

Date: 30 November 2016

Item: Cycle Superhighways Programme

This paper will be considered in public

1 Summary

ID: ST-PF108 Cycle Superhighways Programme				
Existing Financial Authority	Estimated cost for planning purposes	Existing Project Authority	Additional Authority Requested	Total Authority
£ 216.5m	£ TBC ¹	£ 161.7m	£ 16.2m	£ 177.9m

Authority Approval: The Committee is asked to approve additional budgeted Programmes and Project Authority of £16.2m.

Outputs and Schedule: To continue the delivery of the current Cycle Superhighways programme including completing construction of the East-West Cycle Superhighway.

- 1.1 This paper follows on from the paper on the same agenda titled “Update on the implementation of the Quietways and Cycle Superhighways programmes” which provides a progress update on the two programmes in the cycling portfolio and specifically the benefits delivered to date.
- 1.2 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 Cycle Superhighways (CS) programme, with a focus on segregated provision. This commitment to continue delivering the CS programme will be reflected in TfL’s Business Plan (2016/17 to 2021/22) which will be presented to the Board on 15 December 2016.
- 1.3 This paper focuses solely on the currently approved scope of the CS programme, principally on East-West Cycle Superhighway and the upgrades to existing routes. It seeks an increase of £16.2m to existing Authority to complete the delivery of this approved scope.

2 Recommendation

- 2.1 **The Committee is asked to note the paper and approve additional Programme and Project Authority of £16.2m to continue the Cycle Superhighways programme as described in this paper, giving a total Programme and Project Authority of £177.9m.**

¹ A re-scoped Cycle Superhighways programme is included in TfL’s draft Business Plan. An authority paper will be presented to the Committee in March 2017 to seek approval for the next phases of the programme – see section 3.2 for further information.

3 Background

- 3.1 The CS programme currently has a budgeted Financial Authority of £216.5m, with £161.7m of Project Authority (now Programme and Project Authority) approved by the Board in February 2015. To date, £152.6m has been spent with the remaining £9.1m Programme and Project Authority currently forecast to be used in full by December 2016.
- 3.2 The draft new TfL Business Plan incorporates the impact of:
- (a) cost increases in the construction of the East-West Cycle Superhighway (CSEW), as detailed in this paper;
 - (b) changes to the currently approved scope of the programme, for example the inclusion of new routes such as CS9; and
 - (c) refined cost estimates for routes yet to be built such as CS4.
- 3.3 Following approval of the TfL Business Plan in December, an authority paper is planned for the Committee in March 2017 to seek approval for the next phases of the CS programme.

Delivery

- 3.4 In 2015, TfL began construction of four new Cycle Superhighways and upgrades to four existing routes, amounting to 30km of new segregated cycle facilities across London:
- (a) East-West CS (Phase 1): Tower Hill to Westbourne Terrace;
 - (b) North-South CS²: 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).
- 3.5 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 CSEW between Tower Hill and Parliament Square.
- 3.6 The majority of construction works along these routes are now substantially complete with snagging works and other refinements currently being completed. Construction works are ongoing and progressing well on the final section of CSEW between Parliament Square and Lancaster Gate, and is forecast to be completed

² The delivery of CSNS has been split into two phases – Phase 1 between Elephant & Castle and Stonecutter Street and Phase 2 between Stonecutter Street and King's Cross.

in June 2017³. The completion of these works is being informed by lessons learnt and cost review exercises completed across the CS programme earlier this year. These include:

- (a) ensuring designs are fully developed and subject to enhanced buildability reviews ahead of starting construction, enabling robust cost estimates to be produced;
- (b) appropriate time is allowed for construction and is agreed with stakeholders, including contingency and taking into account the need to accommodate events in high profile locations;
- (c) requirements are clearly understood and agreed with stakeholders; and
- (d) enhanced project controls for the management of change and risk.

East-West Cycle Superhighway (CSEW) Phase 1

3.7 CSEW Phase 1 represents, with an allocation of £40.3m, the largest element of the original Project Authority. Delivery of such an extensive route that has been subject to significant change, with the greatest number of individual packages of construction work, through key heritage sites, to a highly pressured schedule has resulted in costs being higher than originally forecast. The two key factors that have driven this cost increase are:

- (a) starting construction before 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 were not forecast in the original budget.

3.8 A thorough cost review has been completed and the project now has a revised forecast of £58.7m. The table overleaf demonstrates the cost increases experienced against key scheme elements.

³ Some minor resurfacing works at Parliament Square are phased to coincide with Parliamentary Recess in summer 2017.

Item	Original Estimate (Nov 2014) (£m)	Latest Estimate (Oct 2016) (£m)	Variance (£m)
Feasibility & Design	6.6	7.9	1.2
<i>Civils Works</i>	11.8	19.5	7.7
<i>Surfacing</i>	1.6	8.3	6.7
<i>Lighting</i>	0.0	3.7	3.7
<i>Traffic Signals Infrastructure</i>	1.0	5.3	4.3
<i>Utility Diversions</i>	1.9	3.0	1.0
<i>Lane Rental, Staff, Other</i>	5.2	5.0	-0.2
Implementation	21.5	44.8	23.3
Project Close	2.1	3.0	0.9
Risk	0	3.1	3.1
Risk (transferred to base)	10.1	0	-10.1
Total	40.3	58.7	18.4

3.9 The main causes of the budget variances for CSEW Phase 1 are:

(a) **Feasibility & Design**

The design process has been highly iterative. As the scope of work increased design costs increased. For example, additional design costs were incurred as a result of lighting and drainage upgrades required by The Royal Parks and Westminster. Additionally, as identified at the Board in 2015, public consultation for sections in St. James' Park and Hyde Park was still required. This led to a number of changes during design concurrent to the construction programme.

(b) **Civils Works**

As designs have developed the scope of works has increased significantly. As outlined above, designs were based on minimal lighting and drainage upgrades. Other works, such as the need for demountable islands which can be removed for events was not foreseen and has also exceeded forecasts.

(c) **Surfacing**

The surfacing budget was originally estimated on only the cycle track itself being resurfaced. However, a wider area of surfacing was actually required in many locations as the installation of a segregated kerb changed the camber of the road. Resurfacing of the carriageway allowed for the repositioning of the camber and avoided potential drainage issues. Stakeholder requirements for additional resurfacing in key heritage areas further increased the overall surfacing costs.

(d) **Lighting**

Lighting was outside the scope of the project when the original cost estimate was developed. However, changes to lighting requirements by stakeholders and to meet safety standards resulted in repositioning of lighting columns and upgrades to existing lighting along the route.

(e) **Traffic Signal Infrastructure**

Allowance was made in the original cost estimate for traffic signal infrastructure works such as cabling and new signals but not the cost for the main works London Highways Alliance Contracts (LoHAC) contractor to facilitate the works. The LoHAC contractor had to put the signals into temporary casings prior to construction commencing, lay ducts, sockets and assist with cabling and the commissioning process and removal of the temporary casings and redundant signals post-works, none of which was priced for.

(f) **Risk**

The original £10.1m risk budget has been transferred to the base budget to fund the additional works described above. The revised Estimated Final Cost (EFC) of £58.7m includes a further £3.1m allocation for risk which reflects the latest Quantified Risk Assessment.

3.10 To mitigate this increase in estimated cost, opportunities to descope or value engineer remaining sections of the route have been explored, including:

- (a) reducing the amount of physical segregation between cyclists and motorised traffic;
- (b) using an alternative alignment in St. James' Park; and
- (c) reducing the scope of work in Hyde Park.

3.11 However, these changes would not deliver the significant benefits for pedestrians and cyclists and would not meet the Mayor's aim to make London a byword for cycling and to make cycling and walking safer and more attractive.

3.12 The full cost of CSEW is captured in the draft Business Plan which, if approved, makes sufficient provision to deliver the future CS programme in full.

3.13 To guard against further cost increases the final phase of the construction programme for CSEW has been reviewed, with work not yet started re-phased to start in January 2017 to enable designs to be properly developed, and work to be executed in the most cost efficient manner.

3.14 The January 2017 start is dependent upon Westminster City Council granting permits for road space.

3.15 The revised construction timescales are shown below:

Section	Construction Start	Construction Finish
Lancaster Gate	Underway	December 2016
South Carriage Drive	Underway	March 2017
Birdcage Walk	January 2017	April 2017
Spur Road	January 2017	June 2017

4 Financial Implications

4.1 The table below shows the current forecast expenditure for those routes commencing construction in 2015 as referenced in section 3.1:

Route	Prior Yrs (£m)	16/17 (£m)	17/18 (£m)	Total (£m)	Variance to original forecast (£m)
East West (Phase 1)	26.2	28.1	4.4	58.7	18.4
North South (Phase 1)	13.9	2.6	0.0	16.5	0.0
CS5 Inner	8.6	1.3	0.0	9.9	-0.6
CS1	13.8	1.1	1.0	15.9	-1.1
CS2 Upgrade	25.0	3.1	0.0	28.1	3.4
CS Upgrade (3,7 & 8) ⁴	2.1	1.0	3.1	6.2	0.8
Total	89.6	37.2	8.5	135.3	20.9

4.2 The final costs to deliver the upgrade to CS2 exceeded the initial forecast of £24.7m by £3.4m owing to an increase in scope, additional road surfacing, and road safety and enforcement related works that were not anticipated when the original cost estimate was developed. This cost increase is largely offset by savings achieved on other routes.

Project Authority Status

4.3 By December 2016 expenditure on the programme as a whole (all routes combined) is expected to exceed the total Programme and Project Authority of £161.7m approved by TfL Board in February 2015. Additional Programme and Project Authority of £16.2m is required in order to continue to deliver the programme until the end of the financial year and to cover commitments in 2017/18. Further authority for future routes will be sought in March 2017.

Route	Actual to date [A]	F'cast to March 2017 [B]	Committed 2017/18 [C]	Authority Required [D = B+C]	Current Project Authority [E]	Increase Requested [F=D-E]
All figures (£m)						
Historic routes	34.9	34.9		34.9	34.9	
East-West Phase 1	42.2	54.2	4.5	58.7	40.3	18.4
North-South Phase 1	16.5	16.5		16.5	16.5	
CS2 Upgrade	27.0	28.1		28.1	24.7	3.4
CS1	14.5	14.9	1.0	15.9	17.0	-1.1
CS5 Inner	8.9	9.9		9.9	10.5	-0.6
CS Upgrade (3,7 & 8)	2.6	3.1	3.1	6.2	5.4	0.8
Sub-total	146.6	161.6	8.6	170.2	149.3	20.9
Programme Costs	0.8	1.1		1.1	0.5	0.6
Future routes	5.2	6.6		6.6	11.9	-5.3
Cumulative Total	152.6	169.3	8.6	177.9	161.7	16.2

⁴ The final EFC for the Upgrades to CS3, 7 & 8 reflects £0.75m additional scope and budget transferred from the Regional Improvement Programme to deliver a coordinated and efficient works programme.

4.4 The additional authority requested covers the following activities:

Authority Request Breakdown	2016/17 (£m)	2017/18 (£m)	Total (£m)
CSEW Phase 1			
LoHAC Contractor	10.4	2.4	12.8
Lane Rental, Traffic Signals Infrastructure	1.3		1.3
Staffing	0.7	0.5	1.2
Risk	2.0	1.1	3.1
Sub total	14.4	4.0	18.4
CS2 Upgrade			
LoHAC contractor	1.7		1.7
Lane Rental, Traffic Infrastructure, Other	1.7		1.7
Sub Total	3.4	0.0	3.4
Other			
CS Upgrade (3,7 & 8)		0.8	0.8
Monitoring, benefits realisation and staffing costs	0.6		0.6
Unutilised Authority – Other Routes	-7.0		
Sub Total	-6.4	0.8	-5.6
Total	11.4	4.8	16.2

5 Assurance

5.1 A Targeted Assurance Review of the programme was carried out in October 2016, including review by the Independent Investment Programme Advisory Group (IIPAG). The conclusions of the review and management response are provided in the background papers. No critical issues were raised.

List of appendices to this paper:

None

List of background papers:

Update on the implementation of the Quietways and Cycle Superhighways programmes, Programmes & Investment Committee, November 2016
 Cycle Superhighways Programme, TfL Board, February 2015
 November 2016 IIPAG and TfL Project Assurance reports and associated Management Response.

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