



Birmingham Development Plan

Transport Evidence Base Context Report

January 2014
Birmingham City Council

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1. Introduction

1.1 Study Context

Birmingham City Council (BCC) is in the process of developing the Birmingham Development Plan (formerly known as the Birmingham Core Strategy), a central part of its Local Development Framework. As with any land use policy, the way the Birmingham Development Plan is supported by transport services and associated infrastructure will be one of the elements fundamental to its successful delivery. Similarly, the way in which the transport system develops to respond to the implementation of the Plan will also be fundamental to the system's on-going effectiveness. For these reasons, and in accordance with relevant policy, BCC has commissioned Mott MacDonald to develop a Transport Evidence Base to support the emerging Birmingham Development Plan.

The Transport Evidence Base is being developed over five stages, as shown in the following table.

Table 1.1: Proposed study stages

Study Stage	Label	Description
Stage 1	Scoping	Establishing and agreeing key study parameters from the outset. This element has already been reported.
Stage 2	Establishing Context	Building up the full picture of relevant policy, plans and programmes which set the context for being able to assess the Birmingham Development Plan's future impacts
Stage 3a	Strategic Modelling	Assessing area-wide future impacts through strategic modelling
Stage 3b	Junction Modelling	Local area modelling of specific junctions and development of mitigation measures
Stage 4	Infrastructure Delivery	Considerations of design, cost, funding and delivery of required new infrastructure
Stage 5	EIP Assistance	Expert witness support to the Council at the Planning Inquiry

The key stage of the methodology is Stage 3a (Strategic Modelling) because this is the stage where the Birmingham Development Plan's transport impacts – both positive and negative – are quantified. The West Midlands Policy Responsive Integrated Strategy Model (PRISM) will be employed for this task and, in order to quantify impacts, will consider the following three scenarios:

1. **Base** year scenario (2011) – which represents a present-day transport and land-use scenario.
2. **Reference Case** scenario (2021 and 2031) – which represents the future transport and land-use scenario where there is no Development Plan implemented
3. **Development Case** scenario (2021 and 2031) – which represents the future transport and land-use scenario in which the Development Plan is implemented

The future transport impacts of the Development Plan will be isolated and identified by comparing the Development Case scenario with the Reference Case scenario.

The primary purpose of Stage 2 of the study is therefore to develop an understanding of these scenarios through a review of all relevant policy, plans and programmes with a view to providing an evidence-based context, as well as data, for the subsequent assessment stages.

The purpose of this report is to present the output of Stage 2 of the study.

1.2 Report Contents and Structure

In light of the purpose of this stage of the study, this report is structured as follows:

Table 1.2: Report structure

Section	Title	Description
2	Baseline Conditions and Challenges	Presents a mainly quantitative description of current transport and demographic conditions, and consequent transport challenges arising.
3	Baseline Modelling	Describes the method by which today's Baseline Conditions will be modelled to form the assessment's Base Year Scenario.
4	Future Reference Case Do-Minimum Transport Networks	Description and justification of the transport schemes assumed to be implemented in the future Reference Case scenario years of 2021 and 2031.
5	Future Reference-Case Demographics	Description and justification of the Reference Case demographic conditions forecast for the future assessment scenario years of 2021 and 2031.
6	Future Development Plan Representation	Description of the Development Case network and demographic representation for the future scenario years of 2021 and 2031.
7	Summary	Report summary.

A supporting review of policies and programmes relevant to the study is also attached in Appendix A.

2. Baseline Conditions and Challenges

2.1 Introduction

The purpose of this section is to present demographic and transport profiles of the study area, and the consequent transport challenges and opportunities arising. These challenges and opportunities will present significant points of consideration for the Development Plan going forward.

2.2 Demographic Profile

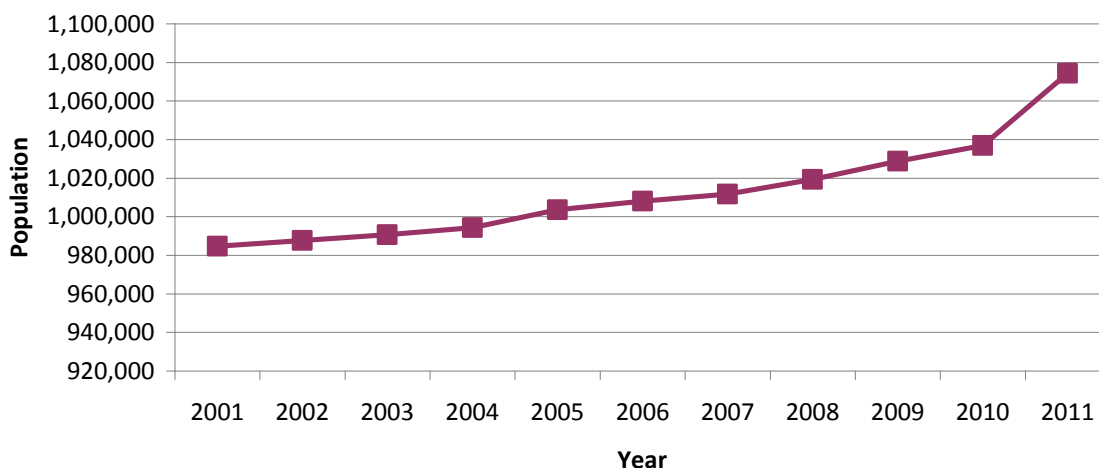
2.2.1 Population

The following table and chart show how the Birmingham population has changed since 2001, based on both Mid-Year Estimates and the 2001 and 2011 Census. These figures show a 9.8% growth in 10 years.

Table 2.1: Birmingham population change

Year	Mid Year Estimates	Census
2001	984,600	977,085
2002	987,600	
2003	990,600	
2004	994,300	
2005	1,003,500	
2006	1,008,000	
2007	1,011,700	
2008	1,019,200	
2009	1,028,700	
2010	1,036,900	
2011	1,074,300	1,073,045

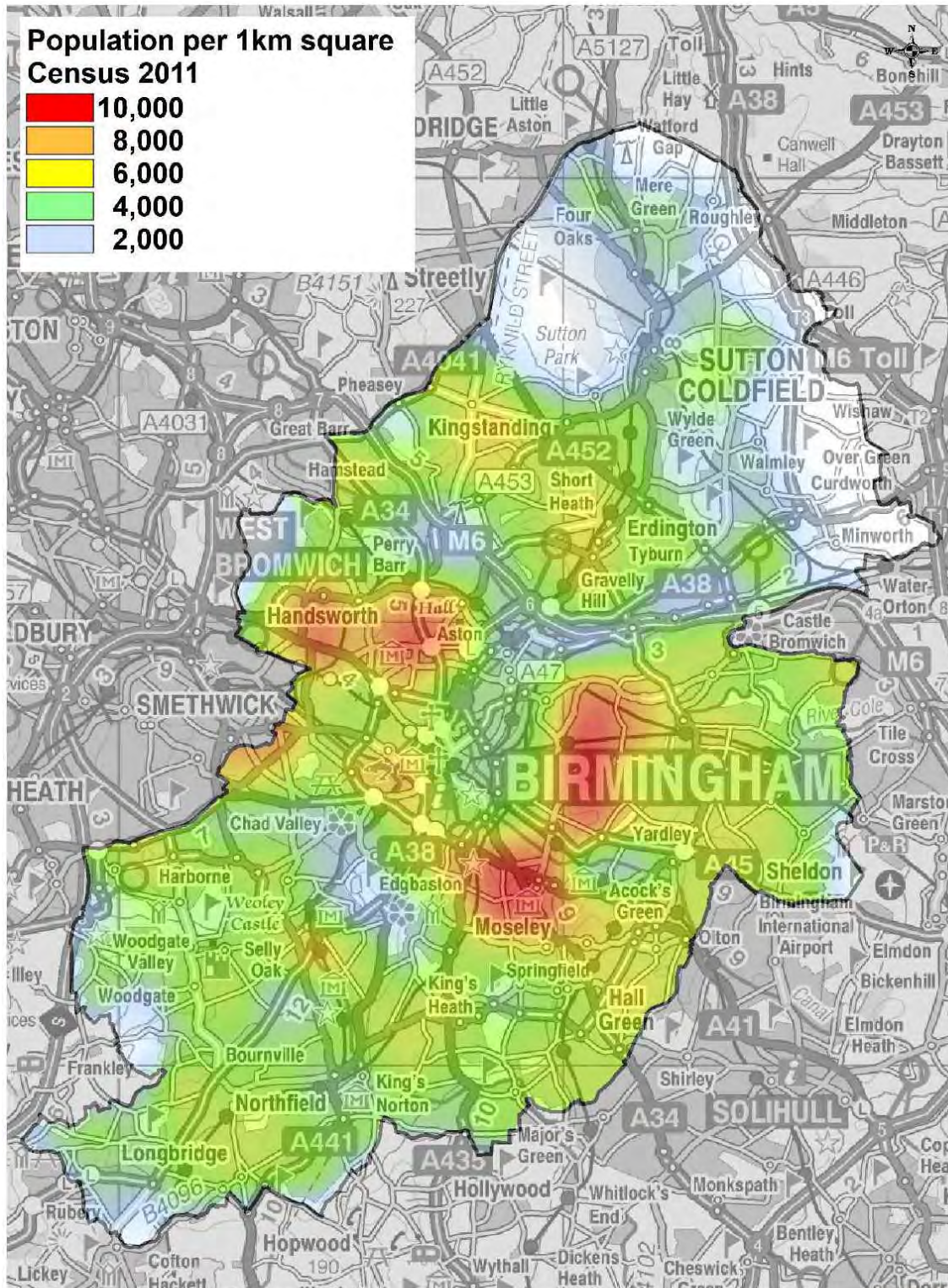
Figure 2.1: Birmingham population change (Mid-Year Estimates only)



Source: Mid-year estimates

The following figure shows how the 2011 Census population is distributed across the District.

Figure 2.2: Birmingham population distribution



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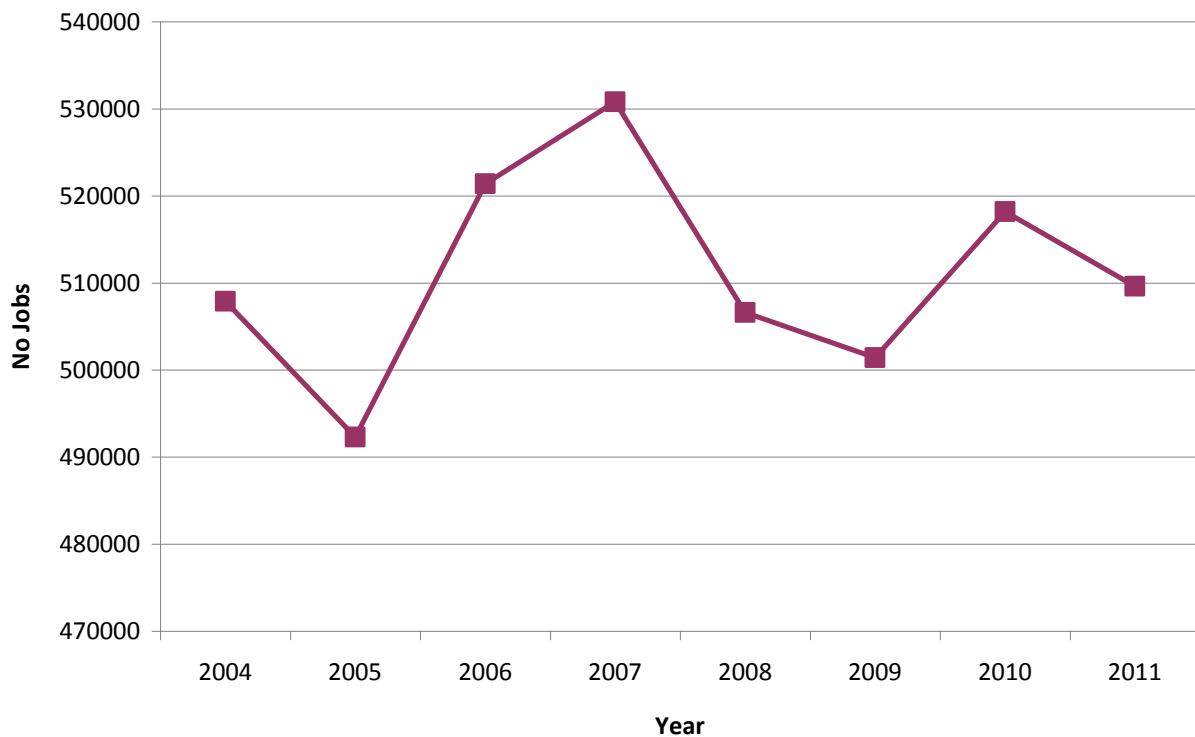


Source: Census 2011

2.2.2 Employment

The following figure shows Annual Population Survey Workplace Totals from 2004 to 2011 for the Birmingham area.

Figure 2.3: Birmingham job totals over time

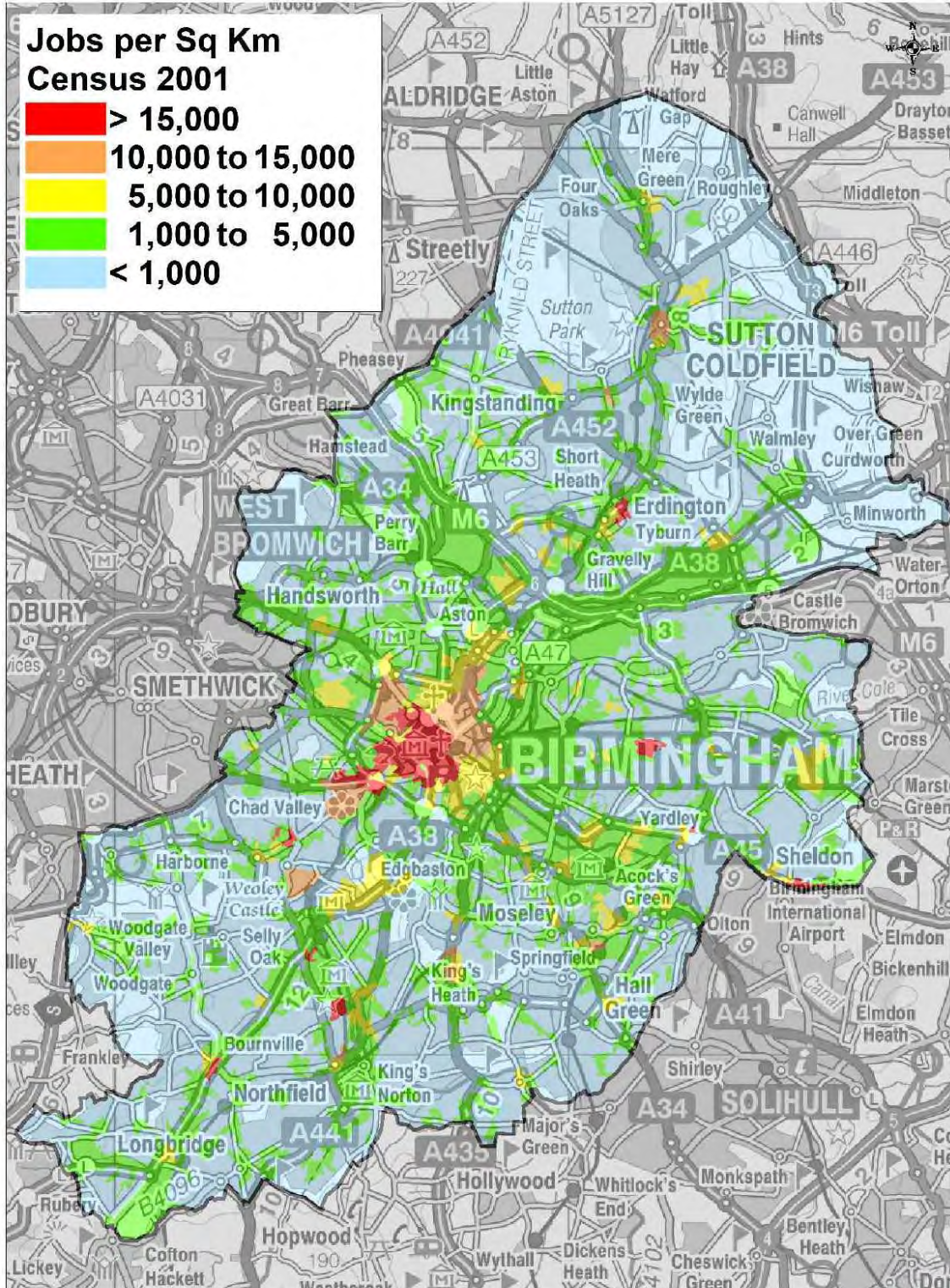


Source: Annual Population Survey Workplace Totals

The following figure shows job density information for the Birmingham area based on Census 2001. The number of jobs in the area has evidently changed since 2001, but the relative density distribution will have remained mostly the same. This figure is therefore a good proxy for today's employment density distribution across the area.

The figure shows that the highest density is to be found in the city centre, as would be expected, and in outlying employment centres, such as in Erdington and Sutton Coldfield.

Figure 2.4: Job density statistics for District of Birmingham, based on Census 2001



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Source: Census 2001

2.2.3 Car Ownership

The following table shows how average car ownership per household has changed in Birmingham between Census 2001 and Census 2011. It shows an average ownership increase of 8.6%.

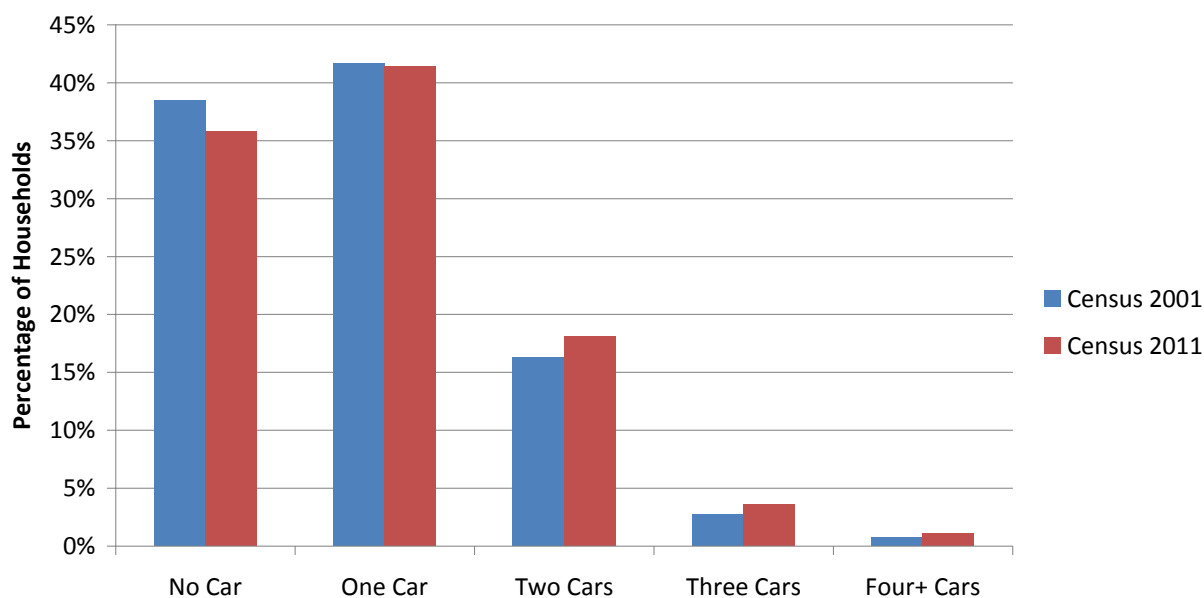
Table 2.2: Average car ownership per household in Birmingham

Census Date	Average Car Ownership per Household
2001	0.86
2011	0.93

Source: Census 2001 and 2011

The following figure provides more detail on this overall increase in ownership. This shows a drop of nearly 3% in the proportion of non-car households.

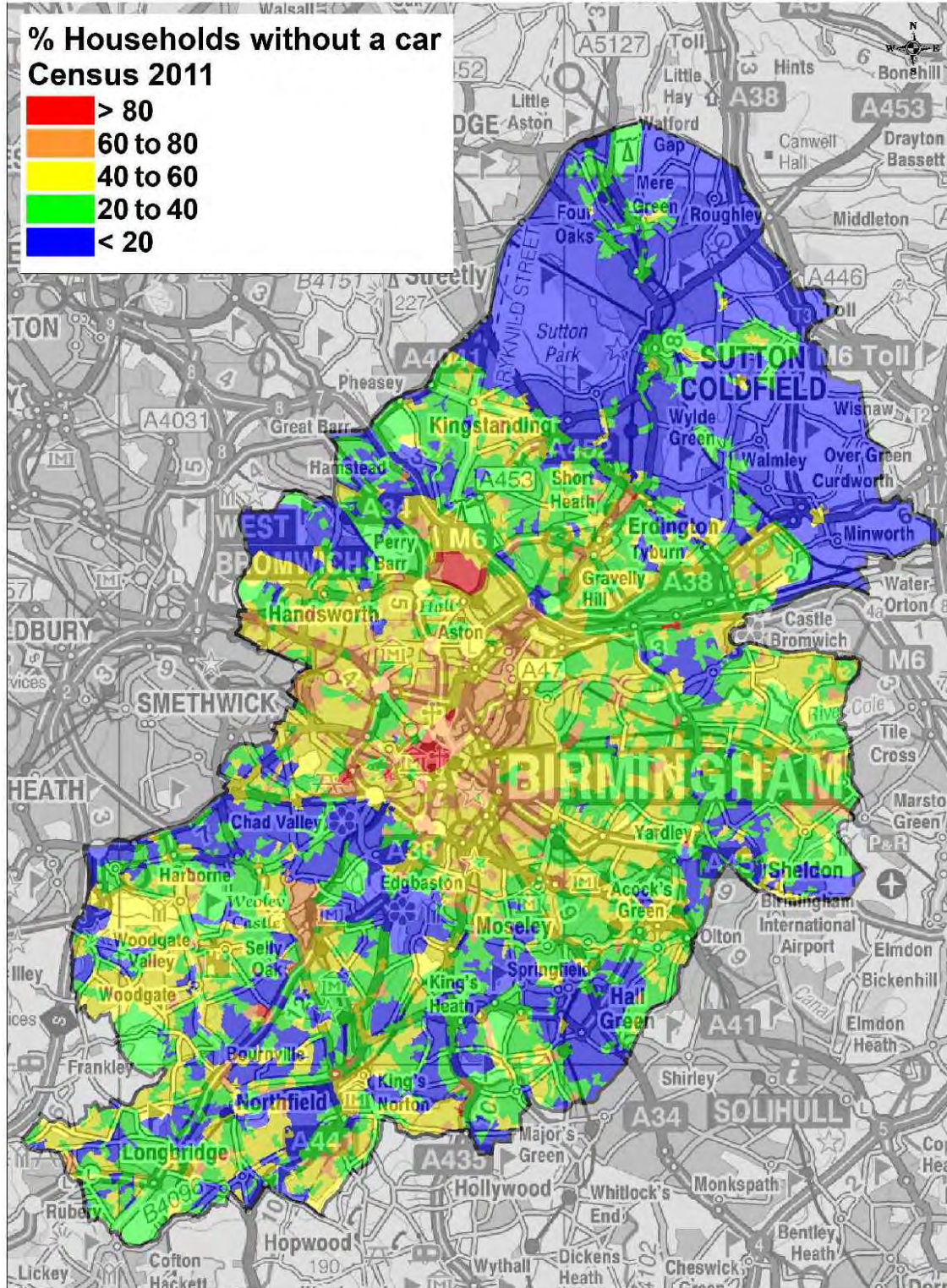
Figure 2.5: Change in car ownerships per household from 2001 to 2011



Source: Census 2001 and 2011

The following figure shows how the Census 2011 car ownership statistics are distributed across the District. This shows lowest car ownership levels within the inner city core area.

Figure 2.6: Proportion of households in District of Birmingham with no car, as per Census 2011



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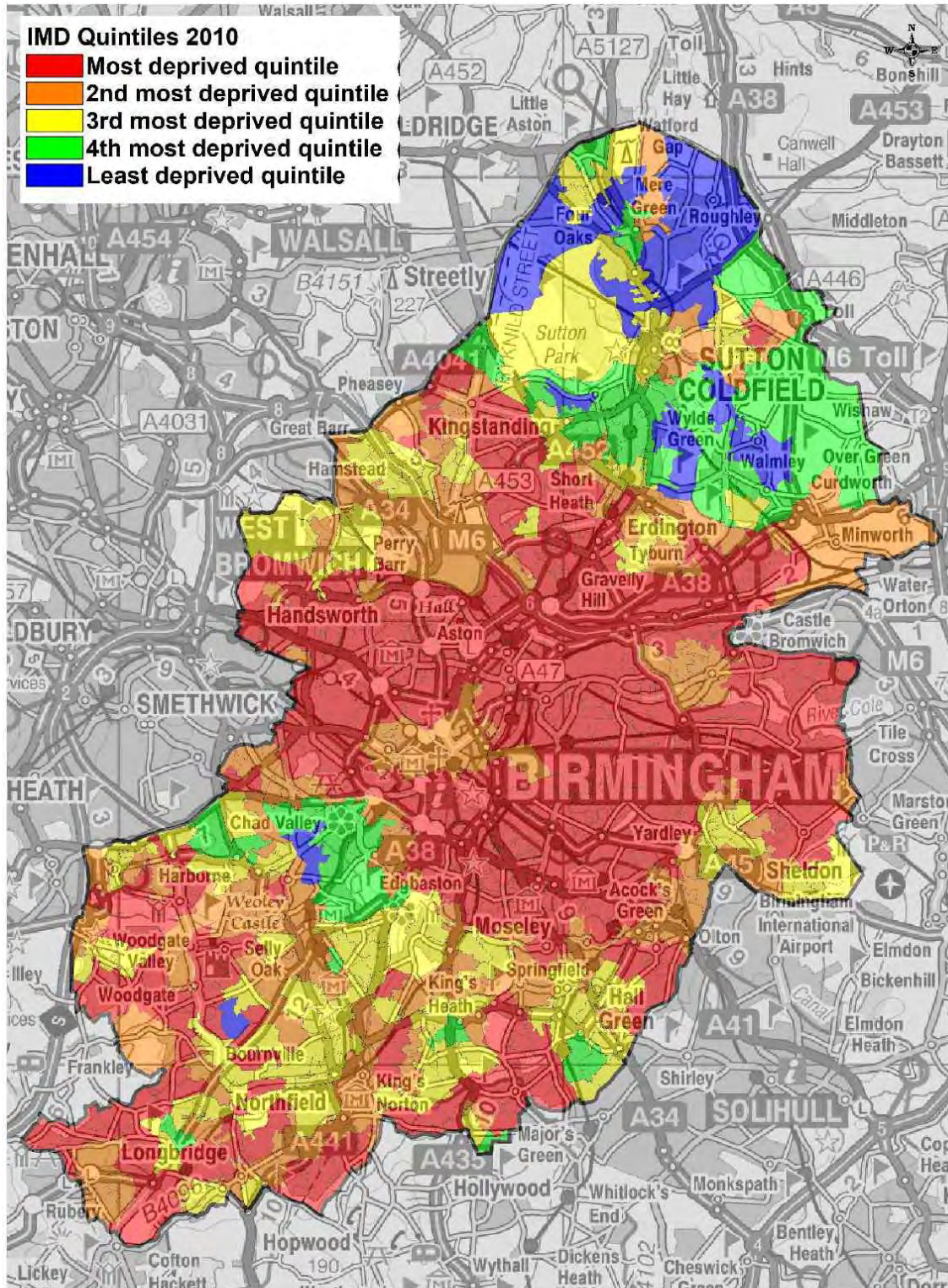


Source: Census 2011

2.2.4 Deprivation

The following figure shows deprivation statistics for the District of Birmingham, based on 2010 Index of Multiple Deprivation data. This shows high levels of deprivation across the core and to the south of the district. It also shows some correspondence with the car ownership distribution shown above, as would be expected.

Figure 2.7: Index of Multiple Deprivation statistics for Birmingham



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Source: 2010 IMD

2.3 Transport Profile

2.3.1 Transport Networks

The following figure shows the main highway and rail networks for the District of Birmingham area.

As identified by Birmingham City Council and Centro, the WMMA is relatively well served by existing transport, and the region's motorways are at the centre of the UK network.¹ The various Area Action Plans (AAPs) for the City confirm this.² Bus and coach travel is the backbone of public transport within the region and will remain so for the foreseeable future.³

However, acute instances of severance and poor accessibility present a key challenge to mobility. For example, the enormous potential of the Bath Row and Holloway Head area, (with its proximity to the city core and connections to Five Ways and Broad Street) is an asset that has remained largely unrealised since the construction of Suffolk Street Queensway (A38). This road has acted as a barrier to the natural integration and spread of activity between the city centre core and surrounding areas, as part of the 'concrete collar' of the former Inner Ring Road. However, given the nature of the design of the road at Suffolk Street Queensway and Bristol Street (tunnels and flyovers), and its major role within the highway network across the city centre, it remains unlikely that the impact of the road can be lessened in the foreseeable future.⁴

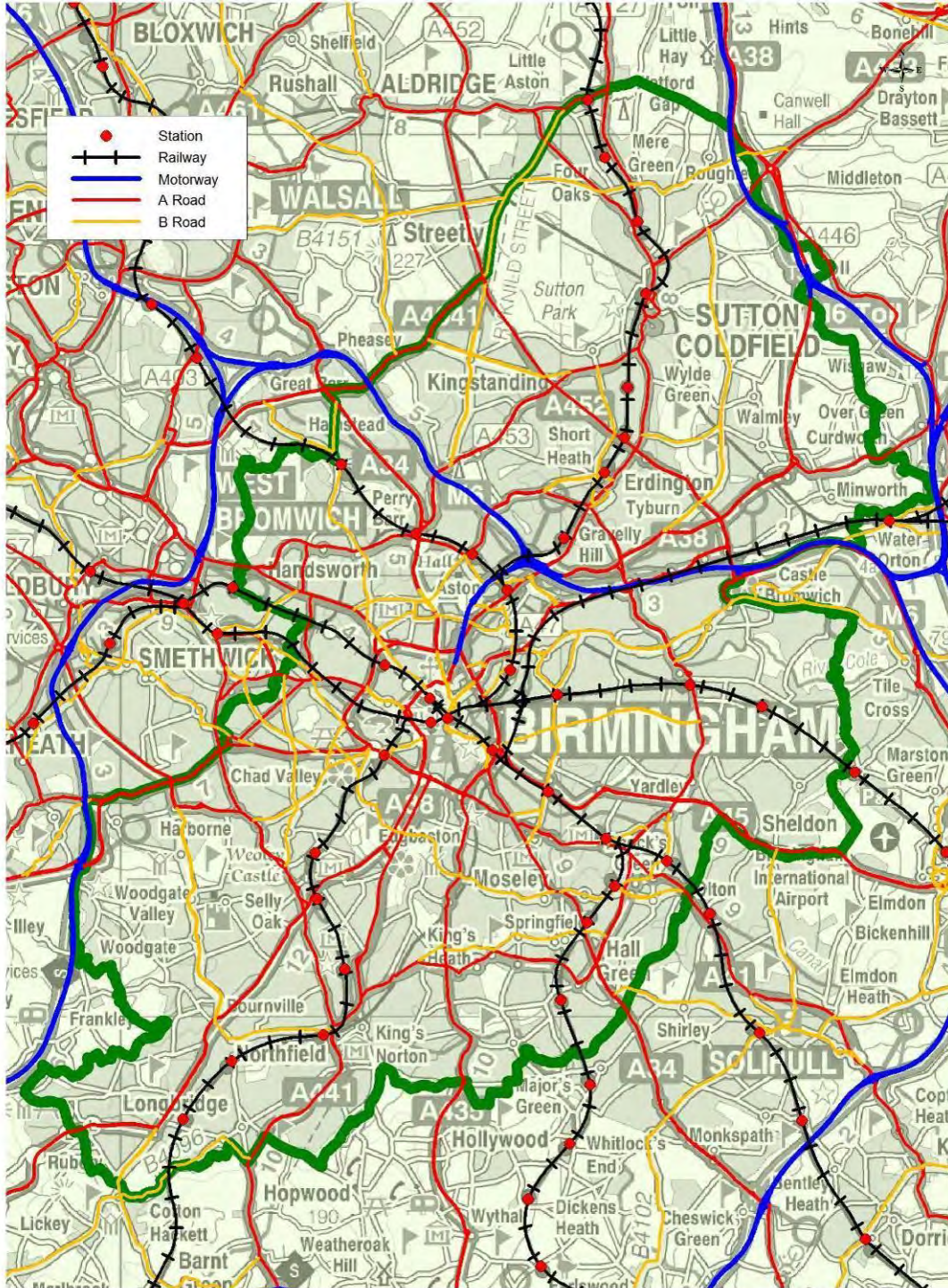
¹ Birmingham City Council et al (2011): 'Smart Network, Smarter Choices: Business Case (LSTF)'

² Birmingham City Council (2012): 'Aston, Newtown and Lozells Area Action Plan'; Birmingham City Council and Bromsgrove District Council (2009) Longbridge Area Action Plan

³ Aspen Burrow Crocker (2001): 'West Midlands Area Multi-Modal Study: Final Report'

⁴ Birmingham City Council (2004): 'Bath Row and Holloway Head Development Framework'

Figure 2.8: Highway and rail networks in and around the District of Birmingham



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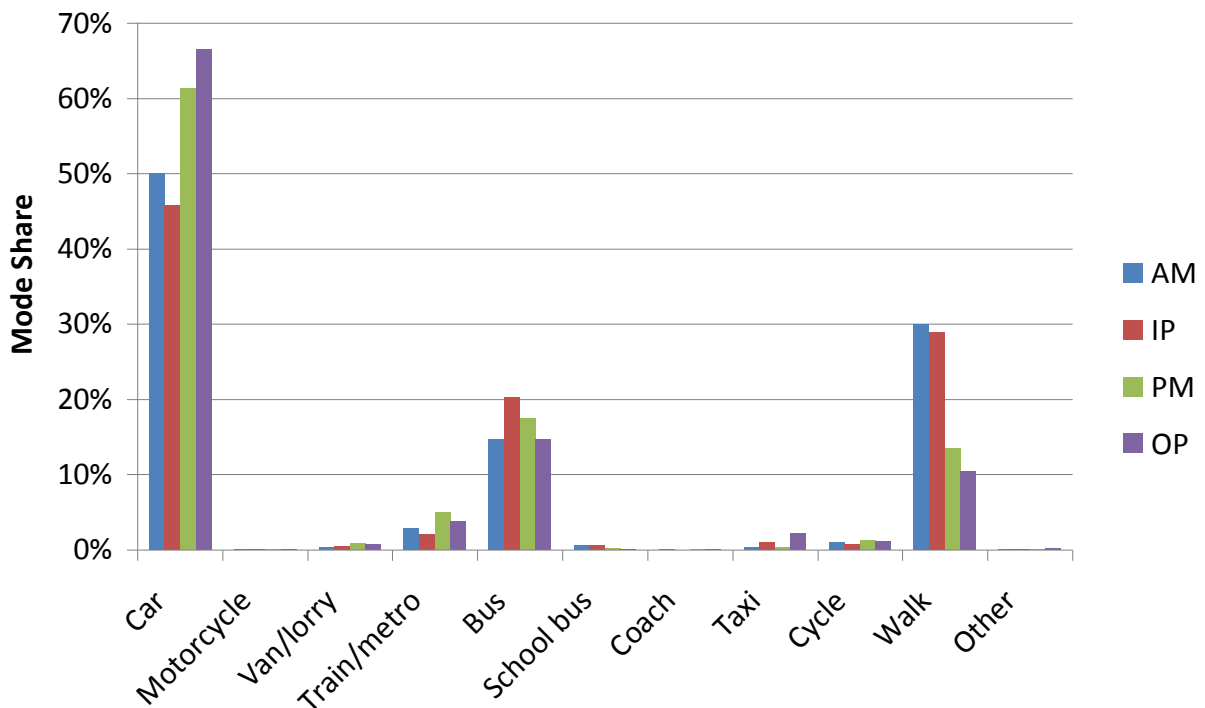
2.3.2 Trip Mode Share and Purpose

The following figure shows the average mode share, by time of day, for all trips to and/or from the District of Birmingham, as per the West Midlands Household Interview Survey. The time periods covered are as follows:

- AM – AM peak, 07:30-09:30
- IP – Inter-peak, 09:30-16:00
- PM – PM peak, 16:00-18:00
- OP – Off-peak, 18:00-07:30

The West Midlands Household Interview Survey was carried out between May 2009 and May 2012, covering about 5,000 households across the seven districts. The samples were also controlled to ensure representation across geographic and socio-demographic groups. Weighting factors are also applied to address any area of the data where full representation was not achieved. The figure below is based on unweighted data, but at this level of aggregation, drawing from a minimum sample size of 2,202 trips in the smallest group ('OP'), it is considered that the data is sufficiently representative in its unweighted form.

Figure 2.9: Average mode share by time period for all trips to and/or from District of Birmingham



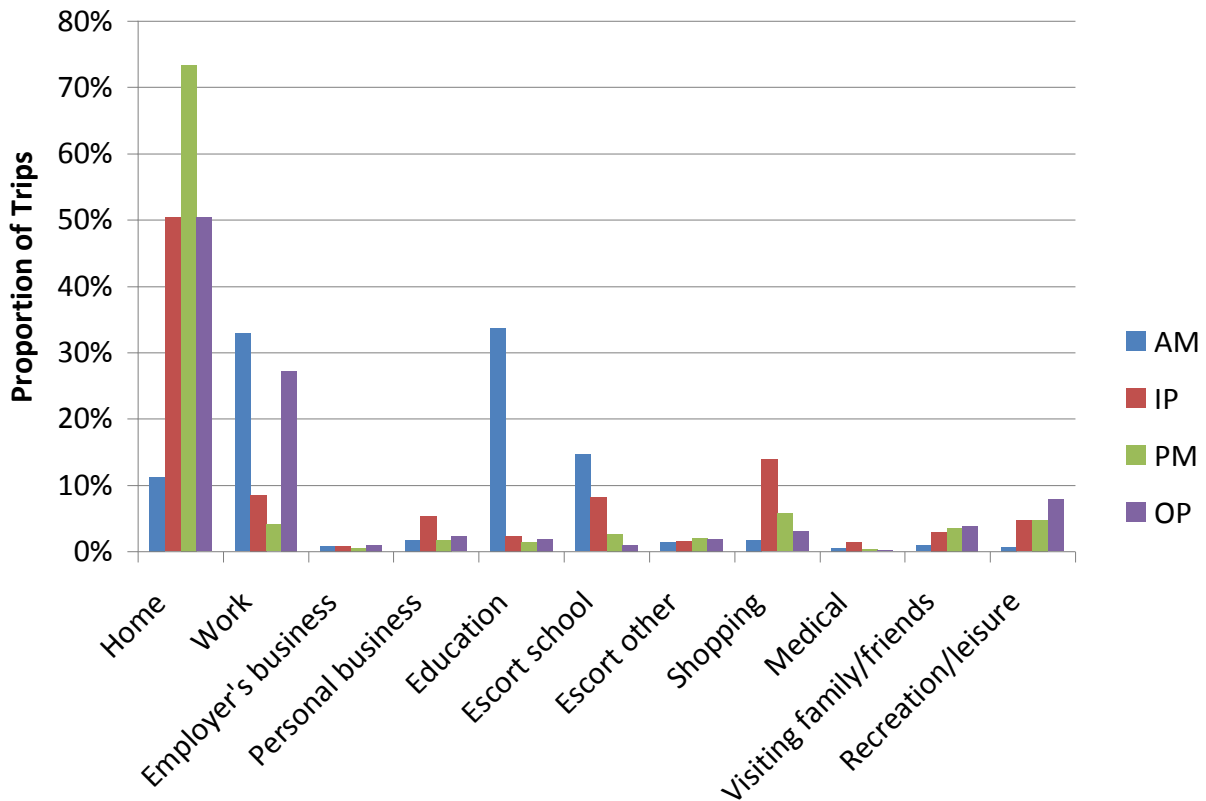
Source: 2009-2012 West Midlands Household Interview Survey (unweighted)

The figure shows that:

- The car is the most frequent choice of mode in each time period, accounting for around half of all trips or more, but is lowest in the AM and Inter-peak periods and highest in the PM and Off-peak periods.
- Walking is the second most frequent choice of mode in the AM and Inter-peak periods, accounting for nearly a third of all trips. In the PM and Off-peak periods, this mode share level drops by over half. This will be partly a result of the hours of darkness, but also because education/school trips and shopping trips are less represented in these periods than they are for the earlier periods.
- The bus is the second most frequent choice of mode in the PM and Off-peak periods, and the third in the AM and Inter-peak, accounting for up to 20% of trips. The highest mode share is in the Inter-peak period, most likely reflecting shopping trips.
- The train and Metro are the fourth most frequent choice of mode, accounting for up to 5% of trips.
- The other modes account for the remaining 2 - 4% use.

The following figure uses the same data to show the average trip purpose profile, by time of day, for all trips to and/or from the District of Birmingham.

Figure 2.10: Average trip purpose profile by time period for all trips to and/or from District of Birmingham



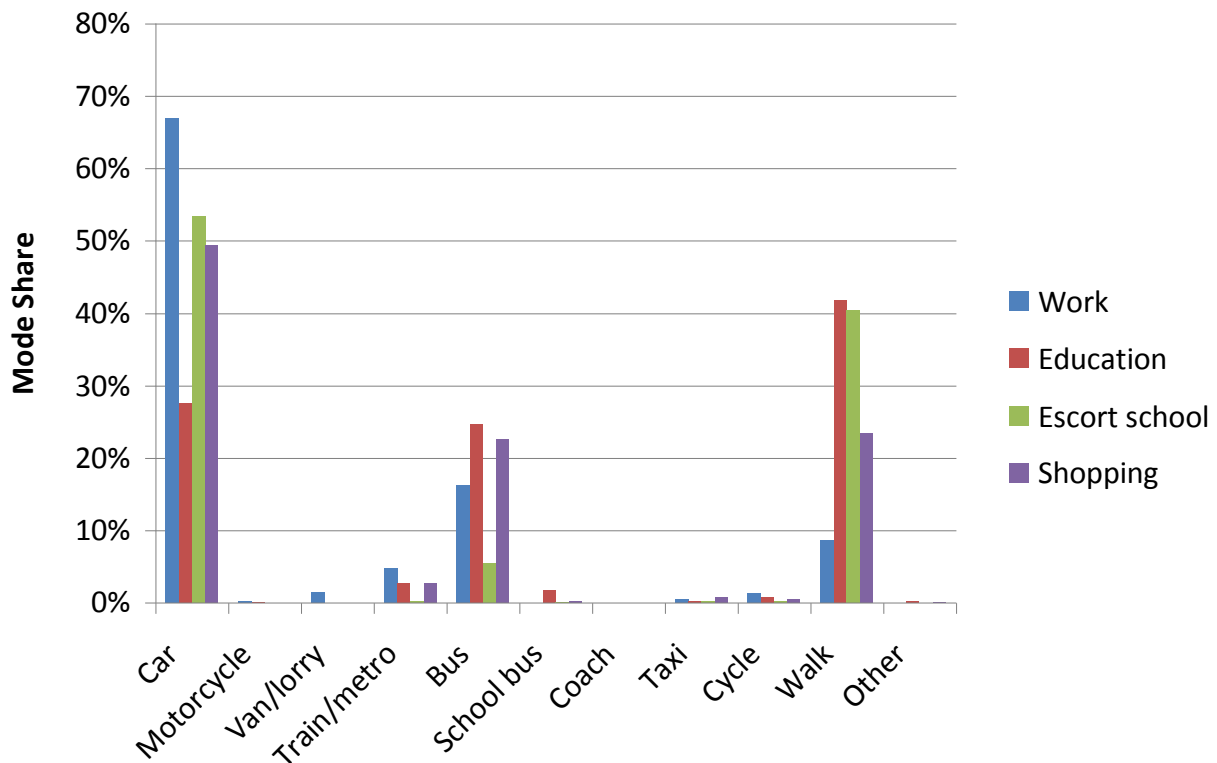
Source: 2009-2012 West Midlands Household Interview Survey (unweighted)

This figure shows that:

- Half of all Inter-peak and Off-peak trips are for the purpose of returning home. This will largely be a reflection of the length of these periods which allows enough time for full round-trips to take place. Conversely, the AM and PM peak periods are highly tidal, with 11% and 73% of trips respectively being to home locations.
- AM peak hour trips are primarily composed of trips to work or to education/school. Education and school escort trips combined account for more than trips to work.
- The most frequent Inter-peak trip purpose, after home-bound trips, is trips for shopping.
- The second most frequent Off-peak trip purpose is for work, partly reflecting shift work, but also work-bound AM trips which start before 07:30. The third most frequent is for recreation/leisure trips.

Finally, the following figure shows the average mode share across all time periods for the four most frequent trip purposes.

Figure 2.11: Average trip purpose profile by time period for all trips to and/or from District of Birmingham



Source: 2009-2012 West Midlands Household Interview Survey (unweighted)

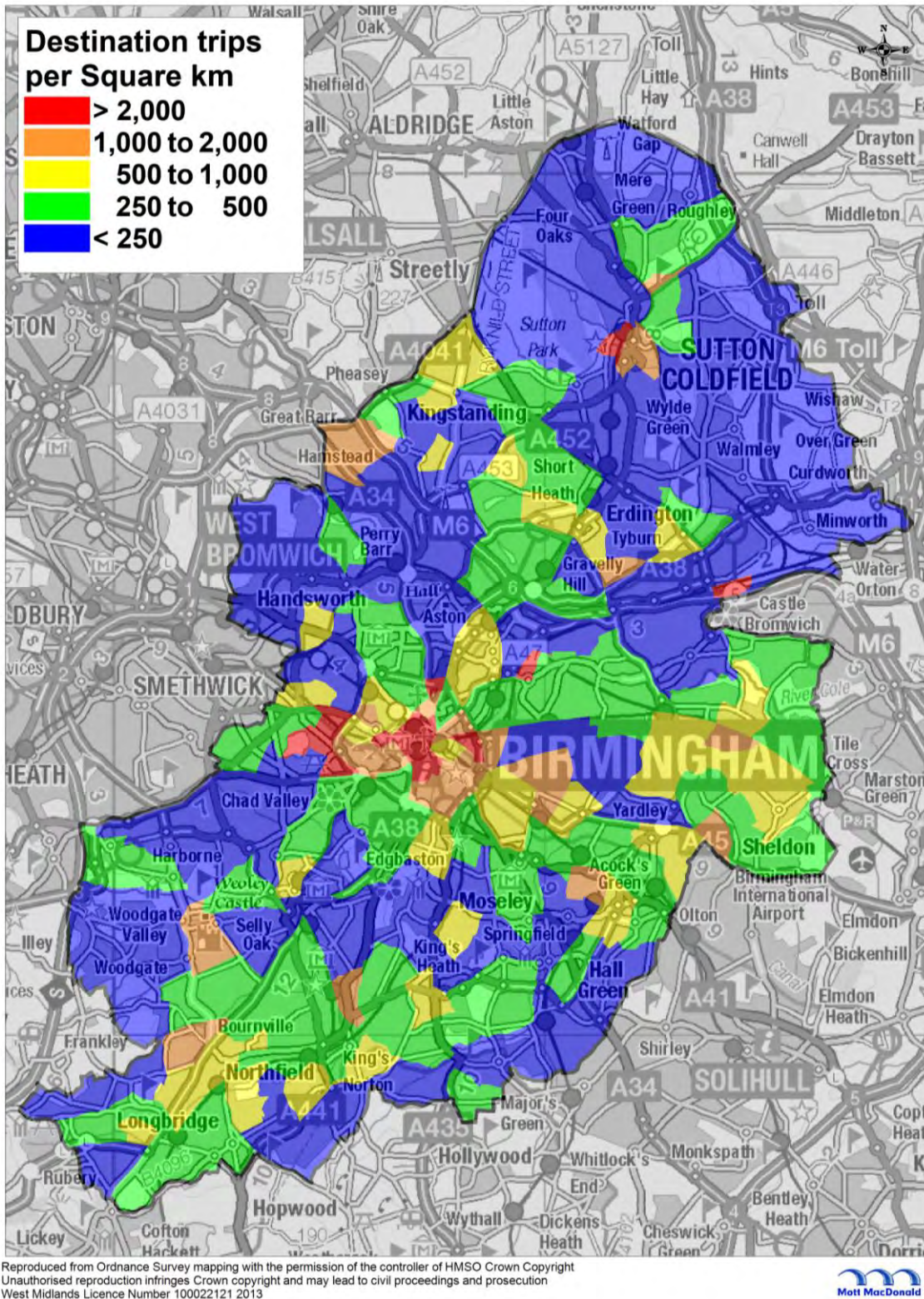
This figure shows that:

- The car mode share is highest for commuting. Perhaps unsurprisingly, it is lowest for education trips, as people in this category often have no access to a car.
- Train/metro use is low for all purposes, but highest for commuting trips.
- Bus use is highest for education trips, closely followed by shopping trips. It is also the second choice mode for commuting trips.
- The walking mode share is highest for education and school escort trips. It is lowest for commuting.

2.3.3 Trip Patterns

The following figure shows AM peak hour (8-9am) trip destination densities from the PRISM 2011 Base Year model. This shows, as would be expected, a concentration of trips arriving in the city centre and surrounding areas, as well as in more outlying areas such as Longbridge and Sutton Coldfield. This trip density distribution corresponds with the employment density distribution shown in Section 2.2.2 above.

Figure 2.12: PRISM 2011 Base Model AM Peak trip destination densities

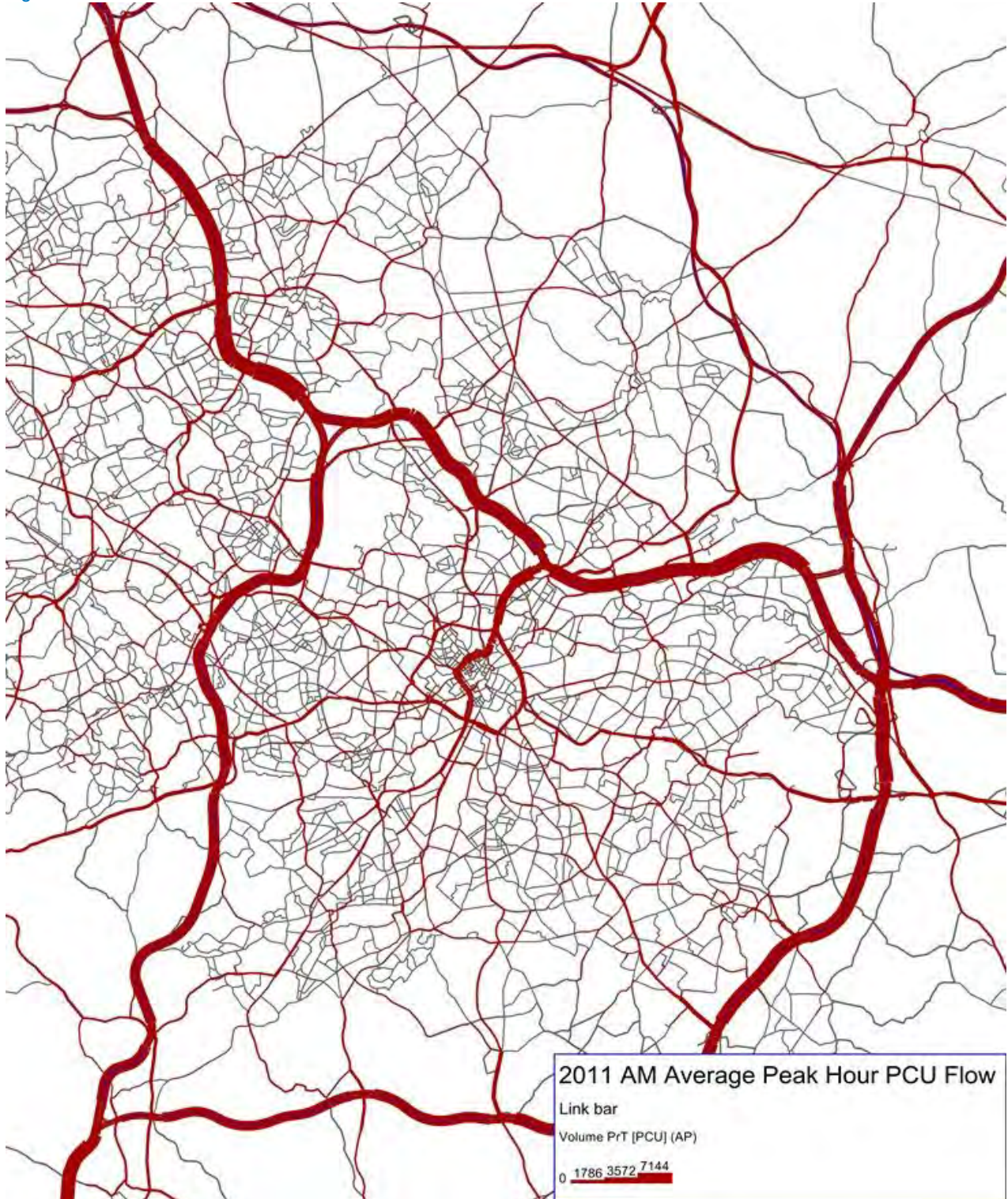


Source: 2011 PRISM model output

2.3.4 Trip Flows

The following figure shows an AM peak hour bandwidth plot from the PRISM 2011 Base Year model. The heaviest flows are seen on the motorway box, on radial routes into the City Centre and on the City Centre Ring Road.

Figure 2.13: PRISM 2011 Base Model AM Peak traffic flow distribution



Source: 2011 PRISM model output

2.3.5 Trip Congestion / Barriers

2.3.5.1 Rail

The West Midlands Rail Development Plan identifies that peak period rail use in the West Midlands has grown strongly in recent years, at a faster rate than car traffic. There has been a significant increase in the amount of commuting into Birmingham from adjoining areas, in particular from South East Staffordshire (Lichfield and Tamworth), Solihull, South Warwickshire (Stratford-on-Avon) and North Worcestershire (Redditch, Bromsgrove, Kidderminster and Worcester).⁵

Overall, access to Birmingham on the national inter-city rail network is moderately good. However, there are various continuing issues. Most significant to this is the issue of overcrowding and limited capacity at peak times; the West Midlands Area Multi-Modal Study pin-pointed this on routes into and out of Birmingham New Street station, as well as on the Wolverhampton – Birmingham – Coventry – Rugby, Cross-City, Coventry-Leamington, and Snow Hill-Leamington lines. Station capacity problems are also identified as problematic within the study, in particular at Wolverhampton and Walsall stations.⁶

In addition, certain rail lines, such as the Cross City Line, include stations (such as Perry Barr and Witton) which are served by only two trains per hour. The rail route into the city centre is considerably longer than using the A34 to travel by car or by bus, resulting in a rail service that is only slightly faster than the more frequent bus service.⁷

Essentially, there is the need for major upgrading of lines and services for many destinations to address capacity restraints at Birmingham New Street Station in particular, and to support sustainable local growth.⁸

2.3.5.2 Bus

In spite of the fact that the West Midlands bus network is used extensively, travel by bus in the West Midlands suffers from poor perceptions, as highlighted by Centro's 2008 perceptions study amongst current users, lapsed and non-users.⁹ These identified a number of issues regarding vehicles, stops, infrastructure, accessibility, service frequency and reliability.

For example, bus users identified cleanliness of both stops and buses as the main problem with bus travel. Graffiti was cited as a particularly prominent aspect of this problem. Lapsed bus users have identified significant frustrations with bus services, particularly surrounding reliability (including service lateness and cancellation) and a lack of personal security, including a prevalence of anti-social behaviour. Furthermore, high and rising cost, poor cleanliness, and problems with staff (including low calibre staff, poor training, and communication problems associated with foreign drivers) were also identified. Unreliability of services was a major problem highlighted by all groups consulted.

⁵ Birmingham City Council (2010): 'Birmingham Core Strategy 2026: Consultation Draft, Birmingham'; Centro et al (2011): 'Smart Network, Smarter Choices: Business Case (LSTF)'

⁶ Aspen Burrow Crocker (2001): 'West Midlands Area Multi-Modal Study: Final Report'

⁷ Birmingham City Council (2012): 'Aston, Newtown and Lozells Area Action Plan'

⁸ Birmingham City Council (2010): 'Birmingham Core Strategy 2026: Consultation Draft, Birmingham'; West Midlands Regional Rail Forum (2009): 'Rail Development Plan: Draft for Consultation'

⁹ Centro (2008): 'Bus user, lapsed bus user and non-bus user public perceptions research findings'

2.3.5.3 Walking and Cycling

Severance of pedestrian movement by the existing road network, and an inhospitable road network for cyclists, are the key challenges facing and number of key locations in the city.

At a number of key locations – for example, Bath Row and Holloway Head – pedestrian and cycle access has been limited, relying on unwelcoming subways or traffic dominated roads which are difficult to cross and traverse. In particular, the pedestrian subways at Holloway Circus are considered to be dangerous and unpleasant by many residents in Attwood Green, with people often preferring to skirt barriers and cross over the parapets of the Queensway tunnels.¹⁰

As highlighted in the Bordesley Park AAP, the ring road carries large volumes of traffic and is a barrier to pedestrian movement separating the communities of East Birmingham from the city centre. Whilst acknowledging the important traffic function of the ring road, measures will be explored to improve pedestrian connectivity. By enhancing connections with the city centre – economically, socially and physically – the area can become more attractive to investors, developers, businesses and residents. This will enable the local community to better connect with the economic opportunities that will arise in the city centre as well as within the AAP area itself.¹¹

2.3.5.4 Air Travel and Access

Currently, less than 40% of the region's demand for air travel is served within the region, with 34% (in 2006) relying on airports in the south east. This is an unsustainable situation that creates large numbers of unnecessary surface access trips and contributes to congestion (including in other regions).

An extension to the Main Runway of Birmingham Airport is considered to be a significant element of the Airport's future development. Currently, the length of the Main Runway restricts the range of markets, destinations and routes which can be served directly from Birmingham International Airport. The growing demand for a wider range of directly served destinations and routes, to support the regional and local economy, means that, without an extension, the current length of the Main Runway would be an increasing constraint.¹²

2.3.5.5 Highway

The following three figures respectively show peak hour delay for the Birmingham highway network in the AM peak hour, the inter-peak period, and the PM peak hour, based on Trafficmaster journey time data from September 2011 to August 2012.

These show that, particularly during peak periods, significant congestion is a major challenge. Work undertaken for the Birmingham Draft Core Strategy showed that just over half of people who both live and work in the city use the car to get to work.¹³ The strategic road network around Birmingham and the wider West Midlands region therefore experiences significant congestion at peak times; currently regional

¹⁰ Birmingham City Council (2004): 'Bath Row and Holloway Head Development Framework'

¹¹ Birmingham City Council (2011): 'Bordesley Park Areas Action Plan: Options Report'

¹² Birmingham Airport (2007): 'Towards 2030: Birmingham Airport Master Plan'; Birmingham Airport (2006): 'Birmingham Airport Surface Access Strategy'

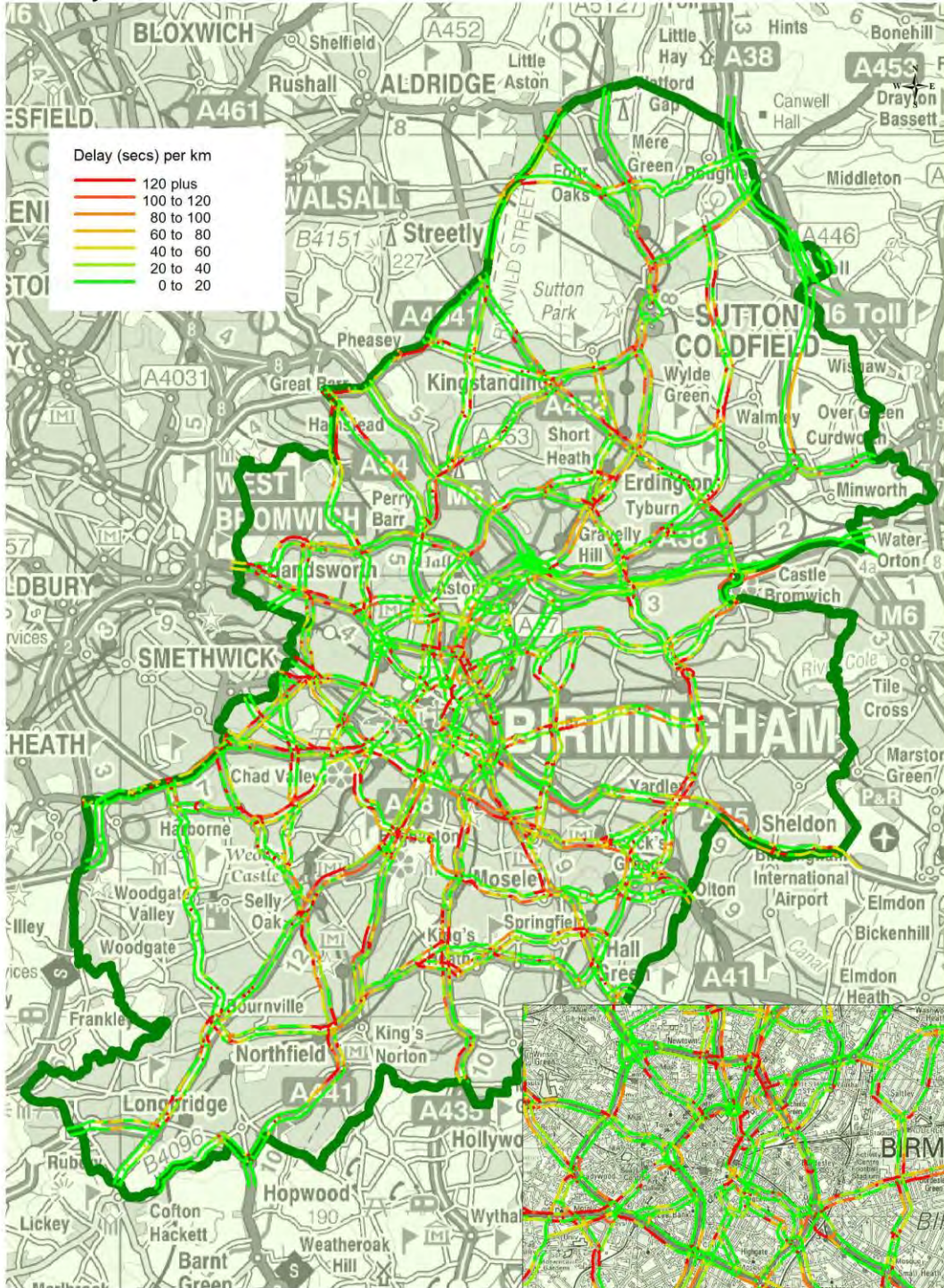
¹³ Birmingham City Council (2010): 'Birmingham Core Strategy 2026: Consultation Draft, Birmingham'

congestion costs are already more than £2.3 billion a year.¹⁴ All radial approaches to Birmingham city centre suffer severe congestion at peak periods near to the city centre and at their junctions with the motorway system. Traffic growth on much of the primary route network in the central areas of the conurbation has slowed to less than one per cent per annum (daily flows), due to the limiting factor of congestion. In addition, conditions on the motorways are rapidly becoming similar, except that the effects of flow breakdown and queueing are more severe due to the lack of alternative routes.¹⁵

¹⁴ Birmingham City Council et al (2011): 'Smart Network, Smarter Choices: Business Case (LSTF)'

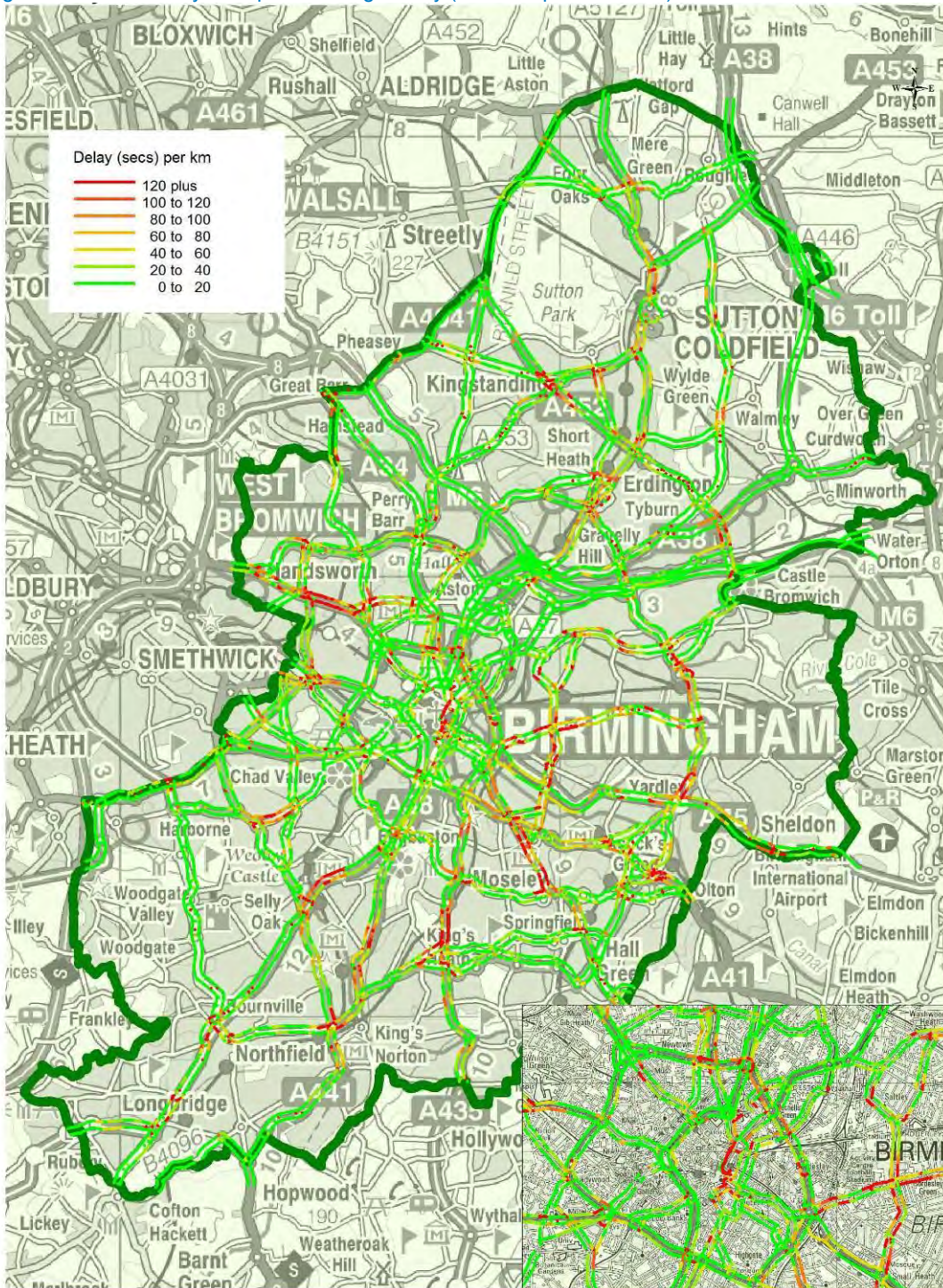
¹⁵ Aspen Burrow Crocker (2001): 'West Midlands Area Multi-Modal Study: Final Report'

Figure 2.14: Weekday AM peak-hour average delay (seconds per kilometre)



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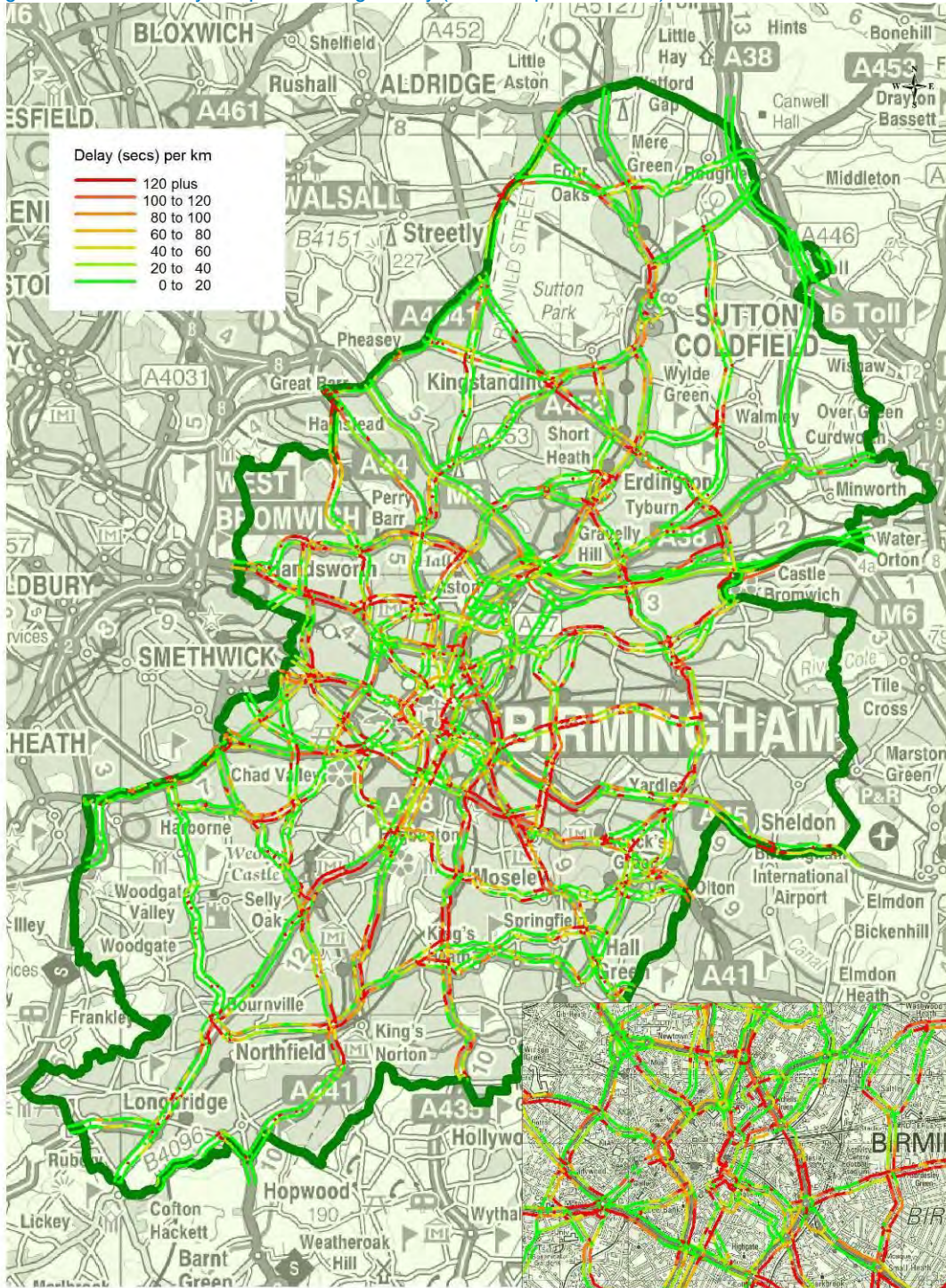
Figure 2.15: Weekday inter-peak average delay (seconds per kilometre)



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Source: Trafficmaster data

Figure 2.16: Weekday PM peak average delay (seconds per kilometre)



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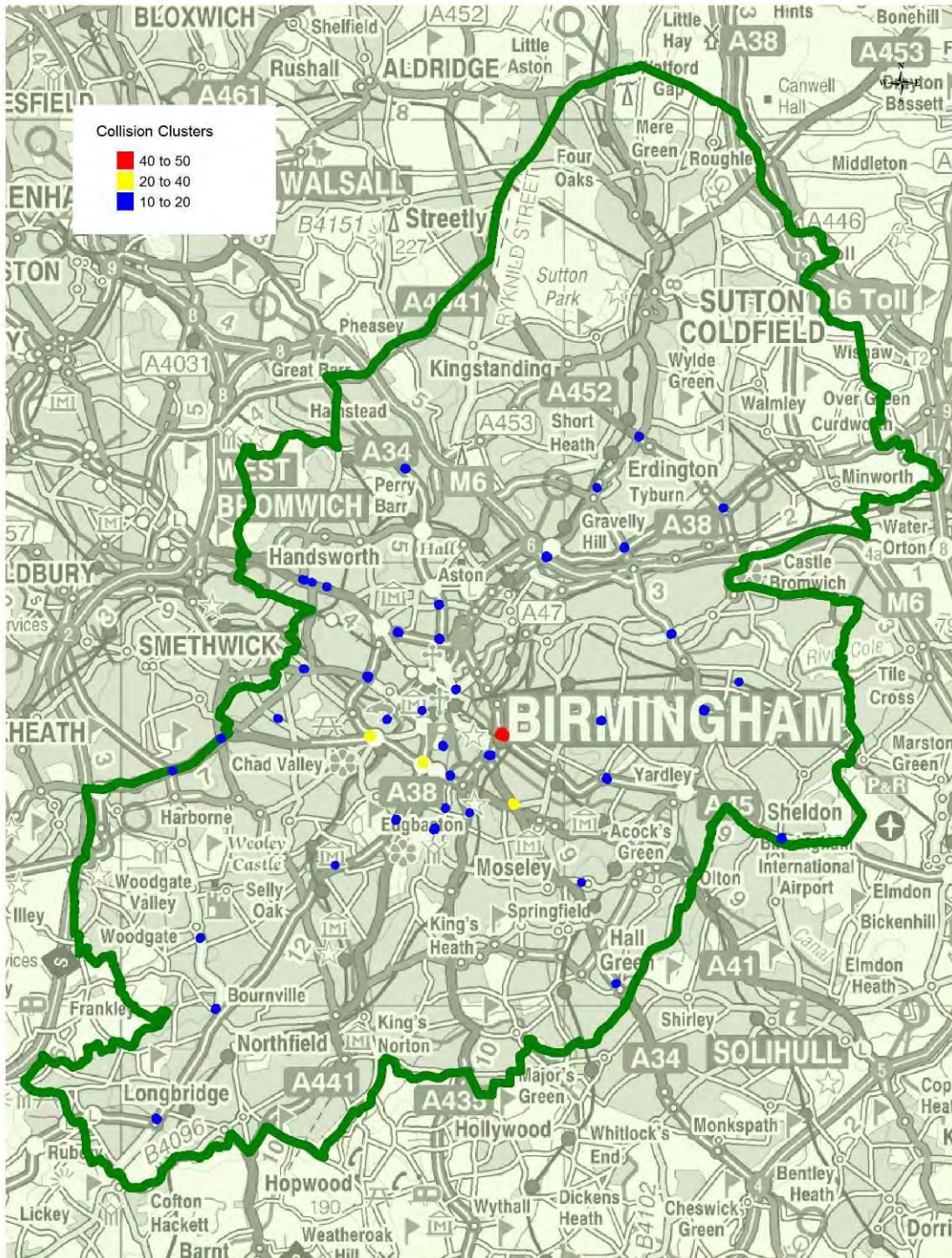
Source: Trafficmaster data

2.3.6 Road Safety

The following plan shows highway accident cluster sites for the District of Birmingham over the last three years (Jan 2010 to Nov 2012). Clusters are defined as sites where there have been a minimum of 10 accidents within a 50m radius.

The A4540 Ring Road, Birmingham City Centre, and around Edgbaston show the greatest concentration of clusters.

Figure 2.17: Accident cluster sites within District of Birmingham (cluster defined as site with minimum 10 accidents within a 50m radius within last 5 years)



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Source: Birmingham City Council

2.4 Summary of Transport Challenges

The size of Birmingham, and its functions as a regional capital and higher level service centre, means that the intensity of use of its transport systems is much higher than the average Metropolitan District.¹⁶ In order to achieve the ambitions for the city, the quality of the external and internal connectivity will need raising; this not only relates to private and public vehicular transport, but also the connections and environment for pedestrians and cyclists within and beyond the city centre.¹⁷

Based on the above information, particular transport challenges facing Birmingham are:

- Severance issues caused by the highway network, such as by the A38 former Inner Ring Road, pose challenges for several transport modes, particularly as a source of congestion and as inhibitors to greater levels of walking and cycling. These barriers form an obstruction to development growth, integration and mobility.
- Specific barriers to pedestrian and cycle movement, whether it be physical severance, obstacles, or safety and security issues continue to prevail. This is a particular problem in parts of the City Centre.
- Bus services continue to suffer from extremely negative perceptions by many users and most non-users. Bus services are perceived to be unpleasant and unreliable. Challenges around bus travel are also intertwined with challenges around congestion,
- Overcrowding and capacity issues on the rail network, particularly at peak times, continue to pose challenges.
- Highway congestion is significant, particularly in the peak periods, on the motorway network and on radial routes into the City Centre.
- Road safety issues, particularly on the Inner Ring Road.
- Current constraints on the operational area, surface access and runway length of Birmingham Airport place significant limitations on the growth of the Airport and its functionality as a point of access to the City.

Many of these challenges arise from, or are at least made more acute by, the wider context of population growth and economic development in the Birmingham area. They are therefore partly the symptoms of success in the area. However, in order that they do not also become an impediment to further development, they must be addressed as part of any local policies, plans and schemes going forward.

¹⁶ Birmingham City Council (2005): 'Birmingham Unitary Development Plan 2005'

¹⁷ Birmingham City Council (2011): 'Birmingham Big City Plan: City Centre Masterplan'

3. Baseline Modelling

3.1 Introduction

The purpose of this section is to describe how today's Baseline Conditions have been modelled to form the assessment's Base Year Scenario.

3.2 Modelling Method

As described in the Stage 1 report and briefly mentioned in Section 1 above, the future transport impacts of the Birmingham Development Plan will be assessed through a policy-compliant modelling process.

The proposed modelling methodology is in accordance with DfT WebTAG. WebTAG is a requirement for all multi-modal modelling studies that require government approval.

PRISM, the West Midlands strategic model, will be used to represent land use and travel conditions in the base year and in a future year with the Birmingham Development Plan in place. The outputs of the strategic modelling will provide an overview of the traffic flows and the scale of change that is expected in future year scenarios. These outputs can be used to compare the impacts of developments, potential mitigations and the transport implications at a strategic level.

3.3 Base Year Refresh

The PRISM model has recently undergone a major refresh resulting in the model base year being updated from 2006 to 2011. This work was undertaken because the Department for Transport requires data in transport models to be no older than 6 years to be acceptable when supporting business cases for transport investment.

3.4 Base Year Model Parameters

The Base Year modelled will be 2011.

The time periods assessed are:

- AM peak (07:00–09:30); and
- PM peak (15:30–19:00).

3.5 Base Year Model Network

The transport networks of the West Midlands are represented in detail in the PRISM model. The model refresh has ensured that the highway and public transport networks are updated, based on inputs from the Local Authorities, Highways Agency and CENTRO, to include all the changes that have occurred between 2006 and 2011.

3.6 Base Year Model Demand

The PRISM model refresh contains up-to-date information on population, jobs, enrolments and travel demand.

For population, ONS mid-year estimate Census 2011 data has been applied, as mid-year estimates provide national data in both the base and future years being considered. The 2011 population total for Birmingham is 1,074,283. Within the PRISM core zones (West Midlands authority areas), residential address point data has been used to distribute the population totals into each sub-zone.

For employment, the National Trip End Model (NTEM) employment totals have been applied to all zones within the model, as NTEM provides national estimates in both the base and future years being considered. The 2011 employment total for Birmingham is 447,181. Within the PRISM core zones, Inter-Departmental Business Register (IDBR) data has been used to distribute the employment totals into each sub-zone.

For enrolments, actual data from various sources has been used, but mainly Department for Education sources including Edubase.

Base year travel demand characteristics are based on an extensive programme of household interview surveys carried out between 2009 and 2012 in collaboration with CENTRO. This has resulted in an up-to-date demand model as of 2011.

The method used to calculate future year demand projections is described in Sections 5 and 6.4 below.

4. Future Reference Case Do-Minimum Transport Networks

4.1 Introduction

The purpose of this section is to present what new transport schemes are assumed to have been implemented in the future assessment scenario years for the Reference Case scenario, taking into account the baseline challenges noted in Section 2 and the policy review attached in Appendix A. The resulting network represents the 'Do-Minimum' network.

4.2 Highway Schemes

The following table lists the highway schemes which have been added to the 2011 Base Year transport network in order to represent the 2021 and 2031 Reference Case Do-Minimum network. This list of schemes has been agreed with PRISM Management Group, consisting of West Midlands local authorities, Centro and the Highways Agency, and only includes schemes judged to be 'Certain' or 'More than likely', as per WebTag guidance.

Table 4.1: List of highway schemes included in 2021 and 2031 Reference Case Do Minimum network

Scheme Name	Area
Aston Hall Road/Lichfield Road	Birmingham
Chester Road	Birmingham
Churchbridge Cannock Island	Birmingham
Hard Shoulder Running M5 Junction 4a-6	Birmingham
Hard Shoulder Running M6 Junction 10a-13	Birmingham
Hard Shoulder Running M6 Junction 2-4	Birmingham
Hard Shoulder Running M6 Junction 5 to 8	Birmingham
Highgate Road/Stratford Road Junction	Birmingham
Selly Oak Phase 1B	Birmingham
Metro (extension to New Street)	Birmingham
BCCI	Birmingham
Albert St Closure - closed between Curzon Street and Masshouse Lane	Birmingham
Paradise Circus	Birmingham
Metro to Centenary Square LTB	Birmingham
Ashted Circus - Pinch Point Scheme	Birmingham
Curzon Circle - Pinch Point Scheme	Birmingham
Holloway Circus - Pinch Point Scheme	Birmingham
Bordesley Circus - Pinch Point Scheme	Birmingham
Haden Circus - Pinch Point Scheme	Birmingham
Jennens Road/Cardigan Street New Signalised junction	Birmingham
A444 Whitley Interchange / Leaf Lane	Coventry
A45/A46 Tollbar End	Coventry
A46/A428 junction signalisation	Coventry
A4600 Congestion Reduction Scheme	Coventry
City Centre Public Realm Schemes Phase 1	Coventry
City Centre Public Realm Schemes Phase 2	Coventry

Scheme Name	Area
Friargate Bridge (Ring Road J6)	Coventry
Gateway Mitigation Schemes (including BRT)	Coventry
High Street, Pensnett	Dudley
A5 / A5148 - pinch points	HA
M42 J6 - pinch points	HA
M5 J2 - pinch points	HA
M5 J4 - pinch points	HA
M6 J6 Salford Circus - pinch points	HA
M42 J10 - pinch points	HA
Signal Junction - C0513 Horseley Heath/Horseley Road	Sandwell
A41 Expressway	Sandwell
A45 Bridge Maintenance scheme	Solihull
Chester Road / Dunster Road	Solihull
Signal Junction - G0142 Solihull Bypass / Hampton Lane / Marsh Lane / Yew Tree Lane - pedestrian phase introduced across Solihull Bypass and right turn filter into Yew Tree Lane added.	Solihull
A34 Stratford Rd / Haslucks Green junction	Solihull
A45 Diversion	Solihull
DSDA - Bentley Mill Way	Walsall
DSDA - Bentley Road South	Walsall
DSDA - Bescott Road/Wallows Road Junction	Walsall
DSDA - Brown Lion Junction	Walsall
Speed Limits – 30mph – Wolverhampton Road/Sutton Road	Walsall
Sutton Road/The Crescent	Walsall
City Centre Public Realm	Wolverhampton
Patshull Ave / Wobaston Road	Wolverhampton
Vine Island (A449 / Wobaston Road) roundabout	Wolverhampton
i54 Transport Strategy	Wolverhampton

4.3 Public Transport Schemes

The following subsections list the public transport schemes which have been added to the 2011 Base Year transport network in order to represent the 2021 and 2031 Reference Case Do-Minimum network. This list of schemes has been provided by Centro.

4.3.1 Wolverhampton City Centre Bus Routes

The creation of a one-way loop (anti-clockwise) around Wolverhampton City Centre has meant bus routes have been edited.

4.3.2 Midland Metro Changes

The Midland Metro service from George Street (Wolverhampton) to Snow Hill (Birmingham) has been extended to Stephenson Street (Birmingham) and extra services have been added. Extra stops have been added for the extension to Stephenson Street and stopping patterns have been updated. Services will no

longer stop at Snow Hill station but will stop instead at St Chads, which is approximately 100m from the station.

4.3.3 Birmingham New Street Gateway (Extra Station Entrances)

Extra walk links have been coded to allow multiple entrances into Birmingham New Street Station. These include entrances on Stephenson Street, Station Street, Hill Street, Smallbrook Queensway to Stephenson Street link and Stephenson Street to Station Street link.

4.3.4 Snow Hill Station – Second Access

Additional walk link provided from Snow Hill station “Coffee Shop” to the “Coffee Shop” at the new St Chad’s Metro Stop to represent the second station access.

4.3.5 Kenilworth Station & Stratford Parkway Station

A new rail station at Kenilworth along with the provision of a new hourly train service along Coventry – Kenilworth – Leamington has been included. A new station at Stratford Parkway has been coded and all services are programmed to use the new stop.

4.3.6 Coventry to Nuneaton Electrification

Electrification has enabled services along this route to have shorter run times. Extra stops at Arena and Bermuda Park have also been added. The extra “Ricoh Arena” and “Bermuda Park Station” have also been added along the route. All services stop at each of the new stations.

4.3.7 Electric Spine

Works on doubling and electrifying the Nuneaton – Coventry – Leamington mean that the one existing Birmingham – Reading service which uses the Solihull line can be re-routed to travel between Leamington – Coventry – Birmingham. All Cross-Country services now travel on this route with amended journey times.

4.3.8 Walsall to Rugeley Electrification

Run times for all services using this section have been reduced. No new stops or services have been included.

4.3.9 Electrification of Barnt Green – Bromsgrove, extension / enhancement of Cross City Line and new Bromsgrove Station

Enhancements and electrification allow for three Cross City services per hour to call at Redditch (vs. two currently), whilst the remaining three services currently terminating at Longbridge extend to the new Bromsgrove station.

5. Future Reference-Case Demographics

5.1 Introduction

The purpose of this section is to present how the 2011 Base Year modelled demographics have been developed to produce Reference-Case demographic conditions for the future assessment scenario years of 2021 and 2031, taking into account the policy review attached in Appendix A. These scenarios represent the conditions estimated to prevail if the Development Plan was not implemented. It is therefore by comparison with these scenarios that the impact of the Development Plan scenario can be isolated and identified.

5.2 Population

PRISM is a national model and must therefore be consistent with national population forecasts.

For 2021, the latest 2013 ONS forecasts have been used, which predict a population demand for Birmingham of 1,160,114. This represents a population increase of 85,831 (8.0%) over the 2011 base figure.

For 2031, 2010 ONS projection data has been used (as this is the most recent estimate that projects to 2031). This predicts a population demand for Birmingham of 1,243,400, which represents a population increase of 169,117 (15.7%) over the 2011 base figure.

However, a calculation of projected housing supply in Birmingham reveals that the area will not be able to fully accommodate the above population increases in the Reference Case.

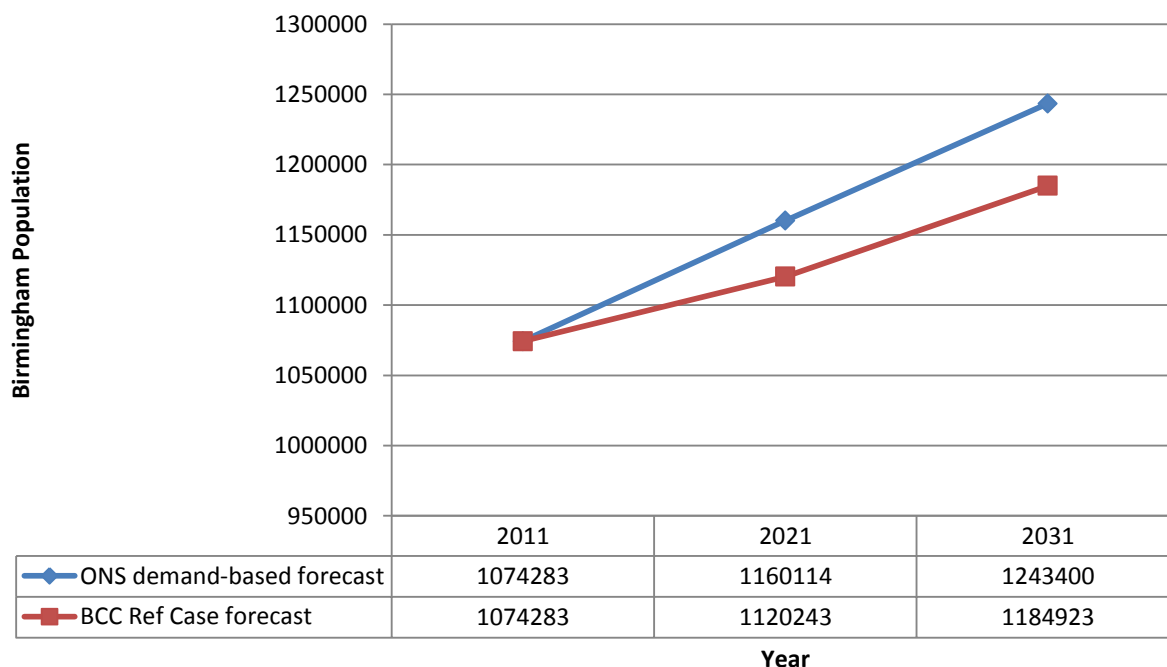
Future Reference Case housing supply for 2021 and 2031 has been calculated from housing completions between 2011 and 2012 and then capacity figures from the 2012 Strategic Housing Land Availability Assessment (SHLAA). These calculations estimate that future housing capacity in Birmingham will be able to accommodate populations of 1,120,243 in 2021 and 1,184,923 in 2031.

There is therefore a predicted Reference Case shortfall in Birmingham housing capacity for 39,871 people in 2021 and 58,477 people in 2031.

By instruction of Birmingham City Council and to provide a working assumption for modelling purposes only, these shortfalls have been modelled in PRISM as being accommodated in the surrounding districts of: Walsall, Sandwell, Bromsgrove, Solihull, Tamworth, Cannock, Redditch, Wolverhampton, Dudley, Coventry and Lichfield. The shortfalls have been distributed in these areas according to their ONS projected population totals. However, it is noted that this assumption is without prejudice to the outcome of joint working on this issue.

A summary of the above population projection estimates is shown in Figure 5.1 below.

Figure 5.1: Birmingham population forecasts – ONS demand forecasts vs BCC Ref Case supply-based forecast



Source: ONS and BCC statistics

5.3 Employment

PRISM is a national model and must therefore be consistent with national employment forecasts. For all areas outside of Birmingham, therefore, National Trip End Model (NTEM) forecast totals have been applied.

Within Birmingham, NTEM provides a 2011 jobs figure of 447,181 and forecasts a jobs total of 482,001 in 2021 and 519,390 in 2031, representing an increase over the 2011 Base of 34,820 (7.8%) and 72,209 (16.1%) respectively.

However, Birmingham City Council predict a Reference Case growth for Birmingham of 51,010 jobs from 2011 to 2021 and of 102,019 jobs from 2011 to 2031. This increases the jobs total in each year to 498,191 in 2021 and 549,200 in 2031 and represents a growth over the 2011 Base of 11.4% and 22.8% respectively.

These latter predictions take the economic forecasts from the Cambridge Econometrics Local Economic Forecasting Model (LEFM) as a starting point and then add in assumptions based on incorporating assessments of historic completion rates, where known, in line with Government guidance.

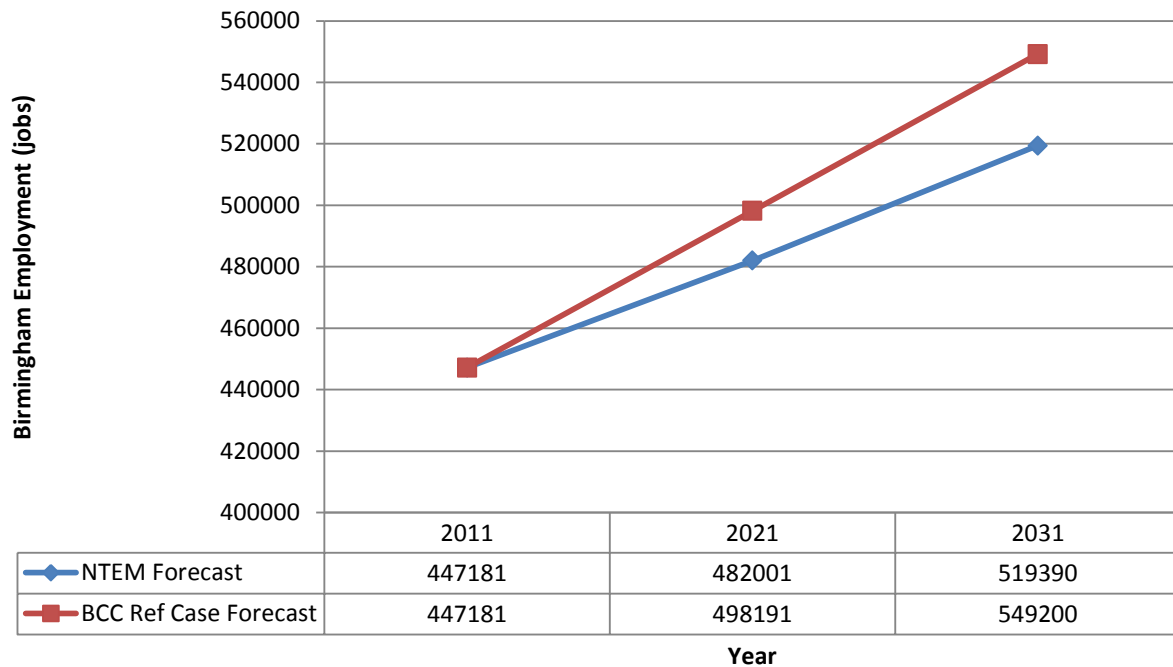
The total 2031 growth is distributed as follows:

- 42,038 jobs (41.2%) – Office/Retail in existing centres
- 18,909 jobs (18.5%) – Industrial (B1, B2, & B8) in Core Employment Areas

- 41,072 jobs (40.3%) – Remainder, distributed according to 2011 job distribution

A summary of the above employment projection estimates is shown in Figure 5.2 below.

Figure 5.2: Birmingham employment forecasts – NTEM forecast vs BCC Ref Case forecast



Source: NTEM and BCC statistics

5.4 Enrolments

Enrolments are increased in each PRISM model zone according to the population increase forecast for each local authority and zone type.

6. Future Development Plan Representation

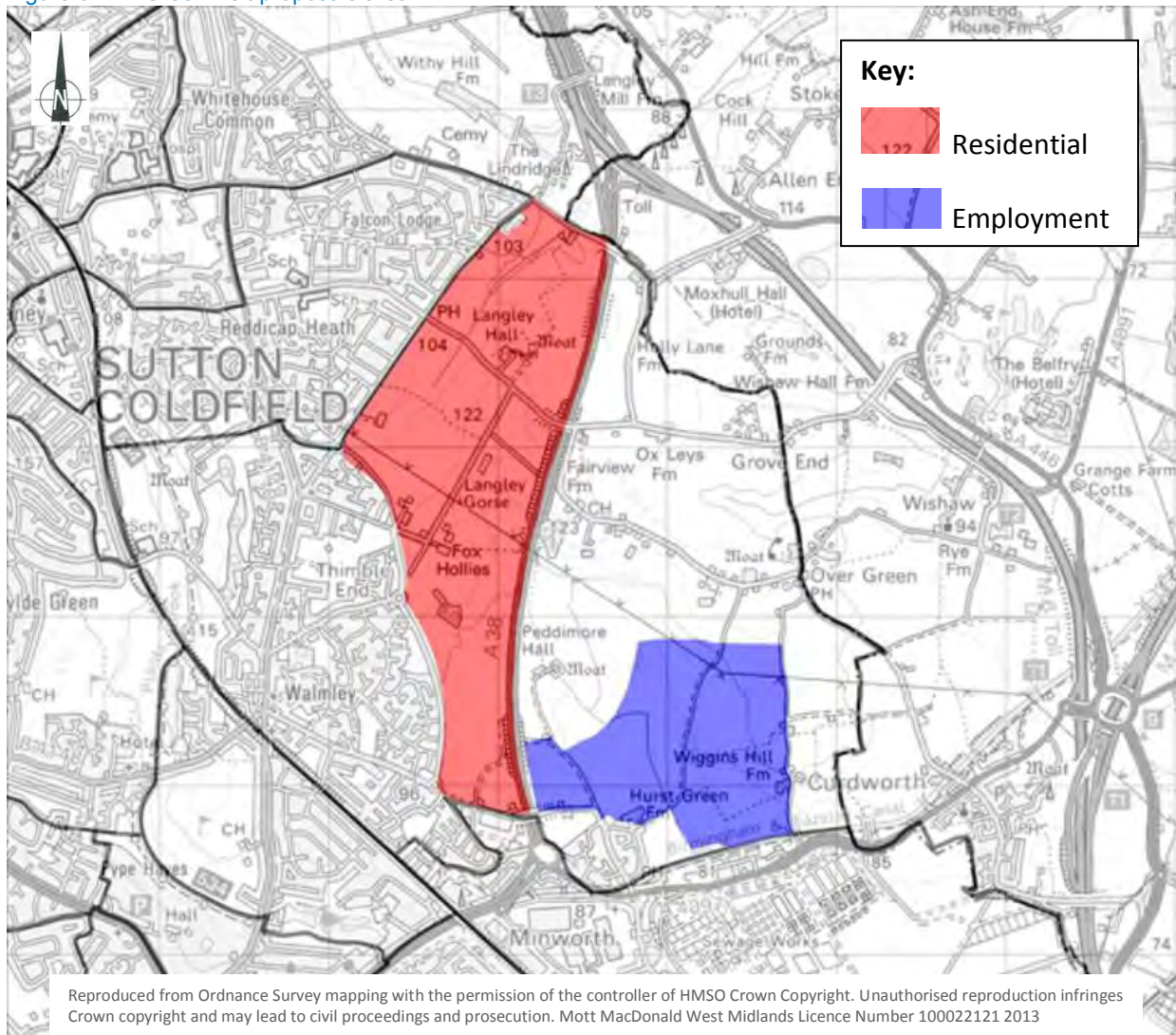
6.1 Introduction

The purpose of this section is to describe the Development Plan scenario and how it is represented in terms of network and demographic changes in the assessment years of 2021 and 2031.

6.2 Sustainable Urban Extension

The Birmingham Development Plan is proposed to result in areas of the existing Green Belt being released for residential and employment development uses (the 'Green Belt proposals'). These areas are shown in the following figure.

Figure 6.1: Green Belt proposals area



Source: Birmingham City Council

6.3 Network Changes

In addition to the Reference Case Do Minimum schemes listed above in Section 4, the Do Minimum network for the Development Case also needs to include a minimum number of new highway and public transport schemes in order to facilitate the Green Belt proposals. These additional schemes are detailed below and have been received from Phil Jones Associates and approved by Birmingham City Council for inclusion in the PRISM model.

6.3.1 Highway

The Development Case Do Minimum additional highway schemes are listed in the following table and are based on scheme drawings provided by Phil Jones Associates (PJA) on behalf of Birmingham City Council.

Table 6.1: List of highway schemes added to the 2021 and 2031 Development Case Do Minimum network

Scheme Name	Description	PJA Drg Ref
Fox Hollies Rd / Webster Way	Introduction of SPRINT infrastructure and improvements to Webster Way junction with Fox Hollies Rd	1064-009
Peddimore Island	Development access off A38 Sutton Coldfield bypass	1064-010
Minworth Island	Capacity improvements to roundabout	1064-011
Castle Vale bus link	Bus link between A38 and Manby Road	1064-012
A38 Junction with Bromford Rd	Introduction of SPRINT infrastructure	1064-013
Bagot Arms – Chester Rd	Introduction of SPRINT infrastructure	1064-014
Eachelhurst Rd / Walmley Ash	Introduction of SPRINT infrastructure, including improvements to Walmley Ash junction with Eachelhurst Rd and new bridge across railway	1064-015
Site Road Infrastructure	Internal development site distributor links	1064-016

Source: Birmingham City Council / Phil Jones Associates

6.3.2 Public Transport

The Development Case Do Minimum additional public transport schemes include four new bus services and one Birmingham Rapid Transit route. One of the routes serves Great Barr, two of the routes run from the City Centre to Sutton Coldfield and the remaining two routes run through the Green Belt proposals area from Sutton Coldfield to the Birmingham International area. A number of new bus stops have been added to provide access to the services within the model.

6.4 Demographic Changes

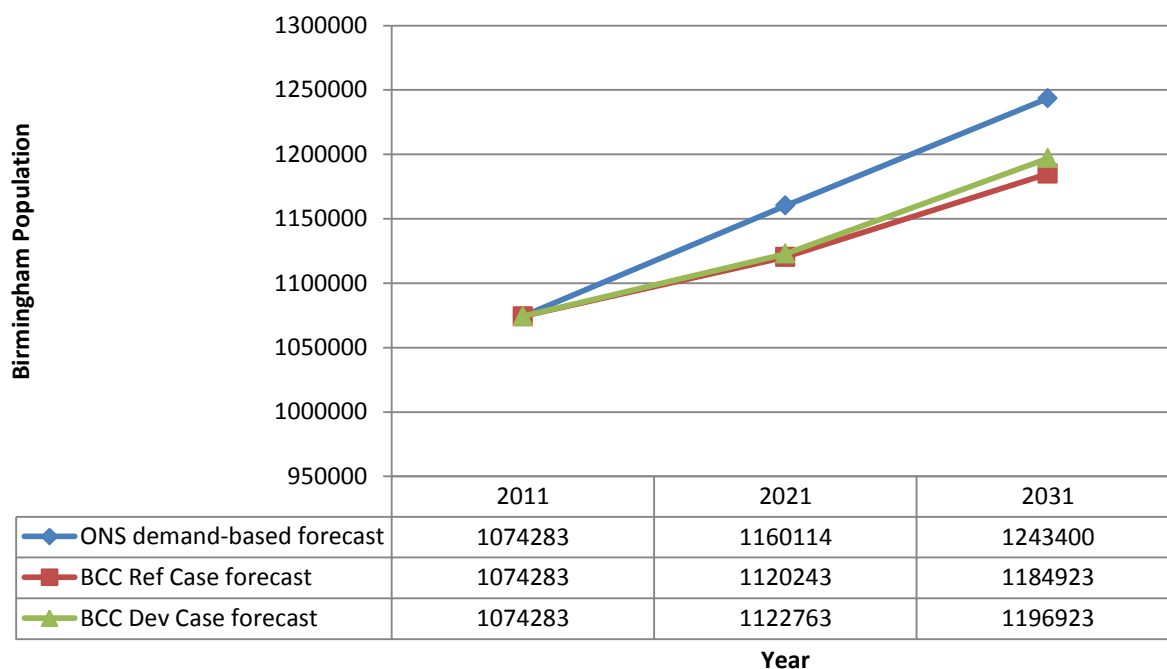
6.4.1 Population

Based on the Reference Case outputs detailed above in Section 6.2, it can be seen that projected housing provision for the District of Birmingham will fall short of meeting the population projections estimated by ONS data. The shortfall will partly be met by Development Plan proposals to develop housing in the Green Belt, as described above. Birmingham City Council predict that the Green Belt proposals will provide accommodation for an additional 12,000 people in Birmingham. These have been allocated to the relevant PRISM model zones. The Reference Case population shortfall represented in surrounding districts has been reduced by 12,000 accordingly.

In agreement with Birmingham City Council, phasing for the build-out of housing in the Green Belt proposals area has been assumed to be 21% by 2021 and then 100% by 2031.

The following figure shows the Development Case population projection as compared to the equivalent Reference Case and ONS projections described in Section 5.2 above.

Figure 6.2: Birmingham population forecasts – Development Case projection vs Ref Case and ONS projections



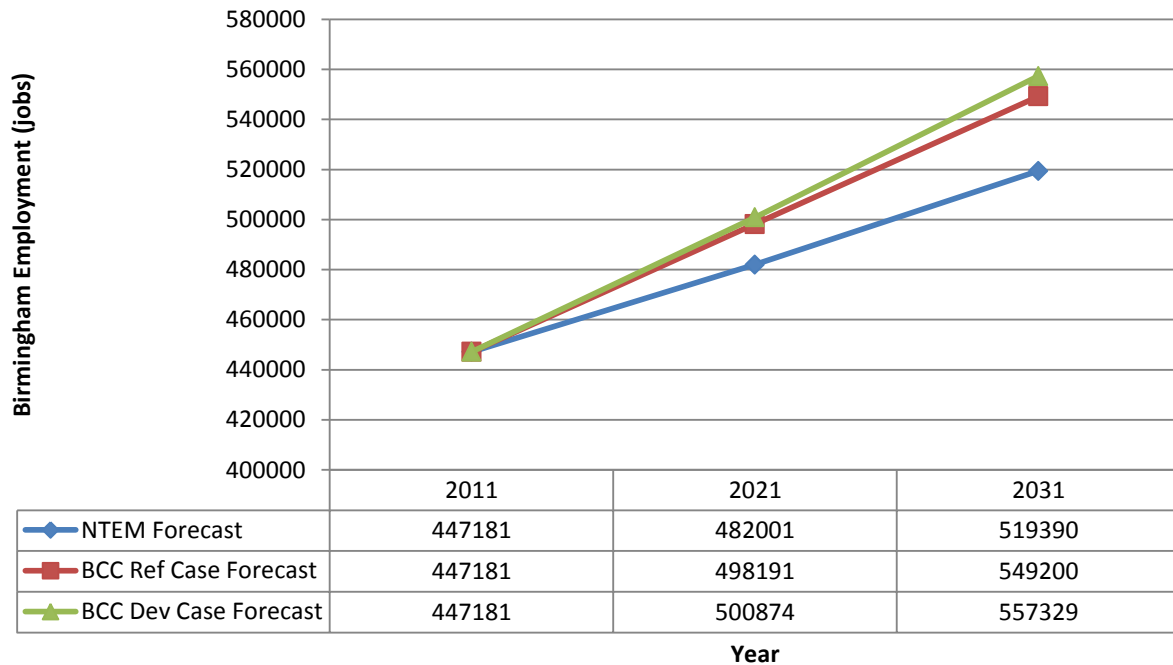
Source: ONS and BCC statistics

6.4.2 Employment

The Green Belt proposals are estimated by Birmingham City Council to result in an additional 8,129 jobs in the Birmingham area by 2031, with 33% of these being available by 2021.

This Development Case projection is shown on the following figure, in comparison with the equivalent Reference Case and NTEM projections described above in Section 5.3 above.

Figure 6.3: Birmingham employment forecasts – Development Case projection vs Ref Case and NTEM projections



Source: ONS and BCC statistics

6.4.3 Enrolments

The total enrolments in Birmingham are assumed to increase as per the population increase generated by the Green Belt proposals. The Council have advised that this means an increase of 616 from 2011 to 2021 and 2,934 from 2011 to 2031. The Reference Case enrolment shortfall represented in surrounding districts has been reduced by the same level accordingly.

7. Summary and Conclusions

7.1 Summary

Birmingham City Council has commissioned Mott MacDonald to develop a Transport Evidence Base to support the emerging Birmingham Development Plan. The main element of the evidence base will be an assessment using the West Midlands Policy Responsive Integrated Strategy Model (PRISM) which will consider the following three scenarios:

1. **Base** year scenario (2011) – which represents a present-day transport and land-use scenario.
2. **Reference Case** scenario (2021 and 2031) – which represents the future transport and land-use scenario where there is no Development Plan implemented
3. **Development Case** scenario (2021 and 2031) – which represents the future transport and land-use scenario in which the Development Plan is implemented

The transport impacts of the Development Plan will be isolated and identified by comparing the Development Case scenario with the Reference Case scenario.

The purpose of this report is therefore to develop an understanding of these scenarios through a review of all relevant policy, plans and programmes with a view to providing an evidence-based context, as well as data, for the subsequent assessment stages.

Baseline conditions and challenges are described in Section 2. The following transport challenges facing Birmingham are identified:

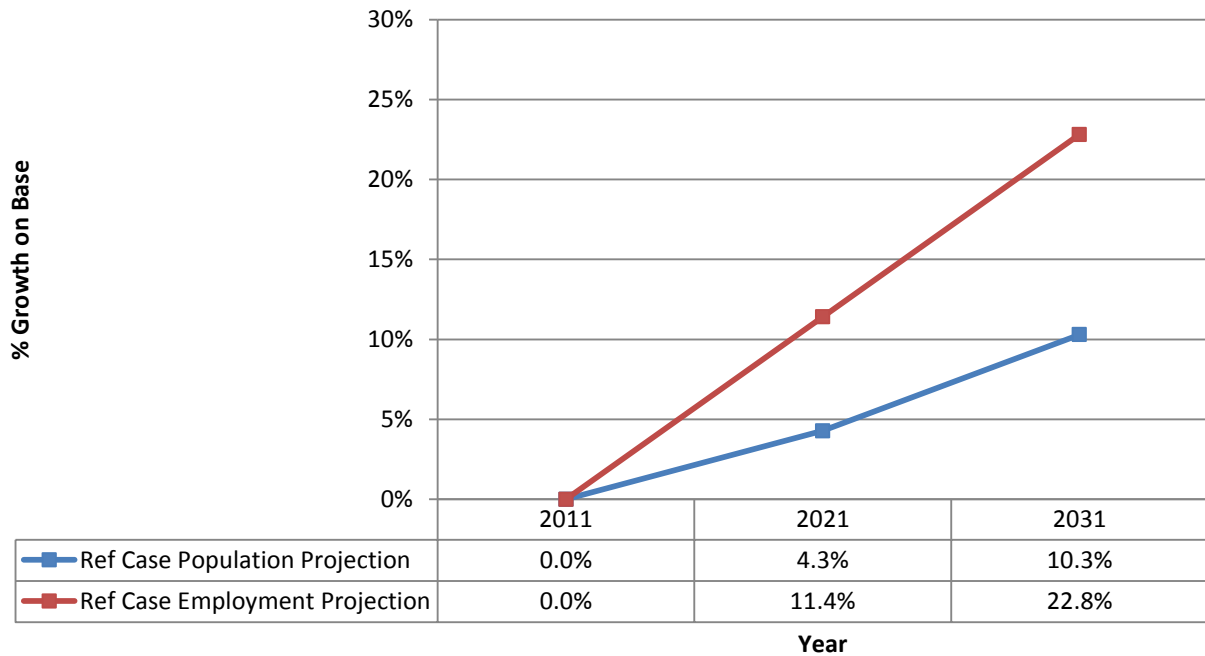
- Severance issues caused by the highway network, such as by the A38 former Inner Ring Road, pose challenges for several transport modes, particularly as a source of congestion and as inhibitors to greater levels of walking and cycling. These barriers form an obstruction to development growth, integration and mobility.
- Specific barriers to pedestrian and cycle movement, whether it be physical severance, obstacles, or safety and security issues continue to prevail. This is a particular problem in parts of the City Centre.
- Bus services continue to suffer from extremely negative perceptions by many users and most non-users. Bus services are perceived to be unpleasant and unreliable. Challenges around bus travel are also intertwined with challenges around congestion,
- Overcrowding and capacity issues on the rail network, particularly at peak times, continue to pose challenges.
- Highway congestion is significant, particularly in the peak periods, on the motorway network and on radial routes into the City Centre.
- Road safety issues, particularly on the Inner Ring Road.
- Current constraints on the operational area, surface access and runway length of Birmingham Airport place significant limitations on the growth of the Airport and its functionality as a point of access to the City.

The methodology for modelling the 2011 Baseline scenario is presented in Section 3. This describes how the West Midlands PRISM model has been recently updated to reflect a 2011 base year, including updates to transport networks, travel behaviour and land use data.

In relation to this overview, Section 4 describes the highway and public transport schemes which have been added to the Base network in order to represent transport provision in the Reference Case scenario.

Similarly, Section 5 describes the methodology used to predict demographic changes between the Base year and the Reference Case years. This predicts population and employment growth as shown in the following figure.

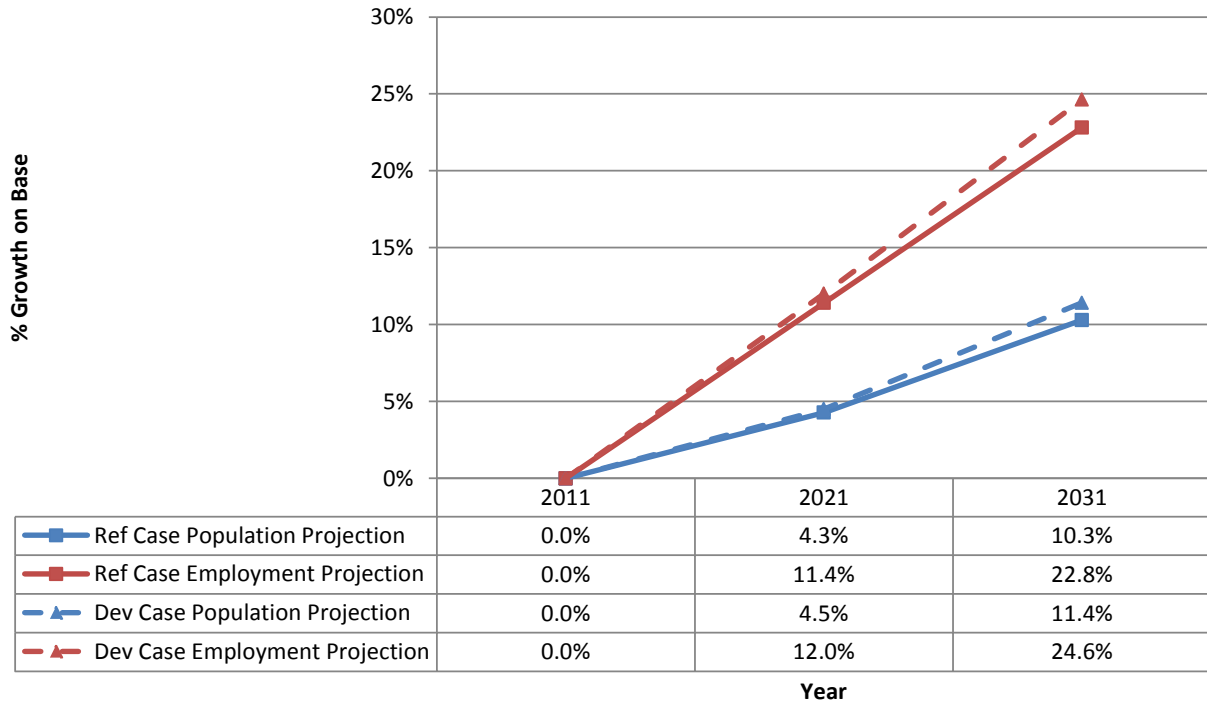
Figure 7.1: Reference Case population and employment growth prediction



Source: Birmingham City Council

Section 6 describes the differences between the Development Case and Reference Case scenarios, in terms of additional transport schemes to facilitate the Green Belt proposals and the additional population and employment supply to be released by these proposals. The resulting change in population and employment growth forecasts with the Development Case is summarised in the following figure.

Figure 7.2: Development Case vs Reference Case population and employment growth prediction



Source: Birmingham City Council

This shows how the Development Plan will enable more population and employment growth in Birmingham.

7.2 Next Steps

In the next stage of the study (Stage 3a), the above scenarios will be modelled using PRISM and the transport impact of the Development Plan quantified from the assessment results.

Appendices

Appendix A. Thematic Review of Relevant Policies and Programmes _____ 45

Appendix A. Thematic Review of Relevant Policies and Programmes

A.1. Introduction

This appendix covers a thematic review of the policy, strategy and programme priorities likely to influence development and growth in Birmingham over the course of the Development Plan period.

The various priorities are presented thematically, with an emphasis on the key policy areas relevant to this study, rather than on specific documents. The key areas identified are:

- Housing
- Employment
- Transport

The documents reviewed cover: national strategies and policies including the National Planning Policy Framework (NPPF) and the 'localism' agenda; national projects such as High Speed 2; sub-national strategies such as the growing role of Local Enterprise Partnerships in local growth; and local plans such as the Birmingham Big City Plan, and the various Area Action Plans across the city.

A.2. Housing

A.2.1. National Policy – House Building and the National Planning Policy Framework

The delivery of increased levels of affordable, quality housing is high on the national agenda. The Department for Communities and Local Government (CLG) recognises that the housing market has been one of the biggest casualties of the 2008 recession. A government priority has been to rectify the stagnation which has inhibited lending, and in turn the building and buying of new houses. The aim is to support house-builders, investors and local councils to increase the supply of new-builds and refurbished empty homes.

In November 2011, the government published 'Laying the foundations: a housing strategy for England' which sets out its strategy for kick starting the housing market. Amongst the policies proposed within the action plan of the strategy, schemes are intended to increase housing supply and include:

- The £570 million Get Britain Building investment fund for developers to build new homes on development sites that have stalled, haven't started or are classified as being on hold.
- Identifying formerly used, surplus public sector land to sell to support up to 100,000 new homes.
- The New Homes Bonus, a grant to local councils for increasing the number of homes and their use as well as actions to bring empty homes back into use.
- New loan guarantees for housing developers that are backed by government to encourage the building of more social and privately rented housing.
- Reducing regulations on house builders to make the planning system more efficient and effective.
- Offering £30 million in finance options to self-builders.
- Helping community groups to build new homes through the Community Right to Build, and making it easier to bring vacant and underused public land back into use through the Community Right to Reclaim Land.
- Promoting community-led design leading to more building schemes being approved.
- Allowing buyers to get a mortgage on a new-build home with only a small deposit with the New Buy Guarantee scheme.
- Supporting Council use of PFI for housing refurbishment and regeneration.

Further methods to boost the current supply of housing have been identified in the National Planning Policy Framework. The Framework, also prepared by DCLG, includes guidelines for local authorities to provide five years'-worth of housing against local housing requirements, with an additional five per cent buffer for developable sites, and a 20 per cent buffer for sites with consistent under-delivery.¹⁸

In relation to these aims, the Government has also developed the Get Britain Building investment fund mentioned above to encourage developers, builders and local councils to increase the supply of affordable new homes on stalled development sites, potentially enabling developers to build up to 16,000 new homes.¹⁹ To support this, a variety of national initiatives have been introduced to encourage increased housing development, including releasing certain public-sector land sites for development use – which is anticipated to facilitate the development of over 100,000 sites across the country up to 2015. In conjunction with this, the £160 million Government investment into the re-development of over 11,200 empty homes will support an increase in local housing supply.²⁰ This is also combined with a government commitment to an increase in specialised housing provision through the £160 million Care and Support Specialised Housing Fund²¹ which aims to deliver 3,500 new homes for elderly and disabled people.

In June 2013, the Treasury published 'Investing in Britain's future',²² which set out government spending priorities until 2017/ 2018. Reinforcing the government's commitment to the revival of the housing market and investment in new homes, the spending round announcement included a £3.3 billion package to support 165,000 new affordable homes. Key policies include

- An extension of 'The Affordable Homes Programme' – a £4.5 billion investment in the provision of affordable housing between 2011 – 2015 with an additional £957 million per year until 2018.
- A new Affordable Rent to Buy scheme, with £250 million in 2015-16 and £150 million in 2016-17 to support new affordable homes for rent and eventual sale.
- £300 million investment for the Build to Rent fund
- £102 million of government loan and equity finance in 2015-2016, to meet upfront infrastructure requirements, enabling the delivery of thousands of homes on large scale housing estates.

The Government has set out an annual house building target rate of 270,000; with a higher proportion of builds within the southern regions. This does not mean, however, that there will not be a keen focus on the development of new and affordable housing within Birmingham and the wider West Midlands.

A.2.2. Sub-National Policy – The End of Regionalism

At present there is no sub-national framework for the delivery of housing in the West Midlands Metropolitan Areas (WMMA) or the wider West Midlands region. The latter in particular is not recognised as a viable administrative unit for policy delivery by the current Government and former region-wide planning strategies (and the Regional Spatial Strategy – RSS – in particular) have not been replicated. That said, the provision of affordable housing remains a key priority within the West Midlands in order to meet the diverse needs of communities in delivering future sustainability.

18 Department of Communities and Local Government (2012) National Planning Policy Framework

19 Department for Communities and Local Government (2013) Increasing the number of available homes

20 Department for communities and Local Government (2013) Increasing the number of available homes

21 Department of Health (2012) Caring for our future: reforming care and support

22 HM Treasury (2013) Investing in Britain's Future

National priorities were reflected strongly in the former West Midlands Regional Housing Strategy, highlighting land use considerations – in particular in terms of maximising the use of previously developed brownfield land, in addition to re-developing existing housing stocks within regional communities to provide an affordable supply of new homes.²³

Revised figures for housing growth, developed in 2009, suggested that between 2006 and 2026, there was a projected increase of 431,000 new households across the former West Midlands region, which signifies potential for future planning development.²⁴

Current focus, however, is now on the NPPF and on plans being developed in local, rather than regional or other sub-national, areas.

A.2.3. Local Policy – The Big City Plan and Area Action Plans

The Big City Plan sets out BCC's ambitions for the regeneration of the city centre, expanding it to cover 800 hectares of the city. Over the 20 years to 2031, Birmingham will grow its population by 100,000 (or around ten per cent). The Plan also recognises that Birmingham will therefore need to create new jobs to meet the needs of its growing population; significantly improve its connectivity to the rest of the West Midlands, London and the cities of the north; and deliver a transformation of the physical environment.

As such, the Big City Plan sets out a strategy for housing renewal in the wider city centre, setting out ambitions to grow the population through higher density housing matched with high quality public and civic spaces. The plan also notes that 'new schools, shops, leisure and job opportunities will need to support the growing population.'²⁵

More widely, areas of housing and community growth are identified in Icknield (to the west of the city centre), Bordesley (to the east), Selly Oak (to the south), and Aston, Newtown and Lozells (to the north west). Further development in Sutton Coldfield and the former Longbridge site is proposed.²⁶

In particular, housing growth is identified within Aston, Newton and Lozells, to the north of the city centre, which is earmarked for renewal through housing regeneration, improvements to local community facilities and provision of new employment opportunities

The accessibility of services is, therefore, a key local issue, in particular access between residential developments and local services and markets. Aston, Newtown and Lozells AAP identifies the need to develop residences within a 15 minute walk of a GP Surgery and local food shops, a 10 minute walk from a primary school and a 20 minute walk from a secondary school. In terms of transport links, developments should also be within a 10 minute public transport journey from a local centre.²⁷

23 West Midlands Regional Assembly (2005) West Midlands Regional Housing Strategy

24 Holmans, A and Fenton, A on behalf of the Centre for Housing and Planning Research (2009): 'Housing demand and need in the West Midlands: 2009 revision to regional estimates for 2006 to 20226

25 Birmingham City Council (2011): 'Birmingham Big City Plan: City Centre Masterplan', p.15

26 Birmingham City Council (2011): 'Birmingham Big City Plan: City Centre Masterplan', p.15

27 Birmingham City Council (2012) Aston, Newtown and Lozells Area Action Plan

New developments are also aimed at providing safe and well-used streets in addition to open spaces which build on local character. In order to achieve this, Design Statements will be required with all planning applications.²⁸

A.3. Employment

A.3.1. National Policy – Deficit Reduction and Private Sector Job Growth

Government policy towards the economy and employment has been two-fold: reducing public spending to address the large structural deficit and creating the conditions for sustainable economic growth. The aim: redirecting and rebalancing the economy towards the private sector as the engine for future growth (including jobs growth) and stability.

This ambition was first set out in the Government white paper 'Local Growth: Realising every place's potential' published in October 2010. Keystone strategies contained within the white paper included the Regional Growth Fund and the development of Local Enterprise Partnerships, both designed to support economic development, and the creation of private sector jobs in local areas. Since then, economic conditions have started to improve, with UK growth now reaching 1%, a one third reduction in the national deficit and the creation of over a million and a quarter jobs²⁹.

Policy has however remained focused on the reduction of the deficit and creating the conditions for economic growth and job creation. Spending rounds in both 2013 and 2012 have included a number of on-going measures to secure employment growth, as well as developing the UK's infrastructure, and supporting businesses to access necessary finance and support.

The 2013 Spending Review included:

- A commitment to £50 billion capital investment in 2015, with a total of almost £300 billion capital spending before the end of the 2020
- Plans for £100 billion investment on infrastructure projects with additional spending in roads, railways, housing and local infrastructure, the NHS, exports, regional growth and business, science and schools and colleges.
- The creation of the Single Local Growth Fund (SLGF) in 2015-2016, reaffirming the commitment to devolving a greater proportion of growth related spending to local areas from April 2015
- Supporting this, a series of funding initiatives to develop better cooperation at local level between services.³⁰
- A series of measures aimed at increased deregulation and competition including the new Competition and Markets Authority (CMA), the One in, Two Out rule for regulation and the Red Tape Challenge.

This has built upon commitments in 2012 autumn spending review, including:

- The creation of a Business Bank to deploy £1 billion of additional capital and allow UK Export Finance to provide up to £1.5 billion in loans to finance small firms' exports
- Temporary increase in the Annual Investment Allowance from £25,000 to £250,000 for two years

²⁸ Birmingham City Council (2004) Bath Row and Holloway Head Development Framework

²⁹ The Guardian (2013) 'IMF raises UK growth forecasts as economy 'turns corner''

³⁰ Including £3.8 billion in a single pooled budget for health and social care services, £200 million extension of the Troubled Families programme, a £50 million fund for joint police force cooperation, £30 million investment in the transformation of the Fire Service and £100 million government investment to cover the costs of local authorities working together.

A key objective of national planning policies is to ensure the appropriate use and development of land to encourage minimised journey lengths and maximised potential for employment opportunities. In particular, guidelines have been set out to ensure that local planning authorities align Local Plan strategies with both housing and employment needs.³¹

The re-development of retail and town centres across the country is also of high priority, to support future job creation within local communities.

A.3.2. Sub-National Policy – Greater Birmingham and Solihull LEP

The Greater Birmingham and Solihull Local Enterprise Partnership was established in October 2010 and its board was formally sworn in in May 2011. The LEP drives forwards the economic development strategy for the Greater Birmingham and Solihull area, which includes Birmingham, Solihull and significant areas in Staffordshire (reaching north to Burton upon Trent) and Worcestershire (incorporating town such as Redditch).

The LEP has established a clear strategy for the area focussed around three key pillars intended to underpin growth in the LEP's functional economic area:

- Private sector-led focus on business, including business support, access to finance, reducing regulatory burdens, developing social enterprise and maximising inward investment.
- Business-led focus on developing skills to create a talent pool with world-class skills, aligned to the real economy.
- Local authority-led development of a spatial framework, an integrated transport system and improved digital connectivity, including delivery of Birmingham City Centre Enterprise Zone.

A.3.2.1. Birmingham City Centre Enterprise Zone

Birmingham City Centre Enterprise Zone (EZ) was established in April 2011 and is the central initiative of the LEP. It is designed to attract inward investment to the city to improve economic performance through the creation of private sector jobs. The EZ programme for Birmingham incorporates areas across the city centre and includes incentives such as:

- business rates relief worth up to £250,000 over five years
- a simplified planning regime with dedicated resources and streamlined processes to support applicants.
- Superfast broadband will also be provided, focused on the IT, creative and digital businesses in Digbeth, Eastside and the Jewellery Quarter

Local Development Orders (LDO) will be applied in Digbeth and at Aston Science Park, allowing a wider range of changes of use without the need for planning permission. The retained uplift in business rates will enable the LEP to invest in infrastructure, business support, employment and skills and access to finance projects right across the LEP area.

The ambitions for the on-going development of the EZ include:

- The allocation of 26 employment land sites
- The development and opening up of 68 hectares of land

31 Department for Communities and Local Government (2012): National Planning Policy Framework

- The realisation of 1.3 million square metres of floor space
- The creation of 40,000 new jobs during lifetime of project
- A £2 billion boost to the economy in GVA per year

A.3.3. Local Policy

The Big City Plan notes that 'Birmingham has a workforce of over 484,000 employed across a wide range of sectors. It is continuing to diversify its economic base attracting investment from new science and technology based industries and is a designated Science City and a Digital City.'³²

Increased connectivity to local markets and employment sites has become a significant focal point for localised programme development. For example, the extension of the Midland Metro Line through Birmingham City Centre will greatly enhance accessibility to employment opportunities through improved access between the Black County and the City.³³

In addition, the £600 million Gateway scheme for the development of New Street Station will support the regeneration of city areas by creating thousands of new jobs.³⁴

Given its position between the City Core and Attwood Green, the Holloway Head area also offers the potential for expanding city core activities and employment uses such as small scale offices, and specialist retailing, and to provide a varied mix of residential property.³⁵

A.4. Transport

A.4.1. National Policy – Creating Growth and Cutting Carbon

Over recent years, there has been significant focus on developing sustainable transport infrastructure, which supports economic growth, improves accessibility, reduces congestion and encourages the shift to a greener economy. The 2011 Government White Paper ('Creating Growth, Cutting Carbon: Making Sustainable Local Transport Happen') outlines opportunities to reduce the carbon impact of transport, like rail electrification and the development of greener fuels and vehicles, but that shorter-term gains are more likely to be achieved at the local level of behaviour change.³⁶

Environmental sustainability has become a significant initiative across the country, in particular the reduction of carbon emissions via travel. As a result, national and local initiatives have been proposed to help in creating a more sustainable city that minimises its carbon footprint and waste while allowing the city to grow.³⁷

For instance, 'smarter choices' travel schemes have become common techniques for influencing peoples' travel behaviour towards more sustainable options, in particular walking and cycling. The implementation of such schemes has been recommended within schools, workplaces, community and residential areas, in

32 Birmingham City Council (2011): 'Birmingham Big City Plan: City Centre Masterplan', p.15

33 Centro (2011): 'West Midlands Local Transport Plan: Implementation Plan 2011-2016'

34 Birmingham City Council (2011): 'Birmingham Big City Plan: City Centre Masterplan'

35 Birmingham City Council (2004) Bath Row and Holloway Head Development Framework

36 Department for Transport (2011): 'Creating Growth, Cutting Carbon'

37 Birmingham City Council (2012): 'Birmingham Development Plan: Options Consultation'; Department for Transport (2011): 'Creating Growth, Cutting Carbon'

addition to the encouragement of personalised travel planning techniques.³⁸ Local initiatives will also be delivered, such as improving information and smart ticketing in combination with smaller scale capital investment.

A.4.1.1. Rail Services and High Speed 2

In conjunction with sustainable travel options, significant emphasis has been put on the need to develop the nation's rail network, by improving service the performance, efficiency, safety, capacity and passenger experience of rail travel over the next decade. It is estimated that growth in passenger demand will increase between 17-21 per cent by 2020; between 29-36 per cent by 2026; and between 36-46 per cent by 2030, therefore peak time rail journeys will be targeted for increased capacity services – in particular for services into London, Birmingham, Leeds, Manchester and other major cities.³⁹

In line with this, the Government has confirmed plans to bring High Speed Rail 2 (HS2) direct into the heart of Birmingham, with a proposed city centre station in Eastside.⁴⁰ The route will run from London Euston, through to central Birmingham – through the re-commissioning of Curzon Street station – and on to Leeds and Manchester. The development will bring improved rail links between the city centre and other major cities in the UK and Europe. The construction phase of HS2 is anticipated to begin in 2017, and the service open to passengers in 2026.⁴¹

A.4.2. Sub-national Policy – Centro, the Local Transport Plan and Local Sustainable Transport Fund Programme

In terms of developing sustainable transport infrastructure, regional transport priorities also focus on the need to develop accessible networks which support the local economy.

In line with this, a variety of transport projects are currently being delivered across the region, which include:

- New Street Gateway;
- Wolverhampton Interchange;
- Stourbridge Interchange;
- ANITA BIA/NEC access improvements;
- Smarter routes (Red Routes, UTC and Quality Bus Corridor packages); and
- Local Park and Ride expansion;
- Coventry Prime Lines project.^{42 43}

In addition, and in response to the rail capacity challenges noted in Section 2.4 above, the following major schemes in and around the West Midlands Metropolitan Area (and many of which fall in part or entirely within the Greater Birmingham and Solihull LEP area) are also scheduled for delivery up until 2014:

38 Birmingham City Council et al (2011): 'Smart Network, Smarter Choices: Business Case'; Department for Transport (2011): 'Creating Growth, Cutting Carbon'

39 Department for Transport (2012): 'Reforming our Railways: Putting the customer first'

40 Birmingham City Council (2011): 'Birmingham Big City Plan: City Centre Masterplan'; Birmingham City Council (2012): 'Birmingham Development Plan: Options Consultation'

41 <http://www.hs2.org.uk/about-hs2/key-dates>

42 Centro (undated): 'Integrated Public Transport Prospectus'

43 Centro (2011): 'West Midlands Local Transport Plan 2011-2026'

- Metro Line 1 improvements and Birmingham city centre extension;
- Metro Wolverhampton city centre loop;
- Nuneaton to Coventry Rail Scheme;
- Bromsgrove station;
- Stratford Parkway station; and
- Small scale rail station improvements, including platform lengthening at suburban stations.⁴⁴

Transport networks cross administrative boundaries, as do travel-to-work patterns. Therefore, the West Midlands Local Transport Plan 3 (LTP3) cover the entire Metropolitan Area, which comprises the Metropolitan Districts of Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall and Wolverhampton. The LTP was developed in conjunction with surrounding Local Authorities and other transport-related providers, operators and interest groups, as well as the business community.⁴⁵ The priorities identified include several that are now underway or complete:

- **Birmingham New Street Gateway** – the £600m passenger and retail area around New Street, supporting regeneration and providing a new gateway to the entire sub-region.
- **Chiltern Railways ‘Evergreen’ Phase 3** – investment work within the Metropolitan Area on the route between Birmingham and London Marylebone, to enable significant timetable improvements to be delivered, including speeding up of services between Birmingham and London.
- **Red Routes Package One** – targeting key highway corridors across the WMMA aiming to deliver improved journey speed and reliability for all road users, making best use of the existing highway network.
- **Selly Oak New Road** – around Selly Oak centre, opening up brownfield land for regeneration, as well as routing traffic away from the congested Selly Oak centre.
- **West Midlands Urban Traffic Control** – enabling more efficient use of the highway network across the Metropolitan Area by allowing Traffic Managers to use Real Time Information and to respond to incidents on the network, through additional variable message signs and responsive traffic signal phasing.
- **Midland Metro Line One extension** – though Birmingham city centre is a keystone scheme of the LTP, which will support jobs and improve access from the Black Country to employment opportunities in Birmingham City Centre. The scheme will also provide the infrastructure and additional capacity to allow further expansion of the Midland Metro network in the future.⁴⁶

The seven West Midlands metropolitan authorities have also secured around £33 million in local funding from the Local Sustainable Transport Fund (LSTF) for the ‘Smart Network, Smarter Choices’ programme of interventions along ten key strategic transport corridors within the WMMA, many of which are focussed on Birmingham City Centre. The ‘Smart Network, Smarter Choices’ programme aims to deliver the following objectives:

- Increasing bus use by over four million trips annually;
- Increasing cycling by more than two million trips annually;
- Increasing Metro use by more than fifty thousand trips annually;
- Increasing rail trips by over 500,000 in the final year of the fund; and
- Increasing walking trips by more than 20 million annually.⁴⁷

44 Centro (undated): ‘Integrated Public Transport Prospectus’

45 Centro (2011) West Midlands Local Transport Plan 2011-2026

46 Centro (2011): ‘West Midlands Local Transport Plan 2011-2026’

47 Centro and the seven West Midlands metropolitan authorities (2011): ‘Smart Network, Smarter Choices: Business Case’

Birmingham City Council is also presently consulting on the Birmingham Mobility Action Plan (BMAP). The purpose of the BMAP study is to reinvent Birmingham's transport system to meet current and future mobility challenges; facilitating strong and sustainable economic growth. The plan will change the way that people and business think about travel into and around the city. By influencing travel behaviour and embracing technological change, the Plan will reduce carbon emissions, increase safety and improve people's lives.

A.4.2.1. Birmingham Airport

Work on the runway extension at Birmingham Airport (located within the WMMA and Greater Birmingham and Solihull LEP area, but not in Birmingham itself) is currently underway. The extension will greatly enhance international access to the city.⁴⁸ In the period up to 2030, Birmingham Airport proposes to extend the Airport Operational Area to include:

- Land to the south of the A45 Coventry Road for the proposed extension to the Main Runway and related infrastructure; and⁴⁹
- The NEC Western Car Park for the proposed expansion of the Passenger Terminal facilities and related infrastructure.⁵⁰

The development of a more extensive network of destinations and routes at Birmingham International Airport is of particular significance, to meet the increased proportion of regional demand for air travel across the Midlands. This will help to reduce the overall mileage and volume of surface journeys in the UK as a result.⁵¹

A.4.3. Local Policy – Transport Priorities in Birmingham

Particularly important for the Birmingham Development Plan Transport Evidence Base are the local ambitions of Birmingham City Council regarding transport in the city. Priority aims across the City are focused round improvements to public transport and, in particular, local bus services and the metro network.

A.4.3.1. Buses and Community transport

With regard the former, and in response to the challenges noted in Section 2.4 above, priorities are focussed on delivering improvements to the network of bus routes, connections and services, making them more accessible, attractive and reliable for service users.⁵² Particularly significant to this is the £12 million investment by the City Council and Centro into a new City Centre Interchange on Moor Street Queensway. The aim of this is to dramatically improve the legibility of the bus network across the city centre, which will help towards increasing accessibility and reliability of bus travel.⁵³

Another key aim for the City Council is to work on increasing bus travel's share of peak travel usage from one-fifth in 1999 up to one-third by 2031. To achieve this, significant priority will be placed on routes with

48 Birmingham City Council (2011) Birmingham Big City Plan: City Centre Masterplan

49 Birmingham International Airport (undated): 'Airport Master Plan to 2030'

50 Birmingham International Airport (undated): 'Airport Master Plan to 2030'

51 Birmingham International Airport (undated): 'Airport Master Plan to 2030'

52 Birmingham City Council and Bromsgrove District Council (2009): 'Longbridge Area Action Plan'; Birmingham City Council (2011): 'Bordesley Park Areas Action Plan: Options Report'

53 Birmingham City Council (2011): 'Birmingham Big City Plan: City Centre Masterplan'

heavy passenger loading designed to achieve a journey time equivalent to 95% of car speeds at peak periods. It has been recommended that bus priority be virtually continuous through most important junctions and, where road space is not reduced for other vehicles, road widening will be required for bus priority lanes.⁵⁴

Improved bus networks have also been recommended for providing increased surface access for Birmingham International Airport in order to provide more frequent and reliable services that penetrate key employment catchment areas. Birmingham Airport Limited intends to work with Centro, local authorities and local bus operators to develop a more extensive bus network, providing access to the Passenger Terminal and Elmdon Terminal Sites, in addition to extending the periods of operation to meet the various shift patterns operated at the Airport.⁵⁵

In conjunction with the increased requirement for improved public transport infrastructure, there is also the increased opportunity for improved community transport facilities.⁵⁶ For example, the Longbridge Area Action Plan identifies the potential for increasing levels of strategic Park and Ride facilities to encourage improved connectivity to the area from Birmingham City Centre and Frankley.⁵⁷

There is also a continuing need to improve public transport facilities including interchanges to facilitate easier access to places of employment, education, shopping, medical, cultural, leisure and social facilities for those with and without access to private transport. Of particular concern are the needs of the elderly, less mobile and people with disabilities.⁵⁸ The Access for All Programme⁵⁹ addresses the issues face by disabled passengers. Central to the programme is the ring-fencing of £35 million funding per year until 2015, for provision of an obstacle free, accessible route to and between platforms at priority stations. This includes the provision of lifts or ramps, as well as associated works and refurbishment along the defined route.⁶⁰

A.4.3.2. Rail and Light Rail

Various interventions are being introduced across the Birmingham area specifically, which focus on providing good public transport links between major land uses, local centres, residential areas and the City Centre.⁶¹

For example, the £129 million Line One extension of the Midland Metro will run from Snow Hill Station to New Street Station. In addition a £31 million expansion of the Metro line will run to Centenary Square connecting the Westside of the City with the city centre⁶². This will provide vital transport links between within Central and Westside EZ sites with the existing rail network.⁶³ There are also proposals to link Snow

54 Aspen Burrow Crocker (2001): 'West Midlands Area Multi-Modal Study: Final Report'

55 Birmingham International Airport (undated): 'Airport Master Plan to 2030'

56 Birmingham City Council (2011): 'Birmingham Big City Plan: City Centre Masterplan'

57 Birmingham City Council and Bromsgrove District Council (2009): 'Longbridge Area Action Plan'

58 Birmingham City Council (2005): 'Birmingham Unitary Development Plan 2005'

59 The Access for All Programme is an accessibility initiative for those with disabilities, which offers step-free access within railway stations from the entrance to platforms.

60 West Midlands Regional Rail Forum (2009): 'Rail Development Plan: Draft for Consultation'

61 Birmingham City Council (2012): 'Aston, Newtown and Lozells Area Action Plan'

62 Centro (2013): 'Midland Metro Birmingham Centenary Square Extension'

Source: <http://www.centro.org.uk/metro/CentenaryExtension/CentenarySquareExtension.aspx>

63 Birmingham City Council (2011): 'Birmingham Big City Plan: City Centre Masterplan; Greater Birmingham & Solihull LEP (2012) Annual Report 2011-12'

Hill and New Street Station to the new proposed HS2 station at Curzon Street, connecting the creative and cultural district of Eastside to the other quarters in the city centre⁶⁴.

The Metro will also link the Snow Hill and Colmore Business District to the £600 million New Street Gateway, which will provide a new, world-class passenger and retail area, while supporting local regeneration and providing a new gateway to the city and the sub-region.⁶⁵ The anticipated completion date for this development is 2015, which will provide better links to and through the station whilst generating over £2 billion in transport and wider economic benefits for the region.^{66 67}

In addition to this, proposals for the delivery of two high quality rapid transport routes through the Bordesley park area include one route along the A45 Coventry Road and the other route through the Eastern Corridor to the airport.⁶⁸

Birmingham Airport believes that rail is ideally suited for surface access by air passengers and intends to develop, in consultation with Network Rail, the Train Operating Companies and Centro, an Air Rail Access Strategy for Birmingham International Airport.⁶⁹

A.4.3.3. Walking and Cycling

In response to the challenges noted in Section 2.4 above, providing safe and convenient cycle routes and facilities across the city and surrounding areas is a key consideration at a local level; in particular, the Big City Plan includes proposals to develop dedicated cycle lanes and better access to the canal network for cyclists, which will help to facilitate increased cycling to and within the city centre.⁷⁰ Recommendations with various Area Action Plans have also been identified for increased numbers of cycle parking facilities at key locations to encourage increased activity.⁷¹

In addition, Birmingham City Council were recently awarded Cycle City Ambition Grant funding by the Department for Transport to implement the 'Birmingham Cycle Revolution' project, which is a 20 year strategy to enable cycling to become a mainstream form of transport across the city. The scheme will result in the creation of a deliverable city-wide strategic cycle route network along radial corridors extending 20 minutes cycling time from the city centre. It will encompass improvements to 95-kilometres of existing routes and 115-kilometres of new routes for everyday cycling. Measures include segregated facilities, lower speed limits, off-road routes using canals/green spaces, bicycles and secure cycle parking.

Another consideration is the increased promotion of cycle to work schemes; for instance, Birmingham Airport currently has a range of schemes and facilities to promote cycling to encourage surface access by bicycle for people employed at the Airport. In the future, further cycling schemes are anticipated which will tie-in with the arrangements, locally, to provide dedicated cycle routes, including links to National Cycle

⁶⁴ Birmingham City Council (2011) Birmingham Big City Plan: Eastside Masterplan

⁶⁵ Centro (2011): 'West Midlands Local Transport Plan: Implementation Plan 2011-2016'

⁶⁶ New Street, New Start: See <http://www.newstreetnewstart.co.uk/about-the-development/faqs.aspx>

⁶⁷ Birmingham City Council (2010): 'Birmingham Core Strategy 2026: Consultation Draft'

⁶⁸ Birmingham City Council (2011) Bordesley Park Areas Action Plan: Options Report

⁶⁹ Birmingham International Airport (undated): Airport Master Plan to 2030

⁷⁰ Birmingham City Council (2011) Birmingham Big City Plan: City Centre Masterplan

⁷¹ Birmingham City Council (2011) Bordesley Park Areas Action Plan: Options Report

Route 53 (Birmingham to Coventry), and a link along the A45 with the proposed extension to the Main Runway.⁷²

Improving and expanding the network of walking routes across the area is also deemed essential in terms of connectivity and accessibility within the City to/from surrounding areas, linkages to local services including rail stations; leisure attractions and facilities; areas of employment; and local centres, in addition to promoting associated health and environmental benefits. The key to realising the potential of local pedestrian links is to create a quality pedestrian friendly environment, which builds upon the network of attractive streets and spaces through the City Centre.^{73 74}

In line with this, recommendations have been identified for enhancing connections with Eastside and the city centre, in conjunction with proposals to develop an enhanced pedestrian route between the link and the canal on Commercial Street through to Edgbaston. This will require the re-opening of Upper Marshall Street for pedestrians as part of any redevelopment.^{75 76}

In addition, plans for appropriate pedestrian facilities for Birmingham International Airport, including footways, will be accommodated in the future to ensure pedestrian accessibility is available within all landside parts of the Passenger Terminal and Elmdon Terminal Sites.⁷⁷

A.4.3.4. The Highway Network and Parking Provision

Recognising the challenge of highway congestion noted above in Section 2.4, increasing network efficiency by tackling localised congestion issues along major road corridors and junctions is readily highlighted as a core local policy. Recommendations for a balanced package of interventions across the area have been identified – including route enhancements and targeted investments at specific junctions, which will maximise the efficient and reliable operation of the current highway network and support the reduction of congestion and carbon emissions.⁷⁸ For instance, Red Routes Package One targets key highway corridors across the Metropolitan Area and aims to deliver improved journey speed and reliability for all road users, making best use of the existing highway network.^{79 80} Also, the West Midlands Urban Traffic Control scheme enables more efficient use of highways across the metropolitan area by allowing traffic managers to use Real Time Information (RTI) and to respond to incidents on the network, through additional variable message signs and responsive traffic signal phasing.⁸¹

More specifically, the following local interventions are urged across the city:

- Route enhancement measures along the A45 Coventry Road to tackle peak time congestion.⁸²
- The construction of a new road around Selly Oak centre, which will open up brownfield land for regeneration, as well as routing traffic away from the congested Selly Oak centre.⁸³

72 Birmingham International Airport (undated) Airport Master Plan to 2030

73 Birmingham City Council (2004): 'Bath Row and Holloway Head Development Framework'

74 Birmingham City Council (2011): 'Bordesley Park Area Action Plan: Options Report'

75 Birmingham City Council (2011): 'Bordesley Park Area Action Plan: Options Report'

76 Birmingham City Council (2004) Bath Row and Holloway Head Development Framework

77 Birmingham International Airport (undated) Airport Master Plan to 2030

78 Birmingham City Council (2012): 'Aston, Newtown and Lozells Area Action Plan'

79 Centro (2011): 'West Midlands Local Transport Plan: Implementation Plan 2011-2016'

80 Aspen Burrow Crocker (2001): 'West Midlands Area Multi-Modal Study: Final Report'

81 Centro (2011): 'West Midlands Local Transport Plan: Implementation Plan 2011-2016'

82 Birmingham City Council (2011): 'Bordesley Park Areas Action Plan: Options Report'

83 Centro (2011): 'West Midlands Local Transport Plan: Implementation Plan 2011-2016'

- Bringing forward junction improvements at key locations on the City's ring road, in particular Bordesley Circus and Garrison Circus.
- Bringing forward measures to tackle localised congestion and improve pedestrian safety along main linear routes through the area including Garrison Lane, Bordesley Green and Alum Rock Road.
- Considerations have also been made for increased electric charging points on key corridors.⁸⁴

In conjunction with more effective road networks, various measures have been identified for enhancing the quality and capacity of secure car parking facilities across the area, in particular within the following areas:

- Local centres such as Alum Rock Road and Small Heath;
- St Andrew's Football Stadium on match days; and
- City based residential areas.⁸⁵

Birmingham also has strong links to the national motorway network, which is significant to the City's economic mobility. Various proposals to widen surrounding motorway systems have been developed, particularly via the City Centre and Birmingham International Airport to accommodate an extension to the main runway to enable direct long haul flights which connect with major global growth points.

84 Birmingham City Council (2011): 'Bordesley Park Area Action Plan: Options Report'

85 Birmingham City Council (2011): 'Bordesley Park Area Action Plan: Options Report'