



# Birmingham Low Carbon Transport Strategy

January 2012

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## Notice

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# Foreword



**Councillor Paul Tilsley**

Deputy Leader of the Council and  
Chairman Cabinet Committee  
(Climate Change & Sustainability)



**Councillor Timothy Huxtable**

Cabinet Member for Transport,  
Environment & Regeneration

In this challenging time, maintaining a successful and sustainable transport network will be one of the vital components in growing and strengthening the economy without losing sight of our environmental responsibilities. We want to ensure Birmingham sustains itself as a vibrant and thriving economic hub and a beacon of low carbon travel. We will therefore strive to ensure that the planning, infrastructure and technology is there to enable everyone to get about in a more carbon efficient way.

The global issue of climate change means that these actions are required and the Council is committed to ensuring that sustainable transport, carbon awareness and smarter choice travel principles are at the heart of people's everyday lives.

This strategy shows how the transport network will face the challenges while at the same time make significant improvements to the quality of life for all who live and work in our great global city with a local heart.



# Executive Summary

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The **Birmingham Low Carbon Transport Strategy** has been developed to help address the City's overarching target to reduce CO<sub>2</sub> emissions per capita by 60% from 1990 to 2026. In 2009, Birmingham contributed around 5,785 kilotonnes (kt) of CO<sub>2</sub>, with road transport contributing approximately 25%.

**The vision is to reduce the environmental impact of the city's mobility needs by providing an efficient, safe and easy to use LOW CARBON transport system which will stimulate economic growth by providing high quality transport choices.**

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This vision will be delivered through four key themes:



**Smarter Choices** – Providing and promoting a package of techniques (smarter choices) for influencing people's behaviour towards more sustainable modes. Changing travel behaviour can reduce transport carbon emissions, improving quality of life and reducing congestion in the city. These choices often include interventions which are easy, do not restrict choice and work with human behavioural tendencies to encourage "good" choices (referred to as "Nudge").



**Smarter Infrastructure** – Promoting growth through the efficient use of existing transport networks, implementing the Vision for Movement, resulting in carbon efficient transport networks.

Whilst this is a City Council document, the role of partners, including the Birmingham Environment Partnership (BEP) and Centro, is expected to be vital in achieving the successful delivery and implementation of the vision. The impacts of this Strategy will be monitored through the BEP's Annual Carbon Savings reporting.



**Smarter Technology** – Minimising the impact of road transport by continuing to invest in electric and other low emission vehicles and by providing continued support to develop the use of Intelligent Transport Strategy and information technologies.



**Effective Carbon Management Planning** – Considering more comprehensively how the Council's transport and planning services are delivered in a sustainable way, from inception through to implementation, and how wider partnerships can help to reduce carbon impacts on the city.

The Strategy outlines a framework of actions which will contribute towards achieving this vision and reducing the carbon footprint of transport in Birmingham. The successful delivery of the Strategy will rely on both high impact actions and low cost lower impact interventions.



# 1. Introduction

The science of climate change and its links with carbon emissions are now well established and detailed in various published studies, including the 2007 Stern Review of the Economics of Climate Change<sup>01</sup>. Carbon dioxide (CO<sub>2</sub>)<sup>02</sup> is one of several greenhouse gas emissions, which are contributing to increases in global temperatures which in turn will lead to major changes to the world's climate.

The total CO<sub>2</sub> emissions for Birmingham in 2009 were around 5,785kt CO<sub>2</sub>. This is a 12% reduction from the 2008 total of 6,561kt CO<sub>2</sub>. Road transport accounts for approximately 25% of the total carbon emissions. Birmingham contributed 15% of the overall 38,651kt CO<sub>2</sub><sup>03</sup> emissions for the West Midlands; more than any other local authority in the region.

The City of Birmingham faces the complex challenge of reducing CO<sub>2</sub> emissions and has therefore set an overarching target of a 60% reduction in CO<sub>2</sub> emissions per capita from 1990 to 2026, as set out in the Birmingham Climate Change Action Plan 2010<sup>04</sup>. There is also an interim target of a 40% reduction by 2020 and yearly targets to meet in order to reach the overarching target.

For 2010-11, the carbon reduction target for Birmingham was 130kt of CO<sub>2</sub>. The Birmingham Environmental Partnership Carbon Saving annual report 2010-11 states that this was achieved with an actual saving of 155kt achieved. These savings made were primarily through decreases in energy consumption; savings made through transport only contributed a small proportion of the savings. A target of 150kt of further savings is set for 2011-12.

The **Birmingham Low Carbon Transport Strategy** outlines how the City will continue to work towards its target for carbon reduction and provides a local framework for improvements to stimulate growth while cutting emissions, improving connectivity and reducing congestion. Not only will this provide a greener and safer place to live; it will also generate health benefits for Birmingham's citizens.

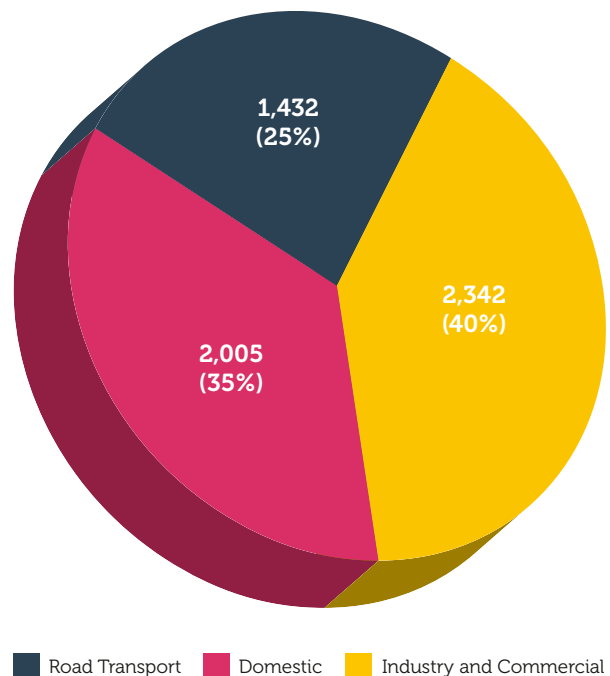


Figure 1 – Estimated Carbon Emissions for Birmingham by Sector (2009)



<sup>01</sup> Available at [www.hm-treasury.gov.uk/stern\\_review\\_report.htm](http://www.hm-treasury.gov.uk/stern_review_report.htm)

<sup>02</sup> CO<sub>2</sub> emissions make up the largest component of greenhouse gas emissions (88%)

<sup>03</sup> DECC UK emissions statistics, Local and regional CO<sub>2</sub> emissions estimates for 2005-2009 (published 15 Sep 2011)

<sup>04</sup> Available at <http://www.birmingham.gov.uk/cs/Satellite/ccap?packedargs=website%3D4&rendermode=live>

# 2. Vision

Our vision is to reduce the environmental impact of the city’s mobility needs by providing an **efficient, safe and easy to use LOW CARBON** transport system which will stimulate economic growth by providing high quality sustainable transport choices.

This vision will help to ensure transport’s contribution towards the city achieving its overarching aim of reducing CO<sub>2</sub> emissions by 60% from 1990 to 2026. The vision will be delivered through four key themes as shown in **Figure 2** and **Figure 3**.

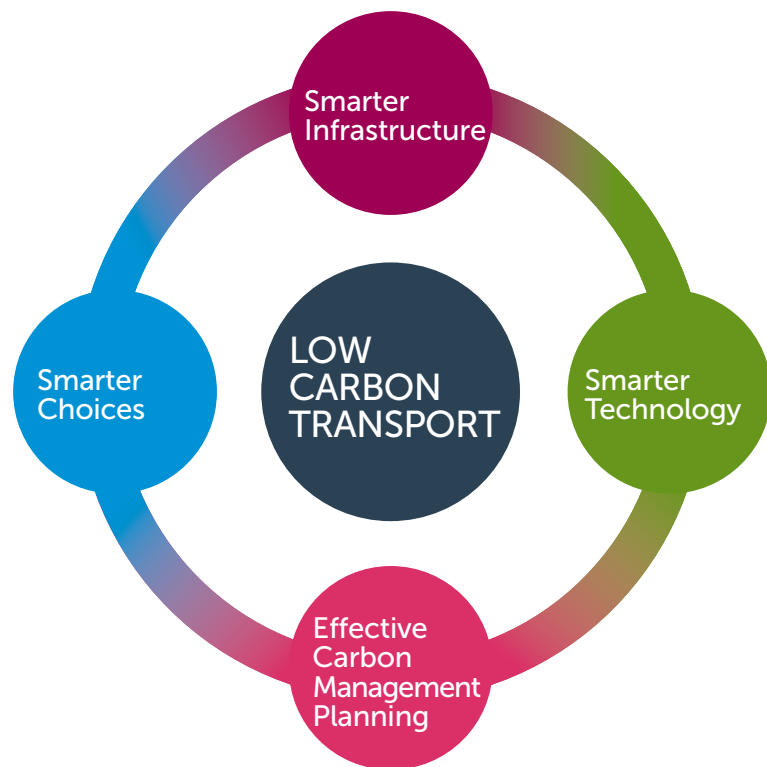


Figure 2 – Vision: Key Themes

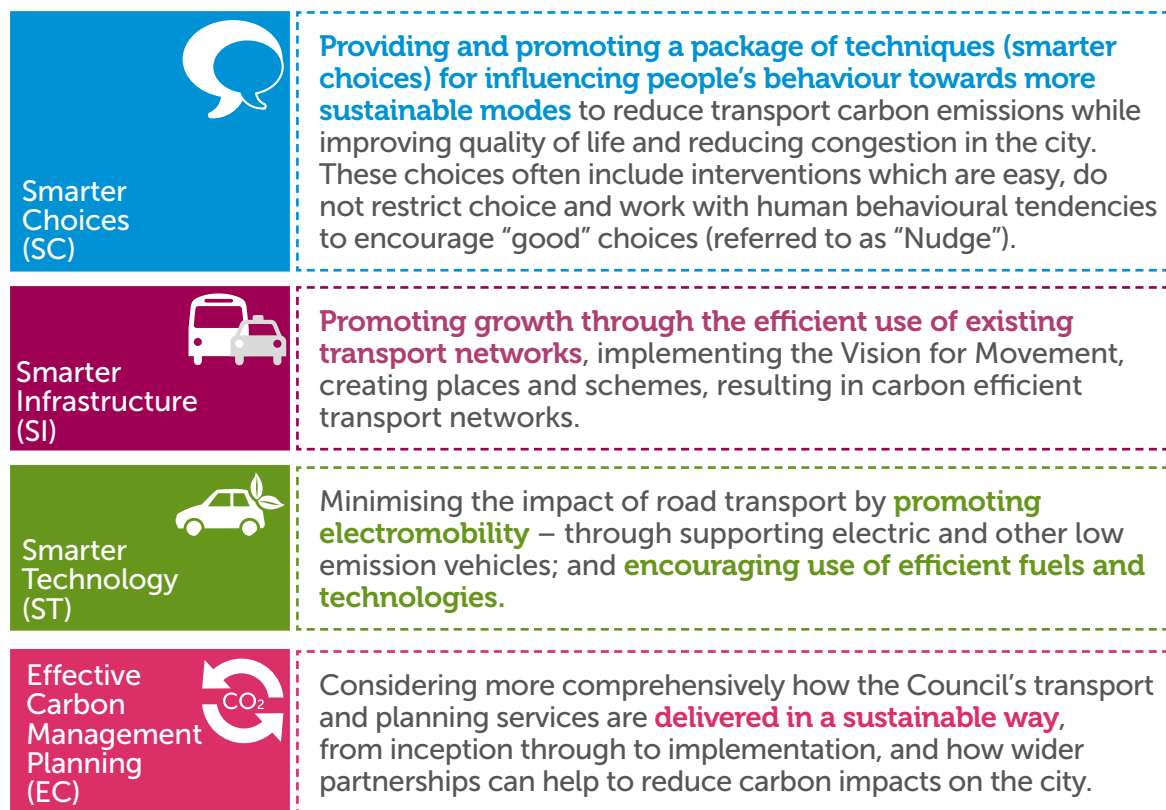


Figure 3 – Summary of Key Themes

# 3. Context

Climate change is a global concern, with policies relating to carbon reduction produced at international, national and local levels. This section provides details of the key issues emerging from these and linkages to the **Birmingham Low Carbon Transport Strategy**.

## International Policy

The **Kyoto Protocol** has been ratified by 183 countries, including the United Kingdom, and came into force in 2005. All partaking nations committed themselves to tackling global warming and greenhouse gas emissions with an agreed target of average reduction of greenhouse gas concentrations in the atmosphere of 5.2% from 1990 levels by the year 2012.

With the Kyoto Protocol expiring in 2012, global action on climate change was agreed by a majority of leaders and countries as part of the "**Copenhagen Accord**". The deal, agreed by 49 countries, endorsed the limit of 2°C warming with participating countries committing to make specific commitments to tackle emissions.

At the 2009 **G8**<sup>05</sup> summit, the 8 nations agreed to aim to limit global warming to 2°C and recognised that this would

mean achieving an 80% reduction in carbon emissions from developed countries by 2050 (on 1990 levels).

The **European Union (EU)** is committed to reducing greenhouse gas emissions by 20% by 2020 (on 1990 levels) with on-going discussions to seek agreement on a more demanding target (30% cut in emissions by 2020). To achieve the 20% reduction target by 2020, the EU has agreed a package of interventions and sector specific targets.

## UK Policy

The Government recently released the **Creating Growth, Cutting Carbon White Paper**<sup>06</sup> which sets out a vision for a transport system. It outlines that, by improving transport links and targeting projects that promote green growth, a dynamic low carbon economy can be created.

The White Paper details how local authorities can deal with transport issues in their local areas and achieve a reduction in carbon emissions. This includes areas such as greater financial independence to local authorities, promotion of sustainable transport choices, improving public transport and greater partnership working. Birmingham Low Carbon Transport Strategy incorporates these measures and a list of actions has been created.

In October 2006, the **Stern Review** on the economics of climate change<sup>07</sup> was published. Stern recommended international action to keep the global average

temperature rise below 2°C<sup>08</sup>. The Stern Review had a significant influence on the Climate Change Bill proposed in 2007, which became law as the **Climate Change Act in 2008**. The headline target included in the Act is an 80% cut in greenhouse gas emissions by 2050 (on 1990 levels) across all sectors of the UK economy. The Act also established the Committee on Climate Change (CCC) as an independent expert body to advise the Government on the level of carbon budgets and on where cost-effective savings can be made.

In July 2009, the Government published the **UK Low Carbon Transition Plan**<sup>09</sup>, which sets out how the UK will meet the interim target of a 34% cut in emissions by 2020 (on 1990 levels).

The Department for Transport's **Carbon Reduction Strategy (CRS)** states that "*decarbonising transport is an essential part of building a low carbon future for Britain*". To achieve this objective, it proposes to:

- support a shift to new technologies and fuels;
- promote lower carbon choices; and
- make use of market mechanisms to encourage a shift to lower carbon transport.

Whilst national policy will continue to evolve with further guidance issued, it is certain that sustainability and the need to lower carbon impacts will continue to be at the forefront of the Government's ambitions.

<sup>05</sup> The G8 countries are Canada, France, Germany, Italy, Japan, Russia, the United Kingdom and the United States.

<sup>06</sup> Creating Growth, Cutting Carbon (January, 2011) <http://www.dft.gov.uk/pgr/regional/sustainabletransport/pdf/whitepaper.pdf>

<sup>07</sup> The Economics of Climate Change, The Stern Review, N. Stern, 2006

<sup>08</sup> The Stern Review includes evidence that this is equivalent to stabilising atmospheric concentrations of greenhouse gases at 450-550 ppm CO<sub>2</sub>. Evidence published since the Review suggests however that those concentrations might need to be even lower to maintain this target. For example the IPCC's Fourth Assessment Report (AR4), released in 2007, suggests that stabilisation at 400 ppm CO<sub>2</sub> could lead to a temperature rise of up to 2.5°C.

<sup>09</sup> UK Low Carbon Transition Plan, DECC, July 2009

## Local Policy

Birmingham's emerging **Core Strategy** is the City's key planning document and has the need for carbon reduction and sustainability at its heart. The Core Strategy provides vision and direction to guide the future development of Birmingham. The vision identifies the need for sustainable growth in order to meet the target of a 60% reduction in tonnes of CO<sub>2</sub> per person from 1990 to 2026. The Core Strategy states a key factor in minimising the future carbon footprint will be reducing car dependency and ensuring other transport infrastructure and public transport services are continually improved. Low carbon transport will also provide subsidiary benefits in terms of economy, health, sustainability and air quality.

Sustainability and the creation of a low carbon society are also included in the **Birmingham Big City Plan**<sup>10</sup> which provides a planning and regeneration framework for Birmingham City Centre and the **Birmingham Climate Change Action Plan 2010+**<sup>11</sup>. The Action Plan provides an implementation framework that identifies key priority areas to focus the City's climate change reduction aspirations. This includes 'Low Carbon Transport' with a particular focus on sustainable travel and development of transport technologies. To encourage the use of travel modes which have a lower carbon impact on the environment, the City Council promotes local strategies for walking and cycling, including the 2011 cycling strategy **Bike Birmingham**.

As emissions from transport are one of the main contributors to carbon emissions, the City's **Air Quality Action Plan (AQAP)**, originally produced in 2006, also provides important guidance for this Low Carbon Transport Strategy. Since Jan 2003, the whole of Birmingham has been a designated Air Quality Management Area and work has been ongoing over the last decade to address these issues. The AQAP was updated in 2011. The AQAP sets out 12 key actions to concentrate on which closely relate to the content of this Strategy.

In the local region, reducing the carbon impact of transport networks is one of the primary aims of the integrated transport authority, Centro, and the **West Midlands Local Transport Plan 3**<sup>12</sup> (LTP3) (2011-16). The LTP3 prioritises providing sustainable travel and transport choices with improved connectivity within and between the centres that comprise the Metropolitan Area. Investment in improved technology and local accessibility are highlighted as means of reducing the need to travel, whilst supporting economic growth, within a low carbon environment. Targets within LTP3 closely align with the vision and objectives of this strategy, especially those which aim for a 10% reduction in CO<sub>2</sub> emissions per person from transport between 2010/11 and 2015/16 and a net reduction in NO<sub>2</sub> emissions in areas where levels are predicted to exceed 40µg/m<sup>3</sup> between 2008/9 (baseline) and 2015/16. The **West Midlands Freight Strategy**, currently being developed by Centro, also emphasises the importance of reducing carbon emissions through its key objectives.

The City Council along with the other West Midlands Districts is part of a Low Emissions Towns & Cities Programme funded by Defra. The LET&C Programme is scheduled to run until December 2012. The overarching aims of the LET&C Programme are to:

- Improve air quality through the reductions in road transport emissions, and simultaneously reductions in carbon emissions;
- Establish best practice policies and measures for the West Midlands, creating transferable models for other towns and cities;
- Improve health; and
- Maximise opportunities for economic development through the transition to a green economy.



The aim is to develop an overarching Low Emission Strategy (LES) for the West Midlands, incorporating best practice policies and measures that effectively reduce road transport emissions. The strategy will focus on policy areas that can achieve tangible reductions in road transport emissions, including transport and land-use planning, procurement, economic development and bus and freight quality partnerships.

The commitment of Birmingham City Council to addressing carbon impact is reinforced by its signing of the **Nottingham Declaration on Climate Change**<sup>13</sup>. This recognises that climate change is likely to be one of the key drivers of change within our community this century. Moving forward, the Low Carbon Transport Strategy will guide other emerging City Council documents, such as the **Places for the Future Supplementary Planning Document (SPD)**. The SPD is currently being developed and has particular links to promoting sustainable transport to tackle climate change.

<sup>10</sup> Birmingham Big City Plan (September 2010) <http://bigcityplan.birmingham.gov.uk/download-the-plan/>

<sup>11</sup> Birmingham Climate Change Action Plan 2010+ (<http://www.birmingham.gov.uk/cs/Satellite/ccap?packedargs=website%3D4&rendermode=live>)

<sup>12</sup> <http://www.centro.org.uk/LTP/LTP.aspx>

<sup>13</sup> The Nottingham Declaration on Climate Change <http://www.energysavingtrust.org.uk/nottingham>







# 4. Objectives and Key Actions

## Smarter Choices (SC)



Providing and promoting a package of techniques (*smarter choices*) for influencing people's behaviour towards more sustainable modes. This will be achieved through the following objectives and actions:



### SC-1: Developing and implementing travel planning initiatives to reducing dependency and use of the private car.

Continued promotion of **School Travel Plans (STPs)** to encourages greater use of cycling, walking and public transport for trips to/from schools. STPs will typically include promotional and education activities, cycle proficiency training for children (e.g. Bikeability), road safety training, local infrastructure improvements (e.g. cycle parking) and transition training (support for young people's move from primary to secondary school).



Continued promotion of **Workplace Travel Plans (WTPs)** to reduce the reliance of commuters on cars and to promote travel to/from work/local centres by cycling, walking and public transport . WTPs will typically include site specific advice, promotional and educational initiatives, proficiency training, travel awareness events and small scale infrastructure improvements.

Continued support to Centro and other partners in promoting **Rail Station Travel Plans (RTPs)** to improve access and promote sustainable travel to/from rail stations.



Continued promotion of **Personalised Travel Plans /Community Travel Plans** in local communities and around local centres. This can include providing cycle training, bike maintenance advice, travel planning advice and small scale infrastructure improvements. Also integrate with local health organisations and sustainable travel charities, to support a range of community-based initiatives including active travel health prescriptions, utility and leisure walking programmes.

Continuation of initiatives to reduce dependency on cars, such as **Car Clubs** and **Car Sharing**. Car club fleets are often more carbon efficient than most private cars and reduce pressure for parking.

### SC-2: Promoting the use of walking and cycling to complement targeted travel planning initiatives.

Providing suitable support to encourage walking and cycling as an alternative to some car journeys through promotional events and education activities, cycle hubs (providing bike storage, hire, maintenance advice, etc) and cycle proficiency/confidence training.

Continued working with Centro to provide online **journey planning information for walking and cycling trips** through websites such as [www.transportdirect.info](http://www.transportdirect.info) (for multi-modal travel information) and [Walkit.com](http://Walkit.com) (Refer to SC-3).

Continued updating and promotion of hard copies and online versions of city-wide and local area **walking and cycling maps** (Refer to SC-1).

Review and monitoring the progress of the **Bike Birmingham Cycling Strategy** (2011).



### SC-3: Improving the attractiveness and perception of public transport to promote their use.

Working with Centro and other partners towards creating a more seamless end-to-end journey for passengers including **smartcard ticketing**, accurate **Real Time Passenger Information (RTPI)**, **branding** of public transport and prioritising public transport as appropriate and feasible.

Working with Centro and other partners to develop proposals for **feeder bus services** to rail stations to make interchange between modes more attractive, accessible, safe and secure (Refer to RTPs in SC-1).

Continued working with Centro to provide **journey planning** information for public transport trips through websites such as [www.help2travel.co.uk](http://www.help2travel.co.uk), Network West Midlands ([www.networkwestmidlands.co.uk](http://www.networkwestmidlands.co.uk)), and Travelinmidlands ([www.travelinmidlands.co.uk](http://www.travelinmidlands.co.uk)) (Refer to SC-2).

Working with partners as a part of Centro's **Transforming Bus Travel (TBT)** initiative to modernise Birmingham's bus travel. TBT aims to deliver a range of quality and performance improvements including high vehicle standards, new vehicle technologies, infrastructure investment, enhanced passenger information and promotion; all increasing customer satisfaction and increased bus patronage. **Birmingham City Centre Interchange project (BCCI)** is a key aspect of TBT and aims to enhance services to better meet passenger needs, enhance the efficiency of bus operations and be practical in traffic engineering terms. Passenger facilities and information systems are being developed to align with



wayfinding improvements being implemented as a part of the **Birmingham Interconnect** project. The City Council and Centro are implementing a bus Quality Partnership Scheme in the city centre. This will set standards for buses entering the city centre including vehicle emissions.

**Better access for mobility impaired** users to public transport services with equal access to be promoted for all users.

Working with partners to support and expand the **Safer Travel Police Partnership** (West Midlands Police, Safer Birmingham Partnership, bus operators and Centro) in targeting key hot spots to improve the travelling experience of bus users, pedestrians and cyclists (Refer to SC-2).

### SC-4: Raising awareness of the benefits of sustainable modes by using a co-ordinated marketing and communications campaign.

Raised awareness through **city-wide marketing campaign** to promote the use of smarter choices. Smarter choice promotional campaigns will be run in part, under the overarching umbrella of wider marketing of promoting a low carbon transport society including promotion of low carbon vehicles, fuels and technologies.

Capitalise on established brands such as **TravelWise** and **Be Active** to support and raise awareness of smarter choices.

## ECO DRIVING TOP TIPS

- 2000** Change gear at 2000 rpm for a diesel engine (or 2400 rpm for a petrol engine)
- 0** Don't warm the engine even in Winter
- 30** Check the tyre pressure every 30 days
- 5** Limit the difference between the outside and the inside temperature to 5 degrees
- 60** When stopping for more than 60 seconds switch off the engine

### SC-5: Promoting a package of measures to encourage environmentally friendly driving

Promotion of initiatives such as **'Eco-Driving'** to encourage driving behaviour which minimises carbon emissions. Successful initiatives can reduce fuel consumption and emissions by around 10-15%. Promotion will be in partnership with Driver and Vehicle Licensing Agency (DVLA) and the West Midlands Police.

Target **Light Commercial Vehicle (LCV) drivers** for promoting **safe and fuel efficient driving skills** through programmes like Safe and Fuel Efficient Driving (SAFED).







## Smarter Infrastructure (SI)



Promoting growth through the efficient use of existing transport networks, implementing the Vision for Movement, creating places and schemes, resulting in carbon efficient transport networks. This will be achieved through the following objectives and actions:

### SI-1: Maximising the efficient and reliable operation of the current transport network for all traffic by targeting key delay points across the highway network.

Implementation of **infrastructure improvements at key strategic junctions** as well as a package of **'small scale' measures** to improve network efficiency for all users. In addition to this, ensuring the delivery of the congestion management targets identified in the **West Midlands Targeted Congestion Delivery Plan** to result in reduced delays and carbon emissions.

Targeted **network efficiency improvements**<sup>14</sup> through a review of the need for and type of **traffic signals** with the potential to minimise delays in the network. This will result in energy consumption savings due to fewer signals being operated.

**Review and improve signage**, as appropriate, to minimise the adverse impacts of traffic. It is proposed to provide greater freedom to local authorities to set roads classifications and routes on the primary route network and to work with SatNav companies and phone application developers to guide drivers on most efficient routes<sup>15</sup>.

Use of **intelligent traffic management systems** to optimise highway capacity and prioritise movement by public transport, cycling and walking throughout Birmingham. Birmingham's **Intelligent Transport Systems Strategy (December 2010)** provides a strategic framework for promoting intelligent traffic management systems at a city wide level. A major scheme bid was approved in 2008 for the West Midlands Urban Traffic Control systems.

### SI-2: Maximising the potential and attractiveness of the city's walking and cycling opportunities and networks.

Delivery of integrated transport enhancements on major corridors based on the principles of **'Smart Routes'**. This approach rationalises the competing needs of users; balancing the needs of those who use routes as travel links and those who live, work and shop within the corridors.

Targeted **investment in high quality walking and cycling infrastructure** between the main transport interchanges and also to the City Centre. (Refer to SI-8).

Enhance the overall quality of **public realm** to encourage walking and cycling, including **de-cluttering** to remove unnecessary signs, posts and other street furniture.

Provide **high-quality wayfinding** information to assist people on bike or on foot to navigate around Birmingham.



### SI-3: Improving the efficiency of the movement of freight, servicing arrangements and waste collection arrangements to minimise the carbon impact.

Consider the development of **consolidation centres** and the **use of low / zero emissions vehicles** in the City Centre to reduce the volume and carbon emissions arising from service vehicles.

Consider the introduction of **Low Emission Zones** (similar to that implemented in London) to encourage the freight fleet to become cleaner.

**Review and improve signage to key freight destinations** as appropriate, to ensure that traffic follows appropriate routes. This will help to minimise the adverse impacts of road freight traffic (Refer to SI-1).

Provide suitable support to enable **rail freight** to continue to play a key role in Birmingham, maximising its carbon benefits compared to road haulage.



<sup>14</sup> As a part of PFI contract, Amey is working to improve carbon efficiency of the network.

<sup>15</sup> Road Network Policy Consultation January 2011 - Consultation on proposed arrangements for devolving responsibility on the classification of local roads closed in May 2011.



#### SI-4: Improving the quality and capacity of the public transport network through the implementation of projects.

Review the bus network as a part of TBT and implement related projects which emerge to provide a high quality integrated public transport system. The review aims to not only serve existing communities but also consider access by public transport to future developments (Refer to SC-3).

Continued development and expansion of rapid transit corridors within Birmingham. This includes **Birmingham Sprint** and **Midland Metro**. These are the main features of the rapid transit network proposed in **Centro's Integrated Public Transport Prospectus**.

Delivery of proposals to improve bus facilities, including a new **interchange on Moor Street Queensway**.

Upgrade the quality of **waiting environments at bus stops and rail stations**, including providing real time information along all major bus corridors.

Maximise opportunities to increase capacity in the rail network including working with Centro on the construction of the Camp Hill chords to open passenger stations along the line between King's Norton and Snow Hill, and add capacity to services between Birmingham and Tamworth.

Work with partners **to influence investment** to boost service frequency, quality and journey times of **rail services**. Investment would target rolling stock upgrades, electrification of lines and increases in track capacity.

Delivery of major Birmingham projects such as **New Street Station** enhancements, **Midland Metro extension**, and potential **High Speed Rail (HS2)**.



#### SI-5: Improving the efficiency of parking in high demand areas, including both within and outside the City Centre.

Application of the council's **Parking Policy and Parking Guidelines SPD** to guide the provision and management of parking and to support the management of the City's highway capacity.

Restricting the amount of additional temporary car parking sites particularly in the city centre.

Continued development of **Controlled Parking Zones (CPZs)** and **Resident Parking Schemes (RPSs)** in the City Centre and in priority locations across the City. Parking controls can help to manage demand, reduce congestion, and encourage mode shift. Restrictions in residential areas, when supported by smarter choices initiatives, can also reduce car dependency, bringing about a longer term shift towards lower car ownership.



#### SI-6: Minimising the impact of the aviation sector by improving surface access to Birmingham Airport.

Enhance the **quality of public transport** to Birmingham Airport by making **improvements to the fleet** so that it is suitable for its purpose, such as increased luggage space.

The **extension of the runway at Birmingham Airport** would permit a wider range of long haul flights which could mean people choose to fly from Birmingham rather than other UK airports. This will potentially result in savings in annual road vehicle kilometres travelled and the associated carbon emissions.

Working with partners to build on the **improvements to the road system around Birmingham Airport** as a part of the ANITA scheme (Airport and NEC Integrated Transport Access).



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### SI-7: Installing LED lighting technology to reduce the carbon impact of transport lighting.

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Implementing of a masterplan to provide the world's most advanced LED lighting system across the whole of Birmingham, to reduce the level of carbon impact by 50%.

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### SI-8: Providing the suitable infrastructure to support the smarter choices initiatives and marketing campaigns.

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**Targeted investment in walking and cycling infrastructure** to enhance the quality of pedestrian and cyclist environments including improvements to lighting, surfaces, wayfinding and crossings. This includes the extension of cycling and walking routes, dedicated on-street cycle lanes, local safety schemes and better connectivity to the canal network. Initiatives can include consideration of **Home Zones, Safer Routes to School, 20mph Zones**.

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Providing additional **cycle parking** throughout the City, including establishing secure **cycle hubs** around the City which will provide cycle storage, hire, repair and changing facilities.

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Working with Centro and other partners to explore opportunities to expand **Park & Ride** provision.

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Provide required infrastructure to encourage walking and cycling around local centres and hubs (e.g. seating, cycle parking, information points).

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**SI-8** closely relates to the **Smarter Choices** actions set out on pages 10 and 11 of this Strategy. The need for suitable infrastructure to support smarter choices initiatives is vital to ensuring that potential benefits are maximised.







## Smarter Technology (ST)



Minimising the impact of road transport by promoting electro mobility - through supporting electric and other low emission vehicles; and encouraging the use of efficient fuels and technologies, which will be achieved through the following objectives and actions:

### ST-1: Continuing to invest in low carbon fuel and vehicle technology to encourage the use of low carbon and electric vehicles, to minimise the carbon impact on the network.

Continued support to Birmingham's universities and businesses to **increase the frequency of use of electric vehicles** as part of the **CABLED** Consortium Project.

Promote the vision of Birmingham's emerging Electric Vehicle Infrastructure Strategy to develop a **network of electric charging points** across Birmingham. This includes 64 new charging points spread across the city in City Council car parks, leisure sites, on-street and in Centro Park & Ride car parks.

Introduction of more **fuel efficient buses** into the region's network. This is initially through **hybrid buses** to be introduced to the 22 and 23 routes in 2012, utilising funds secured by National Express West Midlands and Centro through the Department for Transport's Green Bus Fund. (Refer to SC-3).

All **vehicles procured by the Council** to be electrically powered or run on liquefied petroleum gas by 2015.

Support the use of electric powered two wheelers across Birmingham.

**Work with partners** to explore the potential to roll out a national level project demonstrating the use of **hydrogen fuel cell buses** and/or small passenger and fleet vehicles. Further exploration of how supply chain infrastructure can support this should also be promoted.

Extending the electrification of the rail network to reduce the carbon footprint of rail travel and improve local air quality at stations like New Street Station and Snow Hill Station.

Working with/support partners to promote the use of alternate low carbon fuels and technologies for routine applications to improve carbon footprint by Light Goods Vehicles in particular. As a part of University of Birmingham's Zero Emissions Campus project, it is aimed to demonstrate the carbon reductions achieved due to 5 fuel cell vehicles in routine utility applications such as postal deliveries on the University of Birmingham Campus over a year.

### ST-2: Providing significant opportunities to reduce the environmental burden of transport networks through the use of ITS technology.

Continue to implement **Variable Messaging Signs** and **car park management systems** which will improve journey reliability and reduce delays whilst consequently reducing emissions.

Continue the use of **SCOOT** at signalised junctions to ensure that vehicle emissions are reduced by management of traffic flows.

Integration of existing systems and upgrading to **Urban Traffic Management and Control (UTMC)** in a phased manner as they are renewed or as required.





### ST-3: Using advancements in technology to facilitate voluntary behaviour change in favour of more sustainable modes.

Reducing the need to travel by capitalising on the existing fibre optic network through development of **Information and Communications Technology hubs (ICT hubs)** and promotion of **tele-working**.

Continuing to work with Centro to provide **Real Time Travel Information on smart phones** to make it easier for people to find out about available public transport options. Making timetable information obtainable through additional platforms should mean more people are better informed on travel options. This can reduce reliance on private vehicles and also potentially improve the coverage of information amongst 'harder to reach' groups.

Working with partners to enhance and further expand the **Smartcard** and **E-Purse** initiatives to promote sustainable travel.





## Effective Carbon Management Planning (EC)



Considering more comprehensively how the Council's transport and planning services are delivered in a sustainable way, from inception through to implementation, and how wider partnerships can help to reduce carbon impacts on the city. This will be achieved through the following objectives and actions:

### EC-1: Promoting a low carbon culture with regard to the overall delivery of Council's transport and planning services.

Explore opportunities to incorporate an **assessment of the impact of major developments** and their **carbon footprint** into the Council's governance and approvals process.

Continue to develop the close link between transport and land-use planning, with the aim of reducing the need to travel.

Support the **potential use of the Department for Transport Carbon Tool** to provide a consistent means for Birmingham to appraise the potential impact of transport interventions on emissions.

**Continue to integrate** low carbon transport initiatives **into the overall spatial planning of the city** including providing adequate public transport links to new business locations in the city. A smarter approach to infrastructure planning is required with more cohesion and joined up working across projects and work streams.

Ensure **wider policy linkages to lock in accrued benefits**. This Low Carbon Transport Strategy integrates with the wider policies and guidance including **Birmingham's Core Strategy** (Sustainable Urban Neighbourhoods - SUNS), **Places for the Future SPD**, West Midlands Low Emission Towns and Cities (**LETC**) Programme and Area Action Plans.

Continued review of best practice measures which lower carbon emissions including initiatives such as **work place parking levy**, use of **hydrogen fuel cell buses** etc. for potential trial/roll out in the City.

The City Council to show the lead by undertaking travel planning and promoting the use of electric vehicles and bicycles for council business.

### EC-2: Developing wider working partnerships with organisations to promote sustainable travel and build links with other initiatives.

Continuation of **BeBirmingham**, which is the local strategic partnership that brings together partners from the business, public, community, voluntary and faith sectors, to deliver a better quality of life in Birmingham. Additionally, this partnership is committed to delivering the sustainable community strategy and the accompanying Local Area Agreement.

Investigate options for partnerships with **external organisations**, including the **Greater Birmingham and Solihull Local Enterprise Partnership**, to promote the use of sustainable travel and a consequential reduction in carbon emissions.

Introduction of a **Statutory Quality Partnership for the City Centre** from 2012 to support bus improvements being made in relation to the metro and associated City Centre interchange enhancements. This will also include delivery of new greener buses, support for low carbon corridors and complementing Network Reviews.

**Close working with partners** – Building on **Centro's Green Charter**, an action-driven pledge by the transport sector to work together and demonstrate leadership in tackling climate change, reducing carbon emissions and supporting green innovation.

**Work with businesses** to promote the low carbon agenda. Examples of initiatives include promotion of **low carbon fleets for routine utility services** such as deliveries (e.g. Royal Mail / TNT) and **improving access to supermarkets by buses** to encourage use of sustainable modes to these and other popular destinations.

Co-ordinate servicing and deliveries through the **West Midlands Freight Quality Partnership** to minimise the adverse impacts of freight vehicles on carbon emissions. The aims of the FQP include promoting sustainable freight distribution in the West Midlands, including exploring opportunities for greater use of environmentally friendly modes.



# 4. Making It Happen

The Birmingham Low Carbon Transport Strategy outlines the vision, the objectives and a series of actions to contribute towards achieving the challenging target of a 60% reduction in CO<sub>2</sub> emissions from 1990 to 2026.

The level of contribution that each of these actions can make towards achieving the reduction in CO<sub>2</sub> emissions per person will depend upon:

- Individual carbon reduction potential of the actions;
- The rate of implementation;
- Availability of funding opportunities to support the implementation of these actions; and
- Successful delivery of each of these options based on the level of ownership.

At this stage, whilst detailed modelling of the carbon reduction potential of each of these actions has not been undertaken, results from other studies provide a relative indication of the contribution that each of these actions can make towards achieving reductions in carbon. Figure 4 summarises the performance potential of the actions based on the potential to reduce carbon emissions and implementation costs.

Implementation Cost	High Cost	<ul style="list-style-type: none"> <li>• Low Emission Zones (SI-3)</li> <li>• Provision of improved bus/rapid transit infrastructure and services (SI-4)</li> <li>• Extension of runway at BIA (SI-6)</li> </ul>	<ul style="list-style-type: none"> <li>• Roll out of Smarter Choices initiatives (SC-2, SC-3)</li> <li>• Improvement in bus fleet efficiency (ST-2)</li> </ul>	<ul style="list-style-type: none"> <li>• Eco-Driving and SAFED (SC-5)</li> </ul>
	Medium Cost	<ul style="list-style-type: none"> <li>• Provision of improved walking infrastructure (SC-2, SI-2)</li> <li>• Provision of improved rail services (SI-4)</li> <li>• Improved traffic management/ infrastructure improvements targeting delay points (SI-1)</li> <li>• Improved surface access to airport (SI-6)</li> </ul>		<ul style="list-style-type: none"> <li>• Support to take up low carbon fuel and vehicle technology (ST-1, ST-2)</li> <li>• Targeted investment in cycling infrastructure (SC-2, SI-2)</li> </ul>
	Low Cost	<ul style="list-style-type: none"> <li>• Public sector procurement of low carbon fleet for own vehicles (ST-1)</li> <li>• Provision of car-clubs (SC-1)</li> <li>• Support and investment in ICT (ST-4)</li> <li>• Integration with Spatial Planning (EC-1)</li> <li>• Freight Efficiency through operational improvements (SI-3)</li> <li>• Introduction/increase of parking charges (SI-5)</li> <li>• Operational Efficiencies – Planning application processes etc (EC-1, EC-2)</li> </ul>	<ul style="list-style-type: none"> <li>• Workplace Parking Levy (EC-1)</li> </ul>	<ul style="list-style-type: none"> <li>• Travel Planning along with marketing and promotion (SC-1, SC-4)</li> </ul>
		Low Abatement	Medium Abatement	High Abatement
<b>Carbon emission reduction potential</b>				

Figure 4 – Vision: Key Themes









In terms of achieving the maximum possible reduction in transport sector CO2 emissions, the focus will have to be on interventions which target the largest amount of users and the least efficient behaviours. Based on this, the strongest actions to reduce carbon emissions are identified to be:

- Travel Planning along with marketing and promotion;
- Support to take up low carbon fuel and vehicle technology;
- Targeted investment in cycling and walking infrastructure;
- Eco-Driving and SAFED;
- Roll out of Smarter Choices initiatives; and
- Improvement in bus fleet efficiency.

Complementary actions which are lower impact and low cost, will also be utilised to tie in the wider benefits and contribute towards achieving the overall reduction.

The rate of implementation of carbon reduction measures will be critical to achieving the overall targets for carbon reduction.

Working with the Birmingham Environmental Partnership (BEP), the impact of the Low Carbon Transport Strategy will be reviewed through their Annual Carbon Savings Report. The BEP sets annual targets for carbon reduction in Birmingham, and the success of this Strategy will be dependent on those targets being achieved. CO2 savings are calculated using National Indicator 186 data which is released by the Department for Energy & Climate Change on an annual basis. Due to the level and complexity of the data there is a lag time in the data becoming available of approximately 2 years but, as this is the most comprehensive data available, it is appropriate to measure reductions against these figures.

Currently there is not a specific target for the contribution transport will make to overall carbon savings but it does identify transport as one of the main areas where savings need to be maximised. The overall targeted reduction of carbon savings for Birmingham in 2011-12 is 150 kt.

Birmingham Environment Partnership (BEP) and the Wider Sustainability Forum will play a key role alongside partners in the delivery and implementation of this Low Carbon Transport Strategy.





