Basingstoke Transport Strategy: Consultation

Evidence pack
November 2018
Hampshire County Council and Basingstoke and Deane Borough Council are consulting on an emerging framework for a Basingstoke Transport Strategy.

This evidence pack supports the main information pack and has been developed to assist with exploring the relevant transport issues and data which underpin the emerging strategy.

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# Transport Issues

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Issue A – traffic congestion and delays

The highway network generally performs well compared to similar urban areas, but congestion at peak times is currently experienced on the approaches to the Ringway, and within the town centre (e.g. Eastrop Roundabout).

Some congestion outside of the typical peaks is also experienced (e.g. Friday afternoon and Saturday) associated with shopping and leisure demand.

Overall demand for car travel within Basingstoke is forecast to increase by approximately 20% to 2036 (with planned growth). Key parts of the road network (particularly the radial routes into and out of the town) are forecast to be at or approaching reasonable operational capacity.

What causes traffic congestion and delays?

• High reliance on the car for many journeys, including shorter trips
• Single occupancy journeys by car (particularly for commuting in the peak periods)
• Localised capacity issues on the road network
• Operational issues, such as the town centre one-way system and car park access
• High levels of in-commuting by car (approximately 70% car use)
• High availability of parking (including long-stay) in the town centre

Key evidence links: 19 26 27 28 30 36 39
 issue A – traffic congestion and delays

What are the potential consequences of not addressing this issue?

Which could impact negatively against our priorities

Traffic diverting onto local roads

Increased vehicle emissions

Unreliable journey times

Buses caught in congestion

Unable to accommodate new growth

Reduce inward investment

Lower business confidence

Economic prosperity

Increased out commuting to other centres

Less attractive spaces

Poor air quality

Noise disturbance

Quality of life

Increased need to deliver major, intrusive infrastructure

Equality and inclusiveness

Local severance issues
Public transport within Basingstoke town is provided by commercial (and some subsidised) bus services. There has been recent growth in bus patronage, but bus use in Basingstoke is still relatively low (9% of journeys to work within the town for instance). This is despite the bus network providing a relatively good coverage, and a frequent core bus service. The bus network is held back by slow speeds and reliability issues.

Average bus speeds throughout the town are low – between 14 and 17 mph. As a result bus journey times are typically 2 to 3 times longer than comparable car trips.

If nothing is done, bus travel can be expected to get slower in the same way as car journey times. Transport modelling predicts a decline in bus use if no action is taken (-18% by 2036), as bus travel becomes progressively less attractive compared to the car.

Some people depend upon buses for access to jobs, education and healthcare – approximately 20% of households within Basingstoke do not have access to a car for instance.

Evidence from some recent consultation exercises (such as Horizon 2050) suggests that people would be open to using public transport more, rather than the car, if there was a higher quality option available. Support has also been expressed for high quality public transport to be integral to new developments.

What are the main causes?

- A lack of bus priority within the town. This means that bus journey times are affected by the same traffic issues as the car. But in addition, things like wait time, boarding times, interchange and walking to / from bus stops adds to the overall bus travel time.

- The town centre layout contributes to longer journey times (e.g. due to the one-way system and access to the bus station via Eastrop Roundabout).

- A lack of cross-town bus connections.

- Poor public perception / image of buses.

- Basingstoke has a relatively high capacity highway network and plentiful parking at a reasonable cost. Many workplaces also provide high levels of parking (e.g. Basing View). This contributes to car travel being perceived as convenient and affordable compared to bus travel.

- New developments are not always designed in ways to encourage bus travel and to facilitate fast, efficient services.

Key evidence links: 19 20 21 31 32 33 35
Issue B – public transport is less attractive than travelling by car

What are the potential consequences of not addressing this issue?

- Bus journey times increasingly uncompetitive
- Lower levels of public transport use
- New developments poorly served by public transport – high reliance on the car
- Poor access to jobs, education and healthcare for those without access to a car
- More buses and drivers required to maintain services – increased fares / reduced frequencies

Which could impact negatively against our priorities

- Pressure to use valuable town centre land for additional parking
- Reduced inward investment
- Less sustainable growth
- Economic prosperity

- Increased need to deliver major highways infrastructure
- Poor air quality
- Less attractive spaces
- Quality of life

- Reduced travel independence (e.g. for the young)
- Equality and inclusiveness

- More buses and drivers required to maintain services – increased fares / reduced frequencies
- Less attractive spaces
- Quality of life
- Economic prosperity

- Potentially higher travel costs for those without a car
Walking is a popular mode for residents living and working in the town, but cycling levels are low despite the vast majority of residents being within 3 miles of the town centre. Some parts of the network are of a high standard, but some key corridors are lacking, and other localised issues remain.

The cycle network does not always provide direct and continuous routes, of a consistent standard, connecting communities to key destinations. There are some key missing links. Dedicated, segregated provision for cyclists is also irregular. Other key issues include busy junctions, a lack of crossings and a lack of clear and consistent signage.

There are some cycle accident cluster locations, including: Winchester Road, Winklebury Way, and around the train station.

As Basingstoke continues to grow residents will be further away from the town centre and other key destinations – this provides an additional challenge to provide the appropriate infrastructure to encourage people to choose to walk and cycle.

What are the main causes?

• Incremental upgrades of walk / cycle infrastructure over time as funding is available
• Walking and cycling provision for new development is not always planned and delivered in a comprehensive way
• depending upon their ability (e.g. experienced / inexperienced) and journey purpose (e.g. cycling for leisure or cycling to work).
Issue C – walking and cycling provision is not consistent

What are the potential consequences of not addressing this issue?

Which could impact negatively against our priorities

- Less opportunity to build active travel into daily lifestyles
- Walking and cycling not perceived to be safe
- Lower levels of walking and cycling for everyday journeys – contributes to car dependency
- New developments poorly connected to the walk / cycle network

- Pressure to use valuable town centre land for additional car parking
- Less sustainable growth
- Reduced inward investment

- Economic prosperity
- Short / single occupancy journeys by car contribute to congestion and delays

- Restricted leisure opportunities – recreational walking / cycling not supported
- Healthy lifestyles not supported
- Poor air quality

- Quality of life

- Reduced travel independence (e.g. for the young)

- Equality and inclusiveness
- Local severance issues – communities less well connected
Issue D – constraints on town centre access and movement

The town centre is at the heart of activity, serving jobs, shopping, leisure and other facilities. It is also the hub of the transport network, with the bus and rail stations. Balancing the needs of different users and ensuring the town centre is attractive, vibrant and functional presents a significant challenge.

The town centre has a major influence on travel patterns and movements. East to west movements across the town centre can be difficult, and there are other constraints to getting around the town centre easily and safely. Avoiding conflicts between vehicles and pedestrians / cyclists is important.

Bus operation is affected by the current town centre layout and the location of the bus station. This also affects the viability of providing cross-town bus services.

Future development within the town centre (e.g. at Basing View) will provide additional travel demand for movement across the town centre, as well as significantly increased vehicular traffic, unless the site is fully accessible by a range of alternative travel modes.

It is important that there is a high quality arrival experience to Basingstoke (e.g. heading from the train station to the town centre or Basing View) providing visible, attractive thoroughfares and convenient interchange between modes.

What are the main causes?

- Severance and traffic delays at Eastrop Roundabout
- Some poor quality walking / cycling environments and lack of facilities (e.g. high quality cycle parking)
- The one-way system lengthens journeys and journey times, particularly for buses
- Traffic and parking demand and car park operation adds to congestion issues

Key evidence links:

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Cycle access issues

Walk access issues
Issue D – constraints on town centre access and movement

What are the potential consequences of not addressing this issue?

Which could impact negatively against our priorities

- Poor town centre pedestrian / cyclist environment
- Town centre is difficult to navigate
- Impacts on bus services / journey times
- Access constraints around unlocking town centre development

People look to alternative centres for shopping and work

- Town centre less attractive to visitors
- Reduced inward investment

Economic prosperity
- Reduced opportunities for well planned redevelopment and regeneration

Less attractive / welcoming spaces in the town centre

- Healthy lifestyles not supported
- Localised air quality issues

Quality of life

- Local severance issues
- Barriers to meeting day to day needs

Equality and inclusiveness
- Some groups excluded from job and other opportunities
Changing between modes (such as bus / rail or cycle / bus) and different services within the town is not always quick and convenient. As people tend to consider the end-to-end journey experience when making travel choices, this acts as a deterrent to using modes other than the car. This is particularly the case for journeys which involve multiple stages.

Basingstoke’s transport network is focused around the town centre, with the rail station and bus station, and hence this is where there is the greatest demand for interchange.

55% of journeys to the train station are made by car, compared to 24% walking, 5% cycling and 10% bus.

Current bus / rail interchange at the station is affected by the topography and layout of the station forecourt area. Future capacity issues (for buses) could also present a constraint in the medium to longer-term.

Not all buses serve the rail station directly. This necessitates a journey between the bus station and rail station and reduces the accessibility of the public transport network.

Using multiple modes / services can add significantly to travel costs. Whilst some integrated ticketing options between bus and rail do exist (e.g. PlusBus), improvements could be made to create a more seamless travel experience.

What are the main causes?

- The interchange experience at the rail station could be better
- The quality and availability of accurate, real-time journey information and journey planning resources
- Some interchange facilities are lacking or in need of improvement – e.g. key bus stops in communities
- Ticketing options could be simpler, more convenient and better integrated between different modes / services
- Cycle / bus is not an easy option (e.g. lack of cycle parking at bus interchange points and at the railway station)

Key evidence links: 19 23 31 36
Issue E – difficulties changing between modes

What are the potential consequences of not addressing this issue?

- Public transport less attractive, for longer journeys in particular = car reliance
- Demand for car access to the rail station continues to increase – extra demand for parking
- Some destinations difficult to access by public transport
- Public transport increasingly perceived as less affordable and less convenient compared to car use

Which could impact negatively against our priorities

- People look to alternative centres for shopping and a Town centre less attractive to visitors not travelling by car
- Less sustainable growth
- Economic prosperity
  The transport system does not meet the perception of a modern, thriving town
- Poorer quality travel experience
- Greater reliance on car travel
- Localised air quality issues
- Quality of life
- Reduced travel independence (e.g. for the young)
- Equality and inclusiveness
  Some groups have difficulties in accessing jobs and other opportunities
- Barriers to meeting day to day needs (for non car users in particular)
- Demand for car access to the rail station continues to increase – extra demand for parking
- Some destinations difficult to access by public transport
- Public transport increasingly perceived as less affordable and less convenient compared to car use

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The borough's population continues to grow. In the 2011 census the resident population of Basingstoke and Deane was estimated at 167,799 people, an increase of 15,226 since the 2001 census.

Based on latest population estimates, approximately 115,000 residents live within Basingstoke town, which accounts for approximately 2/3 of the total borough population. Basingstoke is the largest town in the county of Hampshire.

In the 2011 census the number of households in Basingstoke town was 42,600, with an average of 2.4 people per household.

Approximately 25% of Basingstoke town’s residents live within 1 mile of the town centre.

The vast majority of the existing town (97%) falls within 3 miles of the town centre.

Most of the town could be considered to be within a reasonable cycling distance of the town centre, whilst approximately a quarter of the town could be considered to be within a reasonable walking distance of the town centre.
Approximately 20% of the population is aged under 16.

17% of residents are aged 65+ (lower than the South East and England averages).

A higher proportion of the population are aged 35-59 compared to the South East or England averages.

Above the age of 65 the percentage of females is slightly higher than that of males.

Source: ONS Mid-Year Population Estimates, 2016
Overall population (borough level) is projected to grow by approximately 10% (18,000 people) between 2016 and 2041:

- Age 0-15: +2%
- Age 16-64: -0.3%
- Age 65+: +65%

The over 65 age group is growing at the fastest rate.

These projected changes in demographics have implications for planning transport provision – not only in terms of an overall increase in travel demand, but also the need to serve an ageing population.

Source: ONS Subnational Population Projections for England, 2016-based

Car is the dominant mode of travel within Basingstoke, as reflected in the travel to work data from the 2011 Census. There are high levels of car usage in Basingstoke (borough and town) compared to national averages. Bus use is higher than the County average, but lower than the national average. Cycle use is lower than the County average.

Source: QS701EW Method of travel to work (Census, 2011)
There is a high car reliance for journeys to work. 66% (31,591) of working age people live and work in the town. But car use for these journeys is high at 61%.

There are higher levels of walking for journeys within Basingstoke town (18%), but low levels of cycling (4%).

34% (16,193) of working age Basingstoke residents travel outside of Basingstoke for work – 76% travel by car.

84% car use for Basingstoke employees commuting in to the town.

Source: QS701EW Method of travel to work (Census, 2011)
Travel patterns and behaviours

Travel to work journeys (total) increased by 13% between 2001 and 2011 Census.

Between 2001 and 2011 the Census data shows that:

- the biggest change (%) was in rail travel, which increased by 59% - equivalent to an additional 1,000 journeys
- there was also a 38% increase in travel by bus
- car use remained static (there was a slight drop in travel by car as a passenger)
- there was a slight decline in cycle use (by 1%)

Source: QS701EW Method of travel to work (Census, 2011)
The average distance travelled to work by residents of Basingstoke town is approximately 8 miles (14 kilometres).

Some of the outer parts of the urban area have longer average journey lengths - for instance, parts of Hatch Warren, Kempshott and Chineham.

Journey lengths increase within the rural catchment beyond the town.
Of the 34% of working age Basingstoke residents who travel outside of Basingstoke for work, key destinations include:

- London
- West Berkshire (Newbury)
- Hart; and
- Reading

Unlike out-commuting, which is focused on a smaller number of key destinations, people travelling into Basingstoke for work is more balanced across different origin locations. These include:

- Hart
- Test Valley
- Winchester
- London

Source: Journey to Work Data (Census, 2011)
Across Basingstoke town as a whole, 40% of households own 2 or more cars.

There are higher levels of car ownership in the south-west of Basingstoke:

- Kempshott
- Hatch Warren

And also higher levels of car ownership in the north-east of Basingstoke:

- Chineham
- Lychpit

Source: QS416EW Car or Van availability (Census, 2011)
There are higher levels of non car ownership in Basingstoke town centre.

There are also higher proportions of households without access to a car within:

- South Ham
- Parts of Brighton Hill
- Parts of Winklebury
- Parts of Popley

There is a link between car ownership and levels of income and deprivation, as well as location and access to services (e.g. those in or close to the town centre who may not need to rely on a car).

Source: QS416EW Car or Van availability (Census, 2011)
High levels of car use for journeys to work are evident in the south-west part of Basingstoke town, e.g.:
- Hatch Warren
- Kempshott

And also in the north-east of Basingstoke, e.g.:
- Chineham
- Lychpit

There are lower levels of car use for journeys to work in and around Basingstoke town centre, and in parts of South Ham, Buckskin and Popley.

Source: QS701EW Method of travel to work (Census, 2011)
There has been growth in traffic (2011 to 2016) for the majority of roads / traffic count sites, including:

• Ringway
• A30 Winchester Road
• A340 Aldermaston Road
• A339 Kingsclere Road
• A33

A reduction in traffic has been recorded on Churchill Way East between 2011 to 2016.

Source: Traffic Counts (DfT, 2018)
Traffic conditions

Delays in the AM peak are evident at some key locations, including:

- A33 southbound
- A30 Ringway South – eastbound (Hackwood Rbt)
- B3400 eastbound (Thornycroft and West Ham roundabouts)
- Ringway West – northbound approaching Thornycroft roundabout.

The most significant increases in delays in the AM peak are evident: on the B3400 Worting Road, Thornycroft roundabout (where improvements are planned), and on the A33 corridor (where improvements have been undertaken and are ongoing).

Source: Department for Transport TrafficMaster database (2011/12 to 2014/15)
Traffic conditions

Delays in the AM peak are evident at some key locations, including:

- Churchill Way East / A339 Ringway East.
- Churchill Way West approaching Thornycroft roundabout.
- Ringway South – westbound approaching Winchester Road roundabout
- Ringway South - eastbound approaching Black Dam roundabout

The most significant increases in delays in the PM peak are evident on the A339 Ringway East and parts of Ringway West.

Note the data coincides with the construction period for the Black Dam junction improvement.

Congestion (Delays) – PM (16:00 – 18:00)

Change 2012 to 2015

Source: Department for Transport TrafficMaster database (2011/12 to 2014/15)
Overall traffic demand in Basingstoke is predicted to increase by over 20% by 2036. Highest traffic growth on the local network is predicted on parts of Ringway North, Ringway East and the A33. Significant increase in demand is also predicted on the M3. Some parts of the network are predicted to be exceeding, or approaching, operational capacity by 2036. This manifests in predicted reductions in vehicle speeds and also increased delays.

Source: North Hampshire Transport Model
Bus use varies across the town.

Areas of higher bus use (> 10%):
- Buckskin
- South Ham
- Popley
- Winklebury

Areas of lower bus use (< 3%):
- Kempshott
- Hatch Warren
- Chineham

There is a relationship between areas of lower car ownership (and also household income) and higher bus use. Some areas rely on public transport to get around.
The greatest reliability issues are evident within the town centre area. Contributing factors include:

- Bus station access / egress
- Delays at Eastrop Roundabout
- One-way system in the town centre

Other areas of worse bus reliability include:

- A30 – Brighton Hill to Ringway
- B3400 – West Ham Roundabout
Overall, 5% of people travel to work by rail.

Higher proportions (>5%) of rail use for journeys to work from:

- Basingstoke town centre
- Parts of Hatch Warren
- Parts of Chineham
- Surrounding rural communities

Lower proportions (<5%) of rail use for journeys to work from:

- South Ham
- Buckskin
- Brighton Hill
London destinations dominate rail travel from Basingstoke – 56% of all work journeys.

The next most popular destination is Reading (10%).

For people travelling to Basingstoke for work, popular origins include:

- Local authorities in London
- Urban areas including Reading and Southampton
- Wider Basingstoke and Deane borough

There is a greater diversification of origins compared to destinations.
Basingstoke rail station has the highest number of entries and exits in Hampshire (5.69 million, 2016-17)

24% ten-year growth (second highest growth across Hampshire’s major rail stations)

Source: Office of Rail and Road (ORR, 2018)
55% of people access the station by car, either through individual use or car share.

29% use active modes, through walking or cycling.

12% use public transport, through bus or the Centre Shuttle.

For journeys to the station that are less than 2km:

- Higher levels of active modes, particularly walking
- Limited bus usage
- 3% access through individual car usage

Source: Basingstoke Station Travel Plan, HCC (2014)
Over the five-year period 2012-2016 (excluding accidents on the M3):

- 4 fatal collisions
- 157 serious severity collisions
- 667 slight severity collisions

Key collision cluster locations:

- Brighton Hill roundabout
- Thornycroft roundabout
- Black Dam roundabout
- Binfields roundabout
- A340/A339 roundabout
- Churchill Way

Source: STATS19 (DfT, 2018)
Accidents per head of population for Basingstoke (average for 2012 to 2016) are similar to the Hampshire county average, but higher than other urban areas such as Southampton, Winchester and Andover.

Total accidents for Basingstoke display an upward trend between 2012 and 2016. This compares to the Hampshire county which has remained relatively stable, and other locations such as Southampton and Andover which have seen a downward trend.

Source: STATS19 (DfT, 2018)
There are no current Air Quality Management Areas designated within Basingstoke (where emissions exceed acceptable levels).

In early 2018 Basingstoke and Deane Borough Council received a Ministerial Direction to undertake a feasibility study into nitrogen dioxide compliance. The study identified a length of road, the A339 (Ringway East) located between the A339/A33 Roundabout and the A339/A30 Black Dam Roundabout which exceeded the annual mean NO2 Air Quality Directive Limit value. The road link is a key part of the ring road around the centre of Basingstoke that links onto the M3 motorway at junction 6 and is expected to be compliant for 2020.