



LOCAL PLAN 2016-2036

Topic Paper

Bath: Transport Infrastructure and Development

Prepared for

Bath & North East Somerset Council

October 2018



CH2M
1 The Square, Temple Quay
Bristol, BS1 6DG



Document history

Project: New Local Plan: 2016-2036

Title of Report: Bath - Transport Infrastructure and Development

This document has been issued and amended as follows:

Version	Date	Description	Created by	Verified by	Approved by
1.0	19/09/2018	DRAFT	David Lear	David Lear	
2.0	15/10/2018	FINAL	David Lear	David Lear	
3.0	18/10/2018	FINAL- Revised	David Lear	David Lear	



Contents

Section	Page
Acronyms and Abbreviations.....	iii
Introduction.....	1-1
1.1 Context.....	1-1
1.2 Effect of Non-Restraint	1-1
Development Proposals in Bath.....	2-1
2.1 CS/PMP Developments with Planning Permission	2-1
2.2 Other 'Key' Sites.....	2-1
2.3 Changes in the New Local Plan	2-2
Parking Controls.....	3-1
3.1 New Parking Standards for Bath.....	3-1
3.2 Parking Strategies	3-3
3.3 Conclusions	3-4
Proposed Transport Infrastructure.....	4-1
4.1 General.....	4-1
4.2 Park and Ride Expansion.....	4-1
4.3 Rail Improvements and Patronage Growth	4-3
4.4 Walking and Cycling Improvements	4-4
4.5 Bus Service Improvements	4-5
4.6 Conclusions	4-7
Summary and Conclusions.....	5-1
5.1 Summary.....	5-1
5.2 Conclusions	5-1



Acronyms and Abbreviations

B&NES	Bath & North East Somerset Council
NLP	New Local Plan
CS	Core Strategy
JSP	Joint Spatial Plan
PMP	Placemaking Plan
EA	Enterprise Area
BTP	Bath Transport Package
GWML	Great Western Main Line
WoE	West of England



SECTION 1

Introduction

1.1 Context

Bath & North East Somerset Council is currently developing a New Local Plan (NLP) for the area covering the 2016-2036 period. The current Local Plan for B&NES comprises the Placemaking Plan (PMP), which forms Part 2 of the Plan (working alongside Part 1 - the adopted Core Strategy). The former was adopted on the 13th July 2017. The NLP, once adopted, would replace the PMP and the Core Strategy.

The Examination in Public for the PMP was held in September 2016 and, as such, evidence submitted then setting out the new transport infrastructure needs or policies to support new development in Bath are equally pertinent now in supporting proposals in the NLP. This is because the quantum of new development set out in the NLP for Bath, and specific locations, is broadly similar to that set out in the PMP. This, as with the PMP, is to be concentrated within the Enterprise Area (EA), comprising major sites alongside the western riverside corridor and within the City Centre. However, the JSP does require an additional 300 dwellings on new urban intensification sites, which will be identified and allocated in the Draft Local Plan. Evidence suggests that there is unlikely to be a further requirement for significant further employment floorspace in the city up to 2036 (beyond that identified previously in the PMP). However, it is accepted that some further work will need to be done to confirm this position to inform the Draft Local Plan and the parallel review of the Economic Strategy.

The JSP also requires the New Local Plan to identify and allocate non-strategic sites to accommodate around 700 homes. The NLP Options paper presents two options to facilitate this outside the Green Belt. However, should it not be possible to sustainably deliver 700 homes on land outside the Green Belt, the Council will need to consider sustainable Green Belt locations around Bath and other settlements (subject to exceptional circumstances existing to justify removing land from the Green Belt). Should housing on sites adjoining Bath be required the transport implications will be carefully considered in preparing the Draft Local Plan.

This note sets out how the expected growth in travel associated with new development for Bath likely to be proposed in the NLP will be managed to prevent severe impact on an already congested highway network in the weekday peak periods. As such, it discusses new transport infrastructure proposals to promote sustainable travel, and initiatives/impacts to actively deter car travel to/from these new developments, in addition to reducing existing traffic in the city.

1.2 Effect of Non-Restraint

In 2014, transport modelling work undertaken with the Bath S-Paramics model¹ was used to develop the land use proposals for the Enterprise Zone and understand what needed to be achieved by the Bath Transport Strategy in accommodating the desired level of development growth in the city. Key conclusions arising from this work were as follows, and are equally pertinent to the policy direction needed and proposed in the NLP:

¹ Bath Enterprise Area/Transport Strategy - S-Paramics Modelling, November 2014



SECTION 1 – INTRODUCTION

- Analyses showed very clearly that the level of existing car trip reduction achieved by the Bath Transport Strategy would need to balance or cancel out any expected net increase in traffic generated by the proposed developments or 'nearly so'. The existing network within Bath is congested now in the weekday 7:00-10:00am and 3:00-7:00pm periods, and whilst some committed or currently under construction highway schemes were included in the EA tests, none of these radically altered the network capacity; and
- The work showed that net growth within the central area and the A4-A36 corridor through Bath would need to be constrained to no more than +3-4% in the weekday peak periods to prevent existing congestion getting markedly worse. In some locations, such as Bathwick Street and the A4 London Road, it was accepted that there was little or no potential for traffic growth;
- It was accepted that significant car traffic generation associated with substantive new development in Bath would need to be discouraged by restricting on-site parking to a level below that set in the Parking Standards in the 2007 Local Plan. Furthermore, delivery of sustainable transport measures to discourage driving into the City Centre would need to be introduced over time, targeting travel to planned new development as well as existing highway users.



SECTION 2

Development Proposals in Bath

2.1 CS/PMP Developments with Planning Permission

There are already a number of significant developments in Bath included in the Core Strategy/PMP which have planning permission, and where construction has started or building works partially implemented/ occupied. These include the following developments:

- Bath Western Riverside (Policy SB8): Phase 1 of this predominantly residential development is complete and mainly occupied (785 dwellings). Work on Phase 2 is underway for a further 1,215 dwellings, so 2,000 units overall in Phases 1 and 2.;
- Bath Press (Policy SB9): Planning permission has been granted for a residential-led mixed-use development comprising 244 dwellings (Use Class C3) and 1,485.2 square metres (GIA) flexible employment space (Use Class B1). This development is currently under construction;
- Roseberry Place (Policy SB10): Outline planning permission has been granted for a mixed-use regeneration comprising the erection of six buildings to accommodate up to 175 flats, flexible business employment floor-space (Use Class B1) (up to 4,500sqm gross), local needs shopping (up to 1,350sqm gross). Full permission for Phase 1 comprising the flats and retail floorspace has also been granted, with work on this part of development currently under construction;
- MOD Foxhill (Policy SB11), Combe Down: Planning permission granted for 696 dwellings, with development now partially completed/occupied;
- MOD Endsleigh, Lansdown (Policy SB13): Planning permission granted for 181 dwellings, with development now partially completed/occupied;
- MOD Warminster Road, Bathwick (Policy SB12): Planning permission granted for 204 dwellings. Phase 1 of this development named 'Holbourne Park' is now completed/partially occupied, with Phase 2 under construction; and
- Bath Quays South (Policy SB5): Mixed use development with full planning permission granted for a Class B1a office building with a GIA of 5,017 sqm, and the change of use/alterations to the Newark Works and adjacent buildings to provide Creative Employment Workspace (Use Classes B1, A1, A2, D1 and D2 with a GIA of 4,539 sqm. Additional outline planning permission for 60 residential units and 193 sqm of retail space.

As will be noted from the above, most of this development is residential and whilst largely centrally located, can be expected to generate a significant number of commuter trips out of Bath in the short term. However, as the EZ delivers more employment into Bath over time, workplace travel patterns associated with this residential development may change. This will create increased opportunity for use of sustainable modes of travel.

2.2 Other 'Key' Sites

In addition to the above, the following Bath development sites included in the PMP can be expected to be key travel generators:



SECTION 2 – DEVELOPMENT PROPOSALS IN BATH

- **Bath Quays North (Policy SB4):** This will utilise and replace the existing Avon Street car park site and is sustainably situated near the main bus station and Bath Spa railway station. An outline planning application (18/00058/ERE03) has recently been submitted for a comprehensive mixed-use redevelopment of this land to provide B1, C1, C3, A1, A3, A4, D1 and D2 uses with a combined floor-space of 38.000 sqm GIA. There is a Committee resolution to permit subject to the signing of a Section 106 Agreement;
- **Manvers Street (Policy SB3):** This will involve redevelopment of land between South Parade and Railway Place on the east side of Manvers Street in the City Centre. As with Bath Quays North, this site is sustainability located near to the main railway and bus stations. Furthermore, expected traffic generation will be offset by the removal of existing active land uses on this site. The Police Station on this site was bought by Bath University and a change of use was permitted from Police Station (sui generis) to mixed Office use (Use Class B1) and Non-Residential Education use (Use Class D1) in June 2015;
- **Cattle Market Site (Policy SB1):** currently used as an off-street public car park (Short-Stay);
- **Sydenham Park (Policy SB7):** Land currently accessed via Ivo Peters Way (Pines Way), with current active land uses including a Homebase store and a small trading estate. As a result, there are already traffic generators which will be removed or relocated with redevelopment, so potentially reducing the net traffic impact on this part of the A36 Lower Bristol Road; and
- **Sulis Down Development, Odd Down (Policy B3a):** A full planning application (17/02588/EFUL) for 171 dwellings with access taken off Combe Hay Lane has been lodged (Phase 1). There is a Committee resolution to permit subject to the signing of a Section 106 Agreement.

It will be noted that most of these allocated sites without or pending planning permissions are located either within the City Centre or its margins. This again gives a high opportunity for encouraging and promoting sustainable travel and discouraging car use.

2.3 Changes in the New Local Plan

As noted in the Introduction, the JSP requires an additional 300 dwellings on new urban intensification sites to be identified and allocated in the Draft Local Plan, with evidence suggesting that there is unlikely to be a further requirement for significant further employment floorspace in the city up to 2036 (beyond that identified previously in the PMP). The potential level of traffic generation associated with this small quantum of additional residential development needs to be seen in context when compared with the total potential demand associated with sites in the CS/PMP, whilst local impact is likely to be minimal if this development is dispersed.

In work undertaken for the PMP EIP the TRICS software was used to predict the increase in total vehicle trips that the EA non-residential development alone could generate. This was used to assess the constraining effect that the PMP parking standards could have, which is discussed in Section 3. Assessing an ‘unconstrained’ approach showed that the expected traffic generations in the weekday AM (7:00-10:00 am) and PM (3:00-7:00 pm) periods would be of the order of 4,100 and 5,400 two-way vehicle trips respectively. Note that all residential development within the EA and the wider Bath area was excluded from this analysis. The view taken was that non-residential development parking at the trip destination has a much greater impact on how people elect to travel than parking at the trip origin. In other words, constraining residential parking would not necessarily preclude a car trip being made by a resident owning a vehicle.



Using typical residential trip rates for private housing shows that, by contrast, the generations expected from 300 dwellings over the same periods would be expected to be 350 and 500 two-way vehicle trips respectively (or circa 140 and 135 two-way trips in the peak hours 8:00-9:00 am and 5:00-6:00 pm). However, this will depend on the specific site locations, whereby sites within or close to the City Centre with good accessibility could be expected to yield much lower than average trip rates. For example, surveys undertaken at the Bath Western Riverside (BWR) site (Policy SB8) show that the two-way trip rate over the weekday 7:00-10:00 am period was only 0.35/dwelling, and 0.434/dwelling over the period 3:00-7:00 pm). Therefore, in contrast to what might normally be expected, the generation with 300 units here is only 105 and 130 vehicle trips over the weekday peak periods.

The conclusion arising from this is that the additional traffic generation effect of the additional development proposed in the NLP will be negligible compared to the effect of that already in the CC/PMP.



SECTION 3

Parking Controls

3.1 New Parking Standards for Bath

3.1.1 Description

The Examination in Public into the Placemaking Plan (PMP) in September 2016 introduced evidence (Document **CD/PMP/DM27**) supporting the introduction of more restrictive parking standards for new non-residential development in Bath. These were taken forward without change when the PMP was adopted in July 2017.

The current parking standards for Bath adopted in the PMP are separated into two zones; a 'City Centre' zone and an 'Outer Zone'. **Figure 3.1** shows the boundary of the City Centre zone, with the Outer Zone covering the remainder of the urban area. As noted above, the parking standards for the City Centre introduced by the PMP are more stringent than those applicable for the Bath Outer zone, with all new non-residential development in the EA subject to zero parking spaces. The exception is the B1a 'Office' use, for which the permitted standard is only 1 space per 400 sqm. **Table 3.1** provides a comparison between the former parking standards outlined in Policy T26 of the Local Plan and the current parking standards in the adopted PMP. The table shows only the non-residential planning use class categories that are relevant to the EA developments.

Figure 3.1: Bath 'City Centre' parking standard zone boundary - Adopted PMP



It should be noted that, outside of the City Centre, the residential parking standards (Use Class C3) now adopt a 'minimum' level of provision approach rather than a maximum threshold. This can be subject to an agreed reduction based on an 'Accessibility Assessment', but the objective is to ensure that new residential development parking at the 'origin' end of a trip is adequate, whether or not these vehicles



SECTION 3 – PARKING CONTROLS

are used for trip making during periods when the highway network is likely to be congested or close to capacity.

Table 3.1: Comparison of former 2007 Local Plan and current adopted PMP Parking Standards

Planning Use Class	Former 2007 Local Plan Parking Standards (maximum standards)	Adopted PMP – Revised Parking Standards (maximum standards)
A1 Retail (not food supermarkets)	Below 200 sqm - no specific standard Between 200 sqm and 1000 sqm - 1 space per 35 sqm Above 1000 sqm - 1 space per 20 sqm	Bath City Centre Zone - Zero provision Bath Outer Zone: Up to 100 sqm - 2 spaces Up to 200 sqm - 3 spaces Up to 300 sqm - 4 spaces Up to 500 sqm - 5 spaces Over 500 sqm - 1 space per 20 sqm
A1 Supermarket	Below 200 sqm - no specific standard Between 200 sqm and 1000 sqm - 1 space per 35 sqm Above 1000 sqm - 1 space per 14 sqm	Bath City Centre - Zero provision Bath Outer Zone - 1 space per 14 sqm
A3 Restaurants & Cafes	1 space per 10 sqm of drinking and dining area (Any residential accommodation to be assessed separately)	Bath City Centre Zone - Zero provision Bath Outer Zone: Up to 100 sqm - 2 spaces Up to 200 sqm - 3 spaces Up to 300 sqm - 4 spaces Up to 500 sqm - 5 spaces Over 500 sqm - 1 space per 20 sqm
B1 Offices, Light industrial, R & D, Laboratory Studios	1 space per 30 sqm	Bath City Centre Zone - 1 space per 400 sqm Bath Outer Zone - 1 space per 100 sqm
C1 Hotels and Guest Houses	1 space per bedroom	Bath City Centre Zone – Zero provision Bath Outer Zone – 1 space per 3 bedrooms

3.1.2 Impact in Controlling Development Related Traffic Growth

The analyses undertaken at this time involved using TRICS to predict the increase in total vehicle trips that the EA non-residential development could generate, and the impact on those trips that the



proposed new parking standards would have. Once trip rates had been derived for each use class, a total trip generation figure for all non-residential development in the EA was calculated.

The trip generation figures for the non-residential EA development were then applied to three scenarios of parking supply:

- Unconstrained - a theoretical scenario with no parking restrictions whatsoever. So, maximum parking accumulation based on the predicted TRICS arrival and departure vehicle flow profiles for different development types planned in the EA;
- 2007 Local Plan parking standards - the impact of the existing parking standards; and
- PMP parking standards - the impact of the proposed new parking standards.

The outcomes from this work showed that:

- If parking for EA non-residential development proposed in the PMP was unconstrained, traffic growth in both peak time periods could far exceed (13-14%) the 3% - 4% growth limit suggested as 'acceptable' by past modelling, with serious consequences for the operation of the highway network in and around the central area. It was noted that this excluded any consideration of residential development traffic potentially generated by the EA;
- Applying the former 2007 Local Plan parking standards and 'capping' vehicle trip generations to ensure maximum accumulations did not exceed parking supply had the effect of reducing the above growth. However, this was still well above the 3-4% threshold needed to prevent a severe change in congestion in the peak periods; and
- With new EA development subject to the current PMP parking standards in Bath, traffic growth in the weekday peak periods could be constrained to a level around the 3%-4% limit. It was considered a reduction in existing traffic would still be needed to ensure satisfactory operating conditions in the future. However, the analyses show the current PMP parking standards for Bath (are set at the appropriate level to discourage car travel into the central area.

3.2 Parking Strategies

3.2.1 B&NES Parking Strategy

'Balancing Your Needs: A Parking Strategy for Bath and North East Somerset' was adopted by B&NES on the 14th September 2017. Whilst this incorporates the above PMP standards relating to new development as part of the Strategy, it is important to note other key objectives in Bath relating to on-street and off-street public parking in Bath, which are designed to combat long-stay commuter parking and car travel into the City Centre. In particular:

- *"Objective PSO 7: Within the centre of Bath priority for on-street parking will be given to disabled users, then residents parking zones and then short stay parking (maximum 2 hours) at the expense of long stay parking";*
- *"Objective PSO 10: The number of public off-street parking spaces in Bath will be maintained at the current levels or below";*
- *"Objective PSO 12: Any increase in short stay off-street parking in Bath will be at the expense of long stay parking";*
- *"Objective PSO 16: The Council will continue to provide appropriate out of town parking and will review the need to provide additional capacity in response to future growth". This relates mainly to*



SECTION 3 – PARKING CONTROLS

the policy approach to improving and expanding the Park and Ride facilities around Bath to accommodate future demand.

This is clearly key to achieving the traffic reduction benefits of the more restrictive parking supply standards applied to new non-residential development within Bath. In other words, the policy approach is holistic and comprehensive to prevent displaced development traffic from making use of any expanded public off-street parking supply or attempting to park on-street within residential roads.

3.2.2 West of England Joint Transport Study

Chapter 6 of the ‘West of England Joint Transport Study’, July 2017 sets out the transport vision for Bath to 2036 (Sub-section 6.2). Whilst the Joint Spatial Plan (JSP) is still in examination, this vision includes further expansion of Park and Ride to provide effective travel choices for the large numbers of people travelling into the city for work, shopping and tourism. The existing capacity for growth in the Park and Ride sites at Newbridge, Odd Down and Lansdown is discussed in Section 4 of this Note but, notwithstanding further expansion of these, the JSP recognises that there is also a need for a new site to the city.

The JTS states further that *“The performance of Park and Ride sites in Bath is dependent on restricting parking provision in the central area and managing the cost of parking, to ensure that Park and Ride is the more attractive option compared to driving into the City Centre. Furthermore, reduced demand for parking should also unlock development opportunities at existing off-street city centre car parks in Bath”*.

This is consistent with the objectives set out in the B&NES Parking Strategy for Bath. This can be expected to reduce inbound car travel associated with proposed non-residential development sites in Bath, as many are within or close to the City Centre and so serviceable via the Park and Ride routes.

3.3 Conclusions

The existing PMP Parking Standards for Bath form an extremely important policy control on the volume of traffic generated by new developments in the city, particularly those acting as trip attractors thus encouraging additional vehicle trips to be made into the congested central area. Policy objectives with the B&NES Parking Strategy relating to Bath will support this, with off-street public parking capacity held at the current level or below.

However, it is important to note that, whilst restricting or controlling parking will result in a greater proportion of new development trips being made by bus, rail, cycling or walking, there will be a need to increase and improve the ‘out of town’ parking offer afforded by Park and Ride as noted in both the PMP and the WoE JTS. The existing capacity situation regarding Park and Ride, and the proposed policy direction in the NLP for Bath is described in the next section.



SECTION 4

Proposed Transport Infrastructure

4.1 General

As noted in the last section, whilst parking controls can act as an effective deterrent in controlling the generated traffic associated with the planned new developments in Bath, a simple 'stick' approach could be detrimental to the future economy and attractiveness of the city. As such, there are several ways in which the NLP will seek to improve the opportunities for sustainable travel within and into Bath. These are as follows, and mirror the current transport policies in the PMP (and transport aspirations for Bath set out in the WoE JTS work which is currently in Examination):

- Phased expansion of the existing Park and Ride sites at Newbridge, Odd Down and Lansdown. Paragraph 619 of Volume 1 'District Wide Strategy' of the PMP states that *"The Council proposes to expand the provision of Park and Ride facilities serving Bath as part of a wider strategy promoting sustainable means of transport and reducing the impact of vehicles in the city and, in particular its historic core. Enhanced Park & Ride provision will help to remove a variety of vehicular trips from the city arising from both existing pressures and those associated with growth generated by the Enterprise Zone. In addition to the Park & Ride improvements already implemented through the Bath Transport Package the existing Park and Ride sites at Newbridge, Odd Down and Lansdown are likely to need further expansion and a new Park & Ride site to the East of Bath provided to improve access from that side of the city"*.
- As noted above, continuing to investigate further options for the provision of a new Park and Ride site on the east side of Bath; and
- Further improvements to the walking and cycling network.

It is further noted that, although outside the direct control of B&NES, the electrification of the Great Western Main Line (GWML) through Bath and the introduction of additional MetroWest services in the West of England (WoE) sub-region will improve the capacity for rail travel into/out of Bath. Given that many of the EA sites are within a convenient distance of Bath Spa railway station, or Oldfield Park, this will assist in helping to reduce the traffic generation of these new developments.

4.2 Park and Ride Expansion

4.2.1 General

Maximum occupancy data for each of the Park and Ride sites can be determined from entry and exit counters installed at each site. All three sites have undergone relatively recent expansion phases as part of the Bath Transport Package (BTP) works, with parking provision increased as follows:

- Newbridge: 450 to 698 spaces;
- Lansdown: 437 to 837 spaces; and
- Odd Down: 1,022 to 1,252 spaces.

The total number of Bath Park and Ride passengers in 2011 was 1,798,409, with this rising to 2,115,024 in 2016. This represents an increase of 18% over this 5-year period. The broad findings from recent daily vehicle counter data reveals a present typical level of occupancy/use of each site as follows.



4.2.2 Newbridge Park and Ride

The data for the Newbridge Park and Ride site shows that, post-expansion, the average parking utilisation of the site is typically 65% when all days are considered. This utilisation is 70% if Sundays are excluded, which is typically the day with lowest usage. Not unexpectedly, the usage of the park and ride reaches capacity in the run-up to Christmas. This roughly corresponds with the Christmas Market period.

4.2.3 Lansdown Park and Ride

The data for the Lansdown site shows that, post-expansion, the average parking utilisation of the site is circa 59% when all days are considered. This utilisation again increases to 64% if Sundays are excluded, which is the day with lowest usage. Not unexpectedly, regular ‘peak’ usage occurs in the first two weeks of December when parking capacity is fully utilised on most days, including Sundays.

4.2.4 Odd Down Park and Ride

The data for the Odd Down Park and Ride site shows that, post-expansion, the typical average parking utilisation of the site is 53% when all days are considered, and 59% if Sundays are excluded.

4.2.5 Overview

Data for the existing three Park and Ride sites shows that there is existing surplus capacity to accommodate parking for new development related traffic on the edge of Bath, so helping to reinforce the approach to parking restraint at new non-residential development sites within the city in the short to medium term. As highway conditions and driver journey time reliability into the City Centre are adversely affected by traffic growth due to the EA and other committed developments, it would not be unreasonable to predict that further take-up of the existing Park and Ride capacity will occur naturally, irrespective of measures taken to control the parking at new development sites. The trend in passenger numbers over the period 2011-2016 has already shown upward growth in usage of 18%.

At present, the average overall utilisation of the three Park and Ride sites is circa 63% with usage on Sundays excluded. This equates to existing spare capacity of some 1,000 spaces of the 2,787 available. In considering the timing of any additional Park and Ride capacity needed, it will be necessary to monitor and review the take-up of this existing spare capacity as the build-out of on-going or planned development in Bath proposed within the NLP continues.

As with the PMP, the policy direction in the NLP is likely to reaffirm that a new Park and Ride site to the east of Bath will also be needed in the longer term to ensure development growth can be accommodated without any adverse impact on highway conditions. The options to be tested will be whether to continue with a ‘criteria based’ policy against which to determine applications for new or expanded Park and Ride sites, or whether to identify/allocate/remove from Green Belt specific land. The current view is that the first option is more flexible and likely to be preferred.

To this end, a need to consider further options for providing a new site to the east of the city remains a key element of the transport strategy for Bath. Whilst sites north of the A4 Batheaston Bypass and east and west of Mill Lane (Sites B and F) have been rejected by Cabinet, the principle of providing a Park and Ride site on the east side of Bath remains an aspiration. The potential to further reduce the impact of development related growth, and existing traffic usage of the Bath highway network, will depend on the specific location and capacity of any new site identified to the east of the city. Any specific site will need to fully assess through a Transportation Assessment the transport implications of the development and ameliorate then. This will depend on the size of the site based on need and expected patronage.



4.3 Rail Improvements and Patronage Growth

4.3.1 Past Forecasting Work

The S-Paramics modelling work undertaken to look at different EA land use options (November 2014) considered the potential impact of changes to the rail infrastructure on patronage levels at Bath Spa and Oldfield Park Stations by 2024. This was based on the introduction of electrification to the Great Western Main Line and the addition of MetroWest services serving Bath and the wider Bristol sub-region. The impact of both remains key to addressing future development related travel demands in Bath.

In estimating the effect that expected changes in rail patronage could have on existing car use, boarding/alighting surveys carried out at Bath Spa and Oldfield Park in November 2013 were used as a starting point. Critically, this gave the number of passengers currently either boarding or alighting trains at the two Bath stations in the periods 7:00-10:00 am and 3:00-10:00 pm. The historic growth rate/annum at the 'Bath' stations combined over the period 2004/2005 to 2011/2012 has been +6.4%/annum. The growth rates per annum through to 2024 were established in rail study work being done for the Bristol authorities. Using +6.4% as the 2013 base-line gave the following growth figures used in the previous work.

- 2013: 6.4%;
- 2014: 5.7%;
- 2015: 5.0%;
- 2016: 4.4%;
- 2017: 3.7%;
- 2018: 3.0%;
- 2019: 3.0%;
- 2020: 2.9%;
- 2021: 2.7%;
- 2022: 2.5%;
- 2023: 2.3%; and
- 2024: 2.2%.

The outturn figures showed that the increase (2013-2024) in the number of passengers boarding and alighting at Bath Spa were circa 700 and 1,250 respectively over the weekday period 7:00-10:00 am. The corresponding boarding/alighting projections for the weekday 3:00-7:00 pm were 2,000 and 1,300 passengers. As noted above, these figures assumed electrification of the Great Western Main Line (GWML) and locally the completion of the Bristol MetroWest Phases 1 and 2.

4.3.2 Recent Growth Trends

The latest surveys show that rail passenger numbers at Bath Spa and Oldfield Park have grown from 6,535,072 in 2014/15 to 6,745,570 in 2016/17. This is a 3% increase in the number of passengers in just 2 years. This is less than the historic growth rate/annum at the 'Bath' stations combined over the period 2004/2005 to 2011/2012 of +6.4%/annum, but still represents an upward trend in rail usage for travel



SECTION 4 – PROPOSED TRANSPORT INFRASTRUCTURE

to/from Bath. This of course ignores any effect of improvements to services, and critically capacity, afforded by GWML electrification and the introduction of MetroWest Phase 1 and Phase 2. These remain important transport objectives for the WoE region over the JSP period, so continue to form part of the strategy approach for Bath in dealing with development related growth. As will be noted from the forecasting work described above, the ability for rail improvements to contribute substantively to development related growth in transport demand in Bath is significant in both weekday peak periods. The latest growth figures suggest that year on growth of typically 2-3% in passenger numbers should be readily achievable (from 2018) as the GWML and MetroWest service enhancements come forward over the NLP period.

4.4 Walking and Cycling Improvements

2011 Census data for trips within Bath (INT) to the central area has been used to determine the past growth trend in walking and cycling trips in the city, and how this has historically affected the level of car driver trips. The 2001 and 2011 census data revealed a proportional change of +37% and +16% in the cycling and walking mode shares, although the absolute changes in the overall share for these modes is only +1.5% and +7.3%. However, the increases in walking/cycling seen over these 10 years have not been associated with a drop in car driver use of anywhere near the same magnitude. The figures show instead that local bus usage for internal trips showed a decline (-24.4%) over the period 2001-2011, and trip making as a car passenger also reduced (-26.5%). In contrast the car mode share over the same period reduced from 23.4% in 2001 to 20.8% in 2011, a proportional change of only -11.1%.

Notwithstanding this, the Census data showed that the growth trend in cycling and walking is up, which has an effect in reducing car driver trips into the City Centre. More recent data has shown that the number of cyclists in Bath has continued to grow year on year with 25,909 cyclists recorded via the ATC network in 2014/15 growing to 35,596 in 2017/18. This is a 37% increase in cycling levels since the introduction of the Bath Transport Strategy.

The Council is committed to making further improvements to the walking/cycling network within Bath, with key projects including:

- The creation of a 'green corridor' or 'Sustainable Transport Link' connecting Newbridge with the City Centre via Locksbrook and the Bath Western Riverside development area. The land to create this linkage is safeguarded in the PMP, although there remain some third-party land issues affecting delivery. The section within the Bath Western Riverside (BWR) development is currently being delivered as part of the on-going build-out of this site;
- Proposed construction of the Bath Quays pedestrian/cycle bridge linking the North and South Quays development sites, which has planning permission. Ancillary crossing improvements on the A36 Lower Bristol Road, notably near the junction with Westmoreland Road, to improve the pedestrian/cycle connection between the 'Quays'/City Centre and Upper Oldfield Park; and
- Phased implementation of the Public Realm and Movement Strategy (PRMS), which has the aim of creating several traffic free streets in the City Centre during the period 10:00 am to 6:00 pm.

It will be noticeable from the above that these measures will serve to improve pedestrian/cycle connectivity in key areas where development is either ongoing or planned. As such, it can be expected that this will further serve to encourage the use of these modes and reduce development related car usage. Key linkages in the BWR area already completed include:

- The replacement widened 'Destructor Bridge', which includes a segregated footway/cycleway on the west side of the structure; and



- Enhancements to Victoria Bridge, which is restricted to pedestrian and cycle usage. This, like the Destructor Bridge, connects the BWR site with the A4 Upper Bristol Road corridor and existing residential areas to the north of the River Avon.

4.5 Bus Service Improvements

The Bath Transportation Package (BTP) has previously invested £27 million in upgrades to radial bus corridors, expansion of Park & Ride sites and extension of real-time information, together with various other transport and public realm improvements. Recent surveys of bus usage show that bus passenger numbers within B&NES have grown from 11,686,184 in 2016/17 to 14,463,153 in 2017/18. This is a growth of over 23% in the space of a year and demonstrates that people are prepared to switch to bus when significant investment improves the quality of bus services. This compares sharply to a decline in bus passenger numbers nationally. Bus satisfaction as measured by the Transport Focus survey also shows that overall satisfaction levels for buses in B&NES is running at 90%.

In addressing increased travel demand associated with new development in the city, the approach taken will be to build on this past success in improving bus service reliability and passenger facilities. The Greater Bristol Bus Network (GBBN2) study being undertaken to support the emerging Joint Spatial Plan (JSP) will, in part, be examining further opportunities for bus priority measures in Bath to support growth and discourage car travel into the city.

The West of England Joint Transport Study identifies the need for and aspiration for a Mass Transit system in Bath. The report states that *“A transit corridor, connecting Bath with Bristol, will follow an east-west axis through the city, and options will need to be considered to provide sufficient road space to enable this to work effectively. A preliminary route corridor has been identified from the A4 west of Bath to the city centre via Lower Bristol Road, Windsor Bridge Road, Bath Western Riverside, Pines Way, Green Park and James Street West. This could use the route for sustainable transport through Bath Western Riverside that has been safeguarded through the Bath and North East Somerset Placemaking Plan”*. As noted above, the GBBN2 study will be instrumental in developing options for creating this Mass Transit corridor. Improving the public transport offer and existing service reliability on this key radial corridor into Bath can be expected to play an additional key part in reducing the level of generated car trips associated with new development in the city. This is particularly the case as most of the key development sites within the EA straddle this proposed Mass Transit ‘priority’ route.

4.6 Bath Clean Air Zone (CAZ)

B&NES is currently considering the introduction of a Clean Air Zone covering the central area of Bath. In 2017 the government published a UK Air Quality Plan for Nitrogen Dioxide setting out how compliance with the EU Limit Value for annual mean NO₂ will be reached across the UK in the shortest possible time. Due to forecast air quality exceedances in Bath, B&NES, along with 27 other Local Authorities, was directed by Minister Therese Coffey (Defra) and Minister Jesse Norman (DfT) in 2017 to produce a Clean Air Plan (CAP) for the city. This plan includes the proposed introduction of a Clean Air Zone (CAZ) with a charging regime for non-compliant or ‘high emission’ vehicles. An Outline Business Case for the CAZ has just been issued (October 2018), and public consultation is currently on-going. The boundary of the CAZ set out in the Outline Business Case is shown in **Figure 4.1** below.



SECTION 4 – PROPOSED TRANSPORT INFRASTRUCTURE

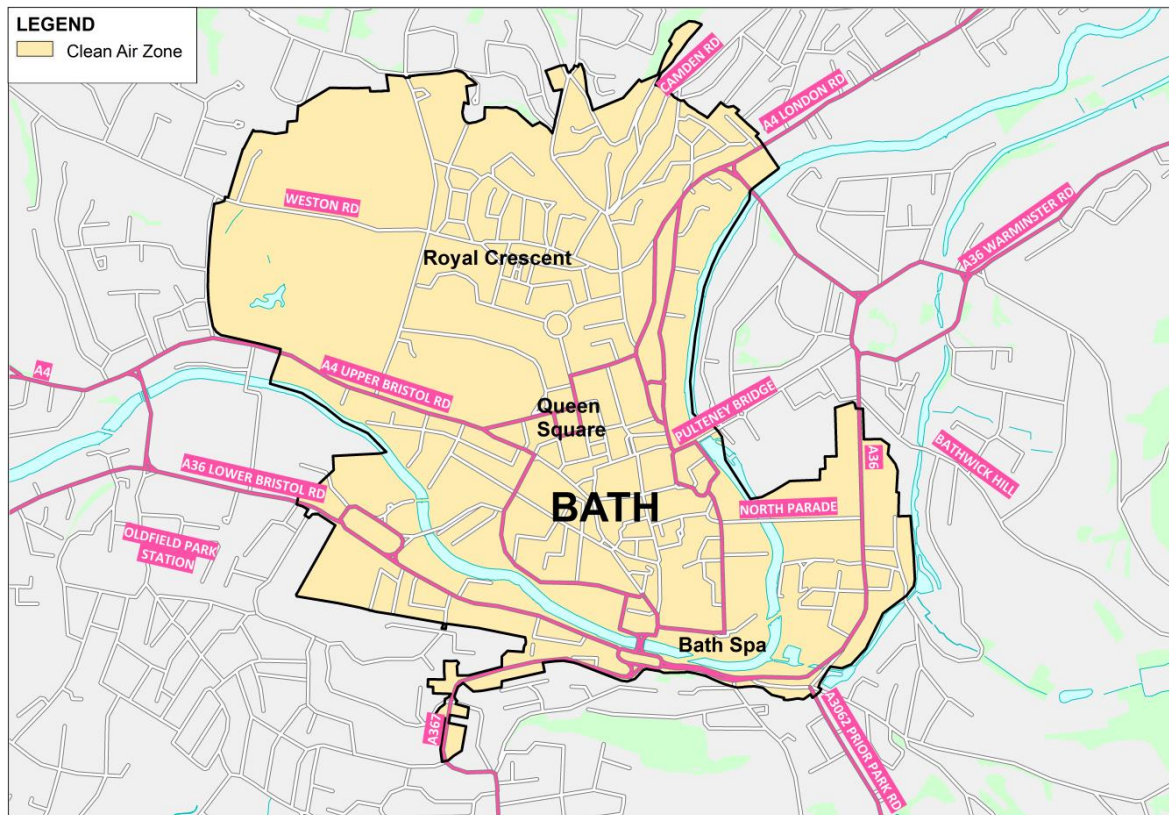


Figure 4.1: Proposed Bath CAZ Boundary – Outline Business Case Submission

Whilst the CAZ is not a transport infrastructure scheme per-se, the allied ‘Stated Preference’ surveys and traffic modelling shows that it can be expected to have some influence in reducing traffic in Bath. This is likely to affect development related car trips into Bath, especially where sites lie within the zone, but also local trip making from these sites where destination ‘attractors’ are within the CAZ. It is also important to note that the CAP as proposed includes a series of non-charging measures to mitigate against the impact of the CAZ and increase travel choice. These in part include:

- Converting the experimental TRO covering the extended inbound bus lane on the A4 London Road at Lambridge to a permanent TRO;
- Providing additional cycle parking across the city centre in visible locations, and piloting a management scheme to improve proper usage of cycle parking;
- Expanding the proposal (included in Go Ultra Low package) to introduce electric cycle hire to the city;
- Promoting and increasing the utilisation of the car/van club network in Bath;
- Providing 24-hour secure parking at all three P&R sites to encourage overnight use and to facilitate extended operating hours; and
- Expanding the size of the existing P&R sites and providing additional P&R capacity at the university sites at weekends and during holiday periods.



Whilst linked to the CAZ, these measures achieve a close ‘fit’ with the policy objectives in the current CC/PMP and the proposed NLP in promoting/enhancing sustainable transport within Bath. As such, this will assist in mitigating against any adverse traffic impacts from development related growth.

4.7 Conclusions

Analyses show that continuing to invest in improving the capacity of the Park and Ride facilities on the edge of Bath will complement the latest Parking Standards, which will radically reduce the on-site parking provision allowable for new non-residential development, particularly sites within the City Centre zone. There is already surplus capacity of around 1,000 spaces at the existing three Park and Ride sites at Newbridge, Odd Down and Lansdown, to which further expansions can be made to provide alternative ‘edge of city’ parking for most of the displaced development related parking demand associated with the EA. However, constraining weekday peak period traffic growth to around +3-4% will require an associated reduction in existing traffic using the central area highway network. As such, active investigation of options for a new site on the east side of Bath will continue to form a policy objective of the NLP. This new facility would create further opportunity for abstracting and removing development related traffic routing into Bath from the A4 Box Road and A363, as the existing Park and Ride site locations do not provide a very convenient alternative for drivers using these routes.

Analysis of rail patronage data shows that supporting the delivery of the GWML electrification through Bath, and the local service upgrade afforded by implementation of MetroWest Phases 1 and 2, will also assist greatly in delivering the planned NLP development growth within Bath. Many of the key residential and employment sites are within the City Centre or close to its edge, and within a convenient walk/cycle distance of the main railway station. This factor combined with the predicted change in patronage level shows that rail and the planned investment in this mode will have the potential to cater for a key proportion of the travel demand generated by the development sites in and around the City Centre.

The Bath Transportation Package (BTP) has previously invested £27 million in upgrades to radial bus corridors, expansion of Park & Ride sites and extension of real-time information, together with various other transport and public realm improvements. In addressing increased travel demand associated with new development in the city, the approach taken will be to build on this past success in improving bus service reliability and passenger facilities. The GBBN2 study will be instrumental in developing options for creating the Mass Transit corridor through Bath envisaged in the West of England Joint Transport Study. Improving the public transport offer and existing service reliability on this key radial corridor into Bath can also be expected to play an additional key part in reducing the level of generated car trips associated with new development in the city. This is particularly the case as most of the key development sites within the EA straddle this proposed Mass Transit ‘priority’ route.

The creation of a Clean Air Zone (CAZ) in the central area of Bath is currently under consideration to address emission level exceedances in several locations. Whilst the CAZ is not a transport infrastructure scheme per-se, the allied ‘Stated Preference’ surveys and traffic modelling shows that it can be expected to have some influence in reducing traffic in Bath. This is likely to affect development related car trips into Bath, especially where sites lie within the zone, but also local trip making from these sites where destination ‘attractors’ are within the CAZ. The supporting non-charging measures included in the CAP will also help to increase sustainable travel choice for trips within and into/out of Bath.



SECTION 5

Summary and Conclusions

5.1 Summary

This note sets out how the expected growth in travel associated with new development for Bath proposed in the NLP will be managed to prevent severe impact on already congested highway conditions in the weekday peak periods. As such, it has discussed how new transport infrastructure proposals to promote sustainable travel, and initiatives/impacts in seeking to actively deter car travel, will be used to mitigate any adverse impact from these new developments in addition to reducing existing traffic in the city.

It is important to note that the quantum of new development set out in the NLP for Bath, and specific locations, is broadly identical to that set out in the PMP. This, as with the PMP, is to be concentrated within the Enterprise Zone (EA) area, comprising major sites alongside the western riverside corridor and within the City Centre. Indeed, the additional level of development set out in the NLP is little more than 300 extra dwellings, which would be accommodated on a series of small sites. As such, the 'key' sites and travel impacts on the Bath highway network will be associated with the same major developments set out and assessed during the EiP into the now adopted PMP.

5.2 Conclusions

The existing PMP Parking Standards for Bath which will be enshrined in the NLP will form an extremely important policy control on the volume of traffic generated by new developments in the city, particularly those acting as trip attractors and potentially encouraging additional vehicle trips to be made into the congested central area. Policy objectives within the B&NES Parking Strategy relating to Bath will support this, with off-street public parking capacity held at the current level or below.

This is because traffic generation analyses with 'unconstrained' parking show that the development effect on traffic growth in the central area of Bath, and along the A4-A36 corridors would otherwise be too significant to prevent a severe impact on congestion in the weekday peak periods. In contrast, with generations capped to 'constrained' maximum parking accumulations dictated by the PMP standards, the growth is predicted to remain within acceptable thresholds in these periods.

Whilst restricting or controlling parking will result in a greater proportion of new development trips being made by bus, rail, cycling or walking, there also will be a need to increase and improve the 'out of town' parking offer afforded by Park and Ride. The ways in which the NLP will seek to improve the opportunities for sustainable travel within and into Bath are as follows, and mirror the current transport policies in the PMP:

- Phased expansion of the existing Park and Ride sites at Newbridge, Odd Down and Lansdown;
- Continuing to Investigate further options for the provision of a new Park and Ride site on the east side of Bath;
- Further improvements to the walking and cycling network; and
- Although outside the direct control of B&NES, supporting proposals for the electrification of the Great Western Main Line (GWML) through Bath and the introduction of additional MetroWest



SECTION 5 – SUMMARY AND CONCLUSIONS

services in the West of England (WoE) sub-region to improve the capacity for rail travel into/out of Bath.

Continuing to invest in improving the capacity of the Park and Ride facilities on the edge of Bath will complement the latest Parking Standards, with the latter radically reducing the on-site parking provision allowable for new non-residential development, particularly sites within the City Centre zone. There is already surplus capacity of around 1,000 spaces at the existing three Park and Ride sites at Newbridge, Odd Down and Lansdown, to which further expansions can be made to provide alternative ‘edge of city’ parking for most of the displaced development related parking demand associated with the EA. However, constraining weekday peak period traffic growth to around +3-4% will require an associated reduction in existing traffic using the central area highway network. As such, active investigation of options for a new site on the east side of Bath will need to continue to form a policy objective of the NLP.

Supporting the delivery of the GWML electrification through Bath, and the local service upgrade afforded by implementation of MetroWest Phases 1 and 2, will also assist greatly in delivering the planned NLP development growth within Bath. Many of the key residential and employment sites are within the City Centre or close to its edge, and within a convenient walk/cycle distance of the main railway station. This factor combined with the predicted change in patronage level shows that rail and the planned investment in this mode will have the potential to cater for a key proportion of the travel demand generated by the development sites in and around the City Centre.

As noted above, the JSP requires an additional 300 dwellings on new urban intensification sites to be identified and allocated in the Draft Local Plan. The potential level of traffic generation associated with this small quantum of additional residential development needs to be viewed in context when compared with the total potential demand associated with sites already in the CS/PMP.

Using typical residential trip rates for private housing shows that the generations expected from 300 dwellings over the weekday 7:00-10:00 and 3:00-7:00 pm periods would be expected to be 350 and 500 two-way vehicle trips respectively (or circa 140 and 135 two-way trips in the peak hours 8:00-9:00 am and 5:00-6:00 pm). However, this will depend on the specific site locations, whereby sites within or close to the City Centre with good accessibility could be expected to yield much lower than average trip rates. Surveys undertaken at the Bath Western Riverside (BWR) site (Policy SB8) showed that the two-way trip rate over the weekday 7:00-10:00 am period was only 0.35/dwelling, and 0.434/dwelling over the period 3:00-7:00 pm). Therefore, in contrast to what might normally be expected, the ‘actual’ generation with 300 units here is only 105 and 130 vehicle trips over the weekday peak periods.

This compares with assessed ‘unconstrained’ generations of 4,100 and 5,400 two-way vehicle trips from the non-residential development proposed within the EA over the same periods. It is clear from this that the additional traffic generation effect of the additional development proposed in the NLP will be negligible compared to the effect of that already in the CC/PMP.