

Date: 18 May 2022

Item: Surface Transport Asset Renewals Programme

This paper will be considered in public

1 Summary

Surface Transport Asset Renewals Programme						
	Existing Financial Authority (to 2024/25)	Forecast 2018/19 to 2025/26	Existing Programme and Project Authority	Additional Authority Requested (to end 2023/24)	Total Authority (to end of 2023/24)	Programme and Project Authority to be Requested in future years
Gross	£737m	£823m	£648m	£0m	£648m	£175m
Income	-£40m	-£37m	-£40m	£0m	-£40m	£0m
Net	£697m	£786m	£608m	£0m	£608m	£175m

- 1.1 This paper sets out the request for Programme and Project Authority for the continuation of the Surface Transport Asset Renewals Programme (the Programme) until the end of 2024/25. 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. The full outputs are documented below.
- 1.3 The level of investment planned is below the “Do Minimum” scenario required to support the assets. This will result in asset condition deterioration, an increased likelihood of network restrictions and increased operational expenditure.
- 1.4 In March 2021, the Committee approved additional Programme and Project Authority of £198m for delivery of the Programme through to the end of 2022/23. The balance of this is carried forward as set out table 7 below.
- 1.5 The focus of this paper is to:
 - (a) present the Programme's achievements since the previous submission;
 - (b) summarise the financial allocations by main asset types and projects for 2021/22 and the associated outputs; and,
 - (c) provide assurance to the Committee on the progress of the Programme.
- 1.6 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) agree that the current Programme and Project Authority of £648m will apply through to the end of 2024/25; 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** The Programme's budget was substantially reduced in 2018/19 and 2019/20 as a consequence of the Government removing TfL's revenue grant. 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.
- 3.3** The Programme's budget for 2022/23 has been decreased further to £90m to ensure it is within the overall £600m allocation from the budget for capital renewals across all of TfL. This is significantly lower than the 'Do Minimum' scenario needed to maintain the current condition of the assets. Consequently, TfL's assets are now subject to a 'Managed Decline' scenario where it is forecast that asset condition will deteriorate in 2022/23.
- 3.4** Financial Authority is currently provided through the two-year Budget for 2021/2022 and 2022/23, approved by the Board on 28 July 2021. The current funding agreement with Government expires on 24 June 2022. Any Authority requested by this paper which relates to matters outside the period of the current funding agreement with Government and/or commitments that extend beyond the period of the Business Plan and Budget may need to be revised as part of future budgets to be considered by the Board. If additional funding is not available, a prioritisation of the TfL Investment Programme will be required and some programmes and projects will not be taken forward and revised authority will be sought as appropriate. The application of any Authorities approved by the Committee for this Programme will be overseen in accordance with TfL business controls in respect of draw down.

Surface Assets

- 3.5 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, although this is limited to costs already committed and does not include any new investment in 2022/23 for borough renewals.

Asset duties and responsibilities

- 3.6 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 has additional statutory duties under the Road Tunnel Safety Act 2007 for the safe management and operation of road tunnels.

Maintaining assets in a State of Good Repair

- 3.7 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.
- 3.8 Each asset has a target SOGR range, with examples shown in Table 1 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 2022/23 due to the managed decline funding scenario with the consequence that there will be increased likelihood of assets being restricted or taken out of service in order to maintain safety.

Table 1: State of Good Repair ranges

Asset	SOGR target range (per cent)		Current SOGR
Carriageway*	High volume of cyclists	93 to 96	88
	Low volume of cyclists	90 to 93	88
	Overall	92 to 95	88
Footway	>92		94
Bridges	88 to 92		83
Street lighting	90 to 95		89

* It will take several years for the difference to become apparent because the whole network is currently below 90 per cent SOGR due to the two year pause to renewals.

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

Impact on Operations

3.10 The two-year reduction in asset renewals in 2018/19 and 2019/20 (refer to Table 7) 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 2 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 2: 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	£3,660k	£6,860k	£35,890k

* - forecast based on 22/23 capital renewals funding

3.11 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 2 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.

3.12 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) Barclay Road Bridge (A232) – lane restrictions introduced in March 2022;
- (e) Hammersmith Bridge (which is owned by the London Borough of Hammersmith and Fulham) – closure to buses and general traffic; and
- (f) Gallows Corner Flyover – speed restriction from 30mph to 20mph, and weight restriction of 7.5 tonnes.

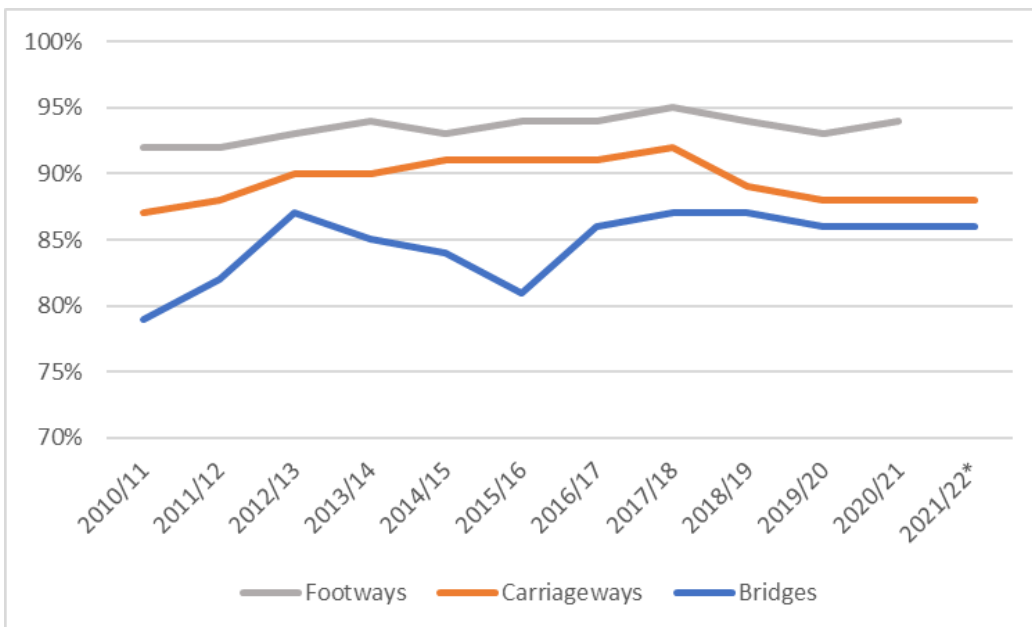
3.13 As the proposed programme of renewals is below the Do Minimum investment required, the burden on maintenance and operational budgets will increase, and network operability and reliability will decrease. Furthermore, there are increasing risks of accelerating asset deterioration that will require 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 2021/22

Benefits and value

4.1 The total renewals expenditure across 2018/19, 2019/20, 2020/21 and 2021/22 was £374m, equivalent of £93m per annum. For comparison, typical steady state investment per annum prior to 2018/19 was around £150m to £200m. Figure 1 shows the change in the SOGR for roads, footways and bridges.

Figure 1: State of Good Repair (SOGR) trend



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

4.2 The pause in asset renewals for 2018/19 and 2019/20 and continued reduced investment since has resulted in a decline in asset condition, in particular for carriageways.

4.3 The profile for TfL bridges has two significant SOGR fluctuations. In 2012/13 a marked improvement followed the completion of Hammersmith Flyover. In 2015/16 a marked drop followed a detailed inspection of Brent Cross structures and Westway structures, initiating some immediate remedial works, followed by the completion of several large projects contributing to SOGR improvement in the following two years (this does not include borough assets, such as Hammersmith Bridge). The final SOGR for 2021/22 is not currently available as inspections are still ongoing, with the figure provided based on a forecast extrapolated from those already completed.

Delivery in 2021/22

4.4 The total investment in 2021/22 was £119m. At the time of the last update to the Committee the planned investment was to be £180m. This was reduced in June, when the TfL Budget was approved, reflecting the available funding and a managed decline scenario.

4.5 Key outputs for 2021/22 are:

- (a) A40 Westway – major expansion joint replaced on eastbound carriageway, westbound carriageway under construction;
- (b) protective measures on bridges – construction substantially complete on Westminster Bridge;
- (c) Rotherhithe Tunnel – Concept Design completed for major renewal;
- (d) Blackwall Tunnel Southbound – Concept Design completed for major renewal;
- (e) Brent Cross – contract awarded for Feasibility and investigations commenced;
- (f) Kingston Cromwell Road bus station – contract awarded for Detailed Design;
- (g) Hammersmith Bridge – completion of pedestal casing removal and blast cleaning to inform the detailed stabilisation repair methodology (undertaken on behalf of London Borough of Hammersmith & Fulham);
- (h) the Asset Capital Programme – multiple critical asset renewals completed covering all Surface asset types to maintain state of good repair including:
 - (i) 340,000sqm of carriageway resurfacing;
 - (ii) 600 new bus shelters with 57 electrical connections;
 - (iii) 270 lighting columns and 2,500 luminaires installed on the network;
 - (iv) 150 number of traffic signal controllers renewed; and
 - (v) six renewals of TfL structures and bridges.

4.6 Appendix 2 provides a summary of the key Programme investment and outputs for 2021/22. 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. The resultant variances are set out in Appendix 2. Examples of in year changes in 2021/22 include reductions in planned investment in lighting and variable message signs due to material supply issues and increases in the number of traffic signals, bus stops and carriageway renewals.

- 4.7 The Programme had an efficiency target of £3.4m for 2021/22, which was successfully exceeded, with a total £5.7m 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 2022/23

Option assessment

- 5.1 The following strategic options have been considered:

- (a) **Do Minimum –30 per cent (this is the planned level of investment):** Managed decline scenario reflecting the £600m in the budget for capital renewals in 2022/23 is insufficient to meet the minimum asset condition need across TfL. Under this scenario, asset condition will deteriorate more rapidly than the 'do minimum', resulting in increased likelihood of restrictions and asset closures in order to keep the network safe. This will result in increased operational expenditure, as set out in table 2, to install and maintain increasing numbers of temporary restrictions as well as increased network impacts and delays to road users including increased journey times for buses. The backlog of renewals will increase in both scale and time to address it, and renewals schemes are likely to need more extensive, and therefore costly, interventions as works are no longer optimised. Paragraph 5.2 explains the Programme delivery approach to efficiently manage investment within this funding scenario.
- (b) **Do Minimum:** Maintains a basic level of service at minimum cost to maintain safety and operability; under this option reliability and customer satisfaction will be lower. This option represents an absolute lower bound level of investment. The consequences of this option will likely result in significant peaks in investment as some assets become unmaintainable through operating expenditure interventions and will require significant capital investment to keep assets safe and available.
- (c) **Moderate:** Aligns with the 2020 TfL Budget with amendments to account for coronavirus pandemic impacts on delivery in 2020/21. This can support the key themes of the MTS, however, at a slower rate and to a lower level of customer experience than the 'High Ambition' option. This option will manage and reduce the number of interim measures in place on major tunnels and structures with noticeable reductions over 10 years. Lighting column replacement can maintain the current levels with some continued roll out light-emitting diodes (LEDs). The current decline of cycle route and footway condition will be managed, however, significant improvements in state of good repair will not be seen in the short term. This option will also enable the

continued investment in bus station staff welfare facilities and improvement works, such as Hostile Vehicle Mitigation measures on other central London bridges.

- (d) **High Ambition:** This scenario aims to deliver the ambitions of the MTS. It prioritises walking, cycling and public transport over other road users. Areas of focus include supporting Vision Zero, Healthy Streets and carbon reduction. This option will aim to reduce interim measures on major structures and tunnels assets over the next five years. Significant investment in lighting column replacement and roll out of the LED upgrade programme. Investment into carriageway, footway and cycle track renewals with state of good repair within the desirable range within three to five years.

5.2 To manage the Programme efficiently potential project activity in 2022/23 has been identified to the value of £107m (i.e. £17m above the £90m budget). This provides 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 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 3 compared to prior year outcomes. The managed decline scenario will result in deteriorating asset condition and is expected to increase 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 3: Current and Predicted State of Good Repair (per cent)

Asset	19/20	20/21	21/22	22/23	23/24	24/25	25/26	Target range
Carriageway Overall*	88	88	86	85	84	83	82	92 to 95
Carriageway (High volume of cyclists)**	91	91	90	91	90	89	88	93 to 96
Carriageway (Low volume of cyclists)**	88	88	87	87	86	86	85	90 to 93
Footway	94	94	93	92	92	90	89	>92
Structures	86	83	83	83	82	81	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 2022/23

5.4 Appendix 3 details the planned expenditure and forecast outputs for each of the assets in 2022/23. Key activities planned include:

- (a) A40 Westway – major expansion joint on westbound carriageway replaced mitigating a key asset risk, concept design work on work package two (comb joints, parapets, concrete deterioration) completed to allow prioritisation of future activity;
- (b) Kingston Cromwell Road bus station – Detailed design completed for the renewal of the bus station;
- (c) Brent Cross Structures – Feasibility completed and single option identified;
- (d) Croydon Flyover – surveys and investigations complete;
- (e) Gallows Corner – single option selected and submission of business case to Department for Transport;
- (f) Protective measures on bridges – works complete on Westminster bridge;
- (g) Hammersmith Bridge – completion of stabilisation works to make the bridge safe and allow its continued use by pedestrians and cyclists (TfL contribution to the works being progressed by the London Borough of Hammersmith and Fulham)
- (h) new technology, bus stops and shelters contracts – procurement commenced; and
- (i) the Asset Capital Programme – multiple critical asset renewals completed covering all Surface asset types, including:
 - (i) 150,000sqm of carriageway resurfacing;
 - (ii) 350 new bus shelters;
 - (iii) 157 lighting columns and 2400 LED replacements to be installed on the network;
 - (iv) 45 traffic signal controllers renewed;
 - (v) 5 bridge and structure renewals; and
 - (vi) 11 bus driver welfare renewals.

5.5 Due to the reduced funding available in 2022/23 several planned projects will not progress, these include:

- (a) the procurement for detailed design and build for the major renewal of Rotherhithe Tunnel. A series of short-term targeted interventions will be progressed to keep the asset safe and operable in the interim;
- (b) we will complete the Hostile Vehicle Mitigation (HVM) work on Westminster Bridge, but no permanent measures will be progressed on other bridges;
- (c) 98,000sqm of carriageway renewals; and
- (d) Borough Roads and Bridges investment priorities outside those already committed.

5.6 A large number of the activities will continue beyond 2022/23, such as progressing the design on Brent Cross structures. This authority request therefore covers the period through to the end of 2024/25.

6 Programme risks and milestones

Programme risks

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

Table 4: Top risks from Surface Asset Renewals Programme

Risk No	Risk Description	Mitigation Actions
1	Road Access Booking	Early engagement with permitting and co-ordinating teams. Additional training of project teams to efficiently plan road access bookings.
2	Reduction of CAPEX 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. Utilise the workbank so additional priority schemes can readily progress where possible.
3	Forecasting accuracy	Regular forecasting reviews in place taking into account availability of road space, materials, people and funding. Regular meetings with supply chain to ensure costs and programmes are accurate.
4	Emergency works may be required (Hammersmith bridge pedestals, 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.
5	Lead time for materials	Advance purchase of materials where possible. Regular forecast of future demand to allow supply chain to plan efficiently.

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 2022/23

6.3 The strategic milestones are shown in Table 5.

Table 5: Strategic Milestones

Project	Milestone	Tier	Target Date
Brent Cross	Options Assessment Report signed off	TfL Scorecard	19 December 2022
Gallows Corner	Submission of draft Outline Business Case to DfT	TfL Scorecard	17 July 2022
A40 Westway	Completion on site of replacement of major expansion joint (Work Package 1)	TfL Scorecard	14 October 2022
Hostile Vehicle Mitigations – Westminster Bridge	Delivery into service	TfL Scorecard	12 August 2022

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) 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.

7 Financial Implications

7.1 The 2021 TfL Budget provides the Financial Authority needed to deliver the scope of the works set out in this request. Of this:

- (a) £7.5m of this relates to additional third party funded Traffic Signal schemes (i.e. there is no net impact on TfL funding); and

- (b) Other third party - this includes a £2.93m contribution to the costs of the stabilisation works on Hammersmith Bridge, which is a condition of our funding agreement with the Department of Transport (DfT)¹.

7.2 The Programme's Financial Authority and the Programme and Project Authority is shown in Table 7 below. The current funding agreement with Government, dated 25 February 2022, expires on 24 June 2022 but recognises that TfL will need to enter new financial commitments that extend beyond this date. It is anticipated that the financial commitments that this paper describes will be addressed in a subsequent funding agreement.

¹ Note: The £2.93m funding contribution to the stabilisation works at Hammersmith Bridge is held by TfL centrally and does not form part of the Surface Assets Portfolio authorities shown in table 6 below.

Table 6: Summary of the costs and funding

Assets Portfolio		Actuals	Actuals	Actuals	TfL Budget					Total forecast	Authority - Years to 24/25
Rounded to £m		18/19	19/20	20/2	21/22	22/23	23/24	24/25	25/26		
Financial authority											
Portfolio Total		71	83	98	129	101	96	159	96	833	737
Budget or Plan	TfL Element	61	77	95	119	90	96	159	96	793	697
	Third Party Funding	10	6	3	10	11	0	0	0	40	40
Portfolio forecast											
Portfolio Total		71	83	98	119	101	96	159	96	823	727
Budget or Plan	TfL Element	61	77	95	112	90	96	159	96	786	690
	Third Party Funding	10	6	3	7	11	0	0	0	37	37
Authority request											
Programme and Project Authority	PIC Approved	71	83	98	172	224				648	648
	Additional authority requested	-	-	-	-53	-123	96	80		0	0
Future Authority Requests								79	96	175	0

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, for example for the project to provide hostile vehicle measures on river bridges.

8.3 The impact of the managed decline scenario will be subject to an Equality Impact Assessment completed by the end of quarter 1, 2022/23. This will consider the impact of asset deterioration (e.g. footway) on different user groups.

9 Assurance

9.1 TfL Project Assurance conducted an Integrated Assurance Review (IAR) on the Programme in March 2022. An independent review was also undertaken by the Independent Investment Programme Advisory Group (IIPAG). There were three recommendations by the IAR, and two by IIPAG. No critical issues were identified. Details of these recommendations and our Management Response have been shared with the Committee.

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: 2020/21 actuals / forecast outputs

Appendix 3: 2021/22 budget allocations and outputs

Appendix 4: High priority assets

List of Background papers:

IIPAG and TfL Project Assurance Reports

Management response to IIPAG and TfL Project Assurance Reports

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