

Purpose

The purpose of this note is to update members on the types of cracks on the Urbos 3 second generation tram fleet that operate on the metro system, how these have been managed; the decision to cease service in November 2021; and the work that was undertaken to safely restore service as expediently as possible with confidence that ceasing the service will not re-occur.

Background

Cracks were identified on the window and door frames in 2018. After protracted discussions which concluded in 2019 there has been a programme in place with the manufacturer to repair these under warranty.

In 2018, it was independently assured that there was no safety risk when operating the tram.

During routine inspections of the fleet in early 2020, Tram 37 was identified to have cracks to the Bogie box. These are different cracks to those previously identified on the body shell and posed a more of a safety concern.

Tram 37 was removed with from service and sent to the manufacturer's factory in Spain for investigation and resolution.

The manufacturer identified a permanent fix to the cracking problem which has been independently assessed.

Following inspections, similar cracking was identified on other trams within the fleet, indicating that the repair solution designed by the manufacturer needed to be undertaken on the whole tram fleet. Working with the manufacturer, a programme of repair to fix the issue was put in place for all trams. This programme had to be managed with constrained depot space during covid working restrictions whilst maintaining an essential service.

To enable the services to remain running, there was also an independently assured programme to undertake more detailed regular and rigorous

inspections and delivering temporary repairs in order to ensure that the trams could remain in service safely.

We have had external assessments of the temporary and permanent repairs and received assurance from the Manufacturer for every tram that has been put into service. Following inspections, any trams that were identified to be approaching the tolerances in terms of the cracks, were removed from service and the temporary repairs undertaken whilst there has been a steady flow of trams also receiving the full repair. The Independent Competent Person and the Office of Road and Rail have been kept informed.

This has taken place alongside routine inspections and maintenance to the trams.

Constraints in the depot footprint and with engineering resources have needed to be balanced in order to ensure all repair works, and maintenance can be carried out.

Through this inspection programme, some concerns were flagged in June 2021 and a decision taken to pause the fleet whilst further assessments were made. This was to make sure that the programme in place was ensuring safety on the operation of the tram and it was being maintained. The service was returned within a few days following this review and independent assessments around safety.

As the number of passengers increased with the easing of Covid restrictions, this impacted on the additional loading and despite our rigorous daily inspections it was no longer possible to have assurance that the temporary repairs were sufficient to keep the fleet running safely whilst waiting for the full repair. On this basis the operator, Midland Metro Limited (MML) had to withdraw the service.

The operator, under the relevant regulations, is the body that holds this responsibility. This decision was not taken lightly particularly given the disruption to the 20,000 journeys a day.

This also came at a time when we were seeing shortages of drivers both on rail and bus services more generally as being reported nationally, which created challenges to ensure other modes of public transport were available to support displaced tram passengers. Whilst this was a consideration, safety was the overriding factor for ceasing the service at that time.

Actions – Response and recommencing service

TfWM have been supporting the decision by the operator through its resilience response.

The immediate priority was to ensure we had a response plan to support all the journeys that needed to be made. Working across the teams at TfWM and with our bus and rail operators we have supported MML to ensure metro passengers were able to access choices to use other public transport services.

This resulted in a multi-agency, multi-modal response. Updating all customer communications and web tools, cross ticket acceptance on bus and rail and monitoring of the network in terms of constraints and other actions required. There will remain an evolving response to ensure we continue to provide the customer with choices but manage any costs that occur in supporting this response.

We also focussed on planning a revised permanent repair programme to bring a level of service back for Metro and to accelerate the new fleet of trams that have arrived to undertake all for their safety checks and enter them into service. Staff from the manufacturer, MML, TfWM and the Independent Competent Person are working through an integrated programme for repairing the trams, and also introducing the newly arrived third generation trams into the fleet (subject to the necessary and stringent entry into service safety checks) ahead of schedule to help rebuild the service.

On 10 December we had repaired sufficient trams and introduced 3 new trams to operations to permit a sustainable service from Wolverhampton

St George's to Bull Street with a 10-minute headway. This service has proceeded successfully, and we are now steadily increasing the fleet of new and repaired trams with the intention of re-starting services through to Library as quickly as possible. However, to ensure delivery and restoration of public confidence we do not wish to take this step until we are confident that this can be achieved safely and sustainably.

We will then focus on ensuring we can also open the extensions to Edgbaston and to Wolverhampton Station as planned but with some changes to the programme.

In parallel with the return to service we have adjusted the longer-term schedule to complete all the repairs that are non-safety critical to door frames. (This work was suspended pending repairs to the bogie box cracks.) We aim to carry out this work off-site to leave the depot unencumbered for operational work. We anticipate that by Summer 2022 all bogie box repairs on the trams will have been completed by the manufacturer, and independently assured. The door frame repairs will continue in parallel, but complete later.

Costs

In terms of costs to the organisation, there has been some expenditure on enabling cross ticket acceptance with rail and bus operators. We have an existing funded programme of repairs working with the manufacturer and funding in place to enter the new fleet into service also as part of their acquisition.

There have been some savings on removing the programme of temporary repairs which we will be able to redirect to cover costs.

As the situation is evolving, we are ensuring that all costs are captured, and any financial risks managed.

Roles and responsibilities across Metro

TSSC members requested a breakdown of the roles and responsibilities of all Metro related teams. The following spreadsheet, Appendix 1 demonstrates the roles and responsibilities for the TfWM Metro Team, MML and Midland Metro Alliance (MMA) but further detail can be found below.

Responsibilities of TfWM Owners Team:

- TfWM monitor progress, challenge costs, and agree budgets for MML. Under the Public Services Contract (PSC) TfWM have to agree with MML their annual budget, subsidy and life cycle or renewal works.
- The TfWM Metro or 'Owner's Team' commissions and manages the contracts for defined scope from a delivery partner and provides checks and assurance for WMCA/TfWM that the work has been delivered in line with the requirements and Business Cases that have been approved.
- The Owner's Team reviews projects in delivery and reports to Metro Programme Board on the progress and escalates issues/decisions. They also monitor that the projects follow TfWM assurance processes. (Stage Gates etc.)
- The Owner's team ensures that the Metro assets (infrastructure and trams) are maintained and replaced as required for safe and sustainable operation.
- TfWM has a small team seconded into MMA to ensure our voice is heard and to support on legal and stakeholder management. This team includes the key financial team within the MMA.
- TfWM teams oversee and challenge the MMA delivery progress and TfWM carries the Project Insurance.

Responsibilities of MML:

- At the end of the previous concession for Operation and Maintenance, TfWM set up MML as an 'arm's length' but wholly owned Operator and Maintainer.
- The contract with MML is governed by the PSC.

- MML hold a monthly board and issue monthly reports on operations, safety, and revenue for example.
- Under ROGS regulations MML is the Transport Undertaking. As such they are responsible for maintaining the safety of the system they operate on our behalf.
- Any changes to the operation of the system or to the system itself must be agreed with the Owner (TfWM) through the Change Board.
- MML also reports into the other WMCA Operations Boards monthly.

Responsibilities of MMA:

- All work delivered through the Alliance is governed by the Programme Alliance Agreement which is essentially the contract between the MMA parties and TfWM.
- Once projects are commissioned the Alliance delivers the projects in two stages: TC1 (Target Cost 1) to take a project through to detailed design completion; and TC2 to finalise the delivery cost. There is a cost gain/pain share mechanism. This means that cost over-runs are carried by all three parties.
- MMA is the 'design authority' for what they design and deliver. They are self-assuring. However, TfWM has technical support through two key sources: an external technical assurance team who advise in particular on operational requirements; and an Independent Competent Person (ICP) who is accredited by Office of Rail and Road (ORR) and assures Tram Safety.

Further Information	
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APPENDIX 1 - METRO STRUCTURE

LEGAL FRAMEWORK	METRO DELIVERY (TfWM)		METRO OPERATIONS (MML)	MMA
	WMM Projects Director		MML Managing Director	Alliance Director
	MMA delivery Owner Participant team Non MMA delivery Project Managers Utilities Comms/Engagement Technical Assurance Metro Programme Board Metro Networkwide Board	Finance Procurement/Commercial PMO (inc H&S) Development (Incl Legal and TWAO)	Operations Maintenance Sch 7 Network Development Metro Programme Board Metro Networkwide Board	MML Revenue Operational Marketing/Comms MML Board Metro Programme Board Metro Networkwide Board
Programme Alliance Agreement (PAA)	Aliance Leadership Team	Owner's Representative		Alliance Director
Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS)	Infrastructure Manager *		Transport Undertaking *	Responsible Person *
Pubic Services Contract (PSC)	Authority's/Owner's Representative (MML Board guest)		MML Managing Director	N/A

* = formal legal responsibility under ROGS

Key Interface: MML MD to Project Delivery for revenue

Metro Projects Directors joins Metro Board together with LS and LH