Black Country Parking Study

Stage 1 Report

Sandwell Metropolitan Borough Council

12 August 2021

Delivering a better world

Quality information

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1 Introduction

1.1 Background

1.1.1 AECOM has undertaken a study on car parking in Black Country Tier 1 and 2 centres to support the development of a justified policy approach towards car parking in Black Country strategic centres. This will inform the preparation of the Black Country Plan.

1.1.2 This study has been commissioned by Sandwell Metropolitan Borough Council (MBC) as the lead authority with the Black Country Transport Officers Group (BCTOG) consisting of Dudley MBC, Sandwell MBC, Walsall MBC, and the City of Wolverhampton forming the Steering Group for this work.

1.1.3 The overall aim of the study is 'to provide a justified policy approach towards car parking in the Black Country centres to inform the preparation of the Black Country Plan and guide decision making with regards to relevant individual proposals.' The Plan will consider and direct development beyond the current plan period from 2026 up to 2038.

1.1.4 This is a two-stage study; both stages will include stakeholder engagement to inform and guide the process:

- **Stage 1** is a policy and strategy review that will identify current conditions and issues, and look at future trends and opportunities.

- **Stage 2** will include the refinement of the identified opportunities towards a preferred set of justified options, and development of guidance on strategy or potential planning conditions for new development.

1.1.5 The study has reviewed the current policy approach set out in the adopted Black Country Core Strategy 2011-2026 and has examined issues around the impact of local application and enforcement of parking policy as it currently stands. The purpose is to assess the suitability of various options for managing car parking, which will bring consistency across the Black Country Tier 1 and 2 centres, balanced against a need for local flexibility at certain locations, such as Brierley Hill, where necessary.

1.1.6 The study will conclude with clear justification for a preferred set of options and policy recommendations for inclusion in the Black Country Plan, along with advice on next steps in terms of implementing the recommendations.

1.2 Stage 1 Report

1.2.1 This Stage 1 Report summarises the outcomes of the initial desktop-based study and commencement of liaison with the Project Steering Group. To date, a comprehensive review of national, regional, and local legislation, policy and strategy has been carried out and data available for sites across the Black Country centres has been analysed.

1.2.2 This report provides a summary of the findings from the policy and strategy review, and data analysis work. It sets out the relevant issues and opportunities identified, including those raised at the first stakeholder workshop held on 27 May 2021.

2 Review of Strategy and Current Policy Approach

2.1 Introduction

2.1.1 A comprehensive review of national, regional, and local policies and strategies related to parking has been undertaken. This review forms a standalone report which is presented in **Appendix A** and will serve as a reference document for the key findings within the main report. The following sections provide a summary of the findings of the review and key points for consideration.

2.2 National Legislation and Guidance

2.2.1 The review considers national legislation such as the Parking (Code of Practice) Act 2019 and the Traffic Management Act 2004. These documents outline the statutory requirements with regards to parking and enforcement, and therefore the duties placed on the Black Country authorities when implementing parking policy. Key findings from the review are as follows:

- The Traffic Signs Regulations and General Directions (TSRGD) 2016 and DfT Circular 01/2016 provide detailed information on parking bay dimensions and related signage location, layout, text and use of symbols. These should be read in conjunction and shall be referred to when designing parking facilities.
- The Road Traffic Regulation Act 1984 and (Parking) Act 1986 provided powers to local authorities and remain relevant in terms of developing chargeable and enforceable parking schemes.
- Local authorities must also adhere to the rules set out in the Civil Enforcement of Parking Contraventions (England) General Regulations 2007 relating to enforcing parking restrictions and the issue of penalty charge notices. The Representations and Appeals Regulations follow on from this and allow for penalty charges to be appealed by motorists under certain conditions.
- In terms of disabled parking provision, the Disabled Persons (Badges for Motor Vehicles) (England) Regulations 2000 provide information for local authorities in terms of provision of disabled badges to manage eligibility. The regulations also include enforcement regulations. Guidance on the number and design of disabled parking spaces to be provided is set out in the Manual for Streets and the Design Manual for Roads and Bridges (DMRB).
- If a local authority wishes to implement a workplace parking levy as part of its strategy, the relevant sections of the Transport Act 2000 would need to be adhered to.
- The Removal and Disposal of Vehicles Regulations 2007 sets out the circumstances in which a local authority or the police have the power to remove, store and dispose of illegally, obstructively, or dangerously parked, abandoned, or broken-down vehicles.
- Ultimately, the Traffic Management Act 2004 now provides the core legal framework for parking, and regulates many civil enforcement powers, providing greater consistency across the country in conjunction with the provisions above. This legislation was introduced to tackle disruption and congestion on the road network, placing a clear network management duty on local authorities to make sure that traffic can move freely and smoothly.

2.2.2 The implications of not adhering to legislative requirements when exercising powers related to the development of policy and the design and operation of car parking are clear; a local authority will be unable to effectively manage and enforce in accordance with its network management duty and is at risk of acting unlawfully.

2.2.3 In addition to legislation, the review has also included national policy and guidance documents which may be considered when implementing a parking strategy. This is important as not every aspect of a policy may be subject to law and there is scope to go beyond the minimum requirement. Key points are as follows:

- The National Planning Policy Framework (NPPF) provides a single framework for preparing plans. It offers the opportunity to inform the key principles of the approach to parking in the Black Country that support any proposed regeneration proposals and future development whilst deterring unnecessary car use, preventing commuter parking pressure and reducing congestion.
- The NPPF also discusses parking standards for developments and the setting of maximum parking standards as appropriate, as well as the importance of providing overnight HGV parking facilities. This, supported by relevant Planning Practice Guidance (PPG), provides up-to-date and relevant advice on what is required in plan-making and subsequent planning applications.
- The Right to Challenge Parking Policies: Traffic Management Act 2004: Network Management Duty Guidance ensures that local businesses, the residential community, and other road users have a recognised voice in relation to network management and parking policies. It allows people the ability to challenge parking schemes or policies that are already implemented or proposed and is therefore relevant with regards to development of the Plan.
- The Guidance for Local Authorities on Enforcing Parking Restrictions provides information to ensure that parking arrangements meet mandatory requirements (set out in the Traffic Management Act 2004) but also offers suggestions for good practice, in areas such as training and professionalism in civil parking enforcement, and from institutions including the British Parking Association, the Local Government Technical Advisory Group (TAG), and the London Technical Advisors Group (LoTAG), as well as from other authorities.
- The CIHT Guidance Note on Residential Parking also provides a source for good practice approaches to parking provision and design in this context.

2.3 Regional Policy and Strategy

2.3.1 Regional policy and strategy documents have also been reviewed. The following are key findings at this level:

- Policies CEN3 (Growth in the Strategic Centres), CEN8 (Car Parking in Centres) and TRAN5 (Influencing the Demand for Travel and Travel Choices) are policies within the adopted Black Country Core Strategy 2011-2026 which are relevant to car parking. These policies set out to manage growth in the strategic centres, how parking should be organised in terms of pricing, type of parking and standards for parking, and also how sustainable travel will be encouraged whilst ensuring good parking provision. These are the policies which will be relevant and subject to review as the parking study progresses.
- The effectiveness of Policy CEN8 of the adopted Core Strategy has also been considered through a review of feedback from the 2017 consultation of the Issues and Options stage of the forthcoming Black Country Plan. Although responses were limited in numbers, generally respondents felt that alternatives to the private car should be encouraged through policy, as it was felt that any parking standards or charges in centres could be undermined by the relaxed standards of out of centre locations such as retail parks and supermarkets. An overarching parking policy for strategic centres was supported, to ensure parking serves whole centres, although it was felt that parking should not be so costly that it deters users from visiting a centre. Respondents felt that a greater focus on choice of modes, including better provision of electric vehicle charging infrastructure, combined with behavioural change techniques, could help to manage transport impacts of new developments.
- The parking strategy will also need to be produced in line with the Movement for Growth: The West Midlands Strategic Transport Plan and the vision set out in the recently published WMLTP5 Green Paper. This provides a number of actions relating to connecting main centres and improving the attractiveness of centres, however, the need to tackle the

climate emergency is given particular urgency given the zero-carbon target set for the West Midlands by 2041. This suggests a new LTP could have a much stronger focus on achieving transformational change within the next 10 years, rather than focussing on longer-term agenda and more gradual change. The review also highlights a number of policies and strategies relating to climate change. Parking strategy should support this movement and implement suggested best practice where possible, for example by ensuring acceleration of electric vehicle charging or consideration of a pricing regime which charges according to vehicle emissions. This is particularly relevant as we emerge the COVID-19 pandemic and in light of the shared aspiration to ensure a green recovery across the region.

2.4 Local Approach and Studies

2.4.1 A review of current local car parking strategies and studies was undertaken. Car parking strategies across the four boroughs differ in terms of scope and depth; some strategies only cover the main strategic centre, for example, and some are over 10 years old. The documents available were reviewed to understand where there is already alignment with national and regional policy and guidance, and also where there are similarities between the approaches taken by each local authority.

2.4.2 The matrix table presented in Annex A of the Policy and Strategy Review (at **Appendix A** of this report) provides a comparison between the local authorities in terms of their current approach to parking, including on-street parking, tariffs and electric vehicle charging infrastructure. A summary of the pertinent points is as follows:

- Each parking policy focuses on reducing the number of long stay users, ensuring the parking supply is attractive, convenient, and safe, as well as supporting growth in the centres. Sandwell's policy also focuses on the loss of existing parking arrangements, whereas other policies do not address this.
- A theme addressed in several of the local policy documents is managing the provision of long stay parking in order to encourage commuters to use more sustainable modes of travel. Some of these long stay spaces are proposed to be replaced with short stay parking for retail. However, this will need to be balanced in a way that does not discourage new employment.
- The eight objectives for Wolverhampton's parking strategy do not currently cover improving sustainability and reducing environmental impacts specifically. Sustainable and environmental interventions are also elements which are not clearly present in Walsall or Sandwell's strategies. This is a key part of the West Midlands Strategic Transport Plan and emerging policy, and therefore there is the potential to include further consideration of how parking policy can contribute towards wider environmental and traffic management objectives.
- Walsall has identified that the council's budget is not sufficient for providing parking assets and that parking costs would have to significantly increase in order to compensate for this. Any new strategy would therefore need to be suitable as a framework and ultimately viable for each authority, whilst adhering to legislation and incorporating best practice.
- Within the current local strategies there is a lack of information regarding HGV and coach parking. The NPPF highlights the importance of HGV parking, so there is the opportunity to increase alignment with national guidance in this respect and support future economic growth.
- Furthermore, the parking strategies will need to adapt to accommodate changes in travel trends, lifestyle and technology, such as the move to ultra-low emission vehicles, including electric cars and connected and autonomous vehicles, an increase in car clubs, more dynamic use of IT to rent and sub-let car park spaces, and, with the use of smart cards, the ability to link transactions to reward schemes and capture data for improved monitoring.

2.5 Policy and Strategy Summary

2.5.1 As highlighted within Section 2, each local authority currently follows its own approach to parking with differences in locally prepared documents and methods of data collection. Without a consistent approach across all four authorities, the Black Country could continue to experience competition between the centres. Having a framework which promotes a consistent charging regime across the boroughs, for example, could help to ensure that parking is not a reason for one centre being more attractive than another. It would also ensure that there is a standardised approach to provision of improvements such as electric vehicle charging infrastructure and smart payment mechanisms across the authority areas.

3 Parking Capacity

3.1 Methodology

3.1.1 Existing parking provision within all Black Country Tier 1 and 2 centres has been assessed, with a high-level review carried out of the location of car parking, its positioning within the strategic centre or town centre and its relationship with other local parking facilities.

3.1.2 Where information has been provided by the Project Steering Group or is publicly obtainable, a high-level review of the type and management regime of car parks (privately run, use of permits, average length of stay) has been undertaken. This has included examination of the number of car parking bays, the percentage provision of bays for people with a disability (blue badge bays), as well as parking charges, charging and enforcement regimes. Resident parking scheme information within a few of the Tier 1 and 2 centres was also obtained, although this was quite limited and, being unsuitable for the purposes of this study, was disregarded.

3.1.3 Analysis of current utilisation for existing publicly available parking stock has been undertaken. The review captures key quantitative information associated with each car park. Data captured across the four Black Country boroughs differs in terms of quality (real vs. estimated), depth and coverage of sites (numbers of sites with parking occupancy data), and how occupancy is broken down (weekday/weekend vs. annually), which indicates that a common approach to collecting car parking data is currently not utilised.

3.1.4 Information for most both publicly (council operated) and privately operated off-streetcar parks has been collated for the Black Country boroughs. The strategic centres and town centres for which car parks have been analysed are presented in **Figure 3-1** and Table 3-1**.**

Figure 3-1: Overview Map of Black Country Centres

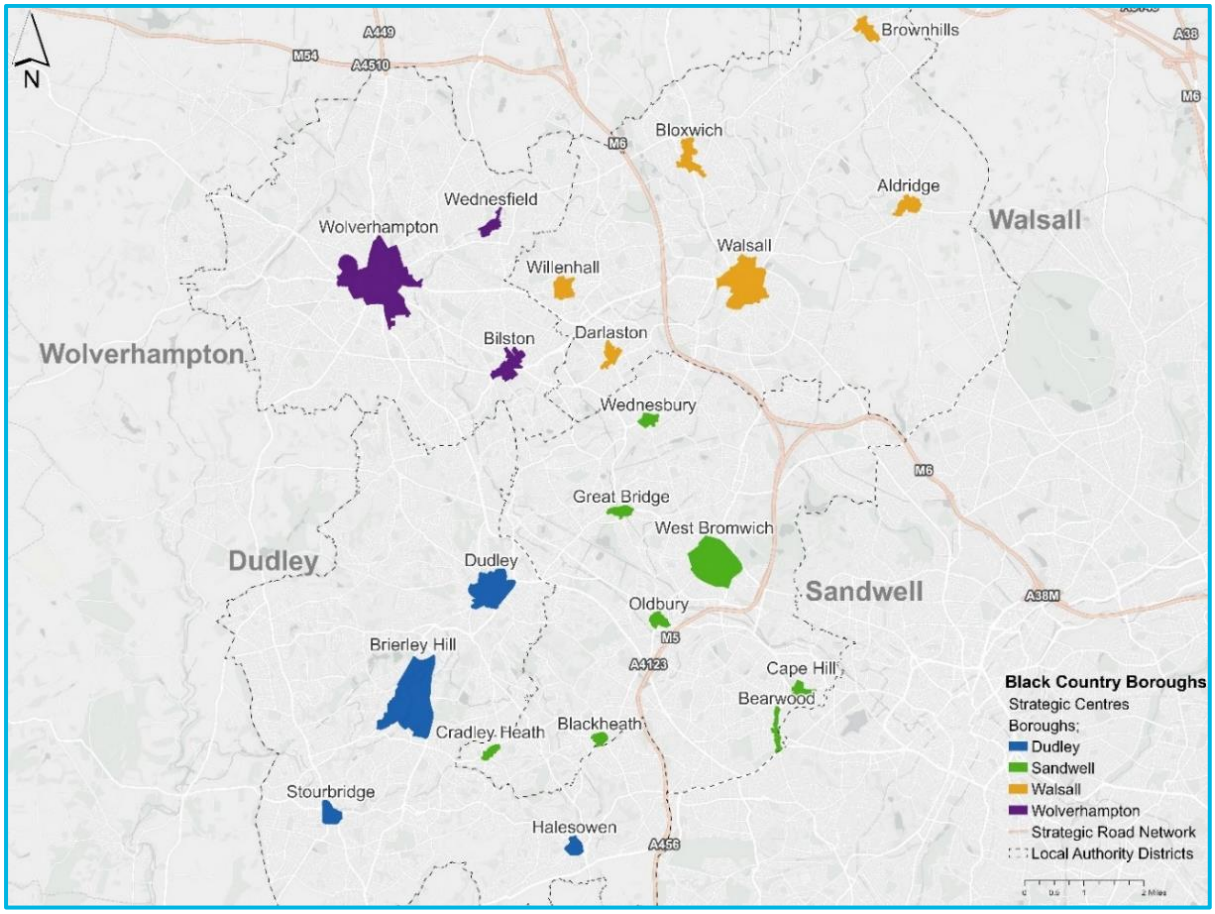


Table 3-1: Strategic Centres (Tier 1 Centres) and Town Centres (Tier 2 Centres)

Local Authority	Dudley MBC	Sandwell MBC	Walsall MBC	City of Wolverhampton
Strategic Centres (Tier 1 Centres)	Brierley Hill	West Bromwich	Walsall	Wolverhampton
Town Centres (Tier 2 Centres)	Dudley Halesowen Stourbridge	Bearwood Blackheath Cape Hill Cradley Heath Great Bridge Oldbury Wednesbury	Aldridge Bloxwich Brownhills Darlaston Willenhall	Bilston Wednesfield

3.1.5 Each of the local authorities was contacted for information regarding current parking capacity and parking occupancy information, for both publicly and privately operated car parks.

3.1.6 There was generally a lack of information regarding on-street parking. Due to the limited data available, this has not been included as part of the analysis of the current parking situation. However, on-street parking generally provides little parking capacity within strategic and town centres, due to a higher prevalence of traffic regulation orders restricting availability.

3.1.7 The information received varied significantly across the four Black Country boroughs. Estimates of capacity for some locations were therefore derived from Google Maps or from the public domain, to fill in any data gaps.

3.1.8 Information on any existing coach and freight parking within centres was also challenging to obtain. Therefore, this information has been derived from Google Maps or from information available in the public domain, although this could not be validated within the scope of this study.

3.1.9 On the basis of the above it is recommended that the analysis is to be used as guidance only, to provide an approximate overview and insight into current parking capacity.

3.2 Public Car Parks

3.2.1 This section aims to provide an understanding of the current public car parking capacity within each of the strategic centres and town centres, in order to determine the type of parking available, such as long stay and short stay, the percentage of blue badge bays and provision of electric vehicle charging bays.

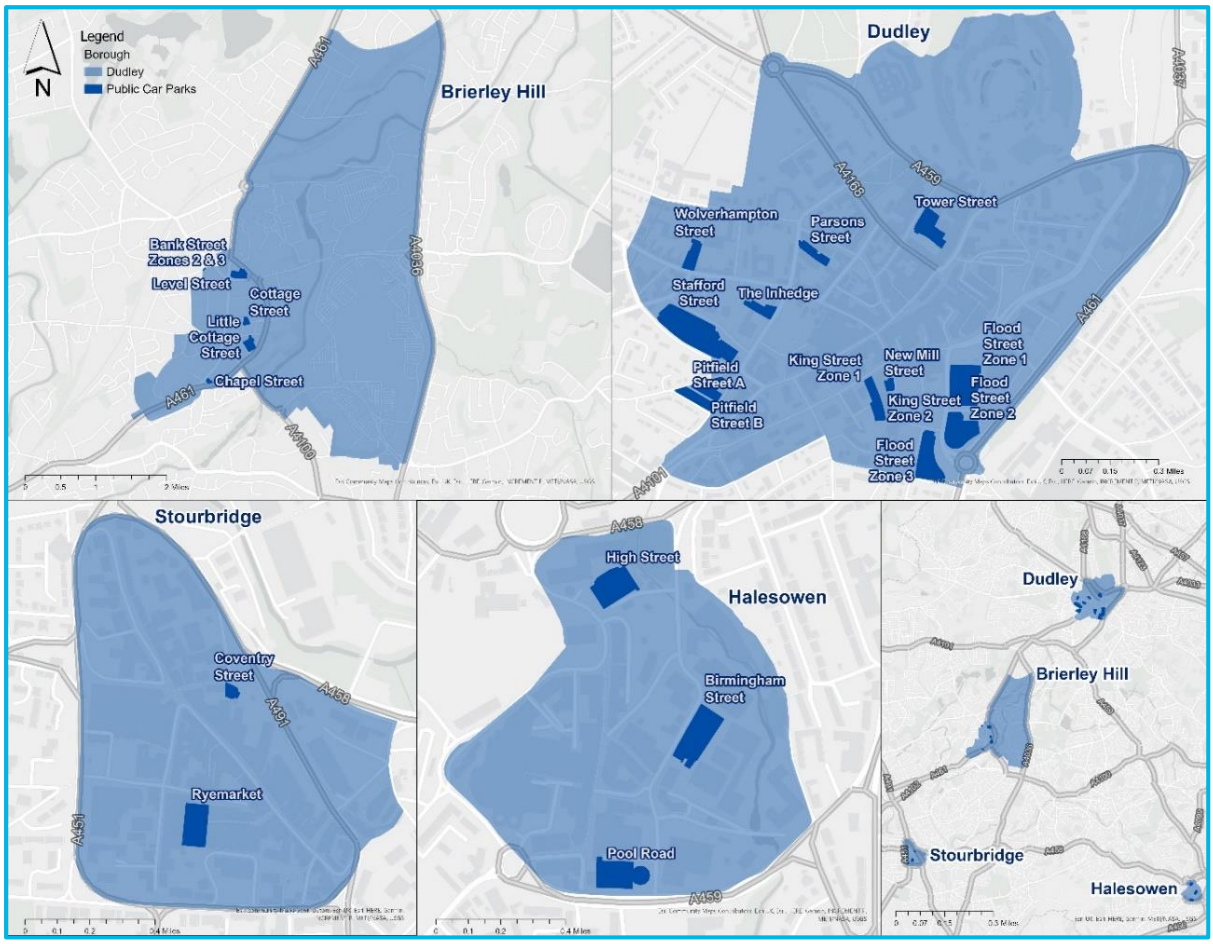
3.2.2 All of the data collected and used for analysis of public car parks can be found in **Appendix C**.

3.2.3 Currently some of the public car parks are being used as COVID-19 testing sites, although this is a temporary provision.

Dudley Public Car Parks

3.2.4 The majority of the public car parks identified in Dudley are located within Dudley town centre, as shown in **Figure 3-2**.

Figure 3-2: Public Car Park Locations (Dudley)



3.2.5 Across Dudley's strategic and town centres there are approximately 2,551 public car park bays available, 118 (3%) of which are designated blue badge bays. Of the total number of spaces, 977 are short stay bays, with 61 (7%) of those being blue badge bays.

3.2.6 Overall, there are only six parking bays within Dudley centres that have electric vehicle charging facilities. These are all located within long stay car parks, with no electric vehicle charging facilities available within short stay car parks. This likely to be due to the amount of time required to charge a vehicle from empty, although some rapid charging facilities could still be offered within short stay parking facilities to enable vehicles to be topped up.

3.2.7 Although there is anecdotal evidence that on-street drop-off facilities exist for coach parking in Dudley Town Centre (for the castle and zoo), no coach parking data was provided for the purposes of this study. It is understood there are no designated freight parking facilities in strategic or town centres in Dudley.

3.2.8 An overview of short stay and long stay parking capacity is provided in **Table 3-2**.

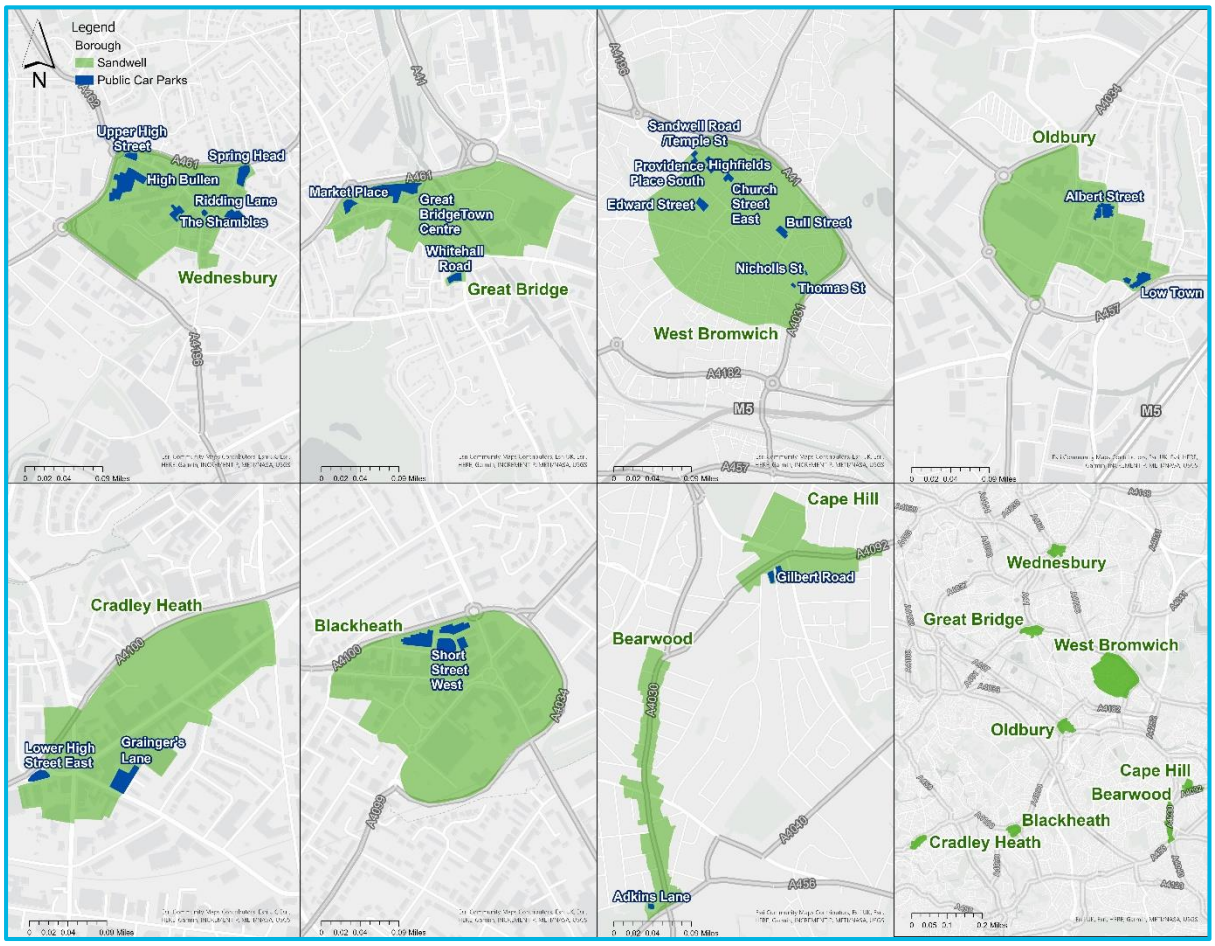
Table 3-2: Parking Capacity (Dudley)

	Car Parks	Capacity	Standard Bays	Blue Badge Bays	% of Blue Badge Bays	Coach/Freight Parking	EV Charging
Short Stay	10	977	837	61	7%	0	0
Long Stay	17	1,574	1,532	42	3%	0	6
Total	**27**	**2,551**	**2,443**	**118**	**-**	**0**	**6**

Sandwell Public Car Parks

3.2.9 The majority of the public car parks identified in Sandwell are located within West Bromwich strategic centre, as shown below in **Figure 3-3**.

Figure 3-3: Public Car Park Locations (Sandwell)



3.2.10 In Sandwell's strategic and town centres, there are approximately 1,457 public car park bays available, with 79 of these being designated blue badge bays. Of the total number of spaces, 103 are short stay bays, including eight blue badge bays, meaning around 8% of the short stay bays are set aside for disabled users. In long stay car parks around 5% of bays are set aside for disabled users, as there are 71 blue badge bays against a total capacity of 1,378 bays.

3.2.11 Upon review of the available data there does not appear to be any electric vehicle charging facilities in Sandwell's publicly operated car parks.

3.2.12 From the information provided, no designated coach or freight parking facilities have been identified in the strategic or town centres in Sandwell.

3.2.13 An overview of short stay and long stay parking capacity is provided **Table 3-3** below.

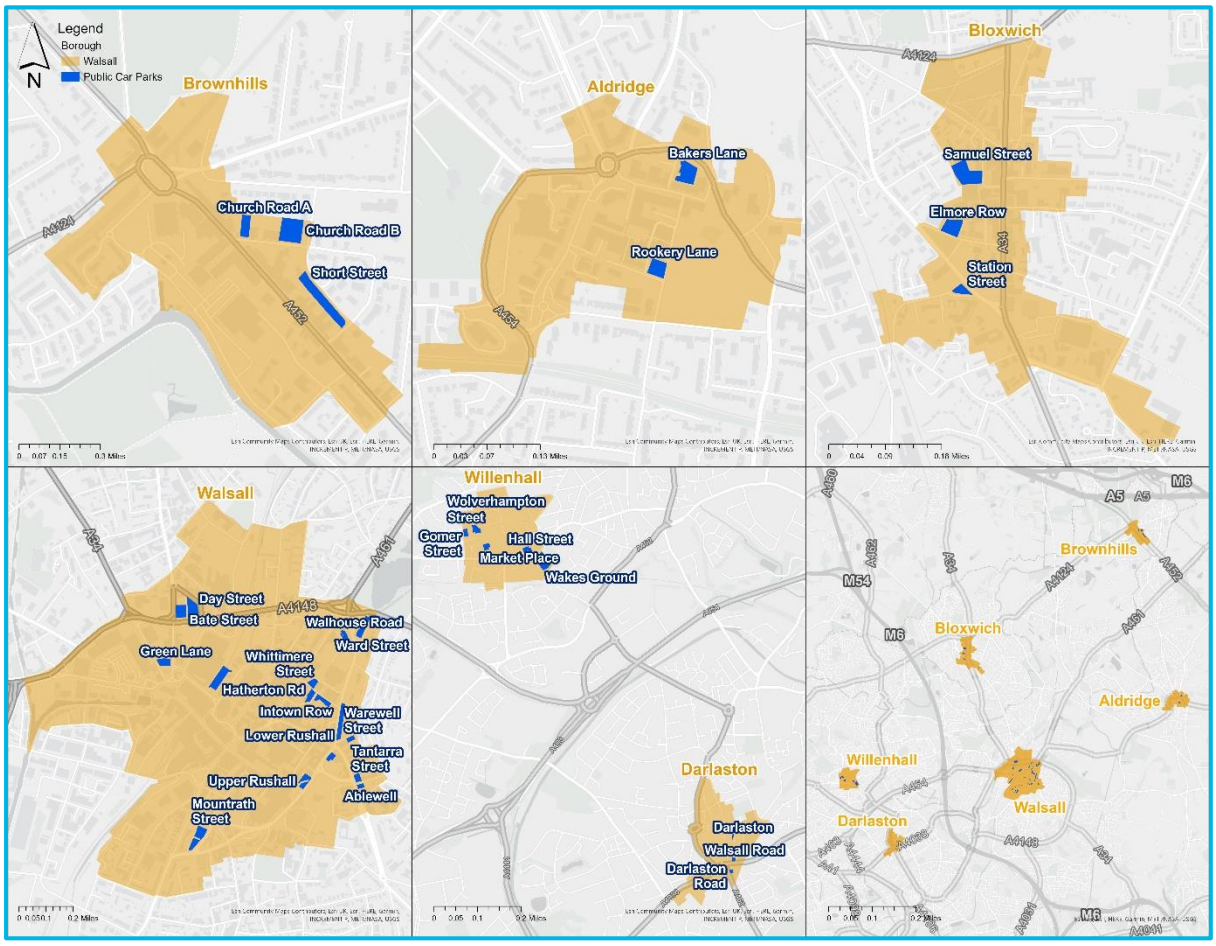
Table 3-3: Parking Capacity (Sandwell)

	Car Parks	Capacity	Standard Bays	Blue Badge Bays	% of Blue Badge Bays	Coach/Freight Parking	EV Charging
Short Stay	4	103	95	8	8%	0	0
Long Stay	19	1,354	1,283	71	6%	0	0
Total	**23**	**1,457**	**1,378**	**79**	**-**	**0**	**0**

Walsall Public Car Parks

3.2.14 The majority of the public car parks identified in Walsall are located within Walsall strategic centre, as shown in **Figure 3-4.**

Figure 3-4: Public Car Park Locations (Walsall)



3.2.15 In Walsall's strategic and town centres, there are approximately 1,891 public car park bays available, with 103 designated blue badge bays provided. Of the total number of spaces, 600 are short stay bays, including 11 blue badge bays, meaning just 3% of the short stay bays are set aside for disabled users. This differs from long stay car parks where 8% of bays are set aside for disabled users, as there are 92 blue badge bays against a total capacity of 1,280 bays.

3.2.16 Upon review of the available data, there does not appear to be any electric vehicle charging facilities in Walsall centres.

3.2.17 From the information provided, no designated coach or freight parking facilities have been identified in the strategic or town centres in Walsall.

3.2.18 An overview of short stay and long stay parking capacity is provided in **Table 3-4**.

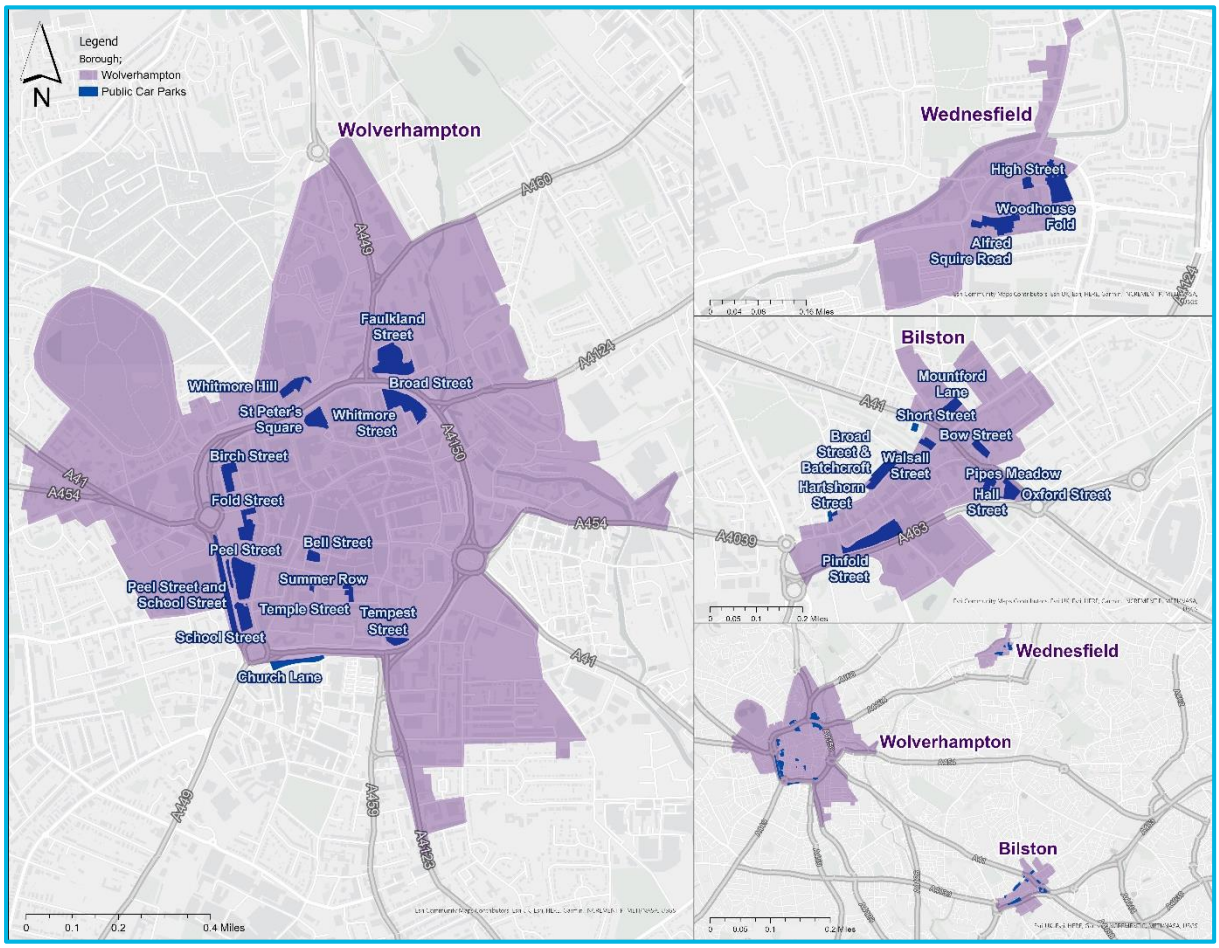
Table 3-4: Parking Capacity (Walsall)

	Car Parks	Capacity	Standard Bays	Blue Badge Bays	% of Blue Badge Bays	Coach/Freight Parking	EV Charging
Short Stay	9	611	600	11	2%	0	0
Long Stay	24	1,280	1,189	92	8%	30	0
Total	**33**	**1,891**	**1,789**	**103**	**-**	**30**	**0**

Wolverhampton Public Car Parks

3.2.19 The majority of the public car parks identified in Wolverhampton are located within Wolverhampton strategic centres, as shown in **Figure 3-5**.

Figure 3-5: Public Car Park Locations (Wolverhampton)



3.2.20 In Wolverhampton's strategic and town centres, there are approximately 3,320 public car park bays available, with 125 designated blue badge bays provided. Of these, 1,236 are short stay bays, including 48 designated as blue badge bays, which means that around 4% of the short stay bays are set aside for disabled users. Similarly, 4% of long stay bays are set aside for disabled users, with 77 blue badge bays and a total capacity of 2,084 bays.

3.2.21 Overall, only three parking bays within Wolverhampton centres have electric vehicle charging facilities. These are all located in Pinfold Street long stay car park.

3.2.22 There is a designated long stay coach parking facility in Wolverhampton City Centre outside Wolverhampton Wanderers Football Club, although it is understood that there are no designated freight parking facilities.

3.2.23 An overview of short stay and long stay parking capacity is provided in **Table 3-5**.

Table 3-5 Parking Capacity (Wolverhampton)

	Car Parks	Capacity	Standard Bays	Blue Badge Bays	% of Blue Badge Bays	Coach/Freight Parking	EV Charging
Short Stay	14	1,236	1,188	48	4%	0	0
Long Stay	16	2,084	2,007	77	4%	12	3
Total	**30**	**3,320**	**3,195**	**125**	**-**	**12**	**3**

3.2.24 Peel Street car park has a lack of facilities with no designated bays, meaning that calculating capacity is likely to be inaccurate and is likely to impact on the assessment of occupancy levels.

3.3 Private Car Parks

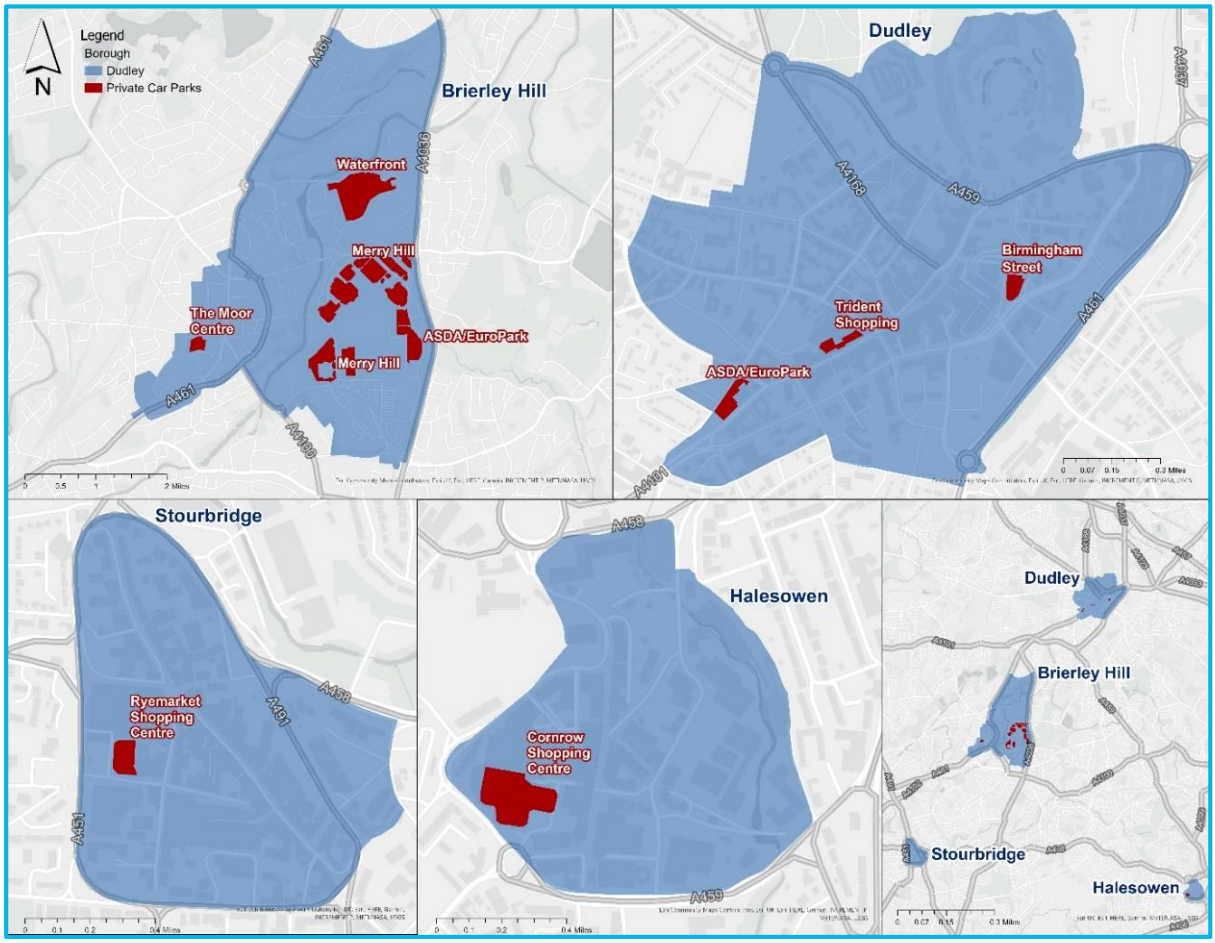
3.3.1 Private car parks have also been analysed. Although considerable data gaps were apparent within the data supplied, a high-level overview of private car park availability and characteristics has been undertaken. Only private car parks that have an overall capacity of over 50 bays have been included as this was considered by the Steering Group to be a sufficient threshold for the purposes of analysis. The figures mentioned below regarding private car parking have been rounded to the nearest 10 bays.

3.3.2 All of the data collected for private car park analysis can be found in **Appendix D**.

Dudley Private Car Parks

3.3.3 In total, there are around 14,845 private car park bays within Dudley centres, across 10 of the larger car parks. The distribution of privately operated parking across the relevant centres is shown in **Figure 3-6.**

Figure 3-6: Map of Dudley Private Car Parks



3.3.4 Of the 10 car parks identified, six are long stay car parks split between Dudley and Brierley Hill, with short stay car parks located in Stourbridge, Halesowen, and Brierley Hill.

3.3.5 The largest private car park identified is located at Merry Hill Shopping Centre within Brierley Hill, with a capacity of around 10,000 bays, including 17% designated as blue badge bays. This proportion of blue badge bays is high when compared to publicly operated car parks. This is likely due to more stringent requirements for private car parks and demand at this location, particularly serving a retail land use.

3.3.6 Overall, electric vehicle provision within Dudley private car parks is low, with only three car parks with facilities. Therefore, there is significant room for improvement as electric vehicle demand increases as a result of government policy.

3.3.7 No coach or freight parking information has been identified, although there is anecdotal evidence of coach drop-offs being made at Merry Hill Shopping Centre.

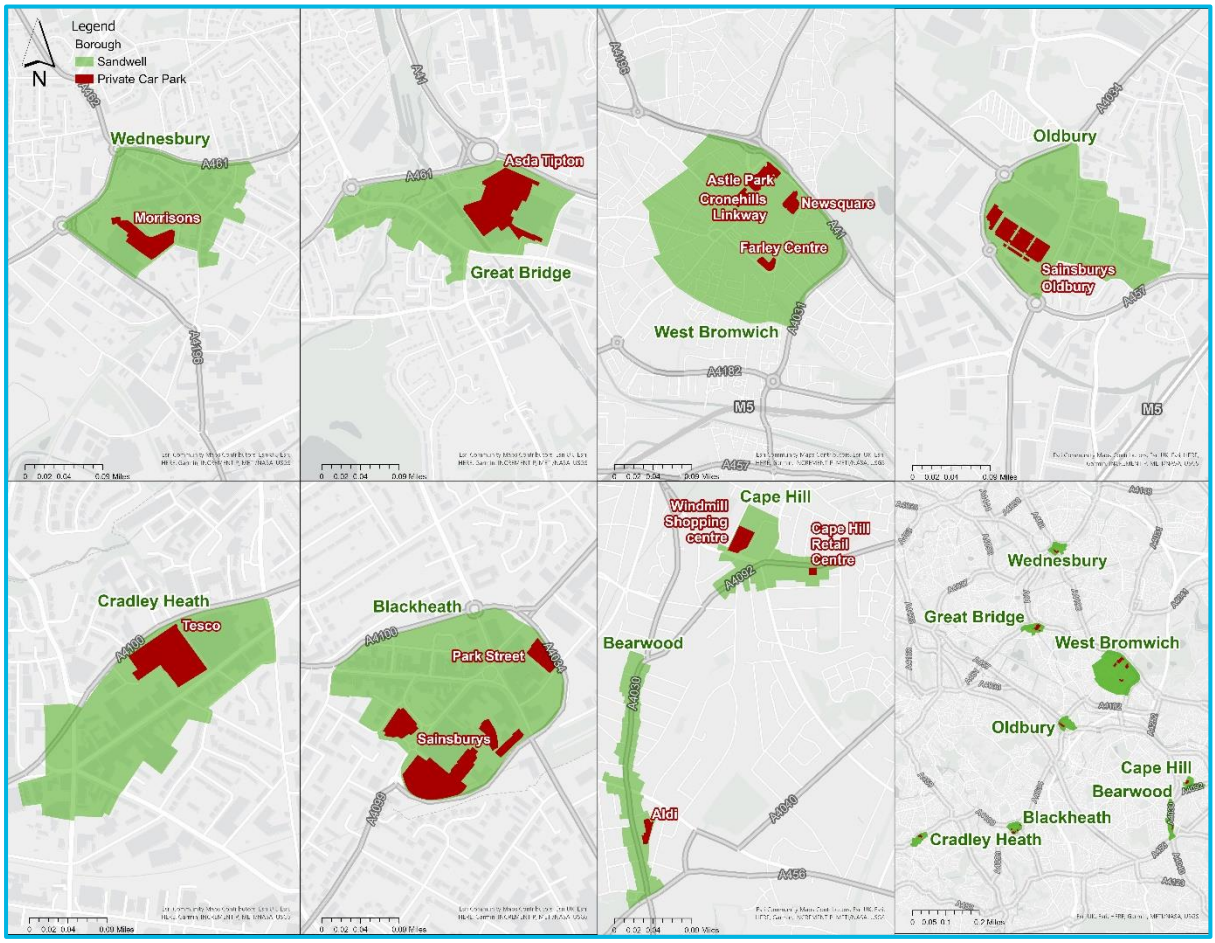
3.3.8 Information regarding parking and tariffs is unclear and difficult to interpret, due to the variations and a lack of data. However, two of the car parks are at ASDA supermarkets which provide free parking to customers. Additionally, the large car park at Merry Hill also provides free car parking for customers of the shopping centre, with a four-hour maximum stay restriction in place at certain locations only.

Sandwell Private Car Parks

3.3.9 Information regarding private car parks in Sandwell was not provided, and therefore all information has been collected from the public domain and has not been validated. Nevertheless, the following provides an indication of privately operated car parking provision.

3.3.10 There are 13 larger private car parks in Sandwell's strategic and town centres, with the distribution between centres outlined in **Figure 3-7** below. There are around 5,560 bays available in these private car parks; most of the larger sites are supermarkets and shopping centres.

Figure 3-7: Map of Sandwell Car Parks



3.3.11 On average, 6% of bays within privately operated car parks in Sandwell centres are designated as blue badge bays, which is higher than the 4% average across all Black Country boroughs. Nonetheless, there has been no consistency found within the split between standard and blue badge bays in either public or private car parks.

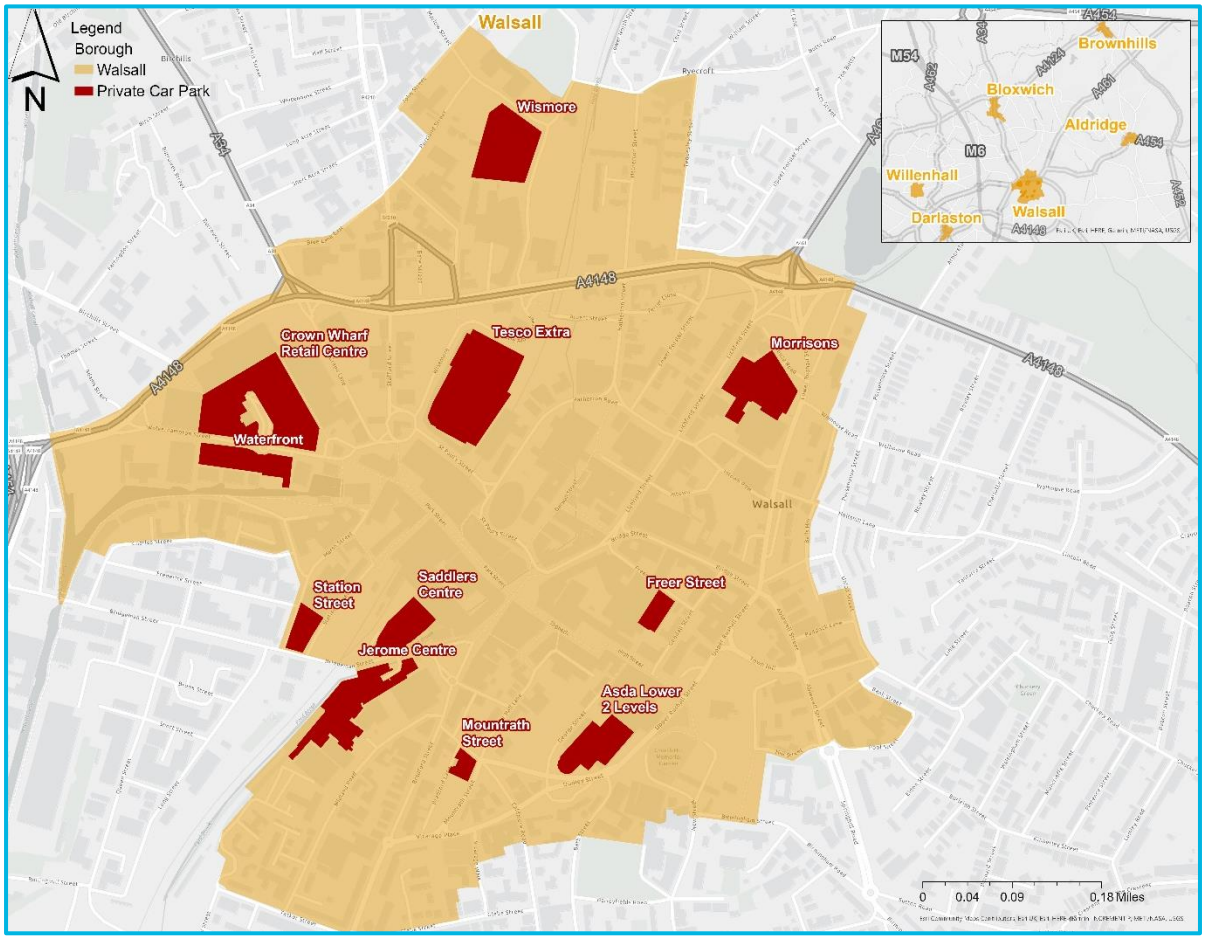
3.3.12 No coach or freight parking has been identified in the Sandwell centres.

3.3.13 Information regarding parking and tariffs is unclear and difficult to interpret, due to the variations and a lack of data. However, several of the car parks are located at supermarkets in the centres, which provides free parking to customers for a restricted period. Additionally, the large car park site at New Square in West Bromwich provides free car parking for customers at the shopping complex.

Walsall Private Car Parks

3.3.14 There are 10 larger car parks that have been identified within Walsall's Town Centre, as shown in **Figure 3-78**. There are around 4,098 bays available within the private car parks identified. Information regarding other centres has not been provided.

Figure 3-8: Map of Walsall Car Parks



3.3.15 On average, only 3% of bays within privately operated car parks in Walsall Town Centre are designated as blue badge bays, compared to the 4% average across the Black Country boroughs. There has been no consistency found within the split between standard and blue badge bays across either public or private car parks.

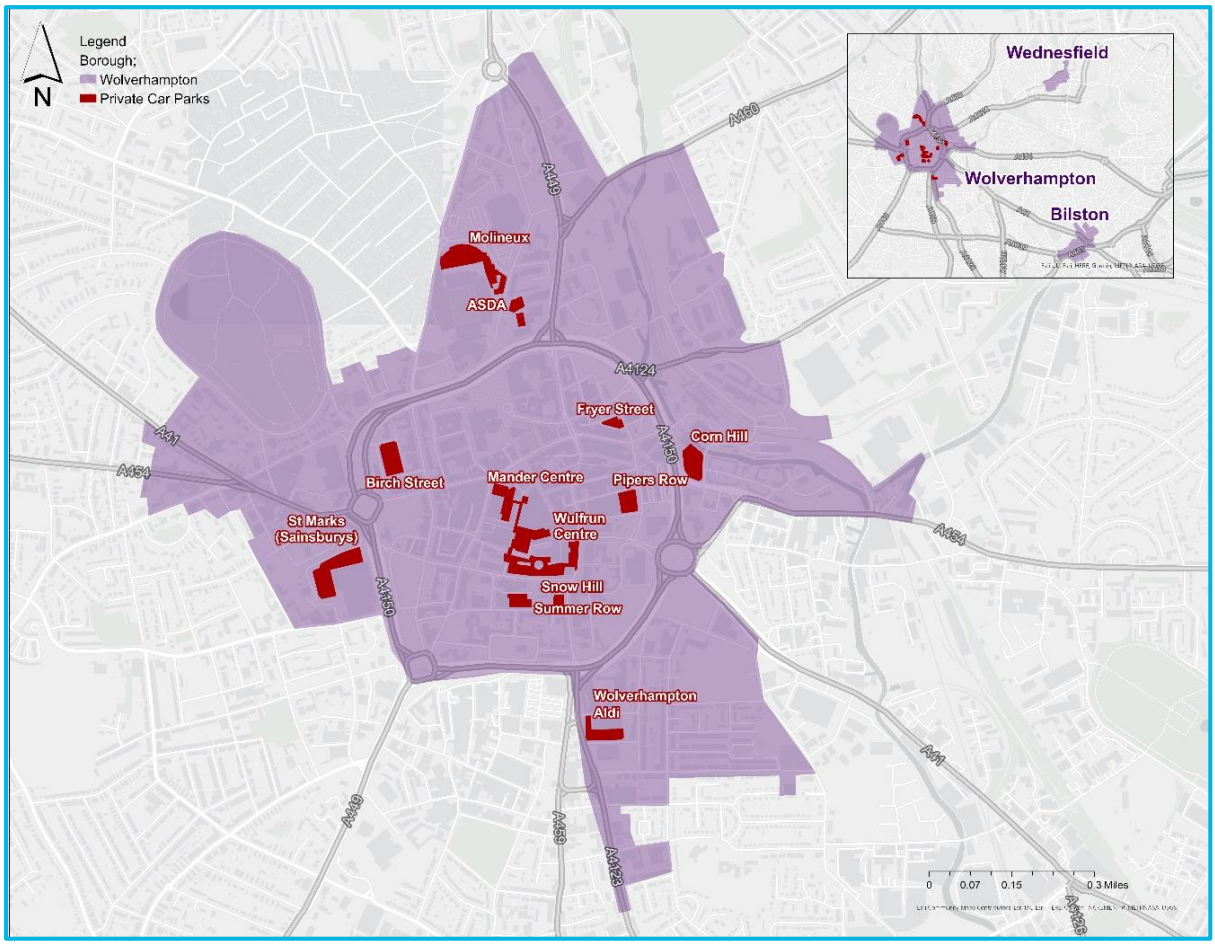
3.3.16 No coach or freight parking has been identified in the Walsall centres.

3.3.17 Information regarding parking and tariffs has not been analysed due to a lack of data, although it is likely that pricing and time limits are varied. For instance, several of the car parks are located at supermarkets in the centres, which may provide free parking to customers.

Wolverhampton Private Car Parks

3.3.18 There are 12 larger private car parks that have been identified within Wolverhampton's centre and there are around 3,741 bays available. The distribution is depicted in **Figure 3-79**. Information on private car parking in other town centres was not available.

Figure 3-9: Map of Wolverhampton Car Parks



3.3.19 On average, only 2% of bays within privately operated car parks in Wolverhampton centres are designated as blue badge bays, which is lower than the 4% average across Black Country boroughs. There has been no consistency found within the split between standard and blue badge bays across either public or private car parks.

3.3.20 No coach or freight parking has been identified in the Wolverhampton centres.

3.3.21 Information regarding parking and tariffs has not been analysed due to a lack of data, although it is likely that pricing and time limits are varied. For instance, several of the car parks are located at supermarkets in the centres, which may provide free parking to customers.

3.4 Parking Capacity Summary

3.4.1 From undertaking a review of parking capacity, some particular themes emerge. An overview of these themes is provided in **Table 3-6**.

Table 3-6: General Black Country Publicly Operated Car Parking Capacity Themes

Borough	Duration	Capacity	% of Blue Badge Bays	EV Charging Points
Dudley	Long Stay	1,532	3%	6
	Short Stay	837	7%	0
Sandwell	Long Stay	1,354	6%	0
	Short Stay	103	8%	0
Walsall	Long Stay	1,280	8%	0
	Short Stay	611	2%	0
Wolverhampton	Long Stay	2,084	4%	3
	Short Stay	1,236	4%	0

3.4.2 When reviewing the provision of long stay parking compared to short stay parking, it appears that Sandwell has a much lower proportion of short stay parking compared with other Black Country boroughs. It is understood that this may be because most short stay car parks in Sandwell centres are smaller facilities provided by private operators.

3.4.3 The percentage of blue badge provision in Dudley centres within long stay car parks is generally lower than other Black Country boroughs. Conversely, in Walsall, short stay car parks blue badge provision is only 2% of the total available. In both instances, these figures are below the guideline provision.

3.4.4 Electric vehicle charging provision is sparse within publicly operated car parks, with only Dudley and Wolverhampton offering limited electric vehicle charging facilities within some publicly operated car parks. These tend to be concentrated within the same centre in both instances.

4 Parking Occupancy

4.1 Methodology

4.1.1 Occupancy data has been provided by the Black Country authorities, although the methodology used in the data collection process was not confirmed and the data has not been validated. It has been analysed to understand occupancy rates at selected car parks within each of the strategic and town centres.

4.1.2 The number of sites where occupancy data has been presented differs greatly across the four Black Country boroughs. There is comprehensive data for Dudley and Walsall across most publicly operated sites within both strategic and town centres. In Sandwell, only data from a limited group of sites was provided. In Wolverhampton, occupancy data was not provided and was only obtainable from a previous city centre parking strategy, and data for car parks in the two town centres was not available.

4.1.3 Parking occupancy data provided by Sandwell differs greatly from the other authorities in that it is presented as annual estimated figures for each of the selected car parks between 2014 and 2018, so this cannot be compared directly with data from the other local authorities. Occupancy data for Dudley, Walsall and Wolverhampton car parks has been analysed and presented in a similar format, so that a direct comparable analysis can be made.

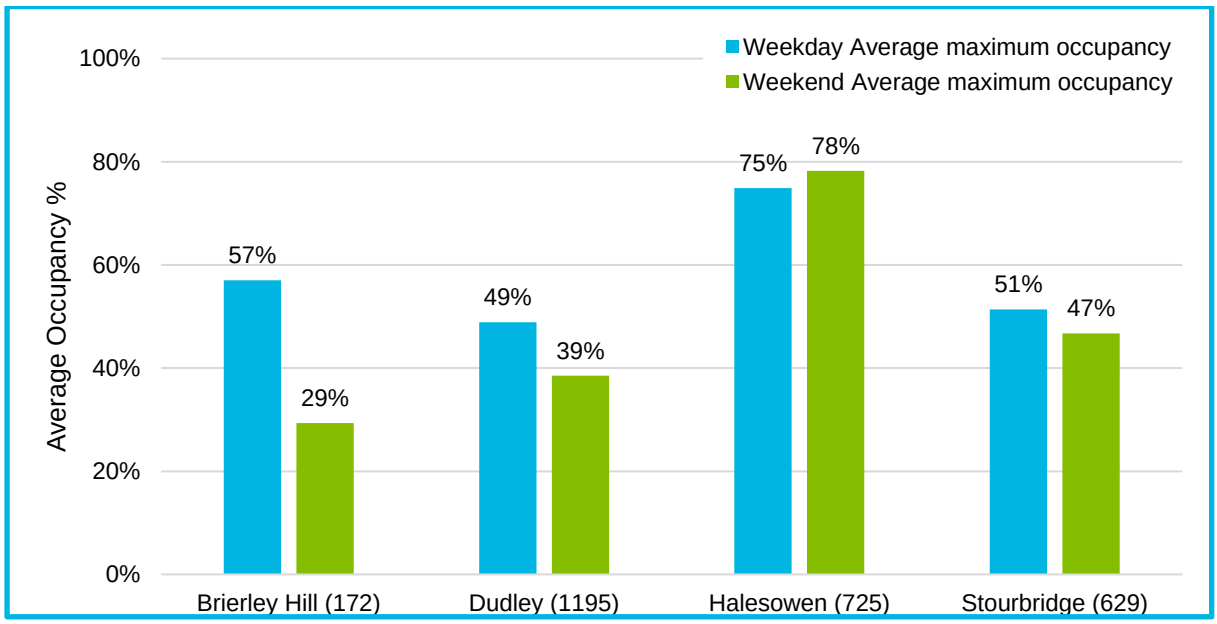
4.1.4 An overview can be found in **Appendix B**, providing average weekday, weekend and total usage at selected car parks within the centre boundaries.

4.2 Dudley Parking Occupancy

4.2.1 Parking occupancy data for strategic and town centres within Dudley has been reviewed and is depicted in **Figure 4-1**. The total number of bays available is noted in brackets.

4.2.2 Halesowen has the highest average occupancy of 77% during both the weekday and weekend. Brierley Hill had the lowest average occupancy of 43% for both the weekday and weekend.

Figure 4-1: Average Maximum Occupancy Per Strategic and Town Centre



4.2.3 **Figure 4-1** displays average maximum occupancy of car parks within the four Dudley centres. It indicates that there is a significant difference between the utilisation of Halesowen car parks and those in other centres.

4.2.4 Further detailed analysis is presented in **Table 4-1** below, with the following colour coding applied:

Red = Less than 30% occupancy

Orange = 30% to 60% occupancy

Green = Greater than 60% occupancy

Table 4-1: Average Occupancy

Dudley Parking Occupancy		Weekday Average Maximum Occupancy	Weekend Average Maximum Occupancy	Average
Brierley Hill	Bank Street Zone One (37)	25%	11%	18%
	Level Street (57)	55%	23%	39%
	Little Cottage Street (78)	92%	54%	73%
Dudley	Flood Street Zone One (211)	52%	64%	58%
	Flood Street Zone Two (142)	9%	5%	7%
	Flood Street Zone Three (132)	5%	5%	5%
	Flood Street Four and King Street Two and Three (256)	23%	8%	15%
	Flood Street Zone Five (70)	16%	7%	11%
	King Street Zone One (14)	90%	93%	91%
	Stafford Street (251)	64%	52%	58%
	Tower Street (89)	83%	86%	85%
	Wolverhampton Street (30)	100%	27%	64%
Halesowen	Andrew Road (125)	83%	100%	92%
	Pool Road SCP (360)	44%	44%	44%
	High Street (140)	86%	74%	80%
	Birmingham Street (100)	87%	95%	91%
Stourbridge	Birmingham Street Zone One (53)	32%	45%	38%
	Church Street (90)	75%	56%	66%
	Enville Street (26)	72%	50%	61%
	Ryemarket MSCP (460)	28%	36%	32%

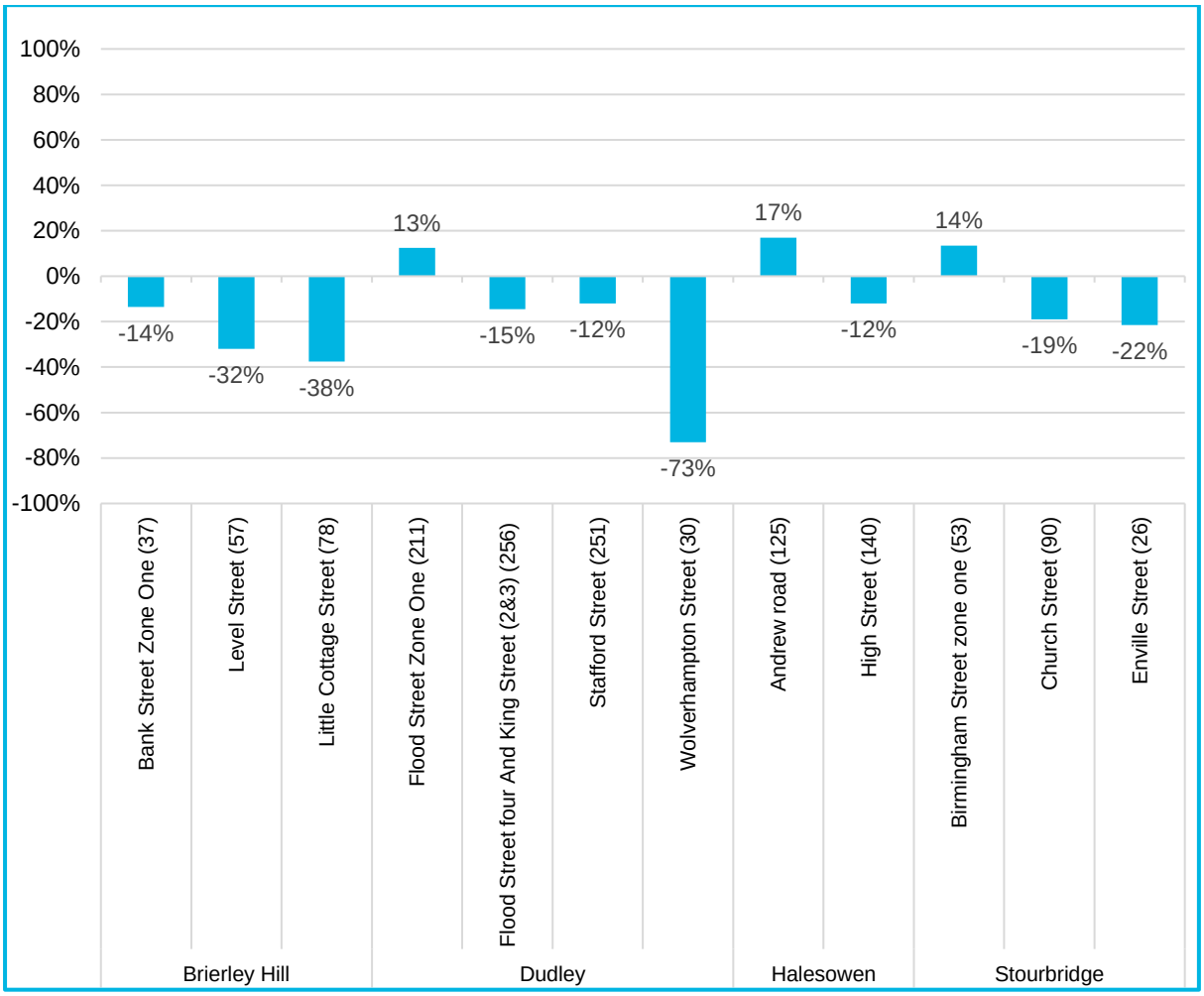
4.2.5 **Table 4-1** shows that Flood Street Zone Two, Three, Four and Five, which also includes King Street Two and Three car parks, are the lowest occupied car parks within Dudley. Between them they average 10% occupancy during the weekday and weekend.

4.2.6 Additionally, Bank Street Zone One has low levels of occupancy at 18% on average during both the weekday and weekend periods, meaning that around seven bays are available out of the total 37. Where usage rates are higher on the weekday compared to the weekend, it provides an indication that the car parks are being used for business uses more so than leisure.

4.2.7 In general, Flood Street Zone Two and Three, Flood Street Four and King Street Two and Three, Flood Street Zone Five seem to have consistently low usage levels. This indicates that the demand, capacity or standard of the car parks is not appropriate for the area.

4.2.8 There are some car parks that fluctuate in usage from the weekday to the weekend. Car parks that have a greater than 10% fluctuation are shown in **Figure 4-2**.

Figure 4-2: Fluctuation from Weekday to Weekend Occupancy



4.2.9 There are five car parks that have similar occupancy levels during the weekday and weekend with less than 10% variation, which include Flood Street Zone Two and Three, King Street Zone One, Tower Street and Pool Road SCP.

4.2.10 Wolverhampton Street has the largest variance between the weekday and weekend, suggesting that most use the car park for work purposes, unlike Flood Street Zone One, Andrew Road and Birmingham Street Zone One, which have higher weekend use.

4.3 Sandwell Parking Occupancy

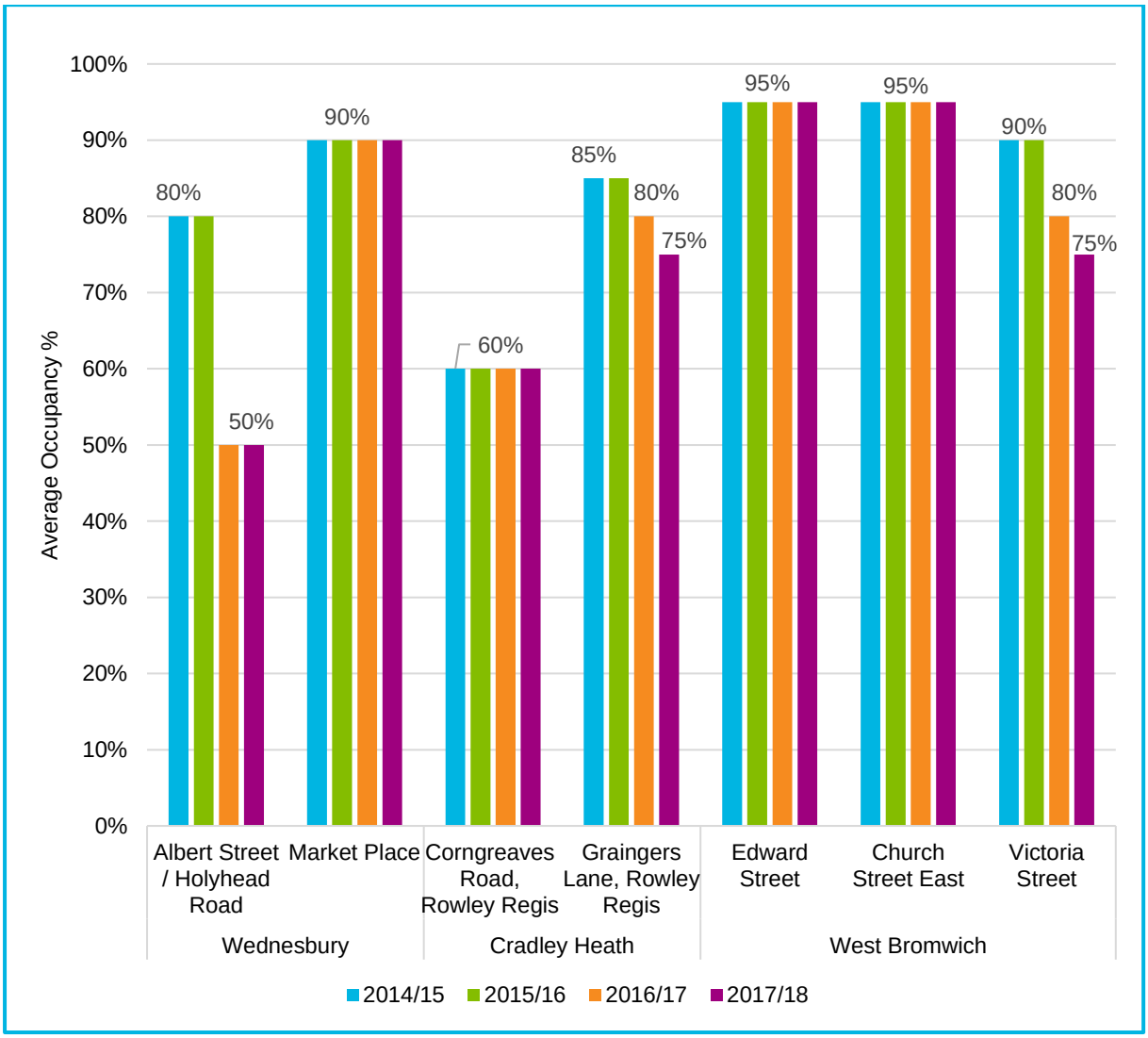
4.3.1 The data provided for Sandwell's parking occupancy includes a yearly trend of parking usage across eight sites but does not include detail in terms of weekday and weekend distribution.

4.3.2 There is only coverage of three of the six Sandwell centres in the surveys and the rationale for selecting those particular car parks for survey has not been explained. It could be the case that there are historical reasons for the selection. Queen Square car park was demolished in October 2020 and therefore, this has been removed from the analysis.

4.3.3 It is believed that the figures provided are estimates, as percentages appear to have been rounded to the nearest 5%. Nonetheless, the data is a useful tool in estimating the levels of occupancy in Sandwell and to draw some conclusions.

4.3.4 On the basis of the information presented, the levels of occupancy in Sandwell car parks (shown in **Figure 4-3**) suggest that parking usage remains consistently high across all sites.

Figure 4-3 Yearly Occupancy Between 2014 and 2018



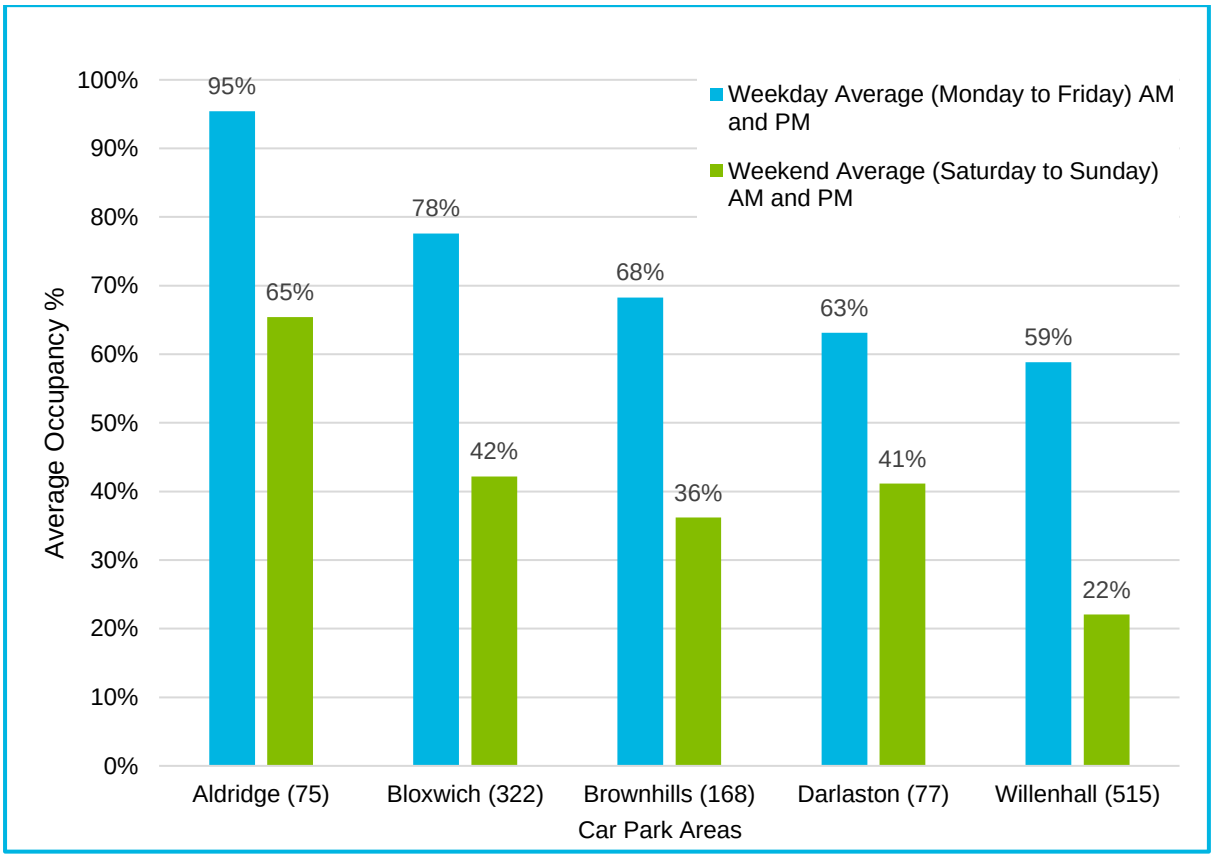
4.3.5 Of the seven identified sites, none show any signs of being under-utilised through all four years. However, detailed occupancy surveys should be conducted on a broader group of sites to inform future decision-making.

4.4 Walsall Parking Occupancy

4.4.1 Parking occupancy data for strategic and town centres within Walsall has been reviewed and is depicted in **Figure 4-4**.

4.4.2 The analysis shows that all of the areas have higher weekday averages compared to the weekends, with Willenhall having the greatest difference between the weekday and weekend occupancy at 37% and Darlaston having the least at 22%, although in general the differences between the areas is not considered to be significant.

Figure 4-4: Average Occupancy of Car Parks During the Study Period



4.4.3 Further detailed analysis is presented in **Table 4-2**, with the following colour coding:

Red = Less than 30% occupancy

Orange = 30% to 60% occupancy

Green = Greater than 60% occupancy

Table 4-2: Average Occupancy

Walsall Car Park Occupancy		Weekday Average	Weekend Average	Average
Aldridge	Rookery Lane (32)	93%	75%	84%
	Bakers Lane (43)	98%	56%	77%
Bloxwich	Elmore Row (50)	93%	72%	82%
	Field Close (18)	73%	24%	48%
	Samuel Street (Kwik Save) (120)	90%	66%	78%
	Station Street (16)	89%	66%	77%
	Stephenson Square (Beechdale) (63)	30%	10%	20%
	Tintern Crescent (55)	91%	16%	53%
Brownhills	Short Street (44)	81%	27%	54%
	Church Road A (32)	94%	62%	78%
	Church Road B (92)	30%	20%	25%
Darlaston	Darlaston Town Hall (35)	73%	54%	63%
	Walsall Road/Crescent Road (15)	83%	62%	72%
	Darlaston Road (11)	79%	48%	63%
	The Green (16)	18%	2%	10%
Willenhall	Wakes Ground (170)	55%	6%	31%
	Hall Street (56)	76%	25%	50%

Market Place (59)	26%	21%	24%
The Square (New Invention) (28)	51%	21%	36%
Wolverhampton Street (71)	53%	22%	38%
Newhall Street (34)	26%	6%	16%
Coltham Road/Short Heath (22)	48%	64%	56%
St Ann's Road (18)	81%	1%	41%
Stringes Lane/Albion Street (25)	89%	34%	62%
Gomer Street (32)	83%	22%	53%

4.4.4 There are seven car parks that appear to have high occupancy levels of 70% and above during both the weekdays and weekend, indicating that these are being well utilised. This could be for multiple reasons, including proximity to both employment and retail uses. For instance, Rookery Lane car park is located near to Aldridge shopping centre.

4.4.5 In Bloxwich, both Elmore Row and Samuel Street (Kwik Save) car parks are located near the Bloxwich market centre and are likely to have high usage due to the retail demand of customers and staff. Station Street car park appears to have a high level of usage due to being located outside the Bloxwich police station, providing free but time-limited parking.

4.4.6 In Brownhills, Church Road A has a high occupancy rate, which is likely due to it being located closest to the high street and free of charge.

4.4.7 Darlaston has one car park that has a high level of occupancy which is likely to be used to access the high street and also to access Darlaston Park for recreational activities.

4.4.8 The key reason for high occupancy levels seems to be the location and surrounding amenities, such as high street retailers and/or employment and facilities being free of charge currently.

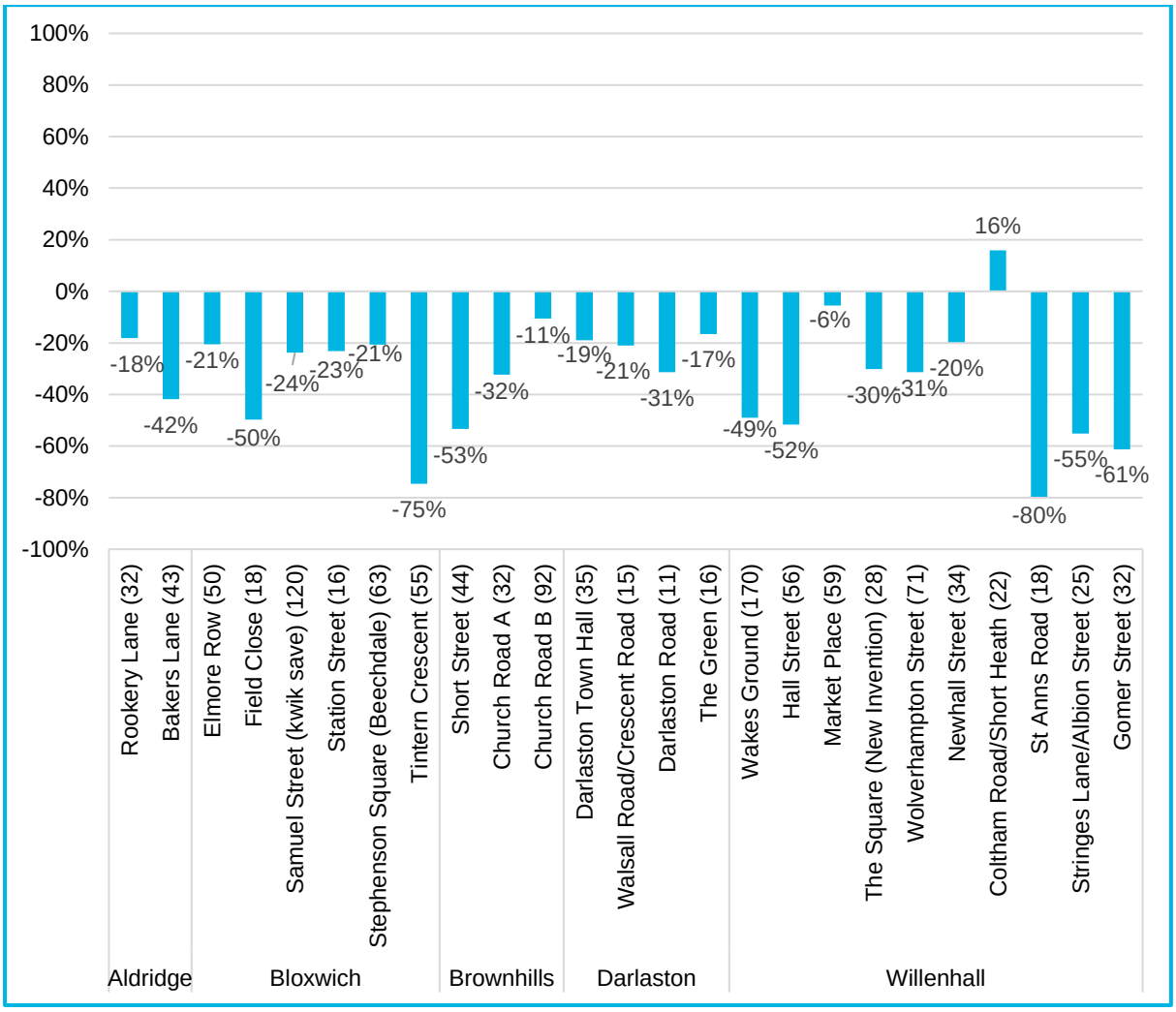
4.4.9 The analysis shows there are five car parks that on average have an occupancy of 25% or less between the weekday and weekend. These car parks are Stephenson Square (Beechdale), Church Road B, The Green, Market Place and Newhall Street.

4.4.10 In Willenhall, none of the car parks have high occupancy levels throughout either the weekday or weekend. The reasons for this are unclear; for instance, Market Place car park has CCTV, clear parking markings, is located close to the town centre and is free of charge. One potential reason for the apparent lack of utilisation could be due to the lack of signage and its visibility to potential users.

4.4.11 There are some car parks that appear to fluctuate in usage from the weekday to the weekend. These are shown in **Figure 4-5**.

4.4.12 The majority of the car parks have higher weekday occupancy compared to the weekend, apart from Coltham Road/Short Heath car park located in Willenhall, which has a higher weekend usage of 16%. On average Coltham Road/Short Heath car park has a total average occupancy of 56% between the weekday and weekend.

Figure 4-5: Fluctuation from Weekday to Weekend Occupancy



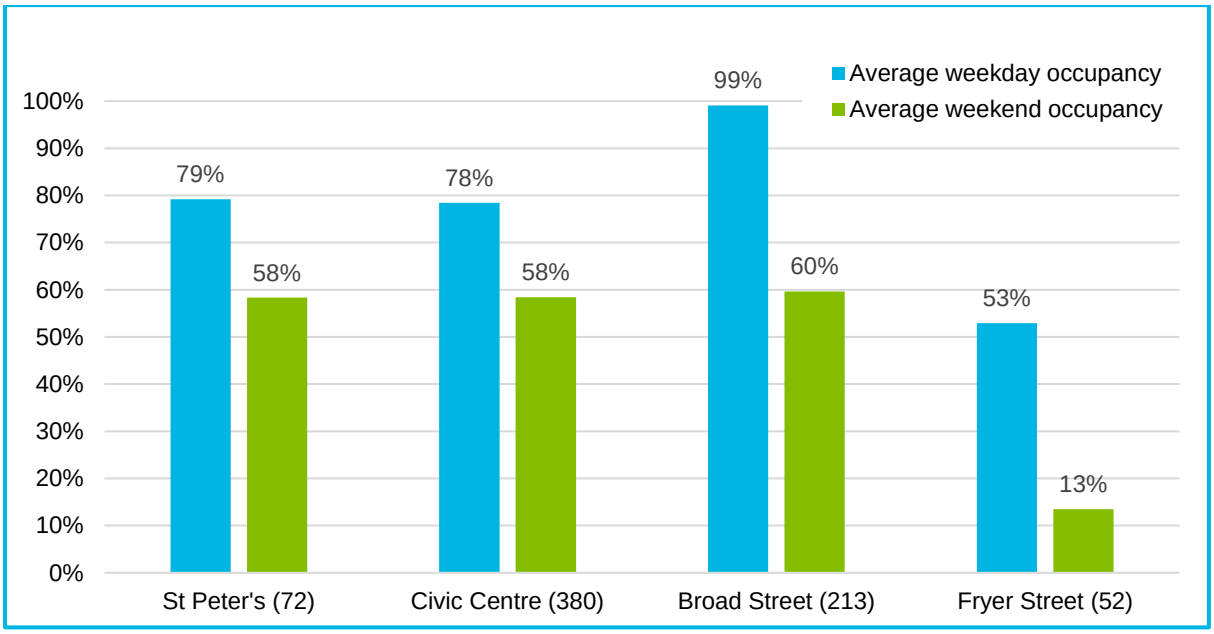
4.4.13 None of the car parks within Walsall have equal usage between the weekday and weekends, although the Market Place car park in Willenhall has the lowest difference at only 6%, suggesting that the car park is used for business as well as leisure purposes. However, it has a generally low level of occupancy at 24%.

4.5 Wolverhampton Parking Occupancy

4.5.1 Occupancy data was not provided by the local authority for any car parks in the City Centre or Tier 2 centres. However, data was obtained from findings of the most recent Wolverhampton City Centre Parking Strategy, which was published in 2016, although this only covers car parks within the City Centre. This is displayed in **Figure 4-6**.

4.5.2 The lack of information provided or obtained has prevented any analysis of parking occupancy in car parks in any of the Tier 2 centres.

Figure 4-6 Average Occupancy of Car Parks During the Study Period



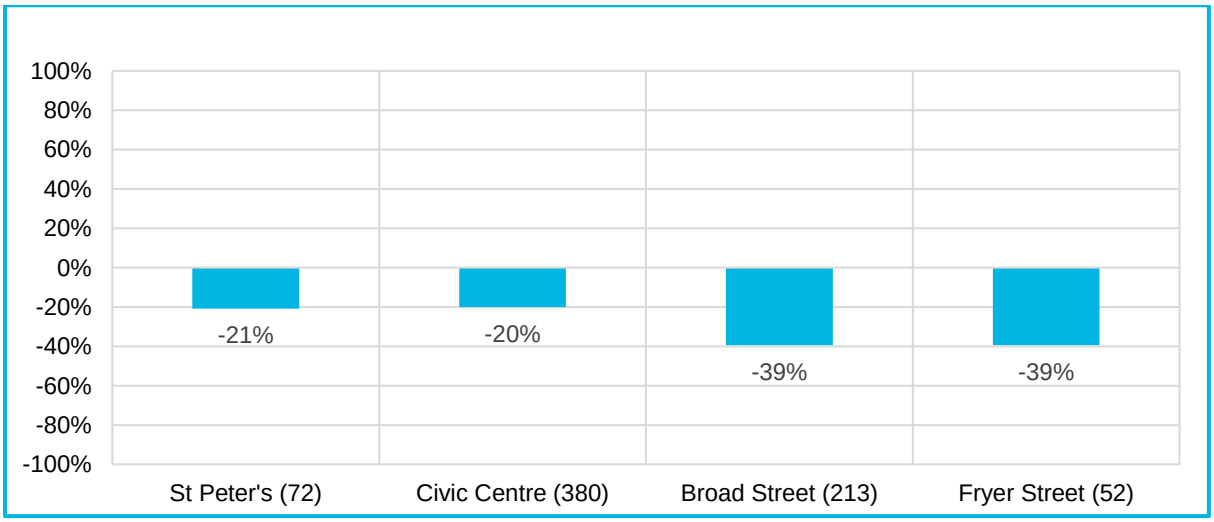
4.5.3 In general, Wolverhampton City Centre occupancy rates are relatively high, as most car parks are occupied at 60% or above, except for Fryer Street car park which has the lowest occupancy levels of all of the car parks analysed during both the weekday and weekend periods.

4.5.4 Broad Street appears to have the highest occupancy levels of 99% during the weekday, which is likely due to people using the long stay car park to access the nearby Wolverhampton University campus.

4.5.5 In all of the car parks the weekday usage is greater than weekends as shown in **Figure 4-7**, indicating that there is more significant business usage during the week, as weekends are likely to be predominantly parking for leisure and shopping purposes.

4.5.6 Both the St Peter's and Civic Centre car parks present similar differences between the weekday and weekend occupancy levels of around 20%, and at the Broad Street and Fryer Street car parks there is a reduction of 39% between weekday and weekend usage.

Figure 4-7: Fluctuation from Weekday to Weekend Occupancy



4.6 Low Occupancy Car Parks

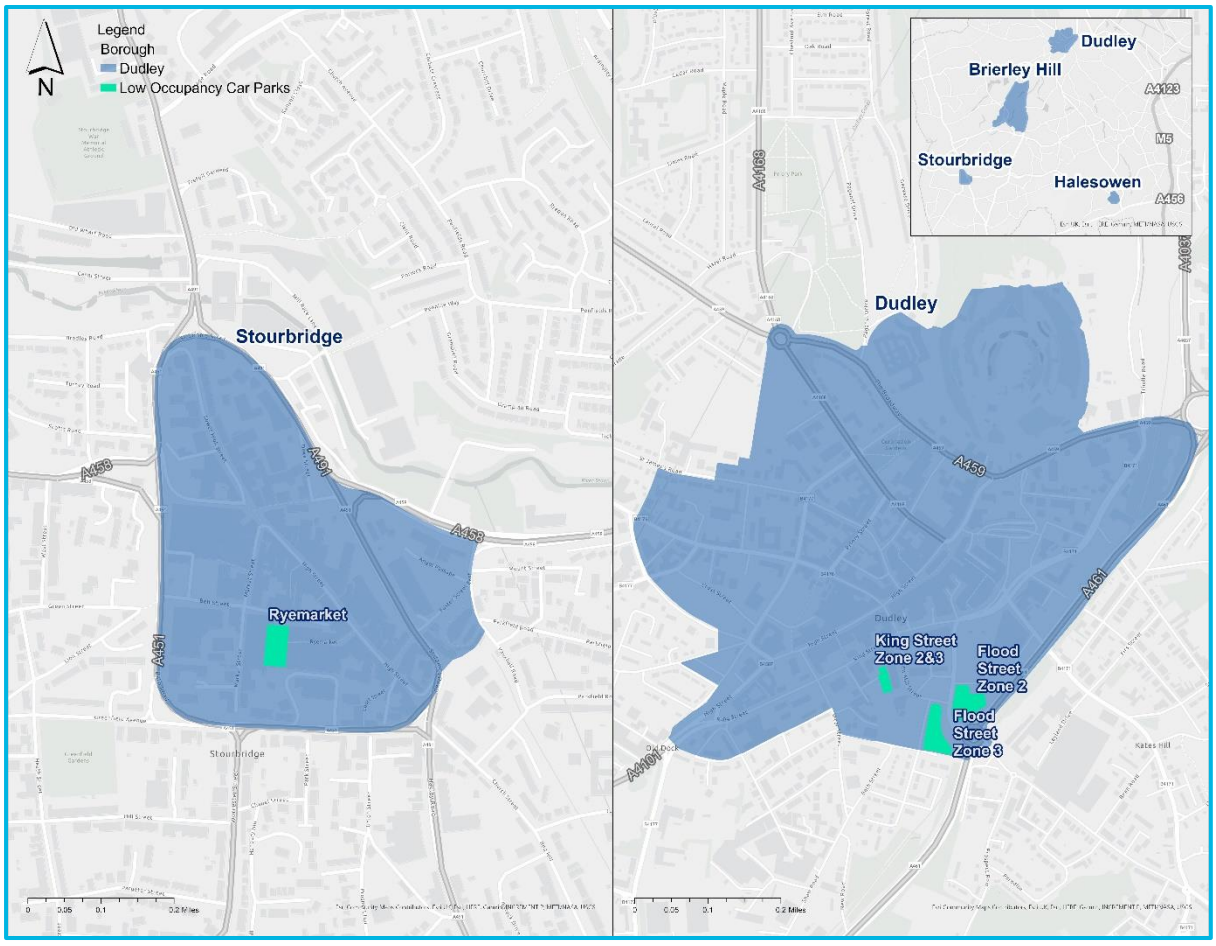
4.6.1 Using the data available, all of the car parks within the strategic centres that have occupancy levels of less than 40% during both the weekday and weekend have been collated in **Table 4-3** below.

Table 4-3: Least Occupied Car Parks Within the Centres

Local Authority	Area	Car Park Location	Car Park Bays
Dudley	Dudley	Flood Street Zone Two	142
Dudley	Dudley	Flood Street Zone Three	132
Dudley	Dudley	Flood Street Four and King Street Two and Three	256
Dudley	Stourbridge	Ryemarket MSCP	460
Walsall	Bloxwich	Stephenson Square (Beechdale)	63
Walsall	Brownhills	Church Road B	92
Walsall	Darlaston	The Green	16
Walsall	Willenhall	Market Place	59
Walsall	Willenhall	Newhall Street	34

4.6.2 In total, nine potentially low occupancy car parks have been identified. These car parks all vary in capacity ranging from 16 spaces to 460. In Wolverhampton City Centre, no car parks were identified as having low occupancy. All of Sandwell and Wolverhampton centres outside of the City Centre have been excluded from the analysis due to a lack of occupancy data. Dudley appears to have four car parks which have occupancy levels of less than 40% during the weekday and weekend periods, as shown in **Figure 4-8**.

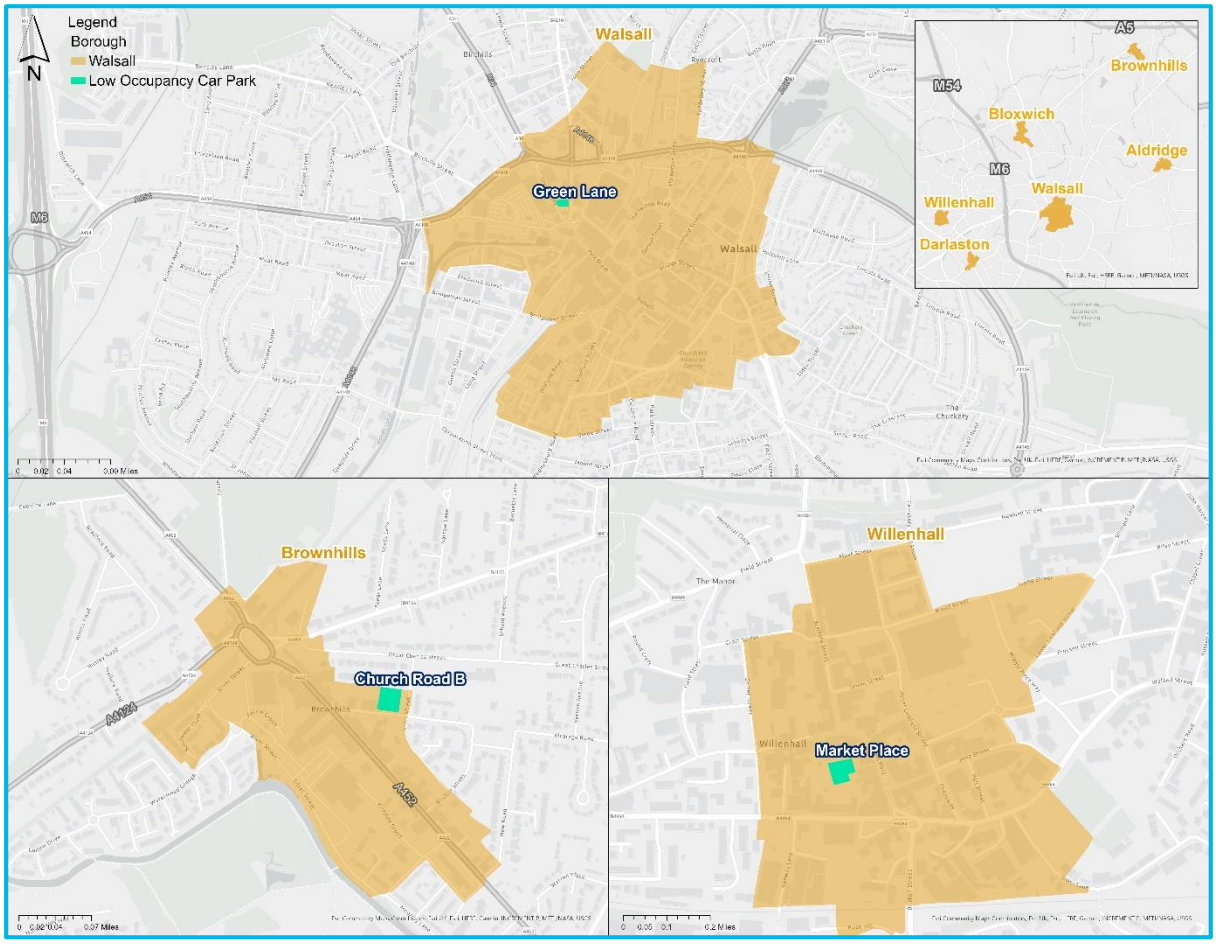
Figure 4-8: Dudley Low Occupancy Car Parks



4.6.3 Ryemarket has been identified as having a low occupancy level, although from a review of the location of the car park this is unexpected. It is located central to Ryemarket Shopping centre, so in a prime location. Potential reasons for low usage could include safety and security, the extent of restrictions and price of parking.

4.6.4 In Walsall, three car parks were identified as having parking low occupancy levels and these are presented in **Figure 4-9**.

Figure 4-9: Walsall Low Occupancy Car Parks



4.6.5 Green Lane in Walsall is located near the Crown Wharf Retail Park and north of Walsall high street. This a relatively small car park with limited access due to permanent bollards which are likely to deter people from using it. Additionally, there is another, potentially more attractive, car park located adjacent to it.

4.6.6 Church Road B in Brownhills appears to have a low occupancy level which is likely to be because Church Road A car park is located closer to the town centre. Additionally, from Google Street View there appears to be a lack of clear bay markings and no CCTV, which may deter people from using the site.

4.6.7 Market Place in Willenhall also seems to have low occupancy levels. It is difficult to identify the car park on Google Street View and there is waste land and an overgrown tree obstructing the access, which is unlikely to attract car park users.

4.7 Quality of Parking Provision

4.7.1 A high-level assessment of quality has been undertaken and potential reasons for under-utilisation have been provided where appropriate. A full audit of existing facilities including access, lighting, surfacing, signage, electric vehicle charging and car club/car sharing potential has not been conducted.

4.7.2 Evaluation of the quality of parking provided is outside the scope of this study. Nevertheless, it is important to provide good quality car parking to encourage utilisation, attract revenue where appropriate and to support local growth. There may be an opportunity for second tier studies at an individual local authority level so that more informed commercial decisions can be made on the viability of car parks and the need for investment.

4.8 Blue Badge Parking Provision

4.8.1 From the analysis of car park occupancy, it is evident that there is a lack of consistency in terms of blue badge parking provision in both public and private car parks across all of the local authority areas. Further data collection and analysis is recommended to ensure that the blue badge provision meets demand and it is located in appropriate locations for users.

4.8.2 Whilst it is appreciated that the location of the car park plays a role in how much disabled parking is needed, there is an opportunity to set an appropriate target so that the proportion of blue badge bays provided can be more standardised across the four Black Country boroughs. This would ensure that there is a consistent approach, meaning that potential users can gauge the amount of blue badge bays that may be available. It would also ensure that authorities do not risk challenge in terms of discrimination at any one location.

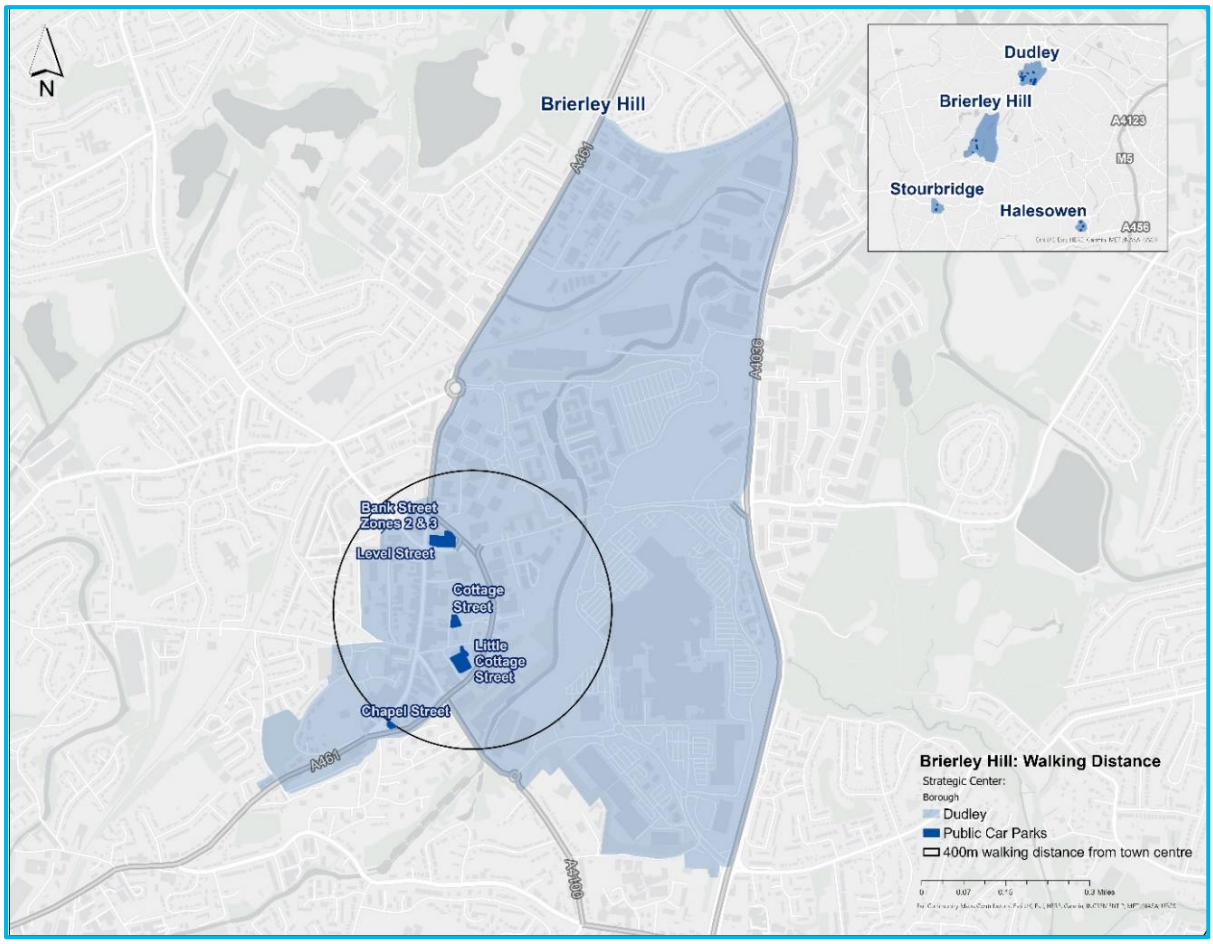
4.9 Parking Accessibility by Foot

4.9.1 Each of the strategic centres within the four local authorities has been analysed in terms of walking distances between the town centre and the car parks within each of the areas. A 400m buffer has been used as this is a standard recognised by the Department for Transport as being a desirable walking distance to access services. Topography has not been considered, although this does provide a high-level factor for walkability to the centres.

Dudley

4.9.2 In Brierley Hill there are three car parks within 400m of the centre, as depicted in **Figure 4-10**, although Chapel Street car park is located on the outskirts. Cotton Street is closest to the town centre, indicating that this is the most used for access to the town centre. This is reflected within the occupancy levels at 92% during the weekday.

Figure 4-10: Brierley Hill Strategic Centre

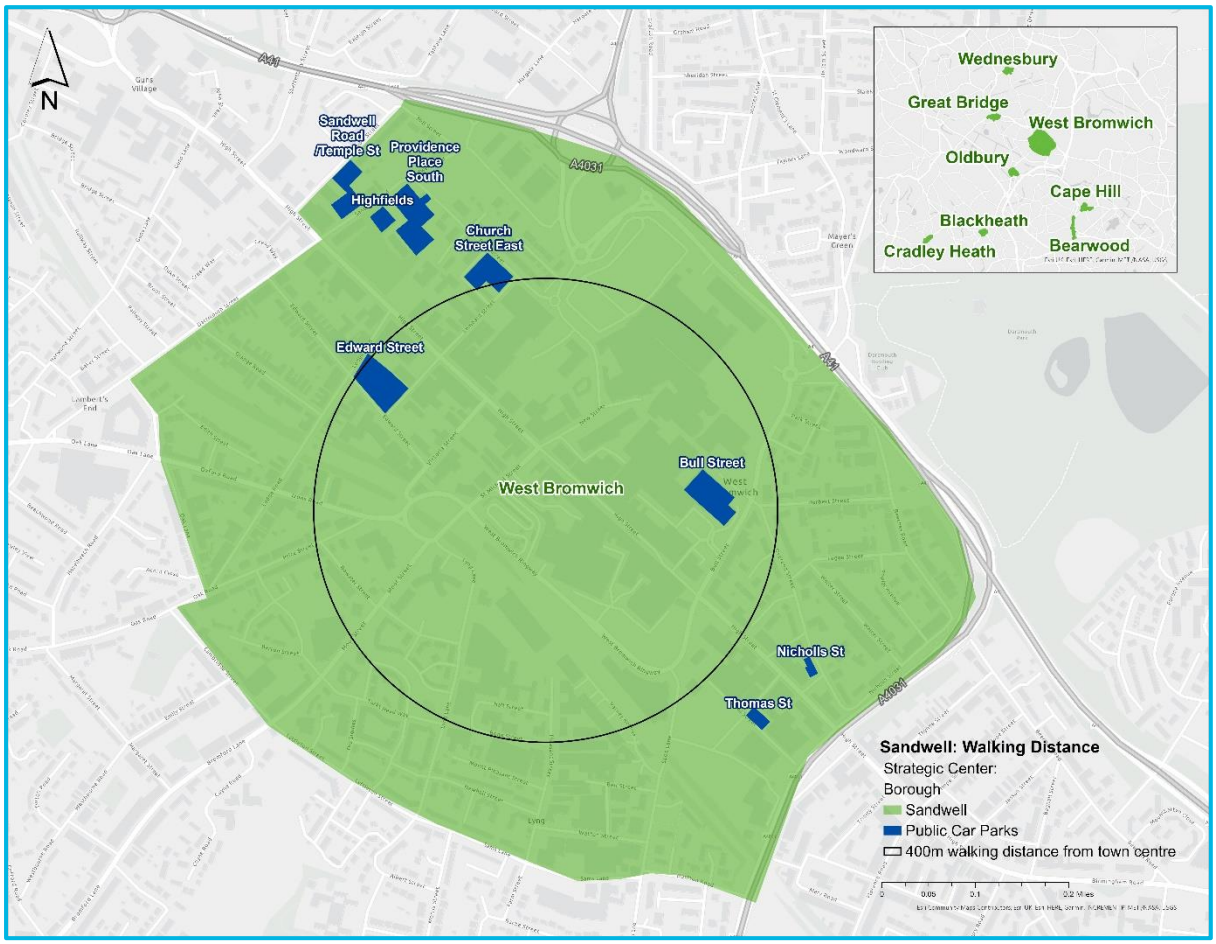


4.9.3 There is the possibility for people to park their vehicles in the three car parks near the town centre and walk to the Merry Hill shopping complex and vice-versa. However, as car parking is free at Merry Hill it is likely that drivers would only park at Merry Hill and walk into the town centre, rather than the reverse. This depends on the possible routes taken and accessibility, as the A461 runs between the two areas.

Sandwell

4.9.4 In Sandwell, there are two car parks within 400m of West Bromwich centre, as shown in **Figure 4-11**. This is likely to be because there are already private parking facilities available closer to the centre, such as at Tesco Extra and Queens Square shopping centre. There are also several car parks located near the A41/All Saints Way junction slightly further afield which will also provide parking for the town centre. The occupancy data for Church Street East, for example, indicates that it is occupied at 95% over a four-year period between 2014 and 2018.

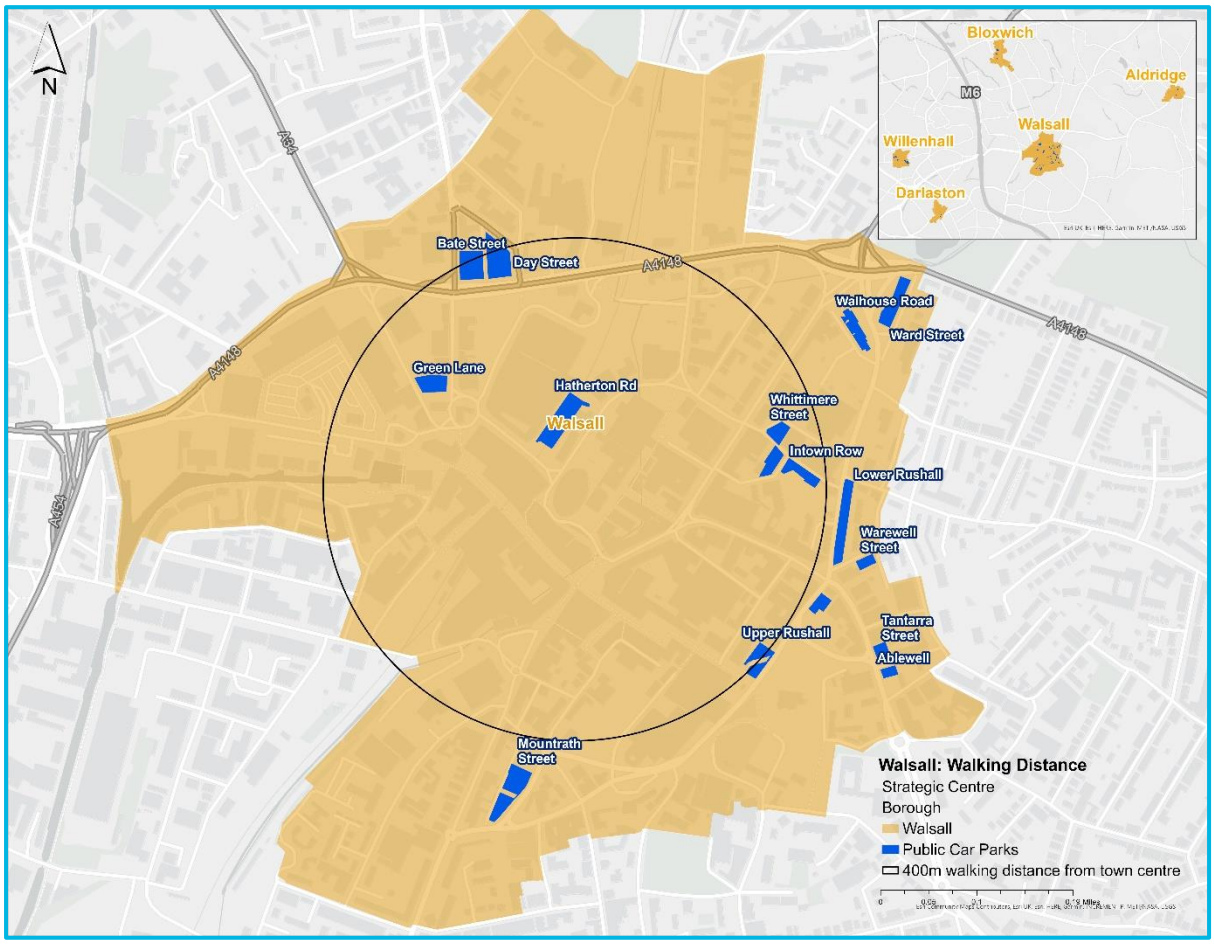
Figure 4-11: West Bromwich Strategic Centre



Walsall

4.9.5 Walsall has multiple public car parks within a 400m walking distance of the centre, as shown in **Figure 4-12**. There are several small car parks distributed around the town centre, although no occupancy survey data was provided. Many of the smaller car parks are within an acceptable walking distance to the town centre. Some of the car parks located on the west of the town centre may also be used as parking for Walsall Manor Hospital. In general, the area offers a number of public car parks that are within a reasonable walking distance of the town centre.

Figure 4-12: Walsall Town Centre

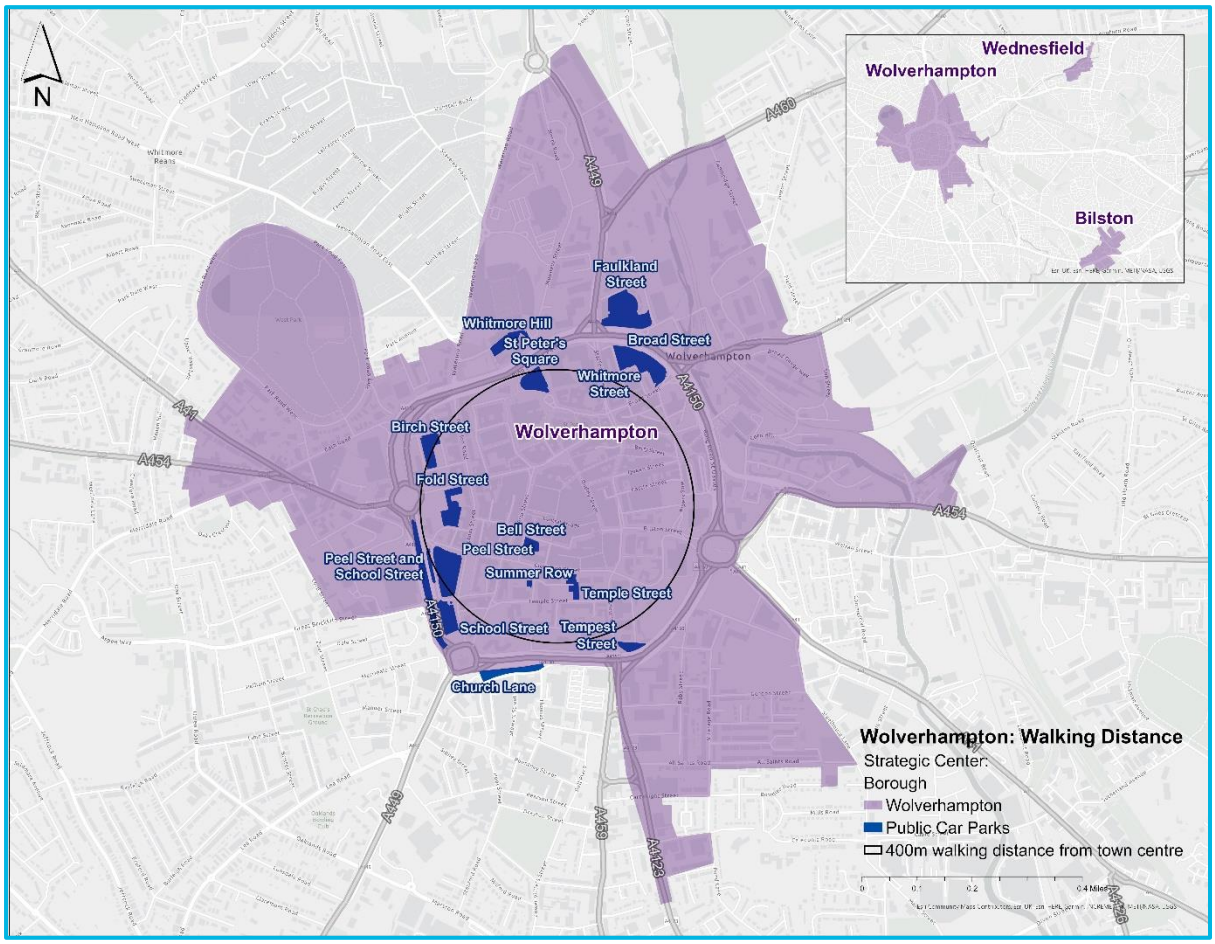


4.9.6 Bate Street and Day Street car parks are likely to be used for parking close to the Walsall College Wisemore campus, located to the north of the town centre, rather than for shopping or employment purposes in the town centre, due to potential severance issues caused by the A4148.

Wolverhampton

4.9.7 In Wolverhampton, many of the public car parks are within walking distance to the town centre, as displayed in **Figure 4-13**. Most of the car parks are located on the west of the town, near the Wulfrun shopping centre and the old outdoor markets.

Figure 4-13: Wolverhampton Car Parks



4.9.8 Broad Street, Whitmore Hill and Falkland Street provide parking provision for the University of Wolverhampton, although they are located further away from the town centre.

4.10 Coach and Freight Parking

4.10.1 Based on the information received there appears to be a general lack of coach and freight parking across the Black Country. However, some pick-up and drop-off points have been identified, with the majority being located in Wolverhampton. These are presented below in **Table 4-4**.

Table 4-4: Coach and Freight Parking

Location	Centre	Coach and Freight Parking Bays
Stafford Street A	Wolverhampton	Pick-up point
Stafford Street B	Wolverhampton	Pick-up point
Falkland Street	Wolverhampton	12
Wakes Ground Lorry Parking	Walsall	30

4.11 Public Transport and Park and Ride

4.11.1 There are also park and ride facilities within some of the Black Country centres. Parking is available for free with a purchased transport ticket. However, these have not been considered as part of the current parking situation as these are strategic facilities to be used primarily for commuting into Birmingham and Wolverhampton City Centres from the Black Country and surrounding conurbation.

4.11.2 The West Midlands Trends (2017) document suggests that the Metro Park and Ride was above 90% occupancy in 2016/17 as shown below in **Table 4-5**. This provides an indication that there is high demand for the Metro Park and Ride facilities in the Black Country.

Table 4-5: Metro Park and Ride Usage (2016/17)

	Total of all Four Stops	Priestfield	Wednesbury Parkway	Black Lake	The Hawthorns
Number of Parking Bays	572	150	152	85	185
Occupancy Levels	546	143	145	83	175
% Usage	95.5%	95.3%	95.4%	97.6%	94.6%

Source: West Midlands Trends (2017)

4.12 Pricing Regimes

4.12.1 Based on the information received there appears to be an inconsistent approach to parking charges applied across the Black Country authorities. This is detailed in **Table 4-6** below.

Table 4-6: Black Country Parking Charges

Local Authority	Dudley	Sandwell	Walsall	Wolverhampton
Pricing Regime	Up to 1 hour Free Up to 2 hours Free Up to 3 hours £1.80 to £3.50 (*dependent on location*) Over 3 hours Overnight Free to £1.10 (*dependent on location*)	Up to 1 hour 40p Up to 2 hours 80p Up to 3 hours £1.20 Up to 4 hours £1.60 Over 4 hours (up to 23 hours) £4.00	Up to 2 hours £1.10 Up to 4 hours £2.20 All day Not available (*short stay*) or £2.50 (*long stay*)	Up to 1 hour 50p to £1.50 (dependent on location) Up to 2 hours £1.20 to £2.00 Up to 3 hours £2.50 to £3.00 Up to 4 hours £4.00 to £4.50 Up to 5 hours £5.50 Over 5 hours £8.00 Overnight £1.00

4.12.2 As can be seen above, some authorities promote free or relatively cheap parking for short stay, and free parking is generally applied at weekends in some locations and more widely on Sundays. However the disparity in pricing provision for stays of between 2 hours and up to 4 hours, where users would be utilising car parks for a variety of purposes, could be causing unnecessary competition between centres.

4.12.3 Some of the authorities use platforms such as RingGo. However, payment at the majority of car parks remain debit card or coin operated. Incentives are provided for using the platforms, such as discounts on car parking charges.

4.13 Parking Occupancy Summary

4.13.1 Generally, it is evident that the overall capacity of public car parking provision varies between each local authority and centre, which is to be expected due to the likely differences in demand at a local level. For example, there appears to be fewer short stay spaces compared to long stay provision in Sandwell than compared with other boroughs. However, the proportion of designated blue badge bays also varies significantly across the local authorities and individual car parks. In all areas there is also a general lack of electric vehicle charging facilities in both short stay and long stay car parks. Pricing regimes and payment methods also vary.

4.13.2 In terms of private car parking, limited data was made available. Therefore, a high-level review was undertaken to identify private car parks within strategic and town centres with capacity above 50 spaces. This review found that blue badge provision tended to be higher than in publicly operated car parks, but there was a general of lack of coach or freight parking. Electric vehicle charging provision also tended to be higher.

4.13.3 It appears that the Black Country authorities survey parking occupancy in a number of different ways. There is an indication that some data may have been estimated, although survey methodology was not confirmed. This inconsistency in approach to data collection and the lack of reliable, up-to-date data is an issue in terms of understanding how and why parking in strategic and town centres is used.

4.13.4 There is a need for a more detailed and consistent approach to surveying the car parking in each strategic centre and town centre. Monitoring should be regularly updated to allow a comprehensive review on which to base policy and commercial decisions in future.

5 Future Growth and Trends

5.1 Overview

5.1.1 A review has been conducted in order to investigate future growth and potential trends. Trends in car parking provision and how this is being influenced by changes in travel behaviour, as well as changing habits for shopping, working, education and leisure have been analysed at a high level and in collaboration with the Centres Group, to explore the potential impact of not managing car parking appropriately. The Centres Group has provided some information on retail trends and floorspace need, which has also been considered.

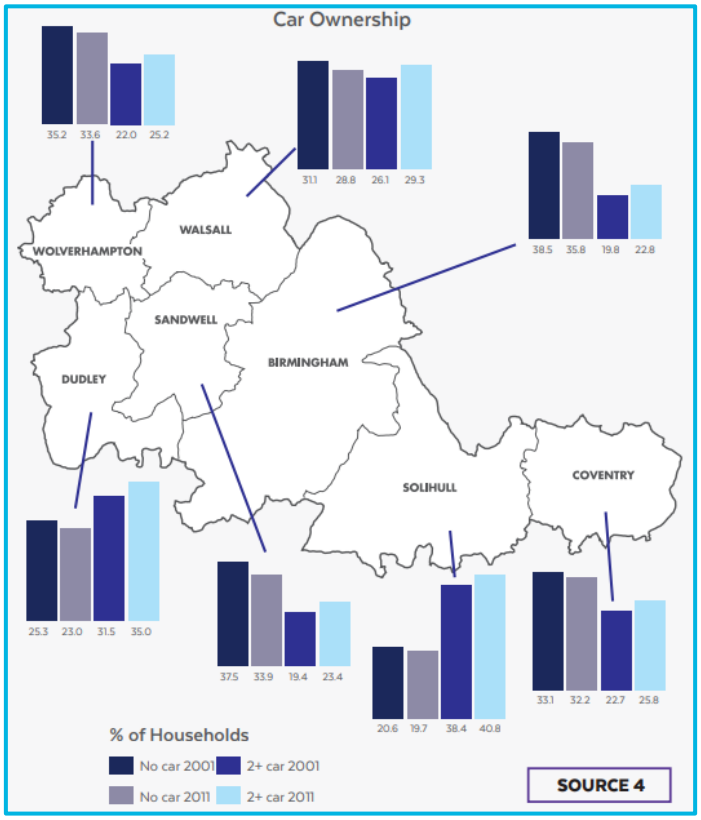
5.1.2 Some consideration has also been given in terms of the COVID-19 pandemic and Brexit implications on retail growth and likely trends in town centres, which includes modal shift and a reduced retail demand. This has been considered in order to determine the possible implications and demand for future parking capacity.

5.2 Public Transport Modal Shift

5.2.1 Several reports have been reviewed to understand the public transport modal shift over recent years. No recent reports have been identified on the likely impact of the COVID-19 global pandemic on public transport usage, due to the future implications on travel behaviour change not yet being clear.

5.2.2 The West Midlands Travel Trends document by TfWM, published in 2017 prior to the pandemic, has been reviewed. It estimates that on one hand, 19% of households in the West Midlands will not have access to a car by 2035, but on the other hand, 32% of households will have two or more cars by 2035. A breakdown of car ownership in 2001 and 2011 from the Census data in 2001 and 2011 can be found in **Figure 5-1**.

Figure 5-1: Census 2001 and 2011 Car Ownership in the West Midlands



Source: West Midlands Travel Trends, 2017

5.2.3 When comparing Census data from 2001 and 2011, it shows that there was a reduction in one car households but there was a general increase in two car ownership households. Therefore, there was an increased demand for car parks in Black Country centres for employment and service needs.

5.2.4 The Census figures also show that Dudley has a lower percentage of single car households but has a higher percentage of two-car ownership households compared to the rest of the Black Country. There could be a variety of reasons for this, both cultural and socio-economic.

5.2.5 The latest regional road transport consumption statistics in 2017 showed that the West Midlands Metropolitan Area uses approximately 1.2 million tonnes of fuel a year, which was a slight increase from the previous year. A breakdown of the regional fuel consumption in 2017 is shown within **Table 5-1**.

Table 5-1: Regional Road Fuel Consumption

% of Total	Buses	Cars	HGV	LGV
Dudley	5%	66%	11%	17%
Sandwell	5%	60%	18%	17%
Walsall	4%	59%	20%	16%
Wolverhampton	7%	68%	8%	17%
West Midlands	5%	66%	14%	15%
United Kingdom	3%	63%	17%	16%

Source: West Midlands Travel Trends, 2017

5.2.6 It shows that, in 2017, Dudley and Wolverhampton had higher car fuel consumption percentage compared the rest of the UK (63%).

5.2.7 All of the Black Country boroughs have higher fuel consumption for buses than the 2017 national average (3%). Buses are overwhelmingly prominent as the public transport mode of choice through the Black Country, with a strong core network of routes between centres, and a large proportion of the centres identified in this study (Brierley Hill in particular) being accessible by bus as the only public transport mode choice. This may change in the coming years as Midland Metro Phase 2 plans come to fruition, and older, diesel buses are phased out by bus operators in favour of newer electric or hybrid options.

5.2.8 Electric vehicles have not been included within this analysis, although as a result of recent government targets to phase out diesel and petrol vehicles by 2030, electric vehicle usage will naturally increase, and traditional fuel usage is likely to fall. Electric vehicle charging facilities will be essential to meet the likely demand and encourage greener travel in accordance with the West Midlands Strategic Transport Plan. It could also encourage potential users to better utilise the parking facilities available.

5.2.9 The public transport modal share targets for the West Midlands are displayed in **Table 5-2**.

Table 5-2: Public Transport Modal Share (All Centres)

2013/14	2014/15	2015/2016
35.49%	37.44%	36.97%

Source: West Midlands Travel Trends, 2017

5.2.10 Automatic Traffic Counts (ATCs) were used to determine the number of cars and private vehicles crossing cordons from January to December over a two-year period for inbound AM Peak trips (07:30 – 09:30). The number of car trips is shown in **Table 5-3**.

Table 5-3: Peak Traffic Flows (Car Trips – All Centres)

2013/14	2014/15	2015/2016
173,102	170,992	173,747

Source: West Midlands Travel Trends, 2017

5.2.11 Some of the key facts from the Black Country centres that were surveyed in 2016 include:

- Bus trips increased in West Bromwich (by 5.3%).
- Rail trips increased in Wolverhampton (by 21.8%).
- Metro trips increased in West Bromwich (by 9.1%) and Wolverhampton (by 19.5%).
- Car trips decreased in Dudley (by 0.5%).

5.2.12 This indicates that there has generally been an increase in the usage of public transport modes in the Black Country over recent years. Dudley is the only area to have seen a decline in car trips, potentially due to the difference in car ownership trends compared to other areas within the Black Country, as shown in **Figure 5-1**.

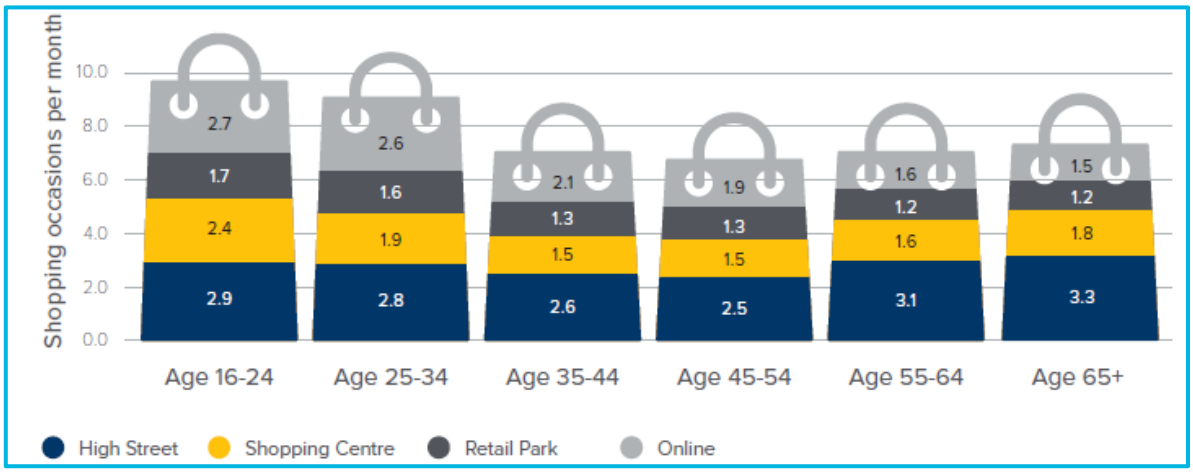
5.3 Centres Car Parking Usage

5.3.1 Traditionally, car parking in centres has been intended for retail, employment, and educational uses. However, given changes in retail spending habits, the repopulation of centres (greater residential development and changes to permitted development rights), and the strategic purpose of centres over recent years, the use of centres is likely to have changed accordingly, and therefore the purpose of car parking may also need to adapt to ensure that it meets the needs of users.

5.3.2 Retail Economics and Womble Bond Dickinson published the Digital Tipping Point 2019 Retail Report. It provides insight into retail changes on the high street due to the increase of online purchasing, which may have an impact on the demand or town centre and high street parking.

5.3.3 The report found that 10% of consumers would shop less in physical stores in the next 12 months. **Figure 5-2** shows that the proportion of shopping occasions per month that occurred online was equal to or less than using the high street. There still seems to be a future demand for the high street for shopping, albeit this may also be affected by the pandemic.

Figure 5-2: Shopping Occasions Per Month, By Channel and Age



Source: Retail Economics

5.3.4 The improvement in mobile data connectivity, such as expansion of 4G and new 5G networks, as well as growth of online retailers such as Amazon, coupled with the grocery businesses' (e.g. Tesco) gradual expansion into non-food items over the past 20 years, has had significant consequences for physical shopping destinations, and the retail offer in centres, throughout the UK.

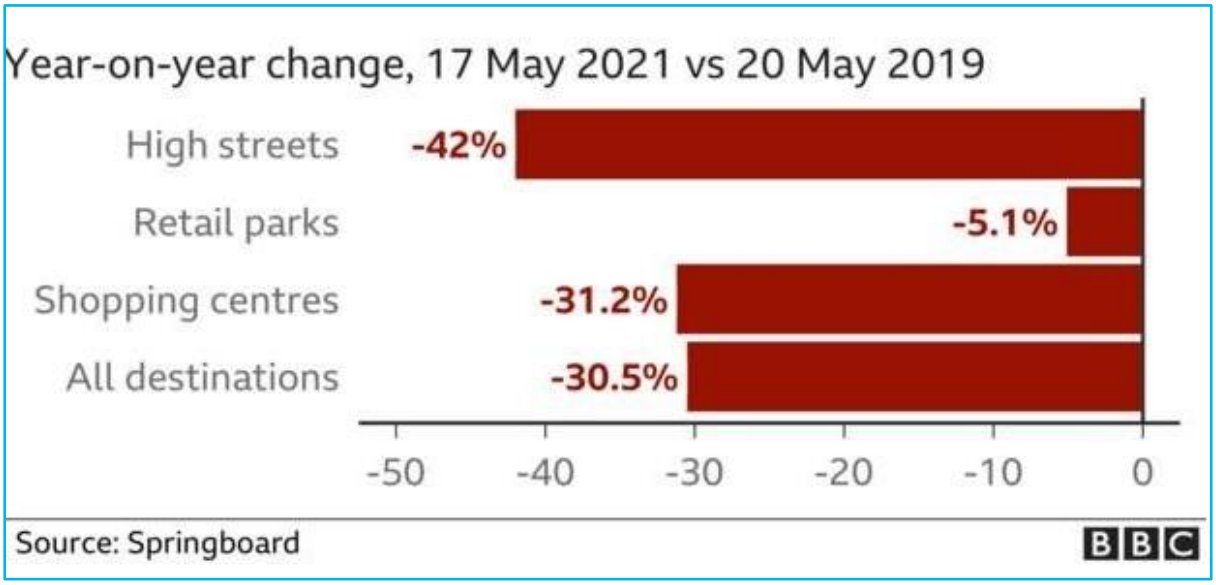
5.3.5 In slow decline over the past 20 years, the massive expansion of online retail has led to even lower levels of footfall across the high streets including impacting on retail parks and shopping centres. Online sales have massively accelerated this decline in recent years, threatening and closing even the anchor store within a centre.

5.3.6 If this continues it would mean that demand for car parking would reduce and a reduction in car park capacity should reasonably follow to balance the costs of maintenance and operation. Valuable land taken up by under-utilised car parks may be better used for other needs, such as employment and housing development.

5.3.7 Nonetheless, there are other recent factors that could impact future retail demand, which include the socio-economic impacts of the United Kingdom leaving the European Union and the COVID-19 pandemic.

5.3.8 The implications of the recent pandemic, imposition of social distancing measures and ultimately the lockdowns imposed to control the spread of the virus, have posed an existential threat to traditional shopping habits. It has resulted in consumers reassessing how they shop and whether they need to visit a centre at all, with a growing shift towards home working, an increase in online grocery shopping, cashless purchases, a further decline for physical stores, and new digital and multi-channel retailers. At present, the impact on the high street, retail parks and shopping centres remains uncertain, although retail footfall across the board has decreased considerably, as can be seen in **Figure 5-3.**

Figure 5-3: Year-on-year Change in Visits to Retail Locations, May 2021 vs May 2019



5.3.9 As reported in BDO: Retail Forecasts Report 2021, published in December 2020, even large stores are struggling. For instance, Boots remained open during multiple national lockdowns, yet have found that sales still plummeted. They believed that one reason for this was due to a sharp reduction in sales of non-essential beauty products and optical care services. They believed that another contributor was consumers abandoning the high streets and town centres, where many of Boots' stores are located, so they may now have to adapt due to the growth of homeworking resulting in lower footfall, particularly in major cities, which may never return to previous levels. This is likely to be a similar scenario for many other high street stores.

5.3.10 In terms of predicted retail growth, which includes the impact of the COVID-19 pandemic, this shows that between 2017 and 2020, there was a decline in offline retail. It also forecasts that offline retail will peak in 2021, but then reduce again in subsequent years.

5.3.11 With regards to the decision to leave the European Union, all high streets, town centre, retail parks and shopping centre retailers have a risk of being impacted, although this should be a relatively short-term impact, mainly affecting the availability of stock and the choices available to consumers.

5.3.12 If more large retailers were to go into administration due to the impacts of the events in recent years, this could significantly reduce the longer-term demand on high streets and shopping centres, resulting in less car parking capacity being required.

5.4 Parking Trends

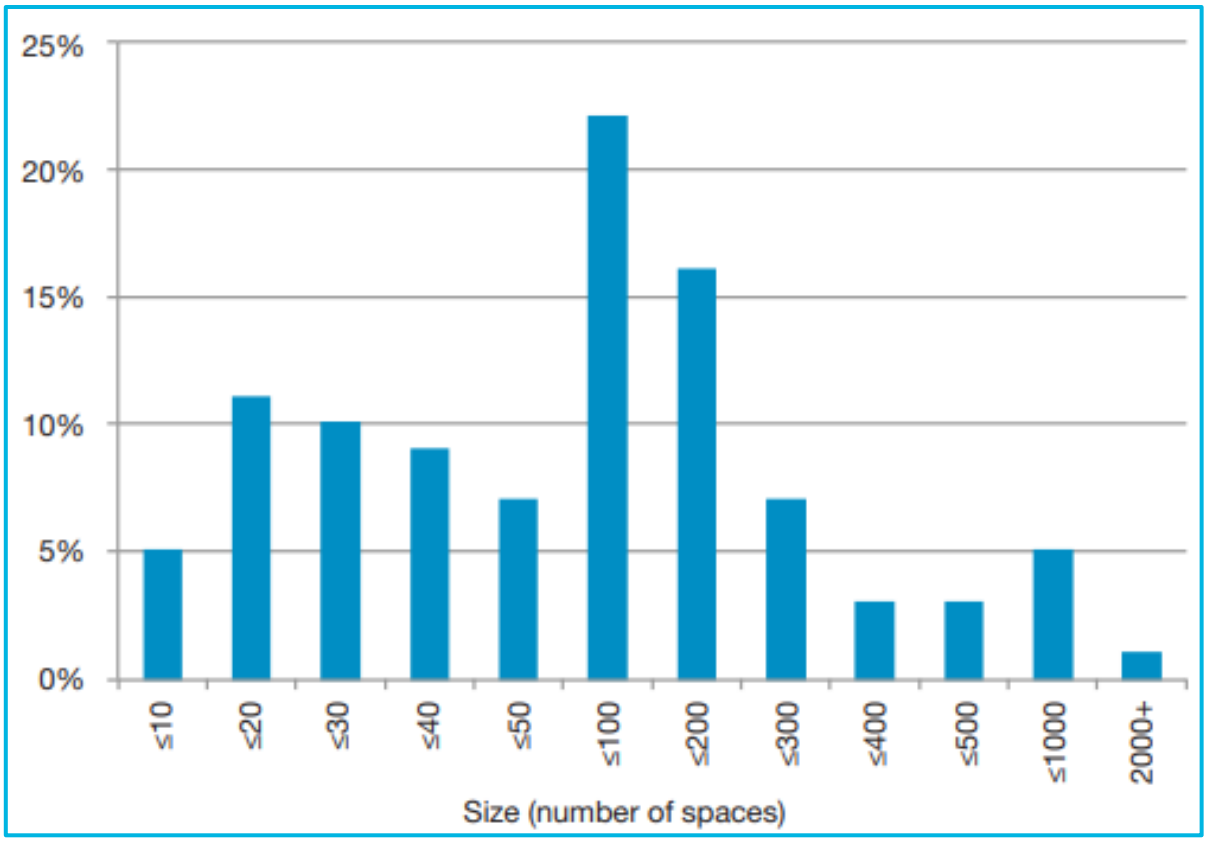
5.4.1 In 2012, the RAC released some overview figures of parking and general motorist behaviours, such as journey purposes. They found that most parking takes place during Monday to Friday with the most popular reason being for employment (28%). Shopping, social, and recreational reasons total 27% of weekday parking. This trend was also apparent through the occupancy analysis of the Black Country authorities, apart from Sandwell, due to the data limitations.

5.4.2 A report was produced by RAC Foundation in 2012 titled *Spaced Out: Perspectives on Parking Policy*. They found it difficult to acquire non-residential parking information, as most of the local authorities compile information about parking within their jurisdiction, but there is no standard format for reporting, and authorities vary considerably in the degree of information which they make available. Hence, these issues were also apparent between the Black Country local authorities, which is on a smaller scaler scale than reporting on the whole of Great Britain.

5.4.3 Nonetheless, from information that they collected, they found that 92% of these public car parks are surface level/not covered, and 8% are structures, mainly multi-storey. In terms of parking tariffs in Great Britain, about 42% of car parks are free, and around 50% are pay and display, the rest being pay on entry or exit, or contract.

5.4.4 They also distributed the size of the car parks in Great Britain, as shown in **Figure 5-4**. This distribution is very similar within the Black Country, with the average capacity being 174 bays.

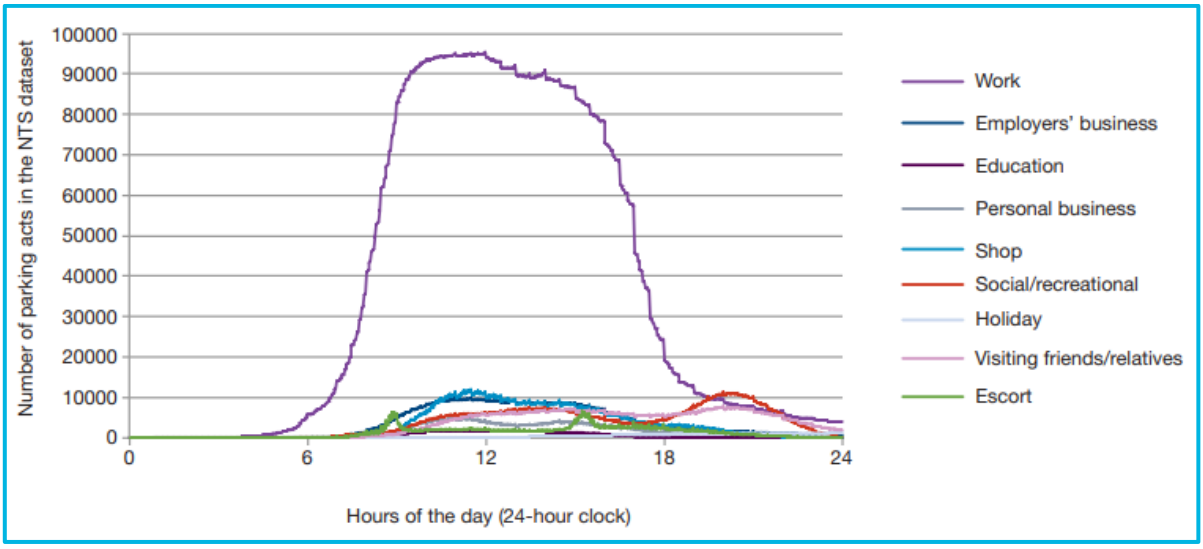
Figure 5-4: Distribution of Car Parks by Size



Source: Spaced Out, Perspectives on Parking Policy (RAC Foundation, 2012).

5.4.5 Furthermore, they reviewed the amount of time and purpose of people parking, as illustrated in **Figure 5-5**. The majority of the parking during the weekday occurred during the 6am to 6pm period for work purposes. It also shows that social/recreational parking occurs at a later period from 6pm onwards. This trend is also likely to occur within the Black Country, especially with parking near recreational areas, such as theatres, cinemas, pubs, and restaurants.

Figure 5-5: Weekday Time Profile of Parked Vehicles by Journey Purpose



5.4.6 Additionally, they analysed lorry parking to provide information about the availability of secure lorry parking sites and inappropriate parking and truck crime, which reportedly costs the economy £250 million per year. Lorry and van drivers also have problems with unloading. They also found that there is inconsistency between local authorities as to how much time they allow for unloading.

5.4.7 It appears that the issue of inadequate parking or space to unload also applies to coaches, particularly if they stop in a restricted area to unload disabled people, whom may have a valid blue badge which would normally allow stopping in a restricted area.

5.4.8 The report found that local authorities do not have the resources to carry out adequate audits of available on- and off-street capacity except in small areas, such as for the installation of a local parking zone. While much parking control is at a local level, there is still a need to understand the overall picture, which this report aims to achieve for the Black Country, although there are significant limitations.

5.4.9 They found even with limited data, that cars spend most of their time parked, with the greater part parked at home. They found evidence that parking is not a major source of expenditure for the average car owner. Therefore, these factors need to be considered during any future policy development stages.

5.5 Parking Facilities

5.5.1 In December 2020 the British Parking Association published a research report into the attitudes and behaviour of the parking public.

5.5.2 In terms of the location of parking, the report found that people wanted convenient parking close to destinations, with a parking space to be found within five minutes and that if there is a lack of bays and reasonably sized bays, it leads to frustration.

5.5.3 They also found that cost is not the main reason for choosing a car park space. With COVID-19 payment preferences may already have shifted due to a change in public attitudes towards handling cash and touching buttons or screens.

5.5.4 One specific area for improvement is parking management. The most favourable parking management method is the barrier-free ANPR. Therefore, smarter, and effective parking management tools provide enhanced public perceptions of a rapidly evolving sector and a better experience and a greater availability of parking bays and to create a more mobile society.

5.5.5 In order to encourage parking, several opportunities were identified including the opportunity for the number of parking bays available to be accessible through a smart phone app and/or variable message signage.

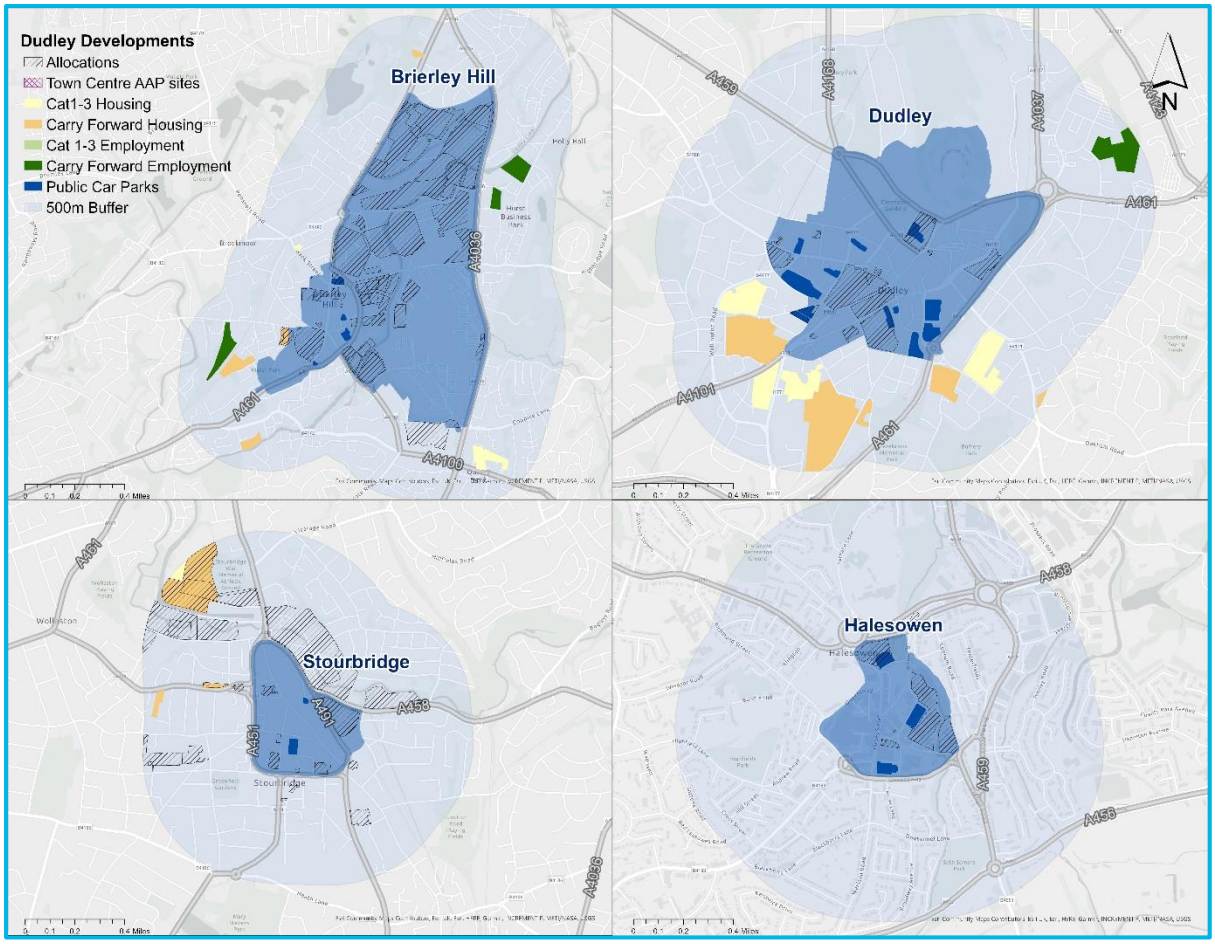
5.6 Future Development Sites

5.6.1 Committed and allocated future development sites have been provided by the relevant local authority. These have been plotted within a 500m buffer of each of the town centres and strategic centres within the Black Country. This approach aims to provide a better understanding of how public car parks in the surrounding area are likely to be impacted by future development and growth in the area.

Dudley

5.6.2 In Dudley, there is an array of developments proposed in and around the centres, which are depicted below in **Figure 5-6**.

Figure 5-6: Dudley Future Developments



5.6.3 In Brierley Hill, Dudley, and Stourbridge there are multiple allocated developments, including carry forward housing and employment within and close to the strategic centres, unlike Halesowen, which only has allocated developments within its centre.

5.6.4 Dudley has the most residential developments planned which is likely to reduce the demand for parking as there will be an increase in centrally located sites with some residential parking provision and no need for those residents to drive to access the centres.

5.6.5 Stourbridge has little development allocated within the centre although there is allocated development, carry forward and planned housing in the wider area.

5.6.6 The exact usage for the allocated developments within Halesowen town centre is unclear from the information provided.

Sandwell

5.6.7 In Sandwell, most of the future developments are in Wednesbury, Cradley Heath, Great Bridge, Oldbury and West Bromwich, as shown in **Figure 5-7.** All of the future developments are located outside the centres.

Figure 5-7: Sandwell Future Developments

5.6.8 In Wednesbury, there is only carry forward housing planned to the south of the centre and the public car parks tend to be located to the north. Additional housing around the area is likely to increase the number of trips into the town centre although these will have already been accounted for within previous plans.

5.6.9 Great Bridge has a mix of employment and carry on housing mainly to the south of the centre and is on a smaller scale to the carry forward housing in Wednesbury.

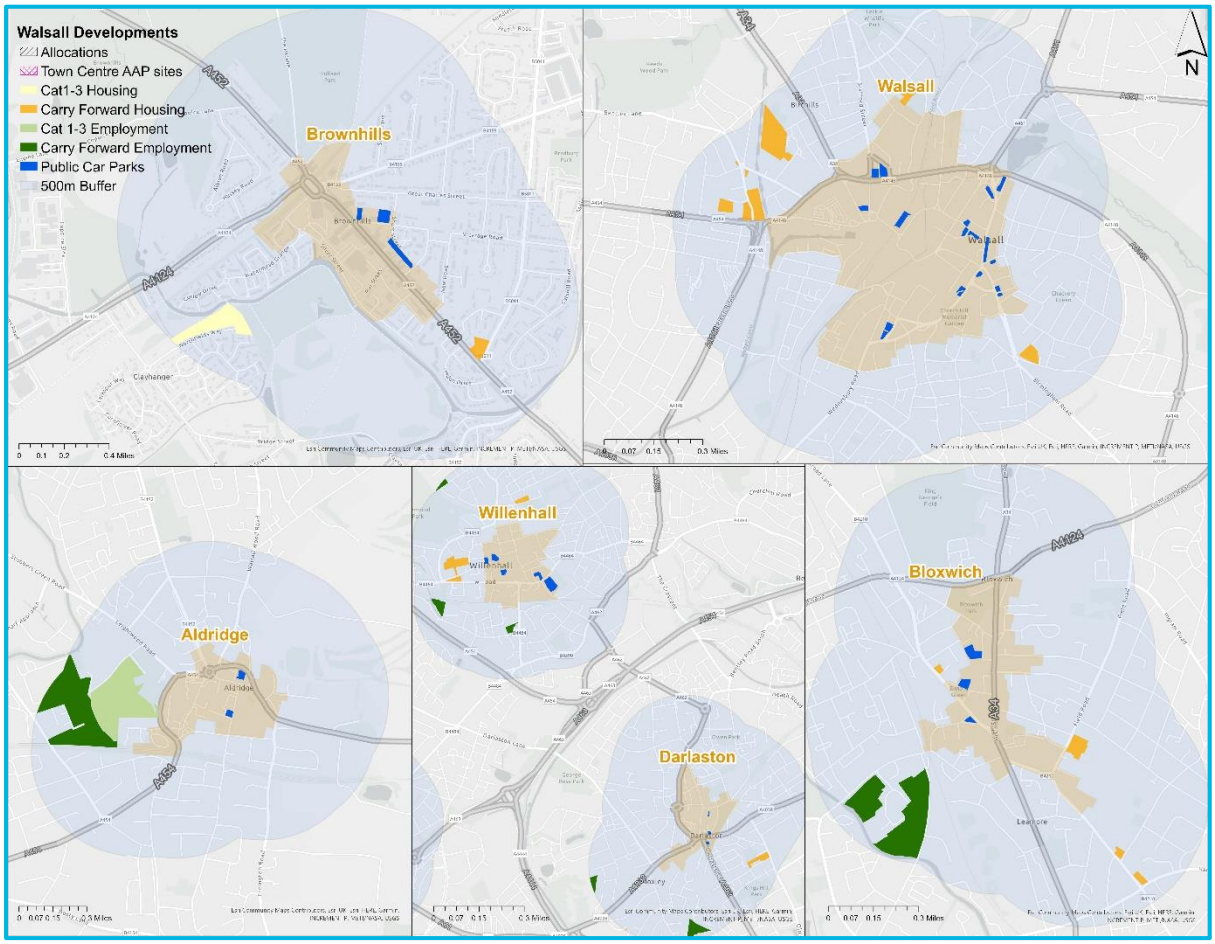
5.6.10 Oldbury and Cradley Heath have several large-scale employment sites proposed around the vicinity of the centre, which has the potential to increase the number of people wanting to enter the centre to use amenities. Cradley Heath also has a carry forward employment site located to the north of the centre, although this is relatively small compared to the carry forward housing identified.

5.6.11 West Bromwich, Cape Hill, Bearwood and Blackheath have a small amount of carry forward housing, which is unlikely to impact on parking within the centres.

Walsall

5.6.12 In Walsall, most of the future developments seem to be directed towards Walsall town centre, Bloxwich and Willenhall as shown in **Figure 5-8.**

Figure 5-8: Walsall Future Developments



5.6.13 Brownhills has one carry forward housing development and a new proposed housing development in the area, although the growth in the area is likely to remain the same.

5.6.14 Walsall as a strategic centre has a low level of proposed development, with no future employment allocated. Therefore, the additional growth in the area may be considered low and unlikely to significantly change demand in the future.

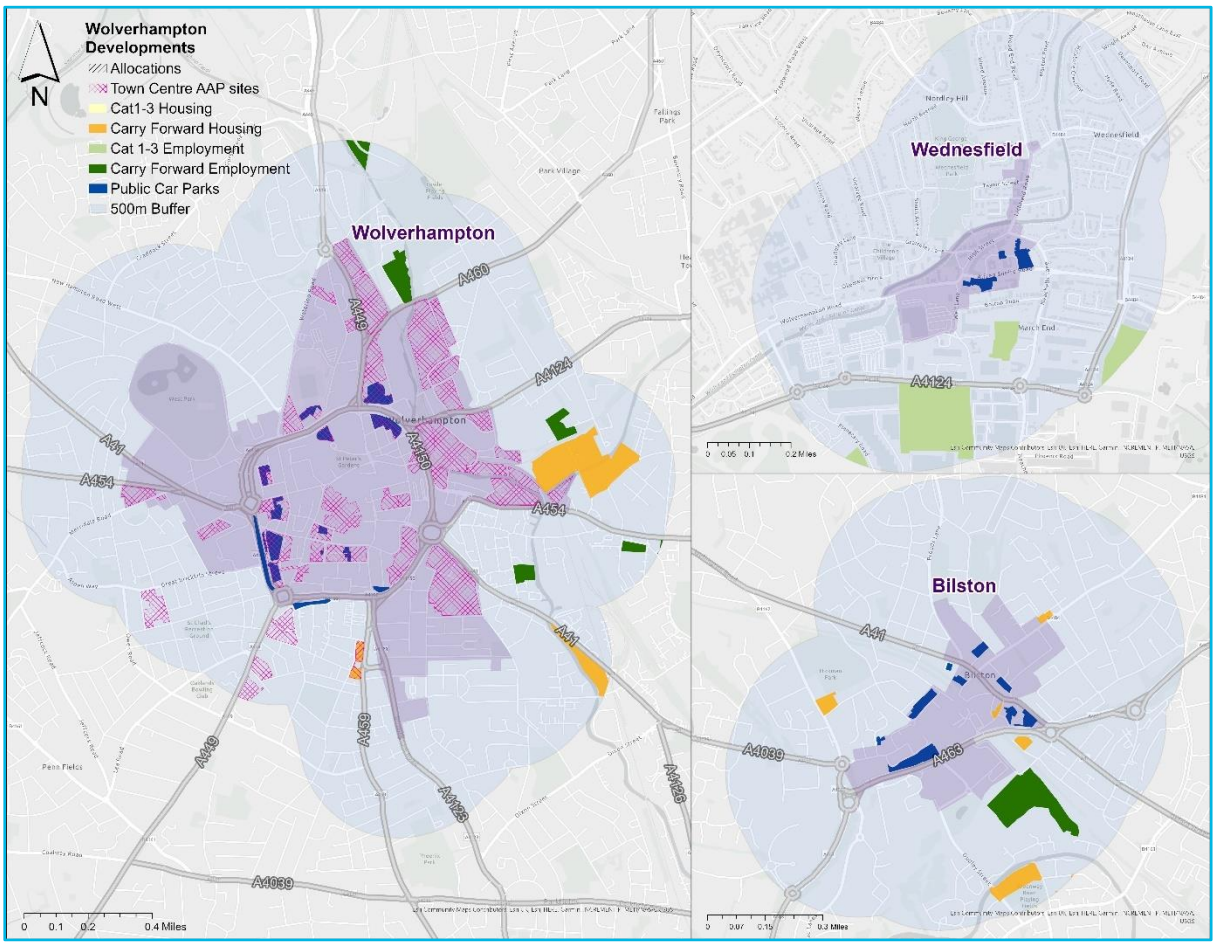
5.6.15 Aldridge only has employment proposed and carried forward to the west of the centre, although this is likely to provide vast amount of employment to the area. This has the potential to increase the trips made into centre.

5.6.16 Willenhall, Darlaston and Bloxwich all have some carry forward housing and employment around the centres although demand for parking would not be expected to increase significantly as a result.

Wolverhampton

5.6.17 In Wolverhampton, most of the future developments identified are located in and around Wolverhampton City Centre, as shown in **Figure 5-9**.

Figure 5-9: Wolverhampton Future Developments



5.6.18 In Wolverhampton, there is a significant amount of allocated development within the centre. This is likely to increase the demand for parking in the future, in addition to a few carry forward housing and employment sites to the east of the centre.

5.6.19 Wednesfield has some employment sites proposed to the south of the centre, which could increase the demand for parking in the area.

5.6.20 Bilston includes carry forward housing and employment sites proposed, although there is already a large amount of public parking provision available in the area. Therefore, the future developments are unlikely to significantly affect the demand for parking.

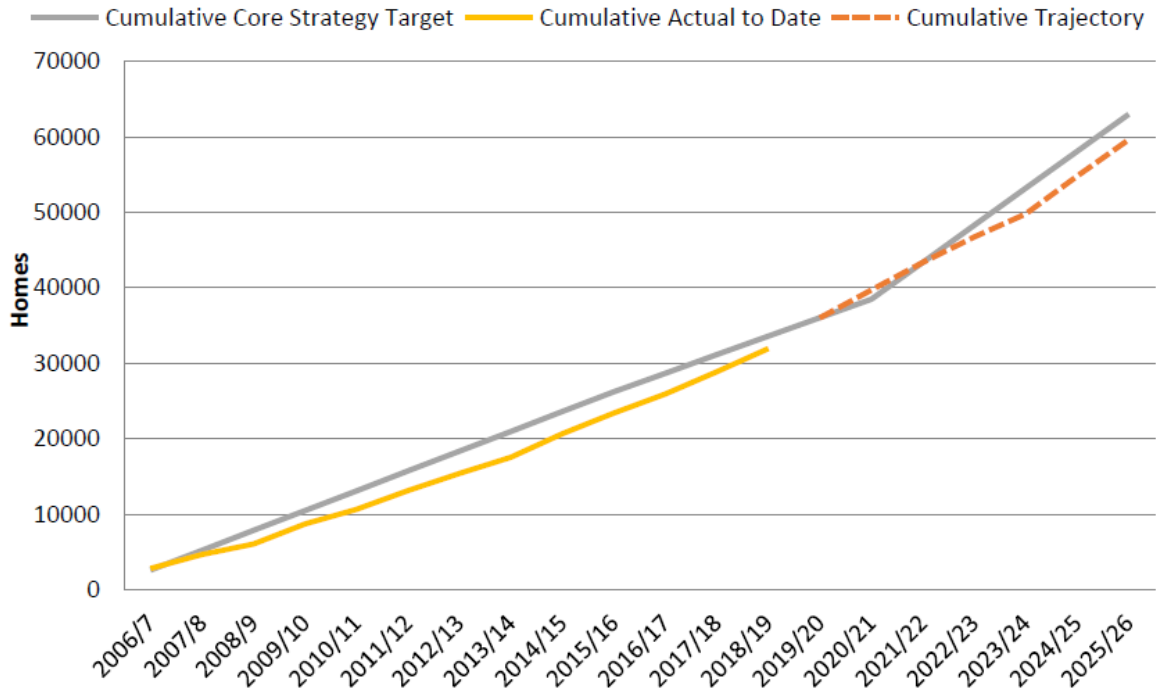
5.7 Centres Report

5.7.1 The December 2019 Black Country Urban Capacity Review provided current assumptions about the supply of land for housing and employment development across the Black Country, and offered 'potential urban capacity' figures. This demonstrates the development needs of the Black Country up to 2038 that can be accommodated within the urban area. The next urban capacity review was due to take place in 2020, although this has been delayed.

5.7.2 The current housing need is currently 3,761 homes per annum which equates to 71,459 homes over the period of 2019-38. However, when the Draft Black Country Plan reaches publication stage (Regulation 19) expected in 2021, the per annum figure used will be slightly different and the period used will be 2020-38, and new calculation methods will apply to future years.

5.7.3 **Figure 5-10** below shows that housing land supply fell below that required to meet the housing targets set out in the existing Black Country Core Strategy up to 2026. It indicates that there will be an under-supply of 3,364 homes in 2025/26 - 11% of the remaining target of 31,018 homes. This under-supply emerges in 2022/23. The main reasons for this change from over-supply to under-supply are the loss of supply of occupied employment land and the re-phasing of sites beyond 2026. However, this report was produced before COVID-19, and therefore conditions are likely to have changed as a result of the economic effect of the pandemic.

Figure 5-10: Black Country Housing Trajectory Compared to Black Country Core Strategy (BCCS) Targets: 2006-26



Source: Black Country Urban Capacity Review (December 2019)

5.7.4 There remains the possibility that under-utilised car parks could be used to provide city housing in order to meet the housing targets set in the Black Country Core Strategy.

5.7.5 In terms of employment land, the Economic Development Needs Assessment that was prepared during 2016-17 recommended that the review should plan for up to 800 ha of additional land to meet the needs of the Black Country for the period 2016-36. This requirement has been recalculated to reflect the 2038 end date for the Plan. The updated employment land need is now 870 ha. They also found that there is a shortage of large and accessible high-quality investment sites available in the short term.

5.7.6 Car parks that are under occupied within strategic centres and town centres provide opportunity for employment space, as they are accessible and generally have a large surface area, making them ideal for potential employment usage.

5.7.7 Sandwell MBC is currently carrying out a review of the potential for development within the West Bromwich strategic centre, including housing development beyond existing housing allocations and commitments. It is currently estimated that this work will generate an additional housing capacity of 500-1,000 homes for West Bromwich. This is not evident within **Figure 5-7** above, although does display that a lot of carry forward developments are occurring in and around the surrounding area.

5.7.8 Brierley Hill Area Action Plan, which extends to 2026, is currently under review and will be rolled forward to 2038 in parallel with the Black Country Plan. It is currently estimated that this work will not significantly change the existing total housing capacity of Brierley Hill as a strategic centre.

5.7.9 The Walsall Site Allocations Documents and the Walsall Town Centre Area Action Plan were adopted in January 2019. The documents do not cover the five district centres of Walsall (Aldridge, Bloxwich, Brownhills, Darlaston and Willenhall). Nonetheless, they found that it is unlikely that any further housing sites will come forward within Walsall Town Centre or the five district centres.

5.7.10 The Wolverhampton City Centre Area Action Plan (2016) sets out detailed housing and mixed-use allocations for all available development land within Wolverhampton City Centre and land to the south. They found that it is unlikely that any further housing sites will come forward within Wolverhampton City Centre.

5.7.11 The overall identified shortfall, which is the amount of housing need which cannot be accommodated in the Black Country urban areas, remains significant at around 26,920 homes. Therefore, car park land that is under-utilised could potentially provide valuable housing or employment space.

5.7.12 They found that centres have an important role to play in accommodating future residential growth in the Black Country, for both creating more capacity and enhancing rates of delivery. Consideration should be taken for residential development, as town centres are a key source of employment and the focus for retail, leisure, commercial and civic uses in the Black Country. Residential-led mixed-use development provides both re-shape town centres and provide additional housing. However, a flexible approach needs to be adopted to identifying opportunities to accommodate residential growth.

5.8 Future Mobility (ULEVs and CAVs)

5.8.1 This section looks at how future mobility impacts on car parking and opportunities that are offered through Ultra Low Emission Vehicles (ULEVs), and Connected and Autonomous Vehicles (CAVs). This will also consider the timing and logistics of implementation for any initiatives as well as any high-level risks.

5.8.2 The consensus of current research into CAVs suggests that autonomous vehicles will have no need to park close to their destination, or even to park at all. Instead, they are likely to seek out free on-street parking, return to their origin or circle around for new users. Therefore, there is potential that vehicles will not require designated space to park. However, these vehicles are still likely to require a charging station of some kind.

5.8.3 Notwithstanding this, the technology is in its infancy and it is not feasible to go into any detail on CAVs at this stage. It is likely that a review will need to be conducted in the future to understand the effect of CAVs on parking provision and its suitability in Black Country centres.

5.8.4 With regard to ULEVs and future EV infrastructure, AECOM has produced a standalone Black Country ULEV Infrastructure Study, dated May 2021, to offer more detailed advice and to inform the wider Black Country Parking Study in this area. The full report can be found in Appendix E. The AECOM study takes account of the CENEX[1] high-level Black Country ULEV Strategy and builds upon it with guidance on its application in the Black Country.

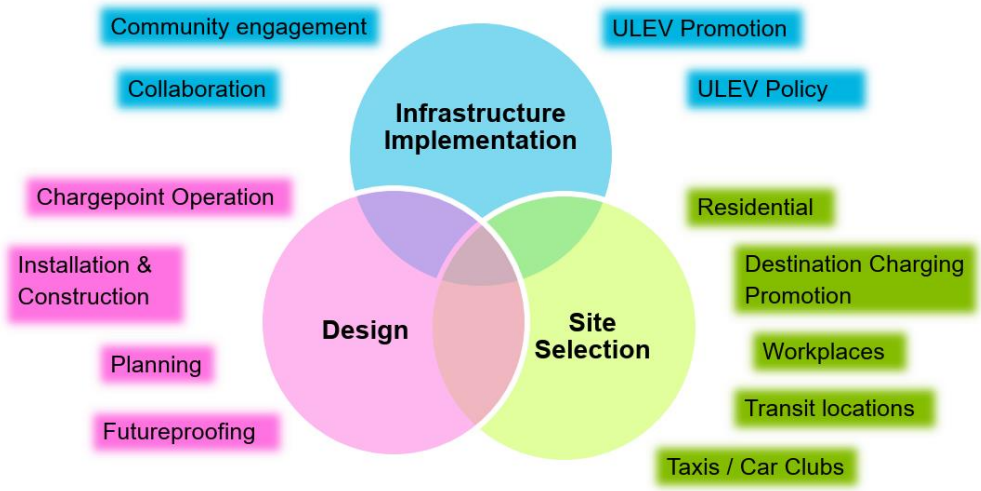
5.8.5 The Black Country ULEV Infrastructure Study report highlights local authority best practice in ULEV infrastructure implementation. It also provides a methodology for selection criteria and potential location for ULEV charging points that would be most appropriate, dependent on time spent at the car park.

5.8.6 The study also provides practical outline design guidance to inform future capacity and infrastructure requirements (from the proportion of Electric Vehicle (EV) bays provided to the bay size, from electricity demand to charger size and mix) and refers to good practice and industry-led guidance.

[1] Black Country ULEV Strategy, CENEX, 2020

5.8.7 The study recommends that three decision-making topics are incorporated into ULEV charge point decision-making. These topics are infrastructure implementation, design, and site selection, with a number of secondary considerations contained within each topic. It is recommended that these decision-making considerations are accounted for when implementing the ULEV strategy, as articulated below in **Figure 5-11**.

Figure 5-11: ULEV Decision-Making Considerations [2]



5.8.8 Best practice and key recommendations made in the study are summarised in **Table 5-4.** Further detail is provided in the full report at Appendix E.

Table 5-4: ULEV Best Practice Guidance

Best Practice	Objective	Recommendations			
Promotion and Awareness Raising	Awareness and education programmes that promote the benefits of driving ULEV - financial, environmental, and social	Generate a communication plan for local EV messages online via websites and social media	PR event to raise awareness of charging infrastructure developments	Roadshows and events with test drives	Business engagement through network with the Black Country LEP

[2] AECOM Black Country ULEV Infrastructure Study, 2021

Policy for Developers	Development of a Supplementary Planning Document (SPD) covering ULEV infrastructure	Develop a ULEV SPD as part of a wider parking and sustainable travel SPD	The SPD should set out minimum EV charging requirements for different types of major developments	Future proofing of standards i.e. prepare for increased demand	When developing an SPD it is recommended that developers are required to meet the standard that is the more onerous between those published and those outlined in the SPD
Industry partnerships for Innovation Funding	Explore partnerships with commercial companies to access Innovation funding	Register interest in Innovate UK competition funding	Engage with current funding opportunities and explore Industry partnerships to access Innovation funding	Engage with industry groups and actively promote and support prime development sites for ULEV infrastructure	
General attitudes to Electric Vehicles: Black Country Resident's Survey	Undertake market research with residents in Black Country on their general attitudes to electric vehicles	Undertake market research survey with residents in Black Country on their general attitudes to EV	Circulate and promote through Councils communications channels/ social media	Use outputs as quantified evidence to help bolster successful funding applications for ULEV infrastructure	
Stakeholder Engagement	ULEV stakeholders are many and varied each with their own interests and objectives affecting the ULEV charging market	Identify wider Stakeholder Engagement activities. Black Country's councils and other public bodies have the opportunity to promote ULEV as part of wider sustainability Stakeholder Engagement activities		Use and share developed ULEV materials during stakeholder engagement activities covering all aspects of sustainability (health, air quality, carbon etc.)	

5.8.9 In terms of revenue generation options, as Plug in Vehicle (PIV) drivers compare the fees levied for public charging services against their at home electricity tariff, in order to assess value for money, the study recommends that PIV charging tariffs must be chosen carefully to reflect the relative convenience of the service on offer. Public charging costs currently vary between network operators and also by charge point type, membership, or through Pay as You Go (PAYG) schemes.

5.8.10 Therefore, the study recommends that the tariff types chosen for any future Black Country ULEV infrastructure should reflect the perceived benefits of the charging service being provided (convenience, reliability, availability, and price) to ensure use, and that fees are acceptable and reasonable to PIV drivers.

5.8.11 A case study is provided of a publicly operated system in place, where the above principals have been applied. The example is the Newcastle and Sunderland EV Filling Station / Fastned Charging Station, which could be used by the various Black Country authorities to understand best practice and lessons learnt.

5.8.12 To determine the most appropriate and opportune ULEV locations the study at Appendix E recommends that strategic ULEV Infrastructure Workshops are conducted on an annual basis, depending on the resources available. The workshops would review progress and reprioritise sites within the ULEV programme, using digitalised map outputs of identified shortlisted sites in the Implementation Plan, along with relevant quantitative area data and qualitative data to support the Selection Criteria. This would enable the completion of subsequent analysis, so that the Implementation Plan for sites remains prioritised, relevant and on track. It will also encourage broader participation in ULEV site selection, so that wider benefits and impacts are also considered in decision-making.

5.8.13 EV charging location types are included within the ULEV Infrastructure Study. These location types include Destination Charging, Residential Charging, Transit Locations, Workplaces, Commuter Locations, and Taxis (as well as car sharing clubs/others). Information has been provided on location definitions, location examples, EV charging types, recommendations, and next steps. **Table 5-5** overleaf provides a high-level breakdown of the location and examples.

5.8.14 These are considered to be the main focus for Black Country strategic and town centres recommendations and next steps, dependent upon location type.

Table 5-5: ULEV Selection Criteria: Recommendations and Next Steps

Locations	Location Examples	Recommendations	Next steps
Destination charging **Destination charging is any public location with a car park with a high footfall of people typically spending above 2 hours**	High streets, leisure and cultural facilities, tourist attractions, shops, and retail outlets. Off-street in prime town-centre locations and 'points of interest' (POIs).	A focus on destination charging in town centres to support multiple use cases beginning by installing one double-headed charge point per location and monitoring subsequent demand. A phased approach to be taken. Charge points to be located near the entrance for ease of installation and operation and to be visible to users.	• Collate the suggested data and mapping relevant to ULEV infrastructure. • Hold a workshop to review and prioritise a list of destination chargers for Black County based on the CENEX site short lists and quantitative data sets. • Review suggested locations with individual authorities to assess parking regulations, opening times, space availability and accessibility. • Agree consistency in parking fees, charging fees, enforcement, and maintenance across Black Country. • Undertake site surveys to identify exact locations, costs, and power capacity. • Undertake procurement charge points, installation, and network operation. • Promote availability through council communications.
Residential charging **Charging provision for residents without access to off-street parking where charging at home is not possible**	High percentage of terraced housing and apartments/flats where there is no dedicated parking facility. Residential charging sites are not typically public car parks.	Track and understand the implications of building regulations relating to residential developments and charging infrastructure for new developments.	• Understand the implications of building regulations of new developments when launched in 2021 and communicate this to developers. • Investigate opportunities for OZEV residential charging grants should the council wish to proceed with targeting specific residential locations.

Locations	Location Examples	Recommendations	Next steps
Residential charging		Recommend installing residential chargers in areas to enable those without access to a driveway or garage who would charge at home. Initial focus on areas with high levels of affluence where purchasing an EV is a feasible option, but access to charging may be a barrier. Methodology advised in AECOM ULEV strategy for identifying locations as with destination charging.	
Transit locations	Transit charging tends to be for drivers on the go, who want to lengthen their journey or need a rapid charge. More frequently found close to motorways, strategic routes, and other largest flow roads. Also relevant to taxis, car sharing clubs and others.	The majority of motorway services now play host to rapid charging points through the Ecotricity network. Rapid charging on highways is still developing but this is growing all the time. As rapid charging provision is expensive both in terms of purchase and installation of equipment and the often additional DNO connections required, it is recommended that the Black Country focussed initially on one strategic location through a full review of AADF flows and strategic locations.	• Complete wider strategic review of sites using the above selection criteria (including engagement with Highways England). • Begin discussions with developers and landowners of adjacent to sites, for example the Burnt Tree, new Birmingham Road area to gauge interest and feasibility of the introduction of charging provision within a car park, for example Tesco Extra. • Go out to market to understand interest in operating charger infrastructure in identified locations. • Engagement with local taxi companies to understand future plans to convert and consult on taxi rank locations. • Explore opportunities for next round of OZEV taxi funding when announced and consider exploring partnerships to access other wider funding competitions for feasibility or research and development. • Explore engagement with any car sharing clubs or engage with Co-wheels Birmingham and gauge any expansion plans within Black Country.

Locations	Location Examples	Recommendations	Next steps
Workplaces	Workplace charging is an ideal alternative for EV drivers without access to off-street parking, where most vehicles are parked for most of the day and can include fleet vehicles, employees, and visitors.	Should be seen to lead by example by undertaking a review of fleet operations and applying for workplace grants for any depot or car parks where electric vehicles may have a place in the future. Review existing activities with business development sites across departments and consider how best to encourage grant take up through engagement activities.	• Understand the implications for new development areas of changes in building regulations and communicate this to developers. • Review Council fleet to understand ambitions to convert council vehicles to electric and review Council parking provision. • EV awareness-raising activity to landowners to promote the availability of the workplace grant starting with DY5 - Dudley's Business and Innovation Enterprise Zone. • Consider early engagement with Darlaston Enterprise Zone developments.
Commuter locations	Alternative for EV drivers without access to off-street parking as being a key location where most vehicles are parked for a significant part of the day.	Engagement would be required with the appropriate owners and operators at locations such as rail stations. Any successful park and ride site is a valid commuter charging location and should be targeted for ULEV infrastructure.	• Engage with the station to review opportunity to install a charge point at Sandwell and Dudley Station car park and identify any likely specific locations for a site survey. • Agree ownership model (council or rail owned). • Engage with Milton Keynes for lessons learnt on their station model.

Locations	Location Examples	Recommendations	Next steps
Commuter locations	Any public car park links to an alternative form of transport, for example, railway stations, transport interchanges and parks, and rides.		

5.8.15 A ULEV programme for the sub-region has already been identified as part of the Black Country ULEV Strategy, which was undertaken by CENEX. A number of valid sites for ULEV infrastructure were identified and consulted on at various stages of strategy development. Similarly, Transport for West Midlands (TfWM) also published a ULEV Report, which puts forward several policies and considerations that may impact future site selection.

5.8.16 The AECOM Black Country ULEV Infrastructure Study offers practical design guidance to support the implementation of the Strategy under the following design stages, as shown in **Figure 5-12** below.

Figure 5-12: ULEV Infrastructure Lifecycle

5.8.17 The staged guidance provides best practice, knowledge share and references to external guidance, policy, and legislation, as well as considerations that need to be accounted for during the ULEV infrastructure selection process.

5.9 Parking and the Net Zero Carbon Agenda

5.9.1 In 2019, the UK Government and the devolved administrations committed to the Net Zero target as recommended by the Climate Change Committee. Reaching net-zero greenhouse gas (GHG) emissions requires extensive changes across the economy, but the foundations are in place. Major infrastructure decisions need to be made in the near future and quickly implemented. These changes are unprecedented in their overall scale, but large-scale transitions have been achieved successfully in the UK before, such as the natural gas switchover in the 1970s or the switch to digital broadcasting in the 2000s.

5.9.2 Achieving the long-term goal of a zero-carbon economy will call for many far-reaching and structural changes to how we live and how we travel. The type of vehicles we drive, how many of us will own them and where we work are significant factors in the overall picture.

5.9.3 In the shorter term, there is a need to improve multi-modal access to town centres, offices, hospitals and public services. For the foreseeable future, privately owned cars will remain a predominant mode of transport. Improving access in a zero-carbon economy means finding ways to accommodate cars while minimising the environmental impact and providing maximum flexibility for the future.

5.9.4 In this context, a multi-storey car park built from reinforced concrete is not an ideal way to meet parking needs, respond to future growth or be adaptive in terms of the parking offer. Rather, the use of modular steel-framed car parks can have a number of sustainability advantages, from being able to dismantle and reuse extra parking decks in other locations where supply is required, to being able to recycle the structures at the end of their life. The relative low cost of this makes expanding small car parks in convenient locations a viable option.

5.9.5 Meeting this agenda interlinks with the recommendations from the Black Country ULEV Infrastructure Study. as covered above, in that greater provision of charging infrastructure should be provided, but also that the need for cars should be reduced by making Smarter Choices such as active travel (i.e. walking, cycling and public transport) the easiest option. To this effect, new developments should be car-free or have restricted on-site parking or be situated within controlled parking zones and have adequate cycle facilities.

5.10 Future Trends and Mobility Summary

5.10.1 This section has reviewed future growth and potential trends such as car parking provision, changes in travel behaviour and changing habits for retail. Data available from the Black Country Local Plan Centres Group has been analysed to gain an insight into likely retail trends and floorspace need. It has also looked at the opportunities available to the region for future mobility, such as CAVs, and the pressing need to consider the net zero carbon agenda in strategic planning and placemaking.

5.10.2 Although the impact of the COVID-19 global pandemic on longer term public transport usage remains unclear, there has generally been an increase in usage of public transport modes in the Black Country over recent years. The current prominence of buses in the Black Country, which largely serve communities with relatively low car ownership, as well as being the only public transport mode to some of the centres, means that bus usage will likely remain stable. This may change in the coming years as Midland Metro Phase 2 plans come to fruition. However, on the other hand, with a third of households in the Black Country predicted to have two or more cars by 2035, congestion in centres will continue to be a concern.

5.10.3 The combination of recent changes in retail spending habits, accelerated through factors such as the increase in online retail and the pandemic as well as the repopulation of centres, through greater residential development and changes to permitted development rights, means that the use of centres is likely to have changed accordingly. Some of these changes could significantly reduce the longer-term demand on high streets and shopping centres, resulting in less car parking being required. The purpose of car parking may also need to adapt to ensure that it meets the needs of users, including availability of secure freight or coach parking.

5.10.4 It has also found that when looking at attitudes of parking users that expenditure is not a major consideration for the average car owner, yet location, convenience and the reasonably sized bays are high priorities. Any cost-related considerations more so relate to payment preferences that have shifted due to a change in public attitudes to app-based platforms away from handling cash and touching buttons or screens.

5.10.5 Public car parks in centres are likely to be impacted by future development and growth through the Black Country Plan. Targets to meet the future under-supply of housing and employment land need may bring pressure on under-utilised car parks to be disposed of to provide residential development opportunities or accessible investment sites in centres. Car parks that are under occupied within strategic centres and town centres provide an opportunity for employment sites, as they are accessible and generally have a large surface area, making them ideal. They are also quicker to deliver on such sites. Indeed, some authorities are currently carrying out reviews of the potential for development within strategic centres, including housing development beyond existing housing allocations and commitments.

5.10.6 The Future Mobility agenda will impact on car parking and further considerations include Ultra Low Emission Vehicles (ULEVs) and Connected and Autonomous Vehicles (CAVs). Such vehicles may not require designated spaces to park, although are still likely to require a charging station of some kind. A review will need to be conducted in the future to understand the effect of CAVs on parking provision and its suitability in Black Country centres.

5.10.7 A Black Country ULEV Infrastructure Study is included with this report, highlighting local authority best practice in ULEV infrastructure implementation, providing a methodology for selection criteria and potential location for charging points. Practical design guidance is given, as well as guidance on tariff types for any future ULEV infrastructure to ensure use, and that costs are reasonable to EV drivers. It is recommended that ULEV Infrastructure Workshops should be conducted on an annual basis, depending on the resources available, building on the ULEV programme identified as part of the Black Country ULEV Strategy (CENEX) and the policy considerations within the regional Transport for West Midlands ULEV Strategy.

5.10.8 Parking Strategy in the Black Country could contribute significantly to meeting the Net Zero Carbon Agenda by addressing the form and function of car parks in the interests of accessibility and sustainability, as well as allowing for greater provision of EV charging infrastructure. The need for cars should be reduced by promoting Smarter Choices, such as active and sustainable travel (i.e. walking, cycling and public transport), as the easier option.

6 Stage 1 Stakeholder Workshop 1

6.1 Workshop Methodology

6.1.1 The first stakeholder workshop was held on 27 May 2021. The session was attended by officers from transportation and parking teams from the four Black Country local authorities and included planning officers from the Black Country Centres Group, as well as representation from Black Country Transport.

6.1.2 The purpose of the workshop was to explore issues, opportunities, and constraints to inform parking policy options for the Black Country Plan and potential mechanisms for implementation.

6.1.3 It was conducted remotely via Microsoft Teams and utilised the virtual consultation tool Miro. Miro is a collaborative whiteboard platform, which allowed key stakeholders to work effectively together and concurrently, using digital 'sticky notes' to complete two interactive activities.

6.1.4 The first workshop activity invited participants to apply their local knowledge and experience to some common themes that had emerged during Stage 1. Participants placed notes against each category and had the opportunity to identify anything else considered an issue related to parking in the Black Country.

6.1.5 A second activity asked each participant to provide a general indication of how important these issues are or may become according to local context.

6.2 Workshop Findings

6.2.1 The findings from the workshop are summarised below, with comments made collated under the various themes:

6.2.2 **Parking supply**

- Demand for long stay parking increasing recently, which is linked to Metro construction impact and development pressure on car parks.
- There is an increase in residential development in the coming years, which may impact congestion and parking demand in the area.
- Consider that in the life of the Black Country Plan (2039) we might need to anticipate that areas in the Black Country will adopt the Birmingham CC Clean Air Zone. Thereby potentially drastically reducing peak time congestion within a designated area.
- Successful and vibrant places do become congested at certain times and can be a mark of success for one-off events.
- Large free car parks are generally more attractive than paying for public transport, which is not as convenient as door-to-door private car usage, even if people are enduring congested streets.

6.2.3 **Under-utilised car parks**

- Some car parks are currently under development, plus with the Metro and other building work combined, the overall capacity will be reduced by up to 50%.
- The balance of on-street parking bays within centres impacts short stay car park usage in some areas.
- One area has amended tariffs and charges on under-utilised car parks on outer town-centre car parks to encourage use as part of our Active Travel Plan and encourage motorists to park on the outer town-centre car parks and walk into the centre. However, the ring road is considered a barrier to pedestrians, with the subways having a poor perception of personal safety.

- It could be more beneficial to provide significant parking sites with provision for all users and vehicle types, including multi-model and EV, rather than sporadic, smaller sites with poor quality and range of provision. Cars searching for a place to park make up a significant part of urban traffic flows at peak times so fewer satellite sites could reduce unnecessary urban congestion.
- High prevalence of inner-town centre and high-street parking, as it is more convenient for users, is challenging to remove because this will reduce trade for shopkeepers.
- There is a need for more incentives to travel to the centre or incentivise alternative model use.

6.2.4 **Poor links to centres main trip attractors**

- Agree that this could be addressed by West Midlands Cycle Hire. Some locations of the hire stations could be reviewed so that people could park outside of the centre altogether and cycle into the centre for employment purposes.
- 'Park and Scoot' or 'Park and Cycle' to supplement 'Park and Ride' should be considered. There is a requirement for safe and segregated lanes for scooters into the centre from the car parks to be a safe option for most users and improve cycling provision for all.
- Improve wayfinding from outskirts so people can navigate easier to their destination. There is severance caused by highway dominated space for pedestrians and cyclists.
- Footways to be more accessible and provide adequate continuous links to city centres, such as wider footways from disabled parking spaces to city centres for wheelchair accessibility.

6.2.5 **Sparse electric vehicle charging provision**

- The majority of rapid/fast charging in centres is provided commercially or through a planning system. Rapid charging points are required in car parks as users are not likely to park in car parks for 7-10 hours per stay.
- There is an opportunity to boost environmental benefits; choose charge point operators who tap into renewable electricity. As environmental 'payback time' until the car manufacturing process balances to net zero is considerable. Encourage motorists to use zero-emission vehicle use in areas that are sensitive to air quality.
- Consider the price of ‘on-demand’ charging, which needs to be equitable. It may be used by people who live in residential areas with no off-street parking, potentially from typically less expensive areas, and therefore have no other option than to use this mode of charging.

6.2.6 **Limited space due to the built-up nature of centres**

- We do not understand the full impact of how this pandemic will affect how people travel for work. In the future, we would look at investing in existing car parking and review layouts of existing car parks and adjusting the layout and remarking the car parks would increase capacity without the expense of new car parks, due to development pressures.
- We need updated usage/capacity ratio figures to understand impact and support decision making.
- Prevailing transport aspirations take space away from the private motor vehicle and give back to public transport modes, cyclists, pedestrianisation.
- Any surface level car park is taking space away from uses with much higher value-added to centres, such as retail / leisure / community uses.

6.2.7 **Blue Badge parking provision**

- Designated disabled bays should be a case by case consideration as several on-street designated bays are within proximity, so it would be more beneficial to reduce the number of disabled bays in some of the car parks.

- Blue badge parking in high concentration in many town centre/high street locations is convenient to the user. Consultation results show that removing this to move to the outskirts would not be popular. Blue badge parking spaces in outskirt parking are potentially defeating the object of making it easier for mobility-impaired people, contributing to a lack of provision in some car parks.

6.2.8 **Lack of consistent, recent parking strategies**

- Having a consistent framework across all four Authorities may be difficult as the needs of each area can be so varied depending on the facilities and attractions. However, agree that basic principles would be beneficial.
- Perhaps a set of key agreed Black Country wide aims: provide for vulnerable users, integrate with public transport, encourage alternative modes, design-in EVCP and eScooter provision.
- Political decisions may not be consistent with any policy that has been approved.

6.2.9 **Lack of consistency in surveying car parking occupancy**

- Conduct individual monthly capacity counts at peak times on car parks. Otherwise, rely on Pay & Display ticket sales.
- It is difficult to collate the information from all different payment platforms, which is time-consuming and cannot always report the findings easily and no data to understand parking duration.
- TfWM plan to monitor traffic flows using an automated cloud-based tracking system, Black Country wide monitoring of car parks could utilise a similar system.
- Access to private car parks to monitor occupancy is a problem/issue. Private operators may not share their data.
- Data on where people are travelling from when they park their car would help develop a strategy.

6.2.10 **Other issues identified**

- We need to ensure that we consider privately owned and managed car parks through planning conditions that form part of the public provision.
- DMBC has several Park Mark secure parking awards, but the scheme is not something that the general public is aware of; better publicity via BPA and local communications may help.
- Parking for other vehicle types is often overlooked or as yet unprovided for and should be considered, for example, Cycles, mobility scooters, motorbikes, or mopeds, or non-existent for micro-mobility modes such as eScooters, which are rapidly expanding in both private ownership and hire. The policy should be future proofed for this.
- A trade-off for centre residential parking has amenity within walking distance; policy should support this and not let residents expect private parking in the centre.
- Short stay door-to-door delivery bays will be increasingly needed for services like Adecco, Amazon, Just Eat., bringing services directly to residential centres.
- Regular comments in any consultation are regarding the residents' age and comments suggest their age means they cannot walk from the outskirts of towns, again reducing the ability to remove town centre parking.
- Car parks as mobility hubs, including provision for cycles, lockers for deliveries, distribution hubs for last-mile delivery.

6.3 Workshop Summary

6.3.1 A wide range of comments and questions were recorded during the workshop. Stakeholders advised on impacts of new transport schemes and the associated development pressure on car parks, impacts of new residential development over the lifetime of the Black Country Plan and potential impacts arising from the Birmingham Clean Air Zone.

6.3.2 The group felt that an integrated pricing strategy should be explored but this should focus on the opportunity for payment platforms such as apps to be used, rather than purely cash or card. The group generally agreed with the need for an increase in EV charging provision across the board, with pricing of 'on-demand' services, but noted this could suffer from over-demand and inequalities (such as price-gouging being applied) if not administered correctly.

6.3.3 Redesigning the car park layouts could allow for extra spaces to be utilised in the existing heavily utilised car parks. There is potential to incentivise parking at under-utilised edge-of-centre locations through collaboration with public transport operators / CAV operators / cycle / eScooter hire hubs, which will also encourage integrated journeys and active modes.

6.3.4 It was felt that the utilisation of some car parks in certain locations would benefit from future investment in transport infrastructure, although incentivising the use of under-utilised car parks as part of a Travel Plan or through a progressive pricing regime, could also benefit this area. Connectivity from car parks to the centre's main trip attractors was also raised as a key issue, with integrated Smarter Choices (i.e. active/sustainable travel options) and recent opportunities such as eScooters being discussed. Location of cycle hubs for example would very clearly need to take location into account, as severance issues exist in some centres.

6.3.5 Comments received on blue badge provision were largely of the view that provision should remain as it currently is, in that supply of designated disabled bays should be determined on a case-by-case basis. On-street designated bays are within proximity of the centres, so it could be appropriate to reduce the number of blue badge bays in car parks that are edge-of-centre below any threshold level.

6.3.6 It was also felt that having a consistent framework for a parking strategy across all four authorities would be problematic, but a shared set of basic principles would be beneficial in the long run. These principles could include provision for vulnerable users, public transport integration, encouraging alternative modes, the design-in of EV charging points and eScooter provision. It was noted that improving consistency and quality of car parking occupancy data would be challenging but could be assisted by adopting similar plans to TfWM for monitoring traffic flows using an automated cloud-based tracking system.

6.3.7 In the second activity, participants found it difficult to offer an indication of how important the issues discussed were or may become to their particular local authority. Following the May 2021 local elections, officers were not in a position to anticipate what approach their political leadership might take to addressing parking issues and it was noted that officers may have different views to members and indeed the public. It was felt that the Stage 2 workshop may be a better opportunity to capture these thoughts, where a refined set of proposed parking policies and other recommendations will be shared and discussed.

6.3.8 Overall, whilst it is recognised that an online workshop had limitations compared with a face-to-face workshop, discussion was proactively facilitated through multiple channels, including the Teams Chat function, verbally and through using the Miro board, to ensure that participants had ample opportunity to provide insight at this stage.

7 Issues and Options

7.1.1 The key issues and potential options emerging through the Stage 1 process including at the Stakeholder Workshop are outlined below. The lists provide an overview of key considerations, themes, and potential opportunities available, and are provided in chronological order.

7.1.2 The key issues are highlighted in **Table 7-1** below and the options to be considered further are expanded upon in **Table 7-2**.

Table 7-1: Issues

Issue	Explanation
Lack of consistent, recent parking strategies	Strategy approaches across the four Black Country authorities is patchy, for example only applying to the main centre, or the strategy is outdated, not consistent with the NPPF and/or regional position.
Surveying car parking occupancy	There are inconsistencies across the four Black Country authorities in terms of how car parking usage is monitored, the coverage of surveyed sites and the quality of data collected, making it difficult to compare and contrast to devise a sub-regional policy approach.
Parking capacity varies between centres	Overall capacity of public car parking provision varies between each local authority and centre, which is to be expected due to the likely differences in demand at a local level but in some cases may indicate the car park is no longer viable.
Variation in pricing regimes	An inconsistent pricing approach is applied across centres with varying tariffs. The disparity in pricing provision for stays of between 2 hours and up to 4 hours, where users would be utilising car parks for a variety of purposes, could be causing competition between centres.
Over-utilised car parks	Some car parks are frequently at capacity and may not be meeting demand, which can lead to parking in residential streets or congestion in the centres as parking is sought in other locations. This indicates that other locations may not be as well connected or as walkable to the intended destination or are a poorer quality.
Under-utilised car parks	Some car parks appear to be severely under-utilised; in some examples the car parks seem to be less than a quarter full most of the time. This presents a resource liability and/or indicates it is not in the right location with a perception of decline and/or neglect.
Variation in short stay/long stay mix between boroughs	There appears to be a greater variation in provision of short stay and long stay spaces in some boroughs, which could undermine efforts to promote sustainable travel into centres. There may be a reluctance to use long stay if users are no longer spending all day in their workplaces.
Variation in proportion of blue badge bays	The proportion of designated blue badge bays varies significantly across the local authorities and individual car parks. In some cases these are below Disability Equality Duty recommendations. Blue badge provision tends to be higher than in privately operated car parks, however.
Lack of designated coach or freight parking	There appears to be a general lack of coach or freight parking even within strategic and town centres. However, there are a few coach drop-off points in centres such as Wolverhampton City Centre. There could be a potential need in future to provide for certain land uses/locations.
Sparse electric vehicle charging provision	Coverage of electric vehicle charging provision is generally poor and not conducive to the growth required to meet 2030 Government targets or Net Zero Carbon agenda; some centres currently contain

	no off-street electric vehicle charging provision in publicly operated car parks. Many of the town centre locations do not have any charge points present. Current ULEV infrastructure does not appear to be based on a demand-led site-selection policy, so they could be under-utilised.
Change of centres' usage	Expansion of online retail has reduced demand for car parking in centres. The land taken up by under-utilised car parks may be better used for other needs, such as employment and housing development. The implications of the COVID-19 pandemic, such as imposition of social distancing measures and lockdowns have resulted in consumers re-assessing how they shop and whether they need to visit a centre at all. Retail footfall across has decreased considerably.
Poor links to centres' main trip attractors	Some centres cover a large area and contain numerous edge-of-centre car parks. They do not have easily navigable pedestrian routes to the main trip attractors and there are severance issues in some cases. Existing car parks generally do not promote integrated journeys; there tends to be little provision or consideration for integrating with other modes.
Quality of parking provision	Recent quality audit has not been conducted; however, it is important to provide good quality car parking to encourage utilisation, attract revenue where appropriate and support local growth, and maintain good condition e.g. lighting, security, surfacing

Table 7-2: Options

Option	Explanation
Theme: Strategy	
Parking strategies to be updated	Where a parking strategy is outdated (i.e. pre-NPPF) or does not cover the whole LA area, a revised or updated strategy should be introduced, and this should be broadly consistent with the approaches taken in neighbouring LAs. There is an opportunity for a framework or key principles to be set out to guide this.
Adopt a common approach to surveying parking occupancy	Applying a consistent approach to surveying parking occupancy will improve data quality, coverage and provide detail, which will better identify problematic sites and common themes, to help devise policy or strategy approach and inform decision making.
Explore adopting consistent pricing regimes/mechanisms	A pricing strategy across the four Black Country authorities could explore developing a consistent and integrated approach. This should look at the opportunity for common payment platforms such as apps to be used, rather than cash, as a minimum.
Identify coach and freight parking opportunities in centres	Explore the opportunities for coach and freight parking in the Black Country through second tier studies, build into strategy/approach to identify need/viability.
Theme: Placemaking, Regeneration and achieving Net Zero Carbon	
Audit quality of parking	Second tier studies at an individual local authority level should look at the quality of parking provided so that more informed commercial decisions can be made on the viability of car parks and the need for investment. This should also consider how improving these sites can contribute to Net Zero Carbon agenda.
Redesigning/maximising spaces	Redesigning car park layouts could allow for extra spaces to be made available in the more heavily utilised car parks or for areas of the car park to be repurposed for other modes.
Consider scale and form of car parks	Consider use of modular steel-framed car parks for sustainability advantages, from being able to dismantle and reuse extra parking decks in other locations where supply is required, to being able to

	recycle the structures at the end of their life. The relative low cost of this makes expanding small car parks in convenient locations a viable option.
Encourage new developments to be car free, and/or consistently apply maximum parking standards	New office developments in centres to be encouraged to be car free, or at the very least a consistent approach should be taken so that maximum parking standards are enforced in new developments as set out in supplementary planning documents. This will reduce the need for car travel and to make Smarter Choices (i.e. active/sustainable travel) the obvious choice, with high quality facilities as a matter of course.
Increase EV charging provision	Increase in EV charging provision to be applied across all centres, with a general increase in provision across all publicly operated car parks and planning policy applied to new development. A strategic option could be to begin by installing one double headed charge point per town centre car park and monitoring subsequent demand. Where appropriate, car parks in council ownership, including council offices, should be prioritised. ULEV infrastructure at other key destinations with significant car parking should also be encouraged and engagement focused. The selection of sites should be informed by an overall strategy and site selection criteria to ensure maximum usage and uptake, and ULEV Infrastructure Workshops to review progress and reprioritise sites within the overall ULEV programme. This should be underpinned by a Supplementary Planning Document (SPD) covering ULEV infrastructure and design guidance to help deliver the Strategy successfully.
Consider criteria for provision of long stay or short stay	Encourage reducing the number of long stay provision as demand may not be there (i.e. office workers more likely to be working from home more often). Travel for these purposes should be encouraged by other means. There should be a greater balance for provision of short stay in areas of high demand.
Theme: Inclusive Growth	
Apply a consistent approach to blue badge parking spaces	Potential to apply minimum guideline level for blue badge parking spaces across all public and privately operated car parks in Tier 1 and 2 centres and/or look to include guidance on its provision/design.
Increase demand for under-utilised edge-of-centre parking through developing Mobility Hubs	Incentivise parking at under-utilised edge-of-centre locations through potential collaboration with public transport operators/Future Transport (i.e. CAV) operators/cycle/micro-mobility (i.e. eScooter) hire hubs, which will also encourage integrated journeys and use of Smarter Choices such as active travel modes.
Improve accessibility to and from other modes and centres' main trip attractors through developing Mobility Hubs	Increase parking provision within centres for other modes, such as bicycles, motorbikes or mopeds, future transport or micro-mobility. Parking locations could be used as 'mobility hubs' to facilitate an increase in sustainable travel and integrated journeys.
Theme: Land Use and Development	
Release under-utilised land for development	With large amounts of space currently taken by car parks, some of this land could be released for development if alternatives can be found or there is no longer a need at that location. Some under-utilised car parks could be consolidated into others and the vacant land released.
Review location of current parking stock	Consider whether car parks are in the right place to serve the purpose they are intended, for work or for leisure. This should be undertaken through the Network Management Duty, to ensure that the flow of traffic around town centres is as efficient as possible.
Respond to particular development pressures	Consider net parking requirements for development to manage demand.

8 Stage 1 Findings

8.1 Overview

8.1.1 This report presents a comprehensive review of parking strategy, approaches, supply and use across the four Black Country local authority areas. It has been informed and supported through liaison with the Project Steering Group, participants at a Stakeholder Workshop and engagement with Transport for West Midlands.

8.1.2 The study has found that there is some inconsistency in strategy and approach taken across all four authorities, most notably in short stay versus long stay provision, pricing regimes and mechanisms, the proportion of designated blue badge bays and electric vehicle charging facilities. There is a general lack of coach or freight parking across the Black Country.

8.1.3 It has also been found that local authorities survey parking occupancy in a number of different ways. There is a need for a more detailed and consistent approach to surveying the car parks in each strategic centre and town centre, so that policy and commercial decisions can be made on a sound evidence base.

8.1.4 Despite the changing nature of shopping habits and the impact of the COVID-19 pandemic, there is still likely to be demand for both employment and retail parking within town and strategic centres. However, it is likely that the demand for parking and how it is used will change and therefore parking facilities and locations will need to be able to adapt to best meet future demand, policy aspirations and strategic ambitions.

8.1.5 The location, quantum and type of car parking required is likely to change and levels could fall significantly as a result of changes in demand or through embracing the Future Mobility agenda. Whilst the EV and CAV market are likely to gain momentum over time, Black Country authorities currently have a key role to play in the acceleration of infrastructure for multiple modes across the region, in order to increase market confidence and to help meet challenging environmental targets. This need has been particularly emphasised by Transport for West Midlands, who have articulated through the recent publication of the WMLTP5 Green Paper that there should be a much stronger focus on achieving transformational change within the next 10 years.

8.1.6 Participants at the Stakeholder Workshop advised on a wide range of issues, from pricing to EV provision, and were generally supportive of car parks being used as ‘mobility hubs’ offering walkable access to a variety of travel modes, ranging from cycle parking and hire facilities, Future Transport modes such as CAVs and electric vehicles, and micro-mobility such as eScooters. This would help to encourage integrated journeys and increased use of active modes.

8.1.7 The summary of key issues identified through the process and the options emerging from these is provided in Chapter 7. A variety of thematic options have been recommended, emphasising the comprehensive approach the study has taken to reviewing car parking supply, usage, location and the land use planning and transport agendas that are shaping it. These also align with the regional policy agenda and provide a good foundation for options to be further explored and refined.

8.2 Next Steps

8.2.1 Stage 2 of this study will focus in on the opportunities identified during Stage 1 and develop a set of policy options with reasoned justification, in light of the workshop findings and further collaboration with the Project Steering Group.

8.2.2 The suggested approach to car parking in strategic centres provided in the BCP Draft Plan will be assessed and advice given in our policy recommendations, including in light of our evidence gathering and the results of the Draft Plan consultation. It will also include guidance on strategy or potential planning considerations for new development, along with advice on what could be done to implement the various recommendations across the Black Country in support of the emerging Plan. The outcome of Stage 2 will be reported separately.

Appendix A Policy and Strategy Review

Black Country Parking Study

Policy and Strategy Review

Project number: 60639006

12 August 2021

Quality information

Prepared by	Checked by	Verified by	Approved by
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1. Introduction

A comprehensive review of national, regional and local policies and strategies directly or indirectly related to parking and enforcement has been carried out. This has helped identify what is influencing current car parking practices in the region and the themes, objectives and priorities that Black Country parking policies need to align to, as appropriate.

This report identifies all the relevant documents and provides a summary of the points that may be pertinent to the approach to parking in the Black Country. It serves as a reference document.

2. Documents Reviewed

A number of national legislative, policy and guidance documents have been reviewed as outlined in **Table 2-1** and **Section 3**.

Existing regional policy and strategy documents have also been reviewed, including information from Transport for West Midlands and the Black Country as a whole, as listed in **Table 2-2** and **Section 4**.

At a local level, current documents from each of the four Black Country local authorities (Dudley, Walsall, Wolverhampton and Sandwell) have been collated, as shown in **Table 2-3** and **Section 5**.

Table 2-1: National Legislation and Guidance

		Year	Status
Legislation	Road Traffic Act 1991	1991	Adopted
	Transport Act 2000	2000	Adopted
	Traffic Management Act 2004	2004	Revision in progress
	Parking (Code of Practice) Act 2019	2019	Adopted
	Traffic Signs Regulations and General Directions (TSRGD) 2016 (DfT Circular 01/2016)	2016	Adopted
	Road Traffic Regulation Act 1984 and (Parking) Act 1986	1984, 1986	Adopted
	Civil Enforcement of Parking Contraventions (England) General Regulations 2007	2007	Adopted
	Civil Enforcement of Parking Contraventions (England) Representations and Appeals Regulations 2007	2007	Adopted
	The Disabled Persons (Badges for Motor Vehicles) (England) Regulations 2000	2000	Adopted
	The Removal and Disposal of Vehicles Regulations 2007	2007	Adopted
	Various CCTV legislation and guidance documents	-	-
Policy/Guidance	National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG)	2019, VAR	Adopted
	Right to Challenge Parking Policies: Network Management Duty Guidance (DfT)	2015	Adopted
	CIHT Guidance Note: Residential Parking	2012	Adopted
	Guidance for Local Authorities on Enforcing Parking Restrictions (DfT)	2020	Adopted
	Door to Door: A Strategy for Improving Sustainable Transport Integration (DfT)	2013	Adopted
	Creating Growth, Cutting Carbon: Making Sustainable Local Transport Happen (DfT)	2011	Adopted
	Traffic Management Act 2004: Network Management in Response to COVID-19	2020	Adopted

	Coronavirus (COVID-19): Planning Update (MHCLG)	2020	Adopted

Table 2-2: Regional Policy and Strategy

		Year	Status
Local Plans	Black Country Plan (formerly Black Country Core Strategy)	2011	Revision in Progress
	Black Country Plan: Issues and Options Report	2017	Final
	Black Country Centres Study	2009	Revision in Progress
	Movement for Growth: The West Midlands Strategic Transport Plan	2016	Revision in Progress
Low Carbon Agenda	Black Country Air Quality SPD	2016	Adopted
	WM Park & Ride Strategy (Phase 1)	2018	Draft
	Black Country Ultra-Low Emission Vehicles (ULEV) Strategy	2020	Adopted
	Black Country Smart City Strategy	2016	Adopted
	#WM2041: Actions to meet the climate crisis with inclusivity, prosperity and fairness	2020	Final

Table 2-3: Local Approach and Studies

		Year	Status
Dudley	Dudley Parking Strategic Review: Working Paper 2 - Evidence Gathering and Analysis	2018	Final
	Dudley Parking Standards Supplementary Planning Documents (SPD)	2017	Adopted
Wolverhampton	Wolverhampton City Centre Car Parking Strategy	2016	Final
	City Centre Strategic Car Parking Review	2012	Final
	Future Generations: Our Climate Commitment	2020	Final
Walsall	Walsall Town Centre Parking Strategy	2017	Adopted
	Walsall Council Parking Strategy	2008	Adopted
Sandwell	West Bromwich Town Centre Car Parking Strategy	2003	Adopted
	Sandwell Parking and Traffic Enforcement Policy	2017	Adopted
	The Preparation of Transport Assessments and Travel Plans	2006	Adopted

3. National Legislation and Guidance

Legislation is the law or set of laws that have been passed by Parliament and, therefore, set out the procedure or standard that people and organisations must follow. Under all circumstances parking policies adopted at a local level shall be compliant with the law, although it is important to note that not every aspect of a policy may be subject to law and there is scope to go beyond the minimum requirement.

There is a host of policy and guidance documentation at national level seeking to ensure consistency in the way that planning and parking policies are applied within the confines of law. These set out the key principles and practices that should be adopted under various circumstances and provide a steer on future trends which may affect the demand for parking and approach taken.

3.1 National Legislation

The following Acts of Legislation cover different aspects of parking practice, operation and management of facilities, design and signage regulations, enforcement and appeals, disabled parking regulations and general traffic management.

3.1.1 Road Traffic Act 1991

In general, this Act created various road traffic offences and allowed highway authorities to install equipment on roads to detect those offences. It significantly changed the way that on-street parking restrictions were enforced, allowing local authorities to take on civil enforcement of parking contraventions. This has been largely replaced by the Traffic Management Act 2004 as the primary piece of legislation covering parking.

3.1.1 Transport Act 2000

The Transport Act introduced local transport plans and strategies including powers to apply a workplace parking levy, providing guidance regarding scheme licensing, the making of the schemes and matters to be dealt with in licensing and enforcement of the schemes. This legislation should be adhered to if workplace parking levies are to be introduced as part of the Black Country Parking Strategy in future.

3.1.1 Traffic Management Act 2004

This legislation was introduced to tackle disruption and congestion on the road network, placing a clear network management duty on local authorities to make sure that traffic can move freely and quickly. It incorporates road permit schemes, allowing for work permits and charging related to works affecting the highway and strengthens powers with regards to the civil enforcement of traffic contraventions. The Traffic Management Act now provides the core legal framework for parking and regulates many civil enforcement powers, providing greater consistency across the country, in conjunction with provisions set out under 3.1.5 and 3.1.6.

3.1.2 Parking (Code of Practice) Act 2019

This makes provision for, and is supported by, a code of good practice containing guidance about the operation and management of private parking facilities, set in the interests of persons using such facilities. It provides a range of general parking rules that private operators should adhere to, including firmer guidance on appeals against private parking charges, and also makes provision for the Secretary of State to impose restrictions and raise a levy on the sector to fund administration and investigation costs if required. The parking code is not law and whilst there is no requirement for local authorities to reference or enforce it, all private operators across the Black Country should be encouraged to adhere to it.

3.1.3 Traffic Signs Regulations and General Directions (TSRGD) 2016 (DfT Circular 01/2016)

The Traffic Signs Regulations and General Directions 2016 (TSRGD) prescribes the design and conditions of use for traffic signs, including road markings, traffic signals and pedestrian, cycle and equestrian crossings used on or near roads. DfT Circular 01/2016 explains the structure of the regulations, how the guidance works, what changes mean at practitioner level and the relationship between current and previous regulation.

TSRGD and the DfT Circular provide important detailed information on parking bay dimensions and related signage location, layout, text and use of symbols. Therefore, the two should be read in conjunction and applied in all cases when designing, implementing or altering parking facilities and considering traffic regulation orders. Failure to comply with the design requirements can have implications on safety and accessibility and may affect the enforcement of parking restrictions.

3.1.4 Road Traffic Regulation Act 1984 and (Parking) Act 1986

The 1984 Act provided powers to regulate or restrict traffic on UK roads primarily in the interests of safety, including the provision and control of on and off-street parking. A 1986 amendment was made in relation to parking covering schemes and devices, which allow a local authority to make charges for vehicles left in a designated parking place contrary to a traffic regulation order and set the powers regarding the removal of vehicles. Therefore, this Act and its amendment remain relevant to all local authorities with respect to charging for parking and developing enforceable parking schemes.

3.1.5 Civil Enforcement of Parking Contraventions (England) General Regulations 2007

This covers penalty charges, immobilising vehicles, the discharge of functions and issue of penalty notices. The legislation will be used when enforcing parking restrictions, when parking regulations and restrictions have not been adhered to by motorists. It must be consulted when considering penalty charges and any new enforcement regime.

3.1.6 Civil Enforcement of Parking Contraventions (England) Representations and Appeals Regulations 2007

The Civil Enforcement of Parking Contraventions (England) Representations and Appeals Regulations (2007) follows on from the Parking Contraventions (England) General Regulations (2007), as it is legislation that also allows for penalty notices to be appealed and for motorists to seek representation. It must be read in conjunction with the above.

3.1.7 The Disabled Persons (Badges for Motor Vehicles) (England) Regulations 2000

This legislation makes provision for disabled badge eligibility and management such as fees, replacement badges and returning badges to the issuing local authority. More importantly, in terms of parking strategy, it includes enforcement regulations and guidance on application. However, it does not include guidance on the number of accessible parking spaces required to serve developments or the minimum dimensions required for a disabled parking space. These are discussed in the Manual for Streets and Design Manual for Road and Bridges (DMRB) CD169 standards respectively.

3.1.8 The Removal and Disposal of Vehicles Regulations 2007

The Removal and Disposal of Vehicles Regulations 1986 sits alongside the Road Traffic Act and was amended in 2007. In the main this confirms the circumstances under which the local authority or the police have the power to remove, store and dispose of illegally, obstructively or dangerously parked, abandoned or broken-down vehicles. Its noted that local authorities only have the power to remove abandoned vehicles after certain checks and notice requirements.

3.1.9 CCTV System Legislation and Guidance

There are several legislative and guidance documents to be considered when designing parking areas if Closed-Circuit Television (CCTV) is to be implemented for security and/or enforcement purposes. The documents in **Table 3-1** should be considered in these circumstances.

Table 3-1: CCTV Legislation and Guidance Documents

CCTV System Legislation	CCTV System Guidance
Data Protection Act 1998 and 2018	DfT Guidance for local authorities on enforcing parking restrictions (2020)
The Protection of Freedoms Act 2012	Surveillance Camera Commissioner: Surveillance Camera Code of Practice - A Guide for Councillors
The Regulation of Investigatory Powers Act 2000	Home Office: Surveillance Camera Code of Practice 2013
The Human Rights Act 1998	Circular 011/2013: Surveillance Camera Code of Practice

3.2 National Guidance

National policy and guidance related to parking and traffic management including in the interests of environmental sustainability has also been reviewed. A series of statements and updates were made in 2020 in response to the Coronavirus pandemic and it is likely that further amendments will be forthcoming.

3.2.1 National Planning Policy Framework and Planning Practice Guidance

The National Planning Policy Framework (NPPF) was published in 2012 and revised in 2018. The framework sets out Ministry of Housing, Communities and Local Government (MHCLG) planning policies for England and how these are expected to be applied, supported by Planning Practice Guidance (PPG) which is continuously under review.

The NPPF provides a single framework within which locally prepared plans such as parking strategies can be produced. It offers opportunity to produce amendments to parking standards for use in the Black Country that support any proposed regeneration proposals and future development whilst deterring unnecessary car use, preventing commuter parking pressure and reducing congestion.

Paragraph 105 discusses local parking standards for residential and non-residential development and aspects that policies should consider, such as 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 the need to ensure adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.

Moreover, paragraph 106 of the NPPF states that maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of development in city and town centres and other locations that are well served by public transport (in accordance with chapter 11). Local authorities are asked to seek to improve the quality of parking in town centres so that it is convenient, safe and secure, including appropriate provision for motorcycles and bicycles.

Paragraph 107 requests that planning policies and decisions should recognise the importance of providing overnight lorry parking facilities, considering any local shortages, to reduce the risk of parking in locations that lack proper facilities or could cause a nuisance. Proposals for new or expanded distribution centres should make provision for sufficient lorry parking to cater for their anticipated use.

PPG guidance published in 2014 explains when Transport Assessments, Transport Statements and Travel Plans are required and what they should contain. It also states that these documents can be useful in plan-making if it is considered that there is an opportunity to beneficially inform Local Plans such as in the interests of improving the quality of town centre parking or facilitating the use of sustainable transport. It also explains that maximum parking standards can lead to congested streets if not accompanied by other measures such as sustainable travel interventions to reduce the demand for parking. Local authorities should ensure that the provision of parking is appropriate for each development.

The considerations included within the NPPF and relevant PPG should be explored in full when developing the Black Country parking strategy. This will help draw out opportunities to contribute to addressing housing needs and to meet other economic, social and environmental priorities.

3.2.2 Right to Challenge Parking Policies: Traffic Management Act 2004: Network Management Duty Guidance

This statutory guidance relates specifically to ensuring that local businesses, the residential community and other road users have a recognised voice in relation to network management and parking policies. It allows people the ability to challenge parking schemes or policies that are already implemented or proposed and is therefore relevant with regards to development of the Plan.

This guidance should also be considered alongside the statutory and operational guidance on the exercise of powers under Part 6 of the Traffic Management Act 2004, relating to the civil enforcement of most types of parking contraventions.

3.2.3 CIHT Guidance Note: Residential Parking

This guidance was published in 2012 in partnership between Charted Institution of Highways and Transportation (CIHT) and the Institute of Highway Engineers (IHE). It provides useful insight into different approaches, design issues, parking sizes, manoeuvring space and links to further information. It should be noted that some of the information may be outdated or superseded, although it does provide a source of ideas and good practice.

3.2.4 Guidance for Local Authorities on Enforcing Parking Restrictions (DfT)

This latest statutory guidance updated in 2020 sets out the policy framework for civil parking enforcement. It explains how to approach, carry out and review parking enforcement. It aims to provide a balance between national consistency and allowing parking policies to suit local circumstances, providing a system that is fair to the motorist but also effective in terms of enforcing parking regulations. This guidance is useful to ensure that parking arrangements meet mandatory Traffic Management Act 2004 requirements, offering a number of suggestions of good practice.

3.2.5 Door to Door: A Strategy for Improving Sustainable Transport Integration (DfT)

This 2013 document identifies that parking facilities at railway stations should be included among the main considerations in travel choice for door-to-door journeys. Furthermore, it suggests that the lack of available parking spaces can therefore suppress demand for rail travel, or at the very least increase the portion of the journey being undertaken by car. There may be opportunities to draw from this guidance in developing a balanced approach to parking in the Black Country that considers all modes.

3.2.6 Creating Growth, Cutting Carbon: Making Sustainable Local Transport Happen (DfT)

The document was published in 2011 highlighting how parking strategies and pedestrian schemes can help with achieving the aims of reducing congestion and carbon emissions and improving road safety and air quality benefits as well as benefitting local growth, particularly in town centres.

Moreover, paragraph 7.10 states: '*Local authorities set their own parking policies and charges to meet the needs of the local area…Local authorities will wish to consider how their parking strategy should best fit with their overall strategy for promoting sustainable transport choices and the efficient use of land, enabling schemes to fit into central urban sites, promoting linked-trips and tackling congestion. The need for parking in city centres may be reduced through well placed and well used Park and Ride schemes. For new residential developments, a parking strategy can include setting minimum or maximum levels of parking places, depending on what is right for the area. To create the parking provision for electric vehicles, local authorities are encouraged to provide electric vehicle charging infrastructure in new developments, where this does not affect the development's overall viability.*

Local authorities may also wish to set aside some residential car parking spaces solely for car club vehicles.'

Paragraph 7.11 is noteworthy, as it describes how pedestrian and public realm improvement schemes can have a positive effect on a town centre's vitality and viability, and that the quality of the town centre environment is much more important than the ability to drive past or park near shops.

3.2.7 Traffic Management Act 2004: Network Management in Response to COVID-19

In response to the COVID-19 pandemic the Traffic Management Act 2004 has been revisited to encourage 'a green restart' of the economy. The additional advice to local authorities includes:

- Installing 'pop-up' cycle facilities with a minimum level of physical separation from volume traffic; for example, mandatory cycle lanes, using light segregation features such as flexible plastic wands; or quickly converting traffic lanes into temporary cycle lanes (suspending parking bays where necessary).

- Providing additional cycle parking facilities at key locations, such as outside stations and in high streets, to accommodate an increase in cycling, for example by repurposing parking bays to accommodate cycle racks.

This confirms that the emerging response to COVID-19 and increasing emphasis on provision of sustainable measures must be carefully considered as the Black Country Plan and its local parking strategy evolve. There appears to be an appetite for bold action to ensure that short term attitudinal changes can be locked in to meet the reductions in carbon from the transport system that are required.

3.2.8 Coronavirus (COVID-19): Planning Update

In response to the spread of Coronavirus (COVID-19) MHCLG published an update on planning matters, including temporary measures to make it easier to operate the planning system.

Nothing specific regarding parking has been documented to date, although the pandemic could lead to changes to PPG and specific guidance on virtual and online arrangements for planning committees, local plans and neighbourhood plans. Therefore, further updates will need to be monitored closely.

4. Regional Policy and Strategy

4.1 Local Plans

4.1.1 Black Country Plan (formerly Black Country Core Strategy)

The following policies seek to guide the approach to car parking: CEN3 (Growth in the Strategy Centres), CEN8 (Car Parking in Centres) and TRAN5 (Influencing the Demand for Travel and Travel Choices). Policy EMP6 (Cultural Facilities and the Visitor Economy) is also relevant in terms of parking. A summary of each is provided below.

CEN3: Growth in the Strategic Centres

Policy CEN3 relates to managing growth within the capacity of Strategic Centres (Brierley Hill, Walsall, West Bromwich and Wolverhampton) in terms of comparison shopping, convenience retail and office development. **Table 4-1** below is taken from the adopted Plan and shows the additional quantum of floorspace that was to be planned for in each of the Strategic Centres over the Plan period through existing commitments, planning permissions and allocations.

Table 4-1: Additional Comparison Shopping Provision

Strategic Centre	Delivery of additional comparison floorspace (sqm gross)	
	2006 – 2021	**2021 - 2026**
Wolverhampton	70,000sqm	30,000 sqm
Brierley Hill	65,000 sqm	30,000 sqm
Walsall	60,000 sqm	25,000 sqm
West Bromwich	45,000 sqm	20,000 sqm

The Policy clearly sets out that no additional comparison retail floorspace will be bought into operation at Merry Hill until a number of conditions are met, one of which relates directly to parking:

- Adoption of the Area Action Plan for Brierley Hill;
- Improvements to public transport; and
- Introduction of a car parking management regime, including the use of parking charges compatible with those in the region's network of major centres.

This will need to be considered in the production of any parking strategy, including a requirement to revisit such a policy and need to revise figures stated over the longer term to manage further growth and parking provision. Careful consideration will also need to be given to how additional comparison retail development and associated parking requirements can or should be managed at Merry Hill specifically.

CEN8: Car Parking in Centres

Policy CEN8, relating to the price of, type of and standards for car parking in centres, can be summarised as follows:

- The pricing of parking will not be used as a means of competition between the Strategic Centres. There may be a lower pricing regime for town/district/local centres.
- Long stay parking in centres will be managed so that there is a balance between quantum and use of sustainable modes by commuters.
- Maximum parking standards will be consistent with government guidance and there should be reduced long stay provision where there is good public transport availability.

The Policy states that parking provision in new developments within centres will be managed through SPDs and other non-statutory documents.

Further discussion is required on the purpose and content of a specific Policy on car parking in centres which is relevant to the emerging Plan, taking into account current guidance and good practice.

TRAN5: Influencing the Demand for Travel and Travel Choices

This Policy relates to the management of road space and car parking, and influencing travel choices. Again, there is a focus on the balance between encouraging sustainable travel whilst ensuring good provision of parking. The Policy states that the priorities are:

- Pricing of parking (and making sure this is not used as competition between the centres);
- Type of parking (where appropriate, long stay parking will be removed near to town centres to support parking for leisure and retail customers and to encourage commuters to use more sustainable modes of travel);
- Maximum parking standards (there should be a consistent approach with regards to new developments);
- Location of parking (ensure that traffic flow around the town centres is efficient by reviewing the location of car parks); and
- Park and Ride (identifying appropriate sites).

Note that the monitoring targets for this Policy include moving long stay parking spaces in Strategic Centres to peripheral locations and decreasing the number of long stay parking spaces within the centres.

These priorities may still be relevant or can be revisited to reflect current circumstances and future trends. There may also be further opportunities to manage car parking provision in the context of the increasing emphasis on sustainable travel and the environmental agenda.

EMP6: Cultural Facilities and the Visitor Economy

This Policy involves the protection, promotion and expansion of the existing cultural facilities and visitor attractions within the Black Country to ensure they assist in stimulating the local economy. The key destinations identified include Dudley Town Centre (incorporating The Black Country Living Museum, Dudley Zoo and Castle), Walsall Strategic Centre and the Waterfront, Wolverhampton Strategic Centre (including the shopping centre), West Bromwich Strategic Centre and Brierley Hill Strategic Centre. In order to promote these, additional facilities which support the visitor economy will be encouraged. Therefore, changes to parking may be required and encouraged in order to develop tourism.

4.1.2 Black Country Plan: Issues and Options Report

This 2017 document relates to the first stage of the review of the Black Country Plan. The relevant parking policies in the adopted Plan will be reviewed as part of this study with the outcome of the Issues and Options Report taken into consideration. Pertinent points are as follows:

CEN3: Growth in the Strategic Centres

There will be a potentially major review of Policy CEN3, due to the changing character of the high street. The document states that there is a need to consider an increased move towards leisure and service uses within core retail areas. An assessment of the detail and appropriateness of the existing conditions for retail growth at Merry Hill (which includes car parking) is proposed. In addition, competition from out-of-centre retail and mixed-use schemes will be a key issue to consider. The document also states that office investment will be concentrated in the Strategic Centres, although the target for this development will be reassessed.

CEN8: Car Parking in Centres

Some minor changes to this Policy may be required. Walsall, Wolverhampton and West Bromwich Strategic Centres have a parking management regime, including charging, whereas Brierley Hill does not have charges in place. Policy CEN8 as it relates to charging is in place to ensure that parking is not used as a tool for competition between the centres.

The document states that a lower pricing regime may be identified for Town, District and Local Centres, as the Non-Strategic Centres face competition from higher order centres and out-of-centre facilities with free parking.

TRAN5: Influencing the Demand for Travel and Travel Choices

The report proposes that reference to further joint working to develop the West Midlands Key Route Network is added into Policy TRAN5. This is to manage region-wide traffic flows and to introduce opportunities for new transport technology (such as ultra-low emission vehicles, new traffic systems and smart ticketing) and to promote Mobility as a Service (MaaS).

4.1.3 Black Country Centres Study (2009)

This study was intended to feed into the joint Plan and to help with determining planning applications. It is focused on the four strategic centres of Wolverhampton, Walsall, West Bromwich and Brierley Hill.

As part of the study health checks for each non-strategic centre were undertaken which measured the vitality and viability of the centres, including in terms of accessibility and car parking, to understand the current provision. The study also examined the number of shops units and total floorspace compared to the number of car parking spaces available in each centre. This found variation in the retail offer and parking provision, with less off-street parking relative to the size of the centre compared with the strategic centres.

In terms of policy recommendations and implementation, the study first published in 2009 stated that the Local Plan should provide flexibility in terms of car parking numbers in order to encourage development. The Centres Study is in the process of being updated, which will provide valuable information to inform parking strategy and Stage 2 of the study.

4.1.4 Movement for Growth: The West Midlands Strategic Transport Plan

The Strategic Transport Plan sets out the approach for transport across the West Midlands Combined Authority area over a 20-year period. The document identifies five challenges: economic growth and economic inclusion, population growth and housing development, environment, public health and social wellbeing. Transport is seen as one solution to these challenges.

The overarching vision for transport across the region is that: '*we will make great progress for a Midlands economic 'Engine for Growth', clean air, improved health and quality of life for the people of the West Midlands. We will do this by creating a transport system befitting a sustainable, attractive and economically vibrant conurbation in the world's sixth largest economy.'* In order to support the vision, the Plan sets out a number of actions. These include introducing a fully integrated rail and rapid transit network that connects the main centres, reducing the impact of transport on the environment, using transport improvements to improve the attractiveness of centres, and facilitating the movement of people on transport networks to access education, employment and leisure facilities.

It found evidence that induced traffic leads to poor connectivity for people. This is alongside increased requirements for large scale parking where land is scarce and at a premium, and impact on air quality, road safety and severance of communities by busier roads. Therefore, better integration of transport should be considered through a smart mobility approach with public transport, car clubs, park and ride, cycle hire and use of powered two-wheelers (motorbikes and mopeds). Although smart mobility would be outside the scope of a parking strategy, it should be considered as part of the Smart City Strategy and in the context of managing the demand for parking spaces.

There is also a plan to expand existing Park & Ride sites and open new sites where there is a proven demand and business case that is integrated within existing urban area parking supply, which will likely feed into development of a framework for provision of Park & Ride. Therefore, these parking facilities should be accounted for when investigating the demand for city centre parking.

It should be noted that Movement for Growth is currently subject to a major review and there is an indication that consultation on a draft strategy will take place later in 2021. This is likely to look in some detail at the opportunities for transport strategy to support maximising the longer-term impacts of a green recovery from the COVID-19 crisis and will need to be positioned alongside the emerging Local Plan, subject to timescales.

4.2 Low Carbon Agenda

4.2.1 Black Country Air Quality SPD

The Air Quality SPD outlines several types of mitigation and compensation of air quality impacts. The first of these is electric vehicle charging points, stating that new developments should provide charging points. The second of these relates to practical mitigation measures supported by national guidance, providing a list of suggested measures for developments, including travel planning, designation of parking spaces for low emission vehicles, differential parking charges depending on vehicle emissions and a public transport subsidy for residents/employees. The third type of mitigation relates to additional measures, which may include on-street electric vehicle charging points, car clubs, and incentives for moving to low-emission vehicle technologies and fuels.

Adopted in 2016 there may be an opportunity to recommend updates to this SPD in line with the outcome of this study and concurrent work ongoing to refresh Local Plans to ensure alignment and relevance.

4.2.2 WM Park & Ride Strategy (Phase 1) – 2018 Draft

Part 1 of TfWM's draft strategy on Park & Ride provides a review of policy, evidence of user behaviour and analysis of demand. The document refers to the adopted Black Country Plan, specifically the fact that it supports a strategic Park & Ride site in Brinsford and the expansion of existing Park & Ride sites at rail stations and Metro stops. Reference is also made to the desire to expand Park & Ride at Sandwell and Dudley, Cradley Heath, Rowley Regis and Stourbridge Junction stations.

The draft strategy suggests that objectives and a framework need to be established to develop Park & Ride provision. It is highlighted that expansion of Park & Ride needs to be accompanied by key success factors. These include Park & Ride forming part of a wider parking strategy (such as measures to reduce long stay parking in urban centres and parking controls in the immediate area to deter parking on-street) and ensuring that the location of Park & Ride sites is appropriate (for example, being located upstream of congestion and near major highway junctions where the local network has capacity).

It is stressed that Park & Ride is one element to be considered within a wider system of rail and rapid transit access. The document also states that until objectives and a framework are finalised, any expansion of Park & Ride should be limited to a small number of schemes which have already been committed to.

4.2.3 Black Country Ultra-Low Emission Vehicles (ULEV) Strategy

Produced in May 2020, this strategy includes information on:

- Baselining of vehicles, charging points;
- The impacts of Electric Vehicles (EV) adoption;
- Projections and gap analysis;
- The future vision and;
- Implementation plan.

The vision is for the Black Country to lead the West Midlands on the road to net-zero by accelerating and amplifying the EV transition in anticipation of a 2035 ban on the sale of conventional vehicles. In 2025 the plan is to install an additional 380 standard and 110 fast charging sockets, equipping all car parks with charge points, use policy to deploy charge points at retail and business car parks and deploying measures to slow the growth of vehicle numbers. It is also proposed to undertake a refresh of the ULEV vision and wider strategy.

A baseline breakdown of EV is included within the ULEV strategy and is outlined in **Table 4-2**. The four local authorities that will be analysed within the Black Country Parking Strategy are highlighted in grey, with Dudley, Sandwell, Walsall and Wolverhampton being four of the five worst-performing councils in terms of EV in the region.

Table 4-2: Breakdown of EVs by Local Authority in the West Midlands

West Midlands (Met County)	Total Vehicles	EVs	EV%

Birmingham	796,070	2,652	0.33%
Coventry	160,143	376	0.23%
Dudley	181,552	417	0.23%
Sandwell	157,601	314	0.20%
Solihull	214,567	1,795	0.84%
Walsall	142,451	275	0.19%
Wolverhampton	127,078	218	0.17%
Total West Midlands	**2,183,420**	**7,702**	**0.35%**
UK	**39,364,569**	**186,386**	**0.47%**

One barrier to use of EVs is the higher capital cost of vehicles. The study examines the level of EV uptake in relation to mean wages. In this regard, Blackpool has the third lowest average mean wage in the UK, but still has a relatively high EV adoption rate of 0.29%. One of the ways it appears to have managed to encourage this is through infrastructure provision. In Blackpool, there is one public charge point for every four plug-in vehicles, compared to the Black Country where this figure is one public charge point for every 20 plug-in vehicles. Therefore, the Black Country could seek to achieve through its policy a significant increase in EV infrastructure provision to improve the adoption rate. Having said that, the study found that relative to wage, the Black Country has a higher than expected uptake of EVs. How EV and ULEV is referenced and defined within an emerging Plan will need to be discussed; a standalone report will be included alongside the Stage 1 Report, which will provide further commentary.

4.2.4 Black Country Smart City Strategy

The Black Country Local Enterprise Partnership (LEP) published a Green Growth Plan in February 2016 to provide a strategy and delivery mechanism to position the Black Country as a leading centre for the low carbon economy, with a key focus on energy and waste.

The strategy provides insight to existing and potential smart city activities in the Black Country, some of which relate to parking. For instance, Dudley Council has allocated funds for 'spend to save initiatives' that reduce gas and electricity consumption within council buildings including LED lighting upgrades in offices and car parks, although it does not suggest if this includes public car parks operated by the council.

The section on smart mobility refers to Ultra Low Emissions Vehicle activities that have been implemented, including installing electric vehicle charging points in car parks. As part of the smart environment project the Renewable & Low Carbon Energy Generation activity suggests there is opportunity to harvest energy or large solar umbrellas in car parks. All of the activities relating to parking have the potential to reduce the environmental impact and create a smarter city, but it is currently unclear what has been implemented where and where the opportunities lie to incorporate elements of the Smart City Strategy within local Policy.

4.2.5 #WM2041: Actions to meet the climate crisis with inclusivity, prosperity and fairness

The West Midlands Combined Authority proposes creating and connecting clean, sustainable places with the first five years from 2020. In terms of parking in the first five years the plan is to consider the need for parking spaces as pricing structures are updated and to explore reallocating parking spaces to car shares and electric vehicles and reduce parking charges for both as an incentive.

It is recommended that action should be taken to provide fewer parking spaces at new developments. WMCA suggest that over the medium-term they will seek to ensure that parking spaces per dwelling are reduced, most notably in city centres, where population density is high and existing public transport access is greatest.

Additionally, reference is also made to increasing suburban rail and park and ride capacity at train stations within the first five years including expansion at Tipton, Sandwell and Dudley. This is likely to further reduce the demand for city centre parking by providing increased rail capacity.

5. Local Approach and Studies

Existing local parking strategies have been reviewed under each of the four Black Country authorities (Dudley, Sandwell, Walsall and Wolverhampton) to understand approaches taken in relation to parking in centres. Each of the local authorities incorporate Tier 1 (Strategic) and Tier 2 (Town) centres, as displayed below in **Table 5-1**.

Table 5-1: Strategic Centres and Town Centres by Authority

Local Authority	Dudley MBC	Sandwell MBC	Walsall MBC	City of Wolverhampton
Strategic Centres	Brierley Hill	West Bromwich	Walsall	Wolverhampton
Town Centres	Dudley Halesowen Stourbridge	Bearwood Blackheath Cape Hill Cradley Heath Great Bridge Oldbury Wednesbury	Aldridge Bloxwich Brownhills Darlaston Willenhall	Bilston Wednesfield

Each of the local authority parking strategies have been reviewed independently, then compared and contrasted to identify any differences and similarities between them. A summary matrix can be found in Appendix A.

This review of existing documents will allow an understanding what has already been implemented where and to identify any gaps within existing approaches. This will then be used to assist in the production of an updated policy approach to car parking in the stated strategic centres across all four Black Country authority areas.

5.1 Dudley Parking Policy

5.1.1 Dudley Parking Strategic Review: Working Paper 2 – Evidence Gathering and Analysis

It is noted that this document is a Stage 2 Evidence Gathering and Analysis report which is a working version and is confidential. No indication has been provided to indicate when the Stage 3 process document is expected to be published. However, this Stage 2 document is useful as it provides insight on information gathered and initial recommendations for a strategic review of parking in Dudley.

The document sets out borough-wide information, used to identify initial recommendations, which could then be incorporated into the final strategic review. It also identifies topics which require further investigation, such as additional data gathering, where this is seen as beneficial to the council, its businesses or its residents, in accomplishing stated goals and objectives for the borough.

The second stage of the process is to establish a clear understanding of the current (as-is) situation. Essentially, it provides an evidence base to support discussion on the delivery of the parking strategy in Dudley. It acknowledges that car parking provision plays a major role in regulating traffic flow and assisting traffic management, as well as assisting in to encouraging footfall into the key centre. It is also recognised that it can also encourage use of sustainable forms of transport and can significantly contribute towards delivering regeneration to an area. Car parking provision has been identified as a source of income generation for the Council.

The review of local policy highlights the absence of regulation for the entire borough involving all the corresponding Council departments and consideration of different characteristics of the various types of parking assets. Additionally, it is noted that the borough forms a key part of the West Midlands County so will benefit from it being ‘future ready’ and this should be included in the borough vision in relation to transport.

In Dudley, no off-street provision is currently adjusted to demand needs as continuous occupation information has not been collected during the past years. The survey performed as part of the review,

alongside the analysis of the ticket machine records collected from the paid car parks, will provide the robust evidence base upon which the strategic review will be developed.

5.1.2 Dudley Parking Standards: Supplementary Planning Document (SPD)

Dudley adopted a revised SPD in September 2017 following a review of their Parking Standards. The document is to ensure that parking provision in new developments is set at an appropriate level. The guidance is aimed at developers although there may be a need to review this in light of discussions on the policy approach to provision of parking in centres in line with wider guidance and current best practice.

5.1.3 Climate Change

Dudley Metropolitan Brough Council does not currently have its own climate change policy or strategy in place, although is included within the Black Country Smart City Strategy and WM2041 programme intended to meet the climate crisis with inclusivity, prosperity and fairness across the region.

5.2 Wolverhampton Parking Policy

5.2.1 Wolverhampton City Centre Car Parking Strategy and Wolverhampton City Centre Strategic Car Parking Review

The Wolverhampton City Centre Car Parking Strategy was implemented in June 2016 and includes approach, decision support tools, scenario examples, current parking offer, with a review of the 2011 study and baseline parking conditions, local and national policy and setting out the future aspirations for the city centre.

In addition to the Council's City Centre Strategic Car Parking Review, which was conducted in February 2012, the purpose was to review and provide recommendations for current car parking arrangements in the city centre. It also assessed the future car parking requirements and provided a set of principles that the Council needs to adopt to address those requirements over the next 20 years or so, in line with the Delivery Business Plan for the City Centre which was due to be launched in May 2012. That was superseded by the Invest City of Wolverhampton: City Centre Investment Prospectus in 2018, which provides a 10-year plan for future growth in the area.

The objectives of the car parking strategy are to provide an assessment of the current car parking offer, assess the impacts from the changing car parking requirements as the city centre evolves and to provide an interactive model to support decisions on future car parking provision.

The eight objectives that underpin Wolverhampton's Parking Strategy have been identified, as follows:

1. To redevelop those surface car parks identified in the AAP and Masterplans to enhance the city's economy;
2. The prime role for car parking is to support employment growth, attract investment in new retail and leisure. The car parking offer may also support new residential uses within the city centre;
3. To ensure there is sufficient car parking supply available that is of the right quality, type and price to support the redevelopment and regeneration objectives;
4. Discourage long stay commuter car parking where their prime role would be to support the city as a park and ride location serving other towns and cities;
5. To minimise the movement of cars seeking to access car parks within the city centre;
6. To complement the city's strategy for connecting places and efforts to improve the quality of the public realm;
7. Using new technology and ideas to support 'frictionless parking provision' where the car parking offer is so good that people have complete confidence in the ease of getting there through the provision of real time information giving the availability of spaces, pre-booking of spaces, high quality and appropriate pricing; and
8. To encourage walking, cycling and public transport use and increase their mode share in accordance with the West Midlands Transport Strategy (Movement for Growth).

Decision Support Tool

A decision support tool can be used by City Council practitioners to assess the impact of new development on the city's car park offer and uniform decisions on re-provision to complement the strategy. The model uses Microsoft Access and Excel software and allows testing of policy changes such as mode share and changed land uses as well as allowing practitioners to update the data and change parameters as required. Changes may need to be made to update this tool in support of any changes proposed in relation to car parking strategy.

Car Park Strategy

It is acknowledged that parking infrastructure and management regimes will need to change and evolve to support the city's economic, social and environmental objectives which are the context for this long-term strategy (15 – 20 years).

The West Midlands 'Movement for Growth' (MfG) Plan was used to provide a framework for this parking strategy. This states that parking and pricing should be set at a level that promotes economic growth, clean air and improved health and quality of life for people, to ensure that car access to the city centres is not at a level where vehicle dominance detracts from the environmental quality and attractiveness of the centre to visitors.

The resulting Wolverhampton Parking Strategy is based upon six core principles as outlined in Table 5-2.

Table 5-2: Wolverhampton Core Principles

Core Principles	
CP1 Car Park Supply	The supply of city centre parking spaces will be maintained at a level that best supports the regeneration of the city. This supply will need to be monitored and managed to ensure that there is a sufficient supply and type of parking as development progresses. The level of supply will be influenced by the type of development, floorspace and mode share (levels of car use) as well as local and national policy.
CP2 Delivering Improved City Centre Car Park Facilities	The City Council will use its land holdings to provide multi-storey car parks in the city centre the exact number, capacity and location of these will depend upon the location, scale and type of new development attracted to the city centre.
CP3 Car Park Design	New car parks will be designed to such a standard that they enhance the street scape, are secure, safe, are accessible by all and offer an excellent customer experience.
CP4 Balance and Location of Long and Short Stay Parking	The location, number and balance of off-street long stay and short stay parking should reflect the desire to support the city economy. The optimum level of short and long stay will change over time according to the quantity of development, end uses and the policy for sustainable travel. Generally short stay car parking will be encouraged in the prime locations within the ring road and long stay parking for commuters would tend to be located in edge of centre locations. Encouraging residential development and extending the night-time leisure offer in the city centre is a city council objective and to support this, some overnight parking provision in certain off-street car parks, perhaps via residents parking permit schemes or business permits, will be made.
CP5 Parking Charges and Payment Methods	The ability for the city council to set charges is principally through the management of their own car parks. These charges should be set at a level that supports the vitality and viability of the city centre and be comparable with neighbouring and competing towns and cities. The charges should support policies CP 1 and CP3 in terms of the mix of parking and to favour short term parking within the ring road. Pricing should reflect sustainable transport policies and be linked to the cost of public transport.

CP6 On-street Parking	On-street bays will continue to be provided within the ring road to give opportunities for very short-stay parking, servicing, good access to facilities for disabled persons and provide taxi ranks but will be located to ensure pedestrian areas remain traffic free. The existing arrangements will be reviewed as the city centre regeneration proceeds to ensure the number of spaces and location remain appropriate.

In 2016 car use accounted for 70% of journeys into Wolverhampton City Centre in the morning peak, higher than the West Midlands average and much higher than the long-term strategy levels of 35-45% of all journeys set in MfG. However, changes in land use and travel behaviours because of the current COVID-19 pandemic and an increase in online shopping are likely to affect the supply and demand for parking which may need to be better understood.

The City Council in 2016 managed over 25% of the public car parks serving the city centre. They found that consolidation of the car parking offer in the city to support development is likely to require increased sharing of parking across several uses. However, this only works where the car parks serve uses with very different usage patterns. For instance, office / commuter car parking is generally required between 8am and 6pm Monday to Friday, but usage in the evenings and at weekends is very low and could be made available to the leisure / evening economy in the evenings and for shoppers at weekends. It is noted that City centres allow the most efficient operation of shared uses but requires some co-operation and management. Maximising opportunity to share parking space between users would be beneficial to save land space for development.

In terms of car park design, all of the car parks operated by the City Council meet the Park Mark standard for safe and secure design. The design considerations presented in Table 5-3 were considered to enhance customer experiences.

Table 5-3: Design Principles

Parking Type	Facilities
All Parking	Access
	Sign posting including Variable Message Signs (VMS), to provide information such as capacity of spaces
	Simple, logical, free-flowing layout
	Payment method types: pre-paid, payment on exit, cash, card, phone and smart card
	Ability to pre-book spaces
	Pedal cycle motorcycle parking bays and lockers for helmets
	Well-lit and segregated pedestrian routes
	Good general environment
	Staff available for reassurance
Multi-Storey Car Parks	Character of external building
	Open plan layout minimise number of staircases
	Well-lit and bright interior and well maintained
	Clear layout and circulation through the building
	Clear signposting
	Numbered floors, zones and parking bays
	Large lifts, well located and lit for surveillance and CCTV monitored
Surface Car Parks	Logical layout and minimised conflict with vulnerable users
	Clear directional arrows
	Well located payment machines
Park and Ride Sites	Close to the strategic highway network or other model interchanges
	Turn up and go public transport
	City centre car park charges set to complement and support Park and Ride

Park and Walk	Located no more than a 15 minute walk (approx. 1 km) from principal city centre destinations
	Long stay tariffs applied on peripheral car parks to encourage use by commuters rather than use prime sites within the ring road
	Same price and quality at each of the car parks to make them equally attractive
	Safe and secure design principles applied to the car parks to give user confidence
	Safe, direct and well-signposted pedestrian routes with good crossing facilities, well maintained, lit and safe underpasses
	Good geographical spread of car parks around the ring road and well located on the commuter routes to minimise additional mileage and local congestion

In terms of disabled parking provision, the strategy suggests that suitable designated car parking and drop offs should be provided for disabled people, designed in line with best practice and in appropriate locations for people to access buildings, services, workplaces and social activities, preferably within 50 metres of the principal destinations served by the car park with level or ramped access. The City Council standard for parking bays suitable for disabled persons is 5% of total capacity on sites up to 200 spaces and 2% plus six spaces on sites providing over 200 spaces and is met by all the City Council operated car parks. In multi-storey car parks, it is specified that the spaces should be located on the ground floor with level access and egress or have access to a lift suitable for wheelchairs.

The strategy also allows on-street disabled motorists to park on double yellow lines if there are no servicing restrictions and disabled persons displaying a valid Blue Badge may also park free of charge and without time limits at pay and display on-street parking, unless otherwise stated by signage. However, it is not stated if there are currently any parking arrangements that void the Blue Badge free parking without time limit scheme.

It has also identified that Wolverhampton operated a ‘shopmobility’ scheme in 2016, where people can hire mobility scooters and wheelchairs for use in the city centre, so there is a need for provision of sufficient dedicated parking to support this service.

Additionally, there is also the ‘Ring and Ride’ specialist transport services for people with limited mobility, which can set passengers down at bus stops but may benefit from additional dedicated on-street parking bays with level boarding and additional footway space to transfer passengers to wheelchairs.

5.2.2 Future Generations: Our Climate Commitment

The City of Wolverhampton Council has outlined its climate commitments within the Future Generations: Our Commitment document. It sets out how it will enable Wolverhampton to be carbon neutral by 2028 and lists the commitments made when it declared a climate emergency at Full Council in 2019. The only specific reference made to car parking is that six electric vehicle charging points have been installed in 2019 and that more were planned for early 2020.

5.3 Walsall Parking Policy

5.3.1 Walsall Town Centre Car Parking Strategy

The Walsall Town Centre Car Parking Strategy (May 2017) explains the importance of policies to control parking and assesses expected future demand. The strategy sets out the role of parking in the town centre with a focus on meeting the needs of users by improving the quality of parking, providing an amount of long and short stay parking and providing sufficient parking to ensure the town centre remains attractive for investment.

It has been identified that there is a need for a management approach that encourages consistency with policy at a local, regional and national level. The document has been written in line with the following transport planning strategies and policy: Walsall Transport Strategy 2010, National Planning Policy Framework, remaining policies from Walsall’s Unitary Development Plan (UDP) adopted in 2005 and the Black Country Plan adopted in 2011.

The document quantifies the future car parking requirements based on expected growth but states a potential to go 15% above what is specified to allow for a degree of flexibility. The strategy highlights that future provision should be carried out in a way that avoids over provision, by delivering additional provision only when trigger points have been reached. The approach is not to provide discounted charging regimes to fill empty spaces which may lead to an over-reliance on cars in the town centre and reduce the use of public transport.

The Walsall Strategy sets out ideas for redeveloping car parks, increasing short stay parking used for retail and leisure whilst reducing long stay parking to encourage the use of sustainable travel instead. Existing council car parks that are available for redevelopment have been identified.

The strategy sets out how parking can be used as a regeneration tool to encourage town centre investment and how the location of council parking can influence the routes drivers take in the town centre. It also identifies how parking policies can be used to influence travel behaviour in favour of sustainable transport. However, it is identified that with 75% of car parking spaces being private, this can conflict with the council's efforts.

5.3.2 Walsall Council Parking Strategy

The wider parking Strategy has been created in line with policies set out in national, regional, sub-regional and local policies: PPG 3 Housing, PPG 6 Town Centres and PPG13 Transport, Traffic Management Act 2004, West Midlands Regional Spatial Strategy (RSS), Walsall Unitary Development Plan (UDP) and Walsall Transport Strategy.

The Strategy aims to provide better provision, enforcement and quality of parking. It is understood that parking availability affects traffic congestion, particularly during peak hours. Accessibility of public transport in Walsall is highlighted as an opportunity for modal shift, particularly for commuters.

The parking strategy in Walsall Town Centre has been set out separately from the other district centres as they operate differently, noting that over half of the parking spaces for the borough are located within Walsall Town Centre. The Walsall Town Centre strategy focuses on on-street parking, long stay parking signage and information, disabled parking, coach parking and park and ride. For the other district centres, the parking strategy seeks to enhance existing spaces and encouraging the provision of new ones primarily due to a lack of resources to invest in new car parks at these locations.

The wider strategy highlights key principles and objectives for parking across Walsall but identifies that the council's budget is not sufficient for providing new parking assets and that parking costs would have to significantly increase in order to compensate for this.

Details of current parking charges, standard of facilities, benchmarking, provision of spaces and car park assets have been included. This is followed by key recommendations on how the council can make improvements. Other parking needs have been set out, including disabled parking spaces, servicing and freight and coaches, identifying what is required and what the council intends to do in the future in this respect.

The Strategy explains that parking enforcement is shared between the local authority and the police. High priorities for enforcement are safety, obstruction of highway, congestion, paring in bus lanes and school gate parking. It proposes that the cost of enforcement should be covered by revenue from parking charges and fines. The intentions for what will be carried out over the next five years and the objections each recommendation meets are set out in an action plan.

5.3.3 Climate Change

Walsall Council has a general Environmental Strategy in place and published a Carbon Management Plan in 2009 setting out ambitious targets for reducing CO2 by 2019. A State of the Environment report and guidance on Saving and Making Money in A Changing Climate were also made available around that time but it is not clear if there have been any recent updates to either the overarching strategy, management plan or accompanying documents. There are no actions or interventions noted that are specifically aimed at vehicles or parking.

5.4 Sandwell Parking Policy

5.4.1 West Bromwich Town Centre Car Parking Strategy

The West Bromwich Parking Strategy understood to have been developed in 2003 set out plans for parking in the town centre. It assessed the existing parking provision and detailed how the parking needs of the town could be met. The strategy focuses on restraining and reducing the amount of long stay users, ensuring the parking supply is attractive, convenient and safe for users, as well as supporting growth in the town centre. It is highlighted that parking charges were first implemented in August 2000 as a means to prevent private car commuting. Furthermore, town centre car parks were designated for short stay use to support retail and commercial activity.

The strategy recognised that whilst future development would involve changes to existing car parks, it could also lead to an increased need for short and long stay spaces as a result of retail, leisure and employment related trips. The strategy references the now superseded PPG13 on Transport which the West Midlands Local Transport Plan and Sandwell Unitary Development Plan (UDP) policies were based on at the time. Key points were to promote sustainable transport, accessibility via public transport and active travel and reduce the need to travel by car.

In line with Policy T12 of the Sandwell UDP, developers within the town centre are asked to assess the impact of their proposals on the level and type of parking and make car parks for new developments accessible to the public 24 hours a day, convenient and well-integrated. Safety and security measures would be assessed by the council against DfT Circular 5/94 around planning out crimes and other relevant documents. Deck/multi-storey parking were to be encouraged in appropriate locations, although its highlighted there is a need for balance between quality of parking and the overall strategic objective of reducing private car use.

Specific issues identified to be addressed are to control the number and purpose of town centre car parking spaces, maintain sufficient short stay parking, achieve the target reduction in long stay parking as set out in the Local Transport Plan, ensure parking is available for public use not just private, address minimum standards for parking e.g. people with disabilities and special needs and maximise the benefits of the existing car parking provision.

The Town Centre Strategy focuses on level of provision, loss of existing car parks, new provision and design of car parks. The aim was to prioritise and encouraging short stay parking, maximising the use of public transport, consider reduction of crime and community safety in proposals for new car parks and to encourage vitality within the centre. The strategy states the maximum parking provision but explains that meeting this figure was likely to result in car parks being underutilised for the majority of the year as well as encouraging car use. It intended to meet the objectives of the wider Transport Strategy whilst identifying an optimum level of parking but may now be out of date.

5.4.2 Sandwell Parking and Traffic Enforcement Policy

The Policy document published in 2017 sets out that Sandwell Council is responsible for the civil enforcement of on-street and off-street parking areas, involving the issue of Penalty Charge Notices (PCNs). The document was created in accordance with relevant legislation, regulations and guidance. Enforcement is carried out in accordance with the Secretary of State's Statutory Guidance to Local Authorities on the Civil Enforcement of Parking Contraventions issued in March 2015 ('the Statutory Guidance') published under Section 87 of the Traffic Management Act 2004. This guidance provides the policy framework for civil parking enforcement which the council is required to adhere to.

The document sets out the aims and objectives of the parking and traffic enforcement policy in Sandwell which focus on elements such as safety, accessibility to public transport, meeting the needs of people with disabilities, increasing compliance and fair enforcement. It explains how the income from parking charges is used and highlights parking concessions.

The Policy explains the operation of the parking and traffic enforcement service which is be carried out by Civil Enforcement Officers who will issue Penalty Charge Notices and identified how the use of CCTV in accordance with relevant legislation and guidance assists with parking enforcement. The document also highlights enforcement for pavement parking and footway crossings, vehicles parked adjacent to a dropped footway, driveways to residential premises and Blue Badge holders. CEN8 - Car Parking in Centres and TRAN5 - Influencing the Demand for Travel and Travel Choices Spatial

Objectives are the relevant policies of the adopted Black Country Plan. This again will likely need to be revisited subject to the development of the Plan.

5.4.3 The Preparation of Transport Assessments and Travel Plans SPD

This 2006 document was aimed at developers and sought to provide them with more detailed advice with respect to what is required in making a planning application or developing a proposal in line with transport policy. Whilst parking is referred to within this SPD, it is in relation to PPG13 and SMBC parking standards which may be out of date and are likely to need reviewing in the context of more recent developments.

5.4.4 Climate Change

The City of Wolverhampton Council declared a climate emergency in 2019. Following this, it published **Our Climate Commitments** in January 2020, setting out commitments to make the City of Wolverhampton carbon-neutral by 2028. One such commitment is to develop electric vehicle infrastructure across the city.

Walsall Council also declared a climate emergency in 2019, seeking to achieve carbon neutrality before 2050. An action plan to look at how carbon emissions can be reduced has been formed.

Dudley Council declared a climate emergency in June 2020 and have created a group tasked with developing and implementing plans to reduce the borough's carbon footprint.

Sandwell Metropolitan Borough Council held a consultation on climate change and air quality issues in January 2020. From this, it published it's **Climate Change and Air Quality Strategy 2020-2041** in July 2020, and within Action Plan 3: Transport, the Council has committed to increase the use of lower carbon vehicles through policies and pricing, and support the development of suitable infrastructure, in particular for electric vehicles in car parks and for car users without off-street residential car parking. It also encourages partners to install electricity infrastructure that is capable of supporting a significant increase in the use of electric vehicles, including automotive research and development into battery technologies and ultra-low emission vehicles.

6. Summary

This review has considered relevant national, regional and local policies and strategies related to parking. It has highlighted the duties placed on local authorities when implementing parking policy. In addition to legislation, the review has also covered national and regional policy and guidance documents which may be considered when implementing a parking strategy, such as the NPPF. Furthermore, local strategies have also been reviewed, in order to understand where there is already alignment with national and regional policy and guidance, and also where there are similarities between the approaches taken by each local authority.

This policy review serves as a standalone report which will be used as a reference document going forward in the study. It sits alongside the Stage 1 report, which is currently being produced. The Stage 1 report examines the provision of car parking in each borough and explores the potential impact of future development and trends. This policy review has fed into the Stage 1 report and will continue to inform the study going forward, as it progresses to recommending a set of preferred policy options, in a way which improves alignment with regional, national and local policy and guidance, identifying opportunities to ensure best practice where possible.

Annex A: Current Parking Policy/Strategy Review Matrix

Parking Strategy Review Matrix

	Dudley	Wolverhampton	Walsall	Sandwell
Employment	No information	• Long stay parking should be removed near town centres to encourage commuters to use more sustainable modes of transport.	• Controls on long stay parking should not discourage new employment. • Reduce long stay parking to encourage commuters to use more sustainable modes of transport and reduce peak hour traffic.	• Future employment will increase demand for long stay parking.
Retail	No information	• Short stay parking in prime locations will support parking for leisure and retail customers.	• Provide sufficient additional parking in the town centre to remain competitive for office, retail and leisure investment. • Replace long stay with short stay parking for leisure and retail customers. • In town centres, large commercial, retail and leisure developments should provide parking that is available to short term visitors.	• Future retail development will create the most demand for parking. • Town centre parking is designated for short stay to support the retail and commercial activity.
Residential	• For new residential developments, a parking strategy can include setting minimum or maximum levels of parking places. • Local authorities might choose to allocate residential car parking spaces for car club scheme vehicles. • There are no Residential Parking Zones or resident permits which are required	• Currently no residents' parking schemes in the city centre. • Residential developments either have a small number of dedicated private parking or no parking provision. • For city centre residents', public provision is needed in addition to the private provision. • Car clubs would need to be associated with all city	• Standards for residential car parking should be seen as typical requirements not a maximum or minimum. • Consider the need to introduce residents parking schemes to manage conflict. • Identify possible opportunities to improve parking facilities in residential and commercial areas. • Protect residents' ability to park near their properties.	No information

Parking Strategy Review Matrix

	Dudley	Wolverhampton	Walsall	Sandwell
	to be issued, only a small number of car park permits (1,383 issued last year). • Enforcement around residential areas would likely require less enforcement due to there being no residential parking zones within Dudley.	centre residential developments and would need a 'critical mass' of people to make it viable and sustainable.		
Coach	No information	No information	No information	No information
Freight	No information	No information	• Have parking spaces located close to major freight generating locations. • 2 out of 3 lorry parks are likely close which may increase the issue of lorries parking on the highway. • Plans to improve servicing and freight, particularly on-street parking and loading.	No information
ULEV	No information	No information	No information	No information
Air Quality	• If areas of Dudley are included in the Birmingham Clean Air Zone, the future provision of car parking and necessary controls will likely be a key part of the air quality consideration.	• Car clubs will operate newer vehicles, with lower emissions, possibly including electric vehicles, and would contribute to city centre air quality objectives whilst possibly requiring charging infrastructure.	• The approach to parking policies should be consistent with the delivery of local, regional and national air quality objectives.	

Parking Strategy Review Matrix

	Dudley	Wolverhampton	Walsall	Sandwell
Electric Vehicle Charging Infrastructure	• Local authorities are encouraged to provide electric vehicle charging infrastructure in new developments.	• Car parks will need to include suitable charging facilities to support increase in electric and other ultra-low emission vehicles.	• Requirement for a minimum of one electric vehicle charging point in car parks with a capacity of 100 spaces or more in Walsall Town Centre.	No information
Disabled / blue badge provision	• The number of disabled parking spaces in each car park has been identified.	• Ensure provision of disabled parking spaces for new developments is in accordance with the standards. • On-street bays will be reviewed to ensure good provision for the disabled. • Suitable disabled parking provided within 50 metres of the principal destinations served by the car park with level or ramped access. • On-street disabled motorists can park on double yellow lines if there are no servicing restrictions. • Disabled people displaying a valid Blue Badge can park free of charge and without time limits at pay and display on-street parking, unless otherwise stated by signage.	• As an improvement to parking quality standards, 10% of parking spaces should be allocated for disabled parking in the town centre. • Spaces should be located as near to the most suitable entrance as possible. • Allocate at least 5% of publicly available on street spaces as disabled spaces.	• Address minimum standards for disabled and special needs parking.

Parking Strategy Review Matrix

	Dudley	Wolverhampton	Walsall	Sandwell
Parent and child	No information	No information	• 2% of spaces should be allocated for parent and child parking in the town centre.	No information
On-street	• On-street parking is managed by controlled zones and is all free for users (with time restrictions). • 1,011 on-street parking spaces. • On-street provision is not currently adjusted to demand needs as continuous occupation information has not been collected during the past years.	• On-street taxi ranks need be reviewed to ensure the pedestrian environment is not compromised. • 'Ring and Ride' specialist transport services for people with limited mobility may benefit from additional dedicated on-street parking bays. • Existing on-street parking supply should be reviewed in conjunction with city centre regeneration aspirations, to understand where current supply may need to be removed or relocated. • The charges of on-street parking should be set in relation to off-street parking provision and ensure the spaces are only used for short durations of time.	• Provide a well-managed and appropriate level of on-street parking.	
Off-street	• Approximately 4,182 off-road parking spaces managed by the Council. • Off-street provision is not currently adjusted to	• City Council owns just over a quarter of the off-street public car parks. • Encouraging residential development and extending the night-time	• Encouraging the provision of an adequate off-street parking supply for short stay visitors.	

Parking Strategy Review Matrix

	Dudley	Wolverhampton	Walsall	Sandwell
	demand needs as data has not been collected.	leisure offer in the city centre is an objective and to support overnight parking provision in certain off-street car parks. • Average occupancy of off-street spaces is 66% during peak times.		
Private	• A mix of free, paid for and time limited private parking.	No information	• The private sector controls 75% of town centre car parking, and it will be necessary to engage with those operators in implementing a future strategy. • There can be conflict between private and public provision, as the Council pursues a balanced approach, and private provision needs to be controlled more effectively. • The Council should work with the private sector to provide new parking facilities which encourage short stay shopper and visitor trips. • Council will work with landowners and owners of private car parks to bring about joint use of car parks (for town centre use during the day and private use at other times).	No information

Parking Strategy Review Matrix

	Dudley	Wolverhampton	Walsall	Sandwell
Public	• The council has a mix of free, long and short stay parking. • Up to 2 hours free parking in council owned spaces.	• City Council own and manage just over 25% of the public car parks serving the city centre.	• The council only controls a quarter of all off-road parking in the town centre. • Except where there is a need for secure dedicated provision, car parking within or on the edge of centres will generally be required to be available to the public to serve the centre as a whole. • Developments that plan to remove public parking will be considered in context the parking strategy and potential benefits of the development. • The Council will maintain and support short stay public parking for shoppers and visitors. • The Council will work to ensure car parks are well distributed around the town centre.	• Retain existing short stay public car parking unless replacement is proposed in addition to any requirement that the development may generate. • Prioritise short stay parking when creating new public car parking. • All new public car parking will be subject to the Council's pricing policy.
Tariffs	• Plans to make free parking for up to 2 hours a permanent policy for all Council owned car parks.	• Daytime tariffs would be set to encourage short stay parking and evening tariffs to support city living and the evening economy. • Charges should be comparable with	• Parking charge competition is unsustainable and will result in unreliable parking provision. • There is a need for suitable charging regimes to reduce the chances of localised traffic congestion and	• 1,440/2,456 of car park spaces are restricted by tariff to use for short-stay parking.

Parking Strategy Review Matrix

	Dudley	Wolverhampton	Walsall	Sandwell
		neighbouring and competing towns and cities. • Parking and pricing should be set at a level that promotes economic growth, clean air and improved health and quality of life for people. • City Council currently has a strong influence on car parking tariffs as they own over 25% of the city centre off-street car parks.	removing the incentive for short term gain at the expense of long-term sustainable improvement and growth in the attractiveness of the town centre. • Long stay parking will be managed in terms of amount and charging to create a balance between long stay parking and sustainable travel. • Consider the introduction of parking charges and to enforce the length of stay restrictions in district centres.	
Enforcement	• The council undertakes on-street parking enforcement of Traffic Regulation Orders, and the police enforce obstructive parking and moving traffic offences.	• Enforced through Civil Enforcement Officers.	• Civil Parking Enforcement will transfer the powers required for on-street parking enforcement from the police to the Council. • Police are responsible for Fixed Penalty Notices. • The Council is responsible for enforcement at council operated off-street car parks.	• The Council is responsible for the enforcement of on-street and off-street parking. • Enforcement will be carried out by Civil Enforcement Officers who can issue Penalty Charge Notices.

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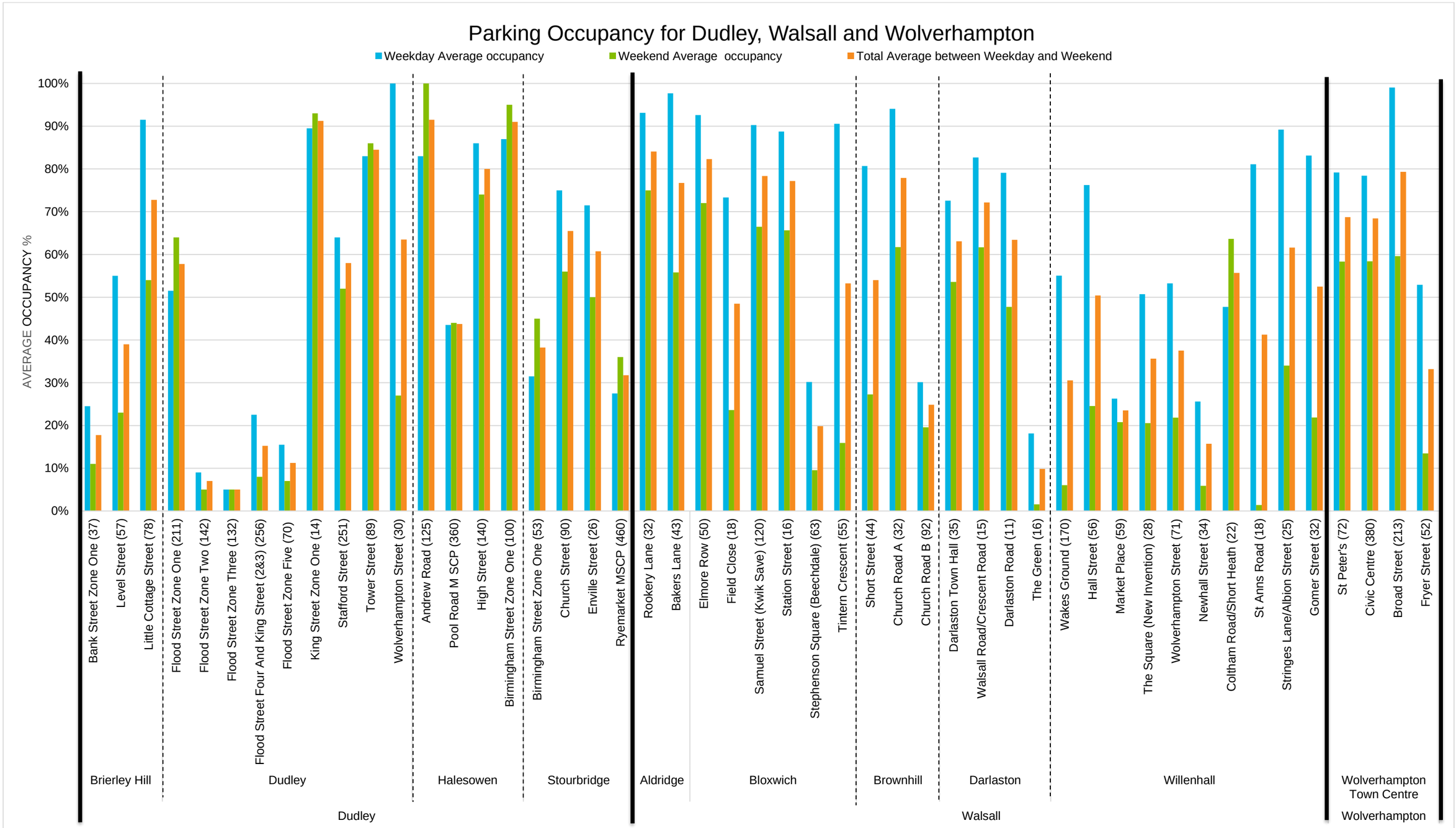
Appendix B Overall Parking Occupancy



Appendix C Public Car Park Matrices

Table A-1: Dudley Car Parks

Location	Area	Type	Long Stay/Short Stay	Capacity	Standard Bays	Blue badge Bays	% Blue Badge Bays	Coach/Freight Parking	Tariff	EV Charging
Bank Street Zones 2 & 3	Brierley Hill	Surface	Long stay	98	95	3	3%	0	Major- long stay	0
Chapel Street	Brierley Hill	Surface	Long stay	8	7	1	14%	0	Free	0
Cottage Street	Brierley Hill	Surface	Long stay	25	25	0	0%	0	Major- long stay	0
Level Street	Brierley Hill	Surface	Long stay	57	53	4	8%	0	Major- long stay	3
Little Cottage Street	Brierley Hill	Surface	Long stay	78	72	6	8%	0	Major- long stay	0
Flood Street Zone 1	Dudley	Surface	Short stay	211	198	13	7%	0	Major- short stay	0
Flood Street Zone 2	Dudley	Surface	Long stay	142	138	4	3%	0	Major- long stay	0
Flood Street Zone 3	Dudley	Surface	Long stay	132	128	4	3%	0	Major- long stay	0
King Street Zone 1	Dudley	Surface	Short stay	14	13	1	8%	0	Major- short stay	0
King Street Zones 2 and 3	Dudley	Surface	Long stay	120	116	4	3%	0	Major- long stay	0
New Mill Street	Dudley	Multi – storey	Short stay	12	11	1	9%	0	Major- short stay	0
Pit field Street A	Dudley	Surface	Long stay	30	30	0	0%	0	Major- long stay	0
Pit field Street B	Dudley	Surface	Long stay	37	37	0	0%	0	Major- long stay	0
Stafford Street B	Dudley	Surface	Long stay	158	154	4	3%	Pick Up Point	Major- long stay	3
Stafford Street A	Dudley	Surface	Short stay	93	83	10	12%	Pick Up Point	Major- short stay	0
Tower Street	Dudley	Surface	Short stay	89	85	4	5%	0	Major- short stay	0
Wolverhampton Street	Dudley	Surface	Long stay	29	27	2	7%	0	Major- long stay	0
Parsons Street	Dudley	Surface	Long stay	55	55	0	0%	0	Free (>5PM)	0

The Enhedge	Dudley	Surface	Long stay	40	40	0	0%	0	Free (>5PM)	0
Stafford Street	Dudley	Surface	Short stay	93	14	0	0%	0	-	0
Pool Road MSCP	Halesowen	Multi – storey	Long stay	210	204	6	3%	0	Major- long stay	0
Pool Road MSCP	Halesowen	Multi - storey	Short stay	150	134	16	12%	0	Major- short stay	0
High Street	Halesowen	Surface	Long stay	140	136	4	3%	0	Major- long stay	0
Birmingham Street	Halesowen	Surface	Short stay	100	94	6	6%	0	Major- short stay	0
Coventry Street	Stourbridge	Surface	Short stay	10	9	1	11%	0	Major- short stay	0
Ryemarket MSCP Long Stay	Stourbridge	Multi – storey	Long stay	215	215	0	0%	0	Major- long stay	0
Ryemarket MSCP Short Stay	Stourbridge	Multi - storey	Short stay	205	196	9	5%	0	Major- short stay	0
	Total			**2,561**	**2,378**	**104**		**0**	**0**	**6**

Table A-2: Sandwell Car Parks

Location	Area	Type	Long Stay/Short Stay	Capacity	Standard Bays	Blue Badge Bays	% Blue Badge Bays	Coach/Freight Parking	Tariff	EV Charging
Church Street East	West Bromwich		Long stay	108	103	5	5%	0	Pay and display	0
Edward Street	West Bromwich		Long stay	157	147	10	7%	0	Pay and display	0
Highfields	West Bromwich		Long stay	42	42	0	0%	0	Pay and display	0
Providence Place South	West Bromwich		Long stay	175	175	0	0%	0	Pay and display	0
Sandwell Road /Temple St	West Bromwich		Long stay	102	96	6	6%	0	Pay and display	0
Temple Street / Fredrick St.	West Bromwich		Long stay	56	54	2	4%	0	Pay and display	0

Adkins Lane	Bearwood	Long stay	22	19	3	16%	0	Charge (free evening)	0
Short Street West	Blackheath	Short stay	50	50	0	0%	0	Pay and display	0
Grainger's Lane	Cradley Heath	Long stay	50	47	3	6%	0	Pay and display	0
Lower High Street	Cradley Heath	Short stay	17	15	2	13%	0	Pay and display	0
Great Bridge Town Centre	Great Bridge	Long stay	95	88	7	8%	0	Charge	0
Whitehall Road	Great Bridge	Long stay	33	30	3	10%	0	Charge	0
High Bullen	Wednesbury	Long stay	149	141	8	6%	0	Pay and display	0
Albert Street	Oldbury	Long stay	76	72	4	6%	0	Charge	0
Low Town	Oldbury	Long stay	68	64	4	6%	0	Charge	0
Ridding Lane	Wednesbury	Long stay	48	45	3	7%	0	Pay and display	0
Spring Head	Wednesbury	Long stay	62	57	5	9%	0	Pay and display	0
The Shambles	Wednesbury	Long stay	17	15	2	13%	0	Pay and display	0
Upper High Street	Wednesbury	Short stay	16	14	2	14%	0	Pay and display	0
Gilbert Road	Cape Hill	Long stay	60	60	0	0%	0	Pay and display	0
Edward Street	West Bromwich	Long stay	157	147	10	7%	0	Pay and display	0
Highfields	West Bromwich	Long stay	42	42	0	0%	0	Pay and display	0
	Total		**1,457**	**1,378**	**79**				**0**

Table A-3: Walsall Car Parks

Location	Area	Type	Long Stay/Short Stay	Capacity	Standard Bays	Blue Badge Bays	% Blue Badge Bays	Coach/Freight Parking	Tariff	EV Charging
Hatherton Road MSCP (levels 1-3)	Walsall	Multi-storey	Short stay	94	94	0	0%	0	charge	0
Hatherton Road MSCP (levels 4-8)	Walsall	Multi-storey	Short stay	248	248	0	0%	0	Charge	0
Upper Rushall Street/High Street	Walsall	Surface	Short stay	28	28	0	0%	0	Charge	0
Intown Row	Walsall	Surface	Short stay	27	27	0	0%	0	Charge	0
Green Lane/Stafford Street	Walsall	Surface	Short stay	46	44	2	5%	0	Charge	0
Upper Rushall Street 5A	Walsall	Surface	Short stay	22	21	1	5%	0	Charge	0
Whittimere Street	Walsall	Surface	Short stay	28	28	0	0%	0	Charge	0
Ablewell Street/Tantarra Street	Walsall	Surface	Long stay	34	34	0	0%	0	Charge	0
Bate Street	Walsall	Surface	Long stay	54	46	8	17%	0	Charge	0
Day Street	Walsall	Surface	Long stay	79	71	8	11%	0	Charge	0
Hatherton Road (Secure)	Walsall	Surface	Long stay	82	76	6	8%	0	Charge	0
Intown Row 2 (Large)	Walsall	Surface	Long stay	41	41	0	0%	0	Charge	0
Lower Rushall Street	Walsall	Surface	Long stay	70	64	6	9%	0	Charge	0
Mountrath Street	Walsall	Surface	Long stay	83	82	2	2%	0	Charge	0
Walhouse Road	Walsall	Surface	Long stay	45	37	8	22%	0	Free	0
Ward Street	Walsall	Surface	Long stay	59	58	1	2%	0	Charge (free Sunday)	0
Warewell Street	Walsall	Surface	Long stay	20	20	0	0%	0	Charge	0
Bakers Lane	Aldridge	Surface	Long stay	43	43	0	0%	0	Charge	0

Rookery Lane	Aldridge	Surface	Long stay	31	29	2	7%	0	Charge	0
Elmore Row	Bloxwich	Surface	Long stay	51	46	5	11%	0	Charge	0
Samuel Street	Bloxwich	Surface	Long stay	124	114	10	9%	0	Charge	0
Station Street	Bloxwich	Surface	Long stay	16	14	2	14%	0	Charge	0
Church Road (A)	Brownhills	Surface	Long stay	32	29	3	10%	0	Free	0
Church Road/Short Street (B)	Brownhills	Surface	Long stay	71	67	4	6%	0	Free	0
Short Street	Brownhills	Surface	Long stay	44	39	5	13%	0	Free	0
Darlaston Road	Darlaston	Surface	Long stay	11	9	2	22%	0	Charge	0
Darlaston Town Hall	Darlaston	Surface	Long stay	32	30	2	7%	0	Charge	0
Wakes Ground car park	Willenhall	Surface	Long stay (8am to 6pm)	170	158	12	8%	0	Free	0
Wakes Ground Lorry	Willenhall	Surface	Long stay (6pm - 8am)	0	0	0	0%	30	Free <12 hours	0
Gomer Street	Willenhall	Surface	Long stay	32	30	2	7%	0	Charge	0
Hall Street	Willenhall	Surface	Long stay	56	52	4	8%	0	Charge	0
Market Place	Willenhall	Surface	Short stay	48	46	2	4%	0	Charge	0
Wolverhampton Street	Willenhall	Surface	Short stay	70	64	6	9%	0	Charge	0
Total				**2,060**	**1,947**	**114**		**30**		**0**

Table A-4: Wolverhampton Car Parks

Location	Area	Type	Long Stay/Short Stay	Capacity	Standard Bays	Blue Badge Bays	% Blue badge Bays	Coach/Freight Parking	Tariff	EV Charging
Tempest Street	Wolverhampton City Centre	Surface	Short stay	65	63	2	3%	0	Pay & Display	0
Whitmore Hill	Wolverhampton City Centre	Surface	Short stay	138	132	6	5%	0	Pay & Display	0
Faulkland Street	Wolverhampton City Centre	Surface-Urban	Long stay	297	293	4	1%	12	Pay on Exit	0
Broad Street	Wolverhampton City Centre	Surface	Long stay	150	146	4	3%	0	Pay on Exit	0
Fold Street	Wolverhampton City Centre	Surface-Urban	Short stay	235	224	11	5%	0	Pay on Exit	0
Oxford Street	Bilston	Surface	Long stay	95	89	6	7%	0	Pay & Display	0
Broad Street & Batchcroft	Bilston	Surface	Long stay	176	166	10	6%	0	Pay & Display	0
St.Peters Square	Wolverhampton City Centre	Surface	Short stay	77	73	4	5%	0	Contract	0
Birch Street	Wolverhampton City Centre	Surface	Long stay	327	327	0	0%	0	Contract parking	0
Peel Street	Wolverhampton City Centre	Surface	Long stay	300	296	4	1%	0	Pay & Display	0
Temple Street	Wolverhampton City Centre	Surface	Short stay	65	63	2	3%	0	Pay & Display	0
Bell Street	Wolverhampton City Centre	Surface	Short stay	45	43	2	5%	0	Pay & Display	0
Batchcroft	Bilston	Surface	Long stay	176	166	10	6%	0	Free	0
Bow Street	Bilston	Surface	Long stay	44	44	0	0%	0	Free	0
Hall Street	Bilston	Surface	Long stay	34	30	4	13%	0	Free	0
Mountford Lane	Bilston	Surface	Long stay	75	72	3	4%	0	Free	0

Oxford Street	Bilston	Surface	Long stay	38	37	1	3%	0	Free	0
Pinfold Street	Bilston	Surface	Long stay	212	194	18	9%	0	Free	3
Pipes Meadow	Bilston	Surface	Long stay	19	19	0	0%	0	Free	0
Short Street	Bilston	Surface	Long stay	11	11	0	0%	0	Free	0
Walsall Street	Bilston	Surface	Long stay	52	50	2	4%	0	Free	0
Alfred Squire Road	Wednesfield	Surface	Long stay	78	67	11	16%	0	Free	0
Summer Row	Wolverhampton	Surface	Short stay	90	88	2	2%	0	Pay & Display	0
Church Lane	Wolverhampton	Surface	Short stay	170	170	0	0%	0	Pay & Display	0
School Street	Wolverhampton	Surface	Short stay	158	158	0	0%	0	Pay & Display	0
Temple Street	Wolverhampton	Surface	Short stay	36	32	4	13%	0	Pay & Display	0
Whitmore Street	Wolverhampton	Surface	Short stay	37	37	0	0%	0	Pay & Display	0
Hartshorn Street	Bilston	Surface	Short stay	20	20	0	0%	0	Pay & Display	0
Woodhouse Fold	Wednesfield	Surface	Short stay	40	36	4	11%	0	Pay & Display	0
High Street	Wednesfield	Surface	Short stay	60	49	11	22%	0	Pay & Display	0
Total				**3,332**	**3,206**	**126**		**12**		**3**

Appendix D Private Car Park Matrices

Table A-5: Dudley Car Parks

Location	Centre	Type	Capacity	Standard Bays	Blue Badge Bays	% Blue Badge Bays	Coach/Freight Parking	Tariff	Electric Vehicle Charging Points
Birmingham Street	Dudley	Long stay	75	75	0	0%	0	Charge	0
Trident Shopping	Dudley	Long stay	200	185	15	8%	0	Charge	0
ASDA/EuroPark	Dudley	Long stay	70	66	4	6%	0	Free	0
Merry Hill	Brierley Hill	Long stay	10,000	856	144	17%	0	Charge	4
ASDA/EuroPark	Brierley Hill	Long stay	540	520	20	4%	0	£1	2
The Moor Centre	Brierley Hill	Long stay	160	144	1	1%	0	< 2 hours	0
South Merry Hill	Brierley Hill	Short stay	2,000	1,970	30	2%	0		4
The Waterfront	Brierley Hill	Short stay	1,000	980	20	2%	0		0
Ryemarket Shopping centre	Stourbridge	Short stay	300	290	10	3%	0		0
Cornbow Shopping Centre	Halesowen	Short stay	500	490	10	2%	0		0
		Total			**14,845**	**5,576**	**254**		**0**

Table A-6: Sandwell Car Parks

Location	Centre	Type	Capacity	Standard Bays	Blue Badge Bays	% Blue Badge Bays	Coach/Freight Parking	Tariff	Electric Vehicle Charging Points
Astle Park Outlet	West Bromwich	Surface	300	281	19	7%	0%	Pay & Display	0
Morrisons	Wednesbury	Surface	195	182	13	7%	0%	Free	0
Cronehills Linkway	West Bromwich	Surface	760	720	38	5%	0%	charge	0
Newsquare (Tesco)	West Bromwich	Multi-storey	1,061	1,031	29	3%	0%	Charge	4
Oldbury Sainsburys	Oldbury	Multi-storey	730	716	14	2%	0%	Charge	0
Windmills Shopping Centre/ASDA	Cape Hill	Surface	390	373	17	5%	0%	Free	0
Aldi	Bearwood	Surface	100	93	7	8%	0%		0
Tesco	Cradley Heath	Surface	700	674	26	4%	0%		1
Farley Centre	West Bromwich	Surface	350	340	10	3%	0%		0
ASDA Tipton	Great Bridge	Surface	120	109	11	10%	0%		0
Cape Hill Retail Centre	Cape hill	Surface	300	280	20	7%	0%		0
Park Street Long Stay	Blackheath	Surface	54	47	7	15%	0%	Long stay	0
Sainsburys	Blackheath	Surface	500	480	20	4%	0%		1
	Total		**5,560**	**5,326**	**231**		**0**		**6**

Table A-7: Walsall Car Parks

Location	Centre	Type	Capacity	Standard Bays	Blue Badge Bays	% Blue Badge Bays	Coach/Freight Parking	Tariff	Electric Vehicle Charging Points
Asda Lower 2 Levels	Walsall Town Centre	Multi-storey	428	428	0	0%	0	Free <2 hours	0
Asda Upper 2 Levels (Brittania)	Walsall Town Centre	Multi-storey	428	414	14	3%	0	Free <2 hours	0
Jerome Centre	Walsall Town Centre	Surface	400	388	12	3%	0	Charge	0
Freer Street (NCP)	Walsall Town Centre	Multi-storey	370	364	6	2%	0	Charge	0
Morrisons	Walsall Town Centre	Surface	304	292	12	4%	0	Free <2 hours	3
Saddlers Centre	Walsall Town Centre	Multi-storey	490	490	0	0%	0	Charge	0
Station Street (NCP)	Walsall Town Centre	Surface	130	130	0	0%	0	Charge	0
Tesco - Lower Level	Walsall Town Centre	Multi-storey	458	450	8	2%	0	Free	0
Tesco - Upper Level	Walsall Town Centre	Multi-storey	234	216	18	8%	0	Free	0
Waterfront (Wolverhampton St)	Walsall Town Centre	Surface	189	177	12	7%	0	Charge	0
Crown Wharf (Wolverhampton St)	Walsall Town Centre	Surface	614	568	46	8%	0	Charge	0
Mountrath Street (Private)	Walsall Town Centre	Surface	53	51	2	4%	0	Charge	0
	Total		**4,098**	**3,968**	**130**		**0**		**3**

Table A-8 Wolverhampton Car Parks

Location	Centre	Type	Capacity	Standard Bays	Blue Badge Bays	% Blue Badge bays	Coach/Freight Parking	Tariff	Electric Vehicle Charging Points	Long Stay/Short Stay
ASDA	Wolverhampton City Centre	Surface	570	541	29	5%	0	Free <2 hours	2	Short stay
Molineux	Wolverhampton City Centre	Surface	376	370	6	2%	0	-	0	Long stay
Birch Street	Wolverhampton City Centre	Surface	327	324	3	1%	0	-	1	Long stay
Fryer Street	Wolverhampton City Centre	Surface	52	51	1	2%	0	-	0	Long stay
Corn Hill	Wolverhampton City Centre	Surface	170	170	0	0%	0	-	0	Long stay
St Marks (Sainsburys)	Wolverhampton City Centre	Surface	738	729	9	1%	0	-	0	Short stay
Mander Centre	Wolverhampton City Centre	Multi-storey	500	485	15	3%	0	-	0	Short stay
Pipers Row	Wolverhampton City Centre	Surface	160	156	4	3%	0	-	0	Short stay
Wulfrun Centre	Wolverhampton City Centre	Surface	570	568	7	1%	0	-	0	Short stay
Summer Row	Wolverhampton City Centre	Surface	90	89	1	1%	0	-	1	Short stay
Snow Hill	Wolverhampton City Centre	Surface	80	80	0	0%	0	-	0	Short stay
Wolverhampton Aldi	Wolverhampton City Centre	Surface	108	101	7	7%	0	-	2	Short stay
ASDA	Wolverhampton City Centre	Surface	570	541	29	5%	0	Free <2 hours	2	Short stay

Molineux	Wolverhampton City Centre	Surface	376	370	6	2%	0	-	0	Long stay
Birch Street	Wolverhampton City Centre	Surface	327	324	3	1%	0	-	1	Long stay
Fryer Street	Wolverhampton City Centre	Surface	52	51	1	2%	0	-	0	Long stay
Corn Hill	Wolverhampton City Centre	Surface	170	170	0	0%	0	-	0	Long stay
St Marks (Sainsburys)	Wolverhampton City Centre	Surface	738	729	9	1%	0	-	0	Short stay
Mander Centre	Wolverhampton City Centre	Multi-storey	500	485	15	3%	0	-	0	Short stay
	Total		**3,741**	**3,664**	**82**		**0**		**6**	

Appendix E ULEV Infrastructure Study

AECOM Imagine it. Delivered.

Black Country: ULEV Infrastructure Study

May 2021

Quality information

Prepared by	Checked by	Verified by	Approved by
[redacted]	[redacted]	[redacted]	[redacted]

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Glossary

ACRONYM	Description
AADF	**Annual Average Daily Flow**
AEVA	**Automated and Electric Vehicles Act**
AQMA	**Air Quality Management Areas**
CAPEX	**Capital expenditure (initial capital costs)**
CAZ	**Clear Air Zone**
CSMS	**Charging Station Management System**
DNO	**(Electricity) Distribution Network Operator**
EPBD	**Energy Performance in Buildings Directive**
EPSRC	**Engineering and Physical Sciences Research Council**
EqIA	**Equality Impact Assessment**
ERDF	**European Regional Development Fund**
EV	**Electric Vehicle**
GHG	**Greenhouse Gas**
ICE	**Internal Combustion Engine (Vehicle)**
LA	**Local Authority**
LEP	**Local Enterprise Partnership**
LSOA	**Lower Super Output Area in England and Wales**
OCPP	**Open Charge Point Protocol**
OPEX	**Operational expendtiure (ongoing costs)**
ORCS	**On-street Residential Chargepoint Scheme**
OZEV	**Office of Zero Emission Vehicles**
SME	**Small to Medium sized Enterprises**
SPD	**Supplementary Planning Document**
SQL	**Structured Query Language**
STEP	**Subsurface Technology for Electric Pathways**
TfWM	**Transport for West Midlands**
TRO	**Traffic Regulation Order**
TSRGD	**Traffic Signs Regulations and General Directions**
UKCRIC	**UK Collaboratorium for Research on Infrastructure and Cities**
ULEV	**Ultra Low Emission Vehicle**
V2G	**Vehicle to grid (electricity connection)**
VCA	**Vehicle Certification Agency**
WCS	**Workplace Charging Scheme**

1. Introduction & Context

1.1 The authorities that make up the Black Country have sought AECOM support with a Car Parking Study which has coincided with the delivery of a high level ULEV Strategy prepared by CENEX[1].

1.2 With a significant focus on decarbonisation and the proliferation of Ultra Low Emission Vehicles (ULEV), there is an obvious need for local authorities to support the uptake by providing appropriate charging infrastructure, and especially in relation to provision of car parking.

1.3 This report aims to:

- Highlight local authority best practice in relation to ULEV infrastructure implementation (Chapter 2);
- Provide Selection criteria for where ULEV charging would be most appropriate, which could be used in support of the carpark study (Chapter 3); and
- Provide practical outline design guidance to inform future capacity and infrastructure requirements (from proportion of Electric Vehicle (EV) bays, to bay size, from electricity demand to charger size and mix) using good practice and industry led guidance (Chapter 4).

1.4 The deployment of ULEV chargepoints needs to incorporate all three elements and whilst presented independently they are by no means mutually exclusive. From a decision to implement chargepoints, authorities need to adopt a holistic approach exploring implementation considerations, site selection criteria, and critical design elements to avoid reaching conclusions to soon and or effort wasted. These interlinked elements can be visualised in Figure 1 below.

1.5 Whilst the main study and this guidance is targeted at ULEV infrastructure and carparking, it also has significant relevance to wider ULEV deployment.

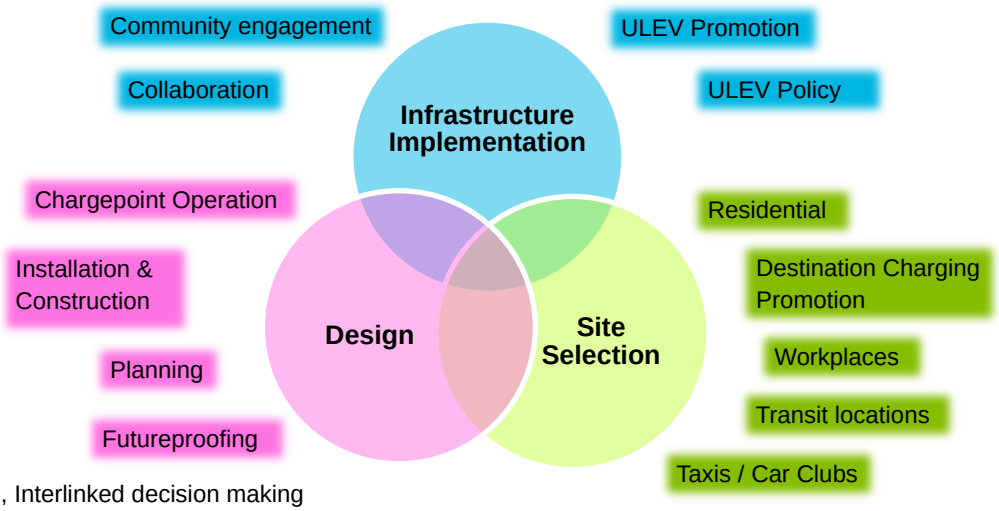


Figure 1, Interlinked decision making

[1] Black Country ULEV Strategy, CENEX, 2020

2. ULEV Infrastructure – Best Practice

Overview

2.1 This chapter identifies and distils lessons learned from other UK local authorities in their efforts to deliver ULEV infrastructure and charger networks across the UK. The information will also help the Council's determine their focus when implementing infrastructure plans, particularly in the short term.

2.2 The Black Country has already developed a ULEV programme recorded in the ULEV Strategy Report, May 2020. As such, a programme of ULEV infrastructure implementation has already been identified and consulted on at various stages of the strategy development. Similarly, Transport for West Midlands (TfWM) produced a ULEV Strategy for Transport for West Midlands[2] which puts forward a number of key policies and considerations that will impact on the implementation of the Black Country's ULEV strategy. This document provides clear, concise guidance on good practice to achieving successful implementation by taking account of the relevant outcomes of these regionally significant strategies.

Council led activity for Black Country

2.3 Whilst work by Black Country authorities, the Local Enterprise Partnership (LEP) and TfWM has already led to some inward ULEV infrastructure investment, there is still significant scope for 'quick wins'. This section discusses council led best practice activities that can be completed to encourage ULEV growth and infrastructure.

Promotion and awareness raising

Awareness and education programmes which promote the benefits of driving ULEV - financial, environmental, and social.

2.4 **Consumer awareness of EV benefits needs to be improved**. Winning over the hearts and minds of local residents is integral to increasing electric vehicle adoption and in turn ensuring that there is a market for the provided charging infrastructure. There is a wide range of myths and misconceptions in the public domain. Although high quality content exists through the national Go Ultra Low programme and website including fuel saving calculators to support cost savings messages, the reach of the campaign is limited in the region. We would recommend a localised version of Go Ultra Low content is created, focussing in on some of the key messages of the benefits of electric car ownership supplemented with relevant local information on charging infrastructure including planned infrastructure, where it is and how to access it.

2.5 The most cost-effective way to do this would be through the creation of dedicated EV-specific pages on either the existing council websites or applications that make up Black Country, or through a stand-alone microsite. To drive on-line traffic to these pages, we would recommend also that this is

[2] Transport for West Midlands (TfWM) ULEV Strategy, delivered by Cenex to the West Midlands Combined Authority (WMCA) in January 2020.

supplemented by social media activity through existing council channels across the Black Country.

2.6 Whilst the existing levels of infrastructure in Black Country are low, a PR exercise to raise awareness of the availability of charge points that do exist may also help anyone considering making that switch. Typically, resident's surveys completed for authorities across the UK state that more charge points are needed, but residents underestimate existing provision, and therefore any infrastructure developments should be promoted.

2.7 Another great way to get the message out about electric cars is through roadshows and events. Getting the public to try an electric car is one of the most successful engagement steps. Previous studies undertaken by AECOM have shown that people's interest in electric cars increased once they had been given the opportunity to see a vehicle up close or drive one for themselves.

2.8 We would therefore recommend that if Black Country wishes to embark on awareness raising activity, they concentrate on developing a calendar of roadshow events for both businesses and the general community. This could be as part of clean air and environmental events in the area. Working with local dealerships or a local car club is an excellent way to do this, if they are willing and able to offer test drives to attendees.

2.9 We would also recommend that business engagement would be an essential part of raising awareness. Business-in-Kind rate for electric cars has been set at 0% since April 2020, which has led to a rise in interest from businesses in switching their fleets to electric cars. However, many businesses and employees will be unaware of this development which has reduced the cost to EVs in real terms.

2.10 In addition to this, workplace grants for EV charging infrastructure are still available from Office for Zero Emission Vehicles (OZEV) the Workplace Charging Scheme (WCS) is a voucher-based scheme that provides support towards the up-front costs of the purchase and installation of electric vehicle charge-points, for eligible businesses, charities and public sector organisations. This provides an incentive to businesses to consider preparing for the future.

2.11 These are two important messages that could support EV adoption in local businesses if promoted well. Black Country authorities will already be actively engaged with local businesses through, for example, the Black Country LEP. These links and networks can be utilised to great effect for promotion and awareness of ULEVs and funding opportunities available.

Recommendations

- Communication plan for local electric vehicle messages – online (website and social);
- PR to raise awareness of charging infrastructure developments;
- Roadshows and events with test drives; and
- Business engagement through network with the Black Country LEP.

Policy for Developers

Development a Supplementary Planning Document (SPD) covering ULEV infrastructure.

2.12 A ULEV SPD document should outline **requirements for developers in providing ULEV infrastructure** (both new and retrofit ULEV infrastructure standards for residential, commercial, and 'other' e.g. public car parks).

2.13 Given the wider benefits of ULEV as part of a more sustainable future transport system, the most effective ULEV SPDs should form part of wider parking and sustainable travel SPDs (not a standalone ULEV document). ULEV growth should not encourage additional private car ownership where public transport and walking, cycling is the sustainable transport focus hence the importance of context in ULEV rollout. An integrated ULEV SPD can also cover ULEV bus, taxi and cycle infrastructure, further highlighting the benefits of a combined approach to ULEV and sustainable travel.

2.14 A ULEV SPD should cover the following topics to ensure it is integrated with wider policy and sets relevant and achievable standards and policies for developer led infrastructure deployment.

- Policy alignment and context;
- Guiding Principles;
- Scope;
- Measures; and
- Standards (including future proofing/ passive provision).

2.15 An SPD will capitalise on the private sectors significant role in developing a ULEV infrastructure network. The 2019 Electric Vehicle Charging in Residential and Non-Residential Buildings government consultation (outcome of this consultation pending) is likely to see national regulations for ULEV infrastructure being put forward. However, these standards may not reflect the wider ambition of Black Country, a Black Country SPD will allow locally relevant standards to be set for developers.

Recommendations

- Develop a ULEV SPD as part of a wider parking and sustainable travel SPD;
- The SPD should set out minimum EV charging requirements for different types of major development, including residential (covering different houses types including flats, communal parking areas etc), Commercial/ Retail/Industrial, public car parks, on-street charging on public highway, and mixed use development;
- When developing the SPD care to be given to ensure it covers future proofing of standards i.e. prepare for increased demand in the future by installing passive provision including passive wiring/ ducting, and power capacity provision in addition to the standard scheme requirements; and

- It should be noted that at the time of writing the outcome of the 2019 Electric Vehicle Charging in Residential and Non-Residential Buildings government consultation had not been published. When developing an SPD it is recommended that developers are required to meet whichever standard is the more onerous between those published and those outlined in the SPD.

Industry partnerships for Innovation Funding

Explore partnerships with commercial companies to access Innovation funding.

2.16 The UK Government is investing in innovation to ensure the decarbonise transport by phasing out the sale of new petrol and diesel cars and vans by 2030, with all new cars and vans to be zero emissions at the tailpipe by 2035.

2.17 The Office for Zero Emission Vehicles (OZEV) has significant **funding opportunities for ULEV related innovation projects.** Typically awarded through Innovate UK there are a number of competitive grant funding opportunities covering many aspects of ULEV including infrastructure, with a number a local authorities having benefited from previous Innovation projects.

2.18 Funding has supported both the development of Zero Emission Vehicles (ZEVs) and charging infrastructure technology. Existing opportunities include **Transitioning towards Zero Emission Vehicles** which aims to address key challenges including improve public residential charging in urban areas (on-street and off-street public charging, including community charging opportunities). A number of companies are either working with, or actively seeking to work with, local authorities to develop Innovation projects.

2.19 Whilst not all Innovation projects may led to on-the-ground ULEV infrastructure, at a minimum such projects boost awareness and community involvement, and past projects have resulted in ULEV infrastructure installs, for example, 'UEone' Innovate UK-funded pop-up charger trials in Oxford; and kerbside electric vehicle chargers installed across Brent and Camden as part of the Subsurface Technology for Electric Pathways (STEP) project, which has consortium members including UK Power Networks, Birmingham City Council and the University of Leeds.

2.20 Additionally, it should be noted that the automotive industry has already invested significantly in charging infrastructure in this area. Telsa's supercharger network is already well established, however, other established automotive companies are aware of a growing perception gap surrounding charging infrastructure and are very likely to seek to address this in the near term. Black Country and other LAs across the country should consider their role in infrastructure provision in this context. This is discussed in Chapter 3, with particular reference to Transit Charging Locations.

Recommendations

- Register interest in Innovate UK competition funding;
- Engage with current funding opportunities and explore Industry partnerships to access Innovation funding; and
- Engage with industry groups and actively promote and support prime development sites for ULEV infrastructure.

General attitudes to Electric Vehicles: Black Country resident's survey

Undertake market research with residents in Black Country on their general attitudes to electric vehicles.

2.21 Undertaking ULEV market research with residents in Black Country will gain a greater understanding of driver's current perceptions of electric cars and identify any barriers to switching.

2.22 AECOM have developed a general attitudes survey, as well as evaluation tools which would be happy to carry out as required. This could be circulated through Black Country council communications channels. Stakeholder interviews with local authority key stakeholders were conducted during the development of the Black Country ULEV strategy, which will have made a positive contribution to the strategy.

2.23 The UK government also performs surveys periodically investigating drivers' perceptions of EVs, hoping to track positive changes in awareness and acceptance levels alongside growth in ULEV sales. A Black Country survey would provide local context to understanding the challenge ahead.

2.24 A resident survey can bolster understanding of barriers as well as **provide a strong evidence base to highlight local demand and the infrastructure challenge**, which has been used to great effect in previous successful funding applications for ULEV infrastructure.

Typical a resident survey allows quantified data on:

- Local consumers who had thought about buying an electric car but had decided not to at this stage (potential demand);
- Numbers that feel the lack of charge points would put them off (barrier);
- Awareness of local charge points (strategy);
- Perception of availability of public charge points were needed in the local area; and
- Understanding of company car schemes etc. (Business-in-Kind rate for electric cars has been set at 0% since April 2020).

Recommendations

- Undertake market research survey with residents in Black Country on their general attitudes to electric vehicles;
- Circulate and promote through Councils communications channels/ social media (AECOM are happy to advise, or assist regards successful deployment); and
- Use outputs as quantified evidence to help bolster successful funding applications for ULEV infrastructure.

Stakeholder Engagement

ULEV stakeholders are many and varied each with their own interests and objectives affecting the ULEV charging market.

Key stakeholders include:

- **Vehicle users with personal and business needs;**
- **Equipment and charging service suppliers** – see Section 1.4;
- **Landowners** – promote the ULEV charging opportunities available to land-owners through LA business forums, workshops and events.
- **Electricity suppliers** – through LA centralised electricity procurement;
- **Distribution Network Operator (DNO) grid operators** – to discuss Black Country's evolving strategy and investigate localised areas of power constraint and availability BEFORE surveying proposed charging locations;
- **Local community** – see Promotion and awareness raising;
- Wider **Sustainability community** (health, air quality, carbon etc.) – ensure ULEV agenda is integrated and supported across all facets of authorities' sustainability activities and departments i.e. **not** siloed ULEV activity.

2.25 Suggestions for specific stakeholder engagement activities are based on the ULEV charger site purpose (e.g, workplaces, transit locations, etc) and discussed in Chapter 3.

Recommendations

- Identify wider Stakeholder Engagement activities. Black Country's councils and other public bodies will be presented with a wealth of opportunity to promote ULEV as part of wider sustainability Stakeholder Engagement activities; and
- Use and share developed ULEV materials (see Promotion and awareness raising) during stakeholder engagement activities covering all aspects of sustainability (health, air quality, carbon etc.).

Council Controlled 'Quick wins'

2.26 Our best practice recommendation is that Black Country should focus on **Short-term intervention in ULEV infrastructure charging (5-7 years).** This timeframe intentionally reflects current EV technology because a step-change in charging requirements is unlikely to occur until new technology batteries are available in volume, which is unlikely to occur until nearer 2030.

2.27 Identifying 'quick wins' is therefore pivotal. We have identified three areas of 'quick wins' in which to focus delivery of infrastructure.

Specific ULEV use-cases

Council fleets, taxis/PHV, local delivery fleets, private urban drivers, car-share schemes.

2.28 Concentrate effort and engagement on specify use-cases where demand has already been established and local authorities have greater levels of control.

2.29 **Council fleets** - within Black Country's control to make vehicle changes which are highly visible to the community, raising awareness and leading by example.

2.30 **Taxis/Private Hire Vehicles (PHVs)** – licensing is within LA's control so local legislation could be used as a tool to encourage ULEV conversion. However, be aware that ULEV taxis are currently more expensive than euro-6 diesel equivalents, limiting uptake. Taxi drivers often have no access to off-street parking so cannot charge at home and therefore need to rely on public charging facilities. These could be situated close to home or at frequent destinations such as train stations or airports.

2.31 **Local delivery fleets** – especially those which operate within urban areas with the highest emissions problems. There may also be opportunities to convert Internal Combustion Engine (ICE) vehicles to other low-carbon last-mile travel solutions such as e-cargo bikes in urban areas. However, commercial vehicle operators may prefer to use private depot locations for recharging to ensure certainty of availability and retain control over cost.

2.32 **Car-share schemes** - Traditional car club bays are usually located on public land requiring LA TRO permissions and enforcement measures to protect their use, providing the opportunity to incentivise car clubs to switch to ULEV. Some car clubs operate the traditional model where cars are collected and dropped off at dedicated bays which would require dedicated chargers. Others operate a more flexible offering where cars can be collected and dropped off anywhere, so public charging facilities will be required.

2.33 **Private urban drivers without access to off-street parking** – public charging facilities are required, but only in those areas where demographic data suggests likely EV uptake to 2025. Chargers should be close to homes in residential areas and could be located on-street or in central charging hubs (See Chapter 2 Black Country: ULEV Infrastructure - Selection Criteria).

Quick wins on council owned sites

Council fleet depots /council owned car parks in urban and residential areas

2.34 Supporting deployment of infrastructure in council owned locations where commercial operators are likely to be interested in funding charging provision.

2.35 Council fleet depots are the most obvious example, where engagement with commercial operators to provide charging infrastructure to support council activities can result in both venue for commercial operators and cost savings for local authorities as a result of reduced fleet running costs (See Section 1.4).

2.36 Giving commercial access to council owned land in premium locations to deliver ULEV infrastructure is a second example, engagement with commercial chargepoint provides will quickly establish these locations, arranging a supplier day may be useful.

Residential areas without off-street parking

Targeting existing active OZEV grants with firmly identified demand

2.37 OZEV's On-street Residential Chargepoint Scheme (ORCS) provides grant funding for local authorities towards the cost of installing on-street residential chargepoints for plug-in electric vehicles. Local authorities can suppose this rollout through infrastructure provision with minimal barriers to implementation of on-street infrastructure.

2.38 Guidance on how to identify residential off-street areas is provided in Chapter 3 (Residential Charger Locations).

2.39 Authority led awareness activities associated with the other active OZEV grant, Workplace Charging Scheme, are covered in Promotion and awareness raising.

Other' general best practice for implementation of ULEV infrastructure in council-controlled area:

- We do not recommend that you introduce free public charging services – to avoid drop off in use, instead **introduce a low starting fee, which can be increased in small increments if required**; and
- We do not recommend that you introduce free parking for EVs – this encourages the use of charging bays primarily as parking bays, limiting accessibility to and utilisation of public chargers. **Parking should only free for connected charging vehicles** (I.e. "Free parking", but users must connect and pay a charging fee).

Commercial Logic

Convenience, reliability and cost are the key drivers of public charger use.

2.40 Learning from previous experience of ULEV infrastructure deployment it is important that the commercial logic or the business case to provide each item of ULEV infrastructure is understood.

2.41 Unfortunately, a number of past ULEV infrastructure projects have not been regarded as a success, primarily due to underuse as a result of poor site selection (convenience), or poor maintenance lead to disrepair (reliability) as a result of insufficient or poorly specified contract procurement (cost).

2.42 That is why demand lead site selection is identified as a key good practice measure in the previous section (See also Chapter 3 'ULEV Infrastructure - Selection Criteria') and items on commercial logic are covered below.

2.43 **Securing budget for ongoing operating costs** including effective maintenance and customer service are an important element of the commercial logic.

2.44 **Willingness to pay** is also important at this early stage of the market, where relatively cheap home charging and public charging options are available in the Black Country area. So, fees and revenue expectations must be judged carefully, considering that the ultimate objective is emissions reduction not purely financial return.

2.45 Current EV owners are still early adopters most of whom can charge at home which **limits the demand for public charging facilities**, especially in Black Country which has an above average percentage of dwellings with off-street parking.

2.46 This report highlights **where national public funding is available**. However, even if the Black Country Councils cannot provide public funding towards capital or revenue costs, it can provide attractive support to charging operators through:

- Access to council owned land in premium locations;
- Generating charging demand by converting Council fleet, procured fleet services, taxi/PHV licenses etc. to EV; and
- Supporting charging operators by providing public awareness and education about the benefits of EV.

Procurement Best Practice

2.47 If Black Country decides to procure charging infrastructure and associated services (operation, maintenance, payment services etc.), then you may wish to consider procuring from existing frameworks open to public bodies such as ESPO. This provides the following benefits:

- Access to market leading suppliers with a verified track-record in the industry;
- Offers optional elements and full turnkey solutions;
- Ensures compliance with UK procurement legislation;
- Has direct call-off options;
- Is suitable for lease or purchase of single or high-volume quantities; and
- Pre-agreed terms and conditions.

2.48 A procurement exercise will be required to select suitably experienced and cost-effective contractor(s) to deliver the charger equipment and deployment activities. There is the opportunity to make this a partnership relationship with each party sharing cost, revenue and operating responsibilities.

2.49 The form of contract required will depend upon the council's desired level of involvement. The following options exist:

- Where minimal in-house experience exists a "Design and Build" contract procurement exercise could be undertaken. Here the specification contains only high-level functional details of the sites to be installed to, plus the quantity and type of charge points required;
- Where in-house technical experience is available, the specification could be far more detailed with some or all of the layout and electrical design works performed in- house and provided to the bidders; and
- Alternatively, a separate project manager could be contracted to deliver theses aspects of the project, where both the customer and contractors have limited EV experience.

Revenue generation options

2.50 Plug in Vehicle (PIV) drivers compare the fees levied for public charging services against their home electricity tariff to assess value for money. They also consider the comparative charging cost against ICE refueling cost, since most PIV drivers have chosen the PIV to replace an ICE for the expected reduction in operating cost, as well as for environmental reasons. Therefore, PIV charging tariffs must be chosen carefully to reflect the relative convenience of the service on offer.

2.51 Public charging costs currently vary between network operators, and also by charge point type and membership or pay as you go (PAYG) schemes. Some operators still provide free charging services, whilst others charge by duration (per hour), although most drivers favour pricing per unit of electricity received (kWh). Many operators now charge a fixed connection fee in addition to their per kWh tariff. Some operators offer membership schemes with monthly fees attracting low per kWh rates, although most also offer a PAYG facility in line with current UK Government capital funding requirements. Some examples of current offerings by leading players in the UK EV Charging market are provided in Table 1 below.

Network Operato	Charger Type	Fees / kWh	Other Fees
PB Pulse	Slow, fast, rapids	12p/15p/27p/kWh	Subscription = £7.85/ month
Electric Highway	Rapids	30p/kWh	15p/kWh for Ecotricity home energy customers
Shell Recharge	Rapids	39p/kWh	No subscription
Genie Point	Fast, Rapids	25p	Connection fees recently dropped (2021)
Charge Your Car (CYC)	Slow, fast, rapids	Various from Free	£1 connection fee. Recharging fees vary (both flat fee and per kWh)

Table 1, Examples of EV charging network offerings March 2021

2.52 Tariffs should reflect the perceived benefits of the charging service being provided (convenience, reliability, availability and price) to ensure use, so great care must be taken to set fees which are acceptable to PIV drivers. These vary depending upon the perceived value of the charging service provided. Typically, lower fees are charged for slow and fast charging services than for rapid services. In recognition of the higher value associated with the rapid use case, network operators tend to charger higher fees for rapid charging the highest price currently being charged in the UK is 39p/kWh for rapid.

2.53 To provide Black Country with some examples of charging network revenue, we present the results of a 2018 use study on the North East Combined Authority's EV charging estate. Using the total electricity delivered in 2018, we calculated the revenue if users had been charged at a comparative level to UK home electricity prices i.e. charging fees @15p/kWh. This fee would have produced a revenue of £72,284 over the period. Regular revenue from charging services could clearly assist the charging network owner in maintaining, growing and

upgrading the charging network to meet future demand and technical capabilities.

2.54 Further examples of potential revenues are provided for illustration purposes in Table 2, at a range of public charging tariffs. This revenue must be sufficient to cover the ongoing OPEX costs of power, land lease, maintenance, operation, customer service and any network development requirements to meet customer needs which should grow as PIV uptake increases.

Potential electricity revenues			Electricity tariffs /kWh				
2018 Use	Average energy (kWh)	No. of charge events	£0.15	£0.25	£0.30	£0.35	£0.40
Fast chargers	7.66	29,774	£34,210	£57,017	£68,421	£79,824	£91,228
Slow chargers	7.77	4,402	£5,131	£8,551	£10,261	£11,971	£13,681
Rapid chargers	9.53	23,045	£32,943	£54,905	£65,886	£76,867	£87,848
Revenue			**£72,284**	**£120,473**	**£144,567**	**£168,662**	**£192,756**

Table 2, Potential EV charging revenues, for illustration purposes only

2.55 One alternative commercial model is for the LA to require the network operator to pay all OPEX costs, taking responsibility for the costs of powering, operating and maintaining the network and therefore setting an appropriate fee with the LA's agreement. The network operator then makes a payment per transaction back to the LA. If a p/kWh payment from each charging transaction was required, this would result in the following example revenue based on 2018 use:

@ 1 p/kWh - Revenue = £ 4,817

@ 2 p/kWh - Revenue = £ 9,634

2.56 Alternative means of generating revenue could include charging for parking and other services whilst recharging a PIV. If parking charges are introduced at most fast and slow public charger locations this may provide a greater revenue than the pence-per-transaction model. The duration of fast and slow charging events often reflects the duration of parking rather than the energy delivery period, so this would provide recompense for the parking service being provided as well as the charging service. Combined fees can be levied by the network operator, reimbursing the parking operator accordingly.

2.57 **Therefore, we suggest that appropriate fees are agreed with the procured network operator, varying by charger type.**

ULEV Infrastructure Implementation Case Study

2.58 A ULEV infrastructure case study is outlined in this section. The study is based on the Newcastle & Sunderland EV Filling Stations, which are operated as Fastned Charging Stations.

The case study provides a high-level roadmap of how ULEV infrastructure has been successfully implemented and operated in the UK. Information is provided on background and funding, site selection and procurement, back office-requirements, as well as best practice and lessons learnt.

Newcastle & Sunderland EV Filling Station / Fastned Charging Station

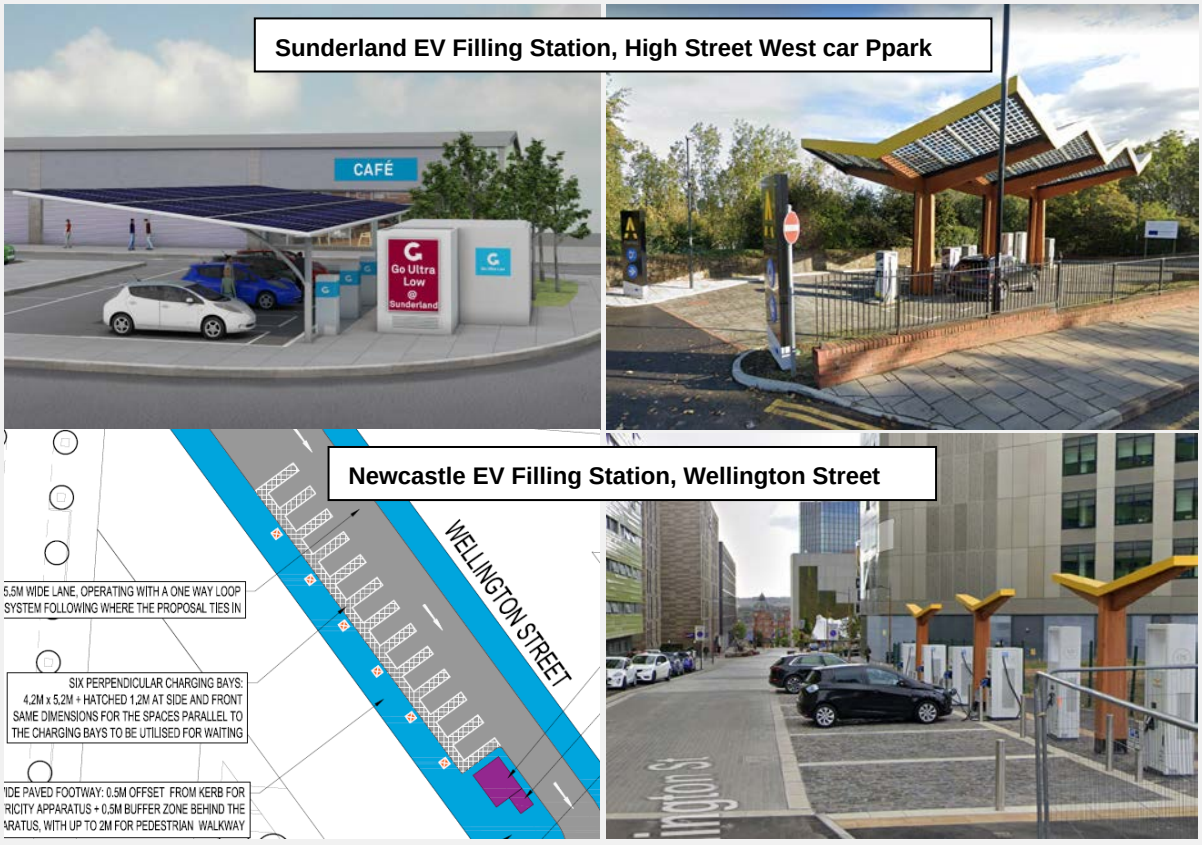


Figure 2, GULFS Initial development drawings/ concept sketches (left) and on-the-ground' Fastned Charging Stations at Sunderland and Newcastle (right)

Background and Funding

As part of the Go Ultra Low City Scheme NECA successfully obtained £1.5 million in development funding to deliver a new wave of EV charging infrastructure across the region, as well as to promote EV uptake with SMEs. The funding was also utilised to deliver a EV Filling Station to add to the existing public charging infrastructure network. The site was to provide rapid and standard EV charging points (7kW, 50kW and 175Kw), with grid connection and local energy storage facilities.

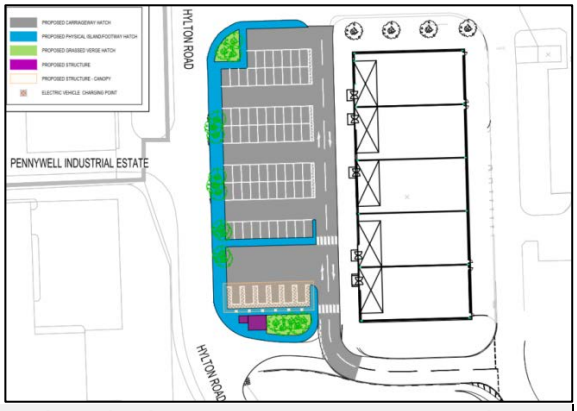
A separately funded partner site at the University of Newcastle was also developed. Funding for this site was obtained through the European Regional Development Fund (ERDF), the Engineering and Physical Sciences Research Council (EPSRC) and the UK Collaboratorium for Research on Infrastructure and Cities (UKCRIC).

Route to procurement

To enable a procurement process, viability assessments and technical studies for the redevelopment of both potential sites were completed by AECOM.

As part of the studies:

- An EV infrastructure demand and site selection report was completed to identify and shortlist potential sites.
- A review was undertaken of valid site(s) to establish potential planning constraints and opportunities.
- An assessment of each site was undertaken which included building and planning requirements, location strategy, highway access, previous land uses, utilities, environmental, and geotechnical.
- AECOM identified and defined all the key components of the EV charging infrastructure and the interaction between them, including considerations of demand levels and patterns of use, charge point details, grid connection, substation design, energy storage, and canopies.
- Concept layouts were developed for both sites which considered all users, including patrons as pedestrians accessing additional facilities such as retail outlet, rest area, etc. during charging events.



AECOM worked collaboratively with various stakeholders including NECA, Newcastle Science Central, the DNO, and site landowners, to develop a practical solution at both locations.

This supported enable the client to undertake a joint procurement exercise for the design, construction, and subsequent operation (including maintenance and back office support) for both sites.

Fastned were selected through a procurement exercise which identified that they were the best fit in terms of the aims and objectives of the funding criteria.

Operation and Back office Support

Fastned operate and provide a back office and customer service as part of their overall network covering the Netherlands, Belgium, Germany and the UK.

Best practice/ lessons learnt

- Rapid charging solutions are heavily reliant on a DNO grid connection. Consider gird connections as early as possible in the design process.
- Solar PV has been incorporated to supplement the power requirements of the Sunderland site.
- Procurement of a design, construction, and operation model significantly reduces project delivery risk.

3. ULEV Infrastructure - Selection Criteria

Overview

3.1 First and foremost, ULEV charging infrastructure provision should be based on identifying the needs of specific ULEV user groups in order to ensure cohesive and balanced delivery. Our Location Types are based on types of ULEV users identified previous experience and market research developed over multiple ULEV projects across the UK.

3.2 This chapter outlines the selection criteria for identifying suitable ULEV charging provision for each Location Type. Specific example sites are identified to demonstrate how the selection criteria may be applied, and practical 'Next Steps' outlined to provide a clear way forward once the Selection Process is complete.

3.3 Following an overview of the Selection Process, provision for each individual Location Type is considered over the following sections:

- Destination charging;
- Residential charging;
- Transit locations;
- Workplaces;
- Commuter locations; and
- Taxis (and car sharing clubs/ others).

3.4 Following the application of site selection criteria in this chapter, a subsequent site assessment should be carried out for any identified ULEV infrastructure site. The process and considerations to complete a successful ULEV infrastructure site assessment are provided in Chapter 4.

Selection Process

3.5 Before considering specific ULEV Infrastructure selection criteria it is important to consider the wider context. Whilst quantitative area data can be used to both identify and assess the relevant merit of development sites for ULEV infrastructure this should not be done in isolation, with several previous work stages recommended as part of a wider ULEV infrastructure strategy.

3.6 The Black Country already has a developed ULEV programme recorded in the ULEV strategy Cenex report, May 2020. As such, many valid sites for ULEV infrastructure have already been identified and consulted on at various stages of the strategy development. Similarly, the TfWM ULEV Report puts forward a number of key polices and considerations that may impact on site selection going forward.

3.7 This document does not seek to repeat this work, rather offers condensed assessment criterion for each Location Type so that Black Country authorities

have the tools to assess the continued validity of any potential ULEV charger sites ‘as and when’ resources or funding allow for the completion of the ULEV programme put forward in the Cenex report.

3.8 Previous workshops clarified Black Country’s vision for infrastructure which has a direct bearing on site selection, for example:

- All the participants agreed that Black Country should aim for a minimum of five minutes’ distance from a rapid charger in five years’ time. Just over half of them proposed 500 metres as a minimum distance from on-street charging for densely populated areas, with a third suggesting 250 metres.
- All participants agreed that council offices, depots, carparks and sports facilities should be equipped with a minimum level of EV charging infrastructure.
- A majority of respondents agreed that the requirements for active charge point provision at commercial, retail and industrial should go beyond the legal minimum and serve between 15 and 25% of car park spaces.

3.9 Notwithstanding the previous strategy development, a Strategic ULEV Infrastructure Workshop is a powerful tool for identifying and prioritising key sites. Local knowledge from council officers and other stakeholders can quickly and effectively capture qualitative potential site data through group discussions.

3.10 It is recommended as part of the Black Country ULEV Strategy, Vision and Implementation Plan identified in the Cenex report, site selection ULEV Infrastructure Workshops are run (annually dependant on resourcing) to review progress and reprioritise sites within the ULEV programme.

3.11 At these workshops digitalised map outputs of the identified shortlisted sites in the Implementation Plan should be available, along with other quantitative area data described in the following sections. These workshops will provide the qualitative data to support the Selection Criteria and enable the completion of subsequent analysis so that the Implementation Plan remains prioritised, relevant and on track.

3.12 Officers covering parking and sustainability are typical candidates for Strategic ULEV Infrastructure Workshops, however, wider participation should be encouraged due to the wider benefits and impacts of ULEV adoption (e.g. transport planning, highways, air quality, environment, health, sustainability, development, commercial).

Destination Charging

3.13 Destination charging is defined as any public location with a car park where there is a high footfall of people typically spending above 2 hours.

3.14 This could be described as high streets, leisure and cultural facilities, tourist attractions, shops and retail outlets.

Charge point type:	Fast (7kW)
Preferred location:	Off-street in prime town centre locations and 'points of interest' (POIs).

Selection Criteria

3.15 Our typical methodology for developing lists of destination locations for ULEV infrastructure utilises Google Application Programming Interfaces (APIs) to develop quantitative lists of popular POIs within a specified area. Through use of Google API it is possible to gain site specific information on number of visitors, visitor duration, and other user type information relevant to infrastructure planning. This approach typically incurs a small cost, however, alternatives such as Open Street Map and other third-party mapping resources can be used to capture key destination data.

3.16 However, whilst this data can be used directly to identify and prioritise "Destination" charger locations, for large areas such as the entirety of Black Country, it is not practical to identify key Destination sites solely using quantitative data given the large volumes of potential destinations. As discussed in Clause 3.9, a Strategic ULEV Infrastructure Workshop is a powerful tool for identifying and prioritising key sites. Local knowledge from council officers and other stakeholders can quickly and effectively capture qualitative potential site data through group discussions. Moreover, the use of POI maps can be used as workshop material for instigating and supporting discussion during these workshops, with additional relevant POI identified and prioritised to complete the Destination locations dataset.

3.17 The following relevant data is required to aid Strategic ULEV Infrastructure Workshop:

- Points of interest (Google API/ open source data sources);
- Car park locations;
- Car park ownership;
- Size of car parks/ demand data; and
- Existing charger locations.

3.18 Following a Strategic ULEV Infrastructure Workshop, it is recommended that Destination locations captured in the workshop are digitalised to aid subsequent analysis. For example, GIS clustering or distance buffers can be performed to identify cases where multiple POIs are served by single car park. The resulting output is an evidenced, prioritised list of ULEV infrastructure sites within the area of interest.

Our recommendation

3.19 A focus on destination charging in town centres would be a key recommendation for the foundations of a joined-up strategy across Black Country. Many of the town centre locations do not have charge points present and therefore a strategic option would be to begin by installing one double

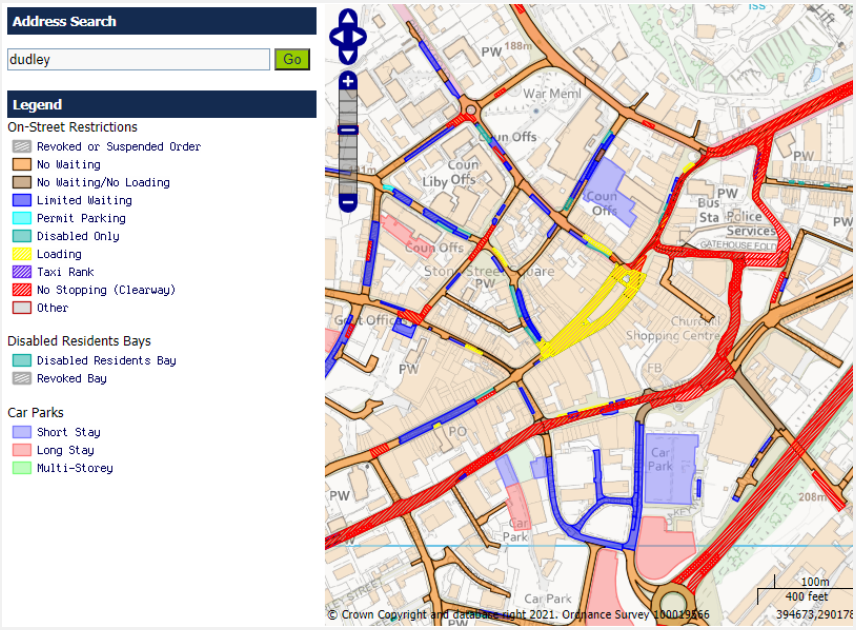
headed charge point per location and monitoring subsequent demand. By taking a phased approach, Black Country can grow their network according to demand, providing a visible asset to the community but also avoiding underutilised assets.

3.20 There are many benefits of focusing on town centres as charge points can support multiple use cases including workers, shoppers and visitors as well as raising profile of ULEVs.

3.21 We would recommend that for ease of installation and operation that, where appropriate, car parks in council ownership would be key to prioritise, however, we would advise that charge points should be placed in visible locations – at the entrance of car parks where possible – and not tucked away where they are difficult to find.

3.22 Destination Charging Case study location:

Dudley town centre: Tower Street



Google Images, 2021.

Currently there are only two ULEV chargers within a reasonable distance of Dudley town centre, sited at Premier Inn, Castlegate and Stafford Street. The wider car parking provision within a c1.5km radius of the main built-up area and associated retail and commercial locations is approaching 1000 car parking spaces.

Given the large population of the built-up area, and destinations including the colleges, shopping streets, shopping centre and amenities, charging point(s) in a more central location close to these destinations should be prioritised.

Tower Street car park offers a centralised and prominent position for charging infrastructure, however, it is currently short-stay only. As such consideration could be given to revised time restrictions for charging use or, alternative locations found. Potentially, Flood Street car park or bolstering of existing charge provision in Stafford Street car park.

Whilst not in direct council control, ULEV infrastructure at other key destinations with significant car parking should also be encouraged and engagement directed, for

example, with Dudley College of Technology, and Dudley Zoo and Castle. Similarly, the Dudley Metropolitan Borough Council office car park should be reviewed and appropriate provision provided.

Next steps

- Collate the suggested data and mapping relevant to ULEV Infrastructure;
- Hold a Strategic ULEV Infrastructure Workshop to review and prioritise a list of Destination chargers for Black County based on the Cenex site short lists and quantitative data sets above;
- Review suggested locations with individual authorities – in particular to assess parking regulations, opening times, space availability and accessibility;
- Agree consistency in parking fees, charging fees, enforcement and maintenance across Black Country;
- Undertake site surveys to identify exact locations, costs and power capacity;
- Undertake procurement charge points, installation and network operation; and
- Promote availability through council communications.

Residential charging

3.23 The most well-known element of UK Electric Vehicle Supply Equipment (UK EVSE) is the charge point – also called a charging post, charging point and charging station.

3.24 Residential charging is defined as charging provision for residents without access to off-street parking where charging at home is not possible.

3.25 Residential charging is often located in areas where there is a high percentage of terraced housing and apartments / flats where there is no dedicated parking facility. Residential charging sites are not typically public car parks. However, they do include communal car parks associated with larger developments, as well as on-street public parking.

Charge point type	Fast (7kW)
Preferred location	Either on-street parking or in appropriate local car parks (for overnight charging)

Selection Criteria

3.26 Whilst a number of the towns in Black Country contain areas where access to a driveway or garage is a potential restriction to EV uptake, it is a reality that the affluence and demographics of the majority of these areas do not suggest a high uptake of EVs is likely in the short term.

3.27 However, whilst not ‘quick wins’ for installing charger infrastructure, the public sector has an important role going forward to ensure access to ULEV infrastructure does not become an issue of inequality i.e. ensuring ‘Environment Justice’ in access to ULEVs through provision of charger infrastructure in less affluent areas.

3.28 Nonetheless, given the low existing levels of ULEV infrastructure in Black Country it is important that in the immediate term any new residential charging infrastructure has a high likelihood of be well utilised in order to provide value for money. This means identifying affluent areas without access to off-street parking.

3.29 It is relatively simple to identify affluent areas without access to off-street parking over large geographic areas using GIS. Firstly, Housing Type data is available for each Lower Super Output Area in England and Wales (LSOAs) (typically populations of 1500 people) from the Office of National Statistics (ONS). From this dataset the total number of terraced houses in each LSOAs can be calculated.

3.30 A Structured Query Language (SQL) query can be run in ArcGIS so that only areas with a high percentage of terraced housing are considered; terraced housing should be used as an attribute due to the tendency for this type of housing to be more likely to be without access to off-street parking. The variation in the number of stretches of terraced housing/ relative percentage needs to be considered on a case-by-case wider area level to ensure a manageable area coverage is output.

3.31 Terraced housing areas could broadly be considered less affluent than areas of detached and semi-detached housing. However, by using the Indices of Multiple Deprivation (IMD) dataset which assigns each LSOAs a deprivation rank and decile, it is possible to identify more affluent areas with high levels of terraced housing using the Intersect tool in ArcGIS. Alternatively, this methodology can be adapted and utilised for identifying potential charging locations in more deprived areas. For example, following the SQL terraced housing query, apply a further query to identify only areas in the top 3 deciles of deprivation.

3.32 AECOM would also recommend the use of Experian's Public Sector Mosaic database to accurately identify high potential residential charger areas. Public Sector Mosaic customer profiling classifies all UK citizens into 15 groups based on analysis of the latest trends in UK society, a wealth of high quality, comprehensive data sources and a sophisticated proprietary approach to cluster analysis, supported by analysis of market research to validate the classification.

3.33 Public Sector Mosaic is available on a household level and in the context of Residential charging provision can be used directly to identify areas with a high number of households likely to want to invest in a ULEV vehicle in areas without access to off-street parking. For example, use Mosaic to identify 'Group G' citizens, which are typified in the data as 'Young well educated city dwellers'. Each Mosaic 'Group' is further broken down in to 'Types'. Again, wider area review and knowledge of using the dataset is recommended, however, it is suggested that the following specific Types be reviewed as a start point for shortlisting potential Residential charger locations: G29 "Young professional families settling in better quality older terraces"; and G31 "Owners in smart purpose built flats in prestige locations, many newly built" Figure 3.

Figure 3, Imagery from Mosaic Public Sector, Group G. 'Young well-educated city dwellers'

3.34 Residential Charging Case study location:

Stourbridge: Western Road

Google Images, 2021.

Stourbridge is an affluent market town in Metropolitan Borough of Dudley within Black Country. The town contains a number of attractive residential streets with a mix of medium to high value terraced and semi-detached housing with limited access to off-street parking.

Western Road (image above) is an archetypal example of a location where the provision of on-street charging may lift a potential restriction to ULEV uptake, as relativity affluent homeowners without access to a driveway or garage gain confidence to purchase an EV through the provision of on street infrastructure.

Whilst there are a few existing public access charging facilities in Stourbridge, for example, Tesco Extra, residential charging infrastructure is far more likely to appeal to residents in Stourbridge, many of who may commute to work in larger cities, including Birmingham, and not routinely park in other centres more locally to facilitate charge events.

Our recommendations

3.34 Consultation on building regulations relating to residential developments and charging infrastructure closed in October 2019. Whilst the ongoing Covid-19 Pandemic have delayed the outcome of this it is anticipated imminently. The council should track and understand the implications of this for new developments.

3.35 We would however recommend that the Council considers the possibility of installing residential chargers in some areas to enable those without access to a driveway or garage who would be able to charge at home. We recommend

that the focus should initially be on areas with high levels of affluence where purchasing an EV could be a feasible option but where access to charging may be a barrier.

3.36 A methodology for identifying these locations across Black Country has been presented above. However, as with Destination charging, and referenced in Clause 3.15 above, it is strongly advised that a Black Country Strategic ULEV Infrastructure Workshop should be organised in the first instance, in order to best capture local qualitative suggestions for affluent areas with restricted access to off-street parking, from which to complete the subsequent quantitative selection process.

Next steps

- Understand the implications of building regulations of new developments when launched in 2021 (consultation outlined below) and communicate this to developers; and
- Investigate opportunities for OZEV residential charging grants should the Council wish to proceed with targeting specific residential locations (see information below with an overview of the scheme including criteria).

Building regulations consultation

3.37 Over the summer of 2019, the UK government, under the provisions of the Automated and Electric Vehicles Act (AEVA), consulted on how to adopt the EU's Energy Performance in Buildings Directive (EPBD) into UK law. The EPBD sets out requirements for the minimum provision of charging infrastructure in new and existing residential and non-residential buildings. The outcome of this consultation is yet to be announced, however, it will likely impact the requirements for provision of EV charging infrastructure within car parks.

3.38 A summary of the consultation proposals is provided in Table 3. The proposals for non-residential buildings are intended to ensure that existing and new key destinations and workplaces are able to accommodate growing EV volumes. The proposals for residential buildings aim to increase the likelihood of homeowners purchasing ULEVs by updating the Building Regulations to require EV charging infrastructure in all new homes, where appropriate.

UK Government's Consultation Options

Requirement	Residential New Buildings	Non- Residential New Buildings	Non- Residential - Existing Buildings
Charge points	At least 1 Charge point (min 7kW) for all parking spaces	1x Charge point for each new or majorly renovated non-residential car park with >10 spaces	1 x Charge point installed for every non-residential car park with >20 spaces
Ducting	Ducting for all parking spaces	Ducting for one in 5 parking spaces for each new or majorly renovated non-residential car park with >10 spaces	No additional ducting
Timing	From date regulation comes into force	From date regulation comes into force	By 1st Jan 2025

Table 3, UK Government consultation proposals for EV charging provision in residential and non-residential buildings

OZEV's on-street residential charging grant

3.39 OZEV's on-street residential charging scheme offers 75% funding towards the capital costs of procuring and installing charge points for residential areas, with associated dedicated parking bays. This presents an opportunity for local authorities wishing to provide charging facilities in areas where off-street parking is limited and could possibly be applicable for charging provision for disabled EV drivers in the Park's residential areas.

3.40 The capital funding covers:

- The purchase cost of the charging unit;
- The purchase cost of electrical components related to the charge point including Distribution Network Operator connection costs;
- The cost of civil engineering works related to the installation;
- Labour costs of the installation;
- Hardware costs of the installation;
- The capital costs of a parking bay and traffic orders (paint and signage);
- However, there are some challenges in taking advantage of this scheme;
- The relevant local authority needs to provide 25% match funding;
- Ongoing running costs including operation and maintenance must be covered by the relevant authority;
- Each charge point must have its own dedicated EV bay enforced by a TRO. In our experience through the TRO consultation period, residents have expressed concern regarding the converting of general parking bays to EV only, perceiving this to be a benefit to individual residents. Where disabled EV drivers are to benefit, this may lessen objections; and
- Charge points must also be available for use on a 24/7 basis, leading to issues of enforcement

Transit Locations

3.41 Transit charging tends to be for drivers on the go, who want to lengthen their journey or need a charge quickly. So, speed and availability is key.

3.42 Transit charging is therefore most frequently found on motorways and highways and under a mile away from the junction for ease of accessibility. Charging needs to be rapid and often with multiple charge points at one location as a hub or even a filling station to avoid queuing once uptake increases.

3.43 Transit charging locations can also play a role in supporting charging for drivers without access to off-street parking if the location chosen is on a key commuter route where drivers can stop on their way to or from work.

3.44 It should be noted that the automotive industry has already invested significantly in charging infrastructure in this area. Tesla's supercharger

network is already well established, however, established automotive companies are aware of a growing perception gap surrounding charging infrastructure and are very likely to seek to address this in the near term. Black Country and other LAs across the country should consider their role in Transit infrastructure provision in this context.

Charge point type	Rapid (50kW or above)
Preferred location	On main motorways / highways or just off the main route

Selection Criteria

3.45 Transit Charger Locations can be primarily identified based on their proximity to the largest flow roads. Annual Average Daily Flow (AADF) data for the Strategic Road Network (SRN) is maintained by Highways England and available via a web based GIS https://webtris.highwaysengland.co.uk/Home/Faqs.

3.46 SQL queries can be applied to obtained AADF data in ArcMap so that only roads identified with the highest flows are considered for the location of Transit Chargers. Buffers can be set around the selected roads to aid shortlisting, for example all car park sites within a 1.5km. This method is also useful as well as relevant for commuters and key destinations charging as part of a considered wider infrastructure strategy.

3.47 Following this shortlisting of sites through analysed of strategic route flows, a route-based assessment should be completed to evaluate the journey between the strategic road network and the identified sites. Journey time is a key consideration; however, the assessment should be more objective, based on quality of journey and suitability of encouraging trips to the site.

3.48 Key considerations for the Transit Charger Location route assessment include:

- Journey time;
- Congestion levels;
- Junction types;
- Route area use (i.e. appropriateness of encouraging transit trips through areas - residential/ commercial/ other); and
- Surrounding site area use (i.e. isolated car park not preferable, presence of nearby facilities/ shops etc. preferable).

3.49 It is noted that Transit Charger site selection criteria have crossover with the subsequent site assessment, required once specific sites are selected (Chapter 4).

3.50 Typically Transit Locations are focused on the UK's motorway network, however, in the context of Black Country with only limited motorway infrastructure it is likely that significant transitional journeys are being made outside this network. For example, the A41, A449, A4123 etc (See Case Study Example below).

Our recommendations

3.51 The majority of motorway services now play host to rapid charging points through the Ecotricity network.

3.52 Rapid chargers at the M5 Frankly motorway services, and the M6 BP Great Barr services flank Dudley and Walsall respectively. Rapid charging on highways is still developing but with the emergence of a number of commercial operators such as InstaVolt, Shell and Geniepoint (BP) this is growing all the time.

3.53 As rapid charging provision is expensive both in terms of purchase and installation of equipment and the often additional DNO connections required, we would recommend that Black Country focussed initially on one strategic location.

3.54 A full review of AADF flows and strategic locations has not been performed in this study, however, an example case study location is provided below.

3.55 **Transit Charging Case study location:**

Burnt Tree: New Birmingham Road A4123

Google Images, 2021.

In the context of Black Country, Burnt Tree offers a good opportunity for a charging hub. Although rapid provision is available on the M5/ M6 Ecotricity network, we believe that the Interchange could provide a valuable stopping point for those who do not wish to join the motorway for a charge; and serves popular transit routes between Black Country towns such as Wolverhampton, Dudley and Walsall and areas in Sandwell, as well as commuter routes to Birmingham.

We would recommend that alongside a rapid charge point, some 7kW provision should also be included to offer a long-stay option for those drivers who are wishing to combine public transport into their journey making this a multi-modal transport location.

Next steps

- Complete wider strategic review of sites using the above selection criteria (including engagement with Highways England);
- Begin discussions with developers and landowners of adjacent to sites, for example, the Burnt Tree, new Birmingham Road area to gauge interest and

feasibility of the introduction of charging provision within a car park. For example, Tesco Extra; and

- Go out to market to understand interest in operating charger infrastructure in identified locations.

Workplaces

3.56 Workplace charging is an ideal alternative for EV drivers without access to off-street parking it is a key location where most vehicles are parked for a significant part of the day.

3.57 Workplace charge points could be used for both fleet vehicles, employees and visitors and an OZEV workplace grant is still available for any individual businesses wishing to install charge points.

Charge point type	Fast
Preferred location	Workplace car parks – both existing and new developments

Selection Criteria

3.58 The Council typically has little control over workplace car parks, however, a strategic review to identify multi-company sites can be utilised to identify locations where the Council may be able to direct resource to encourage grant take up through engagement activities. Business centre development sites often have active forums and networking groups that the Council will likely already be engaged with through its various roles in supporting business development, for example the Enterprise Zones lead by the Black Country LEP.

3.59 To help ratify and prioritise any council workplace ULEV infrastructure engagement activity it is recommended that workplace population density data is used. For example, Middle Super Output Areas (MSOAs) that have workplace population density values lower than 30 per hectare can be filtered out using an SQL query in ArcGIS, so that only areas with high workplace population densities are considered.

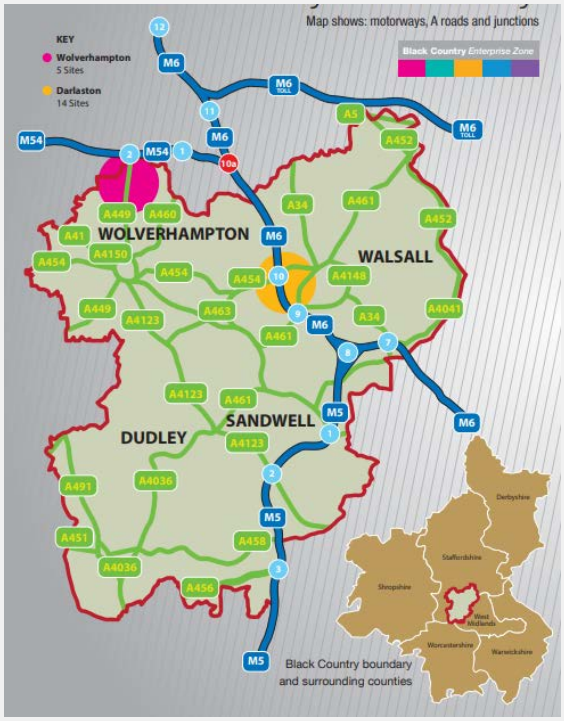
Our recommendation

3.60 We would recommend that the Council is being seen to lead by example by undertaking a review of fleet operations and applying for workplace grants for any depot or car parks where electric vehicles may have a place in the future.

3.61 Beyond internal infrastructure the Council should review existing activities with business development sites across departments and consider how best to encourage grant take up through engagement activities. For example, workshops on the benefits of installing ULEV infrastructure and accessing grant funding.

3.62 Workplace Charging Case study location: Black Country Enterprise Zones

Black Country Enterprise Zones



https://www.blackcountrylep.co.uk/upload/files/EnterpriseZone/EZ_Brochure.pdf, 2021.

The following three Black Country enterprise zones are obvious candidates for encouraging further develop of ULEV infrastructure; these are:

- Darlaston Enterprise Zone;
- DY5 - Dudley's Business and Innovation Enterprise Zone; and
- Wolverhampton North Enterprise Zone (Including I54).

Of these sites DY5 - Dudley's Business and Innovation Enterprise Zone has the highest existing workplace population density (although considering knowledge of future development potential is also recommended). Existing ULEV infrastructure includes chargers at Level Street car park and Intu Merry Hill, however, provision is still low given the population density and wider facilities in the area.

Darlaston Enterprise Zone has the second highest workplace population density. No ULEV infrastructure is located within the zone, the closest existing charging being Ikea Wednesbury. Engagement with existing companies within the enterprise zone would be a good starting point for a pilot focussed on 7kW workplace charging. Furthermore, the recently announced Phoenix 10 regeneration project, funded by Black Country LEP and West Midlands Combined Authority should be regarded as an important opportunity for ULEV infrastructure, and every effort should be made to ensure workplace ULEV infrastructure is integrated into the project plans.

Next steps

- Understand the implications for new development areas of changes in building regulations and communicate this to developers;
- Review Council fleet to understand ambitions to convert council vehicles to electric;

- Review Council parking provision;
- EV awareness raising activity to landowners to promote the availability of the workplace grant starting with DY5 - Dudley's Business and Innovation Enterprise Zone; and
- Consider early engagement with Darlaston Enterprise Zone developments.

OZEV workplace grant

3.63 OZEV currently have a 75% funding offer available on the Workplace Charging Scheme covering:

- up to a maximum of £500 per charging outlet for a maximum of 20 outlets per applicant, which can be split over multiple sites;
- charging bays must be off-street and dedicated to staff and/or fleet use. These bays must not be publicly accessible;
- must use OZEV approved equipment and installer; and
- grants operated via a voucher scheme requiring installations to be completed within 4 months of funding approval, to be claimed retrospectively with installation evidence, by the installer.

Commuter charging

3.64 Commuter charging is an ideal alternative for EV drivers without access to off-street parking as being a key location where most vehicles are parked for a significant part of the day.

3.65 Commuter charging is defined as any public car park which links to an alternative form of transport, for example railway stations, transport interchanges and park and rides. Providing commuter charging in these types of location could have the benefit of removing cars from town centre locations and encouraging the final miles to be undertaken on public transport suiting multi-modal sustainable transport strategies. If there are plans within your Sustainable Transport Policy to incorporate Park and Ride facilities in the future, then we would recommend the incorporation of charging infrastructure. However, Park and Ride sites tend to be in council control and therefore could be a quick win for authorities with Park and Ride facilities.

3.66 Due to the nature of the length of stay, it would be feasible to offer slow charging at these locations. However, in light of the fact that there is little difference in cost between 3kW and 7kW charging and also that battery size is increasing and therefore time required for a full charge will increase, we would recommend 7kW charge points at these location types.

Charge point type Fast (7kW)

Preferred location In car parks connected to railway stations, transport interchanges and at park and rides.

Selection Criteria

3.67 Any successful Park and Ride site is a viable location and will support a high volume of commuter users. A review of car park occupancy data can quickly confirm demand levels, and the council will likely already hold substantive information on existing use with many of the most successful sites typically having been through, or consideration given to future expansion development phases.

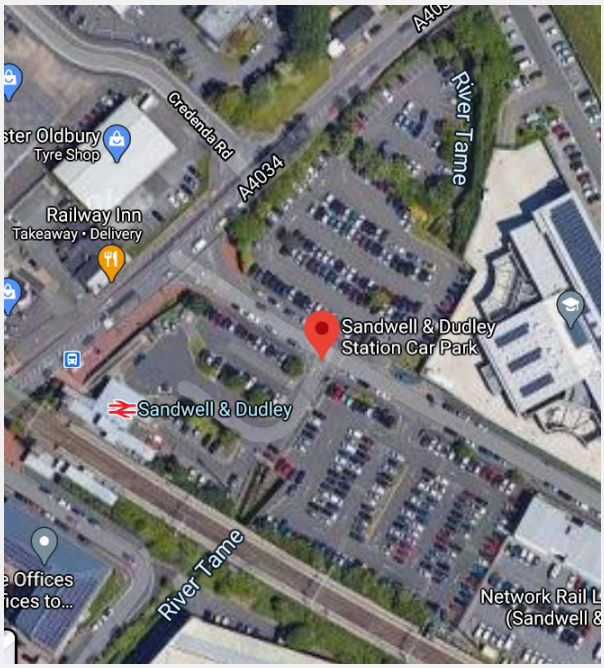
3.68 Train stations are another obvious location to support commuter charging. Data on the total number of train journeys taken per MSOA can be used to identify areas where significant rail commuting trips occur. For example, an SQL query to select MSOAs that recorded over 85 train journeys. Train stations within these areas can then be reviewed for suitability based on the level of car parking provision (larger rail station car parks being the most suitable).

Our Recommendation

- In our experience rail station locations are often challenging since most station / interchange car parks fall outside of the local authority control. Engagement would be required with the appropriate owners and operators.
- However, the demand is typically high and occupancy rates in these locations are amongst the highest for existing charging infrastructure.
- Any successful park and ride site is a valid commuter charging location and should be targeted for ULEV infrastructure.

3.69 Workplace Charging Case study location:

Sandwell and Dudley Station car park



Google Images, 2021.

Sandwell and Dudley railway station as a key commuter location due to its high footfall of workers and visitors. On an average weekday, there are 88 trains

travelling from Sandwell & Dudley to Birmingham New Street, taking approximately 11 minutes during typical commuting times.

The railway station is home to a large car park with over 300 spaces and high occupancy levels. The Station could follow the example of Milton Keynes station who are trialling a service to offer a premium parking service for EV drivers combining parking and charging.

Next steps

- Engage with station to review opportunity to install a charge point at Sandwell and Dudley Station car park and identify any likely specific locations for a site survey;
- Agree ownership model (Council or Rail owned); and
- Engage with Milton Keynes for lessons learnt on their station model.

Taxis (and car sharing clubs/ others)

3.70 Charging provision for taxi drivers tends to be a rapid solution since taxi drivers require minimal downtime so as not to impact on their shift. In some towns and cities where electric taxi uptake has been small, charging will often be shared with the public including at transit locations although some cities (including London) have taxi-only provision to support uptake. Car sharing clubs also require fast turnaround time between users which can act as a barrier to ULEV adoption however, clubs such as Co-wheels have shown considerable success in integrated EVs in their fleet, with a number of EVs, including Renault ZOE and Nissan LEAF vehicles, available to members across multiple town and city locations, including Birmingham.

3.71 Above all, charging put in place to support the taxi trade should be easily accessible.

Charge point type Rapid (22kW)

Preferred location Close to places that taxi drivers are known to take rest breaks or close to pick-up points / ranks/ car club drop off locations.

Our recommendation

3.72 At present, little is known of the taxi community in the area and their interest in transitioning to electric. Therefore, our recommendation would be that engagement with local taxi companies would be required before any decisions made on infrastructure specifically for the taxi industry. A specific plan for taxi locations has not been provided for this reason. At present, the OZEV grant for taxi infrastructure scheme is closed.

3.73 Similarly, Car sharing clubs do not appear to have a significant presence in Black Country, although there will be some coverage for areas within Black Country close to Co-wheels Birmingham share car sites.

Next steps

- Engagement with local taxi companies to understand future plans to convert;
- Consult individual local authority areas on taxi rank locations;
- Explore opportunities for next round of OZEV taxi funding when announced;

- Consider exploring partnerships to access other wider funding competitions for feasibility or research and development such as OZEV funding typically managed by Innovate UK; and
- Explore engagement with any car sharing clubs or engage with Co-wheels Birmingham and gauge any expansion plans within Black Country.

Car park Selection Criteria

3.74 As has been evidenced throughout this Selection Criteria chapter, demand for ULEV infrastructure is the key driver for the site selection process. Nonetheless, the majority of public ULEV infrastructure is inherently installed in car parks. Figure 3 outlines the key characteristics of car parks which are well placed for provide EV infrastructure, regardless of demand use case. Car park attributes specific to each of the identified Location Types are also highlighted.

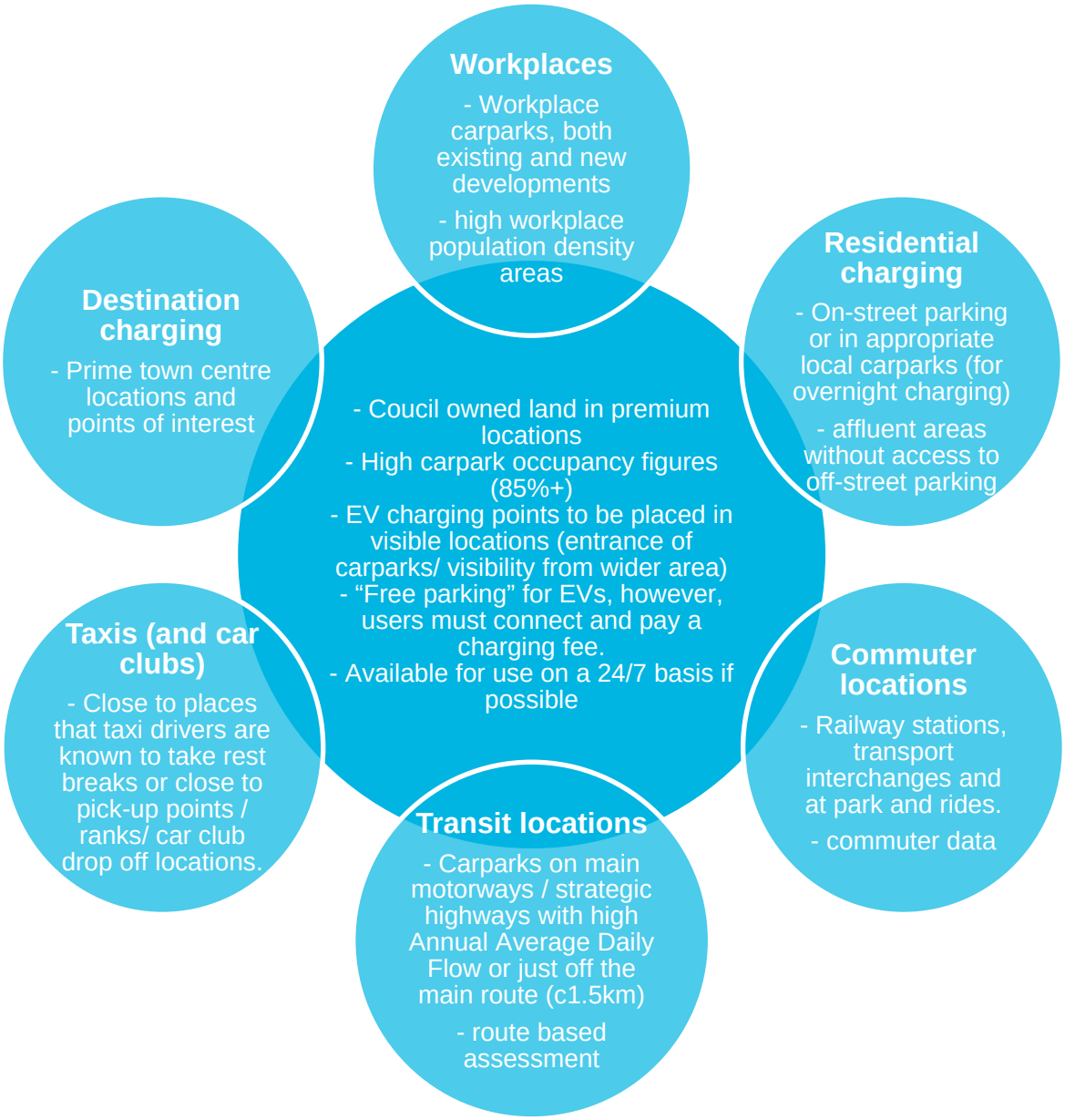


Figure 4, Car park Selection Criteria

4. ULEV Infrastructure – Design Guidance

Context

4.1 This chapter aims to provide practical design guidance to support the implementation of ULEV infrastructure for car parking and complements the Best Practice and Selection Criteria processes explained elsewhere.

4.2 The design process should be considered within the context of the ULEV infrastructure lifecycle:

Figure 5, ULEV infrastructure lifecycle

Overview

4.3 The shift from ICE to ULEV has a positive impact on carbon emissions and an overall improvement in air quality for the benefit of all. The transition is a reflection of society becoming more climate conscious and expedited by the UK Government raising EV development a priority as a key stepping-stone to Net Zero. This is highlighted by the introduction of statutory legislation, the Autonomous and Electric Vehicle Act, 2018, and declaration that the sale of petrol and diesel car shall end by 2030 closely followed by new cars and vans to be fully zero emission at the tailpipe from 2035.

4.4 The Black Country ULEV Strategy, 2020, sets out a five-year ULEV vision, demonstrating the regions commitment to tackle climate change, support the uptake of EV and the consequential benefits it can bring to the region for the environment, society and the economy. The strategy sets out challenging targets for the installation of new chargers, equipping the council estate with EV infrastructure to support the councils own fleet transition to ULEV and setting targets for new developments and taxi licencing.

4.5 The ULEV strategy also highlights the changing horizon of ULEV technology (vehicle and charger), charger operations and business models. ULEV infrastructure design and implementation needs to be mindful of the wider ULEV future to avoid redundancy and improve value for money.

4.6 This places a consequential demand for a charger network which is fit for purpose and with it, substantial financial support is offered to individuals, industry and local authorities to install chargers, and a significant proportion of rapid charge stations. The Black Country authorities aim to meet this challenge through careful EV charge station location and site selection across their car parking facilities, avoiding wasted investment and aligning with the current car parking study/strategy.

4.7 ULEV charging infrastructure provision should be based on identifying the needs of specific ULEV user groups in order to ensure cohesive and balanced delivery. The design of infrastructure should be guided by the car park location and the types of ULEV users likely to use it. The Selection Criteria in Chapter 3 outlines the provision for individual Location Types, including:

- Destination Charging;
- Residential;
- Transit Locations;
- Workplaces;
- Commuters; and
- Taxis (and car sharing clubs/ others).

4.8 This report builds upon the site criteria and then highlights the design considerations for the implementation of suitable ULEV charging provision at Black Country car parking facilities and, where possible, recommendations to meet different requirements. Therefore, this guidance should be read in conjunction with Chapter 3 ULEV Infrastructure - Selection Criteria, and periodically updated to maintain pace with changing demands and developments.

Overall Design Process

4.9 Before considering specific ULEV Infrastructure design it is important to consider the wider context. Whilst quantitative area data can be used to both identify and assess the relevant merit of development sites for ULEV infrastructure this should not be done in isolation.

4.10 Having identified the initial need and selected a site the planning of ULEV infrastructure has a direct impact on the delivery and operation of the site:

- Planning policies and strategies are increasingly adopting ULEV elements and setting standards which must be incorporated early in the process;
- Environmental, air quality, heritage, equality and community are also essential factors to be incorporated in the design process, which can affect site selection, infrastructure provision and capital cost;
- High cost installation elements, such as grid capacity/network upgrades to support larger scale installations or rapid chargers, should be considered as

part of the site selection process. This may affect the “value-for-money” decision making before committing to a design;

- Site conditions may complicate or add to the cost of construction and installation;
- The ongoing operation should not be an afterthought as the ULEV system will require maintenance as well as providing essential performance information and data to support future ULEV applications;
- ULEV adoption will continue to increase, so any infrastructure design and installation process should be future-proofed; and
- And decommissioning should not be forgotten, as the design could create additional headaches and costs in the future.

4.11 Indicative designs will provide vital information on the scale of the installation and consequential impact on the potential cost by teasing out site specific issues which may otherwise be over-looked.

4.12 It is also essential to fully understand the context of the location and condition of the site within the design process. This requires an extensive review of current site plans, conditions and surrounding environment, planning policies and conditions, availability of utilities and any unique site-specific conditions which are only truly understood through early desk-top research and conducting one, or sometimes more, site surveys.

4.13 The design process is an integral part of the overall process of ULEV. High cost elements of the design should be considered as part of the site selection process, as outlined in Chapter 3 ULEV Infrastructure - Selection Criteria, which can be teased out through:

- conduct desktop site review to gather as much site information as possible, including local and national policies, planning constraints, as-built details of the car park (layout, traffic routes, signing, structural integrity, utility supplies, sensitivities, etc), local environmental factors (Air Quality Management Area, Clear Air Zone, Heritage, Visual and noise impact, etc), local utility routes and capacities (early engagement with the local DNO is vital from a time and cost perspective) and any other information which may affect construction and operation of ULEV infrastructure on the site.
- Completion of indicative designs can inform bills of quantity and the scale and cost of installations by weeding out factors which can influence Capital cost (Capex) and ongoing operational effectiveness and cost (OPEX) of the installation.

Approach to design

4.14 Using the themes from ULEV lifecycle, see Figure 2, ULEV infrastructure lifecycle, to provide a structured and informative approach on good design practice.

[Note: Design is an iterative and complex process with site specific conditions directing priorities and considerations. It is therefore recommended that the following information is considered in its entirety rather than mutually exclusive sections.]

ULEV Planning

4.15 Any new development or works to an existing development needs to be aligned to current national, regional and local planning policy, strategies and actions to ensure consistency of approach and compliance with existing needs. Each carpark will be subject to unique requirements by nature of its location.

4.16 Compliance with active policy and strategies is vital so that the council is upholds its values, especially as they represent the needs of the local community.

[Note: The documents outlined below are not intended to be an exhaustive list of current strategies or policies but aims to provide pointers to those areas where there may be an influence on ULEV.]

Town and Country Planning

4.17 Planning policy is an important tool that authorities can use to control and promote ULEV new development:

- The **National Planning Policy Framework** provides some key requirements to promote adoption of ULEV which need to be considered in the design process for new developments; and
- ULEV **Supplementary Planning Documents** can also support adoption and direct ULEV infrastructure provision. Whilst not currently in place, an SPD is recommended, see 2.12, and therefore included for future reference.

4.18 Planning policy not only directs ULEV, but also impacts on wider aspects of the site and installation, and therefore factors such as signing, coloured pavements, Traffic Regulation Orders should be investigated to avoid changes later.

eMobility

4.19 ULEV is just one contributor to electric mobility (eMobility) promoting the adoption of ULEV and zero emission transportation, from electric buses and vehicles to electric bikes and scooters. Policies which make specific reference, and therefore should be considered in the planning and implementing of ULEV includes:

- At a regional level, the **TfWM Movement for Growth - The West Midlands Strategic Transport Plan;**
- For local neighbouring authorities, the **Black Country Transport ULEV Strategy.**

  Which are Underpinned by:

- Department for Transport, **Future of mobility: urban strategy**;
- Department for Transport, **Decarbonising Transport – setting the challenge**; and
- OZEV (OLEV), **Road to Zero Strategy**.

4.20 Promotion of ULEV and the government measures above will see greater adoption of ULEV in the future so there is a definite need include futureproofing within any ULEV infrastructure design. This is typically through the inclusion of “Active” or “Passive” provision, see Active / Passive provision, section, where there is need to balance current and future capital costs.

Sustainability and carbon reduction

4.21 Other less obvious policies and strategies include those which promote positive action to reduce the impact on the local environment, especially for air quality, carbon reduction and greater sustainability. They may include specific ULEV requirements or where ULEV may provide a significant opportunity or contribution, such as:

- Council Corporate Strategy;
- Council Climate Emergency statements;
- Climate Change Strategy and Action plans;
- Sustainability strategy, and objectives of associated organisations including **Sustainability West Midlands**;
- Clear air zones (CAZ); and
- Air quality management plans invoking strict requirements in defined air quality management areas (AQMA).

4.22 These may influence the location, scale and importance of ULEV infrastructure provision in the design process as well as raising the challenge for more sustainable solutions such as renewable energy supply, solar car ports, charging hubs for other council services as well as community ULEV chargers.

Supporting strategies

4.23 Other less obvious policies and strategies can influence the provision of ULEV infrastructure, providing a conscious prompt to the impact that ULEV may have, such as:

- Community objectives, such as “Liveable Neighbourhoods” and associated actions such as “Green Space Strategy”, promoting liveability and sharing quality across neighbourhoods;
- Growth Strategies, including the promotion of regeneration and economy; and

- Equality Policy or statement, which may require an Equality Impact Assessment (EqIA). It is important that ULEV provision is not just for ULEV vehicle users, but it can also impact on other users of the carpark, the local community. ULEV chargepoints should be accessible for all users and all abilities but should not compromise the accessibility for other carpark users or public rights of way. So, charge points should be positioned considerately and should also avoid trailing wires across footways. An EqIA is therefore recommended to inform the design.

4.24 ULEV parking can have an impact on the wider community and local services rather than the primary users. Investigation of local services providers, such as hospitals, car homes, schools, etc, may create additional demand and therefore should be taken into account in the scale and type of provision of chargepoints.

Environmental Impact

We have already mentioned air quality and sustainability above, however there are wide range of environmental factors which also need to be taken into consideration within the design. It is suggested that a systematic approach to the environmental impact of a proposed ULEV site is conducted:

- Heritage. Whilst not a barrier to the historic environment, ULEV should be carefully considered in the planning process. Factors to be considered are embodied within the National Planning Policy.

- Environmentally designated areas, such as Sites of Special Scientific Interest (SSSI). ULEV locations may be located within or close the boundary of area, such as SSSI and therefore incorporated into design thinking. With such sites attracting visitors, ULEV chargepoints are a vital contribution to support benefits of the area, from health and well-being to socioeconomics. Factors such as materials, visual impact and traffic are obvious design considerations. Check for local environmental statements for a more complete understanding of the factors to be considered.

- Ecology and Nature. Any new construction can have a direct impact on local ecology and nature. Whilst ULEV chargepoints may be installed within existing carparks, consideration need to be given to other, and may be less obvious, activities which could have an impact, such as new cabling, trenches, surface dressing for ULEV bays, etc.

- Noise and Vibration. ULEV charging is likely to introduce new behaviours or see a switch to charging away from usual fuel stations to the wider use of the public chargepoint network. With this, additional traffic outside normal carpark operations could introduce additional noise and vibration and therefore the design, location and operational schedule, should be considered alongside the potential impact on the local community. This includes those close to the charge point, as well as those near to access routes.

- Visual Impact. The chargepoint is a new structure is being introduced into the streetscape and they come in all shapes and sizes. It is important that equipment is chosen and located such that it has minimal impact on the visual landscape. Individual equipment, and complete installations should be aligned with the character of the area, fit within the town / village streetscape, avoid the loss of use of adjacent land and wherever possible not add to “street

clutter". This should include all signing, electrical distribution cabinets, battery storage facilities, etc.

Installation (including construction)

Chargepoint selection

4.25 Taking into account the selection criteria in ULEV Infrastructure - Selection Criteria in chapter 3 above, the number and type of chargers should be chosen to meet current demand and forecast uptake.

4.26 It is anticipated that Fast Chargers (up to 22kW) would be most suited to most carpark applications for short-medium duration stays for destination charging. Rapid (40kW - 50kW) chargers are best suited short stop transit locations. Chargepoint type has a significant impact on the electricity demand and therefore the use of rapid chargers needs detailed assessment.

4.27 Projection of uptake is less scientific at present due to the number of uncertainties in the ULEV marketplace. Authorities should take into account the best practice measures in Chapter 2, their potential impact as well as the authority's ambition for a greener future, and the future plans for the area and the carpark, a decision can be reached.

4.28 Affordability is a key driver in the decision-making process; therefore, a balance should be made in terms of upfront installation costs along with infrastructure contingency by including passive provision to futureproof the site and future costs.

Chargepoint electrical demand

4.29 Having decided the number and capacity of units it is important to determine the maximum demand from the site. This will determine:

- Size of the connection from the local distribution point;
- Any increase in grid supply needed to meet the demand;
- Whether smart charging is required to balance available grid capacity with instantaneous chargepoint demand;
- Cable sizing for active and passive provision; and
- Ducting and or cable tray provision for active and passive provision.

4.30 It is recommended to engage with the DNO at an early stage of the design as network improvements take time to implement, and also can be costly, depending on the scale of upgrade.

Chargepoint installation/construction

4.31 Structural integrity is vital for the long-term performance of any installation, whether wall or ground mounted. Qualified structural engineers should be consulted to determine whether the structure (wall, decking, pavement,

foundation, etc) is suitable for the size, weight, load of the equipment to be installed.

4.32 Checks should also be completed to identify any hidden services, ducting, cabling, drainage, etc, which may not be visible but may be compromised during construction of foundations, installation or routing of utilities to the chargepoints.

Electrical services

4.33 The chargepoints will require electrical services, designed and installed in line with current **IET wiring regulations, BS7671**. The IET have also published a **Code of practice for Electric Vehicle Charging Equipment Installation** which is also a useful reference.

4.34 **Earthing.** Chargepoints present a significant electrical demand and therefore inherently need adequate earthing to meet stringent safety requirements. Any design should seek to understand available earth conditions, especially with regard to multi-storey or reinforced concrete structures, where additional earthing measures may be required.

4.35 Inadequate Earthing can also cause interference with the performance of adjacent electrical and electronic equipment so should be designed and tested accordingly.

4.36 **Electrical isolation and distribution.** The DNO will require adequate measures to protect their grid network as well as smart metering for billing supplies. Where a convenient distribution board is not available, a local feeder pillar may be required.

4.37 **Smart charging** offers the opportunity to balance chargepoint demand with available grid capacity. This means that, with the user's permission, charging can be paused, or the rate of charge increased or decreased in response to the energy network operators. The user remains in control by setting charging parameters to suit their individual needs.

4.38 **Solar carports and battery charging.** Some carparks, especially park and ride facilities, provide an ideal opportunity to exploit brownfield sites to generate renewable energy, which can then be used to support the chargepoints. This reduced energy costs and an additional contribution in the battle to reduce carbon emissions.

4.39 Solar generation is most often complemented with battery storage. When excess solar energy is generated it can be used later when there is greater electricity demand or when generation is no longer available.

4.40 The overall contribution of solar energy generated can be modelled to provide an indication of energy saved and also a return on the investment for the solar installation.

4.41 Carports also enhance the parking experience, protecting the vehicle, users and chargepoints from the elements.

4.42 Renewable energy generation brings with it additional standards and regulations which will need specialist support. If solar generation and or solar car ports are of interest, Building Research Establishment (BRE) have

published a guide for owners and developers for solar car parks which offers useful advice and further reading.

4.43 **Vehicle to Grid** is also frequently discussed as an opportunity for providing energy back to the power grid from the vehicle batteries. It is unlikely that this would be necessary or appropriate for a public chargepoint network.

Operation

ULEV Parking Bay

4.44 The location and environment of the ULEV parking bay includes requires careful design consideration, including:

ULEV Bay location

4.45 The location of ULEV charge points within a carpark should allow for:

- **Ease of access**. For users transiting through the carpark their route and ability to park to use the chargepoint is an important consideration:
    - Fast or rapid chargers which will charge a vehicle in a few hours may be suitable for longer stay bays and therefore less of a concern for access through a carpark
    - Rapid chargers provide charge under an hour and therefore should be positioned to only encourage short term parking, easy in/out manoeuvres, and increased traffic flow.
    - Provision of new or additional chargepoints may increase traffic which will require assessment of and improvements to junctions, entrances etc
    - Futureproofing, through active or passive provisioning, will increase the number of charegpoints from the original installation, should not be forgotten when designing for ease of access;
    - Adequate, legible and accurate route marking / signing for ULEV charging will support ease and better use of the carpark (note: off-street signing and marking does not have to be compliant with Traffic Signs Regulations and General Directions (TSRGD));
    - Conditions of Use of ULEV facilities should be well advertised to avoid misuse of the chargepoint facilities
    - Carparks based on multiple levels where routes are less obvious and structures more challenging and potentially constraining, good positioning of chargepoints and signing are important;
- **Avoid corners.** Whilst corners may offer an opportunity avoid compromising walkways and access routes, they do present significant challenges:

  - Chargepoint connectors vary from vehicle to vehicle therefore bay location should make vehicle manoeuvres less challenging;
  - Fear of crime for ULEV users may become heightened if in a more secluded and therefore vulnerable position, such as corners. Light, access/escape and visibility to CCTV and other users can be limited and reduce the sense of security;
  - Accessibility, especially with users with limited ability, can become more difficult with “hard” boundaries to the bay;
  - Integrated with pedestrian routes. ULEV users are parking generally for the same reasons as all other carpark users and therefore all other carpark provisioning should be supported / integrated with the ULEV bays, including:
    - Accessible walkways;
    - Adequate lighting;
    - Prominent bay marking;
    - Access to revenue collection equipment;
    - Emergency call devices.

- **Chargepoint protection.** Impact protection is crucial to maintain availability of the chargepoint, prevent incident and injury to users, and avoid unnecessary repair or replacement. Charegpoints have built-in electrical safety cut-off to avoid electrocution in the event of severe impact or incident. Physical protection can include one or several measures:
  - **Wheelstop.** A small road surface mounted barrier providing users assistance in when to stop the car. These can become a trip hazard when the bay is not in use and close to areas of frequent pedestrian movements.
  - **Barrier protection.** Chargepoint manufacturers and 3rd party suppliers provide off the shelf and bespoke barrier solutions which can be fixed or rooted around the floor or wall of the chargepoint. The size and location of these barriers should not interfere with the access to the vehicle or the chargepoint, especially for disabled users.
  - **Advanced kerbline.** Position the chargepoint further behind the raised kerbline to act as a wheelstop. This normal, raised, delineation between the lower carpark surface and adjacent pavement will provide less of a trip hazard and a more visible stopping point when parking.
- **`Construction Access.** “As-built” carpark construction, along with bay location selection, could introduce constraints during the ULEV bay construction. Ensure that any width, height, structural integrity, additional traffic, etc required for chargepoint implementation is also considered in the design process.

ULEV Bay design

4.46 The bay design needs to consider the context of the overall scheme as well as understanding how it will be used by the ULEV user. It is important to keep the user and the equipment safe and operational, protecting from the environment, avoiding incidents or unacceptable conditions, including:

- **Ease of access (ULEV users).** The use of the chargepoint is somewhat dependent on the type of charger and therefore needs to be reflected in design:
    - ***Fast or chargepoints*** are dependent on user's personal "loose" charger cable compliant with their vehicle. This cable (4+ m long) may trail on the ground from the chargepoint to the vehicle connection point and therefore can present a potential trip hazard to other adjacent users.
        - Wider parking bays can provide additional space to accommodate trailing cables and mitigate the potential hazard, although this is dependent on the user; and
        - The use of surface dressing or lining delineating the bay and surrounding circulation area (such as yellow hatching) promotes improved parking / vehicle alignment with the charegpoint, clear access for all users and ease of identification of any trailing leads/trip hazards.
    - ***Rapid (AC & DC) chargepoints*** have tethered cables, but like other chargers has the same inherent issues of access and trailing cables. Hence similar measures to mitigate should be adopted.
    - ***Chargepoint selection*** is not determined by any hard and fast rule. The selection and or mix of chargepoints should be determined as a follow-on step to the site selection and the location type, see Overview.
        - For most carparks fast (7-22kW) will provide sufficient recharge to support longer dwell times (3+ hours) for shopping, workplaces etc;
        - Rapid chargers (43kW+) target short stay (<1 hour) transit traffic. Parking restrictions should be applied to rapid chargers to avoid bay and charger misuse, enabling faster and easier turnover of users; and
        - Wall-mounted or floor standing chargepoints are available. Wall-mounted are typically standard and fast units.
    - ***Multiple chargepoints*** provide the opportunity to service more users and with careful design of their location they can remain accessible to more ULEV bays as well as reducing the installation and construction requirements. The careful positioning of the chargepoints, especially chargers with multiple ports, along with bay orientation can increase the opportunity for charging, especially where carpark estate is at a premium. Depending on carpark design, then the coverage from a single chargepoint can be increased, however the number of vehicles that can be charged is constrained by the number of connection ports:

        - One twin-port chargepoint can simultaneously charge two ULEV parked in parallel bays or “nose-to-nose”; and
        - One single port chargepoint provides the opportunity to charge a single ULEV in adjacent bays, face to face or in parallel.

- **Ease of access (other users).** Other carpark users my need to walk past or through the ULEV charging area. It is important that chargepoints and associated infrastructure and cabling should not impede other users and that car park design and use standards are maintained.
    - Chargepoints, and any associated impact protection, should not constrain walkways or impede pedestrians and other carpark users, including the position of users during the connection process; and
    - Trailing charging cables should not cross or impact on walkways.

4.47 **Security / CCTV.** The provision of CCTV is a common safety measure used in carparks. CCTV systems in the vicinity of ULEV bays should be designed respecting the additional activity and operation surrounding the chargepoints.

4.48 Bay design should also mindful of the location in the carpark and be arranged to avoid seclusion and increasing the fear of crime.

4.49 **Weather / climate.** Keeping the user and equipment safe from the elements is important. Just as fuel stations provide a canopy which offer some protection from the elements whilst refuelling, similar consideration could be given for ULEV installations. Whilst increasing the infrastructure provision, construction and maintenance costs, canopies also open the opportunity for solar car ports, providing local renewable energy generation at the point of use and a more sustainable and carbon reducing solution.

4.50 **Standing water / flooding.** Apart from the obvious impact on electrical equipment, the design of drainage and surface water management is important such that flooding, surface water flow and standing water in and around the ULEV bay is avoided.

4.51 Standing water will prevent the bay from being used and present a danger to all carpark users. Avoid the opportunity for connection cables to trail through water or over “muddy” ground which will adversely impact on the user.

4.52 **Surface water.** The flow of surface water should be managed to avoid unacceptable conditions, including water captured within the carpark or from adjacent areas.

4.53 **Lighting.** Carpark lighting needs special consideration around bay design such that users can connect and operate the chargers, follow any associated signage and instructions, safely in low light conditions. It is important to recognise that ULEV users will spend slightly more time in and around their vehicles for connecting and operating the charger.

4.54 Good carpark lighting is recognised to reduce the fear of crime and is subject to a number of regulations and legislation. Adequate lighting is also important to support CCTV monitoring during low light conditions.

4.55 **Bay dimensions** are frequently discussed but do not have a defined standard. For guidance, dimensions of 4.8m long by 2.4m wide is suggested for off-street ULEV applications.

Charger

4.56 **Operation and Revenue collection** is fundamental to the return on investment and maintenance when implementing ULEV infrastructure. Confirmation of existing systems and processes should be conducted prior to the design and specification of equipment and systems. Current contractual and technical requirements should be checked to ensure they are compatible with future authority needs, providing resilience to the investment being made.

4.57 The choice of back office system which supports operation and revenue collection, often referred to as the **Charging Station Management System (CSMS)**, and the version of **Open Charge Point Protocol (OCPP)** can enable wider market opportunities for ULEV management. Newer versions of OCPP are providing increasing levels of performance and usage information which can support and target future ULEV investment, maintenance issues and greater control of smart charging. As ULEV business models develop, there are increasing opportunities to access greater performance data for operation, maintenance and ULEV planning as well as the integration of energy supply and price structure. The design provides an opportunity to challenge the status quo before infrastructure investment.

4.58 **Mobile Communications** between the chargepoint and the CSMS is common practice. It is therefore essential to understand the mobile network availability for the site and any possible factors which may affect mobile signal performance, such as underground parking etc. the resilience of the communications is critical to the revenue process and equipment reporting. Additional signal boosters or direct lines may be required and included in the design.

4.59 There are several key and complementary factors to including the design to ensure effective operation and maintenance of the equipment, including:

- **Ease of use**. The chargepoint user interface should be easy and intuitive to use.
- **Height of controls** for the chargepoint is important to ensure it is accessible to all users, especially wheelchairs.
- **Adequate signage** at and around the bay should include:
    - Bay designation/marking, especially electric car club bays;
    - Conditions of use;
    - Instructions for use;
    - Owner and operator of the equipment; and
    - Contact details in case of emergency or support.
- **Enforcement** of ULEV bays due to the misuse, such as exceeded permitted maximum stay, return within restricted stay, not actively charging, vehicle not classified as ULEV, should be considered. Whilst this is primarily a role served

by civil enforcement officers, compliance can be supported using localised signing, CCTV and smart charging / CSMS control.

- **Registration** with the National Chargepoint Registry will be required so all relevant asset details will need to be recorded and registered;
- **Handover documentation** is essential for the effective operation and maintenance of the equipment, such as as-built drawings (especially where passive provision has been included in the installation), test sheets and warranties.

Maintenance

4.60 Maintenance of the chargepoint, the carpark and surrounding area should be incorporated into the design process.

4.61 **Equipment Access**. Careful consideration of manufacturers requirements for equipment maintenance, especially spatial requirements should be adopted in the design, and where possible, without compromising adjacent pedestrian and vehicle carpark movements.

4.62 **Car park Access**. The ULEV design and layout should not compromise the maintenance of pavement, drainage, signage, marking, and other associated carpark infrastructure.

Futureproofing

Active and passive provision

4.63 Active provision is the implementation of fully connected “ready to use” charging infrastructure. Active provision offers positive and visual encouragement for the uptake of ULEV, demonstrating availability for charging and the positive thinking of the authority in delivering sustainable and climate conscious infrastructure.

4.64 Passive provision is the implementation of underlying infrastructure, such as enough capacity in the connection to the local DNO and on the local electrical distribution system, as well as cabling and ducting to EV charging bays. Passive provision at car parks provides futureproofing for the forecast uptake of ULEV in the longer term. Whilst initial capital costs are increased, the cost and disruption of retrospective action to install chargers later is significantly less, when the number of ULEV is forecast to increase significantly.

4.65 Passive provision should be considered to future-proof the design and the location and taken account of as part of the design process for all new installations. The scale of passive provision will need to be tailored to balance funding, the importance of the site and construction options available.

Back-office systems

4.66 As equipment functionality increases and software develops there are growing opportunities for authorities to get a better understanding of the operational performance and the usage of its investment in ULEV infrastructure. The design stage provides a point to reflect upon the back-office system and OCPP.

4.67 OCPP provides greater connectivity with functionality such as smart charging, connection security / unlocking, real-time status reporting. It is also independent of charging technique and provides a standardised approach allowing access to a wider market and avoid vender lock-in.

Decommissioning

4.68 Any new development or works to an existing development needs to be aligned to current national, regional and local planning policy, strategies and actions to ensure consistency of approach and compliance with existing needs.

4.69 Handover documentation should refer to equipment maintenance schedules, replacement and expected life to inform maintenance service contracts and equipment depreciation.

Future Developments

4.70 During the production of this report, the Institution of Engineering and Technology are known to be in the process of developing EV Charging Infrastructure Guide for Local Authorities in collaboration with the Office for Zero Emission Vehicles. This should offer complementary advice to authorities for wider application of EV across communities.

Useful Technical standards and guidance

The construction of new infrastructure embraces many different technical requirements and standards. The following are a list of relevant documents, including specification, regulations, standards and guidance which will support the design process, but are not intended to be exhaustive.

Document Reference	Title
Wiring Regulations	
BS7671	IET Wiring Regulations – requirements for Electrical Installations
	IET Code of practice for Electric Vehicle Charging Equipment Installation
Connectors	
BS EN 62196	Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles
Charging Systems	
BS EN 61851	Electric Vehicle charging system – including AC and DC charging systems
IEC 61850	Communication networks and systems for power utility automation
ISO/IEC 15118	Road vehicles – vehicle to grid communication
IEC 62893	Charging cables for electric vehicles
IEC 62752	In cable control and protection device for mode 2 electric charging vehicles
IEC 61140	Protection against electric shock – common aspects for installation and equipment
BS EN 62955	Residual Direct Current Monitoring Device to be used for Mode 3 charging of Electric Vehicle
IEC 62262	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts
Installation	
Manufacturers Guidance	Technical data sheets, design, installation and operational guidance
Registered Installers	HERS scheme (qualified installers)
G39 Certification	Code of practice for electrical safety in the planning, installation, commissioning and maintenance of public lighting and other street furniture
Back office systems	
OCCP 1.6 - 2.0	Open Charge Point Protocol – certified communication and back office system protocol supporting different levels of functionality

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