

Appendix E

Land adjoining East Keynsham
Evaluation

Draft

E1 Land adjoining East Keynsham

E1.1 Overview

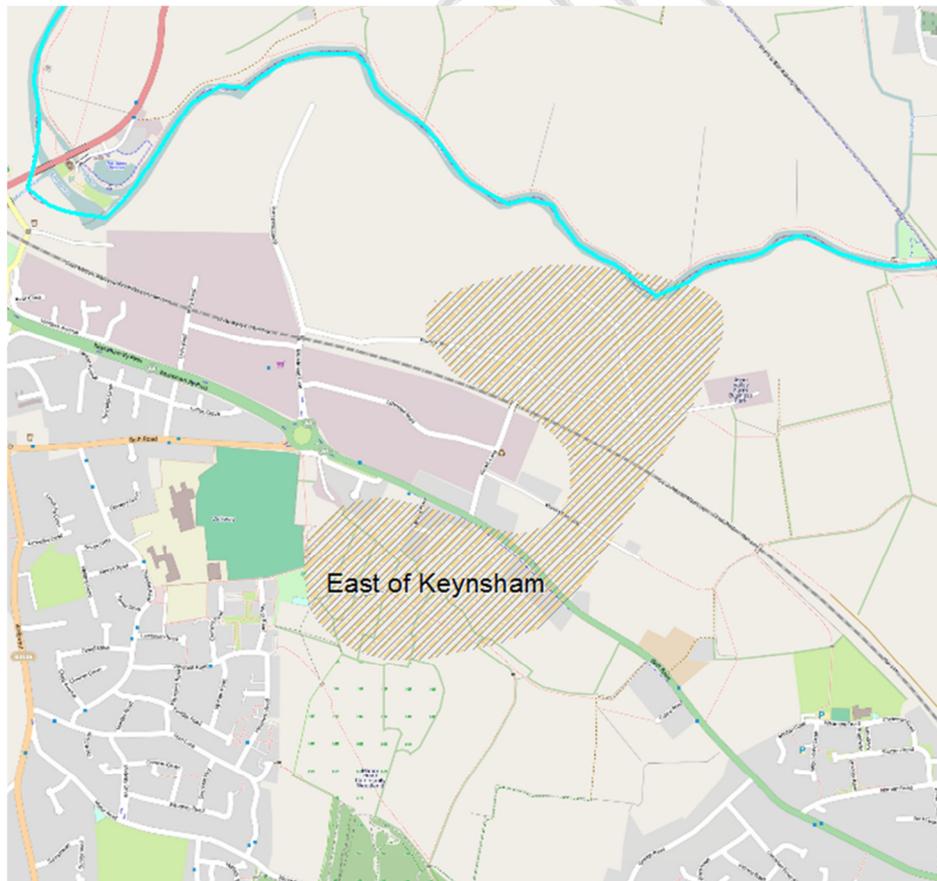
The development location lies directly to the East of Keynsham and is currently characterised as arable, pasture and grass which sits within an area of open countryside between Keynsham and Saltford.

This location is adjacent to significant residential development and large primary and secondary schools. Keynsham town centre lies to the west of this area. There are other clusters of residential development along the A4 corridor towards Saltford.

To the north of the A4 lies a significant employment area including small enterprise and industrial units. This location includes a horticultural nursery.

To the north of the railway line lies the Avon Valley which is largely undeveloped save for a sewage works, small industrial site, farm with small enterprise units and the Avon Valley Country Park. To the south of this location is the Manor Road Community Woodland Local Nature Reserve which is part of the Forest of Avon.

Figure 18: Land adjoining East Keynsham Location



A number of Public Right of Way routes run through this location providing links between the residential areas and open countryside. This gives the opportunity to create new connections and accesses.

This location is located to various local amenities including primary and secondary, schools, GPs, supermarkets, shops, dentists and employment opportunities within Keynsham.

E1.2 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 57: Census Mode Share Review, Keynsham East Ward³¹

Mode	Percentage of Journeys to Work	Ward rank within B&NES (of 37)	Ward rank amongst locations examined (of 8)
Walk	9%	24	7
Cycle	3%	20	4
Bus	7%	17	6
Train	4%	15	3
Car as driver	70%	22	7
Car as passenger	4%	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	2%		
Other Public Transport	0%		
Other	1%		
Total	100%	N/A	N/A
Of which sustainable ³² modes account for:	23%	21	6

Keynsham East journey behaviour is predominantly by car (70% of residents are car drivers) whilst 23% demonstrate non-car use, which is below average compared to other wards. For non-car modes, bus use is just below average in comparison to other wards (7%). Train use is higher than average within B&NES and within wards examined in this study.

The census data indicates that car use is prevalent in ward with walking opportunities in particular limited.

E1.3 Sustainable Transport

E1.3.1 Walking

The routes connecting this location to Keynsham town centre offer direct links to local amenities, however in some locations the footway is narrow and whilst ACCESSION analysis indicates that the town centre can be reached in

³¹ Table excludes “work from home” and “not in employment” as these modes do not impact on the modal choice for off-site trips.

³² Sustainable modes are considered to be walk, cycle, bus, rail, other public transport.

approximately 20 minutes, walking trips may not be as attractive when compared to other locations.

E1.3.2 Cycling

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

NCN4 runs approximately 500m to the east of the developmental area and it may be feasible to provide a connection to this high-quality route via a new path along the Avon – creating an attractive cycle route to Bath and Bristol.

It is understood that direct linkages into Keynsham are planned in the near future.

E1.3.3 Public Transport

This location lies around 1.5-2.5km from Keynsham railway station which lies on the Great Western Main Line and links this location to Bristol, Bath and through to Wales, the West Country and London.

A number of bus services run along the A4 and the neighbouring residential areas, offering services between Bristol, Bath, Keynsham, Saltford and a number of local towns and villages. Services operating in the AM peak hour with a frequency greater than 30 minutes are listed below:

Table 58: Bus Services Operating within 400m, Land adjoining East Keynsham

Service No.	Route	Frequency (two-way)	Bus Stop Location
338	Bath-Keynsham-Brislington-Bristol	15 mins	A4
X39	Bath-Newbridge Road-Saltford-Brislington-Bristol	6 mins	A4
178	Bath-Norton Radstock-Bristol	30 mins	Minsmere Road

ACCESSION analysis for this location indicates that:

- It is possible to travel to central Bristol from this location in 30 minutes by bus.
- It is possible to reach the edge of Bath city centre in 30 minutes.
- Including travel time to stations, rail travel to Bath/Bristol takes more than 30 minutes. Bus travel may therefore be the most attractive public transport option.

Should this location come forward there may be scope to extend the 178, 338 or 339 services to pick up within/close to this location. The south of this location would facilitate buses operating through a new residential area through creation of new accesses to the east and west along the A4. This new link could potentially be via bus gate and/or bus lanes.

Connectivity to the existing bus stops along the A4 should also be given careful consideration and in some locations the bus stops and pedestrian connections may require improvement works.

E1.4 Highway Impacts

E1.4.1 Access

The development area lies either side of the A4 which provides a direct link between Bristol and Bath. Along this section of the A4 there are a number of locations which may be suitable for creation of a new access to this location.

Access to the south may be gained from Manor Road which runs between Keynsham and Saltford, though this is a relatively narrow lane which has limited capacity particularly at the Saltford end. Access from the west may be possible from Windrush Road which runs through the residential area.

Access to the north is restricted due to the railway line. There are two access points, a tunnel on Broadmead Lane and a bridge crossing on Pixash Lane, which both have limited capacity and would need to be improved to facilitate development. Pixash Lane also provides access to the central section of the development area.

E1.4.2 Vehicular Trips

Trip generation has been calculated based on a development mix of 500 residences of which 35% are affordable homes, with a primary school and 25,000m² of light industry. A vehicular modal share of 72% has been assumed based on the Keynsham East ward.

Table 59: Peak Hour Trip Generation

Offsite Trips	AM Peak Hour		PM Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Vehicles	220	258	221	226

The quantum of employment land use assumed within the development results in a relatively balanced number of trips arriving and departing the area in peak hours.

E1.4.3 Destination and Assignment

The primary destinations for vehicular trips from this location based on 2001 Census journey to work distributions for car trips originating in the Keynsham East ward are shown in Table 60.

Table 60: Distribution of Car Trips from Keynsham East Ward

Destination	Percentage of Vehicular Trips
Bath	13%
Keynsham	19%
Midsomer Norton/Radstock/Westfield	1%
Other B&NES	6%
City of Bristol	34%
South Gloucestershire	16%
Somerset	2%
Wiltshire	1%
Other	8%
TOTAL	100%
Contained with B&NES	39%

Residents of the Keynsham north ward typically work in Bristol (34% of car trips) or Keynsham (19% of car trips) with South Gloucestershire (16%) and Bath (13%) other popular destinations. The number of trips contained within B&NES is relatively low at 39%.

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

- Trips from this location into Keynsham would use Bath Hill via the B3116 Bath Road, and it is assumed that 71% of trips into Keynsham would use this route, with the balance (29%) remaining within the Keynsham East ward. In total around 70 two-way trips are forecast into Keynsham town centre.
- It has been assumed that all trips to Bristol and 90% of trips to South Gloucestershire would use the A4/A4174. 10% of trips to South Gloucestershire have been assigned to the A4175 – the impact in trips is negligible. In total 130-140 two-way trips use the A4 into Bristol with a further 130-140 two-way trips using the A4174 Ring Road.
- All Bath trips and 50% of Wiltshire trips are routed along the A4 through Saltford resulting in an additional 60-70 two-way trips in peak hours. Once it has travelled through Saltford this traffic has multiple routes into Bath from the A4 and disperses resulting in minimal impacts on highways in the city.

This location extends north-south either side of the A4 and would support local connections from Pixash Lane/Broadmead Lane to the north and residential streets to the south. It has been assumed that development north of the A4 will be light industry, with development south of the A4 residential.

Table 61: Additional Vehicular Trips Resulting from Development

Highway/Area	AM Peak Hour				PM Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
B3116 Wellsway	21	22			19	20		
Bath Hill/Keynsham High Street			35	39			33	34
B3116 Bath Road			56	61			52	54
Keynsham Bypass			131	147			126	129
A4 West of Saltford			35	32			31	30
A4 Bath Road to/from Bristol			65	74			64	63
A4174 Ring Road	73	65			64	63		
A4 Bath Rd west of Callington Road			41	47			40	41
A4174 Callington Road	16	18			16	16		

E1.4.4 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 Keynsham Bypass as the highway experiencing the largest impact as a result of development which is consistent with this highway being adjacent to this location. Overall the development results in increases in traffic of between 3%-8% across a number of highways including the B3116 Bath Road into Keynsham and the A4 into Bristol.

Table 62: 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
B3116 Wellsway	3%	4%			3%	2%		
Bath Hill/Keynsham High Street			2%	3%			3%	2%
B3116 Bath Road			6%	7%			7%	5%
Keynsham Bypass			12%	10%			8%	9%
A4 West of Saltford			3%	2%			2%	3%
A4 Bath Road to/from Bristol			6%	3%			5%	4%
A4174 Ring Road	6%	4%			5%	3%		
A4 Bath Rd west of Callington Road			5%	3%			3%	3%
A4174 Callington Road	2%	2%			2%	2%		

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 Bath Hill/Keynsham High Street and the A4 West of Saltford. Additional traffic is largely attributable to background traffic growth arising from cumulative development rather than directly attributable to development at the Land adjoining East Keynsham location. Those highways primarily experiencing impacts due to development (Keynsham Bypass, B3116 Bath Road) are still below link capacity.

While the link capacity values do not suggest capacity issues on routes into Bristol in practice junctions will constrain highway capacity along these routes. The A4

into Bristol operates with congestion in 2012 and there is little scope for highway improvement.

Table 63: Volume/Capacity on Link, With-Development 2029

Highway/Area	AM Peak Hour				PM Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
B3116 Wellsway	49%	41%			44%	55%		
Bath Hill/Keynsham High Street			161%	149%			152%	129%
B3116 Bath Road			64%	62%			56%	71%
Keynsham Bypass			35%	46%			50%	44%
A4 West of Saltford			103%	114%			120%	74%
A4 Bath Road to/from Bristol			35%	69%			45%	52%
A4174 Ring Road	37%	51%			37%	58%		
A4 west of Callington Road			54%	84%			70%	83%
A4174 Callington Road	53%	60%			62%	64%		

E1.4.5 Potential for Mitigation

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

- The development is well located to facilitate trips via bus services along the A4 and potential connections from Cherwell Road/Minsmere Road. While the ward does not have a particularly high bus mode share the development area is better placed than the major residential areas in Keynsham East to facilitate bus travel.
- Access from the north of the developmental area is restricted by the presence of the railway line, and existing crossings have limited capacity. Improvements to these or the installation of new crossings would be needed in order to facilitate this development.
- A new junction will be required onto the A4 and this will probably take the form of a signalised junction. Any signalised junction should include pedestrian crossing stages within the phasing.
- Keynsham High Street is constrained by existing development and there is little scope for highway capacity improvements. Demand management measures should be considered.
- In order to improve highway capacity into Keynsham, improvements may be required at the Wellsway/Bath Road/Bath Hill junction and junctions on Bath Hill and High Street which are currently all mini-roundabouts.
- The Callington Road/A4 junction is already managed as part of the coordinated, demand responsive signal control system operated by BCC. There is little scope for highway improvements without purchase of third party land. 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 transfer from their car.

- 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.

E1.5 Conclusions

Land adjoining East Keynsham is well located to encourage travel by public transport services along the A4 and it is possible to walk or cycle into Keynsham town centre approximately 1.5-2.5km from this location. This location could support a mix of employment and residential development and is adjacent to existing employment areas encouraging sustainable travel to work.

Highway impacts from development of this location are largely confined to the A4 Keynsham Bypass and routes into Bristol and Keynsham. Keynsham High Street is forecast to be over capacity in peak hours and the area is known to experience congestion at peak times. The A4 into Bristol also experiences significant congestion in peak hours with little room for highway capacity improvements. Expansion of the Brislington park and ride facility could provide some scope for mitigating impacts by reducing traffic levels on the A4 corridor provided sufficient drivers can be attracted onto the service.

The A4 through Saltford and into Bristol is forecast to be over link capacity in 2029 largely as a result of cumulative growth rather than the impact of any one development area. These key routes also currently experience congestion and relatively poor journey times in 2021. The impact of development at East Keynsham on these links is minimal in terms of percentage increases in demand.

Overall this location is located in a ward which does not have a high sustainable mode share, but it is well located for access to buses along the A4 which offer frequent services to a variety of destinations. This location facilities living and working in the same area which reduces impacts compared to a purely residential development. The highways impact of development is largely along the A4 and into Keynsham and while there is some scope for mitigation (bus use, park and ride) residual impacts will remain on these congested corridors.