



**BIRMINGHAM**  
**CONNECTED**  
MOVING **OUR CITY** FORWARD

## BIRMINGHAM MOBILITY ACTION PLAN

TECHNICAL WORK PACKAGE 4  
GREEN TRAVEL DISTRICTS  
NOVEMBER 2014

# Quality Management

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	DRAFT			
Date	15/08/14			
Prepared by (Company)	Phil Jones Associates (PJA)			
Signature	Mark Nettleton			
Checked by (Company)				
Signature				
Authorised by (Company)				
Signature				

# BIRMINGHAM MOBILITY ACTION PLAN – TECHNICAL STUDY GROUP REPORT

## Green Travel Districts

14/08/2014

### Birmingham City Council

Birmingham City Council  
1 Lancaster Circus  
Queensway  
Birmingham  
B4 7DQ

### Lead Consultant Author

Mark Nettleton  
Phil Jones Associates  
Tel: 0121 475 2027  
Email: [mark@philjonesassociates.co.uk](mailto:mark@philjonesassociates.co.uk)

# Table of Contents

1	Executive Summary.....	5
2	Introduction.....	7
3	GTD Selection .....	10
4	Presenting the Green Travel Districts.....	13
4.1	GTD Key Characteristics .....	18
5	Research and Stakeholder Engagement.....	21
5.1	Research .....	21
5.2	Stakeholder Engagement .....	22
6	GTD Toolkit .....	30
6.1	Introduction.....	30
6.2	The Key GTD Interventions .....	31
7	Implementation, Funding and Governance.....	48
7.1	Implementation .....	48
7.2	Funding.....	48
7.3	Governance .....	50
8	Summary and Conclusions.....	54

## Appendices

- Appendix A – Plans to Support GTD Selection
- Appendix B – Schedule of the key facts and best practice from partner cities
- Appendix C – GTD Toolkit
- Appendix D – Individual Organisation Travel Plan Measures



# 1 Executive Summary

## What are Green Travel Districts (GTDs)?

The purpose of GTDs is to achieve a reduction in the use of the private car which will realise economic, social and health benefits across the city. GTDs are areas of high economic, social and civic activity where, because of the high volume of inbound and outbound trips, infrastructure and other interventions are most likely to achieve modal shift away from the private car. GTDs are an enabler, providing an opportunity for Birmingham Connected to make a real difference locally.

Travelling into and within a GTD should feel like travelling to and around the city centre, where sustainable transport is increasingly the default mode of choice. Residents and workers in and near a GTD should feel like they have a positive choice of transport modes, and be able to undertake seamless multi-modal journeys around the city and region.

GTDs build on the experiences of Birmingham's Smarter Choices programme by integrating travel awareness on a local level within a wider policy and infrastructure framework. They will capitalise on the value-adding benefits of local co-ordination and engagement in the same way that Business Improvement Districts have unlocked the capabilities and enthusiasm of motivated local stakeholders.

## Where would they be?

GTDs would be located where there is a high concentration of existing or future employment and other economic activity, and where the predominant flow of people is on a local level. GTDs may be located where public transport is already good, or in areas where car-oriented planning policies have resulted in a poor modal choice but where significant opportunity exists to improve the attractiveness and practicality of walking, cycling and public transport in order to reduce the negative economic, social and environmental effects of congestion and vehicle emissions.

Many of the envisaged GTDs lie on existing corridors where improved sustainable transport options are being developed by Centro and Birmingham City Council respectively as part of the Smart Network and Birmingham Cycle Revolution programmes. Birmingham Connected will build on this by setting out a vision for the city's proposed SPRINT bus rapid transit (BRT) network, which will have a strong presence in the GTDs identified. The GTDs are identified as follows:

- City Centre;
- JLR including Castle Vale and The Fort;
- Life Sciences including Selly Oak district centre;
- Perry Barr including Witton Food Hub and the Advanced Manufacturing Hub;
- Small Heath and Bordesley Green retail area;
- Soho Road retail area;
- ITEC Park including Longbridge Town Centre;
- Tyseley Environmental District;
- Kings Heath and High Street;
- Northfield Town Centre; and
- Sutton Coldfield Town Centre.

## Why are GTDs a good thing?

The phenomenon of "peak car" – prohibitive cost and changing social perceptions of motoring – means that car ownership is declining in young people, who generally favour being technologically connected to their peers

and place less value on the independent mobility of car ownership than previous generations. GTDs can also tap into the increasing prominence of the “sharing economy” by promoting car clubs, bike hire and freight consolidation. The increasing public use of smartphone and smartcard technology provides a not-to-be-missed opportunity to revolutionise how transport ticketing and travel information can be integrated and personalised, and data captured to assist decision makers on tailoring public transport services to meet the needs of users.

Lack of transport accessibility is often a factor in joblessness or companies being unable to recruit or retain the right staff. There may be additional benefits of increased productivity by staff being able to work on the train or bus on their commute, potentially being able to shorten their working day, which may improve flexible-workspace utilisation and enhance the work-life balance.

GTDs will be a motivating factor behind smarter fleet choices and promoting greener logistics solutions.

Walkable neighbourhoods will be a key feature of residential areas in and around GTDs, where facilities will exist to support car-free living. Reduced car use will diminish competition for finite parking and road space, promote energy security, and prevent or delay costly investment in additional road capacity for essential freight and business traffic.

There are significant benefits to employers and retailers in promoting the use of active travel among staff and customers. Active travel, for either all or part of a commuting journey, is a time-efficient and very low-cost means of people embedding exercise as part of their daily route. Employers who can unlock this potential will reap the benefits of a workforce that is less likely to suffer sickness absence caused by medical conditions related to physical inactivity. Reducing reliance on car transport can help diminish the households’ financial burden of owning a vehicle, which can ultimately translate into increased disposable income. Ensuring local people enjoy easy access to shops and services by foot or by bike will mean local money stays in the local economy.

## Implementation

It is necessary to test-run GTDs in one or two locations to be able to refine the processes and mechanisms for the wider roll-out. Whilst the mode-shift objectives would be difficult to achieve to the target level in a localised pilot, a trial scheme would obtain useful information about stakeholder engagement and governance, and the practicalities of assembling organisations together in the way proposed.

Because there is a need to tie GTDs to improvements to transport infrastructure, the areas of Longbridge, Northfield, the Life Sciences Campus and Soho Road would be appropriate candidates to host the pilot on the basis of the extensions of the Cross City Line and Midland Metro. In particular, with three GTDs lying on Cross City Line south, there is the opportunity to test modal shift with and without GTDs in different areas. The extension of the Cross City Line to Bromsgrove facilitates much easier journeys between these locations and Worcestershire. This is particularly the case for Northfield and Longbridge, as longer-distance services from Bromsgrove, Droitwich and Worcester already call at University. Whilst Soho Road does not appear to directly benefit the local area, the extension to New Street shortens interchange with other rail services, so may act as an influence in changing inbound and outbound travel behaviour.

Whilst these improvements are relatively small compared to comprehensive SPRINT network and smartcard rollout, they nevertheless provide a useful opportunity to tie the principles of GTDs to significant investment in transport infrastructure. The pilot should convene a group of GTOs (see Governance section), based on any existing board or trade association. Travel awareness engagement would focus on users who could most readily make use of the new or improved services available. The GTOs could also begin to engage locally to understand issues that influence travel behaviour and severance, in the same vein as the DIY Streets King’s Heath project has done to help address negative perceptions of its High Street.

## 2 Introduction

The BMAP Green Paper (2013) put forward a suggestion for Green Travel Districts (GTDs) at large employment sites across the city recognising the opportunity to target investment in infrastructure in these locations and through a comprehensive package of measures, have a positive impact on the trip making patterns.

The GTD initiative has since evolved, presenting the Council with an opportunity to identify GTDs and form locally led Associations to influence a modal shift by engaging Business Improvement Districts (BIDs), business owners, estate managers, householders and developers in the decision making process and at a local government level make practical use of the planning system. Green Travel District Associations (GTDA) can help the City Council bring about transformational change to well established areas, and well prepared policies can ensure that the right infrastructure and services are in place to provide credible sustainable travel choices in regenerated areas, including for freight.

Essentially the GTDs are an enabler, providing an opportunity for Birmingham Connected to make a real difference locally.

### “Making Birmingham Connected happen locally”

The purpose of this study is to strengthen the proposals outlined in the Birmingham Connected Green Paper by giving more definition to the characteristics of GTD, i.e. what it means for stakeholders in the zones in terms of opportunities and expectations; how the initiative might be implemented; how strategies might differ from zone to zone; what are the likely outcomes and are they reasonable; and, what are the success criteria and plans for monitoring.

The key objectives of the GTDs are:

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

GTDs are as much to do with innovation and technology as with branding, integration/coordination, concentration and scalability.

GTDs are a platform for the delivery, management, promotion and coordination of sustainable travel interventions. Specifically they provide:

- Increased visibility of sustainable travel
- A common visual identity for areas where sustainable travel modes take precedence over the private car
- A "one-stop-shop" of sustainable travel interventions and principles

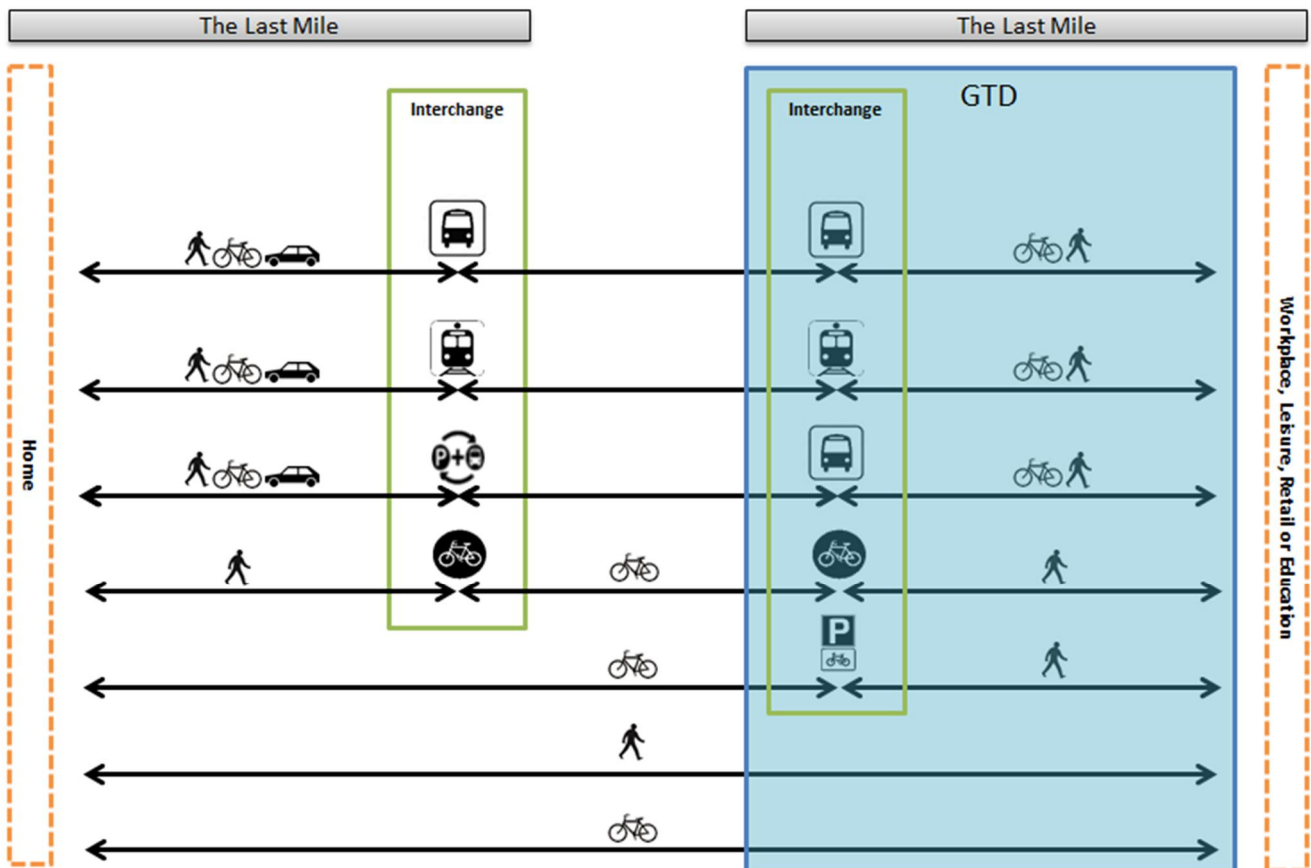
- Justification for policies to be developed and enforced
- A mechanism for communication, community ownership and local delivery

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

### The "last mile Problem"

The "last mile" problem, whereby travellers experience difficulties in accessing their home, shopping, social activity or job locations from public transport stations or stops, is a major deterrent to using public transportation systems. Innovative transport solutions that address the last-mile problem, together with information technology that provides information on such solutions, have the potential to increase public transportation use, and to improve congestion, safety, air-quality and other outcomes.

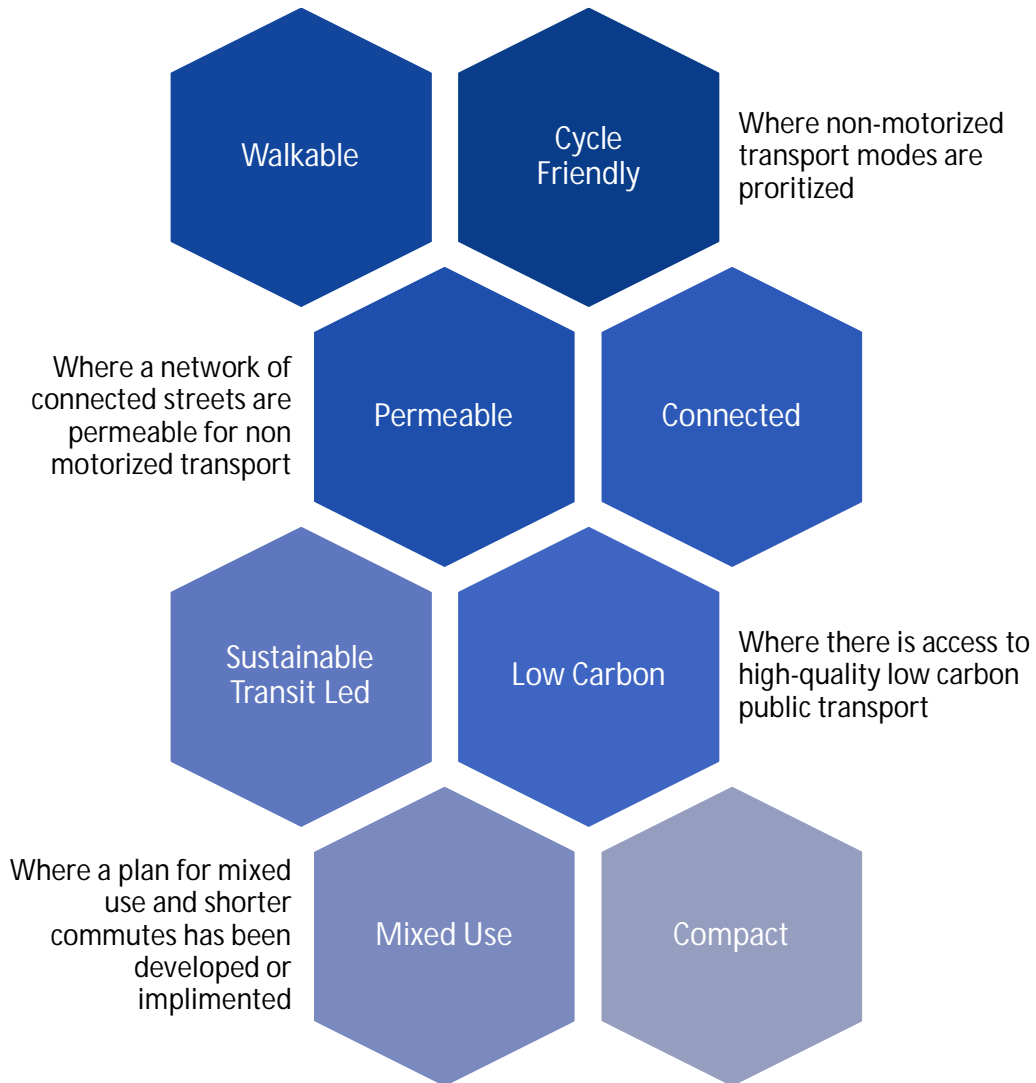
While rapid public transport solutions such as light rail, heavy rail, commuter rail, and bus rapid transit (BRT) are popular ways to increase a particular area's public transport network coverage, the fact that they stop only every mile on average to maintain a high average speed means that geographically most of an urban area will be beyond an easy walking distance to a station. The fact that many residences and businesses lay beyond an easy walking distance to a station is known as the "last mile problem", and is a barrier to better utilization of a rapid public transport network.



The last mile problem is particularly prevalent outside of the City Centre where land-use is typically low density and single use. As a result public transport use in these areas can be less practical and thus car reliance is high. The setting aside of large areas for car parking and highway capacity further compounds the situation by

lengthening walking distances, e.g. accessing the entrance of a shop or place of work requiring a long walk across a surface car park.

Establishing Green Travel Districts is a mechanism to address the last mile problem by facilitating planning for public transport-led mixed use development and encouraging shorter commutes. Birmingham Connected and the GTDs will reduce distances to transport interchanges by developing the network of connected streets, overcoming severance of walking and cycling routes, and promoting access to high-quality low carbon public transport. These form the key interconnected principles of the GTDs





### 3 GTD Selection

The Birmingham Connected Green Paper (2013) identified the six economic zones which, given their aim of maximising opportunities for economic growth, were clear candidates to become GTDs. Located to suit the requirements of the sectors, the six Districts are:

- Advanced Manufacturing Hub, Aston
- City Centre Enterprise Zone
- Tyseley Environmental Enterprise District
- Longbridge ITEC Park
- Life Sciences Campus, Selly Oak / Edgbaston
- The Food Hub, Witton

It is recognised that the scope of the GTDs may cover more than just the six Economic Zones, and without wanting to be exclusive, a sieve of other potential districts has been undertaken. It is important that GTDs are areas where delivering high sustainable travel modal splits would be achievable in order to deliver the targets set out in this document. The criteria for the new GTDs were identified as the following:

- Locations in close proximity to areas of existing congestion which has the potential to affect future growth and economic development;
- Locations with a significant retail turnover;
- Significant concentrations of existing and/or future employment, retail, education and residential developments most notably with a mix of one or more of these land uses;
- Locations with a high number of journey to work trips of less than 2km and 5km particularly where the current modal split (2011 census) shows a high propensity for single occupancy vehicle use;
- Locations standing to benefit from significant public transport accessibility improvements with SPRINT and City Link radials/ orbitals; and
- In the context of the SPRINT /rail networks, two or more areas where a high degree of mutual attraction is likely to occur.

Initially a long list of districts was derived from the data gathered. Then a sieving exercise was carried out to identify stand out candidates. 2011 Census data was sourced from the ONS online database to sort the candidate areas. The following data was geo referenced:

- Total Expenditure (Comparison & Convenience) - Total retail turnover (£m per annum) including comparison and convenience goods as derived from the Birmingham Retail needs Assessment (2013) by Hollisvincent Planning Consultants;
- No. of 2011 JtW Trips < 2km - The number of Journeys to Work (JtW) Trips by the resident population of an area of less than 2km as derived from the 2011 census;
- No. of 2011 JtW Trips < 5km - The number of Journeys to Work (JtW) Trips by the resident population of an area of less than 5km as derived from the 2011 census;
- 2011 Resident Population – The resident population of an area;
- 2011 Economically Active Population - The fraction of a population that is either employed or actively seeking employment; and
- 2011 Workplace Population - The number of people aged 16 to 74 who are in employment and whose usual place of work is in the area.

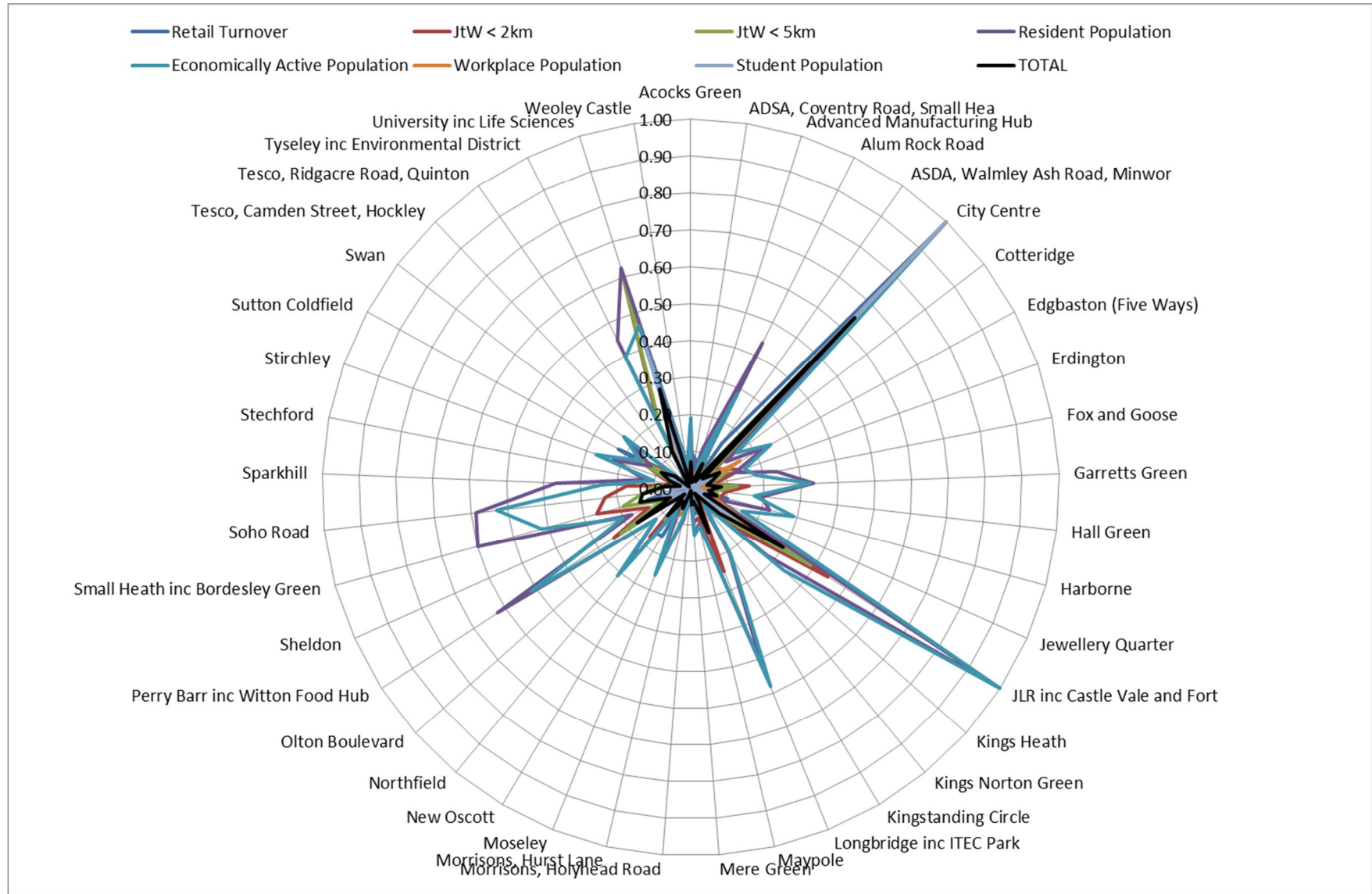
- No. of 2011 Student Trips - The number of students as derived from the JtW data.

The above variables were chosen as they were considered to indicate the potential of an area to be included as a GTD. Each variable was assigned a weighting factor depending on its significance.

The values for each variable were normalised across the candidates so that each was assigned a score between 0 and 1 which was proportional to its original value.

Using these scores and factors a weighted average score was calculated for each candidate. The averages were then ranked and the top 10 were selected (In addition to the City Centre). The Advanced Manufacturing Hub was retained in select list as an economic zone with significant future potential.

Plans to illustrate and support the GTD selection are included in Appendix A.



## 4 Presenting the Green Travel Districts

The GTDs identified are as follows:

- City Centre;
- JLR including Castle Vale and The Fort;
- Life Sciences including Selly Oak district centre;
- Perry Barr including Witton Food Hub and the Advanced Manufacturing Hub;
- Small Heath and Bordesley Green retail area;
- Soho Road retail area;
- ITEC Park including Longbridge Town Centre;
- Tyseley Environmental District;
- Kings Heath and High Street;
- Northfield Town Centre; and
- Sutton Coldfield Town Centre.

An overview of the broad locations of the GTDs is included below.

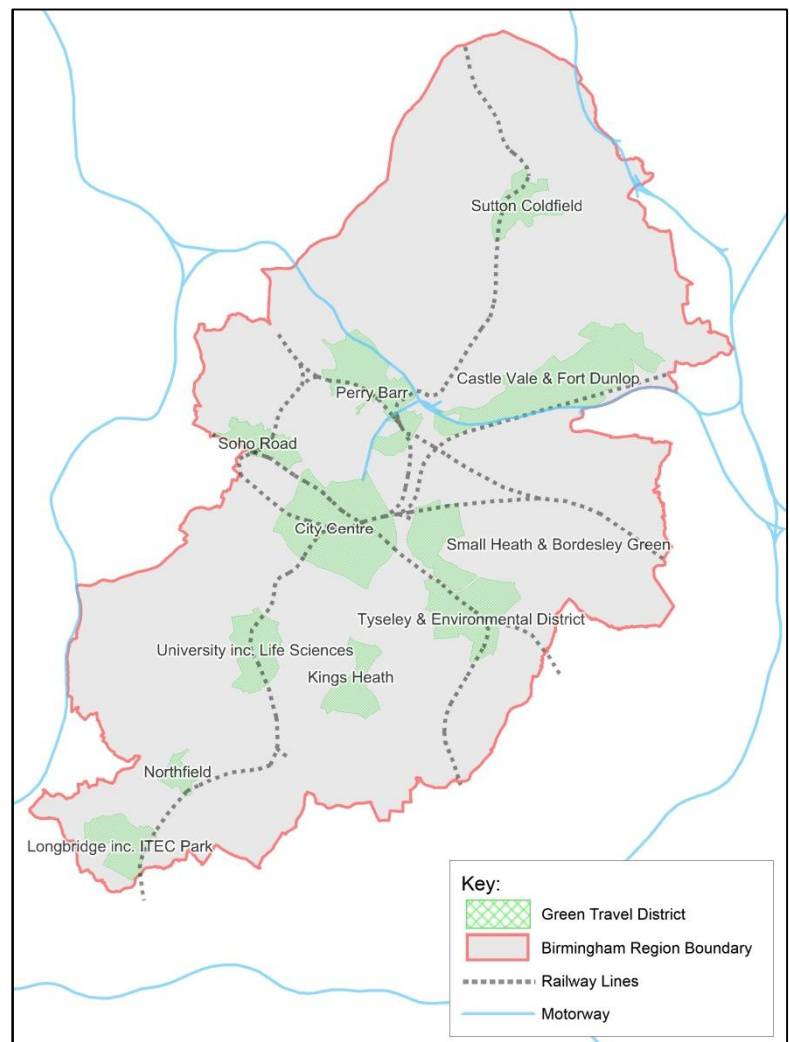
It is recognised that there are other areas that could qualify for GTD status now or in the future. These 'second tier zones' such as Peddimore, Langley, Heartlands (around the hospital) and Erdington have the potential to benefit from the GTD interventions and should consider the GTD principles in the planning of any new developments or transport interchanges in these areas.

The GTD have identified core areas, which are areas of future development, retail centres or areas with a small number of dominant employers where real opportunities exist to maximise the benefits of major interventions.

A brief description of each of the GTDs (excluding the City Centre which will be considered in more detail as a separate work package) is included below.

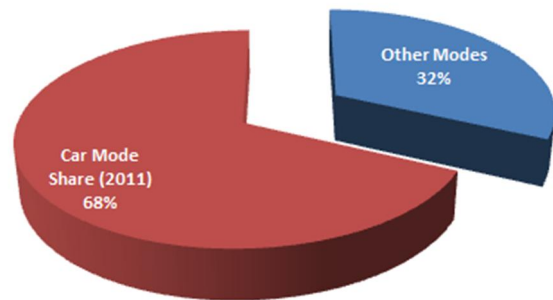
### Jaguar Land Rover (JLR) including Castle Vale and Fort Dunlop

Jaguar Land Rover (JLR) operations are currently split across five sites with three vehicle manufacturing plants, one of which is at Castle Bromwich approximately 5 miles to the east of Birmingham City Centre. JLR employs over 3000 people contributing



significantly to a large workplace population and complementing a large resident population. A large number of journeys to work trips (6,154) are made over a distance of less than 5km whilst current (2011) mode share is relatively high at 68%.

Castle Vale is a Neighbourhood Centre with a retail turnover of £144.9m per annum comprising £93m of comparison goods and £51.9m of convenience goods. It is likely that part of the comparison goods turnover attributed to 'Castle Vale' also relates to the Ravenside Retail Park.



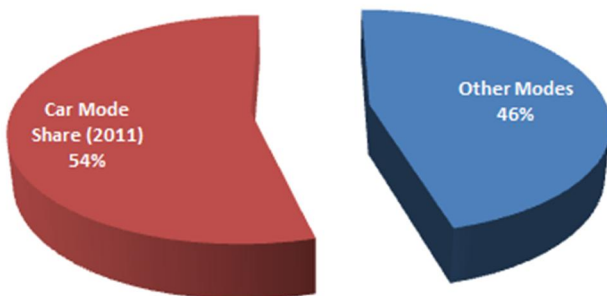
The GTD is bounded to the south and east by the Derby and the Sutton Park railway lines however there are no passenger stations within 800 metres of the GTD. Public transport services are therefore exclusively road based (bus). As the BMAP Green paper points out, this corridor forms a large proportion of the city's Core Employment areas, and Network Rail recognises there is demand for rail travel at Castle Vale. The Birmingham Eastern Fringe rail study (2014) considered the possibility of re-opening the Sutton Park Line to passenger services; however it identified some technical constraints that would need to be overcome, namely limited capacity at New Street station and the flat Castle Bromwich junction. Whilst not the case for services at Fort Dunlop or Castle Vale, stations on the line further out from Birmingham did not offer competitive journey times compared to driving because of the triangular nature of the route and hence predicted demand was not strong.

Numerous east-west transport corridors act as barriers to north-south pedestrian and cycle movement in the area, and the A4040 and A452 are the only two bridges across the Tame Valley to the residential areas to the south. The scale of employment units themselves presents significant barriers to local movement within the GTD.

### Life Sciences Campus

This zone is a strategically important location on the A38 corridor to the south-west of the City Centre and has a high number of students and a high number of Journey to Work (JtW) trips below two and five kilometres. The area includes the Queen Elizabeth Hospital and University of Birmingham, Selly Oak District Centre and adjoining residential areas.

The Life Sciences Campus is one of six strategically important geographic areas which have been identified as Economic Zones. For these a range of measures to attract investment and promote business growth are available.



The Queen Elizabeth Hospital Birmingham and the University of Birmingham in Edgbaston provide the focus for the clustering of activity associated with medical technologies. A Life Sciences Campus will enable these world renowned institutions to promote their reputation for medical technology and provide a basis for growth bringing high value jobs to the city.

The zone is served by the University and Selly Oak rail stations which are situated on the Cross-City Line with regular services between Redditch and Lichfield via

Birmingham New Street. Longer-distance services serving Bromsgrove, Hereford, Worcester, Cheltenham, Derby, Nottingham and Tamworth also make calls at University. However there are parking and travel demand pressures, with poor quality of public transport connectivity for areas lying away from the rail corridor.

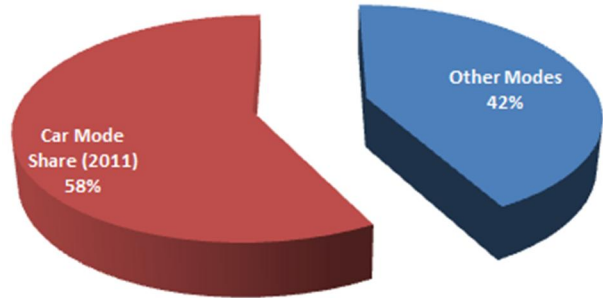
### Perry Barr including Witton, the Food Hub and the Advanced Manufacturing Hub

The Food Hub and Advanced Manufacturing hub have both been identified as Economic Zones. For these a range of measures to attract investment and promote business growth are available.

To capture interest in the city from the food industry the opportunity exists to form a cluster of food processing, manufacturing and distribution businesses as a Food Hub at the former IMI site in north Birmingham.



Perry Barr has the highest retail turnover of any of the District Centres with a total turnover of £169.2m with comparison goods accounting for almost 61% of this total. It is identified as a District Centre growth point in the Aston, Newtown and Lozells AAP, and has the potential to accommodate a significant level of retail and office development. Potential exists to diversify the commercial offer (retail and office), whilst also delivering infrastructure improvements, new community facilities and housing growth.



Perry Barr and the food Hub are served by Perry Barr and Witton rail stations on the Birmingham to Walsall line with services operating every 30 minutes Monday-Saturday daytimes and every 60 minutes evenings and Sundays.

The Advanced Manufacturing hub captures the importance of the advanced manufacturing sector to the region. Based at the Aston Regional Investment Site (RIS) it will provide opportunities for the growing automotive supply chain as well as other advanced manufacturing activity.

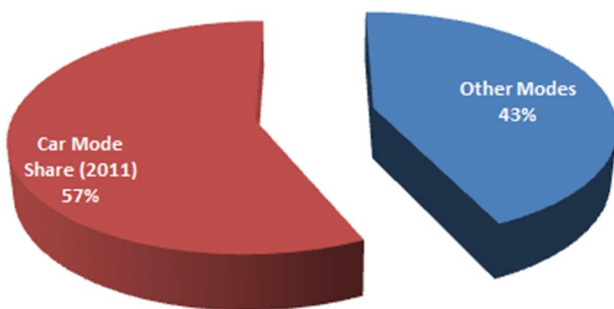
Whilst radial bus service linkages to the RIS are good, there is limited service provision in an east-west direction, with only one infrequent service linking the RIS and the residential communities of Newtown, Lozells and South Aston.

RIS is well served by Aston Station, with frequent connections to Birmingham New Street (offering significant interchange opportunities locally, regionally and nationally), Walsall and Lichfield. Similarly to bus services, it is essential that high quality, safe and secure routes are provided between the Station and the RIS to enhance the public transport offer.

### Small Heath including Bordesley Green

Small Heath is an inner-city area situated on and around the A45 (Coventry Road). The Coventry Road District Centre in Small Heath and Bordesley Green Neighbourhood Centres have a combined retail turnover of £107.6m.

The Bordesley Park Area Action Plan will guide the development and regeneration of the area to the east of the city centre, including Washwood Heath, Bordesley Green, Bordesley Village and Small Heath, over the next 18 years.



The current stage of the plan, the Preferred Options Report, was recently prepared for public consultation, which ended in October 2013. The AAP will have a strong focus on supporting a modal shift from the private car to more sustainable forms of transport and will support enhancements in walking and cycling routes. This will complement any Birmingham Connected GTD initiatives.

The proposed route for the High Speed 2 rail line, published by the Government, runs through the zone to a new rail station within the Eastside Quarter of the

City Centre. These routes impact not only on the urban environment but also on pedestrian connectivity within the area and with adjacent neighbourhoods (including across the ring road to the City Centre).

There are four rail stations in the area namely, Small Heath, Bordesley, Adderley Park and Duddeston. The projected extension of Midland Metro to Birmingham Airport would pass through this GTD on one of two potential routes: either the A45 Coventry Road corridor in the southern part of the zone or the B4128 Bordesley Green / Meadway corridor in the north.

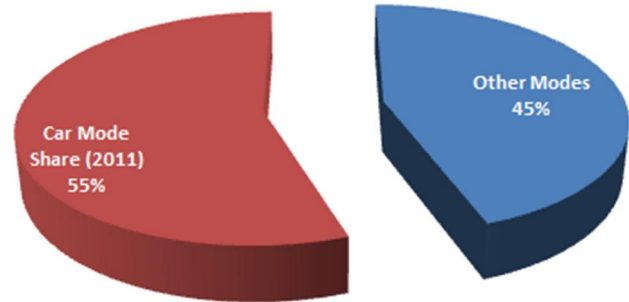
## Soho Road

The Birmingham Retail needs assessment (February 2013) identified Soho Road as a busy District Centre with retail turnover (convenience and comparison goods) of almost £21m per annum, the vast majority of retail turnover attributed to convenience goods (£14.3m). It is likely there has been an underestimate of both comparison and convenience goods spending as a result of under-recording of responses from the Black and Minority Ethnic communities (BME) community and in reality the retail turnover is likely to be much greater.

The zone is one of the most deprived and ethnically diverse areas in the city. Just over 50% of residents have no car (compared to 36% for Birmingham as a whole) and the unemployment percentage stands at 18%.

It is currently served by Midland Metro on the former Great Western Railway line with stops at Soho Benson Road and Winson Green Outer Circle. It therefore has considerable potential for acting a strategic interchange between trams and the Outer Circle bus route, which is earmarked for conversion to SPRINT in Birmingham Connected. The Birmingham to Walsall railway line passes through this GTD, crossing Midland Metro close to Winson Green Outer Circle tram stop. Policy TP40 of BDP supports the provision of a passenger rail station on the Walsall line in the Soho Road area; however its current projected location would not facilitate strategic interchange with Midland Metro.

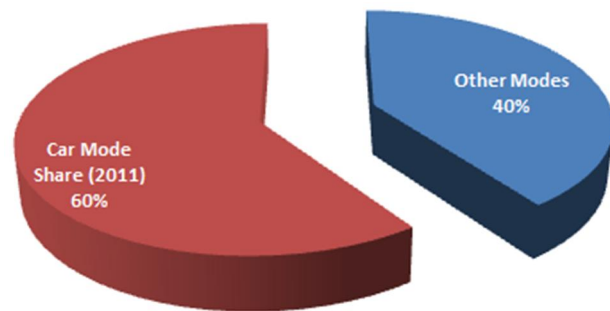
In August 2013 BCC were awarded a Department for Transport Cycle City Ambition Grant to deliver cycling improvements and allows delivery of the first phase of the Birmingham Cycle Revolution. Soho Road is one of the main corridors with cycling facilities proposed to connect Handsworth to the City Centre.



## Longbridge including ITEC Park

Longbridge is identified as an Economic Zone the intention of which is to maximise opportunities for economic growth.

Following the closure of the MG Rover plant at Longbridge the City Council, in association with Bromsgrove District Council and other stakeholders, prepared the Longbridge Area Action Plan (AAP) to secure the comprehensive regeneration of this strategically important brownfield site that straddles the City boundary. Future growth and development will be brought forward in line with the policies set out in the AAP. The AAP has planned for the following levels of growth; 1450 new homes, one Regional Investment Site (RIS), 13,500 sqm gross of comparison retail floorspace and 10,000 sqm office floorspace.



Extensive progress has been made in delivering the first phases of the RIS (Longbridge Technology Park) and key elements of the new local centre including the new college, retail hotel and offices and new urban park.

Longbridge is served by the Cross City rail line and Longbridge rail station immediately adjoins the site.

## Tyseley Environmental Enterprise District (TEED)

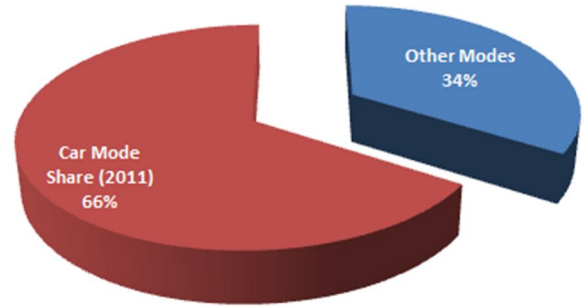
Tyseley is one of six strategically important geographic areas which have been identified as Economic Zones. For these a range of measures to attract investment and promote business growth are available.

To exploit the growth in resource recovery and low carbon technologies, Tyseley is designated as the city's Environmental Enterprise District. Proposals at Tyseley Wharf and Energy Way for new high quality business

park environments, along with property assistance programmes, will improve the range and quality of property available to business.

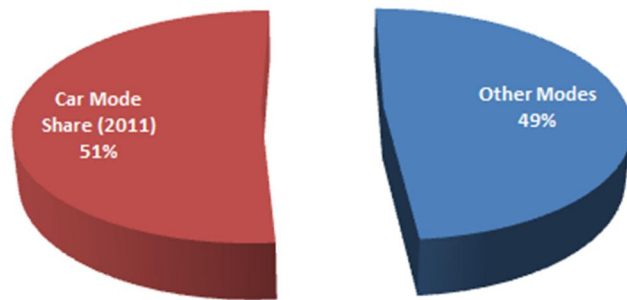
An established industrial area, Tyseley is located 2.5km south east of the city centre between the A45 Coventry Road and the A41 Warwick Road. The area benefits from good local road and public transport links. The core industrial area of Tyseley is home to over 200 companies whilst the wider area also accommodates a number of significant businesses as well as opportunities for investment and development.

Tyseley Rail Station is situated at the junction of the lines from Birmingham towards Leamington Spa and Stratford-upon-Avon, and is adjacent to a large railway depot and Tyseley Locomotive Works. Mondays to Saturdays, daytime service is generally two trains per hour outside of peak times.



**Kings Heath**

Kings Heath is on the A435, just a 5 miles south of Birmingham City Centre. The nearest train station is Bournville, either a 15 minute walk or 5 minute bus journey away. It is served by a number of bus services including 11A and 11C, 27, 35, 50, 69, 76, 177, 178 and 841.



The A435 through Moseley and Kings Heath is particularly congested and as such the opportunity exists for rail and/or other sustainable travel initiatives to provide some relief to this road congestion.

Kings Heath is a bustling district centre with a turnover of circa £151m per annum (convenience and comparison goods) with high street name retail establishments and a diverse selection of independent outlets. It is also a Business Improvement District (BID) administered by the Kings Heath Centre Partnership (KHCP).

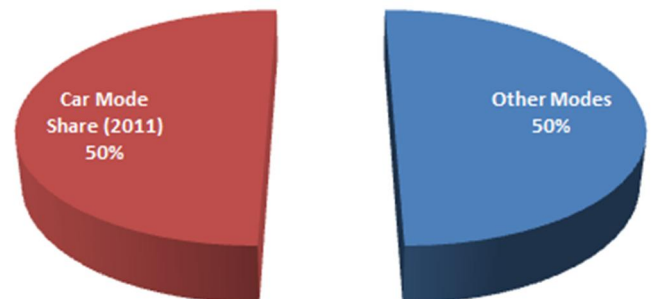
There is considerable interest in the local area on improving walking and cycling connectivity to and within the retail core. Kings Heath is currently playing host to a Sustrans “DIY Streets” project where local businesses and residents are working with other stakeholders to address transport severance and public realm issues locally.

**Northfield**

Northfield is one of the key district centres in Birmingham with a combined convenience and comparison goods turnover of almost £142m per annum split broadly evenly between convenience and comparison goods.

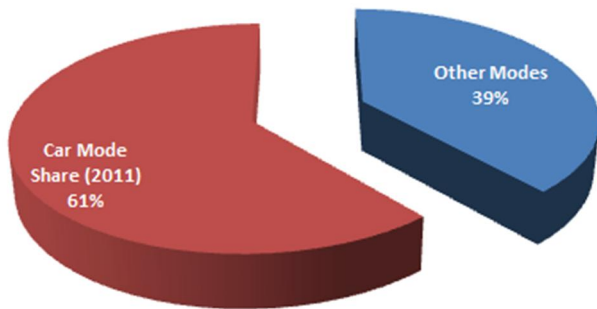
It is located to the southwest Birmingham and is well-served by buses, including services 18, 19, 27, 29, 49, 61, 63 and 144, while Northfield train station is a 15 minute walk from the retail centre. Northfield train station is on the Cross City line.

Northfield is one of 12 Business Improvement Districts (BIDs) in Birmingham whereby the local business community works together to deliver additional projects and services that improve the business environment and the experiences of visitors.



## Sutton Coldfield

Sutton Coldfield Town Centre is located to the north of Birmingham and is the largest suburban town centre in the City. It is located about 8 miles (13 km) northeast of Birmingham City Centre and extends from the High St (A5127) in the north to Birmingham Road to the south, incorporating the train station and Town Hall to the northwest and bounded by Victoria Road and Queen Street to the east and the rail line to the west. The area has been identified in the Birmingham Development Plan (BDP) as an area for growth with significant redevelopment and diversification of the town centre needed to improve the current limited retail and leisure offer.



Sutton Coldfield Town Centre BID was approved in October 2011 and a company was formed to run the BID for a five-year period from 1 January 2012. It has a retail turnover of £201m per annum.

Sutton Coldfield has a railway station located on the Cross City line with services operating every 10 minutes Monday to Saturday, and every 30 minutes on Sundays.

Sustrans is partnering Birmingham City Council on the delivery of Bike North Birmingham (BNB). This project aims to get more people cycling more often. The £6.4m project is funded by Birmingham City Council, the Big Lottery Fund, and £4.1m from the Local Sustainable Transport Fund. BNB is to be delivered in partnership with Centro, London Midland, Sustrans and Be Active. The project includes cycle network improvements, travel to school initiatives, community biking, and travel information and marketing.

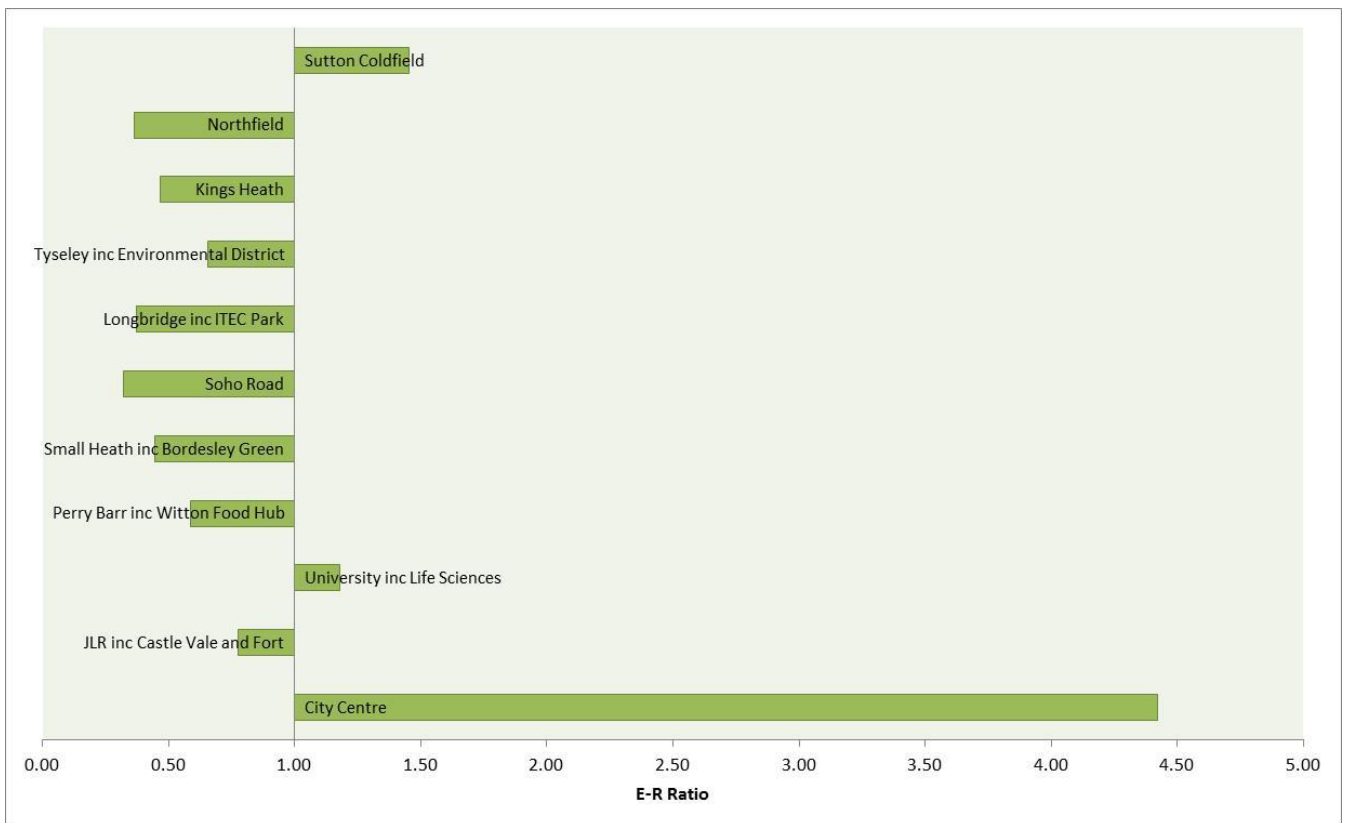
## 4.1 GTD Key Characteristics

A matrix of the key GTD characteristics is provided in this section (A description of the characteristics is provided below)

- **Total retail turnover (£m per annum)** - including comparison and convenience goods as derived from the Birmingham Retail needs Assessment (2013)
- **JtW Trips <2km** – The number of Journey to Work trips by the resident population of an area of less than 2km as derived from the 2011 census
- **JtW Trips <5km** – The number of Journey to Work trips by the resident population of an area of less than 5km as derived from the 2011 census
- **Resident Population** - The resident population of the area
- **Economically Active population** - The fraction of a population that is either employed or actively seeking employment.
- **Workplace Population** - The number of people aged 16 to 74 who are in employment and whose usual place of work is in the area
- **Student Population** - The number of students as derived from the JtW data
- **Car Mode Share** – The mode share of journeys to work by car as derived from the 2011 census
- **Unemployment Percentage** – The percentage of the resident population that is not in employment as derived from the 2011 census
- **Car Ownership** – The percentage of the resident population without a car
- **The Employment-Residence (E-R) Ratio** - a measure of the total number of workers working in a place (workplace population) relative to the total number of workers living in the place (res-

ident population). E-R Ratios greater than 1.00 occur when there are more workers working in the place than living there. These places can be considered as net importers of labour. For example, an E-R ratio of 1.18 at the University including Life Sciences GTD means that there are 18 percent more workers working there than living there. Values less than 1.00 indicate places that send more workers to other areas than they receive, i.e. they are net exporters of labour.

The E-R ratio is important as putting jobs close to housing permits people to work near their homes and thus reduces the need for and the distance travelled by motor vehicle. Secondly, it puts residents closer to amenities such as stores, restaurants, and other services. The more that residents travel to local employment opportunities and amenities, without resorting to the car, the more these areas can be said to be “self-contained” The graph below illustrates the E-R ratios for each of the GTDs.





GTD	Retail Turnover (£m)	JtW Trips <2km	JtW Trips <5km	Resident Population	Economically Active Population	Workplace Population	Student Population	Car Mode Share	Car Ownership (No car Percentage)	E-R Ratio
City Centre	904.6	4705	15658	26017	13980	114978	4724	37%	56%	4.42
JLR including Castle Vale and The Fort	272.3	2133	6154	30799	13989	23862	744	68%	40%	0.77
University including Life Sciences	167.1	2925	9846	19677	6800	23236	1996	54%	41%	1.18
Perry Barr including Witton Food Hub	197.4	1221	3622	19691	7500	11541	528	58%	42%	0.59
Small Heath including Bordesley Green	107.6	1290	3112	18936	6241	8409	378	57%	47%	0.44
Soho Road	20.9	1151	2229	18567	7710	5928	263	55%	51%	0.32
Longbridge including ITEC Park	0	1206	1984	16744	8366	6272	221	60%	30%	0.37
Tyseley including Environmental District	7.8	1024	3102	14495	5913	9515	154	66%	41%	0.66
Kings Heath	150.6	821	2061	9423	5161	4412	241	51%	28%	0.47
Northfield	141.9	871	1871	9703	4779	3542	206	50%	27%	0.37
Sutton Coldfield	201	788	2754	4816	2681	6991	423	61%	23%	1.45
Advanced Manufacturing Hub	0	116	510	4454	1588	5403	169	61%	51%	1.21

## 5 Research and Stakeholder Engagement

It is recognised that in identifying the most effective measures it can be extremely valuable to learn from the experience of those who have already implemented measures which are being considered for the local context. This avoids “re-inventing the wheel” and making costly mistakes that others may already have learnt from.

As such, whilst not underestimating the importance of local stakeholder engagement, this stage of stakeholder consultation has focussed on strategic advisors i.e. those that can help to inform the toolkit.

### 5.1 Research

Green Travel District is a terminology that has never before been defined, but its themes are not necessarily new. Put simply, Green Travel Districts are to mimic the performance of locations where accessibility by non-car modes of transport is high and well-used. In general, UK city centres perform relatively well in this regard because they are located at the traditional focus of rail and bus networks. However, the rise in car use has led to the planning of developments to favour the car and making use of cheap land previously inaccessible. However, in recent years urban living has undergone a renaissance with Birmingham’s population closing in on its record 1951 peak of 1.113 million (2013 estimate 1.092 million).

The pre-determined selection of all the city’s economic zones as being Green Travel Districts is understandable given they do and will attract a large proportion of the city’s travel activity. Green Travel Districts will therefore be required to support the overall transport interventions planned for the city in Birmingham Connected, for example SPRINT.

Birmingham Connected is rightly ambitious. To gain an insight into the best possible outcomes it can achieve, a preliminary evaluation of Birmingham’s international partner cities was undertaken to determine what best practice could be included in the Green Travel Districts. International partner cities were chosen initially because interventions there may have somewhat more resonance if councillors and other key stakeholders already have a relationship with them.

A schedule of the key facts and best practice from partner cities is attached as Appendix B.

Interesting synergies were found in some of Birmingham’s partner cities:

- **Guangzhou** has the world’s second-largest BRT system, which Birmingham is emulating through the proposed SPRINT network.
- **Milan** is Italy’s second city and an automotive manufacturing centre (Alfa Romeo, Pirelli), mirroring JLR and Dunlop in Birmingham. Its strong association with motoring – which is true of Italy as a whole and indeed the UK – is similar to Birmingham’s identification as “Britain’s Detroit” and there is a strong ‘car culture’ in the city. However, Milan has a more extensive public transport offering, with car clubs and a comprehensive network of Underground rail, commuter rail, and street tramways.
- **Lyon** lies at the end of the country’s first-ever High Speed rail line, as will be the case with Birmingham and the first phase of HS2. Its main airport is also a High Speed rail station, where through High Speed trains from Paris call en-route to Marseille (in much the same way HS2 trains from London to Leeds and Manchester would call at “Birmingham Junction” station and not Curzon Street). Lyon’s Metro was inaugurated in 1978 (analogous to opening of the consolidated Cross-City Line in the same year, which can be regarded as a ‘metro-rail’ service) and its second-generation tramway began service in 2000 (Midland Metro was 1998). Lyon

has continued to expand its second-generation tram network, in line with the rest of the country. Development of second-generation tramways in the UK is generally less fast-paced than in France, although Birmingham is one of only a few cities in the UK to be doing so.

- **Frankfurt**, like Milan and Lyon, is similar in population to Birmingham. Its central position in Germany, and indeed Europe, makes it a road, rail and air traffic hub – much in the same way that Birmingham makes up part of the “golden triangle” of UK logistics, leading to the popularity of East Midlands and increasingly Birmingham International airport for air freight. (Cargo tonnage through BHX rose 36% between mid-2012 and mid-2013.) Like Birmingham, Frankfurt’s strategic location means it is an ideal location for trade fairs: Frankfurt’s exhibition centre is, at 578,000 sqm, over three times larger than the NEC. The city’s strategic location also gives Frankfurt the busiest rail station in Germany by traffic movements, and the third busiest by passenger volume, similar to New Street being the UK’s busiest station outside London.

Looking at Birmingham’s partner cities was very much a first port of call, to capitalise on any existing synergies and civic relationships. Looking wider, attention was also given to the findings of a 2013 WSP case study, undertaken as part of the development of Birmingham Connected, which looked at the transport environment in 8 cities ranking highly on the SIEMENS Green City index. Lyon and Chicago, two of Birmingham’s international partner cities, were featured in that report. Wider research still was also undertaken, based on existing knowledge and available guidance, to focus on specific projects that could usefully inform the determination of Green Travel District initiatives. This considered, for example, best practice guides published by:

- European Mobility Week
- Urban ITS Expert Group
- European Commission (promoters of the SUMP concept on which Birmingham Connected is based)

## 5.2 Stakeholder Engagement

Following the research process, and a wider review of local sustainable transport initiatives beyond just partner cities, engagement was undertaken with key players who can provide insight and advice on the basis of their experience in successful and noted sustainable transport interventions:

- Birmingham City Council – Low Emissions Towns & Cities Programme
- Centro – Swift Smartcard
- City of Frankfurt – Nordend Local Mobility pilot
- Highways Agency – Influencing Travel Behaviour
- London Borough of Barking & Dagenham – Barking Town Centre Low Carbon Zone
- London Borough of Hackney
- London Borough of Sutton – Smarter Travel Sutton
- Sustrans – DIY Streets Kings Heath
- Three Towns Travel
- Transport Systems Catapult
- University of Aberdeen – SEGMENT programme

## Birmingham City Council

The entire extent of Birmingham makes up the Birmingham Air Quality Management Area (AQMA). AQMAs are declared by local councils when air quality falls below a target threshold, as part of EU legislation on air quality monitoring and improvement targets. Within the UK, the West Midlands has the most extensive non-compliance of NO<sub>2</sub> concentration limits outside London. The EU has initiated legal proceedings against the UK for extensive breaches of the EU air quality directive.

The seven West Midlands metropolitan councils have formed the Low Emissions Towns & Cities Partnership, and obtained funding from DEFRA to undertake a technical feasibility study into implementing Low Emission Zones in the West Midlands. London already has a statutory Low Emission Zone although this is a blanket area approximately described by the Greater London Authority boundary which is more or less also analogous with the M25 orbital motorway. However there is not necessarily an equally convenient cordon to cast around the Birmingham conurbation. Furthermore, of the seven metropolitan boroughs in the West Midlands, Solihull currently does not have any AQMAs. The other six authorities are entirely covered by borough-wide AQMAs.

The technical feasibility thus looked at four test scenarios for LEZs:

- City centre
- Arterial route or corridor between two urban areas
- Congested urban street canyon
- Motorway

The two scenarios understood to have the greatest potential for intervention are City Centres and Motorways, because they can be easily isolated. To some extent, congested urban street canyons could be converted into a variant of a city centre scenario if a suitable cordon can be created.

With active traffic management being rolled out across large swathes of the Birmingham motorway box, there is already the ability to influence air quality by means of variable speed limits. However, the recent decision to abandon a proposed air quality related speed limit reduction on the M1 in the East Midlands casts doubt on how deliverable a motorway LEZ would be. Significant opportunity exists in the West Midlands to relieve poor air quality in Birmingham and the Black Country by diverting traffic away from it by making better use of the M6 Toll motorway, which runs through an area that is much less built-up than the conventional M6. However, legal constraints mean this would not be possible until at least 2054, the first opportunity when the Government can review the concession let to the motorway operators.

Green Travel Districts are considerably complementary to the aims of WMLETCP as they could incentivise procurement of greener vehicle fleets, stimulate uptake of low-emission vehicles, and promote the application of freight consolidation.

## Centro

The success of the Oyster card in London, itself based on Octopus from Hong Kong, has raised expectations in terms of transport ticketing in the UK. Oyster acceptance now extends beyond the boundaries of the statutory Transport for London area, and will reach out as far west as Reading when Crossrail arrives. Transport for London has recently incorporated the use of bank-issued Contactless payment cards into its fares system, and is seeking to ultimately phase out Oyster in favour of Contactless payments to reduce administration costs.

In the West Midlands, Centro are currently rolling out the Swift smartcard, which is already in use for pay as you go and season tickets on bus services. Swift is distinct and separate from London Midland's Key smartcard which is in use on the Worcester-Birmingham-Stratford line and which was rolled out as part of a franchise commitment. Centro report that London Midland would be happy to deprecate the Key in the West Midlands in favour of a more widespread application of Swift. Southern Railway – part of the Go-Ahead group that also operates London Midland – has recently integrated its application of the Key to include Oyster products.

Centro recently convened a workshop event aimed at setting a future vision for intelligent mobility. Thus Swift is not simply a standalone solution, but is viewed as a part of a wider integrated application of intelligent mobility, which has enormous potential to influence and promote more sustainable transport behaviour. The very open-minded approach to intelligent mobility, called “the New Journey”, encompasses initiatives that have been encountered in the best practice research, namely:

- Single payment solution across all modes
- Loyalty reward points for sustainable travel behaviour

The recently-opened cycle hub at Selly Oak and the barrier-controlled Longbridge Park & Ride are viewed by Centro as candidates for application of Swift in terms of access control. Longbridge is the first Centro P&R site where use of the car park is physically restricted to rail ticket holders, and currently uses an optical ticket reader.

Centro’s integrated approach to intelligent mobility has its sights on tying smart ticketing with real time travel information so that users’ typical journeys are known to the system and alerts are thus “pushed” to their device in the event of delays, with alternative journey possibilities being presented to the traveller. This also has the potential to automate ticket acceptance procedures with other operators or routes during times of disruption. Smartcard ticketing paves the way for zonal fares on the rail network and price-capping. In the context of Green Travel Districts this gives the opportunity for Green Travel Districts and Birmingham Connected to influence potential zoning of the transport system which optimise the effectiveness of GTDs. For example, the Dutch national public transport zonal system is not made up of concentric zones around cities, but smaller localised zones akin to postcodes. A user can purchase a season ticket for a single zone, or concentric rings around their zone up to five zones deep.

The aspirational devolution of the railways would also be a big opportunity to expand the remit of Swift and smarter ticketing as travel behaviour is rarely confined to a single geographical area or transport operator. Centro already administers the smartcard transactions for concessionary travel on buses in the West Midlands region shire counties, so infrastructure is already in place for cross-border working.

## City of Frankfurt

Of the many impressive sustainable transport credentials that were listed on the city’s application to be granted status of 2014 European Green Capital was the pilot “Local Mobility” project in the district of Nordend. This programme built on the already established principle that foot traffic is of high importance in the Frankfurt transport plan. That led to the concept of strengthening principles and standards at the district level. To that end, the local district council of Nordend (North End) was commissioned by the city authority to vigorously promote pedestrian traffic and to understand transferable measures and recommendations for inner-city areas. Nordend was selected on the following basis:

- It includes areas of high-density 19<sup>th</sup> Century apartment buildings directly adjacent to the city centre
- It is characterised by a high degree of urbanity
- It has a lack of space for public roads
- It is prototypical of a “district of short distances”
- It has a diverse retail offer
- It has a great civic tradition as a renowned residential, educational and gastronomic quarter
- It has an active neighbourhood life

Nordend is characterised by its dense public transport facilities (subway, tram and bus), limited parking spaces, effective traffic-calming and neighbourhood-based cycling policies, thus representing optimal conditions for car-independent mobility. Nevertheless, street parking dominates the public realm and there are no area-wide parking controls. Main roads with high volumes of traffic present severance within the neighbourhood.



The Local Mobility project focused on the following intervention themes:

- Barrier-free design - independent mobility for all
- Creating space - comfortable room for foot traffic
- Crossings - easy and safe crossing of roads
- Street life - regain public space as a place for activity
- Environment - create attractive spaces
- Promote acceptance - raising awareness of active travel

Local businesses, along with local residents, were actively encouraged to take up the opportunity to redesign public spaces to increase their amenity value. As part of the creation of “seating routes”, local retailers have adopted newly-installed benches. Frankfurt’s Department for Economic Development was consulted as part of the project. Feedback has generally been positive.

Specific interest groups were involved in the programme, such as the Frankfurt Initiative for the Elderly, the Child Protection Board, and so on. Although understandably some stakeholders feared or questioned the need for change, their intense involvement in the process led to these views having developed positively.

An approach of going beyond official and department boundaries was adopted, providing broad public participation. A discursive process led to support and understanding within the city and district authorities, and made the project politically desirable. The success of the project fostered an active travel department with a desire for change. The harmonious involvement and local politicians and cooperation with the administration contributed to the success. The level of funding from federal and city government was good.

The neighbouring district of Bornheim had also shown in interest in carrying out a Local Mobility pilot project. This area has similar characteristics to Nordend. Nordend was chosen in order to develop transferable measures and recommendations, and there is political consensus to now apply these experiences in other parts of the city. The focus is on simple, inexpensive but effective measures such as pedestrian crossings, footway build-outs, street bookcases (for community book-sharing), seating, and cycle stands.

Since last year, a new mobility strategy for Frankfurt is being developed. Future challenges are identified on strategic objectives and will present actions for “city-friendly” and sustainable mobility. The theme of local mobility will be part of the holistic approach, with other topics including public transport, cycling and walking, multimodality, business mobility and freight.

## Highways Agency

The HA until recently had a dedicated Influencing Travel Behaviour programme, which was axed in the early round of spending cuts when the current national government came into office. It demonstrated reduced journey times of around 5-6% on the local network by proactive working with local authorities and employers to produce voluntary area travel plans. In some locations, BCRs of up to 13:1 were achieved, and for considerably lower initial capital investment than conventional highway capacity mitigation.

The concepts and outcomes of ITB have been assumed into the wider HA function, although less proactively now that it is not a dedicated team. Instead, projects are incepted through Sc106 agreement with the co-operation of local authorities as the Secretary of State is not mandated to collect Sc106 payments. The HA strongly encourages developers to consider ITB-type interventions rather than highway improvements.

The possibility of route strategies may lead to a resurrection of ITB programmes as a means of making the best use of existing resources.

## London Borough of Barking & Dagenham

Barking Town Centre Low Carbon Zone (LCZ) was one of 10 LCZs funded by the Greater London Authority in 2009 with a target of a 20.12% reduction in CO2 emissions by the year 2012.

Barking was the only LCZ to include any sustainable transport measures; specifically it ran a competition to give away 22 car club memberships (out of 520 residential addresses). It also provided home-grow kits to reduce residents' spending on fruit and vegetables, which can in turn have a positive effect on food logistics. A "Green Homes Guide" was published as part of the LCZ to promote the many ways local residents could reduce their carbon footprint. This included a section on transport, which gave advice on:

- Reducing car travel to save money and improve health
- Car sharing and car clubs
- Smarter driving
- Taking local holidays and using surface-travel for foreign holidays instead of flying
- Public transport, including publicising the new East London Transit mini-BRT system, which opened in 2010.
- Walking and cycling, including cycle map and information about local cycling clubs

### London Borough of Hackney

Hackney is renowned as a "cycling borough" with the highest proportion of residents in London who cycle to work (15.4% of trips) and a cycling mode share of between 5 and 8 percent for all types of journeys.

The council does not currently engage in a great deal of marketing of cycling, although it does heavily promote its cycle training. Publicity is generally only via the authority's freesheet newspaper distributed around the borough. However, Transport for London does have an overarching city-wide transport marketing programme, which includes the promotion cycling and road safety messages.

The borough's policy is not to promote segregated cycling facilities, but instead to promote "cycle permeability" – where cyclists can take direct routes across residential areas not available to motor traffic – and encouraging cycling in primary position or in bus lanes on major roads.

Hackney has a very active local cycle campaign group, who have drawn up a list of sites and junctions for the council to target with interventions beneficial to cyclists. There is a good level of cooperation, agreement and understanding between this campaign group and Living Streets, who generally seek to represent the views and needs of pedestrians and the benefit of the wider public realm. There has been a small amount of conflict with groups representing people with disabilities because of the council's policy of providing cycle parking on the footway and of permitting cycling through parks. However, these groups are more supportive of cycle parking being provided on carriageway, in the place of motor vehicle parking capacity. Such locations are pursued on the basis of local requests, and this helps overcome objection as there is generally more demand for cycle parking than car parking.

The council also proactively engages with social landlords to identify locations where estate cycle parking can be provided, which is generally well-received because of the shortage of space within residents' home for the storage of bicycles. This also overcomes the obstruction of communal passageways, which can present issues to the elderly and less mobile. However, the council has not yet targeted the removal of estate car parking for the express purpose of providing cycle parking: generally cycle parking has made use of other space within estates. Some estate managers are more proactive than others.

Hackney has undertaken some MOSAIC analysis to determine how to grow cycling in cohorts that are generally less represented in cycling demographics. These are the economically hard-pressed and families. The hard-pressed are an important "market" to reach as they do not have much income, which is a barrier to car use, and their reliance on public transport may be a financial drain or a limit on their work or social opportunities. To assist, the council has developed a cycle loan scheme to remove the main financial barrier to cycling uptake.

## London Borough of Sutton

Sutton council in London gained acclaim for its “Smarter Travel Sutton” programme between 2007 and 2010. This pilot initiative was funded by Transport for London with £5m over that period. That is significantly more than a borough’s typical travel awareness budget of tens of thousands per year.

The project was able to grow cycling use by 75% over that time, but from a low base this is still a low mode share in an outer London environment that is heavily car-oriented and car-reliant.

Whilst it is not surprising this level of investment couldn’t be sustained, a small core of the STS programme has been “mainstreamed” into the council’s business in that the formal role of Cycle Trainer and School Travel Officer continue with a higher profile. These functions had previously been undertaken on an ad hoc basis. Other than that, however, there has not been a lasting change of policy.

STS had been guided by the “diffusion of innovation” principle, which seeks to spread change by ‘creating the conditions for early adopters to thrive’. This informed some pedestrian-friendly improvements to Wallington town centre, although this was only part of a wider, comprehensive town centre scheme. Other than developing cycle routes across parks and open spaces, Sutton doesn’t have a policy of ‘creating the conditions’ by making infrastructure changes.

## Sustrans

Sustrans promotes the concept of “DIY Streets” across the UK, with many projects planned, under way or completed. The first-ever such scheme in Birmingham is being undertaken in Kings Heath. The project commenced in October 2013, with an official launch event in spring 2014 once local people had become aware of the initiative.

The intention of the scheme is to improve local walking and cycling conditions, to realise some of the aims of BCC’s road safety strategy, and also meet the aspirations of the BID. However the DIY Streets approach differs to normal council practice in that local stakeholders are engaged at a much earlier stage in the shaping of proposals. This has the effect of giving a greater local sense of ownership.

Early engagement raised numerous local concerns about the street environment, but it was clear the High Street was a central theme across the board. Local schools are supportive as the High Street is on many children’s route to school.

There is already a reasonably high level of walking and cycling in Kings Heath, however local people regard the High Street as being a barrier to movement. Also, because it is on a key link from the Motorway network to central Birmingham, through movements by HGV are very high – 3000 per 12 hour period recorded on a single Thursday in March. On-street interview studies were undertaken to give a statistical baseline, which will be reviewed by the council after implementation.

Having established the key themes to be addressed, further engagement was undertaken to develop a set of proposals. Local people have been encouraged to think about how the High Street is a destination rather than simply a transport corridor. This resonates well with the general perception that cars are given too much priority in the streetscape.

The proposals tie-in with BCR inasmuch as the “destinationifying” of the street creates conditions that are more conducive for cycling – segregation would not be appropriate where a scheme is trying to get away from the concept of ploughing transport corridors through economic and social centres. The proposals address the perception that the town centre lacks a gateway feature – and Kings Heath is also one of the council’s pilot 20mph limit areas (without traffic calming).

The concepts of the scheme are essentially set by the local context, however similar DIY Streets schemes have synergy with this one, such as Normanton Road, Derby and Rye Lane, Peckham.

## Three Towns Travel

Three Towns Travel (TTT) is a new initiative jointly promoted by the three local authorities in the South East Dorset conurbation (Poole, Bournemouth, Christchurch). It aims to address the urban area's future transport and growth needs in a sustainable manner by promoting a shift to more space-efficient modes of travel. A lot of the local travel movement is along or within a corridor aligned with the coastline, the A35 road and the London-Weymouth railway, which serves stations in and between each major centre of the conurbation.

The authorities themselves are proposing infrastructure improvements to provide better facilities for walking, cycling and public transport.

As part of TTT, a business travel network has been set up which local employers are encouraged to join. The network negotiates discounts with bus operators and cycle shops, promotes an accreditation scheme for companies to show off their sustainability credentials, and provide advice and support on:

- Setting up cycle-to-work schemes
- Car sharing
- Social networking
- Business Travel Grant
- Mobility mentoring (led walks / led rides)

As a new concern only just established, it is aiming to attract 50 member organisations in 8 months.

The business travel network is run by consultants ITP on behalf of the three authorities. ITP have pointed to other similar business travel networks, such as:

- Big Herts, Big Ideas – Watford / St. Albans / Hemel Hempstead
- Derby Connected
- Lowestoft Local Links
- Maylands on the Move – Maylands Industrial Estate, Hemel Hempstead
- SmartGo Leicester
- SmartGo Milton Keynes
- SmartGo Stevenage

The TTT concept of integrating infrastructure strategy with a marketing plan is akin to Central Bedfordshire's "Smarter Routes to Employment" which dovetails infrastructure promotion and sustainable travel monitoring, the latter being very high on the agenda in the work programme. This has entailed partnership working with other authorities, namely in the development of the Luton-Dunstable busway. This is key to improving sustainable access to jobs from Central Bedfordshire as it provides a strategic link to the regional centre of Luton, including directly connecting to its railway stations and international airport.

The SmartGo concept of applying the same branding to different smarter travel initiatives is matched by the eastiNETWORK which operates across a number of towns and employment areas in the South and South East of England.

## Transport Systems Catapult

TSC in Milton Keynes are developing the concept of Low Carbon Urban Transport Zones (LUTZ). This is heavily focused on technological interventions, and a proto-type autonomous electric vehicle is being developed for the end of this year.

Another concept under the LUTZ umbrella is ‘cloud-enabled mobility’ whereby transport providers provide open-access data that can be the basis of smartphone apps. This has been demonstrated in practice with Transport for London’s API (application programming interface) for its real-time information and journey planning data. This has led to a swathe of apps competing against each other to provide customer information. The development costs of apps are borne by the market and not transport providers, whose core function also does not necessarily lend it well to reacting to technological trends in the same way a nimble small tech startup could.

## **University of Aberdeen – SEGMENT programme**

SEGMENT was an EU programme which looked at attitudes and transport choices with the aim of characterising user “market segments”. These segments can then be targeted for tailored marketing which helps ensure these users are being made aware of sustainable transport choices that are appropriate to them.

The SEGMENT tool is useful in that it is not only a marketing method, but a means of capturing useful information by asking 18 questions. The 8 segments differ from the DfT’s user groups in Climate Change and Transport in that they are attitude-based, which is less likely to change over time, whereas DfT’s were more in line with circumstances, and significant events like starting a family would mean a user or household is re-categorised.

“Car aspirers” are an overlooked segment generally. No UK authority has yet actively sought to implement planning measures to specifically target car aspirers with the aim of disincentivising car ownership. However, the city of Utrecht has done a lot of work in this regard, and they have continued to invest in the SEGMENT principle.



# 6 GTD Toolkit

## 6.1 Introduction

The GTD toolkit is a comprehensive package of interventions to contribute to achieving the vision, objectives and targets of the GTDs most notably to achieve and sustain ambitious targets for single occupancy vehicle use. An intervention is a specific measure which is capable of being implemented in its own right, but which in reality would be put in place as part of a wider strategy which draws on other complementary measures.

Interventions can be split into two categories; those that are major (e.g. City Wide cycle hire schemes) and those that are minor (e.g. very specific tools that would form part of a wider strategy such as walk buddy scheme, information leaflets). For the purpose of the GTD toolkit and the focus of future investment decisions, the 'major' interventions will take the precedence, as many of the 'minor' measures will rely on related major interventions being put in place.


“The development of effective packages of measures is at the core of sustainable urban mobility planning. Only well-selected measures will ensure that the defined objectives and targets are met. The selection of measures should build on discussion with key stakeholders, consider experience from other places with similar policies, ensure value for money and exploit as much as possible synergies between measures.”


Source: Guidelines for Developing and implementing a sustainable urban mobility plan

A set of options needs to be identified that are realistically achievable recognising the long term nature of the Birmingham Connected objectives. The first step is about gaining an overview of possible measures (the toolkit). Measures should be considered in “packages” rather than in isolation so as to take into account potential synergies.

The interventions can be broadly classified as follows:

- 

**Soft**  
Covering behaviour-based, promotion, information, publicity and other similar interventions. These are normally associated with smarter choices-style approaches, but practically every intervention theme will have a ‘softer’ dimension needed to support it
- 

**Policy**  
Covering spatial planning, transport policy, guidance and other governance tools
- 

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

**Technology**  
covering all forms of technological intervention including road user charging, electric vehicles, TDM methods, access controls, wide area UTMC, passenger information, interactive websites etc

Not all measures identified will be appropriate for every GTD, so initiatives and targets tailored to each GTD will be required. These will reflect:

- Location
- Land use
- Public transport offering (existing and proposed)
- Existing transport network and infrastructure capacity
- Demographics
- Socio-economic trends

Nevertheless, there are some interventions that would be appropriate for city-wide implementation, including in areas outside GTDs.

We have undertaken a high level qualitative scoring assessment of each of the interventions against the following criteria:

- Alignment with the Birmingham Connected goals;
- Scalability
- Potential impact of modal shift; and
- Affordability.

This will incorporate the broad Birmingham Connected goals, which are presented in the Green Paper. These are:

- **Equitable** Birmingham – Birmingham Connected will facilitate a 21st Century transport system; linking communities together and improving access to jobs and services.
- **Efficient** Birmingham – Birmingham Connected will help to facilitate the city’s growth agenda by moving people and goods in the most efficient and sustainable way possible; strengthening our economy and boosting jobs.
- **Sustainable** Birmingham – Birmingham Connected will reduce the impacts of greenhouse gas emissions and energy consumption from transport, as well as ensuring the most sustainable use of city resources.
- **Healthy** Birmingham – Birmingham Connected will contribute to a general raising of health standards across the city through the promotion of walking and cycling, the reduction of air pollution, and improved safety for all users.
- **Attractive** Birmingham – Birmingham Connected will contribute to enhancing the attractiveness and quality of the urban environment: in local centres, key transport corridors and the city centre.

## 6.2 The Key GTD Interventions

The toolkit in Microsoft excel that accompanies this document provides a list of a broad range of interventions categorised and segregated by GTD. A list of all interventions is tabulated in Appendix C. Some of the key interventions to achieve the objectives of the GTDs are presented below with further detail and clarification as necessary.



### One Card

Single payment method across all transport options, including public transport, cycle hire, parking, electric charging, and fuel



### Birmingham Bike

A cycle hire scheme for Birmingham



### Green Travel Taskforce

Overview team that will bring management and governance to the delivery of GTD's and their initiatives



### Super Hubs

Sustainable transport interchange hubs within each GTD



### Limited Parking Zones

Dissuades commuter parking and ultimately relieves kerb-side capacity allowing space for smarter choice measures



### One Card Credit

A mobility credit system that rewards people for sustainable travel behaviour



### SUIT Shop

Sustainable Urban Initiatives for Travel - tailored journey planning to meet individuals needs



### Park and Ride, Park and Pedal and Micro P&R

P&R on the edge of GTDs. Park and Pedal e.g. ability to park and make onward cycle trip and/or cycle to the P&R and use secure cycle parking.



### SEGMENT

Influencing attitudes and transport choices through market segmentation



### Road Hierarchy Adjustment

Aggressive use of Manual for Streets user hierarchy to make streets more pedestrian and cycle friendly



### Public Transport Oriented Development

Plan for Public Transport-oriented development densification



### Low Emission Zones (LEZ)

Using ANPR or other technology



### Birmingham information for Travel (BiT)

Mobile Application (App)



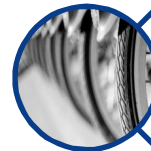
### Planning Guidance

Locally relevant Supplementary Planning Document for GTDs



### Servicing and Logistics Planning for GTDs

Including local consolidation initiatives and 'Freight Friends'



### Individual Organisation Travel Plans

Travel plans for individual organisations within the GTDs

## One Card

One Card is a Smartcard with a difference, pulling together a number of functions on one card. The card will pay for public transport but will also be valid to pay for cycle hire, car club, car parking and fuel, and can work as a corporate fuel card to make it easy for individuals and organisations to flexibly choose among a range of transport options for business and other transport needs. The card could also be extended to include leisure membership and library membership similar to the Nottingham CityCard.

A network of kiosks should be developed alongside an online portal to make it faster, easier and more cost effective to buy, collect and top up One Cards for journeys in and around the city. A monthly debit program will where the card will track actual use of services and trigger a debit from the customer's bank account at the end of the month to cover the fares should be included.

By its nature, One Card would be a city or region-wide intervention, and not simply for specific GTDs.

### **Case Study**

Bremen – A card that combines a bank card, electronic public transport ticket, and access key to car sharing.

Guangzhou - Bikes are integrated into other public transport systems through the use of a rechargeable smart card that can cover a range of payments and trips. Many cities in China already have this kind of integration. In Hangzhou and Guangzhou, for example, the card used for the local bike-share system can

## **Birmingham Bike**

The essence of cycle hire schemes is that anyone can pick up a bike in one place and return it to another, making point-to-point, human powered transportation feasible.

More than 600 cities around the globe have their own bike-share systems. In Paris, London, and Washington, D.C., highly successful systems have helped to promote cycling as a viable and valued transport option. Each city has made bike-share its own, adapting it to the local context, including the city's density, topography, weather, infrastructure, and culture. Although other cities' examples can serve as useful guides, there is no single model of bike-share.

Many of the most successful cycle hire schemes share the following characteristics:

- A dense network of stations across the coverage area, with an average spacing of 300 meters between stations
- Comfortable, commuter-style bicycles with specially designed parts and sizes that discourage theft and resale
- A fully automated locking system that allows users to check bicycles easily in or out of bike-share stations
- A wireless tracking system, such as radio-frequency identification devices (RFIDs), that locates where a bicycle is picked up and returned and identifies the user
- Real-time monitoring of station occupancy rates through wireless communications, such as general packet radio service (GPRS)
- Real-time user information through various platforms, including the web, mobile phones and/or on-site terminals
- Pricing structures that incentivize short trips helping to maximize the number of trips per bicycle per day

In order for a bike-share system to be well-used and efficient, it must be properly planned and designed. Based on the performance of existing systems across the globe, a bike share scheme should have (Source: ITDP Bike Share Guide):

- A minimum System Coverage Area of 10 km<sup>2</sup>
- A station density of 10–16 stations per km<sup>2</sup>
- 10–30 bikes for every 1,000 residents (within coverage area)
- A docks per bike ratio of 2–2.5 docking spaces for every bike
- Quick and easy electronic bicycle check-in/check-out system
- Four to eight daily uses per bike
- Average daily trips per resident of one daily trip per 20 to 40 residents



Modular/Moveable stations should be considered as these stations do not require excavation and trenching, which reduces implementation time and costs. Also, because the stations are easily movable, the system can be optimized once demand patterns reveal themselves through usage. They can also be removed during winter months if this is deemed appropriate.

Birmingham Bike could be applied city-wide but it may only be appropriate to implement it in certain areas initially, and these would be areas with a significant volume of internal movement.

**Case Study**

Lyon – Achieved a 44% increase in cycling within the first year of opening Velo’v, its bike-share system

Stuttgart - implemented a bike-share system that includes electric bikes with chargers at stations and GPS location devices

Paris - The P’tit Vélib program, which is an extension of the city’s pioneering Vélib cycle hire network, launched in June 2014 with 300 bikes for children located at five green and pedestrianized spaces across the city

**Green Travel Taskforce (GTT)**

A Green Travel Taskforce will be established, which is a focussed project led part of the City Council committed to the delivery of Birmingham Connected infrastructure and initiatives. Its responsibility is to deliver projects outlined in Birmingham Connected, and provide guidance and support for Green Travel District Associations (GTDA). They will be accountable for securing and distributing funds to facilitate GTD initiatives.

For further information on GTTs and GTDAs see the governance section of this report.

**Urban Transport Interchange (UTI Hub)**

UTI Hubs are Sustainable Transport Interchanges located on street to facilitate intermodality. Intermodality is an integral part of the sustainable mobility and its enhancement is of vital importance particularly, in high congested urban areas. The weak links in the overall Intermodal passenger transport chain are considered to be the Intermodal Terminals (hubs), as often inadequate planning leads to the reduction of the level of service, thus resulting in a shift to other transport modes, mostly to private vehicles. Instead, an integrated design with emphasis on Intermodal super hubs which act as the interface between the different modes not only increases the proportion of commuters who use urban public transport but also consolidates the overall public transport system of an urban area.

Regarding the location of super hubs, it is essential they are located in central locations, retail centres or employment centres within GTDs where most of the public transport routes pass through. They should also be easily accessible by foot and bicycle. For the latter there should be secure, covered cycle parking spaces available as well as lockers.

It is envisaged that the hubs will provide a community facility and become destinations in their own right with the following characteristics:

- Pedestrian and cycle friendly infrastructure and design
- Cycle parking and lockers
- Cycle hire
- Real time information
- Comfortable and weather proof waiting areas



- Parcel collection lockers (e.g. Amazon's collection lockers at Finchley Central and Newbury Park Tube stations in London)
- Supermarket online order collection points
- A Sustainable Urban Initiatives for Travel shop (SUIT) for personalised travel planning advice
- One Card (smart card) top up and purchase booth
- A pleasant environment to meet, wait and buy and enjoy refreshments.
- A communication mechanism for the Green Travel District Associations.

The scale of interchange would vary by the type of GTD, or the space available. It may not be appropriate to introduce interchanges at all in established urban areas like King's Heath or Soho Road, but "on-street" interchanges could be developed to achieve interchange-like qualities with conventional bus stops arranged for maximum accessibility and interchange value.

### Case Study

Bremen - Mobil.punkte hubs bring together transit, cycling, carsharing, and taxis into one location. Electronic kiosks at the hubs provide various kinds of transport information, such as A to B fare calculations by mode, and also allow for carshare reservations.

### Limited Parking Zone(s)

This intervention is intended to dissuade commuter parking and ultimately relieve kerb-side capacity allowing space for smarter choice measures such as cycle parking, Electric Vehicle (EV) charging points, better bus stops/Interchange Hubs and car-share bays.

Removal of parking pressure in residential streets can also allow relocation of parking from main roads into side roads and thus can facilitate measures such as protected bike lanes, BRT or improved public realm for walking. The restriction of parking almost universally in Zurich is seen as the underpinning measure supporting all other transport policies (WSP 2003).

Even if commuter parking still persists, with drivers parking further out and walking in the last few hundred metres, these users immediately become "stakeholders" of an improved pedestrian environment, rather than contributors to the marginalisation of people travelling on foot.

“ Many studies have shown that when there's a parking space waiting for you, you tend to take the car. ”

Gianluigi Giacomel from Geneva University's Mobility Observatory

If high quality sustainable travel opportunities exist a policy should be developed for GTDs which allows a reduction in the number of spaces provided and/or increasing the cost of spaces (no-car or low-car ratios). Free of charge spaces should be provided for electric vehicles and those with mobility impairments.

Limited Parking schemes would be appropriate for any GTD, but likely to be best-received where demand for kerb-side parking significantly impacts on local residents' quality of life. Birmingham's current policy is to only introduce Controlled Parking Zones where 60% or more of respondents are in favour, however Bristol is currently introducing a default Resident Parking Zone in the inner city area, where the consultation only influences localised zoning and hours of control, rather than the principle of the scheme in itself.

### Case Study

Zurich - Parking fees are high and constantly adapted and there has been a continual decrease in public parking spaces. Public parking spaces are frozen at 1990 levels and newly-created parking lots have to be underground. The city also gives out fewer permits and promotes car-free living.

Amsterdam - economic incentives award citizens giving up their parking permit or their cars by offering public transport passes.

Paris - does not have a congestion charging system but has undertaken a comprehensive parking management reform in the last decade. The overall on-street parking supply was reduced by 9% and 95% of free parking spaces were turned into fee-paying parking spaces (3 fee zones). Residential parking on weekends and holidays is free for residential cardholders. The city promotes the shift towards private parking. As a result of the city's overall parking policy the share of private vehicles decreased from 68% to 60% between 2003 and 2006. There is also financial assistance offered to all Paris inhabitants and companies to purchase e-bikes (VAE) within a price limit

## One Card Credit

Incentives are effective tools when people should be encouraged to change their travel behaviour. A mobility credit system rewards people for sustainable travel behaviour whereby going by bike, public transport or using car sharing/pooling instead of taking the private car is rewarded with a complimentary amount of mobility eco savings (mobility credits). The credits can be used to get environmental benefits such as free bus travel or a free cycle hire day.

Rewarding travel behaviour and converting the CO2 saved into credits that can be traded for the benefit of the proposer is being pioneered by Bologna, Italy with their 'MobiMart' research. The use of ITS e.g. the One Card and mobile apps can facilitate the collection of data to enable the calculation of credits and make the participation in project activities more exciting to citizens. Such technologies are able to provide instantaneous data on the performance which are useful to inform the participants and aggregated data suitable for monitoring purposes. In Bologna the "challenge" mechanism was very stimulating and allowed the participants to feel part of a community in action.

Incentive effectiveness could be improved if supplemented by a good promotional and advertising campaign in order to share a "vision" with the GTD communities and if accompanied by a series of disincentives to individual motorized modes.

By its nature, One Card Credit would be a city or region-wide intervention, and not simply for specific GTDs.

### Case Study

Bologna is pioneering the development of a mobility credit scheme to provide incentives for sustainable transport choices and change people's travel habits. MobiMart demonstrated the feasibility of a methodology that encourages good behaviour of certain groups of citizens or employees incentivised by the relative mobility credits certified and tradable on specific platforms. The profits resulting of credits exchange could be suitable to counterbalance the incentives issued by the promoting entity to create further incentives and ensure the financial sustainability of the system. Furthermore, MobiMart is an innovative successful mobility credit mechanism which can be implemented on larger scale and compatible with other European systems.

## SUIT Shop

A SUIT shop (**S**ustainable **U**rban **I**nitiatives for **T**ravel) is a tailored journey planning initiative to meet individual's needs. It is a form of Personal Travel Planning (PTP) which is a well-established method that encourages people to make more sustainable travel choices. It seeks to overcome the habitual use of the car, enabling more journeys to be made on foot, bike, bus, train or in shared cars. This is achieved through the provision of information; incentives and motivation directly to individuals to help them voluntarily make more informed travel choices.

It is envisaged that SUIT shops will be located at strategic locations within the GTDs which could include transport interchanges (Super Hubs and/or rail stations) and community facilities such as libraries and community centres.

### Case Study

SUSTRANS - Their PTP projects are proven to be effective having consistently achieved an 11% reduction in car driver trips and increases in walking, cycling and public transport trips of between 15% and 33%

## Bike and Ride/Park and Pedal/Micro Park and Ride

A Park & Pedal scheme encourages people to combine cycling with Park & Ride services. Users can simply drive to a Park & Ride site, park for free and complete the rest of the journey by bike. Alternatively, users can

cycle to a Park & Ride site, park their bike and then catch one of the fast and frequent Park & Ride bus or rail services. Secure cycle lockers would be needed.

A micro Park and Ride concept is one whereby small Park and Ride facilities with fewer than 100 spaces could be located on the edge of the GTDs to facilitate last mile journeys by walking or cycling and longer journeys by cycle or public transport

A Park and Ride may be the least desirable way to bridge the last mile, either via "kiss and ride" drop-off locations or park and ride sites, as any area dedicated to car infrastructure leaves less space for public transport-oriented development and the construction of buildings that can act as trip generators. However, since in low density suburban areas the only realistic option for many people may be to arrive at a station by car, park and ride sites will continue to be necessary. However, this is not to say that walking and cycling to such stations does not play a key role, as increased uptake of these options will reduce pressure on limited parking capacity. Quiet suburban residential areas can be very attractive environments for cycling and walking, however the severance effect of main roads and junctions can put people off using such options, or extended crossing times can add time penalties to walking and cycling routes.

Improved cycle facilities at stations increases the range of public transport, as you can travel three times further by bike than the same time spent walking. Improved cycling and walking infrastructure to and at stations will be a useful intervention outside GTDs where the lack of transport accessibility at the origin of a commuting trip may be the deciding factor in the private car being chosen as the mode of transport for the whole journey.

Park and Ride schemes may not be suitable for all GTDs as research by the University of the West of England suggests that Park and Ride can induce demand for vehicle trips. The location and scale of Park and Ride facilities needs careful consideration to avoid introducing severance to existing established walking and cycling corridors, or undermining the viability of public transport services. A Park and Ride on the outskirts of an existing established commercial centre like Northfield would pose particularly sensitivities about disruption to the existing urban fabric.

### **Case Study**

ATOC has achieved excellent growth in cycle-to-rail uptake by working with stakeholders to improve cycle parking and increase the prominence of cycle routes to stations. Cycling mode shares of up to 23% have been achieved in some Bike & Rail schemes, and across the board cycling enjoys a much higher mode share for home-to-station journeys than for other types of trip.

## **SEGmented Marketing for ENergy efficient Transport (SEGMENT)**

SEGMENT was an EU programme which looked at attitudes and transport choices with the aim of characterising user "market segments". These segments can then be targeted for tailored marketing which helps ensure these users are being made aware of sustainable transport choices that are appropriate to them.

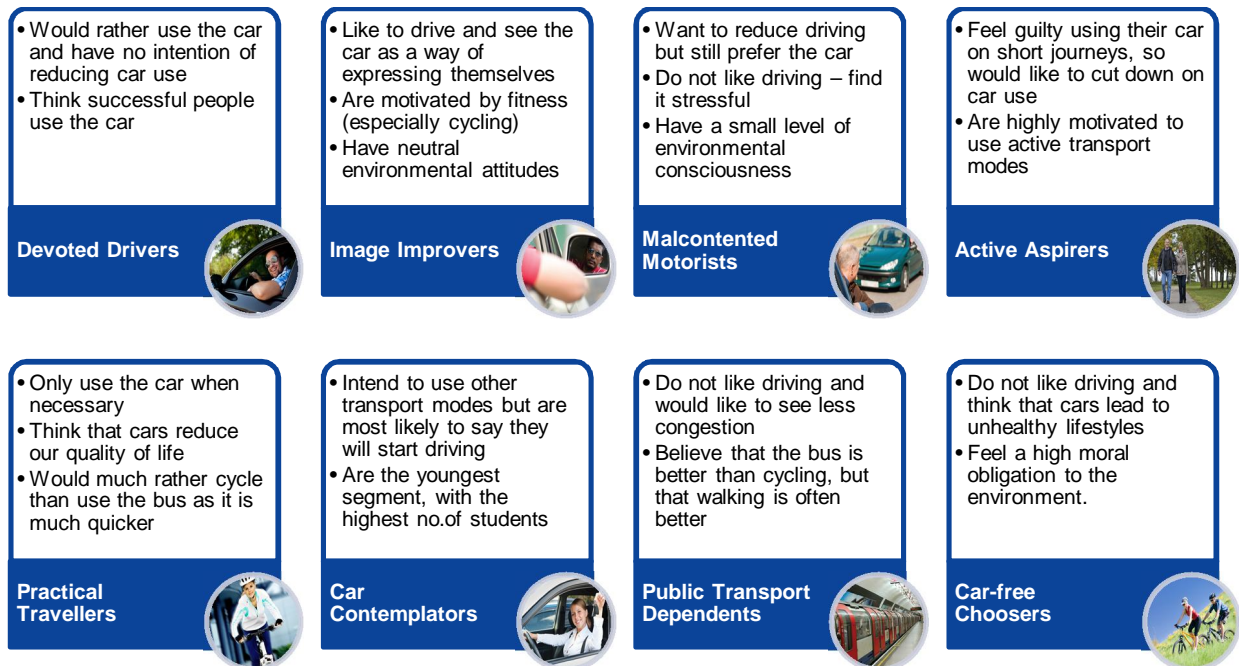
The SEGMENT process has two main techniques:

1. Targeting consumers undergoing 'life change moments' which cause them to question and reconsider their travel habits.
2. Clustering these consumers (through the use of detailed questionnaires) into relatively homogenous groups (in terms of their attitudes towards car use, cycling, electric vehicles or wider issues such as climate change and health etc) and then devising bespoke campaigns which are informed by these findings.

The SEGMENT tool is useful in that it is not only a marketing method, but a means of capturing useful information by asking 18 questions. The 8 segments differ from the DfT's user groups in Climate Change and Transport in that they are attitude-based, which is less likely to change over time, whereas DfT's were more in line with circumstances, and significant events like starting a family would mean a user or household is re-categorised.



The eight audience segments along with brief descriptions<sup>1</sup> are: (Source <http://www.segmentproject.eu/>):



The following benefits of a segmented approach are suggested in the EU research:

- The act of thinking about target groups will itself make a difference to the way in which mobility management campaigns are designed even before any data is collected. The act of thinking about different target groups and their specific needs and lifestyle characteristics will aid the creative dialogue around the initiatives and key messages being developed for the campaign.
- The collection of rich contextual data adds new insightful information to existing knowledge about mobility patterns and public perceptions and motivations.
- The data collected about baseline travel behaviour and attitudes – and any subsequent segments - can be a powerful political tool. Survey data is likely to identify a significant minority or even majority of people who are dissatisfied with their current transport options and are likely to respond well to increased provision or incentivisation to change behaviour.

“Car aspirers” are an overlooked segment generally. No UK authority has yet actively sought to implement planning measures to specifically target car aspirers with the aim of dis-incentivising car ownership. However, the city of Utrecht has done a lot of work in this regard, and they have continued to invest in the SEGMENT principle.

<sup>1</sup> For full descriptions see: [http://www.segmentproject.eu/hounslow/segment.nsf/Files/SFF-318/\\$file/Deliverable%207-8.3%20Social%20Marketing%20Toolkit.pdf](http://www.segmentproject.eu/hounslow/segment.nsf/Files/SFF-318/$file/Deliverable%207-8.3%20Social%20Marketing%20Toolkit.pdf)

**Case Study**

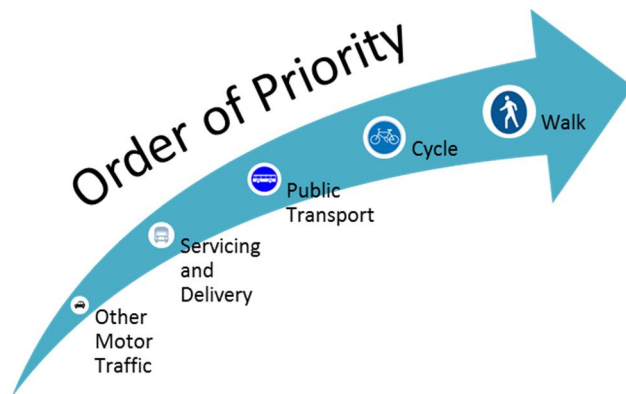
UTRECHT – campaign to increase cycling.

In Utrecht, the Netherlands, a segmented campaign was created to increase cycling by new inhabitants of the city. It focused on the Practical Travellers and Active Aspirers segments who represent over half of Utrecht’s population. This campaign links to wider goals to reduce carbon emissions and car use across the city and was co-designed by a communications agency and the city of Utrecht. New residents received a direct mail promotion, including a cycling map of Utrecht and information about an official website with a downloadable cycling voucher. The voucher was downloaded by 10% of the targeted inhabitants. Results showed that cycling and public transport use increased by 2% and 3%, respectively. Car use decreased by 4%.

**Road Hierarchy Adjustment**

Within each GTD, aggressive use of Manual for Streets user hierarchy should be applied to make streets more pedestrian and cycle friendly. The hierarchy may not be able to be rigidly applied and does not necessarily mean that it is always more important to provide for pedestrians than it is for the other modes. However, they should at least be considered first, followed by consideration for cyclists, public transport, servicing and delivery vehicles and then other motor traffic.

Adjusting the road hierarchy may provide opportunities for 20mph zones, play streets, school zones, quiet lanes, home zones, cycle permeability, and shared space. Within each GTD there will be a need to introduce a user hierarchy where pedestrians are considered first in the design process recognising the importance of the community function of streets as spaces for social interaction and promoting an inclusive environment that recognises the needs of people of all ages and abilities.



Residential quality of life and attractiveness for walking and cycling can be enhanced by “filtered closures” of side streets to motor traffic in order to restrict through movement for motor vehicles, but retaining through connectivity for pedestrians, cyclists and public transport.

The Roadspace Reallocation package of the Technical Study is reporting on Road Hierarchy Adjustment in more detail.

**Mixed Use Public Transport Oriented Development (PTOD)**

Public Transport-oriented development is an American concept that is commonly defined as high-density, mixed-use development within walking distance (800m) of high capacity and frequency public transport station (train, metro, tram, bus stop or Urban Public Transport Interchange). PTOD provides a range of benefits including increased public transport ridership, reduced regional congestion and pollution, and healthier, more walkable neighbourhoods. Neighbourhoods with a mix of both affordable and market-rate housing can also provide many benefits, such as reducing income segregation and providing lower-income residents with opportunities to move up the occupational and social ladders. Mixed-income, public transport-oriented communities can achieve not only the separate benefits of PTOD and mixed-income housing, but also reap synergistic benefits that come from bringing the two together.

The Institute for Transportation and Development Policy’s (ITDP) uses the eight principles for better streets and better cities, which when put into practice, will create vibrant, low-carbon cities where people want to live, work, and play. These principles are to:

1. Develop neighborhoods that promote walking **[walk]**
2. Prioritize non-motorized transport networks **[cycle]**
3. Create dense networks of streets and paths **[connect]**
4. Locate development near high-quality public transport **[public transport]**
5. Plan for mixed use **[mix]**
6. Optimize density and Public Transport capacity **[densify]**
7. Create regions with short commutes **[compact]**
8. Increase mobility by regulating parking and road use **[shift]**

Although PTOD is not widely recognised in Europe, countries such as the Netherlands and Denmark have adopted planning systems based on similar principles, by encouraging mixed-use developments and high quality pedestrian and cycling facilities for example. With its key premise to provide mixed-use developments that are well-connected to stations and that encourage public transport riding, PTOD provides a promising urban model for densely populated areas such as those in Birmingham.

The PTOD principles should allow rail, SPRINT and Metro networks to play a more central role in the planning of (new) developments. Furthermore, research by the Center for Transit Oriented Development in the United States has shown that 45% of workers in PTODs walk, cycle or take public transport to their jobs, compared to just 14% at non-PTOD sites.

Residents living in high-density areas are also likely to travel less. A study by the California Department of Transportation found that doubling residential density in 27 neighbourhoods resulted in a decrease in total vehicle mileage of between 20 and 30 percent. Another study (Coffey and Shearmur 1997) found that doubling of population density increased the median standard of living.

Thus, applying PTOD principles in GTDs will not only go a long way to achieving the goals of GTDs in terms of reduced car use but also help support the viability of high-quality public transport infrastructure, and improve quality of life and the health of the economy.

Case based research by the Breakthrough Technologies Institute on BRT-based PTOD as a resource for policymakers, public agencies, and the development community found that the type and level of investment occurring near BRT stations appears comparable to the experience with PTOD near rail stations. The research used surveys from developers and government agencies and found:

- Cooperation among key stakeholders, including public agencies, non-profit development organizations, property owners, and private developers, is critical to success.
- For developers, permanence of the BRT is an important factor. However, this perception can be created even with relatively low infrastructure investment, if there is a clear, long-term public agency commitment.
- Frequency, speed and convenience of the service were important to many developers and property owners. These features differentiated BRT from conventional bus service, which was generally not considered appealing for PTOD.



Source: IDTP

- Streetscape improvements that accompany the BRT may be at least as important as the public transport service for attracting new investment.
- In some cities, developers and properties owners cited the value of a prominent visual profile for the BRT and aesthetically appealing infrastructure.
- It does not appear to be necessary to provide financial incentives for BRT-related PTOD. Developers appeared much more interested in an expedited permitting or rezoning process, as time is a critical factor in making development projects financially viable.

The principles of PTOD are not only applied on a strategic level, but even go so far as considering the location of entrance doors to properties, ensuring they are optimally placed to promote access by sustainable transport. The health benefits of active travel could be further realised by including the principle of “active buildings” as part PTODs.

PTOD is most appropriate when there are significant development opportunities such as a large surface parking or other underutilized land that can be developed; they are far less useful for development of a limited scope.

Attempting to retrofit the GTDs through PTOD may be costly and inappropriate in the shorter-term, however it is considered that where development opportunities exist within GTDs – specifically around existing and proposed transport interchanges – then the principles of PTOD should be applied and that development control guidance should reflect this. As such, a GTD-PTOD vision or masterplan may be a useful tool in setting a development framework for each GTD which ultimately may achieve PTOD in GTDs on an incremental basis, in much the same way that Highway Improvement Lines have been protected over many decades.

The applicability of PTOD to each GTD will respond to local characteristics.

## Low Emission Zones (LEZ)

To achieve low emissions within the GTDs there are two main options:

1. **Charging** based on vehicle emission rating (using ANPR or other technology) e.g. London. These generally require drivers of vehicles which do not meet specified standards for exhaust pollutants to pay a charge to travel in the zone. There are many Low Emission Zones (LEZs) of this type in many European countries. All LEZs affect heavy duty goods vehicles (usually over 3.5 tonnes Gross Vehicle Weight (GVW)), and most buses and coaches (usually defined as over 5 tonnes GVW).
2. **LEZ by proxy** i.e. not charging based on vehicle emissions but providing targeted improvements within the GTDs which will indirectly achieve lower emissions.

A direct charging LEZ scheme would only be applicable in GTDs that have a convenient natural cordon around them formed by classified or distributor roads that can accommodate diverted non-compliant vehicles. Such natural cordons do not easily correlate with the proposed GTDs

Therefore, it is considered that all GTD should be LEZs by proxy. The City Centre has the greatest opportunity for a toll based charging system however the feasibility of this needs greater consideration. The potential for a national framework for low emission zones (as indicat-





ed by the shadow environment secretary on 11<sup>th</sup> August 2014) may dictate the nature of the LEZs however the principle that the GTDs should be exemplars of low emissions within Birmingham is one which this report promotes.

Implementing a charging based approach in the city centre alone is likely to drive a reduction in 'non-compliant' vehicles, i.e. those that do not meet the stricter EU emission standards more generally which would indirectly affect the whole of the Birmingham metropolitan area and beyond including the GTDs.

### Case Study

London - London's LEZ, created in February 2008, requires vehicles weighing more than 12 tonnes to meet 'Euro III' emissions standards. In July 2008, this was extended to freight vehicles with a weight of more than three and a half tonnes, as well as buses and coaches over five tonnes. By 2012, large vans and minibuses were also required to be compliant with these restrictions. One of the aims of the scheme was to create an incentive for organisations to replace existing vehicles with newer and less polluting models by introducing fines for non-compliance.

Data from the Driver and Vehicle Licensing Agency showed that the number of rigid vehicles (medium or heavy duty lorries without a trailer) not meeting EU emission standards dropped substantially in 2008, suggesting that the LEZ resulted in an extra 20% of vehicles being replaced by lower-emission vehicles. Articulated vehicles showed a similar trend.

## **Birmingham information for Travel (BiT) Mobile Application (App)**

It is recommended that a mobile App is developed that will provide information to residents and businesses on sustainable travel options and also serve to provide a virtual One Card allowing the purchase of cycle hire, public transport fares, electric vehicle charging stations etc. It is envisaged that the App will provide two main functions:

1. To provide information and multi modal transport functionality to residents and businesses on sustainable travel options
2. To provide BCC with data on travel behaviour

**Birmingham**  
**i**nformation for  
**T**ravel

The app should be free, easy to use, run without ads and work on most phones. It is recommended that the app allows for ticketless travel via on-phone "mTickets". The app should include locational services and using the on phone GPS show the nearest:

- Public transport stops/interchanges (plus live departure information)
- Cycle parking
- Cycle hire (plus availability of bike at origin and parking at destination)
- Taxi ranks
- Electric car charging stations (type and availability)

The app should also allow for quick and easy multimodal comparative analysis (journey time, cost and emissions) for point to point journeys to allow people to make informed travel choices.

Centro/BCC could adopt the same Application Programming Interface (API) approach as TfL. The API could help app developers harness Centro's open source data. By providing data in an easy to use format across transport modes it will allow faster development of new apps by private app developers.

BiT would naturally be a city-wide application, and more usefully an evolution of the West Midlands regional journey planner functions.



## Planning Guidance

The Draft National Planning Policy Framework (NPPF) states that 'Sustainable development means development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It is central to the economic, environmental and social success of the country and is the core principle of planning.'

It is recommended that a locally relevant Supplementary Planning Document for GTDs is developed which will provide guidance on the implementation of transport policies to ensure development improves the sustainability of the GTD transport network as well as encouraging sustainable travel habits.

The SPD should provide developers with guidance on sustainable transport considerations for planning applications and will also be used by BCC planners who are assessing development proposals. It is not a transport investment strategy and does not develop new strategic transport policy or direction. The SPD should set out:

- requirements and guidance for the production of individual travel plans against the framework of a GTD wide travel plan
- Recommendations/requirements regarding the installation and coordination of sustainable transport facilities/initiatives on and off site (e.g. car parking standards, car clubs, electric vehicles, cycle parking, other cycling facilities, and design guidance).

BCC Car Parking Guidelines (2012) make reference to sustainable travel initiatives however these will need to be more clearly defined and restrictive in any GTD SPD.

The BCC 'Places for the Future' SPD shows how developments can be shaped to be as sustainable as possible and contribute to achieving the vision for Birmingham and create places for the future.

The key objectives of the SPD should be:

- To set out how strategic policy will be interpreted in detail in Birmingham's GTDs
- To identify and provide guidance on the elements of sustainable development which all future developments with the GTDs must consider

To respond to local characteristics, it may be appropriate for each GTD to have its own SPD.

## Servicing and Logistics Plan for GTDs

Within the servicing and logistics work package one of the key topics for the strategy as a whole is consolidation. For the GTDs, micro consolidation is deemed to be a more realistic approach, through a combination of neighbourhood local consolidation (i.e. use of vacant shops to take deliveries and provide storage) and through initiatives like 'Freight Friends', whereby small / medium businesses could receive deliveries via the loading bay of an adjacent / nearby superstore or similar.

It is important to note that a mix of physical, operation and behavioural measures are required to address servicing and logistics within GTDs. For GTDs, the behavioural measures are of particular importance i.e. trying to reduce deliveries at source, through better partnership / inter-working between businesses.

Key measures for GTDs include:

- Introduce joint procurement / brokerage service to allow SMEs to pool purchasing power and generate 'single' deliveries.
- Create area wide travel plans targeted at groups of SMEs with a single umbrella logistics plan.
- Create GTD 'lite' freight partnerships that allow mutual sharing of servicing and delivery space.
- Ensure that GTDs actively encourage a consortium approach to logistics within each area.

- Introduce neighbourhood local consolidation (with 24/7 operation) booth or similar (temporary modular structure or potential re-fit of vacant unit to increase vibrancy).

Additional measures of relevance include:

- Allow 18/7 deliveries (05:00 to 23:00) with quiet deliveries charter and flexibility through the planning process. If not 18/7 (depending on the local environment of course), then we advocate stretching the delivery window as far as practically possible. The neighbourhood local consolidation points (see bullet point above) help in this regard, as small stores need not staff their premises late into the night waiting for a delivery. Instead, they can pick it up at their convenience the next day, etc.
- Introduce clear shop front policy to avoid blocking footways for deliveries and pedestrians.
- Create flexible linear parking bays to accommodate smaller HGVs and multiple 'white vans' within a designated area (specific road markings).
- Allocate spaces within public car parks for logistics and servicing vehicles.
- Introduce ITS solution to pre-book loading bays on busy routes (if there are any in the GTD) to optimise planned usage and reduce poor parking.
- Create local trader 'freight friends' parking schemes that allow cross-parking / utility vehicles to share spaces.
- Provide clearer signing to denote 'unsuitable' routes for different types of freight vehicle. Gateway treatments could be used to help achieve this.
- Provide hold-back parking bays to allow safe waiting away from the GTD. This means that vehicles will not arrive early and potentially park illegally / cause an obstruction.
- Agree a code of conduct for white van / small deliveries supported by FTA and other parties.
- Provide access / local routing maps. Delivery drivers should know where schools and other such points of interest are.
- Use the planning process aggressively to secure quality servicing and delivery plans as part of construction and steady-state transport activity.

An SLP would necessarily be local to each GTD.

## Individual Organisation Travel Plans

A travel plan is a package of measures produced by employers to encourage staff to use alternatives to single-occupancy car-use. A travel plan can offer real benefits, not only to the organisation and its employees, but also the community and environment that surrounds it.

The Department for Transport (DfT) defines a Travel Plan as “a long-term management strategy... that seeks to deliver sustainable transport objectives through positive action.” Such a plan could include: car sharing schemes, a commitment to improve cycling facilities, a dedicated bus service or restricted car parking allocations. It might also promote flexible working practices such as remote access and video conferencing.

The concept of travel planning is nothing new however the support network and policy initiatives that support their development should be optimized within the GTDs.

“ A Travel Plan requires ongoing management and maintenance and real engagement with people who occupy the development. ”

DfT Delivering Travel Plans through the Planning Process 2009

A list of potential individual organisation travel plan measures is provided in Appendix D. This is not intended to be an exhaustive list and is intended for guidance only and these should be adjusted and amended for local circumstances.

Travel plan monitoring will be an essential element of travel planning allowing BCC to monitor the effectiveness of Travel Plans in GTDs. An online Travel Plan monitoring system could be developed by BCC or an existing system such as iTRACE or iOnTravel could be used to facilitate a strategic approach to the management of sustainable travel by collecting travel plan site and personal travel survey data. The information collected could then reveal compliance with modal targets, levels of behavioural change and CO<sub>2</sub> emissions which would bring true insight to the evaluation of the effectiveness of Travel Plans and the GTDs more generally.

Standard Assessment Monitoring (SAM) has been developed by TRICS® as a system of monitoring and assessing the effectiveness of travel plans. It uses long established TRICS® methods of multi-modal data collection enhanced with comprehensive information on travel plan details to produce robust travel plan survey results. SAM could be used by BCC to monitor the effectiveness of larger individual organisation travel plans.

## 7 Implementation, Funding and Governance

### 7.1 Implementation

In implementing the GTD policies and proposals it is recognised that the private sector will have a key role to play in both the funding and delivery of development and infrastructure. The City Council will equally have an important strategic role to play and will make use of all appropriate mechanisms to support this.

The planning system will be the most important mechanism for the council to affect and influence GTDs, as potential developers will have a clear steer on the type and density of development that will be expected in a GTD and across the city as a whole. It will be crucial that the good work of GTDs is not undermined by inappropriate development taking place outside GTDs that does not respect the focus on sustainable transport modes consistent with Birmingham Connected.

Pre-emptive Masterplans may be an appropriate council response to large-scale releases of re-developable land as this can inform the ongoing development of GTDs, both in their scope and their number. Partnership with housing associations and developers will be a useful means of applying the outcomes of GTDs in the renewal of social housing estates. The principle of mixed-use public transport-oriented development may be an influential factor in the viability of housing estate regeneration, which may in turn justify such areas being designated as GTDs.

#### **Pilot Scheme**

It is necessary to test-run GTDs in a one or two locations to be able to refine the processes and mechanisms for the wider roll-out. Whilst the mode-shift objectives would be difficult to achieve to the target level in a localised pilot, a trial scheme would obtain useful information about stakeholder engagement and governance, and the practicalities of assembling organisations together in the way proposed.

Because there is a need to tie GTDs to improvements to transport infrastructure, the areas of Longbridge, Northfield, the Life Sciences Campus and Soho Road would be appropriate candidates to host the pilot on the basis of the extensions of the Cross City Line and Midland Metro. In particular, with three GTDs lying on Cross City Line south, there is the opportunity to test modal shift with and without GTDs in different areas. The extension of the Cross City Line to Bromsgrove facilitates much easier journeys between these locations and Worcestershire. This is particularly the case for Northfield and Longbridge, as longer-distance services from Bromsgrove, Droitwich and Worcester already call at University. Whilst Soho Road does not appear to directly benefit the local area, the extension to New Street shortens interchange with other rail services, so may act as an influence in changing inbound and outbound travel behaviour.

Whilst these improvements are relatively small compared to comprehensive SPRINT network and smartcard rollout, they nevertheless provide a useful opportunity to tie the principles of GTDs to significant investment in transport infrastructure. The pilot should convene a group of GTOs (see Governance section), based on any existing board or trade associations. Travel awareness engagement would focus on users who could most readily make use of the new or improved services available. The GTOs could also begin to engage locally to understand issues that influence travel behaviour and severance, in the same vein as the DIY Streets King's Heath project has done to help address negative perceptions of its High Street.

### 7.2 Funding

#### **Developer Obligations**

The traditional approach to development control is to regard trip generation as a negative impact requiring mitigation. However, in sustainable transport terms, additional demand for travel can help support a high-quality public transport network and justify the investment in existing attractive walking and cycling routes. Planned

right, strategically-placed development can set off a virtuous circle of progressive improvement to public transport, which can in turn help release developable land and thus sustain economic prosperity.

New development should be appraised on how it supports the aims of the GTD – e.g. walkable layout, parking, buildings' relationship with public transport – and developers should be obliged to demonstrate how the viability of public transport services is improved and provide evidence to assist Centro and operators in the development of their services.

Development will be expected to provide, or contribute towards the provision of, social and green infrastructure to support the needs associated with the development.

The council can make use of the Community Infrastructure Levy (CIL) system to generate a funding stream for the ongoing maintenance of GTDs, and also to influence development both within and outside GTDs. For example, the CIL thresholds could be adjusted so that certain types of developments outside GTDs attract a higher CIL charge than those within, or vice-versa – with the emphasis on the former in order to stimulate PTOD. This revenue can not only support GTDs but contribute to measures outside GTDs that improve connectivity between the new development and the city's GTDs.

### **Ring-fenced Revenue**

Each GTD could agree to a revenue-sharing arrangement where a small increase in parking charges is retained locally to support measures to improve sustainable transport alternatives in the GTD. Other parking revenue such as CPZ permits or PCN charges could also be top-sliced to support GTDs.

Devolution of the West Midlands Rail franchise, as promoted by 14 local authorities in the Midlands including Birmingham, may facilitate the ring-fencing GTD station revenue as part of franchise agreements. Alternatively, a Directly Operated Railway model may provide the flexibility to fund GTDs on a regional basis.

The existing concept of a voluntary local precept to fund Business Improvement Districts could be extended to cover the activities of GTDs. The costs of running both a GTD and a BID can be streamlined by a merged function, which can also develop useful synergies, e.g. marketing strategies.

### **User Contributions**

The funding model for the Cambridgeshire Guided Busway (CGB) sees the owner of the infrastructure, the County Council, charge bus operators to use it between 7am and 7pm Monday to Saturday. Bus operators are willing to pay because the benefit of the Busway – increased patronage and more predictable fuel costs – outweighs the “free route” along the congested A14, even with comparable journey times. New commuter settlements are being developed around CGB stops, which further enhance busway's advantages to operators and indeed wider society.

Whilst a scheme of the scale and scope of CGB is difficult to imagine in the context of Birmingham, it may be worth exploring whether a similar model could apply to SPRINT or point-specific bus priority measures such as bus gates through a business park, especially if PTOD increases bus patronage. A wider Quality Contract approach, as currently being adopted in Tyne & Wear, could also improve access to funds

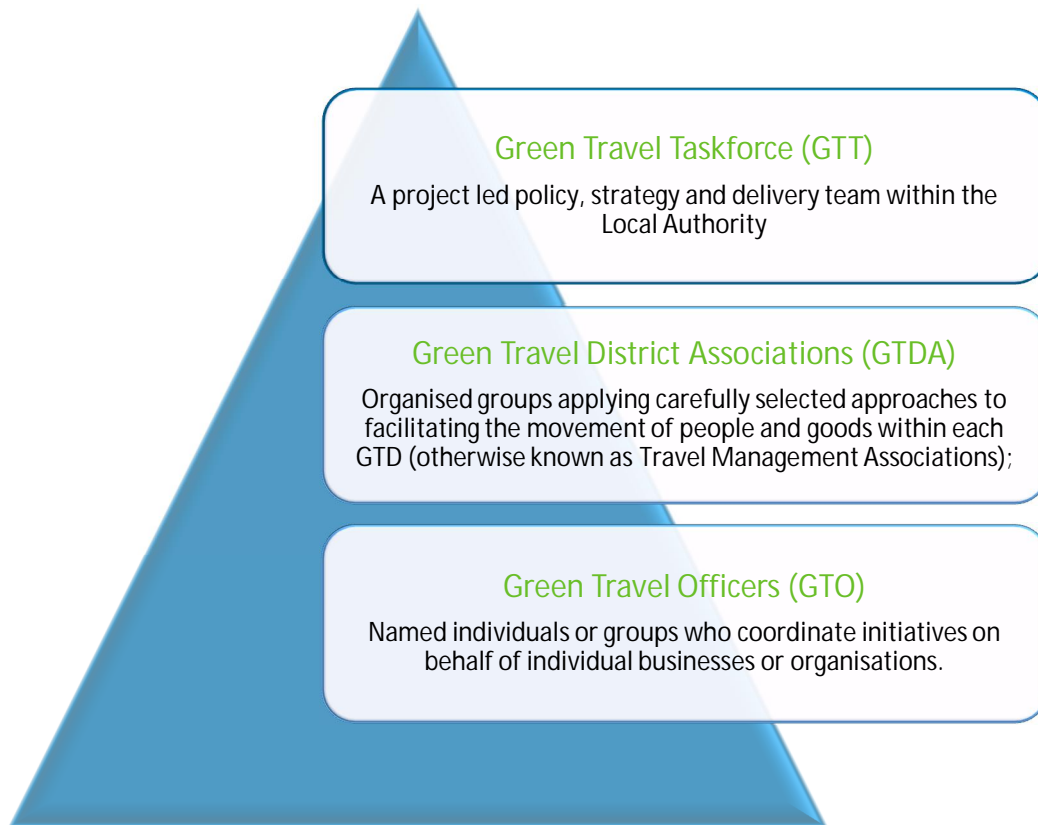
Other user-funded mechanisms could encompass Road User Charging, which has already been mooted in the BMAP green paper. London's congestion charging scheme has proved successful and widely accepted as it only affects motorists in the very centre of the city where public transport accessibility is good, and where car use and ownership is already low. The people Manchester voted no to a road pricing scheme in 2008; however the proposed cordon was the M60 motorway – akin to the M6/M42/M5 motorway box – and as such encompassed many areas with poor existing public transport options. Birmingham benefits from a recognisable and workable cordon – the Middle Ring Road – however, as seen in the stakeholder discussion about Low Emission Zones, other GTDs are not so easily isolatable. The city centre area is subject to a separate technical study.



### 7.3 Governance

The success of Birmingham Connected is dependent upon having focussed governance and delivery at all levels. The principles have to be embraced by local residents, business organisations and developers, who need an opportunity to play an active part in steering and delivering effective initiatives in the community. The purpose of the GTDs focus is to provide communities with a toolkit, but also a governance framework which has funds and decision making authority to make Birmingham Connected happen locally. Support for this approach will come from politicians, planners and engineers who take a strategic view of Birmingham Connected delivery at the Local Government level.

There needs to be three levels of governance:



These are connected layers, forming coordinated actions and communication arrangements.

#### Green Travel Taskforce

Birmingham City Council has a role in setting the transport strategy, agreeing transport policy, developing overarching green travel initiatives and securing funding. It works with local organisations, regional stakeholders and public transport providers to deliver infrastructure and initiatives within the City area. The Birmingham Connected strategy will be delivered by the City Council, and this will need a focussed team of project sponsors, design engineers and planners.

The GTT will therefore be established, which is a focussed project led part of the City Council committed to the delivery of Birmingham Connected infrastructure and initiatives. It will be governed as a project led Directorate. It will not be siloed, but be flexible using the City's workforce that can be commissioned depending on need. It will be held accountable against the intended outputs of the Plan.

Much of the strategy will involve infrastructure along the whole length of corridors, reaching beyond GTDs, however it is recognised that to make Birmingham Connected happen, it should start locally.

The GTT will therefore perform the following roles for the GTD:

- Develop an overarching marketing plan for sustainable travel choice;
- Secure funding through s106, Community Infrastructure Levy (CIL) and central government budgets;
- Provide guidance on the objectives and goals for GTDA's;
- Monitor the effectiveness of GTDA's, the Green Travel Districts and of the Birmingham Connected as a whole;
- Support and coordinate overarching projects such as SEGMENT, car share, cycle hire and 'The One Card';
- Provide the infrastructure to support local initiatives such as real time information and personalised journey planning;
- Communicate infrastructure programmes to ensure coordinated implementation and communication;
- Maintain the position of the Accountability Partner for GTDAs
- Distribute and account for public funds;
- Look for technology and innovation to deliver new transport initiatives.

### **Green Travel District Associations**

A GTDA is a development of the Travel Management Association approach used successfully in Sowton and elsewhere in the US, Scotland, Australia for many years. This approach is particularly helpful in areas where there are a host of individual organisations who cannot access the benefits of travel initiatives offered by Green Travel Plan Officers of larger employers. It also incentivises GTO's of neighbouring organisations to coordinate initiatives such as car sharing.

There is no single or standardised model for how the GTDA should be structured, or what types of programmes it should implement. Instead, the GTDA will be flexible to adapt to local conditions and offer the best initiatives using the Toolkit appropriately for each situation.

The GTDA will be private member led organisation that will work with different stakeholders to address a variety of transport-related issues. They will be set up as 'not for profit' companies, controlled by a board of directors. Private sector members will include major employers, BID representatives, developers, retail centre representatives, schools, hospitals, public transport operators, business park managers and others. Their involvement is essential as the impact that transport problems have on local organisations can feed into solutions that more effectively fit the needs of the local area (appreciation of shift patterns, parking management, peak time travel pricing and event scheduling).

However the GTDA is a collaborative partnership between local representatives and the Local Authority. The Board of Directors has to include a representative of the Green Travel Taskforce and ensure collaboration with City planners and engineers, Centro and public transport providers. The GTDA is not an initiative that replaces or replicates services provided by the City Council or Centro. Instead they should foster innovative new programmes, enhanced coordination and cost-effective collaboration.

The GTDA should be closely affiliated with, or be operated as part of, local BIDs which will provide a more structured source of funding and readymade governance mechanism.

The objectives of the GTDA's are therefore to:

- Be the local accountable body;
- Be a test bed for innovative technological advances in travel and information;

- Coordinate information gathering to develop a targeted marketing plan for sustainable travel choice using SEGMENT;
- Provide monitoring support to GTOs and organising area wide monitoring;
- Coordinate and implement servicing and logistics surveys and monitoring;
- Develop initiatives provide real time information about travel options and efficient times to travel, and in the right locations;
- Implement programmes to encourage local up-take of school, work place, campus and personal travel plans;
- Coordinate programmes to ensure that infrastructure improvements and travel plan initiatives are implemented in a timely manner and communicated correctly
- Seek collaboration with minority groups, religious communities, small and medium enterprises to better manage local conditions and implement new initiatives;
- Provide a forum for diverse stakeholders to have a voice and collectively prioritise initiatives transport infrastructure;
- Create a peer networking environment to share good news on effective initiatives and compel peer-to-peer business networking to enhance participation workplace travel plans;
- Create a culture of green travel behaviour and encourage business leaders to become a part of the solution;
- Coordinate strategies between organisations to create integrated solutions (e.g., work shift patterns, event planning, car park sharing);
- Receive and manage public funds, employ staff or consultants to implement the identified strategy;
- Engender innovation specific to the local environment;
- Establishing and enforcing covenants (i.e. parking);
- Manage any local logistics hubs/centres and facilitate the use of shared suppliers, shared costs (brokerage service) and promote local procurement for the benefit of local businesses/economy and reduce delivery miles; and
- Evolve. This is one of the most important characteristics of a GTDA. It should be a live organisation that delivers agreed plans and projects; and accommodates changing local conditions and national and local policy.

Each GTDA should establish a clear purpose and lines of accountability by developing a constitution or terms of reference.

### **Green Travel Officers**

GTOs are promoters of travel plan initiatives for individual employers or other organisations to secure their implementation, as well as being the key contact point for residents or employees. This role is normally undertaken by a person appointed and funded by the organisation as a key element in the delivery of the travel plan but it can be undertaken by someone in conjunction with other responsibilities, a consultant or in some instances, by the local authority or GTDA. The most appropriate approach will depend on the type, scale and location of the development.

It is important that the GTO is located on site, or makes regular visits to the site to be a familiar face with the community as someone who is known to 'champion' the sustainable transport initiatives.

A GTO should have a well-defined role, with dedicated time commensurate with the tasks required by the travel plan. In all cases, The GTO will have clear link to a senior management representative and the GTDA and will be ensured of their support.

Duties of the GTO:

- Lead of the production, approval and delivery of a travel plan;
- Champion the travel plan, marketing the benefits and initiatives;
- Liaising with stakeholders including the GTDA, Senior management and neighbouring GTOs;
- Providing personalised travel planning tailored to customer needs;
- Liaising with public transport operators, alongside the GTDA;
- Reviewing and monitoring the travel plan.

## 8 Summary and Conclusions

The aim of this report was to answer the following questions:

- What are the key measurable objectives of GTDs?
- Where are the GTDs?
- What are the main issues and opportunities in each of the GTDs?
- What is realistically available in the GTD Toolbox and what measures will be used in each GTD?



### What are the Objectives of the GTDs?

The objectives of the GTDs have been identified as the following:

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



### Where are the GTDs?

The location of the GTDs has been derived through detailed analysis of 2011 census data.

The GTDs identified are as follows:

- City Centre;
- JLR Including Castle Vale and The Fort;
- Life Sciences Inc. Selly Oak district centre;
- Perry Barr including Witton, Food Hub and the Advanced Manufacturing Hub;
- Small Heath and Bordesley Green retail area;
- Soho Road retail area;
- ITEC Park Including Longbridge Town Centre;
- Tyseley Environmental District;
- Kings Heath and High Street;
- Northfield Town Centre; and



- Sutton Coldfield Town Centre.



**What are the main Issues and opportunities in each of the GTDs?**

The main issues and opportunities in each of the GTDs are presented in this report.



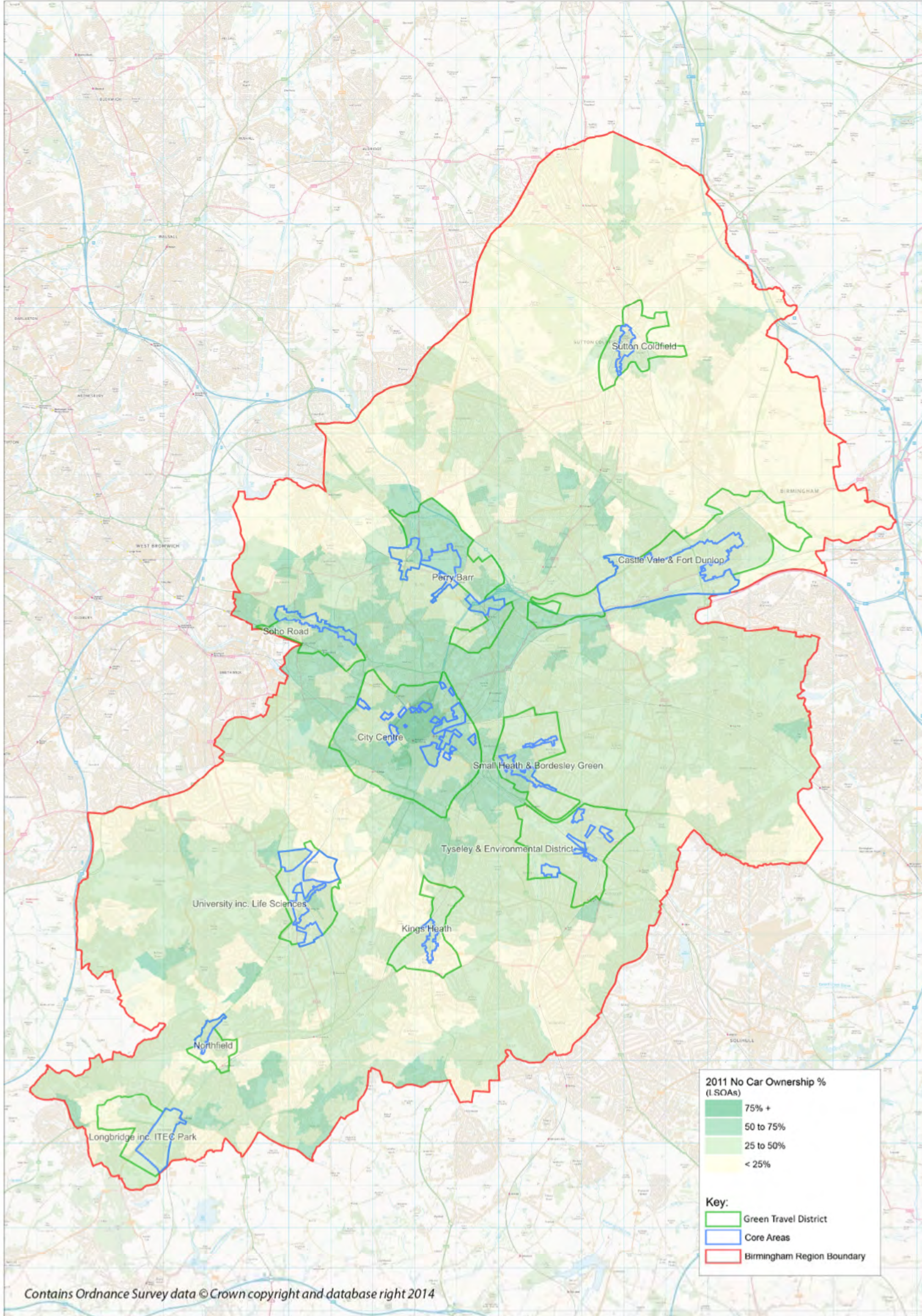
**What is realistically available in the GTD Toolbox and what measures will be used in each GTD?**

This report has outlined the key GTD interventions in some detail whilst a long list of interventions is presented in Appendix C. The excel toolkit that accompanies this report attempts to highlight which measures may be appropriate for each of the GTDs. This should be a guide only and no interventions should be ruled out until more detailed analysis of the characteristics of the GTDs has been undertaken. The application of the interventions should not be a static process i.e. an intervention that may not be appropriate now may be appropriate in the future.

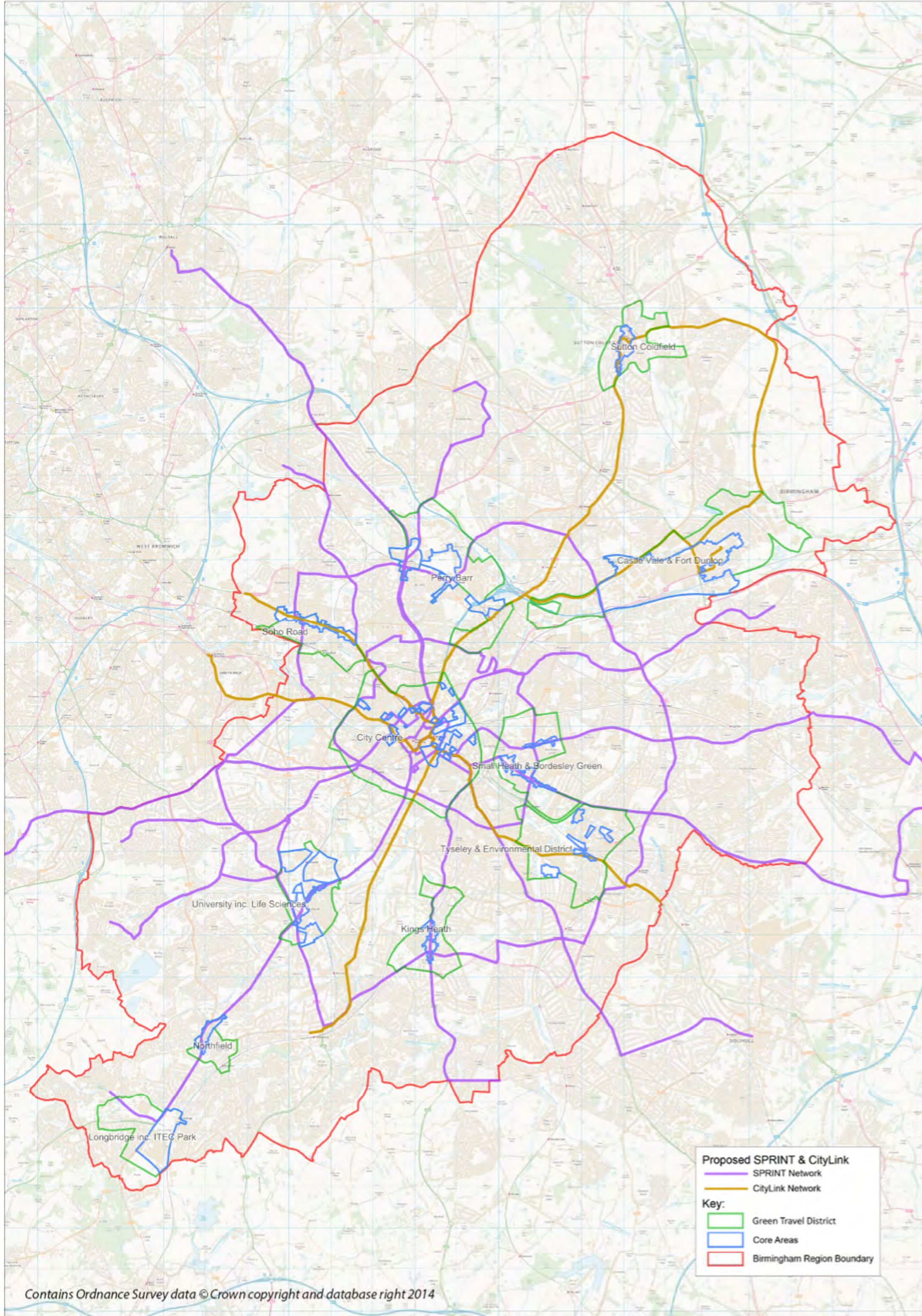
# Appendices

## Appendix A – Plans to Support GTD Selection









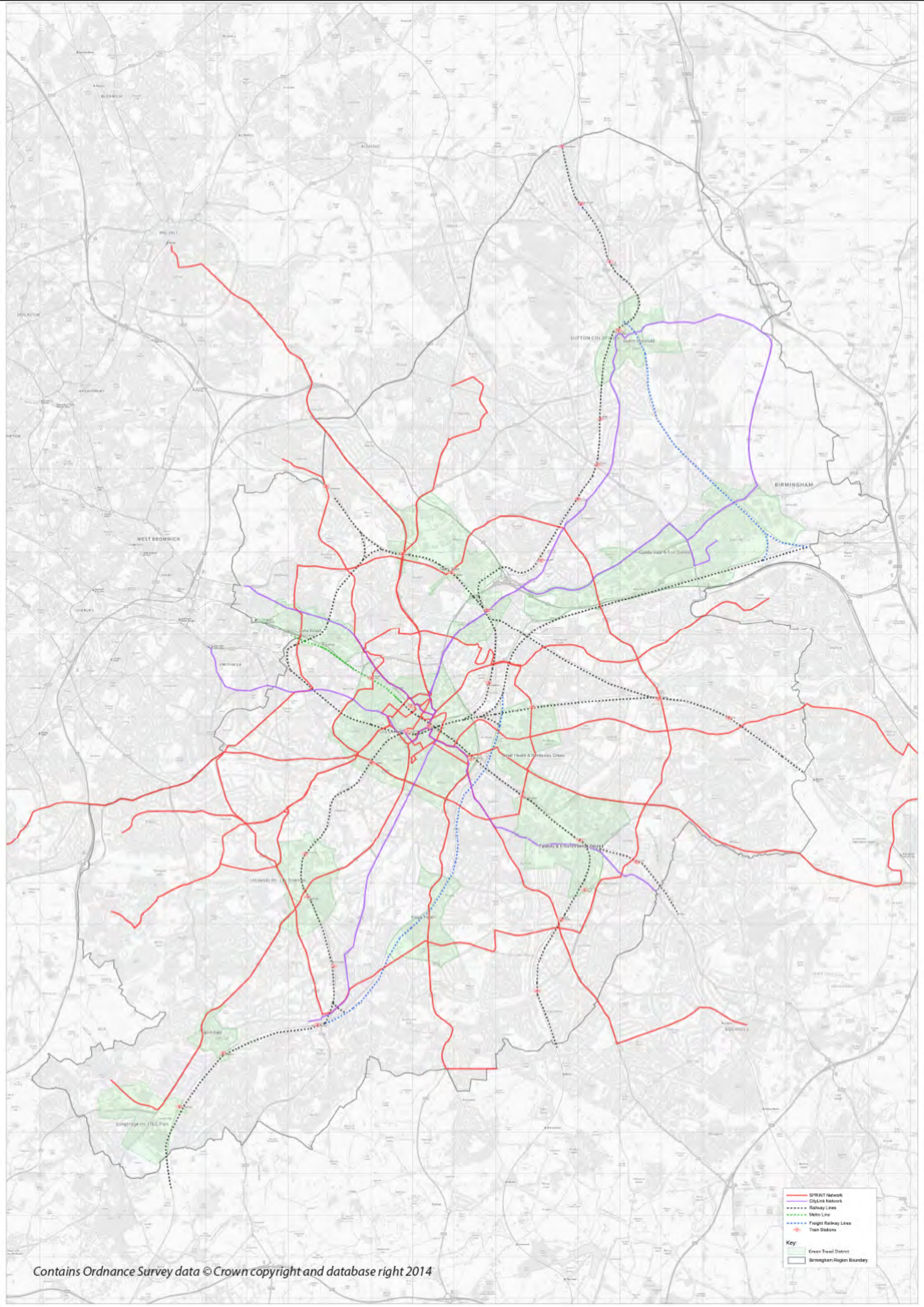
**Proposed SPRINT & CityLink**

- SPRINT Network
- CityLink Network

**Key:**

- Green Travel District
- Core Areas
- Birmingham Region Boundary

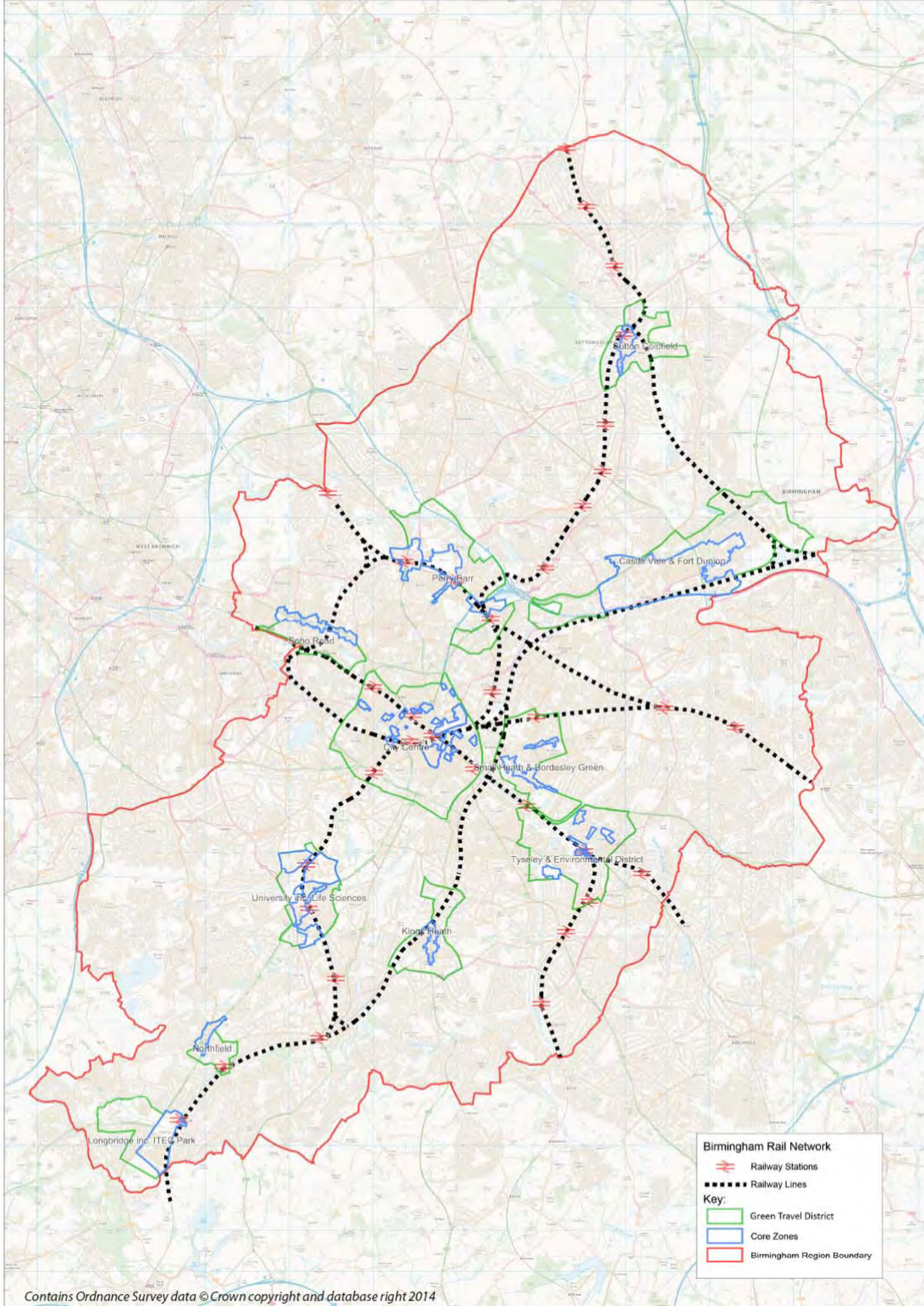






Key

- SPRINT Network
- CityLink Network
- Railway Lines
- Metro Line
- Freight Railway Lines
- Train Stations
- Green Travel District
- Birmingham Region Boundary








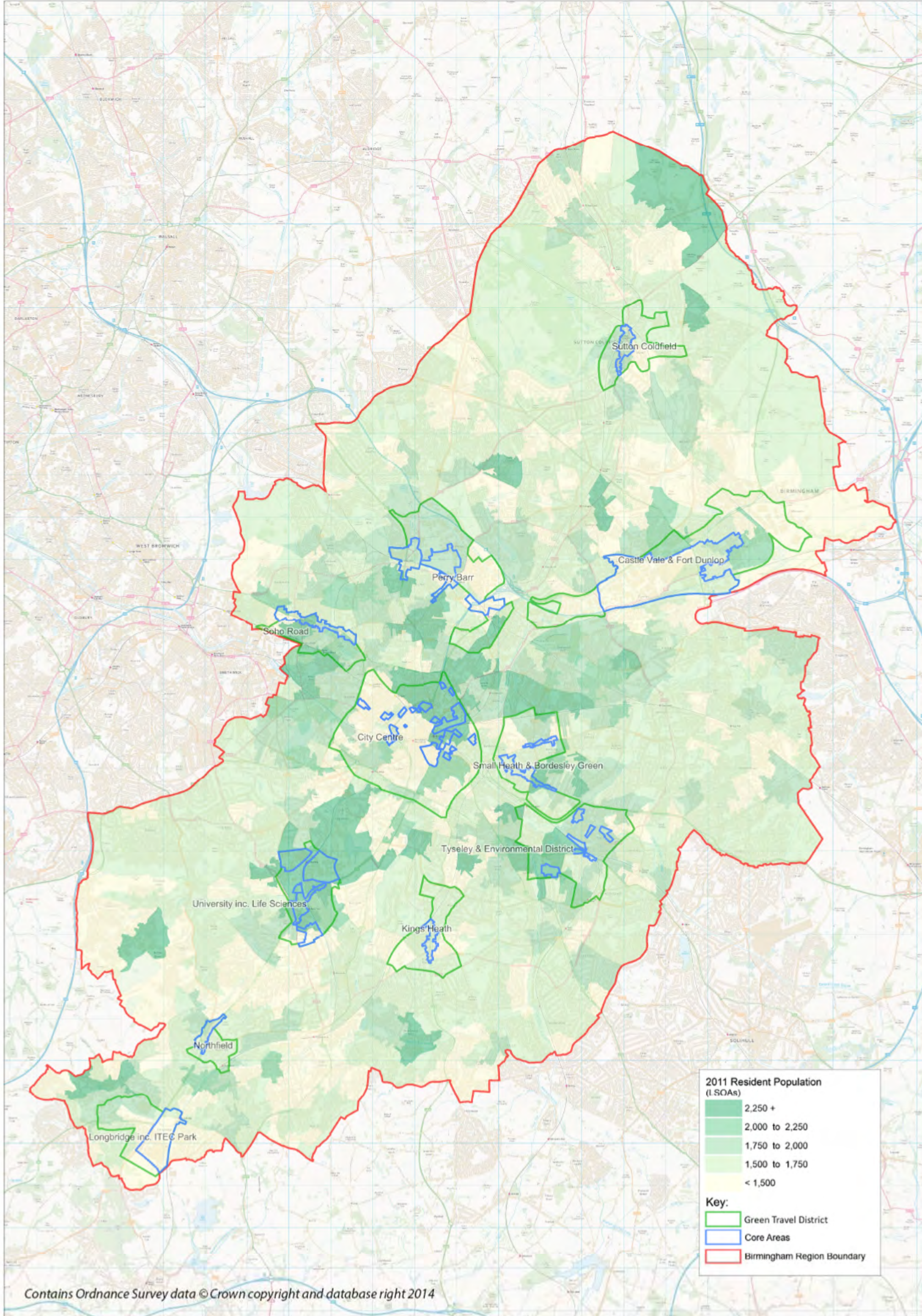
**Birmingham Rail Network**

-  Railway Stations
-  Railway Lines

**Key:**

-  Green Travel District
-  Core Zones
-  Birmingham Region Boundary





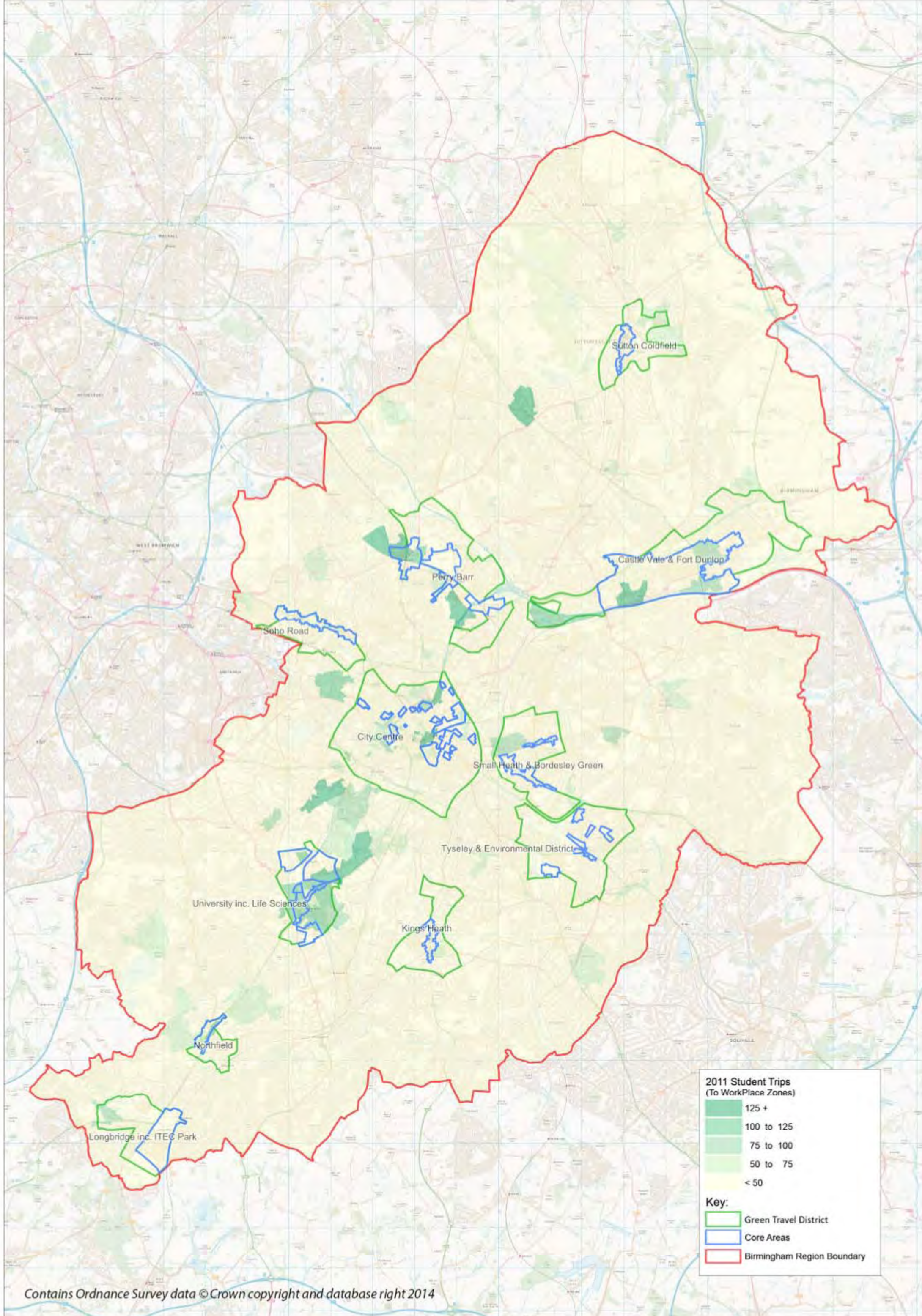
**2011 Resident Population (LSOAs)**

- 2,250 +
- 2,000 to 2,250
- 1,750 to 2,000
- 1,500 to 1,750
- < 1,500

**Key:**

- Green Travel District
- Core Areas
- Birmingham Region Boundary





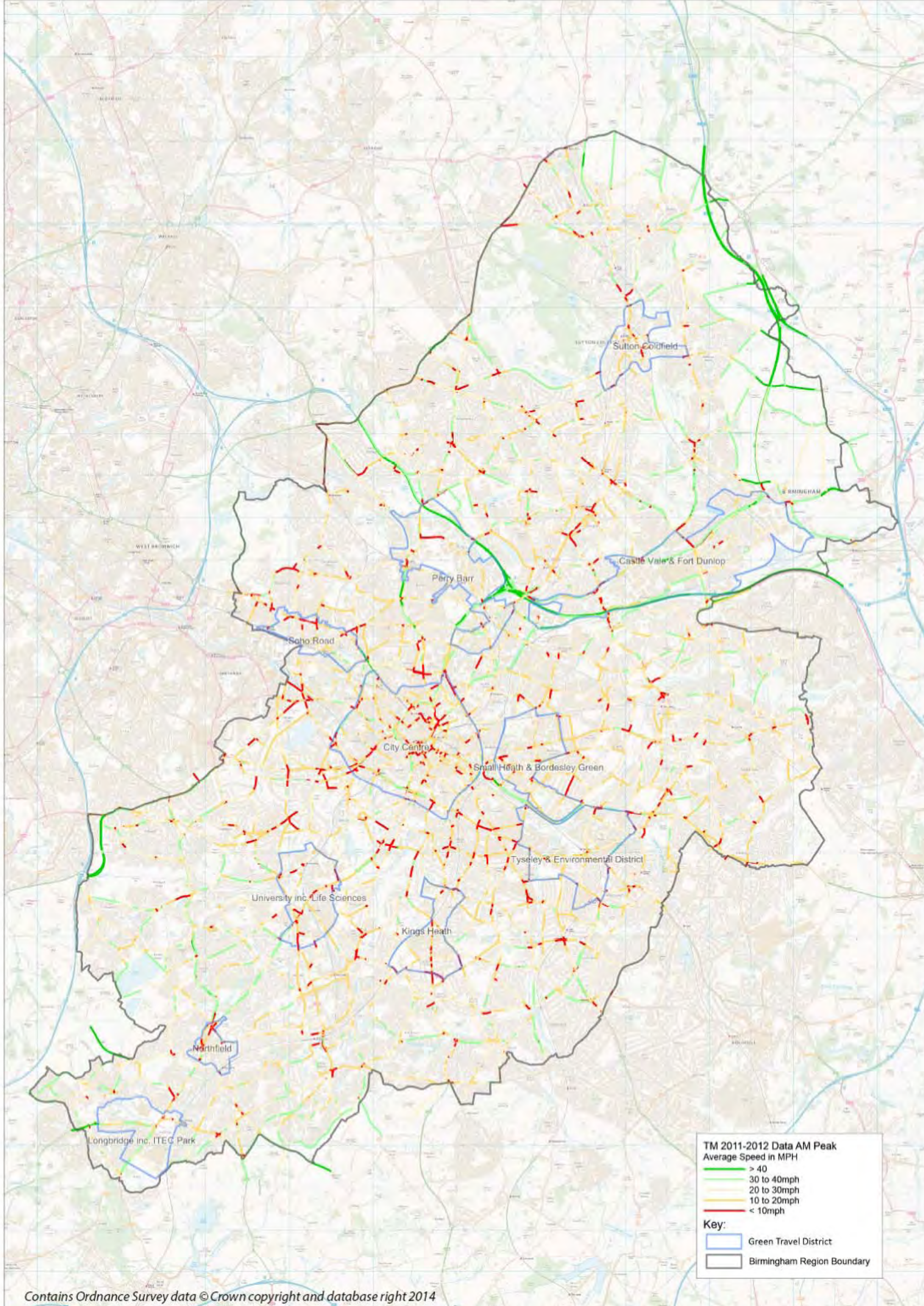
**2011 Student Trips  
(To WorkPlace Zones)**

- 125 +
- 100 to 125
- 75 to 100
- 50 to 75
- < 50

**Key:**

- Green Travel District
- Core Areas
- Birmingham Region Boundary





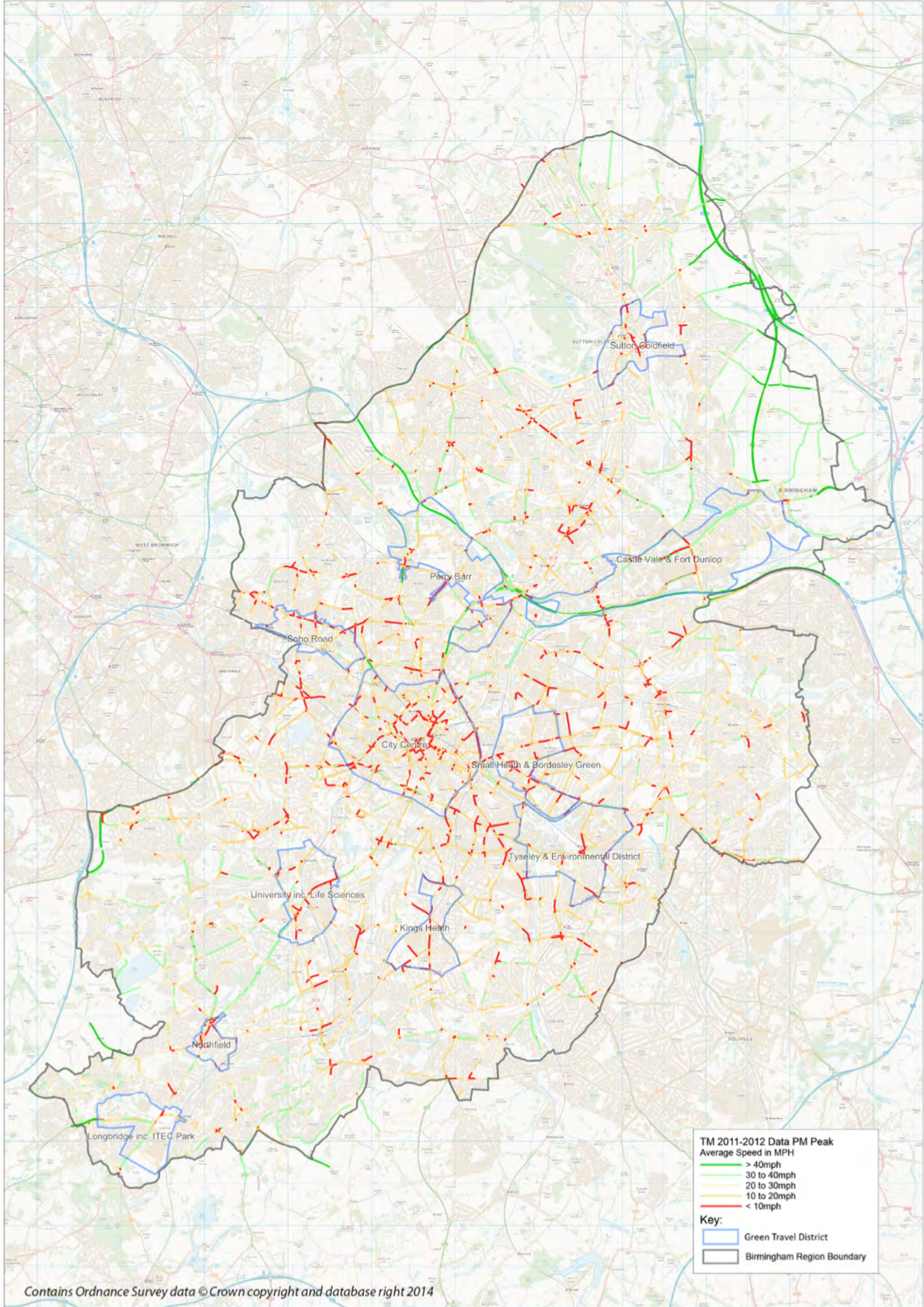
**TM 2011-2012 Data AM Peak**  
**Average Speed in MPH**

- > 40
- 30 to 40mph
- 20 to 30mph
- 10 to 20mph
- < 10mph

**Key:**

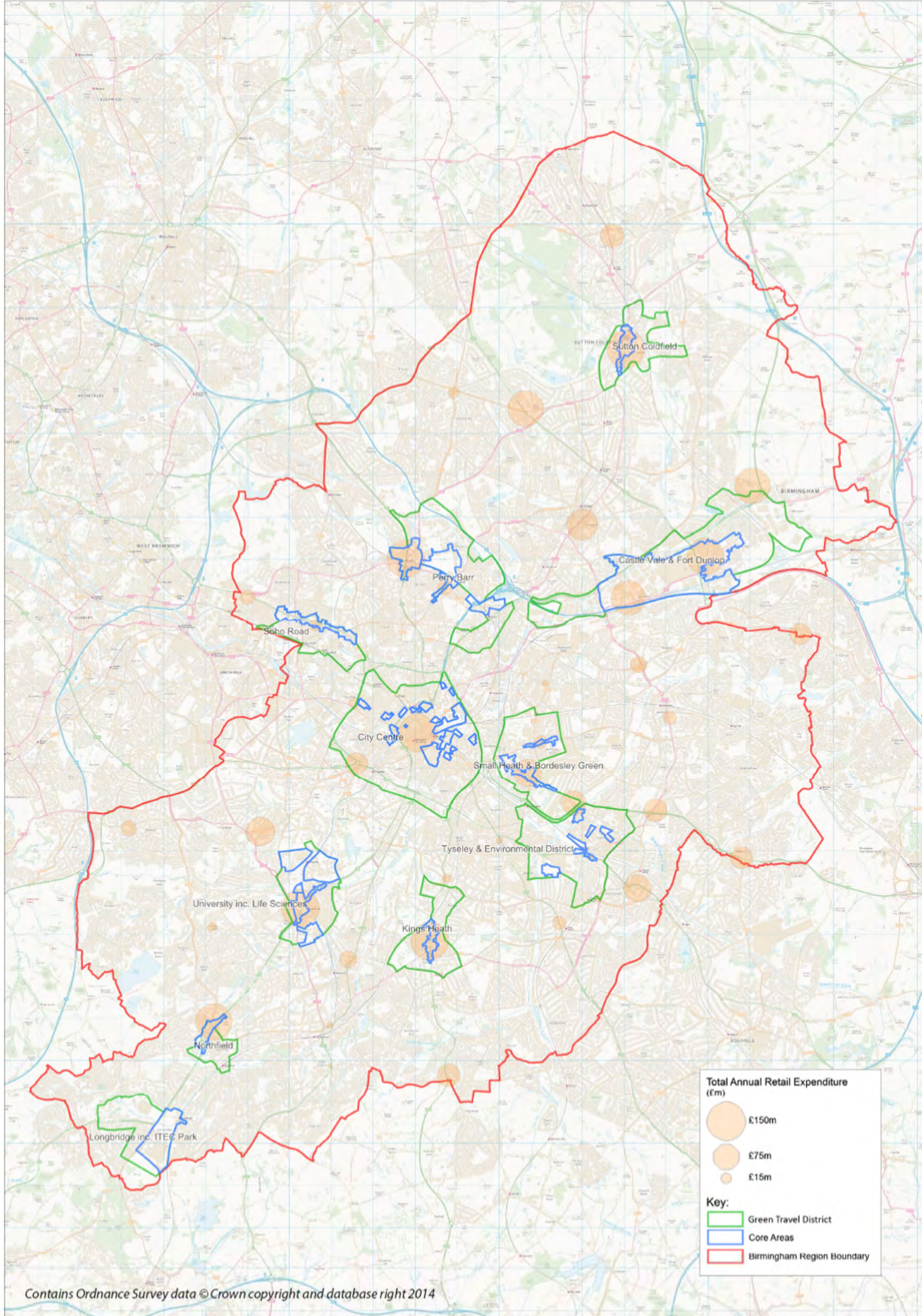
- Green Travel District
- Birmingham Region Boundary





**TM 2011-2012 Data PM Peak**  
**Average Speed in MPH**  
 > 40mph  
 30 to 40mph  
 20 to 30mph  
 10 to 20mph  
 < 10mph  
**Key:**  
 Green Travel District  
 Birmingham Region Boundary





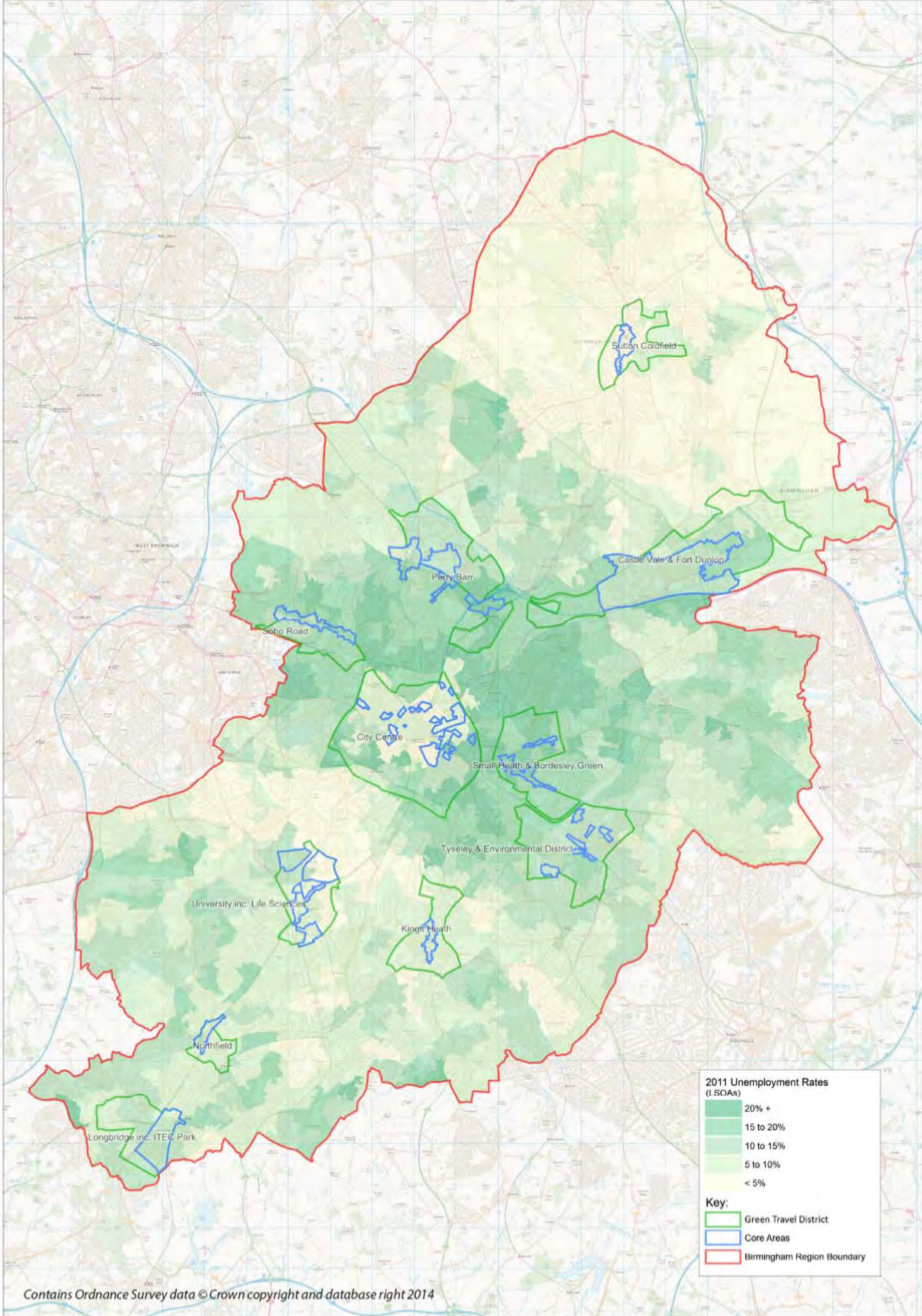
**Total Annual Retail Expenditure (£m)**

-  £150m
-  £75m
-  £15m

**Key:**

-  Green Travel District
-  Core Areas
-  Birmingham Region Boundary





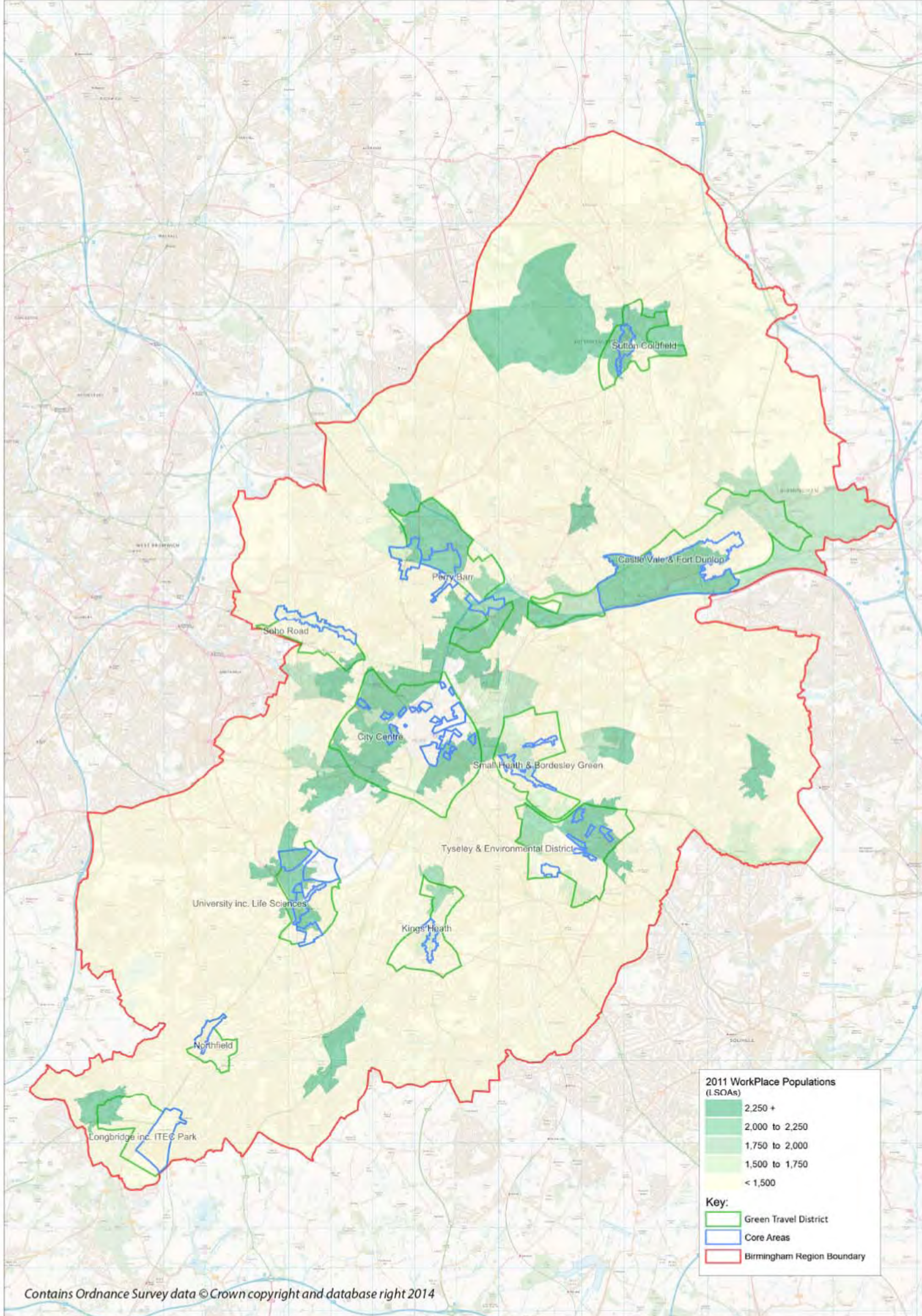
**2011 Unemployment Rates (1 SOAs)**

- 20% +
- 15 to 20%
- 10 to 15%
- 5 to 10%
- < 5%

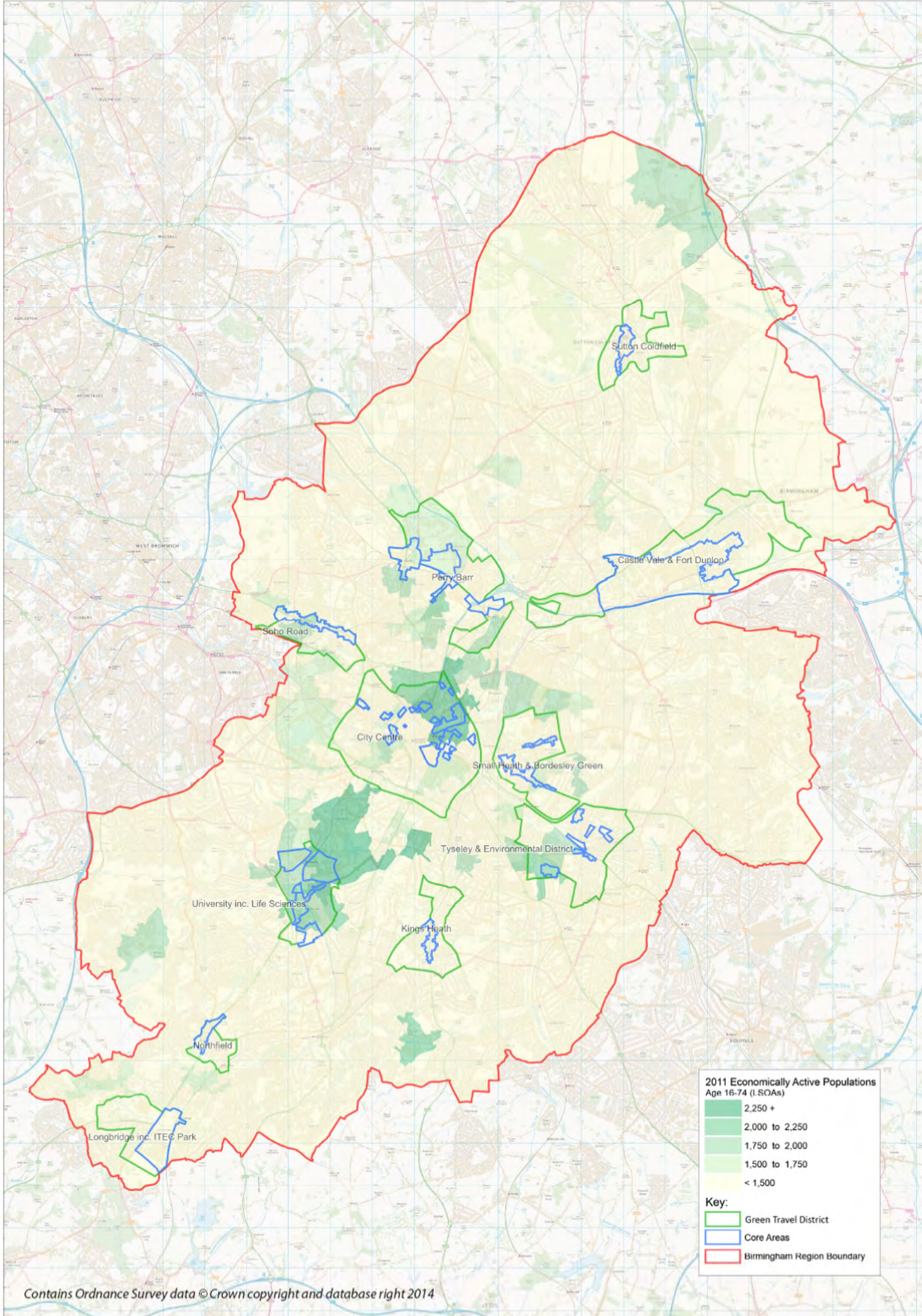
**Key:**

- Green Travel District
- Core Areas
- Birmingham Region Boundary

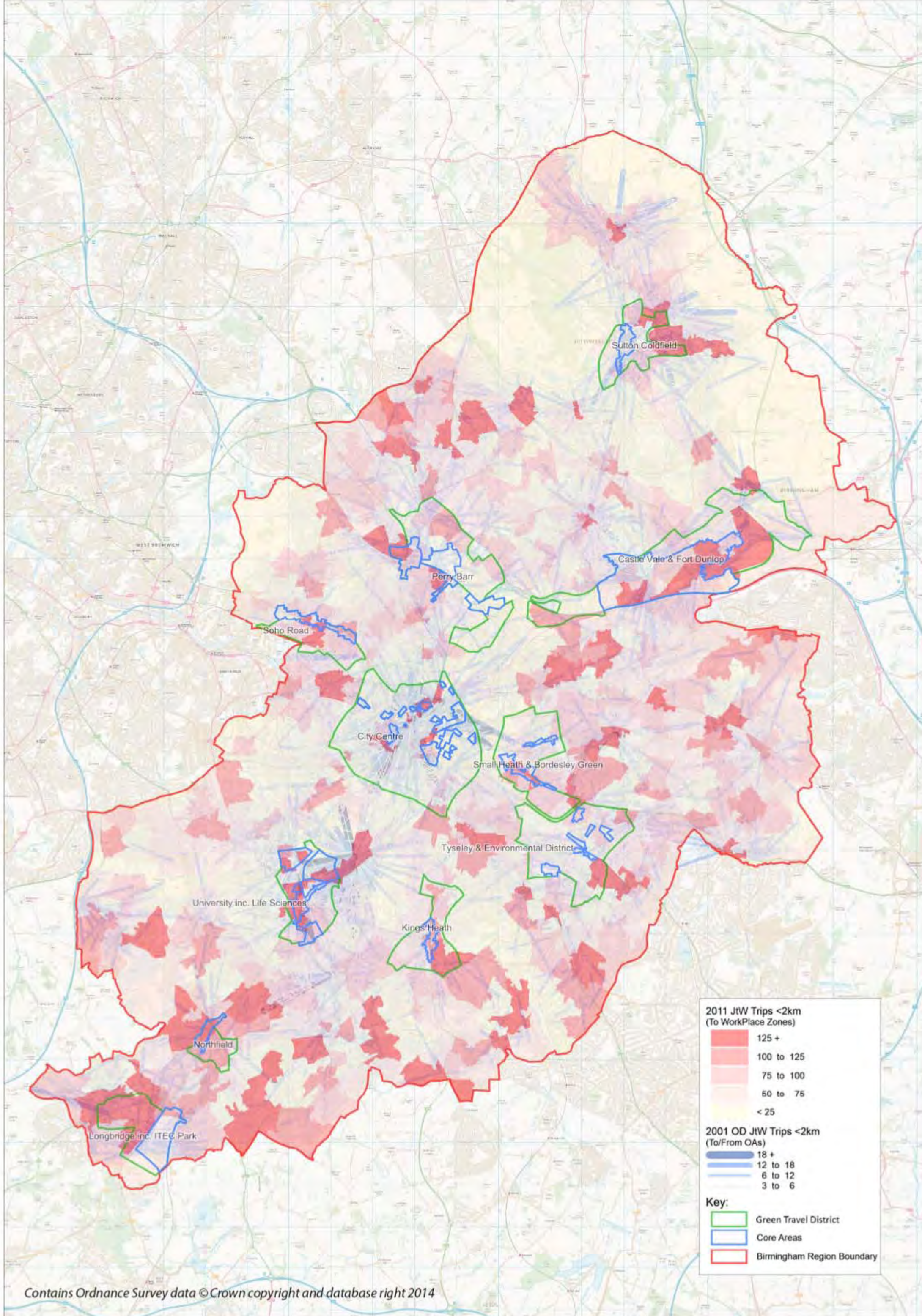




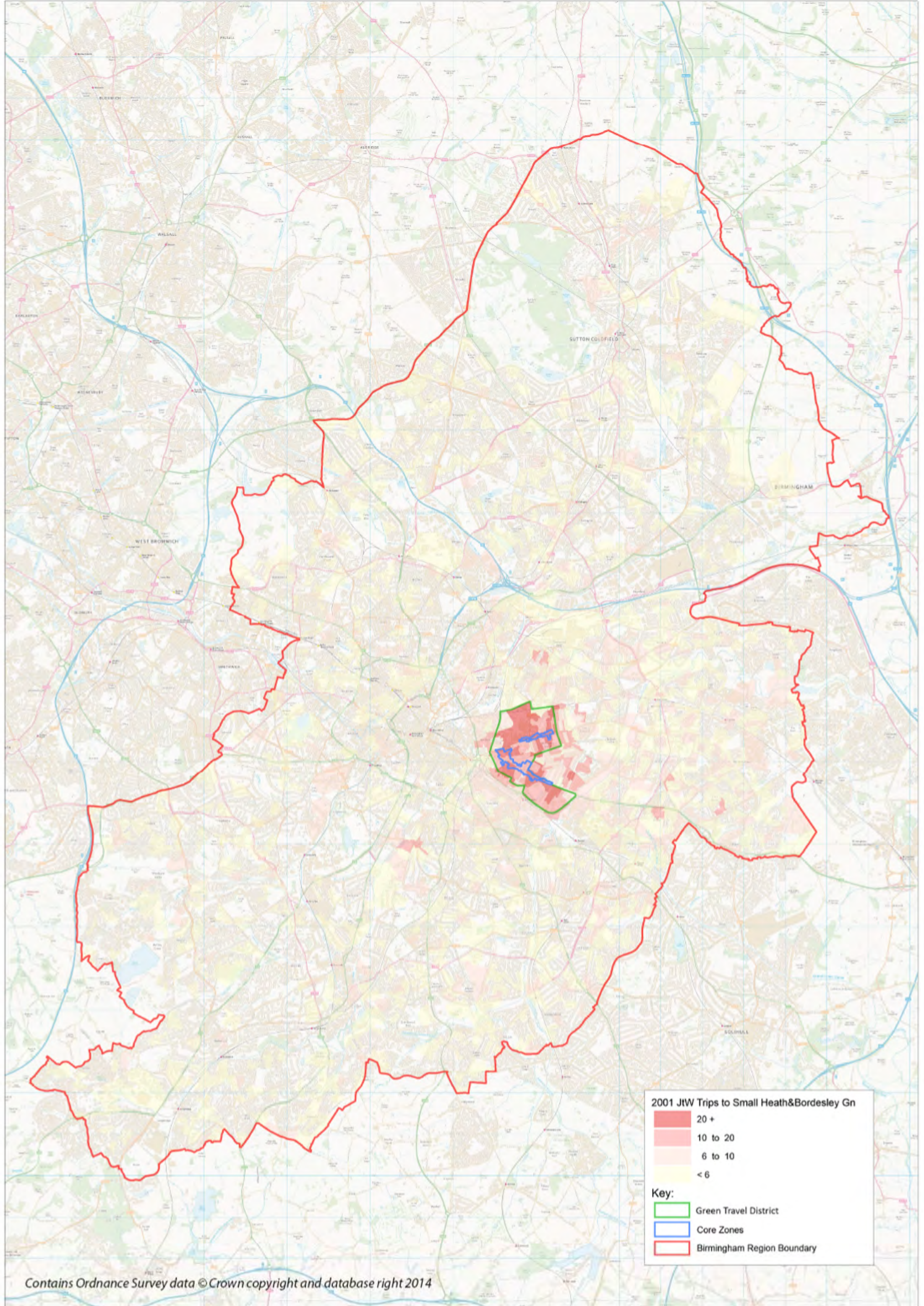












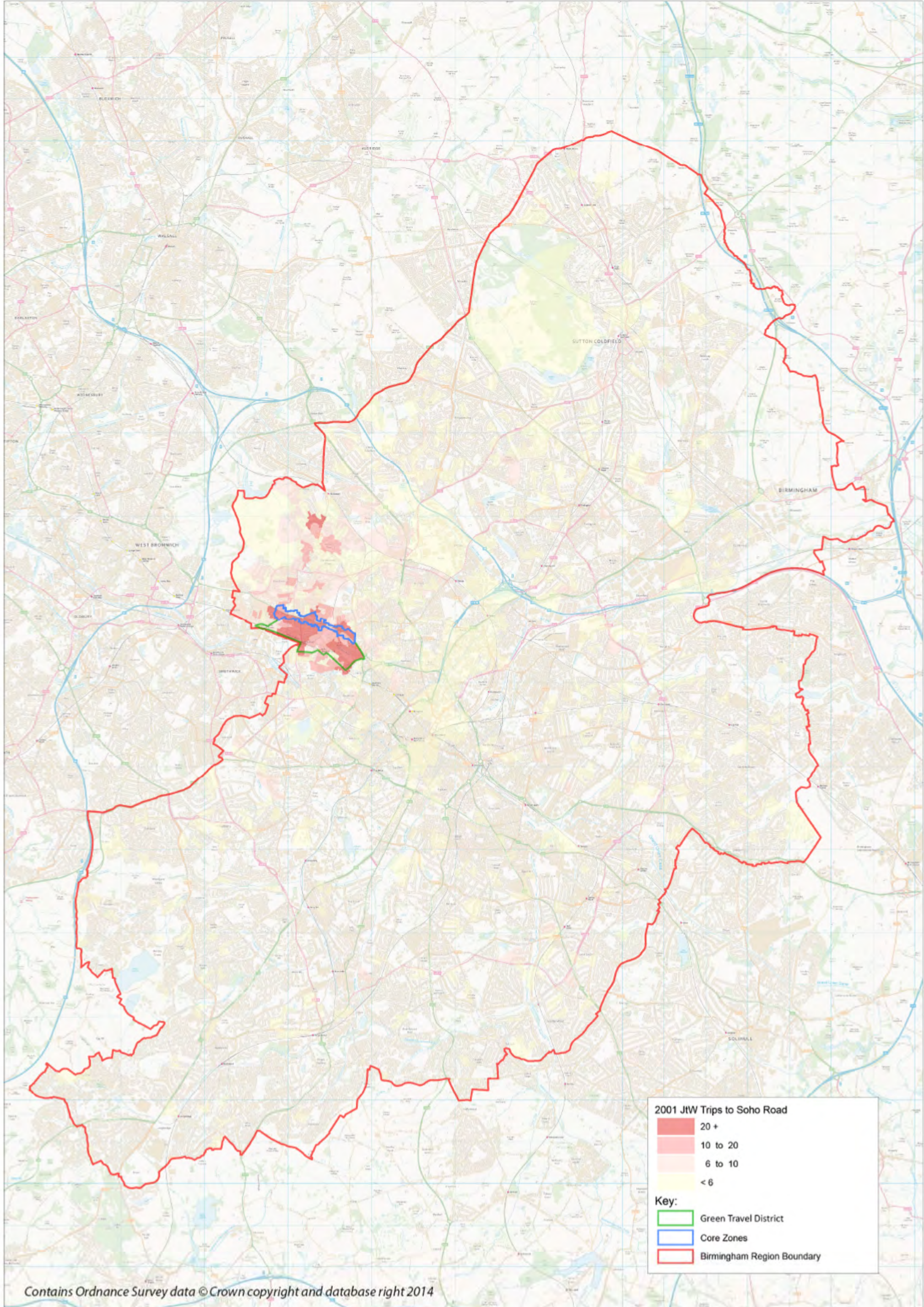
**2001 JTW Trips to Small Heath & Bordesley Gn**

Dark Red	20 +
Light Red	10 to 20
Pink	6 to 10
Yellow	< 6

**Key:**

Green Outline	Green Travel District
Blue Outline	Core Zones
Red Outline	Birmingham Region Boundary





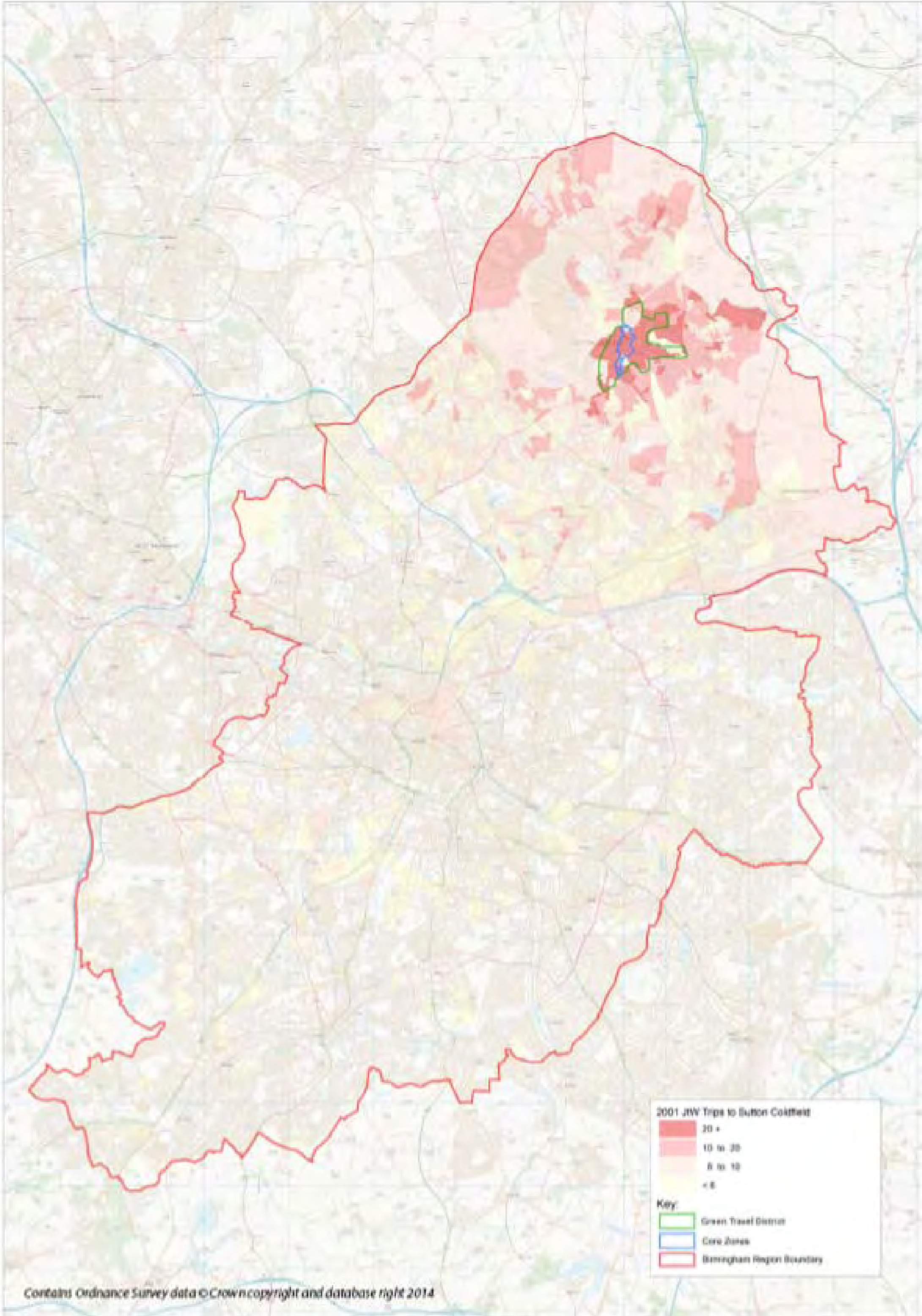
**2001 JTW Trips to Soho Road**

Dark Red	20 +
Medium Red	10 to 20
Light Red	6 to 10
Yellow	< 6

**Key:**

Green Outline	Green Travel District
Blue Outline	Core Zones
Red Outline	Birmingham Region Boundary





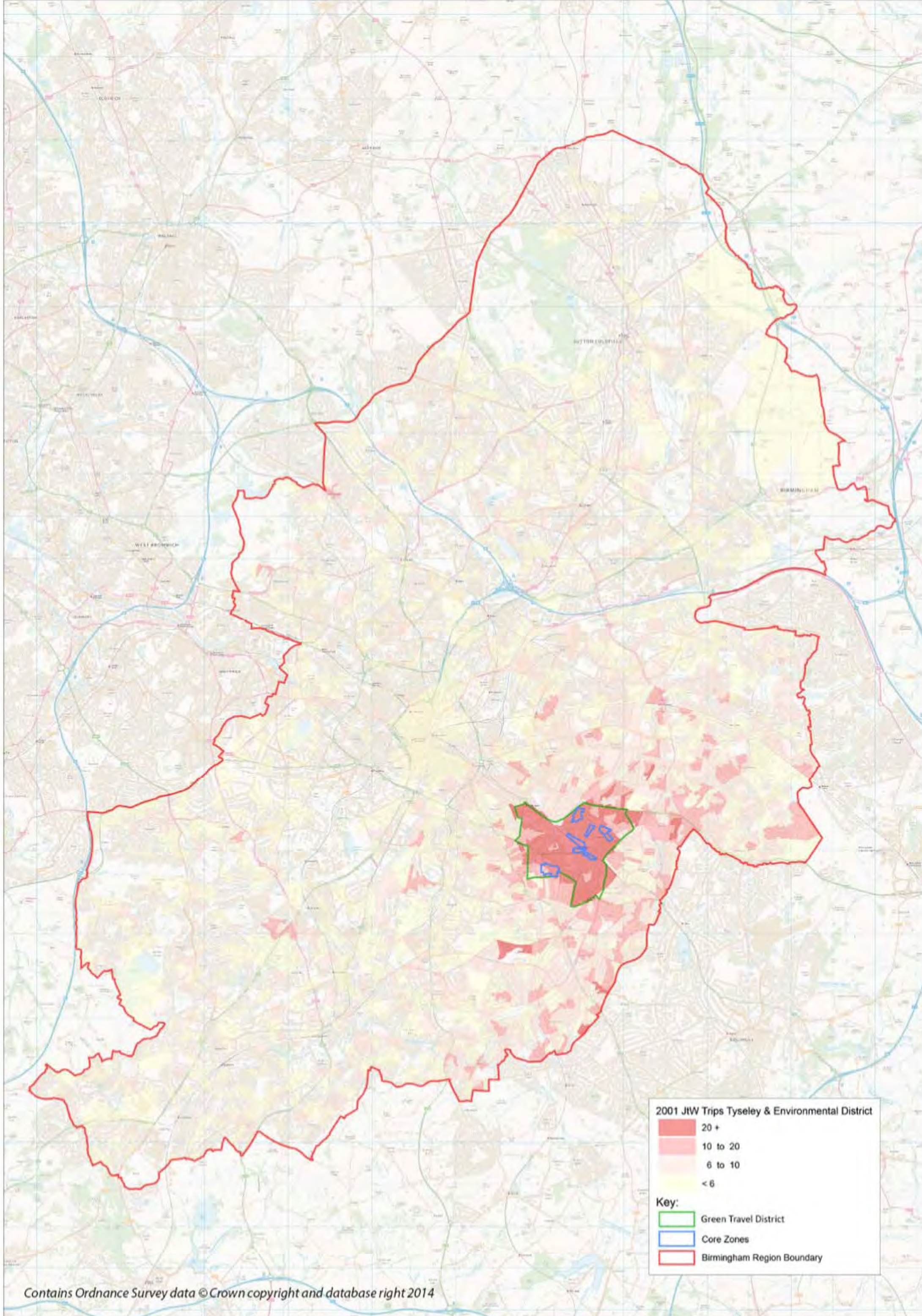
**2001 JTW Trips to Sutton Coldfield**

Dark Red	20 +
Red	10 to 20
Light Red	5 to 10
Yellow	< 5





**Key:**

Green outline	Green Travel District
Blue outline	Core Zones
Red outline	Birmingham Region Boundary








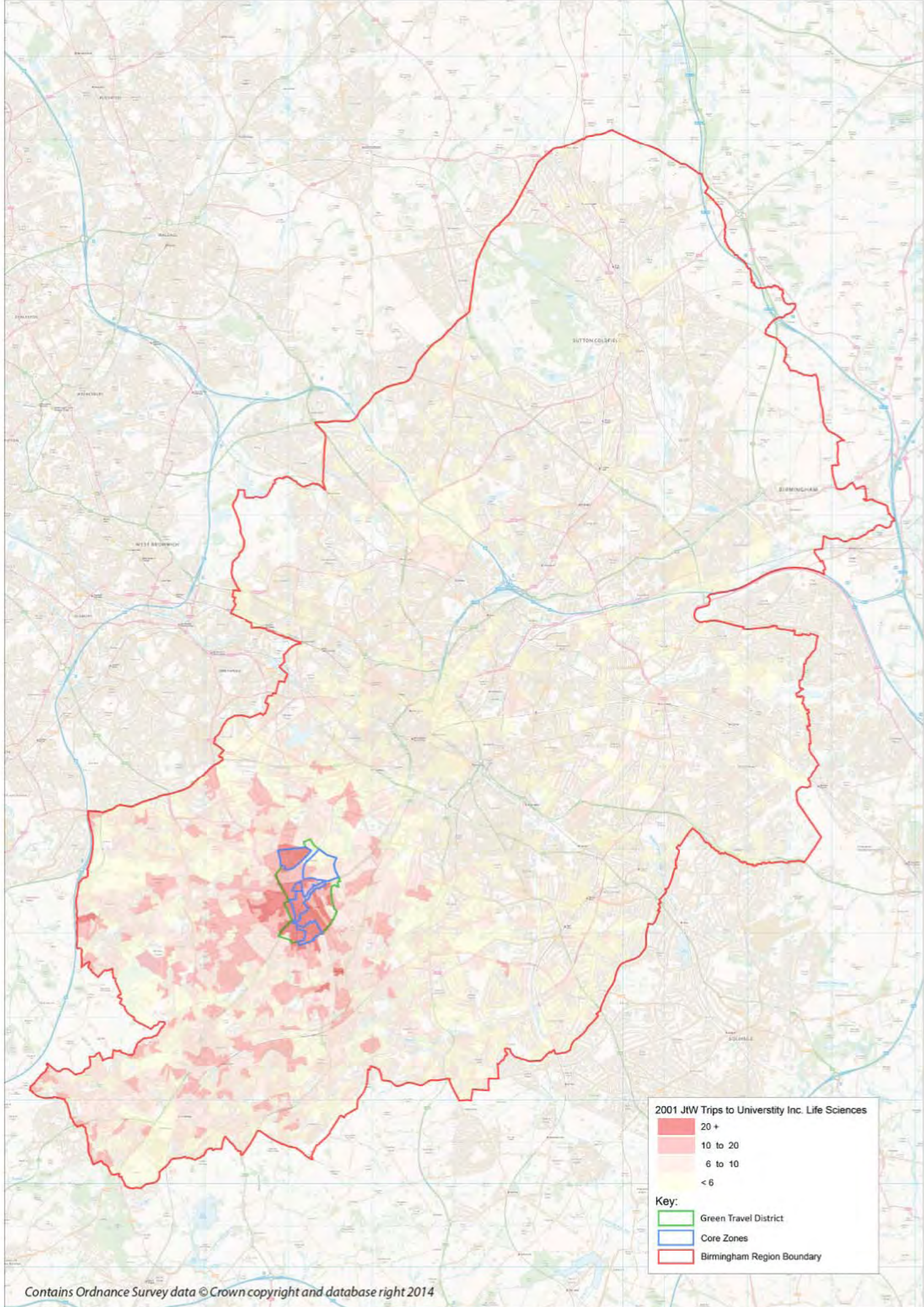
**2001 JTW Trips Tyseley & Environmental District**

	20 +
	10 to 20
	6 to 10
	< 6

**Key:**

	Green Travel District
	Core Zones
	Birmingham Region Boundary





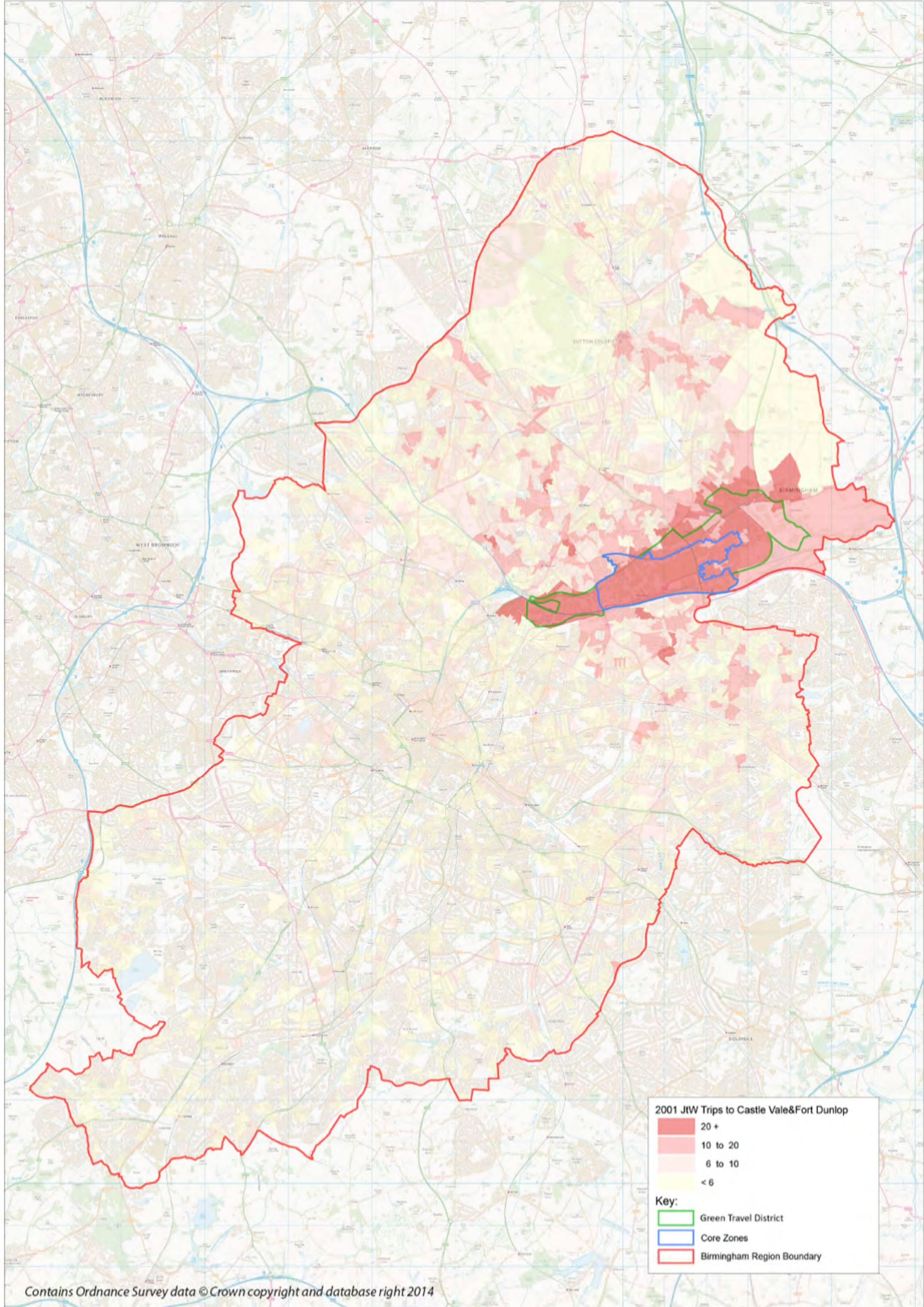
**2001 J1W Trips to University Inc. Life Sciences**

	20 +
	10 to 20
	6 to 10
	< 6

**Key:**

	Green Travel District
	Core Zones
	Birmingham Region Boundary





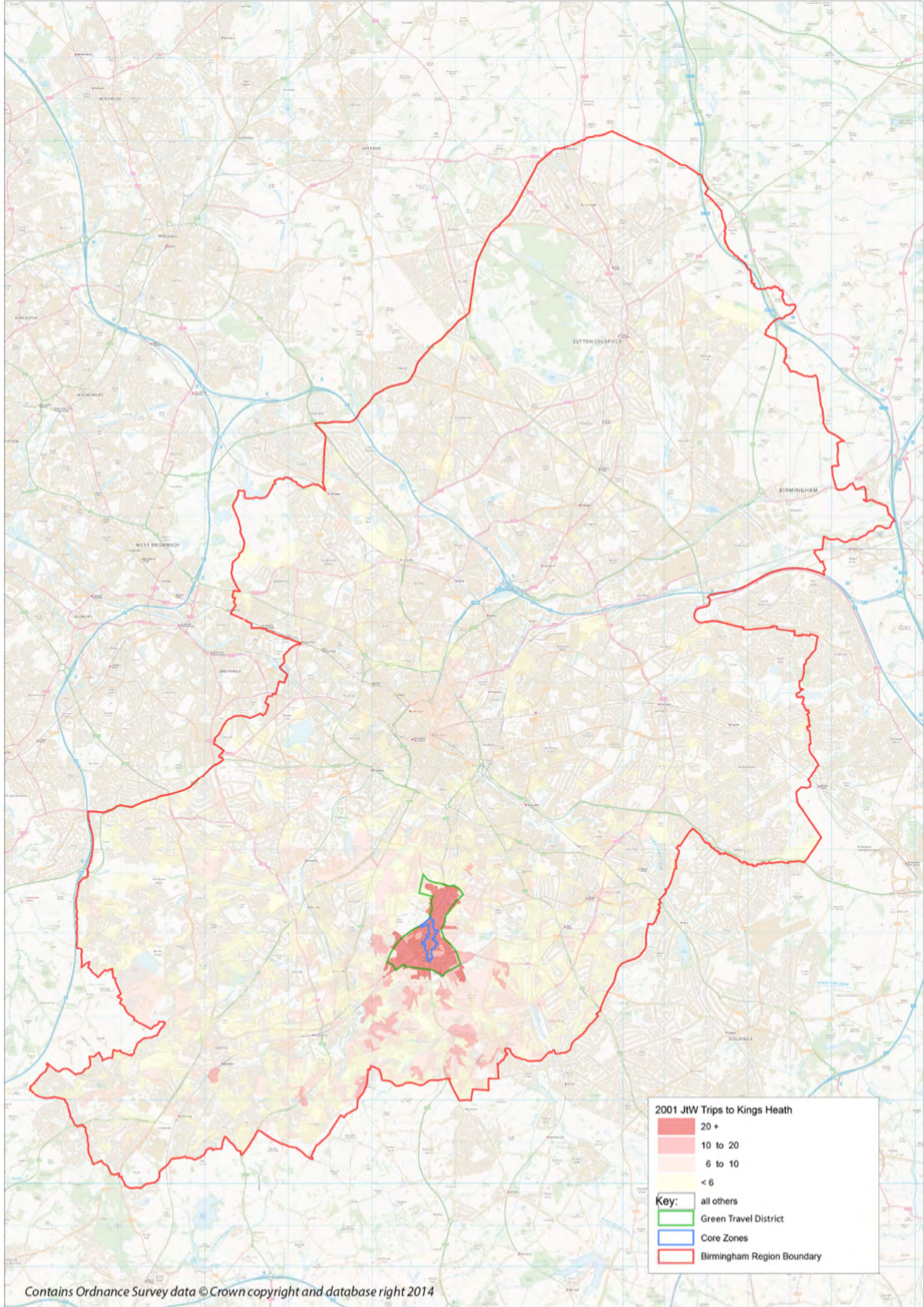
**2001 JiW Trips to Castle Vale&Fort Dunlop**

	20 +
	10 to 20
	6 to 10
	< 6

**Key:**

	Green Travel District
	Core Zones
	Birmingham Region Boundary





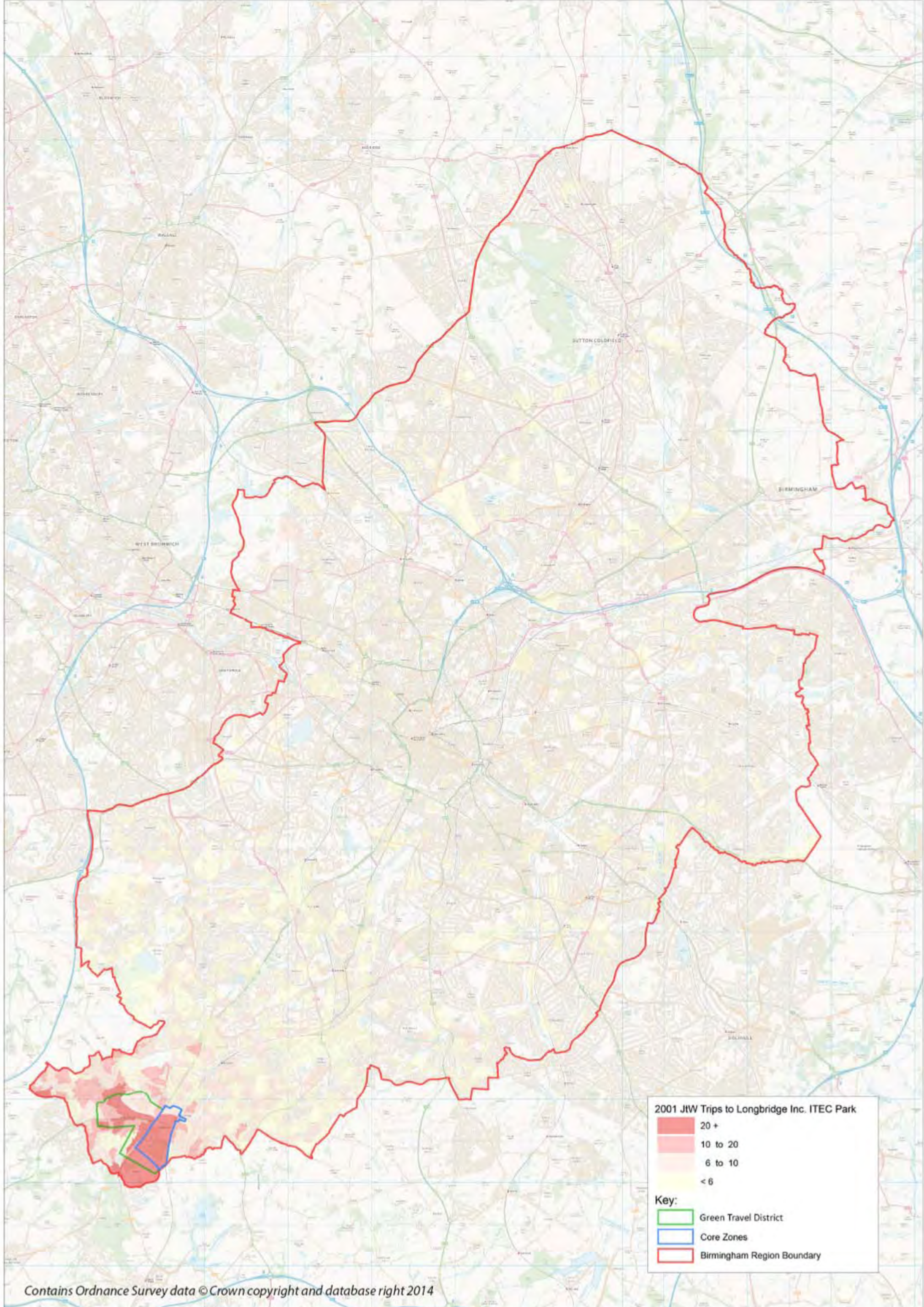
**2001 JiW Trips to Kings Heath**

	20 +
	10 to 20
	6 to 10
	< 6

**Key:**

	Green Travel District
	Core Zones
	Birmingham Region Boundary





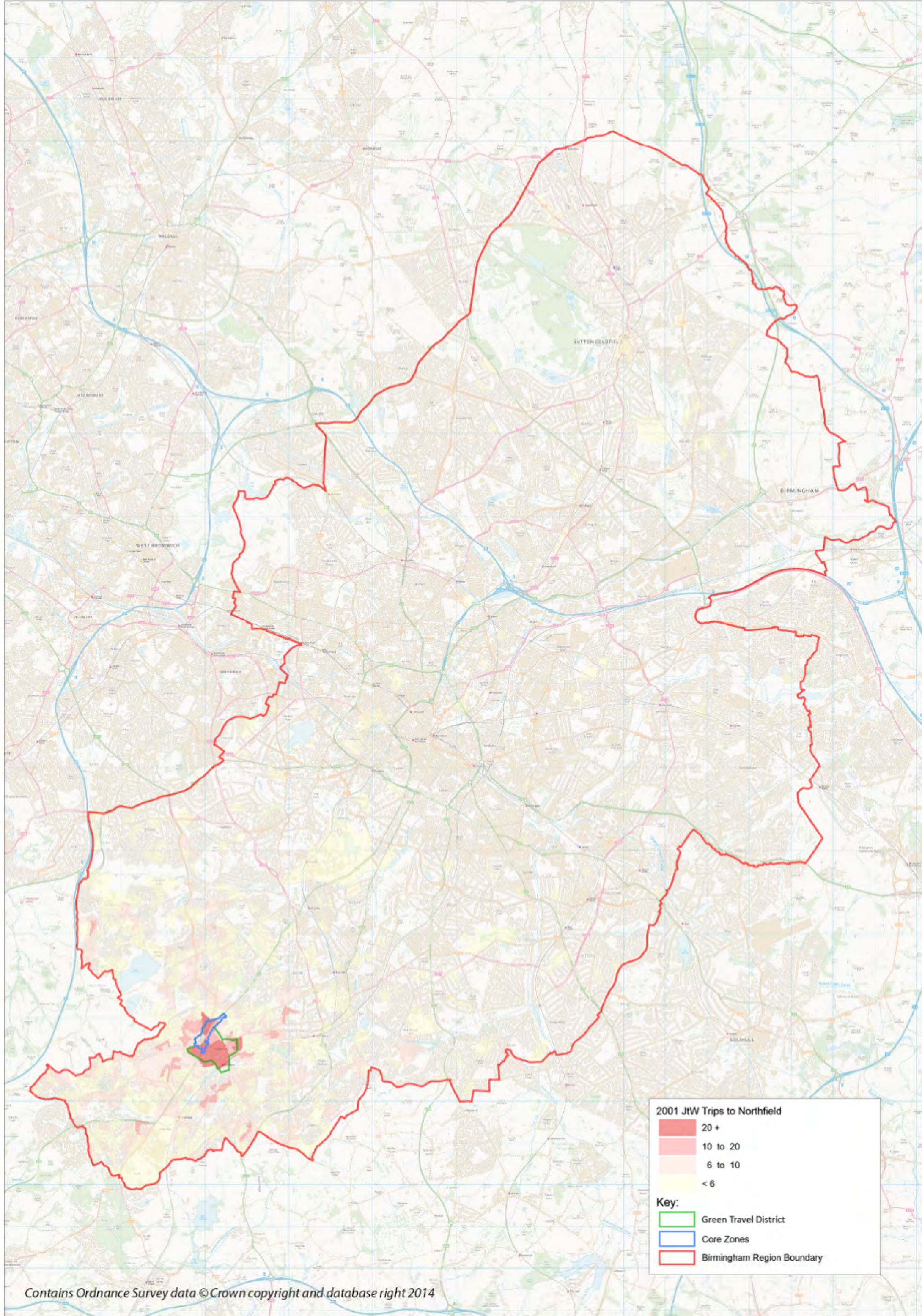
**2001 JTW Trips to Longbridge Inc. ITEC Park**

Dark Red	20 +
Light Red	10 to 20
Pink	6 to 10
Yellow	< 6

**Key:**

Green Outline	Green Travel District
Blue Outline	Core Zones
Red Outline	Birmingham Region Boundary





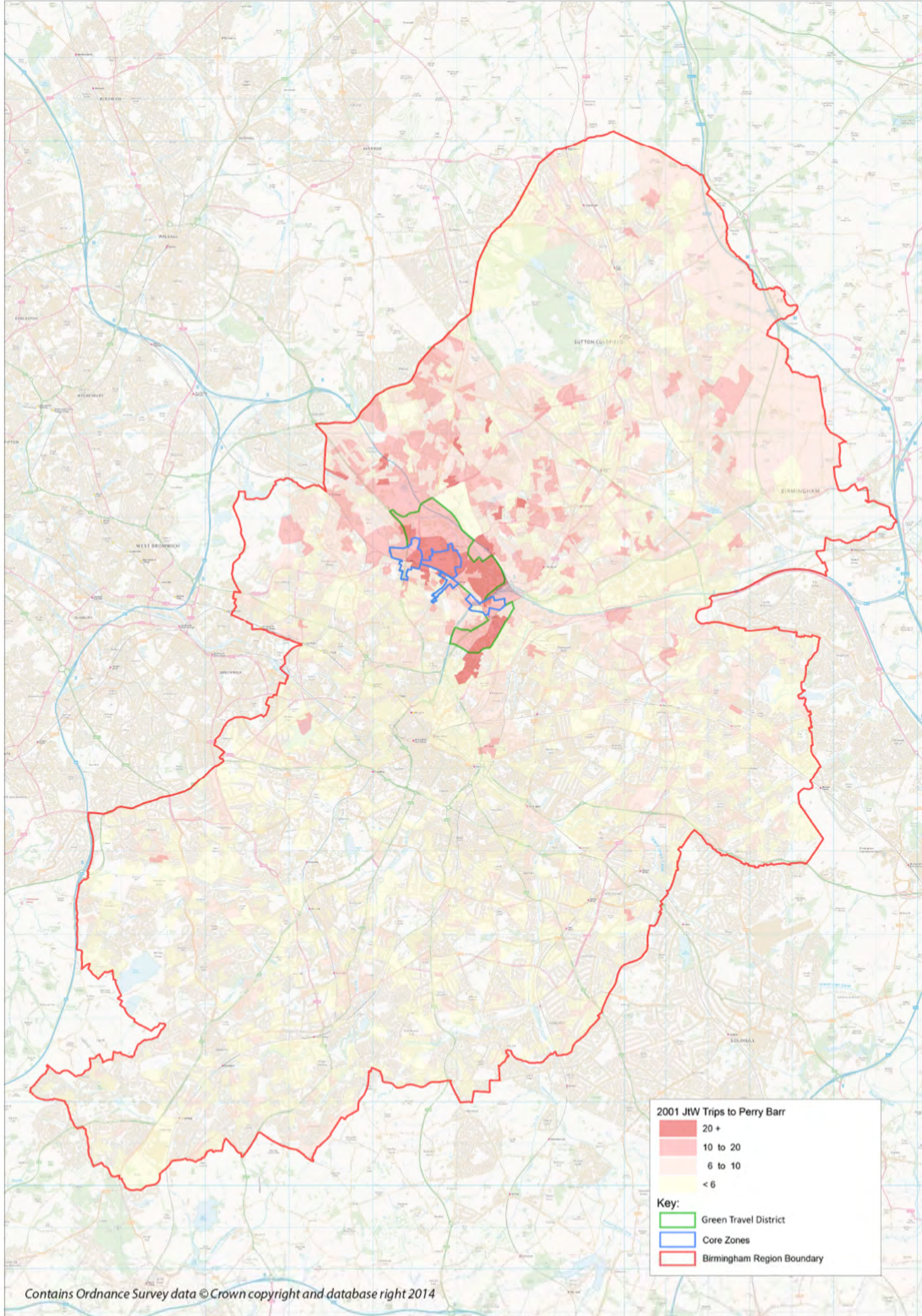
**2001 JTW Trips to Northfield**

Dark Red	20 +
Light Red	10 to 20
Orange	6 to 10
Yellow	< 6

**Key:**

Green Outline	Green Travel District
Blue Outline	Core Zones
Red Outline	Birmingham Region Boundary





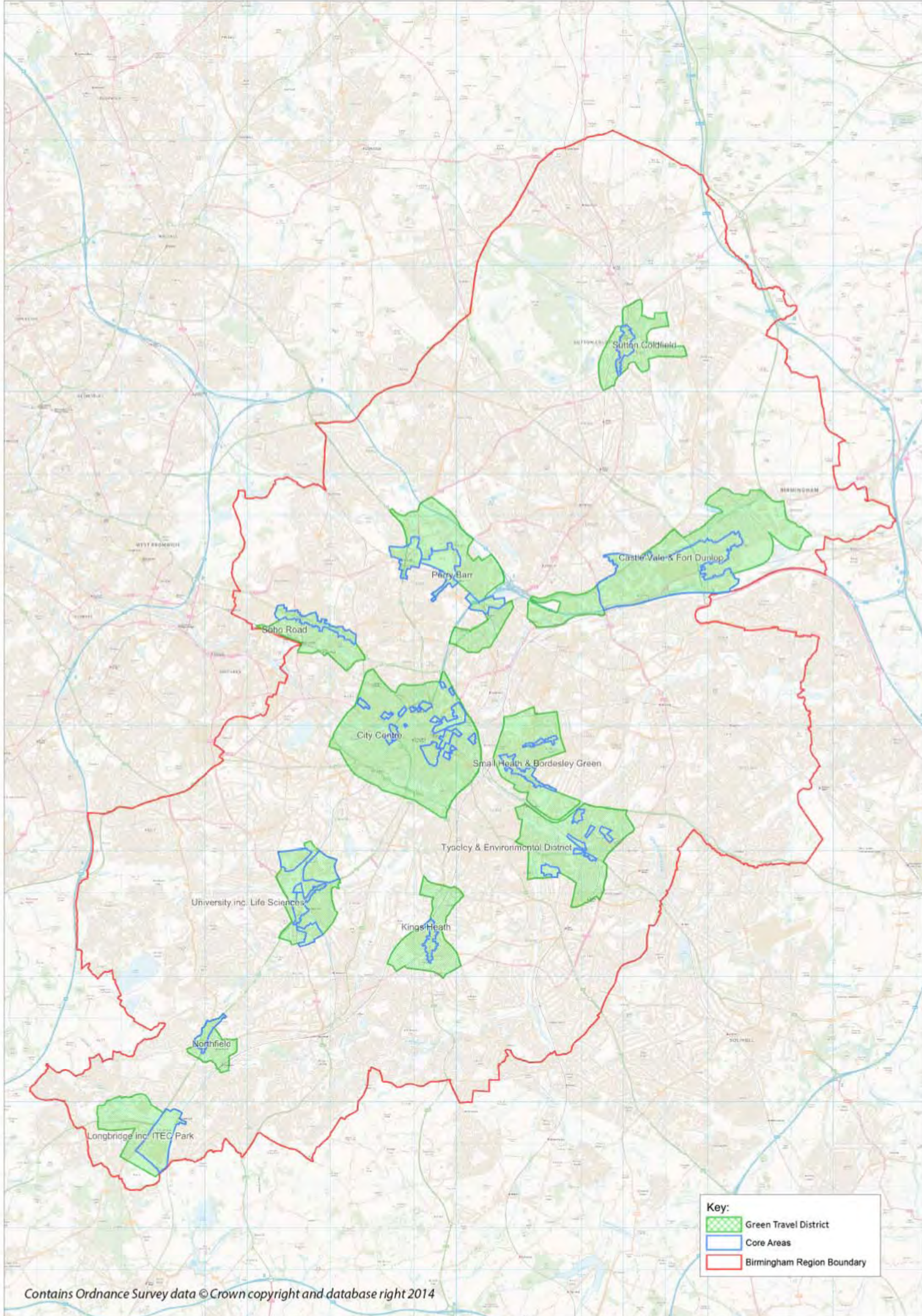
**2001 J1W Trips to Perry Barr**

Dark Red	20 +
Light Red	10 to 20
Pink	6 to 10
Yellow	< 6

**Key:**

Green Outline	Green Travel District
Blue Outline	Core Zones
Red Outline	Birmingham Region Boundary

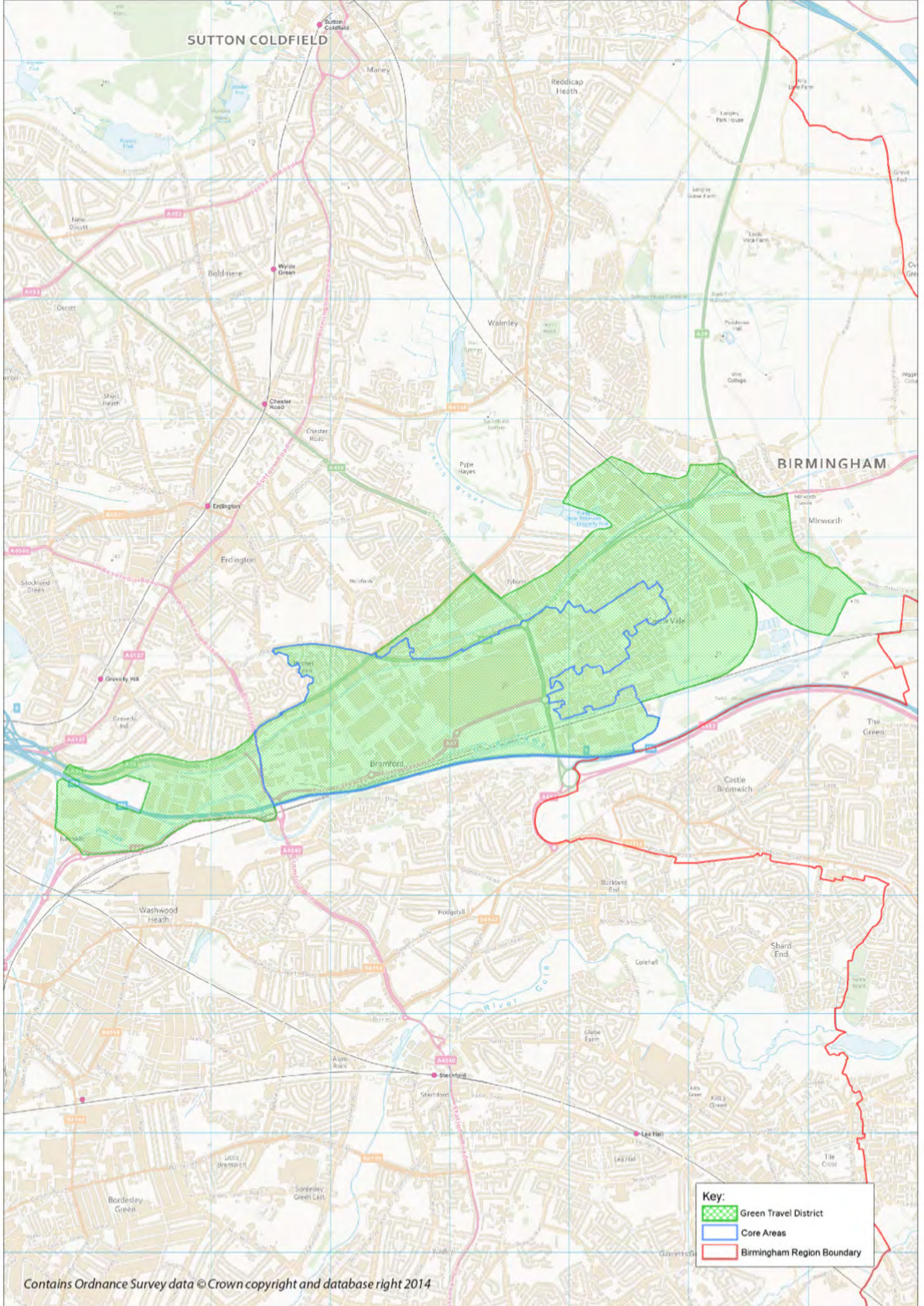




**Key:**

-  Green Travel District
-  Core Areas
-  Birmingham Region Boundary








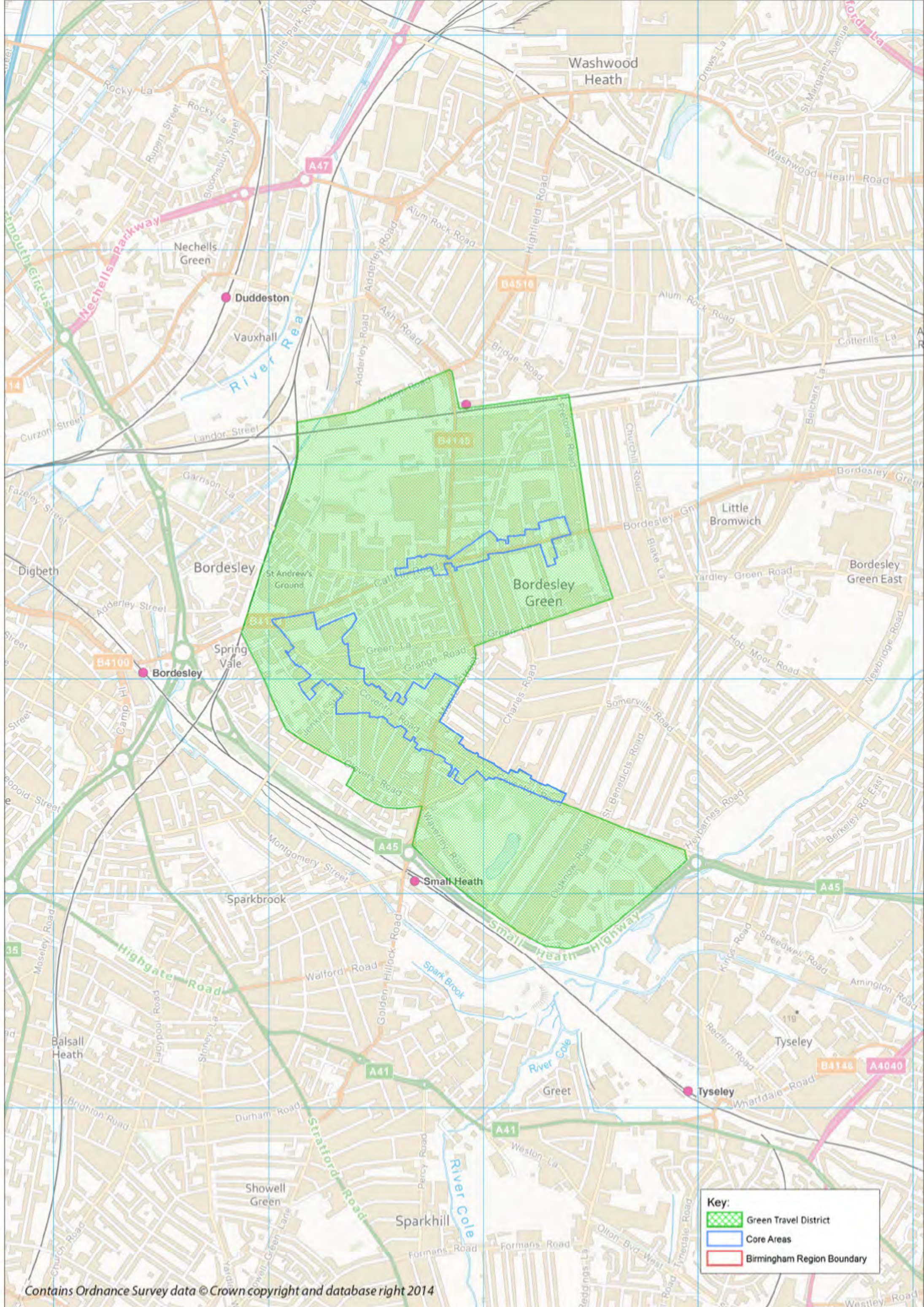
SUTTON COLDFIELD

BIRMINGHAM

**Key:**

-  Green Travel District
-  Core Areas
-  Birmingham Region Boundary

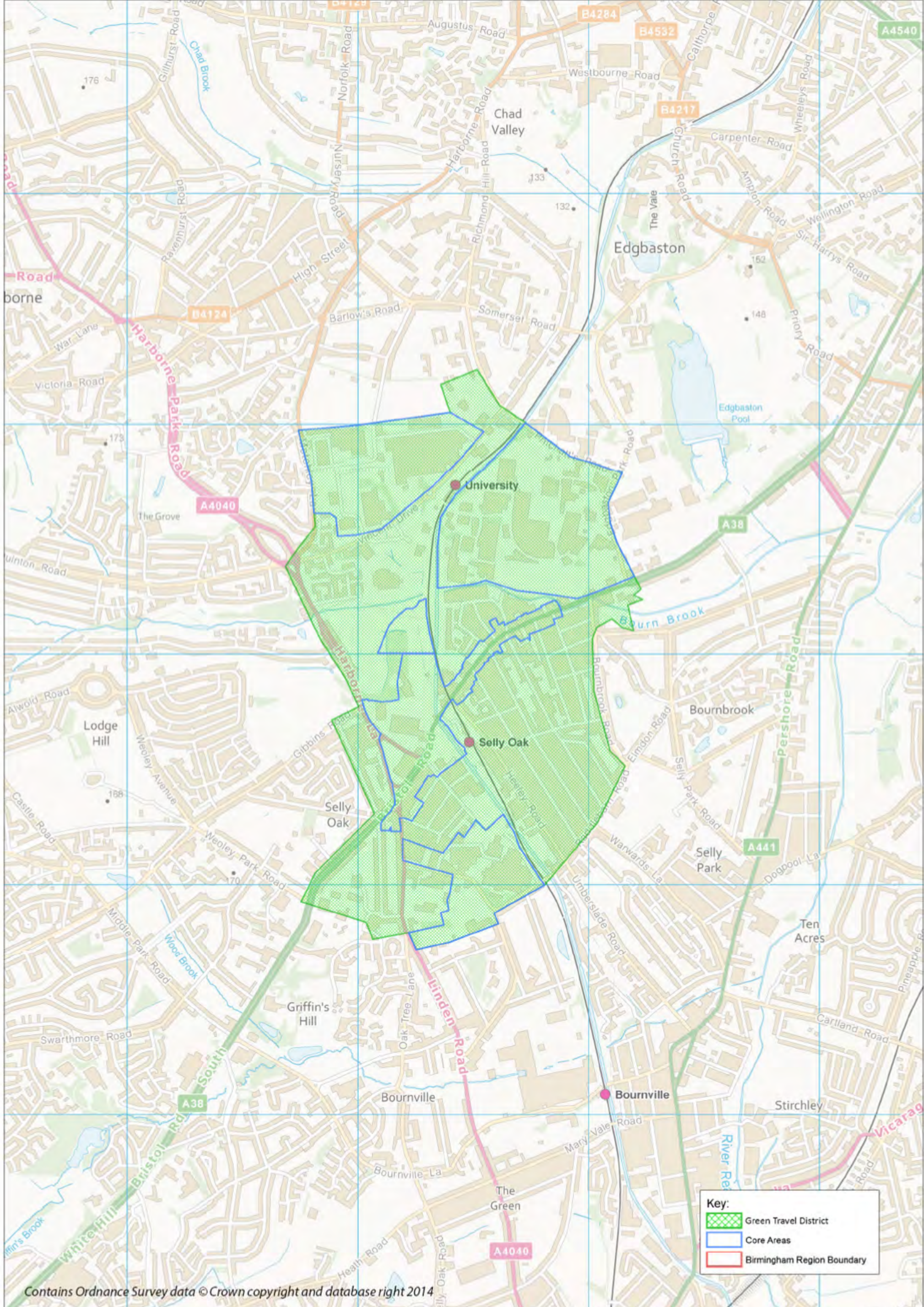




**Key:**

- Green Travel District
- Core Areas
- Birmingham Region Boundary

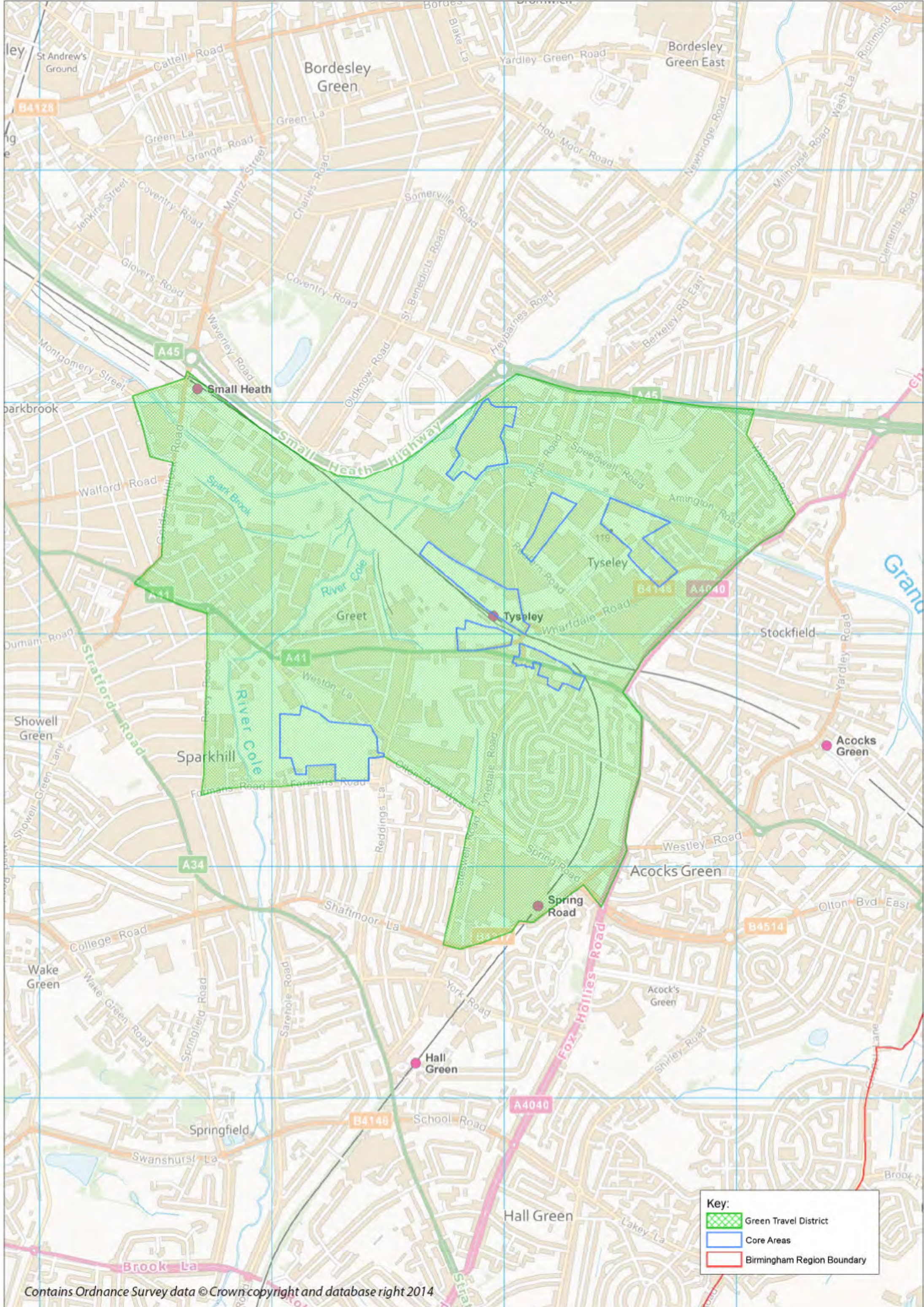




**Key:**

- Green Travel District
- Core Areas
- Birmingham Region Boundary

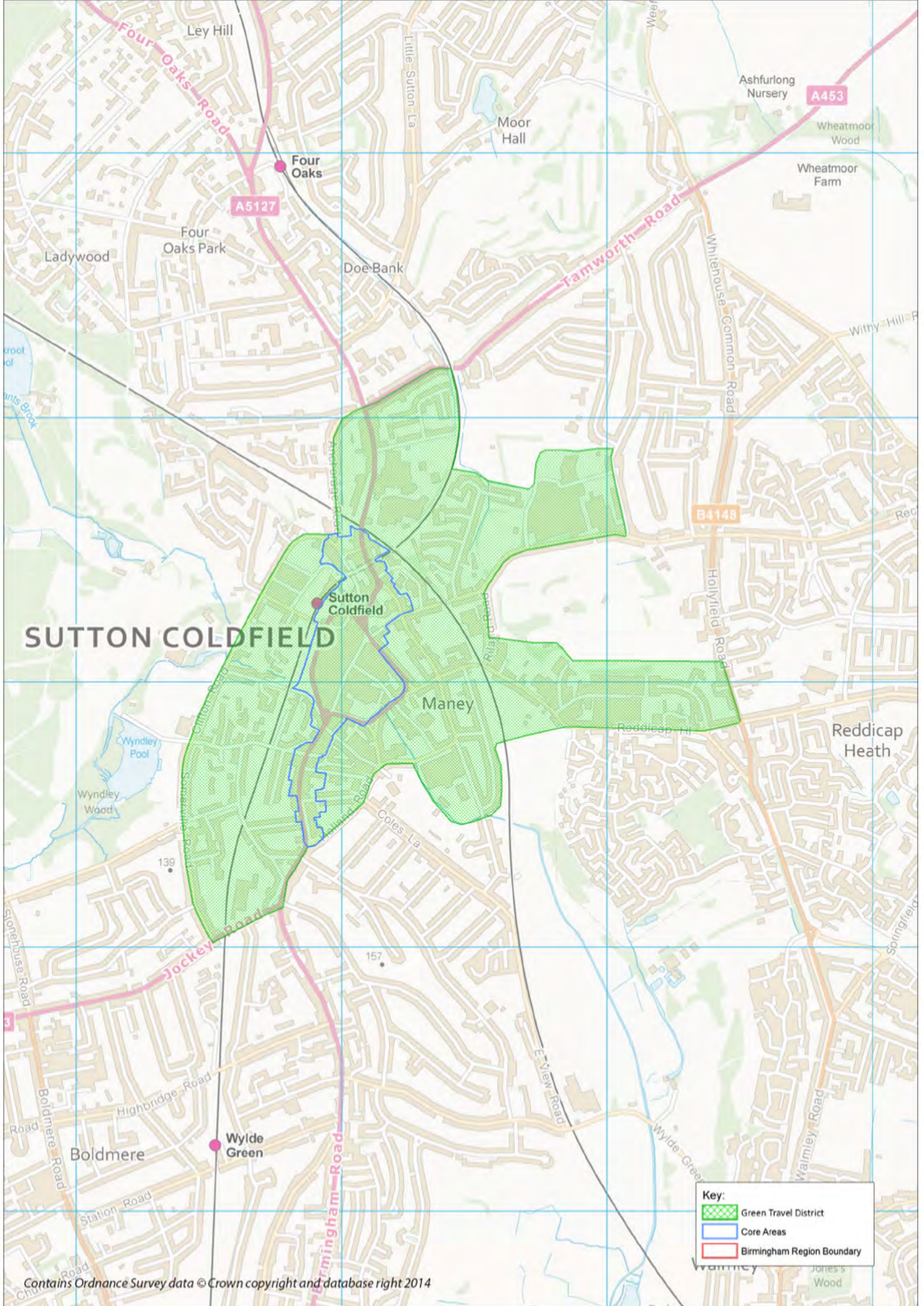




**Key:**




- Green Travel District
- Core Areas
- Birmingham Region Boundary



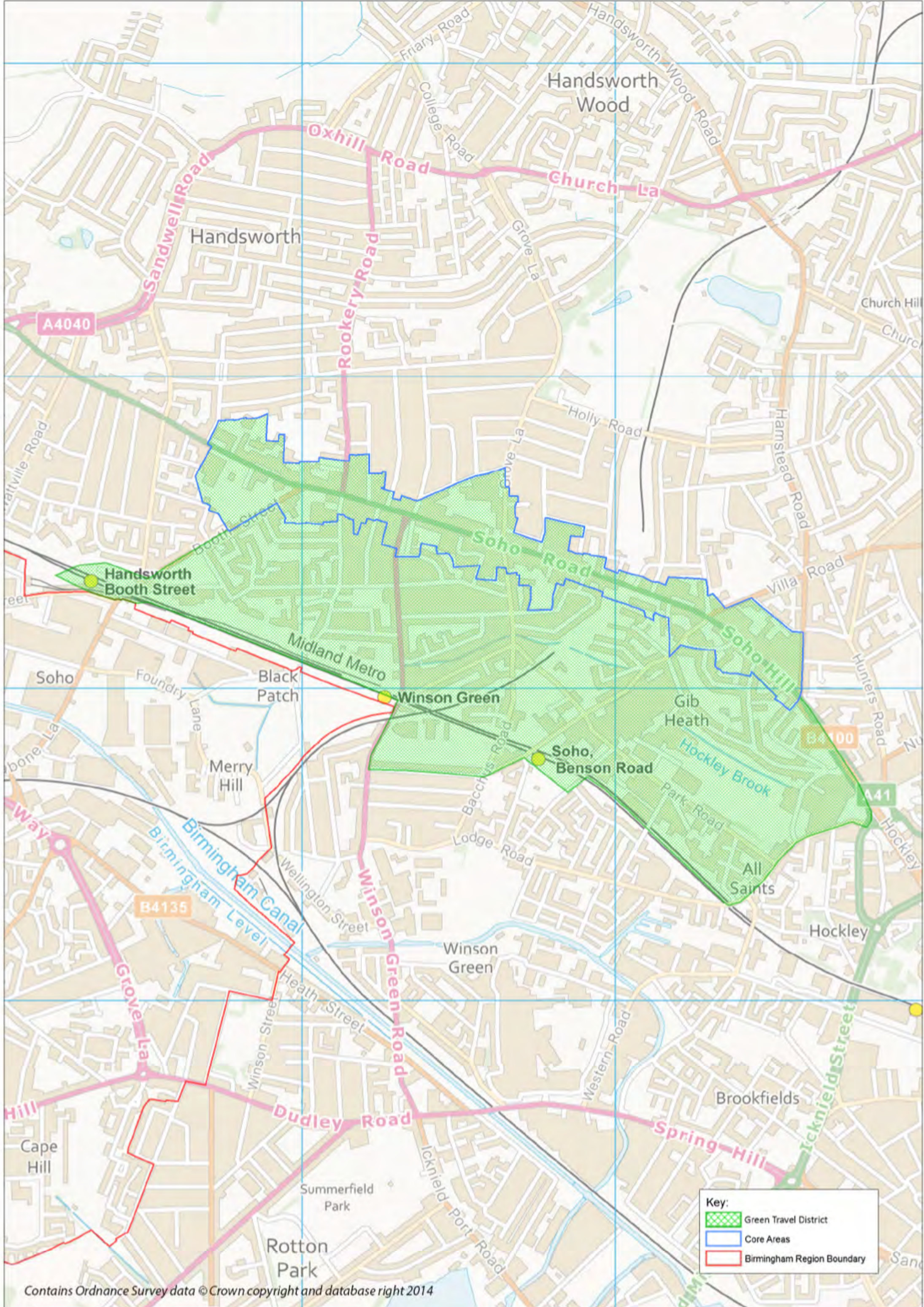


# SUTTON COLDFIELD

**Key:**

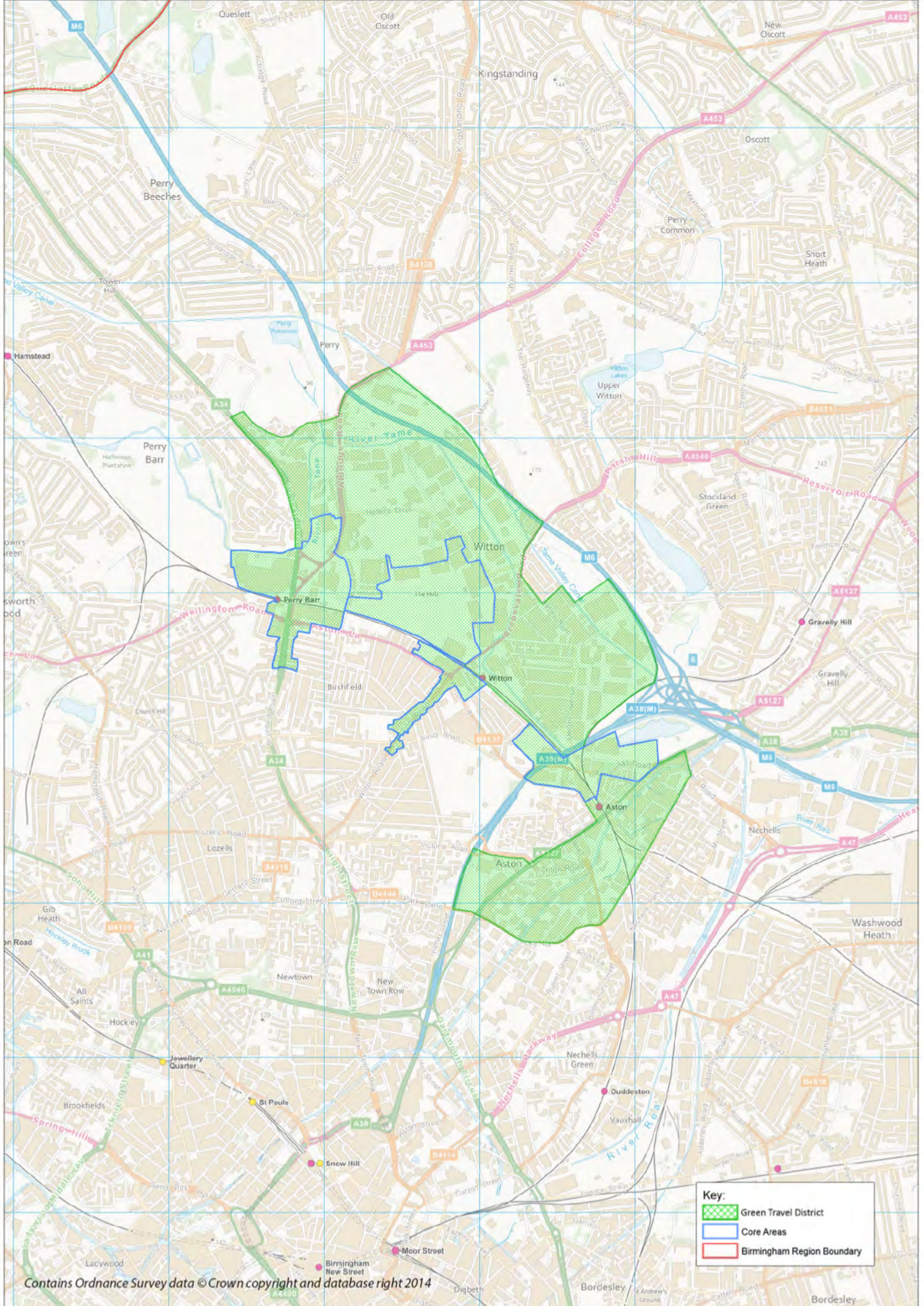
-  Green Travel District
-  Core Areas
-  Birmingham Region Boundary





Key:	
<span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black; border-style: dashed;"></span>	Green Travel District
<span style="display: inline-block; width: 15px; height: 10px; border: 1px solid blue;"></span>	Core Areas
<span style="display: inline-block; width: 15px; height: 10px; border: 1px solid red;"></span>	Birmingham Region Boundary

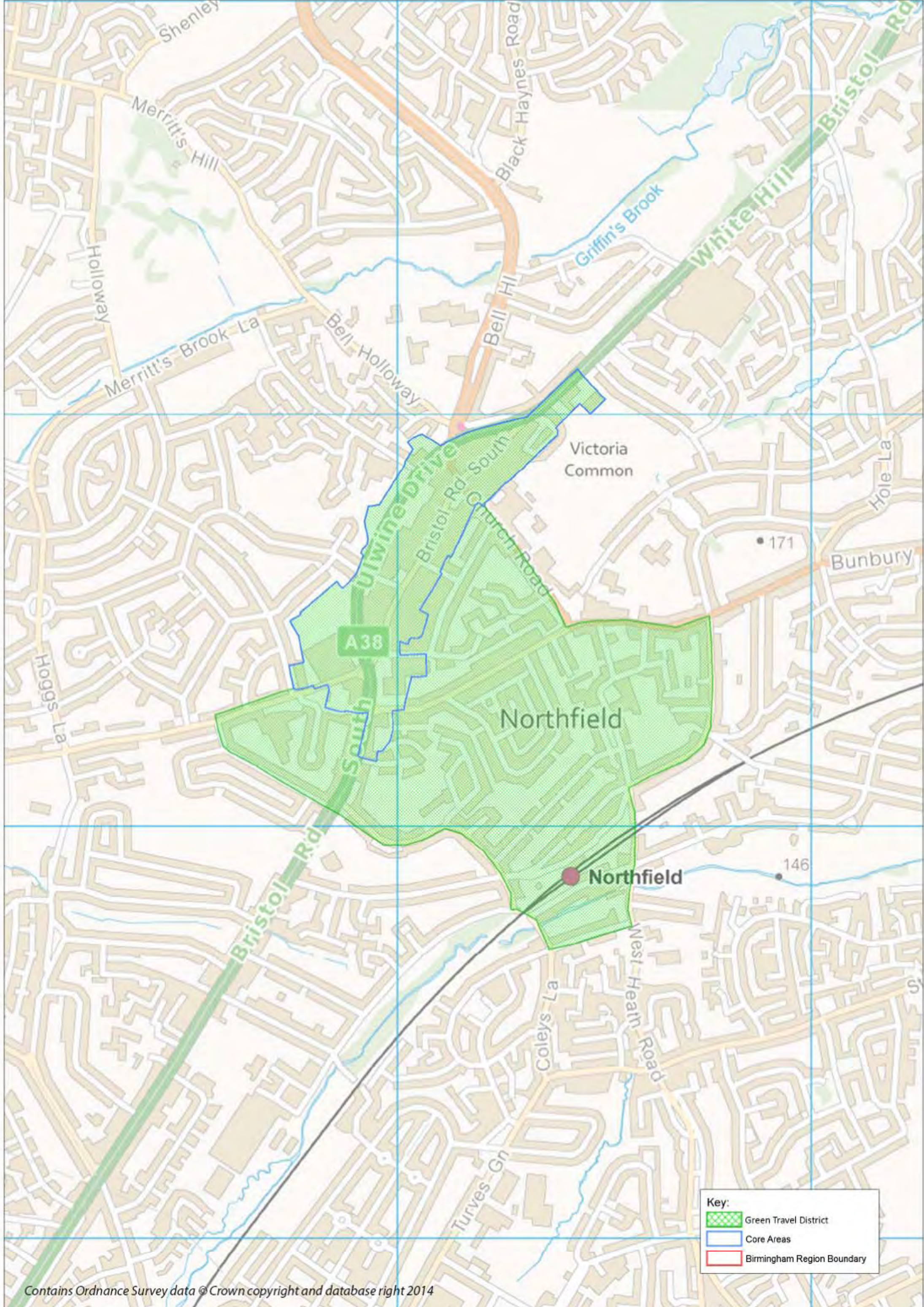




**Key:**

- Green Travel District
- Core Areas
- Birmingham Region Boundary

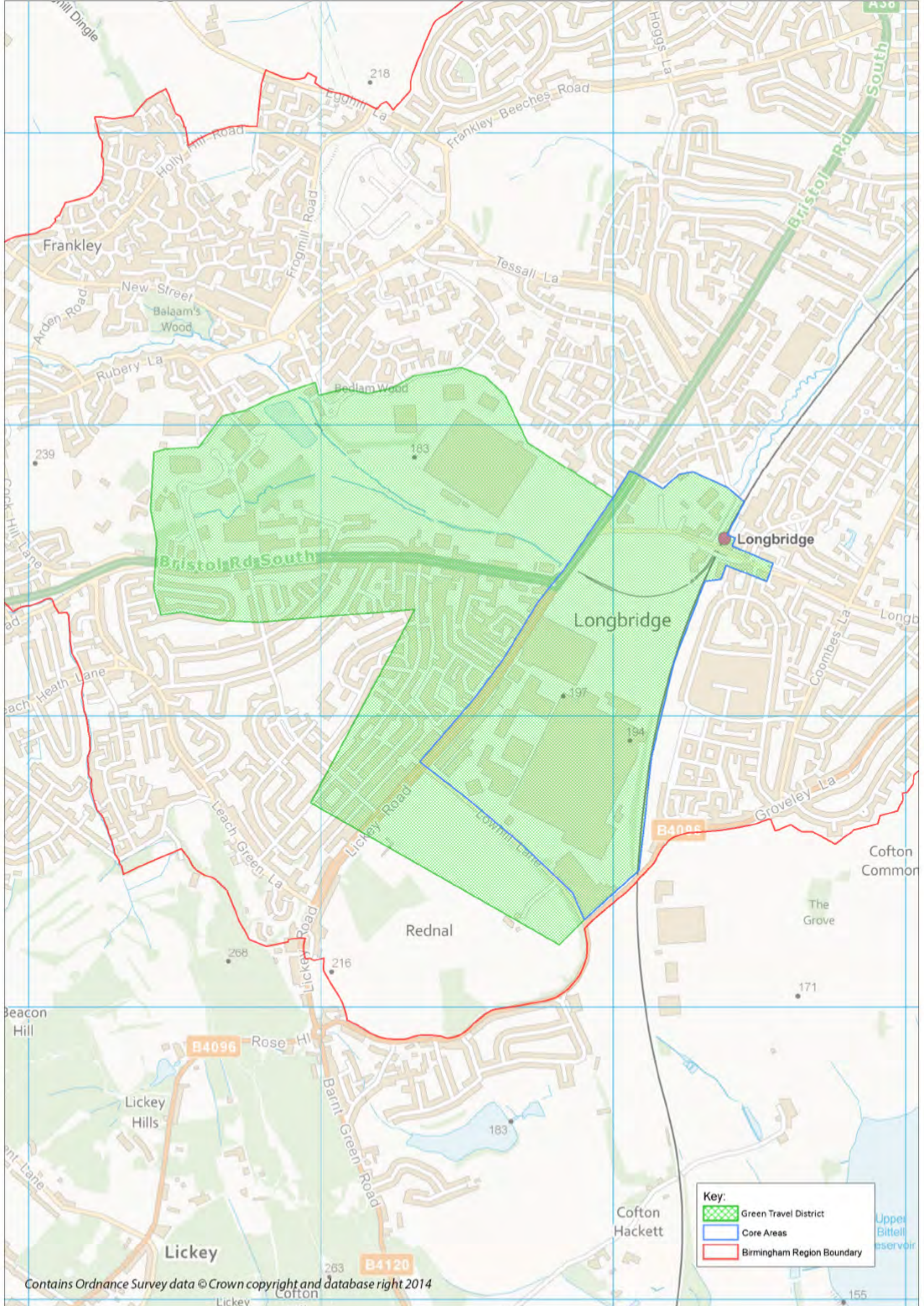







**Key:**

-  Green Travel District
-  Core Areas
-  Birmingham Region Boundary

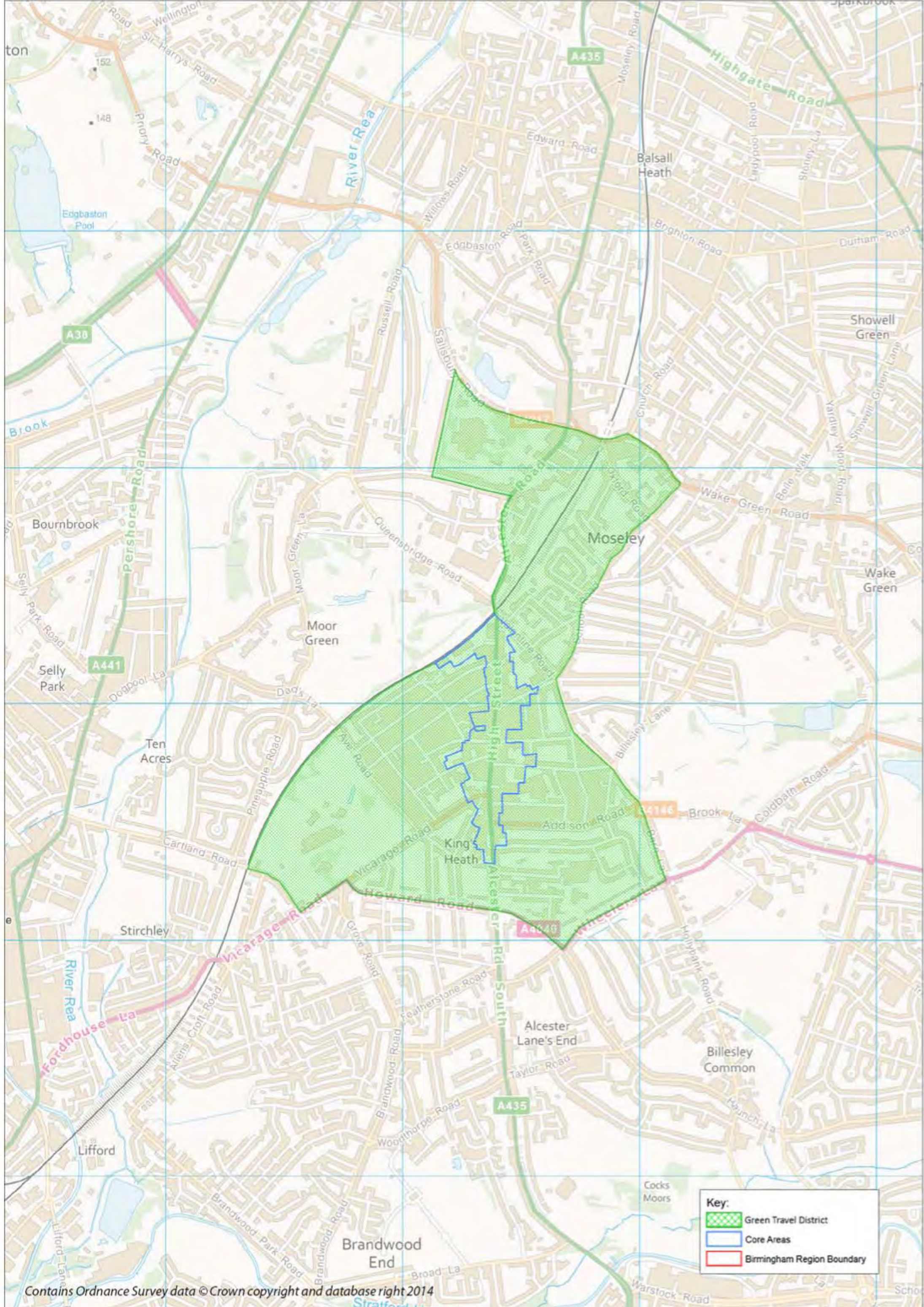




**Key:**

-  Green Travel District
-  Core Areas
-  Birmingham Region Boundary





**Key:**

- Green Travel District
- Core Areas
- Birmingham Region Boundary



## Appendix B – Schedule of the key facts and best practice from partner cities

### Guangzhou, China

- World's second-largest BRT system.
- All buses and taxis are LPG-fuelled.
- Motorcycles banned in urban area (use of motorcycles more prevalent than private car).
- Population: 11m city, 14m metro

### Frankfurt-am-Main, Germany

- Finalist – European Green City 2014<sup>2</sup>
- Frankfurt e-mobility 2025 promoting use of electric cars, including charging infrastructure, also to enable other electrically powered vehicles (freight, bicycles, buses) – the city is determined to be a pioneer in e-mobility<sup>3</sup>
- Two bikeshare systems (one run by Deutsche Bahn)
- Commuters more inclined to drive while city residents tend to use public transport
- Car is used for 23% of trips under 5km
- Cycling rates doubled from 6% to 13% between 1998 and 2008 – in 1998 the city targeted a mode share of 15% in 2012. Over the same period, walking and public transport use has stayed the same so this represents the primary source of the fall in car use
- Frankfurt employs mobility counselling through coordinated communication strategies – personal engagement, advertising, incentives, examples
- Piloting of pedestrian-friendly public space, barrier-free public space (access for all), pedestrian-friendly traffic light sequences and child-friendly design to encourage walking
- Two-way cycling on one-way streets (German norm)
- Traffic light sequences and right-of-way rules amended to favour cyclists
- 80km cycle route network developed 2005-2013
- Bike & ride and cycle parking
- Review of public transport network to ensure it meets demand and is attractive – increased frequencies, later services to 1am
- Promotion of public transport through ticketing initiatives (jobticket, trainee tickets, company season tickets)
- Faster and wider bus/rail network
- Low emission zones
- Lorry ban zones
- 30 km/h zones
- 37 resident parking zones
- 400 lpg fuelled municipal vehicles
- Promoting the concept of a “City of Short Distances” where residential and mixed-use areas are developed close to the CBD, reducing the demand for travel and better access to transport for those who need it (i.e. living close to the city centre means good access to all part of the metropolis)
- Developing a multi-modal navigation system
- Regional bike stations to connect with rail network
- Improving passenger information at home and in transit
- Establishing circular tram line around Frankfurt's residential fringe

<sup>2</sup> <http://ec.europa.eu/environment/europeangreencapital/winning-cities/previous-finalists/frankfurt/index.html>

<sup>3</sup> <http://www.frankfurtremobil.de/1-1-Home.html>



- Open system of e-vehicle charging, including scooters and pedelecs – UPS employs 6 electric delivery vans
- Population: 0.687m city, 2.5m urban, 5.6m metro

### Chicago, USA

- Two of its metro lines operate 24-hours
- Rail network is radial, but in outer areas rail stations act as hubs for suburban bus services
- Vanpooling is operated by the bus company
- The city's CBD is colloquially known as The Loop after the railway that entirely encircles it.
- A single smart card, Ventra, is being rolled out to replace the three different fare collection systems (as USA typically has non-centrally planned public transport operations). Ventra is operated by Cubic, who run London's Oyster system, and also accepts personal bank cards and mobile phone RFID/Wave-and-Pay.
- Divvy bike-share since 2013, inspired by Vélib' in Paris but using the Bixi system also employed in London
- Population: 2.7m city, 9.5m metro

### Lyon, France

- High-Speed rail link to capital city (Paris) and Marseille
- As with many other French cities, Lyon is enjoying a renaissance in light rail
- 6 new-generation tram lines including 1 express tram line to the airport with premium fares, discounted if bought online.
- The airport tram link makes use of existing tram line (which itself is a conversion of former heavy rail line) with passing loops to allow express trams (airport route) to overtake local trams, which do not serve the airport – the airport is also a High Speed Rail station for through trains between Paris and Marseille
- A "core" network of high-quality bus routes (26), of which 2 are express services – route numbers are prefixed so they are readily identifiable as the trunk bus routes.
- A subsidiary network of complementary bus routes (109) of which 2 are express services
- Four night bus routes
- Vélo'v cycle-hire system in place since 2005
- Population: 0.491 city, 1.6m urban, 2.2m metro

### Milan, Italy

- Bikeshare system in place since 2008 (cannot be used between midnight and 7am)
- Many car-sharing schemes in operation, including car2go and one system run by the municipal transport operator ATM.
- "Ecopass" central cordon congestion charging scheme
- Part of €3.5bn investment program including expanding metro (4th line added in 2013, 2 of the other 3 lines were extended in 2011) and cycle tracks<sup>4</sup>
- Population: 1.3m city, 5.3m urban, 7.4m metro

### Johannesburg, South Africa

- Population: 0.957m city, 4.4m metro
- Gautrain

<sup>4</sup> <http://www.nysun.com/foreign/milan-introduces-congestion-charge-to-cut/68854/>



- 80km “Crossrail”-calibre dedicated inter-urban rail link to Pretoria (national capital) and International Airport
- Delivered through PPP
- Entirely separate from the rest of the rail system (different track gauge) but with interchange stations.
- In addition to comprehensive suburban rail service (Metrorail)
- Has to a small extent plugged a gap in the rail network (Metrorail does not serve some northern and western suburbs)
- 10 stations, with dedicated connecting buses (up to 10km range from stations, but most routes 5km)
- Operators proactively seek customer feedback to optimise bus routes
- paid-for station parking
- Integrated ticketing – single “Gold Card” (smartcard) used to access train, bus and station parking
- Connecting bus fare is reduced if you go on to make a train trip within 1 hour
- duplicates existing congested N1 motorway which carries 300,000 vpd (M6 J8-J10A is 180,000)
- Branded as “For People on the Move” – suggests public transport is a quality product and can be taken seriously
- Completed 2012, first opening was in time for 2010 World Cup
- rolling stock is made in Derby.
- Metrorail
  - Suburban rail network
  - A division of the state railway company
  - Morning and evening peak “Business Express” limited stop commuter expresses with carriages designed with business travel in mind.

### Leipzig, Germany

- Population: 0.520m city
- Road network designed to be bicycle-friendly – cyclists can travel in the opposite direction on most one-way streets
- Second-largest tram network in Germany
- Cross-city suburban railway tunnel across the city centre opened in 2013, which allowed the suburban rail network to be expanded immensely – previously all suburban services had to terminate at Leipzig’s Central station, with through passengers needing to change trains.

### Zaporizhzhya, Ukraine

- 10 tram routes
- 10 trolleybus routes
- Part of nation-wide “Easyway” travel planning app, which makes data/widgets available via API to developers.
- Population: 0.770m city



## Appendix C – GTD Toolkit



























## Appendix D – Individual Organisation Travel Plan Measures

Ref	Travel Planning Measures
<b>Strategic</b>	
1	Integration of the travel plan tool formally into business transformation processes and corporate decision making
2	Embed delivery and servicing into travel plans
3	Community led delivery mechanism
4	Integration of the travel plan into corporate decision making
5	Travel plan reviews carried out as part of buildings strategy/asset disposal
6	Travel plan requirements integrated into the HR and IT strategies
7	Travel Plan Cost/Benefit analysis - Efficiency Savings Business case for investment
<b>Travel Plan Measures</b>	
8	Flexi-working
9	Home working policy
10	Tele-conferencing - retraining and promotional programme. Changing ways of working - rotas, working planning/planned visits/, sharing of calendars, group activity/meeting reduction. Integration of services (e.g. single site visit for multiple issues).
11	Improved usage of LYNC - e-conversations through internal messenger service and e-document editing
12	Leased car/essential user policy
13	Promotion of car sharing scheme for to work and in work trips
14	Car sharing parking zone
15	Charging staff to park
16	Promotion of additional mileage benefits for car sharers on work business (+5p mile)
17	Emergency taxi scheme for car sharers/emergency lift policy to get you home.
18	Travel Surveys - staff and customers
19	Travel Surveys - deliveries and servicing
20	Site Audits programme
21	Travel Plan Annual Monitoring Programme
<b>Travel Plan Promotion</b>	
22	Develop Communications strategy and plan for the travel plan programme
23	Develop on line travel plan guide
24	Develop travel plan 'easy to read' version including annual updates
25	Travel Plan webpages and online resources on Intranet
26	Personalised Travel Plans and Individualised Information
27	Promotional Events and Campaigns
28	Personal Travel Carbon Calculator
29	Travel advice factsheets
<b>Walking</b>	
30	Pedestrian route maps
31	Provision of personal alarms
32	Developing a walking group scheme - seasonal



Ref	Travel Planning Measures
33	Providing umbrellas for Loan
34	Promoting walking as a healthy way to travel - health clinics
35	Provision of storage/drying area for wet weather clothing
36	New shower improvements
37	Equalities Access' site specific improvements (including links from car parks etc.)
38	Park and Stride scheme
<b>Cycling and Powered 2 Wheeler</b>	
39	Developing cycle route map/cycle information for each zone
40	Learn to Ride/Rider Confidence Training including bike buddy
41	Make the bike confidence approach into a staff/team building exercise
42	Providing pool bicycles
43	Developing a cycle allowance for in-work travel
44	Cycle2Work scheme - providing discount on bicycles and equipment
45	Staff discount at local bike shops
46	Creation of a Bicycle User Group (BUG)
47	Promoting cycling as a healthy way to travel - health clinics
48	Promotion through bicycle events/fairs (e.g. annual Sustainable Transport event)
49	Cycle parking
50	Secure cycle/motorcycle parking
51	Safe motorcycling training (for existing riders)
52	Provision of storage/drying area for wet weather clothing
53	Providing showers and changing facilities
<b>Public Transport</b>	
54	Providing route maps and timetables
55	Promotion of new/adjusted services
56	Personal route journey planning service - via linked webpages
57	Bus company roadshows from local operators
58	Providing public transport discounts
59	Interest free season ticket loans for commuters
60	Promotion of rail
61	Identify gaps and ways to improve physical access to rail network
62	Identify gaps and ways to improve bus waiting facilities



This Report Has Been Prepared by the Birmingham Connected Technical Study Group



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