Birmingham City Centre Parking Study

Birmingham City Council

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Contents

Executive Summary

Birmingham Connected and Big City Plan aim to promote the use of sustainable travel modes; improve air quality and reduce traffic congestion. The plan implementation requires a closer look to parking demand and supply. Oversupply in the heart of the city could undermine these BCC policies. The development of a car parking strategy for the city centre that delivers the objectives of Birmingham Connected and to support future sustainable development is the focus of this commission. In January 2016 Jacobs were commissioned by Birmingham City Council to provide an evidence-based understanding of existing and future car parking dynamics and associated parking issues across the Birmingham City Centre.

The Combined Authority's Strategic Master Plan states: *"Our long term strategy will see a shift in emphasis of travel in line with thriving, prosperous, attractive large European city regions such as Munich, Stuttgart and Dusseldorf , where car use accounts for typically 35 – 45% of all journeys, compared to 63% in the West Midlands Metropolitan Area".*

This will never be realised if Birmingham city centre has 59,700 parking spaces, alongside consideration of the numbers of parking spaces in the West Midlands' strategic centres. Parking policy in Birmingham city centre is required to be policy driven t to achieve wider public policy transport objectives; resulting in a more prosperous Birmingham.

This report sets out the understanding of existing parking characteristics and recommends policy changes to ensure that parking supports the long-term viability of the city centre and contributes to a sustainable transport system.

The analysis has shown that there is an oversupply of parking in the city centre in relation to demand (in the range of circa 10,000 spaces). This oversupply occurs in most quarters except for Ladywood and Gun Quarter.

Quarter	Number of Spaces	Vehicle Demand	Permissible Maximum Parking Provision[1]	Possible Parking Reduction
Broad Street Entertainment District	8,040	5,143	5,900	-2,100
Civic & Business	5,754	3,998	4,600	-1,200
Curzon	7,474	5,952	6,800	-700
Eastside Learning Quarter	3,285	2,397	2,700	-600
Five Ways	7,915	5,789	6,600	-1,300
Gun Quarter	4,430	3,909	4,500	100
Highgate	2,236	1,772	2,000	-200
Jewellery Quarter	6,337	4,626	5,300	-1,000
Ladywood	2,481	2,417	2,800	300
Leisure & Retail	3,520	2,629	3,000	-500
Southern Gateway	6,300	4,389	5,000	-1,300
Westside	1,960	1,455	1,700	-300
Total	**59,732**	**44,475**	**50,900**	**-8,800**

Table 1.1: City Centre Parking Spaces and Demand (2016) and Permissible Maximum by Quarter

There is also a need to increase the proportion of dedicated short-stay spaces (less than 4 hours) compared to long-stay spaces available. The current split is 94: 6; long-stay: short-stay. This long-stay figure includes off-street car parks that do provide short-stay parking opportunities. However, as the short-stay is not protected, all of these spaces could be used for long-stay purposes and are classed as such in the proportion split. It is known from over 300,000 cashless payment records for BCC off-street car parks, that 60 per cent of the users are short-stay. Without dedicated short-stay spaces available, capacity in off-street car parks could be taken up by long-stay (commuter) parking and potentially not provide for business and visitor needs in the city centre.

[1] Permissible maximum parking provision calculated based on the vehicle demand plus a 15 per cent contingency.

There is an abundance of free on-street spaces (nearly 7,000 spaces) in the outer quarters of the city centre. It is noted that this contributes to unsociable or errant parking behaviour which contributes to illegal parking through the abuse of any forms of parking control and a perception of the requirement to provide 'free' parking. This also undermines other controlled parking and off-street and on-street parking tariffs set by the Council to manage demand.

The parking oversupply, the extent of unrestricted on-street parking and availability of long-stay parking all contribute to undermine sustainable transport policies of the Council, which aim to promote the use of public transport, walking and cycling into and within the City Centre. These factors also contribute to continued peak period traffic congestion and related reliability problems for Birmingham businesses and makes the achievement of modal shift and air quality objectives difficult, as well as undermining any tariff structure BCC adopt to manage demand.

Current Situation

There are estimated to be 59,732 car parking spaces available in the city centre (April 2016). This includes off street publically available spaces, on street parking spaces, and private non-residential spaces (PNR).

BCC has the largest market share of off-street parking in the city centre (18 per cent; 4,824 spaces). The remaining off-street parking capacity is managed by a range of private operators and equates to circa 21,000 spaces; with 8 private operators accounting for 60 per cent of the supply. Thus with BCC, there are nine operators who control over half of the car parks (62 of the 123 car parks) and 80 per cent of the capacity.

BCC controls a third of the on-street parking (3,368 spaces), with the remainder being free unrestricted parking in the outer quarters (6,955 spaces). BCC is committed to rolling out Controlled Parking Zones (CPZ's) across the city centre by 2021 to this unrestricted on-street parking. There is also an estimated 23,000 Private Non-residential spaces available in the City Centre.

BCC set tariffs for on-street and off-street parking which is cheaper than comparable core cities, private competitors and has tended to increase at a lower rate than inflation over the last 10 years.

To manage on-street parking better, tariff levels need to be higher than off-street tariffs encouraging longer stay parking in off-street car parks, with a policy change to promote a 'park once policy' and restrict re-parking within controlled parking zones.

The majority of people (60 per cent) who live within the City Centre do not have access to a car and this is reflected in the average car to dwelling ratio of 0.47. The existing space per dwelling ratio in the city centre is 0.73. This is higher than the census data figure and would indicate an over-provision of residential parking for the demand. Both figures are also significantly less than the current maximum of 1 or 1.5 (dependent on location) in the supplementary planning guidance. This suggests that in revised guidance the standards could be halved.

Census data has also shown that the majority of people that drive into the city core are not driving from with the local authority boundary but from the wider West Midlands. This highlights the attractiveness of the city centre as a regional centre and need to consider the wider impact on the region of any city centre policy changes.

Future Parking Supply

Background change was assessed to understand potential issues for future planning. Analysis of planning applications indicates change in parking supply is expected in the next 5 to 10 years with the overall number of parking spaces across the City Centre expected to increase. There is a trend in converting private non-residential (PNR) developments to residential with parking, which should lead to a reduction of PNR parking as long as PNR provision in new developments is controlled.

The level of long-stay parking spaces per worker is expected to decline, as a result of the CPZ programme, which will remove free, unrestricted on-street parking in the city centre. However, the long-stay spaces per worker (310 spaces per 1,000 workers in 2021) will remain significantly higher than in comparator core cities like

Manchester (220 spaces per 1,000 workers in 2016) and Nottingham (250 spaces per 1,000 in 2016). This should be considered in updated standards in the revised SPD.

The future growth analysis has shown that the city centre could deliver all the proposed growth by 2031 outlined in the *pre-submission BDP 2031* without any additional long-stay parking provided or replaced as a direct result of the proposed developments. This would be a bold policy position to not allow any more parking in the city centre as development occurs but it highlights the current excess parking supply in the city centre.

Summary of Recommendations

There are a range of approaches and options available to manage the supply of parking in the city centre and other complementary measures in support of parking policies. An option appraisal process was undertaken in two phases; an early sift of 71 options and a second sift of 41 options, leading to options to inform a series of recommendations.

The 45 recommendations from this study are a continuation and expansion of the policies of BCC; continuing the focus on economic growth with a reduction of car trips to, from and within the city centre. The overall 'push and pull' policies include recommendations to address parking supply, management, tariffs, Private Non-Residential (PNR) and residential parking and complementary measures to support parking and transport in the city centre.

- Reducing the parking supply in each city centre quarter to seek a reduction in long-stay (public and PNR) parking. This will include the removal of all temporary car parks and not allow any new temporary car parks; along with the introduction of minimum quality standards for existing and any redeveloped car parks.
- Charging for all on-street spaces and ensuring the tariff structure sets on-street short stay at a level higher than off-street parking in the local vicinity. The delivery of the CPZ programme across the city centre will deliver this, but this must include a review of tariff structures and off-street parking provision as part of the delivery as on-street parking should not be treated in isolation to off-street.
- Increasing the proportion of dedicated short stay parking in off-street car parks by dedicating spaces to ensure operational parking is available and not used by (long-stay) commuters.
- Reviewing BCC's tariff structure to take into account supply, demand and local characteristics alongside economic changes. This should include benchmarking of tariffs on a bi-annual basis.
- To expand the coverage of the pay by phone system for BCC controlled and managed parking.
- Revising SPD standards for new developments to reduce car use including; car free development permitted in areas with the highest public transport accessibility and lowering maximum standards for both residential and Private Non-Residential (PNR) parking to address the existing over-provision and actual travel characteristics and behaviours.
- Investigation into a Workplace Parking Levy to further reduce existing and future commuting by car and provide a fund to support modal shift and environment improvements. This could be introduced initially on a voluntary basis by public/private sector organisations that currently provide 'free' parking to employees.
- Provision of parking guidance though Variable Message Signs (VMS) further out on the radial routes and requiring all sites and new sites paying to be included with the system. Extension of the system to allow the development of a parking app for mobile phones by private sector partners and improved real-time information and ticketing for BCC parking via the BCC website..
- Provision of increased park and ride capacity around the region including new sites on the periphery of the City Centre, linked to the VMS system to encourage less traffic to enter the city centre.

It is recommended that the council take this study forward through:

- The revision of the supplementary planning document and parking policy, covering maximum parking standards and the updated knowledge for the city centre.

- The delivery of the CPZ programme across the remaining areas of the city centre.
- Development of a parking strategy and action plan for the city centre to deliver the other aspects of the study recommendations, within a cohesive policy that incorporates planning, highways, economic development, public transport and environmental sustainability.

1. Introduction

1.1 Purpose

The purpose of this study is to develop a car parking strategy for the city centre to deliver the objectives of Birmingham Connected and to support future sustainable development.

Birmingham City Council set out the following aspirations in relation to city centre car parking for this study:

- Manage congestion by reducing the amount of private vehicle trips into the city centre;
- Increase the use of sustainable modes such as walking, cycling and public transport for commuters (current medium – long stay car parkers);
- Support economic growth and prosperity by providing a majority of short-stay parking;
- Support a reduction in greenhouse gas emissions to improve air quality; and
- Control and manage the amount of on and off-street car parking in the city centre, to support Traffic Management Act and Network Management Duties, including the removal of unrestricted parking.

This City Centre Car Parking Report was produced by Jacobs under a commission from Birmingham City Council (BCC). The study is informed by an understanding of existing and future car parking dynamics and associated issues across Birmingham City Centre, through technical analysis and interpretation of available data.

1.2 Study Scope

The scope of the study was to provide an assessment of city centre parking supply and demand by city centre quarter; and to provide an integrated, holistic and balanced approach to parking alongside other transport and land-use policies and changes. This included:

- A baseline assessment of parking supply, pricing and usage for off-street car parks.
- Assessment of the amount of unrestricted / free on-street car parking spaces within the city centre
- Assessment of the usage of on-street parking across the city centre, both controlled and unrestricted
- Establishment of a baseline figure for the number and usage of private non-residential (PNR) spaces in the city centre and development of a process for the continued monitoring of PNR.
- Reviewing the number of parking spaces approved in relation to new city centre major residential and mixed use development since 2005.
- A review of parking availability in major city centre residential developments.
- Analysis of car park pricing identifying the exact extent of short and long stay car parking provision in the city centre.
- Considering the supply and cost of parking implications in the city centre in relation to other transport and land-use proposals.
- Consideration of innovative parking mechanisms for implementation within the city centre or areas of the city centre.
- Developing future car parking supply, pricing and demand scenarios for the city centre quarters, based on future transport and land use development proposals.
- Making recommendations on parking to inform changes to the Council's car parking guidelines with regard to the provision of parking spaces and pricing within the city centre and possible requirements which would impose minimum quality standards for car parks (i.e. cycling parking provision, electric vehicle charging, blue badge holders, technology, and way-finding).

The scope of this study did not include:

- Parking user preference surveys (as the purpose of the study was to provide a strategic position on parking supply/demand, not necessarily to understand the specific characteristics of car park users);
- An assessment or recommendation of car park ownership operating models;
- A review of the Parking Services management or operation within the City Council; and
- A detailed transportation cost benefit analysis of parking costs; case studies of successful schemes involving the removal of parking or an assessment of the best value use of available streetscape and kerbspace.

1.3 Report Structure

Following this Section (Introduction) that outlines the purpose and study scope, the report is structured as follows:

- Section 2, ***Strategic Context***, presents the strategic context of parking and transport in the city centre and City, outlining the key strategic documents and policies to inform and influence the study.
- Section 3, ***Current City Centre Situation***, examines the current (2016) parking supply, demand and utilisation by type across each quarter of Birmingham City Centre.
- Section 4, ***Future Parking Supply Scenarios***, discusses future growth scenarios and attempts to quantity the impact future developments will have on city centre parking provision.
- Section 5, ***Option Appraisal***, presents the appraisal of potential options for a parking strategy and proposes a way-forward.
- Section 6, ***Conclusions***, summaries the analysis undertaken and presents a succinct summary of the study findings to inform the recommendations.
- Section 7, ***Recommendations***, details a clear set of recommendations based on the study findings; intended to improve the planning, control, management and operation of parking in Birmingham City Centre.

1.4 Definitions

In this report the following terms are used to describe the various types of parking discussed:

- 'Long-Stay' parking refers to parking with a duration of more than 4 hours. Long-stay parking is primarily used by commuters / employees.
- 'Short-Stay' parking is defined as parking with a duration of 4 hours or less.
- 'Public parking' is parking which is available to members of the public and is not connected to a specific activity. This can be either on-street or in off-street multi-storey, surface or underground car parks.
- 'Controlled parking' is any space that has restrictions applied, usually in operation for a specific time of day (i.e. 0730 – 1830). This could include Pay & display bays, loading bays, disabled bays, permit bays or a no-fee, time-limited bay with a no return restriction. Controlled parking is managed by Traffic Regulation Orders (TRO), which are normally supported by appropriate signs and lines. Controlled parking for the purposes of this study are within the city centre controlled parking zones.
- 'Unrestricted' is parking, often on-street, which has no restrictions in place (i.e. no TRO) and allows parking for no-fee, for unlimited lengths of time, at any time of the day.

- 'Private Non-Residential' (PNR) parking is a space that is linked directly to a private premises, available for the purposes of that private business / occupier. This type of parking is not generally available to the public (although it can be pre-arranged through a contract agreement). This parking tends to be used by employees commuting to / from work, or reserved for occasional business visitors or customers. This type of car parking space is subject to the Valuation Office Agency (VOA) business rates (non-domestic rates).

- 'Residential parking' is provided specifically for residents of private residential developments and their visitors. This can be managed by a building managed or allocated to flats. Although not common, there are instances where 'residential' parking bays are leased by the owner to commuters, for long-stay use.

2. Strategic Context

Statutory and non-statutory documents which set the direction for the development of the transport system and influence parking supply and demand in the city centre include a suite of legal regulation and local policies.

Parking is a key component within numerous strategic planning documents for Birmingham, of which the key impacts for parking are summarised in this Section.

2.1 Legal Background

2.1.1 The Traffic Management Act 2004 (TMA)

The main purpose of the TMA is to reduce congestion and disruption to the road network. The TMA places a Network Management Duty (NMD) on Birmingham City Council (as the local traffic authority) to make sure their road network is managed effectively to minimise congestion and disruption to vehicles and pedestrians. This includes the ability for Birmingham City Council to enforce certain contraventions of the law by civil enforcement officers, for example for parking offences.

2.1.2 Road Traffic Regulation Act 1984 (RTRA)

This sets out the statutory powers that enable Birmingham City Council to secure the expeditious, convenient and safe movement of traffic along with the provision of suitable and adequate parking facilities. In recognition of parking demand and the requirement to control parking, legislation exists to prohibit parking (waiting) and for the provision of parking spaces for legally parked cars. The RTRA empowers BCC to control waiting; loading and provision of places to park. Parking can be provided either free of charge or for a fee.

Traffic Regulation Orders (TROs) are defined in Section 2 of the RTRA (1984). TROs can only be used for specified roads, and can be used for general prohibition of parking. The Road Traffic Regulations act states that TROs may be used for the following purposes:

- *A traffic regulation order may make any provision prohibiting, restricting or regulating the use of a road, or of any part of the width of a road, by vehicular traffic, or by vehicular traffic of any class specified in the order. For example they are used for the regulation of roads for use by; Specific Vehicles (e.g. Non HGVs); One Way Streets; Bus Priority; and, Pedestrianisation.*

2.1.3 Civil Parking Enforcement (CPE)

The police have handed over some of their on-street parking enforcement responsibilities to BCC, whereby parking enforcement is enforced through a civil as a contravention as opposed to a criminal offence. BCC is responsible for enforcing parking, loading, no stopping and waiting restrictions throughout BCC with the exception of the motorway network which is under Highways England control. BCC Enforcement Officers only have powers where parking restrictions are in place. The police have enforcement powers where restrictions are not in pace and in relation to the obstruction of any street or highway.

As stated in Section 55 of the Road Traffic Regulation Act (1984) all money generated by penalty charge notices must be used to pay for the enforcement service. In addition to stipulating how surpluses can be spent; including:

1. The making good to the general fund in line with the legislation.
2. Meeting all or any part of the cost of the provision and maintenance by the local authority of off-street car parks
3. If it appears to the local authority that the provision in their area of further off-street parking accommodation is unnecessary or undesirable, the following purposes; provision of or operation of public passenger transport services, highway or road improvements, environmental improvement.

2.1.4 The Equality Act 2010 (EqA)

The EqA requires Local Authorities to have regard for strategies that reduce inequalities that arise from socio-economic disadvantages. Within the context of a parking strategy the main focus of the EqA is on the provision of disabled parking places which should be located within close proximity of destinations and residences. In addition to this, the Equality Act requires the provision of safe and secure parking to reduce the fear of crime.

2.2 National Policy

2.2.1 Clean Air Zone (CAZ)

In December 2015, the Department for Environment, Food & Rural Affairs (DEFRA) set out actions on how to improve air quality in major UK cities, to achieve compliance with the EU Air Quality Directive, in the document "*Improving Air Quality in the UK, Tackling Nitrogen Dioxide in our Towns and Cities*", December 2015.

This identified Birmingham as a non-compliant local authority. Based on current forecasts it is expected that compliance will not be met by 2020. To address this non-compliance, the Government is mandating a Category C CAZ in Birmingham, plus additional supporting measures to enable compliance by this date.

The target group for the CAZ are vehicles that will need to meet tighter emissions standards – Euro 4 for petrol vehicles and Euro 6 / VI for diesel vehicles. Vehicles affected will include buses, lorries, coaches, mini buses, vans and taxis. The mandated CAZ will not include private cars but the CAZ framework will allow the Council to include private cars should it choose to, either in conjunction with, or independently of, the mandated CAZ.

Stronger parking management could be one of the supporting measures to achieve compliance, as it is a powerful tool in eliciting mode shift, reducing private vehicle trips into the city centre and improving air quality.

The parking policies of some local authorities include a reduction in parking charges for low emission vehicles. A congestion charge in line with the parking policy could encourage modal shift as demonstrated in London, or a Workplace Parking Levy in Nottingham as a means to manage congestion.

2.2.2 Parking Strategy and National Planning Policy Framework (NPPF)

National guidance stipulates that all local authorities need to develop a parking strategy covering on- and off-street parking that is linked to local objectives and circumstances. There has to be proper parking management, both to ensure that there is adequate provision of parking space and to ensure the smooth and efficient movement of traffic. Local authorities have long been responsible for managing all on-street and some off-street parking, whether directly or indirectly. Each local authority should have a clear idea of what its parking policy is and what it intends to achieve by it. This applies whether or not an authority is responsible for enforcement. They should appraise their policy and its objectives regularly.

National guidance previously contained within Planning Policy Guidance 13 (PPG13) required local authorities to set car parking standards as maximums. The NPPF published in March 2012 removed the prescriptive guidance with regard to adopting minimum or maximum standards and paragraph 29 of the NPPF states that: '*Transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives.'*

Paragraph 39 of NPPF states that: '*If setting local parking standards for residential and non-residential development, local planning authorities should take into account:*

- *the accessibility of the development;*
- *the type, mix and use of development;*
- *the availability of and opportunities for public transport;*
- *local car ownership levels; and*
- *an overall need to reduce the use of high-emission vehicles'.*

The guidance issued from the Department for Communities and Local Government in March 2015 to be considered alongside paragraph 39 of NPPF states that: *"Local planning authorities should only impose local parking standards for residential and non-residential development where there is clear and compelling justification that it is necessary to manage their local road network."*

2.3 Local Policy

2.3.1 Birmingham Parking Policy 2010 & Car Parking Guidelines Supplementary Planning Document (SPD)

The Council's current ***Birmingham Parking Policy*** (May 2010) and ***Car Parking Guidelines Supplementary Planning Document*** (SPD) (February 2012), in operation at the time of publishing this report, sets a comprehensive approach to managing on-street and off-street parking, provision, control and enforcement.

The SPD sets out car, motorcycle and cycle parking standards, which apply when considering planning applications for new developments. The car parking standards set out in the SPD are defined as maxima. The SPD sets local maximum car parking standards for residential and non-residential development because of the clear need to manage car demand on a constrained local road network. Many residential and non-residential developments have been approved with car parking provision less than the standard because of the local circumstances e.g. high levels of public transport accessibility and through discussion with developers.

In line with the guidance in the NPPF, different car parking standards apply across the city to reflect the different levels of accessibility by public transport. Area 1 consists of the core area of the City Centre. Area 2 comprises the 'outer' parts of the City Centre, extending to the Middle Ring Road and areas within 500m of metro and suburban rail and local centres with good public transport provision. Area 3 comprises the remainder of the City.

2.3.2 Pre-submission Birmingham Development Plan (BDP) 2031

The pre-submission BDP 2031 sets out the spatial vision and strategy for sustainable growth of the City in the period up to 2031. The Plan proposes 51,000 new homes, 350,000 square metres of retail development and 745,000 square metres of office development to support an additional 150,000 people in the city by 2031.

Aspirations that parking policy can contribute to achieving are "*to ensure that the city has the infrastructure in place to support its future growth and prosperity"*, the availability of parking or the availability of desirable outside space can impact on the attractiveness of a location for investment.

Another key aspiration is to provide *high quality connections throughout the city, by encouraging the increased use of public transport, walking and cycling*. Parking policy impact can influence connections, for example by removing on street parking from bus routes to improve journey time reliability or encouraging modal shift by restricting parking.

2.3.3 Big City Plan

The Big City Plan***,*** under the pre-submission BDP 2031 framework***,*** sets out the aspiration to build 13,000 more homes and generate 51,000 new jobs in the city centre by 2031. The City Centre is the regional centre where major retail, leisure, office, residential and leisure activity will be focussed. The City Centre core will be expanded to support growth and the arrival of HS2.

This will see an expansion of office space from the city core to Five Ways and around Curzon HS2 and Moor Street Stations in Curzon. Employment centres will also extend in the Jewellery Quarter, Southern Gateway and Curzon.

There will be more high density city living in the southern and western quarters. The impact on parking from these residential developments is expected to be a higher number of short distance trips across the city centre by sustainable modes and a decrease in car ownership.

Transport improvements include a focus on expanding pedestrianised areas into the Civic & Business, Curzon, Southern Gateway and Jewellery Quarter, with improved walking, cycling and public transport access to support and build upon the arrival of HS2 in the city centre by 2026.

2.3.4 Birmingham Connected

Supporting the pre-submission BDP 2031 and the Big City Plan is Birmingham Connected. This is the City's transport strategy that provides the long term vision for transport and the series of transport investments to support sustainable economic growth, and a healthier, more attractive City. Birmingham Connected proposes an integrated transport system which will reduce congestion and improve the quality of life of its citizens.

As the most important economic centre for employment and business in the Midlands, Birmingham city centre attracts over 200,000 people during a morning weekday and nearly half a million people every weekday by a variety of modes. The increase in economic activity in the city centre and Midlands over the next 15 years is expected to generate an additional 140,000 daily trips to and within the city centre. Moving more people and goods to, from and within the city centre on the existing road network, where available land for transport remains unchanged and restricted is a significant challenge. Birmingham Connected sets out plans to give more priority to, and promote greater pedestrian and public transport opportunities and managing parking, is central to addressing the transport challenge and growth in demand. This means tough choices will be required regarding access and availability for car parking in the city centre.

Birmingham Connected has five core objectives, which are integrated into the option appraisal within this study:

- ***Efficient Birmingham*** – to facilitate the city's growth agenda in the most efficient and sustainable way possible, strengthening its economy and boosting jobs.
- ***Equitable Birmingham*** – to facilitate a more equitable transport system; linking communities together and improving access to jobs and services.
- ***Sustainable Birmingham*** – to reduce the impacts of air and noise pollution, greenhouse gas emissions and energy consumptions.
- ***Healthy Birmingham*** – to contribute to a general raising of health standards across the city through the promotion of walking and cycling and the reduction of air pollution.
- ***Attractive Birmingham*** – to contribute to enhancing the attractiveness and quality of the urban environment in local centres, key transport corridors and the city centre.

Birmingham Connected suggested the introduction of a workplace parking levy as a method to manage demand and raise revenue for re-investment in the transport system. This option has been appraised in this study.

2.3.5 Future Council Operating Model

The Future Council Programme is the vehicle that delivers the vision and sustainable operating model to create the future Birmingham and City Council. Future Council Programme SN35: Birmingham Connected – expansion of City Centre on-street parking, concessions and restrictions; supports the Birmingham Connected vision and contributes to creating a modern, thriving city. It outlines the implementation and expansion of controlled parking zones across the remaining areas of the city centre by 2021, with priority areas of Digbeth and the Irish Quarter to be delivered first.

2.3.6 West Midlands Strategic Transport Plan, 'Movement for Growth'

This plan provides the long term approach for improvements to the transport system across the West Midlands. The plan calls for *a metropolitan area parking policy co-ordinated with improvements to sustainable modes of walking cycling and public transport.* It also includes an expansion of park and ride sites; provision of parking for powered two wheelers and bicycles; balancing car access to centres to support economic vitality whilst promoting modal shift.

2.3.7 West Midlands Rail Park and Ride

Transport for West Midlands (TfWM) manages 9,766 Park and Ride (P&R) spaces across the West Midlands metropolitan area that serves Birmingham. Within Birmingham there are 3,578 free spaces located at rail stations. TfWM is investigating an expansion of the P&R network to support the expected increase in rail capacity and patronage. Additional P&R capacity will be in the form of strategic, local and micro sites. Potential locations for new park and ride sites in Birmingham to complement city centre parking changes have been identified and discussed in the option appraisal.

3. Current City Centre Situation

3.1 Introduction

This section presents the analysis of the current parking supply, demand and utilisation across Birmingham City Centre (2016). This information has been informed from existing data sources, site surveys, video and photo imagery, questionnaires and face-to-face surveys.

First, the current parking supply is discussed. Second an estimate of the vehicle demand entering the city centre potentially looking for a parking space is assessed, informed by the city centre cordon surveys. Finally, analysis of parking utilisation is presented to further inform and validate the level of demand for parking in the city centre. This enables an assessment to be made of the level of parking supply in the city centre and to understand if there is appropriate parking provision to support economic growth and the objectives of the City Council to create a sustainable, healthier and greener city and transport system.

For the purpose of this study the city centre is defined as in Figure 3.1 and has been divided into 12 quarters. These quarters have been defined by BCC to be consistent with planning development, along with the addition of the Five Ways quarter because of its importance to the study. Any reference to the city centre in this report refers to the quarters shown in Figure 3.1.

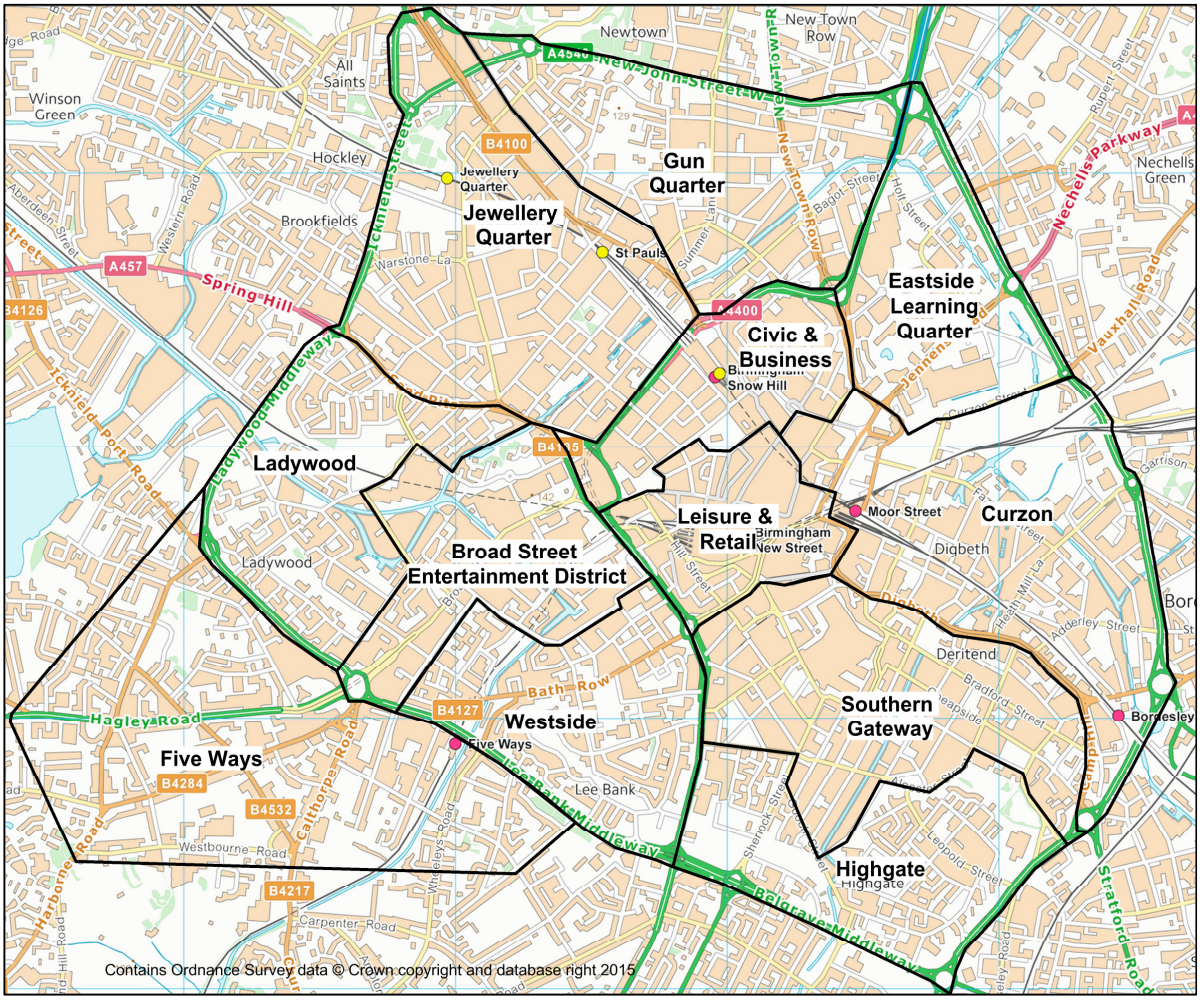

Figure 3.1 : Birmingham City Centre Quarters

3.2 Number of Parking Spaces

Table 3.1 presents a summary of the available parking supply, by type and quarter in the city centre in 2016. This indicates that there are just under 60,000 car parking spaces available in the city centre (59,732 spaces).

Quarter	Public Off-Street	Public On-Street (Controlled)	Public On-Street (Unrestricted)	PNR	Total
Broad Street Entertainment District	5,967	176	273	1,624	8,040
Civic & Business	3,033	422	0	2,299	5,754
Curzon	4,683	347	1,151	1,293	7,474
Eastside Learning Quarter	1,008	16	170	2,091	3,285
Five Ways	1,493	104	618	5,700	7,915
Gun Quarter	1,300	530	820	1,780	4,430
Highgate	130	0	1,210	896	2,236
Jewellery Quarter	1,832	1,390	139	2,976	6,337
Ladywood	187	0	1,322	972	2,481
Leisure & Retail	2,575	112	56	777	3,520
Southern Gateway	3,586	186	951	1,577	6,300
Westside	472	85	245	1,158	1,960
Total	**26,266**	**3,368**	**6,955**	**23,143**	**59,732**

Table 3.1 : Overview of spaces by quarter

3.2.1 Public Off-Street Car Parks

There are 123 car parks of different types and standards (i.e. multi-storey, single storey, temporary), available in the city centre to the public (Table 3.2). Fourteen of these car parks (1,537 spaces included in the public off-street total) have temporary approval, which has either expired or is due to expire by 2019.

Quarter	BCC Ownership		Private Ownership			Total
	MSCP	SSCP	MSCP	SSCP	Temporary CP	
Broad Street Entertainment District	610(1)	54(1)	4,758(7)	405(3)	140(1)	5,967(13)
Civic & Business	863(1)	-	2,072(3)	98(4)	-	3,033(8)
Curzon	-	-	2,394(2)	1,585(12)	704(5)	4,683(19)
Eastside Learning Quarter	984(1)	-	-	24(1)	-	1,008(2)
Five Ways	93(1)	-	1,400(1)	-	-	1,493(2)
Gun Quarter	-	-	-	1,300(25)	-	1,300(25)
Highgate	-	-	-	130(1)	-	130(1)
Jewellery Quarter	553(1)	287(2)	500(1)	381(9)	111(2)	1,832(15)
Ladywood	-	-	-	137(4)	50(1)	187(5)
Leisure & Retail	387(1)	101(2)	1,985(4)	183(2)	19(1)	2,575(10)
Southern Gateway	892(2)	-	1,519(3)	662(9)	513(4)	3,586(18)
Westside		-	302(1)	170(4)	-	472 (5)
Total Spaces (Car Parks)	**4,382(8)**	**442(5)**	**14,930(22)**	**4,975(74)**	**1,537(14)**	**26,266 (123)**

Table 3.2 : Public Off Street Parking Spaces and Car Parks by type, number, ownership and quarter

BCC own 16 car parks in the city centre, of which 13 are managed and operated directly by BCC. The other 3 car parks are located at the National Indoor Arena (NIA) and are managed by a separate company. For the purposes of this study, the 3 NIA car parks (1,995 spaces) are treated as privately operated. (As recently as 2013, BCC did own more surface car parks but a decision was made to sell-off a number of these to private operators. Many of these continue to operator as public off-street car parks.)

The 13 car parks operated by BCC provide 4,824 spaces and 18% of the total public off-street parking market share (Table 3.3). This is the largest share of parking managed by a single operator in the city centre. Other operators with a significant market share of off-street parking in the city centre include:

- NCP (4,367 spaces; 9 car parks; 17% market share);
- Bull Ring Management (3,053 spaces, 3 car parks, 12%);
- APCOA (2,110 spaces; 4 car parks; 8%);
- NIA (1,995 spaces, 3 car parks, 8%);
- Gallan Parking (1,481 spaces; 18 car parks; 6%); and
- Euro Car Parks (1,293 spaces; 10 car parks; 5%).

In addition, both Q-Park (890 spaces) and B4 Parking (752 spaces) operate a single car park that provides a 3% share of the total supply. Overall, BCC and these 8 private operators control half of the available public off-street car parks (62) and account for 80% (20,765 spaces) of the total off-street parking supply available in the city centre.

Quarter	BCC		Private	
	Spaces	Market Share	Spaces	Market Share
Broad Street Entertainment District	664	11%	5,303	89%
Civic & Business	863	28%	2,170	72%
Curzon	-	-	4,683	100%
Eastside Learning Quarter	984	98%	24	2%
Five Ways	93	6%	1,400	94%
Gun Quarter	-	-	1,300	100%
Highgate	-	-	130	100%
Jewellery Quarter	840	46%	992	54%
Ladywood	-	-	187	100%
Leisure & Retail	488	19%	2,087	81%
Southern Gateway	892	25%	2,694	75%
Westside	-	-	472	100%
Total Spaces / Market Share	**4,824**	**18%**	**21,442**	**82%**

Table 3.3 : Public Off Street Parking Spaces and Market Share (BCC: Private)

Historically the number of available off street car parking spaces and car parks has increased whilst BCC's market share has decreased. In 2000, BCC had a 50 per cent market share of the 18,705 available off-street spaces in the city centre (Appendix A). This market share has decreased year-on-year, whilst the number of off-street spaces has increased by over 40 per cent (7,561 spaces). The reduced BCC market share is a by-product of previous policies to sell-off BCC parking stock and an increase in surface car parks operating across the city centre.

3.2.2 On-Street Parking

There are 10,323 on-street parking spaces available across the city centre, a mix of controlled and unrestricted spaces.

A third (3,368 spaces) of the on-street parking is controlled, and BCC manage all of this controlled parking. This controlled parking consists of Pay & Display, time-limited (no fee) and permit bays, across five Controlled Parking Zones (CPZs) within the city centre:

- Inner Zone;
- Outer Zone;
- Gun Quarter;
- Jewellery Quarter; and
- Eastside.

There is also controlled parking in the Five Ways quarter, along the main arterials into and out of the city, which has no-fee time-limited parking available (104 spaces).

The rest of the on-street parking (6,955 spaces) is unrestricted. This type of parking provides the opportunity to park on-street, for an unlimited period of time, at no 'cost for the end-user. However, there is inevitably a cost associated with this type of parking to BCC (i.e. leads to congestion). Also, unrestricted parking undermines other transport polices and strategies, causing congestion, which has a negative cost to the economy and impact on the Council's Network Management Duty (NMD).

BCC's Future Council Programme recognises the cost of maintaining 'free' unrestricted parking. It has identified plans to implement controlled parking zones (CPZ's) across the remaining areas of the city centre by 2021. This will look to remove all the current areas of unrestricted parking in the city centre.

3.2.3 Private Non-Residential (PNR) Parking

PNR spaces are usually provided by businesses at no fee, although again there is a cost associated with providing the spaces (i.e. cost to construct, maintain, business rates to pay, cost of congestion, etc.).

For this study, PNR spaces were established through initial analysis of VOA business rates data for car parking spaces. This information was checked against planning data, survey data collated through the Business Improvement Districts (BIDs), site visits and extensive analysis of satellite imagery.

This identified 23,143 PNR spaces within the city centre. This figure may be an underrepresentation of the actual number of PNR spaces; as businesses may not declare all the available spaces if they deem them to not be in use.

Analysis of the information shows Five Ways (5,700 PNR spaces) provides 25% of the total available PNR in the city centre. This is a significant proportion and could be explained by the location of the quarter outside of the tighter SPD area 1 with characteristics of low rise offices. This parking provision is despite the quarter being served by frequent bus services and a rail station.

Within the ring road, the Jewellery Quarter has the highest provision of PNR spaces (2,976 spaces; 13% market share). This quarter is within area 2 of the SPD so parking standards are relaxed compared to the city core, and the type of businesses in this quarter could be reasons for the higher parking provision. This is despite the quarter having a metro/rail station at its centre and another metro stop on the edge.

The Civic & Business Quarter, which houses the majority of the office and tertiary services in the city centre, has 2,299 spaces (10% market share). The Eastside Learning Quarter also provides over 2,000 PNR spaces. This is largely driven by the single business of Aston University, which has over 650 PNR spaces available on its campus. These four quarters alone provide over half (56%) of the total PNR provision across the city centre.

3.2.4 Residential Parking

Parking information was provided by BCC for private residential developments in the city centre. This covered 86 developments and just under 9,000 dwellings. The number of parking spaces was known for 52 of the developments. This identified the provision of 4,620 spaces for 6,289 dwellings (0.73 spaces per dwelling).

This is less than the maximum standard defined by the SPD for area 1 (1 space per dwelling). All the developments identified had parking associated. Two developments have parking spaces per dwelling of less than 0.1:

- Islington Gates, Jewellery Quarter: 0.08 space per dwellings (12 spaces for 142 dwellings)
- Brindley House, Jewellery Quarter: 0.1 space per dwelling (25 spaces for 246 dwellings)

Ten developments have a 1:1 parking to dwelling or greater ratio. The highest ratios being:

- Sherbourne Lofts, Westside: 1.4 spaces per dwelling (42 spaces for 30 dwellings)
- Concord House, Westside: 1.3 spaces per dwelling (25 spaces for 19 dwellings).

3.2.4.1 BCC Housing

An assessment of the parking provision at BCC housing locations in the city centre has not been undertaken as part of this study. This is being undertaken as part of a separate commission by BCC.

3.3 Cordon Demand

3.3.1 2015 Cordon Report

A biannual cordon survey is undertaken of Birmingham City Centre, with the last survey undertaken in November 2015. This provides accumulation of vehicles within the city centre over a 24-hour weekday period. It highlights a maximum accumulation of circa 25,000 vehicles, peaking at 12pm (Figure 3.2).

The trend over the last 10 years has been a decrease in vehicle demand in the city centre. There has been a circa 10,000 vehicle decrease, from the peak in 2005, to the current volume of 25,000 vehicles. The scope of this report does not include the details of how this decrease has arisen.

This data would suggest there is an over-provision of public and PNR parking spaces in the city centre. Based on a vehicle demand of circa 25,000 and a current parking supply of circa 60,000, it is estimated that only some 42 per cent of spaces are being used on a weekday.

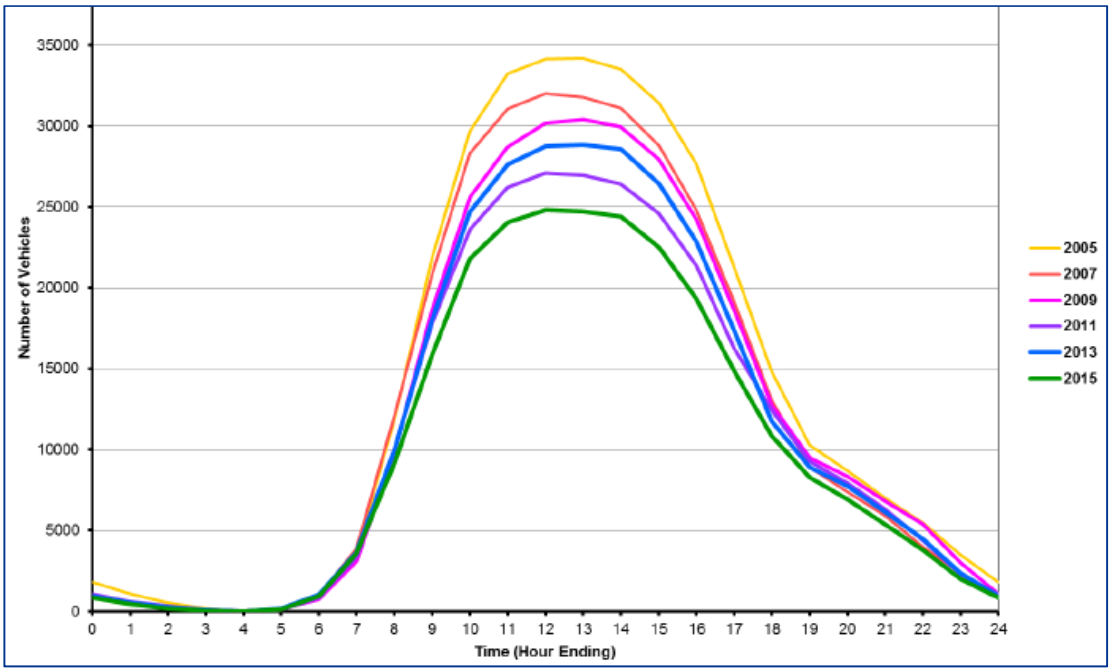

Figure 3.2 : Birmingham City Centre Cordon – Accumulation of Vehicles within the Cordon (source: Birmingham Cordon Report, March 2016)

The accumulation of vehicles (trips retained within the cordon and thus excluding through trips) can be used as a proxy to determine the demand for parking in the city centre. The cordon does not capture vehicles starting and ending a trip within the city centre (cordon). As a result, it will slightly underestimate the vehicle demand in the city centre. This demand can be estimated based on census journey to work data. From census data it is estimated that there are 2,500 car journey to work vehicle trips that start and end in the city centre.

Assuming that these trips occur at the same time (which is highly unlikely) during the peak accumulation, it can be estimated that the maximum daily vehicle demand in the city centre is 27,500 vehicles. This can be used to identify the level of parking required in the city centre. There is a need to ensure sufficient availability to accommodate fluctuations in demand and avoid congestion from people searching for spaces; it is internationally generally accepted that parking availability should be around 15%.

This would indicate a parking supply of circa 32,000 spaces is needed; recognising that city centre vehicle demand year-on-year has been decreasing. This is just over half of the existing provision.

3.4 Utilisation

The cordon demand can be used as a proxy to estimate the vehicle demand and associated number of spaces required (32,000). Further evidence of actual usage can be captured based on observed utilisation from car park data. This can be used to validate the cordon demand estimates and provide an understanding of the actual parking space utilisation and subsequent demand.

Utilisation data sources include the Birmingham Urban Traffic Control Management System (UMTC); video imagery captured during hourly on-street surveys; ticket machine and ParkMobile data for Pay and Display (P&D) bays in the Inner Zone; site surveys, face-to-face surveys and questionnaires.

Utilisation has been calculated as follows;

- On-Street – Charged Streets; utilisation was calculated from the ticket duration data obtained from ticket machine and cashless parking data.
- On-Street – Covered by an occupancy survey; utilisation was calculated for each survey route over the day by identifying the number of parked vehicles/ divided by the number of spaces available.
- On-Street – Not Covered by Survey; for these streets a survey using Google Earth imagery to estimate usage was undertaken.
- UTMC Car Parks – UTMC counters record the number of vehicles entering and exiting a car park, but at present does not record duration data. From this data the accumulation of vehicles was calculated, and from this the assumed utilisation was calculated for each of the respective UTMC car parks.
- Non UTMC Off-Street Car Parks – Gallan provided utilisation data for 9 of their off street car parks, this utilisation data was used as a representative figure for all none UTMC car parks.

The rest of this section discusses the utilisation of the different types of parking (off-street, on-street and PNR), informed from the available data sources. Utilisation for public off-street and on-street parking has been calculated for four different time periods:

- 0600 – 1000;
- 1000 – 1600;
- 1600 – 1900; and
- 1900 – 2400[2].

3.4.1 Public Off-Street Parking

Public off-street utilisation was calculated for this study using data from the UMTC and information received from Gallan Parking; Q-Park (Brindley Place), B4 Parking and APCOA (Broadway Plaza). The UMTC provides real-time occupancy data in 5 minute intervals for 21 multi-storey car parks in the city centre.

3.4.1.1 Public Off-Street Parking (Multi-Storey)

The UTMC covers 14,136 off-street spaces in 21 BCC and privately operated multi-storey off-street car parks across the city centre; accounting for 54% of the total public off-street parking spaces. Other utilisation data was made available by private operators for three multi-storey car parks not linked to the UTMC (Brindley Place, B4 Parking and Broadway Plaza); giving 89 per cent coverage of the total multi-storey spaces (Table 3.4).

[2] Off Street Car Parks only

Notable missing data for car park utilisation includes:

- BCC Millennium Point (Eastside Learning Quarter) – 984 spaces;
- BCC Jewellery Quarter Vyse Street (Jewellery Quarter) – 553 spaces; and
- NCP Horsefair (Westside) – 302 spaces.

Quarter	Multi-Story Spaces (car parks)	UTC Data Spaces	Other Data Spaces	Coverage
Broad Street Entertainment District	5,368 (8)	4,478 (7)	890 (1)	100%
Civic & Business	2,935 (4)	2,183 (3)	752 (1)	100%
Curzon	2,394 (2)	2,394 (2)	-	100%
Eastside Learning Quarter	984 (1)	-	-	0%
Five Ways	1,493 (2)	-	1400 (1)	94%
Jewellery Quarter	1,053 (2)	500 (1)	-	47%
Leisure & Retail	2,372 (5)	2,332 (4)	-	98%
Southern Gateway	2,411 (5)	2,249 (4)	-	93%
Westside	302 (1)	-	-	0%
Total	**19,312 (30)**	**14,136 (21)**	**3,042 (3)**	**89%**

Table 3.4: Multi-storey car park utilisation data coverage

Analysis of the off-street car park data available from the UTMC and other sources was undertaken for an average weekday, during each month between May 2015 and February 2016 (Appendix C).

A conservative estimate of the utilisation and demand is to take the month with the highest average weekday. This was the utilisation and demand in December 2015. Typically a neutral month, representative of the average demand would also be observed. Taking the utilisation in December 2015 (non-neutral month) provides a worse-case, when the demand is observed to be the highest. This ensures a significant degree of resilience is built into any demand assumptions as it accommodates the highest expected average weekday demand.

A summary of the vehicle demand and utilisation from this data for an average weekday in December 2015 is shown in Table 3.5. The highest average weekday utilisation occurs during the 1000 to 1600 period when 60% of the spaces are occupied. The data also indicates that approximately a third of the multi-storey car parking capacity is occupied before 10am. It could be inferred that this is demand from commuters arriving during the morning peak. The data in Table 3.5 is informed by information provided by other non-UTMC car parks. The pre-1000 figure from the UTMC car parks is slightly lower at 27 per cent. Therefore the actual commuter parking demand in multi-storey car parks could be lower at around 25 to 30 per cent.

Time Period	Demand	Utilisation
0600 – 1000	5,773	34%
1000 – 1600	10,273	60%
1600 – 1900	7,381	43%
1900 – 2400.	5,487	32%
Spaces not included (unknown)	*1,839*	-

Table 3.5: Known Multi-Storey Car Park Vehicle Demand and Utilisation (Average Weekday – December 2015)

To give an estimate of the total vehicle demand for off-street parking, the peak observed utilisation has been factored up to account for the unknown 1,839 multi-storey spaces. This approach assumes that the unknown car parks perform in line with the average known utilisation. This provides a conservative estimate of vehicle demand. As it is understood that the two unknown BCC car parks (Jewellery Quarter and Millennium Point), both perform below the average of the UTMC car parks.

Therefore, this off-street (multi-storey) vehicle demand is likely to be a conservative estimate (Table 3.6). For the purpose of determining the peak average vehicle demand this will provide allowances for variability in parking demand and supply. It is estimated that the average 12-month peak parking demand on a weekday is circa 10,300 to 10,700 vehicles. This indicates the conservative estimate to be circa 1,000 vehicles higher.

Public Off-Street (Multi-Storey)	Number of Spaces	Vehicle Demand	Available Spaces	Peak Average Utilisation
24 Multi-Storey Car Parks (known UTMC and other data utilisation)	17,178	10,273	6,905	60%
All 30 Multi-Storey Car Parks	***19,312***	***11,549***	***7,763***	***60%***

Table 3.6: Maximum Average Weekday Public Off-Street (Multi-storey) Vehicle Demand (1000 – 1600)

3.4.1.2 Public Off-Street Parking (Single-Storey)

Almost three quarters of the public off-street parking is available in the 30 multi-storey car parks (19,312; 74%). The remaining 26 per cent of public off-street parking spaces (6,954) are provided in single-storey car parks (i.e. surface car parks). This is a mix of BCC and privately operated, including some temporary car parks (1,537 spaces).

The privately operated car parks generally operate a simple two-tier tariff structure; an hourly charge and a 24-hour charge. The 24-hour daily tariff tends to offer cheap all-day parking opportunities (i.e. less than £5 for 24 hours).

No accurate utilisation data is available for the five BCC operated surface car parks. However, it can be assumed that they are regularly used based on revenue figures and site observations to establish utilisation.

Gallan Parking provided ticket data from February 2016 for nine of their eighteen surface car parks. This data was used to determine the average and maximum weekday utilisation before 1000 and between 1000 and 1600.

If it is assumed that the other surface car parks have a similar utilisation to Gallan Parking, it would indicate a daily demand of circa 5,900 vehicles in the single-storey car parks (Table 3.7). This does ensure that the estimate of vehicle demand allows for resilience and variability in demand.

Operator	Total Spaces	Before 1000		1000 – 1600	
		Spaces Occupied	Utilisation	Spaces Occupied	Utilisation
Gallan Parking	569	375	66%	480	84%
Single-storey total	***6,954***	***4,583***	-	***5,866***	-

Table 3.7: Gallan Parking surface car parks average weekday utilisation (February 2016) and estimated single-storey car park demand

3.4.1.3 Public Off-Street Parking Summary

There is a range of usage across the public off-street car parks, influenced by location, standard and price.

The public off-street parking assessment indicates the peak average parking utilisation across the city centre occurs during the 1000 to 1600 period. This trend follows a similar pattern to the cordon demand surveys, which reaches a peak around 1100 to 1400, before slowly decreasing into the afternoon and early evening. Analysis of the peak average utilisation for multi-storey parking suggests a daily peak demand of circa 11,500 vehicles. The demand in single-storey car parks is circa 5,900 vehicles. Overall, this indicates a peak daily demand of 17,400 vehicles for off-street parking in the city centre (Table 3.8) or 66 per cent utilisation.

Type of Parking	Total Spaces	Vehicle Demand	Average Utilisation
Off-Street Multi-Storey	19,312	11,500	60%
Off-Street Single-Storey	6,954	5,900	84%
Total	***26,266***	***17,400***	***66%***

Table 3.8: Estimate of Peak Average Weekday Vehicle Demand for Off-Street Parking (1000 - 1600)

It should be noted that the vehicle demand analysed is a maximum likely demand.

The demand for multi-storey parking is based on weekday demand during the highest average month (December 2015) from the available data. Using the highest demand from December 2015 ensures a conservative forecast that will likely over-estimate the average daily vehicle demand experienced throughout the year (by circa 1,000 vehicles).

It has been assumed that the multi-storey car parks with unknown demand perform in-line with the average (60 per cent). This is unlikely given site observations and understanding of usage at these car parks.

It also assumes all surface car parks achieve the same level of utilisation as Gallan Parking, which is known to be a strong performer in the market.

3.4.2 On-Street Parking

Analysis of on-street parking has been split by controlled and unrestricted parking. Data was obtained through extensive street-view car video surveys; of areas where ticket machine data was unavailable and where there is unrestricted parking. Analysis of the video surveys was used to establish the on-street demand and utilisation outside of the Inner Zone CPZ. The Inner Zone CPZ data and the video survey utilisation data is provided in Appendix F.

The associated demand for the on-street analysis was calculated using the observed demand from the parking survey and Inner Zone CPZ ticket data. The data includes illegal parking observed (i.e. in front of driveways) and explains over 100 per cent utilisation in some quarters.

The associated demand and utilisation is outlined in Table 3.9 for 0600 -1000; 1000 - 1600 in Table 3.10 and Table 3.11 demonstrates demand from 1600.

The on-street demand follows a similar trend to the cordon demand and off-street utilisation, with the maximum demand experienced between 1000 and 1600. During this time period, the average peak hour demand is circa 8,400 vehicles or 82 per cent of the available on-street spaces.

The demand includes illegal parking in areas of unrestricted parking. This demand is split across the controlled and unrestricted parking spaces. The unrestricted parking is nearly at capacity, with 97 per cent of the available spaces occupied. This is compared to only 50 per cent of the controlled parking in use. This would demonstrate the desire of users to use ‘free’ on-street parking where available. The 97 per cent utilisation is the highest of all the parking types offered across the city centre.

Quarter	Average Hour Controlled Demand	Average Hour Controlled Utilisation (%)	Average Hour Unrestricted Demand	Average Hour Unrestricted Utilisation (%)
Broad Street Entertainment District	70	40%	90	33%
Civic & Business	69	16%	0	-
Curzon	77	22%	1,027	89%
Eastside Learning Quarter*	0	-	293	172%
Five Ways	0	-	286	46%
Gun Quarter	71	13%	1,261	154%
Highgate	0	-	760	63%
Jewellery Quarter	530	38%	141	101%
Ladywood	16	-	1,082	82%
Leisure & Retail	13	12%	0	-
Southern Gateway	11	6%	801	84%
Westside	99	116%	36	15%
Total	**956**	**28%**	**5,777**	**83%**
*Includes roads not covered by survey which are assumed the same demand all day				

Table 3.9: On-street Parking Demand and Utilisation (0600-1000)

Quarter	Average Hour Controlled Demand	Average Hour Controlled Utilisation (%)	Average Hour Unrestricted Demand	Average Hour Unrestricted Utilisation (%)
Broad Street Entertainment District	125	71%	121	44%
Civic & Business	215	51%	0	-
Curzon	87	25%	1,298	113%
Eastside Learning Quarter*	0	0%	293	172%
Five Ways	0	0%	332	54%
Gun Quarter	91	17%	1,260	154%
Highgate	0	-	927	77%
Jewellery Quarter	855	62%	127	91%
Ladywood	32	-	1,429	108%
Leisure & Retail	44	39%	0	-
Southern Gateway	56	30%	959	101%
Westside	147	173%	11	4%
Total	**1,652**	**49%**	**6,757**	**97%**
*Includes roads not covered by survey which are assumed the same demand all day				

Table 3.10: On-street Parking Demand and Utilisation (1000-1600)

Quarter	Average Hour Controlled Demand	Average Hour Controlled Utilisation (%)	Average Hour Unrestricted Demand	Average Hour Unrestricted Utilisation (%)
Broad Street Entertainment District	0	0%	4	1%
Civic & Business	93	22%	0	-
Curzon	66	19%	939	82%
Eastside Learning Quarter*	0	-	293	172%
Five Ways	0	-	164	27%
Gun Quarter	18	3%	331	40%
Highgate	0	-	837	69%
Jewellery Quarter	18	1%	0	-
Ladywood	0	-	221	17%
Leisure & Retail	39	35%	0	-
Southern Gateway	64	34%	765	80%
Westside	0	-	0	-
Total	**298**	**9%**	**3,554**	**51%**
*Includes roads not covered by survey which are assumed the same demand all day				

Table 3.11: On-street Demand and Utilisation (After 1600)

3.4.2.1 Controlled Parking Utilisation Observations

Controlled includes streets which are charged or have restrictions in place within a CPZ. Within these streets it was observed that the demand fluctuates considerably throughout the day, from a peak of 50 per cent during the daytime to less than 30 per cent in the morning and evening. Where the number of vehicles exceeds 100% utilisation, cars were errantly parked, this typically included cars parked in front of points of access such as driveways and entrances or parking on double yellow lines.

Some Key observations were:

- Berkeley Street experienced close to maximum utilisation with a peak of 93% utilisation. (Broad Street Entertainment District)
- Newhall Street and Livery Street were quiet before 8am then operated at capacity for the remainder of the day; with evidence of compact parking; the parking of cars closer together that normally observed during the peaks with a risk of errant parking at busy times. (Civic & Business)
- Coventry Street is a restricted street with ample parking which did not exceed capacity throughout the survey. Street such as Fazeley Street which has much less available parking was operating at or near capacity throughout the survey. (Curzon)
- Pershore Street and Ladywell Walk both have less than 10 spaces each, but the survey demonstrated these are thoroughly utilised throughout the day. Kent Street in comparison though, with more spaces utilised under 20 per cent. (Southern Gateway)
- Ernest Street between 8am and 2pm showed a number of errant parked cars. (Westside)
- Upper Gough Street between 10am and 4pm operated at capacity. (Westside)

3.4.2.2 Unrestricted Parking Utilisation Observations

Unrestricted streets have no restriction or control in place and as expected the overall demand was greater than controlled streets, along with a higher proportion of errantly parked cars. This typically included cars, parked in front of points of access such as driveways and entrances and two-abreast on footways. Key observations were:

- Meriden Street and Bordesley Street in the Curzon Quarter have relatively few parking spaces, which are regularly exceeded with cars errantly parking.
- All unrestricted streets in the Broad Street Entertainment District operate within capacity during the day, with the exception of Essington Street.
- Pritchett Street in the Gun Quarter was highly utilised from 0800 to 1600, and experienced high levels of errant parking from 1100 to 1200, when demand was double the number of available spaces
- In Southern Gateway, Barford Street had numerous illegally parked cars before 0800.
- Vaughton Street South between 1000 and 1200 have over twice as many cars parked as spaces available.

3.4.3 PNR Parking

Interview surveys with businesses and building managers provides an indication of the average occupancy of parking in building premises. Through the surveys the majority of the businesses indicated full utilisation.

It is known from discussions with building occupiers and site observations that these occupancy assumptions tend to over-estimate the actual demand. However, it is very difficult to validate the assumptions and numbers. From experience of similar exercises undertaken by other local authorities (i.e. Nottingham), it was found that PNR usage was often over-estimated by 10%.

Taking the estimates on merit as a proxy for the overall PNR usage, it could be assumed that PNR parking is circa 85 per cent utilised or demand of circa 19,000 vehicles. This is based on a sample of 1,800 spaces defined by businesses (less than 10% of the total supply) from the surveys.

As a means to manage PNR parking in the city centre, BCC do have the opportunity to implement a workplace parking levy (WPL). A WPL has been successfully implemented in Nottingham and achieved a 17.5 per cent reduction in PNR spaces as a result of implementation, as employers sought to limit their liability, or introduced parking management schemes. After introduction there has been a gradual reduction with the number of PNR spaces stabilising at 75% of the pre WPL supply. Since the WPL has been introduced in Nottingham the percentage of employees covered by a workplace travel plan has increased from 25% in 2010 to 33% in 2014.

As demonstrated in Nottingham, a WPL would encourage a reduction in parking supply, so that only spaces required by employees for business needs are used. It also has the benefit of generating income for re-investment in the transport system to support and improve public transport and other sustainable modes (i.e. walking and cycling). It is estimated that a WPL for Birmingham city centre including Five Ways, could generate in the region of £6 million per annum. This figure is based on the PNR supply and demand data collected in this study and the Nottingham WPL methodology. There is the added benefit from a WPL that additional match-funding can be accessed.

3.4.4 Residential Parking

No assessment of residential parking utilisation has been made as part of this study.

The original scope included an assessment to be made of residential parking usage. However, BCC decided that due to sensitivities with access to private residential developments, any utilisation for this type of parking would be assessed by BCC as part of a separate commission and inform recommendations at a later date.

3.4.5 Summary of Vehicle Demand for Parking

A very conservative estimate of the peak (1000 – 1600) average weekday demand for parking in the city centre is circa 45,000 vehicles (Table 3.12).

Type of Parking	Total Spaces	Vehicle Demand	Average Utilisation
Off-Street Multi-Storey	19,312	11,500	60%
Off-Street Single-Storey	6,954	5,900	84%
On-Street	10,323	8,400	82%
PNR	23,143	19,000	82%
Total	***59,732***	***44,800***	***75%***

Table 3.12 : Estimate of Peak Average Weekday Vehicle Demand for Parking (1000 - 1600)

This is a conservative estimate because it is based on utilisation data from December 2015 for off-street multi-storey car parks and less than a 10% sample of actual PNR data. The December 2015 off-street data provides the highest average weekday demand.

Based on the estimated vehicle demand, it could be suggested that the maximum available parking supply required for the city centre is circa 50,000 spaces.

This assumes a 15 per cent allowance for parking availability based on the estimate conservative peak demand (44,800 demand x 15% = 51,500 spaces). A 15% allowance is internationally recognised by parking management and operation as being sufficient to avoid congestion from insufficient capacity (i.e. looking for a space).

3.5 BCC Tariffs

3.5.1 BCC Tariffs

BCC has a role in setting the pricing structure to influence travel choice for 8,192 spaces (4,824 off-street and 3,368 on-street spaces).

3.5.1.1 Off-Street

To understand the pricing strategy, an assessment of the off-street tariffs in April 2004 and April 2016 has been undertaken (Table 3.13). This has highlighted variability in off-street parking charges.

The cost of 24-hour parking at four BCC car parks has decreased since 2004. Both Pershore Street and the Markets multi-storey are cheaper by £2.50/day. This could be explained by a need to increase utilisation, thus a cheaper pricing structure.

Great Charles Street and Ludgate Hill surface car parks are also cheaper. In April 2016, it now costs £6.90 to park for 24 hours at these car parks, compared to £8.00 in 2004 (-£1.10). This is despite both of these car parks being well used on a daily basis.

An assessment of the pricing structure in 2016, against RPI (retail price index) increases from 2004 indicates that short-stay pricing has tended to increase above RPI, whilst all-day parking has increased below RPI at all but two off-street car parks. This means that long-stay parking is cheaper now (in real terms) than in 2004, potentially encouraging commuting by private vehicle and undermining the objectives of Birmingham Connected.

The daily (24-hour) BCC tariffs are significantly cheaper than similar, privately operated off-street car parks (i.e. NCP, B4Parking, Q-Park). This contradicts the policies of Birmingham Connected in that BCC promote cheaper parking than other car park operators, thus potentially encouraging commuting by car and undermining the public transport system.

Car Park	April 2004	April 2016	April 2016 change from April 2004	2016 RPI (from 2004)	April 2016 difference to 2016 RPI
Great Charles St	£8.00	£6.90	-£1.10	*£11.30*	*-£4.40*
Jewellery Quarter	£3.20	£4.60	£1.40	*£4.50*	*£0.10*
Ludgate Hill	£8.00	£6.90	-£1.10	*£11.30*	*-£4.40*
Markets	£6.50	£4.00	-£2.50	*£9.20*	*-£5.10*
Paradise Circus	£8.00	£9.50	£1.50	*£11.30*	*-£1.80*
Pershore Street	£6.50	£4.00	-£2.50	*£9.20*	*-£5.10*
Snow Hill	£10.00	£11.60	£1.60	*£14.10*	*-£2.50*
Tennant Street	£3.90	£5.80	£1.90	*£5.50*	*£0.30*
Town Hall	£11.00	£11.60	£0.60	*£15.60*	*-£3.90*

Table 3.13: 24-hour Tariffs and Comparison

A 2015 report (by WSP) of off-street city centre parking indicated that BCC operated car parks have some of the lowest tariffs compared to other core cities and prices should be assessed in line with the levels set in other UK cities. This should also depend on the supply/demand. If there is an over-provision of parking supply, then increasing tariffs could be difficult.

3.5.1.2 On-Street

Similar analysis has been undertaken for on-street charges in April 2006 and April 2016. This highlights that on-street charges have tended to increase slightly above RPI.

The exception is with the cost of the maximum parking limits for the Inner (2-hour) and Outer, Gun Quarter and Jewellery Quarter (JQ) Zones (4-hour). The 2016 RPI forecast (from 2006) suggests a tariff of £6.50 and £3.20 for 2-hour and 4-hour maximum limit respectively. This is 50p and 20p more than the April 2016 tariff respectively.

Comparison of on-street short-stay tariffs to off-street short-stay generally shows a trend of more expensive on-street parking. This is expected because people are paying for the advantage of convenience with parking close or at their destination. However, there are a few anomalies where on-street tariffs undermine the off-street parking pricing structure:

- Inner Zone 2-hour tariff (£6) is £1.50 cheaper than the nearby off-street NCP Royal Angus car park (£7.50)
- JQ Zone on-street parking is 10p cheaper than the BCC off-street JQ car park for 1 and 2-hour parking.

3.6 Parking Observations

3.6.1 Car Ownership

Understanding car ownership levels in the city centre provides an indication on the level of residential parking required. If all people own a car in a quarter but the provision is only for half, then there are likely to be negative parking implications associated with insufficient parking supply. Similarly, an over-supply creates areas of unused space and does not cater for the needs of the local people.

Analysis of 2011 census data for Birmingham City residents' car availability within the city centre was undertaken (Figure 3.3). No car households are in the majority across the city centre, with an average of 60 per cent car free households. The highest proportion of no car households is located in the Civic & Business (70 per cent) and Leisure & Retail (71 per cent) Quarters. This demonstrates the tighter SPD standards for this area of the city centre and good level of public transport accessibility. There are 36 per cent of residences with access to 1 car and only 8 per cent having 2+ cars available.

Based on the 2011 census data, the average car to dwelling ratio is 0.47. This is less than the SPD standard and would indicate that most people living in the city centre do not have a car and that the SPD standard is potentially set too high.

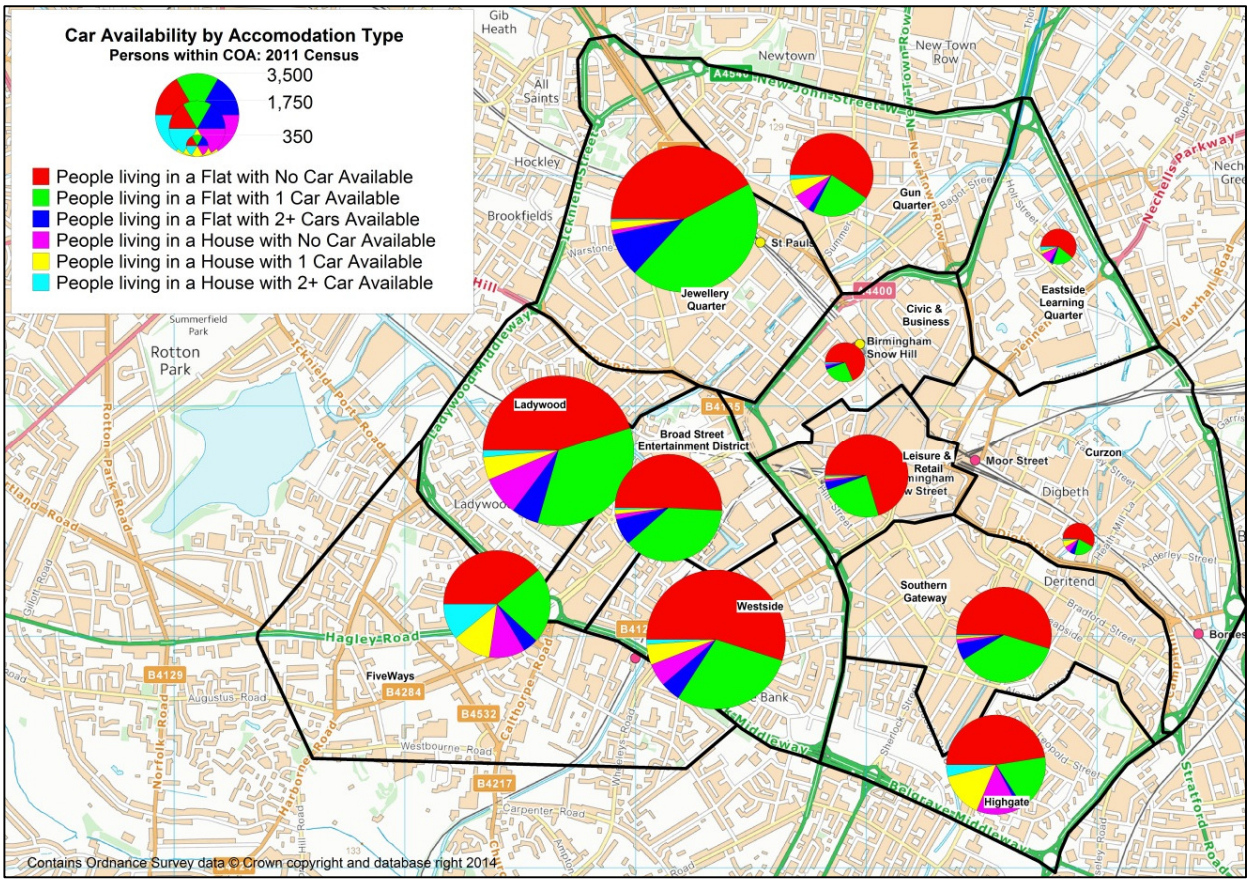

Figure 3.3 : Car availability by accommodation type

3.6.2 Re-parking

The inner zone ticket data analysed highlighted that there is an occurrence of re-parking within the zone.

Parking within the inner zone is currently capped to two hours maximum with no return to the same location / ticket machine. It does allow a car to re-park on an alternative street for an additional two hours.

Based on the ticket data, Table 3.14 shows the parking duration for cars that re-park over a two-month period. It demonstrates that a 3.5 to 4 hour stay is the most common length of stay for re-parked cars.

It also shows that half of the re-parked cars stay less than 2 hours. This would indicate they move for convenience. A park once policy with restrictions on no re-parking across the whole zone could potentially remove any short car trips being made within the area.

Time	Number of cars which move*	Percentage of Cars Which Move
> 30 mins	0	0%
30 mins – 1Hrs	364	13%
1Hrs – to 1.5 Hrs	491	18%
1.5 Hrs to 2.0 Hrs	465	17%
2Hrs to 2.5Hrs	332	12%
2.5Hrs and 3Hrs	330	12%
3Hrs-3.5Hrs	69	3%
3.5Hrs-4Hrs	495	18%
4Hrs-4.5Hrs	41	1%
4.5Hrs-5Hrs	31	1%
Longer Than 5 Hrs	126	5%

*Based on cars from 27th February 2016 to 11th April 2016

Table 3.14 : Movement of cars by time period

The location of the most re-parking occurrence is on the streets surrounding the Children's Hospital and Law Courts (Table 3.15). This could be explained by appointments being delayed and the need to move a car to avoid a PCN. There is also a proportion of re-parking occurring in the business area on Colmore Row, Edmund Street and Cornwall Street. Again, this could be explained by meetings over-running and the need to re-park.

Street	Number of Vehicles*	% of Re-Parking
Waterloo Street	477	17%
Corporation Street	335	12%
Steelhouse Lane	300	11%
Whittall Street	275	10%
Edmund Street	240	9%
Colmore Row	194	7%
Cornwall Street	135	5%

*Based on cars from 27th February 2016 to 11th April 2016

Table 3.15 : Percentage Re-parking by street (streets with less than 5% are not shown)

3.6.3 Temporary Car Parks

Temporary car parks are granted approval in the interim until the land is re-developed. This can provide much needed parking if there is an under-supply. However, where there is sufficient parking provision, this type of parking often directly undermines parking and transport policies.

The standard of these car parks is often of very poor quality, with bays un-marked and a lack of safe, lit walking routes to access the car park. Due to their appearance, temporary car parks can be detrimental to the local area and general perception of Birmingham to visitors.

It is known that there are currently 14 temporary car parks, with a total of 1,567 spaces operating in the city centre.

- Approval expired: 8 car parks; 982 spaces
- Approval expired in 2016; 1 car park; 90 spaces
- Approval expires in 2017: 3 car parks; 269 spaces
- Approval expires in 2018: 1 car park; 56 spaces
- Approval expires in 2019: 1 car park; 140 spaces

There are 8 where the temporary planning approval has expired. Therefore, they should not be in operation as a car park. If this was enforced, it would remove nearly 1,000 off-street spaces.

A position needs to be taken to ensure, when temporary car parks are required, they meet a minimum quality and car park design standard (i.e. ParkMark and BCC Car Park Design Guide) and that these standards are enforced to avoid a negative impression and visual impact on the local area. When a temporary car park approval expires or is requested, if there is no need for additional parking provision, then approval should not be granted. This should also assist with quicker re-development of the land.

3.7 Summary

This section has discussed the total number of parking spaces available within the city centre and the estimated demand for this parking.

Birmingham does need a number of parking spaces to support the economy. However, an over or under-provision of parking will undermine the policies of the City Council and Birmingham Connected, potentially having a negative impact on the economy.

3.7.1 Number of Spaces

There are estimated to be 59,732 spaces available in the city centre. These are currently split 94 per cent, long-stay: and 6 percent short-stay (less than 4 hours). It is known from over 300,000 cashless payment weekday ticket records for BCC off street car parks that 60% per cent of spaces are taken up by short-stay users (less than 4 hours). The long-stay figure includes off-street car parks, which do provide short-stay parking opportunities, but at present do not have dedicated short stay spaces. As the short-stay parking is not protected, all of the spaces could be taken up by long-stay parkers and are classed as such in the proportion split. This provides a crude assessment as it is likely some off-street parking is used by short-stay users. However, unless there are specific restrictions on long-stay parking, the short-stay parking will not be protected.

3.7.2 Vehicle Demand for Parking

A conservative estimate of the peak (1000 – 1600) average weekday demand for parking in the city centre is circa 44,800 vehicles. Based on the estimated vehicle demand, it could be suggested that the maximum available parking supply required for the city centre is circa 50,000 spaces.

This assumes a 15%allowance for parking availability based on the estimated demand (44,800 demand x 15% = 51,500 spaces). A 15 per cent allowance is internationally recognised by parking management and operation as being sufficient to avoid congestion from insufficient capacity (i.e. looking for a space).

3.7.3 Spaces Required

The analysis indicates that there is potentially an over-supply of 10,000 parking spaces in the city centre. This has the significant potential to undermine the policies and objectives of Birmingham Connected and the City Council in achieving a sustainable transport system. It also means that there is at least 11.5 hectares (based on the size of 10,000 parking bays) of land under-utilised, with a potential worth of nearly £17.5 million.

BCC may want to aim to reduce the parking supply to 50,000 spaces, whilst increasing the number of dedicated short-stay spaces. A target could be to have 50,000 spaces by 2021 with an 80:20, long-stay: short-stay split.

The Future Council programme, which is looking to make all on-street parking controlled, would achieve this 80: 20 split based on the current parking supply. This proportion of long: short-stay would need to be protected whilst the number of parking spaces is reduced.

The cordon demand indicated a peak vehicle demand of circa 27,500 or 32,000 parking spaces. It recognised that demand is decreasing year-on-year, despite growth in the city centre. A long-term target could be to have 32,000 spaces in the city centre, with a greater proportion of short-stay parking. An interim position could be 41,000 spaces, which would provide a step-change and progress from the current situation to a position of 32,000 spaces by 2031.

Parking supply and demand should be monitored annually and reviewed at least every two years. This would allow policy changes to be made in response to progress and changes in the economy and policies of the City Council.

3.7.4 Spaces per Employee

Understanding the number of spaces available per employee, provides an indication of whether the level of parking provision is appropriate to support the economy and businesses.

Birmingham has the highest number of parking spaces available in the city centre per employee compared to other core cities (Table 3.16). It has 370 spaces per 1,000 employees. This is compared to Manchester, which has 220 spaces per 1,000 employees and Nottingham at 250 spaces per 1,000 employees. This supports the findings that there is an over-supply of parking provision, particularly for commuters (long-stay) in Birmingham City Centre.

City	Workplace Population (2016[a])	Public Spaces (Long Stay[b])	PNR	Total Parking Available	Parking per Worker
Birmingham	**150,971**	**33,221**	**23,143**	**56,364**	**0.37**
Manchester	140,000	25,335	5,060	30,395	0.22
Nottingham	63,600	10,825	4,904	15,729	0.25

[a] Workplace Population 2016 estimate [b] Publically Available Off-Street & Unrestricted On-Street Spaces, factored using Temprov6.2

Table 3.16 : Commuter parking availability

By 2021, if 10,000 long-stay spaces were removed and all on-street parking controlled (6,955 spaces) then the available spaces per 1,000 employees would decrease to 260 spaces per 1,000 employees, similar to Nottingham. If 19,000 spaces were removed, then the provision would be slightly below Manchester at 200 spaces per 1,000 employees (Table 3.17), driving modal shift and supporting Birmingham Connected sustainable travel policies.

This highlights that there would be resilience in the provision of parking spaces for businesses, despite a reduction of 10,000 to 19,000 spaces by 2021.

Longer-term, BCC should look to decrease the number of spaces per employee. A reduction of 10,000 spaces for long-stay (commuter) parking provision by 2031 along with expected increase in employees to 200,000, would suggest 200 spaces per 1,000 employees, which is similar to Manchester's current situation.

A figure around 190 to 240 spaces per 1,000 employees could be a target by 2031, considering the modal shift to be achieved through all the planned investment in public transport and other sustainable modes of travel. Internationally there are cities that support a much larger workforce, with a lower parking provision than Birmingham (i.e. Sydney 210 spaces per 1,000 employees for 250,000 employees).

Scenario	Workplace Population	Total Parking Available	Parking per Worker
Birmingham 2016 (10,000 reduction)	150,971[3]	39,409	0.26
Birmingham 2016 (19,000 reduction)	150,971	30,409	0.20
Birmingham 2031 (10,000 reduction)	200,000[4]	39,409	0.24
Birmingham 2031 (19,000 reduction)	200,000	30,409	0.19

Table 3.17 : Forecast commuter parking availability

3.7.5 Observations and Outcomes

The assessment has demonstrated that there is an over-provision of parking in the city centre. Alongside a reduction in the provision of parking, a number of complementary improvements to the management and control of parking could be delivered.

[3] "2011 Census Data Factored using TEMPRO 6.2
[4] Pre-submission BDP 2031 workforce estimate

- Delivering a reduction in parking provision will be important, but it will need to consider the characteristics and analyse parking changes in each quarter. This will ensure a coherent parking policy is delivered that does not negatively impact a specific quarter of the city centre.

- As there is an over-supply of parking in the city centre, no temporary car parks should be granted approval. The car parks which have or are due to expire by 2019 should not have the approvals extended. This would remove nearly 1,000 spaces in 2016 and over 1,500 spaces by 2019.

- Alongside supply influencing parking choice, pricing is an important tool. A clear and transparent pricing structure for BCC parking should be set, that takes into account changes in the economy, demand and parking supply by quarter. A pricing policy could be agreed every two years, which could allow BCC officers to work within this policy to make changes as and when required, without the added cost of consultation. This should include a parking policy for BCC PNR parking (i.e. no PNR parking provision for BCC employees).

- There should be a change to on-street parking to stop re-parking in the same zone. For stays longer than the permitted on-street time limit, off-street parking should be encouraged. This may need to be supported by specific levels of BCC parking, or private-operated parking spaces defined for short-stay only.

- A third of the multi-storey car parking capacity is occupied by 10am on an average weekday. This would indicate that it is demand from commuters arriving during the morning peak looking for long-stay parking whilst working in the city centre. The UTMC data could be used to determine the number of dedicated short-stay spaces needed in off-street car parks, whilst still catering for longer-stay needs.

- The SPD should be amended to take account of the current level of car ownership and travel to work behaviours in the quarters, which are known to be below the SPD maxima standards. The percentage of no car households in the city centre is 56 per cent. The current provision of parking in private residential developments is 0.73 spaces per dwelling.

- To support a reduction in long-stay (commuter) parking and address the negative costs that it contributes to the economy (i.e. congestion), a workplace parking levy (WPL) should be investigated. This would have the effect of reducing the number of PNR spaces, as employers would only provide what is required to avoid unnecessary costs. It also has the potential to support modal shift and the policy objectives of Birmingham Connected and the City Council. High-level analysis of the revenue implications based on the data gathered for this study, indicates a city centre WPL could generate circa £6 million per annum. This is based on the data collected and Nottingham WPL methodology. BCC could be an example employer on this and implement a cost for employees to park at its city centre offices.

- There would be merit in investigating the potential to re-development under-performing/under-used off-street car parks, in quarters with a parking over-provision if the disposal of the car park would contribute to supporting redevelopment in the quarter. Any land asset sale would require a detailed understanding of the long-term (minimum 15-year) capital and revenue impacts for BCC. It would also need to ensure that the land is not used for parking in the interim before development occurs.

4. Future Parking Supply Scenarios

This section of the report discusses future growth scenarios and attempts to quantity the impact future developments will have on city centre parking provision.

An assessment of three future growth scenarios has been undertaken:

- Scenario A (2021): All planning applications which have been approved in the last 5 years and have not been completed.
- Scenario B (2026): All planning applications which have been approved in the last 10 years and have not been completed. This will include developments captured in Scenario A.
- Scenario C (2031): Strategic sites and development growth proposals outlined in development plans for the city centre to 2031. This will build upon the growth outlined in Scenario A and B.

These growth scenarios are all assumed to build upon a current Do Minimum 2021 scenario that assumes BCC successfully implement the Future Council CPZ programme and remove temporary off-street parking currently in operation. Each scenario will build upon the previous.

4.1 Do Minimum Scenario (2021)

A Future Council programme being delivered by BCC is the expansion of CPZs across the remaining areas of the city centre. This has the intention of removing all unrestricted on-street parking currently available in the city centre by 2021. The new controlled parking would ensure all on-street parking is managed and controlled with time-limits applying (similar to existing city centre CPZs).

If BCC were to enforce expired temporary car park approvals and not renew or grant further approvals, over 1,500 private-operated off-street spaces would be removed from the city centre parking stock. This has a significant advantage in supporting BCC's ability to reduce the overall level of parking provision in the city centre and assist with the promotion of alternative travel modes.

Quarter	On-Street	Off-Street	PNR	Total (excl on-street)
Broad Street Entertainment District	449	5,827	1,624	7,451
Civic & Business	422	3,033	2,299	5,332
Curzon	1,498	3,979	1,293	5,272
Eastside Learning Quarter	186	1,008	2,091	3,099
Five Ways	722	1,493	5,700	7,193
Gun Quarter	1,350	1,300	1,780	3,080
Highgate	1,210	130	896	1,026
Jewellery Quarter	1,529	1,721	2,976	4,697
Ladywood	1,322	137	972	1,109
Leisure & Retail	168	2,556	777	3,333
Southern Gateway	1,137	3,073	1,577	4,650
Westside	330	472	1,158	1,630
Total	**10,323**	**24,729**	**23,143**	**47,872**

Table 4.1: Do Minimum Scenario (2021) for Parking Provision by Quarter

On-street parking will be unchanged in all the other future parking supply scenarios as changes are assumed to not impact on-street parking.

4.2 Scenario A (2021)

Planning applications in the city centre that have been approved in the last 5 years and have not been completed are assumed to make up this 2021 growth forecast. It is assumed that these applications will be delivered in the next five years otherwise the planning approval will lapse. Lapsed planning applications that have been identified by BCC (3 years after approval), have been excluded from scenario A.

Scenario A (2021) highlights the likely impact upon parking provision with the delivery of all these developments (Table 4.2).

There is expected to be a 3 per cent increase in parking provision. This is an additional 465 off-street and PNR spaces as a direct result of the development approved. This is largely due to a 51 per cent (831 spaces) increase in parking in the Westside quarter. Five Ways and Highgate are not expected to experience any change. Other quarters to experience a notable change include:

- 51 per cent increase in Westside (831 PNR spaces);
- 41 per cent decrease in Ladywood (-452 spaces); and
- 7 per cent decrease in Leisure & Retail (-234 PNR spaces).

Quarter	Off-Street		PNR		Total	
	Change	Total	Change	Total	Change	Total (%)
Broad Street Entertainment District	-242	5,585	53	1,677	-189	7,262 (-3%)
Civic & Business	175	3,208	-18	2,281	157	5,489 (3%)
Curzon	22	4,001	-39	1,254	-17	5,255 (0%)
Eastside Learning Quarter	0	1,008	30	2,121	30	3,129 (1%)
Five Ways	0	1,493	0	5,700	0	7,193 (-)
Gun Quarter	-115	1,185	0	1,780	-115	2,965 (-4%)
Highgate	0	130	0	896	0	1,026 (-)
Jewellery Quarter	0	1,721	150	3,126	150	4,847 (3%)
Ladywood	-38	99	-414	558	-452	657 (-41%)
Leisure & Retail	-9	2,547	-234	543	-243	3,090 (-7%)
Southern Gateway	17	3,090	296	1,873	313	4,963 (7%)
Westside	0	472	831	1,989	831	2,461 (51%)
Total	**-190**	**25,338**	**655**	**23,798**	**465**	**45,876 (-4%)**

Table 4.2: Scenario A (2021) Parking Provision by Quarter

4.2.1 Scenario A (2021) Residential Parking

There is expected to be an increase of 7,306[5] residential dwellings by 2021 based on the approved planning applications. It is known that there will be 1,017 additional dwellings built with 462[6] spaces. This is at a parking space per dwelling ratio of 0.45. This is significantly lower than the current ratio of 0.73.

Scenario	Dwellings	Spaces	Spaces per Dwelling
2016[7]	6,289	4,620	0.73
Scenario A (2021)[8]	1,017	462	0.45

Table 4.3: Scenario A (2021) Residential Parking Provision

[5] Known Residential developments with known parking spaces
[6] Known Residential developments with known parking spaces
[7] Known Residential developments with known parking spaces
[8] Known Residential developments with known parking spaces

4.3 Scenario B (2026)

Planning applications in the city centre that have been approved in the last 10 years and have not been completed are assumed to make up the 2026 growth forecast. This will include applications that have lapsed but it is assumed that similar applications would be made as the city centre grows. It is assumed that this growth would be delivered over the next ten years. Scenario B (2026) highlights the likely impact upon parking provision with the delivery of all these developments (Table 4.4).

There is expected to be a 3 per cent increase in parking provision, similar to Scenario A. This is an additional 1,653 off-street and PNR spaces as a direct result of the development from the Do Minimum Scenario. It is only a 400 space increase from Scenario A. This could potentially be an under-estimation of development growth. The pattern of change is similar to Scenario A, with the increase in by 2021 at Southern Gateway the most notable change. Five Ways and Highgate are not expected to experience any change.

- 24 per cent increase in the Southern Gateway (1,112 spaces);
- 56 per cent increase in Westside (910 spaces) ;
- 8 per cent increase in Jewellery Quarter (389 spaces);
- 6 per cent increase in Civic & Business (303 spaces);
- 41 per cent decrease in Ladywood (-456 spaces);
- 8 per cent decrease in Leisure & Retail (-269 spaces); and
- 8 per cent decrease in Gun Quarter (-241 spaces).

There is expected to be the loss of a further 500 public off-street spaces in the Broad Street Entertainment District which reduces the overall off-street supply below the 2021 current scenario by 3 spaces.

Quarter	Off-Street		PNR		Total	
	Change	Total	Change	Total	Change	Total (%)
Broad Street Entertainment District	-742	5,085	553	2,177	-189	7,262 (-3%)
Civic & Business	175	3,208	128	2,427	303	5,635 (6%)
Curzon	36	4,015	59	1,352	95	5,367 (2%)
Eastside Learning Quarter	0	1,008	-1	2,090	-1	3,098 (0%)
Five Ways	0	1,493	0	5,700	0	7,193 (-)
Gun Quarter	-241	1,059	0	1,780	-241	2,839 (-8%)
Highgate	0	130	0	896	0	1,026 (-)
Jewellery Quarter	0	1,721	389	3,365	389	5,086 (8%)
Ladywood	-38	99	-418	554	-456	653 (-41%)
Leisure & Retail	-9	2,547	-260	517	-269	3,064 (-8%)
Southern Gateway	816	3,889	296	1,873	1,112	5,762 (24%)
Westside	0	472	910	2,068	910	2,560 (56%)
Total	-3	24,726	1,656	24,799	1,653	**49,525 (3%)**

Table 4.4: Scenario B (2026) Parking Provision by Quarter

4.3.1 Scenario B (2026) Residential Parking

There is expected to be an increase of 4,625 residential dwellings[9] by 2026 based on the approved planning applications. It is known that there will be an additional 4,625 built with 1,448 spaces[10]. This is at a parking space per dwelling ratio of 0.31. This is lower than the current ratio of 0.73 and lower than the approved applications captured in Scenario A (0.44). This highlights the market demand is for less spaces per dwelling.

Scenario	Dwellings	Spaces	Spaces per Dwelling
2016[11]	6,289	4,620	0.73
Scenario A (2021)[12]	1,017	462	0.44
Scenario B (2026)[13]	4,625	1,448	0.31

Table 4.5: Scenario B (2026) Residential Parking Provision

4.4 Scenario C (2031)

Scenario C focuses on the long term planning (2031) and the potential impact strategic growth sites will have on parking supply (Table 4.6). This scenario assumes that strategic development removes parking and is built with no replacement parking. This is an aspiration as it is likely that parking will be provided with some if not all proposed development.

This scenario assumes that the development and parking identified in Scenario A and B are already delivered.

This growth assumption will show what the worst case is in terms of impact on parking supply. This could potentially be beneficial for the objectives of Birmingham Connected and a sustainable transport system but could equally be controversial if no parking is provided with developments.

All quarters except for the Civic & Business are expected to experience a decrease in the level of parking provision. Overall, there is expected to be a 1,000 space reduction in PNR provision. The significant decrease is in off-street parking, where there will be a 5,000 space decrease. This will take the level of off-street parking provision below 20,000.

Applying this policy would see the level of parking decrease by 9 per cent, compared to the expected Do Minimum 2021 scenario. The largest decreases would be experienced in:

- Southern Gateway (reduction of 2,105 spaces; -21 per cent);
- Curzon (reduction of 1,988 spaces; -36 per cent); and
- Jewellery Quarter (reduction of 710 spaces; 7 per cent).

Broad Street Entertainment District would experience a 189 space reduction but also a shift in parking mix from publically available off-street parking (-742 spaces) to PNR (+553 spaces). There is not expected to be any change in Five Ways, or to off-street parking in Highgate or Ladywood.

[9] Known Residential developments with known parking spaces
[10] Known Residential developments with known parking spaces
[11] Known Residential developments with known parking spaces
[12] Known Residential developments with known parking spaces
[13] Known Residential developments with known parking spaces

Quarter	Off-Street		PNR		Total	
	Change	Total	Change	Total	Change	Total (%)
Broad Street Entertainment District	-742	5,085	553	2,177	-189	7,262 (-3%)
Civic & Business	-26	3,182	-173	2,254	-199	5,436 (2%)
Curzon	-1,915	2,100	-73	1,279	-1,988	3,379 (-36%)
Eastside Learning Quarter	-276	732	-167	1,923	-443	2,655 (-14%)
Five Ways	0	1,493	0	5,700	0	7,193 (-)
Gun Quarter	-90	969	-48	1,732	-138	2,701 (-12%)
Highgate	0	130	-285	611	-285	741 (-28%)
Jewellery Quarter	-585	1,136	-125	3,240	-710	4,376 (-7%)
Ladywood	0	99	-48	506	-48	605 (-45%)
Leisure & Retail	-90	2,547	-260	517	-269	3,064 (-8%)
Southern Gateway	-2,063	1,826	-42	1,831	-2,105	3,657 (-21%)
Westside	-66	406	-15	2,053	-81	2,459 (-51%)
Total	**-5,021**	**19,705**	**-976**	**23,823**	**-5,997**	**43,528 (-9%)**

Table 4.6: Scenario C (2031) Parking Provision by Quarter

4.4.1 Scenario C (2031) Residential Parking

The potential increase in residential developments dwellings could be an additional 6,384 dwellings and a further additional 1,106 student bed spaces. The potential impact on current parking is a decrease in public parking by 1,933 spaces and a decline of 378 spaces in private non-residential parking to accommodate the developments.

4.5 Future Spaces per Employee

It has been discussed and shown that there is currently an over-supply of parking in the city centre, by circa 10,000 spaces.

However, as development comes forward, any parking policy needs to be able to respond to changes in land-use to support economic growth and ensure a viable transport system is provided. An assessment of the level of parking per employee benchmarked in Section 3.7.4 provides an indication of the level of acceptable parking provision. This has been assessed for the future growth scenarios (Table 4.7).

Scenario	Workplace Population	Public Spaces (Long Stay)	PNR	Total Long-Stay Parking Available	Parking per Worker
Current (2016)	150,971	33,221	23,143	56,364	0.37
DM (2021)	154,615	24,729	23,143	47,872	0.31
A (2021)	154,615	25,338	23,798	49,136	0.32
B (2026)	159,318	24,726	24,799	49,525	0.31
C (2031)	200,000	19,705	23,823	43,528	0.22

Table 4.7: Future Workplace Population and Long-Stay Parking Provision[14]

[14] "2011 Census Data Factored using TEMPRO 6.2

The analysis suggests that even with the planned growth by 2021 and despite a reduction in the total available (long-stay) parking for employees, largely as a result of the CPZ implementation, the number of spaces available per 1,000 employees would still be higher than other core cities. The level of parking per 1,000 employees will have reduced from 370 spaces to 310 spaces per 1,000 employees. This would still be higher than Nottingham (250 spaces) and Manchester (220 spaces).

Scenario C presents a case that if there was no parking delivered alongside the planned development and growth outlined in the pre-submission BDP 2031; that the level of parking availability for commuters would be similar to Manchester's existing situation. This would be 220 spaces per 1,000 employees. This would imply that a parking policy could stipulate all future development up to 2031 to be car free. This would be a bold position but a policy that could have merits and should be considered.

4.6 Summary

This future growth analysis (Scenario C) has shown that in the city centre, all of the proposed growth by 2031 could be delivered without any additional long-stay parking being provided or replaced as a direct result of the proposed developments. It would be a bold policy position to not allow any more parking in the city centre as development occurs but it highlights the excess of current parking supply in the city centre.

There is the need for bold policy decisions to be made now, to ensure that the future potential of the city centre (and city) can be achieved, in line with the policies outlined in the Big City Plan and Birmingham Connected to manage congestion.

The analysis indicates that parking standards should be reduced otherwise there will continue to be an over-supply of parking in the future, which could constrain growth, as demonstrated by the expected increase in parking supply by Scenario A (2021).

There is expected to be a reduction in long-stay parking provision but this is a result of the BCC policy to remove free, unrestricted on-street parking. It is not influenced by the parking standards or the position of developments to provide less or no parking.

Though a significant quantum of future residential development is forecast to occur in the city, the number of parking spaces per dwellings is forecast to decrease significantly. With approved planning applications showing an organic decline in the provision of residential parking spaces per dwelling, it is recommended that BCC review the current SPD in particular for spaces per dwelling within the inner core and promote car free developments.

5. Option Appraisal

There are a number of approaches and options available to manage the supply of parking in the city centre and other complementary measures in support of a parking policy. This section discusses the appraisal of these options and proposes a way-forward.

An appraisal was undertaken of the approaches and options. This appraisal was informed by stakeholders and Jacobs best practice and experience, with a peer review by the 'Jacobs Challenge Team'. The 'Jacobs Challenge Team' brings a wealth of UK and international experience in parking demand analysis, parking management, pricing and market analysis. This ensured an independent validation of the option appraisal and outcomes. The appraisal of options was undertaken in two stages.

- Stage 1 – Early Sifting of Long-List Options (71 Options)
- Stage 2 – Detailed Appraisal of Short-Listed Options (41 Options)

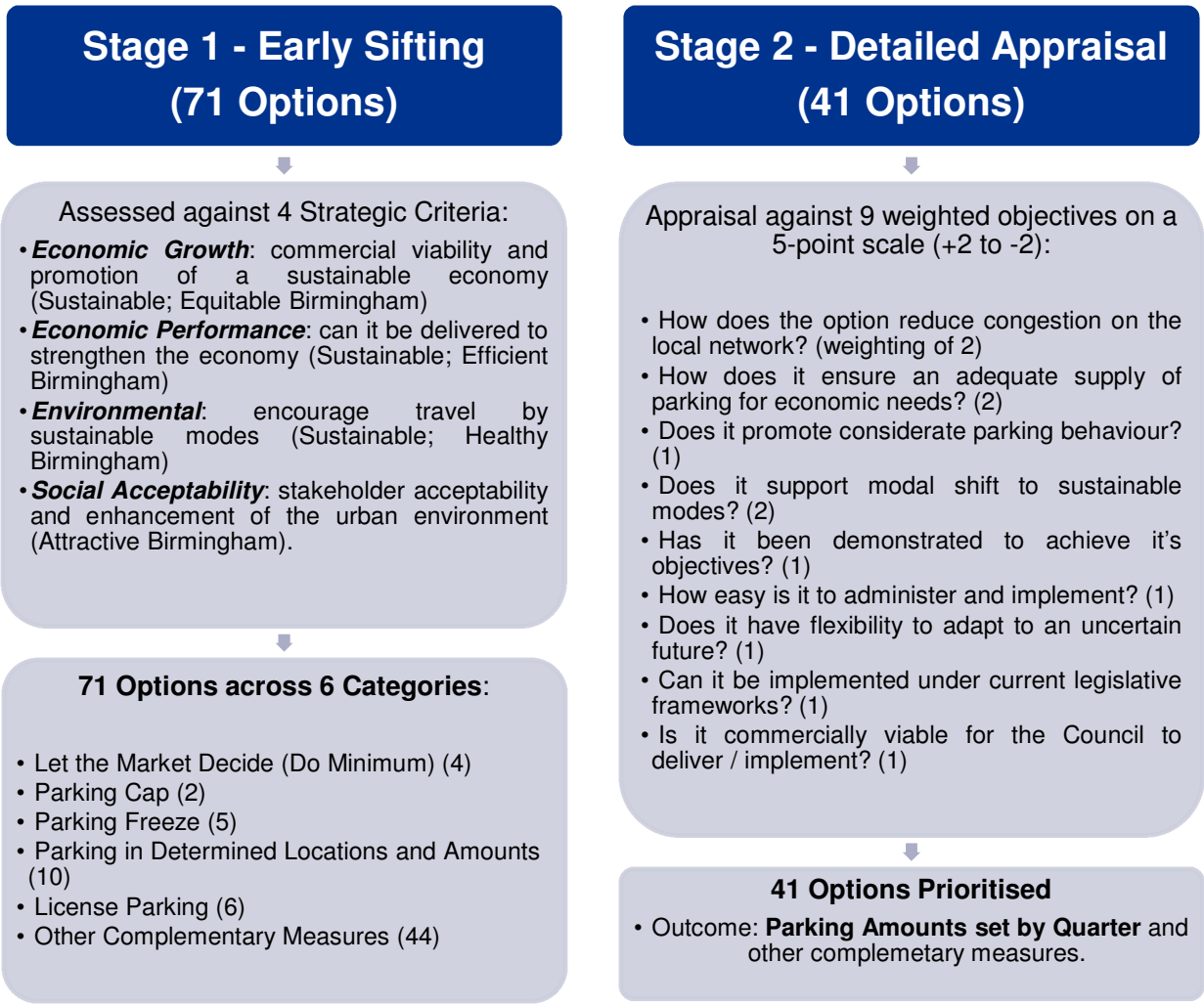

Figure 5.1 : Option Appraisal Process

5.1 Stage 1 – Early Sifting

The first step in the appraisal process was to review and discard options that were not deemed feasible or would not be applicable to the context of Birmingham against the 4 strategic criteria. If an option 'failed' against one or more of the criterion it was 'rejected' at this stage.

A long-list of supply and management options were generated from stakeholder input and Jacobs best practice experience. The long-list contained 71 options across the six categories of different parking types. The outcome of Stage 1 was the rejection of 30 options and 3 categories. These rejected categories are discussed.

The rationale for a *do minimum approach* is the market would allow for the most productive and cost-effective use of land and provision. This approach was rejected because it would not provide any connection or control for BCC between land-use and transport. It could lead to an over-supply of long-stay parking and create an uncompetitive market. There is also no guarantee that the market would provide the best outcome for the city, if acting for personal interests with no regulation.

Establishing a parking cap based on the maximum amount of traffic that the network could cope, would require a robust methodology that could respond to changes over time. It has been shown that vehicle demand to the city centre is currently falling. Such an approach could be used to establish a cap but it may be too high if traffic levels continue to fall. This would undermine investment in other transport modes and modal shift aspirations. Developing the appropriate methodology to determine traffic levels would also take considerable time and require detailed traffic modelling, which may not provide the accurate forecasts required. Therefore this approach was rejected.

A *parking freeze approach* was dismissed because it has been shown from the analysis to date that there is an over-supply of parking in the city centre. To freeze parking supply at the current levels would not provide the change required and thus would not support other policy changes and investment. This would continue to undermine other policy improvements.

The 41 remaining options under the three categories were taken forward to the detailed appraisal.

5.2 Stage 2 – Detailed Appraisal

The second and final stage was a detailed appraisal of the short-listed options (41). This involved a quantified assessment of the short-listed options, to identify and prioritise the best scoring options. The detailed appraisal enabled options to be prioritised to determine the best options to take forward as part of the parking policy approach.

The maximum score an option could achieve in Stage 2 was 24 points. It was discussed that any option with a score of 11 or less would be discarded at this stage of the appraisal, with the exception of schemes which would be complementary measures. In addition some options were eliminated if they could be considered for implementation at a later stage; however in the context of other options and developing a way-forward it was agreed that at this stage the option would not provide a viable solution.

The outcome from the detailed appraisal was a clear position on how to manage parking supply with 13 complementary measures.

It is proposed that there is a permissible ***maximum parking provision set by quarter***. A maximum parking provision (accounting for on-street, off-street and PNR) should be set by quarter, at a level below the current amount and include a percentage reduction in areas of high accessibility. This should also look to increase the ratio of short-stay to long-stay ensure parking serves the economic needs of the quarter and city centre.

Other options to score highly in the appraisal included ten options that BCC have control over and two under the responsibility of TfWM (Table 5.1). This includes a mix of operational, management, supply and demand measures. These contribute to create a policy of push and pull measures. BCC should continue to promote and invest in sustainable modes whilst discouraging private car use. The parking policy will help to set the push measures, whilst other deliverables through Birmingham Connected will create pull incentives.

Option	Stage 2 Score	Description
PD-09	14	Designate parking provision and standards by quarter and set a permissible maximum parking provision for public and PNR parking (lower than existing supply levels). (BCC)
OT-13	18	Set a BCC tariff structure that discourages long-stay and takes into account parking availability and utilisation. This should be set annually but allow for interim changes as required. This should include changes to the tariff structure to designate short-stay only bays within BCC off-street car parks as a means to discourage commuter parking and encourage parking for leisure and business activity. (BCC)
OT-06	15	Expand UTMC data to all BCC car parks. This would provide ongoing data monitoring and allow BCC to react to change, inform tariffs setting, and inform users through VMS and other potential mediums, which could be extended to UTMC ticket machines. (BCC)
OT-07	12	Specify UTMC data for all off-street car parks at the operators' expense. For all multi-storey car parks, it should be defined that they are linked to the VMS system. (BCC)
OT-05	19	Review existing parking signage and VMS; expand to include data on sustainable modes. This could influence route choice before cars enter the city centre; and could encourage sustainable mode choices. (BCC)
OT-08	14	Add UTMC data to Opticities Corridors. By providing live occupancy figures through mobile application and on key corridors into the city, BCC could influence route choice and reduce circulation in the city. There is the potential to link to internet and mobile phone Apps and assist in making travel easier. (BCC)
OT-37	14	Permit car free residential and business developments in areas of high accessibility by public transport and other sustainable modes, with links to car clubs. This would require coordination with the level of public parking provision in the area, controlled on-street restrictions and planning conditions to stop residents from applying for an on-street or business permit. (BCC)
LP-04	12	Specify and enforce minimum car parking design and operating standards for all car parks. This may be difficult to retro-fit to existing car parks, but all new car parks should adhere to a Birmingham Car Parking Quality Standard. (BCC)
LP-03	22	Deliver the CPZ programme across the whole of the city centre. This may be met with initial resistance from users, who cannot park for 'free'. However, it should not be seen as a right to have 'free' parking, especially as there is a negative financial cost to BCC. Setting a clear policy for the CPZ programme would show strong leadership and the direction that the city is taking in promoting sustainable travel choices, whilst still providing the opportunity for access by car for short-periods to support the economy. (BCC)
LP-06	12	License PNR parking through a Workplace Parking Levy. PNR parking undermines the investment in sustainable transport in the city and does not provide any benefit to the public as PNR parking cannot be accessed. If businesses want to offer parking to their employees, they should recognise the impacts this has on the transport system. BCC should take the approach to manage this issue by implementing a WPL. BCC should also set an example and remove all spaces provided for employees at its city centre locations. (BCC)
OT-18	12	Develop live occupancy data and communication to users for off-street car parks through the UTMC system. This information should be published and communicated on the BCC website and App developers encouraged to use the open data to assist in communicating the information to users.
OT-29	20	*Incorporate park and ride sites with Sprint – this would present an opportunity for TfWM to encourage modal shift and assist BCC to achieve a more encompassing transport network across the metropolitan area. (TfWM)*
OT-39	15	*Create park and ride at Duddeston, Tyseley and Small Heath Stations. This would provide additional capacity to support rail travel outside of the city centre. (TfWM)*

Table 5.1: Prioritised Options Outcome from Detailed Appraisal

6. Conclusions

This report has set out to understand the parking dynamics of Birmingham City Centre and look to recommend policy changes to ensure that parking supports the long-term viability of the city centre and contributes to a sustainable transport system.

Birmingham City Centre needs to ensure a number of parking spaces are available to support the economy. However, an over or under-supply of parking will undermine the policies of the City Council and Birmingham Connected, and potentially have a negative effect on the economy.

The analysis has shown that there is estimated to be an over-supply of parking in the city centre, along with a need to increase the proportion of short stay compared to long-stay spaces available.

The future growth analysis has shown that all of the proposed growth by 2031 could be delivered in the city centre without any additional long-stay parking being provided and parking removed as a direct result of the proposed developments. Whilst this could be seen as a bold policy position to not allow any more parking in the city centre with the proposed development growth, it highlights the current parking availability (and over-supply) in the city centre.

6.1.1 Number of Spaces

There are estimated to be 59,732 car parking spaces available in the city centre. These are split 94:6, long-stay: short-stay. The long-stay figure includes off-street car parks, which do provide short-stay parking opportunities. However, as the short-stay parking is not protected, all of the spaces could be taken up by long-stay parkers and are classed as such in the proportion split. This provides a crude assessment as it is likely some off-street parking is used by short-stay users. However, unless there are specific restrictions on long-stay parking, the short-stay parking will not be protected.

6.1.2 Vehicle Demand for Parking

A conservative estimate of the peak average weekday demand for parking in the city centre is 44,800 vehicles. This is a conservative estimate because it is based on utilisation data from December 2015 for off-street multi-storey car parks and less than a 10 per cent sample of actual PNR data. The December 2015 off-street data provides the highest average peak weekday demand, circa 1,000 vehicles above the average weekday peak. The PNR is understood to over-estimate utilisation and based, on such a small sample size, presents problems with reliability of the data.

Based on the conservative estimate of vehicle demand, it could be suggested that the maximum available parking supply required for the city centre is circa 50,000 spaces based on current demand.

This assumes a 15 per cent allowance for parking availability based on the estimate demand (44,800 vehicle demand x 15% = 51,500 spaces). A 15 per cent allowance is internationally recognised by parking management and operation as being sufficient to avoid unnecessary congestion from insufficient capacity (i.e. looking for a space).

6.1.3 Spaces Required

The analysis indicates that there needs to be a circa 10,000 space reduction in the level of parking provided across the city centre.

This oversupply has potential to undermine the policies and objectives of Birmingham Connected and the City Council in achieving a sustainable transport system. It also means that there is at least 11.5 hectares (based on the size of 10,000 parking bays) of land under-utilised, with a potential value of nearly £17.5 million.

As a result it is recommended that BCC consider reducing the parking supply to 50,000 spaces, whilst increasing the number of dedicated short-stay spaces. A target could be to have 50,000 spaces by 2021 with an 80:20, long-stay: short-stay split.

The Future Council programme, which is looking to make all on-street parking controlled, would achieve this 80: 20 split based on the current parking supply. This proportion of long: short-stay would need to be protected whilst the number of parking spaces is reduced.

The cordon demand indicated a peak vehicle demand of circa 27,500 vehicles or a need for 32,000 parking spaces. It recognised that demand is decreasing year-on-year, despite growth in the city centre. A long-term target could be to have 32,000 spaces in the city centre, with a greater supply of short-stay parking. An interim position could be 41,000 spaces, which would provide a step-change and progress from the current situation to a position in 2031.

Parking supply and demand should be monitored annually and reviewed at least every two years. This would allow policy changes to be made in response to progress and any changes in the economy and policies of the City Council.

The outcome from the option appraisal undertaken to inform policy recommendations, was that a permissible maximum parking supply (lower than the existing provision) should be set by quarter. Based on the parking supply and demand analysis it would indicate the need for significant parking reduction in most quarters (Table 6.1).

It should be noted that parking in the Gun Quarter, Highgate and Ladywood are at or close to the optimum levels. Therefore as development occurs, these areas need to be monitored to ensure there is no negative impact from parking. It is understood that anti-social parking behaviour already impacts these quarters, which is not unsurprising given the findings of this report and lack of controlled parking present.

The quarters expected to experience the most growth over the next decade are also some of the quarters where there is a plentiful parking supply (Curzon, Southern Gateway, and Civic & Business). This has the potential to undermine the land-use and transport investment planned for these areas, which will look to promote public transport, walking and cycling above private vehicle travel. It is recommended that a further development of the parking strategy in each quarter is undertaken in parallel to CPZ expansion to remove excess parking supply.

Quarter	Spaces	Vehicle Demand	Permissible Maximum Parking Provision[15]	Parking Reduction Required
Broad Street Entertainment District	8,040	5,143	5,900	-2,100
Civic & Business	5,754	3,998	4,600	-1,200
Curzon	7,474	5,952	6,800	-700
Eastside Learning Quarter	3,285	2,397	2,700	-600
Five Ways	7,915	5,789	6,600	-1,300
Gun Quarter	4,430	3,909	4,500	100
Highgate	2,236	1,772	2,000	-200
Jewellery Quarter	6,337	4,626	5,300	-1,000
Ladywood	2,481	2,417	2,800	300
Leisure & Retail	3,520	2,629	3,000	-500
Southern Gateway	6,300	4,389	5,000	-1,300
Westside	1,960	1,455	1,700	-300
Total	**59,732**	**44,475**	**50,900**	**-8,800**

Table 6.1: City Centre Parking Spaces, Demand (2016) and Permissible Maximum by Quarter

[15] Permissible maximum parking provision calculated from vehicle demand plus 15 per cent.

By 2021, it is expected that all on-street parking will be controlled through the CPZ programme across the city centre as part of the Future Council Operating Model. This will assist in reducing the availability of long-stay, 'free' parking and ensure better control and management of on-street parking in the quarters.

The removal of temporary car parks currently in operation could remove around 1,500 spaces by 2019. This would account for 16 per cent of the required reduction. Other reductions could be achieved by selling off specific underperforming BCC car parks for development, converting long-stay spaces to dedicated short-stay, removing on-street parking if short-stay can be provided off-street or stipulating development on 'bombsite' surface car parks.

Any parking reduction should not solely come from publically available parking or solely BCC car parks. The level of PNR parking provided also needs be reduced. A Workplace Parking Levy (WPL) is a strong policy mechanism to achieve this. The successful implementation of a WPL in Nottingham, achieved a 25% reduction in PNR parking. A similar result in Birmingham would significantly contribute to achieving the required reduction.

Where the reduction in public parking and PNR exceeds the total required (Table 6.2), the public parking should be favoured because it provides more value to the city by supporting business, shopping, leisure, retail and visitor trips than PNR parking.

Quarter	Total Number of Spaces 2016	Possible Parking Reduction Required	Organic Change (Scn A) Change in Public parking Col C	Organic Change (Scn A) Change in PNR Col D	DM 2021 Temporary Car Park Removal Col E	Revised Target Public Parking Reduction Col F	Target PNR Parking Reduction (25%) Col G	Total Parking Reduction Expected Col H=sum(C:G)
Broad St Entertainment District	8,040	-2,100	-200	100	-100	-2,000	-400	-2,500
Civic & Business	5,754	-1,200	200	0	0	-1,000	-600	-1,400
Curzon	7,474	-700	0	0	-700	-600	-300	-900
Eastside Learning Quarter	3,285	-600	0	0	0	-400	-500	-900
Five Ways	7,915	-1,300	0	0	0	-900	-1,400	-2,300
Gun Quarter	4,430	100	-100	0	0	200	-400	-300
Highgate	2,236	-200	0	0	0	-100	-200	-300
Jewellery Quarter	6,337	-1,000	0	200	-100	-900	-700	-1,400
Ladywood	2,481	300	0	-400	-100	400	-200	-200
Leisure & Retail	3,520	-500	0	-200	0	-500	-200	-900
Southern Gateway	6,300	-1,300	800	300	-500	-1,200	-400	-500
Westside	1,960	-300	0	800	0	-200	-300	300
Total	**59,732**	**-8,800**	**700**	**800**	**-1,500**	**-7,300**	**-5,800**	**-11,300**

Table 6.2: Possible Parking Reduction by Type and Quarter

6.1.4 Spaces per Employee

Understanding the number of spaces available per employee, provides an indication of whether the level of parking provision is appropriate to support the economy and businesses.

Birmingham has the highest number of parking spaces per employees available in the city centre compared to other core cities. It has 370 spaces per 1,000 employees. This is compared to Manchester, which has 220 spaces per 1,000 employees and Nottingham at 250 spaces per 1,000 employees.

This supports the findings that Birmingham has an over-supply of parking provision, particularly for commuters (long-stay).

If 10,000 long-stay spaces were removed and all on-street parking controlled (6,955 spaces), then the available spaces per 1,000 employees would decrease to 260 spaces, similar to Nottingham. If 19,000 spaces were removed, then the provision would be slightly below Manchester at 200 spaces per 1,000 employees. This highlights that there would be resilience in the reduction of parking spaces for businesses, in the region of 10,000 to 19,000 spaces.

In the longer-term, BCC should seek to further decrease the number of spaces per employee as the economy grows in a more sustainable manner as per the council's policy. A reduction of 10,000 spaces for long-stay (commuter) parking provision by 2031 along with expected increase in employees to 200,000, would suggest 240 spaces per 1,000 employees, which is similar to Nottingham's current situation.

A figure of around 150 to 200 spaces per 1,000 employees could be a target by 2031, considering the modal shift to be achieved through all the planned investment in public transport and other sustainable modes of travel. This would be a circa 19,000 space reduction in available long-stay parking. Nationally and internationally there are cities that support a much larger or similar workforce, with a lower parking provision than Birmingham (i.e. Sydney 210 spaces per 1,000 employees for 250,000 employees or Manchester).

6.1.5 Complementary Measures

The report has demonstrated that there is an over-provision of parking in the city centre. Alongside a reduction in parking, a number of complementary improvements could be delivered.

- There will need to consider the characteristics and analyse parking changes occurring in each quarter. This will ensure a coherent parking policy is delivered that does not negatively impact a specific quarter of the city centre.

- As there is an over-supply of parking in the city centre, no further temporary car parks should be granted approval. The car parks which have or are due to expire by 2019 should not have the approvals extended. This would remove nearly 1,000 spaces in 2016 and over 1,500 spaces by 2019.

- There should be a change to on-street parking to stop re-parking in the same zone. For stays longer than the permitted on-street time limit, off-street parking should be encouraged. This may need to be supported by specific levels of BCC parking, or private-operated parking spaces defined for short-stay only in off-street car parks. On-street parking should as a minimum be priced more than local off-street parking.

- The city centre CPZ programme should be delivered to ensure there is control and management over all on-street parking. This should remove any 'free' on-street parking in the city centre. The programme should also take into account peripheral areas affected as a result of the CPZ implementation and other areas where 'free' parking is allowed. All parking in the city centre should be charged.

- All parking in the city centre should be required to meet minimum car parking standards (i.e. ParkMark) and be linked to the UTMC to enable monitoring of car park demand. It may be difficult to retro-fit minimum standards to existing car parks, but any new car parks should be required to meet such a standard. It should also include ensuring all multi-storey car parks are linked to the UTMC and guidance system to ensure users are aware of parking opportunities. This could be promoted through the BCC website and software developers encouraged to develop Apps using the open data.

- As part of the car parking standards and planning guidance, BCC may wish to stipulate a minimum proportion of short-stay bays to be provided in off-street car parks. This would determine long-stay

parking and ensure availability for visitors, shoppers and business trips being made to the city centre. BCC could take this forward as the example operator and implement it across their car parks, or change the pricing structure in their off-street car parks to reduce the availability of all day parking opportunities.

- Alongside supply influencing parking choice, pricing is an important tool. A clear and transparent pricing structure for BCC parking should be set, that takes into account changes in the economy, other local car parks, parking demand and supply by quarter. It should clearly promote short-stay parking and be set to discourage long-stay parking. A pricing policy could be agreed every two years, which could allow BCC officers to work within this policy to make changes as and when required, without the added cost of consultation. This should include the parking and pricing policy for BCC PNR parking. BCC could lead by example and not provide PNR parking for employees and/or charge for any PNR parking provided.

- The SPD should be amended to take account of the current level of car ownership and travel to work behaviours in the quarters, which are below the SPD maxima standards. The percentage of no car households in the city centre is 56 per cent. The current provision of parking in private residential developments (0.73 spaces per dwelling). This should also potentially support and promote car free developments for residential and businesses, including stipulating and enforcing planning conditions to ensure no permit parking is available to the building occupiers.

- To support a reduction in long-stay (commuter) parking and address the negative costs that it contributes to the economy (i.e. congestion), a workplace parking levy (WPL) should be investigated. This would have the effect of reducing the number of PNR spaces, as employers would only provide what is required to avoid unnecessary costs. It would also provide a revenue stream to support investment in public transport, environmental improvements, the potential to support modal shift and the policy objectives of Birmingham Connected and the City Council. High-level analysis of the revenue implications based on the data gathered for this study, indicates a city centre WPL could generate circa £6 million per annum. This is based on the data gathered as part of this study and the Nottingham WPL methodology.

- Expansion of Park & Ride sites along the rail and bus network in line with the West Midlands Strategic Transport Plan should be considered to support a reduction in city centre parking and enable people to use alternative modes of transport. Any reduction in parking levels should be supported by further investment (and expansion) of rail, bus and cycle capacity to ensure access is maintained. The Parking Policy should not be treated (or delivered) in isolation.

7. Recommendations

This study has undertaken a detailed assessment of parking within Birmingham City Centre. It set out to understand the current situation and expected future changes; to recommend improvements to the Council's parking policies in support of the objectives of the City Council and outcomes of Birmingham Connected.

This final section details 45 recommendations from the study to improve the planning, control, management and operation of parking in Birmingham city centre. The recommendations are focussed on actions to be taken over the next five years, recognising the changing shape of the city centre and need to keep regular monitoring of parking availability and use. The recommendations look to continue the trend and policies of Birmingham Connected towards supporting economic growth and achieving a reduction in car trips in the city centre.

7.1 On and Off Street Publically Available Parking

7.1.1 Parking Supply

1. On-street and off-street parking should be considered in unison rather than as independent entities in the assessment of publically available parking.

2. A circa 10,000 space reduction in publicly available (including uncontrolled on-street provision) and PNR parking should be achieved by 2021.

3. The proportion of short-stay parking available should be increased to 20 per cent as a minimum by 2021. The current level is 6 per cent. Making all city centre on-street parking controlled and reducing the quantum of long-stay parking by 10,000 spaces will help to achieve this.

4. On-street bays could be removed to assist in achieving the target reduction but consideration should be made of the impact on the availability of short-stay parking in an area and the benefit to other modes. The removal of on-street spaces should include complementary measures to ensure no decrease in the proportion of short-stay spaces in the area. There should be a cost associated with the removal of on-street spaces.

5. The quarters provide definition of the city centre but in any parking assessment, (especially for the removal of on-street parking); consideration should be given to the available public parking in the specified area of influence. That could include more than one quarter or a combination of part of a quarter(s).

6. The Parking Policy should set permissible maximum parking provision by city centre quarter, which should be referenced in the SPD.

7. No public parking should be approved if the permissible maximum parking provision is currently exceeded.

8. All expired, temporary car park approvals should be enforced with no extension of temporary car park approvals allowed. No temporary car parks should be granted new approvals.

9. Disabled parking provision should be protected so that there is no net decrease in the level of provision across the city centre.

7.1.2 Parking Management

10. The roll-out of the city centre controlled parking zone programme should be continued and include peripheral areas affected by the programme. The programme should seek to remove all no-fee parking in the city centre under BCC control, along with a review of off-street pricing in the affected areas.

11. Develop an on-street policy for the city centre, to set out the modal priorities and define the use of kerbspace on different streets across the city centre; recognising the planned delivery of future schemes and need to provide priority for public transport, servicing and delivery, taxis, walking and cycling. This should include the recommendation of dual-use bays, recognising the different demand for kerbspace at different times of the day (i.e. day-time and night-time economies).

12. The Birmingham Car Park Design Guide should be updated to reflect improvements in the industry and the latest developments in car park design, operation and management and be applied to all publically available off-street parking to ensure a minimum level of quality and service provision. Any temporary car parks should adhere to the guide and standards. The Guide should include minimum quality standard requirements for all off-street car parks to be linked to the UTMC and a requirement for a minimum proportion of dedicated short-stay bays in off-street car parks. UTMC data could be used to indicate the proportion of long-stay parking required and the ability to protect short-stay spaces.

13. BCC should look to designate a proportion of spaces in each of its off-street car parks for short-stay use only. These would ideally be located close to pedestrian entrances and exits for convenience. This is already done for parking permit bays offered by the Council in its off-street car parks.

14. BCC should investigate re-developing off-street car parks in quarters where there is significant parking over-provision, and where the disposal of the car park contributes to supporting redevelopment in the quarter. Any land asset sale would require a detailed understanding of the long-term (minimum 15-year) capital and revenue impact for BCC. It would also need to ensure that the land is not used for parking in the interim, before development occurs.

7.1.3 Tariffs

15. All no-fee, time-limited parking in the city centre should be converted to Pay & Display (i.e. Five Ways). In accordance with the policy to make on street tariffs higher than off street tariffs.

16. BCC should review the tariff structure and implement interim changes in October 2016 as a result of this report's findings (which highlighted decreases in tariffs since 2004 (both on and off street).

17. BCC should review tariff structures to ensure all on-street parking is priced in excess of local off-street parking.

18. The BCC tariff structure should discourage commuter parking (i.e. more than 8 hours) through significantly higher tariffs.

19. BCC should investigate removing the 8-hour and 24-hour parking opportunities in some of its off-street car parks to promote short-stay parking. This has been achieved with Dudley Street and could be applied to other city centre car parks.

20. A tariff review and benchmarking of BCC tariffs against competition with other modes and local car parks should be undertaken every 2 years and agreed with Cabinet, to enable officers to make interim tariff changes throughout the year as supply, demand and changes in the local economy warrant without the need for further Cabinet approval.

21. The BCC tariff structure should be assessed, (as a minimum) in line with RPI trends for a rolling 2-year average and against the comparative cost of making the journey by sustainable modes.

22. BCC should transition towards full pay-by-phone for all new CPZs, with a transition of the existing ticket machine zones to pay-by-mobile as machines come to the end of their lifecycle.

23. On-street no-return restrictions should apply to the whole zone, not just a street-by-street basis to avoid unnecessary re-parking and encourage a park once policy in the quarters.

7.2 PNR

24. The SPD maxima standards should be reduced as the current standards are facilitating parking spaces per worker that are 50 per cent higher than other core cities, and higher than developers have necessarily provided.

25. No PNR parking should be approved above operational needs if the permissible maximum parking provision is exceeded in the quarter.

26. The available parking per 1,000 employees should be defined in the Parking Policy and referenced in the SPD to highlight the current high level of provision by quarter.

27. The SPD should support car-free developments (office and retail) in areas with controlled or planned controlled parking, along with planning conditions stipulating that occupiers are not allowed to obtain business permits.

28. BCC should investigate implementing a Workplace Parking Levy for PNR parking in the city centre, as a means to reduce levels of PNR parking, manage congestion and encourage modal shift as well as revenue investment in alternative transport modes. This could look at larger public/private sector organisations that provide PNR to implement on a voluntary basis initially.

29. BCC should encourage existing PNR parking to be converted to Electric Vehicle charging, Car Club bays or cycle parking.

7.3 Residential Parking

30. BCC should encourage existing residential parking to be converted to Electric Vehicle charging, Car Club bays or cycle parking, especially in developments with under-utilised parking. The separate commission on residential parking usage should assist to inform this.

31. SPD standards for residential parking maxima should be reviewed to be in line with observed car ownership conditions and characteristics for each quarter. This should be done as a priority as the analysis has shown considerable increases in residential parking has been approved in the city centre, despite trends showing lower car ownership and use.

32. The SPD should support car-free developments (residential) in areas with controlled or planned controlled parking, along with planning conditions stipulating that occupiers are not allowed to obtain resident permits.

33. All residential parking should require a management system to be in operation, which should be monitored and enforced through the planning system.

7.4 Complementary Measures

34. The content of the Parking Policy and SPD relevant to the city centre should be updated with the outcomes and findings of this study.

35. Review city centre parking characteristics bi-annually, to inform a review (and update) of the Parking Policy and SPD for the city centre. This could be as part of the city centre cordon surveys, or should at least be programmed to complement this work.

36. Add UTMC and VMS guidance to Opticities corridors and major arterial routes into the city centre, at locations to influence route and mode choice. This could integrate with Park & Rode locations to provide real choice to users on the alternatives available, if there is no available parking capacity in the city centre.

37. BCC should continue to provide training to civil enforcement officers to ensure a high quality frontline service and reduce the number of contested tickets. BCC should also review the current handheld operation for civil enforcement operators.

38. BCC should ensure the parking information on their website is accurate as this study found inconsistencies between parking space numbers presented on the website.

39. BCC should look to provide details of real-time car park occupancy on their website and encourage software developers to the use the open data information to develop Apps to communicate the information to users in a mobile platform.

40. BCC should work with Transport for West Midlands to introduce more Park and Ride (P&R) capacity at locations identified within the West Midlands Transport Strategy, and at additional sites such as Duddeston, Tyseley and Small Heath stations and Midland Metro network extensions.

41. Incorporate P&R sites with the proposed SPRINT network as it is delivered to encourage modal shift and support connectivity to the public transport network.

42. BCC should extend UTMC system to cover at a minimum key park and ride sites outside the ring road to provide an alternative at periods of high demand. All key radial routes should be covered including A38M, A45, A38 and A34.

43. Investigate the expansion of P&R sites along the rail and bus network.

44. It is recommended that the Council take this study forward through the revision of the supplementary planning document covering maximum parking standards. Also through the progression of CPZ roll out through the quarters development of a parking strategy and action plan to deliver the other aspects of the study recommendations within a cohesive policy that incorporate; planning, highways, economic development, public transport and environmental sustainability.

45. It is recommended that the council provide an Implantation Strategy which will provide guidance on how this strategy will be implemented, with a time based activity schedule.