Appendix H

West of Keynsham Evaluation

H1 West of Keynsham

H1.1 Overview

This location occupies an area of Green Belt land which lies to the west of Keynsham and is mainly in use as farmland with the north mainly arable land and the central and southern areas being in use as pasture and grazing land. At the centre of this location is Lays Farm which is now in use as a trading estate.

To the east of this location lies the residential area of Keynsham with residences defining the edge of the developmental area.

To the north, south and west of this location lies open countryside and the narrow Charlton Valley. The village of Queen Charlton (a Conservation Area) lies 500m to the south west.

Figure 21: West of Keynsham Location

H1.2 Census (2011) Mode Share Review

A review of the recently released journey to work information for the ward indicated the following mode share. The results have been ranked to compare the mode share with other B&NES wards and against each of the other locations evaluated.

Table 77: Census Mode Share Review, Keynsham North Ward[37]

Mode	Percentage of Journeys to Work	Ward rank within B&NES (of 37)	Ward rank amongst locations examined (of 8)
Walk	13%	17	4
Cycle	3%	19	3
Bus	9%	11	4
Train	5%	12	2
Car as driver	63%	17	4
Car as passenger	5%	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	1%		
Other Public Transport	0%		
Other	1%		
Total	100%	N/A	N/A
Of which sustainable[38] modes account for:	30%	17	4

Travel to work from the Keynsham North Ward is predominantly by car with 30% of journeys by sustainable modes. The ward ranks slightly better than average in all categories.

H1.3 Sustainable Transport

H1.3.1 Walking

This location is located along the western edge of Keynsham adjoining existing residential proprieties accessed from Charlton Road.

This location would be an expansion to an existing residential area and as such, central Keynsham could be accessed on foot along Charlton Road and adjoining routes. Footway provision along this route is good. Footways are segregated from the carriageway by parking bays and grass verges. There are dropped kerbs along the route.

This location is also connected by a series of Public Right of Way routes which give access into the wider countryside, to Queen Charlton and towards the town centre.

ACCESSION analysis indicates that walking to central Keynsham from the centre of this location would take just over 20 minutes.

[37] Table excludes "work from home" and "not in employment" as these modes do not impact on the modal choice for off-site trips.
[38] Sustainable modes are considered to be walk, cycle, bus, rail, other public transport.

H1.3.2 Cycling

Currently cycle trips into Keynsham from the area would be undertaken using the existing highway network.

ACCESSION analysis indicates that it's possible to cycle into central Keynsham, south Bristol and Saltford within 20 minutes using the highway network.

H1.3.3 Public Transport

In public transport terms trips by bus may more attractive than by rail, given the distance of this location from Keynsham railway station.

This location is not directly served by public transport though a regular service runs along Charlton Road, adjacent to the south-eastern boundary. Services operating along Charlton Road are listed in Table 77.

Table 78: Bus Services within 400m of West Keynsham

Service No.	Route	Frequency (two-way)	Bus Stop Location
338	Bath-Keynsham-Brislington-Bristol	15 mins	Charlton Road
349	Bristol centre-Brislington-Keynsham-Brislington-Bristol centre	30 mins	Charlton Road

ACCESSION analysis indicates that:

- It is possible to reach the centre of Keynsham and the edge of Bristol city centre in under 30 minutes; and,
- Oldfield Park rail station (Bath) can be reached in less than 30 minutes using bus and rail combined.
- Those trips by rail and bus to central Bath and Bristol requires a journey time of more than 30 minutes.

The existing bus provision may be sufficient to accommodate additional demand generated by this location.

H1.4 Highway Impacts

H1.4.1 Access

The only existing access to this location is from Charlton Road which provides direct access to Keynsham town centre and the A4 via St Ladoc Road and Durley Hill. Charlton Road also links into routes which travel west to Whitchurch and south Bristol.

At present, there is an access road from Charlton Road to Lays Farm which runs through the southern part of this location. Access to the northern part of this location is limited by existing housing which forms a continuous boundary.

H1.4.2 Vehicular Trips

Trip generation has been calculated based on 200 dwellings, of which 35% are affordable, with a car modal share of 64% based on that of the Keynsham North ward.

Table 79: Peak Hour Trip Generation

Offsite Trips	AM Peak Hour		PM Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Vehicles	22	70	71	41

H1.4.3 Destination and Assignment

Destinations for vehicular trips are based on 2001 census journey to work distributions for car trips originating in the Keynsham North ward.

Table 80: Distribution of Car Trips from Keynsham North Ward

Destination	Percentage of Vehicular Trips
Bath	11%
Keynsham	26%
Midsomer Norton/Radstock/Westfield	1%
Other B&NES	3%
City of Bristol	33%
South Gloucestershire	16%
Somerset	1%
Wiltshire	2%
Other	7%
TOTAL	100%
Contained with B&NES	41%

Residents of the Keynsham north ward typically work in Bristol (33% of car trips) or Keynsham (26% of car trips) with South Gloucestershire and Bath other popular destinations.

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

- A large number of vehicular trips will use Charlton Road to access Keynsham, the A4 and A4174 resulting in 75-90 two-way trips in peak hours.
- Trips to south Bristol, Somerset and the A37 will travel south on Charlton Road resulting in around 10 two-way trips in peak hours.
- All Bath trips are routed along the A4 through Saltford resulting in 10-15 two-way trips in peak hours. It is assumed these trips will route through Keynsham rather than travelling west down Durley Hill to access the bypass.

Table 81: Additional Vehicular Trips Resulting from Development

Highway/Area	AM Peak Hour				PM Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
A4 west of Callington Rd			4	13			13	8
Durley Hill			36	11			22	37
St Ladoc Road	38	11			23	39		
Keynsham High Street			14	4			8	14
Charlton Rd E of St Ladoc Rd			17	5			9	17
Charlton Rd W of St Ladoc Rd			58	17			34	58
Charlton Rd to/from Bristol			2	7			7	3
A4 West of Saltford			9	2			5	9
A4 Bath Rd to/from Bristol			5	17			17	10
A4174 Ring Road	9	2			5	9		

H1.4.4 Changes in Volume and Capacity

The potential impact of development in terms of percentage increase in 2029 traffic volumes has been calculated. This identifies the Charlton Road, St Ladoc Road and Durley Hill as those highways experiencing the most significant impacts as a result of development. Percentage increases in traffic outside of Keynsham are negligible.

Table 82: 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
A4 west of Callington Rd			0%	1%			1%	0%
Durley Hill			4%	1%			2%	4%
St Ladoc Road	7%	3%			6%	8%		
Keynsham High Street			1%	0%			1%	1%
Charlton Rd E of St Ladoc Rd			2%	1%			1%	2%
Charlton Rd W of St Ladoc Rd			14%	3%			7%	8%
A4 West of Saltford			1%	0%			0%	1%
A4 Bath Rd to/from Bristol			0%	1%			1%	1%
A4174 Ring Road	2%	0%			1%	1%		

Highway link volume/capacity ratio has been calculated for key links in the study area. This identifies potential congestion and delays as a result of insufficient link capacity along the A4 west of Saltford, Keynsham High Street and Charlton Road on approach to St Ladoc Road. Traffic growth on Charlton Road is somewhat attributable to development and there is little scope for capacity improvement. Capacity issues on other links is largely attributable to cumulative traffic growth arising from new housing and employment which the Core Strategy will play an important role in allocating across the authority.

While the link capacity values do not suggest capacity issues on routes into Bristol in practice junctions will constrain highway capacity. The A4 into Bristol operates with congestion in 2012 and there is little scope for highway improvement.

Table 83: Volume/Capacity on Link, With-Development 2029

Highway/Area	AM Peak Hour				PM Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
A4 west of Callington Rd			52%	82%			68%	81%
Durley Hill			57%	68%			78%	58%
St Ladoc Road	77%	48%			53%	68%		
Keynsham High Street			159%	146%			149%	127%
Charlton Rd E of St Ladoc Rd			66%	56%			58%	65%
Charlton Rd W of St Ladoc Rd			62%	76%			73%	102%
A4 West of Saltford			101%	112%			118%	73%
A4 Bath Rd to/from Bristol			33%	68%			43%	51%
A4174 Ring Road	36%	49%			36%	57%		

H1.4.5 Potential for Mitigation

An initial evaluation of highway infrastructure and transport services has been undertaken to identify potential measures and constraints along key highways.

- Local junctions along Charlton Road and St Ladoc Road may need improvement to provide additional capacity.
- The feasibility of creating a new link road to Durley Hill via Old Bristol Road should be investigated as a means of limiting traffic impacts along Charlton Road/St Ladoc Road.
- Keynsham High Street is constrained and remodelling of the centre would be required to create additional highways capacity. Demand management measures should be considered.
- Junctions along the A4 and A37 are already managed as part of the coordinated, demand responsive signal control system operated by BCC. There is little scope for highway improvements and demand management measures are therefore required in the short-medium term.
- Expansion of Brislington Park and Ride facility to intercept city centre bound traffic would reduce pressure on the A4 into Bristol provided sufficient drivers can be persuaded to adopt such a service.
- The A4 through Saltford experiences congestion and relatively slow journey times in 2012. The highway width is constrained and there is little scope for capacity improvements within the existing corridor. Demand management/sustainable transport measures may provide the most cost effective means of managing the situation.

H1.5 Conclusions

The West of Keynsham area provides an extension to an existing residential development there are opportunities to link into established transport networks and services to facilitate sustainable travel patterns.

The majority of vehicular trips from resulting from any development on this location are likely to utilise Charlton Road to access Keynsham town centre or the A4/A4174 via St Ladoc Road/Durley Hill. The highway into Keynsham town centre is constrained and there is little scope for capacity improvement. Additional traffic is therefore likely to contribute to queues and delays. The Charlton Road-St Ladoc Road-Durley Hill route to the A4/A4174 does not have sufficient link capacity to accommodate trips without resulting in some additional congestion. Traffic routes are also primarily along residential in character and additional vehicular traffic could alter the feel of the area.

A significant proportion of trips from this location will use the A4 corridor to travel into Bristol and this is already operating close to maximum capacity, with little scope for highway capacity improvements. The Brislington park and ride facility provides some relief to this corridor and rail improvements between Bristol, Bath and Keynsham could assist in the management of traffic growth along this corridor.

Overall the highways impact of development is largely along congested routes or residential streets but there is some scope for encouraging modal shift onto established networks and services.