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The Green Park shared use cycle paths feasibility study for Queen’s Walk and a new path from Queen’s Walk to Devonshire Gates, via the Broad Walk.

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Shared use cycle paths feasibility study

Queen's Walk and Connecting Route Between Queen's Walk and Devonshire Gates for the Royal Parks
12 January 2016
Shared use cycle paths feasibility study
Executive Summary

Background
Transport for London are developing a network of ‘Quietways’ designed to target less confident or leisure cyclists who want to use low-traffic routes at a gentle pace. One route - the Jubilee Quietway - is proposed to run through The Green Park (Green Park) along a north-south alignment. It is proposed to start at the Mall and finish at Dollis Hill.

Atkins was commissioned to undertake a feasibility study to assess the potential for cycling on potential North-South routes in Green Park, in-line with The Royal Parks’ processes, including:

- Queen’s Walk;
- a connecting route between Queen’s Walk and the area adjacent to Devonshire Gates (opposite Half Moon Street) via the north section of the Broad Walk; and
- alternative routes on the adjacent highway network.

Method
Atkins were commissioned to undertake the following set of analyses as part of this study:

Site scoping and connectivity review
- A high level physical assessment of Queen’s Walk and a route that may connect Queen’s Walk with Devonshire Gates via the Broad Walk;
- A qualitative review of the landscape and historical context; and
- A review of the wider cycle route connectivity and opportunities.

Movement and behavioural analysis
- A qualitative review of user behaviour;
- Pedestrian and cycle flow movement assessment; and
- Anticipated future cycle demand.

Shared use review
- Current pedestrian Level of Service analysis;
- Future pedestrian Level of Service analysis; and
- Safety review.

General Findings
The following general findings apply to cycling either within or on alternative routes adjacent to Green Park.

- The level of future cycle demand is unknown, although could be high and this will affect the suitability of routes through Green Park for cycling because higher cycle flows could reduce pedestrian level of service.
- Improvements to Green Park Underground Station to provide step-free access have increased pedestrian activity in the area, particularly at the north of Queen’s Walk and on the connecting path to the south of the park from the station.
- User perceptions are part of The Royal Parks Criteria for Success for Proposed Shared-Use Cycle Routes and the impact on perceptions must be considered. It is possible that any large increase in cyclists using the current pedestrian-only routes, could result in a negative impact on some users’ perceptions.
- For any north-south route to remain safe and attractive, route continuity should be maintained. This would be contingent on works being undertaken outside Green Park, for example on Piccadilly where crossing provision may not be suitable for cyclists. The effectiveness and suitability of Queen’s Walk as a route will be contingent on these works. The gates at Ritz Corner and The Mall would need to be reviewed and arrangements for access and egress made. This could include re-design and again the effectiveness of the route would be contingent on these works.
- Shared use could cause additional impacts on Piccadilly that are not assessed as part of this study. Future consideration of the impacts of cyclists on Piccadilly and the adjacent footways should be considered.
- Alternative routes and alignments could exist which would be likely to improve safety, reduce conflict and improve route continuity for both pedestrians and cyclists when compared to the current Queen’s Walk proposals. While routes on the highway exist, to implement new routes at a level that is suitable for Quietway cyclists, would come at significant delivery risk and expense.
- Connectivity improvements may increase the number of cyclists in Green Park, which in turn may increase the amount of off-route cycling to an unknown extent. This would require management through landscaping, planning and fixed penalty notices.
- The routes are subject to closures on over 16 times per year, where the route may have no or limited access to cyclists.

Queen’s Walk Findings
The following findings apply specifically to the concept of permitting shared use cycling along Queen’s Walk.

- Queen’s Walk could play a strategic role within the Central London Cycling Grid and a number of technically feasible alignments could facilitate cycling.
- The capacity analysis undertaken is broadly supportive of the unsegregated shared-use proposal suggested by PBA as part of a lightly-trafficked Quietway route.
- Safety and conflict issues are generally not supportive of a segregated cycle path on the East of Queen’s walk.
- Congestion at Ritz Corner and on the footway at Piccadilly remains an issue and further work is likely to be required to ensure access, egress and travel across Piccadilly is safe and efficient. Dismount may still be required unless suitable arrangements can be facilitated throughout the length of Queen’s Walk and at points of access and egress. There is insufficient information available to assess the potential for crossing on Piccadilly.
- The gradient at the north of the Queen’s Walk remains a potential issue requiring ongoing monitoring.
- Current observed conflict along the route is low, although conflict has been reported in the past.

Connecting Route Findings
The following findings apply specifically to the concept of permitting shared use cycling across an additional path in Green Park that connects Queen’s Walks to Devonshire Gates.

- A new route via alignment C could be technically feasible to support low levels of quietway cycling, however conflict, congestion, future demand and impact on the historical and landscape environment are key risks to development.
- Increased demand could increase conflict to an unknown extent and this would require management or additional infrastructure and poses a key risk to development.
- Re-configuration of the gates opposite Half Moon Street could be used to improve efficiency and reduce conflict, however this site is adjacent to the Grade II* listed Devonshire Gates.
- Issues that affect Queen’s Walk are likely to apply to this route where the two join.
Background and study area

This chapter of the report introduces the feasibility study undertaken in The Green Park and outlines the layout and key features of the study area.
Introduction

Transport for London are developing a network of ‘Quietways’ designed to target less confident or leisure cyclists who want to use low-traffic routes at a gentle pace. One route - the Jubilee Quietway - is proposed to run through The Green Park (Green Park) along a north-south alignment. It is proposed to start at the Mall and finish at Dollis Hill.

Atkins was commissioned to undertake a feasibility study to assess the potential for cycling on potential North-South routes in Green Park, in-line with The Royal Parks’ processes, including:

- Queen’s Walk;
- a route that may connect Queen’s Walk to the area adjacent to Devonshire Gates (opposite Half Moon Street) via the north section of the Broad Walk; and
- alternative routes on the adjacent highway network.

Queen’s Walk is the current proposed alignment indicated by Transport for London (TfL) and Westminster City Council (WCC) as per the proposed Central London Grid Map 2016. Cycling is currently only permitted at the south of Queen’s Walk and this study will therefore assess the feasibility of extending permitted shared use cycling throughout.

The assessment reviews the current pedestrian and cycle movement in the area, and includes behavioural observations, identification of safety issues and an assessment of the wider connectivity within the current and proposed cycle network developments in London.

Key to the success of any future shared use development in Green Park is to better understand the type and behaviour of its users and their interactions. This study, therefore, aims to provide evidence of existing site conditions, patterns of use and an assessment of the potential impact of shared use in order to inform the decision process using objective, evidence-based analysis.

The study has been carried out in accordance with the ‘The Royal Parks Criteria for Success for Proposed Shared-Use Pedestrian Cycle route Routes (2011)’ for which an assessment of the potential future pedestrian Level of Service with Shared Use is required for an informed decision to be made.

The Royal Parks have an aspiration for long term proposals for any new developments to ensure that the Park is preserved for future generations and as such that any new infrastructure should consider future flows of users so that long term impacts can be considered and solutions are suitable for long-term use.

Atkins was commissioned to undertake the following analysis in order to assess the feasibility of the change of use from pedestrian-only to shared pedestrian and cycle space:

Site scoping and connectivity review
- A high level physical assessment of Queen’s Walk and a route that may connect Queen’s Walk with Devonshire Gates via the Broad Walk;
- A qualitative review of the landscape and historical context; and
- A review of the wider cycle route connectivity and opportunities.

Movement and behavioural analysis
- A qualitative review of user behaviour;
- Pedestrian and cycle flow movement assessment; and
- Anticipated future cycle demand.

Shared use review
- Current pedestrian Level of Service analysis;
- Future pedestrian Level of Service analysis; and
- Safety review.

Conceptual designs produced by Peter Brett Associates (2008) form the basis of our understanding for the proposed shared use conversions along Queen’s Walk and indicative route alignments for a new route have been developed as part of this assessment. Further development of these designs will be required as per DfT guidance (see overleaf).

This report has been organised as follows:
- Chapter 2: Route and connectivity review;
- Chapter 3: Current conditions;
- Chapter 4: Pedestrian and cycle movement;
- Chapter 5: Queen’s Walk shared use review;
- Chapter 6: Shared use review for a new link; and
- Chapter 7: Conclusions and next steps.
The scheme development process

The adjacent figure outlines the development process as suggested by “Shared Use Routes for Pedestrians and Cyclists” (DfT, 2012). This is an iterative outline process that shows the stages that are likely to be necessary to convert an existing pedestrian only route into shared use or the develop a new route.

This study takes into account shared use route options, feasibility of a new route and conversion of an existing route project (highlighted red).

While this report identifies carriageway routes for cyclists, it is outside the scope of this work to carry out a feasibility assessment of these routes.

Figure 1: The shared use scheme development process. Adapted from ‘Shared Use Routes for Pedestrians and Cyclists’, DfT., 2012.
The study area

The adjacent figure shows the study area which consists of the area from the Broad Walk to Queen’s Walk at the West and East and Piccadilly to The Mall at the North and South. The study considers potential north-south routes for shared pedestrian and cycle routes and will also consider adjacent parallel highway routes.

Queen’s walk is located to the east of the park, connecting Piccadilly with The Mall. Ritz corner, towards the north of Queen’s Walk is located adjacent to Green Park underground station and a London cycle hire station. The route is adjacent to public toilet facilities and a refreshment kiosk. It is a key leisure and commuter route, with pedestrian access allowed throughout, and shared use vehicle, pedestrian and cycle access towards the south of the route, as indicated.

The Broad Walk is a central route through the park. The Northern limit of the Broad Walk is formed by Devonshire Gates. The fine central gates have formed the limit since 1921 and are a historical asset. They are not opened and access to the park in this area is by two pedestrian gates placed symmetrically on each side of the historical gates. This study only considers access and egress in this area via these adjacent modern gates.

A very busy pedestrian route also runs from Green Park Underground Station to Canada Gate.

Key
- Green Park Underground station
- Barclays cycle hire station
- Public toilets
- Cafe
- Green space / Parks
- Buildings / Developments
- Pavement
- Water
- Road

Figure 2: Queen’s Walk, The Green Park
Key features of the study area

The adjacent figures outline the key features of the study area around Queen’s Walk and the Broad Walk.

Key

1 - Gates to Queen’s Walk at Ritz Corner
2 - ‘No cycling’ road markings adjacent to the entrance at Ritz Corner
3 - Access to Queen’s Walk adjacent to the step-free entrance at Green Park Underground station
4 - Passageway access to St James’s Place
5 - Step-free access to Green Park Underground Station
6 - London Cycle Hire station adjacent to Green Park Underground Station

Figure 3: Features of Green Park - Queen’s Walk, North
Key
7 - Footpath to Cleveland Row
8 - Fencing adjacent to Queen's Walk
9 - Gates to Queen's Walk adjacent to The Mall
10 - ‘No cycling’ A-Board
11 - Internal footways adjoining to Queen’s Walk.
12 - Internal footways adjoining to Queen’s Walk.

Figure 4: Features of Green Park - Queen’s Walk, South
Key

13 - Devonshire Gates at the north of the Broad Walk are a protected (Grade II* Listed) historical feature.

14 - Current pedestrian crossing to Half Moon Street. Configuration is staggered.

15 - Footway on Piccadilly adjacent to gates at Half Moon Street, bounded by guardrail.

16 - 2.5m wide gate opening opposite Half Moon Street.

17 - Landscape within Green Park that would be affected by the proposed cycle route. Gentle gradient towards the south.

18 - Intersection adjacent to gates.

19 - Key approximately N-S pedestrian route that would be intersected by the proposed cycle route.

Figure S: Features of Green Park - Broad Walk
Route and connectivity review

This chapter of the report outlines the background to the proposed Queen’s Walk route and discusses connectivity to the current and future cycle network. It considers alternative parallel routes on the highway adjacent to Green Park.
Current provision for cycling in the study area

A review of cycling routes has been undertaken as part of this study in order to identify the current connectivity issues faced by cyclists and the attractiveness of a north-south route through Green Park along Queen’s Walk. There is currently the following provision for cycling in the area surrounding Queen’s Walk:

- Provision to the south along an approximately east-west alignment from Hyde Park along the shared use route along Horse Ride, a quiet road adjacent to The Mall. This is predominantly an off carriageway route, with good provision made for cyclists who prefer quieter routes shared with pedestrians.

- Quieter roads, recommended by cyclists, located north of Green Park, facilitating both north-south and east-west movements.

- A signed, north-south route running along Marlborough Road, via Pall Mall, along St. James’s Street. This route does not currently cater for less confident cyclists who are uncomfortable cycling in busy motor traffic.

There are currently poor connectivity options for north-south movements for cyclists wishing to continue their journey on quieter, routes and a N-S route through green park could act to improve route connectivity and current route continuity.

Note that Queen’s Walk is affected by closures on at least 16 occasions per year as a result of events in the area. During ad-hoc national events of importance (for example the Queen’s Diamond Jubilee) the route can close for prolonged periods. In addition, the area is used as a storage location for traffic management equipment during ceremonies, where access would be restricted. Alternative routes would be required during this period.

In addition, during events requiring additional security, measures are deployed in the area, which may make Queen’s walk impassable by bicycles.

**KEY**

- Quieter roads, recommended by cyclists
- Predominately off-carriageway route with good provision for cyclists
- Signed on-carriageway route

Figure 6: Current provision for cycling around Queen’s Walk. Source: Transport for London, Local Cycling Guide, Central London
The future of the cycle network in the City of Westminster

The Green Park has the potential to provide strategic routes through Central London, for those cyclists that are less comfortable to cycle on the busy adjacent roads. It offers a north-west to south-east connection between Piccadilly and The Mall and could broadly facilitate north-south connections to surrounding quieter streets, with connections to all areas of Central London.

Mayor’s Vision for Cycling

The Mayor of London published his Vision for Cycling in 2013; setting out what he considers the future of cycling in London to be. Overall, the Mayor’s vision is “that cycling in London will become an integral part of the transport network. It should be a normal part of everyday life, something people hardly think about and feel comfortable doing in ordinary clothes.”

The vision aims to achieve four key outcomes:

- A Tube network for the bike, made up of direct, connected cycle tracks, with more segregated facilities and a wider network of direct back street Quietway routes.
- Safer streets for the bike in which cyclists feel that they belong.
- Normalising cycling, making it something that anyone feels comfortable doing.
- Generating better places as part of the Mayor’s ‘village in a city’ vision, transforming London into a place that is less dominated by motor traffic.

The current cycle network in Westminster

Westminster is at the centre of London’s public and private transport system. It has over 5 underground stations, four rail termini, river bus piers, local, national and international bus services along with planned Crossrail stations, complemented by over 160 Cycle Hire docking stations. All of this is supported by over 350km of highways and as a result, the opportunities and need for cycling are significant in order to facilitate the safe, sustainable and efficient movement of goods and people into the future. The City of Westminster state that “to help encourage further growth in cycle trips and reduce cycle casualties, major investment in Westminster’s cycle network is needed. The aim will be for cyclists to feel safer and more confident that they can navigate its streets with ease. In partnership with the Mayor, TfL and neighbouring boroughs, the Council will seek to deliver these improvements through the implementation of a Central London Cycling Grid. Queen’s Walk or an alternative suitable route could play a role in increasing the connectivity options in Westminster, allowing them to bring their vision to fruition.

The proposed Central London Cycle Grid

Transport for London is proposing to develop the cycle network in London further, investing in the development of a Central London Grid for cycling, by incorporating linkages in the form of ‘Quietways’ to complement the existing and planned ‘Superhighways’.

The outcome is intended to offer improved connectivity for cycling into and around central London on primary arterial routes and cycling across central London on quietier routes, often in parallel with London Underground services.

Preliminary route designs by TfL in December 2013 indicated that Queen’s Walk could form part of the cycle grid, and that its use as a cycle route was under discussion. Detailed route plans and alignments were not made available at the time (see figure below).

The proposed Cycle Grid in Westminster

The City of Westminster is a key partner in the delivery of the Central London Cycle Grid and core elements fall within the Borough. Green Park and Queen’s Walk falls within the location of the proposed grid network.

In response to the Mayor’s Vision and in order to recognise the increase in cycling within the Borough, Westminster City Council developed a Cycling Strategy that sets out how it intends to deliver the vision at the local level up to 2026. The final strategy was published in November 2014 following public consultation.

Their vision complements the Mayor’s and is “to make Westminster a national leader in cycling provision, making it safer and more attractive for a greater number of people from all backgrounds, to cycle more frequently.”

As part of this vision, the Council have indicated how they would like to see the future network developed (see adjacent figure), with a series of Quietways, supported by new and existing Cycle Superhighway infrastructure.

The proposed Jubilee Quietway and East-West Cycle Superhighway

Queen’s Walk could play a strategic role within the Grid as part of the Jubilee Quietway, which is planned to run from The Regent’s Park down to Ritz Corner (see figure overleaf). Should cycling be permitted on Queen’s Walk (highlighted in blue on adjacent figure, right) it would release the full potential of the proposed route, allowing cyclists to connect to and from The Mall and onto the proposed East-West Cycle Superhighway. While the E-W Cycle Superhighway (CS3) alignment is under consultation, it is proposed to run directly adjacent to the south of Queen’s Walk, along North Horse Ride (see figure overleaf).

Previous feasibility studies for converting Queen’s Walk into a shared use route have indicated conflict at Ritz corner and difficulties with cyclists crossing Piccadilly. We understand that design options for a cycling and non-cycling (using a pedestrian/cycle crossing) option across Piccadilly could feasibly be developed by Westminster to improve the safety and connectivity for cyclists wishing to cross Piccadilly, via Berkeley Street.

Other north-south routes through Green Park could facilitate shared use cycling as an alternative to Queen’s Walk with the potential to address some of these issues.

Figure 7: Queen’s Walk proposed as a potential linkage in the central London cycle grid. Source: TfL, 2013
Figure 8: Strategic importance of Queen's Walk within the Cycle Grid. Adapted from: Central London Cycle Grid Within The City of Westminster, Proposed Grid Alignments 2016. Conway/WSP, May 2014

Figure 9: Indicative alignment of the E-W Cycle Superhighway in relation to Queen's Walk. Source: TfL.
Alternative routes

A review of alternative parallel (including on-carriageway) cycle routes has been undertaken to assess the suitability of routes in the immediate vicinity to provide a similar level of connectivity and service to cyclists, avoiding or reducing the need to use Queen’s Walk (highlighted in blue).

Key to the selection of potential routes has been the criteria that alternate routes must be within close proximity to the currently identified route and that any alternative must have the theoretical ability to allow the safe passage of cyclists across Piccadilly, finally connecting with the proposed Jubilee Quietway.

Two key alternative route options have been identified:

• An adjacent parallel route via Marlborough Road, Pall Mall and St James’s Street (see adjacent figure, right); and
• Central routes through Green Park via internal paths (e.g. the Broad Walk), with new paths and connecting to Piccadilly and Half Moon Street (see figure overleaf).

Marlborough Road and St James’s Street via Pall Mall

Use of an on-carriageway route as an alternative to a route through the Green Park may reduce perceptions of the level of pedestrian / cycle conflict within the park, improving the environment for some park users. A questionnaire survey would establish the current level of perceived conflict within the park. This has not been undertaken as part of this study.

An alternative route could run along existing roads parallel to Queen’s Walk that is accessible from the existing cycle path that runs adjacent to The Mall. The route could run along Marlborough Road to Piccadilly via Pall Mall. There are then a number of route options north of Piccadilly from where it is possible to connect with the proposed Jubilee Quietway route alignment.

Following an initial review of the route (see adjacent figure) it is considered that this route may require significant investment in cycle infrastructure in order for it to facilitate safe connectivity to the Jubilee Quietway such that the route is compatible with the principal of a Quietway being suitable for less confident cyclists. This is likely to incur significant costs along with delivery and design risks. The Marlborough Road junction with The Mall is currently under review as it forms an element of the E-W Cycle Superhighway.

Figure 10: On-road route as an alternative to Queen’s Walk. Adapted from: Central London Cycle Grid Within The City of Westminster, Proposed Grid Alignments 2016. Conway/WSP, May 2014
Options for north-south routes through Green Park

A number of routes have the potential to facilitate a north-south cycle link through Green Park and they are discussed below. The routes have been identified through consultation with either Westminster’s quietway delivery partners WSP, TfL documentation, feedback from Stakeholders or The Royal Parks.

1. Queen’s Walk (current proposal)
This route may provide a convenient north-south route and could potentially be delivered at minimal financial cost within the park (additional work would likely be required on Piccadilly). A previous study indicated that the gradient at the north of the path, the gates at Ritz corner and crossing over Piccadilly could present an issue for shared use cycling and that the route should be reassessed following the installation of the now-completed step-free access to Green Park LU Station. This route is considered as a potential route in this study in order to assess its suitability for shared use cycling following these upgrades. There are historic features of the path that would require preservation if any future development were to take place.

2. Footpath from Green Park LU Station to Canada Gate (alternative route)
While this path provides a north-south route, it is heavily trafficked by pedestrians during peak hours and events, e.g. Changing of the Guard, is relatively narrow compared to other alternative paths and would introduce additional access issues for cyclists at the north, adjacent to Green Park LU station. This route is not considered suitable for shared use cycling due to the likely high risk of conflict and congestion which would cause discomfort for pedestrians and cyclists.

3. The Broad Walk (alternative route)
The Broad Walk provides a north-south route through the centre of the park, is lightly trafficked by pedestrians and has the additional benefit of potentially being able to facilitate a direct crossing over Piccadilly. The early C20 route is, however, considered to be historically significant with the paths being developed as part of the wider layout related to the Queen Victoria Memorial and cited by the Royal Parks management plan as a recognised view within the park. While this route may have the potential to be suitable for shared use cycling, potentially providing a continuous route along a largely lightly trafficked path, it is not considered by The Royal Parks as a potential route for cycling on the grounds that shared use could detract its historical nature, affect the full length of the route, could alter the recognised view and may cause discomfort to leisure users that appreciate the tranquil nature of this area of the park.

4. New path via Queen’s Walk and the Broad Walk (alternative route)
Given that shared use cycling along the full length of the Broad Walk has not been considered, The Royal Parks are considering a potential additional route that would connect the north of Queen’s Walk to the northern tip of the Broad Walk via a new path, minimising the impact on the tranquility and historical nature of the Broad Walk. It is thought that this path may facilitate a continuous route by avoiding the need to use the gates at Ritz Corner. A direct crossing over Piccadilly could potentially be facilitated. This report will consider issues surrounding:

- the levels of service at Devonshire Gates (opposite Half Moon Street) being acceptable;
- the levels of conflict from opposing pedestrian and cycle flows in the future;
- use of additional hard landscaping for conflict management purposes.

Note that TRP operate a policy of ‘Tarmac Neutrality’ and depending on the nature and size of any proposed route, other paths in the park may require rationalising or removing. In addition any developments for shared use cycling may be subject to relevant planning permissions and consents.
Current conditions

This chapter documents the current site conditions around Queen’s Walk and the Broad Walk towards Devonshire Gates.
The landscape and historical significance of the study area

Background

The study area contains a number of landscape and historically significant features that would need to be preserved should shared use cycling be introduced on a north-south alignment in Green Park. Queen’s Walk and the Broad Walk are themselves historically important features of Green Park.

Queen’s Walk lies to the East of Green Park and was created in 1730 for Queen Caroline, the wife of King George II. The path became a popular route to the Queen’s Basin, a reservoir to the north of the park, near Piccadilly. The reservoir collected water for St James’s Palace and attracted London’s elite, who would stroll along its banks. The reservoir was filled in by the 1850s but Queen’s Walk remains popular with walkers, joggers, commuters and tourists today. It is a tranquil area within an otherwise busy and urban environment. It is, therefore, important to preserve the quality of the park to maintain its popularity with both current and future users.

The Broad Walk through the centre of the park is a tree lined double avenue that was developed in 1908 as part of the Queen Victoria Memorial Layout. The long view southwards along the Broad Walk is recognised by the Royal Parks as a significant feature of the park. The route is a tranquil setting within the park and the surrounding urban environment.

This adjacent figures outline a qualitative landscape review of the current site conditions that has been undertaken.

Figure 12: Gates to Queen’s Walk at Ritz Corner

The gates to the north of Queen’s Walk are a key feature of the route and are likely to be retained in the development of any shared use cycle route.

Figure 13: Queen’s Walk footway lines and markings

Queen’s Walk makes relatively frequent use of footway lines and markings to denote where cycling is and is not currently permitted. We consider that changes to footway markings would not adversely affect the landscape value.

Figure 14: Queen’s Walk footway

Queen’s walk is characterised by its wide footway for the majority of the route. Any changes to alignments should ensure that the nature of the route is not changed significantly. Unsegregated shared use is likely to have a minimal impact on the current footway alignment.

Figure 15: Fencing

Queen’s Walk is bounded by fencing. There is post and rail on the west side and railings on the west side. The railings on the west side are privately owned and cannot therefore be altered.
Current conditions

Green Park is adorned with protected lamp standards. While converted to use electricity, these remain a key feature placed at regular intervals along the west of the footway. The protection of these lamps should be a key consideration if changes are to be made along the route.

Queen’s Walk and the Broad Walk are lined with trees, with dense planting continuing throughout Green Park. This planting provides a welcome contrast to the hard street environment surrounding the park and should not be negatively impacted upon by developments.

Paths in Green Park are generally finished with a high quality, high friction surface. Any works carried out should ensure that the same finish quality is achieved.

The gates to the south of Queen’s Walk are a permanent feature of the route and are likely to be retained in the development of any shared use cycle route.

Devonshire gates at the north of the Broad Walk are Grade II* listed. They are not used for access / egress as this is facilitated by two non-listed gates located on either side of the historic landscape feature. Any development in the area may require planning permission or consents.

Figure 16: Gates to Queen’s Walk towards The Mall

The gates to the south of Queen’s Walk are a permanent feature of the route and are likely to be retained in the development of any shared use cycle route.

Figure 17: Path surfacing

Paths in Green Park are generally finished with a high quality, high friction surface. Any works carried out should ensure that the same finish quality is achieved.

Figure 18: Trees in Green Park

Queen’s Walk and the Broad Walk are lined with trees, with dense planting continuing throughout Green Park. This planting provides a welcome contrast to the hard street environment surrounding the park and should not be negatively impacted upon by developments.

Figure 19: Lamp standards

Green Park is adorned with protected lamp standards. While converted to use electricity, these remain a key feature placed at regular intervals along the west of the footway. The protection of these lamps should be a key consideration if changes are to be made along the route.

Figure 20: Devonshire Gates

Devonshire gates at the north of the Broad Walk are Grade II* listed. They are not used for access / egress as this is facilitated by two non-listed gates located on either side of the historic landscape feature. Any development in the area may require planning permission or consents.

Figure 21: The Broad Walk

A tree lined route through the centre of the park that forms part of a recognised view in The Royal Parks Management Plan for Green Park. The view will be sensitive to any changes along the route, in particular those that are proposed over the entire length of the route.
Key features in the surrounding area

The park falls within a Conservation Area and is surrounded by a number of important buildings of historical significance, including: Buckingham Palace, Lancaster House, Clarence House, St James’s Palace and Spencer House. It is likely that these would be key stakeholders within any planning / consents process.

Key designations

Green Park is one of over 1,600 parks included as Grade II status on the English Heritage Register of Parks and Gardens of Special Historic Interest. This demonstrates the national significance of the park.

In addition to this status, there are a number of structures within Green Park that are listed:

- Canada Gates - Grade I
- Devonshire House Gates and piers - Grade II*
- 78 Lamp standards, many of which are on Queen’s Walk - Grade II

These listed structures must be protected should any shared use development take place.

Conclusions

This review has documented the landscape character and historical nature of the study area.

Queen’s Walk is a high value asset for both commuter and leisure activities while the Broad Walk is a more sensitive tranquil area of the park and any shared use development should ensure that the character of the current routes and surrounding area is respected.
Qualitative Observations

The following figures outline qualitative observations documenting pedestrian, motor vehicle and cycle movement along with static activity in the area. A number of site visits took place from February to April 2015.

Pedestrian movement

Figure 22: The footways and roads at the north of Queen’s Walk are busy with a range of users. There is limited opportunity for crossing over Piccadilly and a bus stop is directly adjacent to Queen’s Walk gates. Realignment works and new crossing facilities are likely to be required to ensure that route continuity and safety is acceptable.

Figure 23: The Northern end of Queen’s Walk is busy with commuters walking towards the South. A large proportion of pedestrians continue through adjacent walkways before reaching the Southern end of the route.

Figure 24: The gates at Ritz Corner are busy with pedestrians. Should cycling be permitted to this point, it is likely that pedestrian/cycle interactions and the risk of conflict would be high.

Figure 25: A significant number of pedestrians move east along the walkway connecting Queen’s Walk with St. James’s Place.

Figure 26: Both gates at Ritz Corner are used by pedestrians increasing the chance for pedestrian/cycle interactions. Permitting cycling through the gates would require careful design and indications of priority.

Figure 27: The Southern end of Queen’s Walk is comparatively less busy than the Northern end.
Figure 28: A significant number of pedestrians join Queen's Walk from the step-free access to Green Park Underground Station.

Figure 29: A number of pedestrians move east along the walkway connecting Queen’s Walk to Cleveland Row.

Figure 30: The gates opposite Half Moon Street are relatively quiet compared to those at Ritz Corner. The 2.5 metre width would only have sufficient space for one pedestrian and one cyclist at any one time. This may result in congestion during busy periods and potential safety issues.

Figure 31: The intersection adjacent to the gates opposite Half Moon Street is generally lightly trafficked by pedestrians.

Figure 32: The pedestrian route that runs from Green Park Underground Station to the south of Green Park is very busy during both commuter and leisure hours and would represent a significant cross flow should a new cycle route cross the path.

Figure 33: The footway adjacent to the gates at Half Moon street is lightly trafficked with pedestrians compared to the area adjacent to the gates at Ritz Corner.
Current conditions

Motor vehicle movement

Figure 34: Cyclists and motor vehicles (for access) are already permitted to use the southern end of Queen’s Walk.

Cycle movement

Figure 36: A number of cyclists already dismount and walk through Queen’s Walk, indicating some existing demand for the route.

Figure 37: Some cyclists choose to ignore cycling restrictions and already cycle along Queen’s Walk. In this instance the cyclist was moving safely and cautiously, although conflicts have been reported to The Royal Parks in the past.

Figure 38: The gates opposite Half Moon Street are currently used by a relatively low number of cyclists despite cycling not currently being permitted.

Figure 35: Piccadilly is busy with motor vehicle traffic, and improved crossing facilities to facilitate north-south movement from Queen’s Walk to Berkley Street are likely to be required.
Summary

The area adjacent to the Gates at Ritz Corner on Piccadilly remains busy with pedestrians both within the part on the footway. If cycling was permitted here it is likely that an additional or altered crossing arrangement across Piccadilly would be required. Development of such an arrangement is outside the scope of this project and would require consultation with TfL, LU, Westminster, WSP, TRP and other local stakeholders in order for a suitable arrangement to be developed. A dedicated cycle stage in a crossing arrangement may be necessary to avoid the need for cyclists to dismount and this may involve cyclists queuing within Green Park while waiting for a signal. Further consultation should take place to assess the future proposals for Piccadilly within the study area.

The area surrounding the gates at Half Moon Street (including the footway on Piccadilly) is generally quieter than the north of Queen’s Walk. This may be more compatible with facilitating a continuous cycle rote, where cyclists would be less likely to need to dismount due to pedestrian congestion at the north of the route. Given the high pedestrian cross-flow from Green Park LU station to Canada gates, along with the use of the grassland area for leisure activities there may be increased risk of conflict should any additional route be introduced.

Note that this assessment took place after the introduction of visible penalty notice displays and enforcement of the no-cycling area along Queen’s Walk and it is possible that there would be increased conflict and cyclist numbers without this management practice. Management of conflict would be needed should cycling be permitted.

Static activity

Figure 39: On warm days, the park is heavily utilised by leisure users in particular at lunchtime where it is common for picnics to take place. Given the proximity to Green Park LU Station, Green Park is an attractive and convenient leisure park for those living and working in Central London. Note that deck chair hire represents an income stream for The Royal Parks.

Figure 40: Static activity takes place throughout the study area indicating the popularity of the Park, especially on warmer days. Note that users tend to congregate relatively close to the footpath that runs from Green Park LU station to Canada Gates.
Pedestrian and cycle movement

This chapter documents pedestrian and cycle movements that were observed using CCTV surveys on the 6th and 7th February 2015 along Queen’s Walk and 26th and 28th February 2015 around Devonshire Gates and Green Park London Underground Station.
Pedestrian and cycle flow profiles

Pedestrian and cycle flow counts were conducted in the Queen’s Walk area on the 6th and 7th February 2015 in order for a full assessment of the levels of activity on and surrounding Queen’s Walk to be understood. Given that the peak hours for pedestrians and cyclists do not consistently coincide, they have been considered separately throughout this assessment to ensure that a conservative Level of Service assessment takes place. Peak hours in the area have been based on flows observed on Queen’s Walk only, excluding surrounding counts on Piccadilly and North Horse Ride.

**Weekday flows**

The adjacent figures show the level and pattern of cycle and pedestrian flow exhibited during a typical weekday. The comparison allows the level of activity on Queen’s Walk to be compared to the surrounding area.

Weekday flows for both pedestrians and cyclists when the total area (including Piccadilly and North Horse Ride) is considered are higher than the flows exhibited only on and adjacent to Queen’s Walk within Green Park. This indicates the use of Queen’s Walk as a connecting north-south route.

Weekday flow on and adjacent to Queen’s Walk only

weekday flow including Piccadilly and North Horse Ride
Weekend flows

The adjacent figures show the level and pattern of cycle and pedestrian flow exhibited during a typical Saturday. The comparison allows the level of activity on Queen's Walk to be compared to the surrounding area.

Weekend flows for both pedestrians and cyclists when the total area is considered are higher than the flows exhibited only on and adjacent to Queen's Walk within Green Park. This indicates the use of Queen's Walk as a connecting north-south route.

Due to the low numbers of cyclists observed along Queen’s Walk, cycle flow is subject to fluctuations throughout the day and it’s not representative of future demand pattern for the route. When the whole study area is considered (Queen’s Walk including flows along Piccadilly and on the off-road track adjacent to The Mall), peak flows for pedestrians and cyclists occur at broadly the same time.

Weekend flow on and adjacent to Queen’s Walk only

Weekday flow including Piccadilly and North Horse Ride
Pedestrian Movement

The following figures show peak pedestrian flow counts observed on and around Queen’s Walk on the 6th and 7th February 2015.

Weekday, AM Peak, 08:15 - 09:15

Following the upgrades to Green Park Underground station to introduce step free access, the north of Queen’s Walk is busier as more people choose to exit via the step free access and into the park. The footway on Piccadilly remains busy.
Pedestrian Movement

Weekday, Inter-peak, 12:15 - 13:15
Pedestrian Movement

Weekday, PM Peak, 17:00 - 18:00
Pedestrian Movement

Weekend, Peak hour, 11:30 - 12:30
Cycle Movement
The following figures show cycle flow counts observed on and around Queen’s Walk on the 6th and 7th February 2015.

Weekday, AM Peak, 08:30 - 09:30
A small number of cyclists cycle up the entire length of Queen’s Walk, including where cycling is not allowed. There are more cyclists using the south of the route and this is consistent with cycling and motor vehicle access being permitted here.
Cycle Movement

Weekday, Inter-peak, 12:00 - 13:00

Very few cyclists were recorded in the weekday inter-peak, reflecting the fact that the route is commonly used by commuters in the AM and PM peak periods.
Cycle Movement

Weekday, PM Peak, 17:00 - 18:00
Cycle Movement

Weekend, Peak hour, 16:15 - 17:15
Pedestrian Movement

The following figures show peak pedestrian flow counts observed around Devonshire Gates (opposite Half Moon Street) and Green Park LU Station on the 26th and 28th February 2015. These additional flows are used in the assessment of a new route in the area. Peak hours are derived from flows along Queen’s Walk to maintain consistency.

Weekday, AM Peak, 08:15 - 09:15

The area adjacent to the gates at Half Moon Street is relatively lightly trafficked during this period. This area could therefore be more compatible with cycling, compared with the busy northernmost end of Queen’s Walk.
Weekday, Inter-peak, 12:15 - 13:15

The area adjacent to the gates at Half Moon Street is relatively lightly trafficked during this period. This area could therefore be more compatible with cycling, compared with the busy northernmost end of Queen’s Walk.
**Weekday, PM Peak, 17:00 - 18:00**

The area adjacent to the gates at Half Moon Street is relatively lightly trafficked during this period. This area could therefore be more compatible with cycling, compared with the busy northernmost end of Queen’s Walk.
Weekend, Peak Hour, 11:30 - 12:30

The area adjacent to the gates at Half Moon Street is relatively lightly trafficked during this period. This area could therefore be more compatible with cycling, compared with the busy northernmost end of Queen's Walk.
Cyclist Movement

The following figures show peak cycle flow counts observed around Devonshire Gates (opposite Half Moon Street) and Green Park LU Station on the 26th and 28th February 2015. Note that the levels of cycling are low at the west of the study area and full survey period counts are therefore shown.

Weekday, Total throughout survey period (07:00-10:00, 12:00-14:00, 16:00-19:00)

Cycle use is low throughout the survey period. Some cyclists use the area adjacent to the London Underground station exit, despite this being very busy with pedestrians.
Weekend, Total throughout survey period (10:00-19:00)

Cycle use is low throughout the survey period. Some cyclists use the area adjacent to the London Underground station exit, despite this being very busy with pedestrians.
Changing of the Guard

Note that the Changing of the Guard ceremony is a significant event that takes place daily at 11:30 from April - July and on alternate days for the rest of the year where the weather allows. It attracts a significant number of people who use Green Park LU station and the route that runs from the station to Canada gates in order to access the event at Buckingham Palace. The nature of the event means that a significant number of additional pedestrians use Green Park as a walking route in a short period of time.

The adjacent diagrams show pedestrian flows before and after the Changing of the Guard ceremony. Flows were observed as part of 'The Green Park Path Rationalisation Study (Draft)' (Atkins, 2015) using scaled counts and represent an estimate of flows, however there is a clear indication that this path becomes busy during event periods.

While peak cycle flows from commuters are not likely to coincide with the Changing of the Guard, during this period it would be difficult for cyclists to cross this pedestrian flow and if they did it could introduce conflict and make the route uncomfortable for pedestrians.

Figure 41: Pedestrian flows related to Changing of the Guard. Source: "The Green Park Path Rationalisation (Draft)" (Atkins, 2015)
Anticipated cycle demand

Detailed modelling has not been undertaken as part of this study, however, it would be likely that in opening Queen's Walk or another route for shared use cycling, a certain amount of additional demand will be induced. The future demand will depend on a multitude of factors, but will include:

- The demand on the E/W Cycle Superhighway (CS3);
- The level of route continuity provided;
- Any requirements to dismount;
- The level of future pedestrian demand along the route;
- The crossing provision on Piccadilly; and
- The overall quality of provision for cyclists.

It is likely that a certain percentage of cyclists that will use the E/W Cycle Superhighway will divert onto Queen's Walk or an alternative route in addition to the current levels of demand and it would be likely for this to happen to at least a limited extent, regardless of whether cycling is permitted or not. Currently less that 10% of the demand cycling adjacent to The Mall appears to use Queen's Walk, however should route continuity be improved as a result of permitted cycling on Queen's Walk and upgraded crossing facilities on Piccadilly, then it would be expected that cycle flows could be higher.

Detailed forecasts based on origin-destination surveys and future demand predictions would be required to determine the impact of the Central London Cycle Grid and E/W Cycle Superhighway on flows within Green Park. Consultation with TfL should take place to establish estimates for future flows for any detailed design that is proposed.

Without detailed modelling, comparative cycle demand can give an indication of the levels of cycling that might be expected along Queen's Walk or an alternative route. Given the strategic importance of a north-south route in the area, demand could be high.

Previous studies have suggested that flows on Queen's Walk (and therefore an alternative N-S cycle route) could be comparable to Mount Walk in Kensington Gardens where over 500 cyclists per hour have been observed using the route in previous studies in the peak hour. However, pedestrian flows along Mount Walk are lower than those observed in this study area and the nature of the current and proposed routes are different. Given that the Green Park study area is busier with pedestrians it is likely to be less comfortable for cyclists and this may have a reducing effect on cycle demand. Additionally Mount Walk is part of a well connected route with good continuity and levels of activity on any route through Green Park will depend on the levels of connectivity, safety and convenience achieved.

The Level of Service analysis undertaken in this study accounts for high levels of demand, where two cyclists are side by side with peak pedestrian flow are considered. However, given the uncertainty with regards to the future levels of cycling demand further work could take place to establish potential future demand and should any shared use route be implemented then continual monitoring of demand would be required to ensure that the level of conflict along the route is acceptable. Route trials would be recommended to establish the levels of conflict and user perceptions before full implementation takes place.
This chapter of the report presents the findings of a shared use review undertaken for Queen’s Walk, extending the current provision for shared use at the south along the extent of the route.
Physical characteristics of Queen’s Walk

In order to assess Level of Service on an exiting route, the physical features of the route should be understood. The adjacent figures outline a physical assessment that has been undertaken along Queen’s Walk. This assessment is based on a site visit that took place on 21st November 2014 and topographic survey data provided by Peter Brett Associates in 2008 along with Ordnance Survey Mastermap data.

Data from this physical assessment is at a level of accuracy suitable for this feasibility study and Level of Service analysis that will be undertaken along Queen’s Walk. Additional data may be required prior to the development of any detailed design or construction drawings, should physical changes to the route be required. The current surface is a high quality bound gravel that is likely to be suitable for cycling and is already used for both cyclists and vehicles towards the south of the route.

Figure 42: Physical assessment of Queen’s Walk, North section, Adapted from topographic survey data provided by PBA, 2008.
Figure 43: Physical assessment of Queen’s Walk, Middle-section, Adapted from topographic survey data provided by PBA, 2008.
Figure 44: Physical assessment of Queen's Walk, South section, Adapted from topographic survey data provided by PBA, 2008.
Queen’s Walk gradient profile

The figure below shows the approximate level of Queen’s Walk along its length, based on Ordnance Datum using data provided by PBA (2008). It shows that the majority of the route is supportive of cycling, with the route being generally flat or with a gentle gradient. The north of the site, adjacent to Ritz Corner has a steep gradient which may increase the risk of cycle/pedestrian conflicts and will increase the need for energy expenditure if cycling uphill. This section of the route requires appropriate consideration in the development of a shared use solution to ensure that conflict risk is appropriately considered.

There is potential for conflict due to this gradient, in particular between Ritz Corner and the centre of the route where cyclists speeds could increase if they are uncontrolled. Previous verbal reports of collisions show that they generally occur in the areas where the passageways join Queen’s Walk, where visibility is poor. For example, “I have been asked to report two separate incidents “near miss collisions”, involving two of my staff in Green Park, this week, by Speeding cyclists at the Cleveland Row entrance to Queens Walk…..(Anonymous source, reported to The Royal Parks)”.

Where there is choice, DfT Shared Use Routes for Pedestrians and Cyclists guidance states that steep gradients should be avoided and cyclists may divert to more comfortable routes. To increase comfort, localised increases in width or levels of separation can be beneficial (LTN 2/08). LTN 2/08 recommends that a preferred maximum gradient over up to 30 metres is 7%. Steeper gradients are considered acceptable if only over short distances. Based on available data the maximum gradient over 30m, that occurs adjacent to Ritz Corner, is approximately 10% This gradient is within acceptable boundaries given the short distance, although alternative quiet routes with shallower gradients could also be considered.

Although cyclist speed was not formally assessed as part of this study, approximate speed measurements were undertaken at the north of Queen’s Walk over a section of approximately 50 metres. Although the numbers of cyclists observed cycling down this section of the hill was low, six bicycle speed measurements were calculated for cyclists cycling downhill on the 6th and 7th June. Average speeds observed were 12 mph, with a maximum of 14mph over this short distance. Note that these are indicative speeds only for the steepest part of the path and were observed when the route was sufficiently clear to achieve such speed. It would not be expected that cyclists behaving considerately would travel at this speed unless the route is sufficiently clear to do so.
Safety Analysis

This chapter of the report presents the findings of a safety analysis that has been conducted to highlight potential safety issues that may arise as a result of Shared Use along Queen’s Walk.
Safety Analysis

It is considered good practice to carry out audits in order to ‘ensure that scheme objectives are being delivered’ (Shared Use Routes for Pedestrians and Cyclists (LTN 1/12), DfT, 2012). A high level safety analysis of Queen’s Walk is considered in this study in order to assess potential safety issues that may arise as a result of shared use. The analysis considers the following:

- A safety review of the current conditions and the potential for shared use upgrades with minimal infrastructure changes;
- An analysis of cycling collisions adjacent to Piccadilly and The Mall access routes to Queen’s Walk; and
- A conflict analysis of the current cycle usage observed along the route.

The analysis has been undertaken based on the understanding that either unsegregated or segregated shared use could be considered along Queen’s Walk.

Safety Review

Introduction

Considering the purpose of the study and the off-road nature of Queen’s Walk, a full road safety audit consistent with DMRB HD 19/03 Road Safety Audit guidance is outside the scope of the analysis undertaken. This analysis instead considers a safety review that has been undertaken to highlight general safety issues that may become apparent as a result of cycling along Queen’s Walk.

Methodology

The review draws on guidance from the Living Streets pedestrians and cyclists Policy Briefing 03/09 (2009, Table 1) and DMRB HD 19/03 Road Safety Audit guidance (2003, Table 2) in order to ensure that both pedestrian and cyclist needs are considered in the development of the project.

A site visit was carried out on 21st November 2014 in dry and bright conditions to identify key issues.

We understand that any segregated option would include a segregated cycle path on the East of Queen’s Walk.

Safety issues identified by the review, key considerations and recommendations are provided overleaf.

<table>
<thead>
<tr>
<th>Item</th>
<th>Possible questions and issues</th>
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<tbody>
<tr>
<td>Parks</td>
<td>The primary use of a park is recreational space and the provision of cycling should not be at the expense of pedestrian space, safety and enjoyment. Options outside the park, new alignments and path widening should be considered.</td>
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<tr>
<td>Signs</td>
<td>Signs should assist in educating cyclists and show priority where applicable.</td>
</tr>
<tr>
<td>Space</td>
<td>Where pedestrians and cyclists are mixed segregated paths are preferred, especially when cycle use is high. A minimum total width of five metres (segregated) and three metres (shared use) should be considered.</td>
</tr>
<tr>
<td>Sightlines &amp; visibility</td>
<td>Blind spots should be avoided and segregation should not channel cyclists into conflict with pedestrians.</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Shared or segregated paths require regular maintenance to ensure that routes are not obstructed with vegetation in summer, leaves in autumn or ice in winter. Maintenance should afford the same attention to shared facilities as is enjoyed by the highway network.</td>
</tr>
</tbody>
</table>
Issues identified by the safety review

This section outlines the findings of the safety review that has been undertaken.

**Issue 1: Sight lines**

**Location:** East side of Queen’s Walk

**Problem:** Poor pedestrian / cyclist visibility as a result of poor sightlines

**Summary:** Pedestrian accesses to the east of Queen’s Walk offer restricted visibility as a result of poor sightlines. There may be limited pedestrian awareness of cyclists as they exit the accesses onto Queen’s Walk. This may increase the risk of pedestrian / cycle conflict, in particular for the segregated route design where the cycle route is proposed to be immediately adjacent to the eastern access routes. It is considered less of an issue for the shared use design, where typically cyclists are unlikely to cycle immediately adjacent to a fence line to increase their own comfort.

**Applies to:** Segregation along the east of Queen’s Walk

**Recommendation:**
- Consideration of shared use instead of a segregated cycle route.
- Realignment of the segregated route to improve sightlines.
- Consider the installation of cycle markings and signage to assist in educating users to increase awareness that the area is shared and that oncoming pedestrians or cyclists may not be immediately visible.
- Consider the installation of bollards or other features to ensure cyclists do not encroach upon pedestrian space.
**Issue 2: Maintenance**

**Location:** East side of Queen’s Walk

**Problem:** Increased conflict and slip hazard due to leaf litter lining the eastern side of the route during autumn.

**Summary:** The eastern side of the route collects a significant amount of leaf litter during autumn. This leaf litter may present a slip hazard to pedestrians and cyclists. In a segregated condition it is possible that the whole segregated cycle lane would be covered with leaf litter in some areas, reducing the likelihood that pedestrians and cyclists would maintain segregation.

**Applies to:** Shared Use or Segregation

**Recommendation:**
- Increased maintenance of footway to remove leaf litter from the site.
- Ensure that all cycle markings are kept visible and well maintained.

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**Issue 3: Obstructions**

**Location:** East side of Queen’s Walk

**Problem:** Some gates are able to open into Queen’s Walk, presenting an obstruction and collision hazard to cyclists and pedestrians.

**Summary:** Some gates are able to open into Queen’s Walk, presenting an obstruction to cyclists, in particular if a segregated route was to be installed along the fence line.

**Applies to:** Shared Use or Segregation

**Recommendation:**
- Consideration of a shared use design, instead of a segregated route that is proposed to run along the fence line.
- Consultation with private residences to ensure they are aware of any changes to cycling restrictions.
- Installation of automatic closure devices on gates.

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**Issue 4: Obstructions**

**Location:** Gates at Ritz Corner

**Problem:** Limited space for cycling.

**Summary:** There may limited space for cycling thorough the gates at Ritz Corner, especially at peak times when both gate entrances could be busy.

**Applies to:** Shared Use or Segregation

**Recommendation:**
- Consideration of cycling dismount.
- Should formal cycling be considered here the design must ensure that suitable markings are used to make users aware of one another and that priority is clear.
- Consideration of an alternative route at the north of the site that bypasses Ritz Corner e.g. via the gates adjacent to Half Moon Street.
- Improved design of the area, including a new crossing facility (consultation with TfL/Westminster required).
Issue 4: Gradient / Speed
Location: Northern half of route (southbound)
Problem: The potential for increased cycle speed at the north of the site.
Summary: The gradient is steeper towards the north of the side which may induce faster cycle speeds and increase the risk of conflict.
Applies to: Shared Use or Segregation

Recommendation:
- Consideration of cycling dismount at the steepest part of the site adjacent to Ritz Corner.
- Should formal cycling be considered here the design must ensure that suitable markings are used to make users aware of one another to ensure that appropriate pedestrian priority is clear.
- Consideration of an alternative route at the north of the site that bypasses Ritz Corner e.g. via the gates adjacent to Half Moon Street, that reduces issues posed by gradients.

Figure 50: Steeper gradient at the north of the site.

Issue 4: Junctions
Location: Gates at Ritz Corner
Problem: Potential for conflict.
Summary: The pathway leading to Green Park step free access is busy with pedestrian movement and there may be the potential for increased risk of conflict towards the north of the site.
Applies to: Shared Use or Segregation

Recommendation:
- Ensure that suitable markings are used to make users aware of one another and that priority is clear.
- Ensure that lighting is sufficient throughout the day to improve visibility of both pedestrians and cyclists.

Figure 51: Path to Green Park step free access

Issue 4: Connectivity
Location: Gates at Ritz Corner
Problem: Poor connectivity across Piccadilly
Summary: Piccadilly is busy with traffic, buses and there is limited crossing provision, especially for cyclists.
Applies to: Shared Use or Segregation

Recommendation:
- Consider realignment of Piccadilly to facilitate safe and efficient pedestrian and cycle crossings at the north of Queen’s Walk (required additional consultation with TfL/Westminster).

Figure 52: Gates towards the east of Queen’s Walk
Conflict Analysis

An analysis of pedestrian-cyclist conflict has been conducted as part of this study at three locations along Queen’s Walk, with a view to assessing the type of conflicts that occur today as a result of cycling during the peak hour and to establish the nature of potential future conflicts, should cycling be introduced to the route.

Introduction

During normal pedestrian-cycle interactions, it is considered that both parties movements should remain calm and controlled in order for considerate and safe passing to take place. Both the cyclist and pedestrian should consider each other’s behaviour to be normal and considerate.

Conflict occurs when either a cyclist or pedestrian is forced to undertake an unplanned avoidance manoeuvre.

Minor Conflict occurs when either party has to make an unplanned change in speed or direction, but with movement generally remaining controlled and where often at least one party will remain unaware of the action taken by the other. The rate of change of speed or direction is low. Should neither party have taken any action, a collision would occur.

Major Conflict is a near-miss event and occurs when either a pedestrian or cyclist has to take an emergency action to avoid an imminent collision. The action often results in a sudden change of speed or direction and at least one party may still remain unaware of the conflict as a result of poor visibility or speed. The rate of change of speed or direction is high. Should neither party have taken any action a severe collision would occur.

A Collision involves contact and may or may not result in an injury. Collisions are categorised slight, serious or fatal, with serious injuries generally requiring a hospital trip for treatment of injury.

Previous research has indicated that actual conflict on shared use routes can be a rare occurrence and that perceptions of conflict can increase when users recall events at a later date. Furthermore, research indicated that there was “no evidence to suggest that segregation by white line materially reduces the potential for conflict” (LTN 1/12, DfT, 2012).

Methodology

Given the relatively low number of cyclists using the route, observations were undertaken at three locations during the AM Peak, 0830-0930 and the peak PM period, 1700-1800 on the 6th February 2015. The analysis overleaf includes both cyclists and pedestrians with bicycles as those users walking with a bicycle are likely to cycle if Queen’s Walk becomes shared use. This also gives an indication of compliance with no-cycling restrictions.

Key Findings

Conflict was very low during the observation period at the three sites between cyclists and pedestrians or other park users. There was only one occurrence of minor conflict. Similarly no collisions were observed taking place. However, we understand that the Royal Parks have received reports of conflicts and collisions taking place on other days.

The majority of cyclists observed at the north of Queen’s Walk at Ritz Corner were walking with their bicycle, observing the no-cycling restriction. Although cyclists were observed illegitimately cycling through the gates, each did so when there were no pedestrians at one side of the entrance and avoided interactions.

Similarly in the centre of Queen’s Walk, a number of cyclists were observed cycling through an area that was relatively busy with pedestrian traffic. In most instances the cyclist weaves between pedestrians, undertaking normal pedestrian/cycling interaction that would be expected in this environment.

A number of cyclists were observed cycling at the south of Queen’s Walk where cycling is permitted. While some normal interactions did occur with cyclists weaving through pedestrians, there was no evidence that any avoiding action took place which would escalate an interaction to a conflict.

It should be noted that any induced cycle demand resulting from shared use conversion could potentially increase the number of pedestrian/cycle interactions and therefore the likelihood of conflict occurring. A shared use unsegregated route, however, would result in a route where users are generally more aware of each other, encouraging considerate use of the route and reducing the risk of conflict occurring.
Ritz Corner - 0830-0930, 06/02/2015
Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cyclist
Cycle hire bike? Yes

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cyclist
Cycle hire bike? No

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Pedestrian
Cycle hire bike? No

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cyclist
Cycle hire bike? No

Level of Conflict:None
Cyclist/Pedestrian with bicycle
Cyclist
Cycle hire bike? No

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Pedestrian
Cycle hire bike? No

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cyclist
Cycle hire bike? No

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cyclist
Cycle hire bike? No

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Pedestrian
Cycle hire bike? No

*Note that cycling is permitted towards the south of Queen’s Walk.
*Note that cycling is permitted towards the south of Queen's Walk.
Site 2 - 0830-0930, 06/02/2015
Level of Conflict: None
Cyclist/
Pedestrian with bicycle Cyclist*
Cycle hire bike? No

Site 6 - 0830-0930, 06/02/2015
Level of Conflict: None
Cyclist/
Pedestrian with bicycle Cyclist
Cycle hire bike? No

*Note that cycling is permitted towards the south of Queen’s Walk.
Interactions - PM Peak

Ritz Corner - 1700-1800, 06/02/2015

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cycle hire bike? Yes

Site 2 - 1700-1800, 06/02/2015

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cycle hire bike? No

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cycle hire bike? No

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cycle hire bike? No

Site 2 - 1700-1800, 06/02/2015

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cycle hire bike? No

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cycle hire bike? No

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cycle hire bike? No

Level of Conflict: None
Cyclist/Pedestrian with bicycle
Cycle hire bike? No

*Note that cycling is permitted towards the south of Queen's Walk.
Level of Conflict: None
Cyclist/ Pedestrian with bicycle Cyclist*
Cycle hire bike? No

Level of Conflict: Low
Cyclist/ Pedestrian with bicycle Cyclist*
Cycle hire bike? No

Level of Conflict: None
Cyclist/ Pedestrian with bicycle Cyclist*
Cycle hire bike? Yes

*Note that cycling is permitted towards the south of Queen's Walk.
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Collision Analysis

The latest full-year collision statistics were obtained from TfL.gov.uk from the years 2011 to 2013. Collision data has been analysed with a view to assessing the issues faced by cyclists in the vicinity of Queen’s Walk. This analysis provides an indication of historical conditions and is not an indication of future safety issues that may occur.

The adjacent figure shows the collisions involving cyclists that have taken place from 2011 to 2013. It is evident that a number of cluster sites exist in the vicinity of Queen’s Walk. Note that this analysis only considers collisions on the roads surrounding Green Park and collisions on a wider spatial scale are not considered.

The majority of collisions in the area are slight, however several serious collisions have also occurred.

Definitions:

Slight collision: One in which at least one person is slightly injured but no person is killed or seriously injured. A slight injury is one of minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring any medical treatment.

Serious collision: One in which at least one person is seriously injured, but no person is killed. A serious injury is one for which a person is detained in hospital as an “in-patient”, or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushing, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident.

Cluster Analysis

A cluster analysis of collisions for the aforementioned set of data has been conducted to highlight the areas of the road network surrounding Queen’s Walk that have most commonly experienced cycling collisions of any severity over the 2011-2013 period.

The analysis considered collisions that occurred within a 30m by 30m grid that was overlaid onto the area surrounding Queen’s Walk. For example each red square indicates a 30m² area in which 2-6 collisions involving a cyclist occurred from 2011-2013.

It is evident that the cluster site adjacent to Ritz Corner at the north of Queen’s Walk (labelled ‘1’) would coincide with cyclists needing to cross the road to access Queen’s Walk and work is likely to be required by WCC to improve crossing facilities here.

A further cluster site occurs on St James’s Street, which was considered in the review of alternative parallel routes (labelled ‘2’, see chapter 4). Improved cycling infrastructure would be required along Marlborough Road/Pall Mall/St James’s Street to make the route suitable for less confident cyclists if it was to be used as an alternative to Queen’s Walk.

Figure 53: Collisions (left) and collision cluster analysis (right) in the area surrounding Green Park.
Conclusions

As would be expected with a project at this stage, this safety review has highlighted an number of issues that should be addressed during the development of a shared use solution on Queen’s Walk, should it be taken forward. Future safety reviews (including assessment of detailed designs) should take place at additional design review stage, during trials and post-implementation.

The safety review has noted that many of the issues are minor in nature, requiring changes to the design or operation of the routes, such as: increased frequency of path sweeping, management of sightlines through appropriate design etc.

More significant issues, such as congestion on Piccadilly could technically be overcome to allow cycling along the whole length of the route, although it is possible that realignment of the carriageway and installation of traffic signals would be required at significant expense. Dismounting with the requirement for cyclists to enter and exit the park on foot and cross Piccadilly may be a solution in terms of safety but, at the detriment to route continuity and with the need for enforcement. Further consultation with TfL and Westminster City Council should take place to establish the operation of the gates at Ritz Corner and the proposed crossing over Piccadilly.

While major conflict has not been observed, we understand that accidents have been reported along Queen’s Walk in the past. The area that is likely to observe the highest risk of conflict, should the path be converted, would be at the north of the site where the pedestrian flows are higher with a steeper gradient and through the gates at Ritz Corner and across Piccadilly, where there is already pedestrian and traffic congestion at peak times. These issues could be overcome through the requirement to dismount, engineering solutions or consideration of an alternate route via Half Moon Street where congestion and crossing issues may be more straightforward to address.

Further reviews of safety should take place throughout the design process (to include formal highway road safety auditing and off-road cycle route audits) and prior to route trial development and following any changes to the current route to enable cycling. Assessments should also take place, if the route does become open to cycling, immediately after conversion and on an ongoing basis thereafter.

Note that this review took place during winter, where flows are typically lower than summer and this should be accounted for when drawing conclusions. This review also assumes that levels of cycling will be low and speed consistent with shared use. Safety issues such as the risk of conflict will increase with demand and more work should be undertaken to establish the potential levels of demand in the area through consultation with appropriate bodies such as TfL/Westminster.

It should be noted that in the busiest summer and autumn quarters (May-August and August to November), IPSOS Mori estimate that around 4 million people use the park in each quarter, of which approximately 1/4 are estimated to use either the gates at Ritz Corner or the gates on The Mall. It total it is estimated that 14 million people visit the park each year.

On a typical day in these summer months, it is estimated by IPSOS Mori that approximately 9-12,000 people use the gates at either Ritz Corner or the gates on The Mall (note that these figures are likely to include double counting). It is estimated that approximately 1% of these users are currently cyclists, representing a small proportion of the total.
Shared use cycle paths feasibility study
Conceptual shared use proposals

This chapter of the report outlines the two proposals for cycling along Queen’s Walk that were developed by Peter Brett Associates in 2008.
Shared Use Routes

Shared use routes are designed to accommodate the movement of both pedestrians and cyclists. This feasibility study is assessing the proposal that Queen’s Walk could be converted from a footway to a shared use route. It will consider two designs, developed by Peter Brett Associates:

- An unsegregated shared use route where pedestrians and cyclists mix freely and are able to share the full width of the route; and
- A segregated route where pedestrians and cyclists are separated by delineation.

The current designs suggest a dismount near Ritz Corner in order to reduce conflict at the gates and to facilitate crossing across Piccadilly. Further work could be undertaken to improve the continuity of these routes e.g. avoiding the need for a cycle dismount by developing provision for cycling through Ritz Corner or via an adjacent pathway.

Unsegregated Shared Use

An example of an unsegregated shared use route. Pedestrians and cyclists are free to move anywhere throughout the width of the route. Construction costs are limited and, depending on the current surface, can include minimal signing and limited route upgrades. Conflict could be higher than a segregated route, however, the uncertainty of priority that is generated by unsegregated routes could be conducive to lower cycling speeds than would be common on a segregated route where cyclists are likely to go faster.

Segregated Shared Use

An example of a segregated shared use route. Pedestrians and cyclists are segregated by delineation and surface changes. Construction costs of such routes are generally more expensive than an unsegregated route. Conflict is reduced through the segregation of pedestrians and cyclists. We understand that it is Royal Park policy that painted line markings should be avoided where possible to preserve the landscape character of routes which may make this solution less compatible with the park management strategy.

There are a number of key considerations that should be taken into account as part of the design process.

Pedestrians

The conversion should ensure that pedestrians do not feel the need to divert to an alternative route, increasing their journey time, as a result of shared use conversion. This will entail ensuring that the current footway alignment and width is sufficient for both pedestrians and cyclists to use the route with limited conflict. Pedestrians will need sufficient footway width following conversion.

Cyclists

In opening Queen’s Walk for cycling, there is potential to provide cyclists with a more convenient route between Piccadilly and The Mall. In providing this connection, the design must ensure that pedestrian/cyclist conflict is minimised to an acceptable degree, avoiding the need for cyclists to stop or dismount where possible. Provision for mobility cycling should also be considered, for example ensuring that there is sufficient width for a tricycle or cargo bike to pass bollards without issues.

Signing and the Environment

Conversion of Queen’s Walk should ensure that the route is not visually intrusive, in particular with the signing and markings that are considered. Avoidance of over-specification or any vertical signage is key in reducing visual clutter. Coloured surfacing is generally not recommended for shared use routes, unless highlighting critical points.

Lighting

Further assessment of lighting levels may be required prior to implementation of a shared use strategy to ensure that is sufficient for both pedestrian and cycle usage.

Costs

Providing a segregated route can increase costs considerably, depending on the nature of segregation proposed.

Maintenance

Maintenance is important in ensuring the safe and successful operation of a shared use route. It is important that maintenance is considered in the development of plans to ensure that routes are swept to remove trip or skid hazards.
Cross-sectional requirements

The minimum cross-sectional requirements by design for Shared Use on Queen’s Walk are shown in the adjacent figures. Given that the route is bounded by a fence on each side, 250mm buffer zones are required to ensure that the effective width of the pedestrian and cycle routes are sufficient, given that users leave space between themselves and the physical extents at each side of the route.

Given the physical characteristics of the route, Queen’s Walk provides suitable width to achieve in excess of the minimum required for unsegregated shared use throughout in relation to standards for cyclists. Similarly, there is sufficient width to achieve the minimum standards for segregated cycling.

Note that these minimum requirements do not account for the additional requirements set out in The Royal Parks’ Shared Use Cycling Criteria for Success, that require Level of Service B to be achieved and the following factors must be considered alongside these minimum recommended standards:

- The Level of Service provided to pedestrians, should cyclists use an unsegregated shared use route or a cycle lane be provided for a segregated route.
- The nature of cycle flows in terms of demand, direction and tidality. Should cycle flows not be expected to be predominantly one-way, a minimum width for a two way track is preferred to be 3000mm, plus buffers, with wider tracks required if demand is predicted to be higher.
- Given the narrow width of Queen’s Walk to the south of the route, and the sections current shared use nature with access permitted to pedestrians, vehicles (for access) and cyclists, it is not possible to provide sufficient width for a fully segregated route throughout. Any provision for segregated cycling would therefore not be continuous throughout the route and only possible in the central section of the route.

Minimum cross sectional requirements

![Figure 56: Minimum cross-sectional requirements for an unsegregated shared-use path on Queen’s Walk.](image1)

![Figure 57: Minimum cross-sectional requirements for a segregated path on Queen’s Walk.](image2)
The Queen’s Walk proposals

The Royal Parks previously commissioned Peter Brett Associates to provide two shared use design proposals for converting Queen’s Walk from pedestrian only route, to a shared use pedestrian and cycle route. These designs are presented below and remain the basis of our assessment.

Note that these designs developed by PBA consider that cyclists will dismount in order to bypass the gates at Ritz Corner and to cross Piccadilly on-foot in order to reduce conflict and improve safety. This is consistent with the findings of the safety review that has been undertaken (e.g. to address conflict and gradient issues at the North of the site, but in doing so limits the continuity of the route for cyclists. Further work could take place to assess the feasibility of a route that allows cycling through Ritz Corner and across Piccadilly or alternative routes within the Park that allow access via the gates adjacent to Half Moon Street where it may be more feasible to facilitate cycle crossing on Piccadilly. Further consultation with TfL/Westminster may be required.

Option 1: Unsegregated shared use proposal

![Unsegregated shared use proposal](image1)

Option 1 is an unsegregated shared use proposal. This design proposes to extend the shared use permissions that currently exist at the south of the site, along the majority of Queen’s Walk up to the entrance at Ritz Corner. Due to the increased potential for conflict at the gates by Ritz Corner, cyclists will be expected to dismount in order to enter or exit Queen’s Walk. It would be expected that some cyclists would remain on their bikes and cycle through the gates despite any restrictions.

Option 2: Segregated shared use proposal

![Segregated shared use proposal](image2)

Option 2 is a segregated shared use proposal. This design proposes to retain the shared use permissions that currently exist at the south of the site and introduce a segregated cycle lane along the east of Queen’s Walk up to the entrance at Ritz Corner. Due to the increased potential for conflict at the gates by Ritz Corner, cyclists will be expected to dismount in order to enter or exit Queen’s Walk. It would be expected that some cyclists would remain on their bikes and cycle through the gates despite any restrictions.
Level of Service and Capacity Assessment

This chapter documents a Level of Service analysis that can be used as a tool for assessing the suitability of Queen’s Walk for shared use cycling.
Pedestrian Level of Service

Footway provision is an important factor in encouraging (or hindering) walking. Footway space, and in particular the width of the footways, represents the infrastructure that supports walking. As such, the design of the footway is the key to achieving reduced pedestrian crowding and congestion. In the case of a Shared Use route assessment it is critical to assess the level of pedestrian comfort, given that cyclists will occupy a proportion of the footway, reducing the effective width for pedestrians.

Levels of Service assessments offer a standard, comparable, and dynamic rating and assessment of the capacity for and reality of pedestrian movement. It is set as a sliding scale to benchmark the level of comfort of pedestrian footways from A, where there is plenty of room to walk freely, through to E, where congestion severely limits movement choices. Service level F is considered to be flow breakdown and stoppage. The Level of Service (LoS, defined as the capacity of space for pedestrians, measured in pedestrians per metre per minute) can be measured by taking the peak pedestrian flow per metre of usable pavement width.

The usable width of a footway, used in the LoS analysis, takes into account any barriers such as street furniture (e.g. bus shelters) or blockages that permanently reduce the space available for walking. Research has shown that people tend to leave a space (or buffer) between themselves and these barriers. To calculate the “usable” width, buffer widths are deducted from the total pavement width. In the case of a shared use assessment, additional allowance is made for the width of cyclists also using the route.

The LoS assessment carried out does not include temporary obstructions such as temporary street clutter or static pedestrians, as per TfL guidance, but these should also be considered when planning for appropriate levels of comfort.

Figure 60: Pedestrian Level of Service definitions

Source: Pedestrian Planning and design, JJ Fruin, 1971
Shared Use Level of Service

Our Approach

A key objective of this analysis is to benchmark the current level of pedestrian service exhibited along Queen’s Walk and to compare this to expected pedestrian comfort levels, should cycling be introduced. Based on the outcome of the safety review and consultation with The Royal Parks, this review considers only the unsegregated shared use proposal, as this is the only configuration that is likely to be considered, should shared use be taken forward.

Given a lack of standard guidance, the methodology undertaken in this analysis is consistent with previous analyses conducted for The Royal Parks. User dimensions and comfort buffers are indicated in the adjacent figure. The analysis considers both two cyclists cycling side-by side.

Footway Width

Footway widths were measured by Peter Brett Associates as part of a topographical survey undertaken in 2009. These widths are assumed to remain unchanged throughout the length of Queen’s Walk.

Pedestrian Flow

The peak observed 15 minute flows multiplied by four were used in the calculation of Level of Service. This ensures that the calculations represent a busy scenario.

Effective Width

The calculation of Level of Service uses the effective width of footway. This is the total width of the footway reduced by the width of buffer areas at the path edges and street furniture. This represents the fact that pedestrians leave space between themselves and obstructions.

Cycle Demand

The assessment accounts for both two cyclists cycling side-by-side at each of the areas considered. This represents the fact that the footway width will be reduced if cyclists are also using space. The assessment does not account for absolute anticipated cycle demand.

Figure 61: Shared Use Level of Service
If cycling was permitted at Ritz Corner, we assume that cyclists will queue to use one gate and pedestrians will use the other gate. In this situation, the Level of Service for pedestrians using only one gate is C. In reality this Level of Service would be dependent on the season and time of day and may fluctuate higher and lower for periods of time.
Shared Use Level of Service

Existing | Two Cyclists
---------|--------------
B        | B            | B

A        | B            | A

N

Existing | Two Cyclists
---------|--------------
A        | A            | A

A        | B            | B

Existing | Two Cyclists
---------|--------------
A        | B            | B
Shared Use Level of Service
Seasonality and Level of Service

Data collected by IPSOS Mori on behalf of The Royal Parks indicates that pedestrian flows could be around 70% greater than in winter, when this study took place.

A sensitivity test was undertaken to assess the shared use Level of Service with two-cyclists cycling comfortably one metre apart. The assessment indicates that all assessed locations along the path achieve Level of Service B in these conditions.

At Ritz Corner, if one gate was used for cycle access and egress and the other for pedestrian use, then the Level of Service for pedestrians would reduce to D (as opposed to C without the uplift in demand) which could indicate congestion and the potential for increased conflict. It is likely that this Level of Service would only be experienced for short periods of time depending on the time of day.

Green Park activity counts

Other data collected by IPSOS Mori on behalf of The Royal Parks has been interrogated to assess the overall level of activity in the park, the level of pedestrian activity on a typical day and the proportion of cyclists, with a focus on the gates at Ritz Corner at the north of Queen’s Walk and the gates at the Mall towards the south.

In the busiest summer and autumn quarters (May-August and August-November), it is estimated that around 4 million people use the park in each quarter, of which approximately 1/4 are estimated to use either the gates at Ritz Corner or the gates on The Mall.

On a typical day in these summer months, it is estimated by IPSOS Mori that approximately 9-12,000 people use the gates at either Ritz Corner or the gates on The Mall (note that these figures are likely to include double counting). It is estimated that approximately 1% of these users are currently cyclists, representing a small proportion of the total.

This supports the findings of the report that highlight that Queen’s Walk is a key pedestrian route, and therefore the importance of maintaining an appropriate level of service for pedestrians in the area. Note that this data is based on scaled estimates, so should be treated appropriately when drawing conclusions.

Conclusions

The only Level of Service issue on Queen’s Walk is indicated at Ritz Corner where there is already congestion around the gates and on the footway at Piccadilly. This area is Level of Service B without the introduction of cyclists but Level of Service reduces below minimum standards if cycling was permitted up to and through Ritz Corner gates. If cycling was permitted at Ritz Corner, we assume that cyclists will queue to use one gate and pedestrians will use the other gate. In this situation, the Level of Service for pedestrians using only one gate is C, falling to D during the busier summer months. In reality this Level of Service would only be experienced during a short period in the peak hours, with this analysis based on the peak 15 minute flows that over the day, in this case in the AM peak. Congestion here and along Piccadilly is likely to increase the risk of conflict and this is supportive of the dismount area proposed in the PBA design unless suitable alternative arrangements are available from Westminster/ TFL.

The Level of Service analysis undertaken for the remainder of the route is supportive of cycling along Queen’s Walk, with the route being sufficiently wide to accommodate cycling and with the majority of the route being Level of Service B even if cyclists are side-by-side.

Note that this assessment does not give an indication of the conflict that may be experienced between pedestrians and cyclists as they cross paths along the route.

In addition the analysis assumes that to avoid cycle dismount, a suitable crossing arrangement will exist through Ritz Corner and across Piccadilly that addresses conflict issues. Further consultation with TFL, Westminster and WSP should take place.
This chapter outlines the shared use review undertaken to assess the feasibility of cycling on a new shared use path that connects Queen’s Walk with the gates opposite Half Moon Street via the Broad Walk.
Safety Analysis

This chapter outlines a safety analysis that has been conducted with reference to a new route that requires a new path across Green Park.
Safety Review

Based on the methodology presented in Chapter 5 of this report, a safety review has been undertaken to assess the potential issues that may arise if a new path is built with shared use cycling permitted.

The figures below outline potential safety issues presented by the proposed route.

**Issue 1: Gate width**

**Location:** The gates opposite Half Moon Street

**Problem:** The gates are 2.5m wide which would represent a pinch point along the route.

**Summary:** The gates opposite Half Moon Street are 2.5m wide and would not be sufficiently wide for 2 cyclists side-by-side whilst the gates are simultaneously being used by pedestrians. While current flows at the gates are relatively low, introducing cycling through the gates could increase conflict.

**Recommendation:**
- Re-design or re-configuration of the gates.
- Requirements for queuing or cyclist dismounts which may impact upon pedestrian priority if queues disrupt or impact pedestrian flow.
- Monitoring of conflict.

![Figure 64: Potential conflict issue at the gates opposite Half Moon Street](image)

**Issue 2: Sightlines**

**Location:** The gates opposite Half Moon Street

**Problem:** Minor sightline issues at the gates opposite Half Moon Street

**Summary:** The gates opposite Half Moon Street are adjacent to a hedgerow, introducing a sightline issue if cyclists use the gate. This issue already exists for the current cyclists using the gate and is minor due to the width of the gate and relatively low height of the hedge.

**Recommendation:**
- Markings to increase awareness of the potential for cyclists to be using the gate, however this would not be consistent with existing park policies.
- Regular maintenance of the hedgerow.

![Figure 62: Potential sightline issue at the gates opposite Half Moon Street](image)

**Issue 3: Intersection**

**Location:** N-S pathway from Green Park LU station to the south of Green Park

**Problem:** Conflict due to the introduction of a cross-flow.

**Summary:** The N-S pathway from Green Park LU station to the south of Green Park is heavily trafficked by pedestrians during peak periods. The new path proposed will cross this pedestrian flow and will introduce the potential for conflict at this point. During busy periods (e.g. peak hours, Changing of the Guard etc), it is possible that cyclists would have to slow down, stop or dismount in order to navigate this cross-flow, reducing route continuity. Maintaining pedestrian priority across this cross-flow would be key in order to reduce the risk of conflict to an acceptable level.

**Recommendation:**
- Markings or other measures to indicate pedestrian priority.
- Path widening / additional circulation space at the conflict point.
- Additional markings, signage and tarmac are not consistent with existing park policies.

![Figure 63: Potential for conflict due to the introduction of a cross flow](image)

Based on the methodology presented in Chapter 5 of this report, a safety review has been undertaken to assess the potential issues that may arise if a new path is built with shared use cycling permitted.
Collision Cluster Analysis

Based on the methodology presented in Chapter 5 of this report, a review of collisions surrounding the site has been undertaken.

There are fewer collisions on Piccadilly adjacent to Half Moon Street (cluster ‘1’) compared to Ritz Corner and this is supportive of allowing cycling in this area. Other issues (such as conflict within the Park) should also be considered.
Pedestrian / Cycle Conflict

There is currently very limited levels of cycle use in the study area. The busiest peak pedestrian period that coincides with the most cyclists is the Weekday PM peak period.

This period has been assessed adjacent to the entrance at Green Park Underground Station as it has the highest potential for conflict and may indicate the levels of conflict that could be typical where larger flows of pedestrians cross lower flows of cyclists.

The levels of conflict will increase should a new cycle route be introduced and would require monitoring during a trial period to ensure that the levels of conflict are acceptable.

**1700-1800, 26/02/2015**

<table>
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<th>Cycle hire bike?</th>
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<tr>
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</tbody>
</table>

**Summary**

The area assessed experiences minor levels of conflict as a result of the number of pedestrians using the area. In general cyclists had to slow down or change course in order to move around pedestrians (who were unaware of the actions made by the cyclists). This is typical of cycling interactions in a very busy area. We did not observe any major conflicts or collisions.

**Conclusions**

A number of safety issues would need to be considered in order to define whether the safety issues presented are at a level of risk that is acceptable, manageable or have the potential to be ‘designed out’ of any new route.

A key issue is the conflict that may be experienced at the intersection of the N-S pathway from Green Park LU station to the south of Green Park which is heavily trafficked by pedestrians during peak periods and Changing of the Guard. The conflict analysis undertaken indicates that conflict could be observed during peak pedestrian movements, even with low flows of cyclists. Should demand be high, the risk of conflict will increase. Further consultation with TfL may be required to establish a forecast for future demand.

To reduce this conflict it is likely that path widening or installation of a circulation space could be considered alongside pedestrian priority measures such as bollards and markings. This may reduce the potential for conflict, however may require significant additional hard landscaping and permanent features (bollards and line markings) that may not be compatible with park policy. Even with these measures it is possible that cyclists would have to slow, stop or dismount to cross this cross-flow during busy periods.

A further key issue is the current design of the gates opposite Half Moon Street which are not currently wide enough to allow two-way cycling and walking without conflict. This issue could be addressed by design or management, however would be dependent on any proposals for the crossing from Green Park to Half Moon Street along with compatibility with park management policy. Further consultation with TfL/Westminster is required to establish the potential crossing arrangements here.
Conceptual shared use proposals

This chapter outlines the conceptual route options and defines a preferred choice.
The adjacent figure shows the three alternative new path options that are under consideration as part of this study.

All routes connect Half Moon Street with the south of Queen’s Walk via an additional path across Green Park. All routes are contingent cycling being permitted along Queen’s Walk up to any new shared use path, along with detailed design of the gates opposite Half Moon Street and the crossing over Piccadilly.

While the full length of the Broad Walk could offer a potential alternative north-south quiet route for cyclists that could address some conflict issues, this has not been considered as part of this study due to the historical and landscape significance of the route making it incompatible with The Royal Park management strategy for Green Park.

This study does not include a review of the pedestrian crossing facility across Piccadilly. The re-configuration of this crossing would need to be considered should any of these proposed routes be opened to cycling.
Route A
Route A is the northernmost path that is being considered.

**Advantages**
- This would offer the most direct connection across Green Park from the Broad Walk to Queen’s Walk.

**Disadvantages**
- Potential for conflict at the intersection with the path running south from Green Park Underground Station.
- Potential for conflict with users at the northern section of Queen’s Walk, where pedestrian flows are higher.
- Poor alignment for cyclists due to tight angles.
- Potential need to remove trees.
- Extra signage, markings and clutter would be against existing park policy.

**Recommendation**
Route A would have the potential to increase conflict as well as being a poor alignment for cyclists. It is the least suitable option.

Route B
Route B is the central path that is being considered. It shares similar issues to Route A.

**Advantages**
- This route would offer better angles for cyclists, however the alignment is not optimal.

**Disadvantages**
- Potential for conflict at the intersection with the path running south from Green Park Underground Station.
- Potential for conflict with users at the northern section of Queen’s Walk, where pedestrian flows are higher.
- Potential need to remove trees.
- Extra signage, markings and clutter would be against existing park policy.

**Recommendation**
Route B would also have the potential to increase conflict. While it is still a non-optimal alignment, it offers fewer disadvantages compared to Route A.

Route C
Route C is the southernmost path that is being considered.

**Advantages**
- This route would offer the best angle cyclists.
- The route connects to Queen’s Walk at a point where pedestrian demand is significantly lower than the north of the site.
- The route could potentially be delivered without tree removal.

**Disadvantages**
- Potential for conflict at the intersection with the path running south from Green Park Underground Station.
- Extra signage, markings and clutter would be against existing park policy.

**Recommendation**
Route C is the preferred choice, however it still generates the potential for additional pedestrian-cycle crossflow and therefore is likely to increase conflict. Note that an additional route is against the existing park policy (see above).
Level of service

This chapter outlines the Level of Service and width requirements for any new path that is developed in Green Park.
Path requirements

Any new path must be capable of providing an acceptable Level of Service for pedestrians and cyclists. This calculation outlines the path widths required for pedestrian flows.

Because this assessment is for a new path, there is no current demand and therefore the design must account for a future, unknown demand. We have made the assessment based on 200, 400 and 600 pedestrians per hour.

For comparison the current peak pedestrian flow using the Broad Walk and the East-West route at the north of Green Park combined is shown below.

Flow = (185+95+48+20) = 348 ped/hr

If this flow is uplifted by 70% to account for seasonality (see below), then our estimates can be seen to provide a suitable range for this assessment.

Flow = (185+95+48+20) x 170% = 592 ped/hr

Minimum width for pedestrian Level of Service B

In order to achieve Level of Service B we assume that 9.84 pedestrians per metre width per minute are able to pass along a path.

Minimum path width requirements for 200pph: 200/60/9.84=0.34m
Minimum path width requirements for 400pph: 400/60/9.84=0.68m
Minimum path width requirements for 600pph: 600/60/9.84=1.01m

Note that these widths do not achieve the minimum requirements for Equalities Act inclusive mobility and only represent the requirements for effective width to achieve the required Level of Service.

Minimum width for shared use Level of Service B

In addition to the width required for pedestrians, space will also be needed to accommodate two-cyclists cycling side by side.

Assuming edge buffers of 0.3m, cyclist width of 0.65m and a comfortable cycling distance of 1m, the total width for cyclists would be 2.9m.

Comfortable shared use path width requirements for 200pph: 0.34m+2.9m= 3.24m
Comfortable shared use path width requirements for 400pph: 0.68m+2.9m=3.58m
Comfortable shared use path width requirements for 600pph: 1.01m+2.9m=3.91m

These widths are typical of others on paths in Green Park and are greater than the minimum 3m effective width recommended for unsegregated shared use by DfT LTN 1/12. Note that these are effective widths and additional allowance would be required to account for any street furniture along the route.

Figure 67: Level of service pedestrian flow requirements per metre width
Gate Level of Service

The gates opposite Half Moon Street represent a pinch point on the route, with a 2.5m opening. This is below the minimum standards of 3m effective width as recommended by DfT LTN 1/12, however the guidance states that where the “minimum dimensions cannot be met, such pinch points might be acceptable on less busy routes.” Given the current levels of pedestrian demand, and the fact that this route will form a Quietway intended for low volumes of cyclists, it is possible that this pinch point would be acceptable. Quietway cycling forecasts from TfL/Westminster, if available, and stakeholder engagement could be used to determine the acceptability of the pinch point.

Note that the gates would not be wide enough for two cyclists going in opposing directions at the same time as pedestrians and, as a result, congestion or queuing for cyclists may occur during busy periods.

Should cycling be permitted using the current single gate configuration, based on a single cyclist using the gate at a time, the total width required between the cyclist, gate and pedestrian is 1.25m. This leaves 0.95m for pedestrian use. This would be compatible with the gate being used by cyclists in single file, cycling slowing and considerately and up to 560 pedestrians per hour, whilst still maintaining Level of Service B in theory.

Note that in the current crossing and gate configuration, it is possible that cyclists would cut the corner when turning to and from Green Park, and this could result in them requiring more space and therefore, lowering the Level of Service for pedestrians. In reality the arrangements of the gates and crossing facilities, along with pedestrian activity on Piccadilly could therefore increase congestion during busy periods and the safety review has additionally highlighted potential sightline issues that could increase the risk of conflict. Consultation with TfL / Westminster would be required to establish future crossing arrangements and gate functionality.

Two options to address potential issues at the gate are:

- To implement an alternative entry / exit arrangement for cyclists in conjunction with the similar gates located towards the south-west; or
- Gate re-configuration and widening could take place to allow separate entries for pedestrians and cyclists.

Each option would be dependent on the design of the route across Piccadilly and the compatibility of changes with park management strategy.

Note that the configuration and usage pattern of these gates e.g. whether dismount is required or not, whether two way cycling can take place, whether stacking is required etc. will also be further dependent on the configuration of the crossing over Piccadilly and further consultation with Westminster/WSP should take place to assess the potential options for this crossing.

While gate re-configurations for cycle and pedestrian use have been successfully implemented in other locations, e.g. Albion Gate, Hyde Park, and therefore could be a potential solution to issues in Green Park, development of such a scheme is not compatible with the current park management strategies. For example, the location is adjacent to the ornamental Devonshire Gates which form a historically significant element of the park and any changes in this area are likely to require appropriate permissions and consents.

Further understanding of expected quietway cycling numbers and Piccadilly crossing designs would be required should any further development of the option be taken forward. Should cycling numbers be high, this route may not be appropriate for continuous cycling during peak periods.

Conclusions

This assessment has considered early-stage conceptual proposals for a shared use N-S cycle route through Green Park, that makes use of an additional path instead of the Broad Walk. While the route is likely to be technically feasible, there are key conflict issues that would require addressing, with the additional risk that no route trial would be possible without hard landscaping.

In addition to conflict and safety issues, The Royal Parks Criteria for Success for Proposed Shared-Use Pedestrian Cycle route Routes (2011) states that user perceptions are key and that:

- A drop of 2-7% in respondents finding the ‘quality of their visit excellent or good’, with ‘cycling in the park’ as a stated reason could indicate failure.
- Over 75% of people should be ‘satisfied, comfortable or very comfortable’ with cycling on the route.

While no surveys have been undertaken as park of this study, feedback from The Royal Parks have indicated that there could be issues achieving these success factors given the potential conflict issues.
Conclusions and Next Steps

This chapter outlines the conclusions and next steps.
Key Findings

General

These general conclusions outline findings, issues and considerations that would apply to any of the assessed north-south shared used cycle routes through Green Park.

The level of future cycle demand is unknown, although could be high.
- Queen’s Walk or a new alternative path would represent a strategic north-south route, which may be popular if route continuity issues (e.g. dismounts, gates and crossings) are addressed.
- The introduction of the East-West Cycle Superhighway (CS3) is likely to result in increased demand in the area as more people begin to cycle or adapt their routes for increased safety / convenience.
- Increases in demand could be linked with increased risk or perception of conflict along Queen’s Walk or a new path if more cyclists use the route.
- Should shared use be introduced, ongoing assessment of demand and conflict would be key to ensure that the risk of conflict remains at an appropriate level. Route trials could form a key part of assessing and managing this conflict, however this would be problematic on an additional route as it would require installation prior to the trial which may subsequently determine that it is not suitable.
- The full impact of shared use through Green Park may not be realised until the completion of both the Quietway and Cycle Superhighway routes in the area.
- Background demand in pedestrian and cycle flows is likely to continue to grow as a result of population growth.

Improvements to Green Park Underground Station to provide step-free access have increased pedestrian activity in the area.

• Before-after trials could be key in establishing the potential impact. With development of any route requiring additional paths, any trial would include hard landscaping costs and therefore increased delivery risk.

For any north-south route to remain safe and attractive, route continuity should be maintained. This would be contingent on works being undertaken outside Green Park.

• No crossing designs for movement over Piccadilly have been assessed as part of this study.
• The success of shared use and future demand is likely to be contingent, in part, on the crossing solutions implemented here.
• Crossing configuration, cycle stacking requirements and light phasing may dictate the operation / configuration of the gates.
• Work with TfL / Westminster would be required to ascertain the most efficient crossing and gate arrangements.
• The suitability and effectiveness of routes will be contingent on these external works and there is insufficient information available to make a full assessment at this stage. Further work is required in this regard.

Shared use could cause additional impacts on Piccadilly that are not assessed as part of this study.

• This study has not carried out any detailed assessment of the impact of increased numbers of cyclists entering or exiting the park over Piccadilly.
• Work with TfL / Westminster would be required to establish the impacts and mitigations.

Alternative routes and alignments could exist which would be likely to improve safety, reduce conflict and improve route continuity for both pedestrians and cyclists when compared to the current Queen’s Walk proposals.

• A number of alternative routes and/or alignments exist that may address many of the issues highlighted in this assessment.
• A route via Marlborough Road / Pall Mall could potentially be facilitated from an engineering perspective, although a number of significant delivery risks, unknown impacts and significantly high costs are likely to be apparent if the route were to be made suitable for less confident cyclists. No detailed assessment of this route has been undertaken as part of this study on this basis.
• The Broad Walk offers an alternative to Queen’s Walk, however, The Green Park Management Plan notes that the Broad Walk is a key feature and a recognised view and development of this route is not considered in this study. A new route is considered as an alternative to development of the Broad Walk.

Connectivity improvements may increase the number of cyclists in Green Park, which in turn may increase the amount of off-route cycling to an unknown extent. This would require management through landscaping, planning and fixed penalty notices.

Queen’s Walk

Queen’s Walk could play a strategic role within the Central London Cycling Grid and a number of technically feasible alignments could facilitate cycling.

• Queen’s Walk could offer a north-south connection within the Central London Cycling Grid as part of the Quietway.
• A number of technically feasible alignments exist that could facilitate this connection.
• A number of upgrades to highway and cycling infrastructure are under development in the area surrounding Green Park and the impact of these should be taken into account in future assessments.

The capacity analysis undertaken is broadly supportive of the unsegregated shared-use proposal suggested by PBA as part of a lightly-trafficked Quietway route.

• Queen’s walk is sufficiently wide to accommodate pedestrians and low volumes of cyclists at peak times, with majority of the route allowing comfortable cycle and pedestrian movement at Level of Service B.
• Issues, such as poor sight lines and the risk of increased conflict dependent on future demand would require consideration and monitoring.
• Night time lighting levels have not been assessed as part of this study and may require future consideration.
• Further understanding of future cycle demand and potential proposals for development on Piccadilly are required in order to make a fully informed decision with regards to implementation of shared use.

Safety and conflict issues are generally not supportive of a segregated cycle path on the East of Queen’s walk.

• Site observations and the safety review undertaken indicate that a cycle path on the east of Queen’s Walk would introduce sight line issues thus increasing the potential for conflict.
• Significant flows pass through gates on the east of Queen’s Walk, in direct conflict with the proposed cycle path.
Key Findings

Concentration at Ritz Corner gates and on the footway at Piccadilly remains an issue and must be addressed through management or design if a continuous cycle route is provided.

- Given the significant pedestrian flows observed on the footway at Piccadilly and the narrow width of the Ritz Corner gates, realignment of the footways and junction would be required if cycling through the gates were to be considered.
- This is supportive of the current dismount requirement in the unsegregated shared use proposal put forward by PBA.
- Alternative routes have been identified that would avoid the need to use the gates at Ritz Corner and would increase the continuity of the cycle route.

The gradient at the north of the Queen’s Walk and the adjoining passageways remains a potential issue requiring ongoing monitoring and management.

- The gradient at the north of Queen’s Walk is relatively steep over a short period, however guidance indicates that this is acceptable over a short distance to maintain continuity.
- Cyclist speed will be a safety concern if cyclists do not adapt their speed appropriately.
- During busy periods it is likely that cyclists will be encouraged to slow to a suitable speed as a result of the large flows of pedestrians in the area.
- Conflict is likely to be highest at the adjoining pedestrian passageways, where management measures would be required.

Current observed conflict along the route is low.

- A small number of cyclists currently use Queen’s Walk the no-cycling section of Queen’s Walk along with the South of the route where cycling is currently permitted.
- Very low levels of conflict were recorded in the assessment undertaken with cyclists adopting appropriate speed and routing to maintain pedestrian priority along the route, however conflict may increase if the demand also increases.
- Accidents are known to occur along the route, although a review of these has not been undertaken as part of this study.

Queen’s Walk closes on a number of occasions during the year and may be impassable to bicycles at other times of the year.

- The area shuts for events on at least 16 occasions per year.
- The route is used as a storage area for traffic management equipment during events and this may make the route impassable.
- Security measures used during events may make the route impassable by bicycles.

Connecting Route (alignment C)

A new route via alignment C could be technically feasible to support low levels of quietway cycling, however conflict, congestion, future demand and impact on the historical and landscape environment are key risks to development.

- This alignment could offer a continuous route for low flows of cyclists.
- Conflict or congestion could be an issue at the gates opposite Half Moon Street, where there is not sufficient width for two-way cycling and walking simultaneously. Any congestion could affect either Piccadilly, Green Park or both.
- Increased risk of conflict would be likely where the new route crosses the N-S pathway that connects Green Park LU station, in particular during peak commuter hours or during events where cycle and pedestrian flows are high.
- Events in the area, such as the Changing of the Guard, can significantly increase pedestrian flows in the area for short periods of time and cyclists would have difficulty crossing the N-S pathway that connects Green Park LU station without stopping, dismounting or without additional infrastructure.
- There is no opportunity for a route trial without implementing new hard landscaping and infrastructure. This would make a new route a permanent feature and represents a key risk should sufficient conflict management not be feasible without additional engineering interventions which would not be compatible with park policy.
- Static activity in the area is significant and any new path would intersect a key leisure area.

Increased demand could increase conflict to an unknown extent and this would require management or additional infrastructure and poses a key risk to development.

- The level of conflict at the cross-flow locations identified in the analysis could increase and could be significant, with minor conflicts being common where cyclists or pedestrians would be required to take avoiding actions to pass one another during peak times.
- Conflict management may require path widening or increased circulation space to reduce the likelihood.
- This conflict poses a risk to development that is heightened as a result of it not being possible to trial any new path without installing infrastructure or hard landscaping.
- To manage future demand, the width of the path / size of the circulation space and resultant hard landscaping requirements may be incompatible with the vision for the park, which seeks to maintain tarmac neutrality.

Re-configuration of the gates opposite Half Moon Street could be used to improve efficiency and reduce conflict, however this site is adjacent to the Grade II* listed Devonshire Gates.

- The current configuration of the gates introduces a pinch point. This could be acceptable, however would only allow cycling in one-direction with pedestrian movement at any one time. This could create congestion and conflict at peak times depending on future pedestrian and cycle flows.
- Re-configuration of the gates could introduce separate pedestrian and cycle entrances for the route, however the historical significance of the location at Devonshire Gates should be considered as development in this area would have an impact on the current gate layout and is likely to need planing permission / consents.
- Using additional existing gate entrances for alternating flows could be used as an alternative to re-configuration, however this would require consultation with TfL / Westminster with regards to potential crossing proposals on Piccadilly.

The gates opposite half-moon street are also affected by restrictions during events and the route is likely to connect to Queen’s Walk, where event closures take place on a number of occasions each year.
Conclusions and next steps

Atkins were commissioned to assess the feasibility of Shared Use cycling on; Queen’s Walk; A new route that connects Queen’s Walk to the area adjacent to Devonshire Gates (opposite Half Moon Street) via the north section of the Broad Walk; and Alternative routes on the adjacent highway network.

This study has noted that it is likely that it is feasible to convert Queen’s Walk into a shared use space for low volumes of cyclists using the Quietway route, however that this would be contingent on external works to ensure crossing arrangements on Piccadilly and access and egress arrangements to the route. There is insufficient information to make a full assessment in these areas and further work is required.

In assessing the route a number of other issues have been highlighted by the study that would need to be balanced by the desirability of the route (considering all stakeholders) in making a final decision with regards to opening Queen’s Walk to cyclists. Further detailed design, assessment and trials would be required in order to fully assess the impact of shared use in the area. Note that there are issues with conflict, adjoining passageways and access and egress at both ends of the route that would require design and management if the option is taken forward. There are a number of safety and potential conflict issues on the route that would need to be managed or designed-out if the route was taken forward as an option.

In addition the study has noted that a new route to connect Queen’s Walk with the gates adjacent to Half Moon Street might be technically feasible but that the highlighted issues and risks make the solution less desirable, especially given that the risks cannot be fully assessed using trials without investment in hard landscaping. Also, given the requirements of The Royal Parks Criteria for Shared Use Success that require positive perceptions of the park from park users to be maintained alongside feedback from the Royal Parks that indicate that there could be a risk in achieving this, the risk of installing a new path may be sufficient to discount this option in favour of Queen’s Walk or other alternative options.

Alternative options include a highway route via Marlborough Road and St James’s Street via Pall Mall which would entail significant cost and delivery risk and a route through Green Park along the Broad Walk that The Royal Parks have highlighted the potential negative impact on the historical and landscape nature of the area, impact on tranquillity along with the potential for having negative impact on user perceptions in the area with potential issues satisfying The Royal Parks’ Criteria for Success and have, therefore, discounted this option.

Should the risks and issues noted with the Queen’s Walk shared use proposals be accepted then, if taken forward, further work (see adjacent figure) could include:

Consideration of alternative routes and alignments
• Further assessment of feasibility and desirability compared to the current Queen’s Walk proposals, in the context of the Jubilee Quietway.

Design development
• Development of the route and any associated changes to alignments, markings and priority measures in order to address the issues highlighted by this analysis.
• Agreement with other stakeholders in terms of anticipated demand, to be reflected in safety and conflict assessments in order to inform the design.
• Design of the north and south of the route to facilitate safe entry and egress. In particular consultation with TfL and the City of Westminster would need to take place to obtain designs for desired routing across Piccadilly e.g. signalised crossings, line markings and route alignments depending on any route proposed through Green Park.
• Appropriate safety audits of on and off-carriageway elements of the design by appropriate bodies. In particular a safety review of Piccadilly should take place based on the developed proposals and should take into consideration whether the route will use a new crossing or a dismount option. Consideration should be given to any revision in forecast cycle demand based on consultation with other bodies.

Stakeholder engagement
• Assess the reception of the proposals amongst stakeholders and feed their input back into detailed design.

Detailed design
• Further design development. Including additional safety audit.

Trial & Implementation
• Before and after studies of user perceptions, operation conflict and safety based on a route trial at an appropriate point in time where demand is likely to be sufficient to make and informed assessment of the route (consultation with stakeholders and appropriate permissions would be required for the trial to take place and to ascertain suitable dates).
• Implementation, along with continual monitoring of safety and conflict along the route. Including trials where possible.
Conclusions and Next Steps

Applying the Hierarchy of Provision

Would it be feasible and desirable to improve conditions for cyclists in the carriageway?

- YES
  - Design new shared use route.
  - Design for shared use by conversion of footpath or footway.

Would it be feasible and desirable to introduce shared use by converting a footpath away from or alongside the carriageway?

- NO
  - Shared use is not appropriate.
  - Design on-carriageway improvements.

Would it be worthwhile reviewing any of the earlier assumptions or decisions?

- YES
  - Refine design as required.
- NO
  - No further action

Have legitimate concerns been raised about the proposals?

- YES
  - Refine design as required.
- NO
  - Design on-carriageway improvements.

Would it be feasible and desirable to create a completely new shared use route away from or alongside the carriageway?

- YES
  - Design new shared use route.

Would it be desirable to create a completely new shared use route away from or alongside the carriageway?

- NO
  - Design on-carriageway improvements.

Determine the need for improved provision for cyclists.

Identify the design cyclists who are expected to use the proposed improvements.

Initial appraisal

- Determine the need for improved provision for cyclists.
- Identify the design cyclists who are expected to use the proposed improvements.

Identify the route options.

Stakeholder involvement

- Obtain the views of current and potential users and other interested parties.

Initial design

- Design new shared use route.
- Design for shared use by conversion of footpath or footway.

Detailed design

- Refine design as required.

Implement on-carriageway improvements.

Implement shared use scheme.

Outcomes

Figure 68: The shared use scheme development process. Adapted from ‘Shared Use Routes for Pedestrians and Cyclists’, DfT, 2012.