adjacent streets.

Part of a solution could be provided by cycling. The Victoria area is at the centre of London, and is potentially highly accessible by bicycle. Around 220,000 people live within a 10 minute cycling catchment, while the 20 minute catchment includes some 860,000 people ranging from Hammersmith to the City of London and Camden Town to Clapham.

Terminus Place bus station, Victoria Station

2.2 Transport and cycling policy

Cycling has moved markedly up the policy agenda in recent years. The direction of policy makes it crucial that the transformation of the Victoria area through the Victoria Vision should fully take into account the bicycle as a mainstream transport mode.

However, many barriers lie in the way of increasing cycle use further. It is important to set out the context for cycling to demonstrate why these need to be addressed.

This section summarises recent and developing transport policy in London, and how it can help to deliver a successful cycling environment.

MAYOR OF LONDON

The Mayor's Cycling Vision for London

The Mayor's ***Vision for Cycling in London*** was launched in March 2013, backed by over £900m in TfL's Business Plan. This followed the appointment of Cycling Commissioner Andrew Gilligan in January 2013.

The Vision for Cycling aims to achieve a 400% increase in cycling between 2001 and 2026. There is a strong emphasis running through the Vision that mass cycling cannot simply be "encouraged" – it has to be **designed in** to the transport system. It has the following four aims:

1. **A Tube network for the bike –** Direct, joined up, high capacity routes, including more mandatory lanes, fully segregated lanes, and direct quietways, with segregation and junction improvements. These will make cycling safer, easier and more comfortable.
2. **Safer Streets for the bike –** 85% of cycling casualties occur at junctions. Action will be taken to reduce conflict between cyclists and other road users, via improved street designs, junction reconfiguration and training. London streets and spaces will be places where cyclists feel they belong.
3. **More people travelling by bike –** Cycling will be normalised, to make it feel comfortable, safe, easy, quick and pleasant way to get about the Capital by all types of Londoners, across all boroughs, with convenient facilities available to match.
4. **Better places for everyone –** Cycling will transform London into a more liveable city. It will free up space on public transport and make town centres more accessible, strengthening local economies. A better cycling environment will lead to better streetscapes, safer roads, better health and higher quality of life.

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The Vision for Cycling envisages a number of different types of delivery programmes for cycling. The following are particularly relevant to the Victoria Vision:

- **Better Cycle Superhighways –** Delivered to much higher standards than previously, closer to international best practice.
- **Central London Cycle Grid –** Mainly on low-traffic back streets, but due to the nature of central London using busier roads in some locations. It will be well connected and signposted with links designed as complete routes.
- **A revised Better Junctions programme –** Reflecting the commitment to make London's busiest junctions safer and more attractive for cyclists and other vulnerable road users. This will involve substantial improvements to 33 junctions across London, including locations on existing and proposed Cycle Superhighways.
- **Cycle to School Partnerships –** Clusters of schools working with their borough and local community to identify barriers to safe cycling to school and ways to overcome them. TfL's funding will help deliver a combination of infrastructure and supporting measures to enable and increase cycling to school.

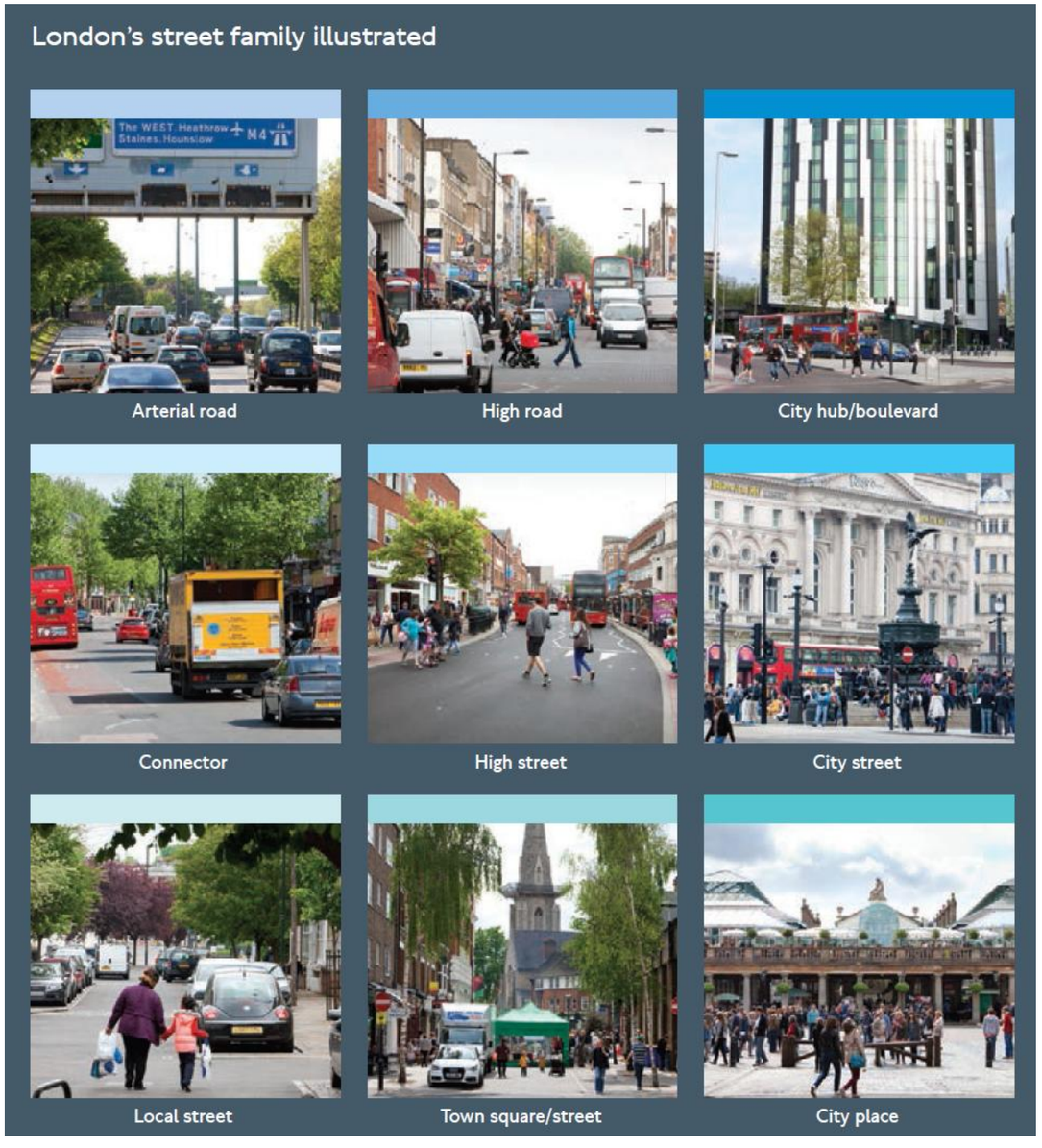
In addition, a network of Quietways, particularly suited to new cyclists, will be developed outside central London on low-traffic back streets and other routes. They will stretch far into the suburbs, with both radial and orbital routes. Each route will be delivered as a whole, not piecemeal.

Quietways will be direct, better-surfaced and clearly signed, and mostly on-road. Where they have to join a main road for directness, they will be fully segregated.

Roads Task Force

The ***Roads Task Force*** (RTF) was set up by the Mayor of London in July 2012 to tackle the challenges facing London's streets and roads. This independent body brought together a wide range of interests and expertise, united in the belief that London needs a long-term strategy for roads and a commitment to major investment in street management and urban design.

The RTF report, published in 2013, sets out the concept of a **'street type' matrix** judged by movement and place function, assigning roads and streets to one of nine types.



Roads Task Force 'Street Type' matrix

The London Plan

The Mayor's ***London Plan,*** published in 2011, sets out an integrated economic, environmental, transport and social framework for the development of the capital over the next 20-25 years.

Consultation took place in early 2014 on a revised version of the Plan comprising a wide range of alterations, including a revised Policy 6.9 on cycling (relevant sections shown below).

POLICY 6.9 CYCLING (proposed)

Strategic

A The Mayor will work with all relevant partners to bring about a significant increase in cycling in London, so that it accounts for at least 5 per cent of modal share by 2026. He will:

- a identify, promote and implement a network of cycle routes across London which will include Cycle Superhighways and Quietways
- b continue to operate and improve the central London cycle hire scheme
- c fund the transformation of up to four outer London borough town centres is cycle friendly 'mini-Hollands'.

Planning decisions

B Developments should

- a provide secure, integrated, convenient and accessible cycle parking facilities in line with the minimum standards set out in Table 6.3
- b provide on-site changing facilities and showers for cyclists
- c contribute positively to an integrated cycling network for London by providing infrastructure that is safe, comfortable, attractive, coherent, direct and adaptable
- d provide links to existing and planned cycle infrastructure projects including Cycle Superhighways, Quietways, the Central London Grid and the 'mini-Hollands'
- e facilitate the Mayor's cycle hire scheme through provision of land and/or planning obligations where relevant, to ensure the provision of sufficient capacity.

Improving the Health of Londoners

TfL's ***Improving the Health of Londoners – Transport Action Plan,*** was published in February 2014. It is TfL's first health improvement action plan, and recognises the growing awareness of the effect of transport and street environments on people's health. It acknowledges the important part in people's health played by London's transport system.

The Action Plan highlights the importance of the walking and cycling people do as part of their everyday routine, as this delivers huge economic and social benefits by keeping people active and healthy. The expected growth of cycling up to 2026 is estimated to deliver £250m in health economic benefits annually.

The health benefits delivered by London's streets go far beyond the physical activity that people get from walking and cycling in the city, although this is the biggest benefit and has great potential for health improvements in the future.

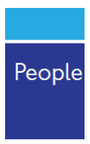
Increased walking and cycling offers many other advantages, including cleaner air, less noise, more connected neighbourhoods, less stress and fear, and fewer road traffic injuries. These issues are all connected, and to deliver the biggest benefits from more walking and cycling London's streets need to be invite people to walk and cycle whenever possible.

The Action Plan brings together the wide range of health impacts to demonstrate how 'Healthy Streets' can reduce potential harms to health while improving the positive impacts of travel on health.

This can be delivered by a 'whole-street' approach. Many streets in London have one or more characteristics which make them good for health and attractive places to walk and cycle. However it often takes multiple positive characteristics to encourage people out on to the street and to choose to walk and cycle.

There are 10 characteristics of a 'Healthy Street' which can be used to understand what the positive aspects are on each street and which aspects we could do more to improve.

The elements that make a street good for health are generally the same as those needed to make a street good for the local economy, community and environment. Therefore, working towards delivering healthier streets reinforces work towards a range of other goals.



Ten indicators of a 'Healthy Street'

London Cycling Design Standards 2014

Last revised in 2005, a draft version of the **London Cycling Design Standards** (LCDS) was published for public consultation in June 2014. This sets out the approach needed in London to deliver a step-change in the quality of provision for cycling.

Now comprehensively updated to reflect established and emerging best practice, LCDS is a document that should inform design options and promote an integrated and ambitious approach to delivering high quality infrastructure for cycling in all parts of London.

LCDS identifies two specific design outcomes for delivering the ambitions of the Mayor's Vision for Cycling.

- **Guiding principles,** which help clarify how the Mayor's Vision for Cycling should be delivered
- **Levels of service** – ways of measuring the quality of design outcomes, both in terms of what they offer for cycling and what they contribute to places.

The last requirement will be delivered by the new ***Cyclist Level of Service Assessment*** (CLoS) toolkit, which objectively assesses an area's quality of cycling provision.

The guidance draws upon international best practice for the design of cycle routes and the surrounding environment. This was informed by the International Cycling Infrastructure Best Practice Study in 2013, which assessed high quality cycling provision in 15 cities across the UK, Europe and USA.

LCDS 2014 Guiding Principles

Designing for the user

- Cycling is now mass transport and must be treated as such
- Bicycles must be treated as vehicles, not as pedestrians
- Facilities must be designed for larger numbers of users
- Schemes must take into account how users actually behave

Network principles

- Provision must be consistent; routes must be planned as a network
- Routes must flow (be direct, coherent and joined-up)
- Routes must be intuitively understandable by all users

Subjective safety

- Cyclists need space separated from volume motor traffic
- Differences of speed, volume and vehicle type should be minimised (where users are integrated)

Build quality / maintenance

- As important as building a route is maintaining it properly afterwards

Guidance on segregation

- Cyclist interventions need not be attempted on every road
- Where full segregation is not possible, semi-segregation may be the answer
- Separation can be achieved using lower-traffic streets

Overcoming barriers to delivery

- Changes in road space can influence modal choice
- Trials can help achieve change
- Do not be afraid of capital infrastructure

Reminders of the basics

- Many of the standard tools used to manage interaction with others do not work
- Designers of cycle schemes must experience the road on a bicycle
- Avoid over-complication
- Know when to break the principles

LCDS 2014 Design Outcomes

LCDS states that success will be measured by the quality of design outcomes – how well infrastructure performs in practice. This is important because growing cycling in London relies on attracting new cyclists as well as providing better infrastructure for those who currently cycle.

New developments should be designed to anticipate the significant increase in quality of provision that will accompany the revised LCDS.

The six core design outcomes of LCDS, which together describe what good design for cycling should achieve, are: **Safety, Directness, Comfort, Coherence, Attractiveness and Adaptability.**

These are based on international best practice and on an emerging consensus in London about aspects of that practice that we should adopt in the UK. They are important not just for cyclists but for all users of streets, public spaces, parks and riversides, where investment in cycling has the potential to improve the quality of place for all users.

Improvements therefore need to be focused on the cycling experience: how safe and comfortable it feels, how direct and attractive a journey is by bicycle, and whether cycle routes are coherent and easy to follow.

The design outcomes articulated in LCDS document do not come in the form of 'cut-and-paste' layouts. The focus in should be on the quality of the infrastructure delivered. This needs to be informed primarily by the context and by sensitivity to end users' needs. To address those issues, two measures have been developed, aimed at defining what a good level of service for cycling means in practice. These aim to define both a strategic and a local level of service.

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LCDS six core design outcomes

RTF street type

The first measure in LCDS uses the RTF street type to frame improvements to support cycling. The matrix below illustrates the kind of cycling infrastructure that could be a typical feature on each of the nine RTF types.

Different road/street types imply different needs for cycling, so it is important to understand the contribution that cycling could make to the quality of London's street environments and to keeping the city moving. Infrastructure for cycling should contribute positively to the character and distinctiveness of a place, and the streets and spaces within it, and should work with other traffic needs.

LCDS categorises types of cycling intervention according to the 'degree of separation' they offer between cyclists and motor vehicles. Greater user separation is needed where the movement function of a street leads to higher motorised traffic speeds and volumes of traffic.

The table below from LCDS shows the types of intervention that might be applied in each of the RTF street types.

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D. Integr	

Cycling infrastructure that might typically feature in each RTF street type

Cycling Level of Service

The second level of service measure for cycling operates at a more detailed level. A **Cycling Level of Service** (CLoS) assessment has been developed in order to set a standard for the performance of cycling infrastructure for routes and schemes, and for individual junctions. The full CLoS assessment tool is shown in Appendix A.

Principle	Factor	Indicator	Critical issue
Safety	*Collision risk*	Left/right hook at junctions	Heavy streams of turning traffic cut across main cycling stream
		Collision alongside or from behind	Nearside lane in pinch point range 3.2 to 3.9m
		Kerbside activity or risk of collision with door	Narrow cycle lanes <1.5m alongside Parking / loading / no buffer
	Feeling of safety	Speed of traffic (where cyclists are not separated)	85th percentile greater than 30mph
		Volume of traffic (where cyclists are not separated)	>1,000 vehicles/hour at peak
		Interaction with HGVs	Frequent, close interaction
Comfort	*Surface quality*	Defects: non cycle friendly ironworks, raised / sunken covers / gullies	Major defects
	Effective width without conflict	Allocated riding zone range. Lane allocation each direction	<1.5m Superhighway <1.2m elsewhere

Critical measures in LCDS Cycling Level of Service assessment tool

The purpose of the CLoS assessment is to frame discussion about design options so that schemes are appealing for existing cyclists and can entice new cyclists onto the network. It may be used on any scheme that has an impact on the street environment.

CLoS breaks down each of the six design outcomes into 23 specific **factors**. At the next level of detail are **indicators** that can be used to measure performance against each factor. For example, the 'safety' element contains three factors: *collision risk, feeling of safety* and *social safety*.

The tool will give a score out of 100% for each route element. The minimum level for Cycle Superhighway routes will be 85%. Quietway routes must reach a minimum threshold of 60%, with no individual link falling below 50%.

Within the framework, eight of the indicators are prioritised, with a 'critical' measure forming part of the level of service (see extract to left). Irrespective of the overall score, a route must meet these critical measures if it is to be implemented.

Network development

One of the key criteria set out in LCDS is the delivery of a sufficiently dense network of routes. In a properly joined-up cycle network, cyclists should not have to travel more than 400m to get to a parallel route of similar quality. LCDS refers ti this attribute of a cycle network as 'mesh density'

Mesh density describes whether the grid of cycle routes is tighter (with more route choice) or looser (less extensive). It is important in cycling networks in order to maximise the proportion of any journey that makes use of a dedicated cycling facility.

The Dutch cycle design manual published by CROW recommends a maximum mesh width of 250m in urban areas, meaning no two adjacent cycle routes should be further apart than this distance.

The network development aim of the revised LCDS is based on this, with the recommendation being for a mesh of routes spaced at a minimum interval of 400m, with the ideal density being 250m spacing.

Mesh density heat map, from LCDS

2.3 Cycling evidence

While many people in London would like to walk and cycle for transport purposes, only a relatively small number do so. The growth in cycling in recent years has been concentrated on inner London.

Information from various sources can be used to reveal the existing levels of cycling in the Victoria Vision area.

2011 UK Census – Travel to Work data

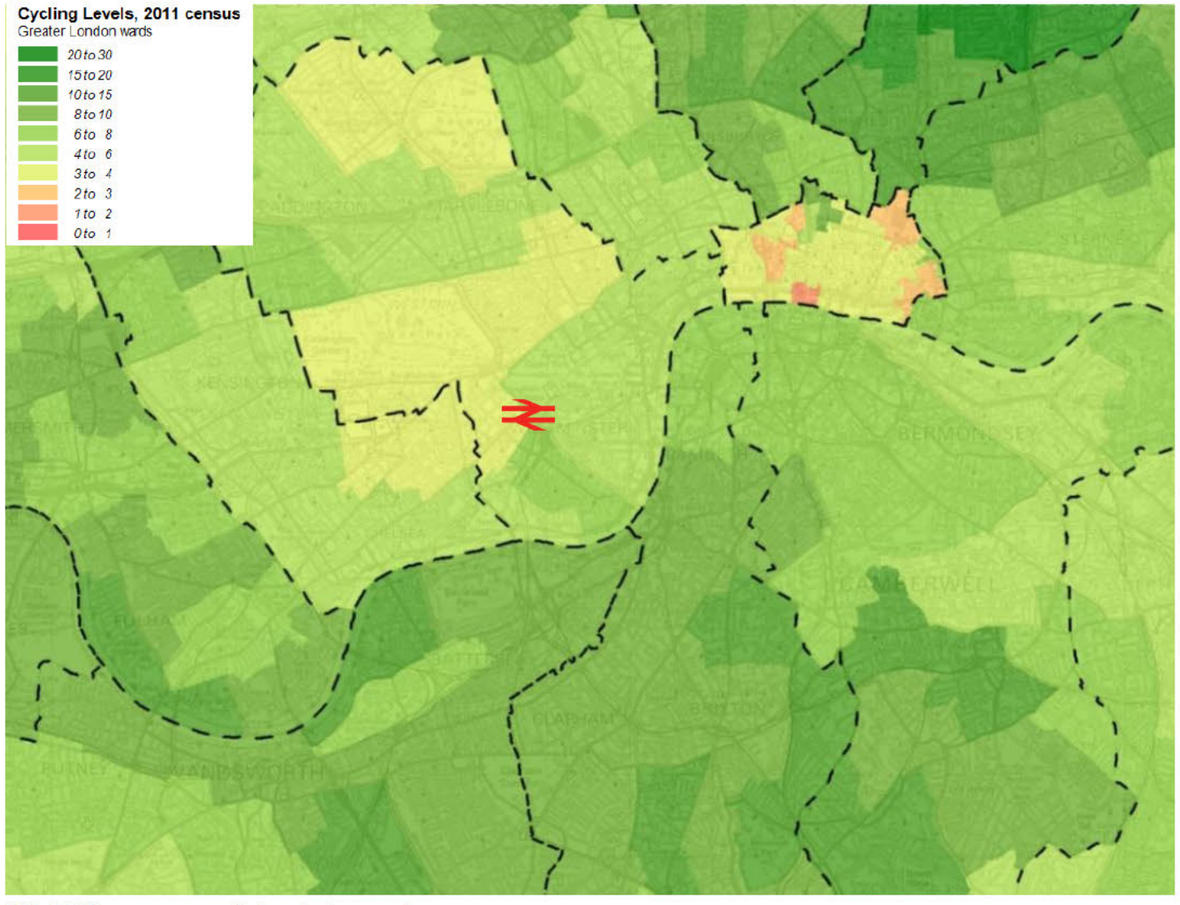
Data from the 2011 Census show the level of cycling to work as a proportion of all residents' travel to work. The highest levels in the wider Victoria Vision area are 6% (in Tachbrook and Warwick wards). Although lower than the highest levels in Inner London (over 20%), this is still above the average for Greater London and indeed Westminster as a whole (5.3%).

It can also be seen that there are higher levels of cycling in adjacent boroughs south of the River Thames, in areas such as Battersea, Brixton, Camberwell and Clapham.

With the existing CS8 and proposed development of CS5 many of the trips starting in these areas will be towards and through the Victoria area.

The proposed increased residential density in the Victoria Vision area is likely to increase the demand for cycling by residents. Even if the proportions do not change, the number of cycle trips will increase.

A more detailed analysis is possible using Lower Super Output Areas, showing a few cycling clusters to the immediate south of Victoria but again these are lower than in the areas south of the river.



2011 UK census – cycle levels by ward

2011 UK census – cycle levels by Lower Super Output Area

TfL Cycle Census 2013

In 2013 a one-off Cycle Census was carried out by TfL to assess cycling levels at 164 sites in Central London, with surveys counting traffic flows in both directions. The surveys comprised a short series of counts, carried out on weekdays (6am to 8pm) over a four week period in April and May 2013.

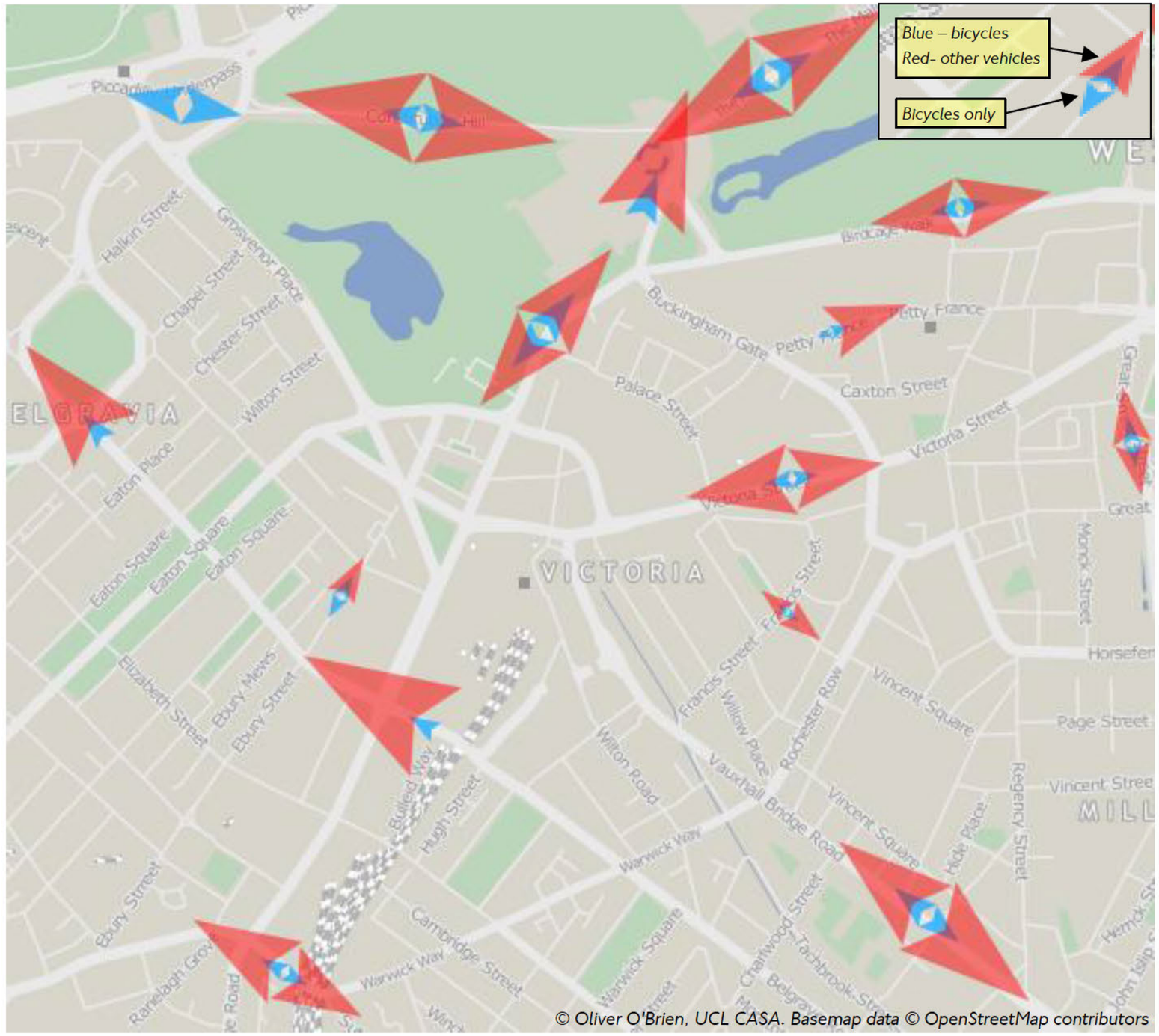
The survey locations were chosen to reflect a range of cycling conditions and geographic spread, but do not give a representative sample for central London. Counts can therefore be compared on a site by site basis, but not generalised to give central London averages.

Fifteen of the count sites were in or near the Victoria Vision area (see plan). This shows clearly that there are a number of locations where cycling levels are high, or where cycling makes up a high proportion of the overall flow.

The detailed survey data shows both the actual two-way cycle flow (including along cycle lanes and tracks) and its mode share of all traffic. In one-way streets both the flow and mode share in the banned direction was zero, except in streets with contraflow cycling permitted where the mode share is 100%. This is the case on Petty France westbound, Ebury Street northbound, and in both directions at the cycle track at Hyde Park Corner.

There are a number of locations with high cycle flows, or where cycling is a high proportion of traffic, notably:

- **Buckingham Gate:** Two-way cycle flow 2,763 - 19% of all traffic, in both directions
- **Vauxhall Bridge Road:** Two-way cycle flow 2,058 - 12.5% of all traffic westbound and 9% eastbound
- **Victoria Street:** Two-way cycle flow 853 - 7% of all traffic, in both directions
- **Belgrave Place:** One-way cycle flow 720 - 8% of all traffic westbound
- **Ebury Street:** Two-way cycle flow 699 - 24% of all traffic northbound and 100% southbound



Cycle census 2013 – bicycle / other traffic flows

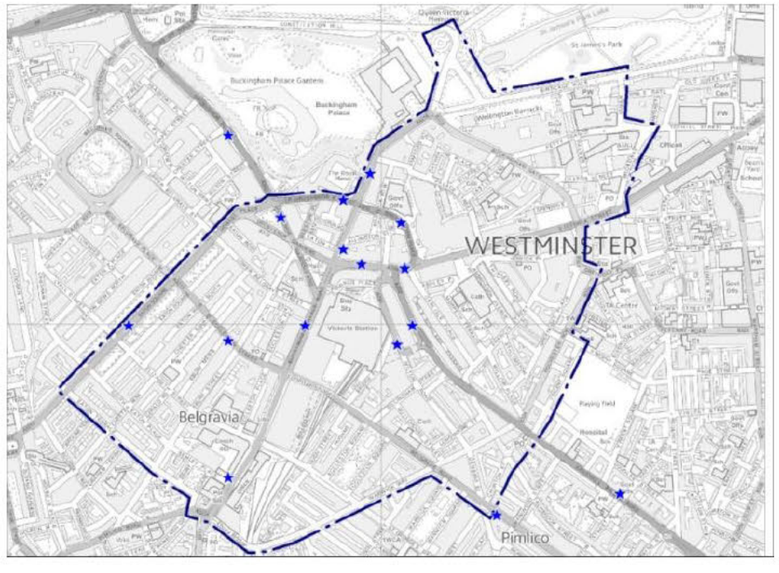
Department for Transport cycle counts

The Department for Transport (DfT) carries out annual counts of traffic flow on main roads across England and Wales, including cycling as well as motor traffic.

The DfT data from 16 sites in and around the Victoria Vision area were collated for both all motor vehicles and cycles for the years 2000-2012. This shows a sharp rise in the number and proportion of cycles between 2000 and 2006, followed by a dip and then continued increase (proportion) or levelling off (numbers).

The level of motor vehicles stayed constant to 2006 and has dropped since, to around 75% of the 2000 level.

DfT traffic counts – motor vehicles/cycles 2000-2012



DfT traffic count sites

Cycling to stations

TfL, in partnership with Network Rail, has carried out research into how rail passengers travel to and from stations. The Central London Rail Termini survey, carried out in 2010, looked at travel behaviour of passengers during peak hours at thirteen central London rail termini.

There were a number of general findings relating to cycling:

- Around 2% of all trips by rail passengers leaving or arriving at central London termini are made by bicycle (compared to 36% on foot) amounting to 19,000 cycle journeys during peak periods
- Cycling is more popular at the non-central end of the journey
- The cycle mode share to/from central London termini ranges from 0.3% at Cannon Street to 4.5% at Paddington
- Men are more likely to cycle to/from central London termini (82% of cycle journeys are made by men) as are people in younger age groups (60% between 25 and 44)
- 37% of those who cycle from their central London destination use Barclays Cycle Hire

Looking at Victoria specifically, around 109,500 passengers use the station daily at peak times (well below the level of 167,000 at Waterloo but only slightly lower than London Bridge and Liverpool Street).

According to the survey, 1.1% use a bike, compared to the highest level of 4.5% at Paddington. However, 5% of passengers stated that they had ever cycled to or from Victoria.

Of the cycle trips to or from Victoria, around 65% use Barclays Cycle Hire, 25% use a standard bicycle and 10% use folding bicycles. However observations indicate the level using folding bicycles may have increased since 2010.

A follow-on survey was carried out in 2011, with a smaller sample. This showed that there is considerable potential for increasing cycling - 16% of all passengers surveyed would consider cycling, compared to 8% who already cycle either regularly or occasionally (75% say they would not consider cycling).

This is important in the context of the projected annual increase in rail passengers of 1% a year. If other interchange modes such as the Underground and buses are to avoid congestion, more rail passengers will need to be encouraged to make onward trips by bicycle.

The main reason given in the follow-on survey for not cycling is concern about safety. In general, measures to address this would therefore most encourage rail passengers who would consider cycling. Such measures could include improving cycle access to stations, with more routes avoiding busy roads and priority given to cycling.

New cycle parking, Waterloo Station

Victoria Station concourse

2.4 Cycling strategy in the Victoria Vision

Summary

As a key development area in central London, Victoria is facing a period of rapid and significant change. Cycle use has grown in Victoria over recent years. The demand for cycling will be further increased by the many developments taking place or planned, such as Nova, which all include high levels of cycle parking provision. With the increased policy focus on cycling in recent years it is crucial that the transformation of the Victoria area through the Victoria Vision fully takes into account cycling as a mainstream mode of transport.

With the interchange at its core, the area has a high potential for increased cycling. This would build on the core of experienced cyclists who already travel in the area. However, there are many barriers are in the way of increased cycle use. It is therefore important to set out the context for cycling to demonstrate why and how these should be addressed.

Victoria Vision draft strategy

Priorities

Cycling has initially been addressed at a high level in the Victoria Vision draft strategy. A Key Priority of the Vision states that it will:

"Prioritise ease and enjoyment of pedestrian movement and create safer connections for cyclists"

This has been developed further into a Strategic Concept to:

"Consolidate and improve the cycle network"

A concept drawing was developed to illustrate this, showing indicative long-term proposals. For example, there is no expectation that a route would be provided through Victoria Station itself, or that a cycle hub would necessarily be provided where shown.

Initial objectives

The initial objectives for cycling in the Victoria Vision (set out in Appendix G of the overarching document published in April 2013) were:

- ***Increase provision for cyclists through and to Victoria***
- ***At junctions, increase time and space for cyclists where possible***
- ***Implement a Cycle Super Highway along Vauxhall Bridge Road***
- ***Implement proposed cycle lanes through Victoria***
- ***Implement additional Cycle Hire facilities***
- ***Include a cycle hub at the mainline station***

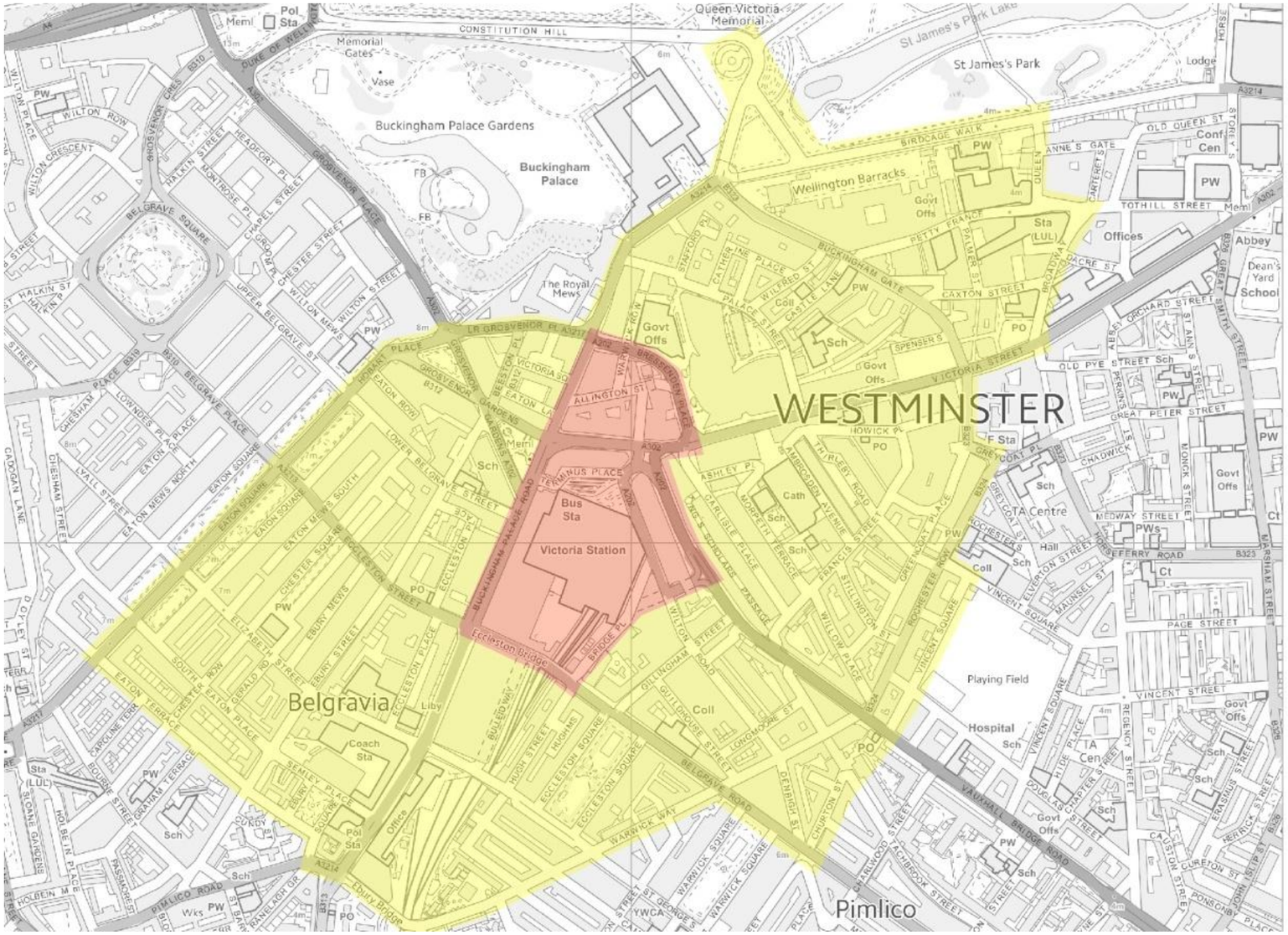
Revised Objectives

The objectives have been revised as part of the development of this strategy, covering the wider study area shown below.

Within this wider area, two separate zones have been identified:

- **Core Victoria Vision area (in pink)** – action directly possible, especially on TLRN but will require agreement with internal TfL stakeholders as well as discussion with external partners such as Westminster City Council, Network Rail and developers.
- **Wider Victoria area (in yellow)** – action only possible following agreement by external partners, notably Westminster City Council.

There are six core revised objectives, set out opposite. Brief justifications for each of these describe why they are important.



Victoria Vision core and wider areas

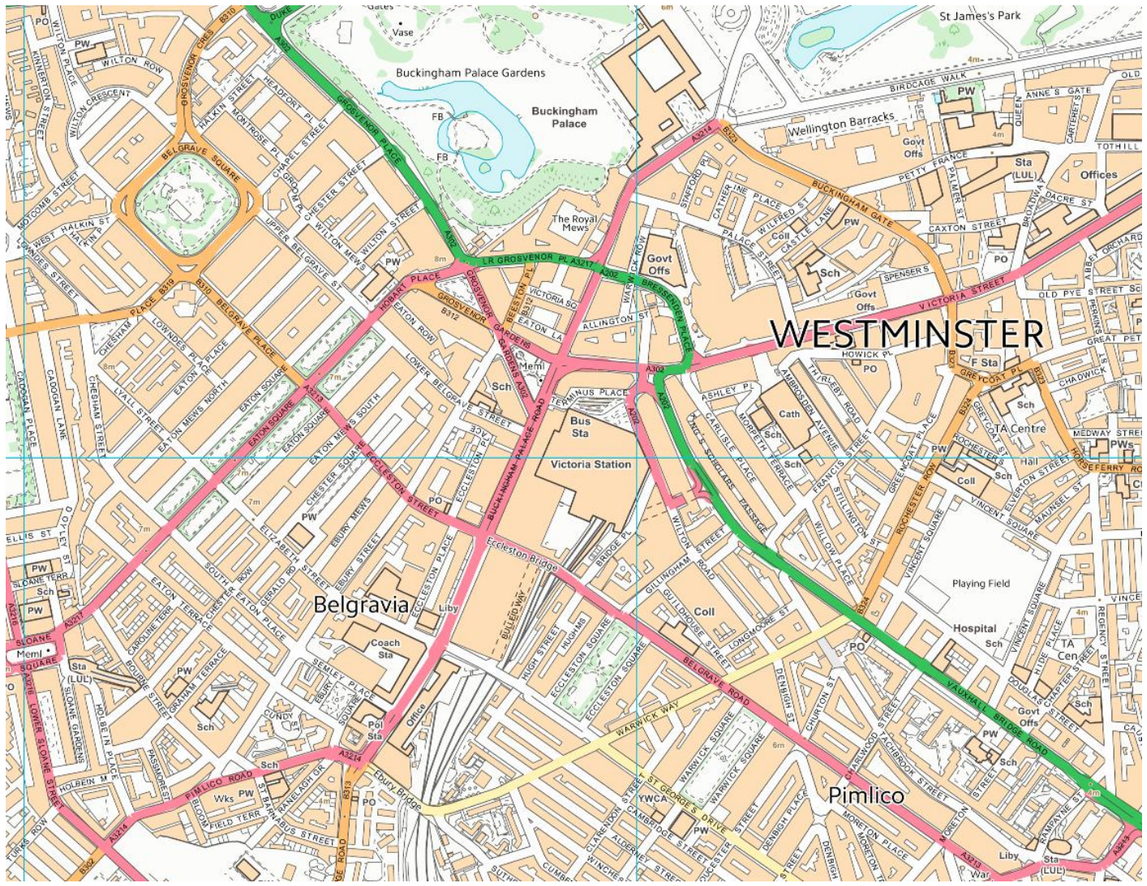
Revised Objective	*Justification*
1. **Major improvements to the provision for people cycling both through and to Victoria, by:**	*Provision for cycling is currently very poor due to speeds and volume of traffic on most roads, the large number of one-way systems and the lack of dedicated cycle provision. In particular access to and from Victoria Station is very difficult by bicycle.*
a. Facilitating design and implementation of the two proposed Cycle Superhighways in Victoria (East-West and CS5)	*Work is already well underway by TfL to develop the East-West Cycle Super Highway between Hyde Park Corner and Birdcage Walk and CS5 between the Oval and Millbank. Development of CS5 by Westminster City Council is less advanced with only an outline route alignment published. Consultation is due to take place in summer 2014 on both sections of CS5.*
b. Facilitating design and implementation of proposed Central London Cycle Grid (CLCG) routes in Victoria	*The Central London Cycling Grid is a connected, safe set of routes taking cyclists across central London. Approximately 25% will be higher-intervention routes (similar to Superhighways, largely segregated and on main roads) with 75% being lower intervention Quietways, mainly on back streets.*
c. Developing other cycle provision in areas forming part of core Victoria Vision area	*Other provision will be needed in the core part of the Victoria Vision area to provide accessibility to key destinations, especially Victoria Station itself.*
d. Supporting other provision for cycling outside core Victoria Vision area, such as contra-flows and improved permeability	*In the wider area, local links will be required to complement the proposed Superhighways and Central London Cycling Grid / Westminster City Council cycle networks. These could include contra-flows on some streets (as has already been done in Petty France) or conversion to two-way working, limited 20mph provision, 'Cycle Streets', shared space and motor traffic-free links.*
e. Develop programmes to support cycling as part of new infrastructure	*TfL has a good track record of smarter travel initiatives which complement new infrastructure e.g. cycle training. This maximises the use of new provision. Other programmes have also been piloted in the area e.g. by Victoria BID.*
2. **Significantly improved junctions for cycling in terms of both time and space where these form part of routes in Objective 1**	*Almost all junctions on the main routes covered by Objectives 1a and 1b are difficult and hazardous for cyclists, especially at peak times. Consideration should be given to increasing time and space for cyclists as far as possible, for example using dedicated lanes and/or phases. Many of the junctions in the area are already at or above capacity, hence the opportunity to improve them for cycling should be considered when the broader issues are addressed.*
3. **Improved provision for cycle parking around Victoria**	*Sufficient provision of high-quality and well-located cycle parking is a crucial element of providing for existing cyclists and encouraging new ones.*
a. On-street	*There is a dearth of on-street parking in the area. While large-scale parking is proposed as part of new developments, on-street parking is needed for short-term visitors and those working in smaller offices.*
b. As part of proposed developments	*The majority of new office and retail developments have incorporated dedicated cycle parking, but this has not always been easily accessible or well-designed. The design of cycle parking in new developments should conform to a good standard.*
c. Cycle hub at Victoria Station	*A cycle hub at or very near the Victoria interchange would be in keeping with the Mayor's Vision as well as national policy. This would need good linkages to clear, safe and direct cycle routes to and from the station, in particular the Cycle Superhighways.*
d. Cycle hub elsewhere in the area	*In other areas of London (e.g. Soho) cycle parking hubs have been provided by the private or public sector. An assessment of the demand in Victoria would reveal whether this should be considered.*
4. **A coherent design approach on developing cycling to address Objectives 1, 2 and 3, based on principles in LCDS 2014**	*A consistent approach based on the approach set out in the revised LCDS is needed to ensure that provision serves the needs of those cycling in the area. This should include wayfinding.*
5. **Additional / better sited Cycle Hire facilities**	*Existing facilities suffer from a lack of available bikes and/or spaces at peak times. Some are inconveniently located away from key destinations, especially Victoria Station.*
6. **Improve public realm as it affects cycling**	*Two of the core design outcomes of LCDS, Comfort and Attractiveness, are especially sensitive to the quality of the public realm.*

3. Cycling in the Victoria Vision area

3.1 Existing situation – roads

The Victoria area comprises a wide range of road and street types, ranging from the Inner Ring Road (IRR) to quiet residential streets and mews cul-de-sacs. The network in the area is shown below, although this does not show the realignment of the northbound IRR to run via Eccleston Bridge.

In general, the road network around Victoria is disjointed, with cycle trips made more difficult by the IRR gyratory system to the north of the station as well as many other one-way systems and short sections of streets which do not connect.



Road hierarchy, wider Victoria area

Road types

The Roads Task Force sought to address the issues of movement and place-making in the design of streets according to their type and to prioritise space given to modes accordingly. The RTF report included Victoria as a case study, and concluded that all main roads in the core Victoria Vision area should be classified as the **City Hub** type.

TfL has an aspiration for roads in all London boroughs to be assessed by their RTF type. This has not yet been carried out fin Westminster. In the absence of this, the highway network in Victoria has been divided into three main types *(main roads, secondary roads and local streets),* allowing basic assumptions about RTF types to be made. These three highway types (plus cycle links) are reflected in the types of provision proposed for roads and streets comprising the developing cycle network.

Main roads

These are the most direct routes through the area and are mostly A roads. Roughly half lie on the TLRN with the rest being the responsibility of Westminster City Council. They are used by many bus and coach routes and also carry large volumes of other traffic, including construction vehicles (especially around VSU and Nova) and other goods vehicles.

While main roads form the quickest and most direct routes they are not pleasant or conducive for cycling. Main roads have little cycle provision apart from Advanced Stop Lines.

TLRN *RTF types: High Road / City Hub / Connector*	Grosvenor Place Lower Grosvenor Place Bressenden Place Victoria Street (west) Vauxhall Bridge Road Wilton Road Bridge Place Eccleston Bridge Buckingham Palace Road (north) Grosvenor Gardens
Westminster *RTF types: High Road / City Hub / High Street*	Buckingham Gate Victoria Street (east) Belgrave Road Buckingham Palace Road (south) Eccleston Street Eaton Square Hobart Place

Main roads, wider Victoria area

Secondary roads

These form links between the main roads and include smaller A and B roads. While they carry less traffic than main roads, many are used by bus and coach routes, especially around Victoria Coach Station. They are also often used by construction traffic. Westminster City Council is responsible for all secondary roads.

In general, the secondary roads can provide quick and reasonably direct routes but they do not offer a much improved environment for cycling compared to the main roads. In particular there is a high level of potential conflict with movements connected to on-street car parking.

Apart from contraflow lanes on one-way sections of Ebury Street, there is very little cycle provision apart from Advanced Stop Lines.

Westminster	Palace Street
	Spur Road
	Birdcage Walk
	Broadway
RTF types:	Artillery Row
High Street /	Rochester Row
City Street /	Warwick Way
Local Street	Ebury Street (south of Eccleston Street)
	Elizabeth Street
	Belgrave Square

Secondary roads, wider Victoria area

Local streets

The remaining highway network in Victoria comprises a variety of local streets. While motor vehicle access is required (for residents, deliveries, refuse collections etc.) this is generally at low volumes and low speeds. A few streets are used by a small number of low frequency bus routes. Westminster City Council is responsible for most local streets, with some being private with public access.

In general, local streets offer a good environment for cycling. However they also can have poor quality of surfacing and a lack of continuity. In particular crossing main and secondary roads can be difficult for cyclists.

There is a cycle gap at the northern end of Ebury Street, but no other dedicated cycle provision on local streets apart from a small number of Advanced Stop Lines.

Cycle links

In general, a classification of the highway network would also include cycle links adjacent to roads as well as motor traffic-free paths and other links available to cyclists (such as routes in parks).

However, apart from some short sections linking closed sections of roads, there are no such routes in the Victoria area.

Urban grain

The Victoria Vision main document shows the different type of urban grain. The plan below demonstrates that while there is a clear grid system to the west and south east of the station, the area to the north east around Victoria Street is far less coherent.

This makes this area relatively impermeable for cycling. Although the other areas should in theory be more permeable, in practice this is reduced by the large number of one-way roads and streets. Hence cycle trips are less straightforward, creating issues for existing cyclists and deterring people who might consider cycling.

Urban grain, wider Victoria area

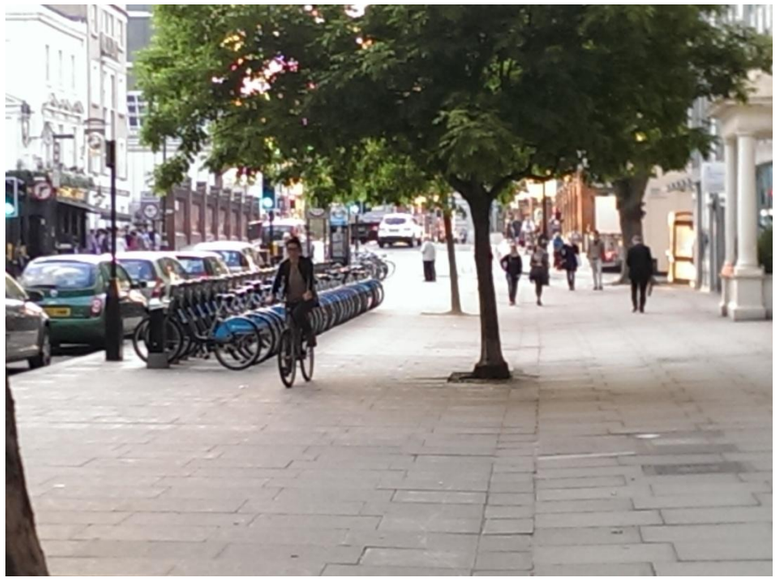
General observations

Issues

- There are many main roads where cycling is difficult or hazardous
- The highway network is not permeable for cycling, with many one-way roads and streets
- To the east and south of Victoria the highway network is not coherent with many potential cycling routes not joining up
- There are large gaps in the network formed by large sites such as Victoria Station itself
- While there are a number of bus lanes, many of these are narrow and not particularly cycle-friendly

Opportunities

- Improve conditions for cycling on main roads
- Create a variety of routes for people cycling to or through Victoria
- Join links to create a network
- Overcome severance and poor levels of connectivity
- Improve interaction between modes



Belgrave Road, east of Bridge Place

Grosvenor Gardens junction with Beeston Place

3.2 Existing situation – cycling

Over recent years, a number of attempts have been made to piece together cycle routes in the Victoria area. These are shown on TfL's ***Local Cycling Guide 1 - Central London*** (see excerpt from printed map below). They range from Cycle Superhighways *(dark blue)*, and London Cycle Network (LCN) routes *(light blue)* to routes recommended by local cyclists *(yellow),* motor traffic-free routes *(green)* and areas where bikes must be wheeled *(light brown).* The guide also shows the location of Cycle Hire docking stations *(red dots).*

Some of these routes date back many years. The contraflow cycle lane in Petty France was installed in 1999, while the Ambassadors Cycle Route, running roughly north-south between Hyde Park and Chelsea Bridge, was launched in 1981.

As part of the development of the LCN, Route 5 (on the line of the Ambassadors Route) was designated around 10 years ago. Other routes run parallel to Buckingham Palace Road and Victoria Street. Some of these have included elements of cycle infrastructure such as contraflow lanes in Ebury Street and a road closure and cycle signals at the junction of Ebury Street and Grosvenor Gardens. Other LCN routes were proposed along Vauxhall Bridge Road and Buckingham Palace Road, but never implemented.

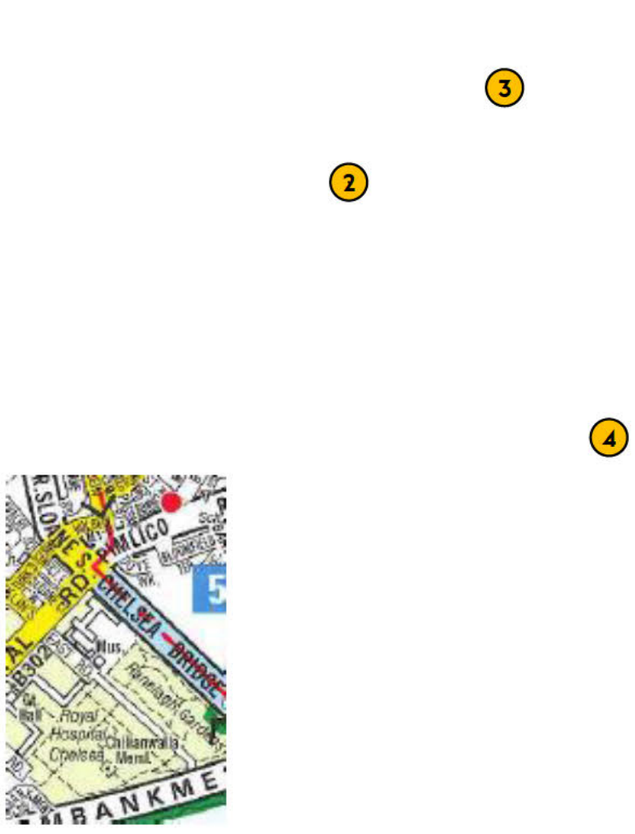
However, for the most part these routes have included very limited measures to improve the cycling experience. Due to their complexity, virtually no attempt has been made to address the busiest roads and junctions. Given the need to use these to make meaningful cycle journeys, it is perhaps not surprising that many cyclists choose to remain on the main roads instead of using the recommended quieter routes (as shown in the cycle census data).

More recently, the development of Cycle Superhighways has attempted to address some of the shortcomings of the previous approach. There are none in the area itself although CS8 runs to the south along the Thames. CS5 is proposed to run from Vauxhall Bridge to Belgrave Square (see Section 3.4).

Dedicated cycle provision

There are almost no segregated cycling facilities in the wider Victoria area, and no motor traffic-free routes away from the highway. The notable issues are shown below on the Local Cycle Guide excerpt.

1. The main segregated facility is the contraflow along Petty France. Although this is very useful, a high kerb separates westbound cyclists from eastbound traffic, which could be hazardous if hit. It also limits the useful width.
2. There is a cycle gap in the road closure of Ebury Street at the signalled junction with Grosvenor Gardens, linked to a cycle phase in the traffic signals. However this only works well southbound as northbound cyclists passing through the gap must turn left into a multi-lane road or dismount at Beeston Place (one-way southbound).
3. Cycling is prohibited in most traffic-free areas (both public and private), such as Cathedral Walk, linking Bressenden Place and Palace Street.
4. Cycling does appear to be allowed in the traffic-free section of Tachbrook Street. However this has limited value as a cycle route as it is occupied by a street market on weekdays. There is also no dropped kerb at the northern end.



Excerpt from Local Cycling Guide 1 – Central London

Cycle Skills Network Audit

The Cycle Skills Network Audit (CSNA) process has been developed by Transport Initiatives as a means of auditing all the roads, paths and pedestrian crossings in an area. These are classified by the cycling skill level needed to use them safely. Plans showing CSNA levels clearly demonstrate the suitability of the highway network for experienced and existing cyclists.

The CSNA classification is derived from the three skill levels of the UK National Standard for Cycle Training (Bikeability).

- ***Level 1 Beginner*** *(off-road cycle control skills)*
- ***Level 2 Intermediate*** *(riding on roads with light traffic)*
- ***Level 3 Advanced*** *(on-road riding in heavy traffic and using complex junctions)*

CSNA develops these further into eight categories:

Level	Type of route	Suitability for cycle network
Level 1	Motor traffic-free off-carriageway routes where cycling is permitted	Suitable for cycle route network (NB not all cycle tracks are Level 1)
Level 2	Roads (or paths) on which a cyclist with Bikeability Level 2 skills can cycle and carry out all manoeuvres	Suitable for advisory and cycle route networks
Off-peak Level 2	Roads classified as Level 2 during off-peak periods but with Level 3 characteristics at peak periods (peaks may be related to rush hour traffic or other reasons eg schools)	Not suitable for advisory network Suitable for a cycle route network only where alterations are made
Level 3 (low / high)	Roads (or paths) on which a cyclist with Bikeability Level 3 skills can cycle and carry out all manoeuvres Low/high depending on flow / speeds / widths	Not suitable for advisory network Suitable for a cycle route network only where alterations are made
Off-peak Level 3	Roads classified as Level 3 during off-peak periods but with Level 4 characteristics at peak periods	Not suitable for advisory network Suitable for a cycle route network only where alterations are made
Level 4	Roads where actual/perceived level of risk is a barrier to even the most competent and experienced cyclists	Not suitable for advisory or cycle route networks
Private	Private roads where access is restricted (usually these would be Level 2 if public roads)	Not suitable for advisory network or for cycle route network

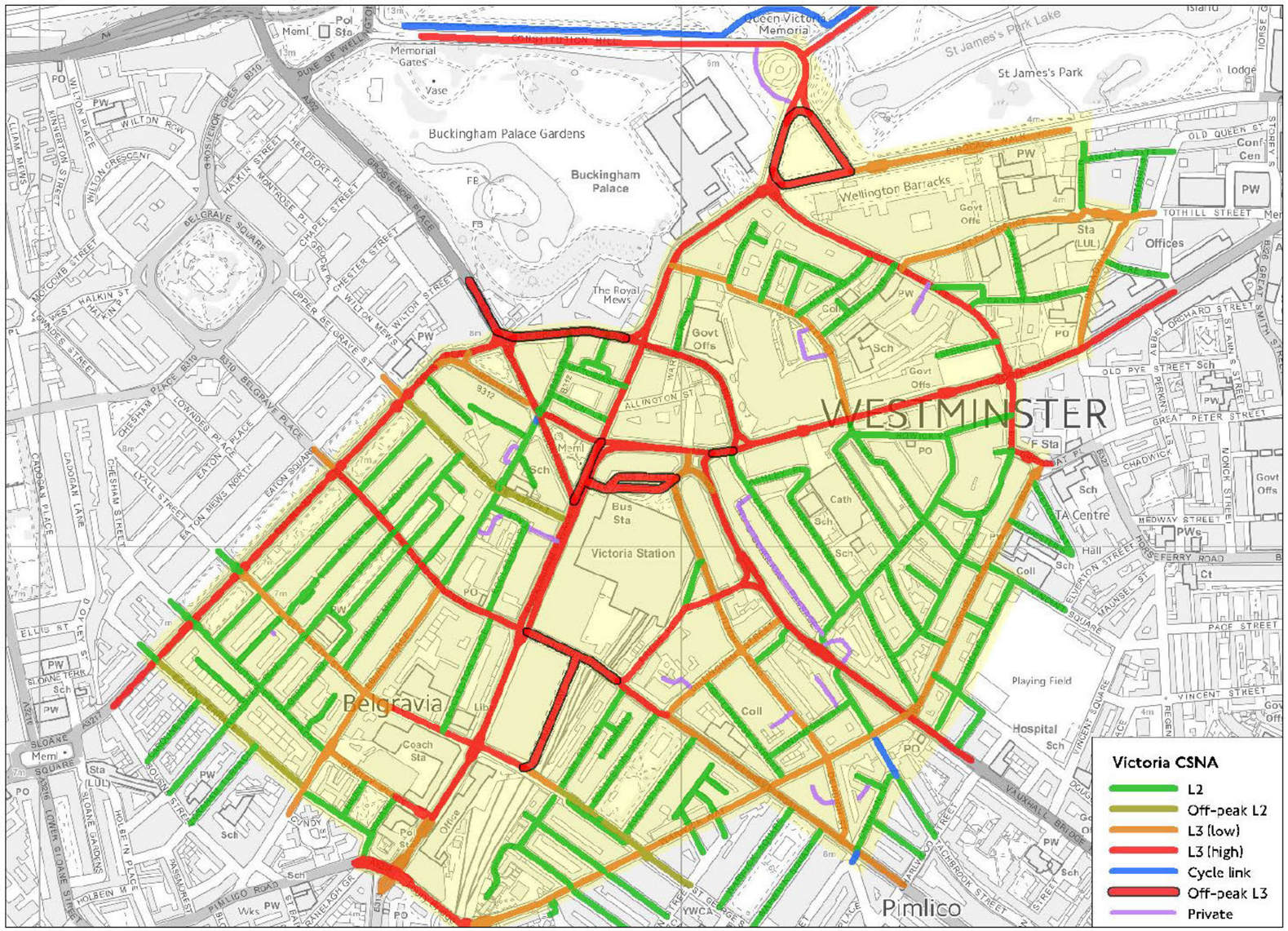
Cycle Skills Network Audit categories

As noted above, the new LCDS includes ways to assess cycle network development. This includes a method of classifying the highway network as 'Primary', 'Secondary' and 'Routes free of motorised traffic'. By combining categories, CSNA is entirely compatible with this assessment method.

Nearly half of all London Boroughs (including Camden, Hackney and most recently the City of London), have commissioned full CSNAs. The ability to show the suitable an area is for less experienced cyclists has been a useful tool to assist the development of cycle provision.

Only a limited CSNA was carried out in Victoria due to time constraints, with roads assessed but not paths, junctions, or crossings. However the CSNA plan below clearly shows that there while there are areas already suitable for less experienced cyclists, these are severed by the main roads.

Many of these are only suitable for experienced cyclists, and even these will find them daunting at peak times (although there are no Level 4 roads in the wider Victoria area). There is no coherent network for cyclists who are unprepared to use the busiest main roads at peak times.



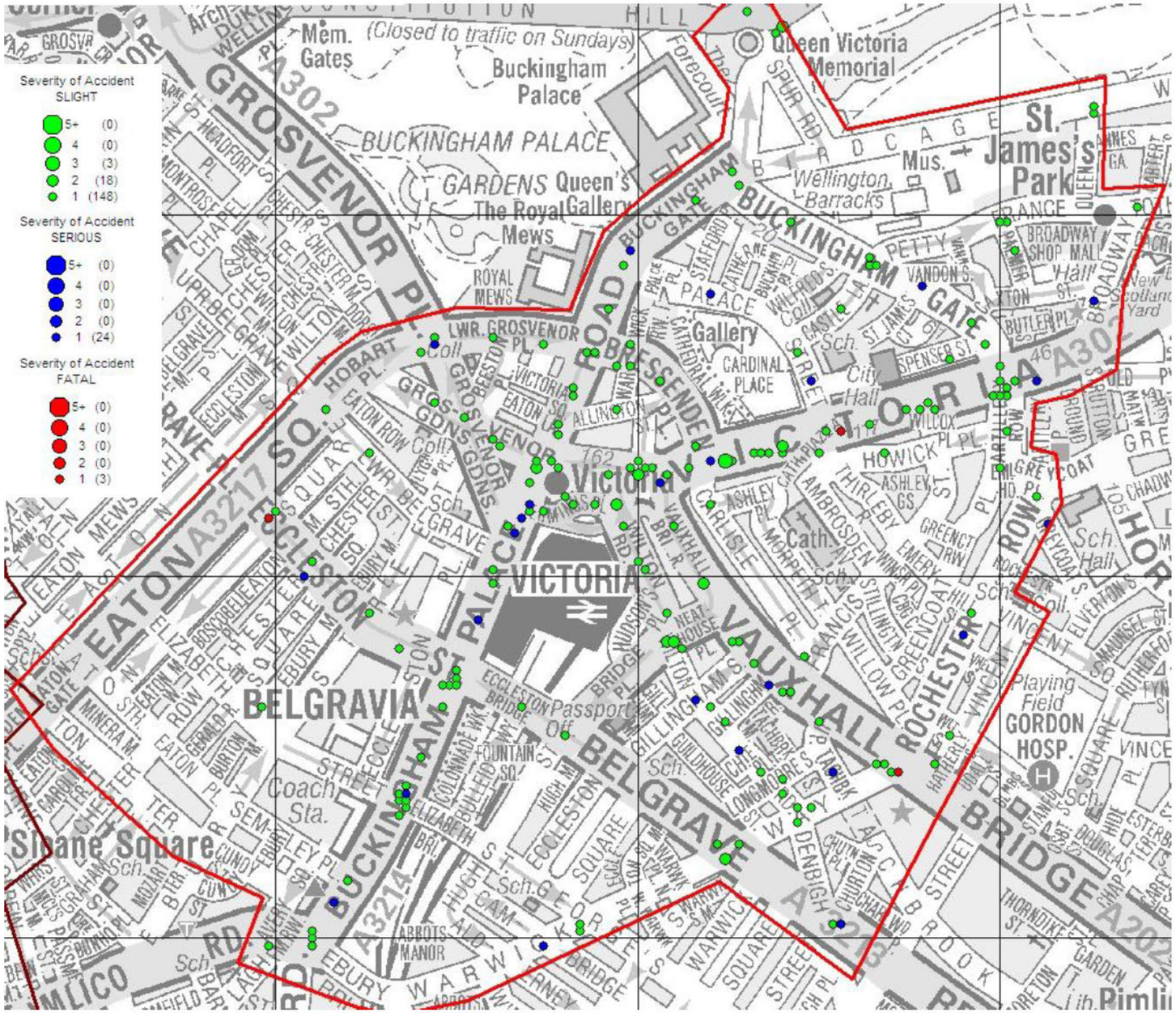
Cycle Skills Network Audit, wider Victoria area

Cycling safety

Assessing cycling safety in Victoria in not straightforward due to the major changes in the road network arising from the VSU. The plan below shows collisions resulting in cyclist casualties in the wider Victoria area in the six years from 2008 to 2013.

Relatively few collisions resulted in serious casualties, and regrettably there were three fatalities between 2008 and 2013. However, there was a fairly high number of slight casualties.

As might be expected, the collisions are very much concentrated on the main roads in Victoria, particularly Lower Grosvenor Place, Grosvenor Gardens, Victoria Street, Vauxhall Bridge Road and Buckingham Palace Road.



Collisions resulting in cyclist casualties in the wider Victoria area (2008-2013)

The more detailed collision data (not shown) reveals changes between the two three-year periods 2008-2010 and 2011-2013. There were no collisions in the northern section of Wilton Road between 2010 and 2013, while the number of collisions in Buckingham Palace Road increased. Both of these changes are likely to reflect the effects of the VSU works and in particular the realignment of the Inner Ring Road.

There was also a 40% reduction in the number of Killed and Serious Injury collisions involving cyclists between 2008-2010 and 2011-2013 (from 17 to 10). No detailed analysis has been carried out into possible causes for this decrease.

Barriers to cycling

As noted above, the ease of cycling in the area is affected by a number of factors. These fall into four main categories:

- **Safety concerns** – while many cyclists do already use the roads around the area, the combination of busy traffic, complex junctions, and some faster sections of road all combine to reduce the perception of safety. They are daunting to even the most experienced cyclists and are a major barrier to the less experienced. This is true irrespective of the road's safety record. An example is Bridge Place, which forms part of the Inner Ring Road. Although this does not feel comfortable to use on a bicycles, few cycle collisions were recorded (all slight).

  In particular, interactions with larger vehicles, especially buses and coaches, are intimidating to a most cyclists.

- **Physical** – actual barriers to cycle movement, such as the railway line south of Victoria Station. There are also a number of areas such as Cardinal Place where there are no routes that can be legally cycled.

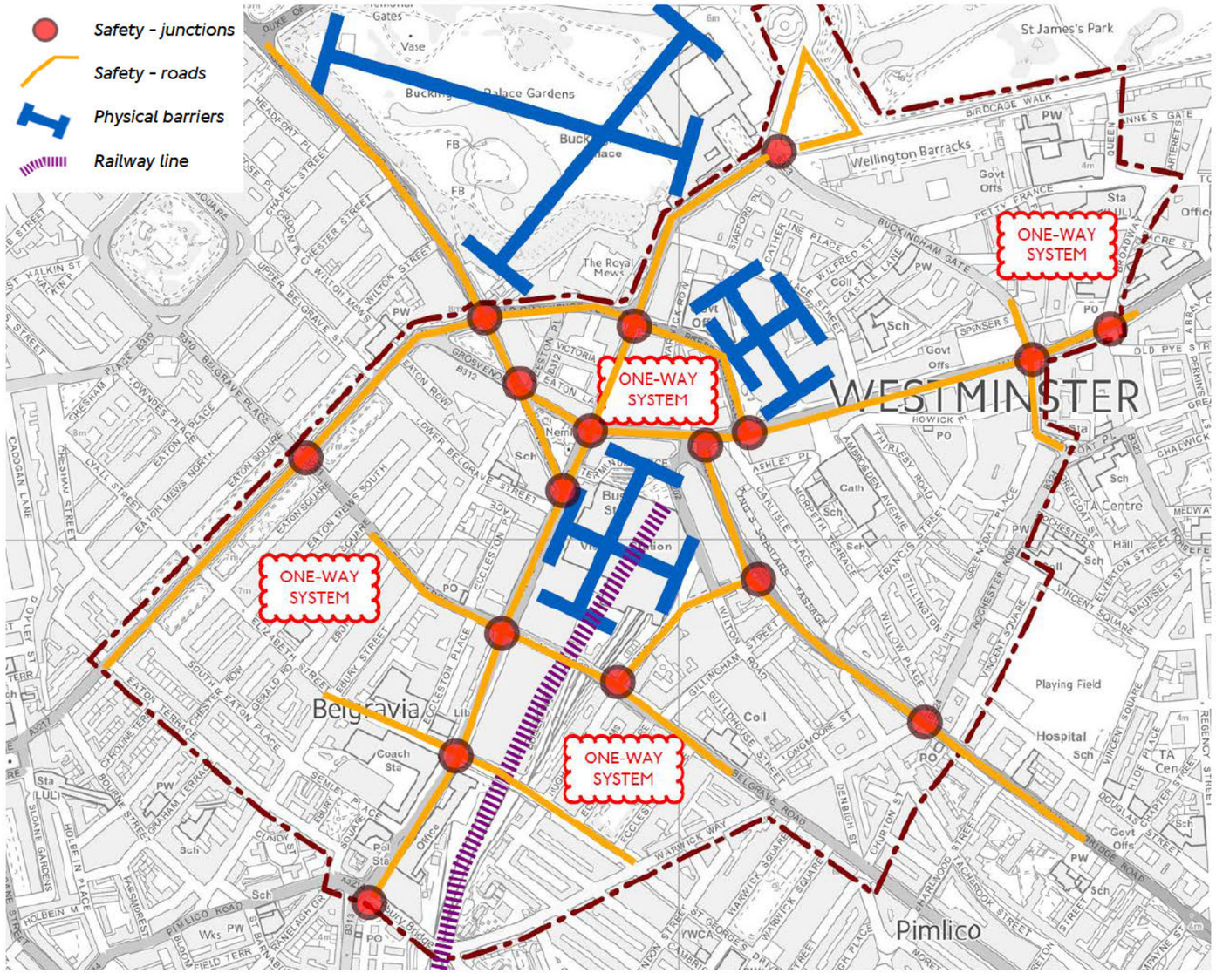
  In addition, there is of course no public access at all across the grounds of Buckingham Palace.

Bridge Place (northbound Inner Ring Road)

- **Legal** – the large number of one-way sections makes return journeys difficult Some trips that are straightforward in one direction are difficult or hazardous in the other. Travelling north and east from Victoria Station is particularly difficult.

- **Navigation** – the urban grain of the area is not straightforward, with a lack of a coherent network (especially around Victoria Street). In addition the absence of wayfinding for cycling means that many cyclists will have to check their position on paper (or phone-based) mapping, adding delay and reducing convenience.

The plan below shows the first three of these factors (barriers due to the urban grain can be seen in the plan in 3.1).



Barriers, wider Victoria area

3.3 Planned/proposed cycle routes

In partnership with the central boroughs, TfL plans to create a central London 'Bike Grid' of high quality, high-volume cycle routes, using a combination of segregation and quiet shared streets, along with some innovative use of existing infrastructure.

The plan below shows the proposed network in the Victoria Vision area, which was subject to public consultation in December 2013. It comprises two Cycle Superhighways (blue), plus a number of other sections of the Central London Cycle Grid (purple).

Cycle Superhighways

Cycle Superhighways offer safer, faster and more direct cycling routes linking outer and central London. They provide new cycle lanes and infrastructure to improve conditions for people who already commute by bike, and to encourage more people to cycle. Four have already been implemented (CS3 and CS7 in 2010 and CS2 and CS8 in 2011), with a further eight due to be introduced over the next few years.

The two Superhighways directly affecting the Victoria area are the East-West Superhighway and CS5. To the south of the Victoria area, CS8 runs along the Thames between Chelsea Bridge and Millbank.

East-West Superhighway

The East-West Superhighway will form a significant route to and through central London. It is intended to be a fast, segregated cycle superhighway – a 'Crossrail for the bike' – stretching at least 15 miles west-east through the heart of London, from the western suburbs to Canary Wharf and Barking.

In the Victoria Vision area, the route will cross Hyde Park on existing motor traffic-free cycle routes. It will continue past Buckingham Palace along Birdcage Walk to Parliament Square and Victoria Embankment, and then on to the City.

Proposed Cycle Superhighways and CLCG, wider Victoria area (from consultation December 2013)

Birdcage Walk – on proposed East-West Cycle Superhighway

Cycle Superhighway 5 (CS5)

In December 2012, TfL consulted on proposals to introduce CS5 between New Cross Gate and Victoria which resulted in considerable changes to the scheme. Preliminary works have been carried on the New Cross – Oval section, which will open when previously-announced plans for semi-segregation are finalised.

Detailed proposals have been drawn up for the Oval – Millbank section, with initial consultation with stakeholders taking place early in 2014. Wider public consultation is planned for summer 2014.

The Millbank - Belgrave Square section of CS5 will be delivered by Westminster City Council. The outline alignment is envisaged to use Drummond Gate to the southern end of Belgrave Road. From this point it will run along parallel one-way roads: north west via Belgrave Road, Eccleston Bridge, Eccleston Street and Belgrave Place, and south east via Lyall Street, Elizabeth Street and St. George's Drive.

More detailed plans have not yet been drawn up, with Westminster expecting to start this process imminently.

Central London Cycle Grid

The Cycle Grid comprises a connected, safe set of routes taking cyclists across central London (roughly corresponding to the Tube's Zone 1). Around 25% will be largely segregated Superhighways on main roads, with the remaining 75% being lower intervention Quietways, mainly on back streets. The routes run largely on roads owned and controlled by London boroughs, the City of London and the Royal Parks, not TfL, and hence delivery will be mainly down to these partners, using TfL funding.

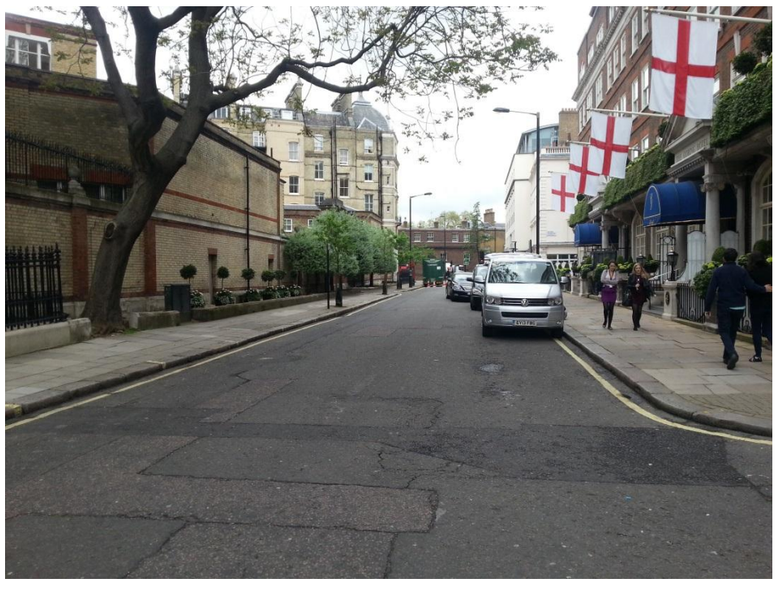
Quietway style routes will use the quietest roads possible while balancing the need for directness, usability and safety. In the Victoria area there are very few (if any) absolutely quiet roads, but all routes used for Quietway sections of the Grid will be significantly less busy than the alternatives, with fewer vehicles, travelling at lower speeds. Critically they will carry fewer or no heavy goods vehicles of the type which are hugely over-represented in cycling injuries and deaths.

The main interventions will be where a Quietway has to cross unavoidable major road junctions. Safe routes for cyclists will be provided through these junctions, separated physically or by traffic light phases from most motor traffic.

It is intended that the first few routes will open by the end of 2014, and at least half the Quietway network in the Grid area will be in place by 2016. The network implemented in 2016 will form a coherent set of routes in its own right. These routes will be announced during 2014.

Proposed Cycle Superhighway 5 alignment

Palace Street and Wilfred Street – on proposed Central London Cycle Grid



Beeston Place – on proposed Central London Cycle Grid

Draft Westminster cycle network

In response to the Mayor's Vision for Cycling, and in recognition of the growing number of people choosing to cycle, Westminster City Council drafted a Westminster Cycling Strategy in 2013. This set out how the Council intends to help deliver the Mayor's Vision at a local level, taking account of Westminster's unique circumstances and challenges.

The Westminster Cycling Strategy broadly covers the period up to 2026. It examines how people are changing the way that they travel into and around Westminster, the opportunities and challenges associated with the increase in cycling, and how further growth will be encouraged and supported through a wide range of schemes and initiatives. The strategy has a core target of a 7% mode share for cycling by 2026 for trips originating in Westminster.

The Council ran a public consultation on the draft strategy from December 2013 to January 2014. A high number of responses were received and these are being considered before changes are made. It is anticipated that a revised final strategy will be produced in summer 2014.

The extract below from Westminster's draft core network shows proposed routes in the wider Victoria area. This broadly matches the proposed routes comprising the Central London Cycle Grid.

The routes proposed in the Victoria area are:

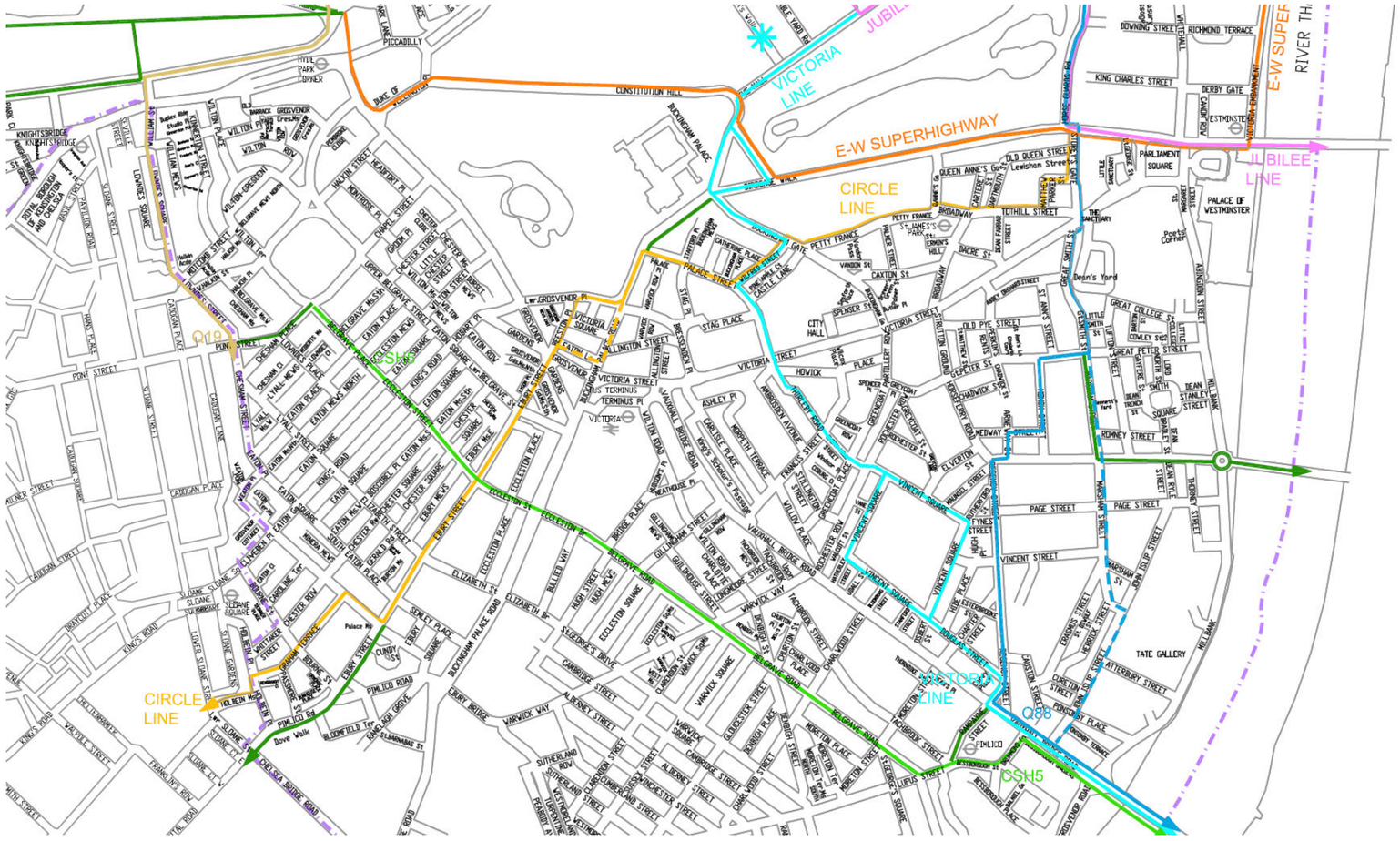
- **Victoria Line Quietway:** Vauxhall Bridge - Vincent Square - Victoria Street - Palace Street - Buckingham Palace
- **Circle Line Quietway:** Ebury Street - Buckingham Palace Road - Palace Street - Petty France - Storey's Gate

There are two further routes just outside the area:

- **Quietway 88:** CS5 Vauxhall Bridge - Regency Street (alternative route via John Islip Street and Marsham Street) - Great Smith Street - Storey's Gate - Horse Guards Road
- **Jubilee Line:** Westminster Bridge - Parliament Square - Horse Guards Road

In addition, the Westminster Cycling Strategy states that the Council will seek to implement other improvements for cyclists away from the Grid network, to include more local improvements such as contraflow cycle lanes.

Westminster is also considering a cycle permeability study to investigate where two-way cycling might be permitted on roads that are currently one way.



Proposed cycle network – draft Westminster Cycling Strategy

3.4 Cycle access to key destinations

It is of course not sufficient to provide routes for through trips by cycle if access to key destinations is not made safe and convenient.

The Victoria area comprises a wide variety of destinations. Although the predominant land uses are retail and workplaces, residential use is growing. There is also some community use, as well as the significant interchange at the station.

All these have different cycle access and parking demands, which vary according to the time of day and between weekdays and weekend/public holidays.

Evidence of the demand for cycle parking can be seen from the high level of 'fly-parking' (informal parking where bikes are locked to railings, street furniture and trees).

The following locations have been identified as the main destinations for cycling in the Victoria Vision area (there are of course many other medium-sized and smaller destinations).

- **Victoria Rail and Underground Stations** (interchange)
- **Victoria Coach Station** (interchange)
- **Nova** (retail/workplace/residential)
- **Eland House and Portland House** (retail/workplace/residential)
- **Cardinal Place** (retail/workplace/residential)

Where access is not possible directly from proposed routes it will be important to consider how a link could be provided, to either dedicated cycle parking at the destination or public parking nearby.

For example, the proposed cycle parking in the basement of the Nova development will only be legally accessible by cycling eastbound along Bressenden Place. Hence it will not be possible to arrive or leave by cycling west. In addition, as this is part of the Inner Ring Road it will in practice be accessible to only the most experienced cyclists.

Fly-parking, Grosvenor Gardens

Cycle parking and cycle hire by Portland House, Bressenden Place

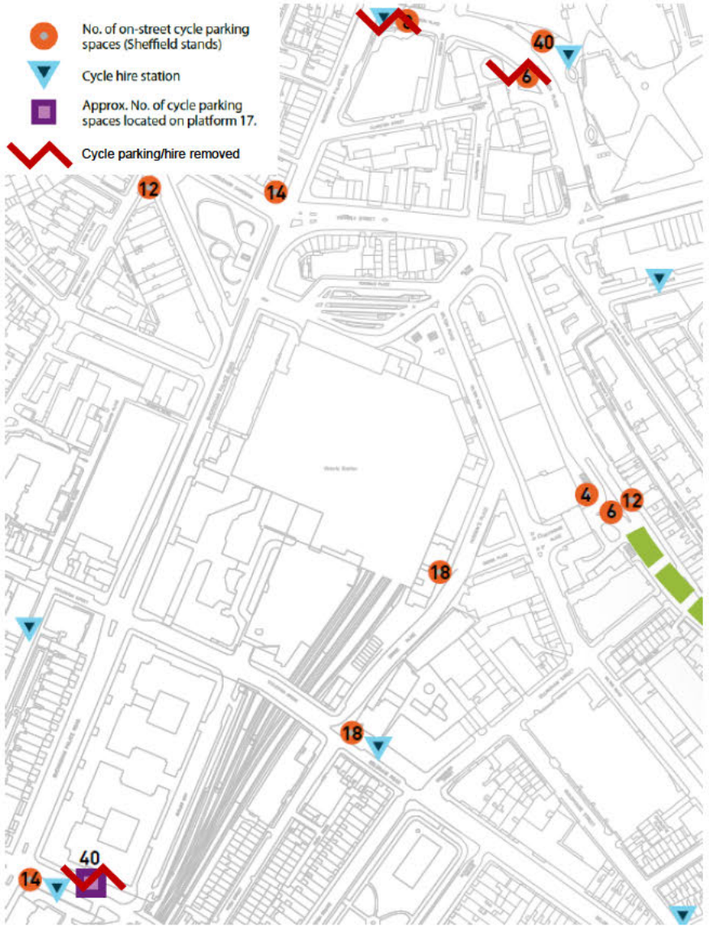
Cycle parking by eastern entrance to Victoria Station, Hudson's Place

3.5 Other cycle provision

Cycle parking – existing

Good quality cycle parking is crucial to provide cyclists with reassurance that their bicycle will be secure. Fear of theft is generally considered to be one of the highest deterrents to increased cycling after safety concerns. Around a quarter of people who have a bicycle stolen then stop cycling.

A detailed survey of cycle parking in the Victoria Vision area has not been carried out. However, the plan below (from Network Rail's *Victoria Station Masterplan*) indicates the level of provision (not confirmed on the ground). Two cycle parking sites and a cycle hire docking station have been removed for the Nova development.



Cycle parking and cycle hire around Victoria Station (from Network Rail)

Observations gathered during the development of the strategy indicate that there is insufficient public cycle parking in Victoria, with numerous examples of fly-parking. In particular there is insufficient parking at both the rail and coach stations.

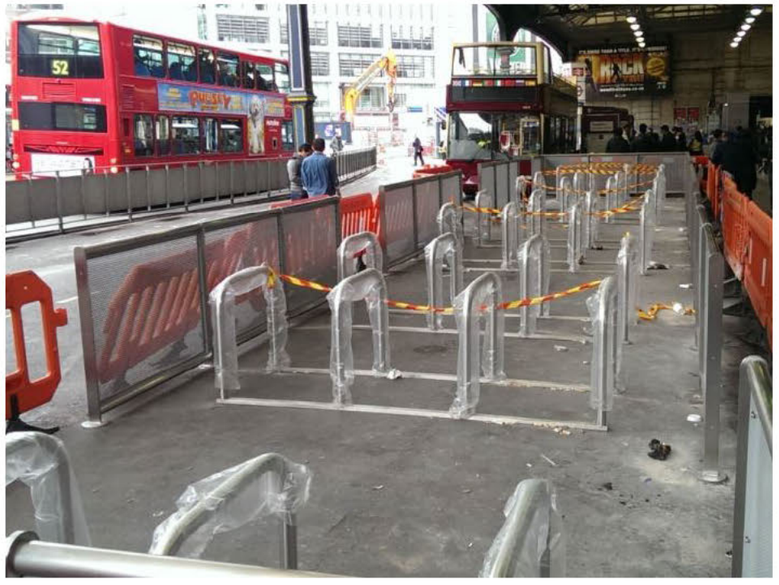
Victoria Station

There is little cycle parking close to the main entrances to the station. There are nine Sheffield stands in Hudson's Place (on the east side of the station), giving 18 spaces. In July 2014 Network Rail started work on a scheme to increase cycle parking, comprising:

- **Terminus Place** – 64 spaces in Sheffield stands
- **Air Deck** – 120 spaces in two-tier racks

This will replace the 40 spaces on platforms 13/14 and 17/18 which require passing through the gateline.

The additional provision means that there are now over 200 cycle parking spaces. However, this does not approach the level and quality of cycle parking already found at other main London rail termini such as Waterloo, Paddington and Euston.



New cycle parking – Terminus Place, Victoria Station

Cycle Hire

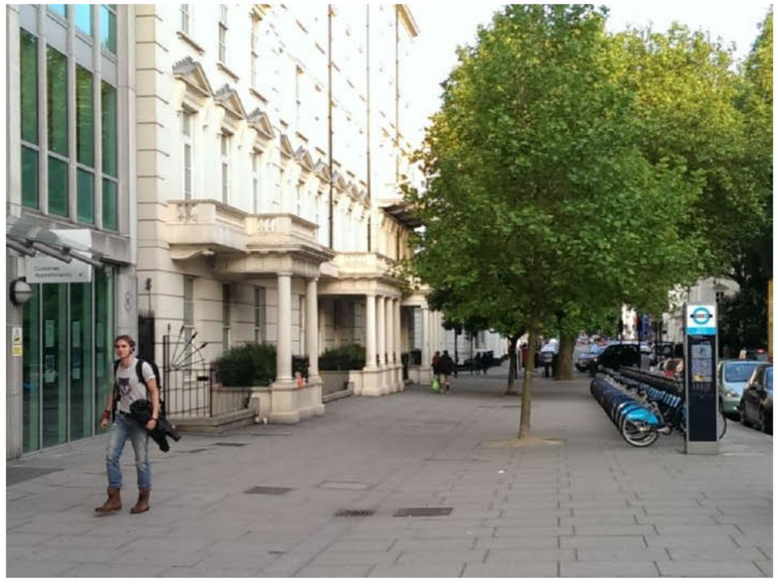
The excerpt from the Local Cycling Guide on page 20 shows Cycle Hire docking stations in the wider Victoria area.

Docking stations should be close to key destinations and prominently sited. However, there are none close to the main entrances to Victoria rail or Underground stations. There is no wayfinding to the two closest docking stations.

- **Ashley Place** – although near to the front of the station, access is made difficult by the VSU works
- **Belgrave Road** – reached either via Victoria Place shopping centre or Bridge Place

There are some noticeable gaps in the wider network, especially west of Victoria Station (at the northern end of Ebury Street) and in the Palace Street/Buckingham Gate area.

Two developments in the Victoria Vision area include changes to docking stations. There will be a new docking station in Allington Street as part of the Nova development. The redevelopment of Eland House relocates the existing docking station from Cathedral Walk to Warwick Row.



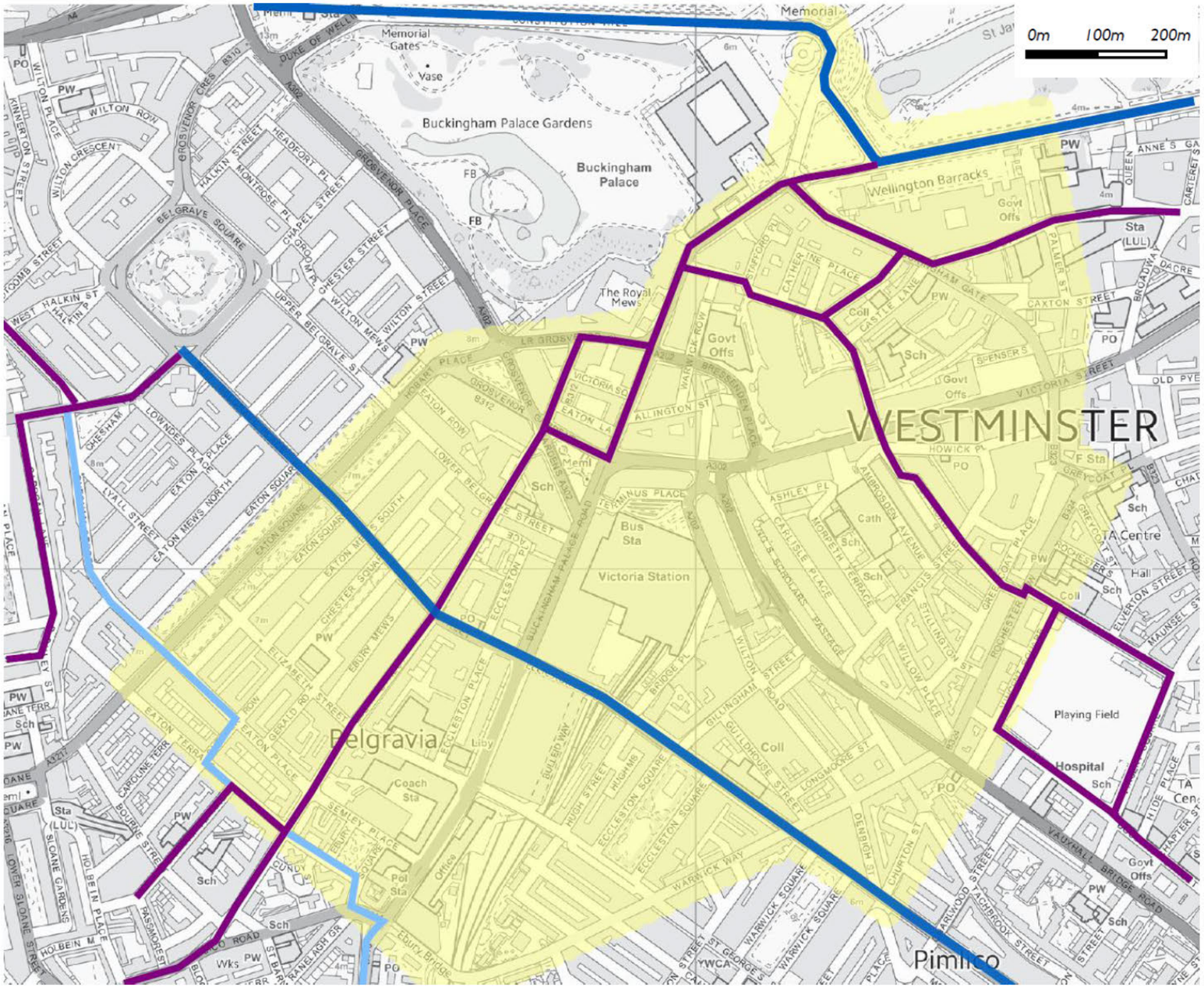
Cycle Hire docking station - Belgrave Road

4. Developing the cycle network in Victoria

4.1 Currently proposed network

The plan to the right shows the network as proposed at the end of 2014. This comprises Cycle Superhighway routes (dark blue) and Central London Cycle Grid (purple).

In addition the existing LCN route 5 is shown (light blue).



Cycle Superhighways. CLCG and LCN routes in wider Victoria area

4.2 Network development

A cycle network needs to be cohesive, with a good set of connections between the main origin and destination points as well as to the wider surrounding area.

The currently proposed network is quite coarse and fails to address a number of the barriers described above. Hence an extended network is proposed which will provide a finer grained local network in the Victoria area, conforming to the network development aims set out in the revised LCDS.

The extended network will also improve access to key destinations (such as Victoria Station) in directions not served by Cycle Superhighways and Central London Cycle Grid (CLCG) routes.

The main issues are:

- **Access to station and key destinations:** Lack of good routes for cyclists which provide access to Victoria rail and Underground stations, as well as to other key destinations in the wider Victoria area
- **Connections between routes:** Low connectivity between main Superhighway and CLCG routes (eg no links across Vauxhall Bridge Road between CS5 to the south and the CLCG route to the north)
- **Local accessibility:** Poor access to other workplace, retail and residential areas outside the wider Victoria area (eg Horseferry Road/Millbank area and Pimlico)

As noted above, LCDS recommends that the cycle network should comprise a mesh of routes spaced at roughly 400m intervals, with the ideal density being 250m. The currently proposed network does not meet this recommended level. The extended network will help to address this by working towards the LCDS recommendation.

The plan on the following page shows how the proposed extended network will complement the currently proposed routes. In the absence of a full RTF classification this takes into account the four different types of roads/streets ***(main roads, secondary roads, local streets, cycle links)*** set out in 3.1 above.

Different design features will be needed for different types of routes. They will all need to ensure that both actual and subjective safety are improved and that cycling in Victoria becomes much more convenient and attractive.

In addition it is recognised that a number of existing experienced (Level 3) cyclists will continue to use the full range of main roads (such as Buckingham Palace Road and Bressenden Place), even though these are not part of the extended network,.

In the future this will also apply to roads such as the western end of Victoria Street, which is being restored to two-way working for buses, taxis and bicycles only. The expected level of traffic and the limitations on available space mean that it unlikely to be suitable for any cycling design interventions.

While it has therefore not been included in the proposed network, this does not mean that use by cyclists should be ignored. Lane widths will be important to ensure than cyclists can safely overtake buses at stops.

Across all roads, issues such as road surface quality will continue to be important to cyclists. Cyclists' safety at all junctions will also need to be considered.

Cyclists at junction of Buckingham Palace Road / Lower Grosvenor Place

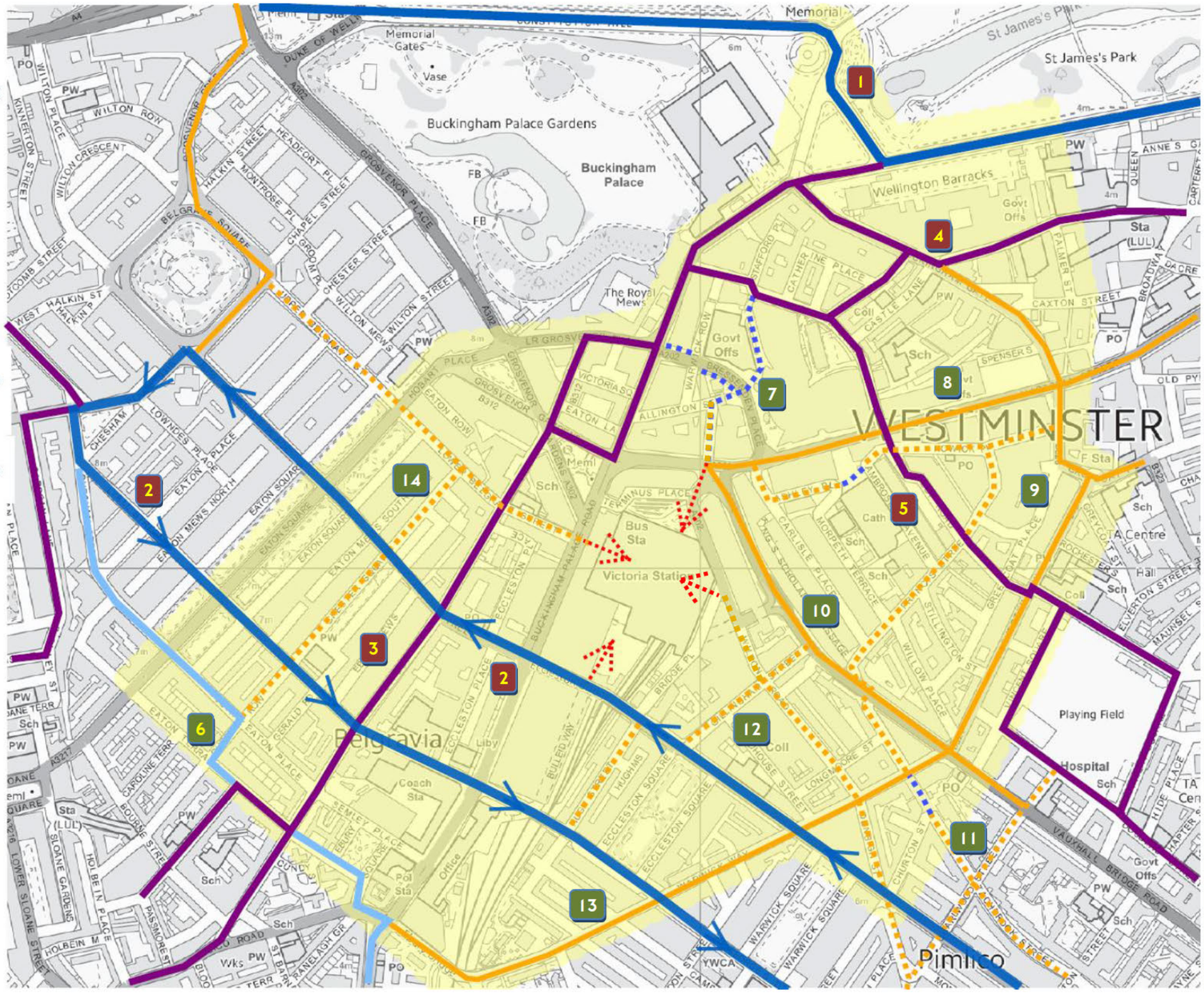
Victoria Vision Cycle Strategy

Proposed cycle network

Key

- *Cycle superhighway*
- *Central London Cycle Grid*
- *LCN route (existing)*
- *Additional suggested routes (main/secondary roads)*
- *Additional suggested routes (local streets)*
- *Additional suggested routes (off-road)*
- *Access to Victoria Station*

0m 100m 200m



Existing/currently proposed routes

1. *East-West Cycle Superhighway*
2. *Cycle Superhighway 5*
3. *Circle Line Quietway (west)*
4. *Circle Line Quietway (east)*
5. *Victoria Line Quietway*
6. *LCN 5*

Extended network

7. *Cathedral Walk / Allington Street*
8. *Victoria Street*
9. *Buckingham Gate / Rochester Row*
10. *Vauxhall Bridge Road*
11. *Tachbrook Street / Charlwood Street*
12. *Gillingham Street – Wilton Road – Denbigh Street – Hugh Street*
13. *Warwick Way*
14. *Chester Square – Upper/Lower Belgrave Street – Belgrave Square*

Proposed extended cycle network, wider Victoria area

4.3 Treatments for each route type

The overall aim of this strategy is to develop a cycle network that will make travelling by bicycle safe and convenient for all. Delivering this will require a range of different treatments, depending on the road type and expected level of cycling.

It is recognised that some of these treatments may appear ambitious and long-term. Nevertheless, at this stage it is appropriate to include the full range of options. As detailed proposals are developed these should be tested against what is feasible in terms of capacity, safety, cost and other issues.

A number of the treatments include suggestions for ***filtered permeability.*** This involves removing through motor traffic using access restrictions, road closures or one-way working, with exemptions for cycles. Off-highway cycle links or paths through green spaces can also provide a way for cyclists to bypass restrictions on motor vehicles.

Routes on main roads

Relevant characteristics

- Strategic Road Network (SRN) – main traffic routes, comprising TLRN or borough principal network

Grosvenor Gardens

- Heavy traffic flows, particularly at junctions
- Used by buses, with associated infrastructure
- Well-connected to other main roads in area
- Important crossings of railway

Functions in cycle network

- Strategic and direct through routes
- Access to main destinations
- Connections between routes on secondary roads

Treatment

- Continuous segregated provision (cycle tracks or lanes) where RTF type is High Road / City Hub / Connector, separated from traffic and pedestrians
- Continuous provision (ideally with light segregation) where RTF type is High Street / City Street, separated from traffic and pedestrians
- Cycle facility wide enough to allow easy overtaking
- Turning movements to be separated at junctions in space and time
- Junctions designed to ensure that cyclists using cycle facilities are not delayed by avoiding the road
- Appropriate treatment at bus stops, with bypasses and other measures designed to reduce conflict with bus passengers and bus and other motor traffic
- High quality attractive materials to be used, especially for surfacing and kerbs
- Speed limit reduction, with all sections having a maximum of 30mph and consideration given to 20mph if possible
- Well designed and clear wayfinding and signage
- Attention to issues affecting cycling on main roads not forming part of a network (eg width, surfacing)

Delivering the Objectives

Safety: Main roads in Victoria carry very heavy traffic. Segregation of bicycle and motor traffic will reduce the need for different traffic types to interact, reducing the risk of accidents and increasing people's sense of safety. This will be especially important at junctions.

Directness: Main roads generally follow desire lines and reflect existing travel patterns. Hence provision along them will help to reduce detours and delays compared to other routes.

Comfort: Cyclists need to be able to use the network easily - this necessitates high quality connections on main roads.

Coherence: Good provision on main roads will provide the main elements of the network.

Attractiveness: Main road routes need to be reasonably enjoyable to use and aesthetically pleasing, with high quality materials, although high traffic levels will have an effect on the overall attractiveness.

Adaptability: Routes on main roads must be able to accommodate increased cycling as well as being able to allow the rest of the cycle network to develop over time.

Junction of Buckingham Palace Road / Eccleston Bridge

Routes on secondary roads

Relevant characteristics

- Less strategic roads, though with some through traffic including less frequent bus services
- Locally important for access to residential, retail and business areas
- Relatively well connected to one another, but not capable of functioning as a standalone network

Functions in cycle network

- Key links between main road sections of network
- Parts of key through routes
- Access to businesses and amenities as well as residential areas

Treatment

- Default 20mph speed limits
- High quality connections with intersecting cycle routes
- Traffic calming measures at junctions and crossings to reduce traffic speeds

Rochester Row

- Some filtered permeability measures to reduce traffic volume at key locations
- Segregation generally not necessary, but may be required on certain stretches shared with heavy vehicles (especially near Victoria Coach Station)
- Good quality attractive materials to be used, especially for surfacing and kerbs
- Well designed and clear wayfinding and signage

Delivering the Objectives

Safety: By ensuring that traffic on secondary roads travels at lower speeds (as well as possibly lower volumes) the routes will feel safe to use.

Directness: The high mesh network density provided by routes on secondary roads will allow for direct journeys by bicycle. Filtered permeability where appropriate will ensure that this is quicker than driving.

Comfort: Good routes on secondary roads will allow people in Victoria to use the cycle network comfortably.

Coherence: Good provision on secondary roads will allow the elements of the network to work together, providing a higher quality network and facilitating local access to routes.

Attractiveness: Routes on secondary roads should be made attractive, via a well-chosen materials palette, planting and detailing.

Adaptability: As the network may be delivered in sections, it is essential that each section is able to contribute to a complete route and a coherent network.

Routes on local streets

Relevant characteristics

- Lower level of strategic importance, but locally important for direct access to residential, retail and business properties
- Little or no through traffic
- Not necessarily well connected to one another, either due to urban grain or as a result of traffic management schemes to reduce rat-running
- Some sections of one-way flow

Functions in cycle network

- Key links to final destinations
- Feeders to through routes
- Access to businesses and amenities as well as residential areas

Treatment

- 20mph speed limit throughout
- Motor traffic restricted to local access
- High quality connections with intersecting cycle routes
- Some filtered permeability measures to reduce traffic volume at key locations
- Contraflow cycling permitted on one-way streets
- Traffic calming measures at junctions and crossings to reduce traffic speeds
- Consideration of ***'Cycle Streets'*** (where cyclists have assumed priority in a speed restricted area, variously marked with or without formal cycle lanes or indicative areas for cycling)
- Good quality attractive materials to be used, especially for surfacing and kerbs
- Well designed and clear wayfinding and signage

Delivering the Objectives

Safety: By ensuring that traffic on local streets travels at low speeds and volumes the routes will feel safe to use.

Directness: Local streets will generally not form direct routes in themselves but will provide access to main routes.

Comfort: Good routes on local streets will allow the majority of people in Victoria to access the cycle network comfortably. Attention to factors such as surface quality may be necessary.

Coherence: Good provision on local streets will allow access to the wider network.

Attractiveness: Routes on local streets should be attractive but as they may be used by lower numbers this is of a lower priority.

Adaptability: As the network is delivered it is essential that access is provided on local streets to contribute to a coherent network.

Victoria Square

Cycle links

Relevant characteristics

- Dedicated routes for cyclists and pedestrians, segregated where necessary
- Coherent paths that may not be linked to each other but seamlessly link to on-road network
- Usable year-round, 24 hours a day (hence not through areas closed at night such as some parks)

Functions in cycle network

- Provide local access, particularly north of Nova development
- Connect main and secondary roads to one another
- Paths contribute to cycle network density

Treatment

- Designed to be easily cycleable, with no steps, sharp bends, or blind corners
- Suitable for pedestrians and cyclists - design must fully accommodate needs of both user groups with clear delineation between pedestrian and cyclist spaces
- High quality connections to all intersecting cycle routes
- Safe crossings with main and side roads
- Sufficiently wide to be useful
- Well designed and clear wayfinding and signage

Delivering the Objectives

Safety: Being fully off-road, these routes will be subjectively and objectively safe. Interactions with traffic will be few in number and high in predictability.

Directness: By providing key connections to on-road routes, cycle links will increase network density and reduce the need to take detours.

Comfort: The location away from road traffic and connections to other cycle routes will make cycle links particularly comfortable to use. Good design will minimise conflicts with pedestrians.

Coherence: These routes will contribute to the network and further increase the choice of cycle routes.

Attractiveness: Being away from traffic, cycle links will be pleasant to use, passing through some high quality areas.

Adaptability: Cycle links should be able to be altered to allow for future increases in cycling.

Cycle link - Trinity Street, Southwark

4.4 Route details - existing/currently proposed routes

1. East-West Cycle Superhighway

Function

Proposed cycle superhighway route between Hyde Park Corner and Parliament Square via Buckingham Palace – part of major strategic east-west route

Suggested approach

High quality route, predominantly on segregated cycle track.

Issues

- Buckingham Palace junctions – a high quality design is needed to ensure approval by Royal Park and Palace authorities
- High quality segregated route needed on Birdcage Walk.
- Two way cycling needed on eastern arm of Spur Road (may be provided if western arm made pedestrian only)
- Attention needed to design of junctions to ensure safe and coherent routes for cyclists
- Possible conflict with high level of pedestrian use at crossings

2. Cycle Superhighway 5

Function

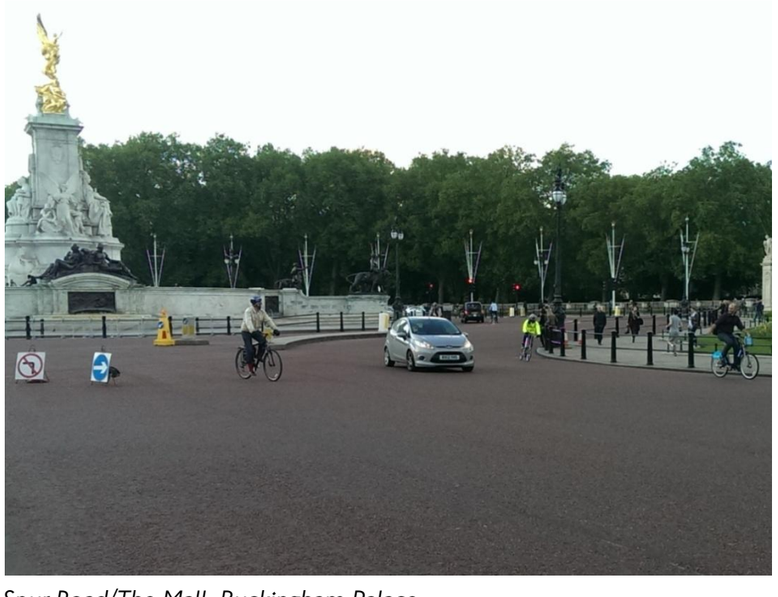
Proposed cycle superhighway route between Vauxhall Bridge and Belgrave Square, with one-way sections westbound via Eccleston Bridge and eastbound via Elizabeth Street – part of major strategic route to south London.

Suggested approach

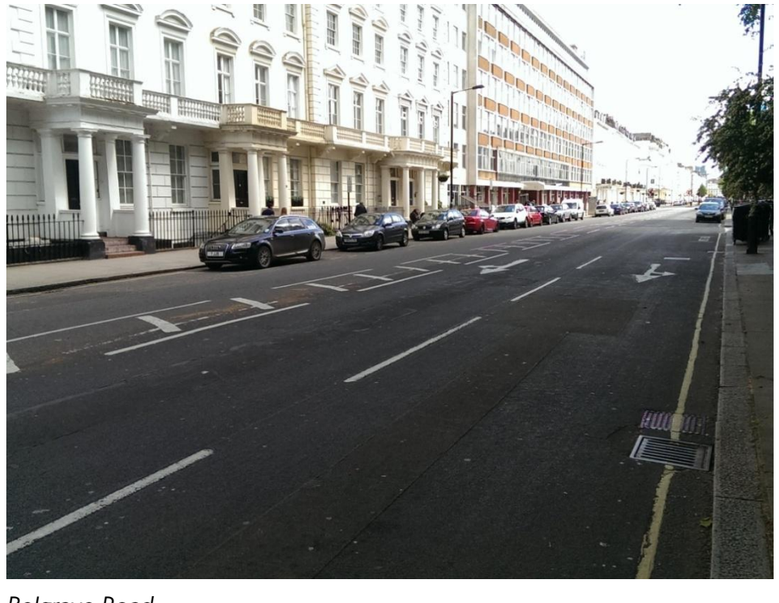
High quality route, predominantly on segregated cycle track, cycle lanes and some sections of Cycle Street.

Issues

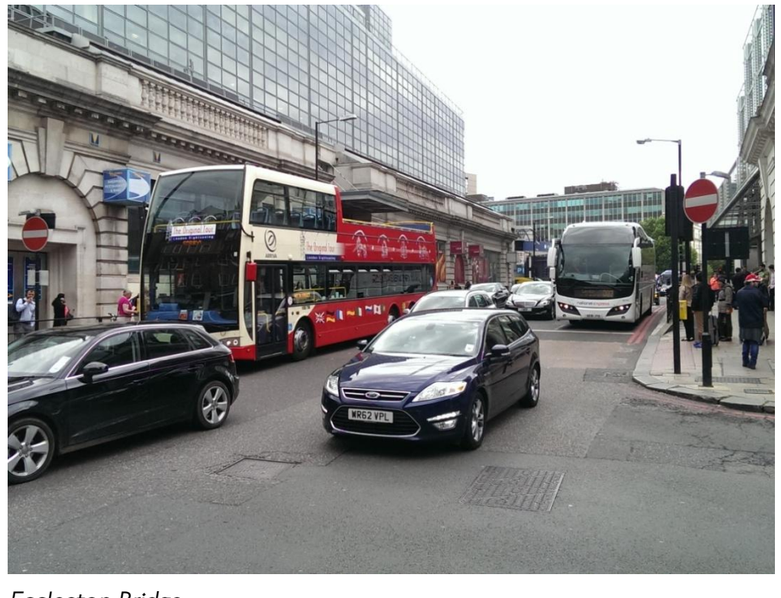
- Eccleston Bridge is part of the Inner Ring Road and is one-way with high traffic flows (particularly coaches using Victoria Coach Station) - a segregated route is necessary but will be difficult to achieve
- No link between eastbound route and Victoria Station
- Eccleston Bridge will require reconstruction due to weight restriction, giving opportunity for cycle provision – a two-way route between the Air Deck car park and Hugh Street would significantly improve access to Victoria Station
- Junctions with Buckingham Palace Road, Bulleid Way and Bridge Place need to be safe for all cyclists
- Eccleston Street is one-way and used by coaches as far as Eccleston Place
- Elizabeth Street is one-way and heavily used by coaches between Buckingham Palace Road and Ebury Street
- Parking on Belgrave Road may conflict with cycle use
- No cycle parking on Air Deck but potentially a good site as close to proposed CS5 alignment



Spur Road/The Mall, Buckingham Palace



Belgrave Road



Eccleston Bridge

3. Circle Line Quietway (west)

Function

Proposed Central London Cycle Grid route between Pimlico and Buckingham Palace – existing signed route forming part of LCN with some filtered permeability

Suggested approach

High quality route, with Ebury Street/Beeston Place section on cycle street / contraflow with 20mph limit, and section north of Lower Grosvenor Place on segregated cycle track and/or cycle lanes.

Issues

- High level of coach use on southern section of Ebury Street, acting as deterrent to less experienced cyclists.
- Confusing and hazardous junction with Semley Place due to access to Coach Station and filling station
- Parking on Ebury Street may conflict with cycle use – increased filtered permeability and designation as a Cycle Street may improve conditions
- Narrow and inconvenient cycle gaps at junction with Eccleston Street
- Signals at Lower Belgrave Street appear to be unnecessary
- Confusing and hazardous junction with Grosvenor Gardens
- One-way working in Beeston Place with no cycle contraflow
- No safe link between Beeston Place and Buckingham Palace Road via Lower Grosvenor Place – two way segregated route needed with safe crossing
- Junction of Buckingham Palace Road via Lower Grosvenor Place is busy and dedicated cycle provision will be needed, however there may be capacity issues
- Link along Buckingham Palace Road / Buckingham Gate has large numbers of buses/coaches
- Junctions of Buckingham Gate with Palace Street and Birdcage Walk are busy and will require cycle provision

4. Circle Line Quietway (east)

Function

Proposed Central London Cycle Grid route between Buckingham Palace and Parliament Square – existing signed route forming part of LCN with some filtered permeability

Suggested approach

In short term, medium quality route, with cycle lanes on Buckingham Gate section and Cycle Street on Petty France with improved contraflow and 20mph limit.

Issues

- Eastern section of Buckingham Gate has high taxi and coach use
- Petty France contraflow is narrow with hazardous high kerb
- Entry to Petty France contraflow at eastern end is confusing

Ebury Street

Junction of Ebury Street / Grosvenor Gardens

Petty France – entrance to contraflow cycle lane

5. Victoria Line Quietway

Function

Proposed Central London Cycle Grid route between Buckingham Palace and Vauxhall Bridge – part of longer north-south route

Suggested approach

In short term, medium quality route, mostly on Cycle Streets with 20mph limits, possibly with filtered permeability

Issues

- Palace Street used as rat-run to avoid Bressenden Place
- Alternate one-way streets on Castle Lane/Wilfred Street are confusing – Castle Lane could be made two-way but this may require some loss of parking
- Closure of northern section of Thirleby Road with filtered permeability would greatly increase attractiveness for cycling. Access could be provided via adjacent streets (see 10. Vauxhall Bridge Road)
- Crossing of Rochester Row between Emery Hill Street and Vincent Square has no priority for cyclists – consideration could be given to changing priority to the east-west movement
- One-way working around Vincent Square is generally not a problem for cyclists except for northern side which would benefit from two-way link with Maunsell Street

6. LCN5

Function

Existing signed route between Chelsea Bridge and Hyde Park, with some limited cycle provision – part of LCN

Suggested approach

Improved route to higher standard with Cycle Streets with 20mph limits, and more coherent alignment

Issues

- Route is not easily to follow despite signing, with a number of turns. Improved wayfinding would address this.
- Junction with Buckingham Palace Road is highly confusing and unsafe for cyclists, especially in southern direction
- Contraflow in Ebury Square is confusing
- Alternate one-way sections in Chesham Street/Lyall Street are inconvenient for cyclists. Chesham Street could be made two-way for cycling.
- There is potential for rat-running which could be addressed by filtered permeability

Thirleby Road

Rochester Row at junction with Emery Hill Street / Vincent Square

Pimlico Road / Ebury Square

4.5 Extended network

7. Cathedral Walk / Allington Street

Function

Key link between Central London Cycle Grid routes and Nova development, providing northern access to Victoria Station

Suggested approach

Motor traffic-free route in Cathedral Walk and on-road in Allington Street (with two-way cycling)

Issues

- Route recommended in Public Realm Strategy produced by Publica for Land Securities
- Cycling not currently permitted in Cathedral Walk
- Crossing of Bressenden Place needs to be a Toucan
- Bus stands on Allington Street would make cycling unsafe and uncomfortable, especially southbound – ideally a two-way motor traffic-free link should be provided
- Junction at Victoria Street needs to allow cycle access to station

8. Victoria Street

Function

Locally important link (possibly strategic) between Victoria and Parliament Square

Suggested approach

Light segregated cycle lanes

Issues

- Traffic flow on Victoria Street does not seem to require two lanes in each direction, hence repurposing of road space to loading/bus stops/cycling appears feasible
- Limited number of relatively lower use bus stops would allow floating bus stops
- Junction at Palace Street could be improved by closure of southern arm (Thirleby Street - used mainly for local access)

9. Buckingham Gate / Rochester Row

Function

Local links between Central London Cycle Grid routes, serving local destinations

Suggested approach

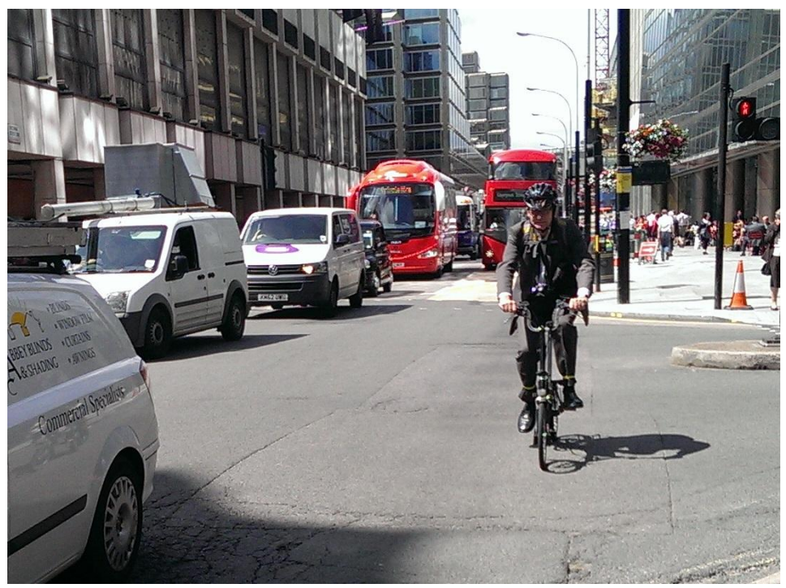
Buckingham Gate/Artillery Row – cycle lanes

Other streets – two-way Cycle Streets with filtered permeability (plus one link free from motor traffic)

Issues

- Heavier traffic on Buckingham Gate/Artillery Row would require some form of cycle provision
- Junction at Greycoat Place is large and unsafe for cyclists (as well as pedestrians)
- Rochester Row also carries some heavy traffic and will need measures to make cycling comfortable – changing priorities where crossed by the Central London Cycle Grid route may help to address this

Cathedral Walk



Victoria Street

Buckingham Gate

- One-way sections of quieter streets make cycling inconvenient (eg southern end of Francis Street) but could easily be made two-way for cycling either through use of cycle plugs or cycle exemptions to No-entry signs
- Cycling is not permitted across the plaza in front Westminster Cathedral - however, as a local route there would not be a high level of use and responsible cycle access could be trialled

10. Vauxhall Bridge Road

Function

Locally important link (possibly strategic) between Victoria and CS5 / Central London Cycle Grid routes

Suggested approach

In short term, medium quality route with cycle lanes.

In longer term, high quality route, predominantly on segregated cycle track

Issues

- Currently used for large number of bus stands which may be relocated elsewhere in Victoria, releasing road space
- Used for southbound Inner Ring Road but may be realigned in long term to Eccleston Bridge
- Access for cycle parking on east side of Victoria Station
- Key junctions at Victoria Street and Rochester Row/Warwick Way would need to be addressed
- Inconvenient link between Tachbrook Street and Francis Street could be improved

11. Tachbrook Street / Charlwood Street

Function

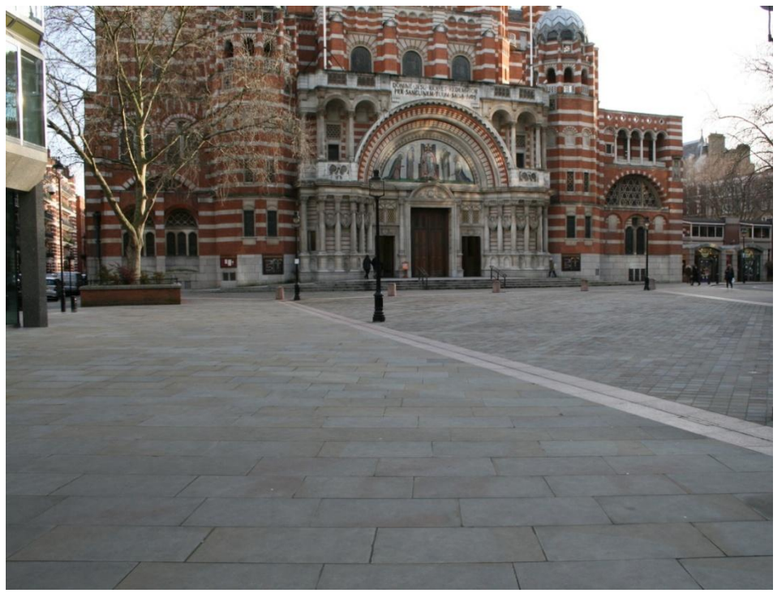
Local links between CS5 and Central London Cycle Grid route, serving local destinations north of CS5

Suggested approach

Two-way cycle streets with filtered permeability and one link free from motor traffic

Issues

- Cycle gap at Charlwood Street crossing of Vauxhall Bridge Road is narrow and unsafe for cyclists
- Use of pedestrianised section of Tachbrook Street for street market may restrict cycle use
- No dropped kerb at Tachbrook Street at junction with Warwick Way



Westminster Cathedral Plaza

Vauxhall Bridge Road

Tachbrook Street at Warwick Way

12. Gillingham Street – Wilton Road – Denbigh Street – Hugh Street

Function

Local links from CS5 route, serving local destinations south of CS5

Suggested approach

Two-way cycle streets with filtered permeability, plus a short link free from motor traffic

Issues

- Gillingham Street is very wide for the volume of traffic and would benefit from narrowing and public realm improvements
- Existing cycle gaps and traffic free link at Denbigh Street crossing of Belgrave Road are narrow
- Hugh Street provides a link between the one-way sections of CS5, allowing access to and from Victoria Station in both directions

13. Warwick Way

Function

Local links from CS5 route, serving local destinations south-west of CS5

Suggested approach

Cycle Street with filtered permeability

Issues

- Parking on Warwick Way may conflict with cycle use – increased filtered permeability and designation as cycle street may improve conditions
- Limited local bus services, floating bus stops could be considered but space is limited

14. Chester Square – Upper/Lower Belgrave Street – Belgrave Square – Grosvenor Crescent

Function

Local links from CS5 and Central London Cycle Grid route, serving local destinations west of Buckingham Palace Road

Suggested approach

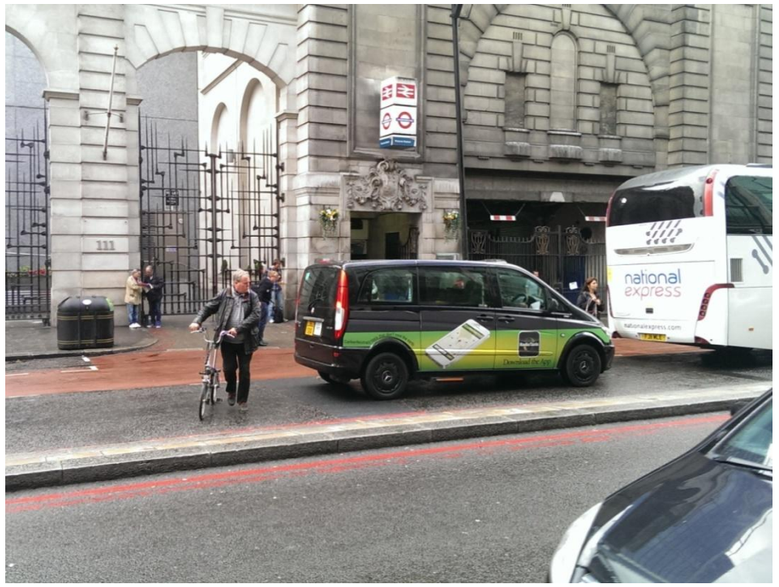
Two-way cycle streets with filtered permeability

Issues

- Parking on Upper/Lower Belgrave Street may conflict with cycle use – increased filtered permeability and designation as cycle street may improve conditions
- Access to the western entrance of Victoria Station is poor – a new Pelican/Toucan crossing across Buckingham Palace Road at Lower Belgrave Street would be of significant benefit to pedestrians as well as cyclists
- Signals at Ebury Street / Lower Belgrave Street junction appear to be unnecessary and hence their removal should be considered

Gillingham Street

Warwick Way



Buckingham Palace Road (by Victoria Station western entrance)

4.6 Other provision

Cycle parking – on-street

In addition to a network of routes, cyclists need to be able to park their bicycles conveniently and securely. However, as noted above, there is limited on-street cycle parking in Victoria. Observations of fly-parking indicate that there is suppressed demand for cycle parking.

Suggested approach

The most straightforward way to address this will be increased on-street provision. This will require analysis of demand, plus a review of potential sites. These will need to take into account impact on pedestrians. The best solution for pedestrians is to place cycle parking on the carriageway, as Westminster City Council has already done in Francis Street and Howick Place. A single car parking bay can accommodate up to five stands, increasing the capacity ten-fold.

Sheffield stands are the most appropriate form of provision. However, consideration could also be given to other designs such as hoops mounted on lamp posts, guardrail or other street furniture.

Cycle parking on-carriageway, Francis Street

Cycle parking – off-street

Planning guidance requires cycle parking to be provided as part of new developments. Although the developments currently under way in Victoria do have a good level of parking, proper attention has not always been paid to how this is accessed. Many of the proposed cycle parking areas are reached via one-way streets, tortuous passages or ramps shared with motor traffic. For example, the proposed cycle parking area at the Nova development can only been accessed via the one-way (and busy) Bressenden Place.

Suggested approach

Planning decisions should pay attention to Policy 6.9 in the revised London Plan policy, which requires cycle parking to be accessible.

TfL has produced Workplace Cycle Parking guidance which sets out good practice. A number of boroughs (such as Hackney) have also adopted guidance on residential cycle parking which gives detailed advice on access arrangements, including swept paths for bicycles.

Making developers aware of these guidance documents would help to improve provision in new developments.

Cycle hubs

A cycle hub at or close to the Victoria interchange would be in keeping with the Mayor's Vision as well as national policy. The existing cycle parking, although due to be increased, falls considerably short of demand.

Suggested approach

The level of parking at a hub at Victoria Station should be proportionate to the potential cycle use. Victoria has slightly less than half the daily level of rail passengers at Waterloo, where TfL has aspirations for a cycle parking hub with 10,000 spaces. There have also been suggestions for any HS2 station at Euston to have many thousands of spaces.

A cycle hub at or near Victoria Station could provide facilities such as a cycle shop, repairs and a café in addition to cycle parking.

Any cycle hub at the station would need good linkages to clear, safe and direct cycle routes, in particular Cycle Superhighway and Central London Cycle Grid routes.

In addition to a hub at Victoria Station, there may be potential for a privately operated hub elsewhere in the area. Such hubs exist in other areas of London (e.g. Soho). As assessment of the demand in Victoria would reveal whether this should be considered.

Cycle Hire

The existing Cycle Hire stations are not evenly distributed throughout the Victoria Vision area. In particular, there are no stations within a few minutes walk of the main entrances to Victoria Station, and those relatively close are not easy to find.

Furthermore a number of the docking stations are in locations which are not easily or safely accessible by bicycle, or are only accessible legally in one direction (such as the station in Belgrave Road which is one-way westbound and feeds into the Inner Ring Road section of Eccleston Bridge).

Suggested approach

Two stations will be relocated as part of the developments taking place in Victoria (Cathedral Walk and Allington Street). Access to these needs to be considered and ancillary measures provide, in a similar manner to the measures that accompanied the original implementation of the London-wide scheme.

Other locations in the Victoria Vision area should be examined to assess the potential for new docking stations. Particular attention should be placed to the area to the north and west of Victoria Station, around Ebury Street.

5. Poor practice examples to avoid

Lack of priority at side roads

Abrupt/inconsistent cycle lane transitions

Insufficient protection from HGVs/buses

Unsafe on-carriageway provision

Unsafe/obstructed off-carriageway provision

Infrastructure that does not cater for all cyclists

Ambiguous/confusing signing

Cyclists not exempt from one-way streets

Traffic-free areas not available to cyclists

Inaccessible links for cyclists

Hostile management regimes

Unusable cycle parking

Poor treatment at road works

Poor/defective surfaces

Poorly marked provision

6. Best practice treatments

Cyclists' priority at side roads

Consistent and safe provision at junctions

Good protection from HGVs/buses

Segregated on-carriageway provision on main roads

Well-designed off-carriageway provision (e.g. forgiving kerbs)

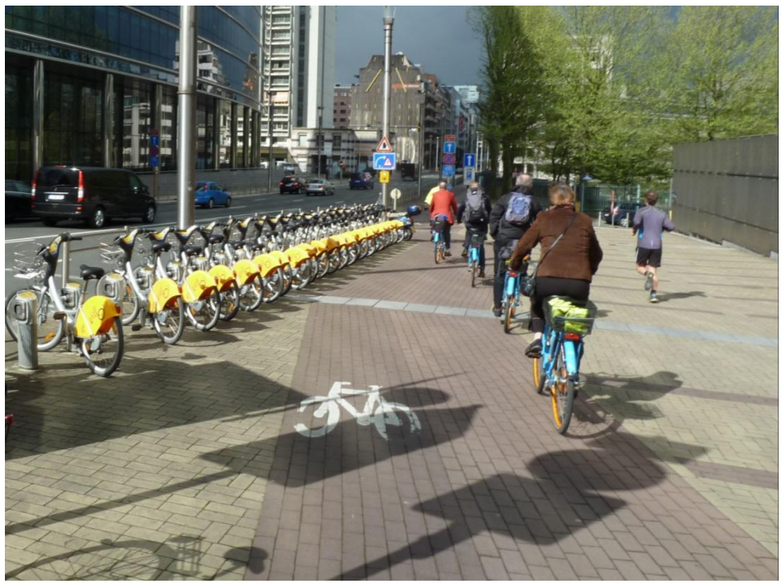
Infrastructure that caters for all cyclists

Clear signing – attractive and clearly readable while moving

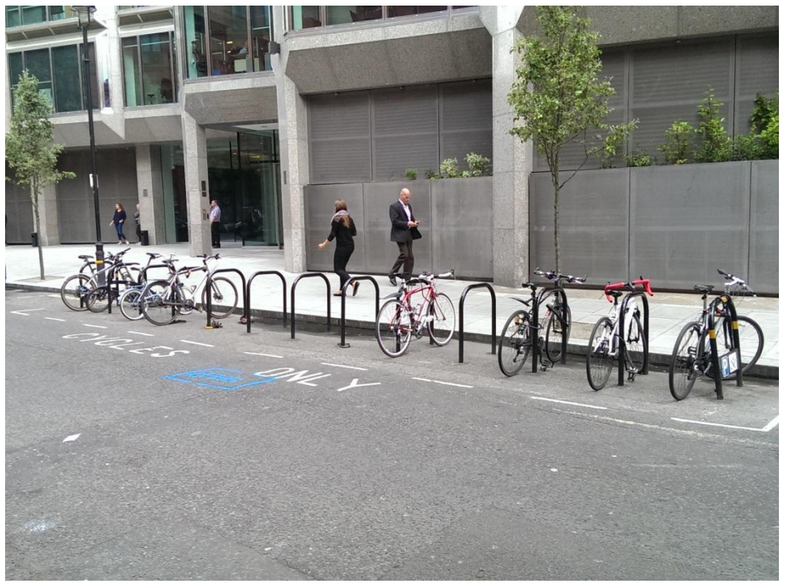
Cyclists able to avoid one-way systems

Good motor traffic-free links, with details that make cycling safe and convenient

Easy access for cyclists



High quality surfaces, both on- and off-carriageway - clearly recognisable as a place for cycling



Good cycle parking, without affecting pedestrians

Smooth/consistent cycle lane transitions

Good treatment at road works

Well-designed shared space

7. Next steps and conclusion

7.1 Alignment with other components of Victoria Vision

As part of assessing the Victoria Vision, Section 4 above has considered in detail how the various sections of the cycle network are aligned with other components of the Vision.

In general, a balance will need to be struck between the objectives of the strategy and other components of the vision. However it must be stressed that in order to meet the aim of increased cycling in Victoria it will be necessary to implement a step change in the approach to cycling.

Conflicts and choices that will need to be resolved

As noted above, there are a number of areas where the delivery of the cycling objectives may conflict with other issues.

Localised issues are set out in the individual routes described in detail in Section 4. In general these can be grouped as follows:

- Limited road space on both current and proposed alignments of Inner Ring Road (see below)
- Conflict between cycling and buses, including cycling through bus stations and location of bus stops and stands
- Capacity issues at junctions
- Cycle links across pedestrian areas
- Limited access to destinations
- Approved developments which are not aligned with the cycle strategy objectives, especially the proposed network
- Cycle parking at key destinations

The impact of the Nova development on cycling in Victoria is a particular case. The development was designed before cycling was given a higher priority, and hence there are a number of issues which have been highlighted.

Buckingham Palace Road

Cycling through bus station, Gare du Midi, Brussels

7.2 Next steps

Project list

At this stage individual projects have not been identified, other than those connected with existing projects such as the Cycle Superhighways.

The next step will be to develop a schedule of discrete projects that can be delivered independently, provisionally assigned to the appropriate body. These projects should be linked with the ongoing developments in Victoria to ensure that as the area is developed the Cycling Strategy is delivered concurrently.

Modelling

As the Victoria Vision is developed, modelling is taking place of the impact of the design concepts on the links and junctions around the core area. Until recently these have not taken cycling provision into account. Current modelling has started to consider cycling but no outputs have yet been available.

Future modelling will therefore have to address the issues highlighted in this document, particularly at junctions on routes comprising Cycle Superhighways and the Central London Cycle Grid. The capacity calculations should take into consideration cycle flow in the context of the overall flow, as this has been shown to form a significant proportion (e.g. 20% on the northern section of Buckingham Palace Road).

The modelling should allow for the provision of adequate road space and signal stage time for the existing flows, with future models including predicted cycling increases based on the Mayor's Cycling Vision.

Phasing and Delivery

The transformation of Victoria is a long-term undertaking and this strategy aims to embed cycling provision in the area. The detailed implementation of the proposed network will need to be clearly linked to overall development of the Victoria Vision.

However, high quality cycle routes will need to be connected to developments as soon as they are complete. It is appreciated that a number of developments which have already have been granted planning permission have implications for the objectives of this strategy. In these cases discussions should be considered with the developers to examine if changes are possible, and if not then alternative provision should be proposed.

The delivery of the strategy will need to tie in with other infrastructure investments in the area. There may be an opportunity to deliver upgrades and cycle route improvements as part of the same workstream. Similarly, disruption to existing cycle provision where utilities are upgraded must be minimised and route continuity will need to be maintained.

Future developments

As a place in high demand, as yet unforeseen developments will continue to be proposed in the Victoria Area. The opportunity should be taken in these cases to ensure that the objectives of this Strategy are taken fully into consideration during the planning process for these developments.

Wayfinding

While existing and new routes should ideally be legible in their own right, signing and other wayfinding is usually required to enable cyclists to follow a route easily. A wayfinding strategy for the wider Victoria area, listing key destinations, would allow a consistent approach to be applied. Use of new forms of wayfinding, such as the proposed Quietway signs and on-road markings, should be considered in the local context.

Maintenance and enforcement

Cycle infrastructure is particularly sensitive to inadequate maintenance - if in poor condition it is much less likely to be used. Maintenance must be undertaken to the highest standard, both on dedicated facilities and other roads and streets.

Space of any kind is at a premium in London and cycle links are often susceptible to obstruction, for example by car parking or construction works. Highway authorities and estate managers will need to adopt a strict enforcement approach to ensure that the cycle route network and other roads remain consistently accessible to bicycles.

Where road works are taking place, measures to increase the safety and visibility of cyclists should be introduced, such as signs instructing drivers not to overtake cyclists or the introduction of temporary segregation. There is ample precedent for such measures, such as in Farringdon Road (as part of Crossrail works).

Interim conditions

The Victoria Vision cycle network will only be fully delivered when all the schemes along the routes are complete. There will, however be an interim condition when some parts are finished and others not. Temporary provision may be needed.

Construction traffic will need to be carefully managed in relation to the cycle provision and use in the area. It is recommended that all construction contracts should meet TfL's Fleet Operator Recognition Scheme (FORS) requirements.

7.3 Summary of recommendations

General

The recommendations below apply to the general future development of the Victoria Vision.

- Fully address cycling in modelling
- Tie in delivery of cycling measures with other projects
- Ensure cycling is considered in future developments
- Develop a wayfinding strategy, to include cycling

Cycling

The following recommendations refer to further development of the cycle strategy

- **Assess the extended cycle network** using methods set out in the new LCDS, including a defined CLoS standard. This will ensure the network meets the requirements of the new guidance.
- Carry out a **cycle permeability study** for the wider area, to ensure all options are explored
- Audit existing **cycle parking** and develop options for increased provision
- **Increase frequency of Cycle Hire docking stations** with more docking points at existing locations, to address existing demand and future growth

Projects

The following are the key elements of the cycle network in the core Victoria Vision area, listed in priority order. CS5 is excluded as it is already at the consultation stage.

A. **CLCG Circle Line Quietway link between Grosvenor Gardens and Buckingham Palace Road**. This is the only north-south route in Victoria and provides access to Nova. It is a crucial section for people cycling through and to Victoria, and hence needs to be implemented to the highest standard.

B. **Allington Street link.** This link provides access to the northern entrance of Victoria Station, as well as Nova, Cardinal Place and other developments. Without this route, cycling between the station and the north and east will be difficult.

C. **Cycle provision on Victoria Street.** This is a high-profile route through Victoria, linking many important destinations. Appendix B sets out an example approach showing how a high quality route could be developed.

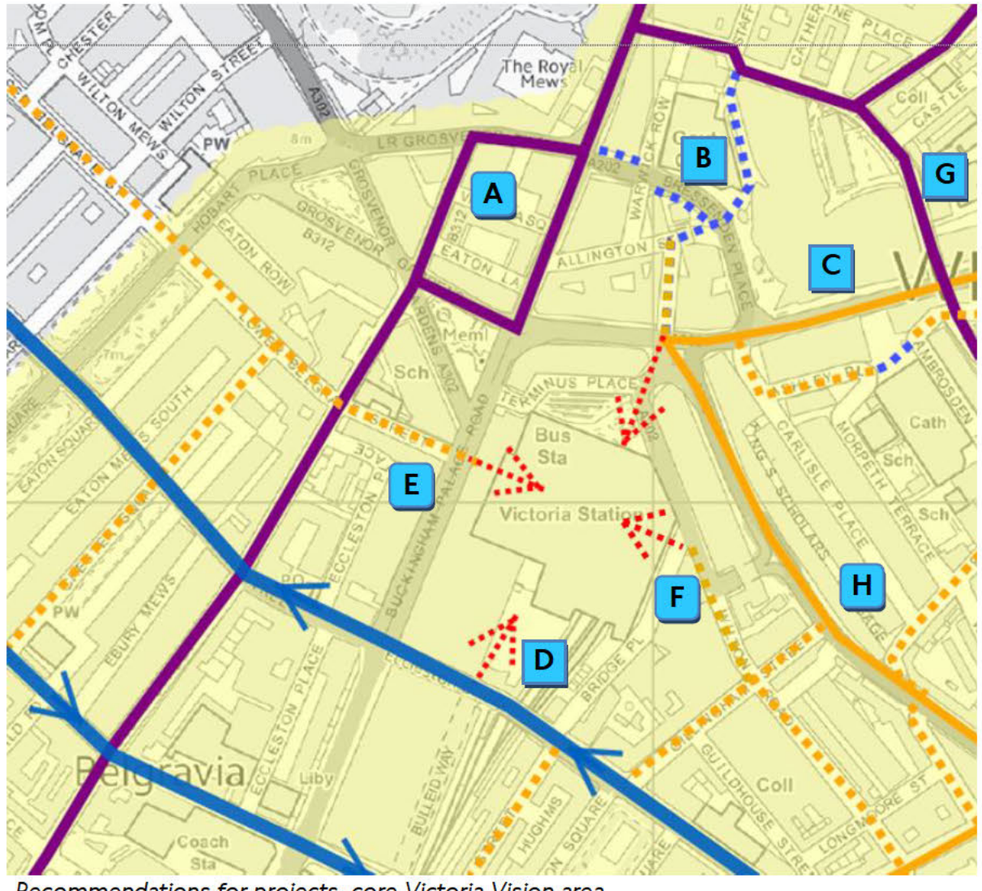
D. **Cycle Hub at Victoria Station (with link to CS5).** The south of the station appears to be the best placed site for a hub, close to the proposed route of CS5 and with the possibility of space for development. Any feasibility study would require partnership work with Network Rail.

E. **Lower Belgrave Street with link to Victoria Station.** This provides access to the western entrance of the station. A new crossing of Buckingham Palace Road would significantly benefit pedestrians as well as cyclists.

F. **Cycle provision on Wilton Road with link to Victoria Station.** This provides access to the eastern entrance of the station. It would provide good access to the south-east, with connections to CS5.

G. **CLCG Victoria Line Quietway between Buckingham Place Road and Rochester Row.** This is important for connectivity to north of the area.

H. **Cycle provision on Vauxhall Bridge Road.** A segregated route may be feasible following reduction in the number of bus stands.



Recommendations for projects, core Victoria Vision area

7.4 Conclusion

This Cycling Strategy has set out the overall aim for Victoria to be transformed into an area with more and safer cycling by both existing and new cyclists. In order to achieve this, a revised set of objectives has been developed.

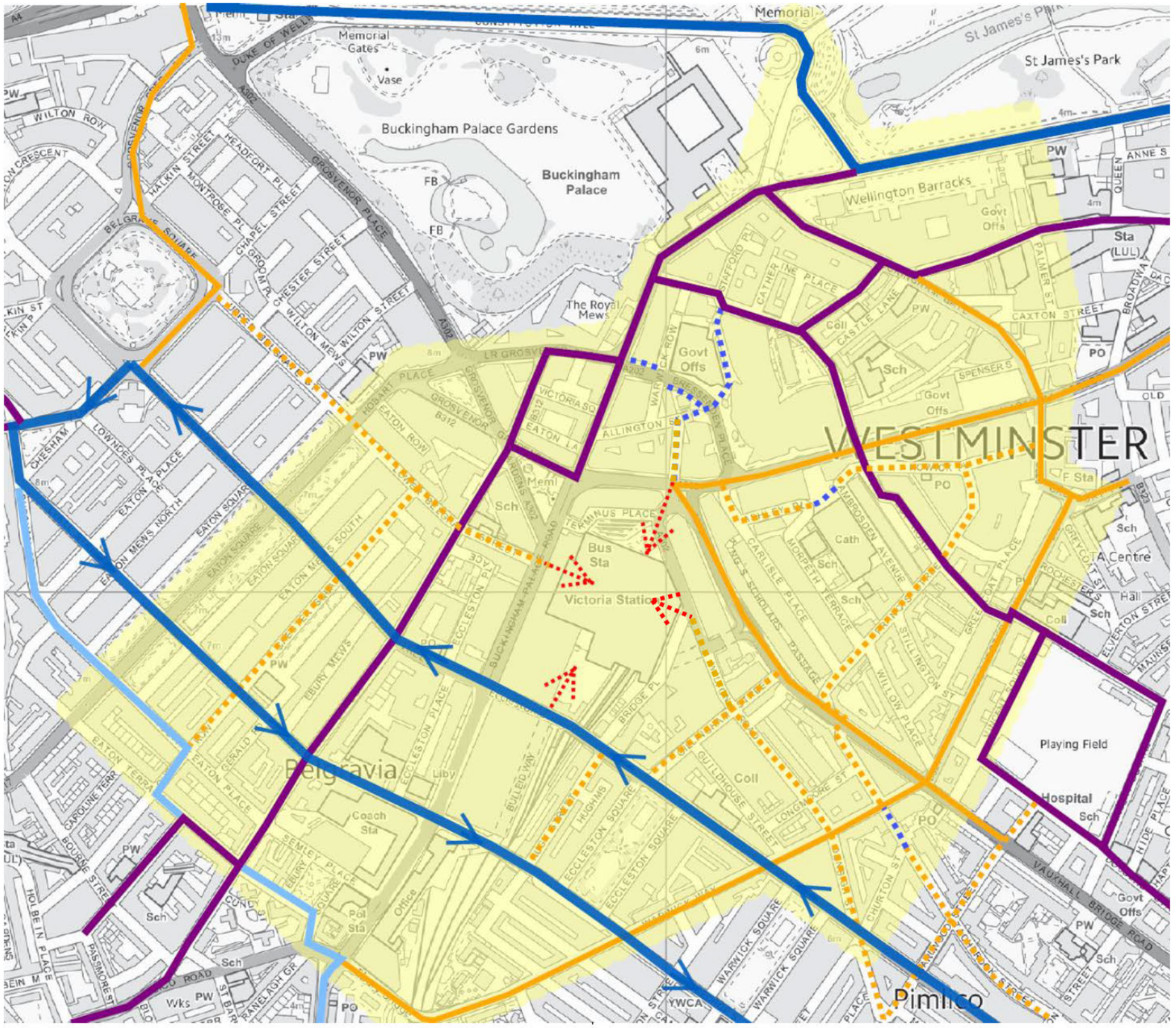
To achieve the objectives in this Strategy will require all parties, not just TfL, to work together to develop the extended cycle network in the wider Victoria area (as shown to the right)

This must include a strong determination to overcome physical and organisational obstacles to the implementation of high quality cycle provision.

Above all, achieving a step-change in cycling in Victoria will need a clear focus on treating cycling as a major mode on a par with other modes.

Ultimately, these actions will help deliver the complete, coherent network of high quality routes that will make it safe and convenient for people to cycle in and around Victoria.

Visitors to London using Cycle Hire on LCN5



Complete extended cycle network, wider Victoria area

Appendix A – Cycling Level of Service (draft LCDS 2014)

finding

enabled

TOTAL (m

Appendix B – Example design approach for Victoria Street

This Appendix sets out an approach to the design of cycle connectivity that would complement and support the aims of the Victoria Vision. It takes one of the proposed routes in the main document, Victoria Street, and considers in more detail how additional cycle provision might be developed.

Introduction

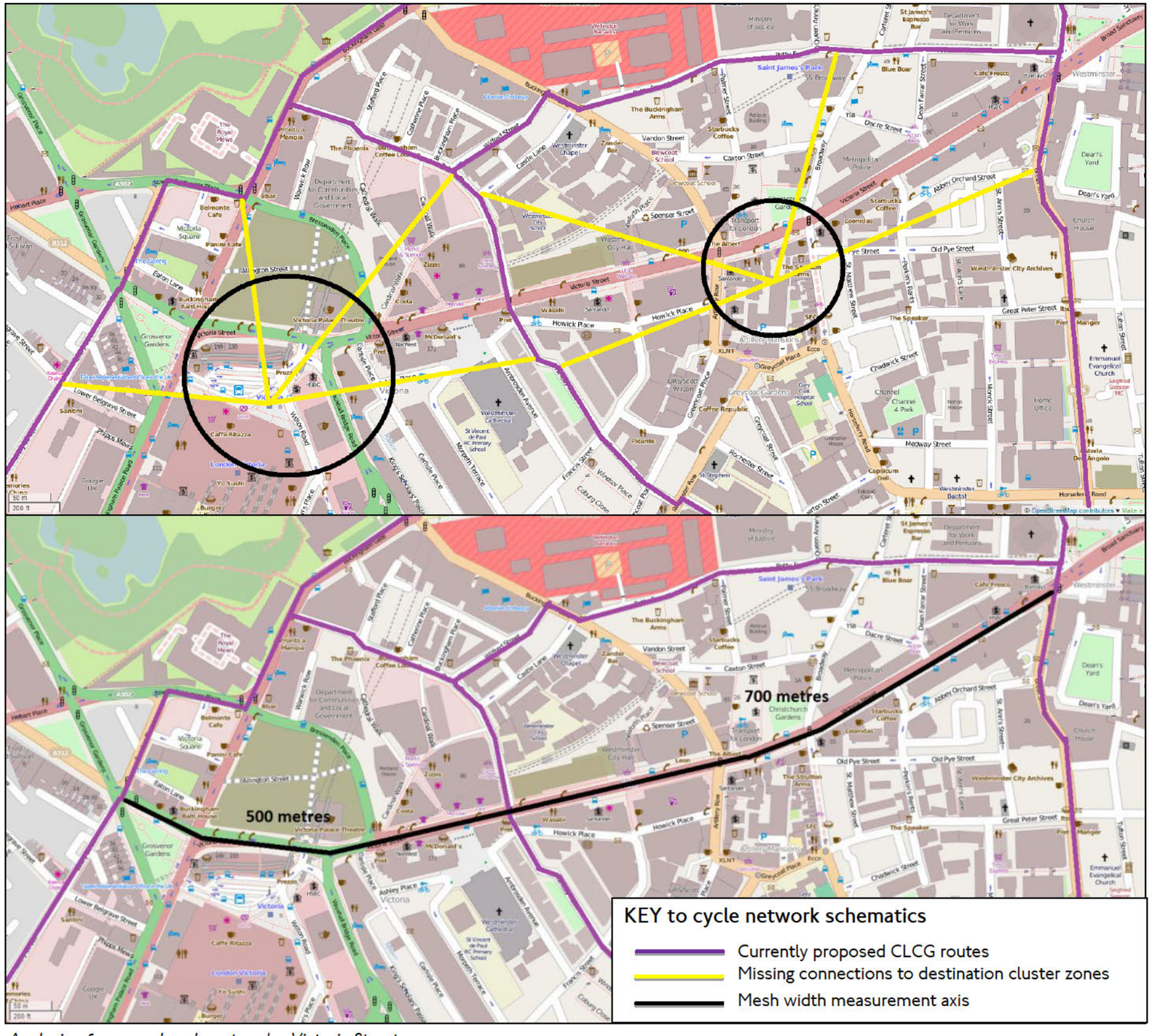
A number of proposed cycle routes in the wider Victoria area being promoted by Transport for London in partnership with various stakeholders, including Royal Parks and Westminster City Council.

As discussed in the main document, mesh density is important in cycling networks in order to maximise the proportion of any journey that makes use of a dedicated cycling facility. The revised LCDS recommends a mesh width of no more than 400m, meaning no two adjacent cycle routes should be further apart than this distance.

While fulfilling wider connectivity aims through Westminster and Central London, the proposed ***Cycle London Cycle Grid*** (CLCG) routes in the Victoria Vision area fall short of facilitating direct and convenient access by bicycle to Victoria's primary trip attractors (shown in the figure top right):

- Victoria rail and underground stations and their immediate vicinity
- the office and café quarter midway along Victoria Street (including Westminster City Hall)

These destination zones are within segments of the cycle network that have a mesh size of approximately 500 and 700 metres respectively (figure below right).



Analysis of proposal cycle network - Victoria Street

Improving connectivity to the two main destination zones, and their hinterland, requires additional links in the network. These could be achieved by making use of potential cycle permeability options and mitigated roadspace reallocation. The primary link possibilities are shown below. These are not exhaustive as many more possibilities exist and could be explored. However, the suggested links address the primary connectivity need3s identified above.

It is understood that the complex traffic movements and heavy pedestrian footfall around the core Victoria Vision area have informed the current thinking behind routeing the proposed CLCG routes away from Victoria Station.

Nevertheless, Victoria Street could act as a significant cycle access corridor to the rail and underground station. It could also provide access for cyclists to the many businesses along it, including the other 'destination zone' around Broadway / Strutton Ground.

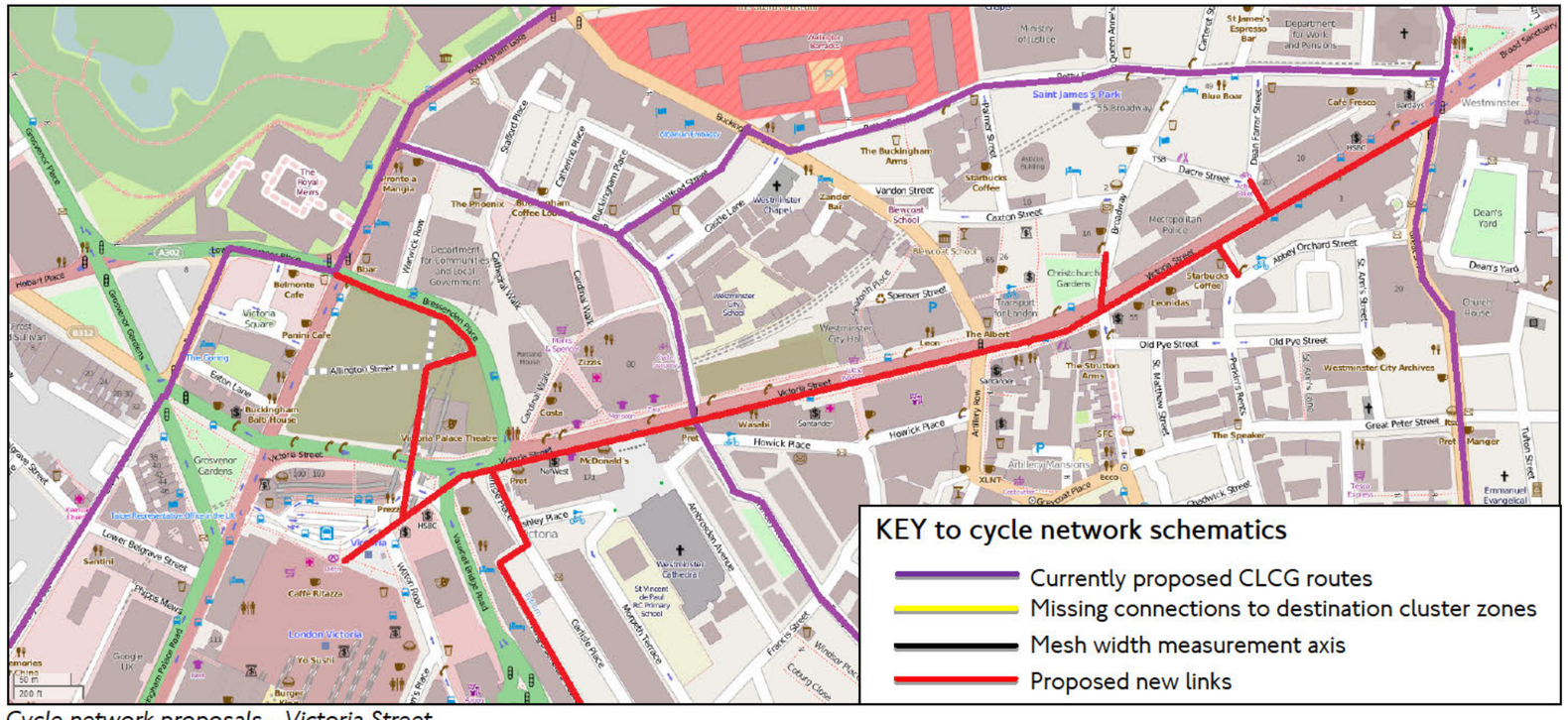
Victoria Street

Victoria Street currently operates with two traffic lanes in each direction. However this capacity is mostly required for queue stacking at its five signalised junctions at

- Bressenden Place
- Palace Street / Thirleby Road
- Buckingham Gate / Artillery Row
- Broadway / Strutton Ground
- Great Smith Street

Removal of the signals at some of these junctions would both smooth traffic flow and create opportunity to re-allocate roadspace for dedicated cycling provision and public realm improvements.

Due to the VSU works, Victoria Street has been reduced to three lanes by Cardinal Place. A lane is also intermittently used for construction works further east. This does not appear to have had a significant negative effect on traffic flow.



Cycle network proposals - Victoria Street

With this in mind, an outline design approach for Victoria Street has been prepared as set out below.

One-way stepped cycle tracks or light segregated lanes between Bressenden Place and Great Smith Street, with the connection with CLCG at the Great Smith Street junction using a dedicated cycles-only stage running in parallel with the pedestrian crossing stage

- A short section of two way track on the south side of Victoria Street (between Bressenden Place and Carlisle Place) will allow cyclists to use Carlisle Place in both directions. This will require a Toucan crossing on the eastern arm of the Bressenden Place junction.
- Exit-only to Victoria Street for motor vehicles from Strutton Ground, Broadway, Abbey Orchard Street and Dean Farrar Street, with two-way cycling permitted (alternatively these could be closed outright to improve public realm). This will address left-hook conflicts.
- Removal of traffic signals at Broadway / Strutton Ground and Palace Street / Thirleby Road junctions. Pedestrian crossings to be replaced with zebra crossings.
- Access to/from Thirleby Road for cycles only, with the north-south crossing of Victoria Street on a 'cycle-zebra' east of Palace Street (also beneficial to the CLCG route)
- Palace Street to become one-way northbound for general traffic, with two-way cycle track on its eastern side (also beneficial to the CLCG route)
- No left turn for motor vehicles from Victoria Street into Buckingham Gate and Artillery Row to address left-hook conflicts
- Public realm enhancements associated with roadspace reallocation at Christchurch Gardens, outside Westminster City Hall and adjacent to Westminster Cathedral plaza

The westbound stepped cycle track on Victoria Street would connect into Carlisle Place at the Bressenden Place junction by means of a cycle advance gate and a short section of two-way segregated track. This facility would also permit cyclists to continue ahead on the bus/taxi/cycle only section of Victoria Street on the main carriageway before turning left into Terminus Place to access the station itself.

This movement in reverse would see cyclists exit the station area via Wilton Road and join the bus/taxi lane eastbound. This would be surfaced in a 'cycle street' treatment to place cyclists in primary road position and to control motor vehicle speeds. At Bressenden Place, an advanced green signal would allow cyclists to join the short two-way track on Victoria Street to right into Carlisle Place.

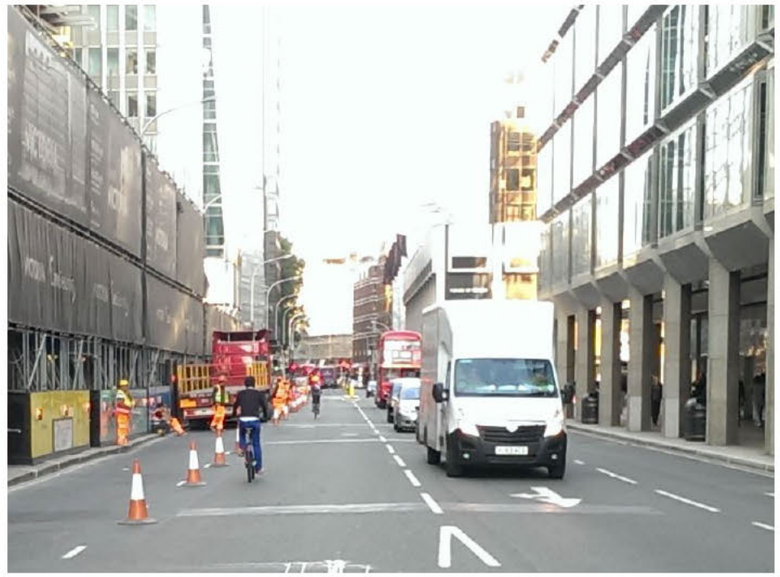
Carlisle Place could be made two-way (or access allowed via the private King's Scholar's Passage) to provide a connection to Vauxhall Bridge Road (where space could be available for segregated tracks) and on to Pimlico.

As suggested in the Publica report for Land Securities' Nova development, two-way cycling could be accommodated on Allington Street. This would link to a Toucan crossing of Bressenden Place leading into Cathedral Walk. It would also connect with a proposed two-way track on the southwest side of Bressenden Place, which would join the proposed CLCG route at Buckingham Palace Road.

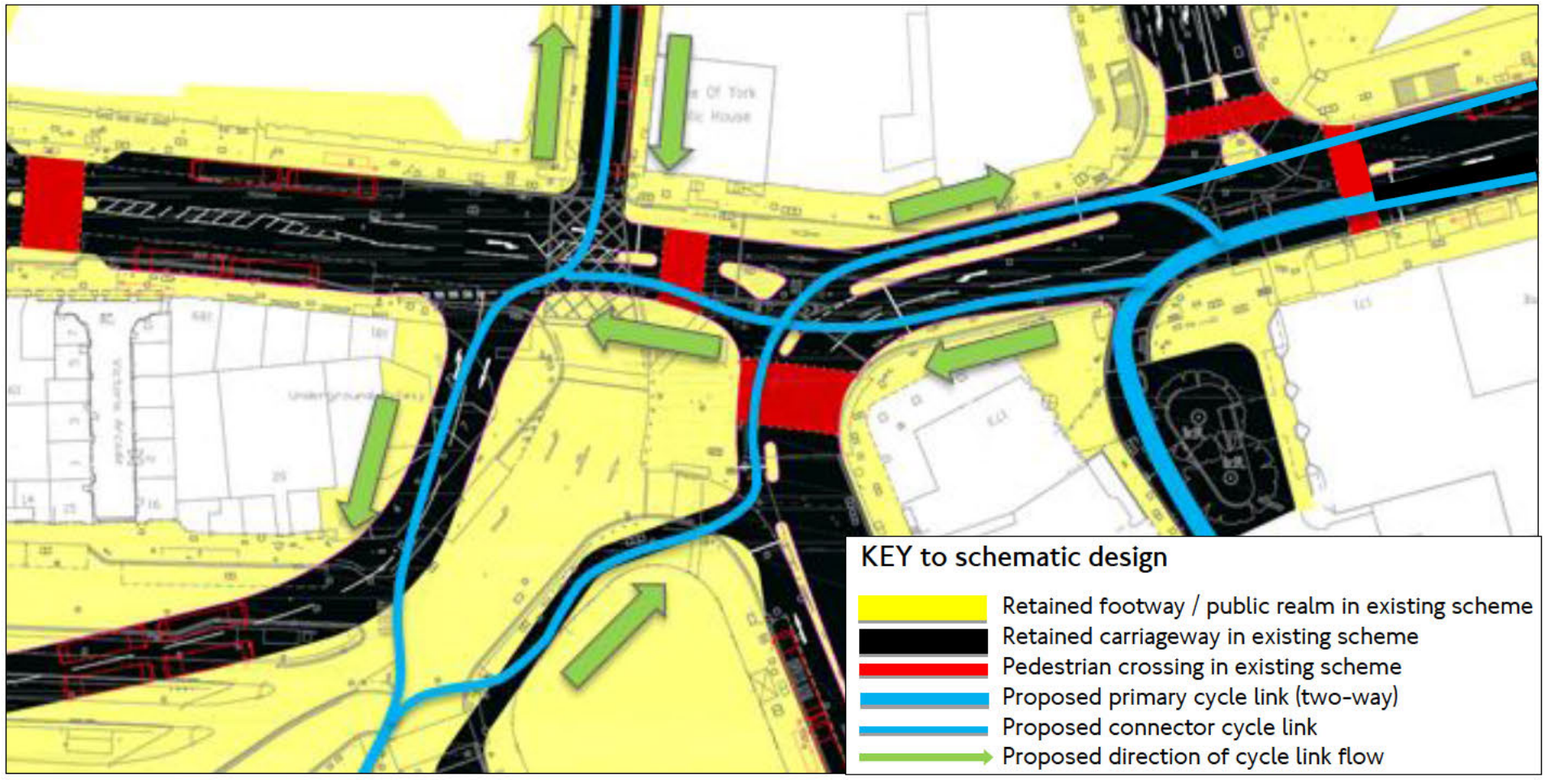
The proposed CLCG route on Buckingham Palace Road, north of Bressenden Place, could be accommodated in a two-way segregated track on the same side of the road as the Royal Mews. This would minimise interaction with side roads, and optimises connection with the East-West Cycle Superhighway at Buckingham Palace. It would also have the benefit of placing motor vehicles further away from the palace grounds, and would not interrupt kerbside loading on the business frontage side of the road.

This track could be continued on the south side of Lower Grosvenor Place westwards to Beeston Place. Ideally, the northern arm of Victoria Square would be closed to traffic to minimise conflict with cyclists.

To complement and further enhance the CLCG proposals, Beeston Place could be given a high-quality public realm treatment to allow two-way cycling. This would create a more equitable street with less focus on through motor vehicle movement and greater prioritisation of place function. It would also improve the setting of the Goring Hotel.



Victoria Street, showing lane closed for construction works



Detailed cycle proposals at western end of Victoria Street

Beeston Place

Produced by Mark Strong, Transport Initiatives

With support from:

Ken Spence (Transport Initiatives)

and

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For Urban Design, Transport for London

June 2014