

# Outer Orbital Strategic Corridors

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## Introduction

The Outer Orbital corridors encompass the strategic corridors that follow the coastline from the New Forest in Hampshire towards East Kent. They serve some of the largest conurbations in the South East area. They also face many significant challenges in transport and socioeconomic outcomes.

### The corridors included in this pack are:

- **OO1:** A28/A290/A291 (Canterbury – Whitstable);
- **OO2:** A27/A259/A2070/East Coastway Line/Marshlink Line (Ashford – Brighton) ; and
- **OO3:** M27/A27/A31/West Coastway Line/East Coastway Line (Brighton – Ringwood) .

The Outer Orbital corridors serve several international gateways, which are described in the Radial Corridor packs. These include:

- The Channel Tunnel, which is described in the **South East Radial Corridors** pack;
- The Port of Newhaven and Shoreham Port, which are described in the **South Central Radial Corridors** pack; and
- Portsmouth International Port, the Port of Southampton, and Southampton Airport, which are described in the **South West Radial Corridors** pack.



# Outer Orbital Strategic Corridors 001

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## A28/A290/A291 (Canterbury – Whitstable)

### Description

This corridor encompasses two highway corridors, comprising the A290 and the A291, which link Canterbury to Whitstable and Herne Bay. Although this corridor is relatively short and is not designated part of the Strategic Road Network (or, indeed, the Major Road Network), it plays an important role in connecting three economic hubs in East Kent. It serves a socioeconomically diverse area, with significant pockets of urban deprivation on the North Kent coast, but also serves more prosperous areas around Canterbury. Canterbury is a major regional centre and home to three universities and the world-famous Canterbury Cathedral.

### The key issues affecting this corridor are:

- **Congestion in Canterbury:** This ancient city features many narrow streets, which add to the attractive historic townscape, but are not conducive to motor vehicles.
- **Relatively limited public transport choices:** There are no direct rail services between Whitstable/Herne Bay, other than those that run via Ramsgate (which takes around an hour). The interchange between Canterbury's two city centre stations and its bus station is relatively poor (all three are at least 10 minutes walk apart from each other).

### The key opportunities to consider for this corridor are:

- **Cycling:** Canterbury has a relatively high potential for cycling and walking – could more be done to encourage cycling in this city?
- **Park and ride / public transport interchanges:** Could the success of park and ride schemes in similar historic cities such as Oxford and Cambridge be replicated in Canterbury?
- **High Speed 1 connectivity:** Network Rail is developing plans to improve journey times between Ashford International (for High Speed 1) and Canterbury. How can improved rail connections help Canterbury's economic development?

## Economic Context

### Wealth

Median resident earnings along this corridor are £30,458, which is among the lowest earnings for the South East area.

### Priority Industrial Sectors

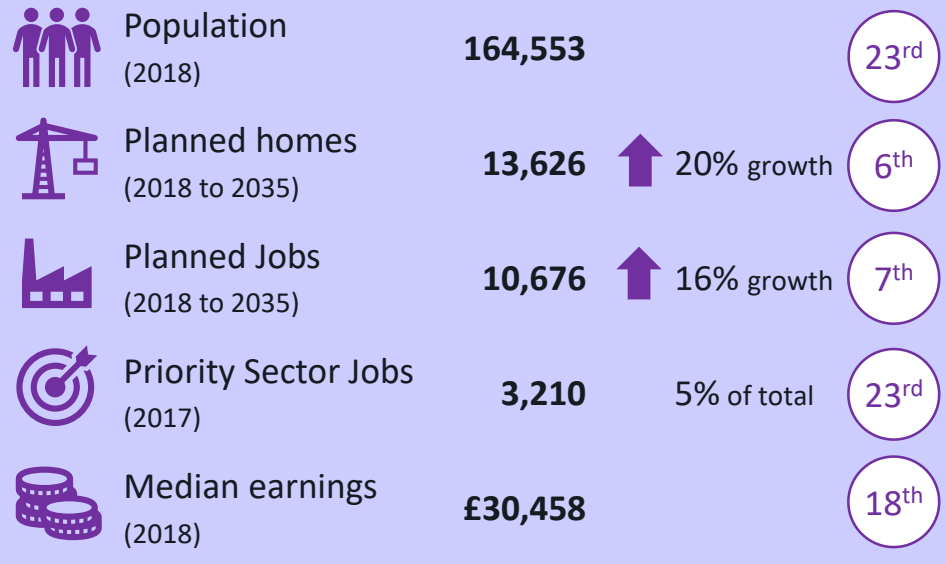
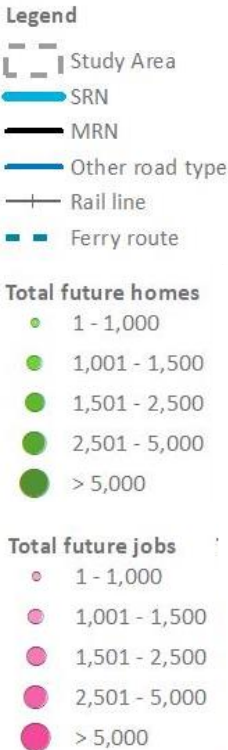
The priority industrial sectors on this corridor are:

- Advanced manufacturing;
- Creative, cultural, media and the visitor economy;
- Environmental technology and energy;
- Life sciences and healthcare; and
- Transport and logistics.

5% of jobs on this corridor are in priority sectors, which is the lowest for the South East area.

### Development

Along this corridor housing development will be concentrated around Canterbury. There will also be some more limited housing development around Herne Bay and Whitstable. In Herne Bay there will also be some future job development.



## Social Context

### Deprivation

Although this is one of the least deprived corridors in the South East area, there are pockets of deprivation on the outskirts of Canterbury and parts of Herne Bay.

### Education

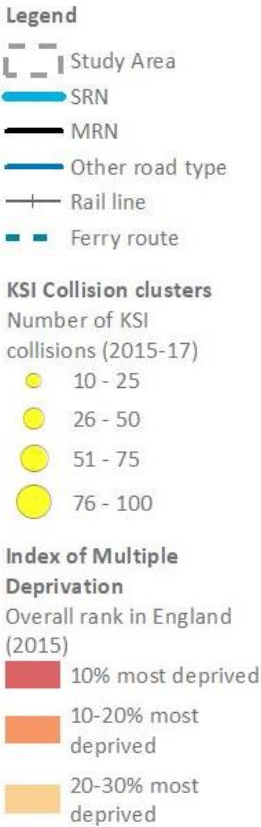
The district of Canterbury (which includes Whitstable and Herne bay) has a relatively low proportion of the population with National Vocational Qualifications at level or above (37%). That said, education levels are higher in the City of Canterbury, which is home to the University of Kent, Canterbury Christ Church University and the University for the Creative Arts.





### Safety

There were no clusters of incidents resulting in people being Killed or Seriously Injured on this corridor during the period 2015-17. That said, Kent County Council has identified the A290 as a high risk road from a road safety perspective.

### Housing Affordability

Housing is relatively affordable in this corridor due to relatively low house prices in this area.



	Deprived areas (2018, England)	19%	8 <sup>th</sup>
	Highly educated population (2018, % NVQ Level 4 or above)	37%	18 <sup>th</sup>
	Average house price (2018, average of corridor's districts)	£293,000	16 <sup>th</sup>
	Housing affordability ratio (House price / earnings)	9.6	8 <sup>th</sup>



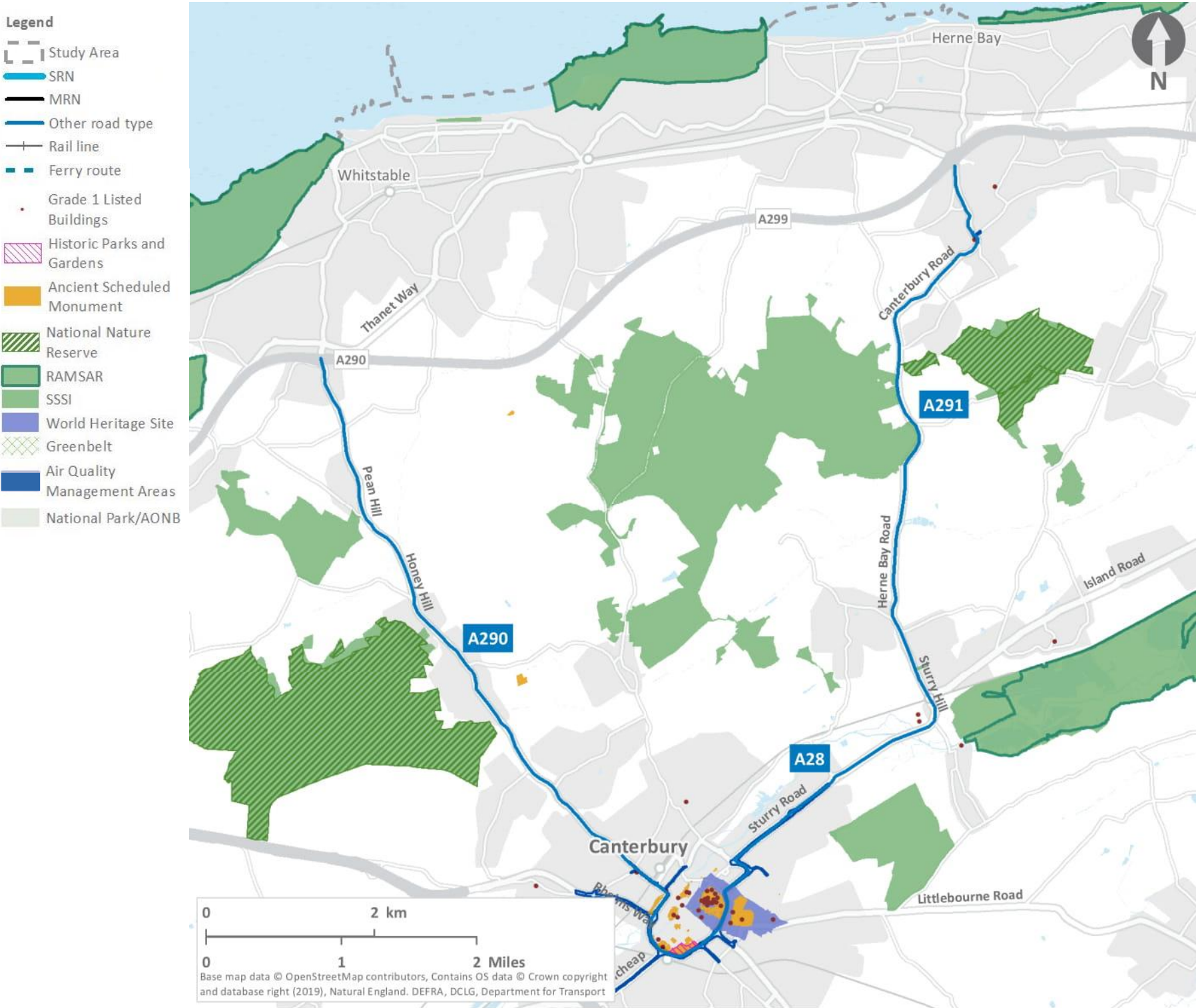
## Environmental Context

### Protected Areas

There are a number of protected woodlands in the area served by this corridor. Both roads run close to protected areas. The A290 runs close to Church Wood and the A291 runs alongside West Blean and East Blean woods.

### Air Quality

There is an Air Quality Management Areas on this corridor in Canterbury City Centre, including on the Sturry Road.



## Highways and Public Transport

### Highways Demand

It is estimated that this corridor carries 2,033 vehicles per hour on its busiest section during the AM peak.

### Highways Issues and Opportunities

There is significant congestion along both the A290 and the A291 in Canterbury. Both roads are highly constrained by the urban realm in this city. Several Park and Ride sites have been developed in the Canterbury area in recent years to reduce congestion in the city.

### Highways Enhancements

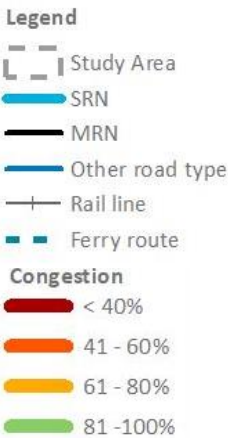
Kent County Council is developing proposals for a **relief road at Herne**, which would involve diverting the A291 onto a new road.

### Railways

The railway between Whitstable and Canterbury was closed in 1952 and has been replaced with a national cycleway. Currently, it is only possible to travel between Whitstable, Herne Bay and Canterbury via Ramsgate (some trains run direct) and/or by changing at Faversham. No plans are currently being developed to improve rail connectivity on this corridor.

### Other Public Transport Alternatives

Journey times by rail and bus between Canterbury and Whitstable are typically more than 40 minutes, which is almost double the journey time by car. There is a significant opportunity to improve public transport connectivity on this corridor. This could include developing a park and ride site for Whitstable, which suffers from town centre congestion (especially in the summer season). Other opportunities include developing a cycle link between Canterbury and Herne Bay, similar to the Crab and Winkle Way, which itself could be extended into Whitstable.



Peak hour highway demand  
(Vehicles/hour on busiest section)

2,033

19<sup>th</sup>





# Outer Orbital Strategic Corridors 002

## A27/A259/A2070/East Coastway Line/Marshlink Line (Ashford – Brighton)

### Description

The A27/A259/A2070/East Coastway Line/Marshlink Line Corridor runs from Brighton and Hove in the west to Ashford in the east. It passes through or close to several large towns and cities including Brighton and Hove, Eastbourne, and Hastings. It also serves ports and other International Gateways at Folkestone, Newhaven and Shoreham.

There are multiple issues with connectivity on this corridor, both for the highways and the railways that serve it. Plans to develop a relief road for Hastings and Bexhill were dropped over a decade ago. Some smaller schemes have been delivered to improve local connectivity in the Hastings and Bexhill built-up area.

### The key issues affecting this corridor are:

- **Congestion and connectivity:** The standard of the A259 and A2070 is generally poor on this corridor. This highway is often narrow, features several sharp turns, and traverses several level crossings. The route passes directly through the centre of Hastings and Bexhill, forcing heavy traffic through urban areas and in conflict with vulnerable users.
- **Road safety:** The poor standard of the highway described above, and its routing through dense urban areas, contributes to a relatively poor safety record on this route.
- **Deprivation:** This corridor is one of the most deprived areas in the South East. Its relatively poor connectivity and remoteness from more prosperous parts of the South East is likely to be contributing to this problem.

### The key opportunities to consider for this corridor are:

- **Highway enhancements:** Can any highways schemes be developed that provide improved connectivity and improved road safety while minimising the adverse environmental impact on this corridor?
- **High Speed 1 services:** Could these services be extended from Ashford International to Hastings and Bexhill, which would help improve connectivity along this corridor?

## Economic Context

### Wealth

This is one of the least wealthy corridors in the South East. Median resident earnings along this corridor is £28,918, which is the second lowest of the strategic corridors in the South East area. The lowest earnings on this corridor are found in Hastings, and the highest in Ashford and Wealden.


### Priority Industrial Sectors

- Advanced manufacturing;
  - Air transport;
  - Automotive manufacturing;
  - Computer and consumer electronic manufacturing;
  - Computer software programming;
  - Creative, cultural and media;
  - Data processing and hosting;
  - Electric power generation and transmission;
- Environmental technology and energy;
  - Horticulture and Food Manufacturing;
  - Insurance and financial services;
  - Life sciences and healthcare;
  - Medical technology;
  - Pharmaceuticals;
  - Telecommunications;
  - Transport and logistics businesses; and
  - Visitor economy (and support services).

9% of jobs on this corridor are in priority sectors, which is below average for the South East. The highest concentration of these jobs is in Brighton and Hove.

### Development


Housing development is expected to be concentrated in Ashford, around Hastings/Bexhill, and in the South Wealden area (Polegate, Stone Cross and Hailsham). Employment development will be predominantly concentrated in Ashford. Less development is planned between Hastings and Ashford.



Population  
(2018)

1,086,844

5<sup>th</sup>




Planned homes  
(2018 to 2035)

64,464

↑ 13% growth

17<sup>th</sup>




Planned Jobs  
(2018 to 2035)

47,497

↑ 12% growth

12<sup>th</sup>




Priority Sector Jobs  
(2017)

37,980

9% of total

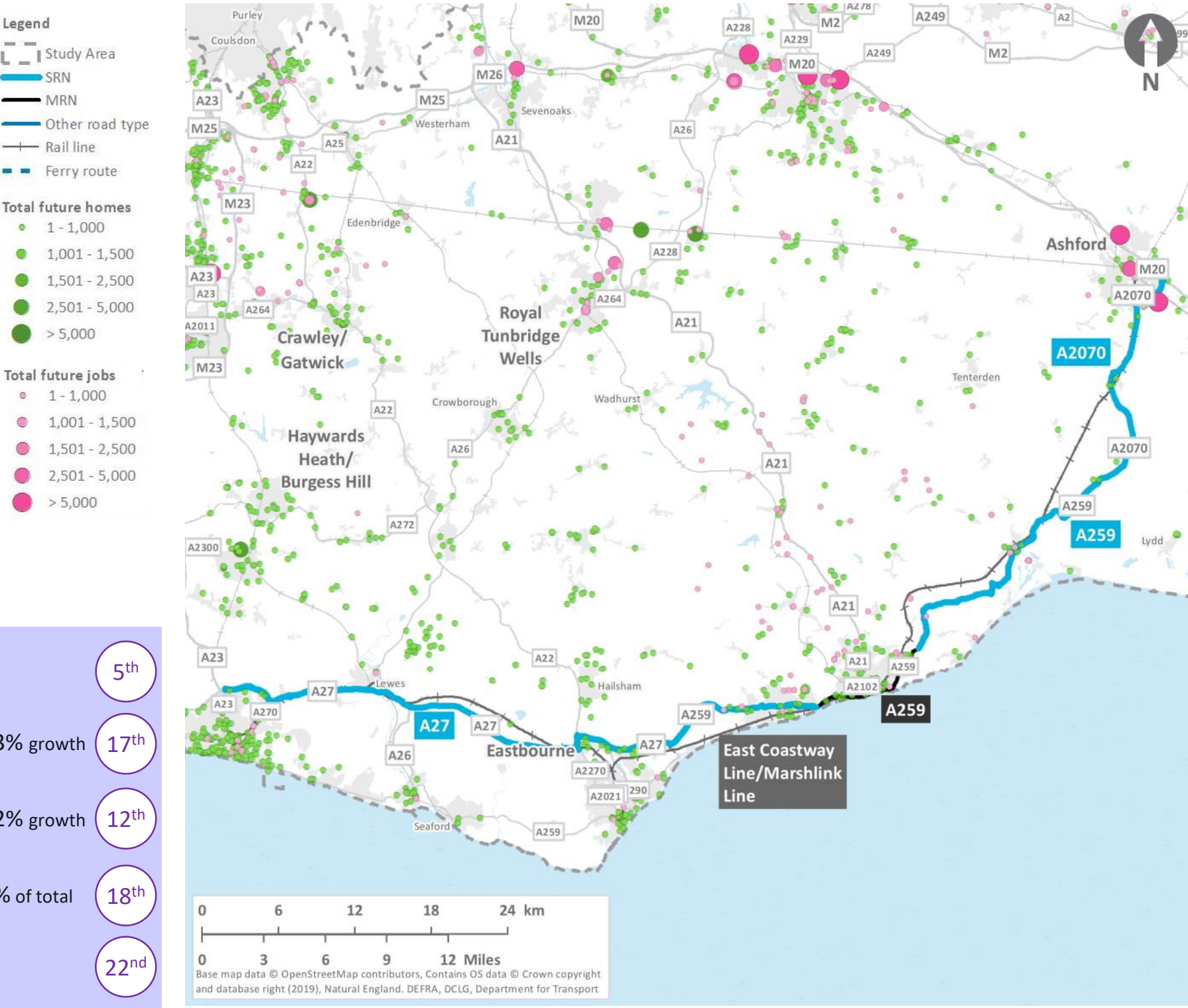
18<sup>th</sup>



Median earnings  
(2018)

£28,918

22<sup>nd</sup>





Social Context

Deprivation

There are significant levels of deprivation on this corridor, particularly around Eastbourne and Hastings and Bexhill, which contains some of the most deprived areas in the country, as well as large rural areas around Romney Marsh.

Education

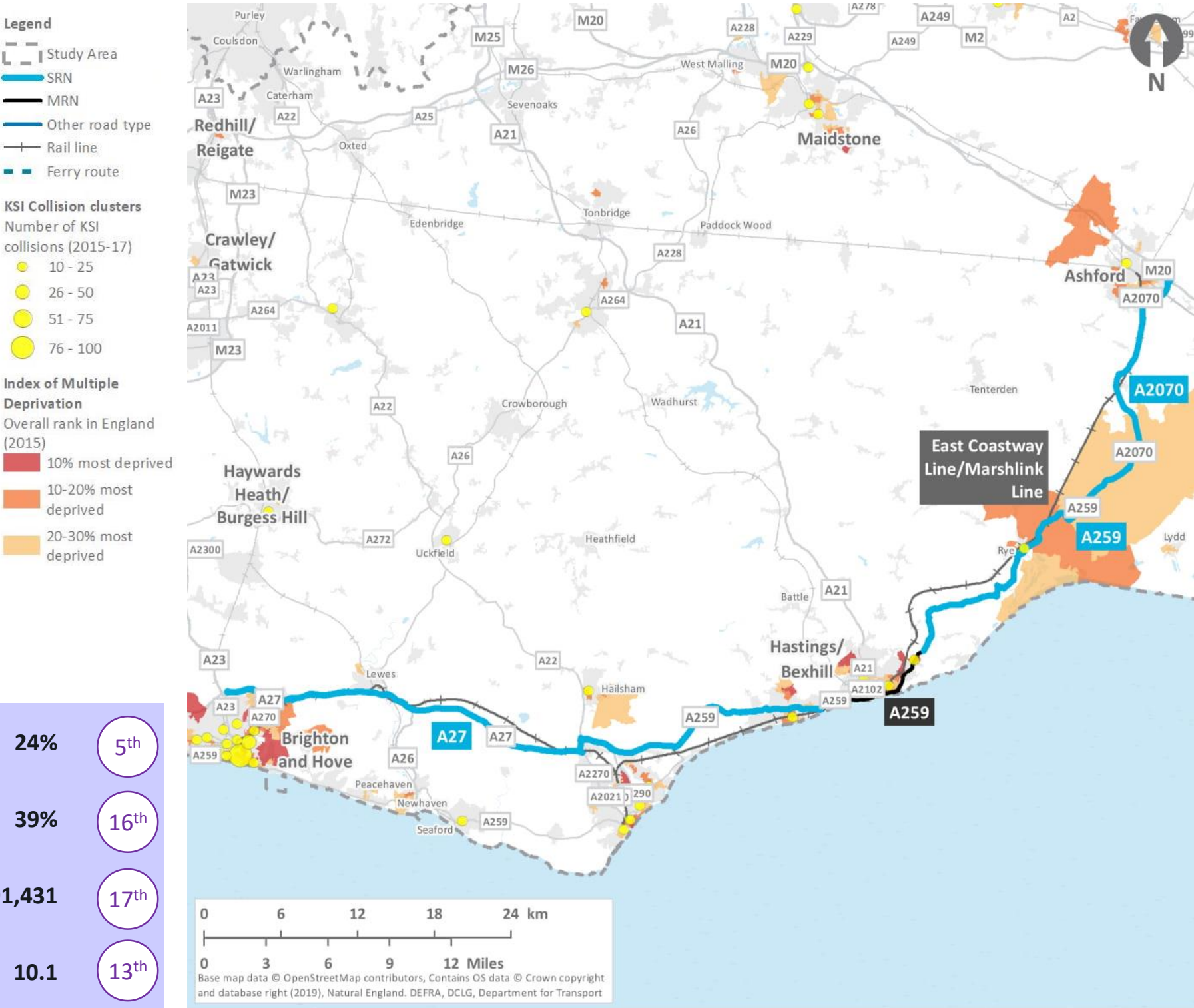
The percentage of the population with National Vocational Qualifications at level 4 or above is just below the average for the South East at 39%.





Safety

There were several clusters of incidents resulting in people being Killed or Seriously Injured on this corridor during the period 2015-17. The largest concentration of these incidents lies in the Brighton and Hove urban area (which is just south of the A27 highway). There are also significant clusters in Bexhill, Eastbourne and Hastings. This is likely due to the higher density of the road network and population around this urban area.

Housing Affordability

House prices and earnings are low on this corridor (especially earnings), meaning housing affordability is around average for the South East area. The lowest housing affordability is in Brighton and Hove (8.1) and the highest housing affordability is in Eastbourne (11.5).



	Deprived areas (2018, England)	24%	5 <sup>th</sup>
	Highly educated population (2018, % NVQ Level 4 or above)	39%	16 <sup>th</sup>
	Average house price (2018, average of corridor's districts)	£291,431	17 <sup>th</sup>
	Housing affordability ratio (House price / earnings)	10.1	13 <sup>th</sup>





## Highways

### Demand

It is estimated that this corridor carries 3,595 vehicles per hour on its busiest section during the AM peak.

### Issues and Opportunities

There are multiple issues with this corridor. The A259 road between Ashford and Hastings is narrow and has poor alignment. It also passes through several historic towns including Rye and Winchelsea. Between Hastings and Brighton, the A259/A27 runs through or adjacent to several large towns, and the inconsistency in the road means that journeys are slow. West of Eastbourne, the A26 joins the A27 and supports freight and passenger movements accessing the Port of Newhaven.

There are high levels of congestion around the Hastings/Bexhill area, where the AM peak speed can regularly fall to below 40% of the night-time free flow speed. There are also issues to the west of Eastbourne where similarly, speeds can fall to below 40% of the average nighttime speed.

### Enhancements

There have been multiple studies to address the quality of the A27 and A259 in this corridor in recent years. This has led to resulted in the delivery of some smaller schemes, including the **Combe Valley Way** between Hastings and Bexhill.

Highways England is planning to deliver a **package of proposals on the A27 to the East of Lewes**, including junction improvements, improvements to pedestrian crossings, and new walking/cycling paths. In the longer term, Transport for the South East would like to see a **more comprehensive improvement between Lewes and Polegate**.

East Sussex County Council is promoting a Major Road Network Scheme that aims to improve the **A259 between Brighton and Hove and Eastbourne**.



Peak hour highway demand  
(Vehicles/hour on busiest section)

3,595

10<sup>th</sup>



## Railways

### Issues and Opportunities

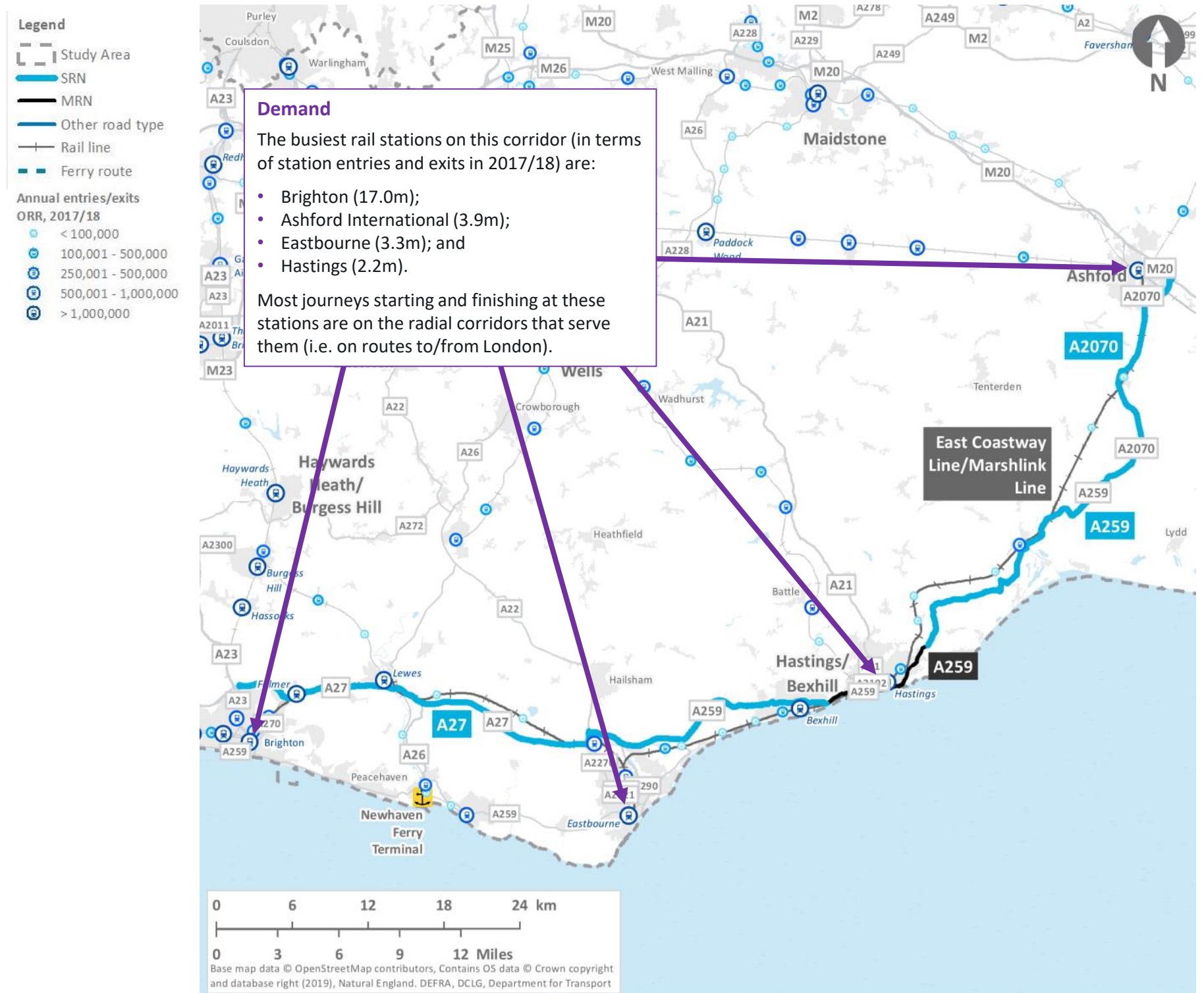
Journey times on this rail corridor are particularly slow due to infrastructure constraints, rolling stock, and calling patterns.

The Marshlink route between Ashford and Eastbourne (via Hastings) has benefitted from recent operational changes, which has improved the level of service between Brighton, Eastbourne and Hastings and delivered enhanced capacity between Hastings and Ashford. However, the Ashford to Ore section is not electrified and so requires either diesel or bi-mode trains to operate this service.

### Enhancements

There is an active project, led by Network Rail and supported by East Sussex Kent County Councils, to facilitate the operation of through **High Speed services between London St Pancras and Eastbourne via Ashford, Rye, Hastings and Bexhill**. This project would involve delivering infrastructure work at Ashford and improving line speeds Marshlink route between Ashford and Hastings. This will be dependent on significant capital investment, which still needs to be identified. The project would also require investment in new bi-mode High Speed rolling stock as part of the Train Service Requirement for the new South Eastern franchise competition.

In addition, parts of this corridor will benefit from improvements to the **Brighton Mainline**, particularly Lewes and Eastbourne.





# Outer Orbital Strategic Corridors 003

## M27/A27/A31/West Coastway Line/East Coastway Line (Brighton – Ringwood)

### Description

The M27/A27/A31/West Coastway Line/East Coastway Line Corridor runs from Brighton and Hove in the east to the Hampshire/Dorset border in the west. It passes through or close to many of the region's largest economic hubs, including Southampton, Portsmouth, Chichester, and Brighton and Hove. It also serves ports at Portsmouth and Southampton.

The corridor runs close to and, in parts, through several protected areas. The border of the South Downs National Park runs to the north of most of the length of this corridor. It passes through the New Forest National Park west of Southampton. The southern side of the corridor, in contrast, is much more urbanised.

This is the longest strategic corridor included in this study and it serves the largest population of all the strategic corridors. Due to its size, maps for this corridor are presented on whole pages, with text and figures presented in preceding slides.

### The key issues affecting this corridor are:

- **Highway congestion and poor connectivity:** There are several bottlenecks on the A27 highway, notably at Chichester, Arundel, and Worthing. Congestion is particularly poor on these sections of this highway. These roads also bring heavy traffic into conflict with vulnerable users.
- **Poor railway connectivity and reliability:** The railway network serving this corridor suffers from two problems. First, many of the services that traverse this corridor start a long way outside the corridor, which results in poorer than average performance. Second, the railway is attempting to serve two markets (a long distance market that requires non-stopping services and a local market that requires frequent stopping services), and because of limited infrastructure, is unable to serve either of these markets adequately.

### The key opportunities to consider for this corridor are:

- **Separating conflicting rail markets:** Could an alternative mode of transport (Bus Rapid Transit, Light Rail Transit, etc.) be developed along the urban coastal areas of corridor to serve the local market, thus relieving pressure on the existing railway to serve longer distance markets?
- **A27 improvements:** Can a strategic package of improvements to the A27 deliver a safe, seamless highway corridor between Brighton and Hove and Portsmouth?
- **Water freight:** Could more freight move along this corridor by sea, thus relieving pressure on the M27 and M27 highways?

Economic Context

Wealth

This is one of the poorest corridors in the South East. Median resident earnings along this corridor are £28,923, which is the third lowest of the strategic corridors in the South East.

Development

Much of the development will be focussed around existing urban areas, particularly Brighton and Hove (and adjoining areas) and in South Hampshire. Relatively little development is expected to take place within protected areas such as the South Downs and the New Forest national parks.

Employment development is expected to be focussed in Southampton and Brighton and Hove. There are some particularly large employment development sites in Southampton (which hide smaller adjacent residential developments on the map overleaf).

Priority Industrial Sectors

The priority industrial sectors on this corridor are:

- Advanced manufacturing;
- Air transport;
- Automotive manufacturing;
- Computer and consumer electronic manufacturing;
- Computer software programming and publishing;
- Creative, cultural and media and the visitor economy (and support services);
- Data processing and hosting;
- Electric power generation and transmission;
- Environmental technology and energy;
- Horticulture and food manufacturing;
- Insurance and financial services;
- Life sciences and healthcare;
- Medical technology;
- Pharmaceuticals;
- Telecommunications; and
- Transport and logistics.

13% of jobs on this corridor are in priority sectors, which is above average for the South East area.

Social Context

Deprivation

There is a significant level of deprivation along this corridor. 23% of statistical areas on this corridor fall into the lowest three declines nationally for deprivation along this corridor. Deprivation is particularly concentrated in and around urban areas such as Southampton, Portsmouth, and Brighton and Hove.

Education

40% of the population on this corridor has at least one National Vocational Qualification at level 4 or above, which is around average for the South East. There are several universities along this corridor.

Safety

There were several clusters of incidents resulting in people being Killed or Seriously Injured on this corridor during the period 2015-17, particularly in the Southampton, Portsmouth and Brighton and Hove areas. Relatively few of these clusters are on the A27 or M27 road, although there are some on the Chichester Bypass and on the M27 at Cosham.

Housing Affordability

House prices and earnings are low on this corridor, meaning housing affordability is around average for the South East area.

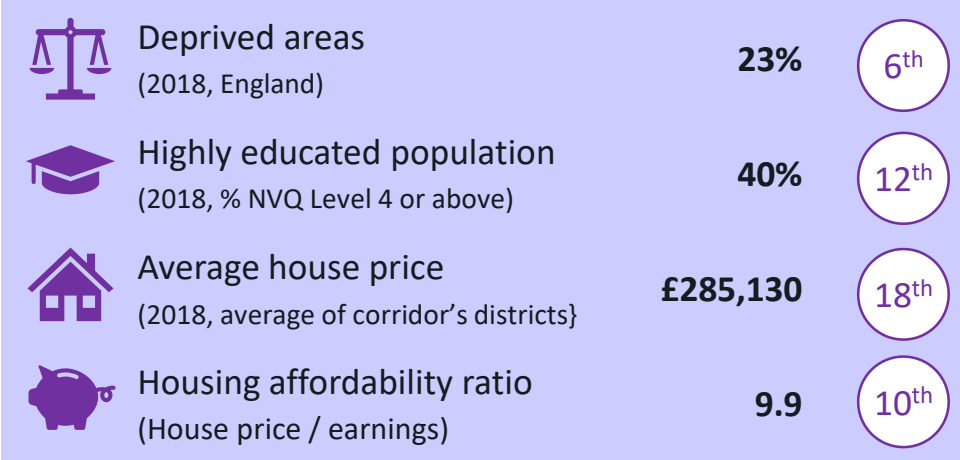
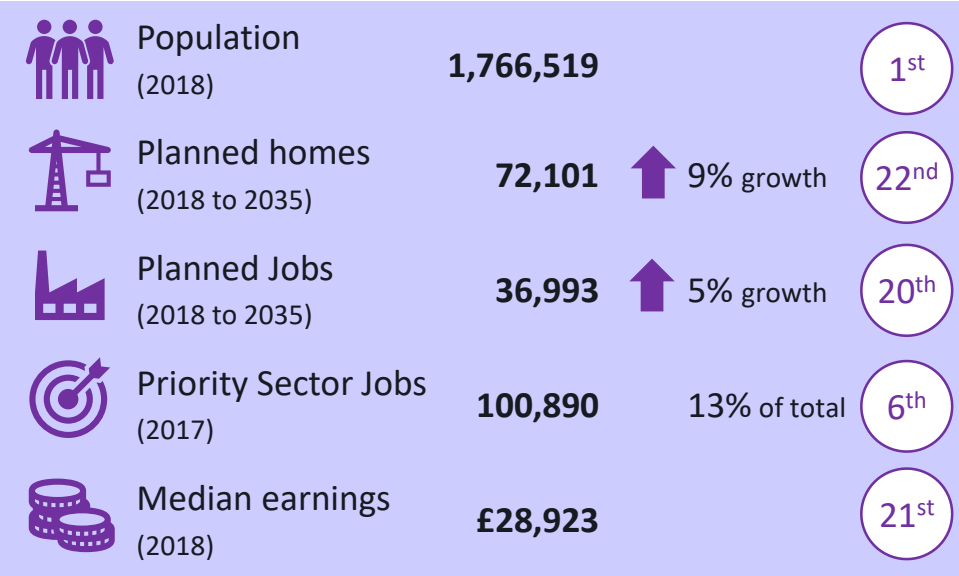
Environmental Context

Protected Areas

This corridor passes through a significant number of environmentally protected areas, including the New Forest and South Downs national parks and the Chichester Harbour Area of Outstanding Natural Beauty. This corridor also runs close to several Ramsar sites on the South Coast.

Air Quality

There are several Air Quality Management Areas on this corridor in urban areas including Brighton and Hove, Portsmouth, and Southampton. There is also an Air Quality Management Area on the A27 highway where it passes through Lancing and Worthing.





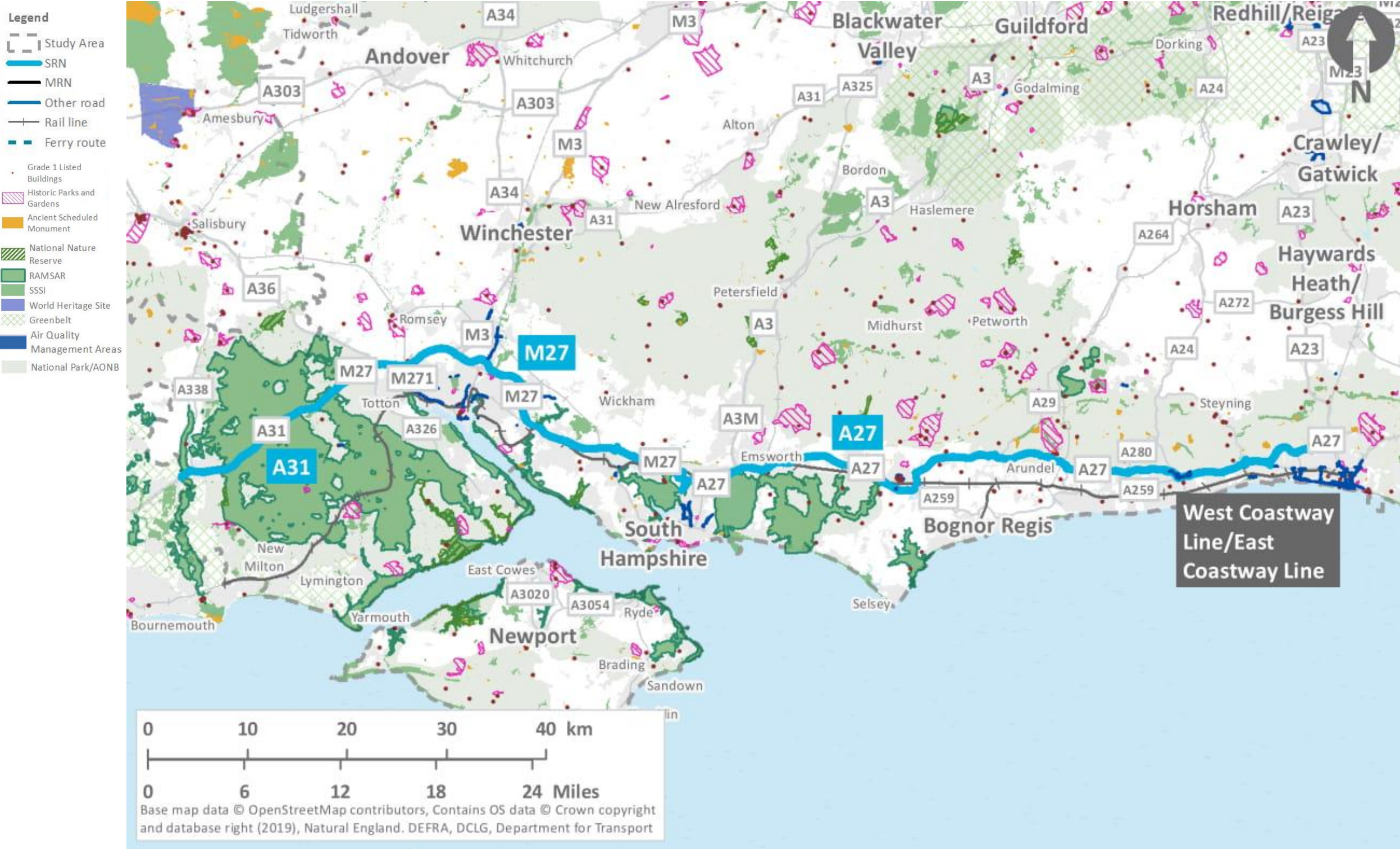
Economic Context (Map)







Environmental Context (Map)





Highways

Demand

It is estimated that this corridor carries 6,294 vehicles per hour on its busiest section during the AM peak.

Issues and Opportunities

The standard of the highway serving this corridor varies enormously. There are parts of this corridor where the road operates to motorway standards (i.e. grade separated expressway), there are other parts where it runs through urban areas and several flat junctions, and there are some sections of single carriageway. At Chichester the road also functions as a distributor road or outer ring-road for the city.

This results in a wide variety of different road users and lots of conflicts between local and regional traffic. There are therefore significant areas of congestion along this corridor, particularly along the northern edge of South Hampshire, around Chichester, and where the A27 passes through Lancing and Worthing. There are also issues where the A30 passes through Ringwood. At these locations the AM peak speed is less than 40% of the free flow speed.

The Highways England **South Coast Central Route Strategy** also identifies multiple congestion, air quality, and road safety issues on this corridor.

Enhancements

A package of four schemes to reduce congestion on the A27 were set out in Highways England’s Strategic Economic Plan between 2015 and 2020, with some schemes at a further stage of progression than others. One scheme, focused on reducing congestion on the A27 Chichester bypass, was cancelled in 2017. Two other schemes are still being developed:

- **Arundel bypass:** A budget of between £100 to £250 million has been allocated to replace the existing single carriageway road with a dual carriageway bypass, linking together the two existing dual carriageway sections of the road.
- **Worthing and Lancing Improvement:** a budget of between £50 to £100 million has been allocated to improve the capacity of the road and junctions along the stretch of single carriageway in Worthing and the narrow dual carriageway in Lancing.

Highways England is also developing a package of proposals for the **A27 east of Lewes**, including improvements to roundabouts, junctions, pedestrian crossings, and footpaths/cycleways.

Highways England is upgrading the **M27** to a **Smart Motorway** between junctions 4 (M3 Interchange) and 11 (Fareham), and are planning to improve **junction 8 of the M27**.

In the longer term, Transport for the South East would like to see the following further improvements on this corridor:

- A27 Chichester;
- A27 between B2123 – A293 Junctions;
- M27 Junction 3 to M271/A35 Junction;
- M27 Junction 12 to A27/A3(M) Junction; and
- A259 Bognor Regis – Littlehampton.

Railways

Issues and Opportunities

Journey times on this rail corridor are particularly slow due to infrastructure constraints, rolling stock, and calling patterns – especially between Southampton / Portsmouth and Brighton and between Portsmouth and Southampton.

This railway serves a mixture of flows, from short distance urban flows to long distance flows as far as Cardiff. This railway also serves some radial services (e.g. London – Littlehampton) which have different calling patterns to Coastway services. This mix of flows limits the amount of capacity available on the railway.

Some stations on this corridor lie within one or two miles of each-other, which suggests this stretch of the rail network lends itself to a metro type service. However, some stations along this route are very infrequently served. There is scope to improve the services and connectivity of stations on this corridor.

The railway also features a number of flat junctions with spurs (e.g. Littlehampton and Bognor Regis) which, again, reduces line capacity. Some stations are within one or two miles of each-other, which requires a metro-service operating pattern that, due to capacity constraints, conflict with longer distance services.

Journey times between Southampton, Portsmouth and Brighton are particularly long and uncompetitive with the car. Rail journey times are typically 45 to 60 minutes, while car journeys are around 30 to 45 minutes.

According to a Department for Transport survey held in Autumn 2018, 6.4% of passengers arriving at Brighton were forced to stand during the AM peak, which suggests there are crowding issues on this corridor.

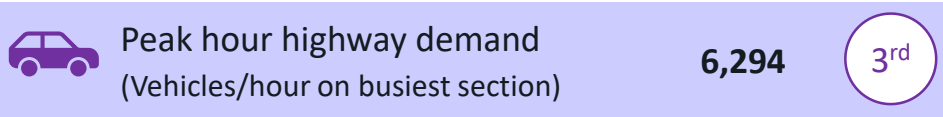
Enhancements

While this corridor will benefit from some of the improvements earmarked for the radial routes that intersect this corridor, there are no significant enhancements planned for the railway on this corridor.

The **Solent Connectivity Project**, which is led by Solent Transport and Network Rail, is developing proposals to address poor rail connectivity between Southampton and Portsmouth.

Network Rail is developing a **Solent Mini Route Utilisation Strategy**, which might identify proposed rail infrastructure improvements that would support local growth in the South Hampshire area.

In the longer term, Transport for the South East would like to see investment in this rail to support both shorter-distance and longer-distance flows. This could involve developing the railway to accommodate more ‘metro’ and ‘semi-fast’ services. Alternatively, it could involve investing in alternative urban transit schemes to support shorter-distance flows (and free up capacity on the existing railway for more longer-distance services).



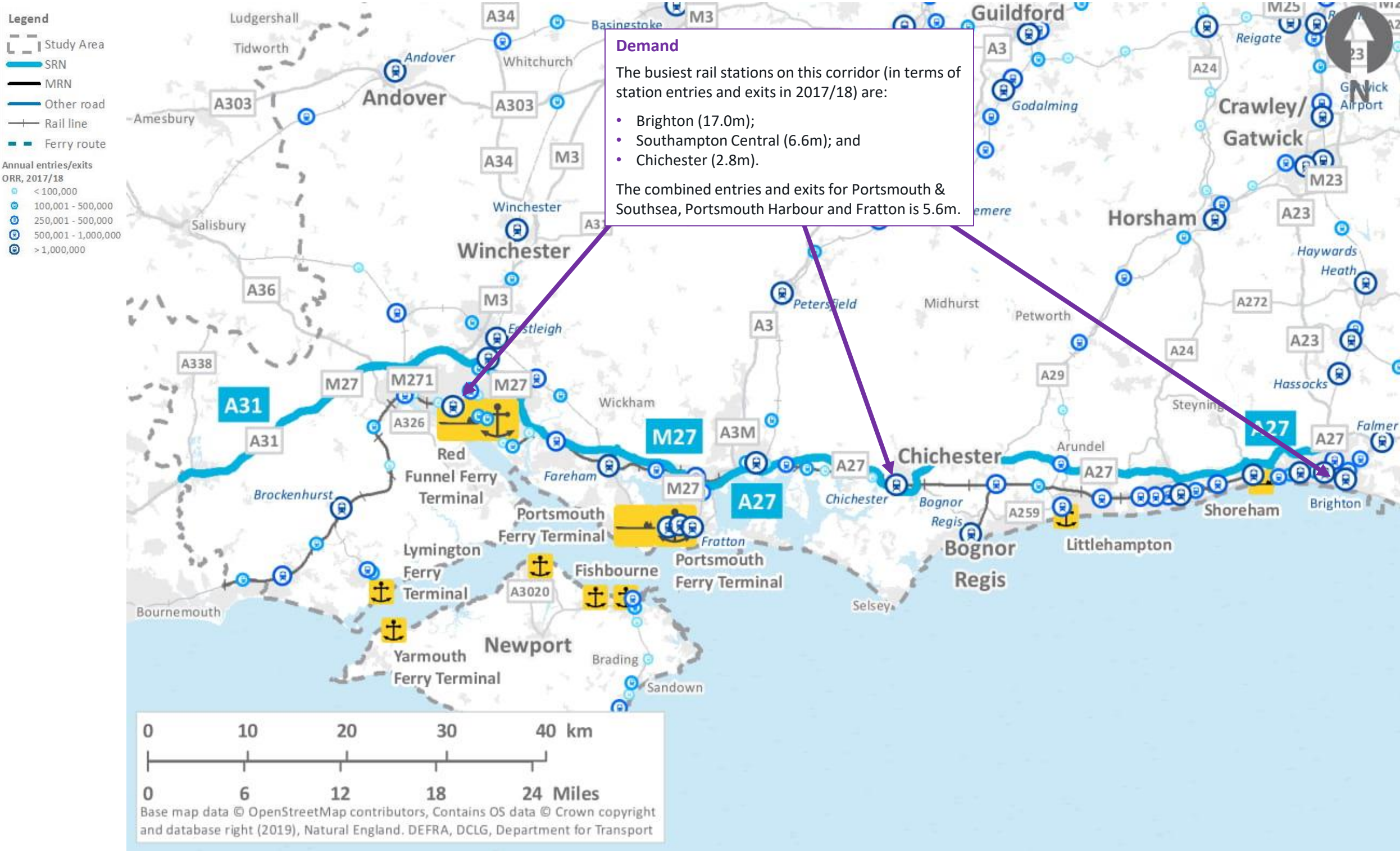


Highways (Map)





Railways (Map)





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