



**WEST MIDLANDS**  
COMBINED AUTHORITY

## Transport Delivery Committee

<b>Date</b>	8 <sup>th</sup> January 2018
<b>Report title</b>	Investment Programme
<b>Accountable Director</b>	Laura Shoaf, Managing Director Transport for West Midlands
<b>Accountable Employee</b>	Phil Hewitt, Metro Programme Director Email: philhewitt@centro.org.uk Tel: 0121 214 7254
<b>Report to be/has been considered by</b>	Councillor Roger Horton – Lead Member Rail and Metro

**Recommendation(s) for action or decision:**

**The Transport Delivery Committee is recommended to note the report:**

### **1.0 Purpose**

- 1.1 To report on matters relating to the Metro Investment Programme in the West Midlands.

Since the last update in September progress has continued to be made in most areas of the Metro Programme in line with expectations. This note provides a brief overview of the main activities of the Metro team and the actions being taken to manage the principal risk / issues and opportunities that have arisen.

## **2.0 Birmingham City Centre Extension.**

- 2.1 The access between St Chad's tramstop and Queensway has now opened to the public. A review of the tramstop environment has highlighted the need for improved passenger information (wayfinding signage, local area and service information, real time display etc) and the Metro operations marketing team have produced a series of recommendations for enhancing the platform and ground level environments. These will be reviewed against available residual BCCE budgets.
- 2.1 National Express have installed additional pedestrian deterrent measures at the north end of the St Chads platform. A review is being carried out into accessibility of the bridge parapets from public areas and proposed measures to reduce this risk are being developed.
- 2.2 Following completion of the majority of outstanding works and agreement with Balfour Beatty over the timing of the remedial works to the St Chads switches a practical completion certificate has now been issued and Balfour Beatty's defect correction period (12 months) has commenced.
- 2.3 Handback of the highway to Birmingham City Council is being progressed however the failure by Amey to deal with documentation continues to impact on our ability to formally return the highway to BCC maintenance with the risk that TfWM will be left with highway liabilities. BCC are working with us to aim to resolve this issue and ensure that the highway is transferred as soon as possible.

## **3.0 Catenary Free Trams**

- 3.1 Tram 18 successfully completed its factory testing in Zaragoza and was returned to Wednesbury in September. Site acceptance tests are progressing to schedule in accordance with the project Safety Verification Plan. Once Safety Verification has been completed an application will be made to the Secretary of State for Transport in January 2018 for authority to run the modified tram in passenger service in accordance with the provisions of the Midland Metro Act 1989.
- 3.2 A review is under way with CAF and National Express of the fleet modification programme to ensure that this will ensure all trams are modified ahead of the opening of the Centenary Square and Wolverhampton extensions (earliest date Q3 2019) whilst minimising the risk of disruption to passenger services. An extended programme may be implemented that will meet both objectives within the overall Catenary Free project budget.
- 3.3 The necessary modifications to Wednesbury depot to accommodate the revised tram configuration and to allow for safe discharge of the overhead line and batteries prior to works being undertaken on the vehicles have been substantially completed with snagging

and modifications to the interlocking of the electrical discharge / vehicle access systems awaiting implementation.

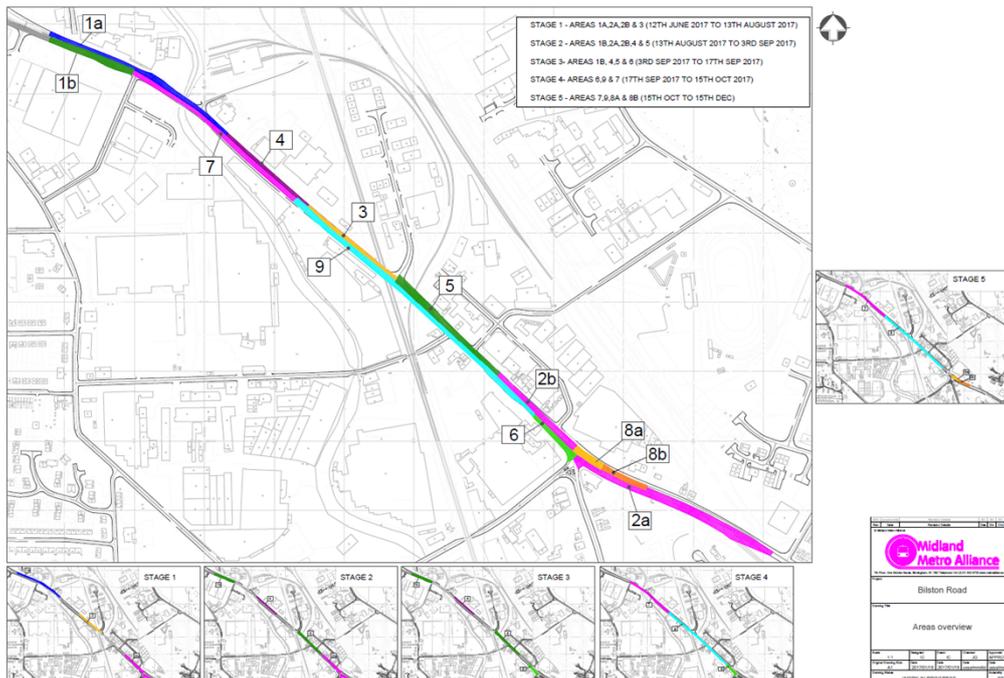


Tram unloading at Wednesbury following traction battery fitting 18 –

## 4.0 Bilston Road



Project Cost	Construction Start	Completion
£16m	12 June 2017	1st December 2017
<b>Powers:</b>	Midland Metro Act 1989	
<b>Funding</b>	Funded through HS2 Connectivity Debt	
	£650k contribution from City of Wolverhampton	
<b>Programme</b>		<b>Completed [2 Weeks Early]</b>
<b>Cost</b>		<b>On Budget</b>



- 4.1 Construction work progressed well and the MMA has now completed the works with the road fully reopening to traffic on December 2<sup>nd</sup>, 2 weeks ahead of programme. The Tramway service resumed on Friday December 8<sup>th</sup>.
- 4.2 During MMA's quality checks issues were identified with the electrical insulation performance of the new trackform as a result of which the risk of stray currents arising from the operation of Metro would have been heightened. A detailed review was undertaken by TfWM and the MMA's design and construction teams to redesign the trackform and the revised design appears to have improved the situation with further testing due once tram services have resumed. The additional time taken to resolve the problem has been accommodated in the programme with some extended hours / weekend working. The additional cost of the revised design has been accommodated within the project risk / contingency funding.

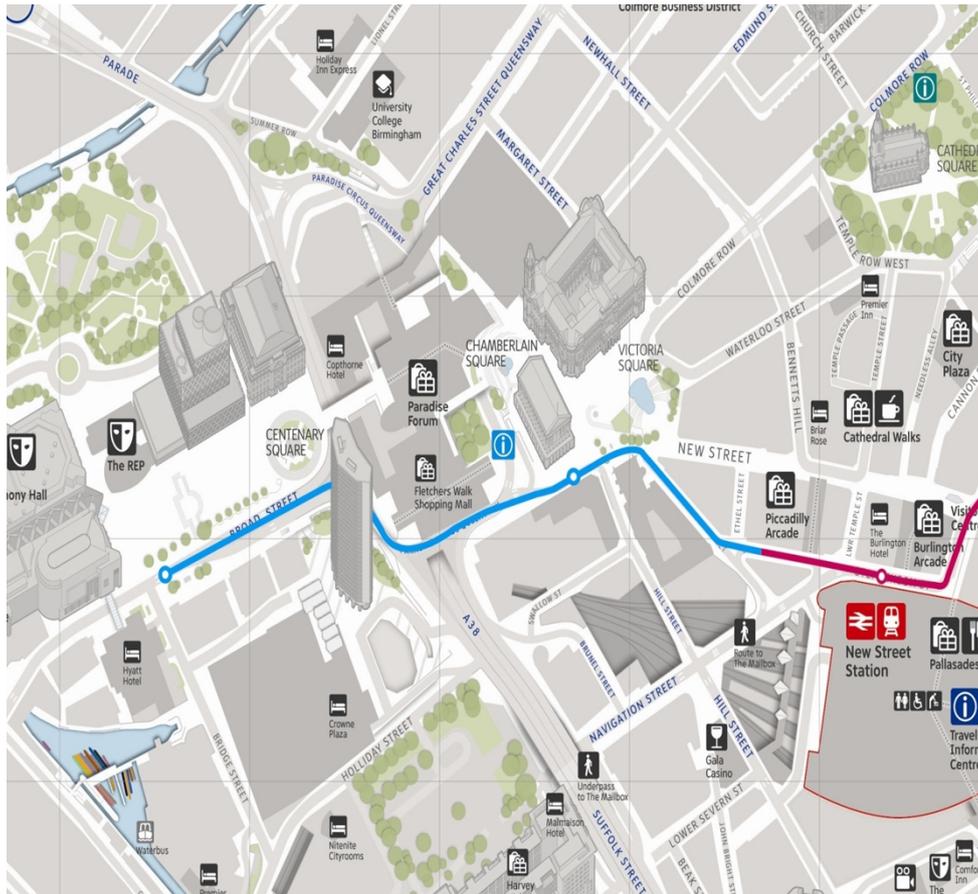




## 5.0 Westside Extension – Phase 2 – Centenary Square

<b>West Side Programme Cost</b>		
£149.2m		
Phase 1 Cost	<b>Construction Start</b>	<b>Passenger Services</b>
£65.8m	12 June 2017	Q3 2019
<b>Powers:</b>	Midland Metro (Birmingham City Centre Extension Etc) Order 2005	
	Midland Metro (Birmingham City Centre Extension Etc)(Land Acquisition and Variation) Order 2016	
<b>Funding</b>	GBSLGF	£7.55m
	Enterprise Zone	£15.95m*
	Third Party	£3.6m
	HS2 Connectivity	£38.7m <sup>1</sup>
<b>Schedule</b>		<b>At Risk (June 2020)</b>
<b>Cost</b>		<b>At Risk</b>

<sup>1</sup> Additional funding sought from the EZ Board to cover the delay / scope change and Paradise Funding costs which will reduce the level of cost attributable to the HS2 Connectivity Fund



- 5.1 This is the second stage of the Westside (Edgbaston) extension that was originally authorised in 2005. The extension runs for some 650m between Grand Central and a temporary terminus on Broad Street in Centenary Square. The short extension will have an additional stop at Victoria Square and will be operated entirely Catenary Free – a first for the UK.
- 5.2 Works commenced on schedule in Area 3 (Centenary Square) and Area 1 (Pinfold Street) and are progressing to programme. Works in Area 2 are dependent upon the handover of the worksite from the Paradise development following completion of demolition works at Fletchers Walk as part of the Paradise development. The Argent works are reported to be running some 7 months behind programme due to the identification of greater levels of Asbestos than expected. The Alliance is reviewing opportunities to reschedule / redesign works to recover this delay and is currently firming up proposals with TfWM and Birmingham City Council. MMA have reported that they expect to complete Areas 1 and 3 in 2018 and, subject to agreement of rescheduling proposals to be able to compete area 2 in Q3 of 2019.
- 5.3 Works have progressed in Area 1 with the backfilling of cellars in Pinfold St and preparatory works in Victoria Square. MMA will demobilise in Area 1 in mid-November to make way for the Birmingham Christmas Market, with works resuming in January 2018. MMA are seeking opportunities to redeploy the workforce elsewhere in order to minimise non-productive costs.
- 5.4 Progress in Area 3 is dependent upon the completion of works by the Centenary Square contractor, Bouygues, working on behalf of BCC. MMA have advised that Bouygues appear to be in delay and

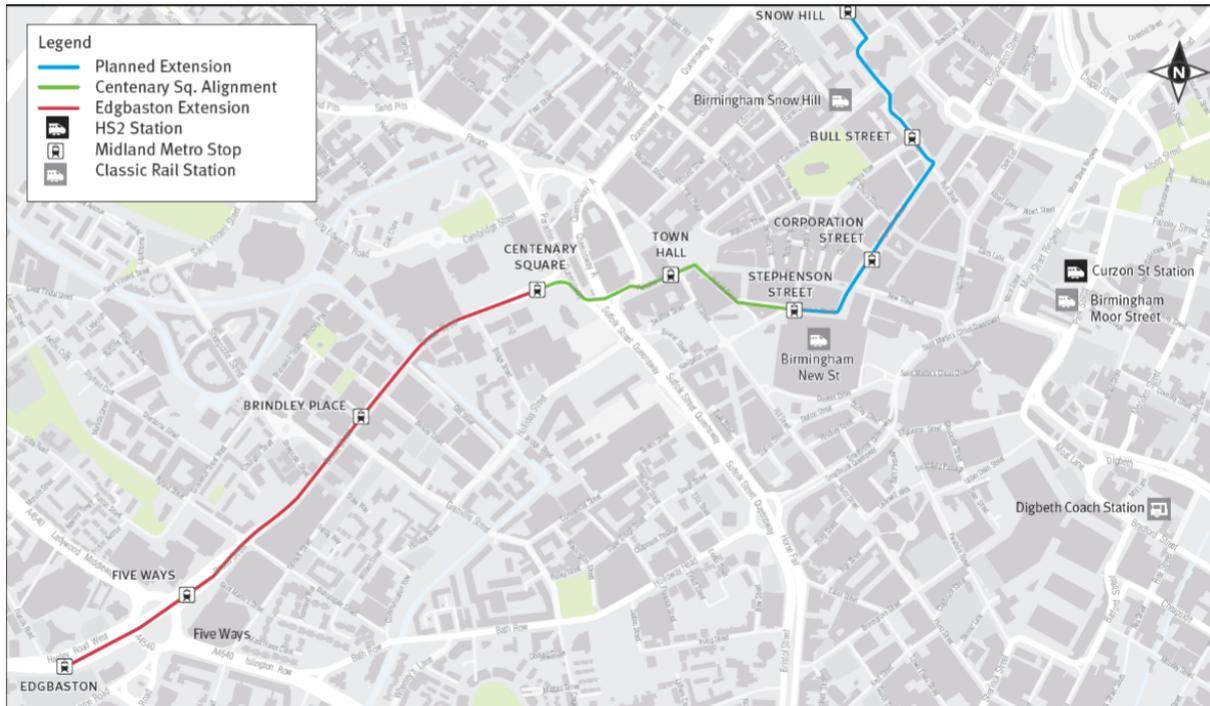
MMA have raised the issue directly with Bouygues (as a sub-Alliance member) to review opportunities for ensuring these delays do not impact upon the Metro works.

- 5.5 Costs are under pressure both as a result of the need to redesign / rephrase works to accommodate the above third party delays as well as additional planning requirements (planning gain) from BCC. Additional funding (£5.5m) is being sought from the Enterprise Zone to cover the additional BCC requirements and Paradise Circus funding commitments. The Alliance has undertaken a Value Engineering exercise to identify opportunities to reduce project costs prior to the submission of the Target Cost 2 Project Proposal (Final Approval) to TfWM during early December.
- 5.6 First phase tie in works are expected to take place on Pinfold Street in 2018. These will require the closure of the Line One head shunt which will mean all trams will be required to terminate and reverse in the platform at Grand Central tramstop. The Metro Change Board has asked the Alliance to submit its proposals (with a focus on operational safety and performance, pedestrian and vehicle management, communications) for consideration at the Change Board meeting.
- 5.7 The Alliance has advised that, notwithstanding the cost pressures arising from the delays / scope changes the Westside extension programme remains deliverable within the funding envelope of £149.2m.

## 6.0 Westside Extension – Phase 3 – Edgbaston Five Ways

<b>Programme Cost</b>		
£149.2m		
<b>Project Cost [TC1<sup>2</sup>]</b>	<b>Construction Start</b>	<b>Passenger Services</b>
£83.4m	July 2019	December 2021
<b>Powers:</b>	Midland Metro (Birmingham City Centre Extension Etc) Order 2005	
	<i>Midland Metro (Birmingham City Centre Extension, etc.) (Edgbaston Extension Land Acquisition) Order – Application Made – decision Q1 2019</i>	
<b>Funding</b>	Enterprise Zone	£1.3m
	Third Party	£2m
	HS2 Connectivity	£20.3m
	DfT Grant	£59.8m
<b>Current Status</b>	Design – ongoing – completes July 2019 Utilities Phase 2 – December 2017 to July 2019 Complimentary Highway Works – July 2018 to July 2019	
<b>Programme</b>		<b>On Programme</b>
<b>Cost</b>		<b>On Budget</b>

<sup>2</sup> This cost reflects further review and value engineering by the MMA which has reduced the forecast out-turn cost of phase 3 relative to the TC1 figure



- 6.1 The final Phase of the Edgbaston extension, due to open in December 2021, is some 1.3 km long operating entirely on highway with stops at Brindley Place, Five Ways and Edgbaston (Hagley Road). The sections between Centenary Square and Brindley Place and between Five Ways and Hagley Road will be operated catenary free.
- 6.2 An application for powers to acquire the land to construct and operate the extension was approved by the WMCA Board at its meeting on 17 March 2017. Negotiations with landowners have continued to progress well and the Transport and Works Order processing unit has confirmed that the written representations process will be adopted rather than a formal Public Inquiry into the application. The Alliance continue to anticipate that all objections will be withdrawn following positive discussions with all parties.
- 6.3 The Alliance has submitted an initial Project Proposal and target cost (TC1) for the Edgbaston Extension works and this was approved by the WMCA Board at its meeting on 17 March with authority to approve the final Target Cost 2 delegated to the Metro Director and Corporate Services Director subject to a satisfactory report from the Alliance Auditor. The final Project Proposal and Target Cost (TC2) is due to be submitted for the approval of the Owner's team in November 2018 following confirmation of the Transport and Works Order by the Secretary of State.
- 6.4 Funding for the project is now committed by all parties following the formal announcement by DfT of their contribution. Funding is currently authorised up to £15.5m for the Alliance to progress the scheme [Centenary Square and Edgbaston] and a further request to drawdown funding is expected from the Alliance to cover costs through to the approval of the Target Cost 2 Project Proposal and to accommodate an early start on the complimentary highway works that will facilitate the Metro and Sprint projects.

6.5 Investigations by the Alliance have identified a potential weakness in the canal bridge on Broad Street that may require action to be taken to restrict the movement of HGV's over the bridge. The issue has been raised with the bridge owner (Canals and Rivers Trust) and the Local Highway Authority. The Alliance has been asked to develop options for addressing the structural weakness within the tramway design whilst minimising the cost / programme impacts on the project. A report into the condition of the bridge and options for addressing the structural weakness has been prepared and is under discussion with TfWM, BCC and CRT.

## 6.6 TRAMS

6.6.1 A review of tram performance characteristics and timetable development work has identified that additional trams will be required to ensure that the existing Line One service levels can reliably be maintained when the Edgbaston extension opens in full. It is anticipated that this will require the additional trams to be delivered in summer 2021.



## 7.0 Wolverhampton City Centre Extension

The extension is a core part of the Wolverhampton Interchange Programme – funding is for the overall WIP

Project Cost	Construction Start	Passenger Services
Programme £81.8m	October 2017	Dec 2019
Including Metro £33m		
<b>Powers:</b>	Wolverhampton City Centre Extension Order 2016	
<b>Funding</b>	ITB	£3.0m
	LGF	£13.5m
	WMCA (DfT-MSCP)	£21.9m
	WMCA (HS2)	£12.4m
	CWC	£16.0m
	WMCA (IP)	£15.0m
Current Status	Phase 1 construction – ongoing due to complete December 2017 Project will be suspended pending completion of the Station Construction works	
<b>Programme</b>		<b>Delayed (Q2 2020)</b>
<b>Cost</b>		<b>On Budget</b>



- 7.1 This is a short (850m) on street extension that will provide new stops at Wolverhampton Station and at Pipers Row where it will serve Wolverhampton Bus Station. The extension will connect with Metro Line One at Bilston Street between the Wolverhampton St Georges and The Royal tramstops. Between Piper’s Row and Wolverhampton Station the route will operate catenary free.
- 7.2 The scheme was developed by Centro / Aecom prior to handover to the Alliance. Additional costs have been identified by both the Alliance and the Wolverhampton station development teams as a result of clarification of scope following design review, definition of network rail interfaces and improved estimating by the Alliance.
- 7.3 A revised funding package has been agreed with CWC that will see CWC and WMCA make £15m available each to cover the additional station, interface and metro costs and to provide a sufficient risk / contingency fund. Expenditure of this £30m package will be drawn down on a 50:50 basis in order that CWC and WMCA will contribute on an equal basis and share any savings against the final out turn cost.
- 7.4 Utilities works have progressed to plan and all civils works are now completed with the exception of gas on Pipers Row (pending removal of Bilston Street traffic management) and waste water works which have been built into the Alliance main works. Some additional utilities (not disclosed by the utility companies) have been identified and these will be addressed in the course of the Phase 2 works.



7.5 commenced installation in before strategy has more that will be thereby the local

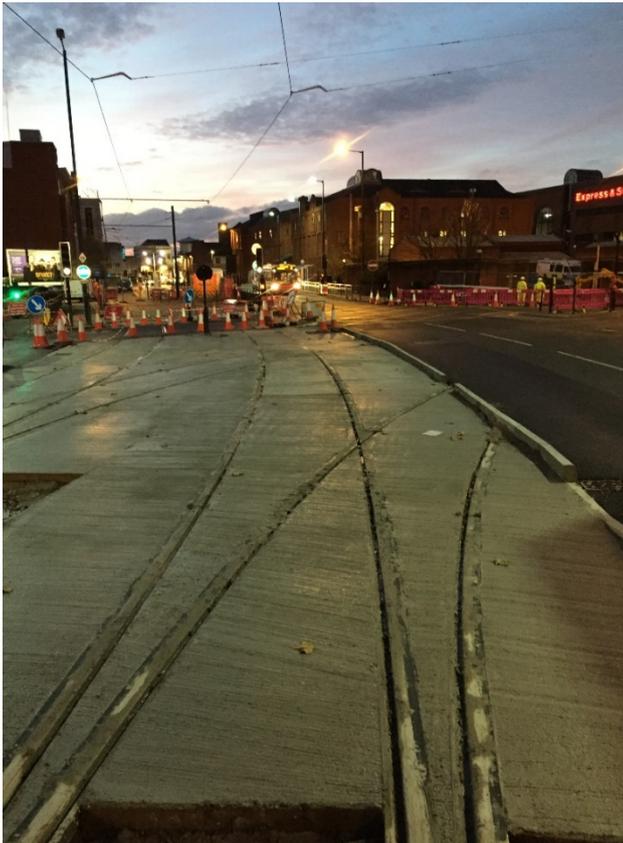
The Phase 1 switch and crossing works in August in Bilston Street ahead of October and completion of the works Christmas. A revised construction been agreed with CWC that will see a intensive second phase of construction compressed into a 12 month period reducing cost and overall impact on community.

7.6 expected to be 9 months works in the until the station project will team station interface approximately 6 station works construction phase to

The station works contract is not awarded until December 2017 – some behind programme. As the Metro station forecourt cannot commence works are completed MMA have completion of Phase 1 the WCCE demobilise with only a limited design remaining active to deal with any issues. MMA will remobilise months prior to the completion of the which will allow the 12 month construction phase to run uninterrupted from Pipers Row

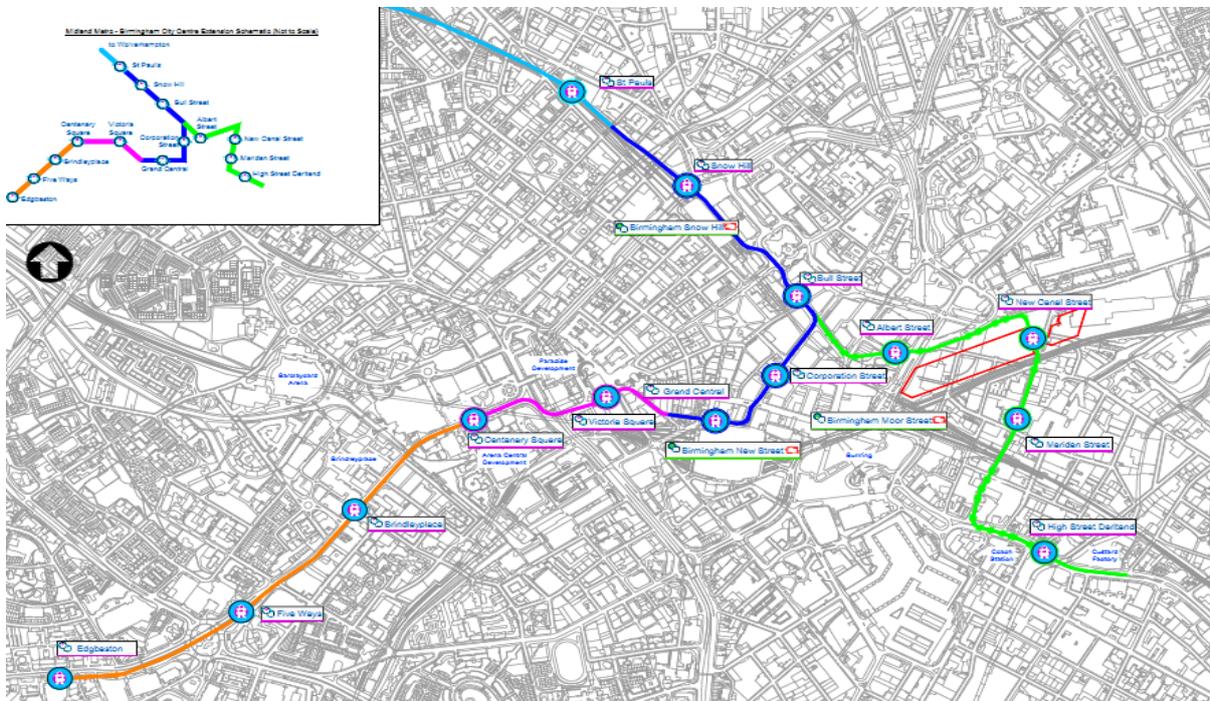
to the station. This delay will increase the cost of the Metro extension by approximately £800k – this cost is included in the current overall WIP programme forecast.

- 7.7 MMA have been requested to revisit the programme with CWC to identify opportunities for Improving the integration of the WCCE and station works with a view to allowing for earlier completion of the whole project and offsetting the delay costs imported by the current linear approach to programme delivery. Discussions between MMA and CWC have commenced and a way forward was agreed in principle in November and will be further developed in December.
- 7.8 The Business Case for the Metro Extension has been revisited and despite the increase in costs remains positive at 2.67:1 under Webtag assessment criteria. The WIP programme has been considered by WMCA's Governance process concluding with the WMCA Board on 8<sup>th</sup> December at which final approval of the scheme was granted.



## 8.0 Birmingham Eastside Extension

Project Cost	Construction Start	Passenger Services
Programme £137m <sup>3</sup>	Q3 2020	Q4 2022
HS2 Interface £18.5m		
<b>Powers:</b>	Midland Metro (Birmingham Eastside Extension) Order – Decision expected Q4 2018	
<b>Funding</b>	DfT / DCLG	£131.7m
	LGF	£5.5m
	WMCA	£18.5m [Underwriting to HS2]
<b>Current Status</b>	Public Inquiry – 22/3 November 2017 – completed TWAO Decision – Q3/4 2018/9 Preliminary Design – complete September 2018 Preparation of Project Proposal (TC1) – Q3 2018	
<b>Programme</b>		<b>On Programme</b>
<b>Cost</b>		<b>On Budget</b>



<sup>3</sup> With Optimism Bias included there is a potential additional funding requirement of £21.6m that would require WMCA funding

- 8.1 This is a short 1.7km street running tram route that departs from Line One at Bull Street and runs to Digbeth where a temporary terminus will be provided pending the construction of the East Birmingham / Solihull (Airport) line. Four new stops will be provided at Albert Street, New Canal Street (HS2) Meriden Street and High Street Deritend (Coach Station) with the section between Albert Street and High Street being Catenary Free.
- 8.2 In September 2017 following confirmation of funding (subject to powers and business case) the WMCA approved the submission of a Transport and Works Act Order for the powers to construct operate and maintain the tramway. 13 Objections were received to the Order and the Alliance has made good progress in negotiations with the objectors that saw all of these withdrawn prior to the inquiry.
- 8.3 The Public Inquiry took place on 22/23 November, with the Inspector reviewing the MMA's evidence and asking detailed questions in clarification. . Given the overwhelming case for the project and lack of objections at Inquiry the Inspector indicated that his report would be submitted via Planning Inspectorate to the DfT TWA Orders Unit prior to Christmas. Details of the Inquiry, including all documents submitted can be found at <https://www.twainquiry.co.uk>.
- 8.4 The Alliance is working closely with Birmingham to ensure that the Metro works are taken into account by and are complimentary to the ongoing review of Digbeth. Further work to investigate the integration of the metro, bus and coach facilities will take place with the commencement of the outline design in Q1 2018.
- 8.5 The interface with HS2 is a significant risk to this project as the tramway is due to open in advance of HS2 completing their construction and fit out works at Curzon Street station. Discussions are continuing with HS2 around the design of the interface, incorporation of Metro into the station development and operation of Metro beneath the HS2 station worksite. BCC and WMCA Investment Board have now approved the necessary underwriting of additional costs to HS2 of accommodating the Public Realm and Metro works and formalising the development agreement is now dependent upon HS2 responding to the latest draft documents.
- 8.6 The Business Case remains under review and is currently forecast by the Alliance to have a Benefit Cost ratio approaching 5:1. The priority for 2018 will be to work up and submit a Final Business Case for submission to DfT as soon as possible after the Order comes into force.
- 8.7 A joint engagement event is being planned with HS2 and BCC in January / February 2018 to promote the wider benefits of the major transport investment for the area.
- 8.8 Trams**
- 8.8.1 The funding package includes provision for procurement and supply of an additional 7 trams that have been identified as necessary to allow services to be operated.
- Wolverhampton to Edgbaston
  - Edgbaston to High St Deritend
  - High St Deritend to Wolverhampton
- 8.8.2 These additional trams will be required to be delivered in Q1 2022 at the latest in order to allow time for testing, commissioning and driver training.

## 9.0 Wednesbury Brierley Hill Extension

Project Cost	Construction Start	Passenger Services
£343m <sup>4</sup>	Q1 2021	Phase 1: Q1 2023
		Phase 2: Q4 2023
<b>Powers:</b>	Midland Metro (Wednesbury to Brierley Hill Extension) Order 2005	
	<i>Midland Metro (Wednesbury to Brierley Hill Land Acquisition) Order – submission December 2017</i>	
<b>Funding</b>	BCLGF	£0.4m
	Transforming Cities Fund	£207m
	WMCA	£103m
	Unfunded	£33m
Current Status	Submission of TWAO December 2017 Design Development ongoing to Q4 2019	
<b>Programme</b>		<b>Ahead of Programme (Phase 1 Q4 2022)</b>
<b>Cost</b>		<b>On Budget</b>

- 9.1 This extension, originally approved in 2005, is 11 km long with 7km along the former South Staffordshire Railway with the remainder running on street in Dudley, Merry Hill and Brierley Hill. The scheme will provide up to 17 stops and will integrate with the new Dudley Bus Station and proposed Canal Street station.
- 9.2 In accordance with current WMCA policies, the scheme is required to consider that Network Rail and the freight operating companies may require to run diesel hauled freight trains over the railway corridor in future (expected at the earliest after 2040). The current proposals are based on the optimisation of the scheme along the sections of the abandoned rail corridor on the basis of twin track Metro only, with passive provision for future conversion to tram and train (freight) shared running. The details of this track sharing arrangement and the exact nature of the passive provisions to be incorporated into the design continue to be progressed, albeit slowly with Network Rail.

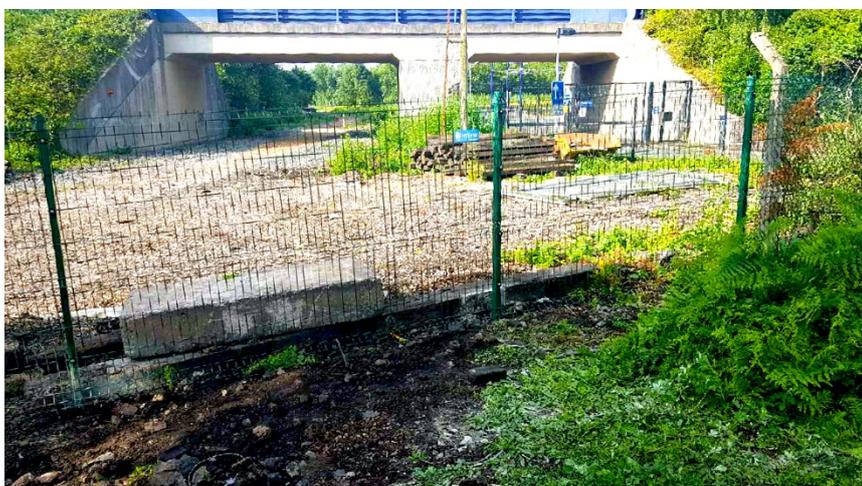
### 9.3 South Staffordshire Line – Transfer of Ownership

- 9.3.1 Informal discussions have been held with Network Rail, the Office of Rail and Road and Government over the possibility of transferring the redundant sections of the railway that are required for the Metro extension to WMCA ownership. This would allow the Alliance to progress the works without the need to comply with Network Rail's extensive asset protection and design approvals requirements for the Metro works although WMCA would have to accept an obligation to address any asset protection obligations for assets not required for the tramway (e.g. Dudley Tunnel) and to permit rail services to use the line in the future (subject to a credible business case emerging and

<sup>4</sup> The forecast out turn cost including Optimism Bias is £403m – if realised WMCA would need to find an additional £60m

funding). The adoption of this approach is expected to significantly reduce both cost and programme risk associated with Network Rail approvals and it is recommended that a formal Heads of Terms agreement be reached with Network Rail as soon as possible. Draft Heads of Terms were submitted to Network Rail in August followed by a meeting to review these at the end of September. Further meetings have now taken place with Network Rail as a result of which a clearer strategy for taking forward the development of the Metro works and interface with Network Rail has emerged which will be progressed in Q4 of 2017/8.

- 9.3.2 An Outline Business Case has been submitted to Government with the overall scheme benefits having been assessed using DCLG Guidance, showing a good case for the scheme. Funding of £250 million from the new Transforming Cities Fund was allocated to WMCA by Government on 20 November, including the Government funding requested in the Outline Business Case.



- 9.3.3 The Alliance is currently progressing the project in line with the implementation plan and budget for 2017/8 which was approved by the Investment Board at its meeting in May 2017.

- 9.3.4 The Alliance has prepared a supplementary Transport and Works Order application for WMCA to submit in December 2017 to acquire the powers to acquire the land necessary for the construction and operation of the extension.

- 9.3.5 The Transport and Works Order application and funding commitment has been considered through WMCA's Governance and confirmed at the WMCA Board at its meeting on 8<sup>th</sup> December, with submission planned for 12<sup>th</sup> December.

#### **9.4 Acceleration**

- 9.4.1 The Alliance has advised a number of accelerative measures that would allow the first phase of the extension to open in Q4 2022 and approval to draw down additional funding of £1.6m in 2017/8 to implement these measures was granted by the Investment Board at its October meeting. MMA have been requested to consider what further acceleration can be achieved with a view to opening phase 1 (Wednesbury to Dudley) prior to the Commonwealth Games in 2022. A further proposal for the acceleration of the project will be submitted by MMA in March 2018 together with an application to draw down funding through to the submission of the Target Cost 1 (TC1) project proposal.

#### **9.5 Trams**

- 9.5.1 The scheme funding includes provision of 22 additional trams that will be required to allow services to be operated from the extension to Wolverhampton, Edgbaston and High Street Deritend. With the proposed acceleration of the project the trams will be required no later than the end of Q2 2022

## 9.6 Very Light Rail Centre

9.6.1 The interface between the Very Light Rail Innovation Centre in Dudley and Metro works will require a new retaining wall to be constructed to carry the Metro from the former South Staffordshire Railway level up to street level. The additional cost of this retaining wall has been included within the joint submission to WMCA from Dudley and Coventry for the drawdown of HS2 Connectivity funds to progress the Very Light Rail concept design and innovation centre development that was approved by the Investment Board at its meeting in November 2017.



## 10.0 East Birmingham Solihull Extension

Project Cost	Construction Start	Passenger Services
£735 <sup>5</sup>	2023/4	2026
<b>Powers:</b>	Midland Metro (East Birmingham & Solihull Extension) Order to be sought December 2018	
<b>Funding</b>	Enterprise Zone	£183m
	DfT Devolution Deal	£492m [TBC]
	Unfunded	£60m
<b>Current Status</b>	Preliminary Design and Outline Business Case development progressing Submission of Transport and Works Act Order – September 2018	
<b>Programme</b>		<b>On Programme</b>
<b>Cost</b>		<b>On Budget</b>

- 10.1 This 16.5km extension will link growing residential areas and key community destinations such as St Andrews, Bordesley Green, Heartlands Hospital and Meadway with existing and new growth areas including Curzon HS2, Birmingham City Centre office and retail districts, Paradise Circus/Arena Central developments and Brindley Place/Five Ways/Edgbaston to the west, and the NEC/Airport UK Central and HS2 Interchange Station to the east. The extension of the Midland Metro from Digbeth to east Birmingham- Solihull will play a key role in delivering the full potential for growth and jobs of HS2 and provide transformational benefits to areas with a persistent and high incidence of multiple deprivation by giving people access to jobs and services, linked to the Greater Birmingham and Solihull Local Enterprise Partnership (GBSLEP) training and skills agenda.
- 10.2 The EBS project is much more than a transport project. By aligning initiatives promoted by a wide local partnership in Education, Health, Employment, Housing and Education it seeks to transform the East Birmingham and North Solihull areas, breaking the people of this area out of the past and present embedded high levels of incidence of multiple deprivation. The Metro scheme is the key backbone for this transformation, not only providing local jobs in design and construction through the Midland Metro Alliance, but by linking people to major current centres for employment and the future jobs and growth hubs in the Birmingham City Centre Enterprise Zone and UK Central, and by providing a stimulus to development along the corridor.
- 10.3 Initial work in 2015-16 on the project focussed on high-level engineering studies to develop the indicative route with which to test the viability of the project through development of an Initial Outline Business Case (IOBC). This work demonstrates a good value for money case exists for the

<sup>5</sup> Target Cost is £508m – the full sum to be funded is inclusive of Optimism Bias at 50%

project, with a Benefit: Cost Ratio of 1.6:1, rising to around 2:1 when wider benefits are added to this initial assessment. The IOC has been shared with Government and is currently being updated to respond to minor queries by DCLG officials for resubmission in June.

- 10.4 The scheme is at an early stage in its development and is expected to take a minimum of 9 years to deliver, subject to the necessary statutory processes. However this means that it could be delivered just prior to the opening of HS2 in 2026, although there is no room for delay if this is to be achieved. The next key milestone is to submit an application for Transport and Works Act Order (TWAO) powers to build, maintain and operate the extension. Following a review of the availability of modelling and the timing of key consultations the decision has been taken to defer the submission of the draft Order to December 2018 (was September). This delay can be accommodated within the programme without impacting upon the planned opening of the extension concurrently with or before the opening of HS2.
- 10.5 Briefings to ward councillors along the route commenced in November following agreement with the Cabinet members for Birmingham and Solihull. A project briefing, to be chaired by the Mayor, for local MP's is being arranged for early 2018.
- 10.6 In July 2017 the Investment Board approved funding of £9.5m to progress the project through the Transport and Works Act process.
- 10.7 The Investment Board also approved £700k to fund the Metro 2030 workstreams aimed at optimising the delivery of the Metro programme to ensure that the investment in the network
- Ensures changes are introduced in an efficient and economic manner
  - Ensures whole life costs are taken into account and investment in new assets is aligned with renewal and maintenance activities
  - Ensures standard solutions are developed and delivered over the whole project lifecycle

## 11.0 3<sup>rd</sup> Generation Trams (3GT) – TfWM Metro Team

Project Cost	ITN	First Tram In Service
c. £150m	Q1 2019	Q2 2021
Powers:	N/A	
Funding	£1.5m Procurement funding included in Eastside Budget	
Current Status	Market Testing (suppliers) Q4 2017 Routes to Market Study Q1 2018 PIN Q3 2018 ITN Q4 2018 Contract Award Q3 2019	

- 11.1 This project will be progressed by TfWM’s Metro team outside of but with support from the Alliance and the Operator.
- 11.2 In order to operate the extended network TfWM will need to order a fleet of approximately 50 additional trams capable of running catenary free.
- 11.3 The expectation is that the trams will be required to be delivered and commissioned in batches approximately 6 months prior to the opening of the following extensions;
- Edgbaston / Eastside: 7-9 Trams [ Q3 2021]
  - Wednesbury Brierley Hill: 22 Trams [Q2 2022 or earlier if further accelerated]
  - East Birmingham Solihull: 20 Trams [2026]
- 11.4 Funding for these vehicles is included in the Eastside, Wednesbury Brierley Hill and East Birmingham project funding envelopes.
- 11.5 To operate the trams additional depot facilities will be required together with upgraded / new control and communications systems. These systems will need to be procured, delivered and commissioned in parallel with the 3GT procurement and new systems will need to be retrofitted to the Urbos 3 trams.
- 11.6 The First stage of the project is to evaluate the most appropriate offer to put to the market and to assess market appetite. Options for market consideration are likely to include

Trams	Systems	Depot
Supply		
Supply	Supply	Specify
Supply & Maintain	Supply	Specify
Supply & Maintain	Supply & Maintain	Specify & Manage

- 11.7 A market sounding exercise will commence in December and run into Q1 of 2018 with a particular focus on alternative technologies (e.g. Fuel Cell) to facilitate Catenary Free operation.

11.8 Approval will be required in Q1 2018 to commit approximately £1m to the procurement of the 3GT project.