Black Country Smart City Strategy

December 2016

Contents

V0.7: Final Draft RB 2/12/16

1. Introduction

1.1 The Black Country Local Enterprise Partnership (LEP) published a Green Growth Plan in February 2014 to provide a strategy and delivery mechanism to position the Black Country as a leading centre for the low carbon economy, with a key focus on energy and waste. This complemented the LEP's Strategic Economic Plan (SEP) and European Structural and Investment Fund (ESIF) Strategy.

1.2 The Green Growth Plan has been revised to realign its strategy and delivery programme with the broader Smart City agenda. This, it is believed, will better align the LEP's aspirations with the broader policy agenda and existing United Kingdom (UK) and European Union (EU) funding streams to better enable delivery of the programme. This revised strategy, the Black Country Smart City Strategy, was approved by the LEP in October 2016 and supersedes the Black Country Green Growth Plan.

1.3 The Smart City concept complements existing efforts to make the Black Country more competitive and to make it a more attractive place to live, work and invest. This Black Country Smart City Strategy uses the EU Smart City Framework.

2. What is a Smart City?

2.1 At the heart of the Smart City are the utilisation of data and digital technology. These are applied in a range of roles including supporting decision-making, improving operational tasks, encouraging innovation, providing new business opportunities and empowering citizens. This utilisation can enhance economic performance and quality of life, reduce costs and resource consumption and engage more effectively with a city's citizens. In 2013 the United Kingdom (UK) government published a report which estimated that the global smart cities industry would be worth more than $400 billion by 2020, with the UK expected to gain a 10% share. The government established a Smart Cities Forum and funded a range of initiatives, including a £42 million demonstrator project in Glasgow which, along with London and Manchester, is one of the leading UK cities in developing the smart city concept.

2.2 BSI Standards Publication PAS 181:2014, a guide to smart city frameworks, describes a smart city as "effective integration of physical, digital and human systems in the built environment to deliver a sustainable, prosperous and inclusive future for its citizens." There are other definitions but this captures the key elements of utilising digital and other modern technology to achieve a city which is economically, socially and environmentally sustainable. The term 'smart city' is interchangeable with the terms 'future city' and 'digital city' while providing a broader framework than these terms for the integration of digital technology with government and with the built and natural urban environment. There is significant symbiosis between the smart city concept, the low carbon

agenda and the concept of green growth. All provide a long term, sustainable vision of a prosperous and inclusive city with a quality urban environment and range of services which make them attractive places to live, work, visit and invest. In essence a 'Smart City' is a 'Sustainable City' which utilises digital technology and data to its maximum potential.

2.3 Smart cities are also a European priority. Key 'smart' sectors, including government, transport, energy, health, waste and water, are covered by the following six themes of the European Smart City Framework with a brief outline of some of the areas covering by each. Further detail is provided in Appendix 2:

- **Smart Governance** including: participation and transparency in decision making; open data; joined up services and organisations; networking; and collaboration between public, private and community organisations.
- **Smart Economy** including: e-business; information and communications technology (ICT) use in manufacturing, service-delivery and innovation; increased productivity through ICT-enabled resource efficiency; waste minimisation; smart business clusters; and increased business connectivity.
- **Smart Mobility** including: ICT use in improved integration and management of passenger transport and logistics; promotion of sustainable, low carbon and multi-modal transport; and use of ICT in public information systems and ticketing.
- **Smart Environment** including: smart energy such as smart grids, low carbon and renewable energy generation and distribution; improved energy efficiency in buildings; urban services (e.g. street lighting and waste management); water, noise and air quality.
- **Smart People** including: e-skills; education and training; social inclusion; encouraging creativity and innovation; and personal data management
- **Smart Living** including: ICT-enabled life styles, behaviour and consumption; healthy lifestyles; quality housing, amenities and services; cultural vibrancy; and social cohesion.

3. West Midlands and Black Country Strategic Context

3.1 The West Midlands metropolitan area is covered by three LEPs. Each LEP currently has their own Strategic Economic Plan (SEP) and European Structural and Investment Fund (ESIF) Strategy although a joint 'super SEP' for the Combined Authority has also been prepared. The West Midlands Combined Authority replaced the West Midlands Integrated Transport Authority and Centro in June 2016.

3.2 The Black Country LEP's SEP, '*Made in the Black Country: Sold Around the World'*, was produced in March 2014. Its 30 year vision includes the Black Country being globally competitive with modern levels of connectivity, having a high quality environment, being genuinely inclusive and being ambitious with

effective partnership working. The Smart City themes relate to all ten leading sectors identified in the Growth Strategy and to all twelve strategic programmes grouped under the headings of Business, People and Place.

3.3   The Black Country ESIF Strategy sets out a framework for the allocation of European Union funds in the Black Country. The strategy recognises the importance of new technology and innovation to business growth and of high quality, vibrant and distinctive places to live in attracting investment and residents. It also recognises opportunities to invest in the low carbon economy. The ESIF Strategy's thematic objectives therefore cover innovation, SME competitiveness (including information and communications technology) and low carbon environment (including sustainable transport) as well as employment, skills and social inclusion.

3.4   The Black Country LEP published a Green Growth Plan in February 2013. This identified localised energy and waste management as key sectors for 'green growth', with the potential to generate up to £1 billion of Gross Value Added for the Black Country. The plan also identified a portfolio of potential projects for the short, medium and long term. In May 2016 the LEP also adopted a Digital Strategy for the Black Country which sets out the 'digital strengths' of the Black Country and opportunities in use of data and digital technology. In doing so it references Smart City activities and recognises the close relationship between the two agendas.

3.5   The main land use planning framework for the Black Country is provided by the Black Country Core Strategy which provides part of the Local Plan for the four Black Country Local Planning Authorities. Its vision for 2026 also supports the creation of economic prosperity and sustainable communities alongside environmental transformation, referring directly to investment in innovation and new technology in support of the Smart City agenda. This vision is supported by a range of policies.

3.6   The West Midlands Strategic Transport Plan, *'Movement for Growth'*, was approved by the Integrated Transport Authority in December 2015. Its preferred approach includes: the more effective use of existing capacity; better integration of transport; promotion of sustainable, low carbon modes of travel; and use of smart technology.

3.7   Subject-specific strategies and initiatives for the West Midlands and the Black Country, such as those relating to flooding, air quality and transport, are outlined in Appendix 1; Existing and Potential Smart City Activities in the Black Country under the relevant themes.

4. A Black Country Smart City Strategy

4.1 The Black Country Smart City Strategy's strategic aim is to support the development, regeneration and improvement of the Black Country and of its people, in support of the Strategic Economic Plan and Core Strategy. There are a wide range of themes covered by the Smart City agenda and a number of initiatives and strategies already in place for the West Midlands and Black Country including the Black Country Digital Strategy and on-going work on the Black Country Garden City principles. This strategy complements these and presents existing data, digital, low carbon and environmental activities in a strategic context for the promotion of the smart city agenda. It also identifies where further action is required to properly deliver a 'Smart Black Country', focussing primarily on the Smart Environment theme, covering energy, waste and green infrastructure, and on Smart Mobility. As outlined above, it does so in the context of the European Smart City Framework, further details of which are given in Appendix 2.

4.2 This strategy uses, as its benchmark for carbon monitoring, the 2011 Local Authority CO_2 data and the Black Country's target for CO_2 emissions, as set out in its Performance Management Framework which is monitored annually through the Black Country Annual Economic Review. The Black Country's target is to reduce emissions of CO_2 per capita by 44% between 2005 and 2033; this requires a reduction of 2.97 tonnes per capita from the 2005 base of 6.76 tonnes to 3.79 tonnes. By 2011 emissions had reduced to 5.14 tonnes per capita and by 2014 to 4.55 tonnes, a reduction of 32.7% since 2005; the Black Country therefore needs to reduce emissions by a further 0.76 tonnes per capita to meet its target.

4.3 This strategy also provides a Smart City Project Pipeline of key project proposals which support the strategic aim of the Strategy and its Smart City themes. The aim is to support the development of these projects including, where necessary, investigation of their feasibility, development of a business case, identification of funding and implementation.

4.4 Projects may be led by the private or public sector, depending on the project and funding source. Some may be commercially viable and ready for the market while others may be demonstration or research projects and require additional funding. For those seeking additional funding, a range of other European and UK funding streams are available which vary in their focus and eligibility criteria and generally require match funding. The most significant of these funds provides resources for low carbon and environment projects under the Black Country European Structural and Investment Funds. The Project Pipeline is a 'live' document which is intended to be regularly updated as projects and funding arrangements develop, including European funding arrangements following the UK Referendum result.

4.5   Key to the development of a successful Smart City Project Pipeline is engagement with the private sector to identify, co-ordinate and support development of projects which support innovation and the promotion of Smart City themes. As part of developing the Project Pipeline, ways of facilitating this engagement through measures such as networking events, seminars or drop-in events on individual funding streams or master-classes on technology will be investigated.

4.6   Appendix 1 identifies past, existing and potential smart city activities in the Black Country. Appendix 2 provides more detail of the European Smart City Framework. Appendix 3 is a separate document and provides a project pipeline which is a 'live' document to be updated as projects develop.

APPENDIX 1: PAST, EXISTING AND POTENTIAL SMART CITY ACTIVITIES IN THE BLACK COUNTRY

1. Using the European Smart City Framework, listed below are current and potential future activities under each theme:

Cross-Theme Activities	
Past & Existing **(past, current, under development or feasibility studies)**	**Potential** **(including identified gaps)**
Digital Strategy	
The Black Country Digital Strategy was adopted by the Black Country LEP in May 2016. It brings together various digital activities within the Black Country and promotes the low carbon economy and environmental improvement through product and process innovation, reducing car journeys by encouraging businesses to work online and enabling home working.	West Midlands Combined Authority Smart City, Digital or Futures Strategy: there is potential to develop joint work across the area of the new Combined Authority and an initial meeting was held in September 2016.

Smart Economy

2   National research (Lloyds Banking Group) found that 36% of SMEs have no website and, of these, 15% have no functionality beyond simply providing information. Other research showed that businesses which engage customers online expect to grow 40% faster than those which do not (Booz and Co, November 2012). The Black Country recognises the importance of access to and usage of digital technologies to its economic growth ambitions.

Smart Economy Projects	
Past & Existing **(past, current, under development or feasibility studies)**	**Potential** **(including identified gaps)**
Broadband	
The Black Country Local Broadband Plan is supporting the rollout of fibre rollout of superfast broadband into business areas across the Black Country through a £12.2 million project.	
An outline application, Black Country Digital Passport, has been submitted for European Regional Development Funding (ERDF) to support Black Country SMEs to become more digitalised.	
Business Support	
The University of Wolverhampton Visualisation Centre continues to showcase the latest technology and demonstrate practical	Support & co-ordinate innovation in SMEs through engagement & assisting in

applications.	developing projects, possibly through initiative involving the Black Country Growth Hub. Activities could include market engagement events, hosting consortium- building events to encourage collaboration, seminars & drop-in events on bidding for specific funding streams & training events on technology targeted at SMEs identified as having growth potential.
ERDF Black Country Growth Opportunities Local Delivery (GOLD) project supported Black Country SMEs to help them optimise and take advantage of new technology, for example in the areas of E-commerce, new energy efficient machinery and improved IT systems. This successful project ran 2012-15. A second ERDF application has been made to extend the project and provide grants for SMEs in 2016-18.	
The Greenbridge Supply Chain grant fund has benefitted a number of businesses to overcome barriers to growth, specifically around carbon reduction.	

Smart Environment:

3   Smart city thinking emphasises improvements in environmental outcomes, such as a reduction in carbon emissions, increased efficiency in the use of resources and the protection and improvement of natural resources. The Green Growth Plan identified localised renewable and low carbon energy generation and distribution, such as smart grids, biomass, plus waste management as key areas for investment covering a range of technologies. Existing and proposed initiatives are listed below. This theme also covers the potential to capitalise on the wider West Midlands's engineering base in developing smart grid and energy technology in addition to its existing position as a centre for low emission vehicles technology. The LEP is seeking to support a range of projects in these areas to be included in proposals for funding by both the UK government (such as Growth Plan) and EU (such as European Structural and Investment Funds).
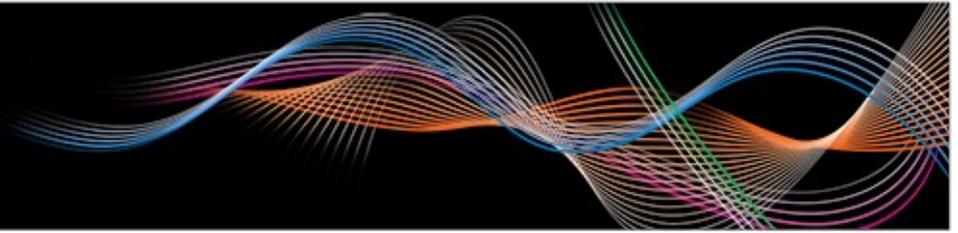
Smart Environment Projects	
Past & Existing **(past, current, under development or feasibility studies)**	**Potential** **(including identified gaps)**
Low Carbon Energy Strategy	
Wolverhampton council commissioned a Renewable Energy and Carbon Reduction Study which reported in 2011: See http://www.wolverhampton.gov.uk/CHttpHandler.ashx?id=1567&p=0 This followed a West Midlands regional study. The Black Country LEP's Green Growth Plan identifies renewable and low carbon energy generation and smart energy grids as key areas for investment in the Black Country. See:	The LEP is seeking to support a range of projects in these areas to be included in proposals for funding by both the UK government (such as Growth Plan) and EU (such as European Structural & Investment Fund). This Smart City Strategy is

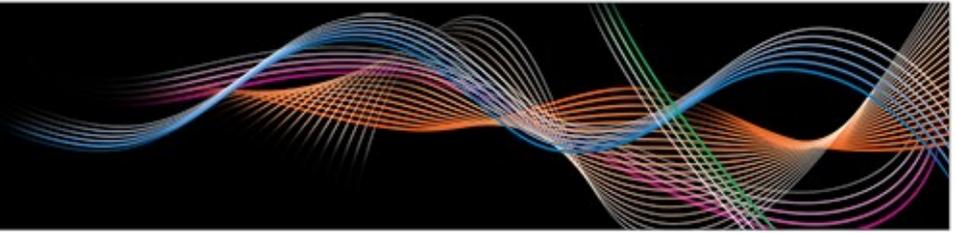|	
http://www.blackcountrylep.co.uk/place/green-growth-plan Greater Birmingham & Solihull LEP are preparing a low carbon energy strategy to support their ESIF work.	intended to provide a strategic framework and implementation plan. The LEP has also applied for Horizon 2020 funding for further work on energy demand in the Black Country under the heading *'Powering Growth'*.
Smart Grids	
In support of the council's and Black Country LEP's aspirations, City of Wolverhampton council was involved in a smart grid project called Optimising Regional Clusters of Smart Electricity Networks (ORCSEN) which investigated means of managing demand for power at a sub-station level, allowing locally-generated power to be stored, traded and distributed at a local level. This is intended to improve local economic resilience, reduce carbon emissions, reduce fuel costs and support the local economy. The project ran from May 2015- April 2016, using sites in Wolverhampton as a case study, and produced positive results. These are being followed through in proposals to test the technology on a live site in Wolverhampton under the project Community Smart Grid Optimisation Solution (CSOS)/ Springfield Smart City project (ORCSEN follow-on project). These projects are pilots for wider smart grids across the Black Country, to serve both businesses and residents, a project called Powering Growth.	A range of opportunities exist including: • Powering Growth, involving the widespread deployment of energy demand management technologies and infrastructure supporting local heat and power generation and distribution. This was the subject of an unsuccessful RGF bid under the title Black Country Smart Power. • Smart business parks/corridors: distributed energy and waste infrastructure for existing business parks and industrial estates. • Vehicle to Grid and virtual power plant using battery capacity of electric vehicles for grid balancing. • Community energy storage.
Energy Services Company (ESCO)	
Wolverhampton council is carrying out a feasibility study into establishing an ESCO; other councils including Birmingham are also considering the option.	New or expanded ESCO: to manage and facilitate projects in: energy efficiency; smart infrastructure investment; renewable and low carbon energy generation and distribution; and energy supply.

Heat Networks	
Dudley and Sandwell MBCs have been received funding from the Heat Network Delivery Unit (HNDU), to carry out heat mapping to investigate the potential for heat networks.	Sandwell Council is investigating a potential project at Union Road, Oldbury with potential to export electricity from an advanced gasification plant to power approximately 45,775 homes.
Renewable & Low Carbon Energy Generation	
Within the Black Country: • Cradley-based company Intervate, which is an energy from waste facility burning waste wood, is looking for satellite sites to develop biomass-fed CHP across the Black Country. • A company called Terrawatt is looking for end users to trial its large solar hot water collector and for manufacturers to co-invest.	A range of opportunities exist including: • Pop up power stations: temporary use of redundant and waste land for solar parks and biomass; yet to find viable model • Heat Pumps and micro-generation: promoting widespread adoption of heat pump and micro-generation technologies including to businesses • Heat pumps/ small scale hysdro-electric in canals / at canal locks • Biomass: Explore potential for urban biomass in the Black Country including use of waste wood from municipal maintenance regimes and from improved management of open space such as urban forestry and green corridors. Potential for network of plants using waste wood / locally grown biomass • Energy harvesting or large solar umbrellas e.g. in car parks or over children's play

	areas in public parks
Energy generation and management in council property	
1. Wolverhampton Council has a rolling fund which supports energy improvement measures on council property including more energy efficient boilers and lighting and a programme of solar panels and biomass boilers. 2. Dudley Council has allocated funds for 'spend to save initiatives' that reduce gas and electricity consumption within council buildings: Projects have included fitting pool covers at leisure centres, LED lighting upgrades in offices and car parks, fitting Variable Speed Drives, and using AMR data in conjunction with an M&T software package to identify and reduce unnecessary consumption.	
Energy generation and management in housing	
1. Wolverhampton Homes has a rolling programme of improvements to the council's housing, through initiatives such as the Decent Homes Initiative, to improve its energy efficiency. It has implemented a number of renewable energy projects, including installing a biomass boiler at Heath Town estate, and is investigating further opportunities. The council's Housing Service has implemented a number of initiatives, to tackle fuel poverty and improve energy efficiency for vulnerable private sector households, produces a biennial report as required by the Home Energy Conservation Act (HECA) 2. Accord Group submitted an expression of interest for a Smart Grid/ energy efficiency housing project to the low carbon strand of ESIF funding, May 2015 which has progressed to stage 2. 3. Accord and Walsall Housing Group (whg) are investigating the broader opportunities of solar power for tenants' properties. 4. Walsall Council as part of its approved Home Energy Conservation Act Action Plan (updated July 2015) is investigating a range of options to help residents take up solar PV for their roofs. 5. Walsall Council with partners whg and Accord have secured funding under a new DECC scheme to help households access gas central heating in the	

borough. Funding is focussed at dwellings that are 'off-grid'.

6. Dudley MBC has fitted solar PV systems to a number of residential homes (129 on the Priory estate and 11 at Jockey Field). Total generation for 2014/15 was over 186,000KWH.

7. Help and advice is given to Dudley residents through the 'winter warmth programme'. Includes advice on accessing energy efficiency grants.
8. Energiesprong is an innovative retrofit project to make houses net zero energy so a house does not consume more energy than it produces. Horizon 2020 European funding has been secured to investigate its potential roll-out in the UK, including the Black Country

Energy generation and management on land/ public places	
	Potential projects include: Energy harvesting Large solar umbrellas
Energy-efficient Buildings	
Wolverhampton council has developed a number of buildings with advanced levels of energy efficiency including: 1. New primary schools at St Lukes (biomass boilers) and Willows campus (Green Park & Stowlawn) (green roof & biomass) + Bushbury Hill, Oak Meadow & Wilkinson (all Passivhaus) 2. Green roofs at Bantock Park changing rooms and Dovecotes Nursery 3. In partnership, BREEAM very good standard at the Wolverhampton Bus Station and excellent at the Interchange Block 10 development (currently under construction) Potential ERDF bids exist for energy efficiency in public buildings in Wolverhampton and elsewhere.	A range of additional opportunities exist including offsite manufacturing and refurbishing buildings: improving efficiency of construction, including retrofit and modern methods of construction such as demonstrated by Accord Housing's initiative. EcoPod Homes are looking for a site for an additional manufacturing facility to serve the Midlands.
The University of Wolverhampton has produced the successful ERDF-funded Built Environment Climate Change Initiative (BECCI) project and has submitted a bid for an additional ERDF project; Environmental Technologies Resource Efficiency Service (ENTRESS)	

Urban Services	
Wolverhampton City Council: 1. Has a rolling programme of introducing energy-efficient street lighting and reduction in lighting of highway signs 2. Has improved its recycling rates from domestic waste 3. Is developing a programme to improve surface water management and reduce flooding 4. Is seeking to improve air quality through the Low Emission Towns & Cities Programme Sandwell Council is developing projects including: 1. LED lighting upgrade & canal-side solar lighting in north Smethwick Walsall Council: 1. Trials have been conducted since 2010 introducing energy efficient street lights with LED and Central Monitoring Systems. Central monitoring systems allows for monitoring outages remotely, actual consumption, flexibility vary lighting levels.	
Resource Efficiency in Business	
Projects under development include: Converting vehicle tyres to oil (Inecys), recycling of bottom ash (LAB Gedour Ltd) & expansion of existing Carbon fibre recycling (ELG Carbon Fibre, Coseley)	Potential to promote the circular economy and reduce waste through further work on identifying under-utilised waste streams and expanding business waste recycling services.
Industrial Symbiosis/ Alternative Raw Material of Lower Impact (ARLI). ERDF project	
Groundwork West Midlands-led project on Resource Efficiency submitted for ERDF funding to advise SMEs on energy & water management	
Brownfield Land Remediation	
Brownfield Land Centre of Excellence	

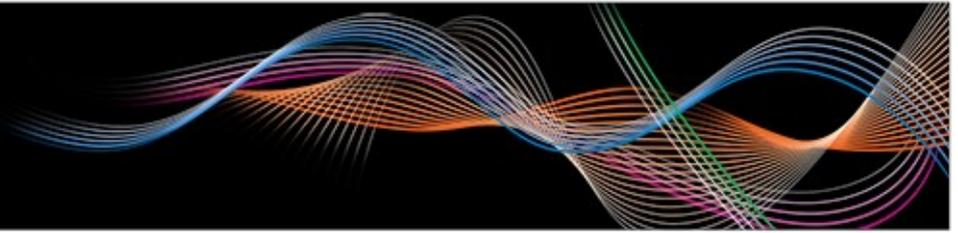| Environmental Infrastructure	
A range of projects have sought to improve the 'green' and 'blue' environmental infrastructure of the Black Country including redundant rail lines and canal corridors. These include the concept of the Black Country Urban Park. Individual projects exist for Nature Improvement Areas, Bilston Nature Reserve and the Black Country Blue Network	The Black Country Blue Network is a project which will deliver the first phase of the Black Country Urban Park concept. The project will create a high quality ecological network with a diverse range of habitats, centred on the area's historically important waterways and associated green spaces. This will be achieved through a programme of infrastructure and habitat improvements improve habitats along canals and rivers in the Black Country as well as other key nature green spaces linked into this blue network facilitating better visitor management and improved access for local communities.

Smart Mobility

4   At a metropolitan level, Centro/ the West Midlands ITA, from June 2016 part of the West Midlands Combined Authority (CA), lead on Smart Mobility through the ITA's Connecting Communities group, effectively a Smart Mobility group. They are supported by the West Midlands Strategic Transport Plan '*Movement for Growth*', approved in December 2015 which supports an integrated, inclusive, safe and low carbon transport system which supports use of low emission vehicles, public transport, walking and cycling.

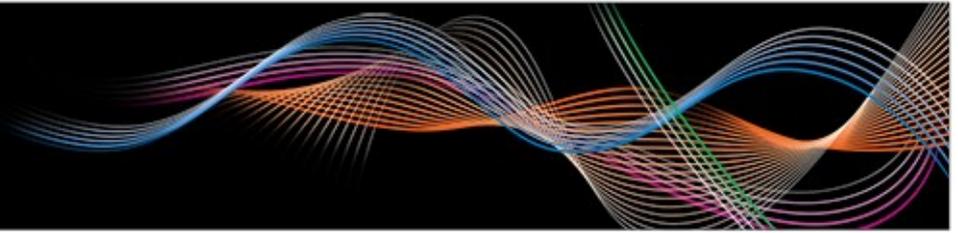| Smart Mobility Projects	
Past & Existing (past, current, under development or feasibility studies)	**Potential** (including identified gaps)
Integrated Sustainable Transport	
The West Midlands Integrated Transport Authority (ITA)/ Centro produced the Local Transport Plan (LTP) for the West Midlands Metropolitan Area (WMMA), 'Making the Connections', which supports an integrated, inclusive, safe and low carbon transport system which supports use of low emission vehicles, public transport, walking and cycling. See: http://www.centro.org.uk/about-us/corporate-publications/local-transport-plan/	

Passenger Information	
Transport for West Midlands (fWM) (formerly Centro) has an Integrated Passenger Information Strategy and provides real time information and updates via its mobile phone app alongside its journey planner service, *Network West Midlands*. See: https://www.centro.org.uk/media/17247/IPIS-1-.pdf http://www.centro.org.uk/about-us/news/2014/groundbreaking-step-brings-public-transport-information-to-google/ http://www.networkwestmidlands.com/	
Smart Ticketing	
Centro/ TfWM has recently launched the 'Swift' smart ticketing card.	
Low Carbon Strategic Transport Projects (West Midlands/ Black Country)	
1. The *'Smarter Network, Smarter Choices'* Local Sustainable Transport Fund (LSTF) project has promoted sustainable and low carbon travel along key corridors in the West Midlands metropolitan area through measures such as traffic signal upgrades and cycle and pedestrian facilities. The initial three-year £48 million programme, ended in March 2015: https://www.centro.org.uk/sustainability/smart-network-smarter-choices/ 2. A £3 million extension to this project for the Black Country took place during 2015-16 See: http://www.centro.org.uk/about-us/news/2014/black-country-lstf-legacy/ 3. The Black Country councils and LEP are also developing a £4.6 million *'Managing Short Trips'* programme for promoting walking and cycling for local journeys, funded by the government's Local Growth Fund for implementation over four years 2015-2019, including canal towpath improvements and off-road routes across the four boroughs 4. Local Growth Fund (LGF) funded '*Access to Growth'* to deliver smaller schemes (above £500,000 but less than £5,000,000) which improve access to employment sites and strategic centres including sustainable transport across Black Country.	

Low Carbon Strategic Transport Projects (individual councils)	
Wolverhampton has a number of existing initiatives to promote sustainable and low carbon transport including: 1. Staff Travel Plan – adopted September 2014 - aimed at encouraging council staff to car share, use public transport, walk or cycle to work 2. .Active Travel Strategy - under development, due for completion February 2015 – aimed at promoting healthy travel within the city, in particular walking and cycling.	Walsall has identified potential of cycle path with heat networks utilising canal towpath. Sandwell has identified opportunities for LED street light upgrade & canal-side solar lighting, canal towpath improvements connected to Smart Grid development & green bus shelters. Sandwell has also identified a potential project for canal towpath improvements, partly in conjunction with installation of cabling for a Smart Energy grid proposal
There is a range of potential Smart Mobility projects which could be funded by ESIF under the low carbon strategy. These include one for Wolverhampton city centre encompassing the new developments by the University of Wolverhampton at Springfield Brewery & including sustainable transport links. Linked to this is a Connected Places initiative to improve way-finding and the public realm in Wolverhampton city centre	
Urban Traffic Control	
As part of a £26.6 million project funded by the Department for Transport, the seven West Midlands metropolitan councils are introducing smart technology for traffic control by moving traffic signals, cameras and variable message systems (VMS) to digital technology. Wolverhampton is ahead of other councils and is due to complete the transfer by summer 2015. From 5/1/15, the management of Walsall's UTC has been merged with that for Wolverhampton and Dudley, meaning an integrated system for managing the three council's UTC is run from Wolverhampton. In 2015 Wolverhampton council also introduced automatic number plate recognition (ANPR) for journey time monitoring and bus lane enforcement in the city.	
Low Emission Towns and Cities Partnership (LETCP)	
he West Midlands Low Emissions Towns and Cities rogramme (LETCP) was established in 2011 and	

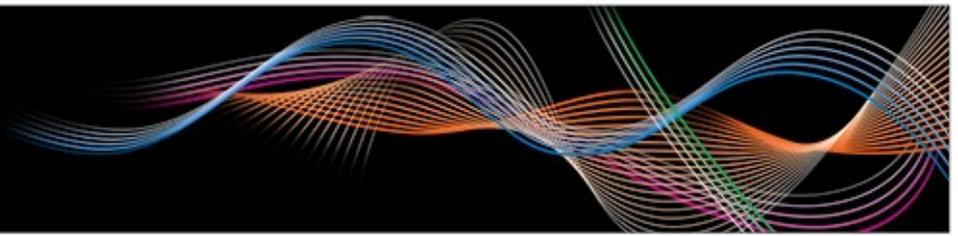|	
volves joint working between the seven West Midlands councils and the ITA/Centro. Walsall is the lead authority for the LETCP which has produced Best Practice Guidance on Procurement, feasibility studies on low emission zones and is working on a Low Emission Strategy for the West Midlands. LETCP has also produced Best Practice Air Quality Planning Guidance, led by Dudley council, which the Black Country councils are in the process of adopting as a joint Supplementary Planning Document. This would mean the other three councils following Dudley in requiring electric vehicle charging infrastructure to be installed in new developments.	
Low Emission Bus Delivery Plan	
Transport for West Midlands on behalf of the Combined Authority has led on production of a Low Emission Bus Delivery Plan for the metropolitan area. The delivery plan was launched in July 2016 provides a strategy for the roll out of low emission buses and related infrastructure.	
Ultra Low Emission Vehicles (ULEVs)	
1. Wolverhampton and Walsall councils are variously exploring opportunities to promote low emission vehicles (LEVs) including: • Installing electric vehicle charging points in car parks, on the highway and in new developments • Including LEV vehicles in the council's fleet • Promoting joined up charging infrastructure across the West Midlands • Supporting the vehicle supply chain and the local automotive industry • Applying for grant funding to schemes run by the Office of Low Emission Vehicles (OLEV) 2. Dudley already requires electric vehicle charging points in new developments. 3. There is potential for a ERDF bid to support workplace charging infrastructure, an area which is currently not supported by OLEV.	otential projects for the romotion of ultra low emission ehicles (ULEVs) include ubmissions to Office of Low mission Vehicles (OLEV) for nding for a range of initiatives overing areas such as stalling charging frastructure, incorporating EV vehicles into fleets and upporting the vehicle supply hain. These are taking place ther by individual councils or intly with others and ITA/ entro, as appropriate. There ay also be potential for a RDF bid to support workplace harging infrastructure which is urrently not supported by LEV.
Internet of Things	
Government announced in July 2015 a competition	

for £10 million of funding for development of the capability of the Internet of Things to deliver environmental improvements, economic opportunities, and more efficient and effective delivery of services such as transport, health care and energy. A bid was submitted in September 2015 for the West Midlands ITA, led by the ITA's Connected Communities Group, but was unsuccessful.	

Smart Living

5   This covers a range of lifestyle, behavioural and cultural initiatives and therefore again benefits wellbeing and quality of life. Housing providers are looking at smart technology around assisted living, enabling older people to live for longer in their home. The NHS is using smart technology to enable people to control their health condition at home and be monitored remotely, reducing costs and demand for public services.

Smart Living Projects	
Past & Existing (past, current, under development or feasibility studies)	**Potential** (including identified gaps)
Black Country Garden City	
Black Country Endless Garden Village; Emerging from the Black Country Garden City concept. Promoting housing development in the Black Country under the garden village concept involving a high standard of design, layout & supporting green & blue infrastructure. Potential pilot area in Dudley Port under consideration incorporating areas such as: 4. Improved building designs that can take solar panels, reduce the potential for shading & are orientated with of windows to maximise solar gain 5. Designing in a contemporary feel to new developments, while respecting local character Community integration incorporating things such as food growing, allotments, linkages to public spaces/recreation areas	
Eco Homes	
EcoPod Homes are looking at two sites for 50 eco homes (see above remanufacturing facility)	

Smart People

6   This focusses primarily around digital literacy, wellbeing and achieving a positive impact on education performance, chances of getting into employment and boosting lifetime earnings. It can also, however, enable people to make savings on their energy use by swapping providers and the introduction of smart meters.

Smart People Projects	
Past & Existing **(past, current, under development or feasibility studies)**	**Potential** **(including identified gaps)**
Training and Education	
An innovative technology social platform, Slenky, has teamed up with Walsall Housing Group to give talented young people placements, internships and apprenticeships in areas including fashion, technology, arts, creative and music industries, starting in summer 2015.	Wolverhampton's City Learning Quarter will bring together Central Library, Adult Education and the City Of Wolverhampton College to offer technical and academic education, adult education / vocational training, employability and central library services in an enabled, coherent and coordinated offer that improves digital literacy and employment .
Collective Fuel Switching	
Walsall and Wolverhampton councils have also facilitated collective fuel switching initiatives to help residents reduce their energy costs. Up to the end of May 2015 over 1,116 Walsall residents have switched through one of the collective switching schemes promoted by the council providing them with a total estimated £270,926 off their annual bills.	

Smart Governance

7   Activities are currently underway within individual councils which encourage and support public participation in local democracy.

APPENDIX 2 EU SMART CITY FRAMEWORK

The EU framework comprises six categories of projects and initiatives. Below are the six categories, with explanatory comments taken from the report "Mapping Smart Cities in the EU" (RAND Corporation, for the European Parliament, January 2014):
http://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL-ITRE_ET%282014%29507480

Smart Governance

- participation of citizens through information and communications technology (ICT)-enabled platforms

- transparency of city decision-making and enabling better feedback from citizens to civil servants

- citizen and business participants set the agenda

- open data strategies and platforms, crowdsourcing and co-creation platforms, etc.

- open data projects

– include citizen or user competitions to develop apps and other digital services (often reusing public data)

– are regarded by participants and government officials as providing better Smart Governance and Smart Economy outcomes than conventional approaches

- tend to have only modest capital costs, most of which are already sunk

– primary cost associated with such projects is the opportunity cost of time, which is provided by the participants

- joined up within-city and across-city governance, including services and interactions which link and […] integrate public, private, civil […] organisations so the city can function efficiently and effectively as one organism

- main enabling tool to achieve this is ICT (infrastructures, hardware and software), enabled by smart processes and interoperability and fuelled by data

- International, national and hinterland links are also important (beyond the city), given that a Smart City could be described as quintessentially a globally networked hub

- public, private and civil partnerships and collaboration with different stakeholders working together in pursuing smart objectives at city level

- Smart objectives include transparency and open data by using ICT and e-government in participatory decision-making and co-created e-services, for example apps

- can also orchestrate and integrate some or all of the other smart characteristics

Smart Economy

- e-business and e-commerce

- increased productivity

- ICT-enabled and advanced manufacturing and delivery of services

- ICT-enabled innovation, as well as new products, new services and business models

- smart clusters and eco-systems (e.g. digital business and entrepreneurship)

- local and global inter-connectedness and international embeddedness with physical and virtual flows of goods, services and knowledge

Smart Mobility

- ICT supported and integrated transport and logistics systems

- sustainable, safe and interconnected transportation systems can encompass trams, buses, trains, metros, cars, cycles and pedestrians in situations using one or more modes of transport

- prioritises clean and often non-motorised options

- Relevant and real-time information accessed by

– the public, in order to save time and improve commuting efficiency, save costs and reduce CO_2 emissions

– network transport managers, to improve services and provide feedback to citizens

- Mobility system users might also provide their own real-time data or contribute to long-term planning

Smart Environment

- Smart energy including renewables, ICT-enabled energy grids, metering, pollution control and monitoring, renovation of buildings and amenities, green buildings, green urban planning

- Resource use efficiency, re-use and resource substitution

- Urban services such as street lighting, waste management, drainage systems, and water resource systems that are monitored to evaluate the system, reduce pollution and improve water quality

Smart People

- e-skills

- working in ICT-enabled working

- access to education and training

- human resources and capacity management

- an inclusive society that improves creativity and fosters innovation

- enable people and communities to themselves input, use, manipulate and personalise data, for example through appropriate data analytic tools and dashboards, to make decisions and create products and services

Smart Living

- ICT-enabled life styles, behaviour and consumption

- healthy and safe living in a culturally vibrant city with diverse cultural facilities

- good quality housing and accommodation

- high levels of social cohesion and social capital

black country
consortium

enabling growth, in partnership