

Date: 17 May 2023

Item: Surface Asset Renewals Programme

This paper will be considered in public

1 Summary

	Existing Financial Authority (to 2025/26)	Forecast Forecast 2020/21 to 2027/28	Existing Programme and Project Authority	Additional Programme and Project Authority Requested (to end 2025/26)	Total Programme and Project Authority (to end of 2025/26)	Programme and Project Authority to be Requested in future years
Gross	£700m	£955m	£494m	£109m	£603m	£352m
Income	-£41m	-£57m	-£24m	-£11m	-£35m	-£22m
Net	£659m	£898m	£470m	£98m	£568m	£330m

Table 1 – Summary

- 1.1 This paper sets out the request for Programme and Project Authority for the continuation of the Surface Asset Renewals Programme (the Programme) for the full delivery planned in 2023/24 and a proportion of the spend through to the end of 2025/26. The Programme maintains the safety, operability and reliability of highway, traffic, bus, coach and river assets through a prioritised programme of planned and reactive renewals.
- 1.2 The Programme is made up of multiple projects and programmes that deliver essential asset renewals, managing the state of good repair to provide a safe and operable network.
- 1.3 The level of investment planned has increased since the coronavirus pandemic but remains significantly below that required, up to 50 per cent lower on some asset types, to remove the backlog of renewals and maintain service levels. As a result, it has been necessary to defer several major renewals schemes which are not covered by the current investment profile. This will result in asset condition deterioration, an increased likelihood of network restrictions and increased operational expenditure, and an increasing backlog of works. The increased backlog will place additional pressure on future years budgets as the assets deteriorate further and require more extensive, and therefore more expensive, repairs. We continue to work with the Department for Transport to seek the additional funding required for major renewals including opportunities through the Major Road Network Programme.
- 1.4 In May 2022, the Committee approved the extension and re-phasing of existing Programme and Project Authority through to the end of 2024/25. No additional authority was required reflecting the reduced investment. This request seeks approval for increased Programme and Project Authority of £109m, which will

cover the full delivery planned in 2023/24 and a percentage of the delivery planned in the years through to the end of 2025/26.

1.5 The focus of this paper is to:

- (a) present the Programme's achievements since the previous submission in May 2022;
- (b) summarise the financial allocations by main asset types and projects for 2023/24 and the associated outputs; and
- (c) provide assurance to the Committee on the progress of the Programme.

1.6 It is proposed to amalgamate the Programme with other renewal activity (e.g. DLR Renewals, London Overground Renewals etc) to form a new Streets, Bus and Rail and Sponsored Services Renewals Programme. This is subject to approvals as requested in the Investment Programme Structure Review paper elsewhere on the agenda

1.7 The Programme will return annually to the Committee for authority approval.

2 Recommendations

2.1 The Committee is asked to note the paper and:

- (a) approve increased Programme and Project Authority of £109m, which will apply through to the end of 2025/26 increasing the total Programme and Project Authority to £603m; and**
- (b) note that Procurement Authority in respect of the various elements of the Surface Transport Assets Programme will be sought at officer level in accordance with Standing Orders.**

3 Background

Strategic Context

3.1 The Mayor's Transport Strategy (MTS) has three key themes: healthy streets and healthy people; a good public transport experience; and new homes and jobs. Action plans have been produced that detail the activities to achieve these objectives, including for Walking, Cycling, Freight & Servicing and Vision Zero. Maintaining a state of good repair of our Surface assets is key to delivering all these plans, as almost all journeys on London's transport system start or finish on the road network. This is particularly important in terms of road safety for users of the network and supporting local trips and active travel.

3.2 A prioritisation framework for all of TfL's capital renewals investment has been used to determine the Programme's budget, comparing the priorities against those in other programmes and networks. The framework uses six Asset Management Objectives (AMOs) aligned to business objectives. The AMOs are safety, service, customer and staff, environment, capacity and growth, and finance. Current Levels of Service against the AMOs are established and future forecasts are established through the investment modelling using the scenarios outlined in section 5 below.

- 3.3 The Programme's budget was substantially reduced in 2018/19 and 2019/20 as a consequence of the Government removing TfL's revenue grant in 2018. The funding was planned to return to steady state levels from 2020/21 however, due to the impact of the safe stop and revised ways of working associated with coronavirus pandemic, investment reduced to 79 per cent of original planned levels for 2020/21 (from the planned £122m to £97m). Investment was also reduced in 2021/22 from £184m to £122m to reflect the available funding.
- 3.4 The Programme's budget for 2023/24 remains at a similar level to the initial 2022/23 budget of £90m to ensure it is affordable within the overall £725m allocation from the budget for capital renewals across all of TfL.
- 3.5 The Programme includes 16 major renewals, for example, Rotherhithe Tunnel, to address the high priority asset risks. The required funding to address all of these is significant (up to £500m through to 2027/28) and not all planned activity will be affordable with significant peaks in investment forecast from 2024/25. Securing alternative funding, for example through the Department for Transport's Major Road Network Programme will help to manage these cost pressures. However, even with additional funding opportunities, decisions will be required to defer major renewal projects resulting in an increased risk of network disruption and asset restrictions.

Road, bus and river assets

- 3.6 The assets covered by this paper include TfL roads and footways, bus and coach stations, bus stops and shelters, river assets, Woolwich Ferry, traffic signals, bridges, tunnels, street lighting, drainage and trees. The Programme also covers the Local Implementation Plan funding for borough principal road resurfacing and borough bridge strengthening.

Environmental objectives

- 3.7 The Programme contributes to positive environmental benefits through avoiding asset failure and therefore the resulting congestion, longer journeys and associated environmental dis-benefits. The Programme also delivers renewals that improve TfL environmental performance by seeking to deliver construction activity and ongoing operations that minimises environmental impacts. The core objective of the Programme is to support a safe and operable network therefore, due to constrained budgets, the type and extent of environmental benefits achieved will be limited without additional funding. Examples of where the Programme delivers environment benefits include:
- (a) all lighting renewals will be LED;
 - (b) carbon modelling completed for all structures projects;
 - (c) proactive retrofitting of LEDs on bus shelter, traffic signals and street lighting;
 - (d) planting of additional trees and shrubs, where appropriate; and
 - (e) building renewal projects will maximise opportunities to improve environmental performance, such as through the provision of green roofs, solar panels and heat pumps.

Asset duties and responsibilities

- 3.8 TfL, as the highway authority for the Transport for London Road Network, has a statutory duty under the Highways Act 1980 to maintain the public highway. The Traffic Management Act 2004 places a duty on TfL to ‘manage the road network with a view to securing and facilitating the expeditious movement of people and goods’, which includes the provision and maintenance of assets (e.g. traffic signals) that support this activity. TfL also follows the duties under the Road Tunnel Safety Regulations 2007 for the safe management and operation of road tunnels and the Greater London Authority Act 1999 to act as the Traffic Authority for traffic signal assets.

Maintaining assets in a State of Good Repair

- 3.9 State of Good Repair (SOGR) describes the condition in which TfL seeks to maintain assets to provide a safe and reliable network that minimises whole life costs and, where appropriate, meets customer expectations. The SOGR is based on industry standard condition measures which differ by asset type, for example the standard that describes the condition of a bridge is different to the condition for carriageways. Where the SOGR is below the preferred range it reflects the need for renewals investment to deliver a reliable network and reduce the risk of restrictions and closures.
- 3.10 Each asset has a target SOGR range, with examples shown in Table 2 below. The table also includes the current SOGR, which shows the condition for most asset groups is already below the accepted range. The SOGR is expected to deteriorate further in 2023/24 due to the budget constrained funding scenario with the consequence that there will be increased likelihood of assets being restricted or taken out of service to maintain safety.

Table 2: State of Good Repair ranges

Asset	SOGR target range (per cent)		Current SOGR
Carriageway	High volume of cyclists	93 to 96	tbc
	Low volume of cyclists	90 to 93	tbc
	Overall	92 to 95	87
Footway	>92		93
Bridges	88 to 92		88*
Street lighting	90 to 95		75**

* The bridges SoGR for 2022/23 is not currently available as inspections are still ongoing and the figure provided is for 2021/22

** The methodology for calculating the SoGR for street lighting has been amended to better reflect the condition of the assets and assumes poor condition where data is missing or erroneous. Work is ongoing to inspect all assets with missing data and we expect this metric to increase as a result. The SoGR for 2021/22 was 89 per cent.

3.11 Details of how SOGR is measured and calculated are provided in Appendix 1.

Impact on Operations

3.12 The two-year reduction in asset renewals in 2018/19 and 2019/20 and continued reduced investment has increased the number of temporary closures and interim measures on the network to ensure we maintain safety. This has placed substantial pressure on maintenance budgets and increased the risk of reputational damage to TfL and customer dissatisfaction. Table 3 below sets out the implications in terms of direct TfL costs. However, there are also larger societal costs in terms of additional congestion, increased journey times and reduced reliability.

Table 3: Interim Measures and Associated Costs

Year	Assets with Interim Measures	Annual Cost of Interim Measures	Cost of Reactive Safety works	Total Cost	Estimated delay cost
2016/17	24	£451k	£115k	£566k	Not measured
2017/18	26	£556k	£410k	£966k	
2018/19	39	£702k	£1,369k	£2,071k	
2019/20	43	£2,496k	£1,440k	£3,936k	
2020/21	48	£2,500k	£2,381k	£4,881k	
2021/22	54	£2,900k	£3,330k	£6,200k	
2022/23	60	£3,200k	£5,814k	£9,014k	£35,890k
2023/24*	65	£4,100k	£7,485k	£11,585k	£38,880k

* forecast based on 23/24 capital renewals funding

3.13 Interim measures are specific to the asset type and form of deterioration, but typically could include speed restrictions, weight or width restrictions, lane closures or even carriageway or road closures. All of these restrictions are likely to result in delays to road users, shown in Table 3 as the estimated delay cost. This has been calculated from the total estimated number of interim measures, the average daily traffic flows, and the hourly economic delay costs.

3.14 Examples of network impacts include:

- (a) Rotherhithe Tunnel – traffic restrictions in place with only cars permitted;
- (b) A40 Westway – speed restriction (40mph to 30mph) and numerous short closures to implement reactive safety works (expansion joint repairs);
- (c) Vehicle Restraint System (VRS) – speed restriction (50mph to 40mph) implemented on A40 due to poor condition of VRS;
- (d) A41 Brent Cross Flyover – load restrictions implemented in October 2022; and

- (e) Gallows Corner Flyover – speed restriction from 30mph to 20mph, and weight restriction of 7.5 tonnes.

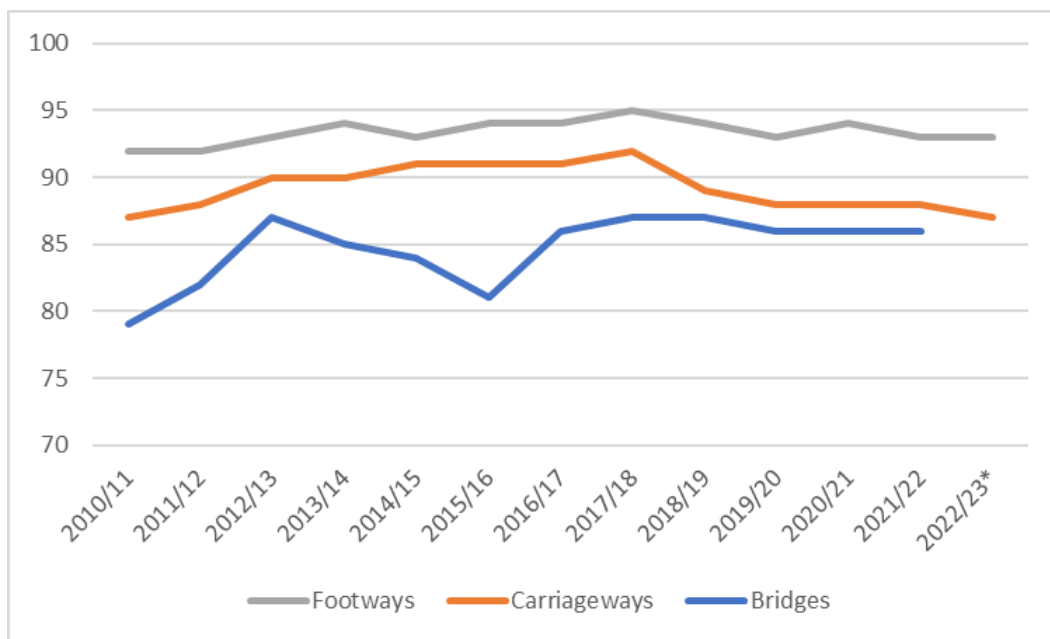
3.15 As the proposed programme of renewals is below the base required level of investment, the burden on maintenance and operational budgets will increase, and network operability and reliability will decrease. Furthermore, there are increasing risks of accelerating asset deterioration that will require difficult decisions to be made on how we prioritise the assets most in need of renewal, recognising factors such as the financial constraints, safety, operability, cost recovery, people and supply chain resources, as well as road space access issues.

4 Programme Delivery in 2022/23

Benefits and value

4.1 The total renewals expenditure from 2018/19 to 2022/23 was £491m, equivalent of £98m per annum. For comparison, typical steady state investment per annum prior to 2018/19 was around £150m to £200m. Taking into account the impact of inflation the level of investment is significantly lower than pre-2018. Figure 1 below shows the change in the SOGR for roads, footways and bridges.

Figure 1: State of Good Repair trend



* latest SOGR but not all condition surveys have been completed and reviewed

4.2 The reduced investment since 2018/19 has resulted in a decline in asset condition, in particular for carriageways, and footways has shown a general decline in condition since 2017/18. It is expected that the condition will continue to deteriorate further in 2023/24 due to the funding constraints. The effects of the 2022/23 winter period on the condition of the road surface will not be fully seen in the condition data until around the summer.

4.3 The profile for bridges is also showing a slight declining trend over the last five years due to the constrained capital investment. The rate of decline is not as sharp as for the carriageways and footways and this is not unusual for an asset group with a significantly higher expected life span, around 120 years. We have, however, seen a significant fall in the SOGR between 2012/13 and 2015/16 and, with the current funding pressures, a similar event in the short to medium term is increasingly likely.

Delivery in 2022/23

4.4 The total investment in 2022/23 was £117m. At the time of the last update to the Committee the planned investment was to be £101m. The level of investment has been increased through the year and has delivered increased outputs. This has been achieved through progressing design work to enable accelerated delivery and utilising budget availability from the wider TfL Investment Programme.

4.5 Key outputs for 2022/23 were:

- (a) A40 Westway – major expansion joint replacement work completed;
- (b) Surface Technology Contact Retender – contract awarded for the renewal and maintenance of traffic signal and CCTV assets;
- (c) Blackwall Tunnel Southbound – procurement for detailed design and build completed;
- (d) Gallows Corner – single option selected and draft business case submitted to the DfT;
- (e) Brent Cross – Feasibility and investigations completed and single option selected;
- (f) Kingston Cromwell Road bus station – Detailed Design completed; and
- (g) the Asset Capital Programme – multiple critical asset renewals completed covering all Surface asset types to maintain state of good repair including:
 - (i) 218,525sqm of carriageway resurfacing;
 - (ii) 501 new bus shelters and 3392 LED advertisement panels installed;
 - (iii) 61 controllers renewed and 265 sites LED retrofitted; and
 - (iv) five renewals of TfL structures and bridges.

4.6 Appendix 2 provides a summary of the key Programme investment and outputs for 2022/23. To ensure efficient and effective management of the Programme in year, adjustments to individual budget allocations were made to reflect any changes to known asset condition, whilst also focusing on priority schemes where delivery was achievable.

4.7 Challenges in 2022/23 included securing network access to complete works and some projects were delayed as a result. This challenge was mitigated by developing a work bank of projects which were brought forward when required.

4.8 The Programme had an efficiency target of £4.4m for 2022/23, which was successfully exceeded, with a total £6.1m of efficiency savings made. Examples of efficiencies include reductions in lane rental charges through better traffic management and planning of delivery activity to co-ordinate closures therefore reducing costs.

5 Programme delivery for 2023/24

Option assessment

5.1 The following strategic options have been considered:

- (a) **Budget Constrained (funded scenario):** Remaining within GLA budget allocations for the next 10 years and forecasting condition and levels of service against the Asset Management Objectives. The impacts are described in paragraph 5.3.
- (b) **Base:** Achieving the 'Base' level of service for the Asset Management Objectives. Declining State of Good Repair and increasing asset defects/faults; majority of interventions are reactive. Restrictions, closures, and service reductions will be required to manage safety. Increased pressure on operational and engineering teams to manage assets and safety, with a large renewals backlog which will take years to address and result in a prolonged period of service disruption (several years). The service remains safe, however reliability is reduced. Customers frequently experience disruptions and delays during their journey and modal shift is evident. Customer satisfaction will decline and there will be frequent negative press coverage of London's transport network;
- (c) **Average:** Achieving the 'Average' level of service for the Asset Management Objectives. A mix of planned and reactive renewals depending on risk exposure. In control of State of Good Repair and asset risks. Customers receive an adequate but acceptable service that is safe and generally reliable, services can be inconsistent. Customer experience of TfL services is mixed; this is reflected in customer feedback with major complaints occasionally made;
- (d) **Good in 10 years:** Achieving the 'Average' level of service for the Asset Management Objectives within the next 10 years. Optimised interventions, utilising preventative interventions to reduce whole life costs. Well planned interventions that minimise network disruption, innovating materials and processes. Customers know they will have a safe, reliable and easily accessible journey. The experience will be of a 'world-class' transport environment with trains, buses, stations and facilities which customers praise and promote to others. A good/high-quality service, with the appropriate reliability and availability, that delivers the ambition of the Mayor's Transport Strategy and caters for on-going passenger growth/demand; and
- (e) **Good in five years:** Achieving the 'Average' level of service for the Asset Management Objectives within the next five years. As for Good in 10 years but achieved within five years.

5.2 To manage the Programme efficiently potential critical renewals in 2023/24 have been identified to the value of £135m (i.e. £37m above the £98m budget). This represents a workbank of additional priority schemes that can be accelerated should further funding become available, or if delivery on other schemes is slower than anticipated. Periodic reviews will be used, together with quarterly investment decision points to assess the level of delivery achieved, the planned outputs and determine whether additional commitments can be made. This will include ongoing review of asset priorities to ensure the best value for money investment. This approach gives maximum flexibility to ensure a safe and operable network is maintained.

Benefits and value

5.3 Asset modelling and historical performance trends have been used to assess the SOGR that will be achieved by the planned investment and these are shown in Table 4 below compared to prior year outcomes. The Budget Constrained scenario will result in deteriorating asset condition and an increase in the backlog of renewals. Asset performance is expected to deteriorate as increasing restrictions are needed to keep the network safe with more defects and insufficient funding to complete the necessary repairs. The Programme has been prioritised focussing on high safety and reliability risks, but this means whole life costs and best value are unlikely to be achieved as investment will not be at the optimum time.

Table 4: Current and Predicted State of Good Repair

Asset (per cent)	19/20	20/21	21/22	22/23	23/24	24/25	25/26	Target range
Carriageway Overall*	88	88	88	87	86	84	82	92 to 95
Carriageway (High volume of cyclists)**	91	91	90	tbc	89	88	87	93 to 96
Carriageway (Low volume of cyclists)**	88	88	87	tbc	85	83	81	90 to 93
Footway	94	94	93	93	92	90	89	>92
Structures	86	86	86	tbc	83	82	81	88 to 92

* Due to coronavirus restrictions the annual survey that informs SOGR was not completed in 2020/21 so the previous year's figures from 2019/20 are reported here

** These figures are indicative and are expected to represent the condition of the nearside lane. Further development of specific performance indicators is underway

Delivery in 2023/24

5.4 Appendix 3 details the planned expenditure and forecast outputs for each of the assets in 2023/24. Key activities planned include:

- (a) A40 Westway – notice to proceed issued for Detailed Design and Build for comb joint renewals;

- (b) Kingston Cromwell Road bus station – bus station major renewal commenced;
- (c) Brent Cross Structures – concept design contract awarded;
- (d) Croydon Flyover – surveys and investigations complete;
- (e) Gallows Corner – concept design completed and Outline Business Case submitted to Department for Transport for its decision; and
- (f) the Asset Capital Programme – multiple critical asset renewals completed covering all Surface asset types, including:
 - (i) 220,000sqm of carriageway resurfacing;
 - (ii) 325 new bus shelters;
 - (iii) 845 lighting columns and 921 LED replacements to be installed on the network;
 - (iv) 45 traffic signal controllers renewed;
 - (v) five bridge and structure renewals; and
 - (vi) eight bus driver welfare renewals.

5.5 Due to the reduced funding available in 2023/24, several planned projects will not progress, these include:

- (a) no activity will be progressed across the Hostile Vehicle Mitigation Programme on the Thames river bridges; and
- (b) borough roads and bridges investment is significantly lower than previous years with only the highest priority activity progressed.

5.6 A large number of the activities will continue beyond 2023/24, such as progressing the design on Brent Cross structures. This authority request therefore covers the period through to the end of 2025/26.

6 Programme risks and milestones

Programme risks

6.1 The top risks associated with delivery of the Programme are shown in Table 5 below.

Table 5: Top risks from Surface Asset Renewals Programme

Risk No	Risk Description	Mitigation Actions
1	Reduction of capital funding limits delivery of project objectives.	Projects within Programme robustly prioritised based on whole life cost and risk to ensure best value. Delivery focused on highest priority asset need. A workbank of projects is in place so additional priority schemes can readily progress where possible. Projects with third party funding opportunities, including through the Government's Major Road Network Programme, are prioritised with business case submissions to secure funding planned.
2	Emergency works may be required (e.g. Rotherhithe Tunnel etc)	Project scope regularly reviewed to identify short term measures required to keep asset safe and operable. Appropriate risk provision in place on specific projects based on asset condition.
3	Volatility in materials costs due to supply chain resilience and inflation	Inflation guidance used to inform project estimates and planning. Regular engagement with the supply chain to mitigate cost increases and any supply challenges.
4	Road Access Booking	Early engagement with permitting and co-ordinating teams. Additional training of project teams to efficiently plan road access bookings.

6.2 The Programme does not include an overall high-level risk allowance. It is comprised of hundreds of schemes that, experience has shown, enable risk to be effectively managed across the programme using the workbank approach describe. Periodic reviews of the Programme risks are held with escalations reported at the Portfolio Review meeting. On larger projects (e.g. the A40 Westway and Rotherhithe Tunnel) risk is held at project level.

Programme milestones 2023/24

6.3 The strategic milestones are shown in Table 6 below.

Table 6: Strategic Milestones

Project	Milestone	Tier	Target Date
Kingston Cromwell Road	Start of Construction on Site	TfL Scorecard	3 December 2023
Restraint Barriers	Vehicle Restraint System 5,500 Meters completed FY 2023/24	TfL Scorecard	31 March 2024
Bus Driver Welfare	Surface Transport Stations & Stands - Eight Bus drivers welfare facilities completed in 2023/24	TfL Scorecard	31 March 2024

Commercial Strategy

- 6.4 The Programme is predominantly delivered via existing frameworks, either via direct award or mini-competition for larger/unique projects e.g. Kingston Cromwell Road bus station. Surface Transport has two frameworks in place which provide the typical route to market for delivery of the Programme. These are:
- (a) the Highways Maintenance and Projects Framework (HMPF) for highway maintenance and related medium complexity capital works; and
 - (b) the Surface Transport Infrastructure Construction framework (STIC), which will deliver medium and high complexity capital works.
- 6.5 HMPF and STIC both commenced on 1 April 2021 and are used to deliver most projects within the Programme. Very high complexity or unique projects may be delivered through external frameworks or via separate, individual contracts specifically procured to deliver a project. In all cases the route to market is considered on an individual project basis to maximise value for money.
- 6.6 The Programme is exploring the use of two-stage contracts, to embed early contractor involvement, via the STIC framework contractors, and support the development of major renewal projects. This will improve design and programme delivery while also enabling opportunities for value to be secured from the supply chain and potential to obtain greater certainty in budgets for the delivery phase.

7 Financial Implications

- 7.1 The 2023 TfL Budget provides the Financial Authority needed to deliver the scope of the works set out in this request. Of this, £7.5m of this relates to additional third party funded Traffic Signal schemes (i.e. there is no net impact on TfL funding)
- 7.2 The Programme's Financial Authority and the Programme and Project Authority is shown in Table 7 below.

Table 7: Summary of the costs and funding

Assets Portfolio		Actuals	Actuals	Actuals	TfL Budget					Total forecast	Authority - Years to 25/26
Rounded to £m		20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28		
Financial authority											
Portfolio Total		98	119	117	112	139	115	0	0	700	700
Budget or Plan	TfL Element	95	112	110	104	131	107	0	0	659	659
	Third Party Funding	3	7	7	8	8	8	0	0	41	41
Portfolio forecast											
Portfolio Total		98	119	117	112	123	117	129	140	955	686
Budget or Plan	TfL Element	95	112	110	104	115	109	121	132	898	645
	Third Party Funding	3	7	7	8	8	8	8	8	57	41
Authority request											
Programme and Project Authority	PIC Approved	98	119	117	112	48				494	494
	Additional authority requested	-	-	-		51	58			109	109
Future Authority Requests						24	59	129	140	352	83

8 Equality and inclusion

8.1 TfL has an obligation under the Equality Act 2010 to:

- (a) eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the Equality Act 2010;
- (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it; and
- (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

8.2 Most of the Programme is like-for-like renewals and, as such, maintains the existing provisions. The lower SOGR may have a negative impact on two groups: older and disabled customers, therefore the programme to improve SOGR is expected to benefit people in both these groups. Equality Impact Assessments will be completed on projects as required.

9 Assurance

9.1 TfL Project Assurance conducted an Integrated Assurance Review on the Programme in March 2023. An independent review was also undertaken by the Independent Investment Programme Advisory Group. The review identified four general recommendations.

9.2 An agreed Integrated Assurance Plan (IAP) for the Programme, covering the next 12 months, has been produced that sets out those projects that are expected to be reviewed. The IAP will be reviewed and updated quarterly.

List of appendices to this paper:

Appendix 1: State of Good Repair

Appendix 2: 2022/23 actuals / forecast outputs

Appendix 3: 2023/24 budget allocations and outputs

Appendix 4: Examples of Major Assets

List of Background papers:

IIPAG and TfL Project Assurance Reports

Surface Transport Asset Renewals Programme, Programmes and Investment Committee, 18 May 2022

Management response to IIPAG and TfL Project Assurance Reports

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Appendix 1: State of Good Repair

1.1 SOGR, where possible, is based on industry standard condition measures TfL has mapped these industry measures to a consistent five category scale of asset condition – the condition categories are Very Good, Good, Fair, Poor and Very Poor. The percentage of assets in these categories is used to calculate SOGR, namely:

- (a) SOGR – the sum of the percentages in the Very Good, Good and Fair categories. These assets, in general, do not require planned asset renewal in the next one to three years, although in some instances it does reduce whole life costs to intervene when an asset is in the Fair category.
- (b) Not in a SOGR – the sum of the percentages in the Poor and Very Poor categories. Typically, these assets should be considered for a renewal within the next one-to-three-year period.

The target range differs by asset type, Table 8 provides some examples.

Table 8: State of Good Repair ranges

Asset	SOGR target range (per cent)
Carriageway (High volume of cyclists)	93 to 96
Carriageway (Low volume of cyclists)	90 to 93
Footway	91 to 96
Bridges	88 to 92
Street lighting	90 to 95

1.2 All assets are safety managed; where the SOGR is below the preferred range it reflects the need for renewals investment to deliver a reliable network and reduce the risk of restrictions and closures. Safety is maintained through appropriate inspections, minor repairs and restrictions.

1.3 Target are not set as 100 – the upper bounds of the target ranges are set using customer expectations (based on customer surveys) and whole life costs. The latter has shown that it is uneconomical and provides poor value for money to deliver a SOGR above the upper bounds of these ranges – plus, that face-to-face surveys with customers have illustrated that they do not expect a “perfect” asset, they accept that at time repairs are required.

1.4 Therefore, a carriageway SOGR of 88 means 88 per cent (or 510km) is not in need of renewal based on the latest condition data, however the remaining 12 per cent (or 77km) should be considered for renewal. There is not an immediate safety concern or need for an urgent intervention, however based on an overall assessment of safety, reliability, whole life costs, customer satisfaction and future performance, these parts of the network should be considered and planned for renewal in the coming years.

Appendix 2: 2022/23 actuals and outputs

Sub-programme		2022/23 allocations (£m)	2022/23 spend (£m)	2022/23 expected output*	2022/23 outputs
Assets Capital Programme	Borough Traffic Signal Modernisation	6.6	19.2	45 controllers renewed	61 controllers renewed*
	TLRN Traffic Signal Modernisation			200 sites LED retrofitted	265 sites LED retrofitted
	Capital Renewal - Footway	0.7	0.9	3130m ² network treated	5509m ² network treated
	Capital Renewal - Lighting	4.5	2.9	157 Columns and 2409 Luminaires replaced	384 Columns 2990 luminaires replaced* ¹
	Capital Renewal - Drainage	1.9	1	372,000m ² network treated	311,764m ² network treated
	Capital Renewal - Landscape	0	0	N/A	N/A
	SCOOT Renewals	1.5	1.7	1500 loops renewed	2000 loops renewed
	Stations & Stands Annualised Programme	4.9	4.7	9 builds completed	8 Driver welfare renewals
					9 lighting renewals
3 new toilets					
3 feasibility designs for civils					
1 CCTV upgrades					

CCTV/VMS	3.1	2.5	280 cameras renewed	250 cameras renewed
Restraint Barriers	2.2	2.5	1 renewal schemes delivered	1 renewal scheme started
Minor Capital Interventions	2.6	2	65 schemes completed	65 schemes completed
Pump Stations	1.4	0.8	5 pump stations renewed	2 pump stations renewed 4 designs completed, 2 concept designs
Contracts Re-lets (Inspections, Technology and Bus stops)	3.9	3.4	1 Contract award, and one feasibility report	1 Contract award, and one feasibility report
Stops & Shelters Annualised Programme	4.2	8.7	350 shelters treated	501 shelters treated and 3392 LED Ad Panels installed
Surface Asset Management Information Systems	6.3	5.1	SAMIS Tech development complete	SAMIS Tech and SAMIS Bus Stops in development
				5 minor capital works completed
Capital Renewal - Carriageway	9.3	16	150,000m ² of network treated	218,525m ² of network treated
Capital Renewal - Structure	9.8	10	5 renewal schemes delivered	5 builds, 10 Feasibility, 7 Concept Designs, 5 Detailed Designs, 2 Inspections
Capital Renewal - Tunnels	1	0.4	2 designs completed, 1 build completed	3 feasibility complete; 1 Concept design complete; 1 Build

	Third Party Signal Enhancements	7.5	6.1	Undefined	Undefined
Assets Capital Programme Total		71.4	87.9		
LIP Bridges & Roads	Borough Bridge Maintenance	0.9	4.3	Undefined	Undefined
	Borough Road Maintenance				
	Hammersmith Bridge Restoration	3	3	TfL contribution to LBH&F	Undefined
LIP Bridges & Roads Total		3.9	7.3		
Operations Assets	Hostile Vehicle Mitigations	1.3	0.6	Westminster bridge build completed	Westminster bridge build completed
	Dial A Ride	0.3	0.3	1 build completed	2 builds completed
	Modernised Victoria Coach Station	0.4	0.1	Property negotiations	Property negotiations
	Safety Camera Extension Programme - phase 2	0.5	0.7	Contract options report	Contract options report
	Victoria Coach Station Infrastructure	1.3	0.6	1 build completed	1 build completed
	Lodge Avenue Flyover	1.7	0.86		
Operations Assets Total		5.5	3.16		
Major Asset Renewals Programme (MARP)	MARP A40 Westway Structures Refurbishment	9.1	6.5	Work package 1 completed, Concept Design for work package 2 completed	Work package 1 completed, Concept Design for work package 2 completed
	MARP Gallows Corner	1.6	2.1	Single option selection	Single option selection completed and Concept design commenced

MARP Rotherhithe	1.3	1	Targeted works to support ongoing operation	Targeted works to support ongoing operation
MARP Brent Cross	2	2.4	Feasibility completed and single option identified	Feasibility completed and single option identified
MARP Blackwall Tunnel Southbound Refurbishment	0.7	0.7	Contract awarded for Detailed Design	Contract awarded for Detailed Design
MARP Croydon Flyover	1.1	1.2	Phase 1 feasibility and investigations completed	Phase 1 feasibility and investigations completed
MARP George Green	0.4	0.5	Feasibility completed	Feasibility completed
MARP Green Man	0.4	0.4	Feasibility completed	Feasibility completed
MARP Kew Bridge	0.4	0.2	Outcome Definition completed	Outcome Definition completed
MARP Projects	0.6	0.1	Commencement of two new MARP projects	Commencement of two new MARP projects
Kingston Cromwell Road Bus Station	5	1.7	Construction to commence	Construction to commence
MARP Hope and Anchor	0	0.1	Outcome definition completed	Outcome definition completed
Ardleigh Green Bridge Replacement	0.1	0	Project close	Defects resolution ongoing
MARP Piers Renewals	1.2	0.9	4 Concept Designs completed	4 Concept Designs completed
Major Asset Renewals Programme Total	23	17.8		
Grand Total	103.8	116.8		

* the average forecast cost of signal schemes for investment purposes was £103k, but this was predicated on a mixture of sites from small crossings to large junctions. However, no crossings were required in 2022/23 with the majority of the schemes being large junctions, resulting in an average cost being £282k

*1 the outputs for lighting were achieved at a better unit rate than forecast through efficient working with the supply chain and use of new available contracts

Appendix 3: 2023/24 budget allocations and outputs

	Sub-programme	Allocations Feb 23 (£m)	2023/24 expected output
Assets Capital Programme	Borough Traffic Sig Modernisation	10.0	45 controllers renewed
	TLRN Traffic Signal Modernisation		72 designs
	Capital Renewal - Footway	0.5	3,441m2 network treated
	Capital Renewal - Lighting	3.9	845 Columns and 921 luminaires replaced
	Capital Renewal - Drainage	1.5	131,114m2 network treated
	Capital Renewal - Landscape	0	0 trees planted
	SCOOT Renewals	2.3	2000 loops renewed
	Stations & Stands Annualised Programme	5.9	8 Driver welfare builds 2 Civils builds 1 CCTV renewal 7 lighting renewals
	CCTV/VMS	0.4	1 OVD renewed 1 VMS renewed DVNP delivered
	Restraint Barriers	4	7,193m2 network treated
	Minor Capital Interventions	3	100 schemes completed
	Pump Stations	0.6	2 pump stations renewed 4 designs completed
	Stops & Shelters Annualised Programme	4.5	325 shelters treated 15 additional shelters lit
	Surface Asset Management Information Systems	0.6	6 minor capital works completed
	Capital Renewal - Carriageway	10.3	128,000m2 of network treated
Capital Renewal - Structure	7	5 builds completed 10 detailed designs	

	Capital Renewal - Tunnels	1.5	6 designs 1 build completed
	Third Party Signal Enhancements	8	Undefined
Operations Assets	Dial A Ride	0.25	1 build completed
	Safety Camera Extension Programme phase 2	0.5	
	Victoria Coach Station Infrastructure	1.5	3 build completed 1 design
	Modernised Victoria Coach Station	0.15	Property negotiations completed
Contracts and Systems	Contracts Re-lets (Inspections, Technology and Bus stops)	3.5	1 Contract execution 1 Contract award 1 feasibility completed
	Surface Asset Management Information Systems	9.3	SAMIS Tech and Bus stops delivered
Major Asset Renewals Programme (MARP)	MARP A40 Westway Structures Refurbishment	6.78	Work package 2 Detailed Design complete
	MARP Rotherhithe	1.38	Targeted works to support ongoing operation
	MARP Brent Cross	2.48	Contract awarded for Concept Design
	MARP Blackwall Tunnel Southbound Refurbishment	3.66	Contract awarded for Detailed Design
	MARP Croydon Flyover	0.7	Phase 1 feasibility and investigations completed
	MARP George Green	0.86	Feasibility completed
	MARP Green Man	0.77	Feasibility completed
	MARP Kew Bridge	2	Feasibility completed
	MARP Hope & Anchor	2	Feasibility completed
	MARP Kingston Cromwell Road Bus Station	4.3	Construction to commence
	MARP Ardleigh Green Bridge Replacement	0	Project close
	MARP Gallows Corner	2.86	Concept Design completed
MARP Piers	0.6	Procurement for Detailed Design and Build Completed	
PROGRAMME TOTAL		109.94	
Less:			
Third Party Income	Blackfriars underpass pump station		
	Canada Water Bus station	0.5	
	Third Party Signals	8	
Total		98.64	

Appendix 4: Examples of Major Assets

A40 Westway

(12 x key bridge Joint renewals)

Daily users – 90,000



Rotherhithe Tunnel

(Fire / Ventilation system renewal)

Daily users – 30,000



Gallows Corner Flyover

(steel fatigue)



Brent Cross Structures

(all over structural condition – very poor, temporary parapets in place)

Daily users – 175,000



Vauxhall Bridge

(steel fatigue / overall condition – very poor)

Daily users – 47,000



Croydon Flyover

(significant structural renewal)

Daily users – 40,000