

Inner Orbital Strategic Corridors

Introduction

The Inner Orbital corridors encompass the strategic cross-regional routes around the outskirts of London. They include the M25 London Orbital motorway, which is the busiest and most congested highway corridor in the South East area. They also include the roads and highways that serve Heathrow Airport, the Medway Ports, and Thamesport. Some of these corridors are railway only and others are highways only.

There are significant variations in wealth and prosperity between the Inner Orbital corridors. Those that pass through north Surrey and Bracknell Forest are among the most prosperous in the South East, whereas those in North Kent are among the most deprived. Housing affordability also varies enormously between these corridors.

The corridors included in this pack are:

- **SE1:** M25 (Dartford – Slough);
- **SE2:** A228/A249/A278/A289/Chatham Main Line/Sheerness Line (Medway Ports);
- **SE3:** A228/A229/Medway Valley Line (Maidstone – Medway Towns)
- **SE4:** Redhill – Tonbridge Line/South Eastern Main Line (Ashford – Redhill);
- **SE5:** A25/North Downs Line (Guildford – Redhill); and
- **SE6:** A31/A322/A329/A331/North Downs Line (Guildford – Reading).

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

- The Medway Ports and Thamesport, which are described in the **South East Radial Corridors** pack;
- London Gatwick Airport, which is described in the **South Central Radial Corridors** pack; and
- Heathrow Airport, which is described in the **South West Radial Corridors** pack.

Inner Orbital Strategic Corridors IO1

M25 (Dartford – Slough)

Description

The M25 Corridor includes one of the busiest (and, at 12 lanes in one section, one of the widest) roads in Europe. There is no equivalent railway that mirrors the corridor of the M25, although the North Downs Line runs nearby in places. This corridor suffers from severe congestion, particularly in the South West Quadrant of the M25.

The key issues affecting this corridor are:

- **Significant congestion:** Along the M25 there are very high levels of congestion and significant portions of the route where the average morning peak speed is less than 40% of the night-time free flow speed.
- **Road safety issues:** At the eastern end of the M25 corridor there are significant safety issues on the M25, with a large number of serious incidents recorded here.

The key opportunities to consider for this corridor are:

- **New Lower Thames Crossing:** Will this scheme help reduce congestion on the M25 and improve road safety, or does it risk moving the congestion problem elsewhere?
- **Western Rail Link to Heathrow:** Can a new railway to Heathrow help shift car journeys to public transport and mitigate the impact of Heathrow's planned expansion?

M25 (Dartford – Slough)

Economic Context

Wealth

Median resident earnings along this corridor are £35,665, which is relatively high for the South East.

Priority Industrial Sectors

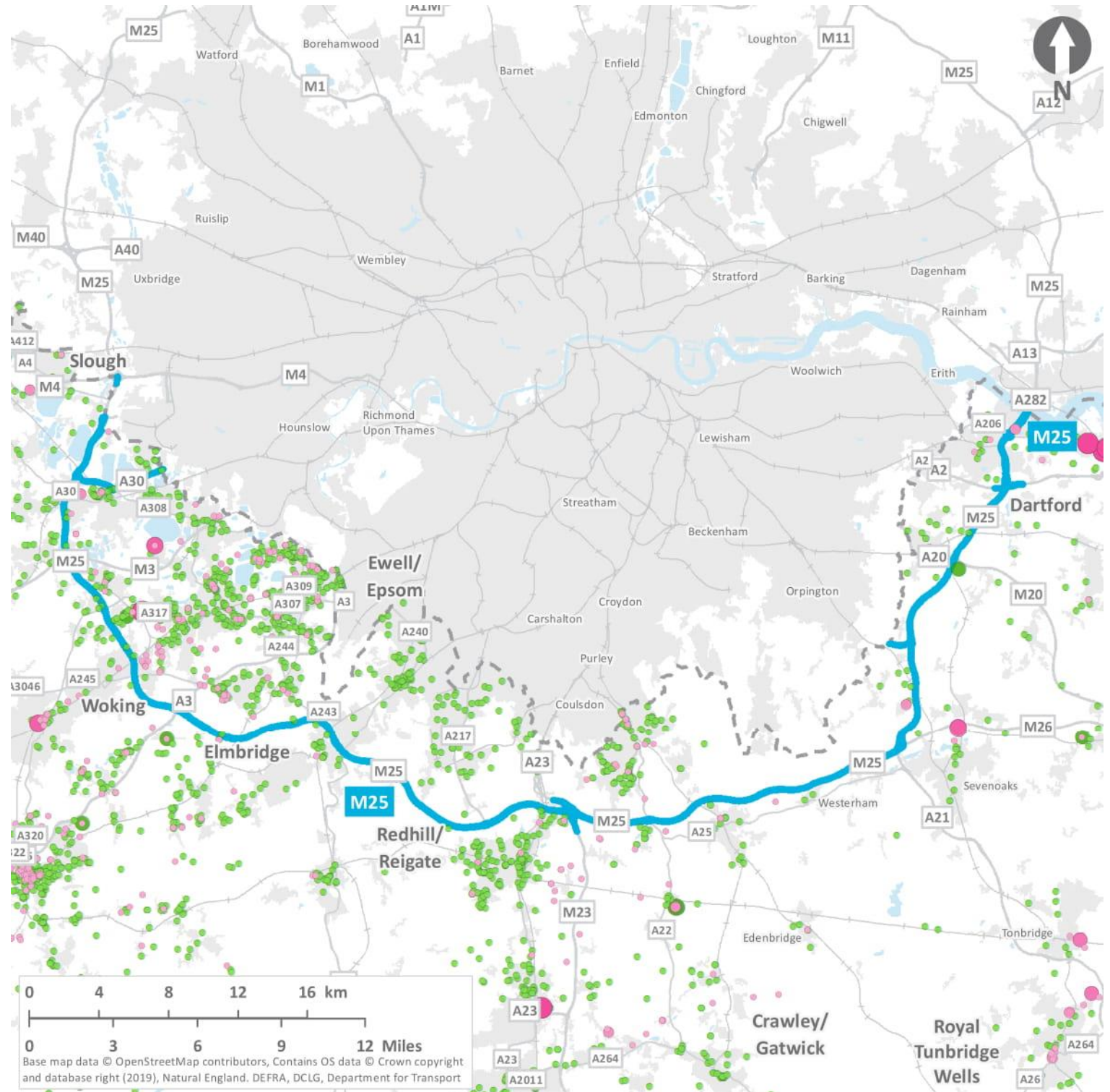
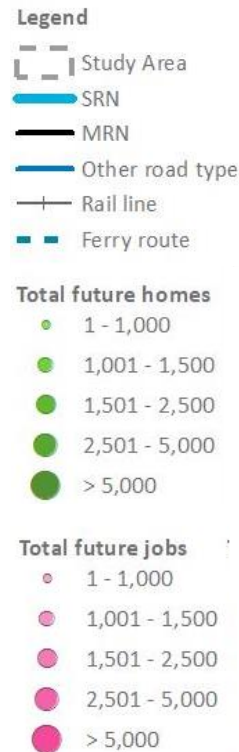
The priority industrial sectors on this corridor are:

- Aerospace and Defence;
- ICT and Digital Media; and
- Pharmaceuticals.

11% of jobs on this corridor are in priority sectors, which is below average for the South East area.

Development

The majority of housing development along the North Downs line will be concentrated around Guildford, with some additional development in the Blackwater Valley. There will also be significant job development in the Guildford and Dartford areas. Job growth north of the river Thames may be significant for the Eastern end of this corridor.



| | | | | |
|--|------------------------------|-----------|--------------|------------------|
| | Population (2018) | 1,425,542 | | 3 rd |
| | Planned homes (2018 to 2035) | 100,334 | ↑ 17% growth | 11 th |
| | Planned Jobs (2018 to 2035) | 88,063 | ↑ 13% growth | 10 th |
| | Priority Sector Jobs (2017) | 79,410 | 11% of total | 3 rd |
| | Median earnings (2018) | £35,665 | | 3 rd |

M25 (Dartford – Slough)

Social Context

Deprivation

Deprivation on this corridor is concentrated at its Western extent, near Dartford. The rest of the corridor is relatively prosperous.

Education

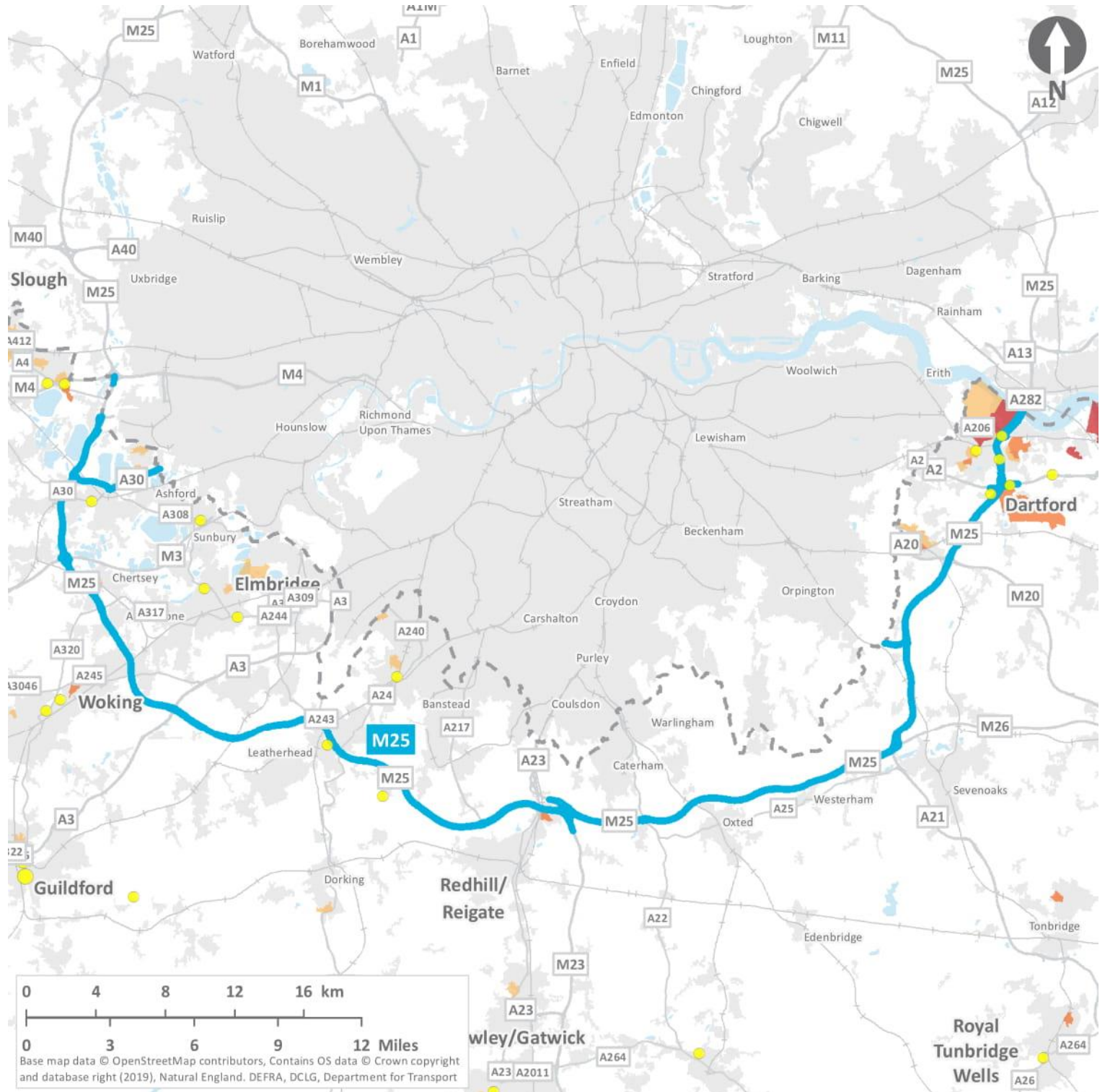
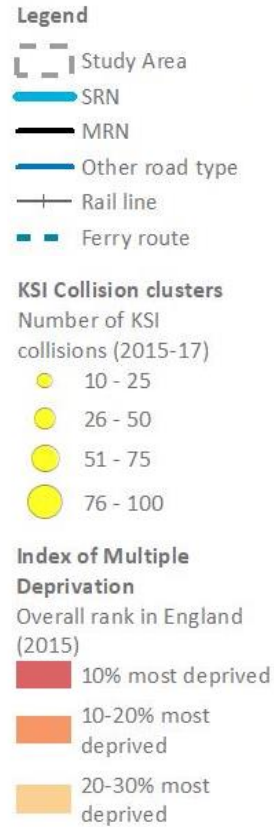
48% of the population holds qualifications at National Vocational Qualification level 4 or above, which is one of the highest levels for this indicator in the South East in area.

Safety

There were several clusters of incidents resulting in people being Killed or Seriously Injured on this corridor during the period 2015-17, notably in the Dartford area close to the Dartford crossing. This is highlighted as a key concern in Highways England’s M25 London Orbital Route Strategy.

Housing Affordability

House prices are very high on this corridor, (among the highest in the South East area). Although earnings are also high, housing is still very unaffordable on this corridor.



| | | | |
|--|---|----------|------------------|
| | Deprived areas (2018, England) | 7% | 11 th |
| | Highly educated population (2018, % NVQ Level 4 or above) | 48% | 2 nd |
| | Average house price (2018, average of corridor’s districts) | £419,340 | 2 nd |
| | Housing affordability ratio (House price / earnings) | 11.8 | 22 nd |

M25 (Dartford – Slough)

Environmental Context

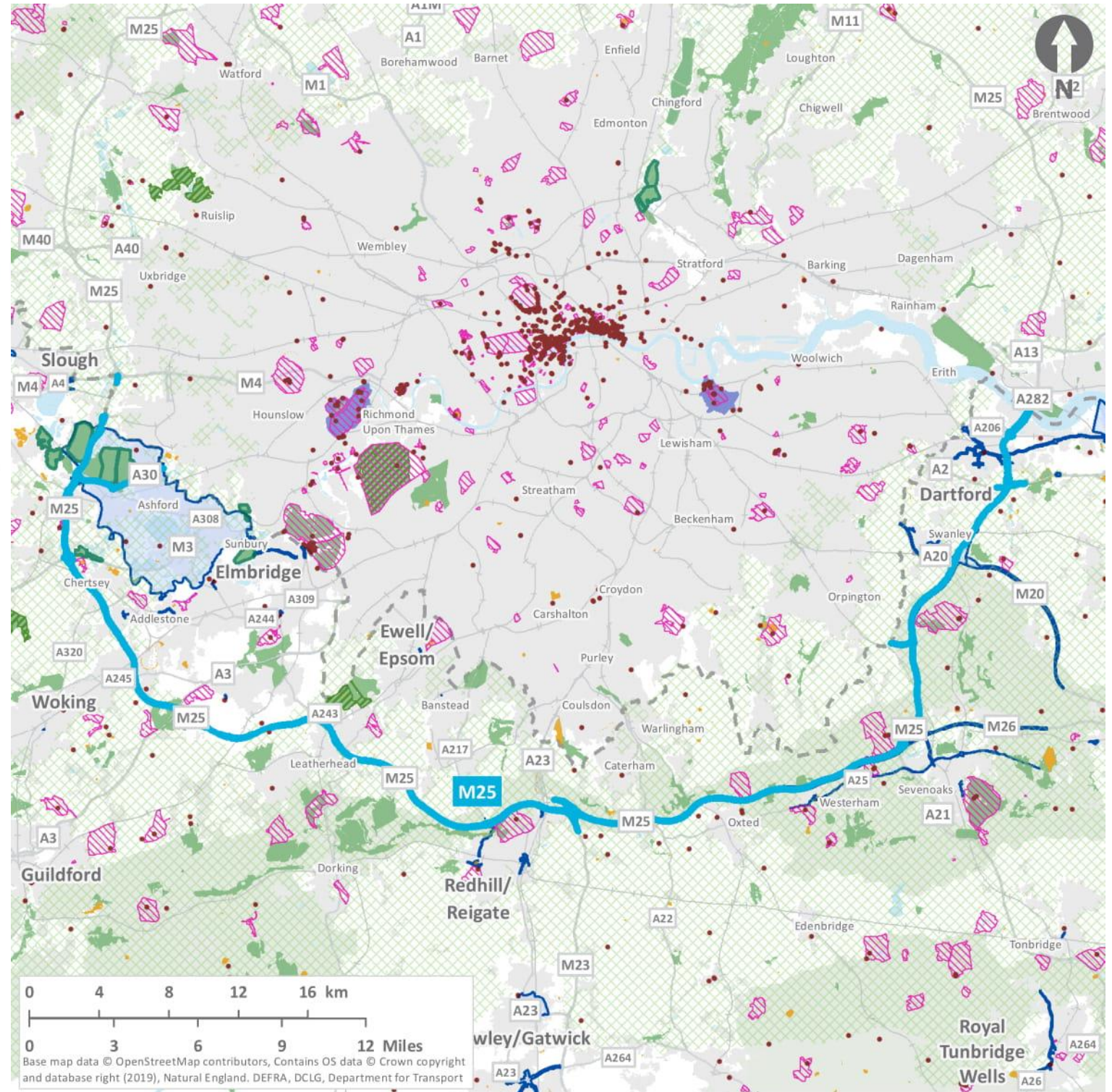
Protected Areas

This corridor passes along the edge of the London Green Belt and alongside several Sites of Special Scientific Interest, historic parks, and gardens.

Air Quality

Significant parts of this route are covered by corridor is covered by an Air Quality Management Areas. These areas include sections of the M25 motorway near Redhill and across the South West Quadrant of the route. There is also a large Air Quality Management Area in the Ashford and Sunbury area to the south of Heathrow Airport.

- Legend**
- Study Area Study Area
 - SRN
 - MRN
 - Other road type
 - Rail line
 - Ferry route
 - Grade 1 Listed Buildings
 - Historic Parks and Gardens
 - Ancient Scheduled Monument
 - National Nature Reserve
 - RAMSAR
 - SSSI
 - World Heritage Site
 - Greenbelt
 - Air Quality Management Areas



M25 (Dartford – Slough)

Highways

Demand

This is the busiest highway corridor in the South East. It is estimated that this corridor carries 9,143 vehicles per hour on its busiest section during the AM peak.

Issues and Opportunities

There are significant areas of congestion along this corridor. Almost all of the South West Quadrant of the M25 motorway experiences AM peak speeds at 40% or less of free flow speeds. Congestion is also acute at Dartford where the M25 approaches the Dartford Crossing. Many feeder routes such as the M3, M4 and M23 also experience congestion during the AM peak.

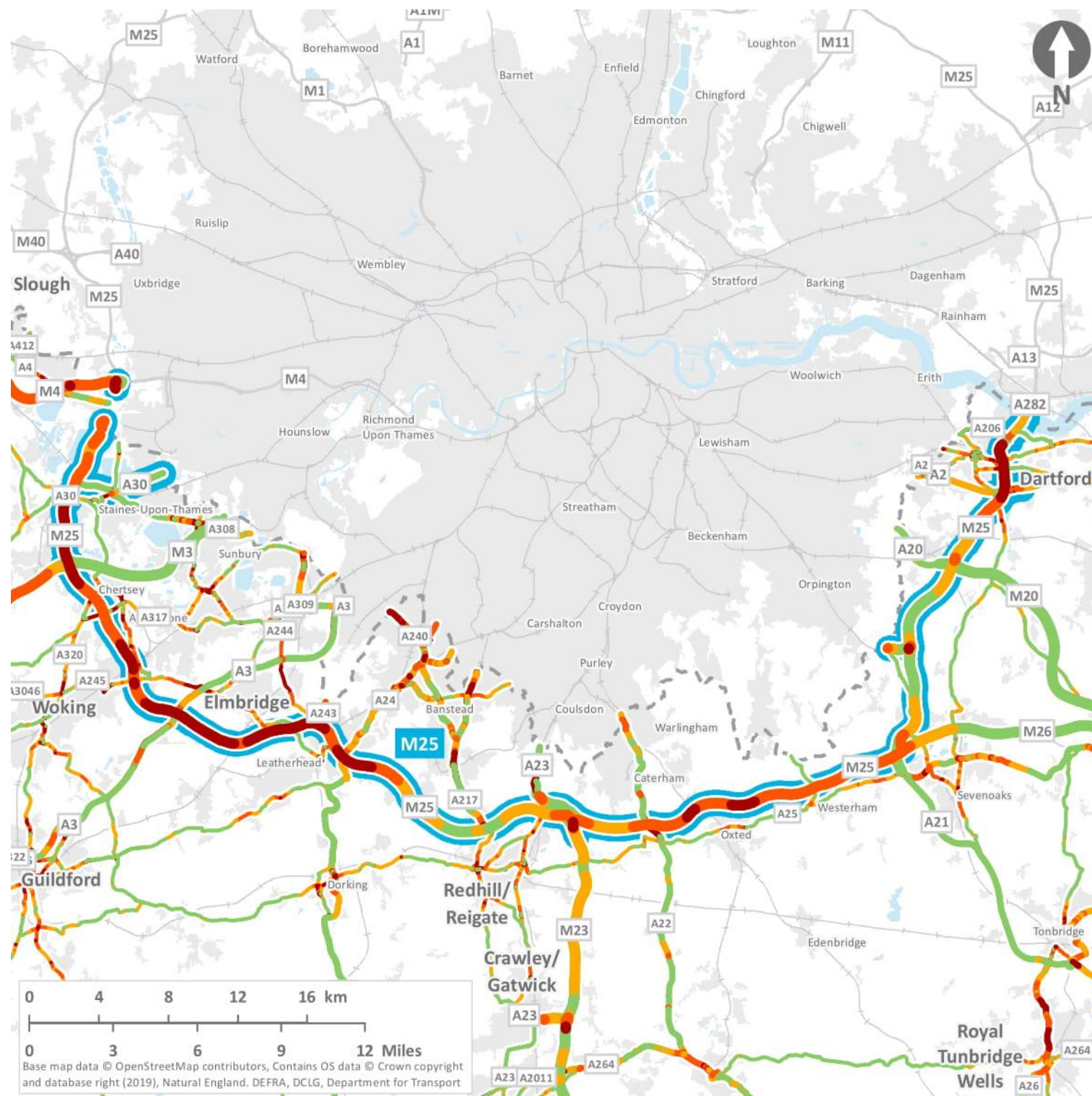
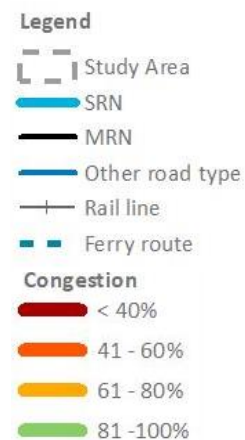
Highways England’s **M25 London Orbital Route Strategy** identifies several significant issues with this corridor relating to congestion, road safety, and air quality.

Enhancements

Highways England is developing plans to upgrade the **M25 South West Quadrant to a Smart Motorway** with all-lane running. This means the existing hard shoulder would be converted into a traffic lane providing five lanes for traffic at junctions 15 to 16 and four lanes elsewhere. There are also plans to upgrade the **M4 to a Smart Motorway** on its approaches to the M25 (Junction 4b).

Highways England is also developing plans for a new **Lower Thames Crossing**, which should help to ease congestion and improve safety in the Dartford area.

Kent County Council has suggested there may be an opportunity to improve **Junction 5** to enable traffic to access local communities avoiding the A25.



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

9,143

1st

Railways

Issues and Opportunities

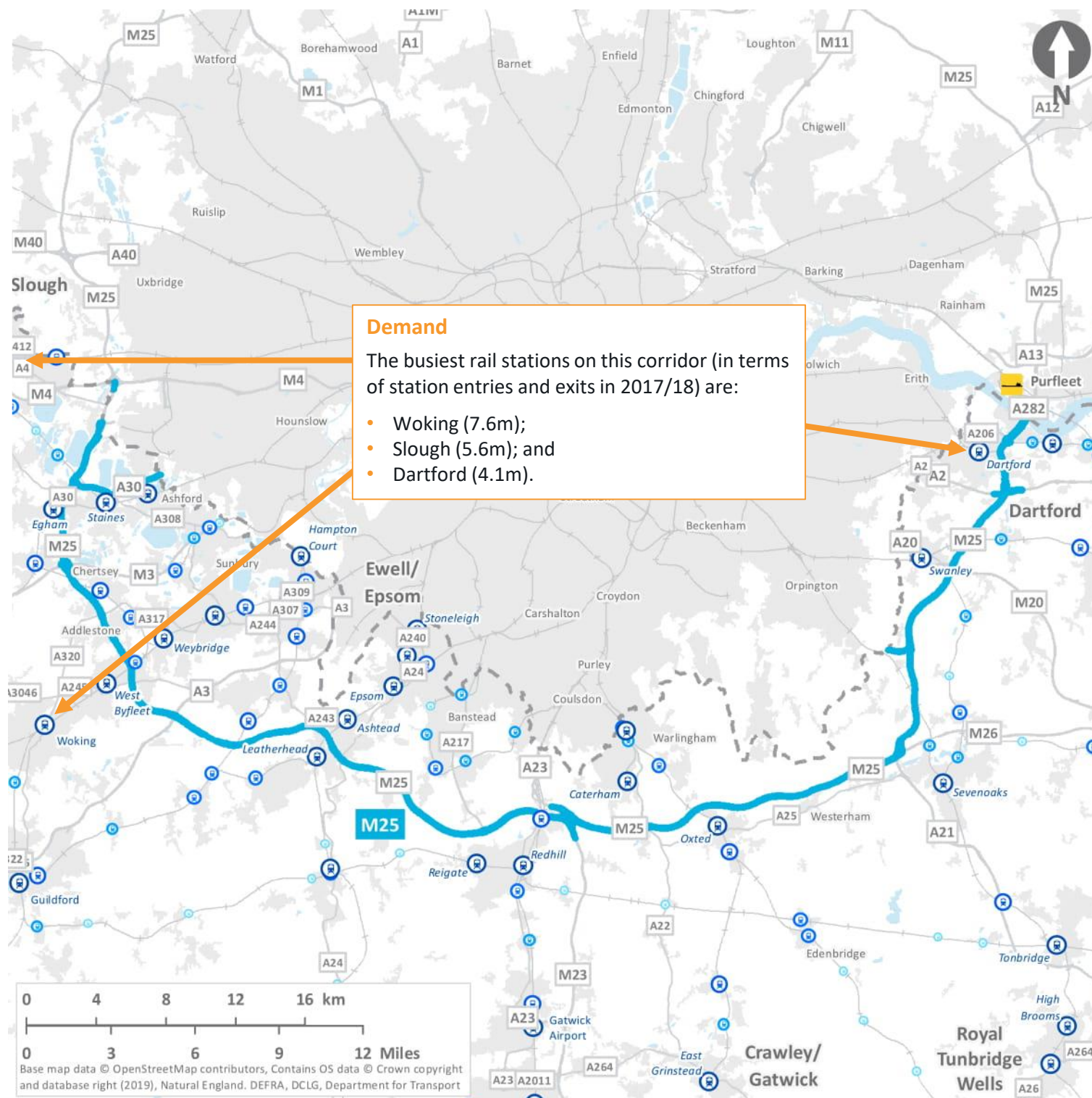
There are several gaps in rail connectivity along this corridor, although even with a new railway, travelling from one side of the M25 to the other is likely to still be fastest via Central London. There are also opportunities for improving public transport access to Heathrow Airport on this corridor.

There is no equivalent rail route to the M25, although parts of the North Downs Line run close. Most of the stations close to the M25 are used primarily for radial journeys.

Enhancements

Network Rail is promoting a “**Western Rail Access to Heathrow**” scheme, which will connect Heathrow Terminal 5 with Slough (enabling journeys between Heathrow, Reading, and other towns on the Great Western Railway). A similar scheme to link **Heathrow to the South Western Main Line**, although this is less developed than its western counterpart.

There is an aspiration for a **through rail service from Tonbridge to Gatwick via Redhill**, which could help relieve pressure on the M25.



Inner Orbital Strategic Corridors 102

A228/A249/A278/A289/
Chatham Main Line/
Sheerness Line
(Medway Ports)

Description

This corridor encompasses the key roads and railways that connect the Strategic Road Network and railway network with the Medway Ports. It is not strictly a corridor but rather a collection of routes that serve a similar function. This area has significant socioeconomic diversity, including large areas of protected land, in many cases close to busy international gateways.

The key issues affecting this corridor are:

- **Education Levels:** Education levels on this corridor are low, meaning that despite good transport connectivity and access to opportunity, significant portions of the local population cannot make use of these opportunities.
- **Deprivation:** At 29%, this corridor has the 2nd highest level of deprivation of any corridor in the South East.
- **Environmentally sensitive areas:** There are significant environmentally sensitive areas on this corridor, and balancing future growth with protection of these areas may be challenging.

The key opportunities to consider for this corridor are:

- **Affordable housing:** Could this corridor leverage its high levels of housing affordability to boost productivity and sustainable economic growth in this area?

Economic Context

Wealth

Median resident earnings along this corridor are £30,465, which is relatively low for the South East.

Priority Industrial Sectors

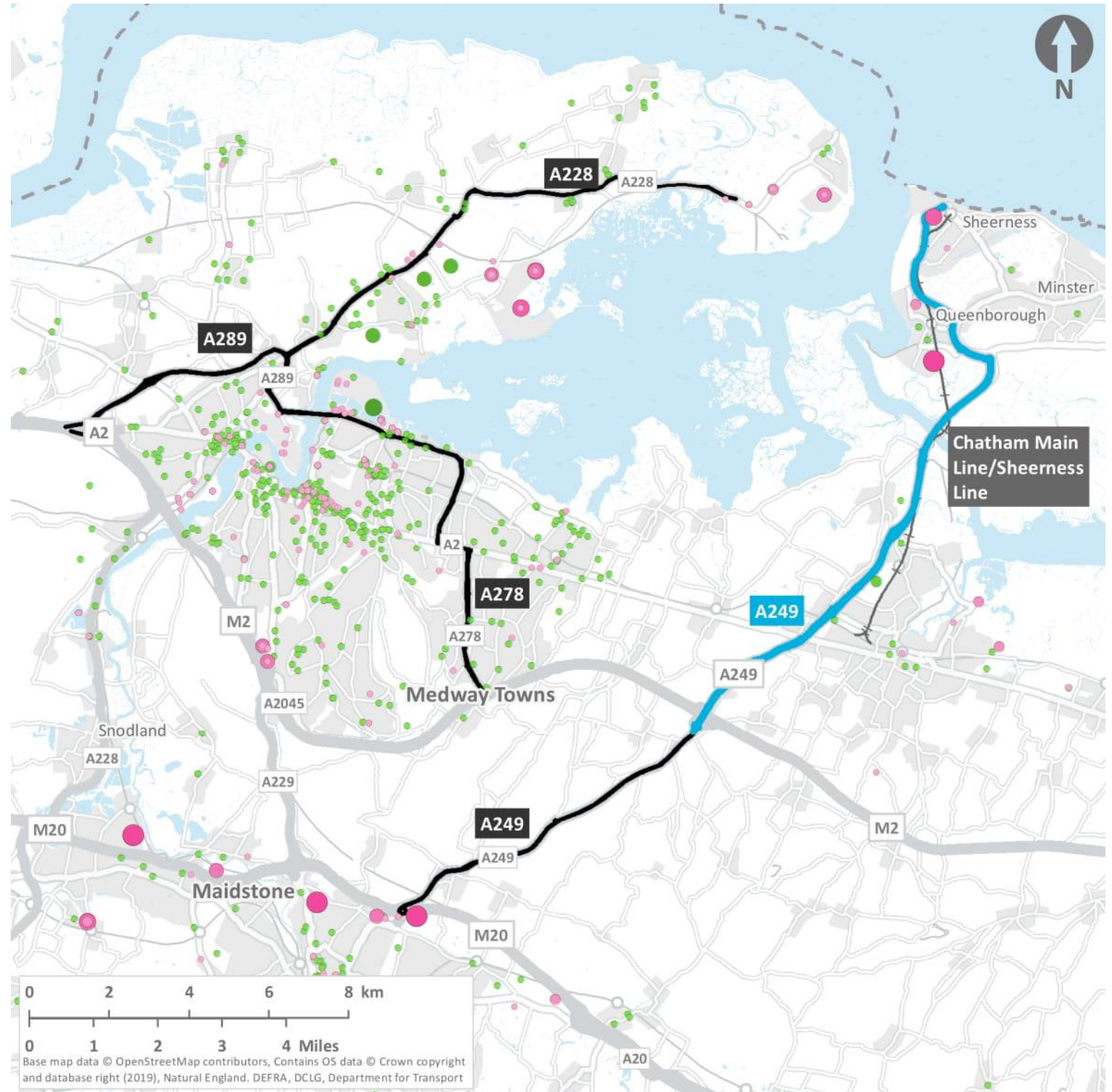
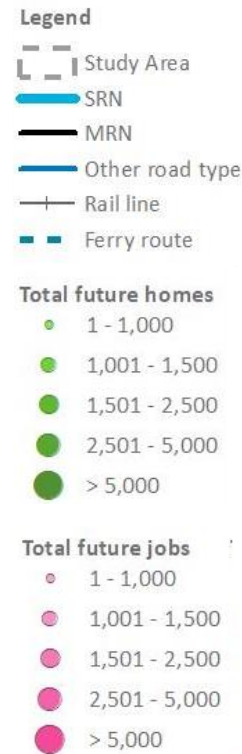
The priority industrial sectors on this corridor are:

- Advanced Manufacturing;
- Creative, cultural and media and the visitor economy; and
- Environmental technology and energy.

9% of jobs on this corridor are in priority sectors, which is below average for the South East area.

Development

The majority of housing development along this corridor will happen around the Medway Towns. There will be some job development around the Sheerness area, on the Hoo Peninsula, and around Maidstone.



| | | | | |
|--|------------------------------|----------------|--------------|------------------------|
| | Population (2018) | 702,714 | | 14th |
| | Planned homes (2018 to 2035) | 58,932 | ↑ 20% growth | 5th |
| | Planned Jobs (2018 to 2035) | 79,670 | ↑ 32% growth | 3rd |
| | Priority Sector Jobs (2017) | 22,875 | % of total | 18th |
| | Median earnings (2018) | £30,465 | | 17th |

Social Context

Deprivation

This corridor has among the highest levels of deprivation and lowest levels of education in the South East area. Deprivation in this corridor is concentrated in the Medway Towns, Sittingbourne and the Isle of Sheppey.

Education





Education levels along this corridor are low. Just 31% of the population holds at least one qualification at National Vocational Qualification level 4 or above.

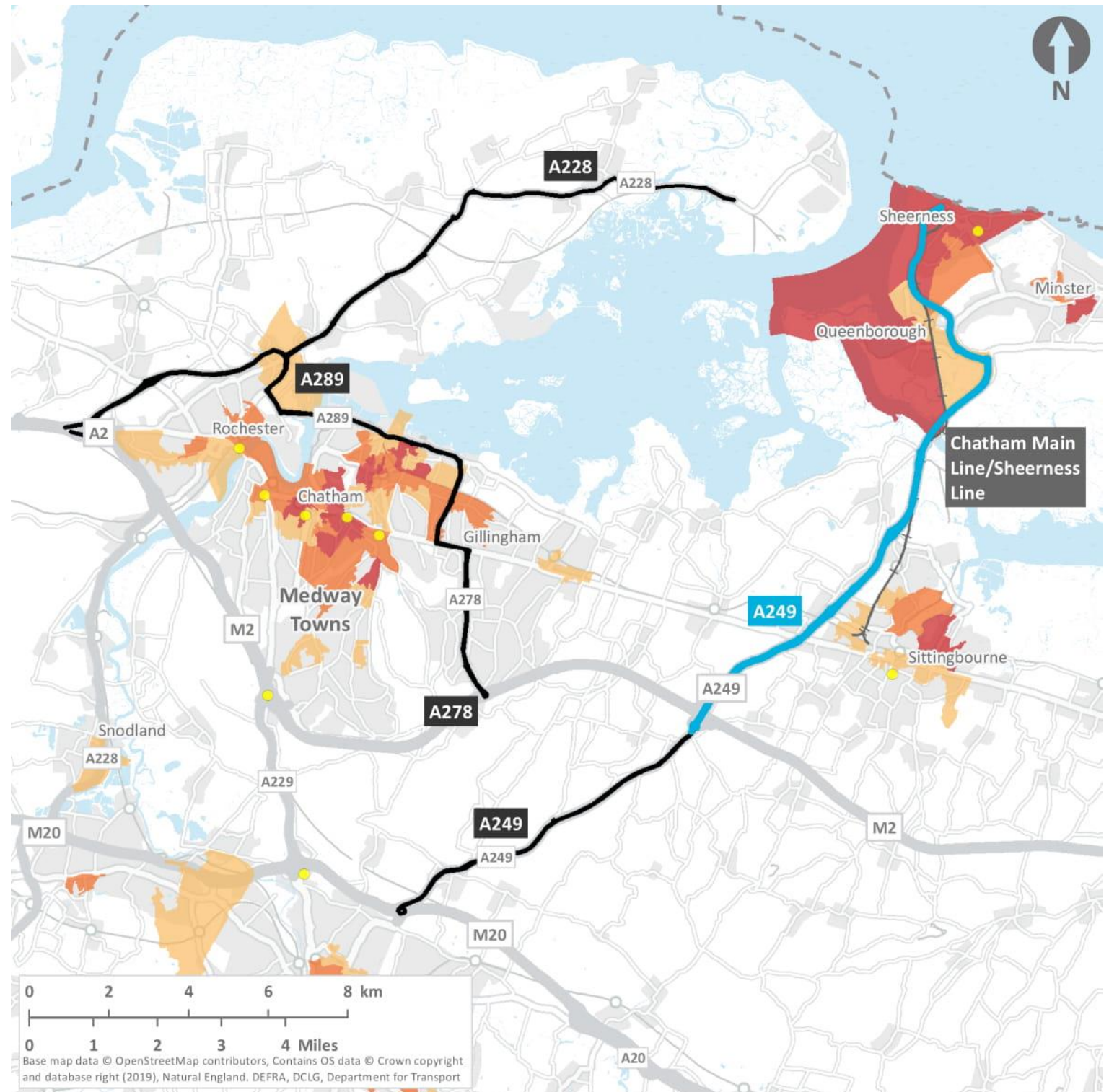
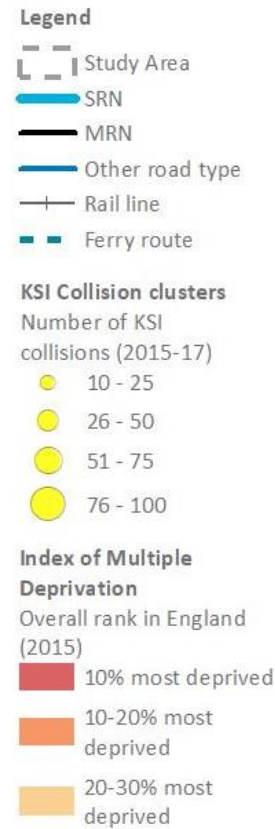
Safety

There were several clusters of incidents resulting in people being Killed or Seriously Injured on this corridor during the period 2015-17, although relatively few on the key highways serving this corridor.

Housing Affordability

Housing is very affordable on this corridor as house prices are among the lowest in the South East while earnings are close to the average for the South East area. This makes it the area with the 2nd best affordability ratio of any area in the South East.

| | | | |
|---|--|-----------------|------------------------|
|  | Deprived areas (2018, England) | 29% | 2nd |
|  | Highly educated population (2018, % NVQ Level 4 or above) | 31% | 22nd |
|  | Average house price (2018, average of corridor's districts) | £259,428 | 22nd |
|  | Housing affordability ratio (House price / earnings) | 8.5 | 2nd |



Environmental Context

Protected Areas

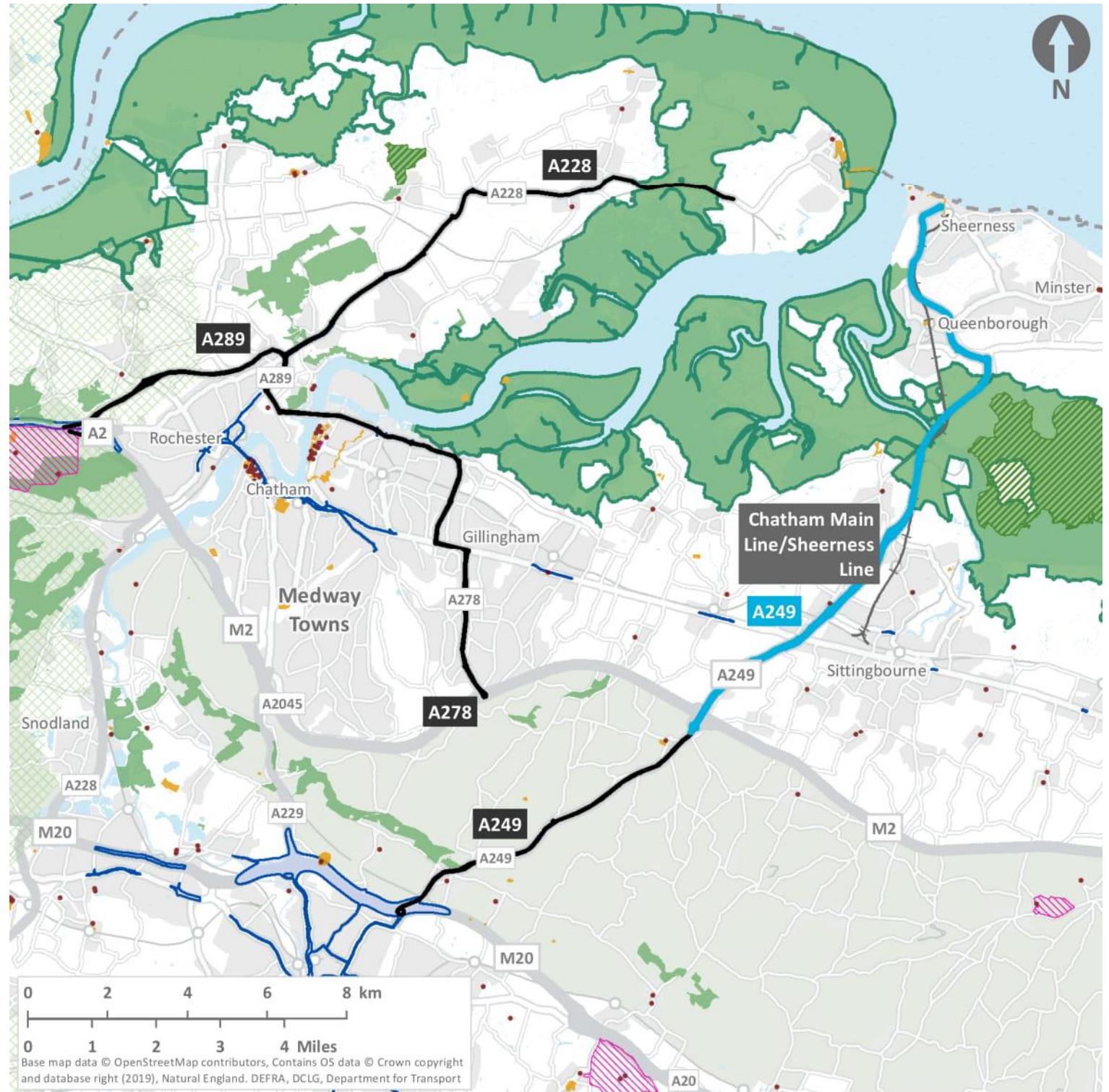
This corridor serves the Medway Estuary, which is an internationally recognised protected area. Most of the coastline in this area is classified as a Ramsar site.

The A249 passes also through the Kent Downs Area of Outstanding Natural Beauty at the southern end of this corridor.

Air Quality

There are several Air Quality Management Areas on this corridor, notably along the A2 in the Medway Towns (and adjoining roads) as well as on the M20 and on roads between the M20 and Maidstone.

- Legend**
- Study Area
 - SRN
 - MRN
 - Other road type
 - Rail line
 - Ferry route
 - Grade 1 Listed Buildings
 - Historic Parks and Gardens
 - Ancient Scheduled Monument
 - National Nature Reserve
 - RAMSAR
 - SSSI
 - World Heritage Site
 - Greenbelt
 - Air Quality Management Areas



Highways

Demand

It is estimated that this corridor carries 3,672 vehicles per hour on its busiest section during the AM peak.

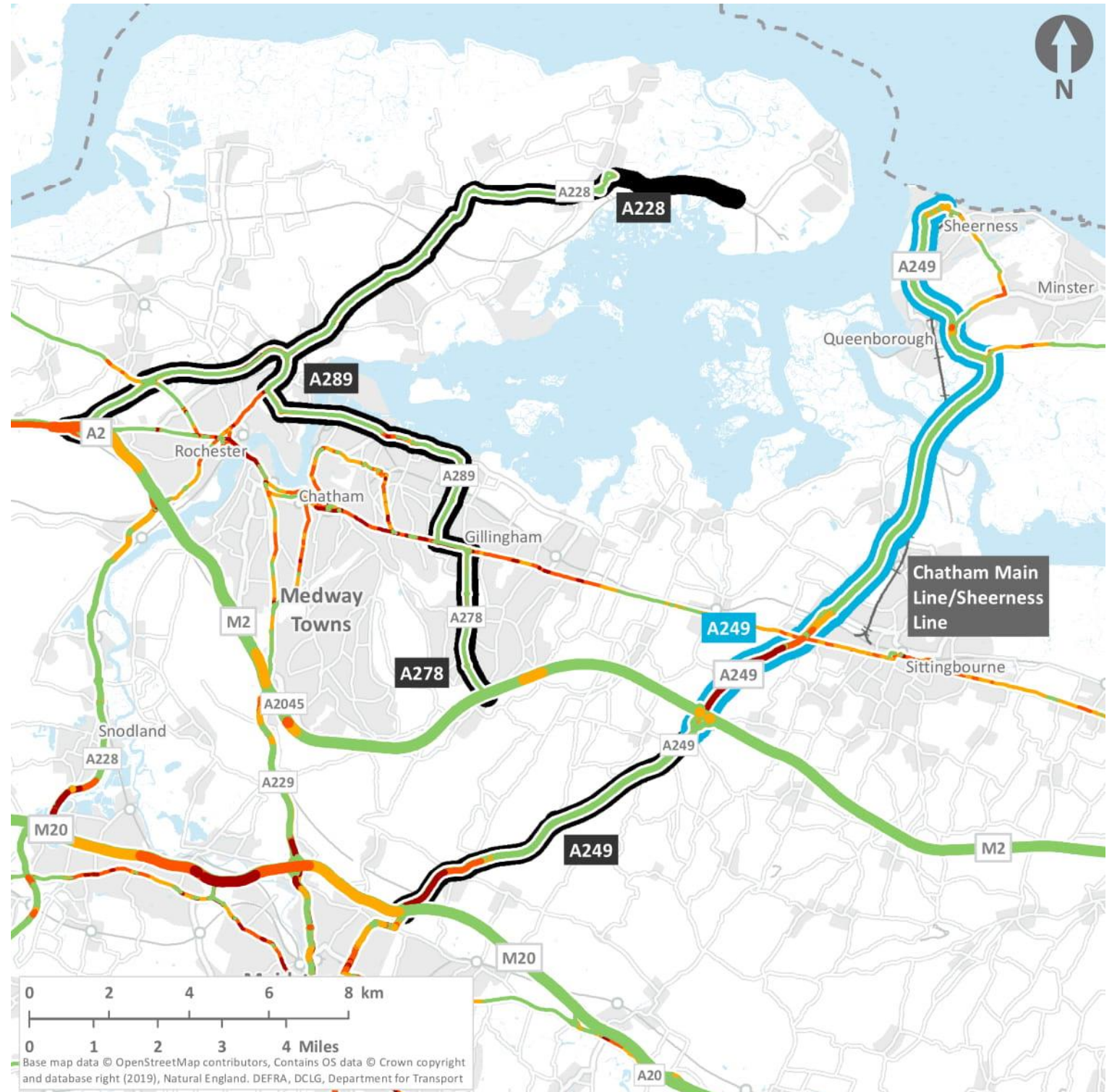
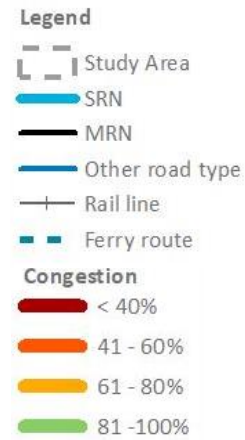
Issues and Opportunities


Key issues on this series of corridors are focused where the A249 intersects with the M2 at Junction 5 and with the M20 at Junction 7. At both locations AM peak speed drops below 40% of the free flow night-time speed.

Enhancements

Highways England is promoting a scheme to enhance capacity at the **M2 (Junction 5)** and **M20 (Junction 7)** which should address poor performance at both junctions.

Medway Council and the South East Local Enterprise Partnership are proposing to provide additional capacity for traffic joining the **A289 at the Medway City Estate** (near the Medway Road Tunnel).




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

3,672

9th

Railways

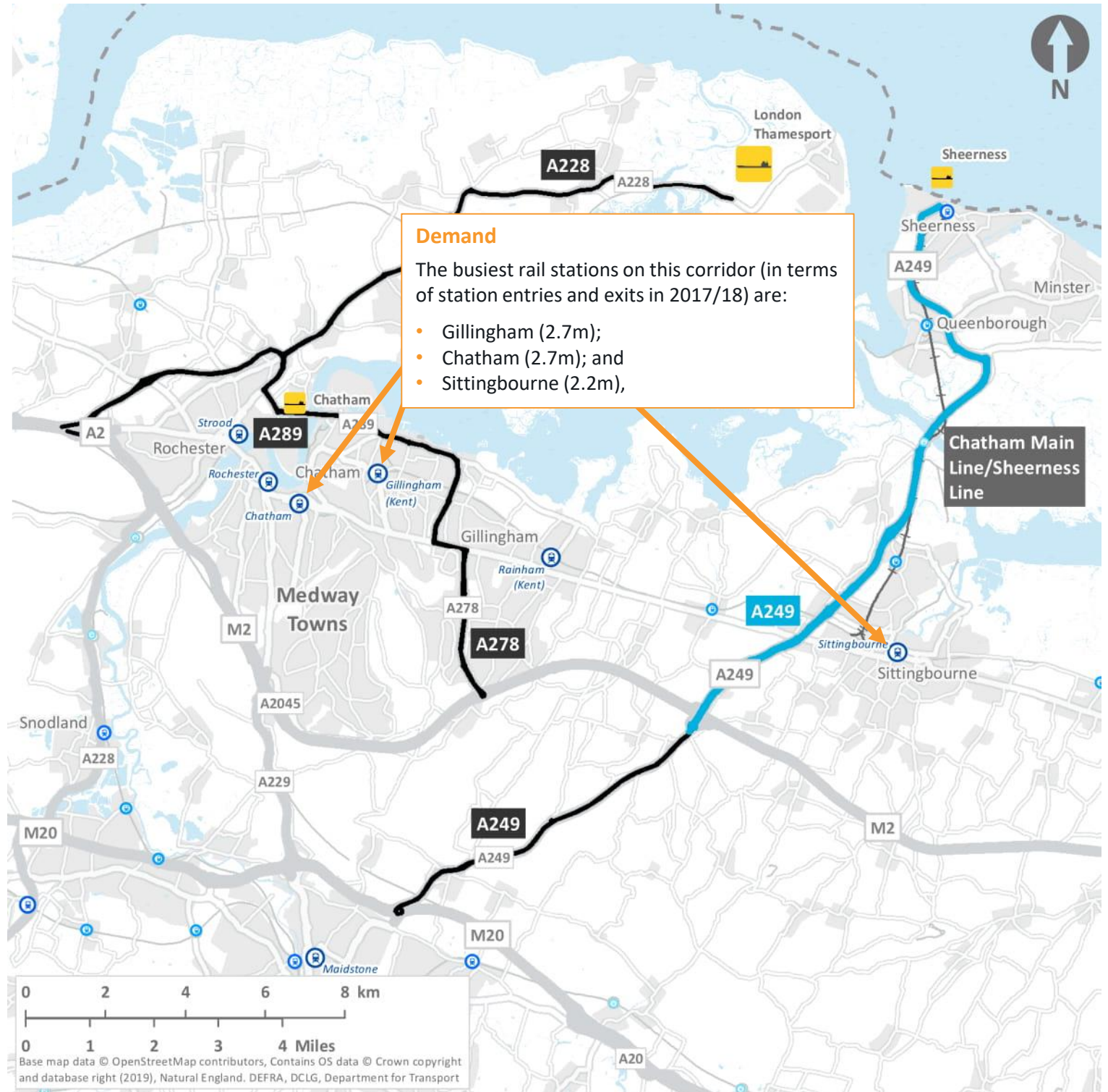
Issues and Opportunities

The key capacity constraints on this corridor tend to be on the corridors into Central London, which in many cases are only dual-tracked. This means longer distance services are forced to share tracks with metro services on approaches to London termini (which limits capacity and undermines reliability). The flat junction at Rochester Bridge is also a significant bottleneck on the Chatham Mainline.

Due to track alignment and calling patterns (particularly in Medway), journey times between London and North East Kent are relatively slow, even for high-speed services that join and leave High Speed 1 at Ebbsfleet.

Enhancements

Network Rail is also undertaking a study of the **North Kent region** to identify schemes for capacity and connectivity improvements in this area. This could include extending passenger services on freight lines to serve new housing developments on the Isle of Grain.



Inner Orbital Strategic Corridors 103

A228/A229/ Medway Valley Line (Maidstone – Medway)

Description

The A228/A229/Medway Valley Line Corridor links two key radial corridors on the Strategic Road network, the M20 to the M2. These routes cross through the North Downs Area of Outstanding Natural Beauty and the Medway Valley, which are both protected landscapes.

Congestion is less of an issue on these corridors at present. However, this may change as more housing development is delivered in this area. The A229, in particular, could be significantly impacted by the opening of a new Lower Thames Crossing, which will direct traffic from the Kent coast through a new tunnel to the east of Gravesend. This will divert traffic that currently uses the M20 west of Maidstone to the A2/M2 and then on to the A229.

At the Northern end the highways on this corridor are partly mirrored by the Medway Valley Line and Sheerness Line. These lines currently provide relatively slow shuttle services that offer little long-distance connectivity.

The key issues affecting this corridor are:

- **Education:** This corridor has the population with the lowest education levels of any corridor in the South East.
- **Priority Sector Jobs:** This corridor has a low number of priority sector jobs (one of the lowest level for any corridor in the South East).

The key opportunities to consider for this corridor are:

- **Regeneration:** Could the Medway Valley line help regenerate brownfield sites along this corridor and boost economic growth in this area?
- **Cross-regional rails services:** Could Medway Valley rail services be extended to Gatwick Airport to provide better cross-regional rail connectivity?

Economic Context

Wealth

Median resident earnings along this corridor are £31,877, which is relatively high for the South East.

Priority Industrial Sectors






The priority industrial sectors on this corridor are:

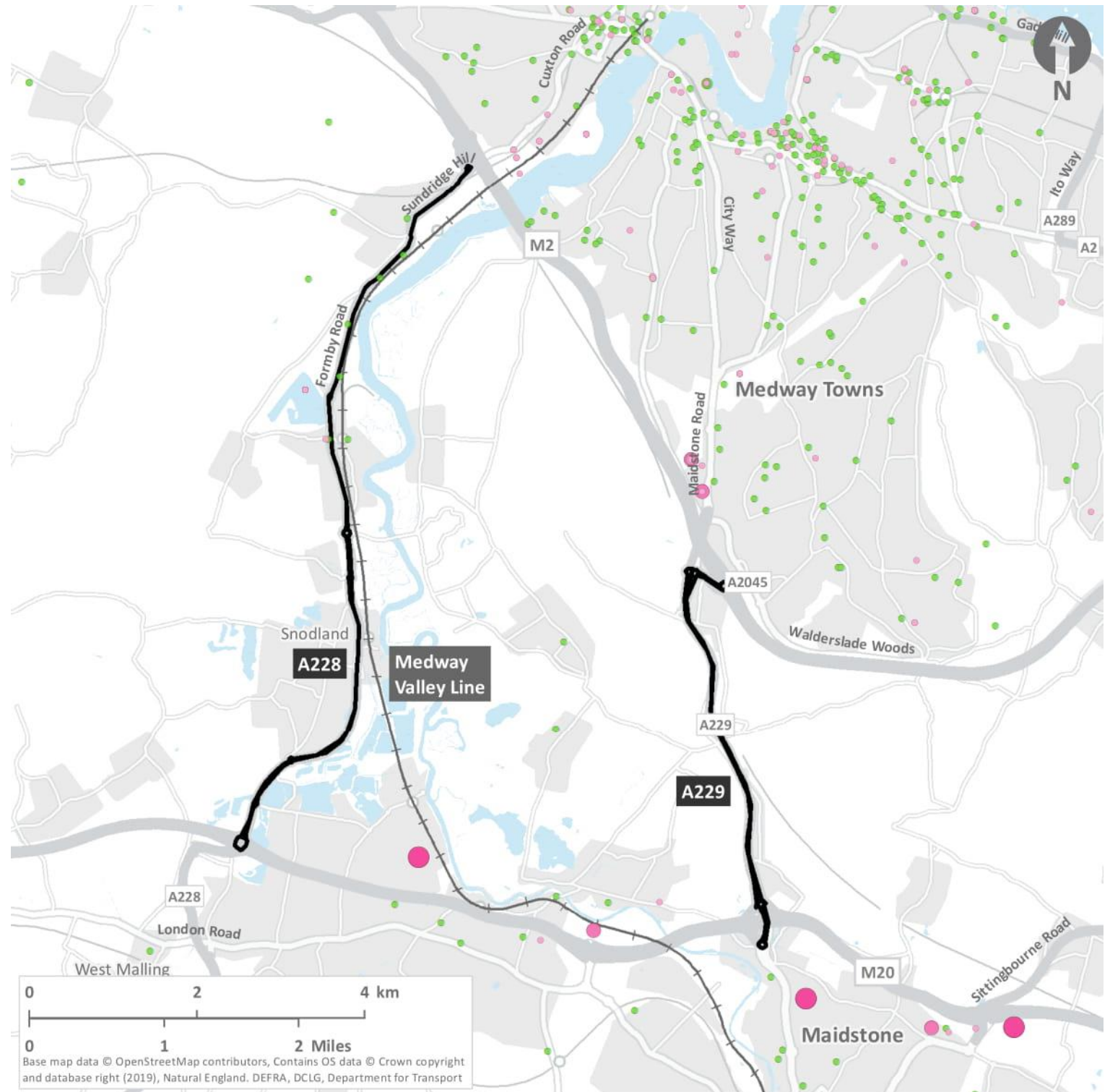
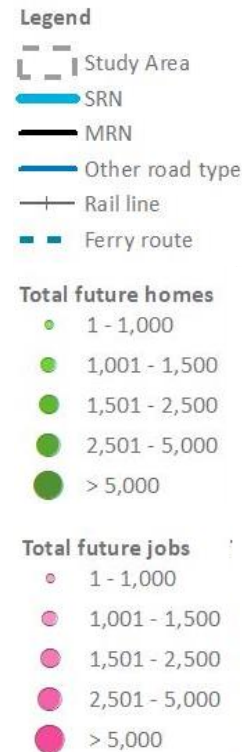
- Advanced manufacturing;
- Creative, cultural and media and the visitor economy; and
- Environmental technology and energy.

10% of jobs on this corridor are in priority sectors, which is below average for the South East area.

Development

Housing development along this corridor will be focused around the Medway Towns and around Maidstone. Development in the center of the A229 is limited by environmental constraints (namely the Kent Downs AONB). The A228, in contrast, will see development across the length of the corridor between the M2 and M20 (including several brownfield sites in the Halling area). Job growth will generally be highest in urban areas, with slightly more job development near Maidstone than in Medway.

| | | | | |
|---|------------------------------|----------------|--------------|------------------------|
|  | Population (2018) | 408,363 | | 20th |
|  | Planned homes (2018 to 2035) | 35,255 | ↑ 21% growth | 4th |
|  | Planned Jobs (2018 to 2035) | 51,091 | ↑ 34% growth | 2nd |
|  | Priority Sector Jobs (2017) | 15,485 | 10% of total | 21st |
|  | Median earnings (2018) | £31,977 | | 12th |



Social Context

Deprivation

There are significant clusters of deprivation in the Medway towns and Maidstone. These deprived areas are focussed around the town centres of both areas.

Education





Education levels along this corridor are low. Just 31% of the population holds qualifications at National Vocational Qualification level 4 or above.

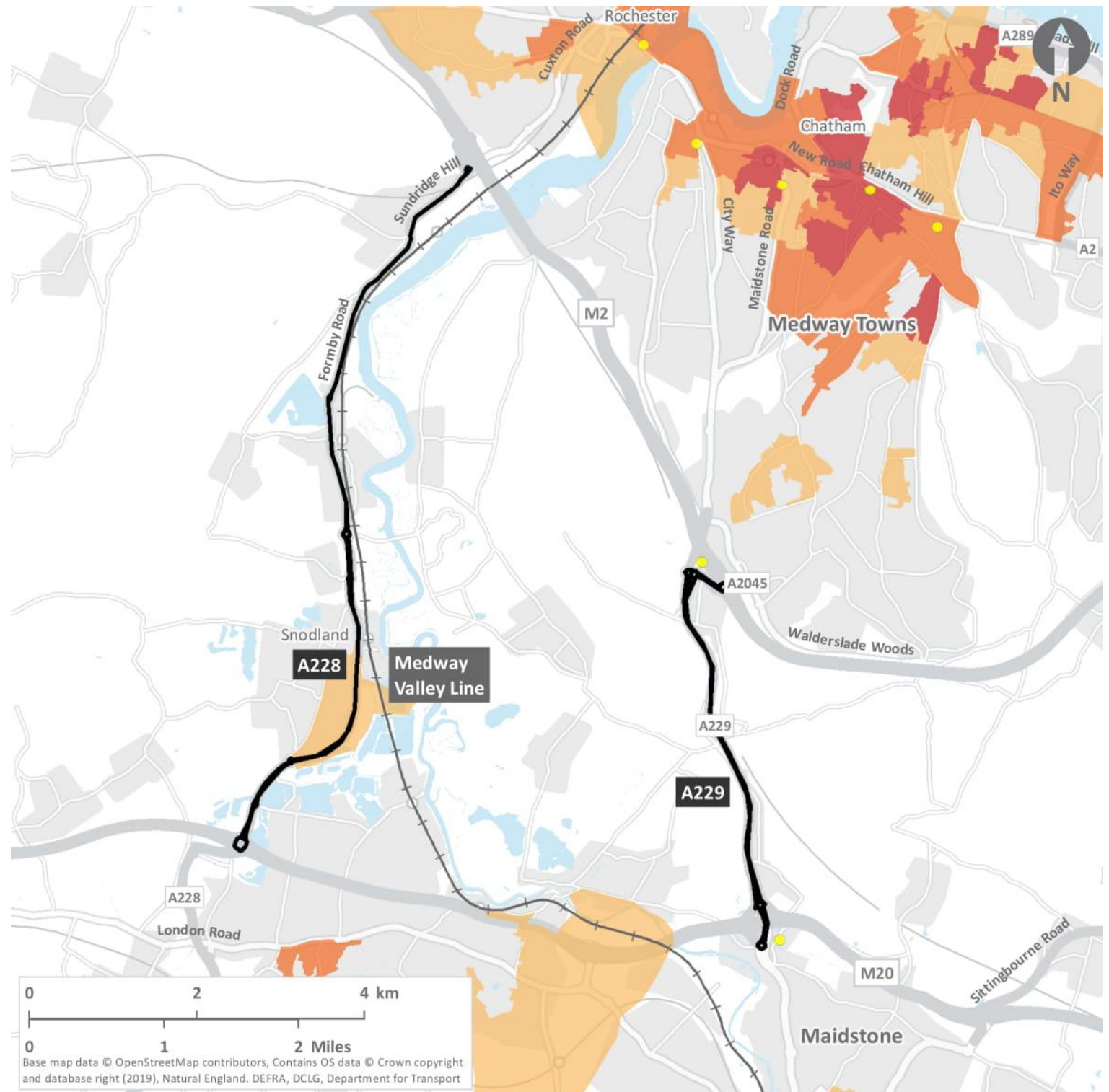
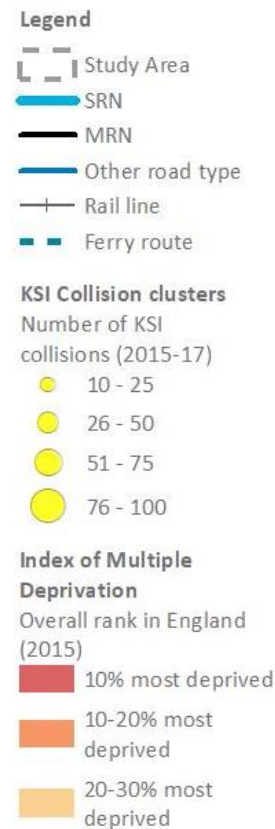
Safety

There were several clusters of incidents resulting in people being Killed or Seriously Injured on this corridor during the period 2015-17, notably on the A229 highway where it intersects with the M2 (Junction 3) and M20 (Junction 6).

Housing Affordability

Housing affordability is high on this corridor. This is driven by relatively low house prices (set against average earnings).

| | | | |
|---|--|-----------------|------------------------|
|  | Deprived areas (2018, England) | 26% | 4th |
|  | Highly educated population (2018, % NVQ Level 4 or above) | 31% | 23rd |
|  | Average house price (2018, average of corridor's districts) | £272,353 | 19th |
|  | Housing affordability ratio (House price / earnings) | 8.5 | 3rd |



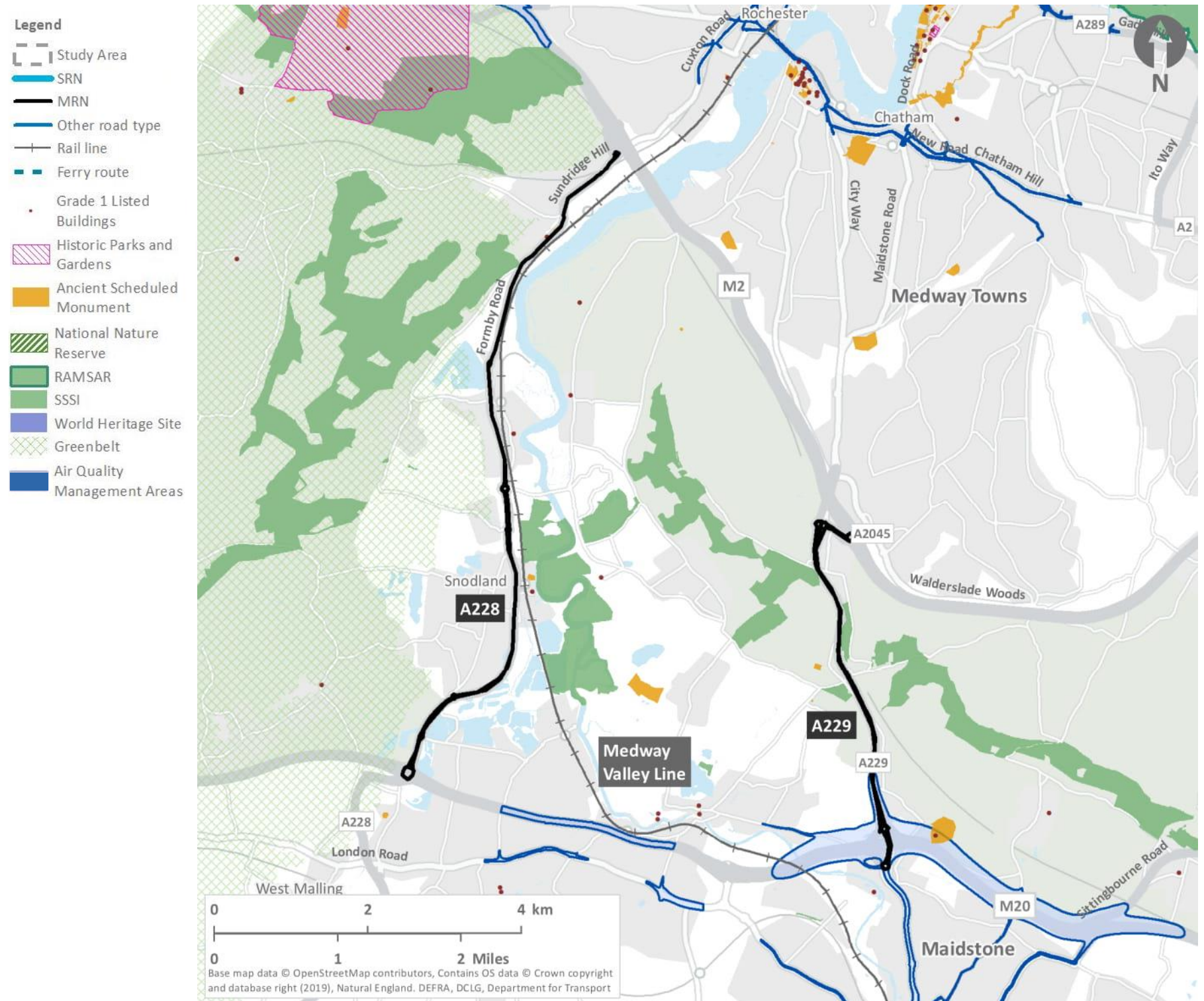
Environmental Context

Protected Areas

This corridor passes alongside several protected areas. The most significant of these is the London Green Belt, which runs immediately to the west of the A228. The A229 also passes through the Kent Downs Area of Outstanding Natural Beauty, which limits the opportunity for development on this corridor.

Air Quality

The A229 intersects a relatively large Air Quality Management Area on the M20 to the north of Maidstone.



Highways

Demand

It is estimated that this corridor carries 3,234 vehicles per hour on its busiest section during the AM peak.

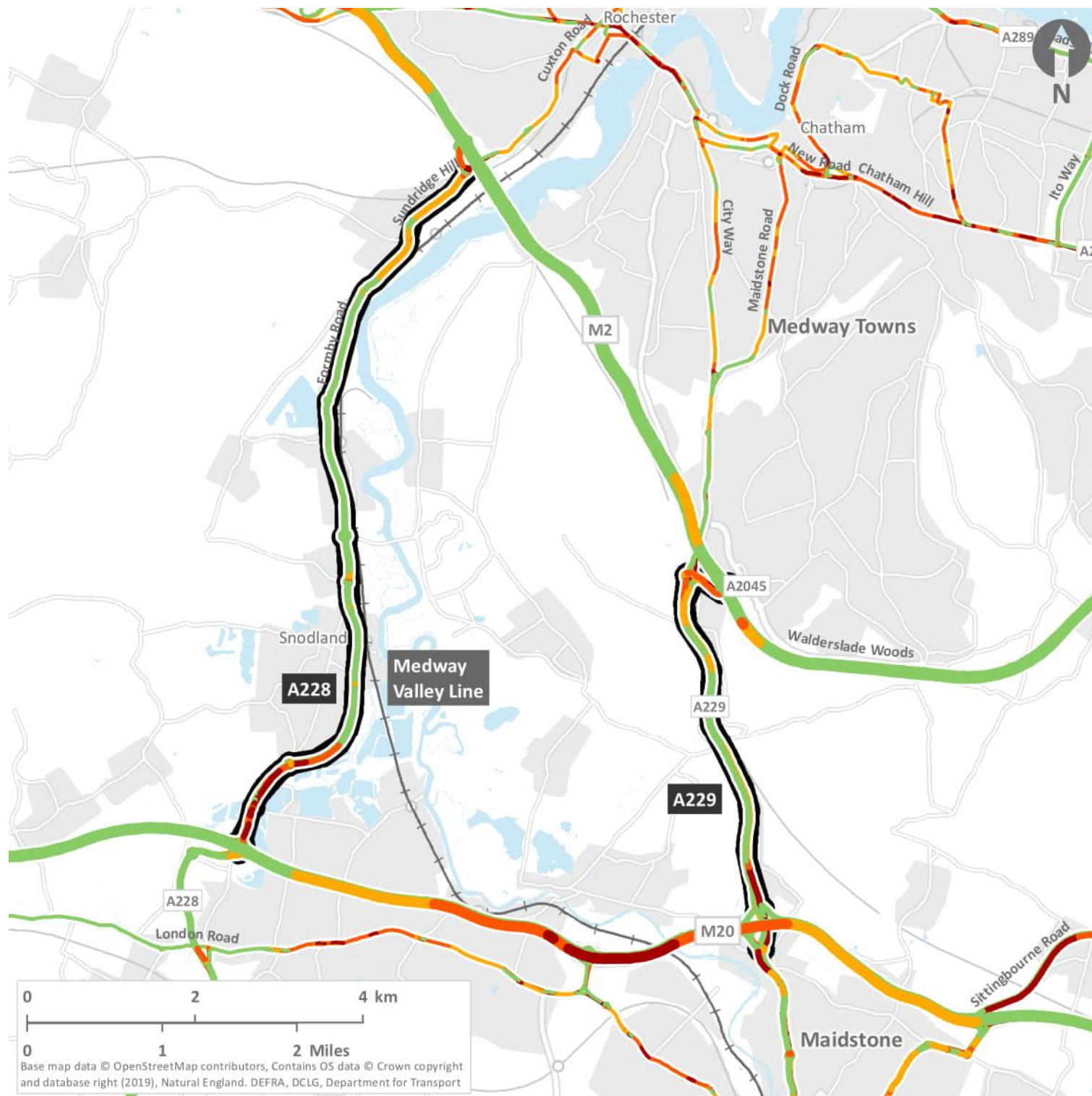
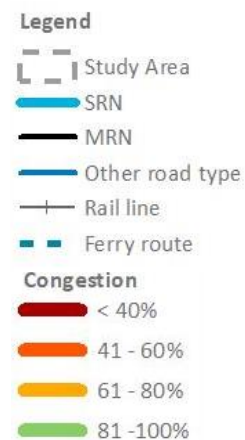
Issues and Opportunities


Issues on this network are concentrated at the northern and southern ends of the A228 and the A229 where they intersect with the M20 and the M2. The new Lower Thames crossing will encourage traffic onto the M20 from the M2.

Enhancements

This corridor has benefited from some investment in recent years to support housing growth (e.g. **Peter’s Bridge to the south of Wouldham**).

Kent County Council is promoting a **Large Local Major scheme** to improve the junction between **the A229 and M2 (Junction 3) at Blue Bell Hill**. This will support any additional traffic that might be drawn towards the **Lower Thames Crossing** if/when this major scheme is delivered.




Peak hour highway demand
 (Vehicles/hour on busiest section)
 3,234
14th

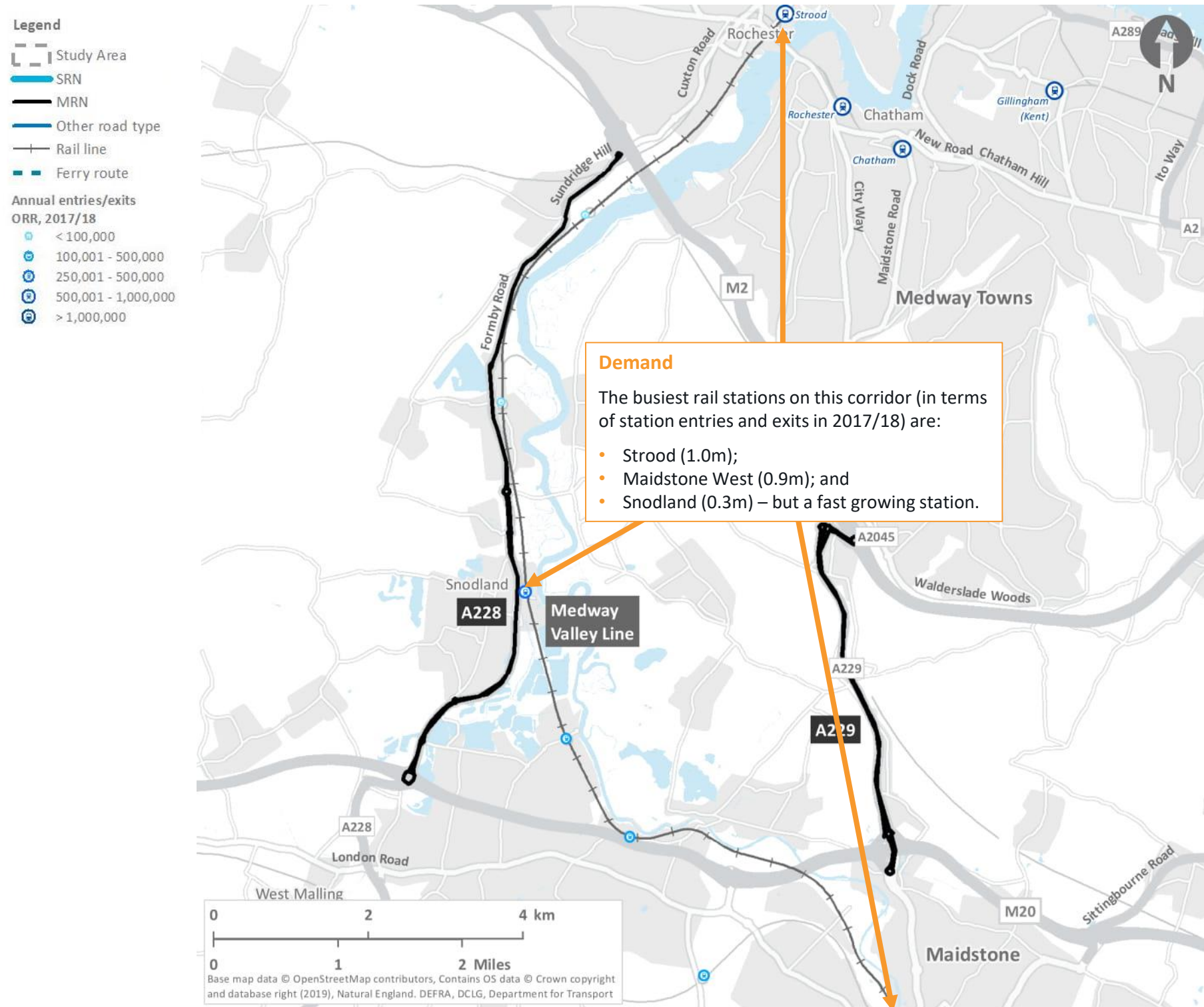
Railways

Issues and Opportunities

The Medway Valley Line could be developed further to enable longer distance journeys beyond Tonbridge (perhaps as far as Gatwick Airport). However, the scope for this is currently limited by capacity constraints on the Brighton Main Line and unelectrified section of railway between Redhill and Tonbridge.

Enhancements

Network Rail is undertaking a **study of the North Kent** region to identify schemes for capacity and connectivity improvements in this area, which could have knock-on benefits for the Medway Valley Line.



Inner Orbital Strategic Corridors IO4

Redhill – Tonbridge Line/ South Eastern Main Line (Ashford – Redhill)

Description

This corridor is formed solely of a railway line, which provides connectivity between Redhill and Ashford International. The corridor passes through largely rural geography, and therefore lies close to a number of environmentally sensitive areas. At the moment there are no direct rail services along the whole corridor, largely because the western portion of the railway (Redhill – Tonbridge) is not electrified.

The key issues affecting this corridor are:

- **Low numbers of priority sector jobs:** The corridor has a low percentage (only 8%) of priority sector jobs, which will make future economic growth challenging.
- **A poor housing affordability ratio:** The corridor has a low housing affordability ratio of only 10.5, which means that it will be challenging for individuals to purchase houses in the area.

The key opportunities to consider for this corridor are:

- **Cross-regional rails services:** Could South Eastern Main Line rail services be extended to Gatwick Airport to provide better cross-regional rail connectivity?

Economic Context

Wealth

Median resident earnings along this corridor are £33,587, which is relatively low for the South East.

Priority Industrial Sectors

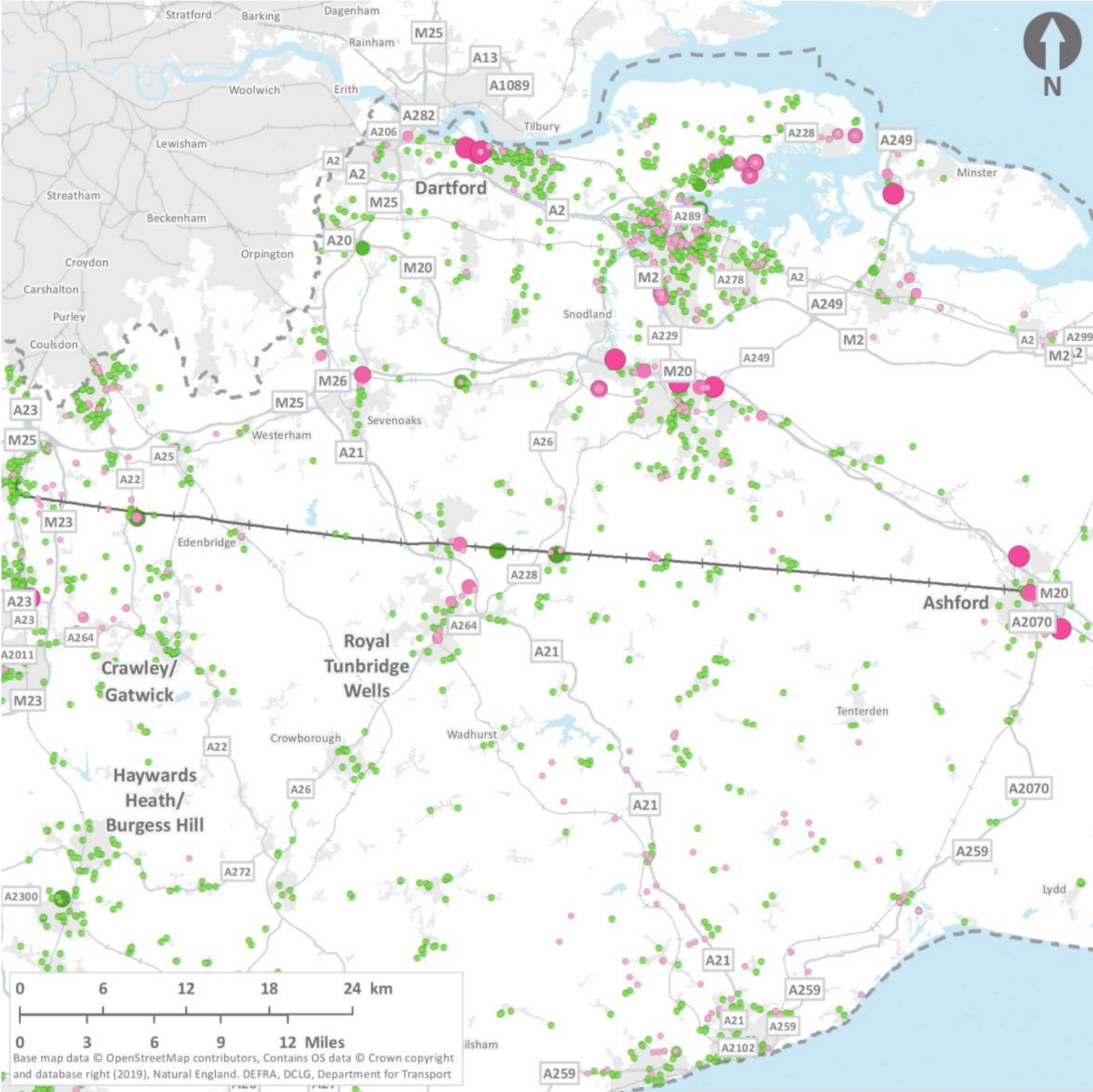
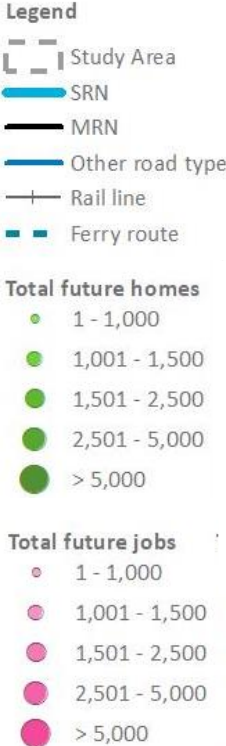
The priority industrial sectors on this corridor are:

- Advanced manufacturing;
- Air transport; and
- Automotive manufacturing.

8% of jobs on this corridor are in priority sectors, which is below average for the South East area.

Development

There are several large housing developments along this corridor at Ashford, Paddock Wood, Tonbridge, Edenbridge and Redhill. Significant employment development is also planned for Ashford.



| | | | | |
|--|------------------------------|----------------|--------------|------------------------|
| | Population (2018) | 903,344 | | 9th |
| | Planned homes (2018 to 2035) | 69,825 | ↑ 19% growth | 8th |
| | Planned Jobs (2018 to 2035) | 96,811 | ↑ 25% growth | 6th |
| | Priority Sector Jobs (2017) | 32,840 | 8% of total | 20th |
| | Median earnings (2018) | £33,587 | | 7th |

Social Context

Deprivation

There are relatively low levels of deprivation along this corridor. The most deprived areas on this strategic corridor are in Ashford and more rural areas to the west of Ashford.

Education

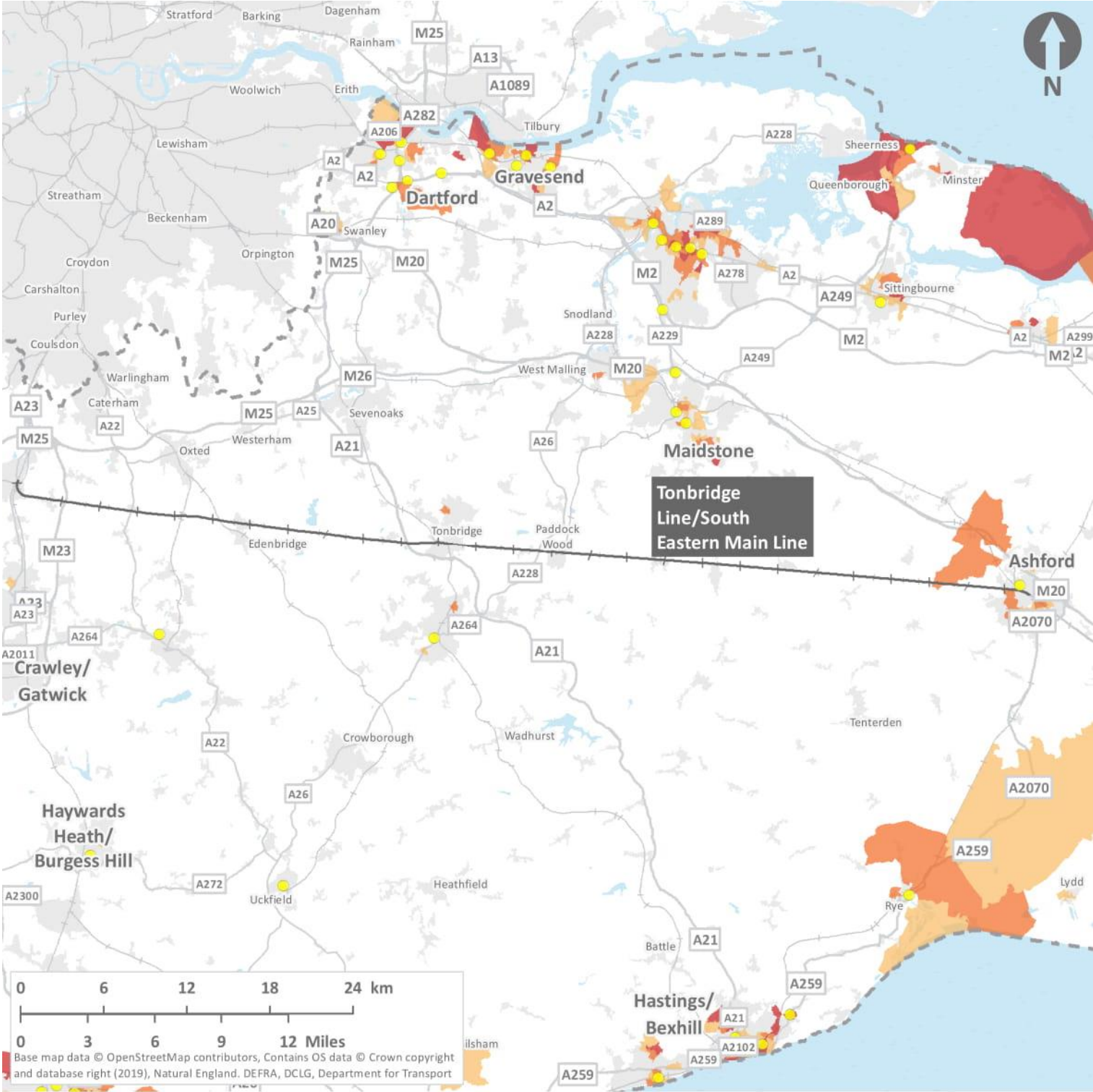
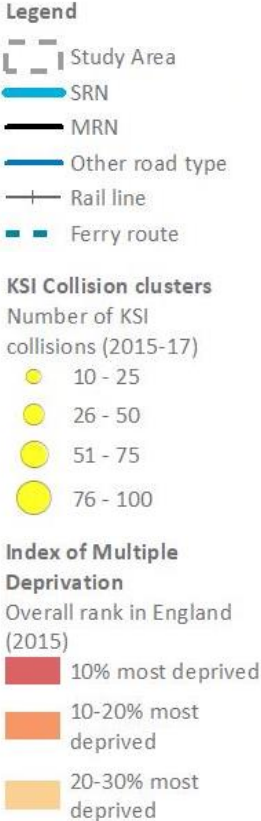
39% of the population holds qualifications at National Vocational Qualification level 4 or above, which is just below average for the South East area.

Safety

No road safety data is provided for this corridor as it is a rail corridor only.

Housing Affordability

Although earnings are above average on this corridor, house prices are also high, meaning housing is not particularly affordable for residents who live on this corridor. There are marked variations in housing affordability along this corridor – from 9.1 in Ashford to 12.8 in Sevenoaks.



| | | | |
|--|---|----------|------------------|
| | Deprived areas (2018, England) | 7% | 17 th |
| | Highly educated population (2018, % NVQ Level 4 or above) | 40% | 11 th |
| | Average house price (2018, average of corridor's districts) | £352,523 | 5 th |
| | Housing affordability ratio (House price / earnings) | 10.5 | 19 th |

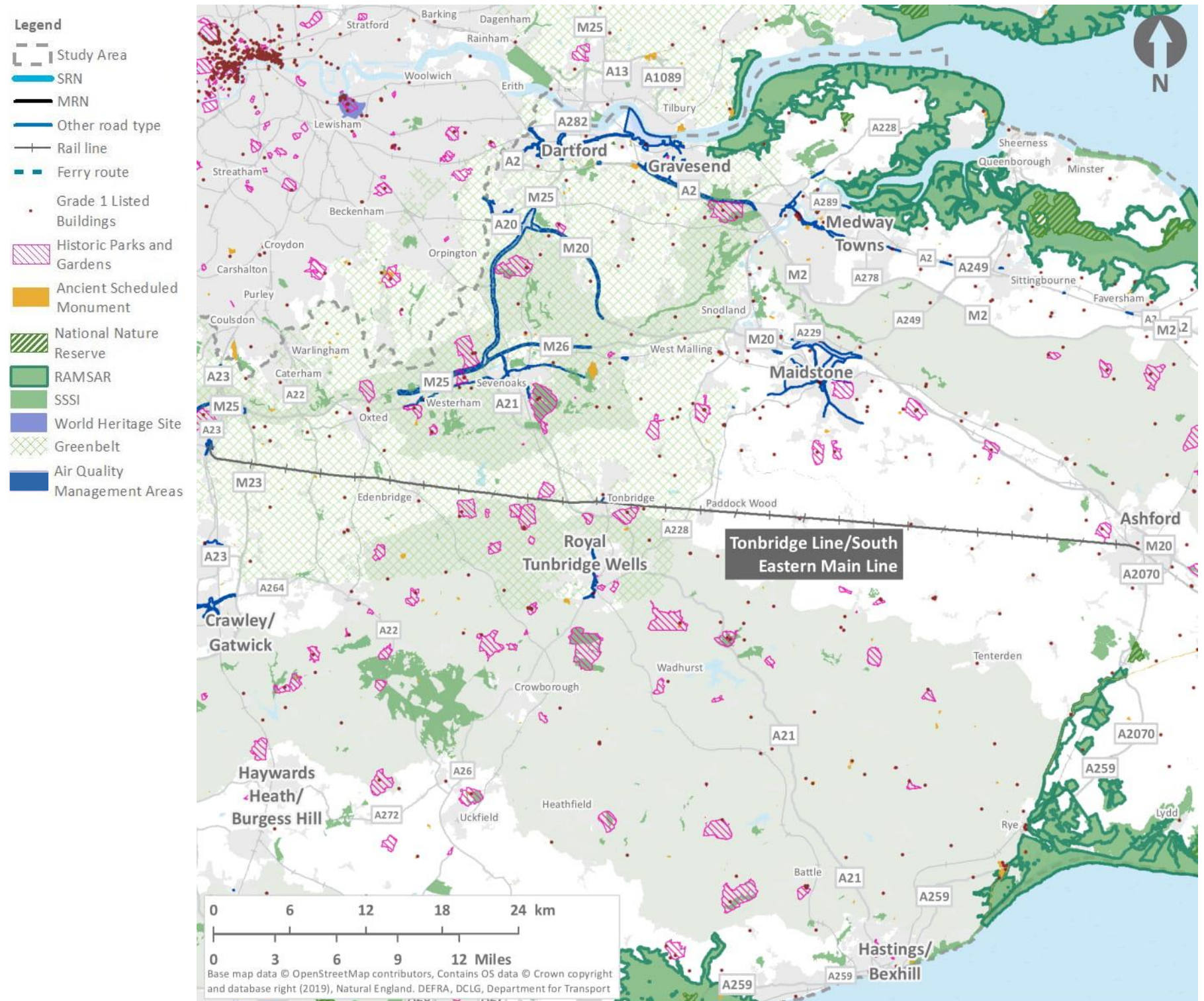
Environmental Context

Protected Areas

The eastern end of this corridor passes through the London Green Belt and the northern end of the High Weald Area of Outstanding Natural Beauty. The central part of the corridor runs close to several historic parks and gardens (in the Tonbridge area).

Air Quality

There are no Air Quality Management Areas along this corridor (the nearest is located in Royal Tunbridge Wells to the south of Tonbridge).



Railways

Issues and Opportunities

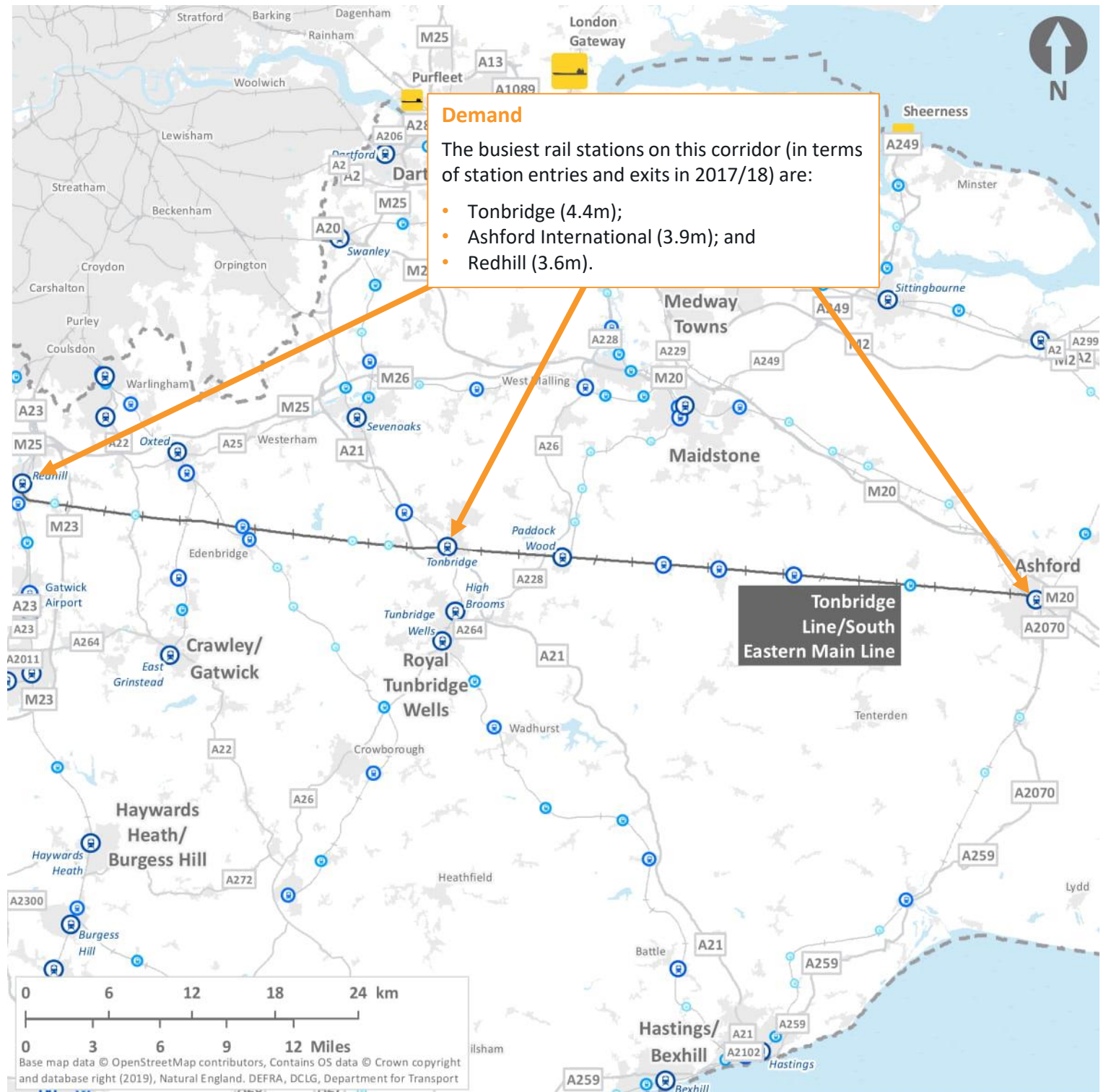
This rail corridor is currently split at Tonbridge both by the franchise map (Southern operate the western part while Southeastern run the eastern part) and by traction (the western part is not electrified while the eastern part is third rail).

This means only diesel trains (or potentially hybrid trains) can operate west of Reigate to Guildford to Reading. Extending the third rail would enable better coherence between the two sections of the rail line and make the line more environmentally friendly.

There are opportunities to use this corridor to improve connectivity between London Gatwick Airport and Kent, however, this would likely place additional pressure on the Brighton Main Line and other bottlenecks on radial routes that cross this corridor.

Enhancements

No significant enhancements are currently planned for this corridor.



Inner Orbital Strategic Corridors 105

A25/North Downs Line (Guildford – Redhill)

Description

This corridor links Guildford and Redhill via Dorking. In between, it passes through and serves largely smaller towns and villages. The road is a relatively slow (and highly regulated) single carriageway road. The railway is also slow and currently provides a relatively infrequent service. This corridor passes almost entirely through the Surrey Hills Area of Outstanding Natural Beauty.

The key issues affecting this corridor are:

- **Poor housing affordability:** This corridor has the least affordable housing of any area in the South East, with a housing affordability ratio of 12.2.
- **Environmental constraints:** This line runs through several significant environmentally protected areas, meaning that future development will have to be carefully balanced with protecting the environment.
- **Rail constraints:** There are few direct services to London on this line and significant infrastructure constraints: lines-speeds are relatively slow, platforms are relatively short, and there are several level crossings on busy roads (including the A25).

The key opportunities to consider for this corridor are:

- **Cross-regional rails services:** Could North Downs Line rail services to London Gatwick Airport (and beyond?) be improved to provide better cross-regional rail connectivity?

Economic Context

Wealth

This is the wealthiest corridor in the South East area. Median resident earnings along this corridor are £36,204.

Priority Industrial Sectors






The priority industrial sectors on this corridor are:

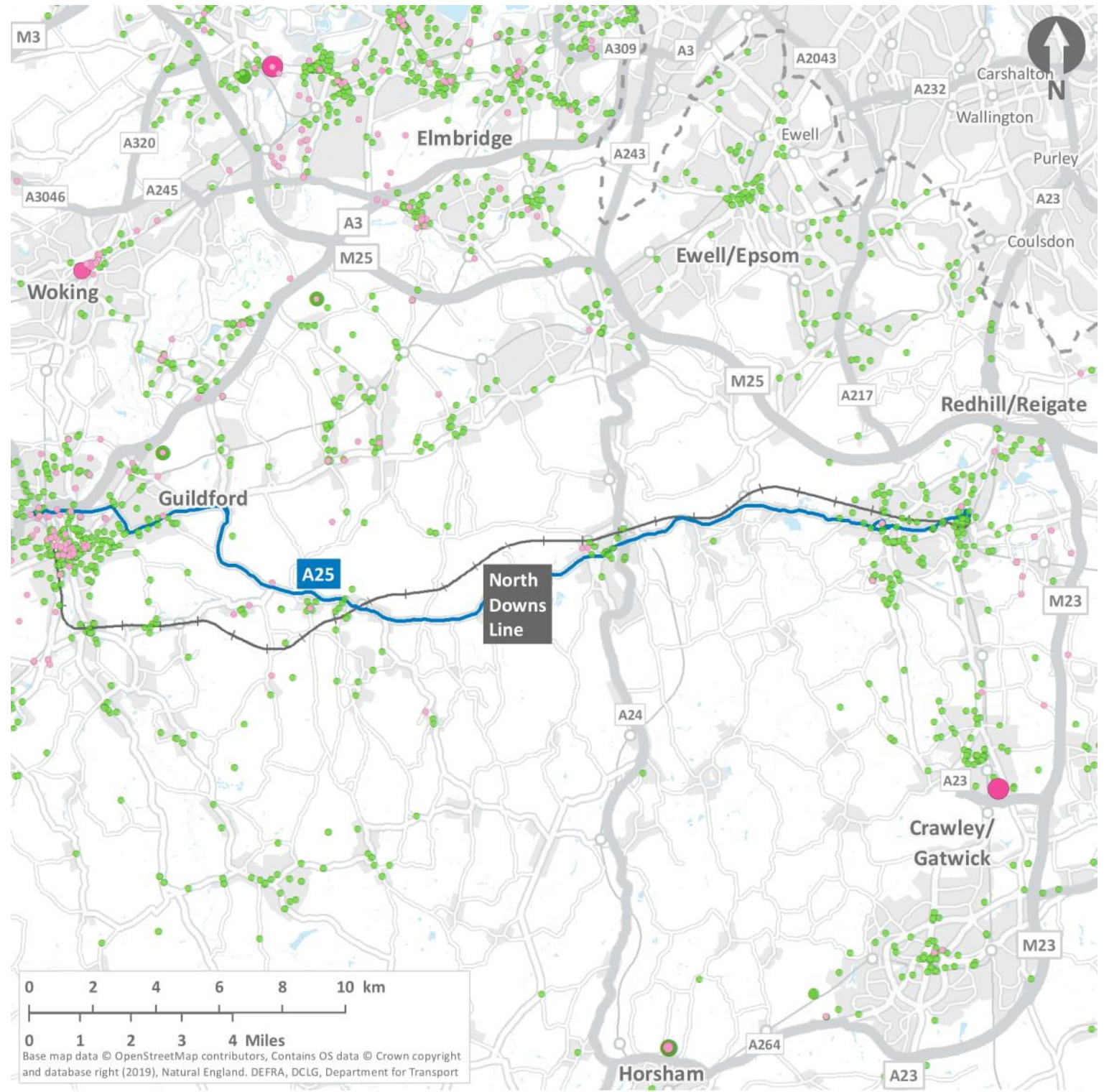
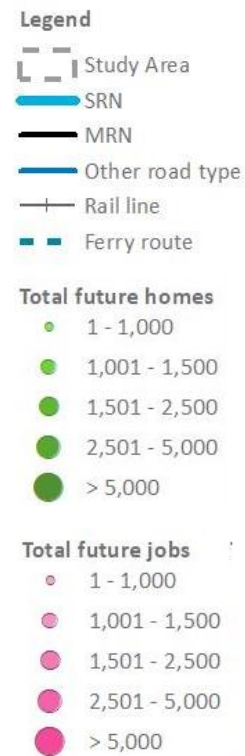
- Advanced Manufacturing;
- Transport and Logistics; and
- Life Sciences and Healthcare.

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

Development

Housing development along this line will be distributed along the length of the route. Most of the developments are small in in scale but together represent a 12% growth in the current housing stock.

| | | | | |
|--|------------------------------|----------------|--------------|------------------------|
|  | Population (2018) | 382,899 | | 21st |
|  | Planned homes (2018 to 2035) | 19,486 | ↑ 12% growth | 18th |
|  | Planned Jobs (2018 to 2035) | 22,197 | ↑ 12% growth | 11th |
|  | Priority Sector Jobs (2017) | 23,925 | 13% of total | 17th |
|  | Median earnings (2018) | £36,204 | | 1st |



A25/North Downs Line (Guildford – Redhill)

Social Context

Deprivation

This is the least deprived corridor in the South East area.

Education





48% of the population holds qualifications at National Vocational Qualification level 4 or above, which is one of the highest levels for this indicator in the South East in area.

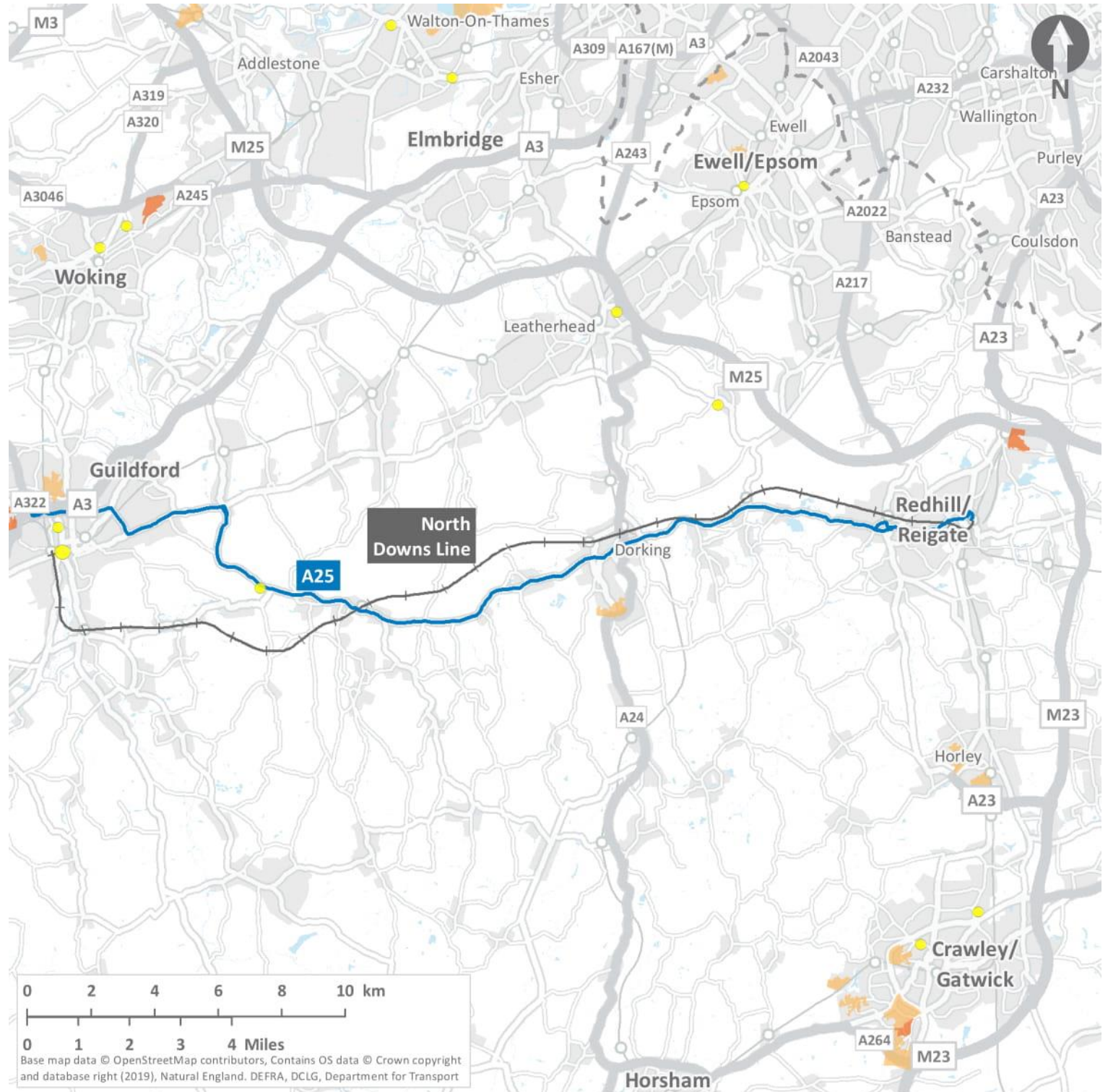
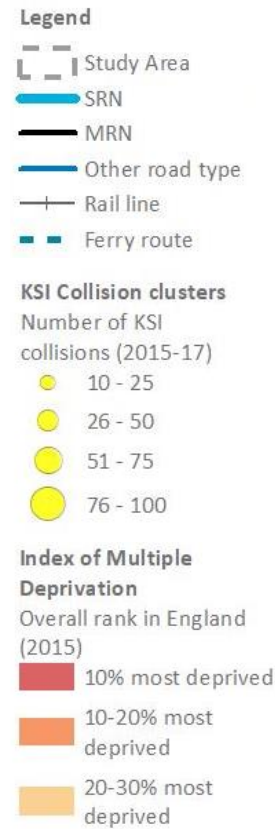
Safety

There were several clusters of incidents resulting in people being Killed or Seriously Injured on this corridor during the period 2015-17, notably in Guildford town centre.

Housing Affordability

This is the least affordable corridor in the South East area. Although it has the highest average earnings, it also has the highest house prices in the South East.

| | | | |
|---|--|-----------------|------------------------|
|  | Deprived areas (2018, England) | 3% | 23rd |
|  | Highly educated population (2018, % NVQ Level 4 or above) | 48% | 3rd |
|  | Average house price (2018, average of corridor's districts) | £442,462 | 1st |
|  | Housing affordability ratio (House price / earnings) | 12.2 | 23rd |



Environmental Context

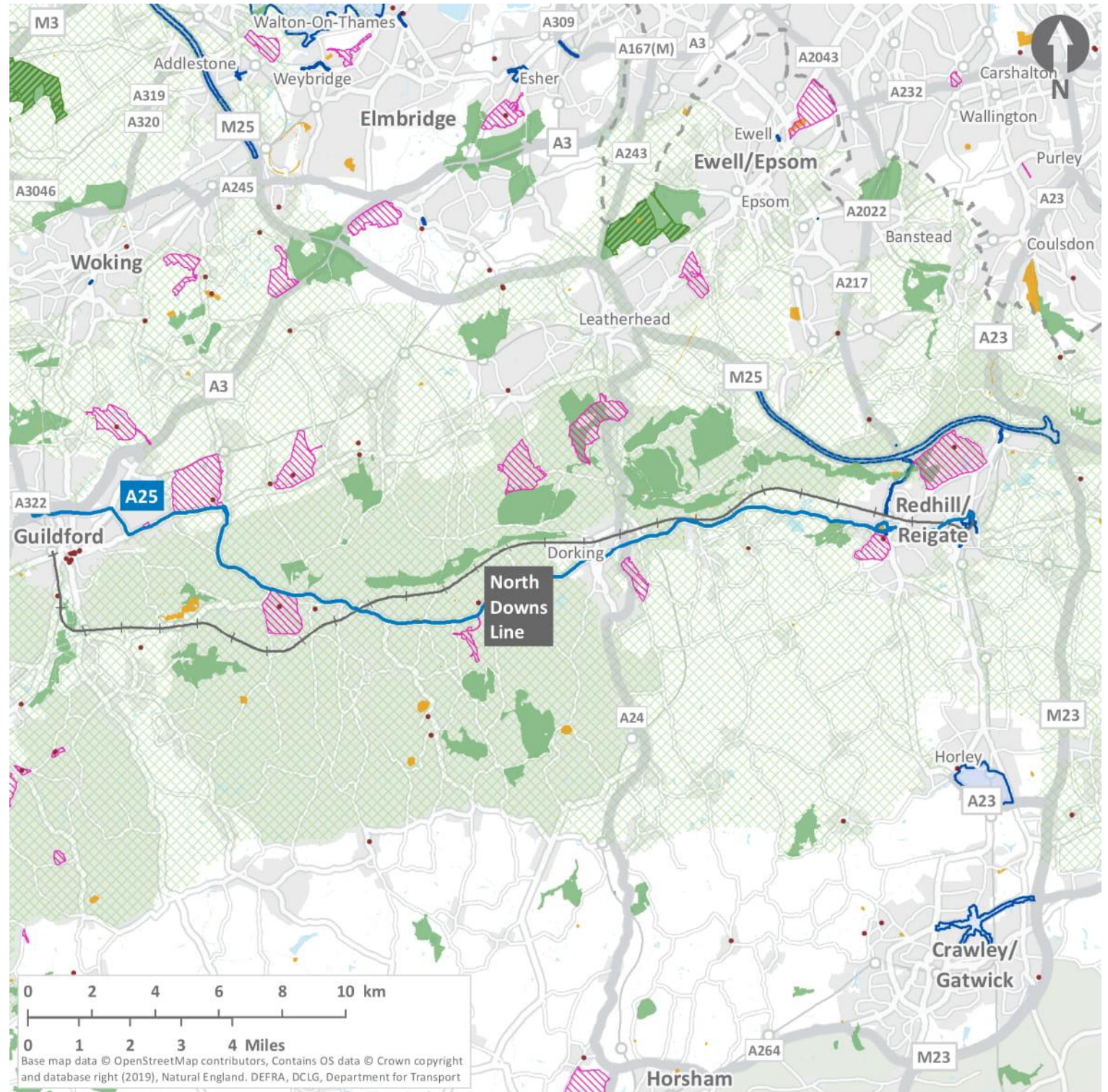
Protected Areas

This corridor runs wholly through the London Green belt and adjacent to several significant Sites of Special Scientific Interest. Much of the western part of the route runs through the Surrey Hills Area of Outstanding Natural Beauty.

Air Quality

There are no Air Quality Management Areas on this route, however there is one immediately to the North of the A25 on the M25.

- Legend**
- Study Area
 - SRN
 - MRN
 - Other road type
 - Rail line
 - Ferry route
 - Grade 1 Listed Buildings
 - Historic Parks and Gardens
 - Ancient Scheduled Monument
 - National Nature Reserve
 - RAMSAR
 - SSSI
 - World Heritage Site
 - Greenbelt
 - Air Quality Management Areas



A25/North Downs Line (Guildford – Redhill)

Highways

Demand

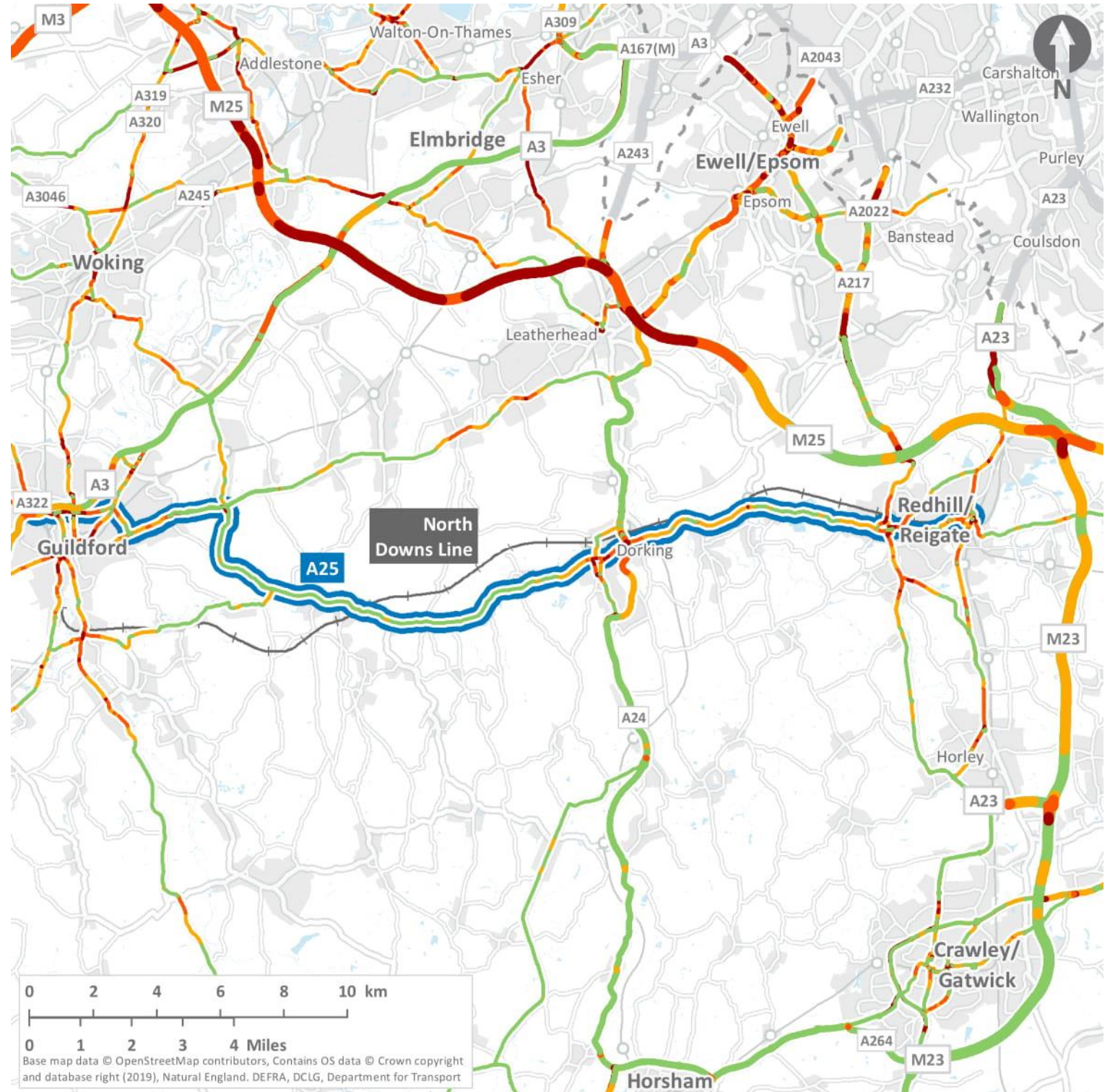
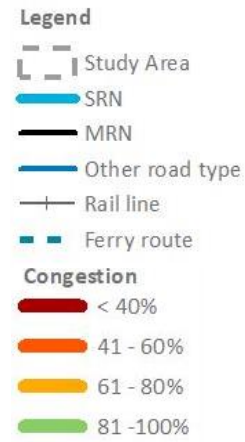
It is estimated that this corridor carries 2,394 vehicles per hour on its busiest section during the AM peak.


Issues and Opportunities

The A25 is a heavily regulated single-carriageway road. It passes through the centre of several historic towns and villages. It also crosses the North Downs line at Chilworth. It is not well suited to any long-distance travel or freight.

Enhancements

No highways enhancements are currently planned for the A25 on this corridor.




Peak hour highway demand
 (Vehicles/hour on busiest section)
 2,394
17th

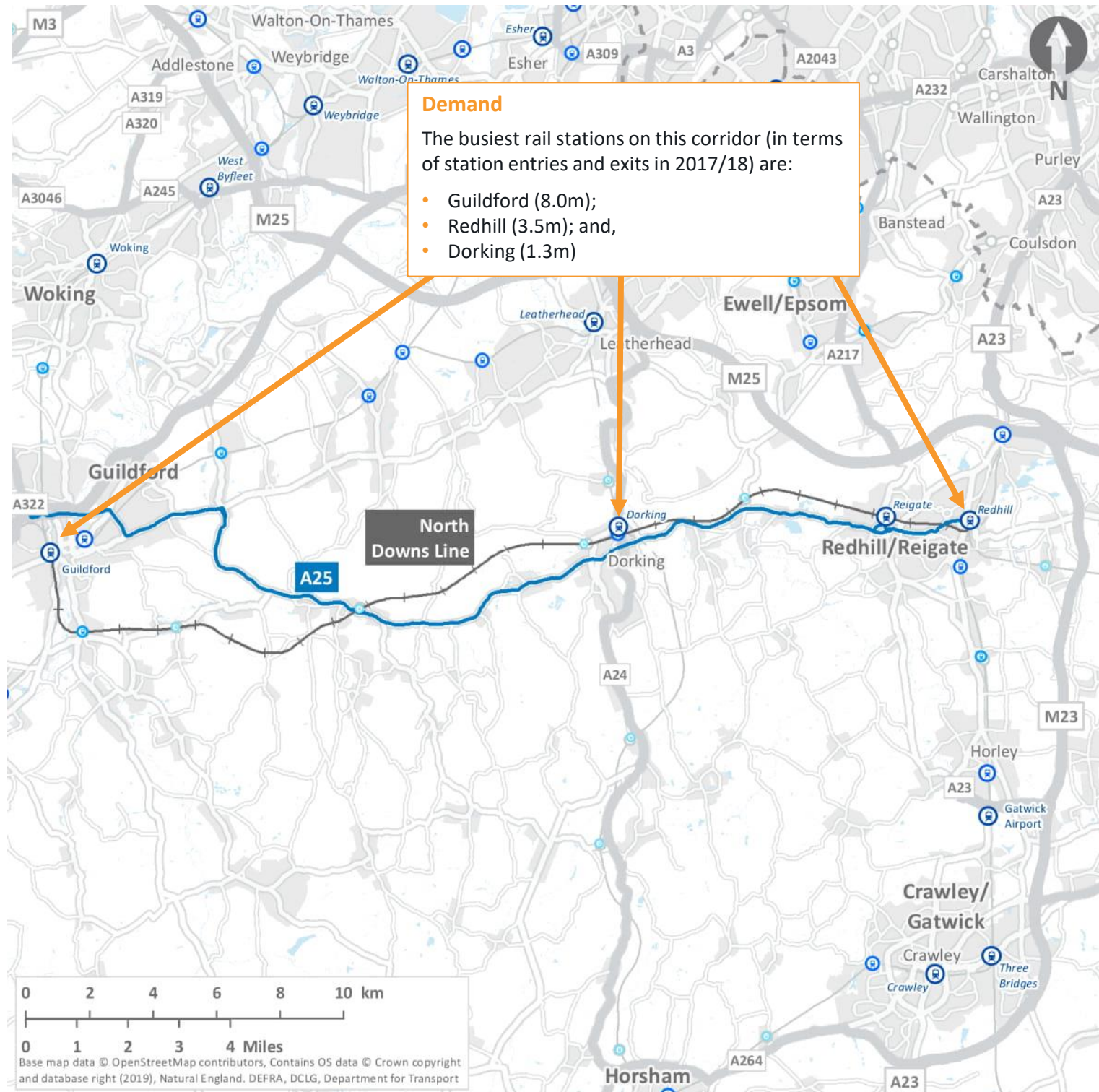
Railways

Issues and Opportunities

The North Downs Line is unelectrified and currently only provides up to two trains per hour (just one between Redhill and Gatwick). There are few direct services to London on this line. There are also significant infrastructure constraints: lines speeds are relatively slow, platforms are relatively short, and there are several level crossings on busy roads (including the A25).

Enhancements

The Great Western Railway is developing plans to increase service frequencies on this line as far as Gatwick Airport, potentially by utilising bi-mode rolling stock.



Inner Orbital Strategic Corridors IO6

A31/A322/A329/A331/ North Downs Line (Guildford – Reading)

Description

A31/A322/A329/A331/North Downs Line Corridor provides a link between the M3 and M4. The A322 passes through the middle of Bracknell and the A331 passes close to several towns in the Blackwater Valley. These roads have the potential to undermine the health and wellbeing of the people served by this Corridor. These routes are, in part, shadowed by the North Downs Line and the Windsor Lines.

The key issues affecting this corridor are:

- **Congestion:** Congestion is a significant issue on this corridor, particularly on the A31 running West from Guildford, where the average AM peak speed is less than 40% of the night-time speed for significant portions of the route.
- **Road safety and air quality in Bracknell:** The A322 road, which connects the M3 to the M4, currently passes through the middle of Bracknell, which contributes to poor air quality and road safety on this corridor.

The key opportunities to consider for this corridor are:

- **High growth of priority sector jobs:** How can transport support the growth of the high concentration of Priority Sector Jobs in this area?
- **Cross-regional rail services:** Could North Downs Line rail services to Gatwick Airport (and beyond?) be improved to provide better cross-regional rail connectivity?

Economic Context

Wealth

Median resident earnings along this corridor are £35,973. This is among the highest in the South East.

Priority Industrial Sectors






The priority industrial sectors on this corridor are:

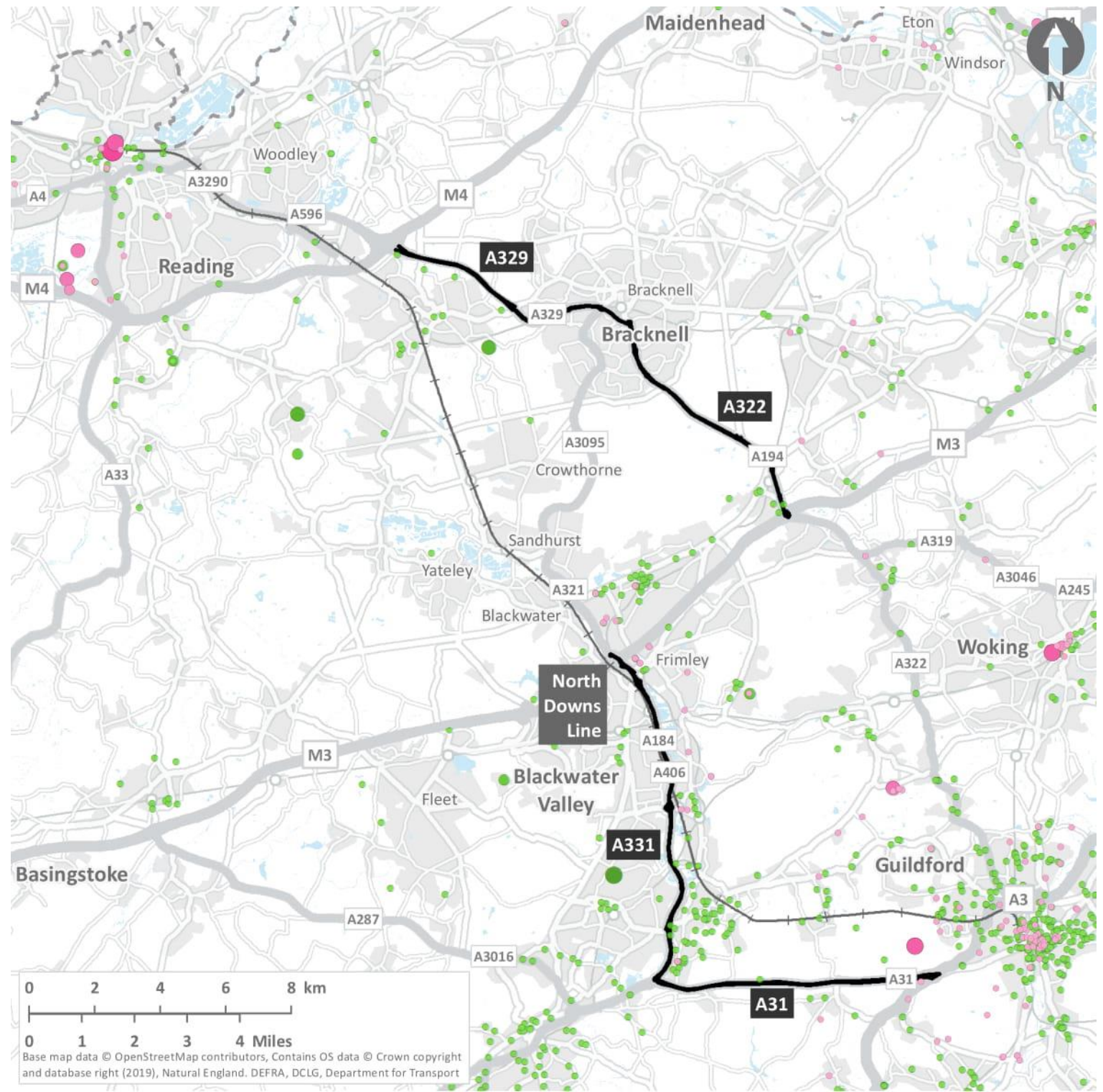
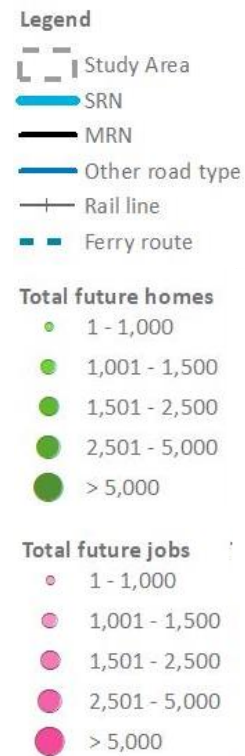
- Aerospace and defence;
- Corporate (HQ Operations, etc.); and
- Foreign-owned businesses.

15% of jobs on this corridor are in priority sectors, which is above average for the South East area.

Development

The majority of housing development along the North Downs line will be concentrated around Guildford, with some additional development in the Blackwater Valley. There will be significant job development in the Guildford area.

| | | | | |
|--|------------------------------|----------------|--------------|------------------------|
|  | Population (2018) | 881,056 | | 10th |
|  | Planned homes (2018 to 2035) | 67,610 | ↑ 19% growth | 7th |
|  | Planned Jobs (2018 to 2035) | 64,328 | ↑ 15% growth | 9th |
|  | Priority Sector Jobs (2017) | 70,805 | 15% of total | 5th |
|  | Median earnings (2018) | £35,973 | | 2nd |



Social Context

Deprivation

This is one of the least deprived corridors in the South East area. There are small pockets of deprivation scattered across the towns served by this strategic corridor, but very few of these are in the most deprived decile.

Education

46% of the population holds qualifications at National Vocational Qualification level 4 or above, which is one of the highest levels for this indicator in the South East area.





Safety

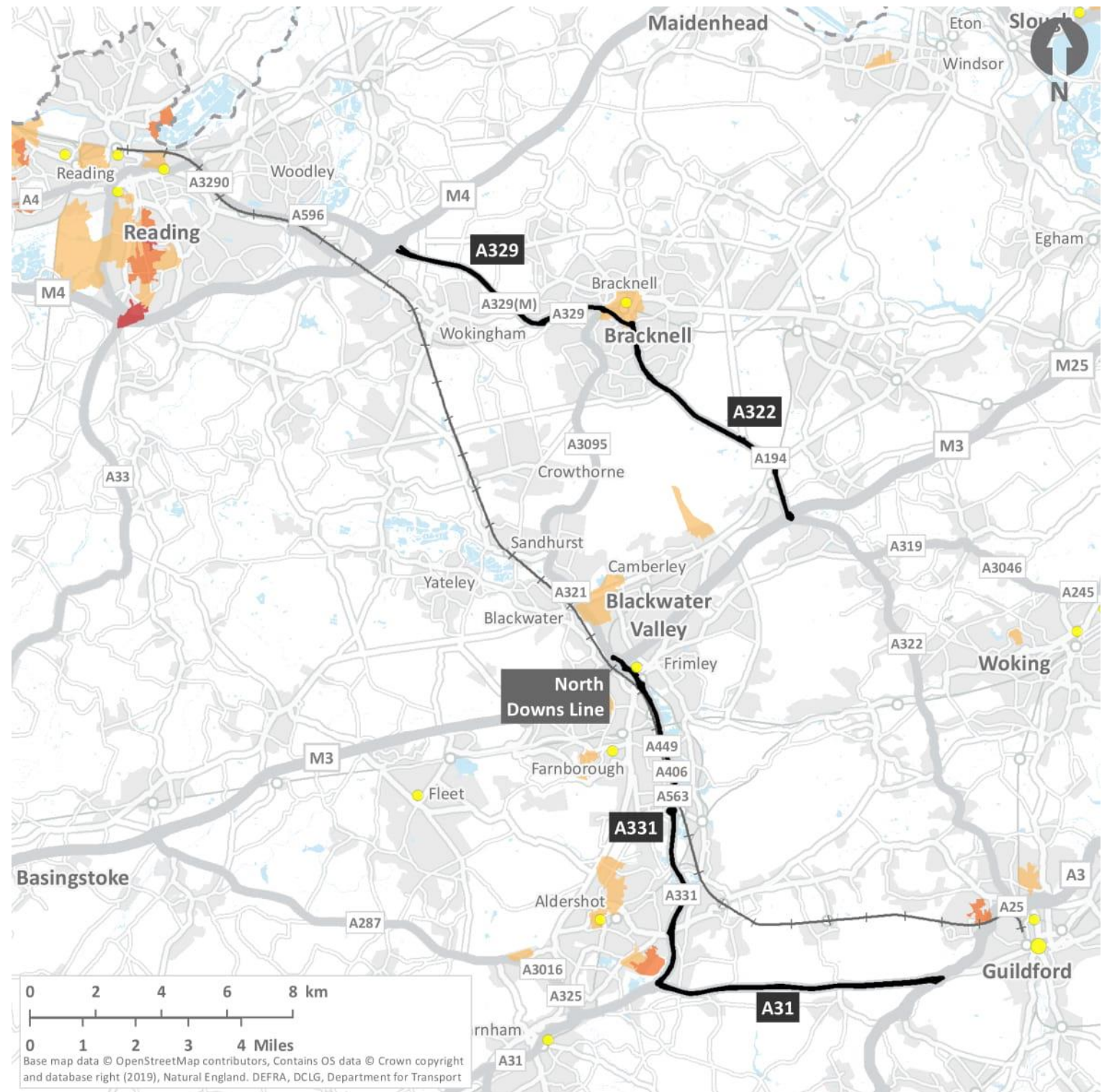
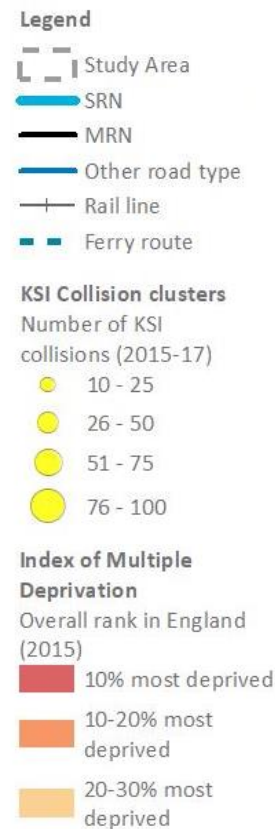
There were several clusters of incidents resulting in people being Killed or Seriously Injured on this corridor during the period 2015-17, notably in Bracknell Town Centre and areas close to Junction 4 of the M3 at Frimley.

It should be noted that some of the road safety data for this area is understood to be underreported, so the actual position may be more serious than presented on this map.

Housing Affordability

Although high prices are relatively high on this corridor, earnings are also high (among the highest in the South East area), meaning housing is relatively affordable for residents who live on this corridor.

| | | | |
|---|--|----------|------------------|
|  | Deprived areas (2018, England) | 7% | 19 th |
|  | Highly educated population (2018, % NVQ Level 4 or above) | 46% | 5 th |
|  | Average house price (2018, average of corridor's districts) | £370,131 | 4 th |
|  | Housing affordability ratio (House price / earnings) | 10.3 | 2 nd |



Environmental Context

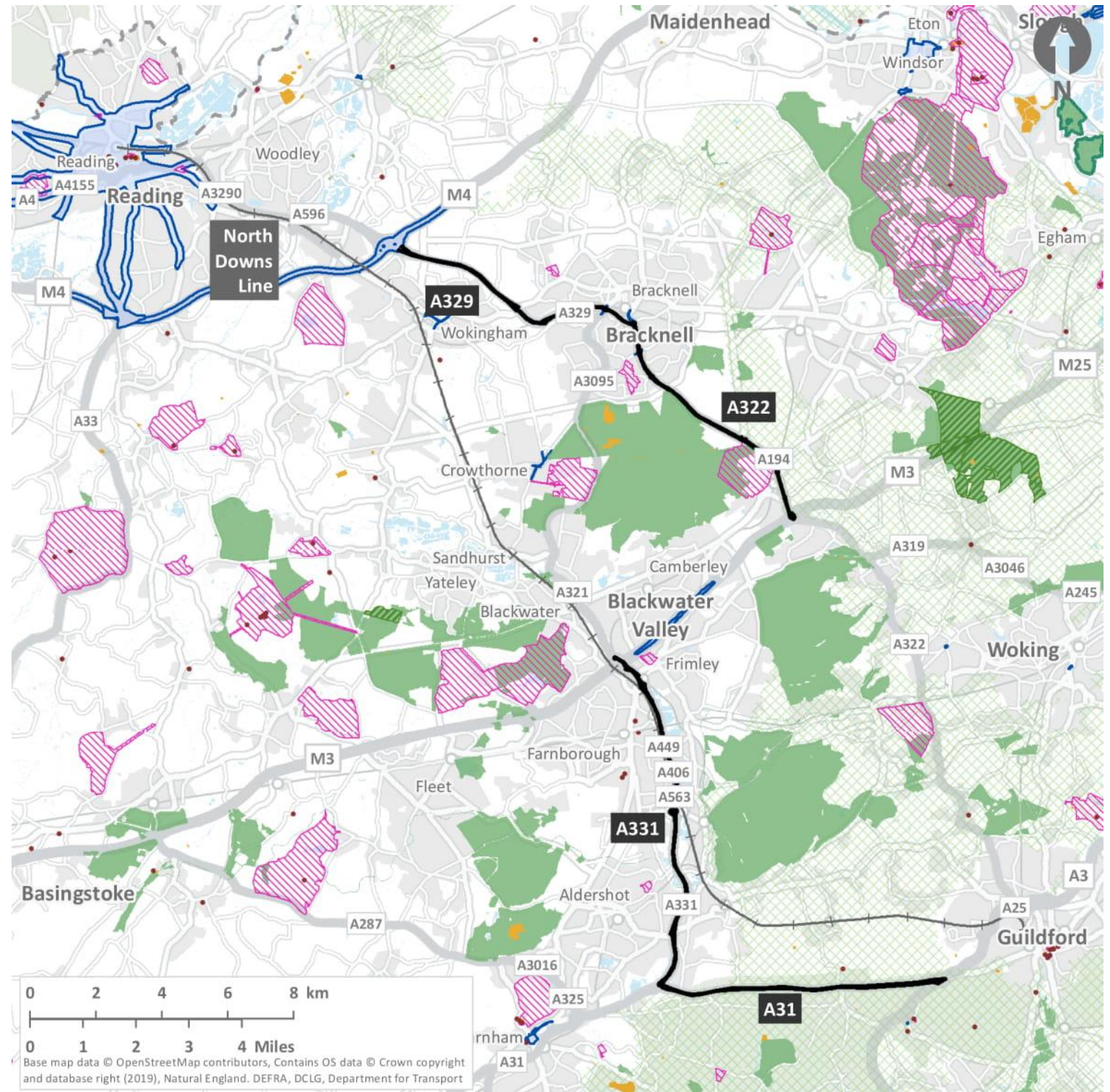
Protected Areas

This corridor passes along the edge of the London Green Belt and alongside several Sites of Special Scientific Interest, historic parks, and gardens.

Air Quality

The northern end of this corridor is covered by an Air Quality Management Area stretching along the M4 immediately to the south of Reading.

- Legend**
- Study Area
 - SRN
 - MRN
 - Other road type
 - Rail line
 - Ferry route
 - Grade 1 Listed Buildings
 - Historic Parks and Gardens
 - Ancient Scheduled Monument
 - National Nature Reserve
 - RAMSAR
 - SSSI
 - World Heritage Site
 - Greenbelt
 - Air Quality Management Areas



Highways

Demand

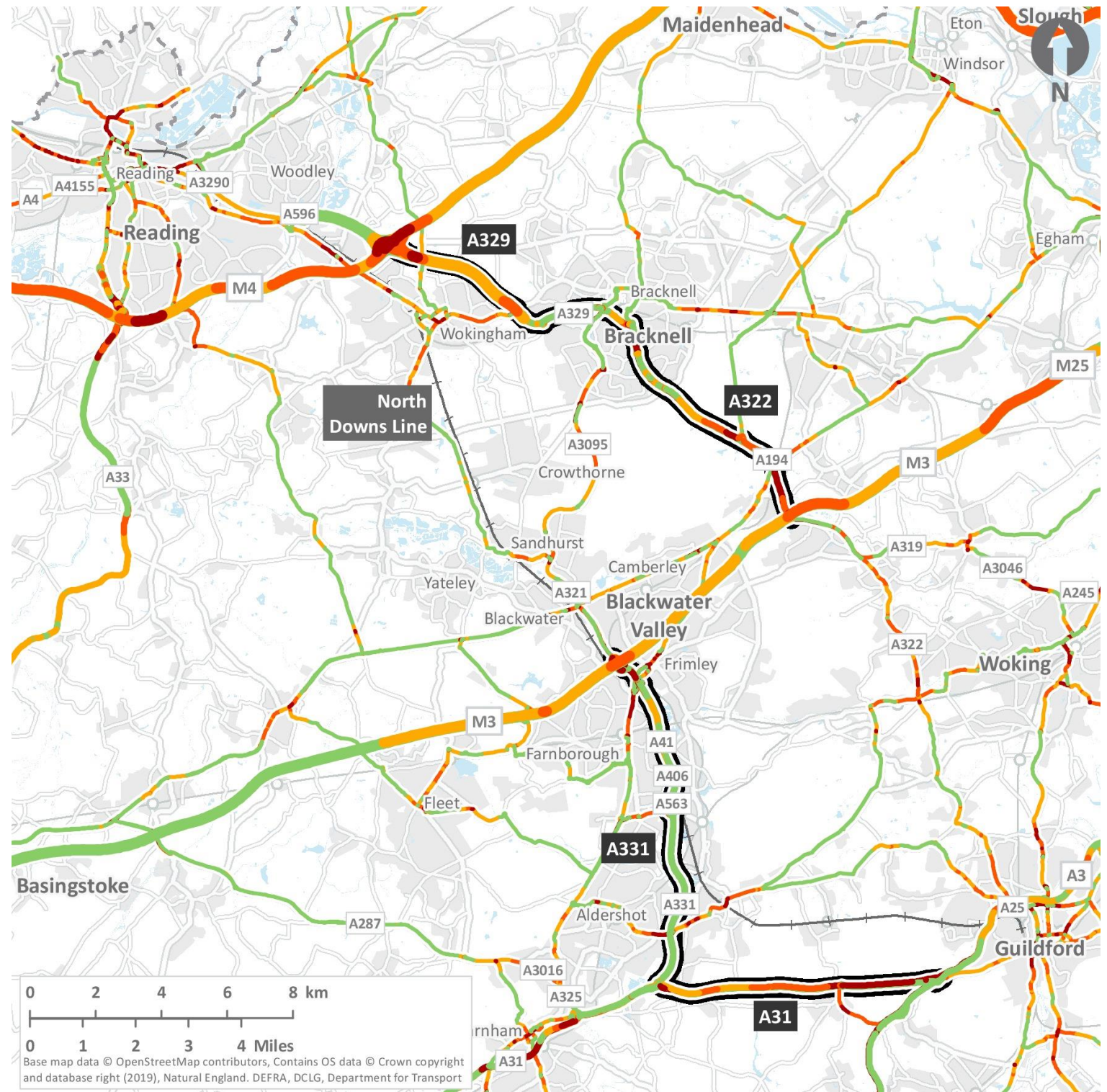
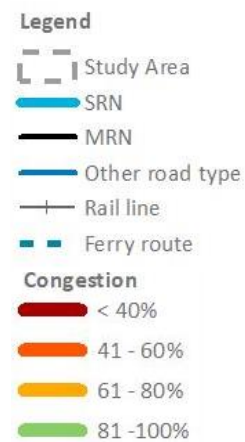
It is estimated that this corridor carries 3,588 vehicles per hour on its busiest section during the AM peak.


Issues and Opportunities

There are significant areas of congestion along this corridor. The worst congestion on this corridor is on the A31 'Hog's Back' running west from Guildford, where the average AM peak speed is less than 40% of the night-time speed for a significant part of this highway. The A329 and A329(M) around Bracknell and Wokingham also experiences similar levels of congestion.

Enhancements

Highways England is planning to deliver improvements to some **junctions on the A3** in the Guildford area, which may have knock-on benefits for the A31. There are significant improvements planned for the A31 near Ringwood which include enhancements to the road capacity and changes to junctions.




Peak hour highway demand
 (Vehicles/hour on busiest section)
 3,588
11th

Railways

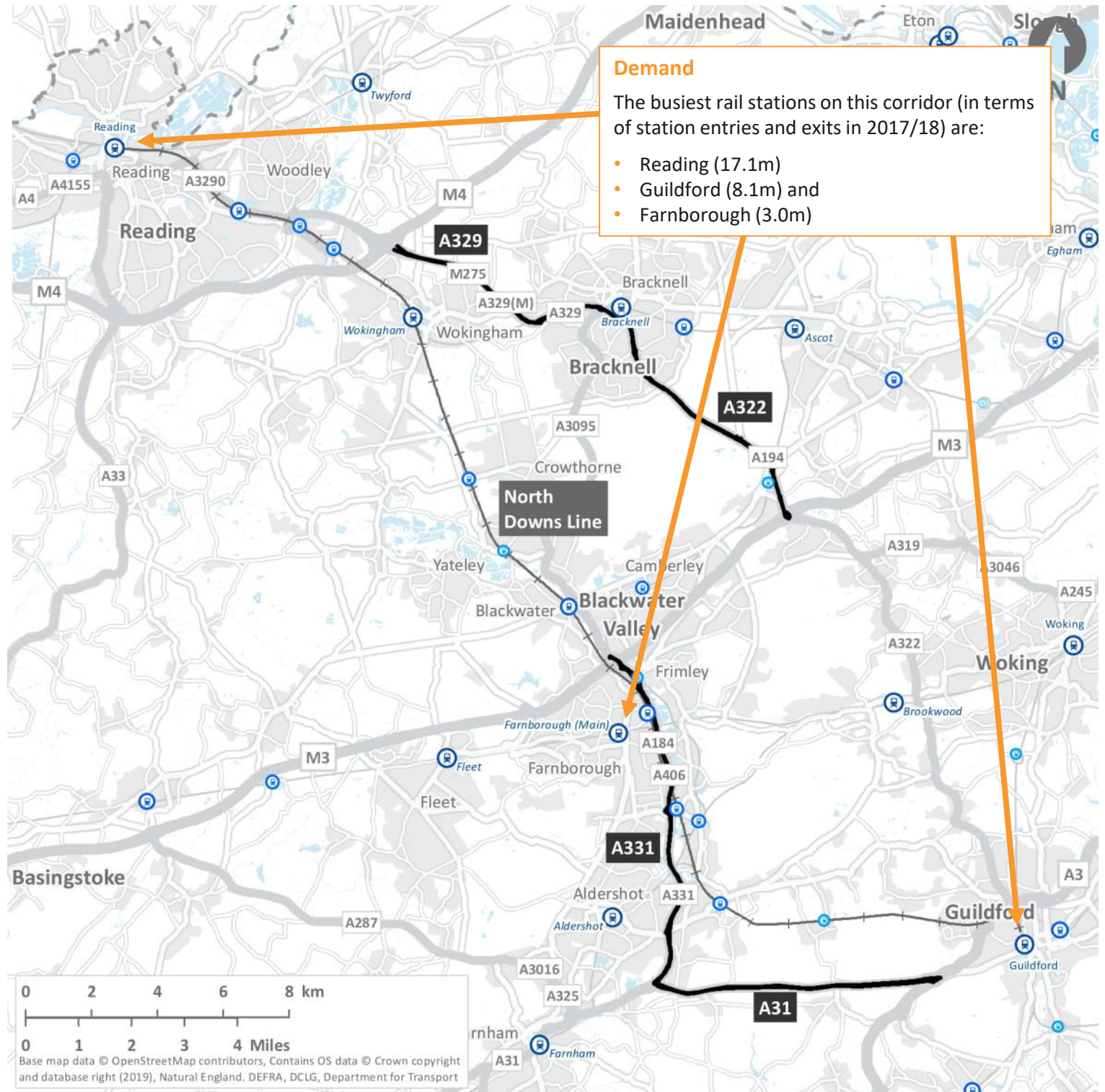
Issues and Opportunities

The North Downs Line is not electrified and has several infrastructure constraints (including line-speed, level crossings, and platform lengths). In theory, this railway could be further developed to offer some improved longer distance orbital connectivity between Reading and Redhill/Gatwick (and further afield) – although this is limited by capacity available on the Brighton Main Line.

According to a Department for Transport survey held in Autumn 2018, 3.2% of passengers arriving at Reading were forced to stand during the AM peak – an increase compared to the previous year’s survey. However, this level of crowding should start to ease on this route as new rolling stock and a higher frequency timetable come into operation over the next year.

Enhancements

The Great Western Railway is developing plans to increase service frequencies on this line, potentially by utilising bi-mode rolling stock.



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