

Date: 30 November 2016

Item: Update on the implementation of the Quietways and Cycle Superhighways programmes

This paper will be considered in public

1 Summary

- 1.1 This paper provides a progress report on the delivery of the Quietways (QW) and Cycle Superhighways (CS) programmes as requested at the July 2016 meeting of the Finance and Policy Committee.
- 1.2 The QW and CS programmes form a key part of TfL's cycling portfolio, with new routes opening in late 2015 and early 2016. To date, eight CS routes – including four new routes – and the first QW have been delivered, with further routes being progressed across both programmes, including seven QW routes comprising 50km due to be substantially complete by Spring 2017.
- 1.3 Full evaluation of the benefits of each of the programmes and their long term success is ongoing, however, even in the short time since their opening, significant increases in cycling on both CS and QW routes have been seen. Initial feedback has shown they have been well-received and are already contributing towards TfL's target of 1.5 million cycle journeys per day by 2026. The CS continue to deliver significant benefits for walking and cycling. In only five months since the launch of four new CS routes, there has been more than a 50 per cent increase in the number of cyclists using the East-West and North-South Cycle Superhighways
- 1.4 Lessons continue to be learnt regarding the consultation, design and delivery of these routes and these are being incorporated into future plans.

2 Recommendation

- 2.1 **The Committee is asked to note the paper.**

3 Background

- 3.1 On 8 July 2016, the Finance and Policy Committee requested that an update be produced on the progress towards the delivery of the QW and CS programmes.
- 3.2 TfL has a strategic monitoring programme across its cycling investment that uses a range of surveys and counts to understand the impacts of cycling investment across London on all road users. The full range of surveys enables TfL to establish levels of cycling in London, the demographics of cyclists and the types of journeys they make, and the attitudes towards cycling of non-cyclists.

- 3.3 Post-launch benefits will be recorded and measured at an appropriate time. Some benefits can be captured after a relatively short bedding-in period such as road user attitudinal surveys, and these are planned to start in autumn 2016. Other benefits will rely on performance and functionality of new infrastructure and can take longer to obtain sufficient data for comparison to the baseline, these include cyclist usage figures and collision analysis, which are planned to be measured from 2017 onwards.
- 3.4 Quietway 1 (Q1) has delivered valuable improvements for walking and cycling. Significant investment has been made in schemes along Q1 in Southwark and Lewisham including footway improvements, tree planting, investment in green space and public realm enhancements. Initial cycle counts (ahead of formal monitoring due in October 2016) suggest significant increases. Certain sections saw an increase from 650 to 900 cyclists in the morning peak, a 38 per cent increase.
- 3.5 The CS continue to deliver significant benefits for walking and cycling. In only five months since the launch of four new routes, there has been more than a 50 per cent increase in the number of cyclists using the East-West (CSEW) and North-South (CSNS) Cycle Superhighways compared to pre-construction levels, taking the total number of cyclists to 8,400 using Blackfriars Bridge and 7,000 using Victoria Embankment each day in the morning and evening peaks. The majority of cyclists are now choosing to use the dedicated cycle track rather than the carriageway, with over 90 per cent doing so along these routes.

4 Policy Background

- 4.1 Cycling is a major mode of transport and moves very large numbers of people. In 2014, there were 645,000 daily cycling trips, equal to one-fifth of Tube trips. Cycling is increasing and levels have doubled over the last decade.
- 4.2 By 2031, London's population is expected to increase by approximately 1.3 million and the city will host an additional 800,000 jobs. With increases in population, more people are needed to cycle to help reduce overcrowding on London's roads and public transport networks.
- 4.3 In his manifesto, the Mayor outlined his aim is to make London a world-class cycling city with a plan to make cycling and walking safer and more attractive. Specifically, to:
- (a) increase the proportion of TfL's budget spent on cycling;
 - (b) continue the Cycle Superhighways Programme; and
 - (c) prioritise Quietways.

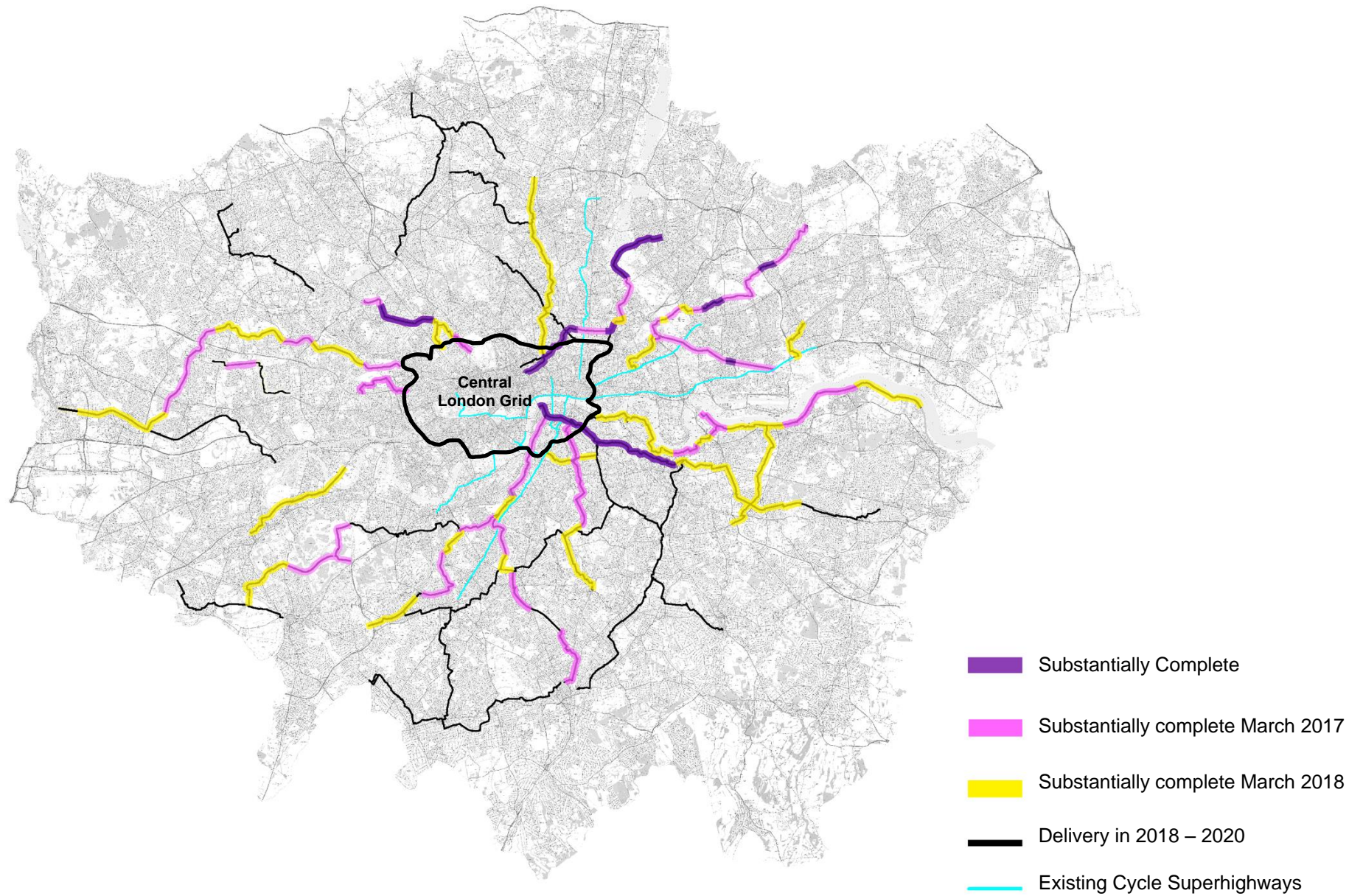
5 Quietways

Quietways Background

- 5.1 The London boroughs own and manage 96 per cent of the road network and 80 per cent of all cycle trips in London are on borough roads. This means TfL must continue to work with its borough partners to deliver a safer network of cycle routes across London.

- 5.2 To achieve the aim of increasing cycling for all Londoners, different route options need to be available to suit people's differing abilities and choices for cycling. The CS are high capacity routes that provide safer ways of getting into and across central London along recognised main routes. The QWs aim to provide an alternative to CS, by developing radial and orbital routes across London that make use of lower-traffic back streets, canal towpaths and parks to provide a comfortable, leisurely option for cyclists with less confidence, or those that just prefer a more gentle pace. By having a badged coherent network, and addressing key barriers along the routes, QWs will play a key part in encouraging a wider take up of cycling.
- 5.3 The key objectives for Quietways are to:
- (a) deliver a flagship and recognisable cycle network along quieter, less trafficked back streets and along canal towpaths and through parks;
 - (b) increase levels of cycling, especially amongst less confident and new cyclists, whilst also addressing cycle safety; and
 - (c) ensure the routes are delivered to a quality and consistency that will attract new and increased volumes of cyclists.
- 5.4 To address Mayoral priorities, future routes will also provide significant improvements to walking.
- 5.5 The Estimated Final Cost (EFC) of the QW programme is £116.7m plus a further £1.9m for wayfinding. This incorporates a £5.5m reduction in EFC following review as part of the recent Comprehensive Spending Review. There is no fundamental reduction in the intended programme, so the challenge will be to work with boroughs and other partners to deliver the same outcomes, but reducing the cost through value engineering and an increased focus on value for money.
- 5.6 The proposed QW network is made up of routes selected using criteria briefly summarised below:
- (a) directness and cohesion;
 - (b) attractiveness;
 - (c) traffic composition and impact to other users;
 - (d) buildability;
 - (e) political support; and
 - (f) network prioritisation and phasing.
- 5.7 The map on the following page illustrates the current QWs network and stages of delivery.
- 5.8 Seven routes with a total length in excess of 50km are due for completion by Spring 2017. The wider network (subject to successful completion of feasibility studies on all routes) is over 300km in length.
- 5.9 Routes currently at feasibility stage will be reviewed in light of the emerging demand analysis for cycling which will provide an opportunity to re-prioritise or change routes in consultation with local delivery partners. This analysis now being carried out by TfL may result in changes to the proposed priority network.

Quietways Network and Stages of Delivery

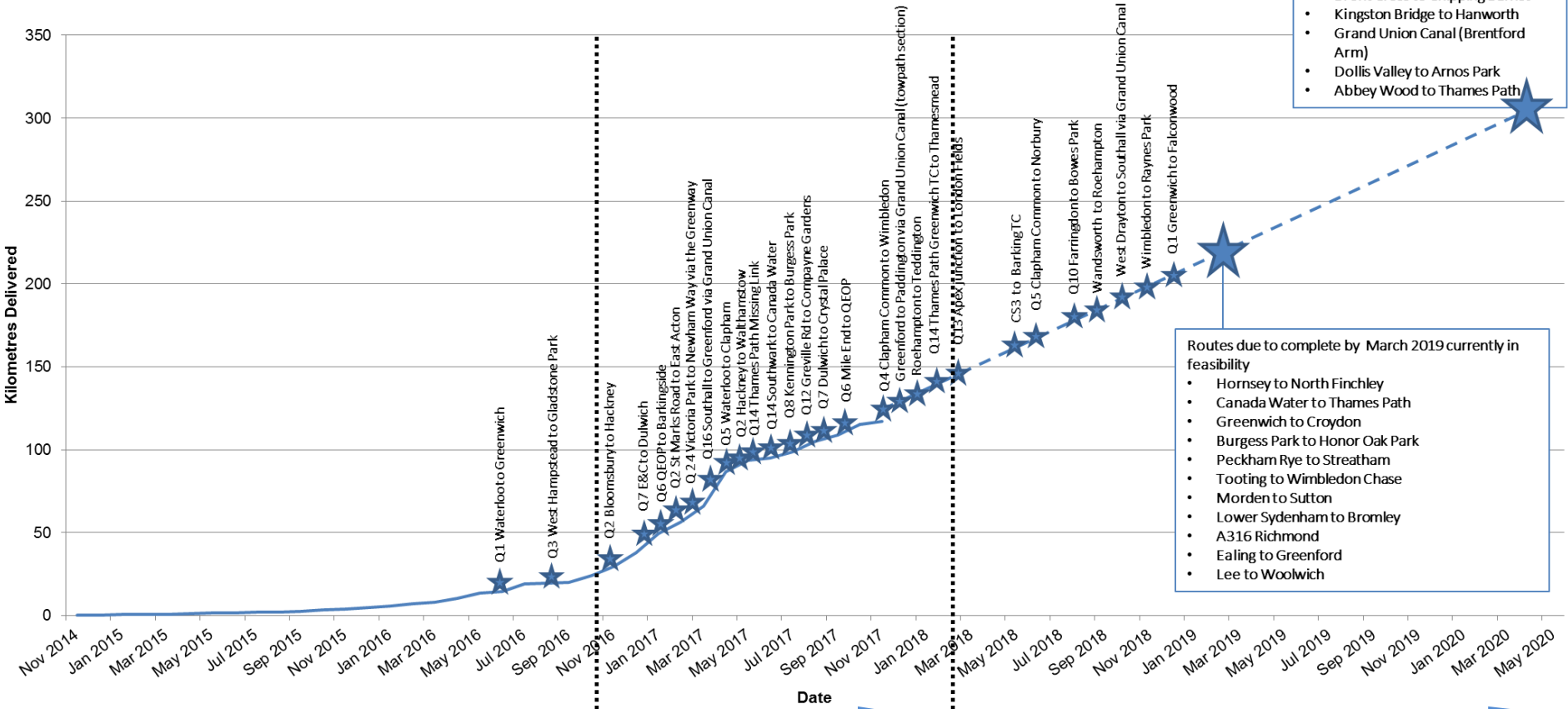


- 5.10 The programme is split into two phases comprising 36 routes in total. Phase 1 is comprised of seven routes (Q1-Q7) and phase 2 is a further 29 routes. Further details are provided in Appendix 1.
- 5.11 Feasibility for phase 1 routes involved the development of lengthy Route Delivery Plan for each route. This was streamlined into a shorter Quietway Definition Plan (QDP) format for phase 2 routes to enable delivery to begin more quickly and to give greater ownership of design to the relevant local authority.

Quietways Delivery Progress and Success

- 5.12 The delivery of QWs has been slower than expected but is gaining momentum. Construction is now progressing well and there are large sections of route where construction will start shortly. By the end of the financial year the network will be much more visible on street, and we would anticipate good impacts on cycling usage that have already been seen on Q1 (and early parts of the Central London Grid – a network of safer cycle routes – in Camden).
- 5.13 There are a number of reasons for the slower than predicted delivery, including:
- (a) the original programme was set to match a very ambitious desire to deliver, but this did not take into account the complexity of the programme, or the ability of the boroughs to expand delivery capacity from a “standing start”. Borough capacity to expand the delivery on this unprecedented scale was untested, and would prove to take some time. TfL’s provision of additional support through a contract with Sustrans has undoubtedly assisted with early stages of design and community engagement. However, the proposals have still required the usual due process of local political decision making (which often differs from authority to authority) and detailed consideration of public feedback;
 - (b) projects which have impacted on vehicle access, or on parking arrangements – as is relatively common with QW projects – have proved to be controversial locally, requiring time to consider carefully all objections and change designs where necessary;
 - (c) there remains a significant challenge for boroughs in recruiting adequate resource to deliver and then to construct on-street; and
 - (d) relatively late changes to the proposed network, introduced delay on some projects.
- 5.14 The programme is now gaining momentum, with significant on-street delivery in the rest of this financial year. Nevertheless, TfL is now gathering input from delivery partners, and looking at how joint working with partners might be strengthened in the future. This might involve an extension of the successful model used for delivery of CS1 (largely on borough roads) which involved TfL’s project management team working carefully with the London Boroughs of Hackney and Haringey in coordinating and delivering the project. There is also a role for the proposed Walking and Cycling Commissioner, working with TfL support, to engage at member level with boroughs where progress has not been as strong as hoped.
- 5.15 The graph on the following page illustrates the programme delivery profile including milestone dates for sections of the QW network due for completion. QDPs have

Quietways – Delivery Milestones



Delivery to date: 20km and one complete route. Feasibility complete for 18 out of 36 routes.

Forecast to end of 2017: 120km and 10 complete routes. Feasibility complete for 36 routes.

Forecast to 2020 (subject to feasibility): 300km and 36 complete routes.

been agreed with delivery partners for over 175km of route across 18 of the 36 proposed end-to-end routes. The remaining 18 routes are at various stages of feasibility with QDPs for a further 75km across ten routes due for completion by November 2016.

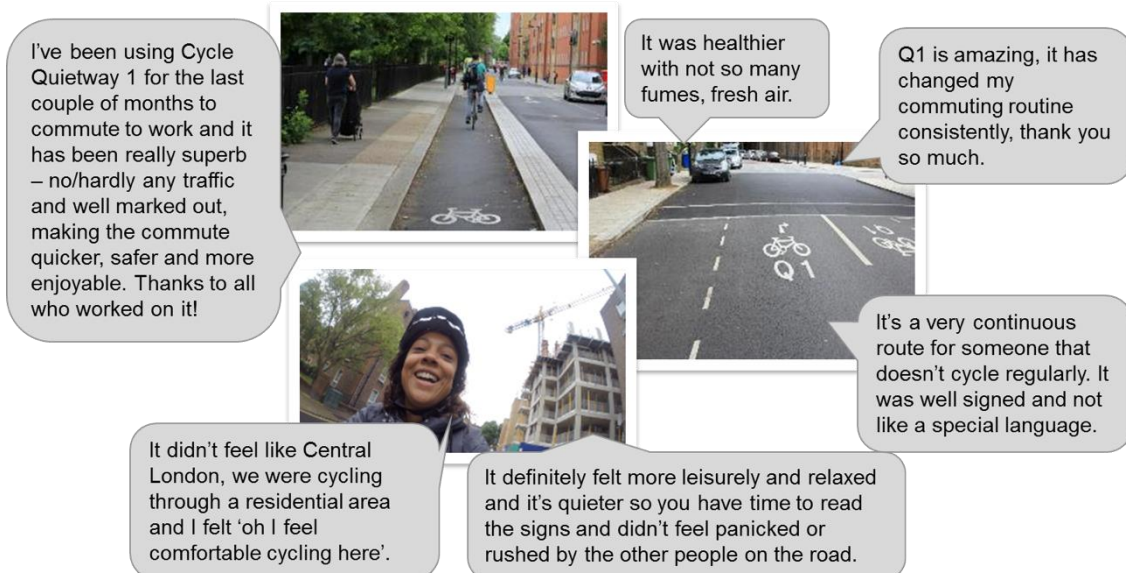
Quietways Challenges and Lessons Learnt

- 5.16 The existing approach to QWs provides improvements for all active travel, however there is an opportunity to ensure walking is given greater priority across the programme going forward, in line with the Mayor's manifesto commitment to support both walking and cycling.
- 5.17 Quietway 1 (Q1) involves four different local authorities, includes four crossings of the TfL road network (TLRN), and a new path on Network Rail land that has now been adopted by London Borough of Lewisham. The number and diversity of delivery partners and the types of intervention being delivered led to a staggered programme of construction. The main reasons for delay to the original delivery programme were the capacity of Lewisham to deliver its schemes at that point and the planning process and Network Rail dependencies in relation to the Millwall Path. Lewisham struggled with internal engineering resource which TfL was able to help mitigate to a certain extent through the "Delivery Agent" call-off contract for Quietways (Sustrans). Lewisham also struggled to mobilise its highways contractor with delays relating to contractual negotiations and disputes.
- 5.18 The key lessons being fed back into programme planning to date are:
- (a) delivery partners have differing capacity and experience in delivering QW type schemes. Those starting from a low base can take time to build capacity and capability which can mean slow delivery at the outset. This should be factored into realistic programmes for delivery;
 - (b) if a valuable section of the proposed QW network is complete it could be signed and 'launched' ahead of full route completion. This would help provide valuable cycling facilities early, maintain public awareness of the programme, and help increase the pressure on delivery partners to complete adjacent sections and routes;
 - (c) if internal TfL resources are available, we should learn from our experience with CS1 and offer this as a delivery model. It should be borne in mind that TfL's own resources are also likely to be under considerable pressure in the coming years, but opportunities to work more closely together should be explored where possible; and
 - (d) active and constructive engagement with boroughs at member level by the new Walking and Cycling Commissioner, and with senior borough officers by TfL should be coordinated to provide support and impetus in decision making around delivery.
- 5.19 Where providing good conditions for walking and cycling reduces capacity for other modes, typically general traffic and buses, the network impacts must be considered and approved. Lessons have been learnt around how to mitigate traffic impacts to enable improvements for walking and cycling where they are needed most.

- 5.20 There has been notable opposition to some proposed QW schemes leading to complaints from some local stakeholders that consultation has been inadequate. For example, some trial road closures have been negatively received. Thorough and proportionate consultation is encouraged across all QW schemes and trial closures are now discouraged unless preceded by significant engagement and consultation to mitigate the risk of fierce opposition. More work is now undertaken up front to help stakeholders understand the QW product and programme, so as to ensure that any initial opposition driven by a lack of understanding is addressed. As the QW construction programme and monitoring advances we will be able to strengthen the case for QWs in new locations, and show that some of the feared consequences do not arise.
- 5.21 Lengthy legal processes and influential stakeholder groups can result in delay and non-delivery. The nature of QW routes means that changes can be proposed where routes enter parks, common land, or other green spaces. These areas can involve complex third party governance and conditions around decision making and implementation, therefore making changes can be challenging and time consuming. Local support is essential, and proper engagement with stakeholder groups required. Allowing time in delivery programmes for this engagement is essential. Identification of relevant bodies and stakeholder groups for these areas at a very early stage is clearly important.
- 5.22 As lack of resource within delivery partners was identified as a key risk at the outset, the “Delivery Agent” (Sustrans) was appointed to act in a supporting role to fill resource gaps as required. To date, this has been used by boroughs to carry out concept and detailed design work, project manage route development, carry out consultation and engagement and manage construction. Lessons have been learnt around consultation and engagement in particular. Local authorities must have ownership (and be seen to have ownership) of their schemes to avoid confusion amongst stakeholders and to ensure local politicians feel that they own the schemes they are delivering, rather than ascribing them to Sustrans or TfL.

Quietways Monitoring & Benefits Realisation

- 5.23 Q1, which was launched on 14 June 2016, continues to attract positive feedback from new users. The new walking and cycling link at Millwall, South Bermondsey, was also commended at the New London Architecture awards 2016.
- 5.24 User-testing of wayfinding was undertaken in July 2016 and highlighted positive feedback from all users. The new QWs branding helped new cyclists feel comfortable, and reassured that they were heading in the right direction. As referenced in paragraph 3.4, certain sections have seen a 38 per cent increase in the morning peak.



Quietways Next Steps

- 5.25 Alongside the continued delivery plan outlined above, a number of recommendations for the future have been established:
- (a) review routes that are not yet through feasibility and make sure they still represent best value. Use the emerging cycle demand forecasting to help focus current and future investment;
 - (b) evolve the network. Don't just focus on launching end-to-end routes, ensure valuable sections of route that are complete are signed and open;
 - (c) increase the profile of walking in route design. Schemes and routes should be holistic, not just about cycling;
 - (d) do more to show people what a QW is and how it can improve their local area ahead of consulting on changes;
 - (e) build on our strong relationships with the boroughs and support them in delivering schemes that are supported by their local residents and businesses and that bring about benefits for all; and
 - (f) carry out some engagement with boroughs and other delivery partners to gather feedback on experience to date and how we might strengthen arrangements going forward.

6 Cycle Superhighways

Cycle Superhighways Background

- 6.1 The CS are high capacity, safe and attractive routes aimed at all Londoners, existing and new cyclists, and for all journey purposes. Safety, or the perception of safety, is the main barrier to cycling. The CS infrastructure with an emphasis on separation from other road users in time and space on both links and at junctions addresses this barrier. There is a clear transport planning rationale underpinning this approach:
- (a) evidence from other cities supports segregation to address cyclist safety; for example Copenhagen's cycle tracks, which have been introduced over the

last 25 years, are mostly segregated. Over the same 25 year period, the risk of a cyclist being involved in a serious collision has reduced by 72 per cent per cycled kilometre¹;

- (b) segregation is being introduced on CS routes that have undergone extensive consultation with the public and key stakeholders, and where the nature of the road and volume of traffic have highlighted segregation to be necessary; and
 - (c) the segregated facilities have been designed in accordance with the technically robust standards set out in 'London Cycle Design Standards', which itself is based upon international best practice.
- 6.2 The construction of four new Cycle Superhighways and upgrades to four existing CS routes received Board approval in February 2015, amounting to 30km of new segregated cycle facilities across London:
- (a) East-West CS (Phase 1): Tower Hill to Westbourne Terrace;
 - (b) North-South CS: Elephant and Castle to King's Cross;
 - (c) CS5 Inner: Oval to Pimlico;
 - (d) CS1: Tottenham to the City;
 - (e) CS2 Upgrade: Bow to Aldgate; and
 - (f) upgrades to CS3, CS7 and CS8: various locations (rolling programme of minor projects).

Cycle Superhighways Delivery Progress & Success

- 6.3 Construction of the new routes began in February 2015. The first new route, CS5 was launched in November 2015. CS1 and the upgrade to CS2 were opened in April 2016, shortly followed by the North-South Cycle Superhighway (CSNS) between Elephant and Castle and Stonecutter Street and the first section of the East-West Cycle Superhighway (CSEW) between Tower Hill and Parliament Square. Snagging works and other refinements are currently being completed. Construction works are ongoing and progressing well on the final section of CSEW between Parliament Square and Lancaster Gate.
- 6.4 These compressed delivery timescales and the sheer scale of the projects represented an unprecedented challenge. Coordinating the complex construction alongside numerous other major roadworks ongoing in central London by developers, utility companies, the London boroughs and TfL was a huge exercise – particularly when taking into account the need to coordinate with planned and unplanned events including the Lord Mayor's Show, protests, state visits, the London Marathon and events in the Royal Parks.
- 6.5 To overcome these complexities and minimise disruption to road users as far as possible, a number of innovations and efficiencies were used. For example, at Blackfriars, coordination of CSNS, CSEW slip road waterproofing and Thames Tideway ducting and kerbing work, saved 80 days of potential disruption and £0.2m in lane rental charges. Furthermore, the use of bespoke demountable kerbs in key locations may have had longer lead times, but allowed a quicker and less disruptive installation.

¹ Copenhagen Cycling Strategy 2011 - 2025

- 6.6 Despite these efficiencies, the particularly constrained timescales to deliver CSEW which runs through key heritage areas, with the greatest number of individual packages of construction work, has resulted in costs that, whilst appropriate for the scope of works delivered, are higher than originally forecast in order to achieve the challenging completion date. Specific factors include:
- (a) starting construction prior to completing detailed design has meant a full understanding of the works and the increasing complexity of civil engineering, road surfacing, traffic signals infrastructure and lighting changes required was developed late in the project and therefore not available when the original budget was defined; and
 - (b) additional requirements of key stakeholders along the route in order to receive construction approval.
- 6.7 A new forecast of £58.7m against the original pre-construction estimate of £40.3m is therefore now predicted.
- 6.8 To guard against further cost increases the final phase of the construction programme for CSEW between Parliament Square and Lancaster Gate has been reviewed, with work not yet started re-phased to start in January 2017 to enable designs to be further developed, and work to be executed in the most cost efficient manner. In addition, a new internal panel-based value review process is helping deliver cost efficiencies across all TfL's major roads enhancement projects, and further opportunities for savings will also come if risks can be managed below the risk budget.

Cycle Superhighways Road Network Impacts

- 6.9 Economic recovery has driven up congestion across London, and has brought increasing numbers of private developments and large infrastructure projects. With London's population forecast to grow from 8.6m people to around 10m by 2030, current initiatives to limit congestion are not enough to maintain an efficient road network and ensure London's continued success as a world city. TfL's priority is to keep London moving, working and growing, and make life in London better - planning for a city with fewer cars in it and a further shift towards sustainable transport. The 'Healthy Streets' approach will be integral to the strategy to reduce traffic, and work towards a safer and more attractive city for pedestrians and cyclists by making it even easier for people to take public transport, walk or cycle.
- 6.10 TfL and other local authorities have therefore reallocated road space away from private vehicles particularly in inner London to improve road safety, increase bus service reliability, and improve facilities for pedestrians, cyclists and taxis. Reallocating road space creates more space for walking and cycling and brings other benefits, such as to health and air quality, and encourages a reduced reliance on cars. While reallocating road space has made journeys for motorised vehicles slower in some locations, improving the environment for pedestrians and cyclists maximises the efficiency of the road network, and over the long term will result in an increase in the proportion of people using sustainable transport.
- 6.11 Since the 2012 Games, economic and population growth has led to increased congestion, and has been heightened by the unprecedented construction of road

schemes such as CS and new commercial developments and major utility works. There has been increasing demand for some types of transport which use the roads. For example, cycling journeys have increased by 10 per cent since 2013 and have more than doubled since 2001. The number of daily cycling journeys is now equivalent to 10 per cent of bus journeys or 20 per cent of Tube journeys. Bus ridership has also grown by 77 per cent since 2000 to over 6.5m journeys each day. As a result, there has been a 20 per cent reduction in bus reliability and a 30 per cent increase in excess traffic delays during the afternoon peak in central London.

- 6.12 Between 2014 and 2015 the proportion of delays on the roads due to long-term events such as planned roadworks doubled from seven per cent to 15 per cent. Just under half of the recent delays in central London were due to the construction of the new CS (however, with the majority of construction complete, journey times in these areas have decreased in many cases).
- 6.13 It is therefore recognised that, as expected, there have been impacts on road users during the construction work to build the new cycling infrastructure. To mitigate the disruption caused by these works, and to minimise adverse impacts on road users, including bus passengers, a range of measures have been implemented including:
- (a) managing London's road network intensively via our 24/7 traffic control centre;
 - (b) implementing temporary bus schedules;
 - (c) tasking Roads Policing Units to incidents and congestion hot spots;
 - (d) working with the freight industry to retime deliveries to avoid the busiest times;
 - (e) implementing dynamic traffic signal timing strategies to manage congestion across London in response to real time conditions; and
 - (f) an extensive bus priority programme is being developed.
- 6.14 Now that construction works on the CS routes are substantially complete, journey times for motor traffic have improved compared to during the works in many cases. For example, on the upgrade to CS2, journey times are now comparable to those pre-construction. However, in some other locations journey times are now slightly longer.
- 6.15 On CS5, inbound journey times for motor traffic in the morning peak are approximately 20 minutes, compared to 20 - 25 minutes during the works and 15 - 20 minutes prior to works. In the evening peak, journey times are now about 15 minutes compared to 15 - 20 minutes during works and just less than 15 minutes prior to works. This has been achieved despite the removal of a traffic lane.
- 6.16 On CSNS, since completion of construction, southbound journey times have reduced to approximately what was experienced pre-construction. Northbound journey times were between 5 - 7 minutes pre-construction and reached between 8 - 12 minutes during construction. Since the completion of the scheme the northbound journey times have stayed at around 10 minutes.

- 6.17 On CSEW, journey times have improved since the works have completed; the exception to this is the eastbound direction in the evening peak. Compared to pre-construction the westbound journey times have increased by 3 - 5 minutes in the morning and evening peaks. Eastbound journey times have increased by 5 - 10 minutes in the morning peak and by 10 - 15 minutes in the evening peak. This is due to the removal of a traffic lane and improvements to pedestrian facilities. As works are ongoing, the changes to journey times are not comparable to information given at public consultation. Further information is provided in Appendix 2.
- 6.18 The Mayor is keen to do more to minimise the disruption from roadworks by speeding up the construction of projects (e.g. undertaking more work at night) and phasing works carefully so that TfL is not building multiple major projects on adjacent streets.
- 6.19 The challenge of managing the impact of these schemes has led to further innovation and development of best practice in managing traffic impact. TfL implemented a London wide traffic management strategy to enable the CS build and continued successful operation of the capitals road network. This new approach to traffic management has been named active traffic management, which changes the timings at certain key traffic signal junctions to manage the flow of traffic into and around central London. In addition, wider use of variable message signs and travel demand management to raise awareness of works, and new technology such as Wi-Fi-controlled temporary traffic signals has helped increase flexibility and will help reduce impacts on other road users in the future.
- 6.20 This was all made possible with the use of TfL's new advanced traffic modelling methodology, which has allowed the CS to be designed and assessed with all other key road layout changes planned for 2016 and the active traffic management strategy in place. The models did not take account for any future traffic growth, nor do they quantify the impact of other tactical and strategic traffic management measures such as travel demand management, enforcement, freight management and bus priority measures.
- 6.21 The experience of a large number of construction works taking place across central London in 2015 – including numerous major schemes under TfL's roads investment programme, utility works and third party developments – is also being factored into TfL's future business plan. This will ensure schemes are phased more effectively and efficiently to minimise the impact on other road users wherever possible.
- 6.22 As construction of CSEW and other projects in central London are completed, traffic conditions are improving and impacts on buses are reducing. Where concerns remain over bus journey times, further bus priority will be considered where cost effective.

Cycle Superhighways Monitoring and Benefits Realisation

- 6.23 As well as cycling, a key element of measuring benefits will be the benefits delivered for pedestrians. The CS have demonstrated that cycling schemes can also deliver substantial improvements for pedestrians, with over 1,400m² of additional footway, 23 new and 37 upgraded pedestrian crossings, and pedestrian

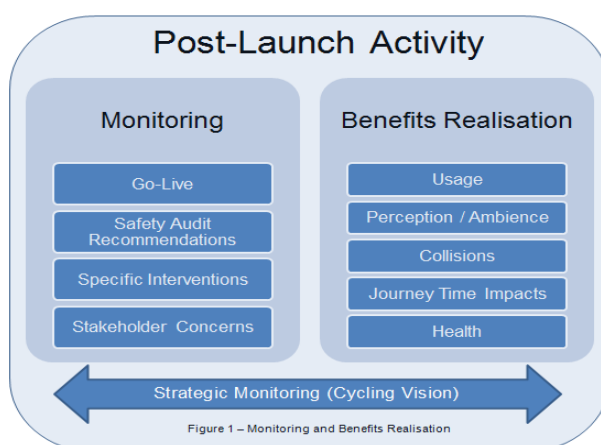
countdown delivered as part of the routes. Specific examples include the introduction of a new crossing at Parliament Square on CSEW – opening up and transforming the feel of the square for pedestrians; and Blackfriars Road – where developer funding was obtained to deliver high quality footway materials alongside other urban realm improvements as part of the CSNS works, providing a continuous high quality public realm and increasing the longevity of the assets. Building upon this success, future routes will further seek to maximise the pedestrian benefits that the CS can deliver, providing healthier, safer and more attractive streets.

- 6.24 TfL is also undertaking detailed monitoring of the recently introduced innovative infrastructure for cyclists including bus stop bypasses and protected junctions. TfL has been working alongside stakeholders to understand their concerns and to ensure the monitoring package takes those concerns on board. A key element of the bus stop bypass monitoring is to assess the impacts of different designs on people with visual and mobility impairments. Monitoring will cover a representative mix of locations, including quiet and busy areas, both single flow and bi-directional tracks and will monitor user behaviour with and without zebra crossings. This work began in June and results are expected later this year. In a UK-wide review of bus stop bypasses, the Equality and Human Rights Commission promoted the work TfL is doing and how thoroughly it has reacted to this equality issue.
- 6.25 As with most highway schemes, there is a bedding-in period where road users adapt to changes in the road layout. Traffic and bus performance is constantly under review with signal timings adjusted and optimised wherever possible. Sophisticated traffic detection in the carriageway (Split Cycle Offset Optimisation Technique, SCOOT technology) is being installed after construction is complete and will adjust traffic timings in real time in relation to changes in traffic flow. This dynamic control will make the affected areas more efficient for traffic and buses and so less congested.
- 6.26 To support this bedding-in period a range of post-construction processes have been established to ensure the new road layouts operate safely and are understood by all road users. This includes monitoring, educational and enforcement activities – bespoke videos have been developed to educate road users about new innovative highways layouts². To supplement TfL's established road safety audit process, TfL Travel Ambassadors and staff, alongside the Metropolitan Police Service, support the launch of new road layouts, hand out leaflets educating people how to use the infrastructure and advise on appropriate behaviour. TfL continues to contribute funding towards the Metropolitan Police's Cycle Safety Team which patrol the CS routes.
- 6.27 The launch of the new CS routes has also been supported by a behaviour change campaign themed around creating a 'safer space to cycle'. This started in May 2016 with a pan-London press advertisement and targeted emails to people within the local area to promote the opening of CSEW. In addition, a number of measures and activities are available to anyone living, studying or working in London to encourage cycling and use of the new infrastructure. Examples include cycle parking for schools, businesses and visitor attractions, cycle training (for

² <https://tfl.gov.uk/corporate/safety-and-security/cycle-safety-innovations?intcmp=28472>

adults and children), Cycling Workplaces (offering cycle parking, group training, interactive safety seminars and cycle maintenance), grants for schools and community groups and British Cycling guided rides.

- 6.28 The CS are now included on the TfL Cycle Journey Planner and the new infrastructure is being promoted (alongside Santander Cycles and Cycle Skills) to local communities across London through the 35 Time to Cycle events taking place in 2016.
- 6.29 Figure 1 below summarises the above activities – split into ongoing monitoring and management of the route, and specific activities which are part of scheme benefits realisation.



- 6.30 Initial counts suggest the vast majority of cyclists are using the new facilities, with more than 90 per cent using the segregated tracks on both CSEW and CSNS, and that the routes are well used:
- (a) on Victoria Embankment on CSEW, the number of cyclists has increased to 3,608 and 3,389 in the morning and evening peaks respectively, up by 54 per cent against pre-construction figures. At its busiest, cyclists made up 52 per cent of all traffic;
 - (b) on Blackfriars Bridge on CSNS the number of cyclists has increased to 4,695 and 3,722 in the morning and evening peaks respectively, up by 55 per cent against pre-construction figures. At its busiest, cyclists made up 70 per cent of all traffic; and
 - (c) on Vauxhall Bridge on CS5 the number of cyclists has increased to 1,889 and 1,505 in the morning and evening peaks respectively, up by 73 per cent against pre-construction figures.
- 6.31 While full data to cover the whole day is not yet available, initial surveys on CS5 show that flows are around 85 per cent lower outside of the peak periods. This reflects the pattern in cycle flows throughout central London and that these routes cover key commuter corridors where significantly higher flows in general traffic are experienced during the peak periods.
- 6.32 In terms of total people movement, rather than the quantity of vehicles, initial findings into the road space efficiency of CSEW and CSNS suggest that at peak times, the new cycling infrastructure moves an average of 46 per cent of people along the route at key congested locations, despite occupying only 30 per cent of

the road space. Two weeks after opening, the CSEW and CSNS corridors are moving five per cent more people per hour than they could without cycle lanes, a number that will increase as they attract more cyclists.

- 6.33 Whilst it is still early to judge objectively the success of the new CS routes, observations are showing good compliance of traffic signals and other infrastructure, plus a wider appeal and use beyond commuter cycling, including increasing use by parents and children. The routes have received many positive comments in the press and on social media. Furthermore, CSEW recently won the London Cycling awards 'Best Large-Scale Infrastructure Scheme' award whilst the upgrade to CS2 was awarded the 'Partnerships Award' by the Chartered Institution of Highways and Transportation.

Cycle Superhighways Next Steps

- 6.34 The Mayor has outlined his intention to triple the extent of protected cycling facilities across London. As part of this he has committed to support TfL in developing the CS programme, with a focus on segregated provision. TfL's new business plan will include provision for a balanced and re-prioritised walking and cycling programme, in line with the Mayor's commitments. Subject to the relevant approvals and further consultation where necessary, this will include key new routes such as CS11 (Swiss Cottage to West End) and the northern section of CSNS (Stonecutter Street to King's Cross), alongside continuing to develop new routes such as CS4 and CS9, learning the lessons of previous routes and ensuring they carry the support of wider stakeholders.
- 6.35 To this end, the factual results of the public consultations completed in March 2016 for CS11 and the northern section of CSNS were released this summer. The response report for CSNS was subsequently published in September with the report for CS11 planned for later this year, as well as the report for phase 2 of CSEW (Paddington to Acton). Work is ongoing to review the feedback received and to continue engaging with stakeholders.

List of appendices to this report:

Appendix 1: Quietways routes and budgets

Appendix 2: Journey times along Cycle Superhighway corridors

List of Background Papers:

Cycle Superhighways Programme, TfL Board, February 2015

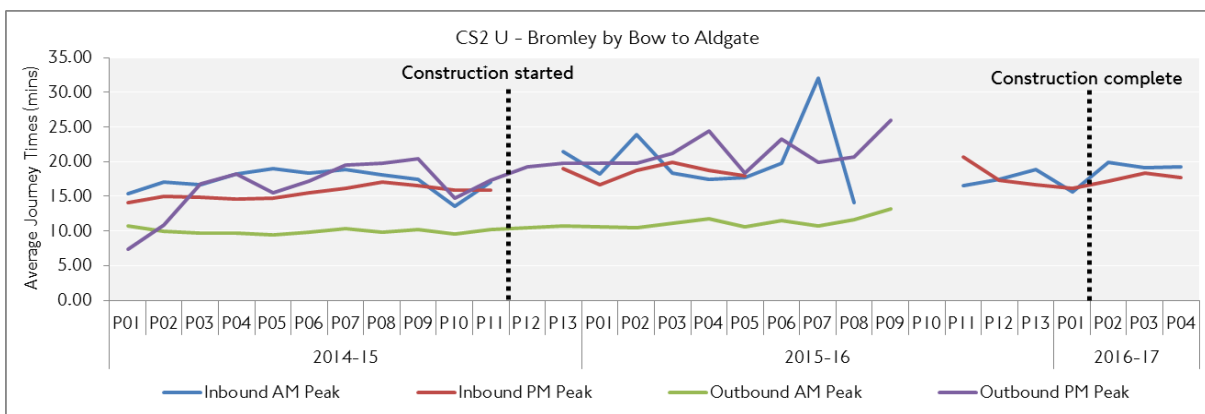
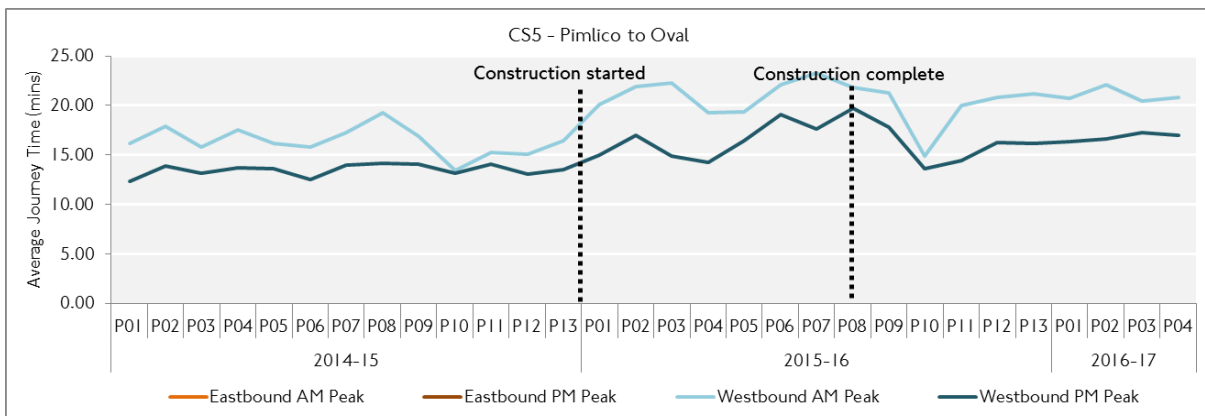
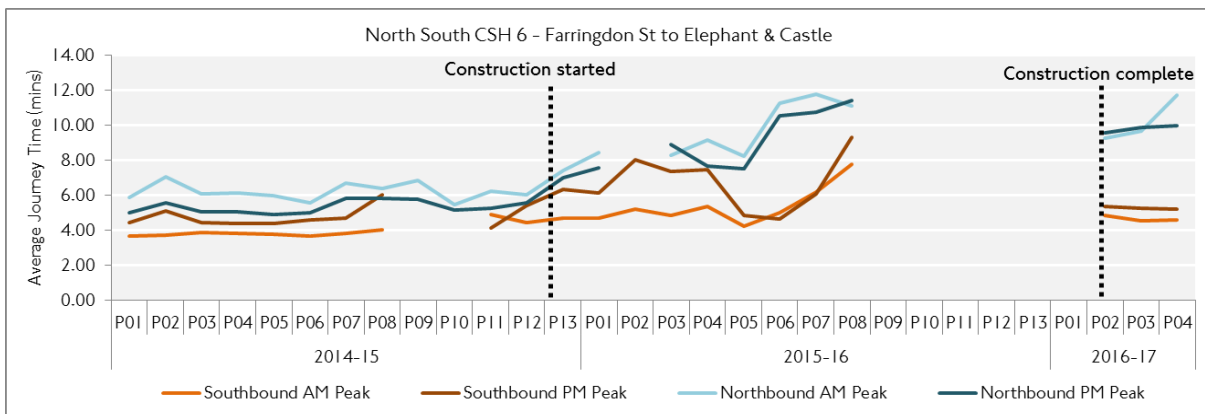
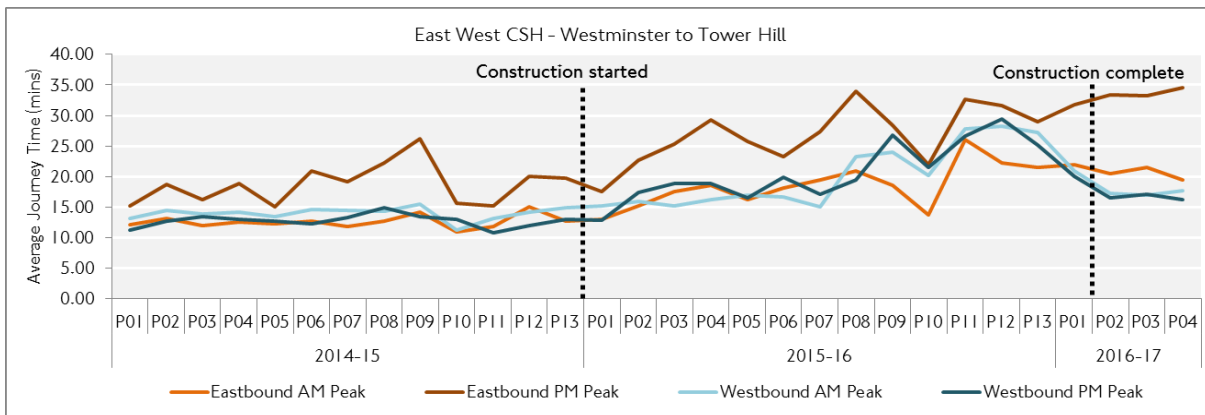
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Appendix 1 – Quietways routes and budgets

| Phase | Q number if assigned | Scheme | Route length (km) |
|--------------------|----------------------|---|-------------------|
| 1 | 1 | Waterloo to Greenwich | 6 |
| 1 | 2 | Bloomsbury to Walthamstow | 11.3 |
| 1 | 3 | Regents Park to Gladstone Park | 7.2 |
| 1 | 4 | Clapham Common to Wimbledon | 8.7 |
| 1 | 5 | Waterloo to Norbury | 13 |
| 1 | 6 | Mile End to Barkingside | 15.9 |
| 1 | 7 | Elephant & Castle to Crystal Palace | 11.3 |
| Phase 1 RISK | | | |
| 2 | | Thornton Heath to Beddington Park via Croydon TC | 7 |
| 2 | 8 | Kennington Park to Burgess Park | 3 |
| 2 | 14 | Southwark to Canada Water | 2.7 |
| 2 | | Regent's Canal (at Shepperton Road) to Highgate via Highbury | 7 |
| 2 | 12 | Greville Road to Compayne Gardens | 1.45 |
| 2 | 10 | Farringdon to Bowes Park via Finsbury Park | 10 |
| 2 | CS9 | Cycle Superhighway 9 | 11.5 |
| 2 | | (North of) Burgess Park to Honor Oak Park | 5.5 |
| 2 | | Victoria Park to Newham Way via the Greenway | 7 |
| 2 | 14 | Canada Water to Thames Path extension | 5.5 |
| 2 | | Wimbledon town centre to New Malden | 3 |
| 2 | | Merton section of Kingston to Raynes Park MH "Quietway" route | |
| 2 | | Peckham Rye to Wimbledon Chase via Brockwell Park and Tooting Bec Common | 17 |
| 2 | | Greenwich town centre to Croydon town centre via Honor Oak Park and New Beckenham | 17 |
| 2 | | St Mark's Road to East Acton | 3.5 |
| 2 | | CS3 to Barking town centre (only) | 1.9 |
| 2 | 14 | Thames Path (Greenwich only) | 13 |
| 2 | | A316 Strategic route with link to Twickenham town centre | 6.5 |
| 2 | 16 | Grand Union Canal (Paddington Arm to West Drayton only) | 22.5 |
| 2 | 1 | Greenwich town centre to Bexleyheath | 14 |
| 2 | | Wandsworth Common to Teddington via Richmond Park | 18 |
| 2 | | Ealing to Greenford | 5.5 |
| 2 | | Sutton town centre to Morden | 7.5 |
| 2 | | Kingston Bridge to Hanworth via Hampton | 6.5 |
| 2 | | North Finchley to Hornsey via Muswell Hill and Alexandra Palace | 7.5 |
| 2 | | Croydon town centre to Worcester Park via Sutton town centre | 13 |
| 2 | | Bromley town centre to Lower Sydenham | 5 |
| Phase 2 RISK (20%) | | | |
| 3 | | 5 routes and >50km on high demand corridors | 50 |
| Phase 3 RISK (20%) | | | |

Appendix 2 – Journey times along Cycle Superhighway corridors ¹



¹ Gaps in the data are due to faults on the ANPR cameras