



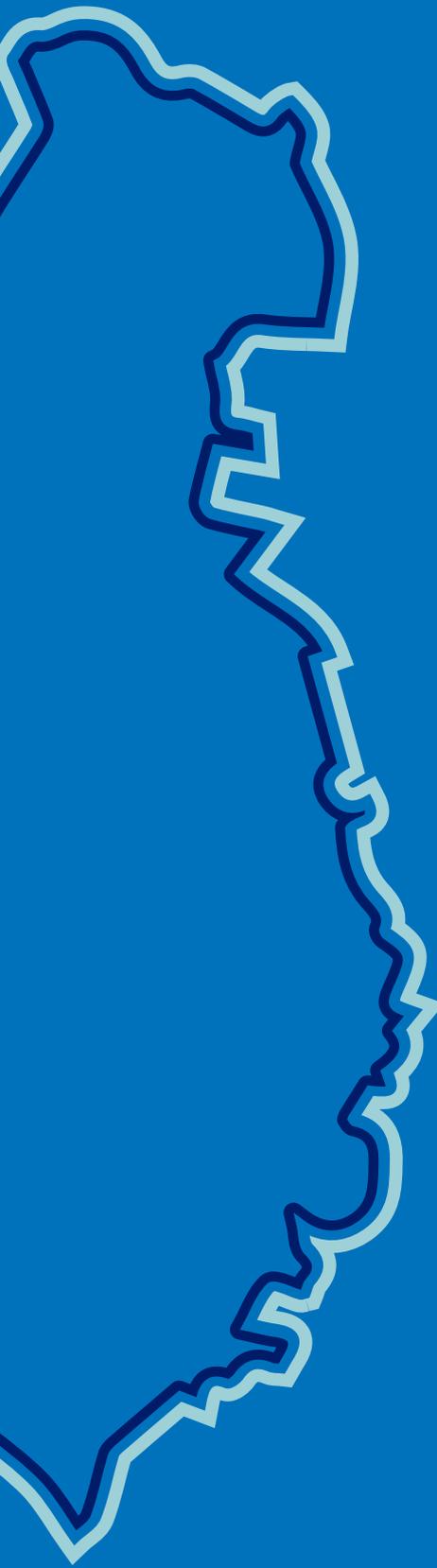
SOLIHULL
CONNECTED

Green Paper Report 2015





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STARTING A
DISCUSSION

Councillor Ted Richards OBE
Cabinet Member for Transport and Highways

These are exciting times for the borough with significant opportunities for investment to ensure our environment and economic health are maintained and enhanced. This Green Paper is the start of a debate about the future of transport in Solihull.

Solihull Council is embarking on a strategy of 'Managed Growth' through the promotion of 'UK Central'. This plan brings together all of the economic assets of the Borough including regional business parks, town centres, Jaguar Land Rover, the Airport, future HS2 and the NEC. The Council is determined to make this vision of 'managed growth' a reality.

It is hugely important for us to clearly make the case for investment and demonstrate how we will manage growth in a sustainable way. Having a clear transport strategy will be timely for the arrival of HS2 and development opportunities.

With the first station north of London, HS2 is helping to put the Borough on the transport investment map and the Council is looking to capitalise on this to secure local network improvements.

The ambition behind 'Solihull Connected' is to create balanced investment in transport infrastructure that recognises the need to cater for cars and places appropriate and increasing emphasis on alternatives; such as:

- Options for game changing public transport schemes that will be competitive, fast, reliable and frequent on key corridors across the Borough. We need to serve important destinations including the Airport, Jaguar Land Rover and Birmingham and Coventry city centres
- High quality cycling networks to encourage our residents to cycle to work
- Community focused initiatives to encourage healthier transport choices where possible

Please get involved and make your voice heard. Over the next 6 months we will be undertaking further research to understand what might be possible and are keen to hear from stakeholders and our residents to understand your views, concerns and ideas. When the final strategy is published we are looking to have a clear set of investment priorities to be delivered over the next 20 years through a strategy for the short, medium and long term that ensures Solihull remains Connected for future generations.

Stay connected to the debate through www.solihull.gov.uk/solihullconnected



GLASGOW

EDINBURGH

NEWCASTLE

MANCHESTER

LIVERPOOL

LEEDS

BIRMINGHAM

BIRMINGHAM AIRPORT

HIGH SPEED RAIL PLACES
SOLIHULL AT THE FOCAL
POINT OF THE UK

LONDON

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Introduction



What is the Solihull Connected Green Paper?

Solihull Connected will set the strategic direction and establish policy to guide the transport agenda in the borough for the next 20+ years. This Green Paper starts the process of developing that strategy.

We are developing our strategy at a time when the West Midlands is taking a detailed look at its future growth and future transport needs. Birmingham City Council has already published their 'Birmingham Connected' strategy, Coventry City Council is also reviewing their needs and the regional Integrated Transport Authority (ITA) is also currently developing their own strategic-level plan for the whole metropolitan area.

This Green Paper should not be considered a draft strategy document. Its intention is purely to stimulate discussion. We want to use this document to raise the issues and ask questions to stimulate a debate. The themes raised in Section 4 of this Green Paper are merely 'ideas' at this stage. Some of the concepts are intentionally a little challenging; we want to test ideas and open up a debate.

The final 'Solihull Connected' White Paper strategy itself will be published in early 2016. It will use outputs from the consultation on this Green Paper and further feasibility studies into what the right transport solutions might

be. In this way we can be sure that the final strategy is focused on the specific needs of Solihull residents and stakeholders.

The final strategy document will present a ranked list of investment priorities and a programme of interventions which will help us achieve our aims. It may include some of the ideas presented in this document; but some may not go any further.

What is the Vision we are trying to Achieve?

Our location at the heart of the Midlands and the country makes Solihull a very attractive place for people to live and for firms to locate. There is a risk that proposed development could potentially increase car trips on our roads significantly and exacerbate the congestion hot-spots we currently see every day.

Solihull Connected provides us with the opportunity to develop the best mix of infrastructure and policies which will achieve the growth strategy and still retain the character which makes Solihull unique.

Having Solihull Connected in place will mean that we are focused on what our needs are and we can ensure that all schemes and policies that come forward are focused on us achieving a single vision.

Given the above, our initial vision for what Solihull Connected will focus on achieving is:

“Solihull Connected will efficiently accommodate the future demand for movement. Enhancing Solihull as a sustainable, healthy place to live, work and invest.

To do so we must reduce dependency on car use by making better use of road space and creating streets for people and public transport”

And our specific objectives for the transport strategy are that, **Solihull Connected** will:

1. Ensure that transport capacity and congestion are not a constraint to growth and that major transport investment helps drive growth effectively.
2. Promote and support sustainable and efficient forms of transport and transport investment.
3. Aim to support people's daily lives and well-being by providing door to door transport choices. Wherever possible these will include the opportunity to walk or cycle/use public transport whilst recognising the constraints to travel choice that exist within parts of the rural area.
4. Identify a prioritised short, medium and long term delivery plan to achieve the overarching vision and objectives whilst recognising and balancing the specific needs of the different parts of the Borough.
5. Guide future master planning and land use policies to ensure that the design and location of future development enables and encourages walking, cycling and public transport use.

We've Started Already

Solihull Connected will develop a strategy and programme that builds on the transport investment that has been made in Solihull over the last few years. Our recent transport schemes have sought to better coordinate and integrate transport investment by ourselves and others, with wider agendas such as economic development, place making and health. Investment in local centres, cycle networks, travel planning and safety improvements for example, have been successfully delivered through our capital programme, other investment programmes by partners and through developer led projects. A key task of Solihull Connected will therefore be to ensure we continue this process and the strategy will provide us with a definitive direction to follow.

The Role and Purpose of Solihull Connected

Why do we need Solihull Connected?

The Borough needs this strategy so that we have a long-term strategic vision for how we firstly manage the extra travel demand brought about by the predicted economic and population growth; both in the Borough and across the West Midlands.

The big catalyst for the need to plan for this growth is the arrival of the HS2 Interchange in 2026. This national-level infrastructure being located in the Borough presents huge opportunities for us to attract investment, housing and jobs growth. Yet, we must plan carefully to ensure that potential negative impacts from added congestion are minimised on our transport and street networks.

The final transport strategy will help us create the conditions which help people choose sustainable forms of transport (walking, cycling and public transport). As well as accommodating growth in trip making there are many other reasons to promote these modes. They are:

- Healthier
- More equitable
- Better for the environment
- Reduce casualty rates from collisions and
- Create a more pleasant urban environment

Finally we want to use investment in transport to improve the Borough as a whole. If congestion rises or we have to build wider roads or bigger junctions then we risk harming the character of Solihull. We want Solihull Connected to provide great streets; allowing more choice for people to move and travel, whilst enhancing the character of the Borough.





A Growing Borough

We have significant growth plans for Solihull over the next 20 years or more:

- Solihull town centre has the capacity and desire to grow, both in terms of its retail offering but also providing high-quality 'city centre' style accommodation and other new job opportunities
- We can take advantage of the new HS2 station, to be located near the airport, and the opportunities that provides for us to open up growth areas for new jobs and accommodation
- Major employers in the Borough, such as Jaguar Land Rover, recognise the advantages of our location and are seeking to expand and grow their operations here
- Other locations, such as Blythe Valley, have opportunities to grow and provide areas for new homes and jobs

In total, assuming HS2 is completed, there could be as many as 32,000 more jobs and 8,000 new households in the Borough over the next 20 years or so; which will represent a 30% and 9% increase on today. We would then expect further growth around the HS2 Interchange beyond the 20 year horizon of the initial Solihull Connected document.

These are significant numbers which present both opportunities and challenges for us all.

This level of growth will bring challenges to our transport system. For example we estimate that Solihull residents alone currently generate around 572,000 daily trips by all modes (walking, cycling, car and public transport) and this could rise to 675,000 within 20 years with the increase in households.

In addition we know from the 2011 census that there are around 50,000 people who come into the Borough each day to work, representing approximately 50% of our jobs being taken up by people travelling in from elsewhere. Coincidentally around 60% of Solihull commuters travel out of the Borough for work each day. If these patterns continue in the future then there could be as many as 120,000 people travelling in and out of the Borough each day for work, making 240,000 trips; of which 164,000 will be by car.

We have to be realistic that building significant amounts of new road capacity will be difficult. That's not to say that specific hot-spots of congestion cannot and should not be dealt with and access in and out of particular areas be improved for cars. It's more that we must recognise that predominantly the road network we have now will largely be the same in the future. We therefore need to look at using our existing roads more efficiently. The growth described above will need to be accommodated by other means if congestion is not to get significantly worse across the Borough.

We do though recognise the important role a car plays, and will continue to play, for many people in the Borough. We are seeking a solution that allows those who want to use sustainable transport to do so safely and conveniently; encourages others to do so when possible but also keeps the Borough moving for all.

Enhancing the Character of Solihull

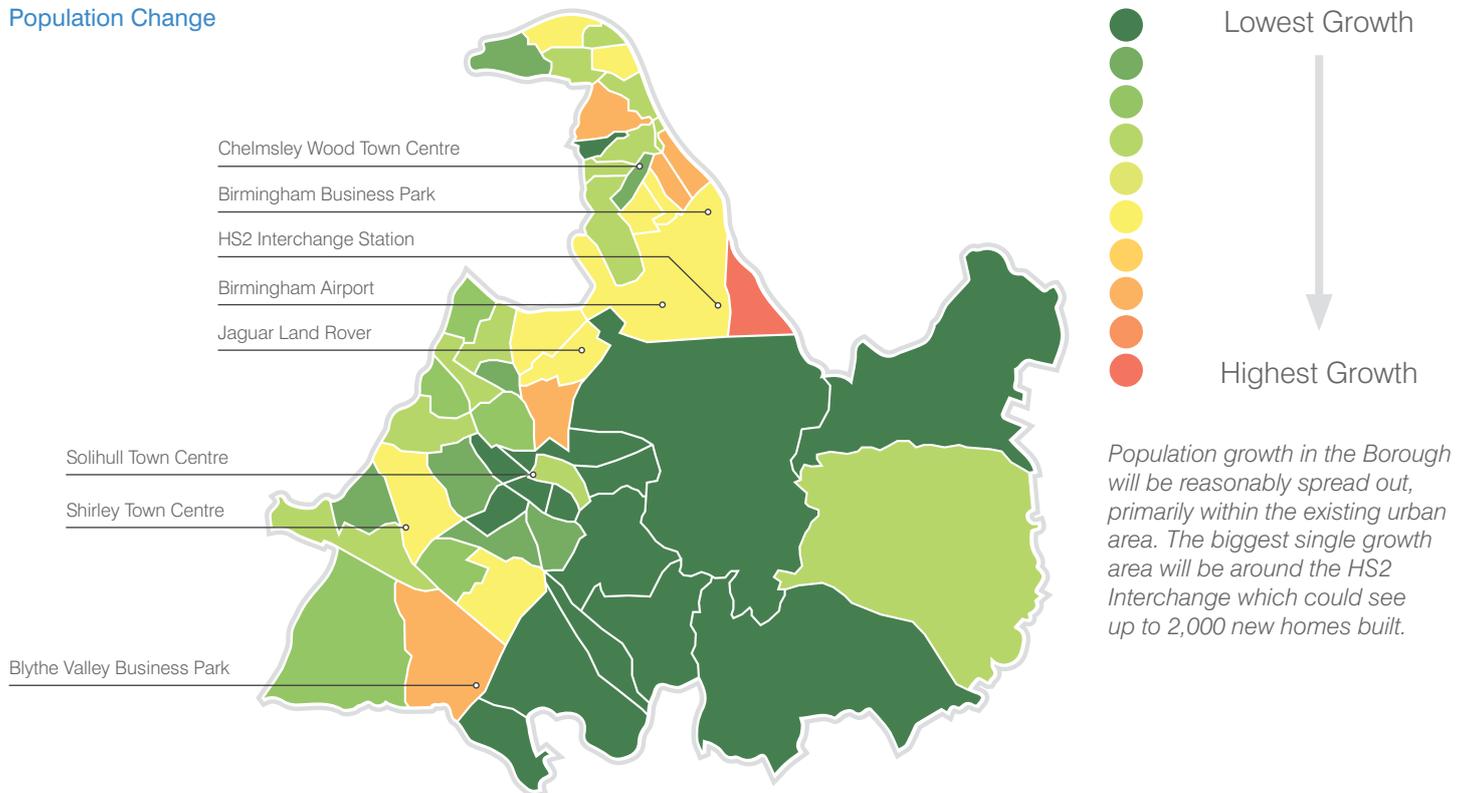
Solihull is an attractive place to live and work and its 'Urbs in Rure' motto expresses the importance of its green urban character. The availability of transport has wide ranging beneficial effects but can also harm the attractiveness of urban areas and the well-being of the people who live there through the effects of congestion, speeding vehicles, severance, pollution, noise and conflict between local access and through traffic.

In order to maintain Solihull's character and respond to the needs and well-being of local people, decisions about the transport investment need to fully consider and be sensitive to these issues. Solihull Connected aims to ensure that investment to improve transport within the Borough also improves Solihull's quality as a place to live.

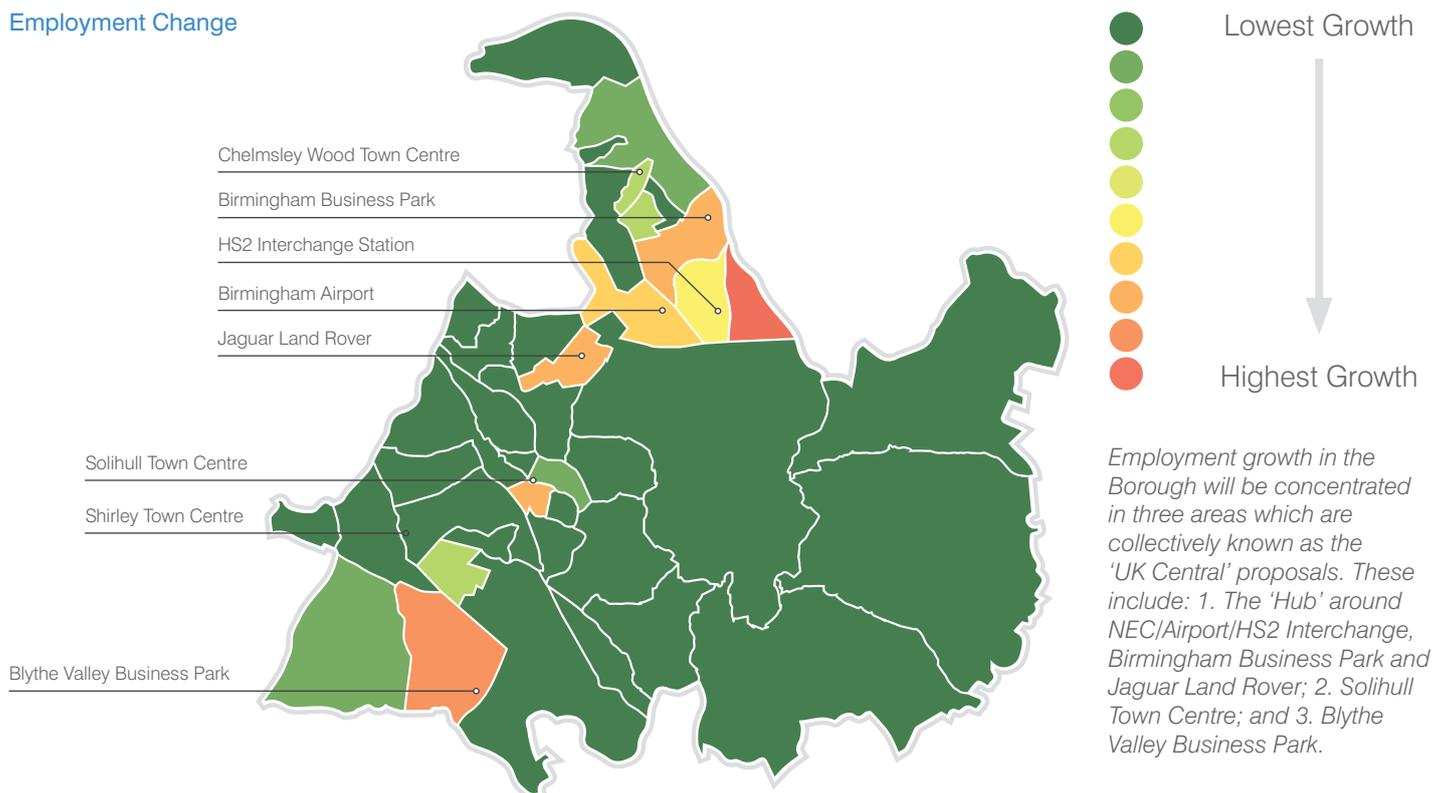
Securing Future Funding

Another important reason for having a strategy such as this in place is that it will help us to get access to future funding. The final strategy will include a long list of schemes which we believe will be beneficial to help meet the overall objectives. Knowing what our strategic priorities are means that we can be 'shovel ready' when funding from Central Government, the European Union or private developers comes available. We hope to use this strategy to start getting more than our fair share of investment into our transport system.

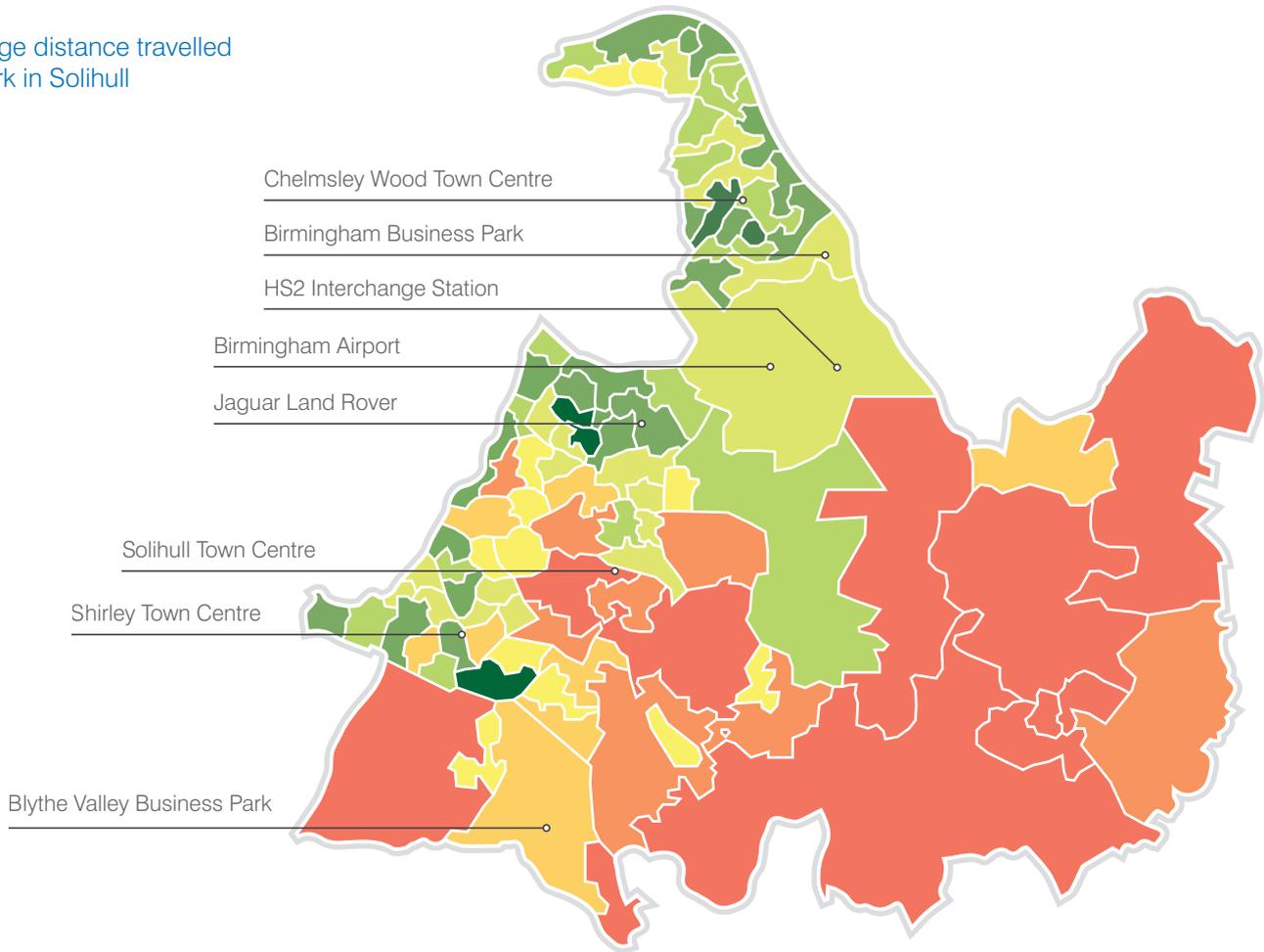
Population Change



Employment Change



Average distance travelled to work in Solihull

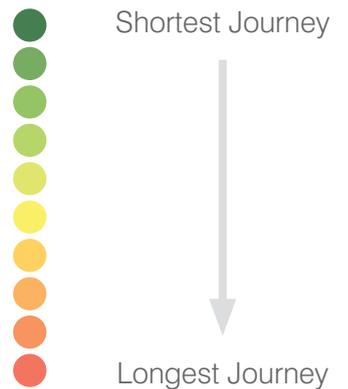


Recognising the Differences Across the Borough

Solihull is a single Borough but it consists of areas with very different characteristics. Solihull Connected must recognise this and ensure that we develop a mix of infrastructure and non-infrastructure measures which meet the needs of the different areas.

Section 3 of this Green Paper provides a summary of the evidence of how different areas of Solihull are in a transport context. We use this evidence to suggest how these differences could translate into specific transport needs of each area.

For example, if we look at average figures across the Borough then Solihull residents have the highest car ownership statistics across the West Midlands authorities; we own 1.3 cars for every household.



The distance people travel to work vary significantly across the Borough.

The average across the West Midlands is less than one. This would explain why more than 60% of all journeys to work made by Solihull commuters are made by car and whilst many authorities in the UK have seen a decline in car commuting between 2001 and 2011; in Solihull it has increased.

Coincidentally Solihull also has the highest cycle ownership across the West Midlands. On average half of all households have access to a bike; and yet less than 2% of commuters currently cycle to work.

Public transport use has steadily declined in the Borough, although train patronage has seen a small increase between 2001 and 2011.

However, these Borough-wide statistics can be misleading.

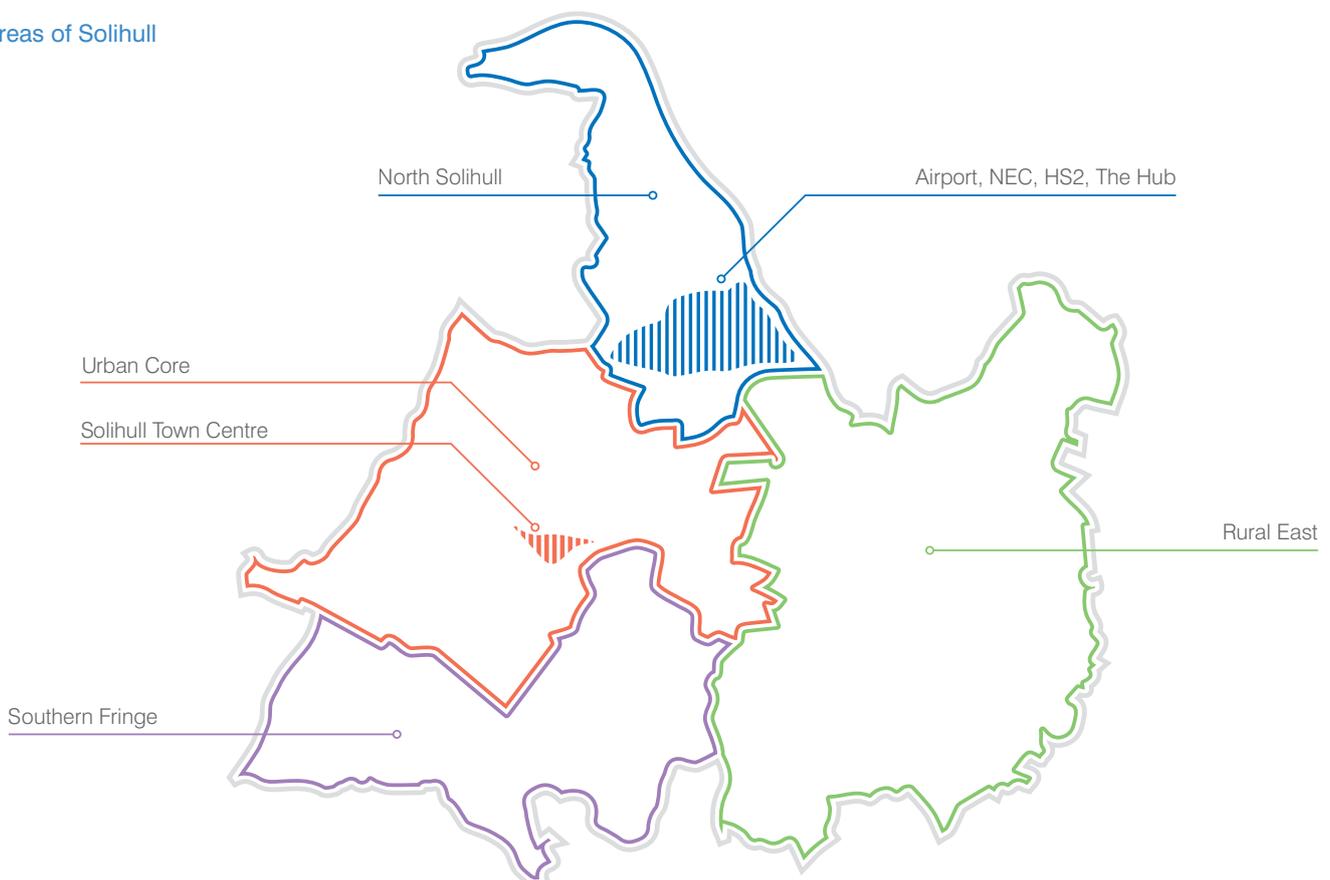
There are very big differences in the current travel habits and needs of specific areas of the Borough. For example, when looking at how far people travel to work it is evident that residents of North Solihull travel significantly shorter distances than those living in the Urban Core or in rural areas. Also, residents of North Solihull own significantly fewer cars per household (at 0.98) than the Urban Core (1.4) or the Rural East (1.7); and 34% of households do not have access to a car in North Solihull, whereas the equivalent figure in rural areas is just 9%.

A further example of how average statistics can be misleading is that on average 79% of people accessing Solihull Town Centre do so by car, and yet on the Lode Lane corridor in the mornings over 50% of trips into the Centre are actually by bus.

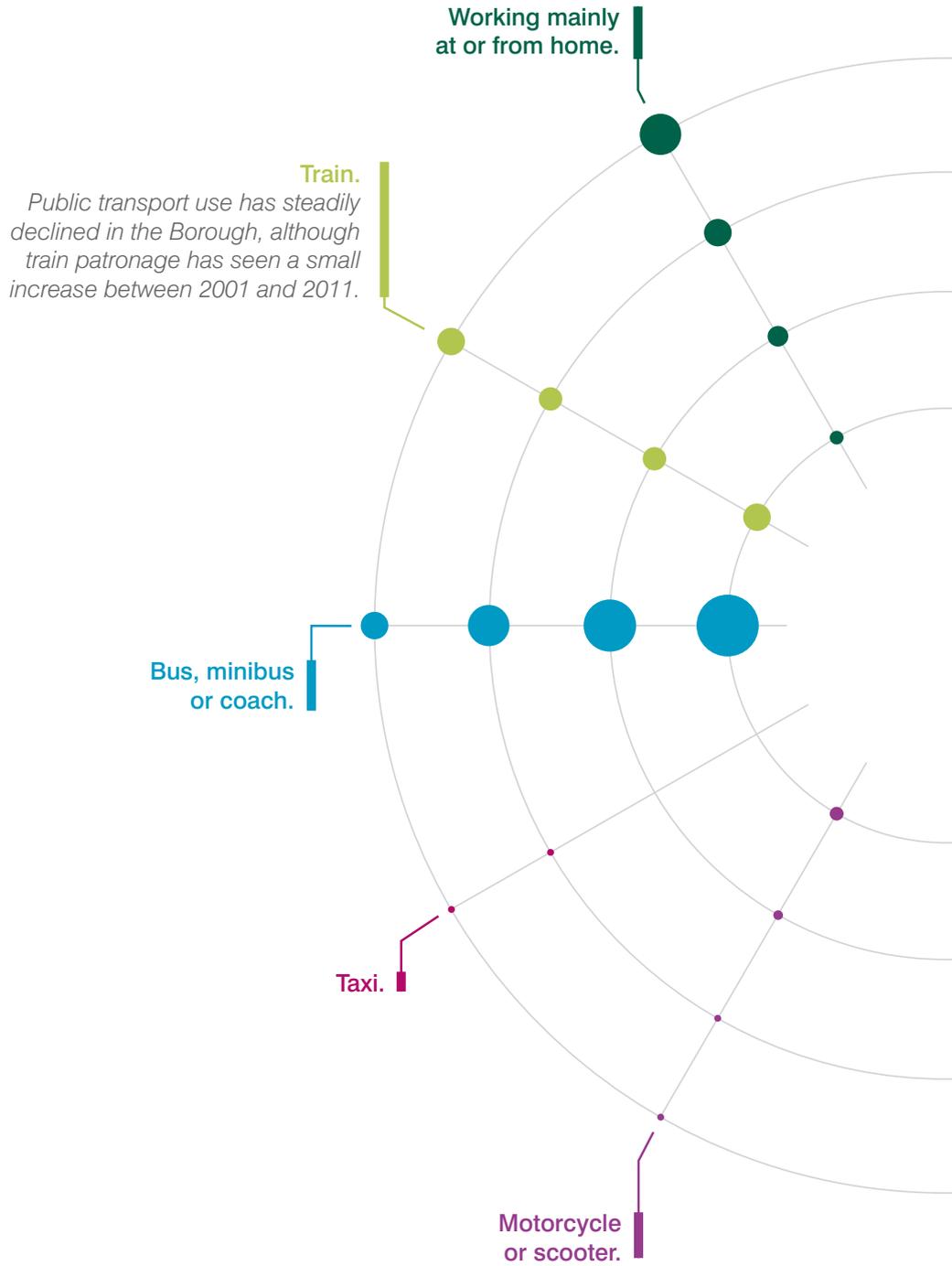
This just goes to show that despite the evidence seeming to suggest that cars are the overwhelming choice for Solihull residents, there are pockets where public transport is more widely used.

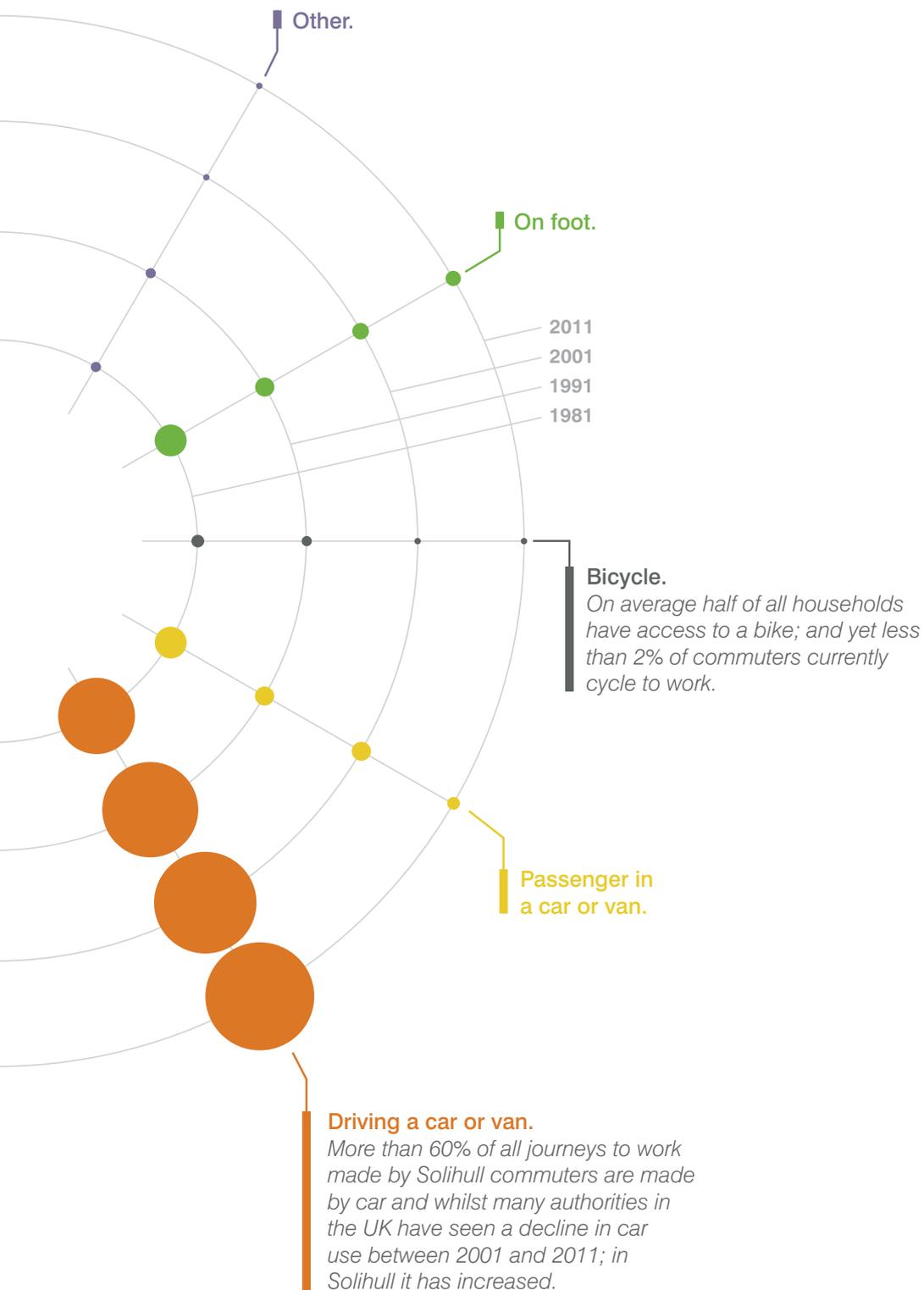
Solihull Connected must recognise that the Borough is a varied place and that each area has a different set of needs and challenges around transport. We have set out the bulk of this document to present evidence and discuss the needs of each of the following areas discretely:

The Areas of Solihull



Method to Travel to Work, Solihull Residents:
Changes from Census Data 1981 to 2011





The Purpose of this Document

Solihull Connected is linked to the emerging West Midlands Strategic Transport Plan which is being developed in parallel. The West Midlands document, produced by the regional Integrated Transport Authority (ITA) is providing the strategic direction for transport across the region. Solihull Connected is taking that overall direction and showing how it can be specifically applied within the Borough.

In this document we present some evidence as to what we believe are our current and future opportunities and challenges. We also offer some initial views as to what a future transport system in Solihull could look like; but we are not presenting the final solution.

We want this Green Paper to open a debate as to what Solihull Connected should eventually contain. This paper is asking some searching questions, for example:

- What sort of place do we want Solihull to be?
- What should our priorities be for investing in transport?
- What are the challenges our residents and businesses face when travelling around or in/out of the borough?
- What are the current barriers to people walking and cycling more frequently for their daily travel needs?

A period of discussion and consultation will follow the launch of this document; the results of which will steer the final strategy towards the specific needs of Solihull.





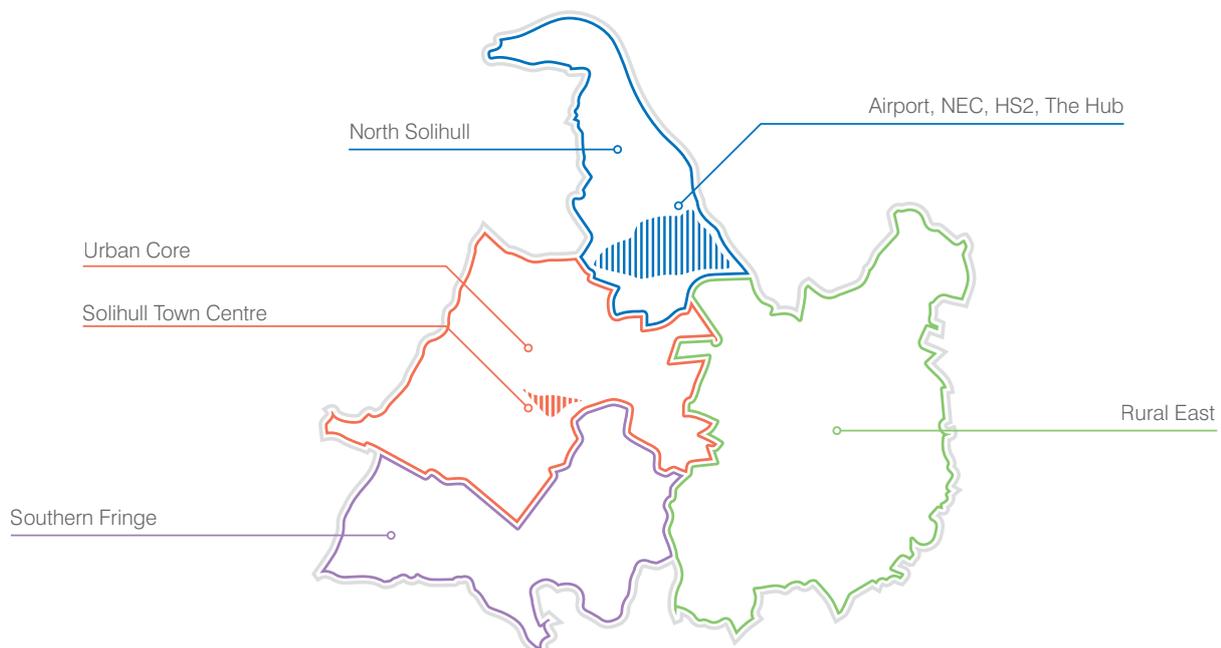
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What are the Transport Needs of the Borough?

In this section we present some of the issues around transport needs and current travel habits in each area of Solihull. To generate the evidence base we have pulled together information from a wide-range of sources. These sources included, but are not limited to: the census, a recent household travel survey, the West Midlands Cordon Count reports, a recent study into congestion 'hot-spots' across the Borough and future planning data on population and employment. A full list of the evidence which sits behind the information presented in this document can be found in Appendix A.

Being clear on our transport priorities through identifying our needs for investment will help us build on recent funding success such as recent announcements on:

- The M42 Junction 6 providing better access to Birmingham, Coventry and the HUB;
- The A45 realignment providing for future airport long distance growth at Birmingham Airport;
- The Lode Lane Route Enhancement improving bus journey times, reliability and frequency on our busiest route;
- Solihull Gateway bus interchange improving access to the town centre and connections beyond, the public realm and future growth;
- The 'Journey Time Reliability' 5-year programme of road network enhancements to growth centres;
- Local Sustainable Transport Fund of Smarter Choices measures working with the community, schools and employers all supporting people, place and the economy;
- North Solihull cycle network improving access to employment where car ownership is lowest;
- As part of the 2014 Growth Deal, Centro has been provisionally awarded £50m of funding for a SPRINT corridor along the A45 Coventry Road between Birmingham City Centre and Birmingham Airport. There is also potential to provide a spur from the route along the Lode Lane, allowing a SPRINT connection to Solihull Town Centre;
- The regeneration of Chelmond's Cross and Smith's Wood Village centres; and
- The HS2 Growth Strategy planning and infrastructure work to enable and encourage managed development at the hub.





Solithull
6

national
express West Midlands





North Solihull

What we know...



The area is home to
57,361
people, representing
28% of Solihull's
population



There are
22,604
jobs in the area
(excl. NEC/Airport)



The growth plans for the
area could see as many as
8,000
more people and just
under 8,000 more jobs
by 2031



The area has the youngest
population of the Borough.
50%
of people are younger
than 34

The area has the highest
levels of deprivation, with
some areas being within
the bottom

10%
most deprived of
the UK as a whole



Levels of physical
inactivity are low in
this area and in
general residents
are the unhealthiest
in the Borough



Car ownership is 0.98
per household with
34%
of households not
having access to a car



17%
of commuters use the bus
to get to work, the highest
in the Borough



Commuters from this area
travel the least distance of all
the areas in the Borough



There are good connections
into Birmingham from the North,
with services running every
15 minutes



Connections to the rest of the
Borough are poor with services
to Solihull Town Centre every
30 minutes



Residents of North Solihull make just
13%
of their daily trips to Solihull Town Centre and the
urban core. This equivalent figure is over 33% for
all other areas of the Borough. Demonstrating
the lack of connection residents of North Solihull
have with the rest of the Borough.



Overall road congestion is low, but there
are hot-spots along the A452, the A45 and
the M42. This effectively creates a barrier
to movement in/out of the area.



Traffic along major routes which run
through the area is forecast to grow
significantly in the future



What we believe the area needs...

1. Better public transport connectivity to Solihull town centre and central area of the Borough
2. Ensure that the public transport aspirations of Birmingham and the West Midlands that run through the area meet the needs of our residents
3. An even greater focus on providing safe and attractive cycle links
4. A strategy for reducing the barrier effect of the A45 Coventry Road for all users
5. A greater focus on improving local streets and reducing severance from busy roads so that people are encouraged to walk and cycle and are happy to let their children do so.



Urban Core

What we know...



Almost **50%** of all daily commuters in the Borough live in this area



Car ownership is 1.4 per household with **16%** households having no access to a car



Almost **40%** of commuters who live here travel out of the Borough into Birmingham each day; with around a third of those going to Birmingham City Centre



50% of jobs in the area are taken up by people who do not live in Solihull



Although cycling to work is low across all modes, almost **60%** of people in the Borough who do cycle live in this area



Rail trips are highest in this area, given that it is in close proximity to the main rail station of the Borough

There are some high-frequency bus services in the area. These are predominantly focused at getting people in/out of the Solihull Town Centre and towards Birmingham City Centre



Although 96.8% of Solihull residents can reach Jaguar Land Rover within 60 minutes by public transport, just **36%** can do so within a more acceptable half an hour



What we believe the area needs...

1. Change the perception of public transport in order for it to compete with the car; for peak time commuter journeys in particular. This will require a step-change in the service offer currently on-street; such as:
 - a. Vehicle quality
 - b. Journey reliability
 - c. Flexible payment systems
2. Provide improved accessibility to rail stations by public transport and cycling to enable commuters to get into the rail system quicker and easier
3. Provide more frequent and reliable public transport connections to the north and south of the Borough
4. Take advantage of the latent demand for cycling from the resident population who already own and use bikes for leisure purposes. Provide a network of cycle facilities which lie along peak demand lines for commuting purposes but also connect parks and rural areas; taking advantage of the 'green lungs' of the Borough
5. Improving local streets and reducing severance from busy roads so that people are encouraged to walk and cycle and are happy to let their children do so to school. In doing so we can alleviate traffic congestion caused by the morning school-run



Rural East

What we know...

 <p>The area is home to 14,448 people, representing 7% of Solihull's population</p>	 <p>There are 6,327 jobs in the area</p>	 <p>The growth plans for the area are very small small amounts of growth in population and jobs by 2031</p>	 <p>21% of the population in this area is 65 and over. A further 32% is aged between 45-64 and may be due to retire in the next 20 years.</p>
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Just
5%
of Solihull commuters
come from this area



Car ownership is 1.72
per household with
9%
of households not
having access to a car



Residents of this area
make around a third of
their daily trips to the
Urban Core and Solihull
Town Centre

 <p>The area has both one of the highest proportions of long distance trip making and yet also the highest proportion of trips less than a mile</p>	 <p>Residents make approximately 70% of all their daily trips by car; with the average across the Borough being 50%</p>	 <p>Public transport options in the area are limited, due to very low population densities meaning that high frequency commercial services are generally not viable but, although some demand responsive services do exist</p>
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There is very little in the way of safe cycle
infrastructure that either runs between villages
or from villages towards the central area



What we believe the area needs...

1. Better cycling connectivity between and within villages for both leisure purposes but also to provide an alternative to driving for short distance trips
2. Investigation into the best way to serve the area by public transport. Clearly there is insufficient demand to operate high-frequency buses and yet we need to provide accessibility for those who either don't own a car or don't wish to drive particular journeys. Connectivity to Solihull Town Centre, the Airport/NEC and over towards Coventry and Warwickshire is and will be important to this area
3. The effect of traffic and speeds in villages needs to be considered and treated appropriately
4. Ensure that there is sufficient capacity at rail station Park & Ride facilities to provide this area with a viable option to driving to work
5. A greater focus on improving local streets and reducing severance from busy roads so that people are encouraged to walk and cycle and are happy to let their children do so



Southern Fringe

What we know...



The area is home to
28,164
people, representing
14% of Solihull's
population



There are
10,305
jobs in the area



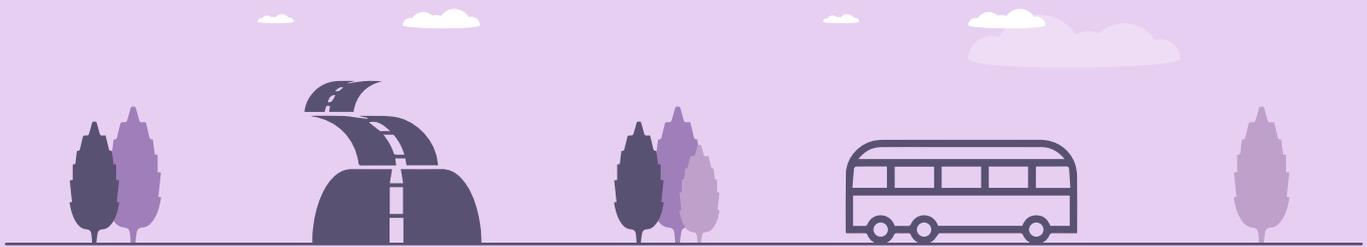
The growth plans for the
area could see as many as
1,800
more people and 6,600
more jobs by 2031



This area has the highest
employment percentage than
anywhere in the Borough,
with around
45%
of residents in employment



Car ownership is 1.7
per household with
8%
of households not
having access to a car



People from this area
travel on average
14km
to get to work

The Blythe Valley Business Park is particularly
poorly connected to Solihull, with just
13%
of Solihull residents able to access it
within half an hour by public transport



What we believe the area needs...

1. As further development occurs, Blythe Valley Business Park needs vastly improved connections, by public transport and cycling, to the wider Borough and beyond
2. Create alternative southern access to Blythe Valley Park to alleviate congestion
3. Improve the public transport and cycling connections between Cheswick Green, Dickens Heath with Stratford Railway Line, Shirley, Dorridge/Knowle and Solihull Town Centre. Determine the potential for a new orbital bus service linking the communities
4. Ensure that there is sufficient capacity at rail station Park & Ride facilities to provide this area with a viable option to driving to work
5. Integrated active travel choices with environmental assets including a network of country parks
6. Safe Routes to schools programme within the area to include safer/quiet lanes and cycle lanes
7. A greater focus on improving local streets and reducing severance from busy roads so that people are encouraged to walk and cycle and are happy to let their children do so



Solihull Town Centre

What we know...



The area is home to
1,177
people, representing
7% of Solihull's
population



There are
14,520
jobs in the area



The growth plans for the
area could see as many as
1,200
more jobs by 2031



42%
of commuters to the town
centre travel less than 5km
and yet walking and cycling
combined account for just
7% of mode share



The rail station is currently
disconnected from the core area and
requires people to cross a number of
busy roads to walk between the two.

57%

of the population of Solihull live
within 30mins by public transport
of the town centre. The equivalent
figure for Birmingham City
Centre is 75%

Despite the town centre being
the most accessible place in the
Borough for public transport, still

79%

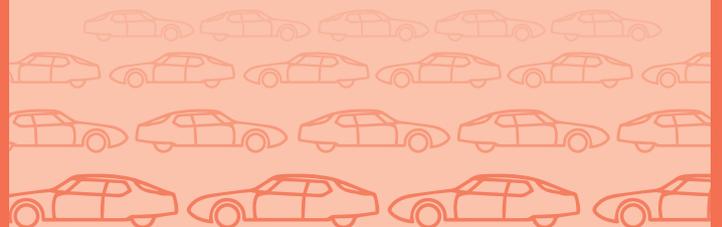
of people arriving do so by car.
This is the second highest of all
centres in the West Midlands, with
only Dudley Town Centre having
a higher car usage

There are a number
of major barriers to
pedestrian and cyclist
movement into the town
centre, including busy
roads and major junctions

Touchwood and John
Lewis Car Parks are
extremely popular
with queues regularly
occurring at peak
shopping times; and
yet other car parks are
significantly under-used
at the same time



The corridors either within or
approaching the town centre are some
of the most congested in the Borough
during commuter peak periods



Travel to the town centre has a very pronounced peak
between 8am and 9am where around

7,500 vehicles

typically enter the area; with an average of around
4,500 per hour through the middle of the day



What we believe the area needs...

1. There is a need for a comprehensive master plan for Solihull Town Centre. This study should take a detailed look at the land use plans and bring together a staged approach to:
 - a. Identify the best land use mix and location
 - b. More fully understand the current and future car parking need and develop a considered strategy for pricing, locations and making the best use of technology
 - c. Ask and answer the question as to whether moving the railway station could result in an improved overall land use pattern for the centre
 - d. Improve the interchange between modes of transport
 - e. Improve accessibility for pedestrians and cyclists into and across the centre
 - f. Public realm design and the relationship between walking and cycling networks and green space
 - g. Can businesses in the centre collectively encourage more sustainable transport use by their employees; helping to alleviate peak time congestion
 - h. Investigating the possibility of opening the High Street to vehicles in the evening in order to 'activate' the area for the evening economy



Birmingham Airport/ NEC/HS2 Interchange

What we know...



It is one of the most strategically connected locations in the whole of the UK. It lies at the junction of the M6 and M42, has Birmingham International Station on the West Coast Main Line, the prospect of HS2 arriving in 2026 and the airport connects the area to the rest of the world



In all, almost
2,000,000

people across the UK live within an hour's public transport journey of Birmingham International; and yet just 30% of Solihull's population live within 30 minutes



The area currently holds around
10,391
jobs

This is the area with some of the most significant growth planned in both Solihull and the West Midlands as a whole. In all

10,000

more jobs and 2,000 people could be placed in this area by 2031 if HS2 is delivered



We would also expect growth to continue strongly in this area beyond the 20 year horizon of 'Solihull Connected'



74% of people commuting to the area do so by car. If this pattern continues in the future then the number of people driving to the area for work will increase from 7,738 to

15,658

by 2031



Just
24%
of people accessing jobs in the area live in Solihull itself and the average distance travelled to get to work in this area is 17.6 km



What we believe the area needs...

1. Improved public transport connections, both to places within the Borough and beyond
2. A land use mix and design that encourages walking, cycling and public transport access and interchange within the area. Specifically infrastructure is needed to overcome severance caused by the M42, the West Coast Main Line and in the future HS2 rail line
3. Enhanced and new cycle and pedestrian links to connect the area with the urban and rural parts of Solihull
4. A high quality strategic multi-modal interchange
5. Improvements to highways infrastructure (both strategic and local) to accommodate access by car
6. A collaborative approach to dealing with the varied parking needs and provision of businesses in the area

4

Possible
Strategy Themes

This section outlines some of the possible ideas, themes and schemes which may later come forward in the final transport strategy. We present them here intending to start a discussion on both these issues but also any other areas we have not discussed.

Strategic Networks

The ambition behind 'Solihull Connected' is to create a balanced investment in transport infrastructure that recognises the need to cater for cars but places appropriate and increasing emphasis on alternatives; including innovative and game changing public transport.

Technical assessments are on-going to fully understand the scale of the increase in travel demand but we know that the most significant growth will be around the Airport/NEC/HS2 Interchange, Solihull Town Centre and Blythe Valley. We also know that realistically there is limited opportunity to build significant capacity into our road network.

To encourage more people to use public and active transport modes will not be an overnight occurrence. It will take a carefully considered strategy requiring investment in infrastructure of the right quality; plus the right behaviour change marketing and promotion to ensure that people understand the benefits of using an alternative mode.

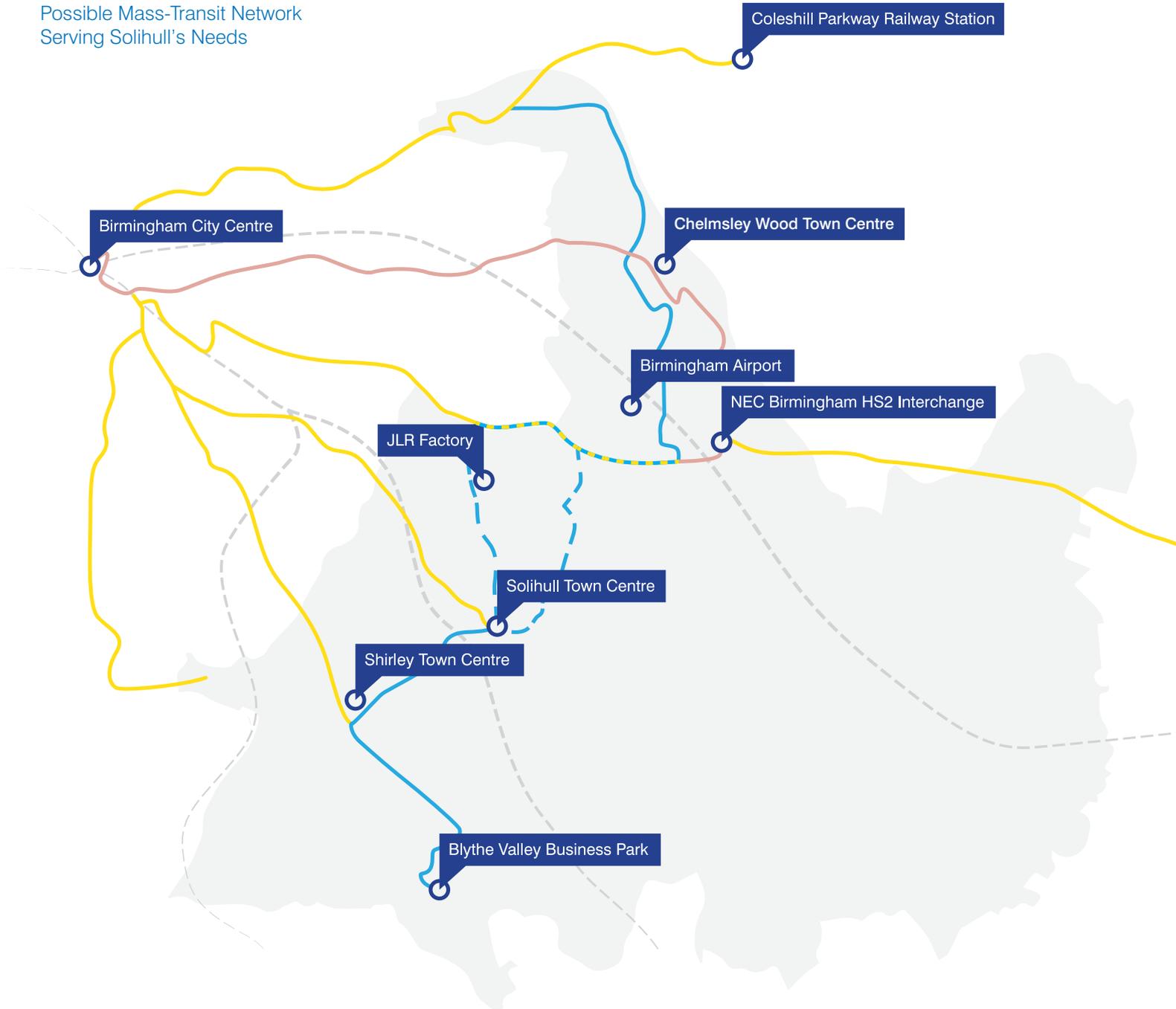


A Mass-Transit Network

For Solihull 'mass-transit' means an interconnected system of public transport modes focused on the most significant demand movements in the Borough. This system, which would consist of rail, Metro and 'Sprint' buses, will be able to carry large numbers of people quickly, reliably and comfortably. This network would form the pinnacle of a public transport hierarchy which would include local buses serving areas of lower demand and integrating with the mass-transit system.

A suggestion for the overall network is shown on the following map. For the most part the network is focused on improved links with Birmingham as we know that this is where the greatest demand will be. This also builds upon recommendations from Birmingham's transport strategy which suggested a number of routes connecting Birmingham and Solihull. However, we have also identified a need for better north/south connections through public transport and this network shows a route linking the three growth areas from Blythe Valley in the south to the Airport/NEC/HS2 Interchange in the north, via Solihull Town Centre. There may also be demand for a connection towards Coventry in order to get people to/from work at The Hub area, or connect in with HS2.

Possible Mass-Transit Network
Serving Solihull's Needs



Key	
Railway line	---
Metro	—
Sprint	—
Solihull Sprint	—
Sprint Route Option	- - -

We believe there is a need and opportunity to connect Solihull into a West Midlands mass-transit network via:

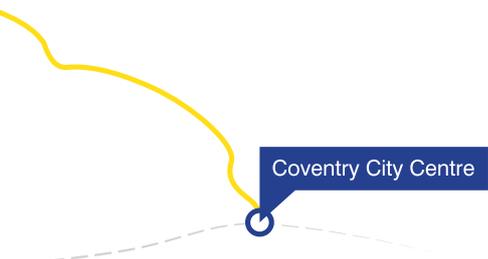
- A Metro link between the Airport and Birmingham City Centre
- 'Sprint' bus routes along the A45 and right in the north of the Borough running between Coleshill Parkway and Birmingham City Centre
- Potentially a 'Sprint' link out to Coventry from the HS2 Interchange, which could form an extension of the A45 route
- 'Sprint' bus routes connecting Solihull Town Centre with Birmingham City Centre along the Stratford and Warwick Roads
- A Solihull focused 'Sprint' route which would eventually link Chester Road with Solihull Town Centre, via Chelmsley Wood and the Airport. There could be two possible routes from there; one via the JLR Factory to provide connectivity to jobs but there's potentially an alternative route via Damson Parkway which could provide a faster link
- Improved interchanges and connectivity at rail stations across the Borough to link passengers into the rest of the mass-transit network

The needs of each area are slightly different but the solution will often be the same. For example it is particularly important for the residents of North Solihull to have public transport which serves their needs to access to jobs, services, new skills and training. They are less likely than the rest of the Borough to have access to a car and the area's young people in particular need opportunities to learn skills to ensure they can get the best job possible.

Whereas the needs of areas such as The Hub, Solihull Town Centre and Blythe Valley will be around the large concentrations of jobs and jobs growth in these areas attracting higher and higher volumes of people. An attractive and hence well used public transport system could be the difference between an economically successful area and daily traffic congestion.

Public transport needs a better image for the residents of much of the Borough, but those living in the Urban Core in particular. In general residents of this area are relatively affluent and often have access to multiple cars per household. Public transport is not seen as a suitable alternative to their car for many people. Simple accessibility and frequency of service is not enough for most residents of this area; despite existing services following corridors of high demand.

Here the quality, comfort, simplicity of use and reliability of the service being offered is as important to potential users as just the frequency. If we are to attract people who enjoy the quality of transport using their car provides them on a daily basis then we have to present something that is a step-change from what they see on-street today.



Whilst there are three different service types in this mass transit network, Rail, Metro and 'Sprint' buses, all three will need to achieve the following characteristics in order for the network as a whole to be successful:

1. High quality

The vehicles, waiting facilities and information must be of a modern and striking appearance which brands the service as part of a West Midlands wide network.

2. An attractive frequency

Mass-transit users should not need to use a timetable, as services should be based on a 'turn up and go' philosophy which requires high frequency and high capacity vehicles.

3. Reliability

This is a critically important feature; if the system cannot be relied upon then people will not use it. For Sprint (and in some places Metro), because it is road based, this may mean physical and technological infrastructure providing priority at some junctions and congestion spots along routes.

4. Safety

Vehicles and waiting facilities should achieve a high degree of safety and security.

5. Integration within and outside of the system

Key to this network will be to achieve a high degree of integration. This will be needed not only between the modes described here but also with the regular bus network; which will continue to operate alongside the mass-transit network. Integration will mean services stopping together at interchange points, timetables being coordinated as far as possible (although a 'turn up and go' frequency should mean this is not such an issue) and cross ticketing to enable a 'whole of journey' fare structure to be put in place.

6. Ultra-Low Emissions

It is possible in the future for the entire system to be emissions free at source by using technology such as conductive charging for electric vehicles; which is already being used internationally and as a trial in Milton Keynes.

7. A modern and flexible fares and payment system

The fare system for the mass transit system needs to be fully integrated into the overall public transport network. It will need to adopt a 'whole of journey' pricing mechanism. Ultimately, the system should aim to be totally cashless and accessible through a variety of means, including: traditional permits and passes, pre-charged or 'top-up' smart cards, contact payments on cash or credit cards, or linked to smart phone applications.



Investing in our Roads

Whilst we strongly believe there is a need to achieve a real and sustained shift from car to public and active transport in order for us to achieve our ambition of 'managed growth'; we also have to be realistic that we cannot take our attention away from managing traffic congestion.

By investing where our roads are most congested we can keep the Borough moving for both cars and public transport; thereby also helping to achieve our mode shift aspirations. We must also recognise that many of our roads serve other functions, such as a local 'high street'. In such cases we will need to find a balance between moving people and creating great places.

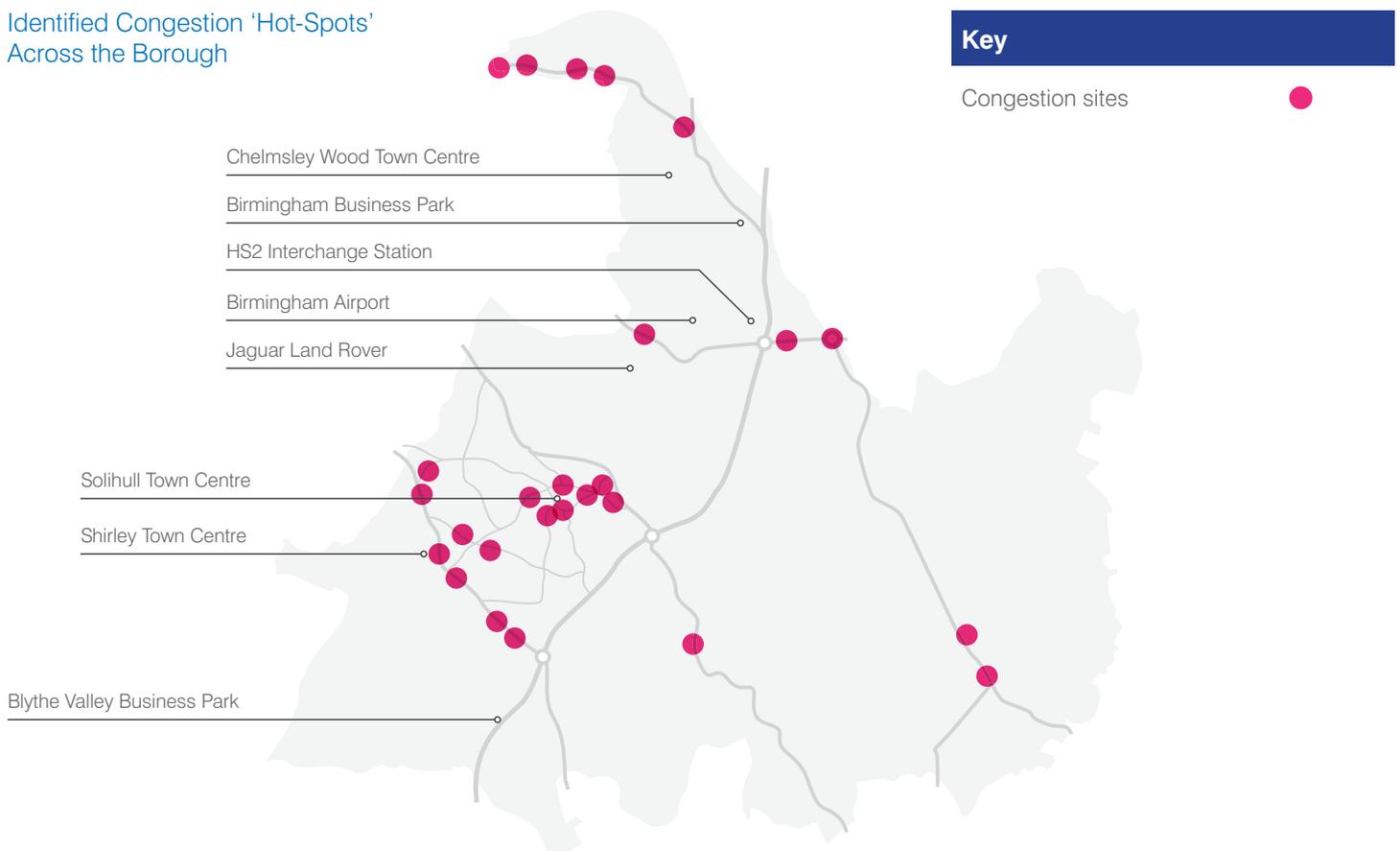
We need to focus our investment to ensure we retain competitiveness of our growth areas and local centres. This means focusing on the network which will improve access to the NEC, Airport, Birmingham Business Park, Blythe Valley, Jaguar Land Rover, Solihull Town Centre and Shirley and Chelmsley Wood.

A study into congestion hotspots across the Borough identified the locations shown on the map which are both important now but are also strategically important for our future growth aspirations.

Some specific needs for our future roads investment include:

- M42 Junction 6 is a significant congestion issue and a scheme has been approved to start within the next 5 years
- New road infrastructure will be needed to support the housing and employment growth at the development around the HS2 Interchange
- Improved access to business parks, such as Birmingham Business Park and Blythe Valley
- Congestion hot-spots on arterials approaching Solihull Town Centre and other local centres

Identified Congestion 'Hot-Spots' Across the Borough



A Strategic Cycle Network

In addition to the mass-transit system we believe that Solihull Connected should plan for cycling to become a mass-participation form of transport.

The Borough has a number of factors which we can build on to create an environment whereby cycling is more widely used:

- A household travel survey in 2011 suggested that half of households in the Borough have access to a bicycle; the highest in the West-Midlands.
- The same survey suggested that 57% of all daily trips made by Solihull residents are less than 5km in length, a total of 320,000 trips every day which are a short walk or cycle distance.

- If we could switch just 10% of its residents' commuter journeys to cycling, based upon conservative estimates of how many could switch at various distances, then we could raise cycling participation from around 6,300 now to over 55,000 trips per day across the Borough.
- In general the Borough is relatively flat.

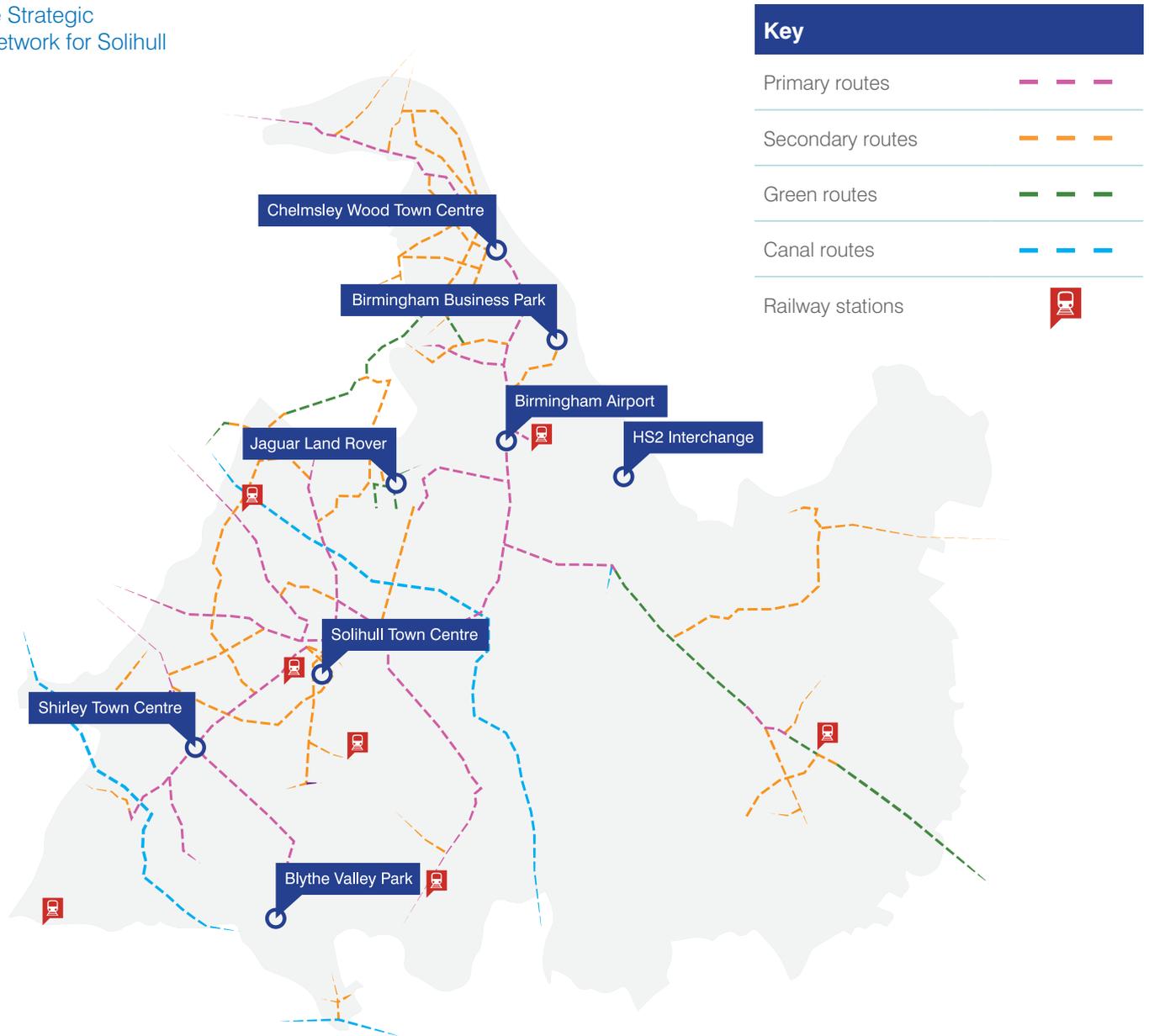
To get to a position where cycling is a widely used form of daily transport across the Borough we must start to plan for it in the same way we would plan for any other mode of transport. Cyclists are like any other road user: they want to make their journey as quickly, reliably and safely as possible. To enable them to do so we need to provide a comprehensive network of cycle routes across the Borough. This would build upon our recent success in delivering the North Solihull Cycle network and developing the concept to the rest of the Borough.

As with the mass-transit network we have the opportunity to tie in to Birmingham's developing cycle network; thereby linking our residents to jobs across our border. To do so we believe we should plan a network which provides a hierarchy of facilities to enable different types of journeys and different levels of cyclists:

1. **Primary routes** – running along most main arterial roads in the Borough to provide fast and safe journeys to/from our main trip generating locations within the Borough and across the border with Birmingham.
2. **Secondary routes** – allowing journeys within suburbs and connecting cyclists from their homes to the strategic routes.
3. **Local streets** – local neighbourhood streets will need to become cycle friendly from all users, enabling journeys to local shops, schools etc, to be made. This may not require much in the way of physical infrastructure but could mean reducing speeds down to 20mph for most residential streets. The concept of 'active streets' is gaining momentum across the UK and is about recapturing our streets and neighbourhoods from cars and providing safe places for us to walk, cycle and play.
4. **Green routes** – using facilities such as rights of way and canals we can provide routes which, whilst predominantly focused on leisure cycling, can provide vital links between villages in our rural areas. We also have the opportunity to link into Birmingham's emerging 'Cycle Revolution' network which has placed great emphasis on utilising the canal network.



Possible Strategic
Cycle Network for Solihull



A completed strategic cycle network for Solihull would see safe infrastructure provided on a network of streets which link major destinations such as employment areas and rail stations. An important ethos to the network will be that beneath this all local streets are considered 'cycle friendly'.

As well as the on-road infrastructure, investment in cycling must also include investment in other aspects, such as secure parking at key locations such as local centres. Persuading more commuters will also require their places of work to have adequate 'end of trip' facilities such as showers and lockers. One of the strands of the current Local Sustainable Transport Fund (LSTF), which is being delivered in partnership between Solihull Council and Centro, is to help businesses to provide such facilities. This type of investment, in addition to cycle lanes and segregated cycle-ways, will continue to be a vital strand to our overall policy to encourage more people to ride.

Creating Safer, Healthier Communities

Streets, Not Roads

A common theme across the whole Borough will be to plan for communities to reduce the need or desire to make very short distance trips by car. Trip making within individual neighbourhoods to get to local shops, schools, doctors etc should be cycleable or walkable.

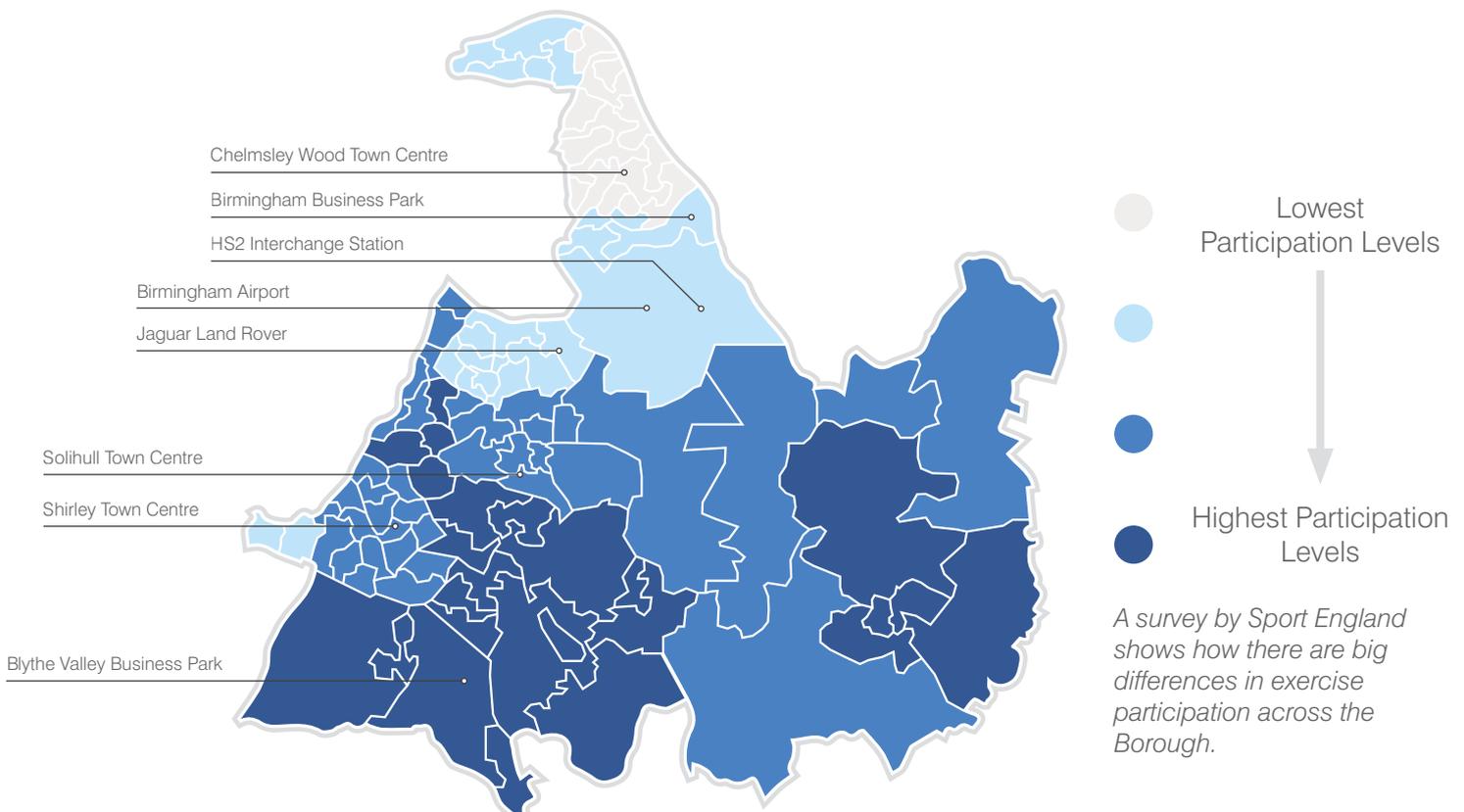
We must recognise that there are reasons why some people currently drive these journeys or even make longer distance journeys by car than absolutely necessary. A big part of this is to ensure that streets are welcoming and safe and barriers to movement are reduced or removed.

Getting people using their local streets more has two potential benefits.

We can hopefully promote healthier lifestyles through more people walking and cycling; plus we can have an impact on traffic congestion levels by enabling people to access jobs and services more easily without driving short distances.

In North Solihull for example, given the number of households not having access to a car and the general health and inactivity levels, we need to do more to encourage people to walk and cycle within their neighbourhood. The North Solihull Cycle Network has been successfully delivered but we need to

Exercise Participation Levels



build upon this. We also need to better connect residential neighbourhoods to the jobs and economic assets in or near the area. This would involve linking into Birmingham's cycle network as well as providing a means of penetrating the barrier of the A45 to get cyclists towards the JLR factory and Solihull Town Centre.

If we can achieve these aims then we will be tackling one of the main causes of congestion in the morning peak – the school run; which is particularly a problem on roads in the Urban Core.

Getting it Right from the Start

We must consider the need for sustainable trip making as we plan the new developments coming to the Borough. Particularly in areas of high housing growth around Blythe Valley and the HS2 Interchange it will be important to firstly plan the street network to be 'people' focused; but also ensure that there are the correct mix of services and social infrastructure to bring about localised trip making.

The pressure for growth has led to incremental development which is often heavily designed for travel by car. The resulting forms of development can be relatively low intensity including large areas of surface car parking that can represent a poor utilisation of precious land. This form of development misses the opportunity to create environments suited to active travel i.e. walking and cycling.

Active streets within new developments can present interest and natural surveillance that offers increased safety and security. Nodes of activity and well-planned transport corridors can be designed to create increased demand for sustainable high quality, reliable and frequent public transport services. This is why the Council is currently investing in Solihull Town Centre Gateway (Poplar Road/ Station Road); Lode Lane; Hurst Lane; Village Centres; and the A45.

With new developments we can also plan from the outset to get travel behaviours to meet the targets we need. To do so will require physical infrastructure of the type described throughout this Green Paper, but also policies and measures often collectively described as 'Smarter Choices'. These are collections of non-infrastructure schemes such as travel planning, public transport ticket incentives, car share clubs or car/cycle hire schemes. There are a whole range of measures which have been proven to have a positive impact on reducing car use to employment sites or from new housing developments.

Whilst Solihull Connected will inevitably look to implement such measures further across the Borough; building on the 'Local Sustainable Transport Fund' (LSTF) initiatives being delivered by Centro and Solihull, research has clearly shown that it is easier to influence behaviours at new developments than it is to alter entrenched habits of existing travellers.

Planning for Vulnerable Users

A further consideration for Solihull is to ensure that we plan and provide infrastructure which is aimed at the needs of vulnerable users, including: children, visually impaired and older people.

The Borough already has some areas with an older than average aged population compared with the rest of the UK and is also home to large numbers of people who are of an age where they will retire over the next 10 to 20 years.



Retired people's journeys can often be overlooked when planning for transport as they do not commute or attend school or often go shopping at peak times. Instead older people want to make journeys within their neighbourhood, visiting friends and family. Good street design and infrastructure will help people of all ages to make enjoyable local journeys on foot. We need to listen to the needs of our residents and if possible involve them in the design process to ensure the results are tailored to their needs.

A Town Centre Master Plan

We believe that a master plan should be produced to consider the future of Solihull's centre. This will help frame what the town wants to be; how should it grow and to what extent, and what will be the key uses and drivers for its vitality. Movement is a critical element of the success of the town and this should be considered in conjunction with land use.

How and by what quantum should the town centre grow and in what direction will be one of the key decisions to make. In tandem with this there should be strategies to improve the mode share of journeys to and from the Town Centre so that more sustainable and efficient modes of travel are promoted. Central to this will be the ability to interchange between different modes easily and efficiently; particularly at the rail station where 'Sprint', regular bus, cycling and car parking will all convene to enable interchange with the heavy rail network.

An analysis should be made of how the main attractions within Solihull are inter-connected; these include the retail centre, work places, rail and bus stations, Tudor Grange Park and Solihull Hospital. The current routing of buses could be improved to better connect these locations and to connect through the town centre. How bus services connect to and from the town centre should be reconsidered; ideas such as free or discounted town centre services or a loop may be appropriate.

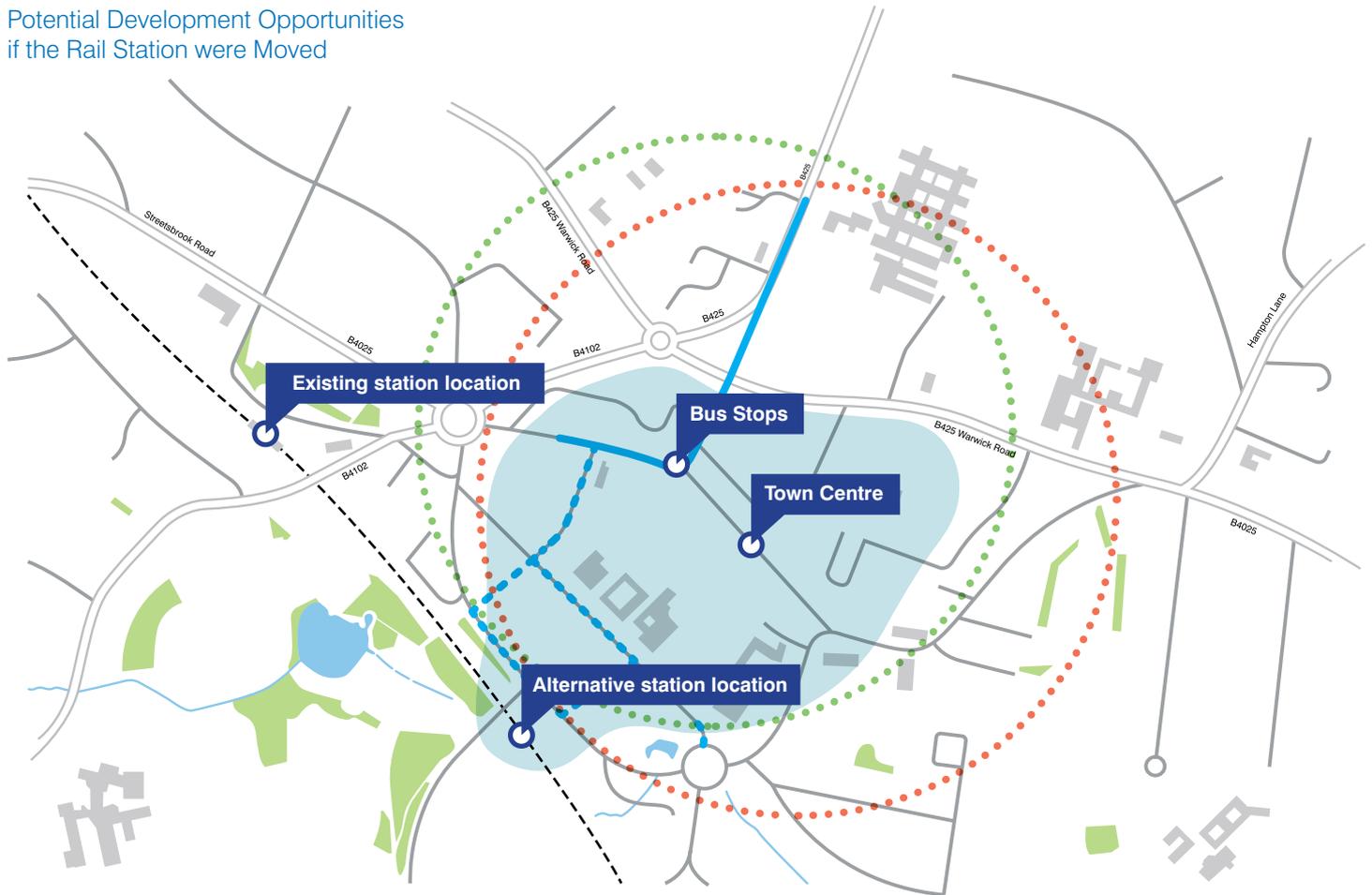
An audit of walking and cycling in the town centre will help identify key routes and how these can be improved to help create a high quality walking and cycling environment across the town. Solihull may want to consider initiatives to further promote cycling such as cycle to work schemes; town wide cycle hire; opening the high street to cyclists and establishing a cycle 'hub' for parking, showers and lockers etc. It's not just the routes walking and cycling that are important but also the public spaces, civic spaces, squares and open space of Solihull that should be considered within the master plan.

Should the Rail Station Move?

As part of an overarching Town Centre master plan a detailed investigation should be made into the opportunities to better integrate the rail station into the central area.

The existing railway station is a 10-15 minute walk from the town centre along Station Approach and Homer Road which is a route that is not particularly welcoming to pedestrians and cyclists. It has the feel of a suburban station which is perceived as being poorly connected to the Town Centre. An assessment should be made of this journey and what could be done to improve the station environs and walking and cycling experience to the town centre. There may also be development opportunities to enhance the station area and these should be investigated.

Potential Development Opportunities if the Rail Station were Moved



There is potential to relocate the station to a site where significant development potential could create a better connected town centre with a high quality public realm link. This has been discussed previously for Solihull and with a master plan for the centre as a whole the opportunity could be explored further.

A location near Monkspath Hall Road and Tudor Grange Park could create a more compact centre and offer this opportunity. An urban, mixed-use (commercial, residential, retail etc.), higher density relocated station with a high quality walking and cycling connection to the main retail centre could significantly improve the town both in terms of offer and perception.

This may be a medium to longer term aspiration and sites between Prince's Way and Homer Road would have to be identified to allow for a better walking and cycling connection.

However, the master plan will need to consider all aspects of potentially moving the station. To begin with it will be a costly exercise and would its expense be returned in the economic value added to the town? Secondly, would the relocated station be more or less optimal for routing buses around the Town Centre? These and many more questions will need to be raised and answered.

Key

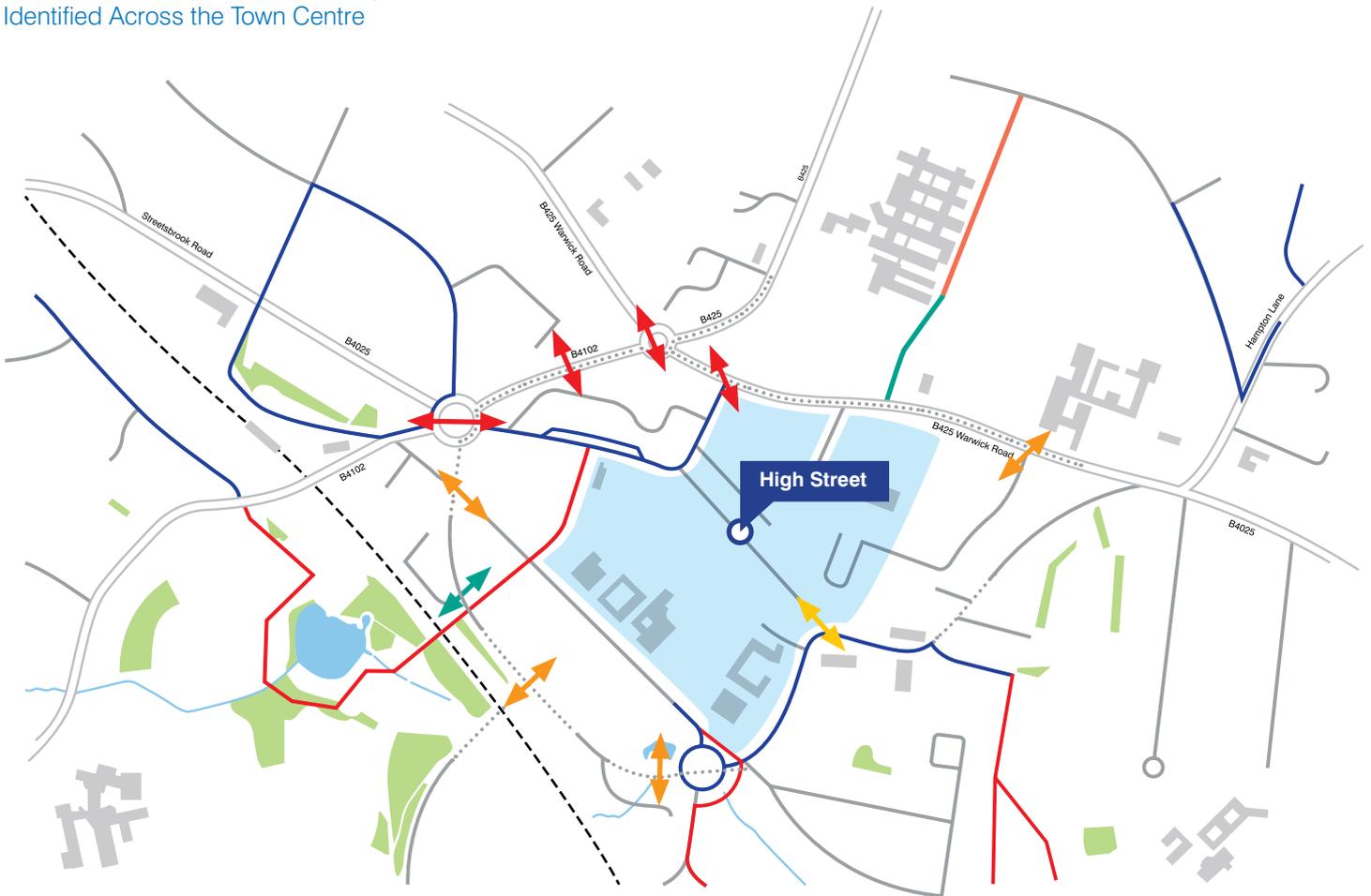
- 10 Minute Walk Distance from High Street ●●●●●●●●
- 10 Minute Walk Distance from Bus Stops ●●●●●●●●
- Potential Bus Routing if Rail Station is Re-Located ●●●●●●●●
- Potential Growth Area for Town Centre if Station is Re-Located ●

Moving the rail station to Monkspath Hall Road would be only marginally closer than the existing station – but would it allow the Town Centre to evolve and grow to the south?

Accessibility for Pedestrians and Cyclists

As part of a full master plan a detailed audit of walking and cycling access to the Town Centre will help identify how key routes can be improved; building on the work contained within the 'Town Centre Public Realm Framework'. As a starting point for discussion in this Green Paper we have identified some of the areas we believe are causing severance issues now.

Pedestrian and Cyclist Accessibility Issues Identified Across the Town Centre

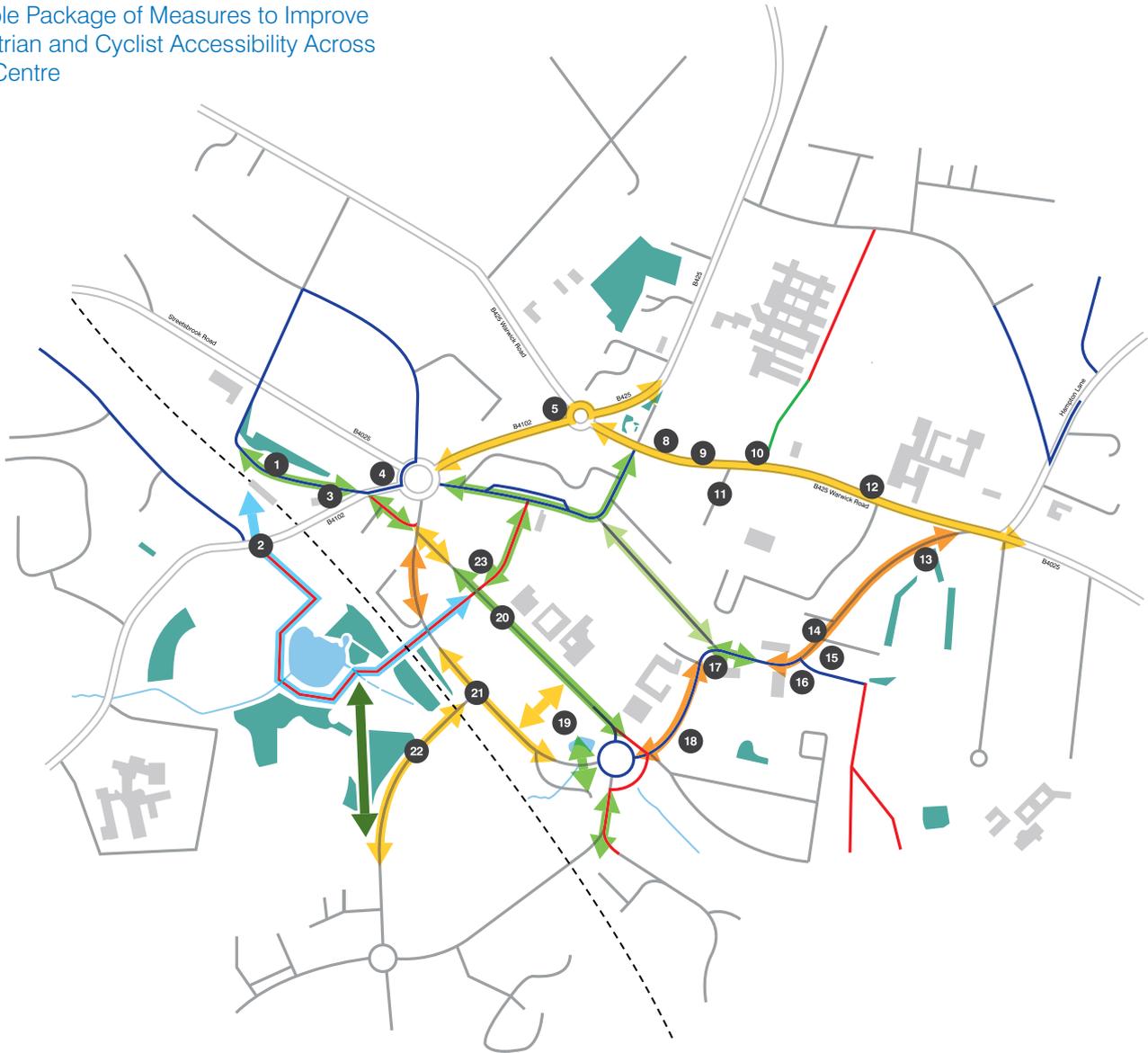


Key		Quality of Pedestrian and Cyclist Provision at Key Gateways	
Shared use		Significant Access Barriers	
Cycle Route		Some Access Barriers	
Signposted Cycle Route		Minor Access Barriers	
Access Barriers		High Quality Link	
Impassable area for cyclists			

There are a number of easily identifiable barriers to movement for pedestrians and cyclists wishing to access the centre. These are primarily concerned with crossing major roads and negotiating busy junctions. Yet the town centre itself is a barrier to cyclists because they are currently not allowed to use the High St.



Possible Package of Measures to Improve Pedestrian and Cyclist Accessibility Across Town Centre



Key		Potential Walk/Cycle Link Quality	
Shared use		Reasonable	
Advisory Cycle Route		Good	
Signposted Cycle Route		Excellent	

Recommendations for Possible Interventions and Examples from Across the UK

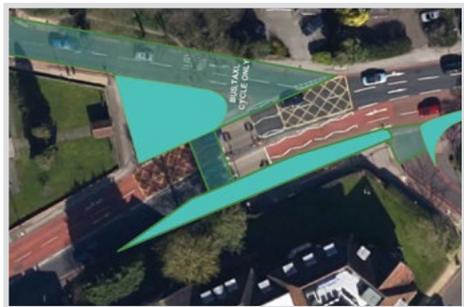


1. Cycling Hub, Ealing



2. Floating bus stop

3. Improved pedestrian and cyclist provision on station approach



4. Winchester station approach – bus/taxi/cycle only



5. Improved pedestrian connectivity between the town centre and rail station

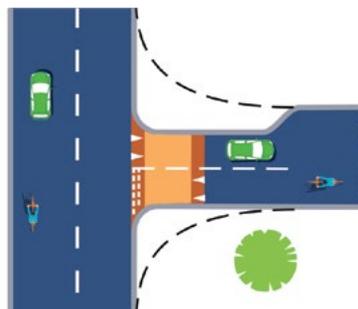
6. Floating bus stop

7. Traffic calming to better accommodate cyclists when passing buses

8. Improved crossing on key desire line

9. Side road entry treatment

10. Provide better cycle facilities along Warwick Road – pavement or carriageway as appropriate



11. Provide cycle lanes from dual carriageway section of New Road to Warwick Road (on carriageway where possible)

12. Provide cycle lanes from dual carriageway section of New Road to Warwick Road (on carriageway where possible)

13. Support leisure cycling route from Malvern and Brueton Park into High Street by improving quality of arrival for cyclists into Town Centre

14. Introduce 20mph zone with cycle markings

15. Welcome cycling gateway into High Street. Example Barls Hospital Public Space

16. Introduce 20mph zone and possible shared use path

17. Strengthen link, widen, more visible

18. Introduce a possible 20mph zone

19. Advanced Stop Lane, left turn cycle filter lane over footway to bypass lights, with protector island

20. Sufficient width to accommodate two way cycle lanes

21. Revise crossing with emphasis as key ped/cycle route



22. Widened crossing to create gateway feature, Poynton

23. Capitalise on segregated southern cycle gateway with link to station via park.



East St in Horsham allows cyclists to mix with shoppers.

Technology can be used to provide better connectivity across busy roads. A system has been introduced in London which uses cameras to analyse numbers of people waiting to cross the road. If there are periods of high demand then the 'green man' light can be extended. The system also detects if the crossing button has been pressed but people have already crossed the road prior to the green man phase; it will then cancel the red light to traffic. The system therefore has the ability to provide more priority to pedestrians when they need it but also maximise efficiency of the road when pedestrian demand is low.

Should cycling be allowed in the High Street?

Currently cyclists are required to dismount and walk through the High St and Mell Square. This creates a major barrier for them as they have to cycle a very long way around to get from one side of the centre to the other.

As an example of where this has been tried before, East Street in Horsham (pictured) is also an attractive shopping street for a small town. They currently close this street to cars in the day but allow cyclists. In the two years they've been doing this there hasn't been a single accident involving a cyclist and a pedestrian. This street is also significantly narrower than Solihull's High Street. There have also not been any adverse complaints from shoppers or shop owners of cyclists disrupting regular activity.

There has also been some research undertaken by the Department for Transport (DfT) that showed as pedestrian activity increased in shared areas so cyclists were actually more likely to simply get off and push anyway.

So if the High Street were opened up to cyclists, then the barrier effect would be reduced and likely at very little risk to pedestrians.

Providing adequate secure parking and other facilities

Accessibility for cyclists is more than just providing safe points to cross busy roads, or allowing cycling on High Street. It will be equally as important to provide secure cycle parking in prominent and convenient locations around the Town Centre. This may include a cycle 'hub' located somewhere in the centre; which is a facility that provides somewhere for cyclists to park, have a shower, keep their belongings in a locker and even get their bike serviced. This hub could also be the location for a central cycle hire scheme.

Car Park Strategy

Having ample parking for shoppers is a major selling point for Solihull's retail offer. However, there are obviously issues around over demand for some and under demand for other car parks. This is evident by the long queues often witnessed for people trying to access Touchwood and John Lewis and yet empty spaces in locations such as Mell Square. With the future expansion of Touchwood likely to occur without any increase in its immediate car park a strategy needs to be developed which would redress the demand imbalance. Some suggestions as to how to achieve this include:

- Differential Pricing** – currently car parks cost the same across the centre. Yet, Touchwood and John Lewis offer a substantially better parking 'service' than others. They are more conveniently located to the core of the shopping area and they have more generous space sizes. An option could be that shoppers pay a higher rate depending on the service quality they receive. Pricing in this way could alleviate some of the queuing as demand across all the car parks in the centre begins to even out.
- Technology** – some of the delays and queuing at busy car parks is often caused by people circulating to find fewer and fewer spaces. Technology can be deployed to reduce this circulating time including: simple red and green lights above spaces so that people can see availability from further away; numbered allocated spaces printed on tickets upon entry that guide a car to a specific space; or even a premium service via an app which allows people to reserve particular spaces for additional cost.
- Park and Ride Options** – As the retail offer in the centre grows so the demand for parking will also grow. There may come a point where the space opportunities for creating new parking could become an issue and alternative solution could be required. At this point we may look at the opportunities for a park and ride solution to capture shoppers coming from longer distances, most likely somewhere off the M42 or the A41 Solihull By-Pass; although other locations could be explored.

There is currently only one long stay car park serving the centre located to the south at Monkspath Hall Road. We believe that another facility should be found in the north to firstly offer more capacity for long stay demand and also off-set the need for people approaching from the north to travel right through or around the centre.

Some consideration could be given to allowing cars access to High Street in the evening to be able to park near to restaurants. This could enable the High Street area to be 'activated' and start a more thriving evening economy in the centre of Solihull; which is currently lacking. The example of East St, Horsham pictured earlier is a similar high street that does this as it is opened for general traffic after 4:30 pm each day.



Public Transport Accessibility and Penetration

The Town Centre will continue to be a focal point for public transport. Following the earlier discussion around a potential mass-transit network, consideration should be given as to how to get this network to best integrate with the Town Centre.

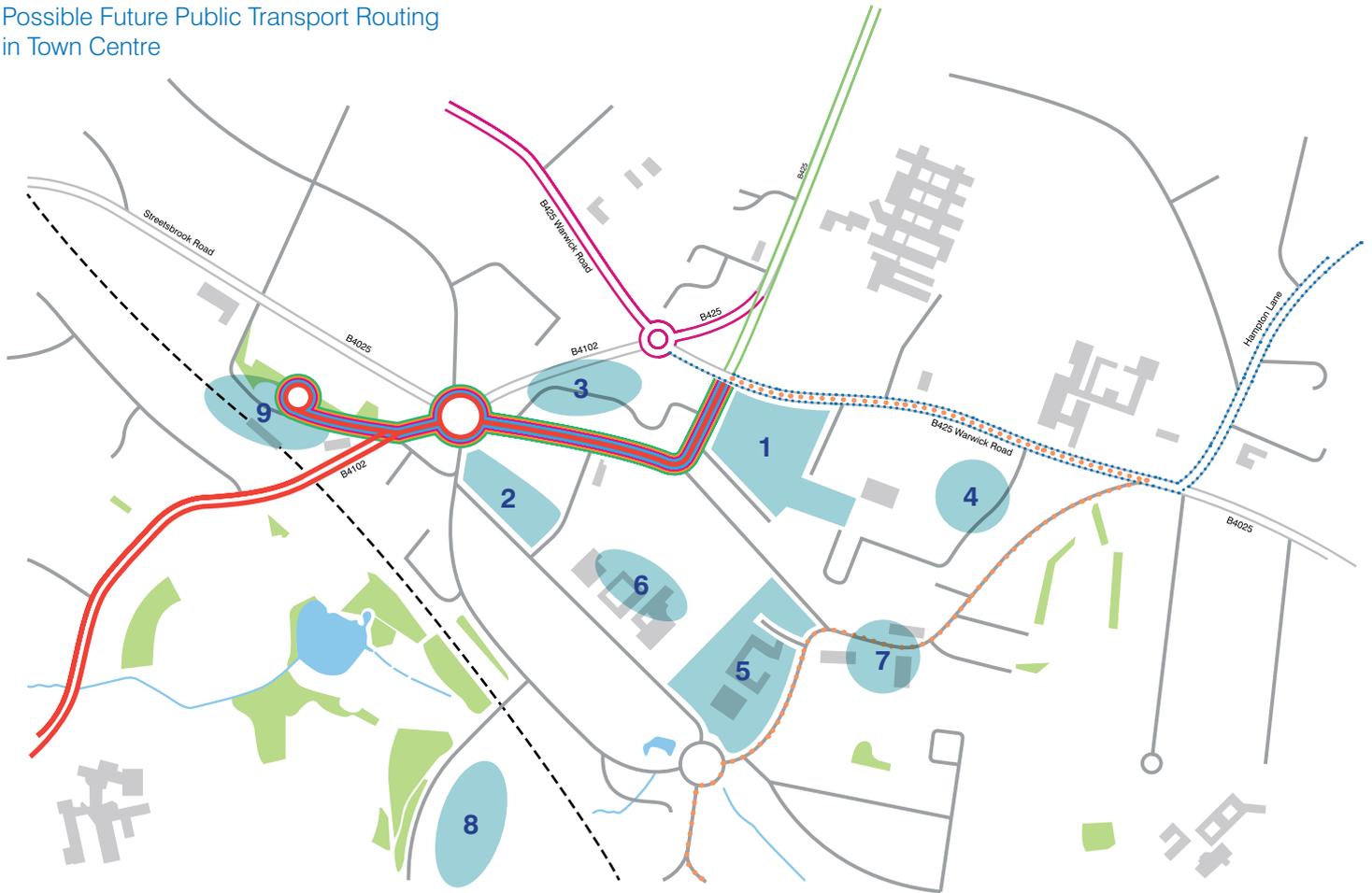
The rail station is key to this discussion. To create a truly integrated network then all mass-transit (which would be 'Sprint' buses in the case of the Town Centre) must service the rail station. Yet they also need to stop as close to the central area as possible. The exact routing and stopping locations will be determined as part of a master plan, and to a large extent any decision on whether to move the rail station or not.

The plan opposite illustrates how important Poplar Road and Station Road are to the operation of public transport through the centre with the rail station in its current location. Stopping most services at the end of the High Street provides the best penetration and access to both the existing employment and shopping area and where future growth may happen.

Should a plan come forward for the rail station to move then an important factor will be to consider how to re-configure Sprint and regular bus services to route around the centre.



Possible Future Public Transport Routing
in Town Centre



Key

Existing bus and new Sprint services from B4102	
Existing bus and new Sprint services from JLR/Lode Lane	
Existing bus and new Sprint services from Warwick Road	
Existing services from Hampton Lane/Warwick Road	
Existing buses from Church Hill Road	
Key Development Sites	

With the rail station in its current location Poplar Road and Station Road is the focus for public transport operation and 'Sprint' routing in particular.

Technology and Innovation

Technology advances at such a pace that it is more valuable to consider it as an enabler of overarching objectives, rather than investing in it for its own right. We would therefore need to develop a technology 'roadmap' which sits under Solihull Connected, where transport technology is viewed as a key supporting mechanism for enhancing road use and use of public transport modes.



Objectives of Solihull Connected

ITS and Technology Deployment



Some of the possible technology interventions which could be considered include:

Integrated Information Management and Control System

We already have a traffic management system (the West Midlands 'UTMC') which assists our traffic control centre. However, there is a possibility that by interfacing with other operators such as Highways England, the NEC and Birmingham Airport then we could produce a more integrated system which manages traffic, congestion and public transport priority where needed across our network.

Real-Time Information

With the rise of smart phones and tablets ownership the ability to present up-to-date travel information via Apps provides many opportunities to provide tailored services to the traveller. The traditional display screens still has a large role to play at places like bus stops, interchanges, shopping malls and other facilities. Social media such as Twitter are also being adopted by authorities to broadcast the latest travel news.

Smart Ticketing

To facilitate ease of payment on public transport a fully integrated smart ticketing system is needed across the West Midlands. This is not something Solihull Council can do by itself but by working in partnership with operators and regional organisations such as Centro and the ITA we can develop a system across the West Midlands that will benefit all passengers. As a minimum we need an integrated system which is consistent across all forms of public transport, provides an 'end-to-end' journey fare and enables people to pay by a variety of means. However, beyond that minimum there are many exciting things that could be done which may mean we could integrate with other services such as cycle hire or car clubs running from the same payment system.

Promoting 'Green' vehicle usage

Solihull is a partner with Birmingham City Council to establish a strategy for developing renewable energy infrastructure for vehicle refuelling. To do so we are considering:

- The scope and scale of the infrastructure required in order to achieve significant take-up of ultra-low emission vehicles
- Targeted strategic partnerships with vehicle manufacturers (particularly of heavier vehicles) to address specification requirements for green fleets
- The skills needed for local supply chain companies to address implementation requirements for new technology solutions; and
- Investment and development in the wider renewable energy and sustainable infrastructure (including bio-methane, electricity, hydrogen and liquid air) to support ULEV technologies in new vehicle development.

Freight Management

Freight is a major user of our road network and implementing a system that controls and manages the flow of freight will be important for safety, congestion and environmental purposes. It is also advantageous for businesses to have detailed information on road space and loading/unloading slots available in order to optimise their operations and remain competitive.

We need to ensure that we support the businesses within Solihull to effectively manage their operations. The logistics needs of large firms, such as Jaguar Land Rover, are a vital component to the success of their business and therefore a major consideration as to where they locate.

Transport for London has recently implemented the Freight Journey Planner (FJP). This system assists freight operators to plan their route for a specified vehicle type, and identify loading and unloading areas. A freight management system for Solihull could adopt features such as:

- Routing – for each route an accurate Estimated Time of Arrival (ETA) would be calculated using historic traffic information. The system would take into account any planned events or road-works and generate a route that fits the criteria of both the freight organisation and also the authority in accordance with their traffic management strategies.
- Interactive Map – a map showing the route and information such as legal loading and unloading locations, points of interest, restrictions and disruptions are illustrated. This can be updated on a navigation system within the vehicle so that up-to-date information is available to the driver to make informed decisions.

Such a freight management system would need to integrate with the UTMC to enable data exchange and processing. Other interventions to consider could include HGV lanes to manage the freight traffic and associated enforcement systems.



Electric Charging for Buses

New generation electric buses have the ability to wirelessly recharge their batteries throughout the day which means there can be continuous service without the need for the fleet to be out of service for any period of time. The recharging occurs by buses receiving a booster charge from plates that have been installed into the road that covers the bus route.

It is believed that the system is 90% efficient based on 10 minute boost intervals. Currently a trial is taking place in Milton Keynes.

As well as what is possible now we should go beyond what is presently possible and start to consider what might be possible in the future:

Dynamic Electric Charging

This concept is still at a very stage and research is being undertaken. But in the future it is expected that wireless transmission of power from an on road transmitter to a car. Research and development is working towards having a driving range of up to 300 miles.

Solar Roads

This is a concept that looks at roads, pavements, parking spaces and bike ways are built on solar panel technology rather than standard asphalt. These panels would have the ability to provide energy and heat to melt snow, provide inductive charging for electric vehicles and LED lighting.

Smart Transport and Internet of Things

The concept of Smart Cities is on the agenda of many authorities around the world and is built on a concept that systems and information can be integrated and shared across an 'Internet of Things' to enhance people's lives. The transport system is one of the key aspects of a smart city concept and is working towards an all connected system which is dependent on significant amounts of relevant data being available in real-time. The concept of the Internet of Things enables this with sensors, devices and systems all connected to the Internet. For example, this could allow screens or totems at bus stops to be used to provide people with personalised journey planning/routing information.



Connected and Driverless Vehicles

There is considerable work happening in developing autonomous and connected vehicles and trials are already taking place in places such as Coventry to test certain features of a vehicle. The vision is to have vehicles that interconnected to fellow vehicles and roadside infrastructure that would constantly exchange data related to road conditions, traffic patterns and weather. This could be used to dynamically route traffic away from congestion spots or to take them directly to available parking spaces nearest to their destination.

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How might we Fund and Deliver Solihull Connected?

How we Fund and Deliver Transport Now

We currently deliver transport infrastructure and services through a variety of means and not all of which are under Solihull Council's direct control:

- We have access to funds through the West Midlands Local Transport Plan Integrated Transport Block which is a pot of funds primarily used to fund small schemes and programmes. This capital funding helps us to deliver things like isolated junction improvements, safer routes to school programmes and providing our local contribution to some bigger schemes funded from elsewhere.
- In addition we also fund some schemes through developer contributions, termed 'Section 106 Agreements' whereby developers are required to fund or part fund schemes which reduce their impact on the network that would otherwise have resulted in a harmful effect.
- The Community Infrastructure Levy is being pursued by the Council to ensure that an appropriate financial contribution is made by a range of developments. This is so that those who benefit from the grant of planning permission share that gain with the community by funding infrastructure requirements.
- A more recent funding stream has been the Central Government's 'Local Growth Fund'. This is bid for by Local Enterprise Partnerships (LEPs), of which Solihull is a member of the 'Greater Birmingham and Solihull LEP'. Through this organisation we lobby government for our growth needs and bid to get access to funding which will realise them.
- Much of the investment in public transport in Solihull comes from Centro, the West Midlands Passenger Transport Executive (PTE).
- Investment in the motorway network comes predominantly from Highways England.
- European Funding is often available for us to bid for. It was used for example to fund the North Solihull Cycle Network.
- Central Government often releases 'Challenge Funds' for Council's to bid on. These are usually themed around particular government priorities. For example the 'Local Sustainable Transport Fund' was recently used to invest in cycling infrastructure and behaviour change campaigns in Solihull (via Centro).

How We Might Deliver Solihull Connected's Ambition?

The scale of growth and our ambition to deliver high-quality infrastructure from Solihull Connected will require additional funding from the level we currently receive. Until the detail of the strategy is developed we cannot know the full cost implications.

To a certain extent the final strategy does not have to be fully funded. It is important for Solihull to show its level of ambition to LEP partners, Central Government and potential investors. However, there are a number of funding streams that we may be able to take further advantage of.

It is hoped that simply by having a clear strategy and set of prioritised schemes needing investment, places Solihull at an advantage in accessing more from funding streams such as the Local Growth Fund and Challenge Funds. Being able to clearly express our priorities and aligning them to regional and national priorities around growth and job creation is a key factor in us achieving a bigger portion of the available funding.

In addition to getting a greater share of existing funding streams Solihull has the opportunity to take advantage of our location to leverage in additional monies to improve our transport system. In particular the HS2 Interchange provides us with a fantastic opportunity to lobby for additional funding to fully take advantage of the growth potential. We are part of a consortium of West and East Midlands authorities lobbying for an 'HS2 Connectivity Package' from which we are seeking to fund large pieces of infrastructure which will enable HS2 to be properly integrated into the wider region.

Thinking About Land Use and Transport Differently

We also need Solihull Connected to alter the way we make decisions on developments and land use.

We need to consider the issues discussed in this Green Paper around promoting communities and developments which are focused towards sustainable transport from the outset; so that we don't have to alter entrenched car-based travel habits. We need to ensure that as our growth occurs that we are developing in the right places which have the right connections.

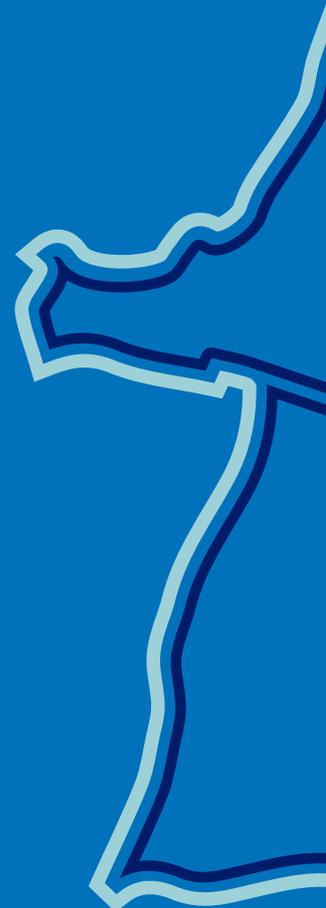
In the past growth has occurred in unsustainable locations by building next to a motorway junction and providing huge car parks. This has only served to attract jobs which are most likely not taken up by Solihull residents and encourage people to drive very long distances to access them. In the future the principals behind Solihull Connected will mean that land use and transport are considered together and that growth is focused in areas which are connected to the Borough as a whole through high quality public transport, cycling networks and walking routes from local communities.

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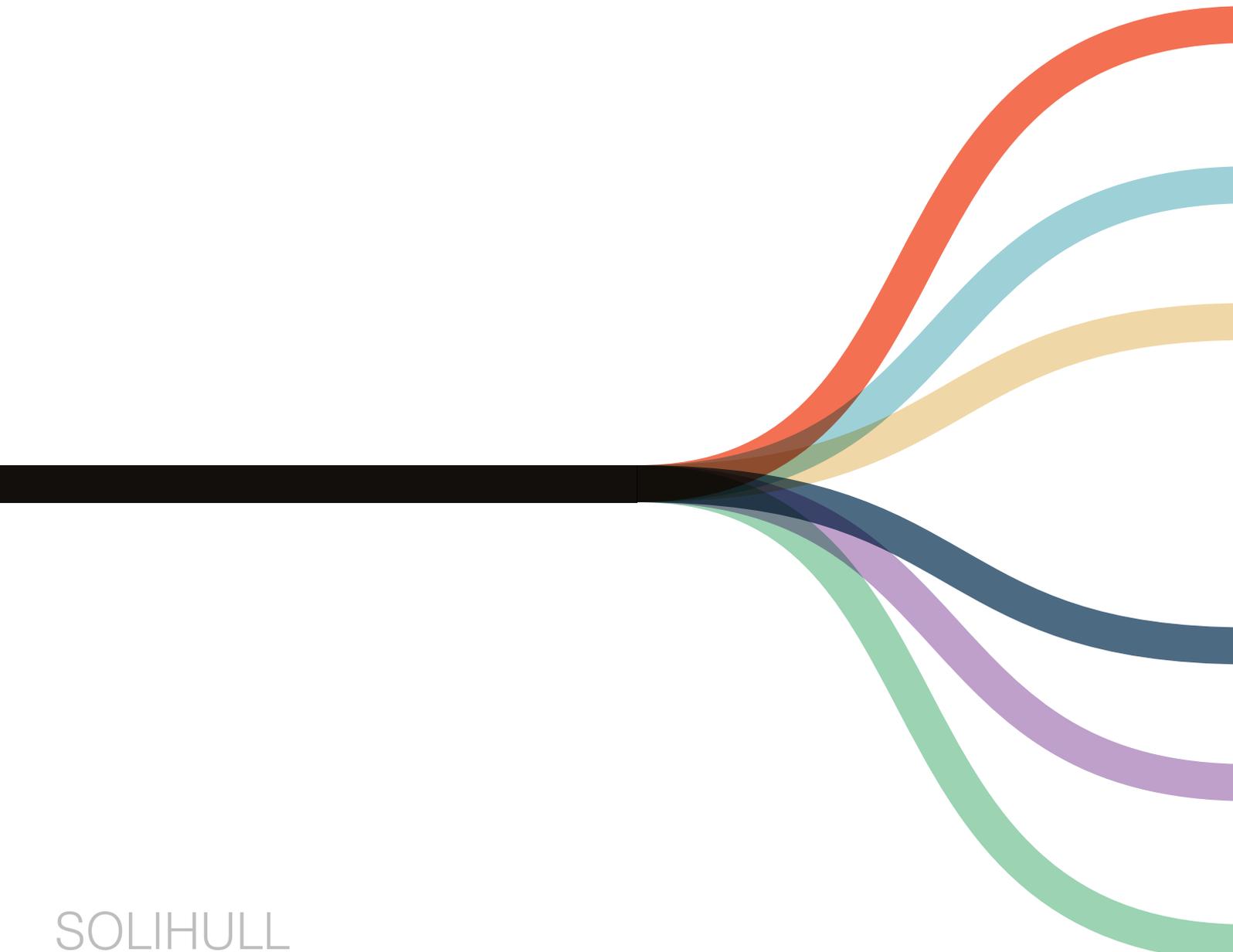
Appendix A

Evidence Base Data and Information Sources

1. 2011 Census Household Data
2. 2011 Census Travel to Work Data
3. 2011 West Midlands Household Travel Survey
4. Bus Service Timetables and Frequencies
5. UK Central Master Plan
6. Birmingham Connected: Birmingham Mobility Action Plan
7. Greater Birmingham and Solihull Local Enterprise Partnership Strategic Economic Plan
8. UK Index of Multiple Deprivation
9. Sport England Small Area Statistics – Sport and Activity Participation
10. West Midlands 1500 Point Traffic Survey – 2011/12
11. 2013 West Midlands Cordon Survey
12. 2013 Solihull Congestion Study
13. Solihull Core Strategy
14. West Midlands SPECTRUM Database – Accident Data and Congestion Statistics
15. Sustrans Handbook for Cycle-friendly Design







SOLIHULL CONNECTED

Green Paper Report 2015

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