

Transport Delivery Committee

Date	13 March 2023
Report title	Full Business Case Approval for Spend Under City Region Sustainable Transport Settlement Metro Line 1 Renewals
Accountable Chief Executive	Anne Shaw, Executive Director, Transport for West Midlands email: anne.shaw@tfwm.org.uk
Accountable Employee	Michael Anderson, West Midlands Metro Project Director, Transport for West Midlands email: michael.anderson@tfwm.org.uk
Report has been considered by	Programme Assurance & Appraisal Team Investment Panel Transport for West Midlands Leadership Strategic Transport Officers Group Investment Board

Recommendation(s) for noting:

Transport Delivery Committee is recommended to:

- (1) Endorse the progression of the Metro Line One Renewals Full Business Case to WMCA Board on 17 March 2023.
- (2) Endorse the approval of the request for funding of £27.85m through the Full Business Case submission from the City Region Transport Settlement Scheme (CRSTS).
- (3) Note that a BJC for Urgent Metro Line One Renewals was previously approved in sum of £2.15m, bringing the overall total CRSTS funding for Metro Line One Renewals to £30m.
- (4) Endorse the Appraisal Recommendations as detailed in Section 6.

1. Purpose

- 1.1 Ongoing investment in the existing Metro infrastructure is unavoidably required to keep the network safe, reliable and operational.

2. Background

- 2.1 The Line 1 infrastructure is over 20 years old and has had little significant replacement of equipment over this time. We have had an increasing number of failures of the existing equipment including failures of the Overhead Line Equipment which cause a closure of the whole line. These failures have increased significantly in the past 3 years. A programme of Overhead Line Equipment (OLE) repairs and track replacement was started under previous funding.
- 2.2 Between Wednesbury and Bull Street in Birmingham this infrastructure will form the core section of the expanded network as the new extensions are brought into service. If this section fails, not only would we not be able to offer a service on the current system, but also the whole network expansion programme would not be able to deliver the outcomes anticipated.
- 2.3 A programme of renewals of key infrastructure (OLE, track, and other equipment) needed over the next 5 years was developed with the MML team. TfWM were asked to add to this the annual repair works that would be anticipated for the next 5 year period (for example replacement of sections of rail that were exceeding maintenance parameters. These costs had averaged £3m per year in the previous periods. The whole package was estimated in 2021 at approx. £65m. In discussions over the CRSTS funding, an initial £30m was allocated to Line 1 renewals for the most urgent of these works. The list of works included in the initial submission of £65m was reviewed and re-prioritised to develop a package matching this £30m funding. Although the remainder of the original list does still need to be delivered, this reduced list will have the greatest immediate impact on the risk of system failures over the coming few years.
- 2.4 An initial urgent packages of work to a value of £2.1m has already been approved by Investment Board on 17th October 2022, in anticipation of this FBC, and is included in the summary of works to be delivered.

3. Strategic Aims and Objectives

- 3.1 This business case seeks investment in the Midland Metro infrastructure. The identified works from the Metro Renewals Programme is required to mitigate the risk of exceeding maintenance and safety limits, to continue the current metro service and to avoid any further disruption for passengers and includes the items listed in 4 below.
- 3.2 These works will assure the continued operation of the Line 1 service to regional passengers. This supports our objectives of connecting people across the region to work, education and leisure activities and promotes regional growth.
- 3.3 It also ensures that we meet our obligations to maintain a safe and sustainable operating infrastructure.
- 3.4 This FBC contributes towards Inclusive Growth within the West Midlands and contributes towards #WM2041 net zero emissions.

4. Financial Implications

4.1 The cost estimate for the FBC Metro Renewals works is £27.85m and the anticipated spend profile over the CRSTS period is:

Item	Unit	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Costs							
Renewals	£'000	(1,989)	(3,429)	(2,872)	(1,762)	0	(10,052)
Life Cycle	£'000	(2,536)	(2,993)	(2,088)	(2,438)	0	(10,055)
Additional costs	£'000	(284)	(1,006)	(1,500)	(858)	0	(3,648)
Risk & Contingency	£'000	(568)	(1,224)	(1,292)	(1,012)	0	(4,095)
Total	£'000	(5,376)	(8,651)	(7,753)	(6,070)	0	(27,850)
Funding							
Match funding	£'000	-	-	-	-	-	-
Private match	£'000	-	-	-	-	-	-
CRSTS Funding Requirement	£'000	(5,376)	(8,651)	(7,753)	(6,070)	0	(27,850)
Total	£'000	(5,376)	(8,651)	(7,753)	(6,070)	0	(27,850)

4.2 The BJC for Urgent Line One Renewals was previously approved in sum of £2.15m, bringing the overall total CRSTS funding for Line One Renewals to £30m.

4.3 Allocation of budget between the prioritised renewals and lifecycle plan deliverables is shown below:

Item	Unit	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Total
Renewals									
Switch Blades for system	£'000	0	0	(69)	0	0	0	0	(69)
Swan Lane - DELIVERED	£'000	(165)							(165)
Overhead Line Equipment (OLE) Resilience and Renewal Phase 1 - DELIVERED	£'000	(1777)	0	0	0	0	0	0	(1777)
Overhead Line Equipment (OLE) Resilience and Renewal Phase 2	£'000	0	0	(2083)	0	0	0	0	(2083)
Overhead Line Equipment (OLE) Resilience (Single Contact Wire) Design					(1177)				(1177)
Track order rails x 200	£'000	0	0	(188)	0	0	0	0	(188)
Tamping/Geometry Improvement	£'000	0	0	(137)	(480)	0	0	0	(617)
Bilston/Crescent Resurfacing	£'000	0	0	(572)	0	0	0	0	(572)
Ballasted - Rail Curves	£'000	0	0	0	(471)	(490)	0	0	(961)
CSQ Gauge Corner Restoration	£'000	0	0	0	0	(184)	0	0	(184)
Hill top track work - relay / rebalast / drainage works	£'000	0	0	0	(294)	(306)	0	0	(601)
OLE Maintenance	£'000	0	0	(114)	(118)	(123)	0	0	(355)
Depot Access System	£'000	0	0	(114)	0	0	0	0	(114)
BCC Gauge Corner Restoration - Stephenson St	£'000	0	0	0	(177)	0	0	0	(177)
BCC Rail Gauge Corner Restoration (tight radius curves)	£'000	0	0	0	0	(496)	0	0	(496)
Renewals Project Management (WMCA)	£'000	0	(47)	(152)	(156)	(163)	0	0	(518)
Risk & contingency Total	£'000	0	(9)	(424)	(574)	(352)	0	0	(1360)
Lifecycle									
2GT P3 Tram Overhaul	£'000	0	(950)	(950)	0	0	0	0	(1900)
Information Boards/Poster cases	£'000	0	(64)	0	0	0	0	0	(64)
Off Street lineside fencing - Line 1	£'000	0	0	(457)	(471)	(490)	0	0	(1418)
Network Switches - Trackside - line 1	£'000	0	0	(171)	0	0	0	0	(171)
SCADA Distribution - Trackside - line 1 - trackside equipment	£'000	0	0	(114)	0	0	0	0	(114)
2GT Batteries Renewals Reserve - TBC	£'000	0	(1200)	(700)	(800)	(800)	0	0	(3500)
3GT OESS SA Renewals Reserve	£'000	0	(258)	(531)	(747)	(768)	0	0	(2304)
Hilltop Tunnel Lining Repairs	£'000	0	0	0	0	(306)	0	0	(306)
Programme Management	£'000	0	(64)	(69)	(71)	(74)	0	0	(277)

Risk & contingency	£'000	0	(507)	(599)	(418)	(488)	0	0	(2011)
Additional Lifecycle requests									
Preparation and Business Case costs (actual 2022 prices)	£'000	(29)	0	0	0	0	0	0	(29)
Replacement and remodelling of blockwork at 4 No. tram stops	£'000	0	(255)	0	0	0	0	0	(255)
Steel structures 25 year painting	£'000	0	0	(457)	(471)	(490)	0	0	(1418)
CCTV Cameras	£'000	0	0	(206)	0	0	0	0	(206)
Battery Tugs	£'000	0	0	0	(88)	0	0	0	(88)
Tram Stop Rail Replacement	£'000	0	0	(343)	(353)	(368)	0	0	(1064)
PAU on-board as a result of BBYB	£'000	0	0	0	(588)	0	0	0	(588)
Risk & contingency	£'000	0	(51)	(201)	(300)	(172)	0	0	(724)
TOTAL	-	-	-	-	-	-	-	-	(27850)

- 4.4 The estimate figures are inclusive of inflation increases based on the BCIS TPI forecast and the timescales advised by MML.
- 4.5 A risk allowance of £4.1m is included, which equates to approximately 17% of the estimate. This figure represents the P80 of the QCRA quantitative impact analysis from ARM.
- 4.6 Although this should be sufficient to cover this risk, if market forces mean that we cannot deliver within the £30m, we have identified which items would have less of an impact on reliability or safety and / or can be delayed until future funding is identified to keep within the agreed funding profile eg painting of steel structures
- 4.7 The priority ranking of a scheme may be affected by emergency repairs, discovery, inflation and market factors, timing, changes in cost or contractual changes, etc. Therefore, it is essential that schemes outside of this list of essential works, which are instead included in the full programme of works can be reprioritised and funded using this allocation if required.

5. Funding

- 5.1 Funding allowance of £30m for these works have been included within the overall CRSTS package awarded to WMCA of which £2.15m has been previously approved. Approval of this £27.85m will increase the approved budget to £30m for the renewals works.

6. Legal Implications

- 6.1 There are no direct legal implications arising in regard to the endorsement for approval set out in (1) (see above) of this report, nor indeed in regard to the contents of this report. Legal support is being provided by the WMCA regarding the deliverables arising in regard to the FBC.
- 6.2 The deliverables include any legal contracts required for this scheme including the funding provisions where WMCA Legal Services will provide the necessary support and input in respect of any drafting.

7. Single Assurance Framework Implications

- 7.1 The FBC has been reviewed by the Programme Assurance and Appraisal (PAA) team.
- 7.2 WMCA appraisal notes that this project is essential to the continued safe operation of the Metro network but considers that there are several weaknesses in the existing FBC.

7.3 These weaknesses do not relate directly to value of the project and the work involved, but instead relate to good project management and ensuring full accountability of the outputs and benefits to be obtained for this expenditure.

7.4 Transport Delivery Committee is recommended to:

- Note the importance of this work to the continuing operation of Metro Line 1, and approve this business case on this basis
- Request the Metro project team to continue to work with wider TfWM and WMCA Finance & Business Hub colleagues to understand the weaknesses in this business case and develop a strategy to improve future business cases.

7.5 The Investment Panel gave conditional approval for passage to Investment Board. Four points were highlighted for action prior to submission to Investment Board. Our responses are noted in italics and are covered in the Project response on the Appraisal Review.

(1) Itemisation of costs- subject to the satisfaction of Finance:

We have identified in the attached spreadsheet four packages of work: essentially Track, OLE, Rolling Stock and 'Other'. The proposal is that we would add the relevant risk values to these packages and then monitor against these in the reports, and that any risk of exceeding those values by 10% would require a formal change. We believe this covers that concern, and have highlighted this point in the 'Project Comments' in the attached updated Appraisal report.

(2) 2 high risk items to be addressed and included in the Investment Board report:

Of the two red issues:

- (1) *Concerned risk. We have sent to Fiona Bebbington the QCRA and the updated RAID which includes identified individuals responsible for each risk.*
- (2) *Concerned Procurement detail. We have provided in the attached spreadsheet – additional detail on which lines have a quotation to support the estimates, and which are based on current MML activity, so have a high level of confidence in the prices included. These equate to 42% of the scope. To note that we have included a 'prudent' inflation allowance as well. Furthermore, as agreed, we have also identified £3m of works that are a lower priority, though still needed, and we would delay these works until further funding is available, should price increases mean we cannot deliver the full £30m package.*

(3) Risk Register to be completed in detail:

As 2.1 above – this has been issued to F Bebbington. We trust that this closes that point.

(4) CRSTS (including MNE) to have a quarterly monitoring report against cost and budget.

This is noted and agreed.

Lessons learnt:

- include comprehensive option analysis in future projects
- A BJC should be used to support smaller, less expensive spending proposals that are not novel or contentious and should only be used when 'firm' prices are available
- avoid irrelevant content / surplus information
- earlier engagement with SAF to clarify best business case approach particularly for maintenance and renewal works and most appropriate BCR methodology

8. Equalities Implications

- 8.1 There are no equalities implications other than the risk of not providing a tram service if these works are not delivered in a timely manner.

9. Inclusive Growth Implications

- 9.1 Considering the eight fundamentals of inclusive growth across the Inclusive Growth Framework, the implications of the investments into the line 1 infrastructure are as follows:

Climate resilience:

- Ostensibly, investments that enable new public transport provision are a positive development, although the challenge with Metro is its carbon intensive construction, with a modal shift that tends to be from other public transport modes, rather than cars. The works included here are less carbon intensive as they are focused largely on rail and Overhead Line Equipment.

Connected communities:

- The implications are substantial for this fundamental, as Metro creates faster connections between places on the new lines, as well as opportunities for helpful clustering of resources, amenities and other connections around the stations.

Inclusive Economy

- For people who need to travel for work, the enhanced connectivity provided by the new Metro lines will enable them to have more potential employment opportunities, as they can travel to more locations within a reasonable commuting duration.
- The level access of Metro as a travel mode makes it easier for people with mobility aids to travel further, so could create more employment opportunities for people with disabilities relating to mobility.
- Economic growth around Metro stations is a desired outcome of the investment, and a place and population-led approach to this should be taken. TfWM have other levers that they can use to precipitate these outcomes – for example, by introducing Mobility Hubs.

10. Geographical Area of Report's Implications

- 10.1 The positive impact of what is delivered will be for the existing full Metro network and neighbouring districts.

11. Other Implications

N/A

12. Schedule of Background Papers

Full Business Case (FBC)
Risk & Investment Appraisal
Spreadsheet of packages of work.