

Eastside Extension Business Case

Commercial Case

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Commercial Case Compliance

The table below, taken from the Department for Transport’s guidance on its approach to making major investment decisions, *The Transport Business Case* (April 2011), demonstrates the Commercial Case’s fit with requirements.

Element	Addressed in Commercial Case	Section
Introduction	Setting out approach to assess the commercial viability of the scheme	Chapter 2 - Evaluation of Procurement Route
Output based specification	Scheme outputs	Chapter 2 – Specification
Procurement strategy	Approach to procurement options	Chapter 2
Sourcing options	Options for sourcing the provision of services	Chapter 2
Payment mechanisms	Proposed payment mechanism for providers	Chapter 2 – Evaluation of Procurement Route
Pricing framework and charging mechanisms		
Risk allocations and transfer	Risk management approach	Chapter 2 – Risk Allocation and Transfer
Contract length	Approach for contracts	Chapter 2 – Evaluation of Procurement Route
Human resource issues	Implications for TUPE	Chapter 2 – Evaluation of Procurement Route
Contract management	Approach and timescales for contract management	Chapter 2 – Contract Management

D1. Introduction

Background

- 1.1 This Commercial Case has been developed in accordance with the DfT's Transport Business Case guidance. It presents the procurement strategy demonstrating that a robust process has been followed and arrangements are in place to deliver the Midland Metro Birmingham Eastside Extension scheme to time, cost and quality.

Outline of the Commercial Case

- 1.2 The elements that describe the case are set out in the following chapter.

D2. Procurement Strategy

Introduction

- 2.1 WMCA has recent experience in the procurement of Midland Metro extensions with the Birmingham City Centre Extension and Fleet Replacement Programme, which included procurement of a 1.3km extension to Midland Metro, a Depot extension and a replacement tram fleet. Lessons learnt from those contracts have been fed through into the current phase.
- 2.2 The Midland Metro extension projects currently funded, or likely to be funded, together with major renewals, represent a significant investment of the order of £1.4 billion over the next 10 years. However, the civil engineering market has a number of clients also making significant investment in infrastructure, such as Highways England, Network Rail and HS2. Procurement of the Metro programme on a project by project basis in this environment will be very unlikely to attract the experienced major contractors who can deliver the value for money and timeliness through innovation that are required.
- 2.3 Therefore, in order to successfully deliver the design and implementation of these and any future schemes, and secure access to expertise required in an improving economy and very competitive construction market, it was recognised that there are very significant advantages in procuring the schemes as a single package, making them more attractive to the market and creating economies of scale.
- 2.4 In addition, WMCA is seeking to harness the power of new technologies and techniques in the light rail sector, following up the Department for Transport's initiatives outlined in "Green Light for Light Rail"¹ and its investment in the Low Impact Light Rail projects².
- 2.5 WMCA therefore reviewed options for the contract form most appropriate to a programme of complex and technically challenging projects in a dense urban environment, seeking:
 - The most appropriate procurement and contract strategy
 - Robust risk and cost management

¹ <https://www.gov.uk/government/publications/green-light-for-light-rail>

² <http://www.uktram.co.uk/innovations-new-technologies/>

- Operator/maintainer involvement in design and construction
- Adoption of a strong partnering ethos in delivery
- Drivers for innovation over the programme duration

Further detail is provided below, along with the approach adopted to successfully deliver the above objectives.

Evaluation of Procurement Route and Procurement Strategy

- 2.6 The procurement of the Birmingham City Centre Extension was undertaken via a market standard NEC design and build contract with a structured longer retention/ defects liability period to ensure the supplier delivers high quality performance. The competition saw good levels of interest from the market, albeit without some of the larger contractors, and WMCA was able to take four contractors to the invitation to negotiate stage, thus ensuring that good value for money was obtained in the procurement.
- 2.7 The construction contract for the Birmingham Eastside Extension will be procured within the context of a number of Midland Metro extension projects being brought forward in a growing expansion programme. Following the government's decision in 2013 to devolve major project funding for transport to Local Transport Bodies ('LTBs') work has been ongoing to develop future routes for the Midland Metro system and funding is either in place or expected to be in place to deliver the following extensions:
- Centenary Square Extension (Pinfold Street to Centenary Square)
 - Wolverhampton City Centre Extension (Pipers Row to Railway Station)
 - Birmingham Eastside Extension (to link with HS2 station at Curzon Street, extending further to Digbeth High Street)
 - Edgbaston Extension (Centenary Square to Edgbaston)
- 2.8 Further additions linking Solihull via East Birmingham and between Wednesbury and Brierley Hill (in phases) to the light rail system have been confirmed within the HS2 Growth Strategy and West Midlands Devolution Deal.
- 2.9 In respect of previous projects, contractors have been procured through OJEU compliant processes on a project by project basis. The more positive expected funding position has led WMCA to reconsider its strategy relating to the preparation and tender of such projects.
- 2.10 This review considered a number of different contracting strategies:
- Client design - construct only
 - Design & Build
 - Management Contracting
 - Design Build Fund and Operate
 - Prime Contracting
 - Alliancing
- 2.11 Learning from the successful experience of clients such as Highways England, Network Rail and water companies such as Anglian Water, Alliancing was found to be the most appropriate model supporting the delivery of Value for Money through a collaborative approach. Project Alliancing was first used by BP for the North Sea Andrew Field in the 1990's, the project was delivered 6 months ahead of schedule for an actual cost £290m against an initial target of £450m.

- 2.12 WMCA subsequently undertook a rigorous selection process and let an alliance contract with a single contractor and designer for a period of up to 10 years for the Midland Metro extensions work.
- 2.13 In this ‘Midland Metro Delivery Alliance’ the designer, contractor and WMCA will work as an integrated team to develop and deliver the programme under a contractual framework where commercial interests are aligned with actual project outcomes.

What is Alliancing?

- 2.14 Alliancing is a form of relationship contracting often used for complex projects or programmes which require speed of delivery and cost certainty. Pure Alliances include the owner, designer and contractor as alliance members who collectively seek outstanding outcomes through an integrated team, characterized by aligned goals, innovative thinking and collaborative behaviours.
- 2.15 This is reinforced through a commercial framework set up to create win-win outcomes by aligning the commercial interests of constructors and designers with the owner’s project objectives, with risk collectively assumed by all participants and rewards determined by collective performance (KPIs/KRAs).

Essential Features of a Pure Alliance

- 2.16 In the Alliance, WMCA, the Designer and the Contractor are working as a single integrated team to develop and deliver the programme of works collaboratively under a single Programme Alliance Agreement (PAA) with the interests of all the parties aligned. The Alliance will:

- promote collaborative behaviours commensurate with a best for project approach;
- assume collective ownership for performance in programme and project delivery;
- take collective responsibility of all programme and project risks & opportunities;
- and has agreed a commercial model that provides for a Pain share and Gain share mechanism



- 2.17 The programme is governed by the Alliance Leadership team comprising senior representation from all the Alliance members, and where all members have an equal say. Day to day management of the programme is by a seamless integrated management team where all members are assigned to the team on a best-for-project basis whilst the parties agree to resolve issues within the alliance with no recourse to litigation.
- 2.18 The remit of the Alliance is to design and deliver all Metro extensions over the next 5-year period (subject to WMCA approval of each scheme budget at key stages), with a guarantee to extend for a further 5 years’ subject to satisfactory performance.

Programme Alliance Agreement

- 2.19 Unlike traditional forms of construction contract which seek to defend positions, the PAA is very different insofar as it is principle based, placing obligations on the parties to act in good faith and committing to Best for Project decision making on the basis that this will deliver the best outcome for all parties.
- 2.20 Other key features of the PAA include shared risk, no claim, no blame and creating a collaborative, self-governing environment in which a high performing, innovative team will thrive. The consequences of failure are dealt with through the commercial model. Owner's rights are reserved to exceptional circumstances i.e. changes in law, breaches in statutory duty and wilful neglect.

Commercial Model

- 2.21 The commercial model works in tandem with the PAA, linking the commercial interests of all the parties to best-for-project outcomes, encouraging all the participants to work as an integrated team to identify and mitigate / eliminate risk and innovate to achieve outstanding results. The commercial model addresses development of target costs for each project on an open book basis, compensation of the Non Owner participants, manages change, sharing of pain /gain, key results areas (KRA's), programme wide insurances:
- Target costs are developed jointly on an open book basis and include reasonable estimates of the actual costs to deliver the works including owner's direct costs, design costs, construction costs, contingencies and non-owner participants' fee (overhead and profit);
 - As the members collectively assume all risks, scope variations under the Alliance are limited to material change where the client has for instance requested an extra facility that could not have been contemplated at the outset;
 - Sharing of pain gain is be limited to the non-owner participants' fee ensuring all parties are equitably incentivized to perform beyond the expectation of the target cost;
 - Key Results Areas are developed to incentivize participant performance in areas critical to the project; and
 - Project insurance is an essential element of the Alliancing form of contracting. Under Pure Alliancing, as no liability arises between the parties, normal insurances cannot be triggered and therefore cannot be called upon to protect the partners against internal claims. This is overcome by WMCA taking out an all-encompassing project insurance policy.

Key Benefits

- 2.22 Outstanding project outcomes achieved by past Pure Alliances include – on-time or early completion even on the most challenging projects; optimum out-turn costs; more effective stakeholder management; and potential for improved returns for non-owner participants.
- 2.23 Under traditional forms of contract, responsibilities and risk are allocated to different parties with commercial and/or legal consequences for the individual parties where they fail to manage their risks or properly discharge their contractual/legal obligations. Under the alliance the participants will:
- Assume collective responsibility for delivering the project
 - Take collective ownership of all risks (and opportunities) associated with the delivery of the project
 - Share in the 'pain' or 'gain' depending on how actual project outcomes compare with the pre-agreed targets that they have jointly committed to achieve

2.24 This provides for:

- Active management of the project in all respects, as opposed to 'reactive' management when problems arise
- Reduced costs and project durations and improved quality of deliverables through early contractor involvement
- Continuous and maximised input from the participants
- Collaborative relationship with mutual trust and shared ownership of risks/problems through the life of a project
- Value for money developed over a series of projects with continuous improvement over time
- Single cohesive team without 'us and them' attitudes
- Clear understanding of the purpose/mission of the alliance

The Procurement Strategy - Implementation

Legal Issues

2.25 Prior to the changes introduced at the end of April 2016, which covered all the procurement processes set out below, the procurement of works, goods or services by WMCA in relation to the Midland Metro Network is regulated by the Utilities Contracts Regulations 2006 and not the Public Contracts Regulations 2006. This is by virtue of WMCA being listed as a utility in Schedule 1 of the Utilities Contracts Regulations 2006 in connection with the activity of providing or operating both railways and tramways and the provisions of Regulations 5(1) of the Utilities Contracts Regulations and 6(1)(a) of the Public Contracts Regulations. In accordance with Regulation 14 of the Utilities Contracts Regulations WMCA may choose either the open procedure, the restricted procedure or the negotiated procedure for the award of contracts in relation to the Midland Metro Network. There are no applicable restrictions on choosing the negotiated procedure under those Regulations and the competitive dialogue procedure is not one of the available options.

2.26 Accordingly, and in view of the prohibition on any post bid negotiation with bidders under the open or restricted procedures (which would be problematic given the relative complexity of the proposed contracts and the interface issues arising), WMCA used a structured negotiated process in letting the PAA. This involved the formal submission of bids and, potentially, best and final offers following a period of negotiation. Notwithstanding the use of the negotiated process, competitive tension was maintained until all commercially significant aspects of the winning bidder's bid were agreed and documented. In particular, WMCA recognise that, even though the negotiated process be used, it would not be lawful to agree substantive changes to contractual risk allocation or other commercially significant changes once a single preferred bidder had been selected.

Operator and input into design/construction

2.27 Midland Metro Line 1 was procured as a concession on a turnkey Design, Build, Maintain and Operate basis. The contract reflected a Private Finance Initiative format, though the majority of the finance was provided by WMCA. Maintenance and operational costs are borne by the concessionaire who also retains all fares and advertising revenues.

2.28 The 23-year Concession was awarded to Altram LRT Ltd in August 1995 and the system opened to the public in May 1999. Altram subcontracted the Design & Build and Operate & Maintain elements to a Laing/Ansaldo Joint Venture and West Midlands Travel Ltd (Trading as Travel

Midland Metro) respectively. In 2005 West Midlands Travel Ltd acquired 100% control of Altram. West Midlands Travel Ltd is part of the National Express group, and the operating arm is branded as National Express Midland Metro (NXMM)

- 2.29 The Altram concession did not envisage the current circumstances in relation to its provisions for termination, although it did provide for liaison and co-operation on proposals for extensions. Therefore WMCA has entered into a separate Deed with Altram and National Express to cover the design, testing, commissioning and initial operation of the expanded network, with additional profits arising from the extensions being shared by WMCA.
- 2.30 On March 17th 2017 WMCA decided to bring operation and maintenance in house from the current concessionaire NXMM into a WMCA subsidiary organisation. This decision has made a further detailed analysis on the benefit of outsourcing or insourcing operation or maintenance. This insourcing is currently in progress with the current concessionaire, due to end on 2nd October 2018 and be replaced with Midland Metro Ltd. TUPE regulations will apply and the transfer of the existing personnel into the new organisation will provide continuity of operation and ensure that the benefits of the highly-experienced National Express Midland Metro (NXMM) team is retained.
- 2.31 NXMM is running Line 1 at high levels of reliability, measured on a kilometres run basis, and has an intimate knowledge of the infrastructure, the new trams and the travel characteristics of the public in the Metro corridor. Their expertise has been and will continue to be utilised in the development of the project, in particular in determining the appropriate track layout in the city centre to provide robust operational capability in the event of incidents on the highway and the efficient operation of the Birmingham Eastside Extension.

Trams

- 2.32 The tram supply contract with CAF procured under the Birmingham City Centre and Fleet Replacement Programme provides for additional option trams and the 6 additional trams required to operate a robust 6-minute frequency service on the extension to Birmingham Eastside are proposed to be purchased within that option at the agreed contract prices.
- 2.33 WMCA has also placed orders for the retrofit of battery equipment to the existing tram fleet of 21 vehicles to enable “catenary free operation” along sections of the route, within contract options.
- 2.34 A programme for the retrofit operation has been developed and agreed with CAF, with the majority of the battery retrofits taking place at Wednesbury. The first of the trams to be retrofitted was sent back to Spain in January 2017 and is undergoing retrofit and prototype tests prior to being sent back to Wednesbury in September 2017. The retrofit works for the remaining 20 trams will commence in December 2017 with the final retrofit being completed in January 2019.
- 2.35 The 6 additional trams for the Eastside Extension will arrive with batteries fitted.

Infrastructure

- 2.36 WMCA, has procured outline design for the infrastructure, focussed on work to support the Environmental Statement as part of the TWAO application. This has focused upon determining impacts to the environment and appropriate mitigations including to noise and vibration, traffic and transport, heritage and archaeology, flood risk and townscape and in addition to identifying traffic regulation orders and land to be acquired in order to enable construction

and thereafter operation and maintenance of the extension and also to ensure that the interfaces with the HS2 project are clear and well-managed. This has been done through the previous designer Mott MacDonald.

- 2.37 The Midland Metro Alliance will move forward from this stage to develop the design, aid with objections management (as part of the TWAO process) and in due course carry out detailed design and implementation of the works of construction.
- 2.38 WMCA will undertake regular liaison with HS2 to ensure close collaboration in the design and construction of the HS2 Curzon Street station and the incorporation and integration of the Metro extension within it. A joint working group has been established to identify opportunities for collaborative working between work-streams such as design, co-ordination of utilities and construction methodology, in order to reduce overlap of work, minimise cost and optimise design and construction schedules.

Alliance Procurement

- 2.39 There were five stages to the OJEU compliant procurement process developed for the procurement of the Midland Metro Alliance. The process commenced in January 2015 and was completed in June 2016.
- Market Appraisal - Identify most appropriate contracting strategy - Jan'15 to Jun'15
 - Prequalification - Shortlisting 3 or 4 designers & constructors - Jul'15 to Sep'15
 - ITN Stage 1 - Down select to leading 2 designers & constructors - Oct'15 to Feb'16
 - ITN Stage 2 - Appoint preferred designer and preferred contractor – Mar'16 to Apr'16
 - Finalisation - Confirm appointments and finalise PAA - Apr'16 to Jun'16
- 2.40 There was significant interest from the supplier market, with a number of larger contractors who have recently completed very major light rail projects in Manchester and Nottingham having experienced teams available for this alliance, and significant European interest. In compliance with the OJEU requirements, a PIN notice was published on 4th April 2015. Twenty six expressions of interest were received. An industry briefing day was held in Birmingham 23 July '15 and attended by over 30 suppliers, with 65 people.
- 2.41 At prequalification stage six submissions were received from market leading design consultancies and nine from leading contractors, all interested in joining the Midland Metro Alliance.
- 2.42 WMCA appointed a Designer and Contractor following the procurement process listed above, with the PAA being entered into in June 2016. The Designer is a consortium led by Egis Rail, supported by Pell Frischmann and Tony Gee and Partners. The Contractor is a sub-Alliance led by Colas Rail and including Colas Ltd, Thomas Vale and Barhale.
- 2.43 It is worthy to note that both the Designer and Contractor were intimately involved in the design and construction of the Besancon "*tramway autremont*" that was pointed to by the Department for Transport in the "Green Light for Light Rail" document as an exemplar for quality coupled with value for money via innovation. The aim of the Midland Metro Alliance is to harness this experience to set new standards for delivery going forward.

Utility Diversions

- 2.44 The construction of the Birmingham Eastside Extension relies upon some existing utilities services being altered, diverted or protected in order to facilitate the construction of the Metro in the public highway and to ensure that the utility companies can access their plant for

maintenance, renewals or alterations without the need to substantially disrupt the operational tramway. There are three strategies that can be employed to undertake the necessary diversions:

- As part of the relevant construction package;
- By an ‘Enabling Works’ contractor; or
- By the utility companies’ own contractors.

2.45 It is currently considered that best value will be obtained through the diversion of utilities by the utility companies’ own contractors. This has proven very successful on the BCCE construction contract and very good relationships have been developed with local utility companies through this process. To ensure best value, optimum programme and appropriate stakeholder communications, the MMA will actively co-ordinate and manage the utility companies’ programmes, in conjunction with Birmingham City Council pursuant to their statutory role as Traffic Manager and NRSWA co-ordinator and has procured an over-arching traffic management contract to support delivery in a co-ordinated manner, managed through the Midland Metro Alliance.

2.46 The strategy is to undertake the majority of the requisite diversion works before the commencement of the Metro infrastructure works. This has both a time and cost benefit to a project and significantly de-risks the scope since the act of undertaking the diversions gives greater certainty of ground conditions and provides the main works contractors with a ‘clear site’.

Competition Issues

2.47 The procurement routes and those proposed will clearly deliver an appropriate level of competition for the infrastructure procurement through the competitive tender processes.

Specification

2.48 WMCA has a very experienced in-house team and has used and will use very experienced consultants, who have been involved in other recent tram projects, to develop the specifications for the extension project, which will be a development of that used for the current city centre works. Liaison with the supplier market has informed this process and has helped to identify the best format and content which will facilitate the tendering process.

2.49 The approach to be taken with drafting the specification will be closely linked with the aspirations of the stakeholder local authority. It is particularly noteworthy, that the lack of definition on other projects has created a high risk premium tendering attitude by infrastructure companies, or they have declined to bid at all. They believe that they have been exposed to scope creep and qualitative enhancement, primarily through the detailed planning process where efficient design has been sacrificed to environmental betterment.

2.50 As a result of the above, WMCA will prepare specifications for the Birmingham Eastside Extension infrastructure works that clearly set out the desired outputs and enable engineering and architectural innovation within the confines of a clear ‘Street Design Guide’ agreed by the local authority. This approach will also be strengthened through the adoption of lessons learned in the early construction phases of the Midland Metro Alliance, feeding through into the detailed specifications and method statements for faster construction.

- 2.51 WMCA will also feed in new processes, materials and technologies emerging from UKTram's Low Impact Light Rail project to drive down cost and enhance value for money.³

Contract Management

- 2.52 Arrangements for managing the infrastructure contracts as detailed above have been developed and will be reflected within the MMA contract documentation. The arrangements will:
- Build on the experience gained during the management of the existing Line 1 contract and the Birmingham City Centre Extension and Fleet Replacement Programme contracts
 - Ensure continuity of resources with the experience gained during the current stage of design and contract development
 - Reflect the Alliance approach and ethos

Risk Allocation and Transfer

- 2.53 The Risk Management Strategy sets out the process for the detailed risk analysis that WMCA and Birmingham City Council have undertaken to generate and value the risks. WMCA's aim is to transfer the risks to the party best placed to manage that specific risk and in turn receive the best value for money in transferring risk, within the Alliance model for infrastructure works.

Implementation Timescales

- 2.54 A detailed bottom-up approach to programming has been adopted in order to avoid over optimistic programming.
- 2.55 Actual delivery durations for several light rail projects that have been procured in the UK were reviewed to provide a benchmark for the programme. The high level milestones are detailed in the Management Case and these are consistent with the benchmarking exercise. Programme issues involving outside parties are being resolved by entering into contractual arrangements with these parties, for example Birmingham City Council, Network Rail, HS2 and building owners.

Project Programme

- 2.56 This project extends the Metro into the area of the proposed HS2 station at Curzon Street which requires special consideration. In recognition of this, WMCA will work together with the local authority and HS2 to develop construction strategies that minimise the construction impact and facilitate an efficient workflow. These will be incorporated into agreements with obligations placed on the authority, HS2 and the contractor to work together to deliver the works.
- 2.57 The works programme has been rigorously tested against the various work categories' output norms and aligned with the cost plan to ensure deliverability to time and budget.

³ <http://www.uktram.co.uk/home/home.aspx>

