

WMCA Board

Date	15 January 2021
Report title	Midland Metro Buy Before Boarding
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Report has been considered by	Strategic Leadership Team: 14 October 2020 Transport for West Midlands Decision Making: 26 October 2020 Strategic Transport Operators Group: 2 November 2020 Transport Delivery Committee: 9 November 2020 Programme Board: 4 January 2021

Recommendation(s) for action or decision:

The WMCA Board is recommended to:

- (1) Note the contents of this report highlighting the progress that has been made to date towards the delivery of the 'Midland Metro Buy Before Boarding' project and the findings regarding accessibility and inclusion.
- (2) Approve an increase in the interim cash flow funding from £1.7m to £4.5m to enable the inclusion of Ticket Vending Machines to ensure that the payment solution is fully inclusive and accessible.

- (3) Note that the final decision to proceed, will be taken once the actual costs are received from suppliers via the procurement and following a final review of the borrowing model to confirm overall affordability.

1. Purpose

- 1.1 The purpose of this report is to provide an update on progress towards delivering the 'Midlands Metro Buy Before Boarding' project and to gain agreement for an increase in the approved interim cash flow funding to ensure that the payment solution is both inclusive and fully accessible whilst still remaining value for money.

2. Background

- 2.1 In autumn 2019, the WMCA agreed to the policy that will see West Midlands Metro moving to an off tram 'Buy Before Boarding' ticketing system. This means that rather than purchasing or validating their ticket once on board the tram, passengers will purchase and validate their ticket before boarding with validation taking place on the platform.
- 2.2 The paper submitted to the WMCA Board on the 23 August 2019 set out the ambition for a 'cashless' solution which would provide customers with the following ways to pay:
 - Contactless Payment: Customers will use their cEMV¹ contactless payment enabled bank card to tap in and out on platform validators at tram stops. They will then achieve a best value cap² based on the journeys they undertake.
 - Swift Card: Customers who either do not have a cEMV contactless payment enabled bank card; or who do not wish to use it in this way, will be able to load credit onto a Swift card which will then be used to tap in and out at tram stops to achieve a best value cap. Swift credit can be loaded digitally using your bank card on-line or using cash through one of over 1,000 Payzone outlets positioned throughout the West Midlands.
 - Mobile Ticketing: Customers will also be able to purchase their ticket through an App that will generate either a barcode which will be scanned at the tram stop before boarding; or it will generate a digital version of the Swift Card which would be tapped in the usual way, tapping your phone on the platform validator instead of a physical Swift card.
- 2.3 The WMCA Board paper indicated a preference to be completely cashless but stated that the use of cash enabled Ticket Vending Machines (TVMs) could be incorporated into the ticketing option as a mitigation for those who rely on using cash.
- 2.4 The 'Midland Metro Buy Before Boarding' ticketing solution was estimated to cost £1.7m. This was estimated without the costs of TVMs.

3. Progress to date

- 3.1 There has been significant progress in moving this towards delivery. Key milestones that have been achieved so far are set out below:
 - The project team has been assembled, including the procurement lead. A detailed project plan has been generated with risks, issues and mitigations captured.

¹ cEMV stands for contactless Europay, Mastercard and Visa

² The customer will never be charged more than the best value based on the journeys they undertake – this best value fare is applied as a 'cap' or maximum payment.

- A thorough review of power and comms availability and access at each tram stop has been undertaken and documented ready for the procurement information pack.
- The solution design and detailed specification has been developed for inclusion within the procurement information pack.
- This project has been aligned with work to deliver the Sprint network so the required ticketing systems technology for both Sprint and West Midlands Metro can be purchased through a single procurement exercise.
- Significant market engagement has been undertaken to both inform and validate the design and detailed specification.
- A detailed inclusivity and accessibility review has been undertaken to ensure that the West Midlands Metro remains accessible to all customers including those who still heavily rely on paying with cash.

3.2 If the recommendations are agreed above, TfWM is primed to move into the procurement process with full scheme delivery expected during Q3 of 2021.

4. Inclusivity & Accessibility Review

4.1 The report to the WMCA Board on the 23 August 2019 set out the bold ambition to move to a completely cashless system subject to ensuring appropriate mitigation were in place for those that are reliant on using cash.

4.2 The equality assessment undertaken during the Inclusivity & Accessibility Review concluded that whilst the majority of Metro users will not be impacted negatively by these changes as contactless payment, Swift and mobile ticketing are already the preferred method of choice for most users, the change will potentially negatively impact disabled customers, older customers and people from lower socio-economic backgrounds who do not have a concessionary pass and are more reliant on cash payments.

4.3 The review highlighted that there are c.1.3m people in the UK without a bank account and that 12% of these live within the West Midlands³. This suggests that there are over 150k adults in the West Midlands who are unbanked and as such would find a 'cashless' system difficult to engage with. We also know that the West Midlands Metro currently runs through large areas of deprivation and that those living in deprived areas are much more likely to be cash reliant.

4.4 It is therefore likely that a significant number of passengers would find a cashless ticketing system more challenging to engage with than the current approach. To use the tram at all, passengers reliant on using cash would have to add credit to a Swift Card at either a Travel Information Centre or a Payzone outlet and our geographic review of the proximity of these outlets to each tram stop shows that for 19 of the 26 tram stops, the nearest outlet is more than a 5 minute walk away. Furthermore, the opening times of these outlets will differ from the service time of the tram and as such the early morning and late night tram services would become much less accessible to those reliant on cash payment.

³ Based on FCA data

4.5 Therefore, on the back of these findings, it is no longer deemed appropriate to proceed with a completely cashless ticketing system.

5. Ticket Vending Machines

5.1 To ensure that the ticketing system is fully inclusive and accessible, it is proposed that Ticket Vending Machines are installed at the 20 tram stops with poor accessibility for those reliant on cash. Each tram stop would have 2 TVMs, both of which will accept cash which can be used to obtain a Swift card and top up credit or printed barcodes so that customers can purchase single, return and day tickets – including group and family tickets with cash directly. Once purchased from the TVM the passenger would scan their Swift card or barcode on the tram platform validator.

6. Financial Implications

6.1 The financial assessment included conducting a Net Present Value (NPV), Internal Rate of Return (IRR) and Payback investment techniques. A 3.5% discount factor was used in the NPV analysis in line with preferred public sector standards and to reflect borrowing rates. The model was run over a twelve year period to reflect a typical ticketing system lifecycle.

6.2 The below table provides a summary of the output of the financial assessment of the proposed metro ticketing options and key assumptions:

	Approved <u>Cashless, No TVM's</u>	Scenario 1 <u>Cash TVM's (18 main stops)</u>	Scenario 2 <u>Cash TVM's (20 main stops)</u>	Scenario 3 <u>Cash TVM's (30 main stops)</u>
Capital Cost	£1,688,780	£4,179,260	£4,448,380	£5,793,980
Net Operational Savings (annual)	£2,180,248	£2,009,505	£1,960,305	£1,714,305
NPV	£14,634,514	£8,173,038	£7,506,043	£4,220,456
IRR	85.4%	22.9%	20.9%	12.8%
Payback (years)	3.0	5.9	6.1	7.6

Assumptions	Approved <u>Cashless, No TVM's</u>	Scenario 1 <u>Cash TVM's (18 main stops)</u>	Scenario 2 <u>Cash TVM's (20 main stops)</u>	Scenario 3 <u>Cash TVM's (30 main stops)</u>
Cash TVM's	No	Yes	Yes	Yes
No of stops with TVM's	0	18	20	30
No Of TVM's per stop	0	2	2	2
Lost revenue	10%	1%	1%	1%
Cash Collection	No	Yes	Yes	Yes

6.3 The capital costs were taken from those provided in the AECOM report covering Rapid Transit Ticketing Options for the West Midlands dated 19 June 2019. The capital costs also considered the programme management costs associated with all options.

- 6.4 The models also considered the costs saved and additional ongoing cashflows as a result of implementation of all the options across the current and future routes. This included Westside and Wednesbury Brierley Hill extensions based on current delivery schedules.
- 6.5 Following investment appraisal, all options resulted with positive NPV's and good internal rate of return ranging between 13% and 85%, well above the cost of capital of 3.5%
- 6.6 Following the analysis of all options, the most commercially viable was cashless with no ticket vending machines (at stop validation). This option has a capital cost of £1.7m and once implemented a net annual operational saving of £2.18m. This option had a positive NPV of £14.6m and an internal rate of return of 85.4% with CR savings taken into account. Payback period is 3.0 years.
- 6.7 The proposed option that Ticket Vending Machines are installed at the 20 tram stops with poor accessibility for those reliant on cash is also a viable option. This option has a capital cost of £4.5m and once implemented a net annual operational saving of £2.0m. This option has a positive NPV of £7.5m and an internal rate of return of 20.9% and a payback period of 6.1 years.
- 6.8 From a purely financial perspective, as a standalone project all solutions are commercially attractive for WMCA with the preferred option requiring short term cash flow funding of £4.5m.

7. Legal Implications

- 7.1 There are no immediate legal issues arising from this report. If the project proceeds to procurement then there will be a need to ensure that a compliant tendering process is undertaken together with legal advice on the implications of this and any subsequent contractual arrangements. It may also be necessary to review any Metro conditions of carriage if they are affected by this proposed change to ticketing.

8. Equalities Implications

- 8.1 The initial cashless policy option would likely limit the purchasing options for Metro customers as they will not be able to pay on board. While the majority of Metro users would not be impacted negatively by these changes as Swift, contactless and mobile ticketing are already the preferred method of choice for most users a number of user groups would be negatively impacted – namely, disabled customers, older customers and people from lower socio-economic backgrounds who do not have a concessionary pass and are more reliant on cash payments. The proposed solution is inclusive and would help ensure the aforementioned groups will not be disadvantaged. This is especially important under the current Covid-19 climate which has hit especially hard people from lower socio-economic groups and has limited travel options for a number of groups reliant on public transport.

9. Schedule of Background Papers

- 9.1 Midland Metro Buy Before Board – Paper to the WMCA Board on the 23 August 2019.