



West Midlands
Combined Authority

WMCA Board

Date	18 March 2022
Report title	Outline Business Case: EV CATS - Electric Vehicle Charging Area Transit Stations
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Report has been considered by	Investment Panel - 24 January Senior Transport Officers Group - 31 January Strategic Transport Board - 4 February Investment Board - 14 February Finance Directors Group - various meets 2021 with latest 17 February

Recommendations for action or decision:

WMCA Board is recommended to:

- (1) Confirm approval of the investment of £14m of City Region Transport Settlement (CRSTS) funds in the EVCATS project, subject WMCA securing Government approval towards the regional CRSTS funding settlement together with appropriate terms and conditions; subject to a separate report at this meeting.
- (2) Approve the investment of £2.2m from the Brownfield Land and Property Investment Fund (BLPDF), as recommended by Investment Board and subject to the overall approval of the CRSTS investment at WMCA Board as indicated above.
- (3) Approve £6.5m from the £14m allocated CRSTS funds and £1.5m from £2.2m BLPDF to be invested at this OBC stage as required for site acquisition, site preparation and ancillary costs, including set up of the Delivery Company ahead of the full investment under the FBC (with the condition as noted above). Noting that the early release of the sums is from the totals at recommendation 1 and 2, not in addition to it.
- (4) Note that subject to the FBC approval at a future date, the WMCA Capital investment of £7.722m is intended to be made from WMCA borrowing.

1. Purpose and Background

- 1.1 The purpose of this paper is to seek approval of the Outline Business Case. Details of this are summarised in a separate report to the Board its private agenda due to the commercial nature of the business case.
- 1.2 The Outline Business Case seeks a non-refundable grant of £14 million from City Region Sustainable Transport Settlement (CRSTS) and £2.2 million from WMCA Brownfield Land and Property Development Fund (BLPDF) to support the creation of ten (10) Electric Vehicle Charging Area Transit Stations (EV CATS). These will comprise of 80 to 100 ultra-rapid 150+kW chargers, with sufficient expansion space to double capacity as the market requires. The project directly supports the central government Net Zero agenda and the WMCA #2041 agenda.
- 1.3 The OBC also requires Public Sector Borrowing by WMCA in the sum of £7.722m. This will not be committed until there is approval of the Full Business Case planned for later in 2022.

- 1.4 WMCA Board approved the region's EV Strategy in February 2020. The strategy identified four levels of intervention required across the WMCA area summarised in the table below:

	Equipment specification	Typical use case
Long stay	7kW	Residential Workplace Hotels
Short stay	22-50kW	Retail parks and shopping centres Leisure facilities Tourist attractions
Local hub	22-150kW	Transport hubs designed specifically for charging and modal interchange
Transit charge stations	50-350kW	(New) Service stations on key major routes around the West Midlands

- 1.5 Multiple stakeholders play different critical roles in bring this infrastructure forward. It was agreed that Transit Charge Stations should be progressed by the WMCA in a leading role. This OBC is a result of extensive work undertaken in this regard.
- 1.6 Transit Stations are facilities that provide ultra-rapid charging to a variety of users. These include: light goods and van fleets without access to depot charging (or for whom the operating model is for the vans to go home with the operative at night); inter and intra-regional travel; and charging for shared mobility services such as car clubs. Particularly in the short-term, facilities could also accommodate residents who do not have access to off-street charging until local long-stay provision is more ubiquitous. This will help address an equality concern where EVs may be felt to be more out of reach for less affluent households without the benefit of a private drive or for those in higher density living. Perversely some of these households are the ones that might benefit most from the relatively cheaper cost of running an EV vehicle (commercial or private). It is also noted that 30% of households in the West Midlands do not benefit from a drive and therefore home charging is not possible.

2. The Need for Transit Stations

- 2.1 A National Audit Office report in February 2021 stated that the UK will need upwards of 450,000 public chargers by 2030, which is more than 10 times the currently estimated 41,000 public chargers. The West Midlands, with its above-average growth in EV ownership coupled with its geographical location at the heart of the UK's transport network, will see increasing pressure for regional EV public charging infrastructure. Along with local authority actions to address low to mid power chargers, there is a need to intervene and incentivise the establishment of a highly visible and efficient EV public charging infrastructure in the region.
- 2.2 There are economic and air quality benefits associated with faster EV uptake as the region's emissions savings could nearly double by 2030 as compared to delaying the widespread uptake until the mid- to late 2020's. Furthermore, the West Midlands, as a centre of excellence of the automotive industry, is leading the way in the development of many of the technologies that are driving the evolution of the electric vehicle sector. Developing a charging infrastructure to underpin the region's leadership position in the sector to further capitalise on the development of electric vehicle battery and charging technologies will support economic recovery and employment across the region.

3. The Vision for Transit Stations

- 3.1 A Transit Station can be seen as a Petrol Filling Station (PFS) equivalent. The development of these is in their infancy with the growth of EV vehicles not yet supporting their financial viability in all but a small number of locations. Whilst they take slightly different forms, the concept of a small retail outlet, canopy and with petrol pumps replaced by charging points is emerging as a model solution in Europe.
- 3.2 The proposal outlines the creation of a network of 10 ultra-rapid EV CATS stations strategically located on the Key Route Network, with an aim to provide access across an area of 3.5 miles radius subject to land availability, and thereby cover 90% of the West Midlands residents and business. Each EV CATS will have a minimum of 10 charging points delivering an ultra-rapid charge and also have future expansion space.
- 3.3 The EV CATS project will utilise ultra-rapid chargers with a minimum 150kW of power capable of providing a top-up range ~ 100 miles in 20 to 30 min will meet the needs of these users. As a comparison charging hubs usually use c.22kW to 50 kW units equating to the same range in 1.25 to 3 hours.

- 3.4 The EV charging private sector is developing rapidly. However, it is still 4 to 5 years away from becoming a truly financially sound investment for private developers at the scale necessary to provide the required motivation for the public and fleets to make the change to EVs. There is a need for the public sector to intervene to meet requirements during these years where market failures will not meet the growing demand. One of the intents of the project is to secure locations that will catalyse the EV market and protect them from the land-grab practices taking place in the sector. These practices tend to manifest as cherry picking of strong locations which can then be served by inadequate or limited facilities, thus suppressing the rate of build-out of quality infrastructure and preventing the creation of a quality network.

4. The Importance of a Charging Spine

- 4.1 The fact that these facilities will form a network will lead to the greatest benefits. One or two locations alone will not enable a fleet operating across the West Midlands to switch from ICE to EV. Operators need to ensure that whether the driver is in Wolverhampton, Coventry or anywhere else, they do not have excessive downtime whilst charging. Logistics companies are acutely aware of this and will be encouraged to switch to EV's if this concern can be mitigated.
- 4.2 These types of Transit Stations are unlikely to appear in the West Midlands in the short term through private sector investment alone without public incentives. When they do, they will favour prime areas with high EV ownership and high passing trade (e.g. business parks where visitors have driven long journeys and are likely to have an EV or near motorway junctions). A pan regional comprehensive charging spine network would not be available for some years.
- 4.3 Under the EVCATS proposal Operators would be required to bid to operate more than one station in each released tranche of sites. This will avoid cherry picking the best locations and allow development of the network and for all across the region to benefit at roughly the same time.

5. The EV CATS Investment Model

- 5.1 A financial model has been produced, tested and independently reviewed. It utilises public funds as patient capital and has the potential to recover this investment over time. The investment is 50% of the Transit Station cost with 50% provided by a Private Sector investor. The Charge Point Operator pays for the chargers.
- 5.2 There are prioritised returns to the Private investor which are sufficient to provide enough reward for the risk they are taking. This will encourage investment in Transit Stations now, as opposed to waiting until a future point when demand is greater by virtue of more EV's being on the road.

- 5.3 The public/ private vehicle will own the Transit Stations and lease them for 20 years to the Charge Point Operator. Leveraging in private sector capital and expertise means the public funds go further. There is also the potential to recover part, or likely all of the funds at a future point and recycle these to other public projects.

6. Delivery

- 6.1 There are several steps to take to deliver the project and this will require investment at the OBC stage and further investment following the FBC approval. The project will be led by a team with extensive commercial property development experience, supported by TfWM EV specialists and a steering group of Local Authority colleagues with experience of EV infrastructure delivery.
- 6.2 Investment at the OBC stage would be abortive if the FBC was not approved due to an inability to deliver the commercial elements of the project. However, the WMCA is undertaking soft market testing with potential Investors for the DelCo and charge point operators for the OpCo. At this stage interest has been extremely positive.
- 6.3 The risk of abortive expenditure is further mitigated as the greater proportion of the investment at OBC stage would be in securing prime roadside sites in the West Midlands. Criteria for site selection based on the key metrics drawn from the commercial and economic elements of the business case have been developed. If sites are acquired but then must be disposed of, the investment will be largely or wholly recovered.
- 6.4 Key to securing the private investor to the DelCo and the private OpCo is having land available. Without this the investment prospect is not tangible to private investors. Unfortunately, engagement with Local Authorities and through One Public Estate has not identified existing public assets matching the requirements and therefore acquisitions are required. However, the search for suitable public assets will be refreshed in parallel for commercial site search.
- 6.5 The project would through the WMCA acquire up to 5 sites at their market price and (subject to valuation) remediate if necessary these ahead of the FBC.
- 6.6 Detailed cost estimates and market assessment at OBC stage show that this will require £8m (land plus remediation plus acquisition fees plus some OpEx). This cost comprises £6.5m from the total £14m indicatively allocated with the CRSTS programme and £1.5m from the £2.2m BLPDF funding. Any further expenditure above £8m or from WMCA borrowing would be incurred only following FBC approval and once commercial partners have been secured.

6.7 TfWM has been working with Local Authorities through an EV Working Group to understand where in the regional supply chain existing activity to increase EV re-fuelling infrastructure can be increased. Currently there is a mixed picture as many of mainstream Charge Point Operators (who provide and operate the physical equipment the vehicle is plugged into) are national entities and many have global financial backing. However, much of the activity to plan, install and maintain infrastructure is being sourced within the region. The selection of a DelCo partner will need to ensure the commercial viability as a priority, but further work will also be done to understand and to seek to stimulate the local supply chain. Prospective partners will be asked to set out how they can demonstrate benefit to the local supply chain for equipment manufacture, operation, and maintenance. Examples of local supply chain activity currently being used by Local Authorities to bring forward EV re-fuelling infrastructure include:

- Electric grid connections (companies based in Birmingham and Tipton)
- Highways & civils work (Direct Labour Organisations and Birmingham based contractors)
- Modelling and planning tools (Birmingham based data consultancy)
- Signage (Warwickshire based supplier)
- EV journey planning & parking reservation tool (Birmingham based SME/Start-up)

7. Benefits

7.1 There are benefits delivered for both the CRSTS funding and BLPDF. These are detailed in the OBC. The BCR ranges from a low of 1.5 to 3.17 dependent upon methodology of calculation and what wider benefits are included. In terms of value to the public purse the leverage rate of private sector investment is significant higher than typically achieved through investment transport infrastructure.

7.2 CRSTS benefits total an estimated £65m, including the bulk of this from Carbon Reduction and Nox Impact for which benefits total £45m.

7.3 Brownfield Land and Property Development Fund (BLPDF) benefits will be the remediation and preparation of land for development. The investment will deliver a minimum of 5 acres of land remediated at a cost of £440k per acre.

7.4 There are many other valuable but unquantifiable benefits that will flow from the project and these are stated in the full OBC and include:

- Increase in EV take-up due to highly visible charging infrastructure.
- Reduced risk of prime sites being acquired and held sterile until commercially viable and thus holding back EV Infrastructure development or “ransomed” to the public sector.
- Reduced health problems as a result of better air quality.
- Ameliorating the inevitable risk that a purely independent commercial and market led provision of ultra-fast EV charging will leave some key areas of the region without the benefit of these facilities for many years to come.

- Demonstrable support for an initiative allied to the automotive industry that is so important in the West Midlands.

8. Funding

8.1 As considered above the request is to approve, subject to Full Business Case approval, the £14m CRSTS and the £2.2m BLPDF allocation, with an element of borrowing undertaken by WMCA to meet the full funding required. At this stage of OBC approval as considered at the WMCA Investment Board only £8m (comprising £6.5m of CRSTS and £1.5m of BLPDF) would be drawn down.

8.2 There is a necessity to commit expenditure at the OBC stage, however, this can be wholly or largely recovered if the FBC is not proven following commercial engagement. The recovery of CRSTS expenditure would be prioritised and in the event of it being necessary to liquidate acquired assets it is considered low risk that this would not be achieved. Expenditure beyond £8m would not occur until the FBC is approved.

8.3 Funding Sources

CRSTS	£14,000,000
BLPDF	£2,200,000
WMCA Capital (Borrowing)	£7,722,440
TOTAL	£23,922,440

8.4 Note that the WMCA Capital would be in the form of patient capital funded through borrowing and ultimately recovered over the life of the investment through the commercial model.

9. Financial Comments

9.1 The financial implications are set out in the report with further detail concerning the commercially sensitive aspects of the business case provided in the associated report for the private agenda.

9.2 The Finance Directors of the WMCA constituent Authorities have been fully engaged in the development of the business case and support the recommendations.

9.3 Release of the CRSTS element of the funding for this OBC stage is entirely contingent on the release of the wider programme funds from HMG and the WMCA Board agreeing the separately presented paper on this programme.

10. Legal Implications

10.1 WMCA support services including Legal, Procurement and Governance have been involved in developing the project and will continue to support any Legal, Procurement and ARAC considerations

- 10.2 The project will involve the various essential legal agreements including the creation of a public-private entity to hold ownership of the transit stations and contractual relationships with the operator of these.
- 10.3 The legal implications concerning the commercially sensitive aspects of the business case are set out further in the associated report for the private agenda.
- 10.4 An external law firm Pinsent Mason have been engaged to review the necessary structures and have confirmed these can be accommodated. The budget plan includes provision for engaging further external legal expertise to set up implement these (subject to Full Business Case approval).
- 10.5 Section 113A(1)(a) of the Local Democracy, Economic Development and Construction Act 2009 gives WMCA a power of competence appropriate for the purposes of carrying-out any of its functions. Part 4 of The West Midlands Combined Authority Order 2016 (2016 No 653) confers that the functions relating to any economic development and regeneration in the constituent councils are exercisable by WMCA.

11. Equalities Implications

- 11.1 The EVCATS will have open access to all members of the public.

12. Inclusive Growth Implications

- 12.1 The creation of ten EV CATS has largely positive implications across several dimensions of the Inclusive Growth Framework, specifically Climate Resilience, Connected Communities and Inclusive Economy. These are as follows:

Climate Resilience

- 12.2 Access to public fast charging is an inhibitor of the transition to electric vehicles, and the Transit Stations are a key element of reshaping our infrastructure to enable this. However, it will be critical to consider another important shift alongside this – the shift away from ownership of vehicles towards sharing them (for example, in car clubs). The step-change created by the introduction of these Transit Stations may create new economic opportunities for increasing sharing capability, in a way which could accrue to localities in general and to the social economy.

Connected Communities

- 12.3 The creation of Transit Stations ultimately gives electric vehicle users of the present and future the sort of infrastructure that is widely available to people who use petrol vehicles. This is a critical component of future mobility, and ultimately tests a model which could be used extensively to meet this challenge both regionally and nationally.

Inclusive Economy

- 12.4 The EVCATS project is designed to provide a network of Transit Stations serving an anticipated 90% of the West Midlands. The provision of charging availability will benefit the 30% of West Midlands homes – which are more heavily distributed in places where people are on low incomes – where off street parking is not available and on-street charging has not yet been rolled out to provide alternatives. This may have particularly positive implications for those people who may ultimately need to use a pool car for peripatetic work such as social care, or who could usefully access electric vehicles through a car club to meet their other mobility demands.
- 12.5 There is also an opportunity to use the investment into the Transit Stations to reshape the local economy and energy system in a way which accrues benefits to local citizens, and this will be examined on a site by site basis as the acquisitions are planned and progressed.

13. Geographical Area of Report's Implications

- 13.1 The EVCATS project is designed to provide a network of Transit Stations serving an anticipated 90% of the West Midlands constituent authority area. The provision of charging availability will benefit the 30% of homes in this area where off street parking is not available and on-street charging has not yet been rolled out to provide alternatives. It will also provide direct benefit to the travel to work area around in the non-constituent area of the WMCA around the main metropolitan conurbation.
- 13.2 The business model is based on the density of demand generated in the relatively more dense urban environment of the metropolitan area, but project team will be able to work with colleagues in the wider non-constituent area to share learning and scope potential targeted expansion of the concept.