

# BIRMINGHAM CONNECTED

MOVING OUR CITY FORWARD

## BIRMINGHAM MOBILITY ACTION PLAN

**WHITE PAPER  
NOVEMBER 2014**




**BIRMINGHAM  
CONNECTED**

MOVING OUR CITY FORWARD

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An aerial photograph of Birmingham, Alabama, showing a dense urban landscape with a complex network of roads, buildings, and green spaces. The image is tinted with a deep purple color. A semi-transparent yellow box is overlaid in the bottom right corner, containing text.

“By 2031 Birmingham will be renowned as an enterprising, innovative and green city that has delivered sustainable growth meeting the needs of its population and strengthening its global competitiveness.”

Birmingham Development Plan (BDP) 2014



The journey  
**TOWARDS THIS VISION**  
*has begun already.*



BETTER FOR BUSINESS

LEADING GREEN CITY

PROSPEROUS, HEALTHIER, FAIRER

# Foreword



**Councillor Sir Albert Bore**

The Birmingham Mobility Action Plan Green Paper started a conversation about transport in Birmingham and the development of a Sustainable Urban Mobility Plan for Birmingham. The Green Paper consultation provided an opportunity to take stock of the city's transport needs and listen to our residents, businesses and other key stakeholders about how we should move people and goods to, from and around our city.

People told us they wanted to see a step change in our transport system and a large amount of work has now been undertaken to develop this thinking further and refine our Sustainable Urban Mobility Plan. I am now setting this out in this White Paper: Birmingham Connected.

Birmingham Connected provides a long term vision for transport which is essential for our city to grow and succeed. Transport improvements can take many years to realise. We have achieved so much in recent years but we have much to do. In 15 years the city will start to reap the benefits of the first phase of the High Speed 2 project but we need to make sure that the infrastructure is in place that allows us to maximise those benefits to the city and beyond. We have recently been very successful in securing significant funding from Government for investment in transport infrastructure to support this. This will help us to develop our walking and cycling networks, provide better bus journeys, extend our light rail network and improve local rail services. Further funding has also been provisionally allocated for additional schemes. This will all help us to start to deliver the vision and ensure we have a well-connected city providing good access to education, healthcare and job opportunities.

The Council cannot deliver this vision on its own; transport doesn't stop at our boundary. We must work with our partners in local and national government, transport operators, businesses, health authorities and with those who live and work in the city to find new approaches to these issues including how we can generate the additional funding we need. It is also fair to say that transport investment benefits some of those partners. We want to have an honest discussion with them about how together in partnership we can look to deliver a connected Birmingham.







This White Paper acknowledges the critical role that transport plays in sustainable economic growth and the creation of a fair and equitable society where everyone has the opportunity to succeed. By investing in our transport infrastructure Birmingham will become even more attractive as a place to live, invest, work and visit. By having a vision of what we want, we can make the case for increased investment in transport. We can make the case to the Government for the funding flexibilities and powers that will allow the city to make the right decisions at the right level.

This is only the beginning of this journey. There is still much to be done. The Birmingham Connected approach sets out a vision to move our city forward and I am excited about the future.

**Councillor Sir Albert Bore**

A handwritten signature in black ink, appearing to be 'A. Bore', written over a circular flourish.

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**Birmingham Connected sets a new direction for transport. It ushers in a new era in creating choice for how we move people and goods, delivering projects and infrastructure, and the ways in which we fund them.**

**It will reinforce transport's role in continuing to create a successful, vibrant, healthy and sustainable city.**

Fabric of our City  
CONNECTIVITY  
**THINK**  
Urban Realm **JOBS**  
Transport reduce inequalities  
**BMAP** Vibrant **GROWTH**  
CITY **PEOPLE** Region change  
RADICAL POLICIES **Healthy**  
Birmingham Development Plan  
**JOBS** Economic Aspirations  
CYCLE NETWORK Pedestrians **SUCCESS**  
our **GREEN CITY**  
PLAN  
NEW INFRASTRUCTURE Strategies  
Bus rapid transit system Pedestrians Policies  
THIS WHITE PAPER CYCLE NETWORK  
local centres **BIRMINGHAM** social benefits  
VISION **RAIL CONNECTED**  
Transport Vibrant **GENERATE JOBS**  
**INTEGRATED Healthier**  
**WORK** change Training  
**GROWTH** Vibrant  
remove barriers Urban  
to mobility Realm  
**CITY**

The Birmingham Development Plan (BDP) sets out our strategy for jobs and growth, meeting housing needs and sustainable progress. Birmingham Connected is directly linked to the strategies and policies of the BDP. Investing in a radically improved integrated transport system will realise the city's potential to support sustainable economic growth, job creation and linking communities.

As well as the above Birmingham Connected covers a number of other agendas. Its vision is to create a transport system which puts the user first and delivers the connectivity that people and businesses require. We will improve people's daily lives by making travel more accessible, more reliable, safer and healthier and using investment in transport as a catalyst to improve the fabric of our city. We also want to use the transport system as a way of reducing inequalities across the city by providing better access to jobs, training, healthcare and education as well as removing barriers to mobility.

The journey towards this vision has begun already. The BMAP Green Paper, published in November 2013, started an enormously positive conversation. The public and stakeholders stood firmly behind the vision for change. This White Paper takes us forward from the BMAP Green Paper; providing more certainty on the proposals, having consulted on them and undertaken technical investigations into their feasibility.

To deliver on this vision for transport and movement we will need the help of a number of delivery partners including: our neighbouring and wider regional authorities, Greater Birmingham and Solihull Local Enterprise Partnership (GBSLEP), West Midlands Integrated Transport Authority (WMITA), the Highways Agency, Centro, Network Rail, public transport operators, the business community and the residents of Birmingham. It will also need to be compatible with emerging governance structures within the West Midlands. We all need to get behind the vision and aspiration set out in this document in order to realise the benefits for all.

Things will change quickly. Huge sums are being invested in new infrastructure within or serving the city over the next five years, and there is even more to come. Things changing in 2015/16 include:

- Upgrading the Ring Road.
- New Street station will reopen fully in 2015 after a £600m redevelopment.
- At the same time the Metro extension from Snow Hill to New Street will also open for use – with a further extension to Centenary Square by 2018.
- The first Sprint bus rapid transit route will open on the Hagley Road.
- A revolution in our cycle network and pedestrian focused urban realm.
- Pilots for 20mph streets will be rolled out from next year; making our streets safer for everyone.

#### From this vision Birmingham Connected's five core objectives are:



**Efficient Birmingham** - Birmingham Connected will facilitate the city's growth agenda in the most efficient and sustainable way possible, strengthening its economy and boosting jobs.



**Equitable Birmingham** - Birmingham Connected will facilitate a more equitable transport system; linking communities together and improving access to jobs and services.



**Sustainable Birmingham** - Birmingham Connected will specifically reduce the impacts of air and noise pollution, greenhouse gas emissions and energy consumption.



**Healthy Birmingham** - Birmingham Connected will contribute to a general raising of health standards across the city through the promotion of walking and cycling and the reduction of air pollution.



**Attractive Birmingham** - Birmingham Connected will contribute to enhancing the attractiveness and quality of the urban environment in local centres, key transport corridors and the city centre.





# 01 Introduction

Our investment in the short term will set us in the right direction, but we will not stop there. Birmingham Connected sets a bold new direction for the next 20 years that will see funding increased and new infrastructure delivered. In this document we set out a number of exciting initiatives; we want to:

- Complete a £1.2bn integrated public **transport network** within 20 years which will allow people to travel across the city in high-quality vehicles, feeling safe and secure and enable fast movement through some of the most congested sections of the network. This will include a minimum of **three more Metro lines and up to nine cross-city bus rapid transit lines**. Whilst delivering this network we will also invest in the urban realm of our local centres, helping to create vibrant community spaces across the city.
- Investigate options to allow us to generate funding locally which will result in the benefits from **Birmingham Connected being realised earlier**.
- As part of a city centre masterplan develop a **strategy for the long-term future and role of the A38** through the city centre. Recognising the potentially enormous economic and social benefits which could be realised by removing structures, closing the existing tunnels and redirecting through-traffic on to a substantially upgraded ring road.
- **Reopen and upgrade rail routes** to Moseley and Kings Heath, Sutton Coldfield via Walmley and Tamworth via new stations at Fort Parkway and Castle Vale – supporting new housing and jobs in these areas.
- Invest up to £400 million to **upgrade Snow Hill Station**, providing another gateway to the city after New Street Station reopens fully in 2015.
- Deliver an investment package that delivers our **local connectivity strategy for HS2** - linking people across the city to it but also improving wider connectivity across the whole Midlands region; promoting Birmingham as the place to do business. This would largely need to be in place for the opening of HS2 in 2026.
- Promote a **Low Emissions Zone** in the city centre to improve air quality and help us meet our commitments to carbon reduction targets leading to a healthier city.
- Establish **Green Travel Districts** which will enable packages of measures in specific locations to help achieve less than 50% single occupancy car mode share.





Birmingham Connected is also part of a European-wide initiative to improve urban mobility, for which the European Union has produced guidance on how to develop a Sustainable Urban Mobility Plan (SUMP). Producing this paper and all of the technical detail that sits behind it will enable Birmingham to have better access to a wide range of funding streams.

In this document we will:

- Set the role and purpose for Birmingham Connected.
- Explain the five guiding principles which will govern how we take the vision forward.
- Confirm the specific components of the transport system which will be developed in detail from this point.
- Give an overview of how much the plan is likely to cost and how we can pay for it.
- Describe how we will monitor whether or not Birmingham Connected has been a success.



## 02 The Role and Purpose of Birmingham Connected

The BMAP Green Paper, published in November 2013, provided a comprehensive evidence base for why we believe a new vision for transport in Birmingham was needed and started a debate about transport in Birmingham. We have used the time since then to firstly consult widely on the vision and early ideas from which we received a very positive response to the need for change. We've also undertaken a wide range of background technical investigations into some of the ideas and concepts put forward in the Green Paper to confirm that they are indeed the principles the city should progress. Much of the Green Paper is still relevant as the background to this document and the two documents should be read in conjunction with each other.

As a White Paper, Birmingham Connected, crystallises the vision for Birmingham's transport system and establishes how we will progress towards that vision. However, there is a lot of work still to do to determine the detail of how we deliver on the principles in specific locations.

To support the wider aims and aspirations of Birmingham Connected, a high level communications strategy has been developed to cover engagement with citizens, stakeholders, businesses, the travelling public and support behavioural change. This has resulted in a new title for Birmingham Mobility Action Plan being developed that resonates with the public and that will provide a clear overarching brand which people will understand and identify with. The new title is Birmingham Connected. The purpose of this brand will be to support provision of information about transport projects in the city from their development through to their implementation. This will include policy and strategy development through to specific projects of various scales during their implementation. The Birmingham Connected brand will also be used for campaigns to encourage travel behaviour change in the future.

Birmingham Connected will become the umbrella for all transport planning activity across the city. It sets out the desired direction; the key initiatives which will help achieve the vision, and a strategy for the first five years' programme. The main intention is that all future schemes and ideas will draw from the principles provided in this document to ensure a consistency of approach. This will mean that huge infrastructure projects such as HS2 Curzon Street, or Metro extensions will follow the same principles as a policy for 20mph streets or a local high street improvement scheme, they will all be seen as an important part of a wider transport agenda.

### Influences on Birmingham Connected

The policy does not sit in isolation, it is influenced by a number of organisations and documents and in turn it will influence decision making and policy in a number of areas. Similarly the Council cannot deliver Birmingham Connected on its own. We will need to collaborate with a number of partners from:

- National bodies such as central government, Network Rail, and the Highways Agency.
- Regional bodies such as Centro, other local authorities, the Greater Birmingham and Solihull Local Enterprise Partnership and the West Midlands Integrated Transport Authority.
- Local bodies such as the business community; Business Improvement Districts (BIDs), volunteer/ community groups, universities, hospitals and city developers.
- Passenger and freight transport operators.

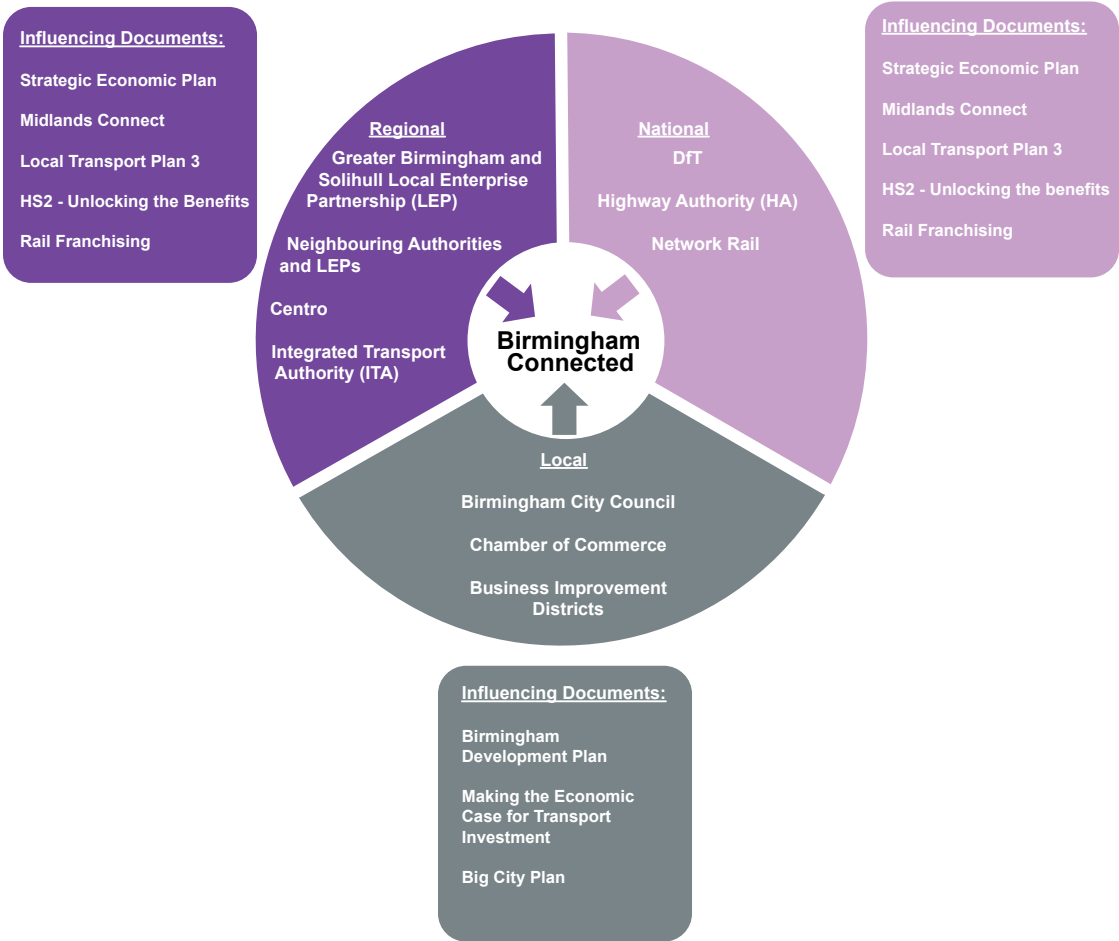
### Policies Birmingham Connected will Influence

At its most basic level Birmingham Connected is the transport strategy to support the BDP; however, we recognise the positive impact transport planning can have on our daily lives. Birmingham Connected's aspirations intentionally go further than just facilitating the BDP; the aim is to create a more dynamic world-class city and transport is a key instrument to achieving this. Birmingham Connected is not merely about moving people and goods; it aims to be part of the solution to improving people's lives through: bringing more jobs into Birmingham and improving access to them, better connecting Birmingham residents to outside the city, improving people's health, creating new people-focused places and reducing our impacts on the environment.

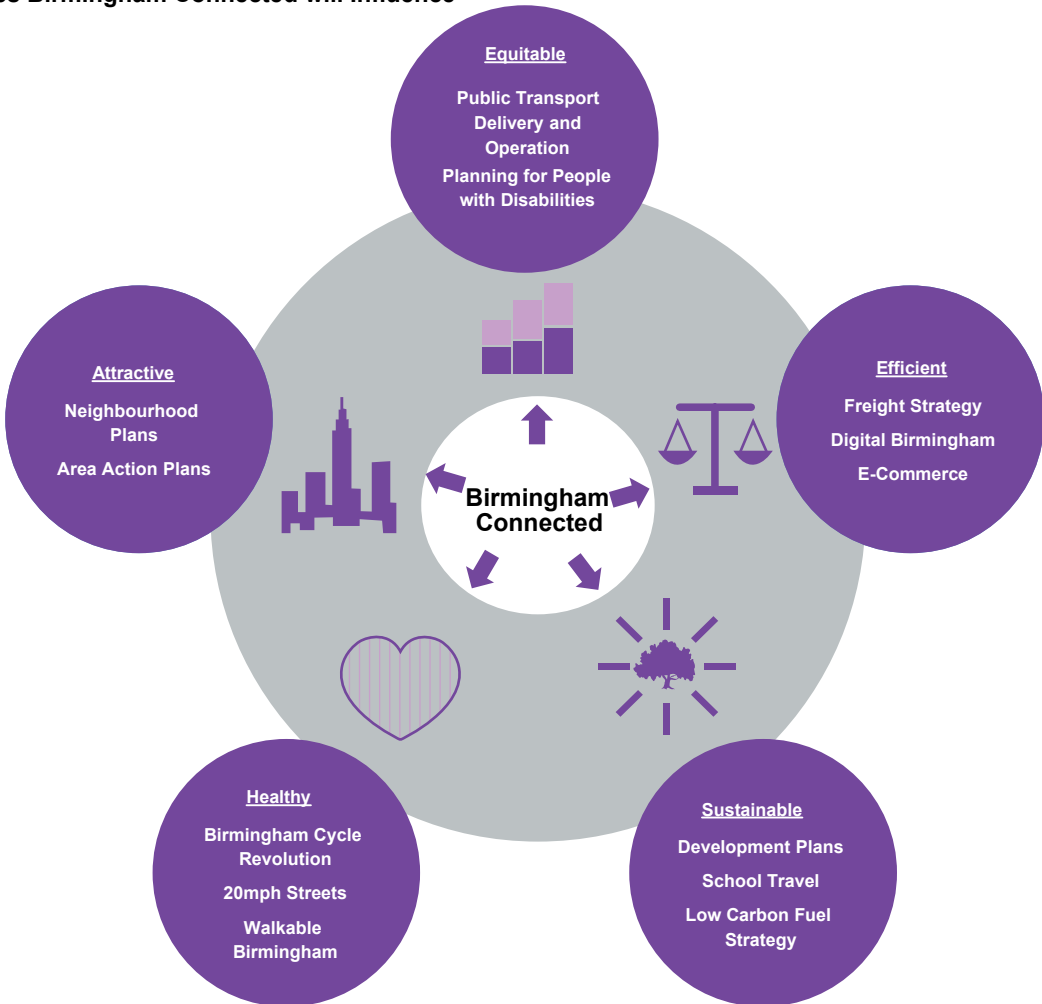
Birmingham Connected will influence a number of key Council policies and strategies.

**Birmingham Connected will become the umbrella for all transport planning activity across the city.**

Influences on Birmingham Connected



Policies Birmingham Connected will Influence





## 02 The Role and Purpose of Birmingham Connected

### Collaboration and Participation in the Development and Delivery of Birmingham Connected

This document has been brought together in a very interactive and participatory manner. The BMAP Green Paper started a conversation with stakeholders and Birmingham residents about what they want and need from their transport system. The vision set out in the BMAP Green Paper was overwhelmingly supported by the public and businesses alike.


The general feedback was that people wanted to understand the proposals in more detail. A consultation report has been published which provides a comprehensive insight to the issues raised by the public and stakeholders.

We have listened and done a major technical feasibility exercise to develop a core set of ideas and principles designed to achieve the vision and objectives within the next 20 years. As part of this technical feasibility we have worked together with key organisations to develop solutions which are tailored to the needs of the users of Birmingham's transport system.

Our collaboration doesn't stop at simply the production of this vision document. Delivering Birmingham Connected will need the help of many different partners, some from the public sector but also many from the private sector and volunteer/charitable organisations.


The public and stakeholders posed a number of questions following consultation on the BMAP Green Paper:

How would the Green Travel  
Zone concept be developed,  
where could they be located  
and how would they  
be delivered?





How would the concept of  
'Road Space Allocation'  
work in practice on  
Birmingham's roads?

How can the transport  
system be made more  
equitable for all users and  
improve access for people  
with disabilities?



How can the  
movement of goods  
and services be  
improved?

How much would the  
BMAP vision cost and  
how can it be funded and  
the improvements  
maintained/operated?



What is the appropriate public  
transport service for each  
important corridor identified in  
the BMAP Green Paper?



## 02 The Role and Purpose of Birmingham Connected

**By 2031 Birmingham will be renowned as an enterprising, innovative and green city that has delivered sustainable growth meeting the needs of its population and strengthening its global competitiveness**

Here we outline the four main principles we will use to turn the Birmingham Connected vision into schemes and initiatives:

1. Enabling different travel choices
2. A transport system for everyone
3. A corridor approach – balancing competing needs
4. Delivery – learning lessons

Birmingham Connected has the end goal in mind: starting with what we want the city to be like in 20 years' time.

The BDP sets out plans to build an additional 51,000 homes, which will grow our population by 150,000 people, and generate 100,000 new jobs by 2031; a transport strategy is needed to help ensure that the economic benefits are realised and the spatial strategy is sustainable.

We need a new approach to the way we think about transport in Birmingham. There may be difficult decisions along the way as we decide how to allocate road space for different modes, but Birmingham Connected provides us with a single vision and how to achieve it.

### Our Transport Challenge

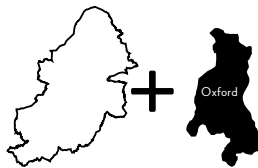
**BDP plans to build 51,000 homes**



**& generate 100,000 new jobs by 2031**



**Up to 150,000 more people by 2031**  
the equivalent of adding the population of Oxford to Birmingham in the next 15 years



**80,000 more cars in the city and 200,000 more daily trips on our roads by 2031**



**4 MILLION daily trips in Birmingham by 2031. That's 30% more than today.**





## Enabling Different Travel Choices

Key to the Birmingham Connected approach will be to not focus on one particular mode or solution; instead we will provide the opportunity for everyone to have access to the transport options they require, whatever their need. Wherever they live in the city or travel from into the city, people need to have real choice as to how they travel.

Currently many people feel that they have no real alternative to driving their car, which results in over one million car trips each day by Birmingham residents – a quarter of which are less than a mile (2011 Household Travel Survey). We will provide a system where people feel they can realistically choose to undertake many of their everyday trips within and to/from Birmingham by public transport, walking and cycling. We will ensure our information systems enable choices to be made through promoting alternative options and providing the infrastructure that improves reliability and access.

We make no secret that we want to contain the growth in the number of cars on the roads, because an over-reliance on cars means major damage to public health and road safety: it causes poor air quality, traffic collisions, congestion for all road users and dissuades people from walking and cycling due to safety concerns (which in turn affects public health). Too many cars on our roads also affects our ability to grow our economy; we need to make the most efficient use of the space we have available to move people by the most appropriate means.

The BMAP Green Paper provides a comprehensive evidence base of the impacts from an over-reliance on cars and what the growth could be if we do not change how we invest in transport.

We do however recognise the vital role cars play for a whole host of trips not easily catered for by other forms of transport. If the city provides more attractive options for routine trips when travel demand is at its highest such as for commuting to work, the journey to school or college and getting to local and city centre shops, then space on our roads can be freed-up for those with fewer alternatives and servicing the needs of businesses. Alongside this, working with partners, we will ensure people have the information they need to make informed travel choices. We hope that over time people can move to different ways of using and owning cars, which may include memberships of car clubs or point-to-point hire when needed. In doing so we can see fewer cars owned across the city as a proportion of the population, and we can help reduce the cost of living in Birmingham for some of our low earning households.

We know from analysis undertaken for the BMAP Green Paper on the 2011 Household Travel Survey that if people today used alternatives for just 2 return journeys per week (Monday to Friday) then this would remove around 200,000 daily car journeys every weekday from the city's roads; this would enable us to achieve the population growth targets but with no net increase in daily car trips.

This shows that Birmingham Connected's vision is achievable if we can convince people to change their behaviours even in relatively small ways.

Our approach to developing choice is to understand the needs of our customers: the users of the transport system. During the consultation on the BMAP Green Paper we listened to the desires and needs of the future users of our transport system and overleaf we present the vision in their voices.

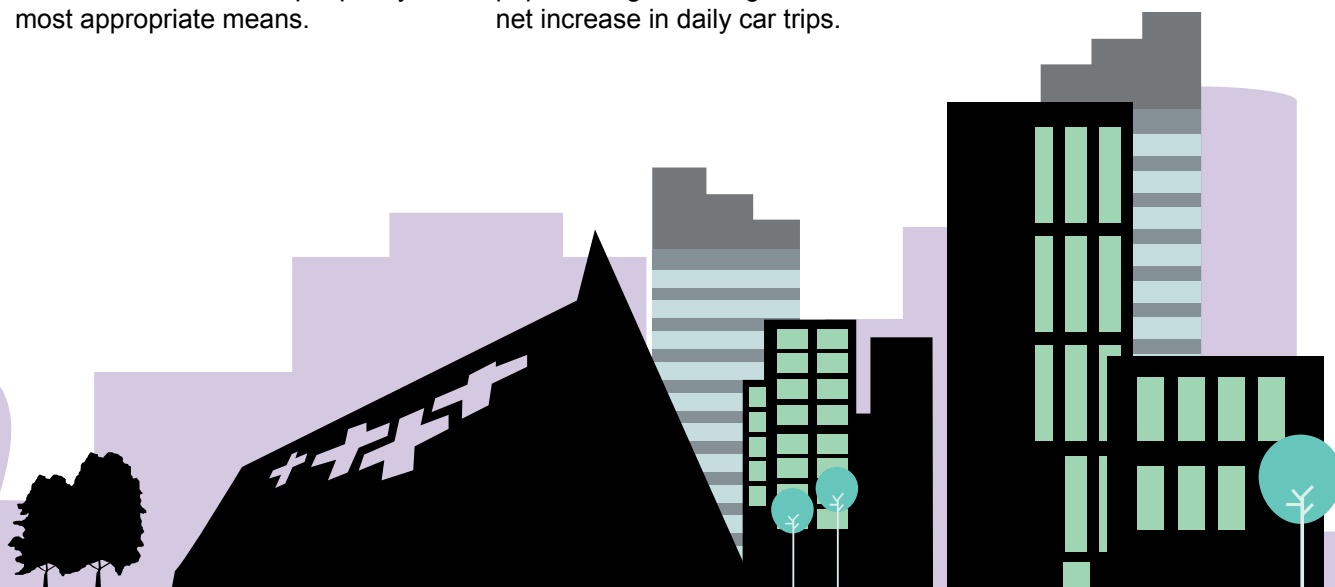
**If people today used  
alternatives for just  
2 return journeys per week  
for any purpose  
(Monday to Friday)  
then this would remove around  
200,000 daily car journeys  
every weekday from the  
city's roads.**



**Use a bus  
TWICE a  
week**

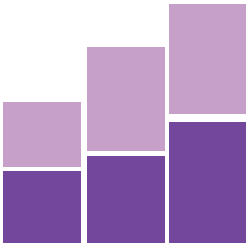




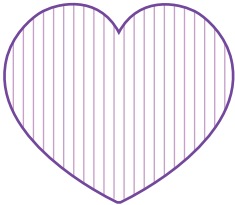
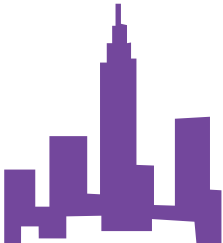
**Ride a bike  
or walk  
TWICE a  
week**



## 03 The Birmingham Connected Approach

### In the voice of the users of our transport system:

Birmingham Connected Objective	Business	Commuter	Resident	Visitor
 <p><b>Equitable Birmingham</b></p>	<p>As an SME my business can compete better because my travel costs have reduced.</p> <p>I have a fair opportunity for business growth.</p>	<p>Transport and ticketing is integrated and therefore my journey across the city is much easier.</p> <p>I have access to more job opportunities both in and out of Birmingham.</p> <p>My job is outside of the city centre but I now have a real choice to leave my car at home most days.</p>	<p>Not owning a car is no longer a barrier to me moving around the city.</p> <p>Transport and ticketing is integrated and therefore my journey across the city is much easier.</p> <p>It is easier for me to access local amenities and support my local economy.</p> <p>I can now easily get to appointments around the city because it's more accessible for me.</p>	<p>It is clear and easy for me to access the local transport system.</p> <p>Getting around the city and its various attractions is easy with a well connected integrated transport and ticketing system.</p>
 <p><b>Efficient Birmingham</b></p>	<p>I can rely on the timings of my essential deliveries.</p> <p>My employees are rarely late to work because of travel delays.</p> <p>My business is more profitable because my travel costs are less.</p> <p>I can spend more time working and less time travelling.</p> <p>The economy of Birmingham is more prosperous as more firms are coming into the city.</p>	<p>There will be more commuters in the future and therefore this project means that growth won't have a negative impact on me.</p> <p>My journey to and from work will be quicker and more reliable, which means I can spend more time at home.</p>	<p>More choice for where I spend my leisure time and how I get there.</p> <p>The city I live in is growing and thriving.</p> <p>I am proud of the city I live in.</p>	<p>I can get in to and around Birmingham easily.</p> <p>I know where to go to easily access information on how I can travel around.</p> <p>I can spend more time exploring Birmingham and less time travelling around.</p>

Birmingham Connected Objective	Business	Commuter	Resident	Visitor
 <p>Sustainable Birmingham</p>	<p>I can achieve my Corporate Social Responsibility targets by helping my employees travel sustainably.</p> <p>The Carbon Footprint of my firm is much lower.</p>	<p>As a family we don't need a second car any more – saving us a lot of money each year.</p> <p>I feel safe riding my bike to work, so I try to at least two days a week now.</p> <p>I can travel sustainably without being late!</p>	<p>Traffic in the area I live in has reduced making local streets quieter and safer.</p> <p>I feel safe letting my children walk or cycle to school so I no longer need to drive them.</p> <p>As a family we don't need a second car any more – saving us a lot of money each year.</p> <p>I feel safe riding my bike to work, so I try to at least two days a week now.</p> <p>I can travel sustainably without being late!</p>	<p>It costs me less to come to Birmingham because typically I leave my car at a free park and ride site rather than parking in the centre.</p>
 <p>Healthy Birmingham</p>	<p>My company has reduced absenteeism from employees.</p> <p>My employees are less stressed due to improved travel, and there are possible implications for productivity as well.</p>	<p>I've replaced my bus pass with my cycle to work. Saving time and money and getting fitter.</p> <p>I can catch public transport without feeling uncomfortable or unsafe.</p>	<p>I feel happy letting my child walk to school on their own.</p> <p>It is now easier and safer for me to incorporate physical activity into my daily life.</p> <p>The exhaust fumes where I live used to make me ill, but now I enjoy walking around my neighbourhood.</p>	<p>I feel safe and secure when travelling in and around Birmingham.</p> <p>Birmingham has some great cycle routes for me to explore the city.</p>
 <p>Attractive Birmingham</p>	<p>I find it easier to retain my staff because Birmingham is a great place to live.</p> <p>More visitors, potential new investors and new residents means more business for me.</p>	<p>I have time to enjoy Birmingham and its spaces.</p> <p>Our city is more attractive and it is competing with some of the best cities in the world.</p> <p>The local environment where I live and work is much more attractive.</p>	<p>I have time to enjoy Birmingham and its spaces.</p> <p>Our city is more attractive and is competitive with some of the best cities in the world.</p> <p>My friends from outside Birmingham tell me how much they like coming here.</p> <p>I am proud of the city I come from.</p>	<p>I choose Birmingham over other cities because it is easier for me to access and more pleasant to visit.</p>



## 03 The Birmingham Connected Approach

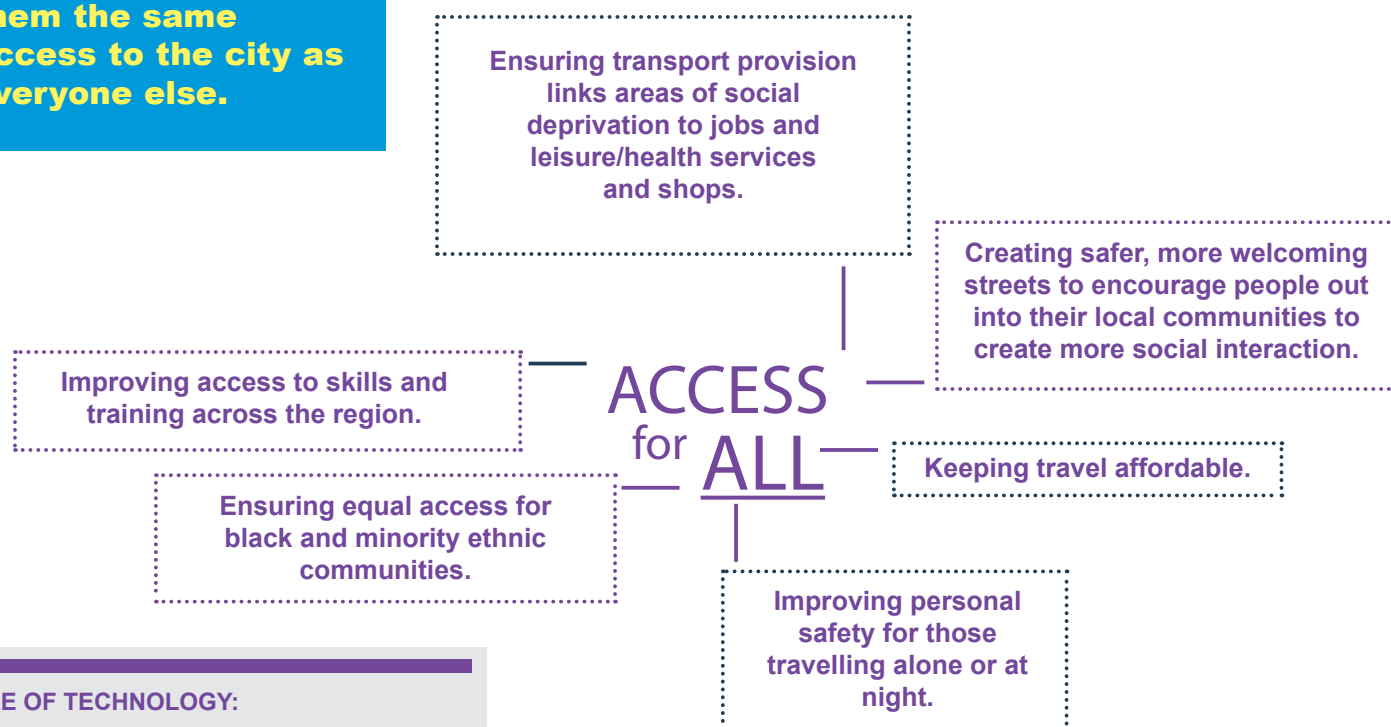
**The Vision for an equitable transport system places people first in all decisions. Choice is hugely important: we will provide safe environments for people to walk and cycle; we will provide secure and comfortable public transport so that people do not feel intimidated; and we will remove barriers for people with disabilities, giving them the same access to the city as everyone else.**

### A Transport System for Everyone

One of the core objectives for Birmingham Connected is to create a more equitable transport system. In this case 'equity' means a system which provides choice and access for all. Barriers to movement can include cost, safety, information provision, security and access for people with disabilities or those who have specific mobility needs. In the future these barriers will be greatly reduced.

Access for people with disabilities is an important part of an equitable system – it is estimated that up to 20% of Birmingham's resident population has some form of mobility impairment. All technical work developed specifically for Birmingham Connected has been undertaken with the needs of people with disabilities in mind and this paper commits to ensuring that guidance and principles of planning for their needs will be embedded within all future schemes and policies.

'Access for all' is not just about people with disabilities – 'all' really means 'all'. Birmingham Connected aims to address issues which affect women, minorities, old or young people; issues like:-



#### ROLE OF TECHNOLOGY:

Balancing the needs of a corridor over a whole day will be important.

This can be achieved using technology in a number of different ways; including:

- Adopting different priorities at traffic signals; e.g. public transport in the commuter peaks, but general traffic during the middle of the day.
- Having on-street deliveries to high streets managed via on-line bookable loading bays.
- Alternating the direction of traffic lanes to respond to peak movements.

## A Corridor Approach – Balancing Competing Needs

It is our intent to take a ‘whole corridor’ approach to planning and scheme delivery. This means that we will not take a single scheme in isolation; instead we will look at the range of needs for a corridor or location and develop a package of measures to meet those needs. The intention is to understand the specific function of a particular location. Is it purely for transport or does it also have a strong ‘place’ function? For example, do people shop or socialise there? And does this change throughout a day, week or year. When we understand how a space is used, we can balance infrastructure to accommodate a number of functions.

This is a more people-centred way of thinking about transport’s role in urban design and place making, improving the liveability of a city.

A good example of this would be at local High Streets across the city, many of which sit on important strategic roads. A public transport scheme along the whole corridor may be the catalyst but under the new Birmingham Connected approach the whole function of the road at the High Street will be reconsidered to look at:

Physical Interventions	Operational Interventions	Behavioural Interventions
Improved urban realm and pedestrian environments; providing more areas for sitting and meeting.  Moving parking to more appropriate locations.	Making deliveries easier, but also less disruptive to general traffic flow.  Using technology to provide different priorities at different times of day; enabling smoother, not faster flow of through movements during peak hours, slowing traffic and providing a better pedestrian environment during the middle of the day and weekends; and facilitating freight and deliveries outside of these periods.	Slower speed environments to make roads safer and less intimidating for cyclists and pedestrians.  Encourage more efficient use of cars through provision for car sharing/technical innovations to reduce the numbers of cars but still providing for people to access places by car.

## 03 The Birmingham Connected Approach

The first applications for this corridor approach will most likely be the next bus rapid transit routes to come forward after the new vehicles start running on the Hagley Road in 2016. Some further work is required to determine exactly which corridors are delivered first but good candidates could be the A45 to the airport, the A34 to Walsall through Aston and Perry Barr and a corridor out to Bartley Green.

As part of Birmingham Connected, the Council is producing detailed guidance on how to develop corridor-based schemes and how to balance the competing needs of the 'link' and 'place' functions of roads across the city. This is one of the technical appendices to this paper.

Our aim is that the city considers the most desirable function of particular locations and whether the current transport infrastructure is fit for purpose. For example, what is the role of the A38 and the tunnels through the city centre in the future? The current form of the road clearly presents a significant barrier to movement and inhibitor to development in the city centre. The guidance will provide the direction to consider a medium to long term future whereby the function of the road is changed, and the area surrounding it is regenerated. We believe there are substantial opportunities arising from moving through trips from the city centre, creating much improved urban realm and releasing major economic value from the land surrounding the road.

### A vision for Great Charles Street without the tunnels





## Delivery – Learning Lessons

Delivering Birmingham Connected's vision will be challenging: it will mean periods of disruption across the city as more and more transport infrastructure is implemented. We have delivered, or are in the process of delivering, a number of major pieces of new infrastructure or upgrades to existing infrastructure. We have learned a lot from delivering projects such as New Street Station, the Metro extension and managing the tunnels closures over the past two summers. We can take these lessons and apply them to Birmingham Connected:

Co-ordination and Collaboration	Communication	Continual Improvement
<p>It is vitally important that we consider a long-term programme and coordinate delivery of projects on the same or nearby corridors to firstly minimise disruption and secondly to ensure we do not dig up something put down only a few years previously. For example we have already started to think about how improvements made under Birmingham Cycle Revolution can be incorporated within the corridor approach.</p> <p>Our 'Corridor Approach' described above will be key to this. Programmes will be developed around corridors to ensure that all changes/improvements happen in a coherent manner.</p> <p>Secondly we will need to collaborate with all delivery partners: Centro, public transport operators, contractors, utility companies, Network Rail, the Highways Agency, neighbouring local authorities and consultants. Collaborating will require all parties to work together towards a single, common goal.</p>	<p>The recent closure of the tunnels showed us how important communication is to giving people information about potential disruptions and how they can minimise the impacts on them.</p> <p>A good communications plan and strategy will also allow us to inform people and businesses about what's coming and how it will improve their daily travel when complete.</p> <p>We will provide up to date travel and information on how journeys can be made by alternative modes during periods of disruption.</p>	<p>We cannot pretend that we have learnt every lesson and that the way we deliver schemes cannot be improved.</p> <p>There are always ways we can deliver cheaper, faster and with less disruption to daily lives. Part of our new approach will be to continually monitor and seek further lessons for future delivery.</p>



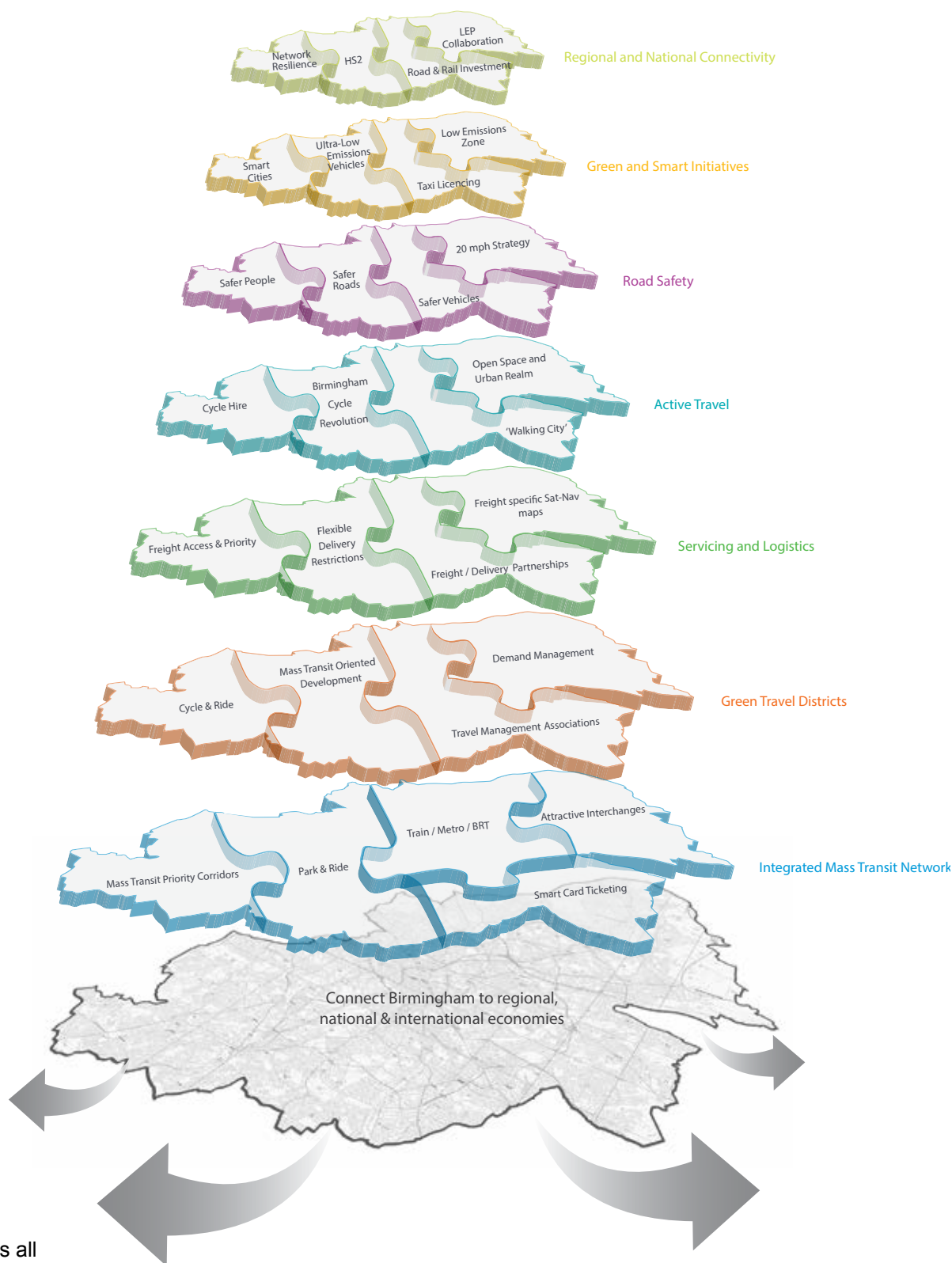


## 04 Components of an Integrated Transport System

The vision set out earlier in this document requires a new approach to developing a transport system for the city.

We must consider the needs of all users, whether they are accessing markets in the wider region and beyond, getting in and out of the city centre, accessing jobs/training/higher education/or getting children safely to school.

The Birmingham Connected approach will ensure that all schemes will offer a real choice to use a variety of transport modes, will be equitable and accessible by all and will consider corridors so that schemes and will not be delivered in isolation. Where possible they will be packaged together in locations or corridors to maximise the choices available to travel and create impressive new spaces across Birmingham.

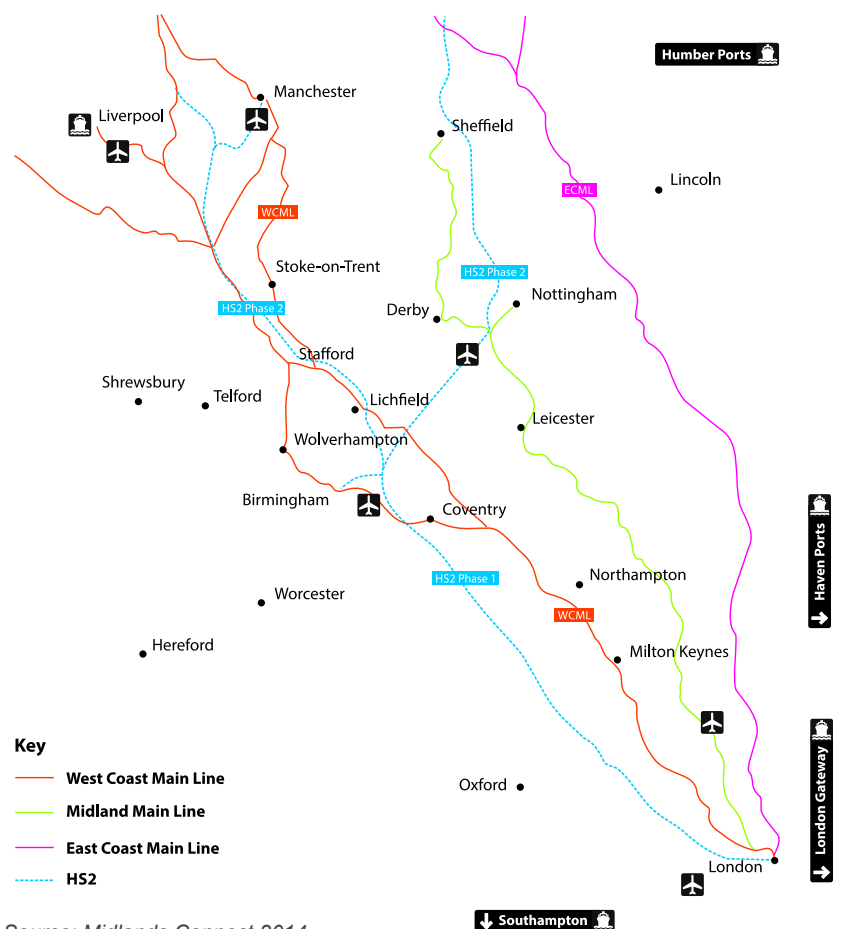


## Improving Strategic Connectivity for Economic Growth

**The Vision for a more strategically connected Birmingham is to maximise the economic advantages we have from sitting within a region of 10 million people, being within four hours by road of 90% of the UK's population and the opportunities from HS2 connections in the future. In doing so we can create jobs and help develop successful businesses. 36 million people live within 120 minutes travel time of Birmingham Airport and supporting the airport as a key gateway to the city and region is essential.**

The 'Midlands Connect' strategy, jointly developed by the Local Enterprise Partnerships (LEPs) which make up the region, identifies seven strategic priorities for transport investment to help boost the West and East Midlands' economy, these are:

1. Making the most of HS2
2. Linking to international gateways ports, airports
3. Improving East-West connectivity etc.
4. Improving freight services
5. Making the strategic transport network more resilient
6. Opening up land for commercial and residential development
7. Growing and connecting established regional centres



From these seven priorities 28 specific connectivity needs (termed 'Conditional Outputs') are set out to support economic growth across the region. These include improving journey times between urban centres (Birmingham to Nottingham, Leicester etc.), increasing capacity on key commuter corridors into Birmingham, greater transport capacity in the city centre (all modes) and improved reliability on strategic corridors (road and rail).

For Birmingham and the wider Travel to Work area, the development of integrated transport infrastructure that is capable of responding effectively to the work and training needs of residents is essential for economic growth. The efficient movement of the labour force, responding to variable working and shift patterns is key to the locational decisions and effective working practices of many companies.

Birmingham Connected will support and enable investment infrastructure that supports the success of Birmingham, even where the identified need is to actually invest outside of the city itself. A successful Midlands region means a successful Birmingham economy, and vice versa. We will therefore work closely with regional and national bodies to progress the planning and implementation of these strategic road, rail and airport capacity needs.

Investing in transport infrastructure is an important means of helping achieve strong and sustained economic growth. Also, large numbers of new jobs will be created in the city and surrounding area over the next 20 years; improving transport links will be absolutely vital to ensure that Birmingham residents can access those jobs.

## 04 Components of an Integrated Transport System

### A Mass Transit Network

The aspiration is to create a mass transit network within the city and across boundaries with neighbouring authorities which will place us amongst the world's best.

The majority of the network will be road-based, with Metro, Sprint bus rapid transit and regular buses but the success of heavy rail will continue; with re-opened lines, new stations and increased capacity on existing services. Understanding that the network will be predominantly road-based emphasises the need to develop full corridor schemes; where road space is considered as a whole and priority given to public transport.

Birmingham Connected presents a comprehensive, integrated system where interchange between modes is seamless, pricing is fair and clear, vehicles are a high standard and using it is a clear choice for everyone.

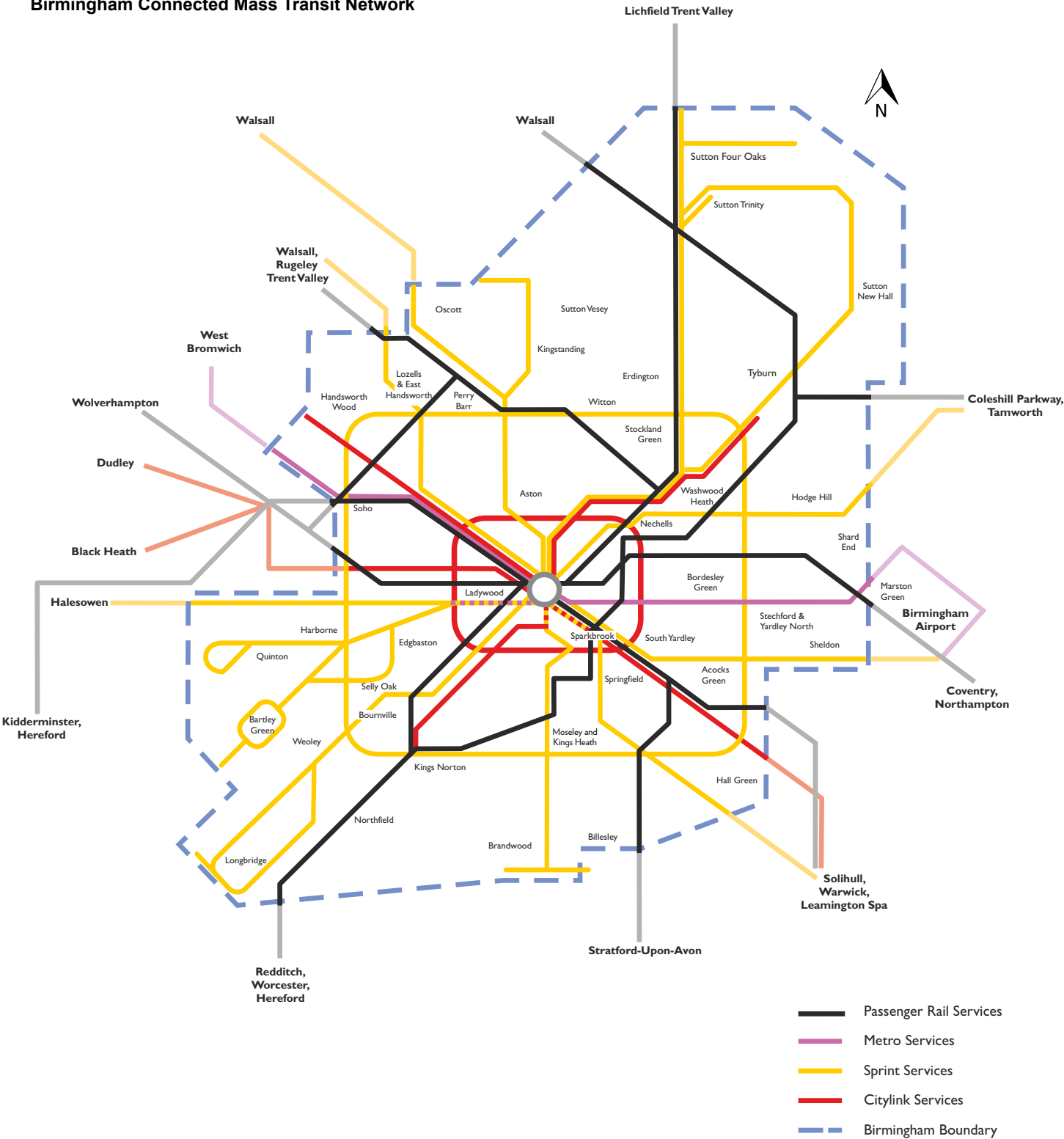
Physical infrastructure will not be the end of the story, it will be vitally important that we further explore how to reduce travel costs for commuters and local communities. This will include integrated ticketing and 'whole of journey' pricing; but also aspects such as exploring with Central Government and the ITA the opportunity to have more control over the revenue provided for concessionary fares.

We believe there could be better ways to spend the monies allocated by Central Government, such as providing cheaper fares for young people accessing training and jobs, and we will lobby for greater say on how that money is spent.

One of the technical pieces of work progressed since the publication of the Birmingham Connected Green Paper was to investigate how the initial public transport ideas could be implemented and to confirm what the most appropriate mode for each corridor should be. What follows is an overview of the recommendations from the Birmingham Connected Public Transport Study; the full detail can be read in the accompanying technical appendix.



Birmingham Connected Mass Transit Network





# 04 Components of an Integrated Transport System

## Rail Proposals



Strong growth is continuing in the regional and intercity passenger markets and also in the rail freight sector. As a result, many peak services are overcrowded. Meeting this increasing demand for rail transport requires investment in longer/more frequent trains in the short term, and additional infrastructure capability in the medium to long term.

A key element in providing extra rail capacity will be the new High Speed Rail line HS2 which will put Birmingham and the wider West Midlands at the heart of the future UK strategic transport network, reshaping the economic geography of the UK and acting as a catalyst for local economic growth.

The West Midlands rail network will make best use of capacity released by HS2 and also provide additional network, train and station/terminal capacity and capability required to meet the growing demands of both passenger and freight markets.

Following the planned completion of the redevelopment of Birmingham New Street in 2015, it is planned to progress redevelopment of Snow Hill station over the life of Birmingham Connected.

Midlands Connect has a particular emphasis on investment in rail across the Midlands region and taking advantage of the opportunities provided by HS2. Local rail services play a crucial part in the overall transport system in Birmingham. Scope to expand capacity further is limited but significant opportunities do exist.

For example the reintroduction of passenger services on the Camp Hill, Tamworth and potentially Sutton Park lines will increase commuter services into the centre.

Investment is also committed for a number of other improvements including increasing service frequencies from Redditch and Bromsgrove into Birmingham, further electrification, and station improvements. Opportunities will be sought including through Midlands Connect for better connectivity across the West and East Midlands including reducing travel times from cities such as Nottingham, Leicester and Worcester.

The proposed devolved West Midlands rail franchise would be a key vehicle to progress further improvements.

## Metro Proposals



Metro is the ultimate standard for road-based public transport across Birmingham. Metro will always be the first consideration for any corridor.

However, we must also be realistic that under some circumstances Metro is not achievable. Principal constraints are the available space in a particular corridor and the potential demand – as Metro is very expensive to deliver it needs a high level of patronage to make it viable.

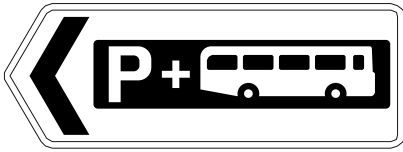
The proposals for Metro over the next 20 years include:

- Complete extension of Line 1 from Centenary Square to Edgbaston.
- Create a new line in the city centre which will connect Snow Hill to the HS2 station at Curzon Street and eventually on to Digbeth.
- Further extend this line out to Birmingham Airport/NEC/High Speed 2 Interchange/UK Central via Bordesley Green and Chelmsley Wood.
- Three other corridors have the potential to eventually become Metro lines: the A34 Walsall Road, A38 Bristol Road and the A45 to the Airport. However, the Birmingham Connected Public Transport study also recommended that due to the higher need to complete a network as early as possible, that these corridors should be initially progressed as Sprint. Their eventual conversion to Metro will come later. That said, if the funding opportunities arise then these three corridors could be delivered as Metro straight away.



# 04 Components of an Integrated Transport System

## Accessing the Mass Transit Network



Rail based Park & Ride has been enormously successful over recent years. New or expanded sites that have opened have seen demand exceed supply in a short time. We need to build upon this success.

The Birmingham Connected technical work has been seeking opportunities for new or expanded Park & Ride, or Cycle & Ride, facilities both inside and outside (but serving) Birmingham. Three different types of facility have been considered.

Integrating cycling with the rest of the mass transit network will also be important and its consideration will become implicit in all scheme designs. This will enable people to travel much longer distances across the city, combining cycling and public transport. Ideas to be explored will include integrating cycle routes with high frequency public transport services; providing cycle hubs and secure parking at Park & Ride sites; and widening the current Brompton Dock scheme across the network to enable people to continue their journey from a station/stop by bike.

### 1 Strategic Park & Ride

These are sites either on the edge of Birmingham or perhaps just outside of the boundary. Their intention is to capture people travelling from relatively long distances across the travel to work area for Birmingham and provide them with a means of accessing a fast, reliable public transport service into the city.

### 2 Local Park & Ride

These are sites further inside the city boundaries (such as Selly Oak or Northfield stations) which aim to encourage people living in the city to drive to their nearest station (if they live further than a walk or suitable cycle ride away) and enter the mass transit network.

### 3 Micro Park & Ride

These are small scale sites which largely lie along the Sprint network. In particular provision is made for people with disabilities and cyclists. Where there is more space, this could be achieved by making use of existing car parks and integrating them with the Sprint or CityLink networks. The key here is providing choice for people.



## Ultra Low and Zero Emission Vehicles

We are setting ambitious targets for public transport vehicles to reduce their impacts on the environment. By 2031 the vast majority of people travelling on public transport in this city will be doing so in zero (at point of delivery) emissions vehicles.

This will be achieved through:

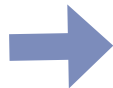
- Electrification of rail services; starting with services to Bromsgrove by 2015 and electric trains running to Rugeley by 2017. Full proposals for electrification of rail services are set out in the West Midlands Rail Vision; published by Centro.
- Metro vehicles will also be zero emissions through either overhead lines or in combination with some battery powered sections.

- The on-street services (Sprint, CityLink and Buses) will be radically different vehicles to those used on Birmingham's roads today. There is currently a legal agreement in place with all bus operators that all vehicles entering the city centre have to adhere to a certain level of Euro-standard emissions, but are still predominantly diesel powered vehicles. Birmingham Connected recommends that the next agreement, from 2022, should set much higher standards and is also expanded to all major public transport corridors across the city.

Birmingham Connected's strategy for the Sprint network is to build up to eventually having a completely zero emissions fleet.



**2015 - 2019**  
**Hybrid**  
**Electric Diesel**  
**Propulsion**



**2020 - 2024 Plug-In**  
**Hybrid Electric**  
**Diesel Propulsion**



**2025 - 2030**  
**Battery Electric**  
**Propulsion**  
**with Induction**  
**Technology**





# 04 Components of an Integrated Transport System

## System Integration

A considerable amount of thought has been given as to how to tie together all of the distinct elements to the system. Integration is needed on three levels; but balance must always be struck with the competing needs of road space.

Type of Integration	How it will be achieved
Physical Integration	<p>Proximity of stops and infrastructure, locating Sprint stops closer to junctions to facilitate easier interchange between services.</p> <p>Enhanced / extended pedestrian phasing at traffic lights between interchange stops.</p> <p>Nearby access to car club and taxi spaces.</p> <p>Cycle storage.</p> <p>Cross city routes – allowing people to travel across the centre without having to interchange.</p> <p>Identification of specific interchange sites.</p>
Network Integration	<p>High service frequency for 'turn up and go.</p> <p>Cross city routes.</p> <p>Smart cross-ticketing on cards, with an option to include mobile phone ticketing, too. Based on a zonal system. Taxis could also face new legislation so they could be accessed on the same seamless basis.</p>
Information Integration	<p>Signage between stops based on coloured lines with options for tactile paving.</p> <p>Central information zone for all modes, allowing users to understand the interchange times for getting off a train and on to a Metro, or off Metro and on to Sprint etc.</p> <p>Maps and announcements on and off vehicles giving real-time updates.</p>

### ROLE OF TECHNOLOGY:

Integrated ticketing or 'whole of journey' fares are vitally important to enable people to move seamlessly between different modes and services.

We will work with Centro and operators to develop a system which will enable seamless use of all public transport, and possibly taxis, but also integrate this with other Council services; such as cycle hire and leisure facilities.

## Delivery and Operation

Delivering an ambitious network such as that envisioned by Birmingham Connected will be a significant challenge. We will need to find partners in delivery, not least of which Centro as the Passenger Transport Executive for the West Midlands.

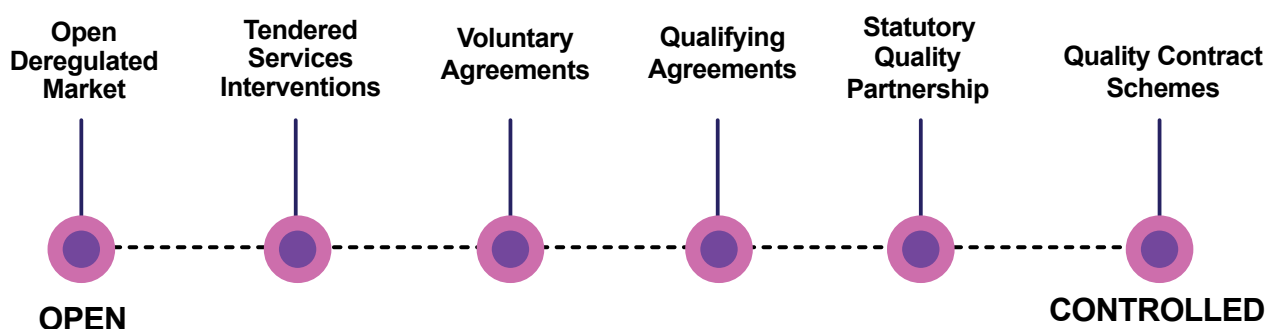
However, we will also need to consider how services can be operated and what opportunities there are to partner with the private sector in order to speed up delivery and ensure the required quality of service.

A number of options are open to developing these partnerships. In some cases they can be very controlled with binding contracts stipulating quality and services but we would prefer to work with willing partners who can

bring the benefit of their experience and offer something into the partnership. However, if we cannot secure the types and quality of services needed to achieve the standards demanded by Birmingham Connected then formal Quality Contracts may need to be implemented for new services.

The West Midlands is part of a national lobby for greater local control over rail operations franchising, which will enable Birmingham to push for rail services to better suit the needs of the city.

Types of partnership arrangements available for public transport operations



## 04 Components of an Integrated Transport System

### Green Travel Districts – Making Birmingham Connected Happen Locally

**The Vision of Green Travel Districts (GTDs) is one in which there is a concentration of people living and working in an environment where people are put before cars, where residents, workers and visitors can safely walk, cycle or take public transport. The vision is for Districts with less congestion, less pollution, fewer accidents, and healthier, safer, more productive communities.**

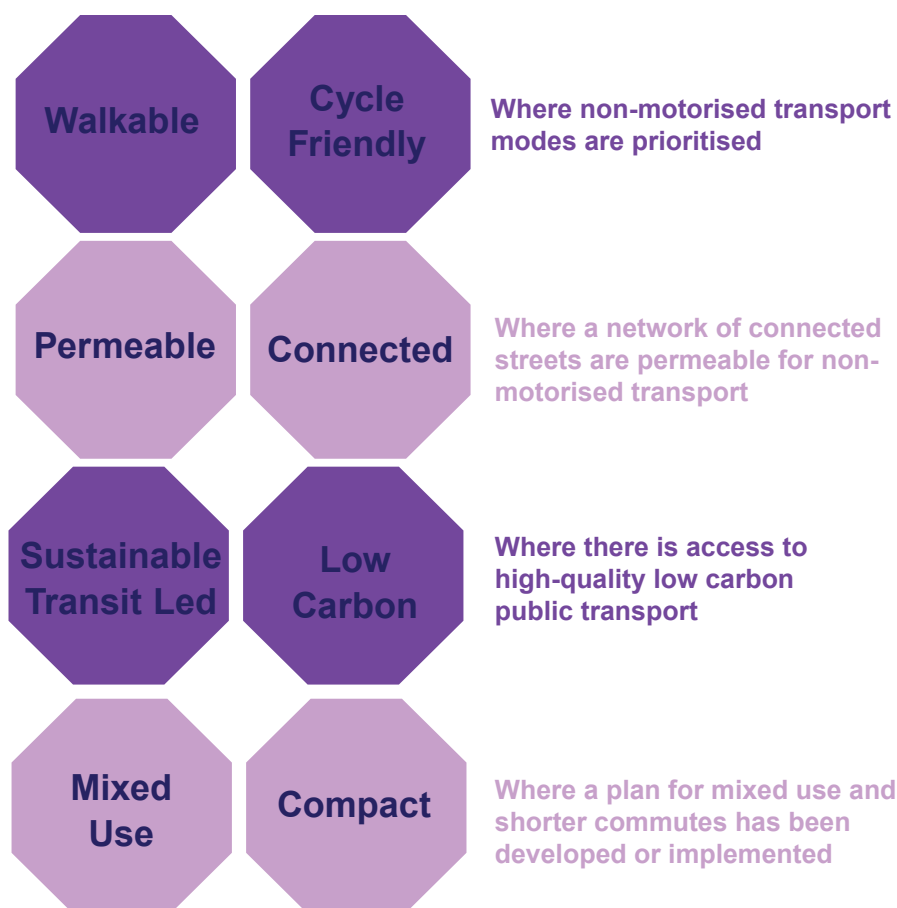
The BMAP Green Paper floated the idea of 'Green Travel Zones' (subsequently re-named 'Districts') across six of the Growth Zone areas where packages of initiatives could be brought together to influence travel behaviour at a local level and to create examples of what Birmingham Connected can achieve. Since the publication of the Green Paper this concept has been explored in detail.

The concept is to support long-term sustainability in specific locations, to support people and businesses in contributing towards Birmingham's carbon and air quality targets. To a large extent, these districts will be the mechanism by which the new approach to transport for Birmingham is made relevant to local areas and people, encouraging residents and business make to the right travel choices.

The key objectives of the Green Travel Districts are:

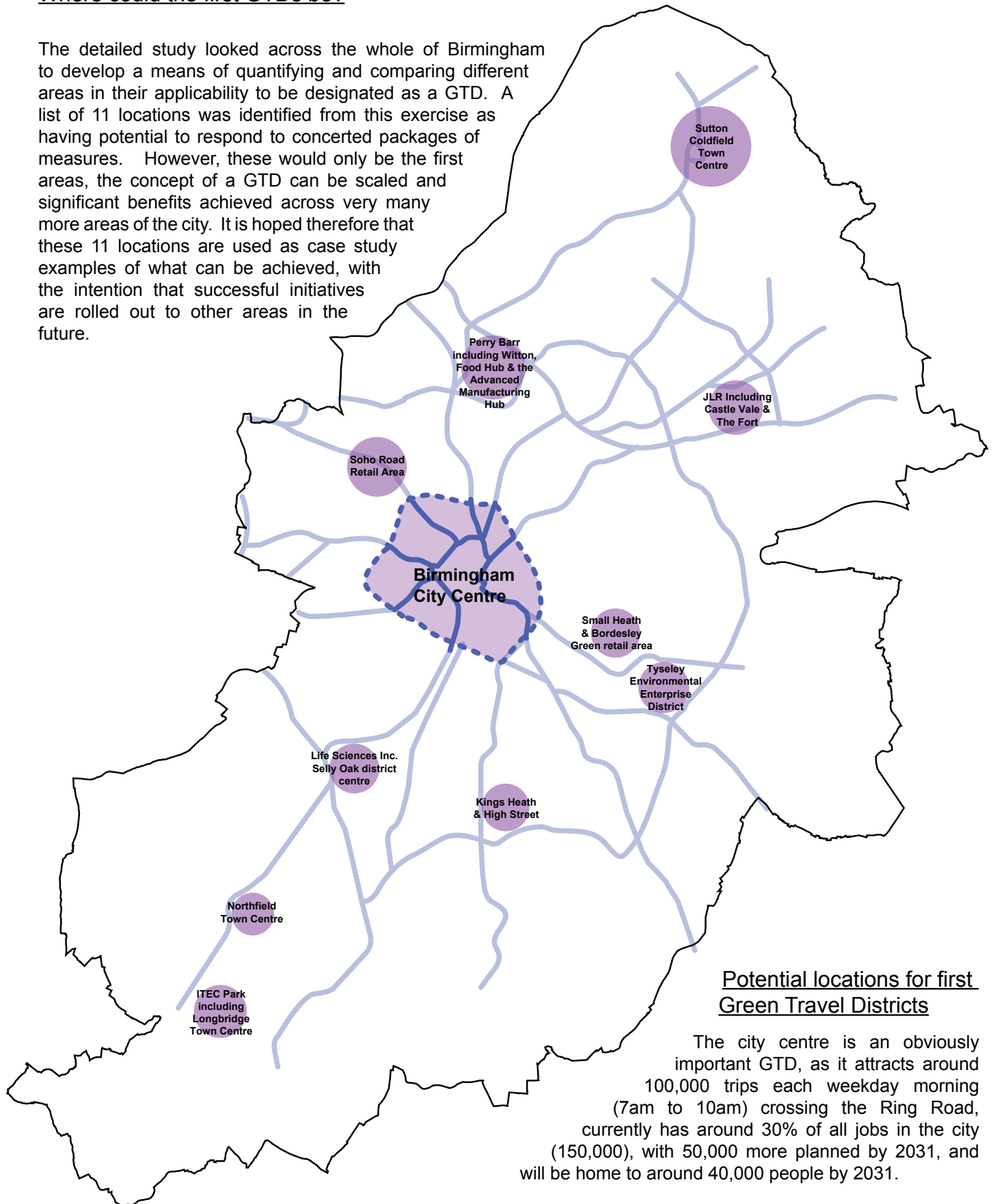
1. To achieve and sustain targets for single occupancy vehicle use of 50% or less.
2. To harness the mode shift potential of innovative technology and smarter choices measures in both established communities where potential is identified and at newly created business communities in the identified core growth locations in the BDP.
3. To promote sustainable travel initiatives within the GTDs and across the city, be models of best practice and exemplars of what is achievable.
4. To demonstrate successful modal shift which can be adopted elsewhere in the city.
5. To enhance the attractiveness and quality of the urban environment within the GTDs.
6. To embed a culture of sustainable travel within the GTDs and provide strong motivations for travel behavioural change.

From this vision and its objectives came the following interconnected principles behind Green Travel Districts:



## Where could the first GTDs be?

The detailed study looked across the whole of Birmingham to develop a means of quantifying and comparing different areas in their applicability to be designated as a GTD. A list of 11 locations was identified from this exercise as having potential to respond to concerted packages of measures. However, these would only be the first areas, the concept of a GTD can be scaled and significant benefits achieved across very many more areas of the city. It is hoped therefore that these 11 locations are used as case study examples of what can be achieved, with the intention that successful initiatives are rolled out to other areas in the future.



For this reason, a specific City Centre Transport Master Plan will be developed which provides a blueprint for how the principles of Birmingham Connected will be delivered in this area.



# 04 Components of an Integrated Transport System

## How could GTDs be implemented and what will they deliver?

Birmingham Connected believes that an important success factor for the GTD concept is that they meet the needs and aspirations of the local resident and business communities who use them and that they are involved in their development and delivery.

Support for this approach will need to come from politicians, planners and engineers who take a strategic view of Birmingham Connected's delivery for the Council alongside key local stakeholders.

Each potential GTD will have different characteristics: for this reason it would be wrong to produce a generic action plan for a standard GTD. Birmingham Connected has researched and developed a suite of over 180 potential initiatives which could come forward with a GTD; these will provide guidance to the local GTDA but ultimately it would be up to the individual association as to what it wants to deliver.

### 1 GTT - Green Travel Taskforce

A project led policy, strategy and delivery team within BCC, but including input from Centro and potentially other stakeholders.

### 2 GTDA - Green Travel District Associations

Organised groups applying carefully selected approaches to facilitating the movement of people and goods within each GTD (sometimes known as Travel Management Associations);

### 3 GTO - Green Travel Officers

Named individuals or groups who coordinate initiatives on behalf of individual businesses or organisations. These should be directly employed by the GTDAs, with perhaps funding coming in part via grants from BCC.

#### ROLE OF TECHNOLOGY:

Marketing and promotion of sustainable travel will be a vital tool in GTDs.

Birmingham is aiming to make significant amounts of travel data freely available to the market in order to promote innovations in apps and websites which provide information to the travelling public.

GTD initiatives can be grouped into four categories. We will work closely with pilot areas to determine the best mix of initiatives:



#### **Marketing and Promotion**

Covering behaviour-based, promotion, information, publicity and other similar interventions.

These are normally associated with smarter choices style approaches, but practically every intervention theme will have a marketing dimension needed to support it.



#### **Infrastructure**

Covering all forms of infrastructure approaches ranging from DDA improvements (e.g. dropped kerbs) to major infrastructure investment (e.g. new public transport interchange).



#### **Policy**

Covering spatial planning, transport policy, guidance and other governance tools such as low emissions zones or reduced car parking provision.



#### **Technology**

Covering all forms of technological intervention including road user charging, electric vehicles, travel demand management methods, access controls, wide area UTM, passenger information, interactive websites etc.

## Servicing and Logistics

**The Vision for moving goods and servicing businesses is for greener, safer and quieter vehicles serving our communities, and the use of technology, education and behaviour change to manage all shapes and sizes of freight to use the right part of the network at the right time.**

Moving goods around the city and servicing businesses is a vital part of our economy: although road freight accounts for just 6% of the traffic across the West Midlands, it is estimated that its movement accounts for 30% of the region's economic output.

Key organisations within the servicing and logistics industries, ranging from large scale distributors to SMEs, have collaborated with us to develop a detailed study into how to improve the flow of goods into and around the city, helping business thrive. The industry as a whole also recognises it has a responsibility to reduce its contribution to vehicle emissions, congestion and collisions.

Through the servicing and logistics study Birmingham Connected has placed a great level of emphasis on initiatives which reinforce the notion that areas such as the city centre and local high streets should be for people; enabling them to become safer and more pleasant environments. Balance was sought to ensure the needs of businesses were considered and ideally improved but also that the overall needs of the specific environment were overriding. Key to this concept was timing the movement of freight and deliveries, keeping corridors free-flowing in the peaks, keeping high streets and local centres for people in the middle of the day and making it easier for servicing businesses outside of these times.

As well as considering 're-timing' of deliveries, the study also generated around 80 initiatives in a 'menu of measures' which targeted specific locations: the city centre, Key Arterial and Strategic Routes, Local and District Centres and Residential Streets / Neighbourhoods. For each location, initiatives have been developed which can be categorised under three groupings:

Initiative Type	Examples from the Menu of Measures
Physical	<ul style="list-style-type: none"><li>Freight access gates at key points on the Ring Road for entry to the city centre away from congested routes.</li><li>Freight consolidation centres, of varying scales: strategic ones located on the outskirts of the city, city centre focused ones with 'cargo-bike' deliveries into the centres and high street / neighbourhood freight drop off locations for out-of-hours operation.</li></ul>
Operational	<ul style="list-style-type: none"><li>Bookable loading bays via apps, allowing greater certainty of availability and appropriate timing of deliveries.</li><li>Develop specific freight sat-nav maps which designate specific routes according the freight road hierarchy.</li><li>Smart approach to traffic management, linking Highways Agency and local roads into a single VMS / traffic information flow – and managing HGVs better through junctions to reduce delays from them slowing down and speeding up; which will benefit all road users.</li></ul>
Behavioural	<ul style="list-style-type: none"><li>Flexible delivery restrictions in certain locations (City centre, High Streets etc).</li><li>Links with the Green Travel Districts to encourage local freight operation partnerships.</li><li>Electric vehicle grant scheme to allow SMEs to apply for a shared electric delivery plan.</li></ul>

### ROLE OF TECHNOLOGY:

Sat-nav mapping of strategic and local freight routes will help ensure that vehicles stay on the most appropriate roads. When on these roads it would be possible to provide priority to goods movements at certain junctions during off-peak periods. This will also keep all traffic moving more freely as HGVs will not have to speed up and slow down so much.

# 04 Components of an Integrated Transport System

## Active Travel

**The vision for Active Travel will be to establish walking and cycling as default modes across the city. People will choose active modes because they will be safe, fast, healthy and affordable.**

**Cycling will become a mainstream form of transport over the next 20 years. We want 5% of all trips in the city to be made by bike by 2023 and to double this again to 10% by 2033.**

**Walking is an essential part of most people's journeys. The Council will make the city easier and more attractive to move around by foot and for those with mobility impairments.**

### Walking

Birmingham is one of five UK cities awarded the status of 'Walking City' by the Department of Health and Department for Transport. To complement the Birmingham Cycle Revolution Programme, a successful £250,000 funding bid was made for a Walking Cities Project which will be undertaken by the Third Sector Organisation Living Streets; which can be used as an example project which could be rolled out to other areas of the city.

This project will deliver a range of activities and interventions relating to walking; in particular working to support residents in disadvantaged neighbourhoods to walk more. It will work with the least active communities in the city to improve health and well-being and reduce health inequalities. This will include working directly with communities to break down barriers to walking and promote active lifestyles. The Council has agreed detailed outcomes with Living Streets for the duration of the project until June 2015. Key activities include locally led health walks, community street audits, park to city walks and encouraging Birmingham residents to make walking pledges.

Beyond this project, the new corridor led approach described earlier will bring significant benefit for pedestrians. This new approach will be to use major transport schemes as catalysts for urban regeneration,

ensuring that good quality pedestrian environments, safer crossings and the needs of people with disabilities are delivered. We can also use the same approach to ensure that links to and through our public open spaces are improved to encourage more people to walk for pleasure.

It is also worth remembering that many pedestrians are visitors to the city: Birmingham currently attracts over 33 million visitors every year, contributing to a visitor economy worth £4.9 billion. Studies have demonstrated that people value well-designed and maintained streets, and that high quality streetscapes and public realm can add economic value. This reinforces the need to invest in this type of infrastructure as part of the whole of corridor approach.

A new delivery group 'Walkable Birmingham' has been set up to champion the walking agenda in the city and ensure that Birmingham becomes a 'Walkable City'. The group will develop programmes of activities with partners to increase levels of walking and take forward a programme of works to improve the facilities and infrastructure for pedestrians.

Our commitment to this desire for a walkable city is demonstrated through two of our major transport investments which have secured funding. These include: 'Making the Connections'

which will improve large areas of the city for pedestrians and 'One Station' which will provide a much improved pedestrian link between New Street and Moor Street stations.



### ROLE OF TECHNOLOGY:

The Interconnect Birmingham project has improved visitors' navigation of the city - from an initial web visit through maps with on-street orientation, to improved signage and information when they arrive in the city.

## Cycling

The city is already making significant investment to grow levels of cycling through the Birmingham Cycle Revolution (BCR). A £24 million injection has enabled the development and start-up of the BCR programme which is making it easier and safer for both new and experienced cyclists to travel to schools, shops and work, or simply to cycle for pleasure or fitness.

This investment builds on the successful £4 million Local Sustainable Transport Fund (LSTF) bid for Bike North Birmingham. Schools, workplaces and local communities have benefited from clearly branded and wide-ranging programmes successfully increasing the numbers of people cycling under this innovative programme.

Works on canal towpaths and off-road green routes have already started and in the summer of 2014 consultation has happened with residents and businesses on proposals for cycling improvements to key routes into the city centre. Cycling improvements will continue to be built throughout 2014 and 2015. The development of Bike Hubs is a key goal with the first Brompton Dock hub opened in the city in summer 2014.

This is only the start; the city will continue the momentum behind BCR and is already planning further expansion to the cycle network. In addition to the £24 million for BCR, another £8 million has been secured to deliver further improvements and we have a clear strategy for future roll-out, which will be set out in a new Active Travel Strategy.

Infrastructure will be supported by ongoing programmes of cycle training for new and experienced cyclists, and activities with employers, schools and in the community to make it easier for people to cycle for everyday journeys to work, education or shopping, for exercise or as a leisure activity.

The recent All Party Parliamentary Cycling Group inquiry recommended that funding for cycling by local authorities should be in the region of £10 per person, per year. The money currently being invested into cycling in Birmingham, through the Birmingham



Cycle Revolution project, Local Growth Fund and Local Sustainable Transport Fund mean that the level is currently in excess of £10 per person, per year. We will continue to explore opportunities to sustain this level of investment e.g. working with the Government and partners on the Cycling Delivery Plan.

### ROLE OF TECHNOLOGY:

Websites and apps, such as [walkit.com](http://walkit.com) and [cyclestreets.net](http://cyclestreets.net) provide journey planning for pedestrians and cyclists.

We can provide data and mapping in open formats for app and website developers. This can be used to provide new innovations and better information to walkers and cyclists to plan their journeys.



# 04 Components of an Integrated Transport System

## Road Safety

**The Vision for safer roads is to ensure that Birmingham's roads are as safe as they can be and that road users are appropriately informed as to how to best use them.**

Road Safety is a key area to tackle if Birmingham is serious about encouraging more active travel. A common factor in people choosing to drive short distances, particularly for journeys to drop children at school, is the perception of a lack of safety and security when walking, cycling and crossing busy roads.

The trend is positive and overall collisions on Birmingham's roads have fallen by 37% in the last five years (2009-2013). However, there are still many issues which require targeted efforts by the Council and its partners. Road Safety is critical to delivering the vision set out by Birmingham Connected.

The vision will be achieved through a range of engineering and education interventions which will continue to be developed and delivered in response to information on collisions and casualties. We will also seek to address people's perceptions of road safety, which are often barriers to the uptake of more sustainable and active forms of transport.

The Council's emerging Road Safety Strategy is themed around 3 areas:

**Safer Roads** – sets out how the Council ensures that the city's roads are maintained, operated and developed in as safe a way as possible. The Council ensures that any new schemes do not compromise road safety and enhance road safety where appropriate. The Council gives priority to road safety around schools through the Safer Routes to Schools Programme.

**Safer People** – sets out how the Council uses education, training and promotion to improve road user behaviour and encourage more sustainable and active travel.

**Safer Vehicles** – sets out how the Council can enforce compliance with regulatory standards to ensure vehicles using the city's roads are safer.

The aims of the Road Safety Strategy will include:

- Improving safety for pedestrians and cyclists.
- Reducing conflict between HGVs and cyclists.
- Improving the safety for powered two wheelers.
- Improving safety at local centres and inner city areas.
- Improving road safety behaviour of more vulnerable and higher risk users including child pedestrians and young drivers.
- Working with partners to address the issue of uninsured drivers.
- Working with partners to support and influence improvements in technology to safeguard all users when things go wrong.
- Supporting partners in initiatives around targeted enforcement and compliance for those who deliberately choose to drive dangerously.
- Digital speed camera pilot.

Ensuring road safety will be implicit as part of delivering the objectives of Birmingham Connected.

The new Road Safety Strategy will be published in 2015.



## Green And Smart Initiatives

**The vision for a Green and Smart city is that we will see the widespread use of low or zero emissions vehicles from the public, public transport operators and the servicing/logistics industry. We will work with partners to develop the core infrastructure and provide incentives for people and businesses to create a greener fleet across Birmingham. Technology will also be a vitally important tool, providing the means to generate innovative ideas to achieve Birmingham Connected's aims.**

## Ultra Low Emissions Vehicles (ULEVs)

Supporting the move to ULEVs is essential to achieving the city's ambitious carbon emissions targets of a 60% reduction on 1990 levels by 2027. This is also key to improving the city's air quality, which currently falls below recommended levels in numerous parts of the city.

As described earlier Birmingham Connected has a strategy for moving public transport to eventually wholly emissions free vehicles. However, we also want to help our residents to move to more low emissions vehicles.

A network of 36 electric vehicle charging points is already in place and over £300,000 has been sourced from the Office for Low Emission Vehicles (OLEV) to fund the installation of rapid chargers in Birmingham. The 'Birmingham Blueprint', a mapping study of the future business needs for low/zero carbon fuel infrastructure, is currently identifying requirements for ULEVs, including the location of future infrastructure.

### Low Emission Zones

A trial to consider the potential for a Low Emission Zone in Birmingham city centre to address air quality issues will take place during 2015. As previously discussed, the development of a mass-transit network will be founded on the use of low/zero emission vehicle technologies, and the Green Travel Districts will provide further incentives for shifting to ULEVs.

### Taxis

Taxis comprise a small part of the overall vehicle fleet in the city, but they have a disproportionate impact on vehicle emissions because of their mileage.

Electric vehicle technology can contribute to the "greening" of taxi systems. As Birmingham has a network of electric charging points in the city centre we will investigate incentives or allowances for taxis to use these charging points for a reduced cost as part of choosing or switching to an electric vehicle.

We have developed a strategic relationship with Nissan to support the take up of electric taxis (the new Nissan e-NV200, an electric version of the Hackney Carriage) in Birmingham. Nissan aims to introduce 8 to 10 electric taxis with favourable financing schemes to encourage early adopters, by September 2015.

Nissan is also providing a free six month trial of a Nissan Leaf electric vehicle within the Council's Adults & Communities Night Care Team. This team's fleet was recently identified as the oldest fleet within BCC. The trial aims to encourage take up and will help build the business case for future procurement of electric vehicles within BCC fleets, in line with the city's Green Fleet Strategy.

### **ROLE OF TECHNOLOGY:**

Birmingham would like to see technology better used across the taxi fleet. We will work with operators to see the things like: credit / debit (or potentially smart card) readers in vehicles, GPS equipment installed to track booked vehicles via apps and the introduction of lower emissions vehicles.

Where possible we will provide access to data which could enable app developers to create taxi booking and tracking software.

# 04 Components of an Integrated Transport System

## Birmingham Smart City

Intelligent Transport Systems (ITS) are intrinsic to transport in the modern global city. ITS offer many opportunities to improve people's knowledge and perception of transport choices, improve the efficiency of traffic movements and support efforts to address transport's safety and environmental impacts. The city is already exploring different types of technology, such as smart parking solutions using bay sensors, mobile car parking payments, lighting columns that are remotely controlled and real time information at bus stops.

'Birmingham Smart City' is a collaborative approach uniting all sectors and communities in Birmingham and the wider region to change how we deliver services and create a more sustainable and better future for all of our citizens. The Smart City Roadmap (SCR) approach directly supports a better connected and mobile city predominantly through working towards intelligent and integrated transport solutions, for example:

- Ensuring that the supporting ICT infrastructure is in place to deliver intelligent transport solutions.
- Creating data based solutions that aggregate and manage demand, e.g., notifying travellers of available transport, cycle routes, or low carbon delivery options.
- Increasing the use of data from BCC and regional systems, support technology projects that improve system performance, bring in innovation from other cities and the market, e.g., soft market testing.
- Trialling and implementing telemetry solutions to help prioritise road space and exploiting traffic management systems and sensor technology to improve traffic flow.
- Understanding and aggregating demand and using that information to reduce freight requirements or develop new delivery models.
- Engaging citizens through technology such as social media, crowd sourcing, citizens as sensors, open data hack days etc. to get insights into travel routes and

needs and accessibility solutions.

- Actively reducing the need to travel through independent living and health monitoring technologies, exploring different ways of working.
- Engaging city and regional stakeholders to connect current solutions to offer seamless payments for travellers.
- Engaging with partners on emerging new technologies e.g. driverless cars.

Having the Smart City Roadmap in place, under the umbrella of Birmingham Connected, will mean that Birmingham is tapped into the latest thinking on transport technology and a number of different applications will come forward over the next few years.

The city is already developing and piloting new technologies to support transport objectives through a number of European Union funded projects including OPTICITIES, Open Transport Network (OTN) and My Neighbourhood.

### ROLE OF TECHNOLOGY:

A system is being investigated which uses sensors embedded in the road to provide data about environmental conditions and traffic congestion. By integrating these into the traffic management system, the city can manage traffic flows where data indicates that pollution thresholds are likely to be exceeded.







## 05 Delivering Birmingham Connected

### What are the Next Steps?

Birmingham Connected is Birmingham's Sustainable Urban Mobility Plan (SUMP), and having such a plan in place will help to provide access to European funding. The ideas presented in this document will also form part of the next bids to central government and the vision as a whole will be used to sell Birmingham to national/international investors who are looking for places to develop businesses and create jobs.

An important point to emphasise is that there is only so far that the Council can go under current arrangements. Firstly, we do not have all of the funding in place to deliver the whole aspiration: some suggestions are described below but we need a mechanism to generate more capital and revenue money in order to realise the full benefits of Birmingham Connected. In all likelihood this will mean an increased contribution from businesses and an open discussion will be held on this in the coming months, with a view to making firm commitments by the end of 2015. Secondly, we do not have all of the powers and decision making abilities that we need to deliver the plan in as short a time as possible. This document is part of a lobby to central government to allow us more freedom to create a greater city.

This document is only the start of the journey. We cannot rest on our laurels.

First of all, we must deliver new infrastructure. Over the next five years we have committed to delivering over 40 new transport schemes across the city.

In addition to this list we have some high priority schemes which do not yet have committed funding streams. As and when new funding becomes available these schemes will be progressed.

At the same time we must start now to develop the programme for the next Local Growth Fund round (from 2017). To do so we must prioritise the schemes and ideas presented here and develop them in detail. From this point forward we will have a rolling programme generating detailed

schemes from initial ideas, bringing them forward for consultation, putting them forward for funding and then delivering them. This will be done in 5 year rolling programmes to coincide with central government funding allocations; although this process will also mean that Birmingham is able to react quickly to other funding opportunities which become available at relatively short notice by having a portfolio of 'shovel-ready' schemes ready to be delivered.

Given our new approach to look at whole of corridor measures, rather than delivering schemes in isolation, we will identify the corridors most in need of change and then take the principles and ideas presented here to develop schemes. New corridor schemes will be developed over the next two to three years and start to be presented for consultation from 2015.

We must also be ready to take advantage of unforeseen funding opportunities coming from central government and European sources. Often funds become available for pilot projects or aimed at specific types of initiatives at relatively short notice. The recent Cycle City Ambition Grant, Local Pinch Point Funds and the Local Sustainable Transport Fund are all examples where Birmingham successfully secured funding. We must have schemes developed and ready for submission if we are to take advantage of these opportunities.



In 2015 we will progress the following:

- A pilot Green Travel District will be chosen and a detailed feasibility study commissioned to understand the area's needs and how the principles of a GTD as outlined in this paper can be progressed. This area will then be used as an example for how GTDs can be delivered in the other locations.
- A city centre Transport Master Plan will be launched which will be the first practical application of the Birmingham Connected principles; with the aim of significantly cutting the number of cars coming in to the centre, which in turn will allow us to create an improved urban environment. In particular it will be an opportunity to see the Birmingham Connected approach to integrating and delivering packages of measures together.
- The future for the A38 through the city centre is a vitally important issue which needs to be resolved now so that a long term strategy can be put in place. We will develop the vision further before widely consulting on the proposals.
- A study and consultation into the ways in which local funds can be raised to support delivery of Birmingham Connected in conjunction with the private sector. Businesses across the city will gain financial benefit from a considerable investment in transport and hence they will have a vested interest in contributing to its delivery. We recognise the need to explicitly demonstrate the economic benefits to business before implementing any charging mechanisms; it is our intention to demonstrate this and make a final decision on how new funding can be raised.
- We will work closely with the servicing and logistics industry to progress behaviour change campaigns which will encourage collaboration of supply chains, both within large businesses and between neighbouring businesses. This has the opportunity to reduce the impacts from freight movements across the city as well as reduce costs to local businesses.
- We will work closely with Centro and the ITA to prioritise future Sprint and Metro corridors to determine which should be the next ones to come forward; with the underlying principle and the mass transit network is completed within 20 years.
- We will seek funding to develop and deliver schemes and programmes to support behaviour change towards more sustainable transport use.



# 05 Delivering Birmingham Connected

## Birmingham Connected's Programme of Short Term Schemes and Policy Initiatives

Funding	Scheme Type	Scheme Name	Programme	2015	2016	2017	2018	2019	2020	2021	Post 2021
Committed Schemes – Funding Acquired	Public Transport	New Street Station Upgrade	2015								
		Metro Line 1 Extension to New Street Station	2015								
		University Station Interchange, Birmingham	2015 – 2017								
		Snow Hill Station: Phase 1	2015 – 2018								
		Snow Hill Station: Phase 2 (Enabling works)	2017 – 2018								
		Metro Extension to Centenary Square	2015 – 2018								
		Bus Journey Time Reliability Improvements	2015 – 2017								
		Bus Lane Enforcement	2015 – 2017								
	Sustainable Transport (Walking, Cycling, Road Safety, Behaviour Change)	Local Sustainable Transport Fund Corridors	2014 – 2015								
		Making the connections	2015 – 2016								
		One Station	2015 – 2016								
		Bike North Birmingham	2014 – 2015								
		Birmingham Cycle Revolution Phase 1	2014 – 2016								
		Birmingham Cycle Revolution Phase 2	2015 – 2017								
		Longbridge Connectivity Scheme	2015 – 2020								
		20 mph Limits	2015 – 2017								
		Digital Safety Camera Pilot	2015 – 2017								
		Walking City	2014 – 2015								
		Walk 2	2015 – 2016								
		Road Safety Schemes	2014 – 2015								
	Highway Schemes	Aston Advanced Manufacturing Hub Pinch Point Improvements	2014 – 2015								
		Ring Road Pinch Point Improvements	2014 – 2015								
		Ashted Circus, Birmingham Ring Road	2015 – 2017								
		Battery Way Extension, Tyseley, Birmingham	2015 – 2017								
		Iron Lane/Station Road/Flaxley Lane	2015 – 2017								
		A34 corridor – Perry Barr, Birmingham	2015 – 2017								
		Selly Oak New Road Phase 1b, Birmingham	2015 – 2020								
		Controlled Parking Zone Programme	2015 – 2016								
Provisionally Funded		A457 Dudley Road	2016 – 2021								
Major Maintenance Schemes		Tame Valley Viaduct (Provisionally Approved)	2016 – 2020								
		Aston Road North Bridge (unfunded)	2016 – 2020								
HS2 Connectivity Package		Hagley Road SPRINT – Western Leg of BMAP SPRINT Route 5	2015 – 2016								
		Metro Extension to Centenary Square	2015 – 2018								
		A45 SPRINT to Airport - Eastern Leg of BMAP SPRINT Route 5	2017 – 2021								
		Metro Extension to Edgbaston	2018 – 2021								
		Metro Extension to Eastside	2018 – 2024								
		Bartley Green SPRINT - BMAP SPRINT Route 6A	2017 – 2021								
		Unlocking Birmingham's Sustainable Urban Extension	2015 – 2016								
		Chester Road	2014 – 2015								
		Walsall Road SPRINT - BMAP SPRINT Route 1	2017 – 2021								
		Camp Hill Chords	2017 – 2021								
Research & Development Projects		OPTICITIES	2013 – 2016								
		Open Transport Networks	2013 – 2016								
		My Neighbourhood	2013 – 2016								

Funding	Scheme Type	Scheme Name	Programme	2015	2016	2017	2018	2019	2020	2021	Post 2021
Unfunded Major Schemes		Highgate Road – Stratford Road to Ring Road	To Come Forward as Priorities When Funding is Identified								
		Sutton Coldfield Highway Improvements									
		Birmingham Ring Road									
		Bromford Gyratory									
		Gravelly Hill / Kingsbury Rd									
		A4040 / A5127 Six Ways – Erdington									
		Battery Way / Spring Road									

Policy Development	Road Safety Strategy	2015									
	Road Space Allocation Policy	2015 – 2017									
	City Centre Transport Masterplan	2015 – 2016									
	Parking Policy including new parking standards	2015 – 2016									
	HS2 Connectivity & Sub Regional Access Study	2015 – 2017									
	Midlands Connect	2015									
	Funding & Finance Strategy	2015 – 2016									
	Intelligent Transport Systems Strategy	2015									
	Travel Plans/Green Travel Districts Supplementary Planning Document	2015 – 2016									
	Local Growth Fund Round 3	2015 – 2016									
	Carbon Roadmap and Smart City Initiatives which support the vision including seeking opportunities to obtain funding	2015 – 2017									
	EU funding ESIF alignment	2015 – 2017									
	New Strategic Transport Plan for the West Midlands 2016	2015 – 2017									
	Active Travel Strategy	2015									
	BMAP - Birmingham Connected Review	2017 – 2018									

Policy Development	Active Travel										
	Cycle Hire Schemes - further roll out	2015 – 2017									
	Smart Cities / UTM										
	Birmingham mobile transport app	2015 – 2017									
	Additional Signal based bus priority on local road network	2015 – 2017									
	Servicing & Logistics										
	Develop Pilot neighbourhood freight consolidation	2015 – 2017									
	Better information for HGVs using VMS	2015 – 2017									
	Investigate digital freight atlas and release data	2015 – 2017									
	Investigate hold back freight areas	2015 – 2017									
	Freight advice leaflet	2015									
	Supporting Public Transport										
	Centro / Bus Operator Quick Wins	2015 – 2017									
	Further development of Metro/Bus Rapid Transit Route with Partners	2015 – 2017									
	Ultra Low Emission Vehicles										
	Support development of an ULEV charging and refuelling network	2015 – 2017									
	Low Carbon Vehicle Technology Fund - Conversion of taxis to LPG	2015									
	Developing a New Road Space Allocation Policy										
	Create digital road (and road user) hierarchy and make available to the public	2015 – 2017									
	Review of a high street in line with Road Space Allocation Policy	2015 – 2017									
	Green Travel Districts										
	Take forward initial development of a GTD with Partners	2015 – 2017									



# 05 Delivering Birmingham Connected

## What Will Birmingham Connected Cost?

We estimate that £4 billion of investment over the next 20 years will transform our city for residents, communities, businesses and visitors. This investment in our transport system will generate huge benefits in terms of accessibility, connectivity, jobs, wages, a healthier and safer environment, and will make our city a much more attractive place to live, work and invest in.

The £4 billion figure is based upon initial cost estimates for some of the big individual schemes being considered, as well as how much equivalent European cities spend on their urban transport systems. For example, Birmingham's twin city, Lyon, currently spends approximately £0.87 billion every six year political cycle on capital infrastructure schemes (i.e. not including operating or maintaining the system). £4 billion is a similar amount to that Lyon spends, with a slight uplift, recognising the fact that Birmingham needs to catch up on transport infrastructure spending compared to our European contemporaries.

Not all of this money will be raised directly by the Council. Much of the required infrastructure needed to support East and West Midlands regions will be the responsibility of national bodies, such as the Highways Agency and Network Rail. Birmingham and the Midlands region are being proactive in lobbying for greater investment in strategic infrastructure through the Midlands Connect collective.

We are also very aware of the costs to operate and maintain our assets. New infrastructure will also need maintaining and operating, incurring additional costs. To achieve the aims set out in this document we must also find the funds to adequately maintain and operate the whole system.

## Where Will Funding Come From?

A high-level study into funding availability commissioned for Birmingham Connected has determined the following:

- The vast majority of the funding available to Birmingham will be from traditional central government sources, currently distributed via the Local Growth Fund.
- Birmingham Connected is Birmingham's 'Sustainable Urban Mobility Plan' (SUMP); which is a requirement for cities to access European funding. We are also actively involved in driving European best-practice in urban mobility planning; which puts us in an excellent position to access funding.
- To achieve the strategic, region-wide schemes (road and rail) which will better connect Birmingham to the rest of the Midlands and the UK, we must collectively lobby for their inclusion as priorities for the Highways Agency and Network Rail (during CP6 and CP7).
- One source of funding for BCC are charges on development through the planning process in the form of the Community Infrastructure Levy (CIL) and Section 106 Agreements. The CIL is a relatively new mechanism to raise funds for new infrastructure. It is charged for new buildings and, unlike charges under section 106 agreements, can be spent anywhere in the local authority area.
- There are opportunities for Birmingham to generate additional funding through a variety of initiatives; such as further enforcement of traffic laws where appropriate, making utility companies pay for lane closure permits and corporate sponsorship of infrastructure or services.
- By investing in our city we can attract new firms and developers. In turn this creates future revenue from business rates etc. Having sound strategic plans such as Birmingham Connected, or specific location plans such as the

Curzon Street Masterplan, enables us to borrow money against our predicted future increased revenue. This borrowed money can be used as up-front capital investment on new infrastructure.

- Birmingham is part of a group of Core Cities across the UK lobbying for more local powers for decision making and revenue generation. If this is successful there are opportunities to have greater control of funds and spending which may enable Birmingham to focus funding towards our specific priorities and it increases our ability to borrow funding, deliver quicker and maintain our assets. Birmingham wishes to spend a higher proportion of our Gross Value Added (GVA) on transport to help us catch up to other cities in Europe. Currently we spend around 0.2% of our economic output investing in transport; whereas London invests 1.1%. We want the ability to have a greater say where and how we invest.
- A 'step change' in the level of funding is required to deliver the economic and social benefits from Birmingham Connected in full over 20 years. Whilst additional traditional funding and revenue streams such as capital funding from central Government can help to secure further investment, it is not sufficient to fill the gap between the funding available and the aspirations of the plan. Serious consideration should be given to the introduction of some form of additional 'ring fenced' taxation on businesses or additional business rates.






## 06 Monitoring our Success

It is essential that we monitor how successful Birmingham has been in progressing towards the vision and objectives for Birmingham Connected. Tracking our progress enables us to demonstrate the value for money achieved from what has been spent on the transport system and identifying important lessons for what has worked well and maybe more importantly what hasn't delivered its expected outcomes. We will use this to focus spending towards initiatives which achieve the best results.

Monitoring will need to occur on two levels: at the strategy level to ensure that Birmingham's transport system is achieving the overarching objectives set for it; and at the scheme level to understand what results specific initiatives are delivering.

The following demonstrates the aspects we will measure in order to monitor the success of Birmingham Connected at the strategic level; which we will do when reviewing Birmingham Connected every three years:



Outcome	What we aim to achieve
<b>Equitable Birmingham</b> 	Increased access to jobs and services. Increased community linkages.
<b>Efficient Birmingham</b> 	Efficient and sustainable movement of people. Efficient and sustainable movement of goods. Increase in employment. Economic growth.
<b>Sustainable Birmingham</b> 	Reduced greenhouse gas emissions from transport. Reduced energy consumption from transport. Reduce whole life asset maintenance costs.
<b>Healthy Birmingham</b> 	Increase in physical activity. Increase in the number of short trips made by active travel modes. A reduction in air pollution. An increase in road safety. Increase in the percentage of the population with good or fairly good health.
<b>Attractive Birmingham</b> 	Increase the perception of attractiveness and quality of the urban environment.



[www.birmingham.gov.uk/connected](http://www.birmingham.gov.uk/connected)

