

Appendix C

Extension to MOD Ensleigh Evaluation

Draft

C1 Extension to MOD Ensieigh

C1.1 Overview

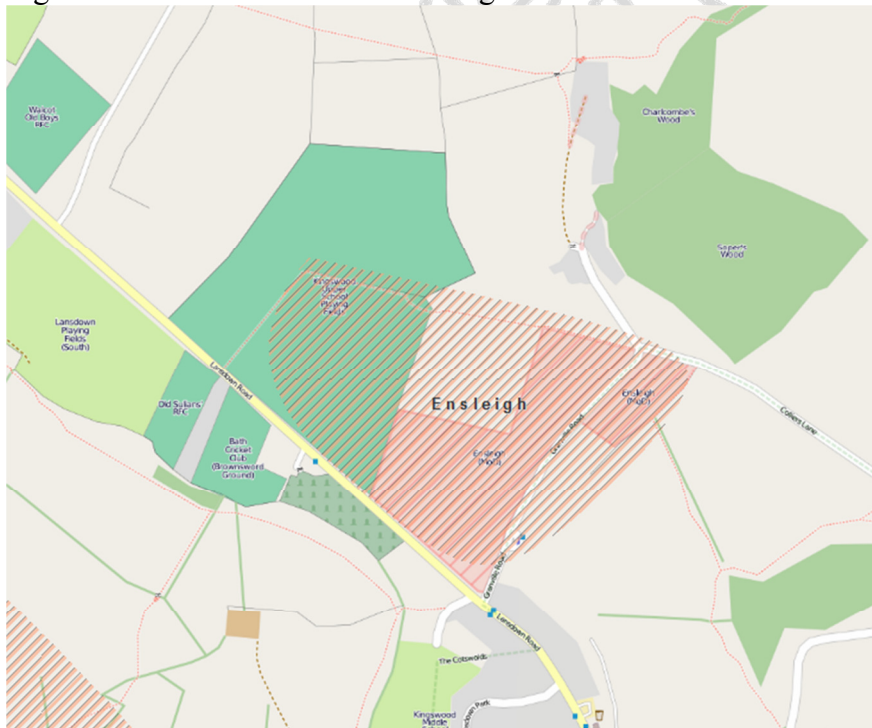
This development area is primarily based around Ministry of Defence (MoD) Ensieigh which, along with MoD Foxhill and Warminster Road MoD which, as of September 2012, are in the process of being decommissioned.

To the north of the MoD site are playing fields (part inside, part outside of the development area) used by King Edward's School. 500m to the north east lies the Lansdown Park and Ride facility. To the south of this location lies the suburb of Lansdown which reaches up the hillside from the city centre. The area is typified by large detached and semi-detached housing. To west of this location, across Lansdown Road, lies a cemetery and Beckford's Tower, a Grade I listed structure and prominent local landmark.

The surrounding area is predominantly open countryside, with areas of woodland and dense vegetation on the hillside and small clusters of farm and residential buildings.

This location is close to local amenities within Lansdown including schools (Kingsdown School, St Stephens Primary), GPs, the Royal United Hospital, dentists and local shops in Weston and Lower Lansdown.

Figure 16: Extension to MOD Ensieigh Location



C1.2 Census (2011) Mode Share Review

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Table 43: Census Mode Share Review, Lansdown Ward, Bath²⁶

Mode	Percentage of Journeys to Work	Ward rank within B&NES (of 37)	Ward rank amongst locations examined (of 8)
Walk	37%	4	1
Cycle	3%	17	2
Bus	5%	23	8
Train	7%	6	1
Car as driver	42%	7	1
Car as passenger	3%	The overall impact of these modes on trip generation from each location is negligible and ward to ward differences between these modes are measures in tenths of percentages. Rankings were therefore not calculated.	
Taxi	0%		
Motorcycle	0%		
Other Public Transport	1%		
Other	1%		
Total	100%	N/A	N/A
Of which sustainable ²⁷ modes account for:	52%	6	1

This location is located in the Lansdown ward; in 2011 this ward has the highest percentage (52%) of residents demonstrating non-car use for journeys to work of the wards considered in the study. This is primarily due to a significant walk modal share of 37%. Cycle use is fairly typical at 3% but Lansdown has the lowest percentage of residents (5%) travelling by bus or coach of any of the wards examined. This may be due to residents preferring to walk rather than indicative of a lack of bus provision.

Of all this locations considered as part of the evaluation Extension to MOD Enleigh has the most established pattern of sustainable travel however the development location is to the north further from Bath centre than the main residential areas of the ward. To account for this in analysis a car modal share of (61%²⁸), based on that exhibited by the Odd Down ward which is located a similar

²⁶ Table excludes “work from home” and “not in employment” as these modes do not impact on the modal choice for off-site trips.

²⁷ Sustainable modes are considered to be walk, cycle, bus, rail, other public transport.

²⁸ This percentage includes the car driver, taxi and motorcycle modes as all generate vehicular trips.

distance from the development location from the centre of Bath and with similar topography, has been assumed for highway analysis.

C1.3 Sustainable Transport

C1.3.1 Walking

A culture of walking is prevalent in this area of Bath as indicated by the walking mode share stats from the 2011 Census. However, as this location is on the northern fringe of Bath opportunities to walk to employment and local amenities may be less when compared to the established areas of Lansdown. There are wide footways on both sides of the carriageway on the approach into Lansdown to allow walking trips.

The local area includes a number of public right of way routes, including one running along the northern boundary and one leading towards Weston. In the vicinity of this location, Lansdown Road has a footway on one or both sides.

ACCESSION analysis indicates that in 20 minutes it is possible to walk from this location to Charlcombe and the further reaches of the Lansdown area towards the city centre. It is possible to walk into the city centre in 30-40 minutes.

C1.3.2 Cycling

There are no designated cycle routes along the Lansdown road corridor, into Bath city centre.

ACCESSION analysis indicated that the city centre can be accessed from this location in less than 20 minutes.

The development area is located at the top of Lansdown Hill and cyclists travelling from Bath city centre would face topographic issues (Lansdown Road is a long, steady climb from the centre of Bath).

C1.4 Public Transport

In public transport terms trips journeys to/from this location are most likely to be made by bus given the distance of this location from Bath Spa railway station (3.5km). The bus services operating within the vicinity of this location are indicated below:

Table 44: Bus Services Operating within 400m, Ensleigh

Service No.	Route	Frequency (two-way)	Bus Stop Location
1	Combe Down – Bath - Ensleigh	15 mins	Granville Road
31	Lansdown Park & Ride - Bath Milsom Street	15 mins	Lansdown Road

This location is already served by the No. 1 bus service which offers a half hourly service directly to/from central Bath. The 31 P&R service stops on Lansdown Road offers express connections to/from Bath city centre but this is currently almost exclusively by non-residents of the ward.

ACCESSION analysis indicates that:

- It is possible to reach Bath city centre in under 30 minutes; and,
- Trips by rail require a journey time of more than 30 minutes.

Existing bus stops are provided on Granville Road and Lansdown Road. The combined Ensleigh area (consisting of greenfield and brownfield development) should be of sufficient size to support improvements to the number 1 bus service on a commercial basis and this could potentially route through this location via Glanville Road.

Should this location come forward bus consideration should be given to upgrading linkages to the P&R service by introducing shelters at the Lansdown Road stops (Hamilton House).

C1.5 Highway Impacts

C1.5.1 Access

This location is primarily accessed from Lansdown Road which provides an informal link between the M4 / A420 and Bath city centre. Lansdown Road provides a single lane in each direction and in the vicinity of this location it is relatively straight and flat providing good visibility. Access is currently also provided from Granville Road which has a priority junction with Lansdown Road.

To the north Lansdown Road provides informal routes to the A420 via Bath Road and Freezinghill Lane. Both routes are relatively narrow and unsuitable for high traffic volumes or speeds.

To the south Lansdown Road is increasingly residential. It is the minor arm at the Richmond Road priority junction, where it continues towards the city centre terminating at the George Street/The Paragon/Broad Street signal controlled junction. Along this stretch are priority junctions with local streets with Julian Road providing access to west Bath via Weston Road and Guinea Lane providing a connection to The Paragon (A4) bypassing the signalised junction.

C1.5.2 Vehicular Trips

Trip generation of the greenfield element of development at Extension to MOD Ensleigh has been calculated based on 120 dwellings, of which 40% are affordable. Car modal share has been based on that of the Odd Down ward (61%) to provide a more robust evaluation reflective of the areas location away from the main residential areas of the Lansdown ward.

Table 45: Peak Hour Trip Generation, Lansdown Location

Offsite Trips	AM Peak Hour		PM Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Vehicles	12	38	39	23

C1.5.3 Destination and Assignment

Destinations for vehicular trips, based on 2001 Census journey to work analysis for trips originating from the Lansdown ward are:

Table 46: Distribution of Car Trips from Lansdown Ward

Destination	Percentage of Vehicular Trips
Bath	42%
Keynsham	1%
Midsomer Norton/Radstock/Westfield	2%
Other B&NES	5%
City of Bristol	12%
South Gloucestershire	10%
Somerset	2%
Wiltshire	13%
Other	13%
TOTAL	100%
Contained with B&NES	50%

The majority of trips are destined to Bath (42%) of which 8% are retained within the Lansdown ward. The high proportion of journeys to “other” and “Wiltshire” is thought attributable to better than average access to the M4 motorway via the A420 as well as the A4 heading east of the city. Similarly Bristol and South Gloucestershire can be accessed via the A420 and these two authorities account for a quarter of journeys.

Assignment of vehicular trips has been undertaken and this identifies the following key impacts:

- Significant increase in demand on Lansdown Road to/from Bath City Centre due to trips into Bath city centre. It is estimated that around 45% of trips destined to Bath will use George Street with around 28% of trips likely to use The Paragon/Guinea Street. The remaining trips to Bath are to local wards (Lansdown, Weston) or will use Julian Road to access west Bath.
- Trips destined west are forecast to distribute between the A420 and A4. People travelling via the A4 are forecast to use Julian Road with the majority of these trips travelling along Upper Bristol Road via Marlborough Buildings or Park Lane.
- George Street /The Paragon will experience a significant increase in traffic destined for the Abbey ward in part due to the one-way system and Northgate Street bus-gate which restrict cross-centre trips.
- The development will have a negligible impact on highways in Bristol or South Gloucestershire due to multiple routes into these authorities.
- The development will have a negligible impact on other strategic links (A367, A4174, A36, A39 and A46).

Overall the developments impacts are largely confined to Lansdown Road between the development area and city centre, with this traffic dispersing along George street, The Paragon and Julian Road.

Table 47: Additional Vehicular Trips Resulting from Development

Highway/Area	AM Peak Hour				PM Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
Lansdown Road (north of racecourse)	10	3			5	10		
Lansdown Road (to Bath)	9	39			30	17		
Bath City Centre (via George Street)	2	9			9	5		
Bath East & Wiltshire via Guinea Lane/The Paragon			8	3			5	8
Julian Rd/Weston Lane			3	10			11	6
A4 East of Saltford			1	4			5	3
A4174 Ring Road	1	0			0	0		
A4 Bath Road –to/from Bristol			1	3			4	3

C1.5.4 Changes in Volume and Capacity

The potential impact of development in terms of percentage increase in 2029 traffic volumes has been calculated. This identifies Lansdown Road south as the only highway experiencing a significant percentage change in traffic as a result of development with this traffic distributing along George Street, Julian Road and The Paragon.

Table 48: Increase in Vehicular Trips as Proportion of 2029 Background Traffic

Highway/Area	AM Peak Hour				PM Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
Lansdown Road (north of racecourse)	1%	0%			1%	1%		
Lansdown Road (to Bath)	2%	4%			7%	3%		
A4 East of Saltford			0%	0%			0%	0%
A4174 Ring Road	0%	0%			0%	0%		
A4 Bath Road –to/from Bristol			0%	0%			0%	0%

Highway link volume/capacity ratio has been calculated for key links in the study area for the future assessment year of 2029, with development. This identifies insufficient link capacity along Lansdown Road north of this location in the morning peak hour towards the city and along the A4 through Saltford.

Table 49: Volume/Capacity on Link, With-Development 2029

Highway/Area	AM Peak Hour				PM Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
Lansdown Road (north of racecourse)	63%	108%			69%	65%		
Lansdown Road (to Bath)	32%	53%			33%	38%		
A4 East of Saltford			109%	76%			84%	91%
A4174 Ring Road	35%	49%			35%	57%		
A4 Bath Rd –to/from Bristol			33%	67%			43%	50%

C1.5.5 Potential for Mitigation

An initial evaluation of highway infrastructure and transport services has been undertaken to identify potential measures and constraints along key highways. The following measures have been identified as means of mitigating the impact of development of this location:

- The Lansdown Road park and ride facility has the ability to intercept city centre bound traffic reducing pressure on Lansdown Road southbound in the AM peak and northbound in the PM peak and a relatively modest increase in the number of users of this service could offset the impacts associated with development of the greenfield area.
- The combined Ensleigh development area (comprising of greenfield and brownfield development) should be of sufficient size to justify commercial improvements in bus services in the area. Furthermore any expansion of park and ride facilities could also provide commercial justification for an improved frequency between Lansdown and the city centre.
- Highway improvement works will be required along Lansdown Road to improve traffic flow into the city centre. Potential improvements could include changes to junction priority at the Richmond Road junction, simplification of junction movements at the Julian Road and Morford Street junctions and reallocation of road space.
- The George Street/The Paragon/Lansdown Road junction is a key capacity constraint and highway capacity improvements and management measures may be required to better facilitate access to/from Lansdown Road.

C1.6 Conclusions

The Lansdown ward is the most sustainable of the locations examined in this study and the developmental area offers opportunities to link into established public transport networks with relative ease. As such there would be minimal additional infrastructure required to facilitate public transport use to and from this location via express services operating from the nearby park and ride facility and local bus services.

The highway impact of development is confined to a few key links, in particular Lansdown Road, George Street and The Paragon. There is scope to introduce mitigation through increased use of the Lansdown park and ride facility and minor

highway modifications could improve traffic flow. The Lansdown Road/George Street/The Paragon junction is a key constraint on the route into Bath however there is some scope to introduce mitigation measures through link/junction improvements and park and ride.

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