Transport for the South East (TfSE) Lorry Parking Study

Final Report

Transport for the South East

09 August 2023
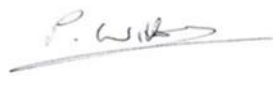
Quality information

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Table of Contents

List of figures in main report

List of tables in main report

1. Executive Summary

The provision of suitable lorry parking facilities is a vital requirement for the welfare of HGV drivers. These drivers are required to take regular breaks by law and there must therefore be enough lorry parking capacity to accommodate demand, as well as good quality provision of facilities for drivers to use whilst parked.

The TfSE Freight, Logistics and Gateways Strategy, which was published in 2022, highlighted a shortage of suitable lorry parking locations across the South East, for warehousing, storage and for driver rest facilities. Shortage of suitable facilities impacts on driver retention and recruitment including female drivers. This also impacts local communities due to the resulting proliferation of informal overnight lorry parking.

This study draws together the existing available sources of data to outline the current state of HGV parking in the region, a forecast of how this may change by 2040 and provides a number of recommendations about how the provision of additional HGV parking could be supported in the TfSE area and potential next steps which could be taken.

Overview of lorry parking in the TfSE area

In March 2022 the Department for Transport (DfT) commissioned AECOM to undertake a national overnight audit of lorry parking within five kilometres of the strategic road network (SRN) in England. In the TfSE area this national audit identified a total of 586 lorry parking locations on the SRN and a total of 4,190 vehicles were observed parked at these locations by the survey team. This was the total number of vehicles observed during the surveys. A map of these locations is shown as part of Figure 1.1.
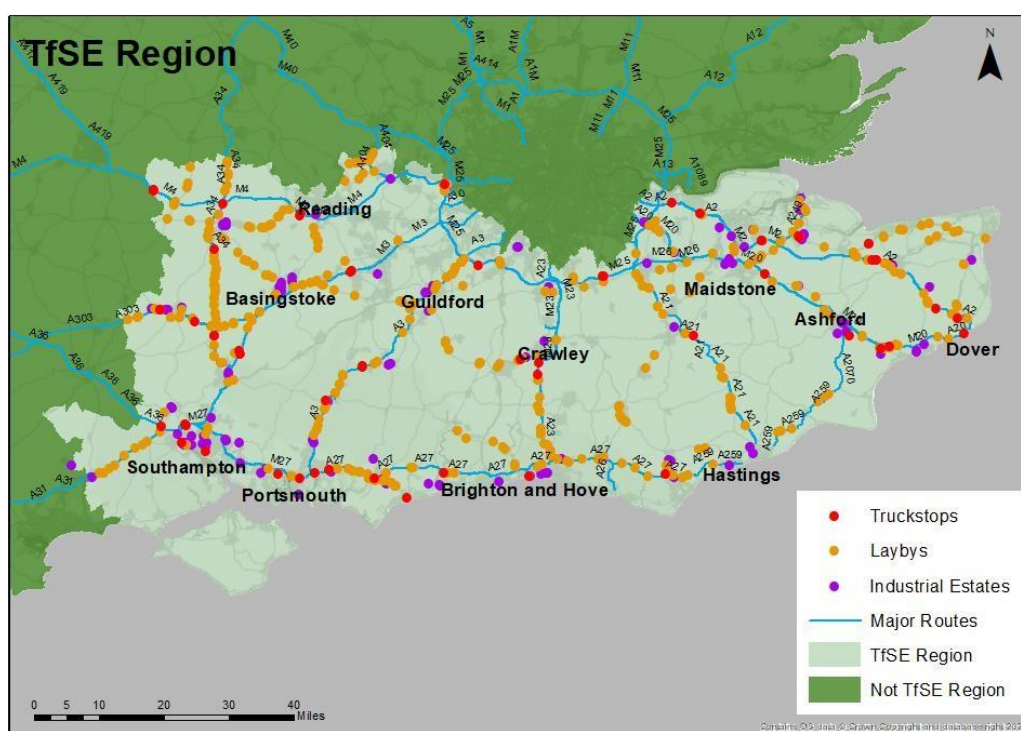
Figure 1.1 Locations of parking sites audited in the TfSE area as part of the national survey of lorry parking

Figure 1.2 shows the truckstops covered by the March 2022 National Survey of Lorry Parking which were recorded at different percentages of parking capacity being used. Sites considered to be at 'critical' utilisation level are those where HGVs are using 85% or more of the available parking capacity at the site. There are concentrations of these sites recorded as 'critical' in Kent and Southampton, and at a number of other locations across the region.
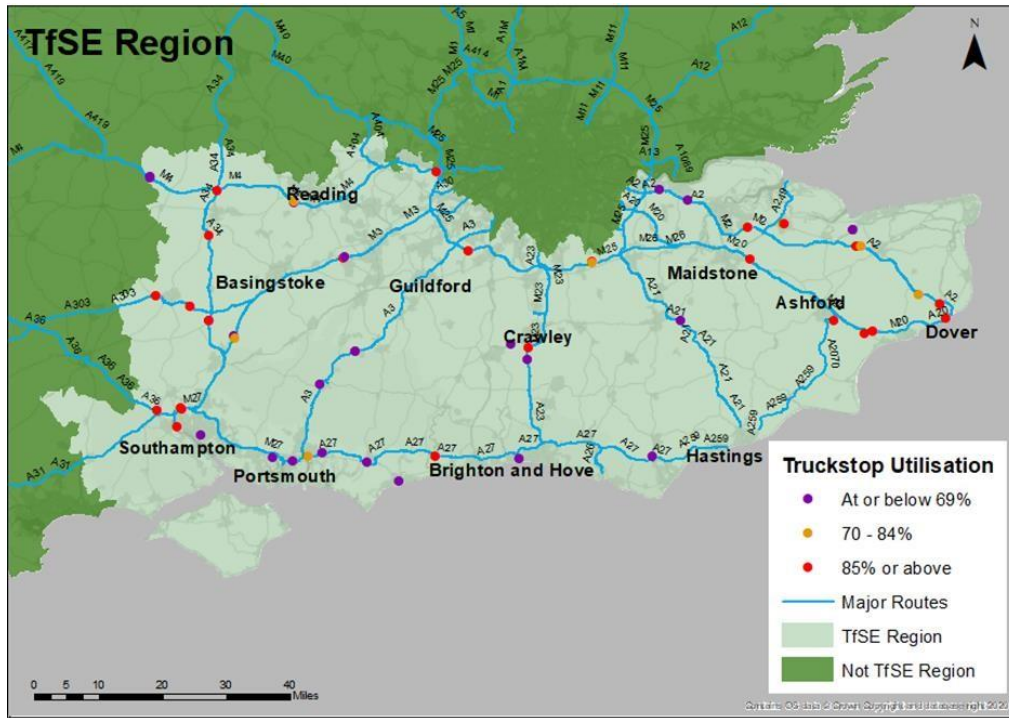
Figure 1.2 Percentage of parking capacity used by HGVs parking at sites in the TfSE area covered by the 2022 SRN national survey

The project team developed summaries for the 11 SRN routes, as well as 1 non-SRN route, within the region by pulling together key information sources to provide an overview of the number of parking spaces, additional demand and growth factors.

Table 1.1 shows the forecast additional on-site capacity required in truckstops for each route, based on low, medium, and high growth forecast cases. This shows a variation in demand across the different routes, ranging from the M4 which has a forecast additional capacity requirement of 7 spaces in the high case in 2040, to the M20/A20 which has a forecast additional capacity requirement of 432 overnight spaces in the high case in 2040. The current excess lorry parking demand shown in Table 1.1 is calculated as the difference between the 2022 truckstop capacity and the total number of HGVs observed parked. These vehicles will be spread across laybys, industrial estates and other miscellaneous locations such as side roads.

Table 1.1 Forecast additional truckstop capacity required for each SRN and non-SRN route

	M20/A20	M3	A3/A3(M)	M27/A27	M2	A259/A2070	M23/A23	A21	M25/A282	A34	M4[1]	A31
Current excess lorry parking demand	145	81	28	103	122	32	47	49	173	132	-58	14
2040 Forecast additional HGV spaces required (Low Case)	316	121	41	146	217	113	56	56	240	166	-19	16
2040 Forecast additional HGV spaces required (Medium Case)	374	135	46	160	249	140	59	58	262	177	-6	16
2040 Forecast additional HGV spaces required (High Case)	432	148	50	174	281	167	61	60	285	188	7	17

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[1] The negative excess demand for the M4 means that unlike the other routes, the M4 has spare capacity for additional HGV parking.

The DfT study mainly focussed on the SRN and so this commission has developed a forecast for the TfSE area of lorry parking demand on the non-SRN network . This was developed using information captured during audits undertaken by the project team in February and May 2023. The audits covered approximately 31% of all non-SRN routes in the region. The data captured during the audits has allowed the project team to estimate that there is currently a requirement for an additional 674 lorry parking spaces at truckstops to accommodate the demand for HGVs parking overnight on the non-SRN.

Table 1.2 shows the forecast additional on-site capacity requirement for the SRN and non-SRN. This is based on the low, medium and high forecast cases for the non-SRN and based on the estimated on-site capacity across the TfSE area. In the high case in 2040, there is a forecast excess overnight lorry parking demand of 921 spaces.

Table 1.2 also combines the total excess demand on the non-SRN and SRN. This shows that there is currently a shortage of an estimated 1,528 overnight HGV parking spaces on the SRN and non-SRN across the TfSE region. This shortage in provision is forecast to increase to 2,774 by 2040. A number of hot spots have been identified across the region, where demand is either currently or forecast to be high and these have been highlighted within the route summaries provided within the report.

Table 1.2 Forecast additional on-site capacity required for the SRN and non-SRN

	SRN	Non-SRN	Total
Current excess lorry parking demand	868	674	1,528
2040 forecast excess lorry parking demand (low case)	1,469	822	2,275
2040 forecast excess lorry parking demand (medium case)	1,670	871	2,525
2040 forecast excess lorry parking demand (high case)	1,870	921	2,774

This report has identified some of the implications, both direct and indirect, of having a shortage of HGV parking in the TfSE area. These include road safety issues, environmental issues, increases to freight crime, impact on industry image and anti-social behaviour.

Potential lorry parking improvements

To understand what solutions might be available to create additional parking capacity within the region, engagement activity was undertaken with local authorities. They were asked to provide any information which they may have already collected to help identify existing sites that would benefit from facility and capacity improvements. TfSE and local authorities will work with private site operators to look at how we can take these proposals forward.

The study has identified a current and future excess of overnight parking demand in the region. In order to address the negative impact of inappropriate HGV parking and tackle the capacity shortfall, a number of recommendations have been identified:

1. Share the report and the lorry parking database with local authorities to make them aware of existing lorry parking facilities and potential future demand within their region. It should be shared with local planning authorities to provide them with more information about the needs of the freight and logistics operators in relation to lorry parking in their region; and with local transport authorities so that they can include the information in action plans in their local transport plans (LTPs) to address any potential LTP Guidance requirements and local transport and planning issues where applicable.

2. Share with National Highways so that they can consider including additional and expanded lorry parking sites on the SRN routes in their route strategies where appropriate and for information in relation to any local action plans to address lorry parking issues.

3. Include the current lorry parking sites in the tool being developed by Midlands Connect to identify and map alternative fuel recharging and refuelling locations for HGVs.

4. Share the report and its recommendations with truckstop developers and operators to inform them about the demand for parking spaces, facilities, site standards and funding opportunities.

5. Disseminate the truckstop location information with HGV operators and drivers to encourage the appropriate use of lorry parking, including adding the current locations and report to the Freight, Logistics and Gateways page on the TfSE website to signpost lorry parking information and details of relevant websites and apps; and run a communications campaign with HGV drivers and operators in the area and produce a truckstop guide with locations of known facilities.

6. Share with the members of the Wider South East Freight Forum to discuss potential ways of addressing the issues highlighted in the report.

2. Introduction

The provision of suitable lorry parking facilities is a vital requirement for the welfare of HGV drivers. These drivers are required to take regular breaks by law and there must therefore be enough lorry parking capacity to accommodate demand, as well as good quality provision of facilities for drivers to use whilst parked.

The TfSE Freight Logistics and Gateways Strategy, which was published in 2022, highlighted a shortage of suitable lorry parking locations across the South East, for warehousing / storage and for driver rest facilities[2]. Shortage of suitable facilities impacts on driver retention and recruitment, particularly for female drivers and presents safety issues for those carrying high value loads. A shortage of lorry parking spaces can have serious impacts on local communities due to the resulting proliferation of informal overnight lorry parking on local roads, leading to safety issues for both HGV drivers and other local road users. These issues are particularly acute within the Transport for South East (TfSE) area, due to the volume of freight traffic from the airports, ports and rail terminals servicing the links between continental Europe and the UK and the subsequent need for facilities for HGV drivers to use overnight.

2.1 Scope of the study

The scope of the project work focussed on bringing together data sources and forecasting activity to set out current and future demand, to better inform future local action planning on lorry parking. The project involved several phases and has brought together the following key data sets:

- Department for Transport (DfT) Lorry parking 2022 national survey data
- Parking demand and future forecasts for the Strategic Road Network (SRN)
- Qualitative analysis on growth factors within the region
- Non-SRN Network audits and driver surveys carried out in February and May 2023 to establish non-SRN parking demand
- Local authority feedback, including current issues, challenges and possible future sites for lorry parking

These sources of data have been combined to identify:
- HGV parking locations on the Strategic Road Network (SRN) and non-SRN in the TfSE area
- Forecasts of future demand on the SRN and non-SRN in the TfSE area
- Locations of potential hot spots for HGV parking in the region
- Potential site opportunities for consideration which could help to improve facilities in the region

2.2 Role of TfSE in lorry parking provision

TfSE is a sub-national transport body and as such cannot, at the moment, be directly responsible for funding or delivering improvements to lorry parking locations and / or facilities. However, it can highlight the need for the introduction of new sites or the expansion of existing sites, working with National Highways, the Department for Transport and local authorities to encourage the implementation of the proposed improvements and key sites that should be prioritised for funding.

This study will enable TfSE to work with its partners to understand the current position of lorry parking sites in the region, their current usage, where there are and will be hot spots and where additional demand exists. This will then allow TfSE to work with local authorities and private providers to support the continuation of existing key sites where there is pressure to change the usage of a site as well as highlighting areas where either additional sites are required, existing sites could increase capacity, and facilities could be improved. This study will enable TfSE to identify future demand for lorry parking facilities in the region, understand the impact on existing facilities and where appropriate develop additional supporting information on key hot spots to enable local authorities to understand how these can be better managed.

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[2] An overview of some of the key references from the TfSE Freight, Logistics and Gateways Strategy to lorry parking are shown in Appendix F.

2.3 Study area

There are several major highway routes in the TfSE area including the M4, M3, A3, M23/A23, A21, M20/A20 and M2/A2 that service the international gateways, link these to other key urban areas such as London and the Midlands, national freight consolidation / interchange centres as well as link the key urban conurbations in the region. Other major routes including the A34, A259 and M27/A27 offer links between towns, cities, and major ports along the coast whilst the M25 forms part of the London orbital motorway.

Figure 2.1 is a map of the TfSE area showing the major highways routes providing links between the key urban areas.
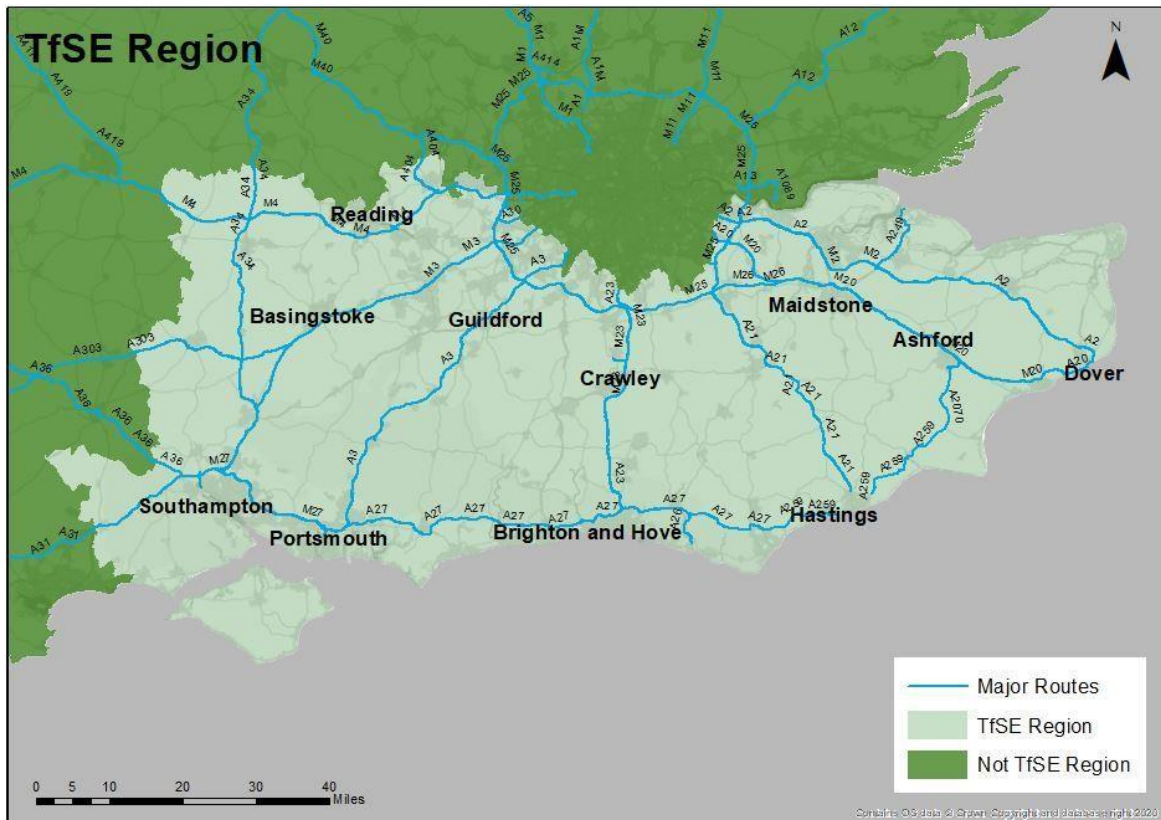
Figure 2.1 Major Road Routes in the TfSE area

3. Lorry parking in the TfSE area

3.1 Introduction

This section focuses on the characteristics of lorry parking in the TfSE area, using an analysis of the data from the 2022 National Survey of Lorry Parking, as well as supplementary data collection which has taken place as part of this TfSE Lorry Parking Study in 2023. This analysis has been used to compile lorry parking profiles for 11 SRN and one non-SRN routes in the TfSE area. For each route, the level of utilisation of each type of lorry parking site was calculated to determine where there were sites that were at a critical level. This has been supplemented by the results of a driver survey undertaken to highlight any other areas where there may be parking issues that had not been identified as part of the 2022 and 2023 audits. A further analysis was also undertaken to provide a qualitative forecast to identify the trends and changes which are likely to influence HGV parking supply in future in the TfSE area. This quantitative and qualitative analysis not only identifies where there are current and potential future lorry parking issues in the TfSE area but also considers the implications of a lack of adequate lorry parking should these issues not be addressed.

3.2 Results from the 2022 National Survey of Lorry Parking

The Department for Transport (DfT) commissioned AECOM to undertake an audit of lorry parking within five kilometres of the strategic road network (SRN) in England during March 2022. In the South East region the audit identified 586 lorry parking locations on the SRN and 4,190 vehicles were observed parked in truckstops, industrial estates or laybys. These were the total numbers observed during the survey. A map showing all locations audited as part of the national survey of lorry parking is shown in Figure 3.1.
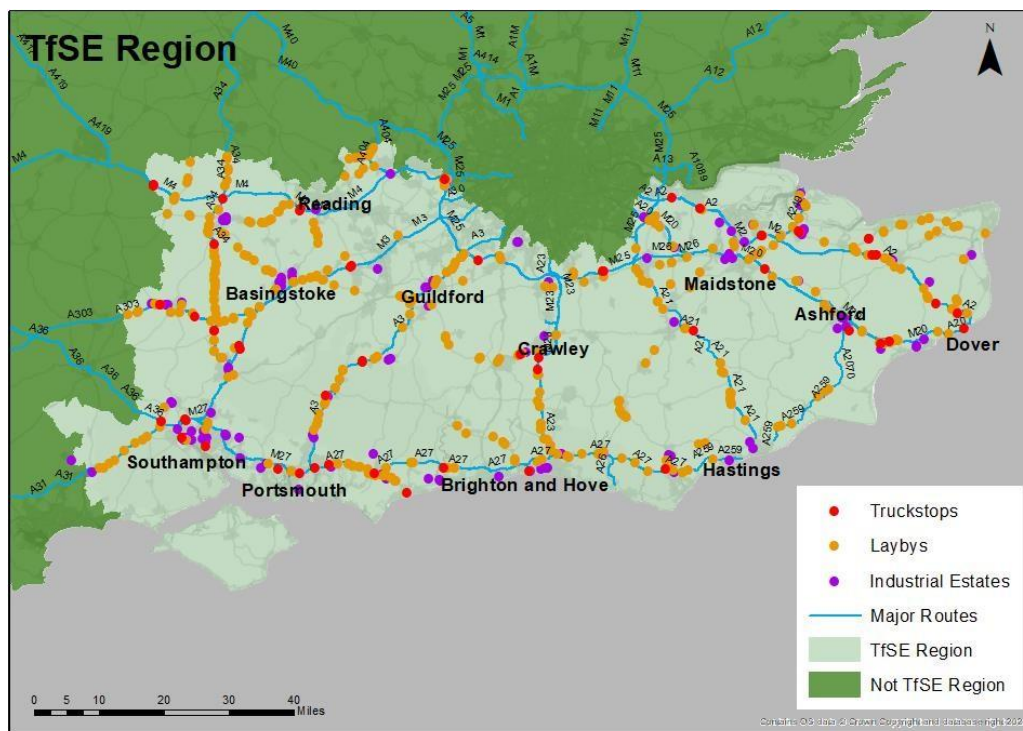
Figure 3.1 Locations of parking sites audited in the South East as part of the 2022 national survey of lorry parking

Table 3.1 shows that the majority of vehicles observed parking overnight in the region as part of the 2022 National Survey of Lorry Parking were in truckstops (72%) with 19% in laybys and 9% in industrial estates. This demonstrates the key role that large truckstops play in the provision of lorry

parking in the region. The 2022 National Survey of Lorry Parking took place during nights between 8pm-2am in March 2022.

Table 3.1 Volumes of parking locations and vehicles observed parked during the audit

Parking location type	Number	No of vehicles observed parked
Truckstops	57	3,023
Industrial estates	112	367
Laybys	417	800
Total	586	4,190

Figure 3.2 shows an overview of how busy the truckstops in the TfSE area were with HGVs parked at the time the survey took place as part of the 2022 National Survey of Lorry Parking. A critical level means that the number of HGVs observed parking is greater than or equal to 85% of the total available parking capacity for the site, with serious being between 70 and 84% full, and acceptable being less than or equal to 69% full. In the TfSE area 25 out of the 57 truckstops are at the critical level of their capacity being used. The hot spots for each of the SRN routes analysed are shown as part of the route profiles later in this section.
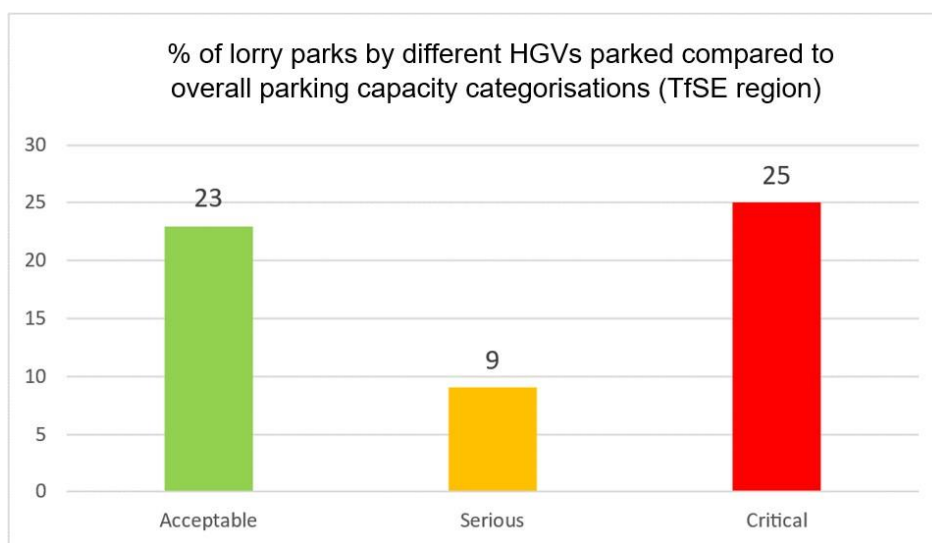
Figure 3.2 % of lorry parks by different HGVs parked compared to overall parking capacity categorisations (TfSE area)

Additionally, Figure 3.3 shows the crime hotspots along the SRN in the TfSE area as identified in the Q3 2022 National Vehicle Crime Intelligence Service (NaVCIS) freight crime intelligence report. The key hotspots in the TfSE region were reported as being Chieveley Services, Reading Services and Maidstone Services[3].

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[3] Q3 2022 National Vehicle Crime Intelligence Service (NaVCIS) freight crime intelligence report.
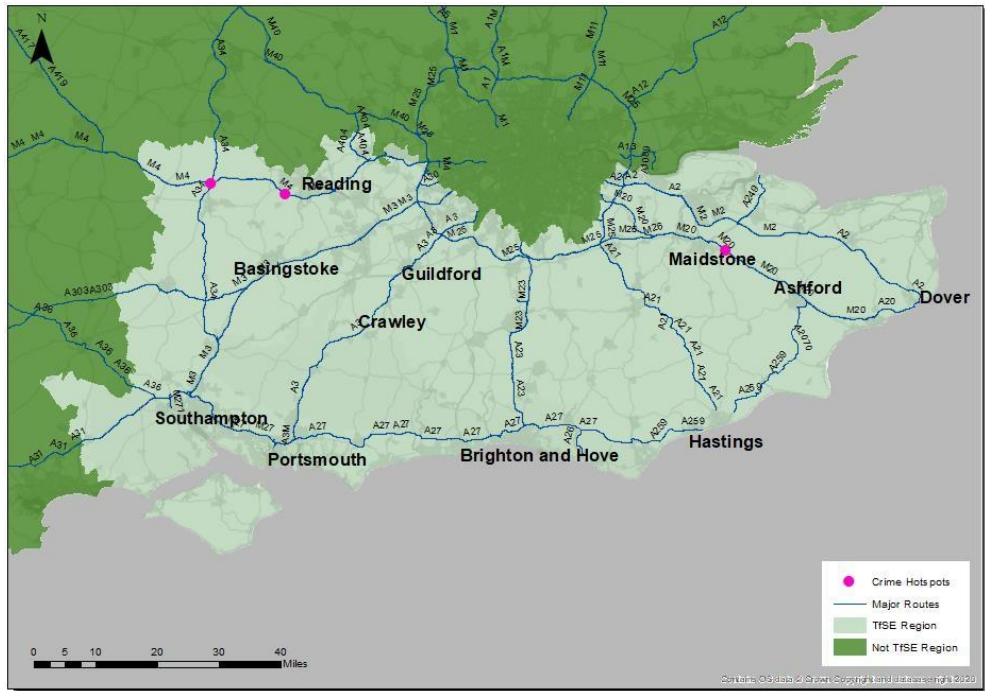
Figure 3.3 Crime Hotspots

Figure 3.4 shows the number of lorry parking locations by type covered by the 2022 National Survey in the TfSE area. Overall, 57 truckstops (10% of locations), 417 laybys (71% of locations) and 112 industrial estates (19% of locations) were identified on the routes that were surveyed. This shows that laybys make up the majority of sites within the TfSE area.
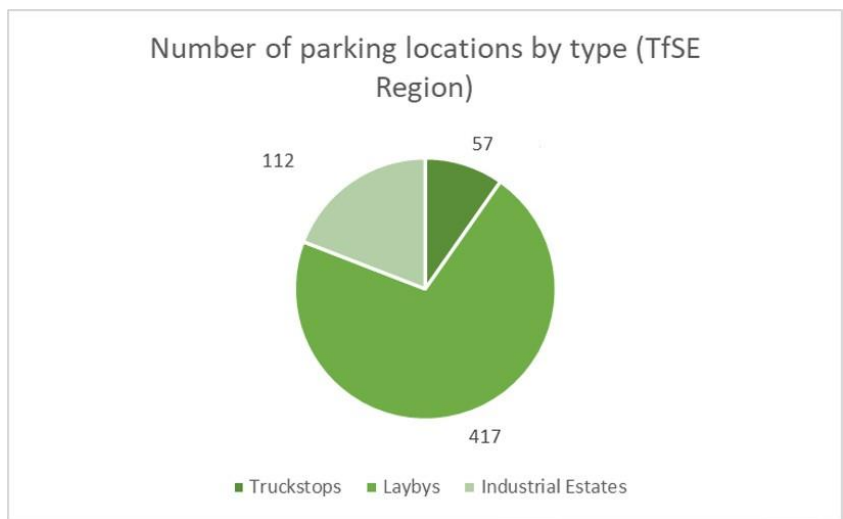
Figure 3.4 Number of lorry parking locations by type covered by the 2022 National Survey in the TfSE area

Figure 3.5 shows the on-site parking facilities by type in the TfSE area covered by the 2022 national survey. This shows that most truckstop locations are trunk road service areas (35% of locations), closely followed by Motorway Service Areas (33% of locations). Only 25% are independent truckstops and 7% are local authority truckstops.

14
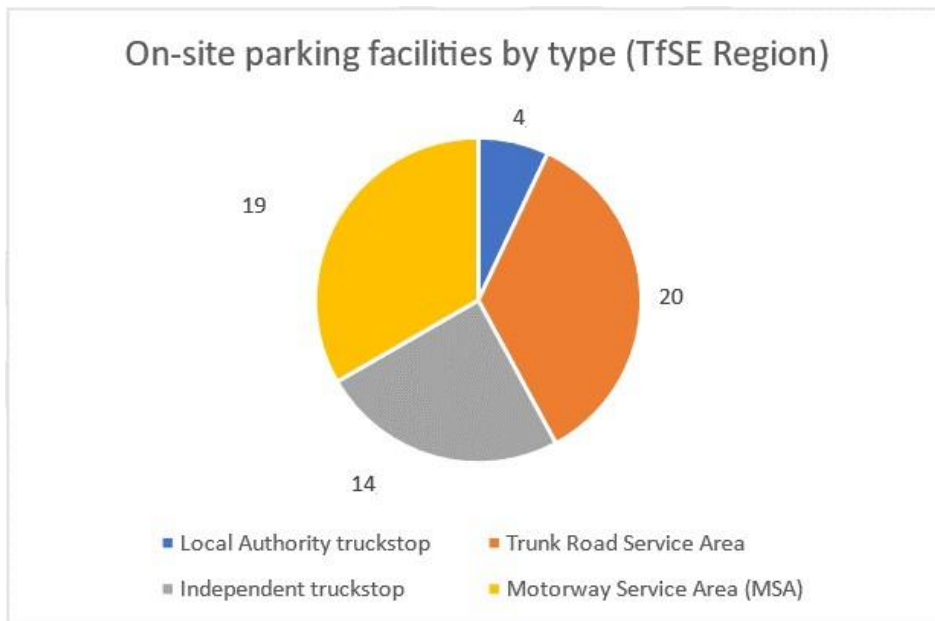
Figure 3.5 On-site parking facilities by type covered by the 2022 national survey

Figure 3.6 shows the number of vehicles observed by location type within the TFSE area covered by the 2022 national survey. This shows that the majority of vehicles observed (72%) were in truckstops, with 19% in laybys and 9% in industrial estates. This demonstrates the key role in particular that the large truckstops in the TfSE area play within the overall mix of lorry parking provision, as they only make up 10% of the lorry parking sites but provide 72% of the spaces.
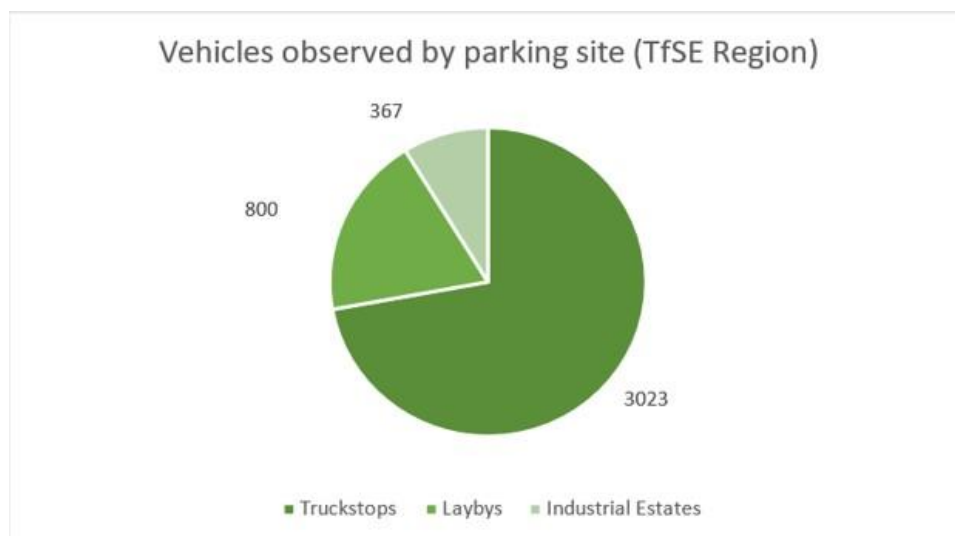
Figure 3.6 Vehicles observed by parking site in the TfSE area covered by the 2022 national survey

Figure 3.7 shows a comparison of the percentage of truckstops in the TfSE area recorded as being at acceptable, serious or critical levels of utilisation against capacity compared to the national results. This shows a great deal of similarity between the profiles of the TfSE area and England as a whole, with the TfSE area having marginally fewer truckstops at acceptable level (40.35% compared to 42.33%), and slightly more at serious level (15.79% compared to 13.80%). The level of truckstops with a critical level of percentage of use vs capacity is almost identical between TfSE and England (43.86 compared to 43.87%).
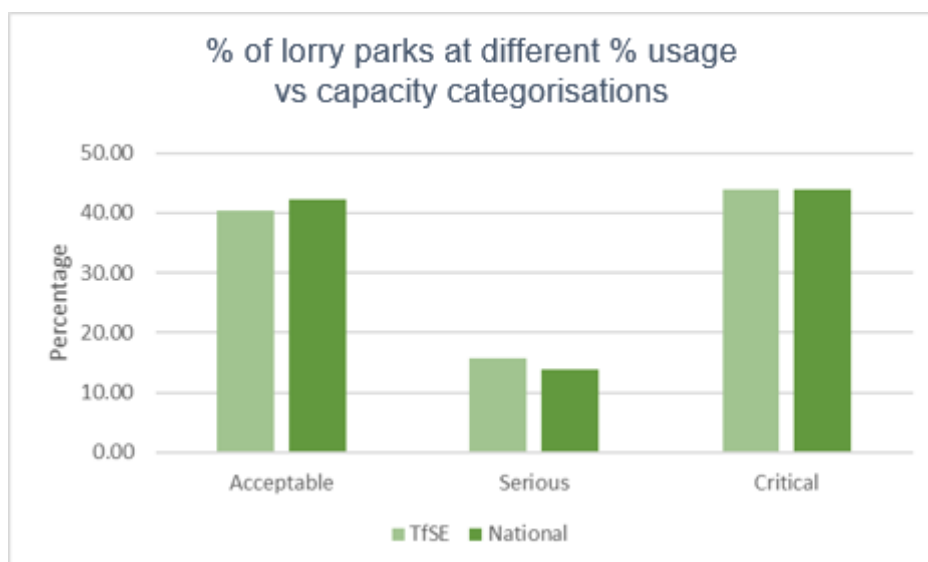
Figure 3.7 Percentage of lorry parks covered by the 2022 national survey at different % usage vs capacity categorisations

Table 3.2 shows the split of UK and non-UK registered HGVs using each parking location type in the TfSE area. This shows that a large proportion of truckstop users were non-UK vehicles (61%), particularly foreign vehicles using truckstops on the M20 and M2 corridors and close to the Port of Dover. Conversely, laybys and industrial estates were used by more UK-registered vehicles than non-UK (67% and 66% respectively). One reason for this may be that non-UK registered vehicles may book into large truckstops far in advance to ensure they get a space, whilst UK-registered vehicles may have a greater level of local knowledge and therefore a greater knowledge of good layby and industrial estate locations to use on more of an ad-hoc basis where required.

Table 3.2 UK vs non-UK registered vehicles at parking locations covered by the 2022 national survey in the TfSE area

	UK	Non-UK	All
Truckstops	1190 (39%)	1833 (61%)	3023 (100%)
Laybys	535 (67%)	265 (33%)	800 (100%)
Industrial Estates	243 (66%)	124 (34%)	367 (100%)

3.3 Supplementary data collection

In addition to the 2022 National Survey, the AECOM audit team undertook four in-depth nighttime investigations in February and May 2023 on a number of non-SRN routes to record the number of UK and foreign HGVs parked sites along this route.

Whilst the 2022 National Survey was a comprehensive study of on-site and off-site parking locations within five kilometres of the SRN, including routes in the TfSE area, there are several other important routes for freight which were not included as they were outside of the DfT study area. Therefore, as part of this TfSE lorry parking study, additional night-time audits were undertaken on non-SRN routes and areas where further investigation was needed within the TfSE area.

Audits included two types of on-site and off-site parking locations, as defined in the DfT 'National survey of lorry parking 2022 – Part one' report, including:

On-site parking facilities

- Independent truckstops

- Trunk road service areas (TRSAs)

Off-site parking locations

- Industrial estates
- Laybys

There are several aims, and benefits of additional region-specific audits being undertaken, including:

- Helping to identify any locations used for parking by HGVs away from the SRN
- Building a more comprehensive picture of lorry parking across the TfSE area, by looking to add to (and not duplicate) the data pool from the March 2022 DfT national survey
- Identifying potential 'rat-runs' and cut-through routes that HGVs are using in the TfSE area
- Looking at whether any non-SRN routes are close to or over lorry parking capacity and whether there are any key hotspots
- Understanding what lorry parking facilities are available to drivers using non-SRN routes in the TfSE area

These routes were selected to augment the SRN data to allow a better understanding of non-SRN parking levels and to build a more comprehensive picture of lorry parking across the TfSE area. The selection criteria to identify the routes to be surveyed was based on a number of inputs such as feedback from the local authorities about areas where problem parking had been mentioned (such as around Southampton and Portsmouth) or routes which desk top research had highlighted as potential alternative routes for HGVs away from the SRN and finally the A31 was also chosen to add data to the demand forecast modelling for a non-SRN route. The data outputs of these audits also provided a sample of information which could be used to provide a forecast for non-SRN lorry parking in the TfSE area.

The routes surveyed included sections of the following roads and areas:

- A31 (Guildford to Winchester)
- A272 (Winchester to Hadlow Down)
- A322 (Lightwater to Reading via Bracknell)
- A265 (Heathfield to Hurst Green)
- A229/A268/A28/A262/A274 (Hurst Green to Maidstone)
- A32 (Fareham to Alton)
- A30 (Basingstoke to Farnborough)
- A24 (Dorking to Horsham)
- A25 (Reigate to Sevenoaks)
- A257 (Sandwich to Canterbury)
- A26 (Uckfield to Lewes)
- A29 (Fontwell to Clemsfold)
- A283 (Pullborough to Milford)
- A22 (Polegate to East Grinstead)
- A264 (Royal Tunbridge Wells to Crawley)
- A339 (Alton to Basingstoke)
- A226 (Dartford to Wainscott)
- A228 (Wainscott to Grain)
- A227 (A2 to A25)
- Industrial estate clusters, for example the Riverside Industrial Estate, Crossways Business Park, Crete Hall, Northfleet Industrial Estate, Medway City Estate and Knight Road around Dartford and the Medway Towns

Figure 3.8 shows a map of the TfSE area with the lorry parking sites visited as part of these additional audits, and the routes taken.

Figure 3.8: Lorry parking sites visited, and routes taken as part of non-SRN 2023 audits

The results of these supplementary surveys were used to provide an estimate of the parking on non-SRN routes for the whole TfSE area. This captured approximately 31% of the non-SRN and was used as a factor to estimate levels of parking on the rest of the network based on what had been surveyed. Table 3.3 shows an overview of the estimate demand for truck parking in the TfSE area, with an estimated 1,245 vehicles parked on the non-SRN across the TfSE area at night.

The number of each parking location type for the non-SRN has also been estimated. Similarly, this scaled up the number of sites that were audited as part of the series of non-SRN audits and applied this as a factor to establish lorry parking for the rest of the network. It is important to note that the number of each type of parking location on the non-SRN is an estimation of the potential number of these sites and therefore data is not available for specific sites. Further information about the supplementary audits undertaken on non-SRN network can be found in Appendix D.

Table 3.3 Estimated demand for truck parking on the non-SRN network in the TfSE area

Parking location type	Estimated number of locations	Estimated number of vehicles parked
Truckstops	29	445
Industrial estates	110	419
Laybys	616	381
Total	755	1,245

An estimated total of 1,245 vehicles are estimated to park overnight on the non-SRN network compared to 4,190 observed on the SRN. It is estimated that approximately 77% of HGV parking at night takes place on the SRN with only 23% estimated to take place on the non-SRN. Additionally, there are an estimated 755 parking locations on the non-SRN network compared to 586 parking locations on the SRN. It is estimated that approximately 44% of HGV overnight parking sites are on

the SRN compared to 56% on the non-SRN. This is mainly due to there being an estimated higher number of laybys on the non-SRN in the TfSE area compared to the SRN.

3.4 HGV Parking Route profiles

HGV parking profiles have been created for 11 routes on the Strategic Road Network (SRN) in the TfSE area and for the A31 which is on the Major Road Network (non-SRN). Profiling the A31 allowed flows to be calculated for an extra non-SRN route. This provided enough information to then scale up the rest of the non-SRN in order to produce forecasts for the whole region.

To understand the current demand for overnight lorry parking along the SRN routes, data from the March 2022 DfT national survey of lorry parking was used. This provided the locations of all lorry parking sites within 2.5km of the SRN in the TfSE area split by on-site parking facilities, laybys, and industrial estates as well as the number of vehicles parked in these and the lorry parking capacity of each on-site parking facility.

Next, the lorry parking sites located within 2.5km of each of the eleven routes were identified from all lorry parking sites in the TfSE area. This established the number of vehicles parked along each route as well as current parking capacity at on-site facilities along each of these routes. These figures enabled additional calculations to be performed, including working out the 2022 on-site capacity versus the total number of HGVs parked to understand current on-site parking provision versus parking demand.

To get an average HGV flow on each SRN route, data from the National Highways WebTRIS[4] system was used. Numbers of vehicles travelling in each direction in the month of March 2022 for four count points, 24 hours Monday-Friday, on each route was downloaded. These count points were strategically chosen because they were spaced approximately equidistant along the route, however the requirement for a full month of data for March 2022 meant that some potential count points had to be discounted as they did not cover this specific time period. March 2022 was chosen as this was the month in which the DfT national survey of lorry parking was conducted, ensuring the time periods for flows and lorry parking data matched.

Then, the number of vehicles which were over 6.6m in length was split out from the overall traffic. This means that in addition to HGVs, some coaches may be included in the data, however these numbers should not materially affect the analysis. Once split out, the large vehicle flows were divided by four (as there were four count points per route) to provide an average flow for each route, then divided by 23 (as there were 23 weekdays in March 2022) to give the final figure of the average HGV flow per 24 hours per weekday in both directions in March 2022 for each route.

For the non-SRN network the process was slightly different. Survey data was used for the A31 from the further information gathering exercise conducted in February 2023. Additionally, to get the average flow on the A31, data from DfT Road Traffic Statistics was used. This is slightly different to WebTRIS data as it uses manual surveys and converts this data into Annual Average Daily Flow (AADF) which is split by vehicle type including HGVs. However, the methodology of using four count points spaced approximately equidistant along the route was the same. In addition, it is worth noting that the AADF figure used for the A31 is based on data from 2019, and whilst this does not match the audit date of March 2023, this still offers a useful comparison and enabled detailed analysis to be performed.

Finally, for all routes the following formula was used to calculate the parking demand factor. The calculation is based on the ratio of parking of overall HGV traffic within each of the routes analysed and is a measure of the proportion of overall traffic flow that chooses to park.

$$\text{Parking Demand Factor} = \frac{\text{Number of parked HGVs observed within catchment}}{\text{Total traffic volume observed within catchment}}$$

One aspect to note is that the parking demand factor is sensitive and can be skewed based on several route characteristics. One example is route length, as longer routes may lead to a greater number of HGVs parked. However, this is not expected to materially impact the analysis and results. The other key factor is the ratio between HGV flow and number of HGVs parked on the route. A higher flow with fewer HGVs parked on the route itself (for example if there are fewer large on-site

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[4] https://webtris.highwaysengland.co.uk/

parking facility on the route itself) will result in a lower parking demand factor, whereas a lower flow with a higher number of HGVs parked will result in a higher factor.

For each route, a forecast has then been made both for the change in average HGV flow as well as the change in the requirement for HGV parking spaces.

The DfT National Transport Model predicts an average HGV growth of 22 per cent between the model base year of 2015 and 2040, an equivalent of 0.88 per cent per annum. The method will apply this growth-per-year factor to the TfSE area as a whole as a medium case in order to reflect national forecasts and take account of changes in the transport of goods such as construction of new roads and economic growth estimates as well as modal shift. Forecasts have been made every 6 years from 2022 up to 2040 to demonstrate the incremental changes in flows over the next 18 years. For continuity, the 2023 A31 survey counts, and the 2019 flows data have been used as the basis for the 2022 base year, whilst for the other routes the 2022 data is used as the basis for the 2022 base year.

To recognise future uncertainties and fluctuations, a low case using an increase of 0.66% per annum and high case using an increase of 1.1% per annum have been forecast in addition to the medium case. These percentages have been chosen to be 0.22% above and below the medium case to indicate how different scenarios may impact future growth in HGV flows along these routes.

Once the HGV flow forecasts have been made, these are multiplied by the parking demand factor for each route in order to calculate the forecast requirement for HGV parking spaces for each of the years and cases.

As with any forecast, it is important to note that these are indicative and subject to a variety of potential changes and fluctuations. Nevertheless, they should help to provide a useful indication of what future flows and HGV parking requirements may be going forward.

It is worth noting that for the A259/A2070, the parking demand factor of 146.0 means that nearly 1.5 times the weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking. However, this is due to the Ashford International Truckstop being along the route, which primarily serves the M20/A20 route, therefore skewing the parking demand factor for the A259/A2070.

Table 3.4 is a comparison table for all routes that have been studied. This helps to illustrate the diverse nature of the routes, with interesting and significant differences in HGV flows and requirement for lorry parking between them. However, there were also similarities, especially that all but one of the routes had a lower capacity within the on-site parking facilities when compared with the number of vehicles parked on the route, showing a need for drivers to use off-site parking (laybys and industrial estates).

Table 3.4 Comparison of routes investigated

	M20/A20	M3	A3/A3(M)	M27/A27	M2	A259/A2070	M23/A23	A21	M25/A282	A34	M4	A31
Average HGV flow per 24 hours per weekday in both directions[5]	13,044	12,245	3,875	4,453	11,411	466	11,457	2,165	24,661	9,822	12,807	1,005
SRN/Non-SRN	SRN	SRN	SRN	SRN	SRN	SRN	SRN	SRN	SRN	SRN	SRN	Non-SRN
Total HGVs parked	1,463	339	113	360	803	682	73	57	565	284	328	14
Parked at truckstop parking locations	1,336	266	55	233	626	650	34	3	444	187	297	0
Parked in laybys	86	46	50	57	125	3	33	50	113	80	23	9
Parked in industrial estates	41	27	8	70	52	29	6	4	8	17	8	5
Recorded truckstop capacity	1,318	258	85	257	681	650	26	8	392	152	386	0
Recorded truckstop occupancy (%)	101.4	103.1	64.7	90.7	91.9	100	130.8	37.5	113.3	123	76.9	N/A
Truckstop capacity versus total HGVs parked	-145	-81	-28	-103	-122	-32	-47	-49	-173	-132	58	-14
Parking demand factor[6]	11.2	2.8	2.9	8.1	7.0	146.4	0.6	2.6	2.3	2.9	2.6	1.4
2040 Forecast HGV flows 24 hours Flows (Low Case)	14,594	13,699	4,335	4,982	12,766	521	12,818	2,422	27,590	10,988	14,328	1,124
2040 Forecast 24 Hour HGV Flows (Medium Case)	15,110	14,184	4,488	5,158	13,218	540	13,271	2,508	28,567	11,377	14,835	1,164
2040 Forecast 24 Hour HGV Flows (High Case)	15,627	14,669	4,642	5,334	13,670	558	13,725	2,594	29,544	11,766	15,343	1,204
2040 Forecast HGV spaces required (Low Case)	1,634	379	126	403	898	763	82	64	632	318	367	16
2040 Forecast HGV spaces required (Medium Case)	1,692	393	131	417	930	790	85	66	654	329	380	16
2040 Forecast HGV spaces required (High Case)	1,750	406	135	431	962	817	87	68	677	340	393	17

[5] Data from WebTRIS for SRN routes and DfT Road Traffic Statistics for non-SRN routes

[6] This is the ratio of parking of overall HGV traffic within the catchment area and is a measure of the proportion of overall traffic flow that chooses to park

The individual profiles for the SRN routes are set out below, with the A31 included within the non-SRN Overview later in this section Each profile includes a map which shows:

- The four count points used for each route to calculate the existing and forecast route flows[7]

- The truckstops/Trunk Road Service Areas (TRSAs), Laybys and Industrial Estates within 2.5km of each route[8]

- Crime hotspots for each route, were identified within the NAVCIS freight crime intelligence report[9]. Some routes do not have crime hotspots if these locations are not along these particular routes.

- Hot spots for each route, which are defined as being the truckstops/TRSAs with a 'critical' l level of their capacity being used (85% or higher). Some routes do not have hot spots because the number of trucks recorded as parking there did not meet this threshold for the parking capacity at the site.

In addition to the information on the maps, each profile shows:

- Sites where lorry parking demand is greater than the spaces available as well as the forecast data for 2040 demand. This forecast is based on the DfT National Transport Model, which predicts an average HGV growth of 22 per cent between the model base year of 2015 and 2040, an equivalent of 0.88 per cent per annum[10].

- The hot spots, as well as examples of demand factors and have been identified for each route[11].

- The names of each truckstop/trunk road service area (TRSA) along each route as well as the facilities that each contains. This breakdown of facilities comes from the 2022 National Survey of Lorry Parking[12].

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[7] Full analysis and description provided in Appendix B

[8] Full analysis and description provided in Appendix B

[9] Q3 2022 National Vehicle Crime Intelligence Service (NaVCIS) freight crime intelligence report.

[10] Full analysis and description provided in Appendix B

[11] The qualitative analysis of demand factors for lorry parking for the TfSE region can be found in Appendix C

[12] A full analysis of data from the March 2022 National Survey of Lorry Parking for the TfSE region is shown in Appendix A and a full methodology and route analysis for the chosen SRN routes is found in Appendix B. A qualitative analysis can also be found as part of Appendix C

HGV Parking Overview – M20/A20

M20/A20 Count Points

Truckstops/TRSAs within 2.5km of M20/A20

Laybys within 2.5km of M20/A20

Industrial Estates within 2.5km of M20/A20

M20/A20

Other Major Routes

TfSE Region

Not TfSE Region
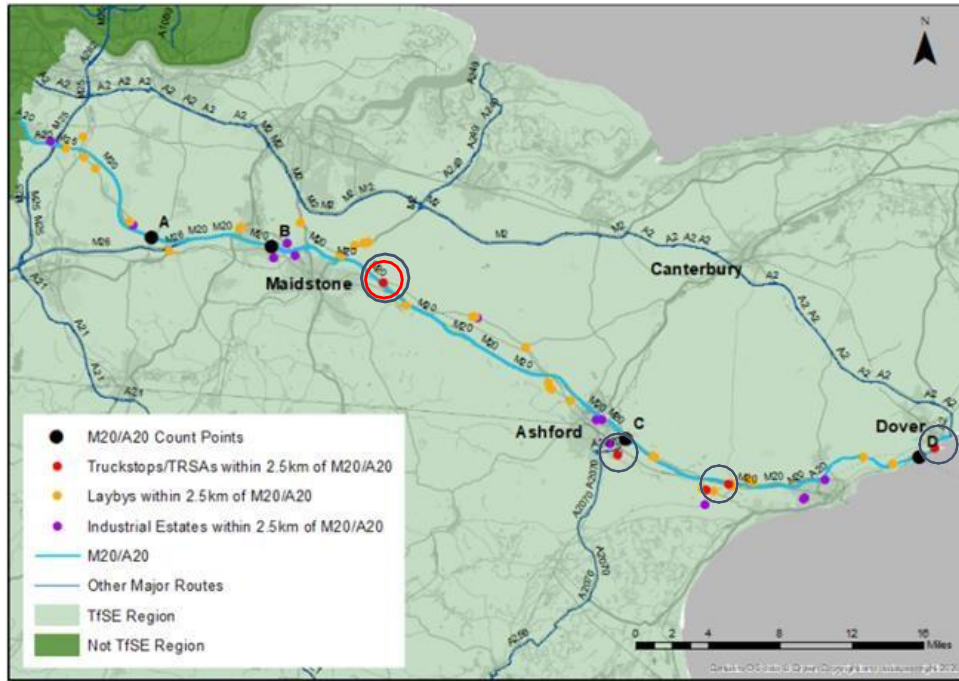
Crime Hotspots   Parking Hotspots

	M20/A20
Current excess lorry parking demand	145
2040 forecast excess lorry parking demand (low case)	316
2040 forecast excess lorry parking demand (medium case)	374
2040 forecast excess lorry parking demand (high case)	432

Current state	M20/A20
MSAs / truck stops	5

Demand factors
- Dover port masterplan 2045
- Growth in Channel Tunnel Intermodal Freight

MSA / Truck stops	Toilets	Showers	Café / restaurant	CCTV	Lighting	Security fence	Accommodation	Charge points	Filling station	WiFi	Shop	Bar	Gym	Laundry	Driver lounge	Truck wash
Roadchef Maidstone Services	✓	✓	✓	✗	✓	✗	✗	✗	✓	✓	✓	✗	✗	✗	✗	✗
Ashford International*	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓	✓	✓	✓	✗
Airport Cafe	✓	✓	✓	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗
Stop24 Services - Folkestone	✓	✓	✓	✓	✓	✓	✗	✗	✓	✓	✓	✗	✗	✗	✗	✗
Motis Truckstop	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗

*On A259/A2070 but close to M20/A20

HGV Parking Overview – M3
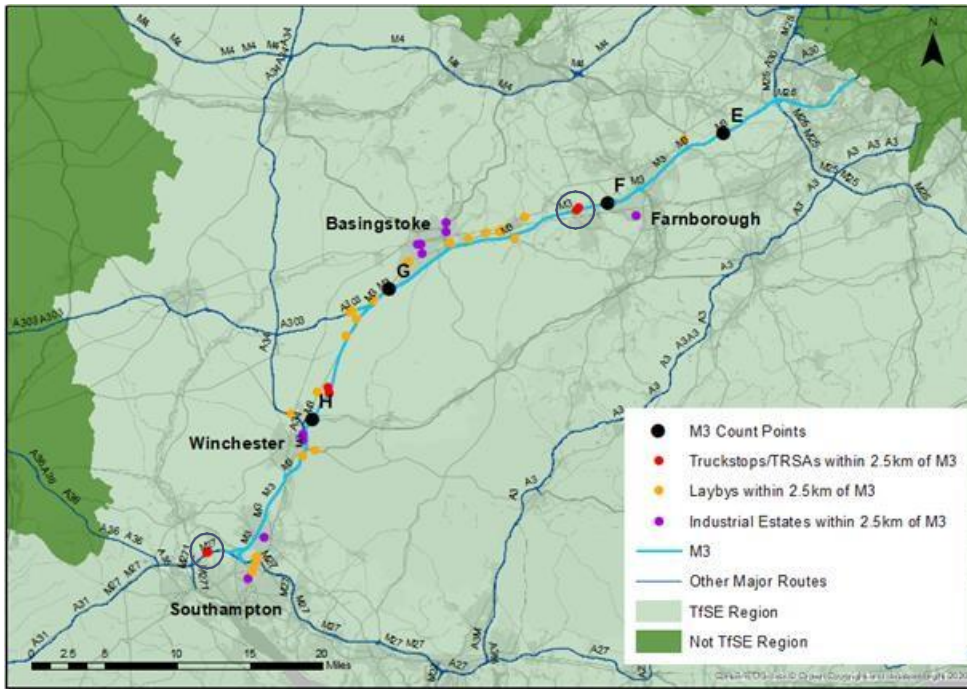
Crime Hotspots ◯   Parking Hotspots ◯

	M3
Current excess lorry parking demand	81
2040 forecast excess lorry parking demand (low case)	121
2040 forecast excess lorry parking demand (medium case)	135
2040 forecast excess lorry parking demand (high case)	148

Current facilities	M3
MSAs / truck stops	6

Demand factors
- Southampton port expansion
- Solent freeport

MSA / Truck stops	Toilets	Showers	Café / restaurant	CCTV	Lighting	Security fence	Accommodation	Charge points	Filling station	WiFi	Shop	Bar	Gym	Laundry	Driver lounge	Truck wash
Moto Winchester (North)	✓	✗	✓	✓	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗
Moto Winchester (South)	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗
Welcome Break Fleet Services Northbound	✓	✓	✓	✓	✓	✗	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗
Welcome Break Fleet Services Southbound	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗
Roadchef Rownhams Services Eastbound*	✓	✗	✓	✓	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗
Roadchef Rownhams Services Westbound*	✓	✗	✓	✓	✗	✗	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗

*On M27 but close to M3

HGV Parking Overview – A3/A3(M)

Crime Hotspots ⭕   Parking Hotspots ⭕

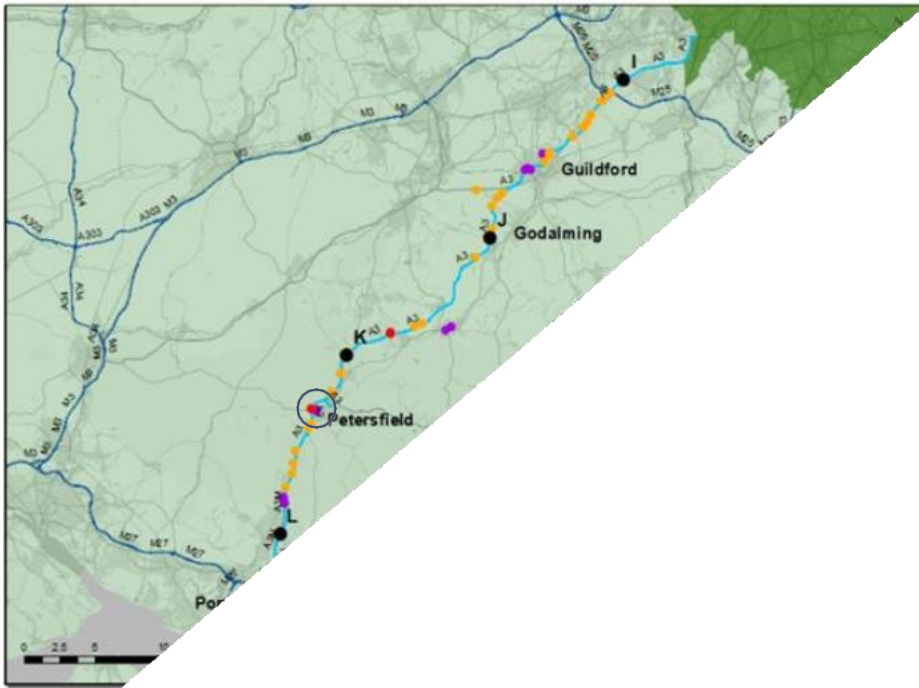|	A3/A3(M)
Current excess lorry parking demand	28
2040 forecast excess lorry parking demand (low case)	41
2040 forecast excess lorry parking demand (medium case)	46
2040 forecast excess lorry parking demand (high case)	50

Current state	A3/A3(M)
MSAs / truck stops	5

Demand factors
- Portsmouth Port Expansion

MSA / Truck stops	Toilets	Showers	Café / restaurant	CCTV	Lighting	Security fence	Accommodation	Charge points	Filling station	WiFi	Shop	Bar	Gym	Laundry	Driver lounge	Truck wash
South Downs National Park BP	✓	✗	✗	✓	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗
Liphook Services Southbound (Shell)	✓	✗	✗	✗	✓	✗	✗	✓	✓	✗	✓	✗	✗	✗	✗	✗
Liphook Services Northbound (Shell)	✓	✗	✗	✗	✓	✗	✗	✓	✓	✗	✓	✗	✗	✗	✗	✗
Portsmouth - Farlington Truckstop*	✓	✓	✓	✓	✗	✓	✗	✗	✓	✗	✗	✓	✗	✗	✓	✗
Havant Lorry Park*	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗

*On M27/A27 but close to A3/A3(M)

*Havant Lorry Park was open during when the National Survey of Lorry Parking was conducted in March 2022 but has since closed. It is included for completeness.

HGV Parking Overview – M27/A27
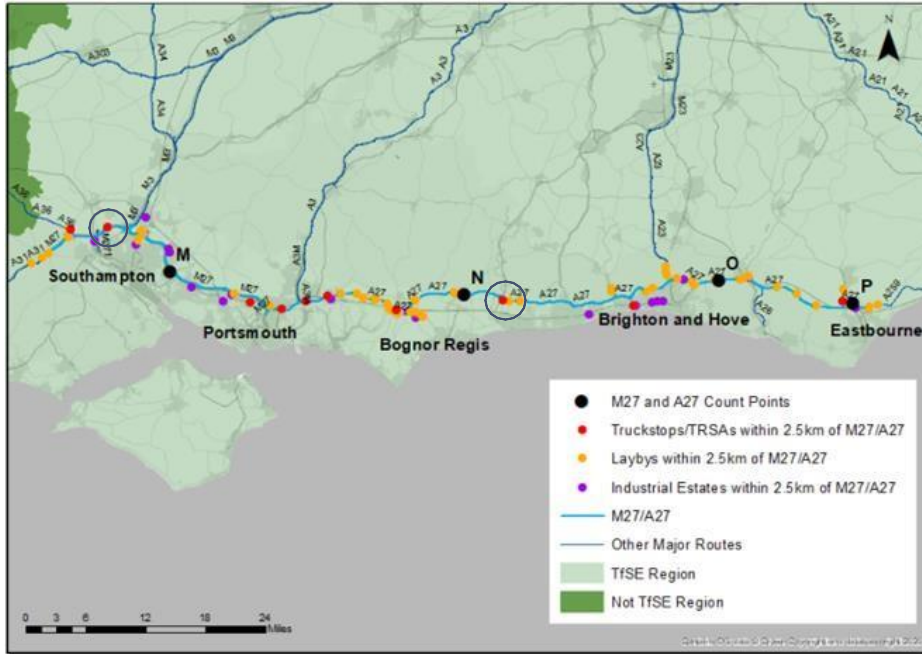
Crime Hotspots ⭕   Parking Hotspots ⭕

	M27/A27
Current excess lorry parking demand	103
2040 forecast excess lorry parking demand (low case)	146
2040 forecast excess lorry parking demand (medium case)	160
2040 forecast excess lorry parking demand (high case)	174

Current state	M27/A27
MSAs / truck stops	11

Demand factors
- Solent freeport
- Southampton port growth

MSA / Truck stops	Toilets	Showers	Café / restaurant	CCTV	Lighting	Security fence	Accommodation	Charge points	Filling station	WiFi	Shop	Bar	Gym	Laundry	Driver lounge	Truck wash
Texaco Ower Roundabout services	✓	✗	✗	✓	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗
Roadchef Rownhams Services Eastbound	✓	✗	✓	✓	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗
Roadchef Rownhams Services Westbound	✓	✗	✓	✓	✗	✗	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗
Portchester Lorry Park	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Portsmouth - Farlington Truckstop	✓	✓	✓	✓	✗	✓	✗	✗	✓	✗	✓	✗	✗	✗	✓	✗
Havant Lorry Park	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Emsworth Services	✓	✗	✗	✓	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗
Via Ravenna Lorry and Coach Park	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Crossbush Services	✓	✗	✓	✓	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗
Albion St, Shoreham	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Polegate Services	✓	✗	✗	✓	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗

*Havant Lorry Park was open during when the National Survey of Lorry Parking was conducted in March 2022 but has since closed. It is included for completeness.

HGV Parking Overview – M2/A2
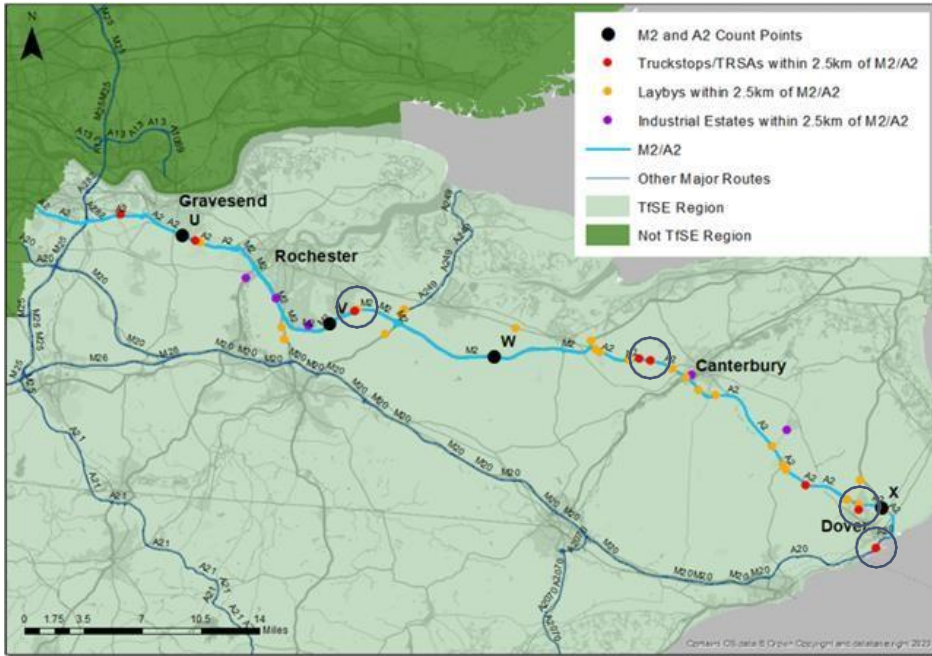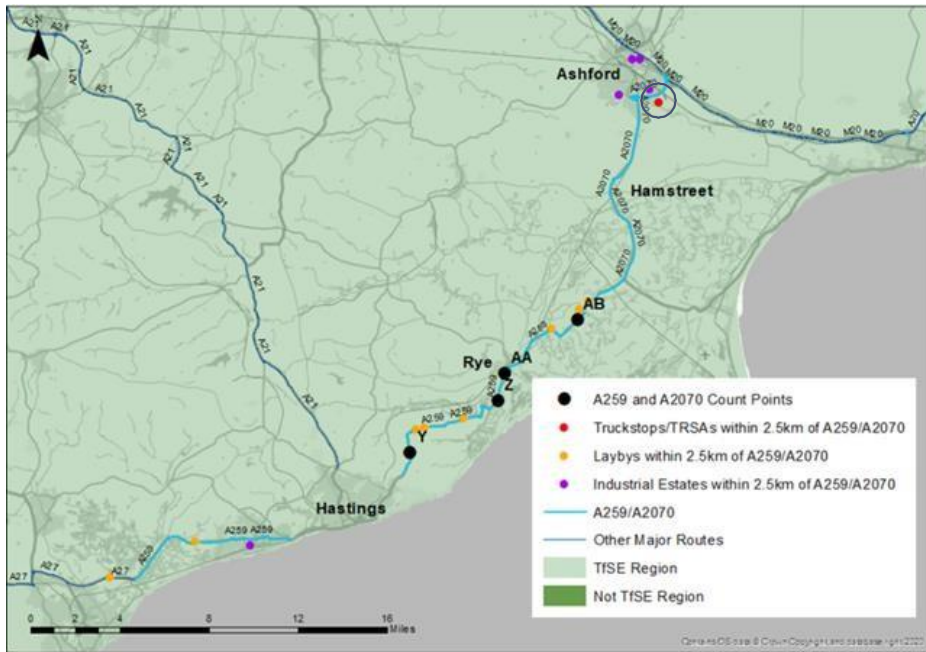

Crime Hotspots ⭕   Parking Hotspots ⭕

	M2/A2
Current excess lorry parking demand	122
2040 forecast excess lorry parking demand (low case)	217
2040 forecast excess lorry parking demand (medium case)	249
2040 forecast excess lorry parking demand (high case)	281

Current state	M2/A2
MSAs / truck stops	9

Demand factors
- Dover port masterplan 2045
- Growth in Channel Tunnel Intermodal Freight
- Road upgrade schemes, such as M2 Junction 5

MSA / Truck stops	Toilets	Showers	Café / restaurant	CCTV	Lighting	Security fence	Accommodation	Charge points	Filling station	WiFi	Shop	Bar	Gym	Laundry	Driver lounge	Truck wash
Merrychest Cafe	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Esso Cobham	✓	✗	✓	✗	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗
Moto Medway Eastbound	✓	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✗	✗	✗	✗	✗
Moto Medway Westbound	✓	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✗	✗	✗	✓	✗
Gate Services (Esso)	✓	✗	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗
Dover Truckstop	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✗	✗	✗	✓	✓	✗
Motis Truckstop*	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗
Husk UK	✓	✓	✗	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓
BP, Dover Road	✓	✗	✓	✗	✓	✗	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗

* On M20/A20 but close to M2/A2

HGV Parking Overview – A259/A2070

Crime Hotspots ⭕   Parking Hotspots ⭕

	A259/A2070
Current excess lorry parking demand	32
2040 forecast excess lorry parking demand (low case)	113
2040 forecast excess lorry parking demand (medium case)	140
2040 forecast excess lorry parking demand (high case)	167

Current state	A259/A2070
MSAs / truck stops	1

Demand factors
- None currently

MSA / Truck stops	Toilets	Showers	Café / restaurant	CCTV	Lighting	Security fence	Accommodation	Charge points	Filling station	WiFi	Shop	Bar	Gym	Laundry	Driver lounge	Truck wash
Ashford International	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓	✓	✓	✓	✗

HGV Parking Overview – M23/A23
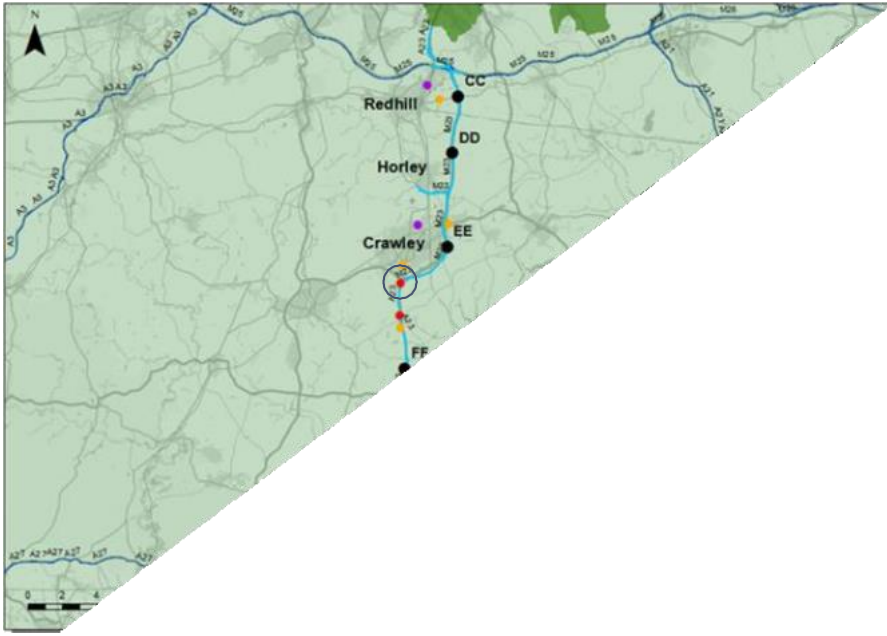
Crime Hotspots ⭕   Parking Hotspots ⭕

	M23/A23
Current excess lorry parking demand	47
2040 forecast excess lorry parking demand (low case)	56
2040 forecast excess lorry parking demand (medium case)	59
2040 forecast excess lorry parking demand (high case)	61

Current state	M23/A23
MSAs / truck stops	2

Demand factors

- Newhaven port masterplan may require more HGV parking on routes near the port

MSA / Truck stops	Toilets	Showers	Café / restaurant	CCTV	Lighting	Security fence	Accommodation	Charge points	Filling station	WiFi	Shop	Bar	Gym	Laundry	Driver lounge	Truck wash
BP Handcross Filling Station	✓	✗	✓	✗	✗	✗	✗	✓	✓	✗	✓	✗	✗	✗	✗	✗
Moto Pease Pottage	✓	✓	✓	✓	✓	✗	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗

HGV Parking Overview – A21
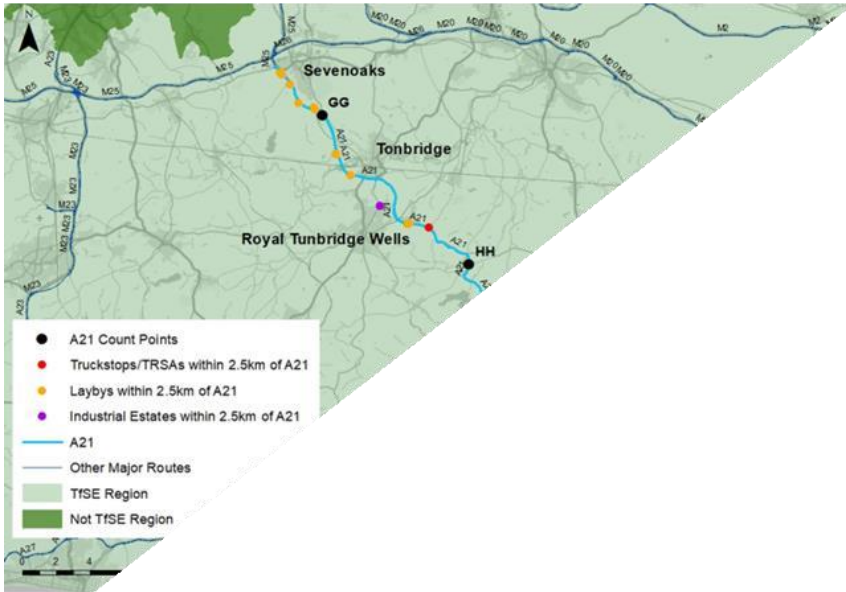
Crime Hotspots ⭕   Parking Hotspots ⚪

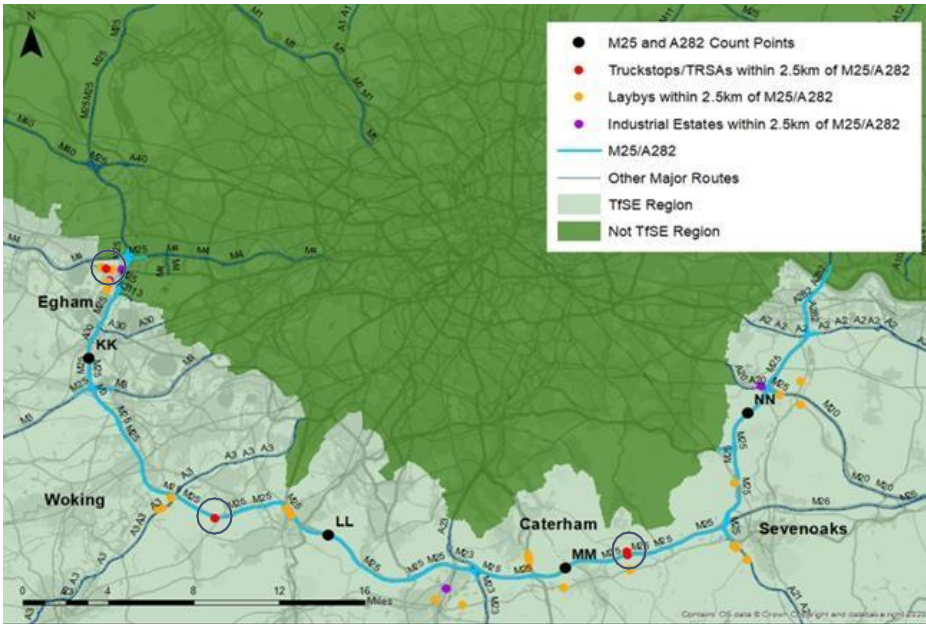|	A21
Current excess lorry parking demand	49
2040 forecast excess lorry parking demand (low case)	56
2040 forecast excess lorry parking demand (medium case)	58
2040 forecast excess lorry parking demand (high case)	60

Current state	A21
MSAs / truck stops	1

Demand factors

- None currently

MSA / Truck stops	Toilets	Showers	Café / restaurant	CCTV	Lighting	Security fence	Accommodation	Charge points	Filling station	WiFi	Shop	Bar	Gym	Laundry	Driver lounge	Truck wash
BP Tunbridge Wells Services	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗

HGV Parking Overview – M25/A282

Crime Hotspots ⭕   Parking Hotspots ⭕

	M25/A282		Current state	M25/A282
Current excess lorry parking demand	173		MSAs / truck stops	4
2040 forecast excess lorry parking demand (low case)	240		**Demand factors**	
2040 forecast excess lorry parking demand (medium case)	262		• Increase in freight vehicles using M25 en route to international gateways	
2040 forecast excess lorry parking demand (high case)	285			

MSA / Truck stops	Toilets	Showers	Café / restaurant	CCTV	Lighting	Security fence	Accommodation	Charge points	Filling station	WiFi	Shop	Bar	Gym	Laundry	Driver lounge	Truck wash
Extra Cobham Services	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗
Roadchef Clacket Lane Services Eastbound	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗
Roadchef Clacket Lane Services Westbound	✓	✓	✓	✓	✓	✗	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗
Riverside Transport Cafe*	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗

*On M4 but close to M25/A282

HGV Parking Overview – A34

Crime Hotspots ⭕   Parking Hotspots ⭕

	A34
Current excess lorry parking demand	132
2040 forecast excess lorry parking demand (low case)	166
2040 forecast excess lorry parking demand (medium case)	177
2040 forecast excess lorry parking demand (high case)	188

Current state	A34
MSAs / truck stops	4

Demand factors
- Solent freeport
- Southampton port growth

MSA / Truck stops	Toilets	Showers	Café / restaurant	CCTV	Lighting	Security fence	Accommodation	Charge points	Filling station	WiFi	Shop	Bar	Gym	Laundry	Driver lounge	Truck wash
Sutton Scotney Northbound (Roadchef)	✓	✗	✓	✓	✓	✗	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗
Sutton Scotney Southbound (Roadchef)	✓	✗	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗
Shell Tot Hills Service Area	✓	✗	✓	✓	✗	✗	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗
Moto Chieveley	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗

HGV Parking Overview – M4
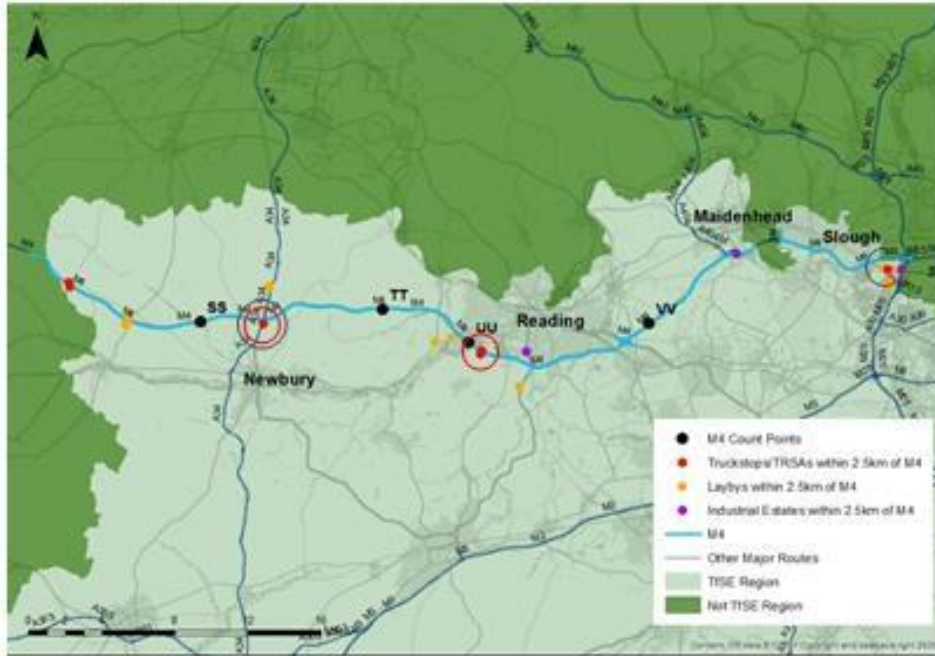
Crime Hotspots ⭕   Parking Hotspots ⚪

	M4
Current excess lorry parking demand	-58
2040 forecast excess lorry parking demand (low case)	-19
2040 forecast excess lorry parking demand (medium case)	-6
2040 forecast excess lorry parking demand (high case)	7

Current state	M4
MSAs / truck stops	6

Demand factors
- None currently

MSA / Truck stops	Toilets	Showers	Café / restaurant	CCTV	Lighting	Security fence	Accommodation	Charge points	Filling station	WiFi	Shop	Bar	Gym	Laundry	Driver lounge	Truck wash
Welcome Break Membury Services Eastbound	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗
Welcome Break Membury Services Westbound	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗
Moto Chieveley*	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗
Moto Reading Westbound	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗
Moto Reading Eastbound	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗
Riverside Transport Cafe	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗

*On A34 but close to M4

3.5 Truckstop/TRSA utilisation

Figure 3.9 shows the truckstops and TRSAs covered by the March 2022 National Survey of Lorry Parking which were recorded as having a critical level of their capacity being used. This means that HGVs are using 85% or more of the available parking capacity at the site. This shows truckstops with a critical level their parking capacity being used are spread all over the TfSE area, but clusters exist especially around international gateways. As shown in Figure 3.8 sites with a critical level of capacity are concentrated in Kent, especially around Dover, as well as around Southampton.

Figure 3.9 also shows the truckstops and TRSAs covered by the March 2022 National Survey of Lorry Parking which were recorded as having acceptable or serious levels of HGVs parked compared to the available parking capacity at the site. 'Acceptable' is a truckstop or TRSA with HGVs using at or below 69% of the available parking capacity at the site, whilst 'Serious' is a truckstop or TRSA with HGVs using 70 to 85% of the available parking capacity at the site. This means that for all sites shown, the amount of HGVs parking was less than 85% of the available parking capacity at the site, indicating there is potentially space available for trucks to use within these sites. Clusters of sites with a low number of HGVs parked compared to the available parking capacity at the site are observed around the port of Portsmouth as well as in north Kent, especially along the M2 and A2.
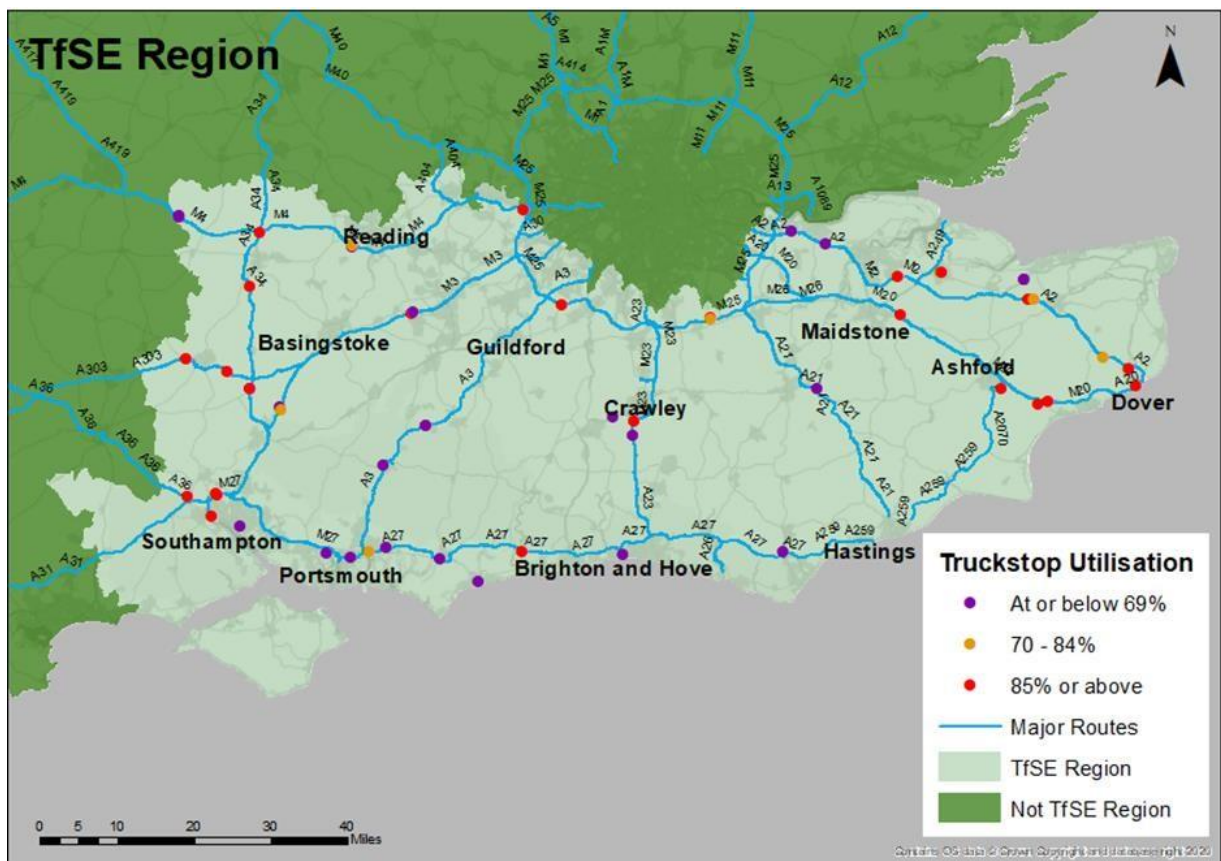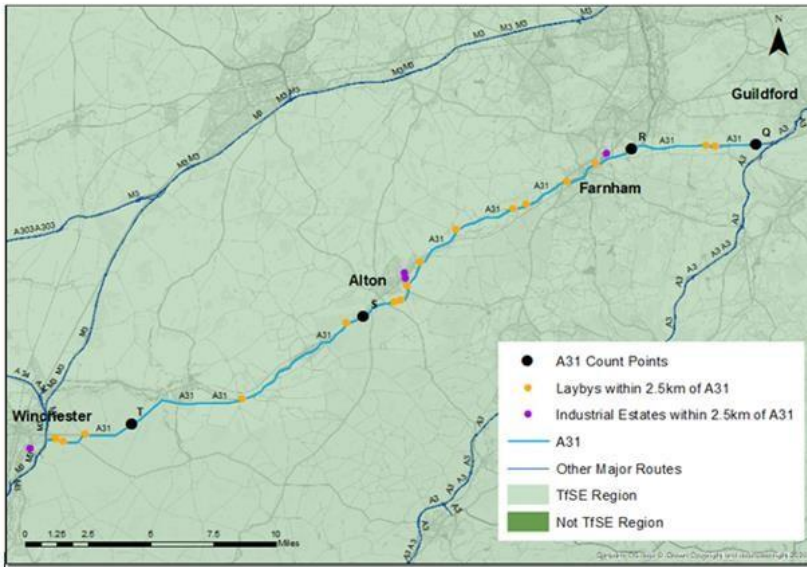

Figure 3.9 Truckstops and TRSAs in the TfSE area identified as having different levels of utilisation during March 2022 audits

3.6 Non-SRN Overview

Following on from the route profiles created for the SRN, a route profile that has been created for the A31 is shown below.

HGV Parking Overview – A31

Crime Hotspots ⭕   Parking Hotspots ⚪

	A31
Current excess lorry parking demand	14
2040 forecast excess lorry parking demand (low case)	16
2040 forecast excess lorry parking demand (medium case)	16
2040 forecast excess lorry parking demand (high case)	17

Current state	A31
MSAs / truck stops	-

Demand factors
- None currently

(No MSAs/TRSAs on A31)

An estimation of current demand and future forecast for the level of lorry parking demand on the non-SRN network within the TfSE area has been produced. Two sources of information were used for this which were the results of the audit on the A31[13] and the results of the additional surveys undertaken on the non-SRN network as part of this study. Approximately 31% of the non-SRN was covered during the non-SRN audits which were conducted as part of this study.[14] The outputs from these two sources of information have been scaled up to estimate the parking requirement for the whole non-SRN within the TfSE area and to produce a forecast of future HGV parking demand. The flows are based on DfT road traffic statistics data from 2019 whilst the HGV parking figures are based on 2023 audits of the non-SRN.

3.7 Results of driver surveys

Prior to the non-SRN audits taking place, a series of driver surveys were undertaken. These were intended to enable a better understanding of the overnight parking preferences of drivers. The results of these surveys indicated that some drivers would rather double park or not find a suitable lorry parking location if that meant going over their hours.

Some of the other key findings from the driver surveys included the following: :

- Site selection was primarily driven by immediate availability, as there were no distinct preferences among drivers regarding specific Motorway Service Area sites. One driver mentioned that, given sufficient time, they would continue driving until they found a suitable location that accepted Snap. Snap is a payment system and national parking account for drivers and fleet operators.

- Drivers relied heavily on their local knowledge of the area when planning and selecting overnight parking locations, indicating the significance of their familiarity with their surroundings in making informed decisions.

- Proximity to the strategic road network (SRN) was a crucial factor for drivers when selecting locations for overnight parking as there could be difficulties re-joining the SRN.

- The respondents also identified several common issues with overnight parking locations, of particular concern were the lack of security measures, such as the absence of CCTV, lighting, and fences at a number of locations, and inadequate facilities such as toilets and showers.

- The high costs associated with parking at MSAs led some companies to consider it more cost-effective to risk occasional fuel theft rather than paying for parking; one company determined that it was cheaper to have fuel stolen from an HGV once a month than pay for on-site overnight parking for their drivers.

These driver surveys helped AECOM identify where parking locations were, and where potential parking could be located on the non-SRN. These included particular industrial estates, as well as other miscellaneous parking locations such as behind pubs and restaurants as well as along particular stretches of road.

Figure 3.10 shows the routes that were covered as part of the non-SRN audits and the HGV parking sites that were visited.

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[13] Explained further as part of Appendix B

[14] A more detailed description of the NON-SRN audits can be found in Appendix D
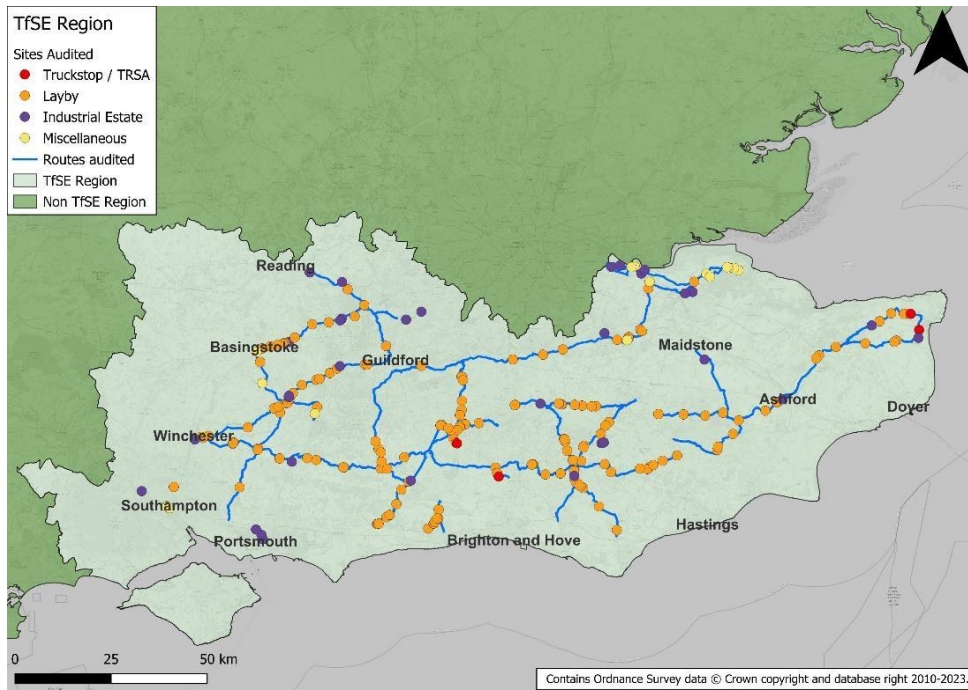
Figure 3.10 Routes covered and sites audited as part of the non-SRN audits

Figure 3.11 shows the truckstops/TRSAs visited as part of the non-SRN audits that had a critical level of HGV parking compared to the available parking capacity at the site (over 85%). This shows that these locations were spread across Kent and East Sussex.


Figure 3.11 Truckstops/TRSAs that were identified as having a critical level of HGV parking as part of the non-SRN audits

Table 3.5 shows the forecast additional on-site capacity requirement for the non-SRN. This is based on the forecast demand cases for the non-SRN and is based on the estimated on-site capacity across the TfSE area which is currently estimated as 571 spaces. In the high case in 2040, there is a forecast excess lorry parking demand of 921 spaces[15].

Table 3.5 Forecast additional on-site capacity requirement for the non-SRN

	Non-SRN
Current excess lorry parking demand	674
2040 forecast excess lorry parking demand (low case)	822
2040 forecast excess lorry parking demand (medium case)	871
2040 forecast excess lorry parking demand (high case)	921

Figure 3.12 shows an overview of the spare parking capacity observed across all of the on-site parking facilities audited as part of the supplementary surveys. Of the nine on-site parking locations audited, around 44.5% (4 sites) were found to have an acceptable level of HGVs parking there compared to available capacity, 11% (1 site) was found to have a serious level of HGVs parking there compared to available capacity, and around 44.5% of them (4 sites) were found to have a critical level of HGVs parking there compared to the available capacity.
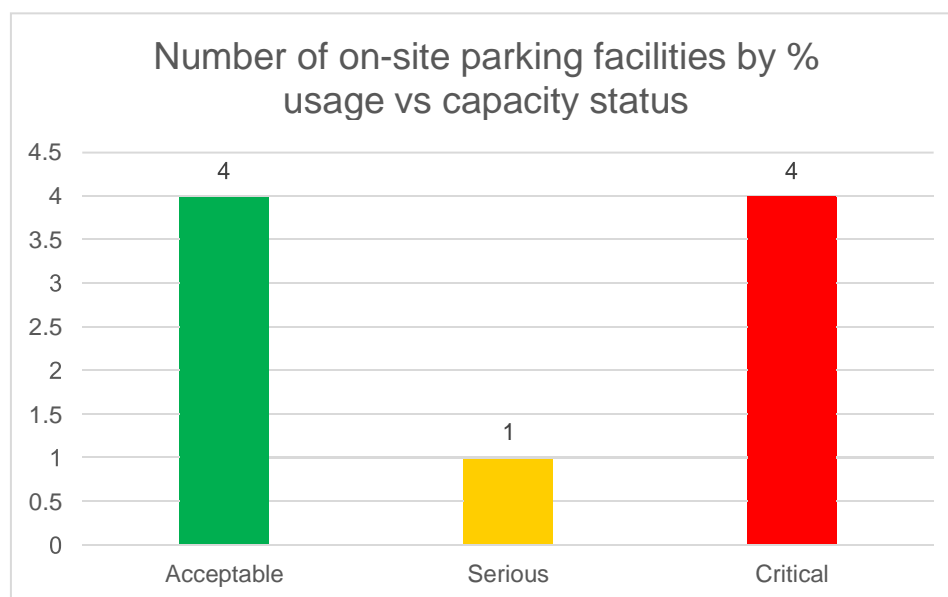
Figure 3.12 Truckstops visited as part of audits by the level of usage compared to available parking capacity

Figure 3.13 shows the number of vehicles observed by parking site type. 118 vehicles in total (around 29% of all vehicles observed) were parked at the 191 laybys audited, 138 at the nine on-site parking facilities audited (around 34%), and 130 (around 32%) at the 34 industrial estates audited. The on-site facility figure includes two independent truckstop (Embassy and United Truckstops) which accounted for 101 of the 138 vehicles (73%) observed at on-site parking facilities.

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[15] A full set of outputs from the forecast is provided as part of Appendix B
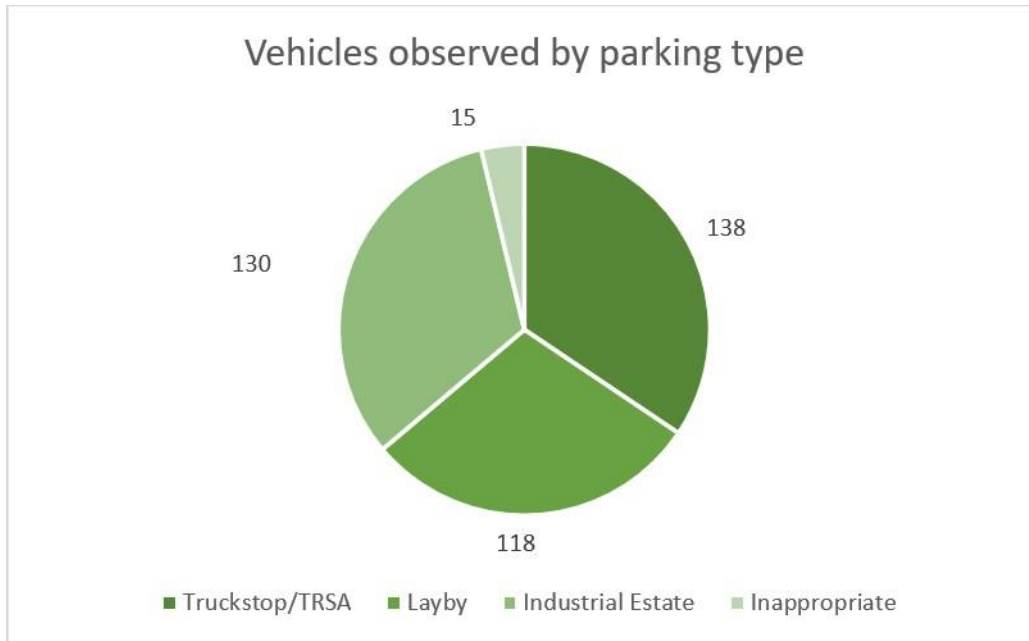
Figure 3.13 Number of vehicles observed by parking site type at each location visited as part of audits

3.8 Trends and changes analysis

In addition to the quantitative forecast, a qualitative narrative has also been developed regarding trends and changes likely to influence future HGV parking supply[16]. There are several factors and influences that will be explored as part of this qualitative analysis. These are:

- Port growth
- Road upgrades
- Change in freight originators and attractors
- Growth in Channel Tunnel intermodal freight

National Infrastructure Planning, managed by the Planning Inspectorate, provides information on proposed Nationally Significant Infrastructure Projects (NSIPs) within England and Wales[17]. This includes projects within the TfSE area. Information on specific dates of opening/operation are not given because of the early stage of these projects. At time of writing, there are several developments that are listed as being at the decided or pre-application stage which may become key freight originators and attractors during the construction phase, the operational phase, or both.

The following projects are marked as 'decided', meaning that a decision has been made by the relevant body or individual, such as the Secretary of State, on whether development consent is accepted or refused. The following projects include those for which development consent was granted:

- Manston Airport (RiverOak Strategic Partners Ltd)
- Thurrock Flexible Generation Plant (Thurrock Power Ltd)
- Southampton to London Pipeline Project (Esso Petroleum Company, Ltd)
- Cleve Hill Solar Park (Cleve Hill Solar Parl Ltd)
- Tilbury2 (Port of Tilbury London Ltd)
- Richborough Connection Project (National Grid)

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[16] Full quantitative analysis is provided as part of Appendix C

[17] https://infrastructure.planninginspectorate.gov.uk/projects/south-east/

Projects marked as 'pre-application' include:

- Gatwick Airport Northern Runway (Gatwick Airport Limited)
- Stonestreet Green Solar (EPL 001 Limited)
- Rampion 2 Offshore Wind Farm (Rampion Extension Development Limited)
- Hampshire Water Transfer and Water Recycling Project (Southern Water Services Limited)
- Sea Link (National Grid Electricity Transmission)
- Perrys Farm Hazardous Waste Management Facility (Peel Environmental)
- Junction 11 M27, Electric@11, existing car charging site with potential for additional HGV charging and parking allocation

It will be important that suitable provision of lorry parking is provided during the construction and operational phases of these projects to ensure adequate provision and facilities are available for lorry drivers.

3.9 Implications of a lack of HGV parking

There are several direct and indirect implications if a shortage of HGV parking in the TfSE area is not addressed. Examples of these include:

- **Road safety issues –** For example inappropriately parked trucks causing an obstruction or overcrowding of laybys. There are also safety issues with trucks parking at the side of the road where other vehicles have to go around trucks with an obstructed sightline.

- **Environmental issues –** For example littering, and inappropriate disposal/discarding of (human) waste. The National Highways reporting system has multiple reports of litter on grass verges across the UK, including in the south east such as along the M20[18].

- **Increased freight crime –** Insecure lorry parking, such as in laybys and industrial estates, encourages freight crime. This can lead to additional crime hotspots developing. NavCIS recorded 16 freight crime hotspots across the UK, of which 3 were in the south east[19] (Chieveley Services, Reading Services and Maidstone Services).

- **Industry Image –** A shortage of lorry parking can act as a deterrent for potential HGV drivers entering the industry, including those underrepresented such as female drivers. It is also a reason for existing drivers leaving the industry. In March 2023, it was estimated there is a UK-wide shortage of 60,000 HGV drivers[20].

- **Antisocial behaviour –** Such as issues caused by the absence of toilets and other facilities. In the past in Kent, for example, human waste has been found in laybys[21] which is unpleasant and can present an environmental hazard.

As part of this study the project team consulted with the local authorities within the area to identify improvement opportunities.

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[18] https://report.nationalhighways.co.uk/around?lat=51.08993&lon=1.13166&js=1&zoom=0

[19] Q3 2022 National Vehicle Crime Intelligence Service (NaVCIS) freight crime intelligence report.

[20] https://fleetpoint.org/fleet-management-2/driver-shortage/where-are-we-now-with-the-hgv-driver-shortage/
[21] https://www.kentonline.co.uk/canterbury/news/stop-lorry-drivers-dumping-trash-in-pot-holed-verges-190148/

4. Potential improvements to truckstop provision

This section provides a summary of the engagement that has taken place with local authorities regarding improvements to sites in the TfSE area, as well as the outputs from this engagement.

4.1 Funding to improve site facilities

Government funding has been made available nationally to improve lorry parking facilities from two main sources. The National Highways designated funds (£20 million) and DfT funding (£32.5 million) have been made available to improve driver welfare and security.

It is understood that seven truckstops on the SRN in South East have applied for funding to date, including one site where the study team visited and discussed funding opportunities with the site manager. Although the study team have been made aware of the applicants who include a number of MSA operators and one independent truckstop operator, due to the confidentiality of the process the names and locations of these sites have not been included in the report.

Where an email address was available, an email was sent on behalf of TfSE to the sites that haven't applied for funding (12 out of 50) to make them aware of the availability and process for applying for the existing National Highways funding for 2023, again due to the confidentiality of the process the names and locations of these sites have not been included in this report. It is recommended that all sites are made aware if further DfT funding is made available in 2024.

The NH and DfT funding streams were established specifically to improve the standard of facilities at truckstops. Although this will not increase capacity at the sites it will improve the standard of the facilities provided which will help to encourage more drivers to utilise on-site parking.

The local authority feedback included recommendations on a number of sites within the region that they believe would benefit from funding to improve the facilities.

Tasked with maintaining all non-trunked roads, laybys and public car parks in their respective areas, local transport authorities have a vested interest in keeping their roads moving and their communities safe from dangerous and illegal HGV parking. An important component of the study was to capture any insights or feedback from local authorities across the South East area on current lorry parking provision, the demand for parking and driver facilities, related issues, and any potential hotspots for consideration.

The key stakeholders contacted during the project are listed below:

- Southampton City Council
- Portsmouth City Council
- Kent County Council
- Reading Council
- Slough Borough Council
- Medway Council
- Isle of Wight Council
- Brighton and Hove City Council
- West Berkshire Council
- Royal Borough of Windsor and Maidenhead
- Wokingham Borough Council
- Hampshire County Council
- West Sussex County Council
- Bracknell Forest Council

They were asked to provide any information which they may have already collected to help identify existing sites that would benefit from facility and capacity improvements. TfSE and local authorities will work with private site operators to look at how we can take these proposals forward.

4.2 Database of HGV parking demand

A database has also been created which aims to give local authorities and TfSE a way to input and display any existing and future sites for lorry parking locations when these become known. Table 4.1 shows a snapshot of the front page of this database, which gives a snapshot overview of current demand. When all routes that were analysed are combined, there is a current excess HGV parking requirement of 1,528 spaces, which is forecast to increase to 4,019 spaces by 2040 in the high case. It is worth noting that some sites are within 2.5km of multiple corridors. The spreadsheet will be made available to TfSE for them to disseminate to the local transport authorities in their area.

Table 4.1 Snapshot of the database giving an overview of the current HGV parking demand

Corridor	2022 SRN/non-SRN HGV parking sites within 2.5km of corridor	2022 SRN/non-SRN HGV parking spaces within 2.5km of corridor	2022 excess HGV parking	2040 high case forecast excess HGV parking demand
M20/A20	5	1,318	145	+432
M3	6	258	81	+148
A3/A3(M)	5	85	28	+50
M27/A27	11	257	103	+174
M2/A2	9	681	122	+281
A259/A2070	1	650	32	+167
M23/A23	2	26	47	+61
A21	1	8	49	+60
M25/A282	4	392	173	+285
A34	4	152	132	+188
M4	6	386	-58	+07
Non-SRN	29	571	674	+2,166
Totals	83	4,784	1,528	4,019

5. Next steps

The study has identified a current and future excess of overnight parking demand in the region. In order to address the negative impact of inappropriate HGV parking and tackle the capacity shortfall, a number of recommendations have been developed.

These recommendations are:

1. Share the report and the lorry parking database with local authorities to make them aware of existing lorry parking facilities and potential future demand within their region. It should be shared with local planning authorities to provide them with more information about the needs of the freight and logistics operators in relation to lorry parking in their region; and with local transport authorities so that they can include the information in action plans in their local transport plans (LTPs) to address any potential LTP Guidance requirements and local transport and planning issues where applicable.

2. Share with National Highways so that they can consider including additional and expanded lorry parking sites on the SRN routes in their route strategies where appropriate and for information in relation to any local action plans to address lorry parking issues.

3. Include the current lorry parking sites in the tool being developed by Midlands Connect to identify and map alternative fuel recharging and refuelling locations for HGVs.

4. Share the report and its recommendations with truckstop developers and operators to inform them about the demand for parking spaces, facilities, site standards and funding opportunities.

5. Disseminate the truckstop location information with HGV operators and drivers to encourage the appropriate use of lorry parking, including adding the current locations and report to the Freight, Logistics and Gateways page on the TfSE website to signpost lorry parking information and details of relevant websites and apps; and run a communications campaign with HGV drivers and operators in the area and produce a truckstop guide with locations of known facilities.

6. Share with the members of the Wider South East Freight Forum to discuss potential ways of addressing the issues highlighted in the report.

6. Conclusions

The provision of suitable lorry parking facilities is a vital requirement for the welfare of HGV drivers in the TfSE area. A shortage of suitable facilities has serious impacts on local communities due to the resulting proliferation of informal overnight lorry parking on local roads, resulting in safety issues for both HGV drivers and other local road users.

As shown in this study there is currently a shortage of an estimated 1,528 HGV parking spaces on the SRN and non-SRN across the TfSE area. This shortage in provision is forecast to increase to 4,019 HGV parking spaces by 2040. A number of hot spots have been identified across the region, where demand is either currently or forecast to be high.

This report has identified some of the implications, both direct and indirect, of having a shortage of HGV parking in the TfSE area. These include road safety issues, environmental issues, increases to freight crime, impact on industry image and anti-social behaviour.

The study has identified a current and future excess of overnight parking demand in the region. In order to address the negative impact of inappropriate HGV parking and tackle the capacity shortfall, a number of recommendations have been identified. These recommendations identify a number of actions that need to be undertaken to address the current and future HGV overnight parking requirements in the region.

Appendix A Lorry parking 2022 national survey data

In 2022, the DfT commissioned AECOM to undertake an audit of lorry parking within five kilometres of the SRN in England.

As part of this national survey, data was collected that allowed AECOM to undertake detailed analysis relating to the current picture of lorry parking. This included analysis regarding:

- The locations of all on-site and off-site parking facilities
- The number of parking facilities by type
- The capacity and the number of HGVs observed parking compared to the available parking capacity at the truckstops
- The number of vehicles observed across all on-site and off-site locations audited, split by parking site type
- The number of UK versus non-UK registered vehicles observed across all parking sites audited.

By geolocating all audited sites, the sites audited within the TfSE area have been identified to allow a region-specific analysis. This included analysis relating to all truckstops, laybys and industrial estates within the TfSE area and enable AECOM to create maps and graphs.

In addition, for the purposes of this study, the following categories to show truckstop usage vs capacity have been used:

Table A.1 Categorisations for the level of HGVs parking compared to available parking capacity at the site

Description	Percentage of HGVs parking compared to available parking at the truckstop capacity versus observed
Critical	Greater than or equal to 85%
Serious	70% to 84% full
Acceptable	Less than or equal to 69% full

Figure A.1 shows the number of lorry parking locations by type covered by the 2022 National Survey in the TfSE area. Overall, there are 57 truckstops (10% of locations), 417 laybys (71% of locations) and 112 industrial estates (19% of locations). This shows that laybys make up the majority of sites within the TfSE area.
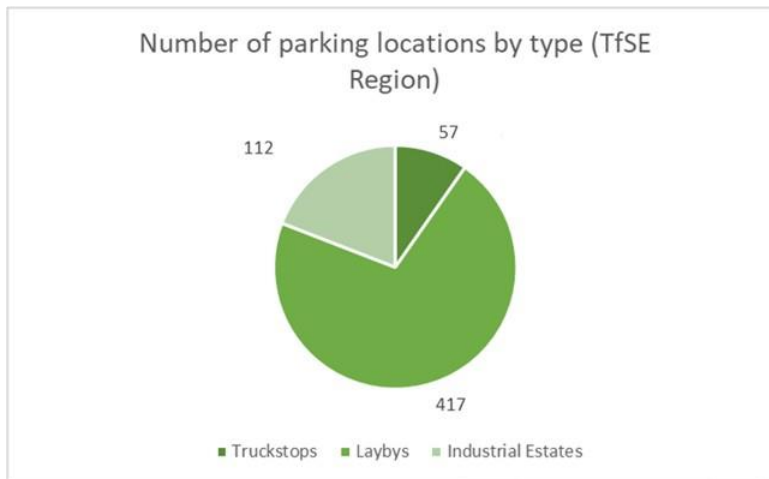
Figure A.1 Number of parking locations by type in the TfSE area covered by the 2022 national survey

Figure A.2 shows a map of lorry parking locations in the TfSE area covered by the 2022 national survey. This shows clusters of truckstops around key locations such as Dover, Southampton and Portsmouth. Industrial estates are mainly located around key urban clusters including Maidstone, Ashford and Basingstoke. Meanwhile, laybys are spread along the major routes with a particularly high concentration along the A34 and A3.
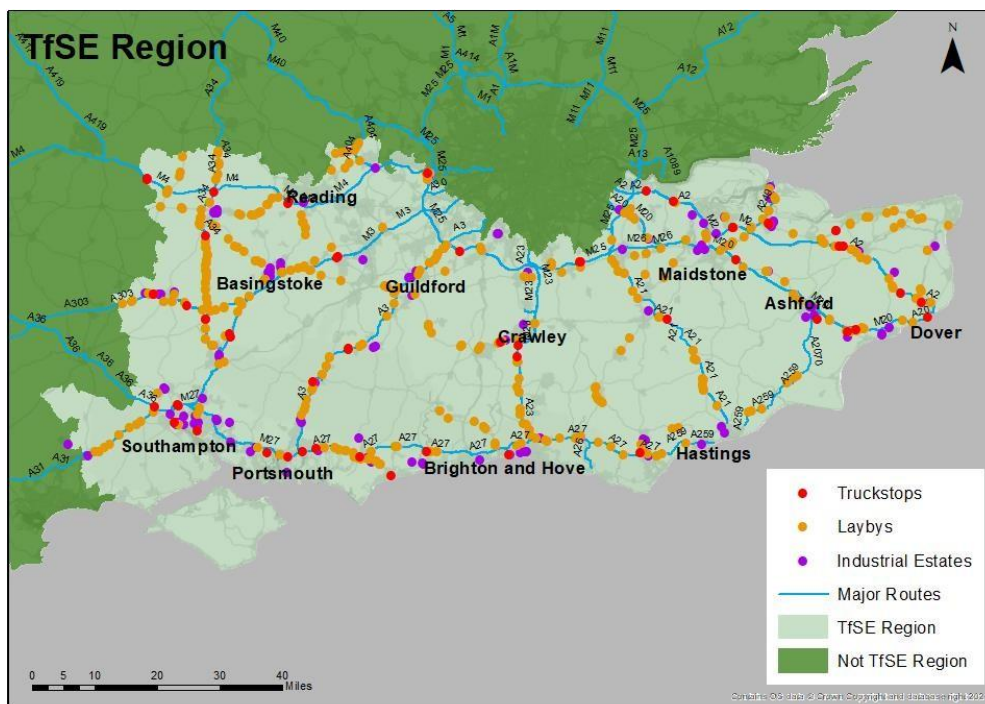
Figure A.2 Lorry parking locations covered by the 2022 National Survey in the TfSE area

Figure A.3 shows the HGV parking locations in Hampshire covered by the 2022 national survey, one county within the TfSE area. This county is spotlighted due to the important ports of Southampton and Portsmouth being included within it. This reinforces the cluster of sites around Southampton, as well as additional clusters of industrial estates around locations such as Andover and Basingstoke. There are also several laybys including along the A34, A3 and M27 west of Southampton.

The truckstops have also been labelled to correspond with those labels in Table A.2 for Hampshire. Table A.2 also shows the capacity and the percentage of HGVs observed parking compared to the available parking capacity at the truckstops in Hampshire.
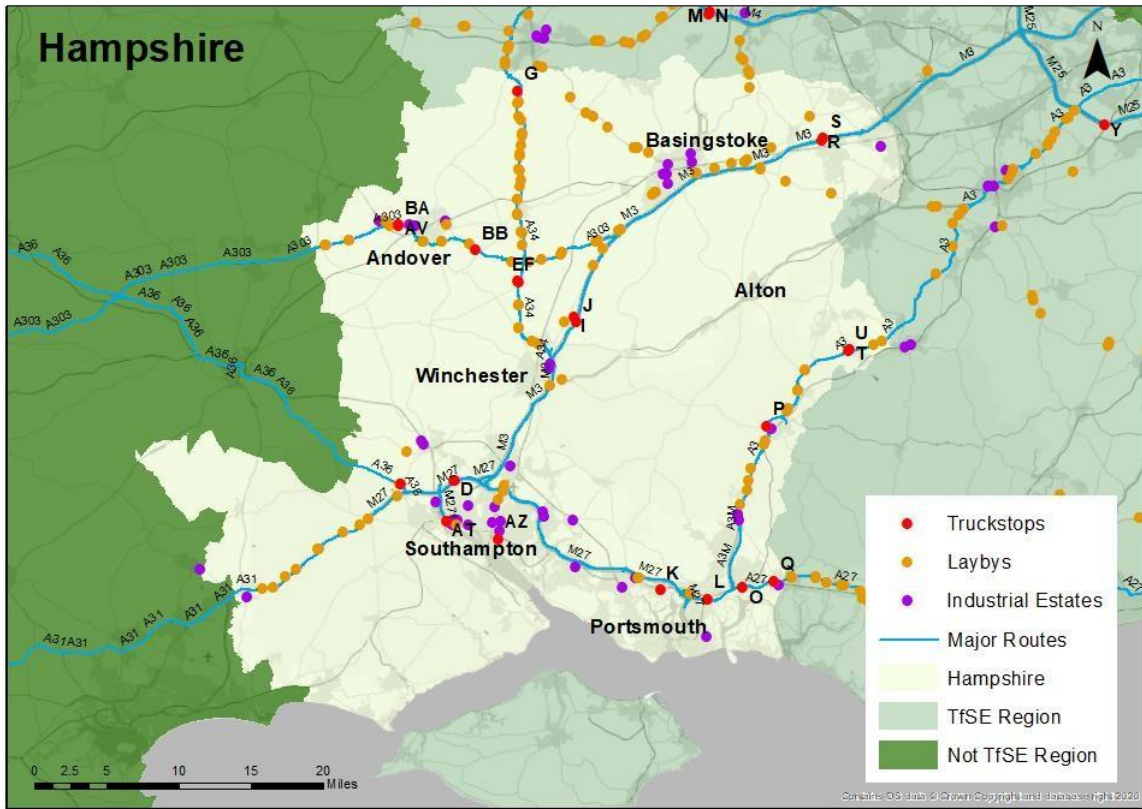
Figure A.3 Lorry parking locations in Hampshire covered by the 2022 national survey

Table A.2 Details for lorry parking locations in Hampshire covered by the 2022 national survey

Truckstop name	Capacity	% of use vs capacity	Under or over 100% of total capacity	Letter Code
Roadchef Rownhams Services Westbound	70	116 %	+16	D
Sutton Scotney Northbound	28	57%	-43	E
Sutton Scotney Southbound	27	133%	+33	F
Shell Tot Hills Service Area	12	275%	+175	G
Moto Winchester {North}	28	36%	-64	I
Moto Winchester {South}	28	75%	-25	J
Portchester Lorry Park	11	36%	-64	K
Portsmouth - Farlington Truckstop	30	60%	-40	L
Havant Lorry Park*	40	73%	-27	O
South Downs National Park BP	6	0%	-100	P
Emsworth Services	10	60%	-40	Q
Welcome Break Fleet Services Southbound	45	116%	+16	R
Welcome Break Fleet Services Northbound	45	69%	-31	S
Liphook Services Southbound	4	200%	+200	T
Liphook Services Northbound	5	0%	-100	U
Cartland Truck Stop	35	140%	+40	AT
Weyhill Services	10	70%	-30	AV
Woolston and District Lorry Park (Oakbank Lorry Park)	10	40%	-60	AZ
BP Weyhill Service Area East	6	100%	0	BA
BP Weyhill Service Area West	6	183%	+83	BB

*Havant Lorry Park was open during when the National Survey of Lorry Parking was conducted in March 2022 but has since closed. It is included for completeness.

Figure A.4 shows Truckstop Capacity for truckstops in the TfSE area covered by the 2022 national survey. This shows a cluster of large lorry parks (51+ vehicles) around Ashford and Dover as well as locations on the M25 and M4. There are several medium sized locations along the M27 and A27 as well as on the A23 around Crawley. For the smaller truckstops, there are several of these along the A3, A303 and A2 with a particular cluster west of Canterbury.
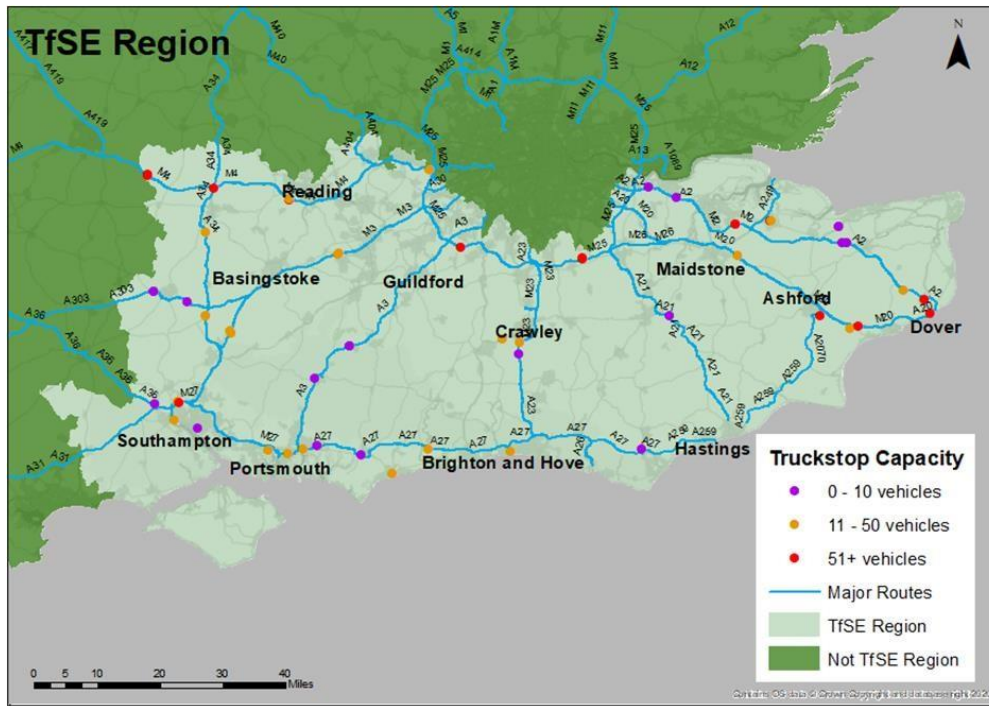
Figure A.4 Truckstop capacity in the TfSE area covered by the 2022 national survey

Figure A.5 shows the percentage of HGVs observed parking compared to the available parking capacity at the site for each truckstop in the TfSE area covered by the 2022 national survey. This shows that there are key clusters of truckstops with a critical level of HGVs parking compared to the available parking capacity at the site along the M20 and M2 corridors, and especially around Dover and Southampton. Meanwhile, most truckstops along the A27, including around Portsmouth, are showing as having a low % of use vs capacity level as well as those on the A3 and the A2 close to the junction with the M25.
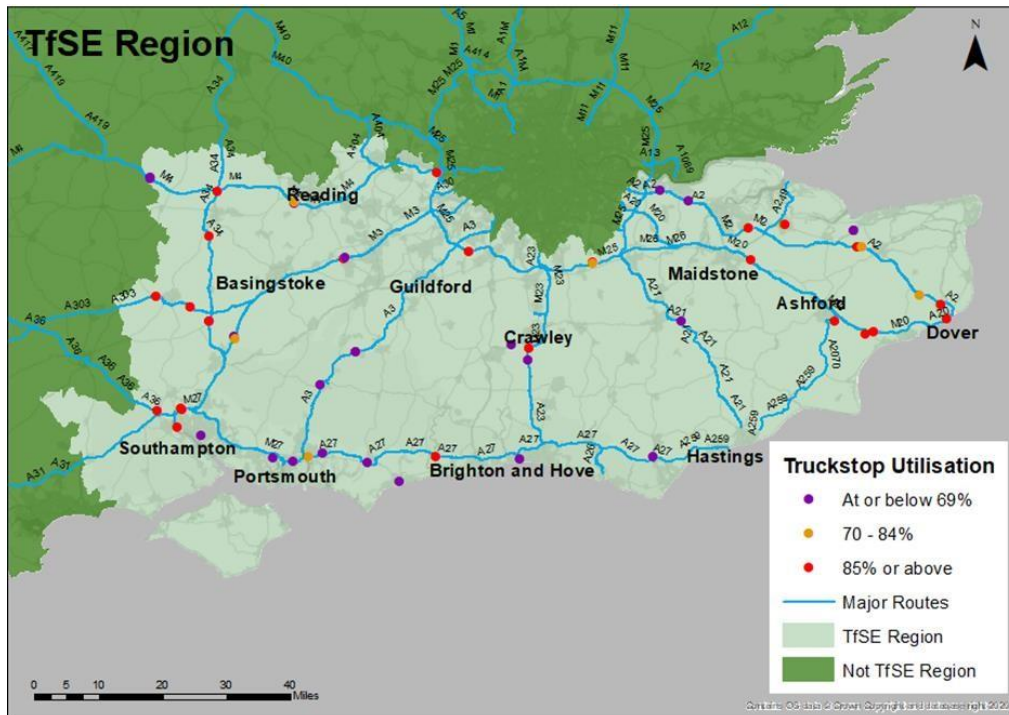
Figure A.5 Percentage of HGVs observed parking compared to the available parking capacity at the site for each truckstop in the TfSE area covered by the 2022 national survey

Figure A.6 shows the total vehicles observed for all types of lorry parking within the TfSE area covered by the 2022 national survey. This shows that most sites have had 0-2 vehicles, which reflects the high percentage of laybys within the TfSE area, many of which would only be able to accommodate a small number of vehicles. Areas where there are sites with a large number of vehicles include around Dover, Ashford and Southampton which correlates with these being the locations of some of the larger truckstops.
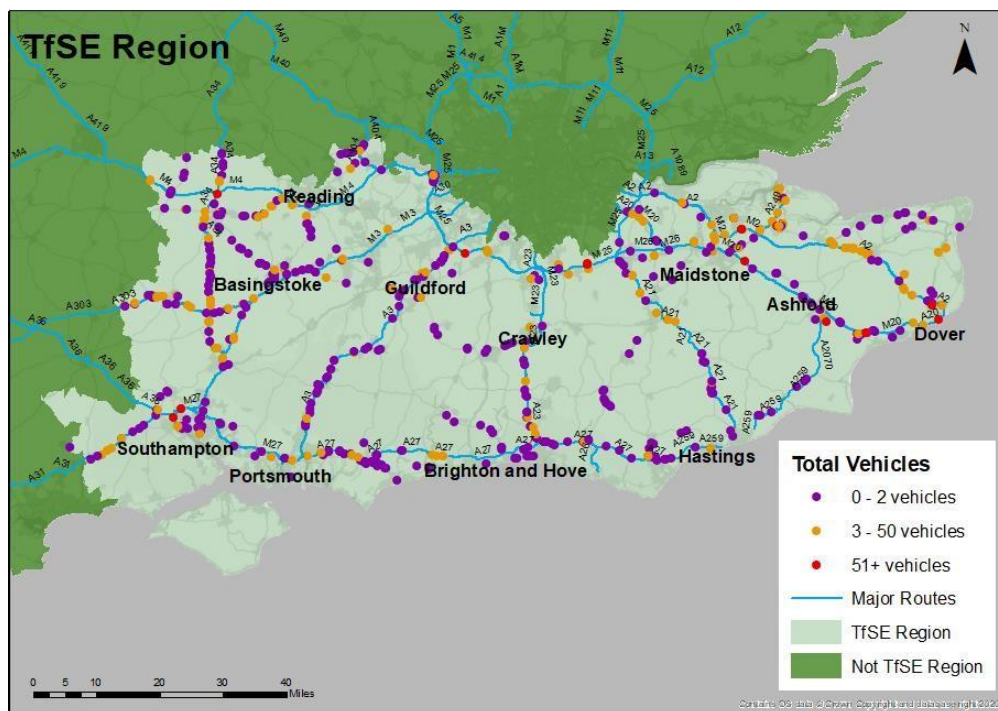
Figure A.6 Total vehicles at HGV parking sites in the TfSE area covered by the 2022 national survey

Figure A.7 shows the on-site parking facilities by type in the TfSE area covered by the 2022 national survey. This shows that most Truckstop locations are trunk road service areas (35% of locations),

closely followed by Motorway Service Areas (33% of locations). Only 25% are independent truckstops and 7% are local authority truckstops.
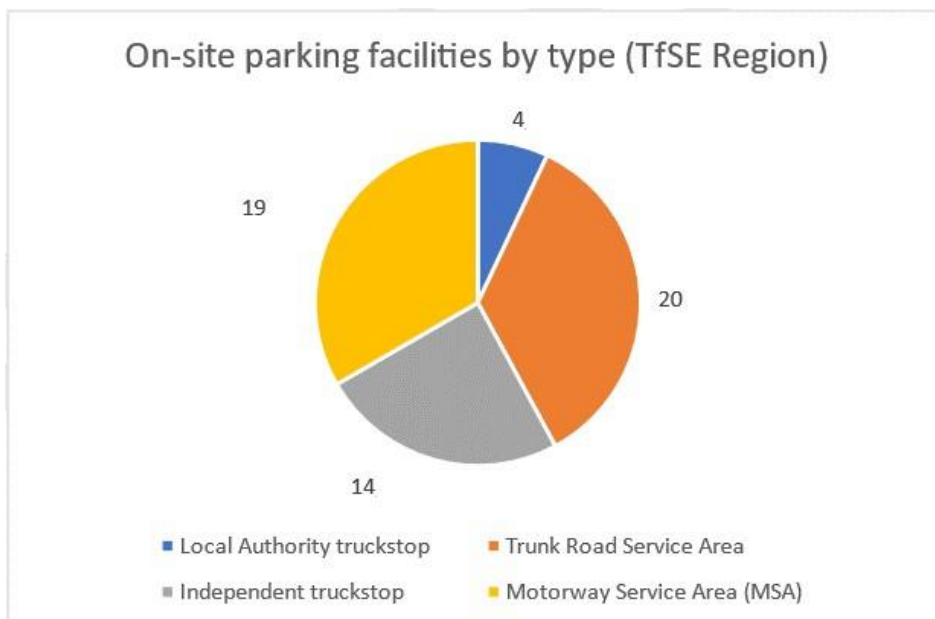
Figure A.7 On-site parking facilities by type covered by the 2022 national survey

Figure A.8 shows the number of vehicles observed by parking site within the TFSE area covered by the 2022 national survey. This shows that the majority of vehicles observed (72%) were in truckstops, with 19% in laybys and 9% in industrial estates. This demonstrates the key role in particular that the large truckstops in the TfSE area play within the overall mix of lorry parking provision, as they only make up 10% of the lorry parking sites but provide 72% of the spaces.
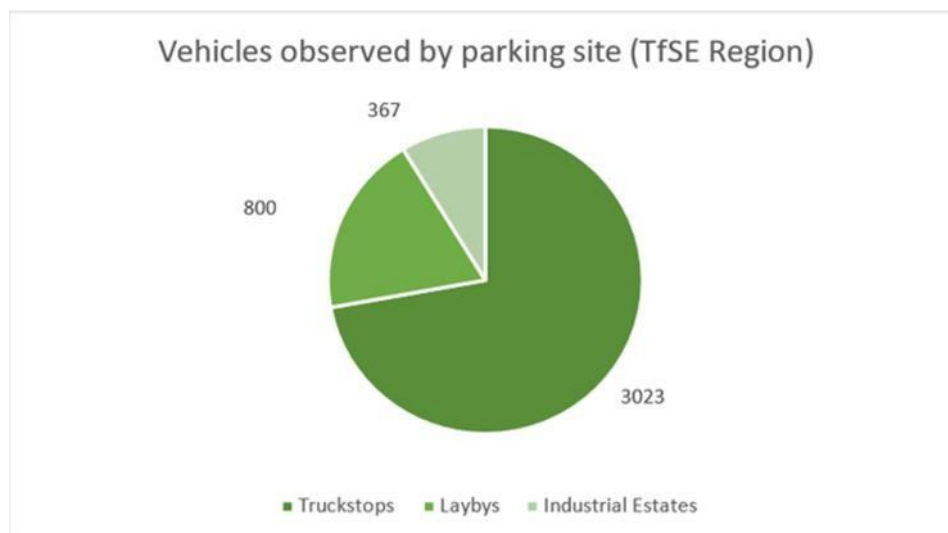
Figure A.8 Vehicles observed by parking site in the TfSE area covered by the 2022 national survey

Figure A.9 shows an overview of truckstops in the TfSE area covered by the 2022 national survey and the percentage of vehicles observed parking compared to the available parking capacity at the site. This shows that 25 out of 57 truckstops (43.86%) are at the critical level (85% or more of the available parking capacity was being used).
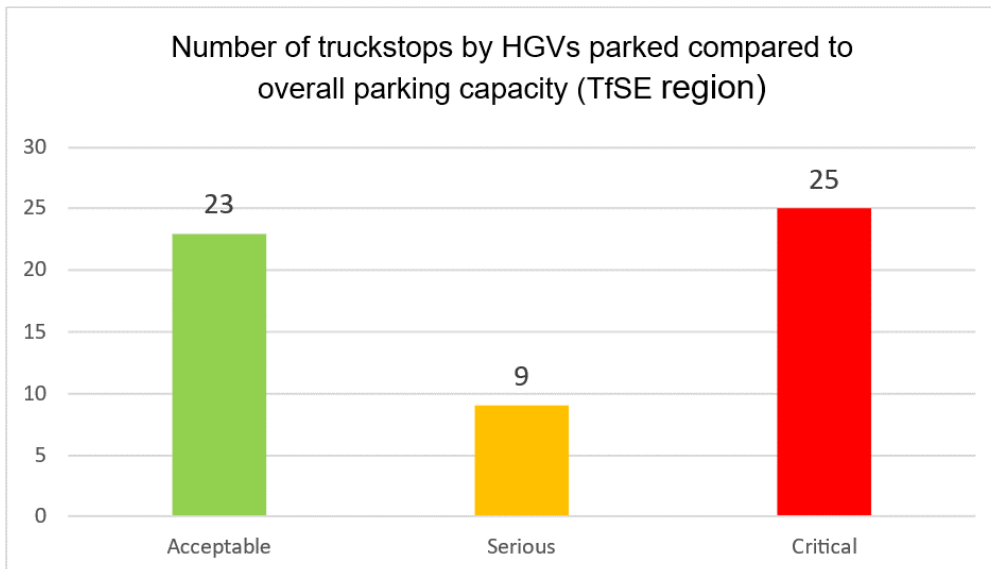
Figure A.9 Number of truckstops by status category for the percentage of HGVs parked compared to the available parking capacity for the site in the TfSE area covered by the 2022 national survey

Figure A.10 shows a comparison of the number of truckstops for each category showing level of usage for the sites covered by the national survey of lorry parking for the TfSE area. This shows a great deal of similarity between the profiles of the TfSE area and England as a whole, with the TfSE area having marginally fewer truckstops at acceptable level (40.35% compared to 42.33%), and slightly more at serious level (15.79% compared to 13.80%). The level of truckstops with a critical level of HGVs parked compared to the available parking capacity is almost identical between TfSE and all of the HGV parking sites in England (43.86 compared to 43.87%).
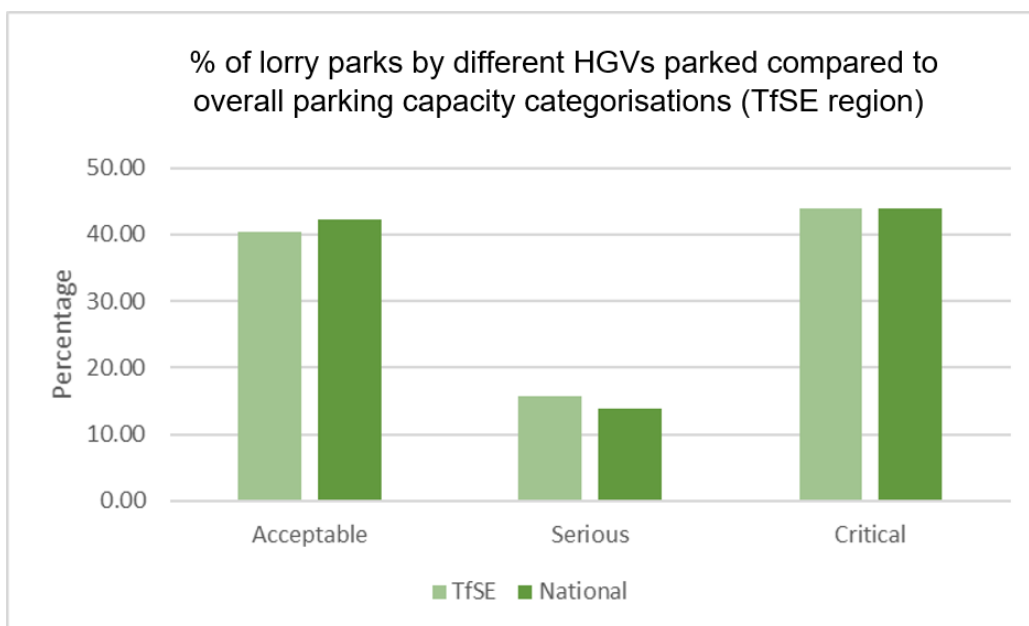
Figure A.10 Percentage of lorry parks covered by the 2022 national survey at different usage categorisations

Table A.3 shows the split of UK and non-UK registered HGVs using each parking location type in the TfSE area. This shows that a large proportion of Truckstop users were non-UK vehicles (61%), particularly foreign vehicles using truckstops on the M20 and M2 corridors and close to the Port of Dover. Conversely, laybys and industrial estates were used by more UK-registered vehicles than non-UK (67% and 66% respectively). One reason for this may be that non-UK registered vehicles may book into large truckstops far in advance to ensure they get a space, whilst UK-registered vehicles

may have a greater level of local knowledge and therefore a greater knowledge of good layby and industrial estate locations to use on more of an ad-hoc basis where required.

Table A.3 UK vs non-UK registered vehicles at parking locations covered by the 2022 national survey in the TfSE area

	UK	Non-UK	All
Truckstops	1,190 (39%)	1,833 (61%)	3,023 (100%)
Laybys	535 (67%)	265 (33%)	800 (100%)
Industrial Estates	243 (66%)	124 (34%)	367 (100%)

Appendix B Full Parking Demand and Future Forecasts

Methodology for calculating parking demand

Eleven routes that form part of the SRN and one route from the major road network (non-SRN) in the TFSE region have been chosen as the key routes to be used for developing the demand forecast. These are:

- M20/A20 (linking London to the Port of Dover)
- M3 (linking London to the Port of Southampton)
- A3/A3(M) (linking London to the Port of Portsmouth)
- M27/A27 (linking key ports and other towns and cities along the south coast)
- M2/A2 (linking London to the Port of Dover)
- A259/A2070 (linking Pevensey to Ashford)
- M23/A23 (linking London to Brighton and Hove)
- A21 (linking London to Hastings)
- M25/A282 (London orbital, analysis conducted only for the part of the route in the TfSE area)
- A34 (Linking Winchester to Newbury and the Midlands, analysis conducted only for the part of the route in the TfSE area)
- M4 (linking London to Reading and beyond to South Wales, analysis conducted only for the part of the route in the TfSE area)
- A31 (linking Winchester and Guildford) - non-SRN

Figure B.1 shows these routes within the wider TfSE area.
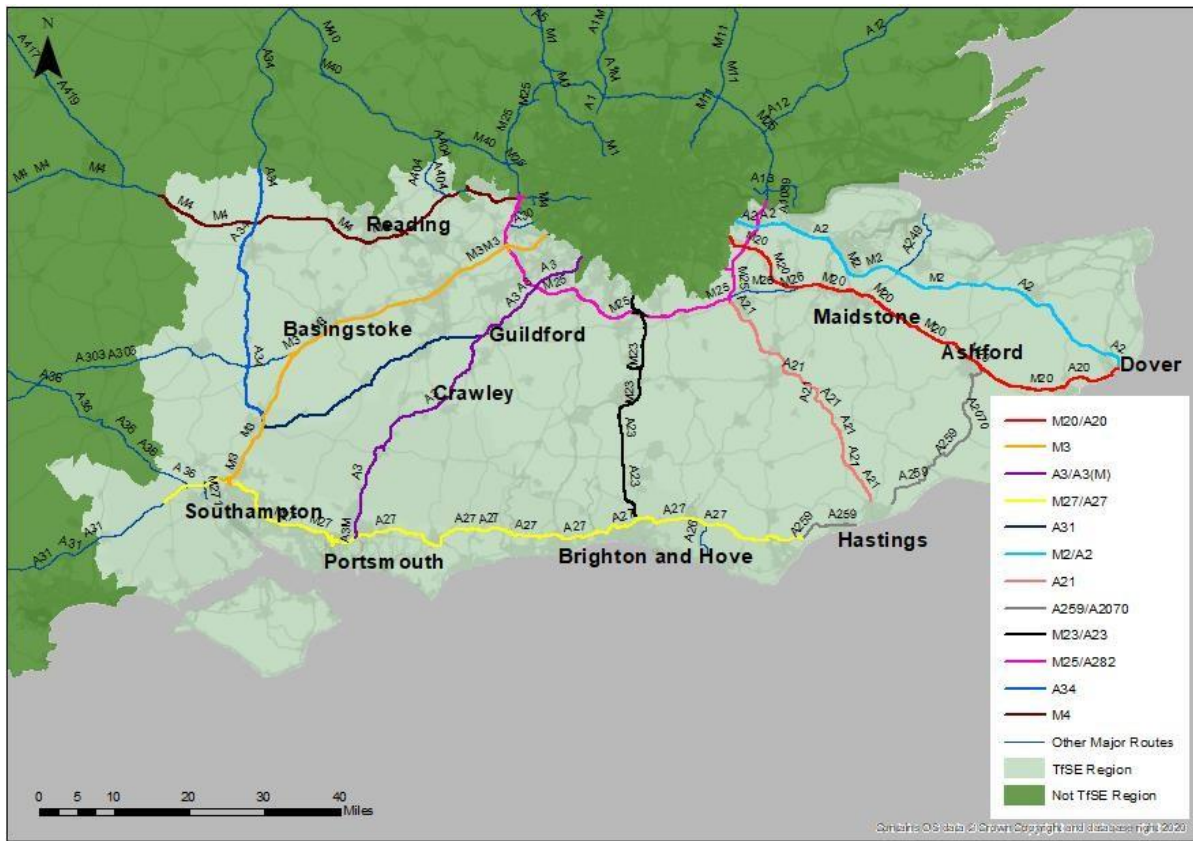
Figure B.1 Routes chosen to help aid understanding of lorry parking demand within the TfSE area

To understand current demand for lorry parking along the SRN routes, data from the March 2022 DfT national survey of lorry parking was used. This provided the locations of all lorry parking sites within 2.5km of the SRN in the TfSE area split by on-site parking facilities, laybys, and industrial estates as well as the number of vehicles parked in these and the lorry parking capacity of each on-site parking facility.

Next, the lorry parking sites located within 2.5km of each of the four routes were identified from all lorry parking sites in the TfSE area. This enabled knowledge of the number of vehicles parked along each route as well as current parking capacity at on-site facilities along each of these routes. These figures enabled additional calculations to be performed, including working out the 2022 on-site capacity versus the total number of HGVs parked to understand current on-site parking provision versus parking demand.

To get an average flow on each SRN route, data from the National Highways WebTRIS[22] system was used. Numbers of vehicles travelling in each direction in the month of March 2022 for four count points, 24 hours Monday-Friday, on each route was downloaded. These count points were strategically chosen so they were spaced approximately equidistant along the route, however the requirement for a full month of data for March 2022 meant that some potential count points had to be discounted as they did not cover this specific time period. March 2022 was chosen as this was the month in which the DfT national survey of lorry parking was conducted, ensuring the time periods for flows and lorry parking data matched.

Then, the number of vehicles which were over 6.6m in length was split out from the overall traffic. This means that in addition to HGVs, some coaches may be included in the data, however these numbers should not materially affect the analysis. Once split out, the large vehicle flows were divided by four to provide an average flow for each route, then divided by 23 (as there were 23 weekdays in March 2022) to give the final figure of the average HGV flow per 24 hours per weekday in both directions in March 2022 for each route.

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[22] https://webtris.highwaysengland.co.uk/

For non-SRN routes (the A31 for this study) the process was slightly different. As the A31 was one of the routes covered as part of the audits for the further information gathering exercise conducted in February 2023, data from this survey was used. Additionally, to get the average flow on the A31, data from DfT Road Traffic Statistics was used. This is slightly different to WebTRIS data as it uses manual surveys and converts this data into Annual Average Daily Flow (AADF) which is split by vehicle type including HGVs. However, the methodology of using four count points spaced approximately equidistant along the route was the same. In addition, it is worth noting that the AADF figure used for the A31 is based on 2019, and whilst this does not match with the audit date of March 2023, this can still offer a useful comparison and enable detailed analysis to be performed.

Finally, for all routes the following formula is used to calculate the parking demand factor. This is the ratio of parking of overall HGV traffic within the catchment area and is a measure of the proportion of overall traffic flow that chooses to park.

$$\text{Parking Demand Factor} = \frac{\text{Number of parked HGVs observed within catchment}}{\text{Total traffic volume observed within catchment}}$$

One aspect to note is that the parking demand factor is sensitive and can be skewed based on several route characteristics. One example is route length, as where routes are longer this may lead to a greater number of HGVs parked along these longer routes. However, this is not expected to materially impact the analysis and results. The other key factor is the ratio between HGV flow and number of HGVs parked on the route. A higher flow with fewer HGVs parked on the route itself (for example if there are fewer large on-site parking facility on the route itself) will result in a lower parking demand factor, whereas a lower flow with a higher number of HGVs parked will result in a higher factor.

Methodology for calculating future demand forecasts

For each route, a forecast has been made both for the change in average HGV flow as well as the change in the requirement for HGV parking spaces.

The DfT National Transport Model predicts an average HGV growth of 22 per cent between the model base year of 2015 and 2040, an equivalent of 0.88 per cent per annum. The method will apply this growth-per-year factor to TfSE as a whole as a medium case in order to reflect national forecasts and take account of changes in the transport of goods such as construction of new roads and economic growth estimates as well as modal shift. Forecasts have been made every 6 years from 2022 up to 2040 to demonstrate the incremental changes in flows over the next 18 years. For continuity, the 2023 A31 survey counts and the 2019 flows data have been used as the basis for the 2022 base year, whilst for the other routes the 2022 data is used as the basis for the 2022 base year.

To recognise future uncertainties and fluctuations, a low case using an increase of 0.66% per annum and high case using an increase of 1.1% per annum have been forecast in addition to the medium case. These percentages have been chosen to be 0.22% above and below the medium case to indicate how different scenarios may impact future growth in HGV flows along these routes.

Once the HGV flow forecasts have been made, these are multiplied by the parking demand factor for each route in order to calculate the forecast requirement for HGV parking spaces for each of the years and cases.

As with any forecast, it is important to note that these are indicative and subject to a variety of potential changes and fluctuations. Nevertheless, they should help to provide a useful indication of what future flows and HGV parking requirements may be going forward.

Route-specific analysis

M20/A20

The M20 and A20 form a key route between London and Southampton, routing via Maidstone and Ashford.

Figure B.2 shows the routing of the M20 and A20, as well as the on-site parking facilities, laybys and industrial estates within 2.5km. This shows key clusters of on-site parking facilities between Ashford and Dover, as well as clusters of industrial estates in Maidstone and Ashford.

As outlined in the methodology, the four count points used were at the following locations:

- Adjacent to the village of Wrotham (marked A on Figure B.2)
- Adjacent to the village of Aylesford (marked B on Figure B.2)
- South East of Ashford (marked C on Figure B.2)
- West of Dover (Marked D on Figure B.2)
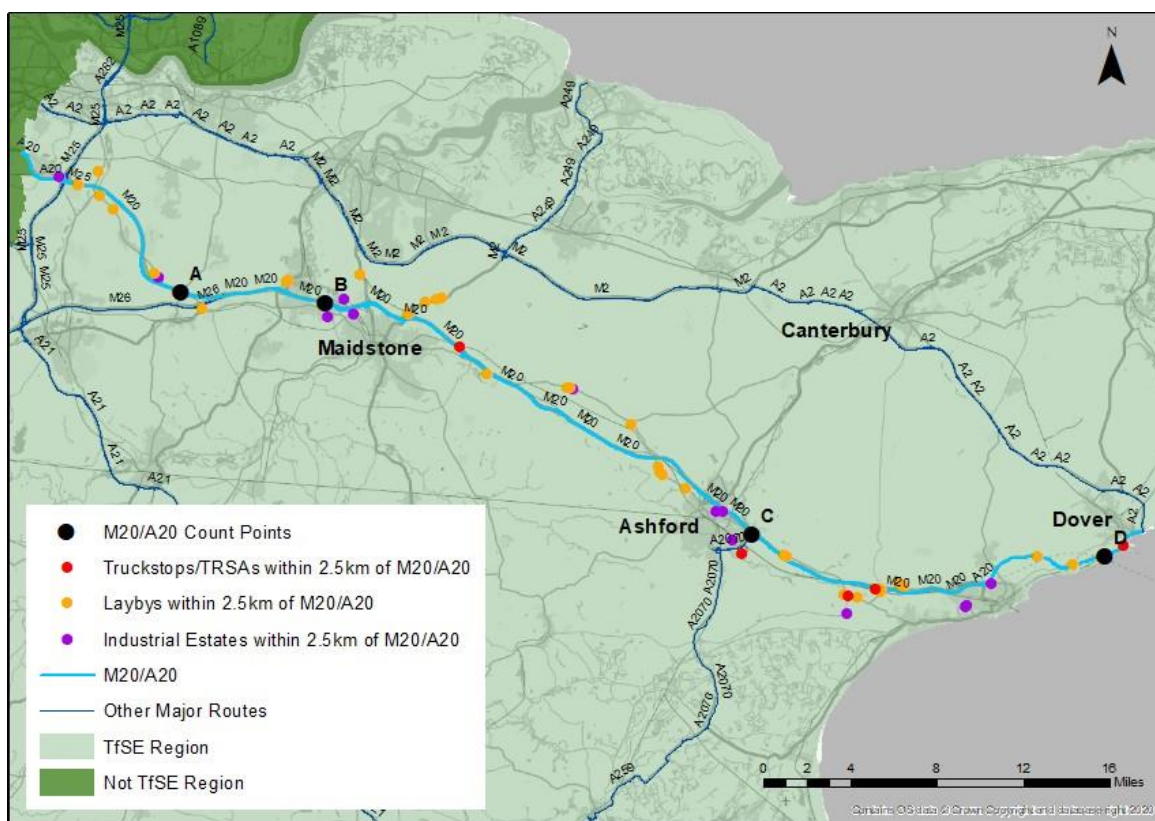
Figure B.2 Routing of the M20/A20 and lorry parking sites along the route

Figure B.3 shows the westbound and eastbound HGV flow at each of the count points. This shows a daily average weekday flow in March 2022 of 6,366 HGVs westbound and 6,678 HGVs eastbound. The average for Count Point B is significantly higher than the other count points, at 12,887 HGVs westbound and 13,919 HGVs eastbound, however this can be explained by the fact that this location is the only count point between the Eurotunnel terminal and Junction 3 (turnoff for the M26, leading to the anticlockwise M25).
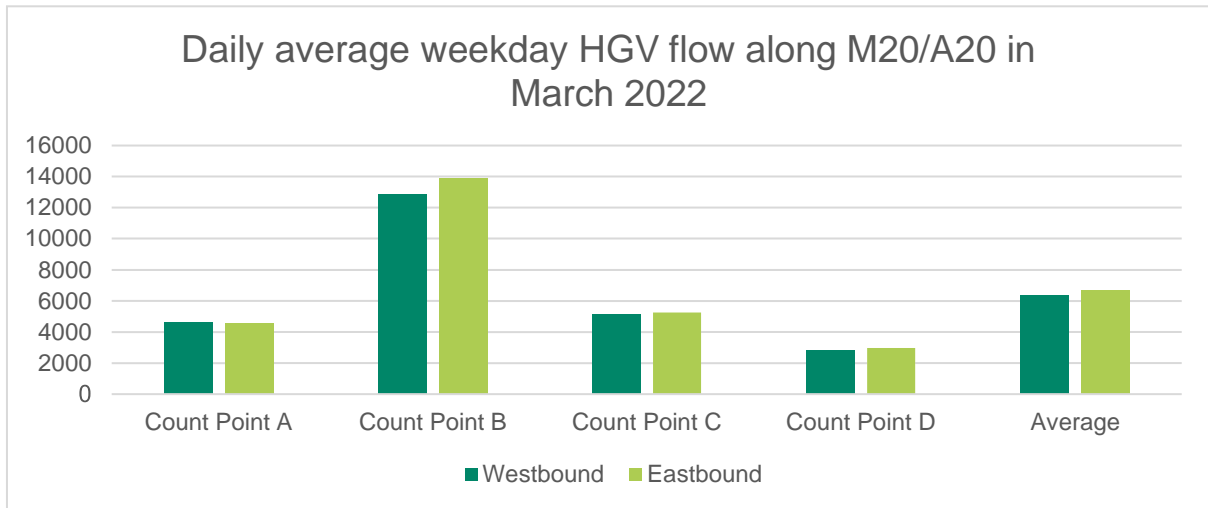
Figure B.3 Daily average weekday HGV flow along M20/A20 in March 2022

Table B.1 shows an overview of key lorry parking statistics for the M20/A20. This shows that there was a 145-space deficit in the total on-site parking capacity versus the number of HGVs recorded as being parked along the corridor. The parking demand factor of 11.2 means that approximately 11.2% of the weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking.

Table B.1 Overview of key lorry parking statistics for the M20/A20

	M20/A20
Average HGV flow per 24 hours per weekday in both directions in March 2022	13,044
Total HGVs parked	1,463
Parked at on-site parking facilities	1,336
Parked in laybys	86
Parked in industrial estates	41
2022 on-site capacity on route	1,318
2022 on-site % of use vs capacity on route	101.4
2022 on-site capacity versus total HGVs parked	-145
Parking demand factor	**11.2**

Figure B.4 shows the forecast daily average weekday flow along the M20/A20. This shows that in the low case daily weekday flows are forecast to increase by around 1,550 vehicles by 2040 to a total of 14,594. In the medium case, daily weekday flows are forecast to increase by around 2,066 vehicles by 2040 to a total of 15,627 and in the high case daily weekday flows are forecast to increase by around 2,583 vehicles by 2040 to a total of 15,627.
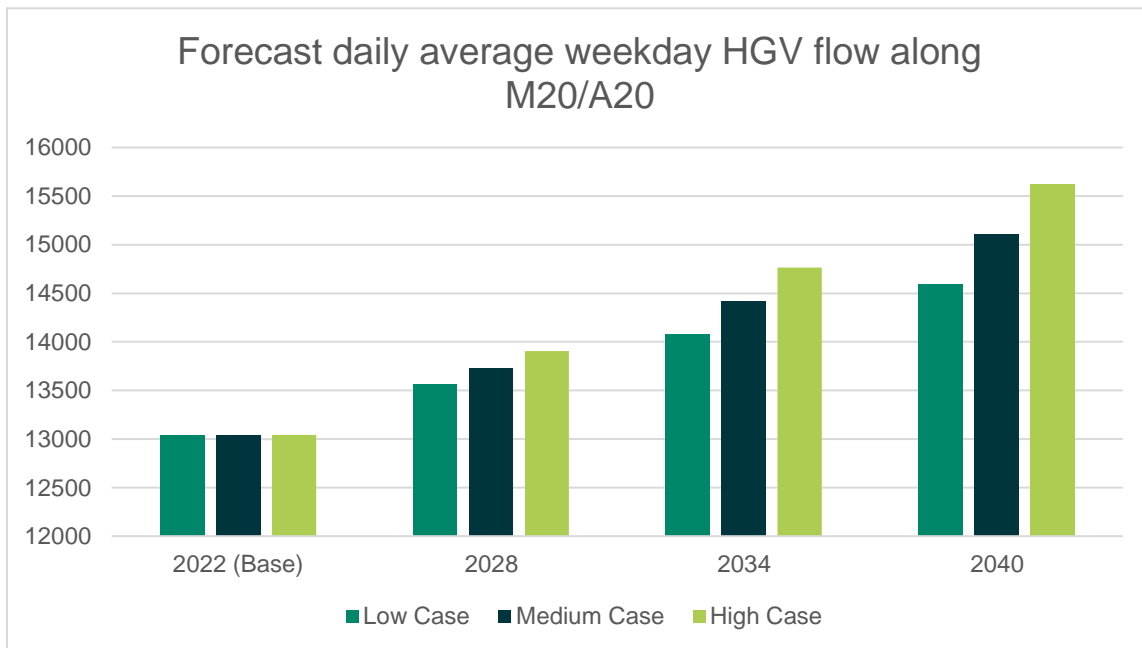
Figure B.4 Forecast daily average weekday HGV flow along M20/A20

Figure B.5 shows the forecast requirement for HGV parking spaces along the M20/A20. This shows that in the low case the required number of HGV parking spaces is forecast to increase by 171 to 1,634 by 2040. In the medium case, the required number of HGV par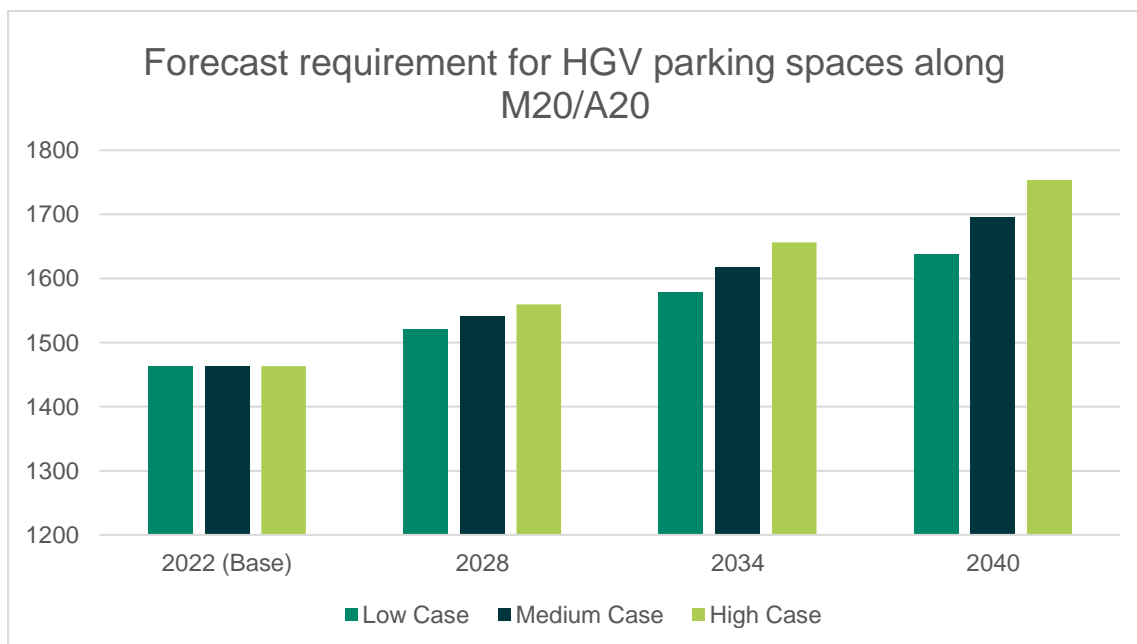king spaces is forecast to increase by 229 to 1,692 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 287 to 1,750 by 2040.

Figure B.5 Forecast requirement for HGV parking spaces along M20/A20

M3

The M3 forms a key route between London and Southampton, routing via Basingstoke and Winchester.

Figure B.6 shows the routing of the M3, as well as the on-site parking facilities, laybys and industrial estates within 2.5km. This shows key clusters of on-site parking facilities west of Farnborough and north of Winchester and a cluster of industrial estates in Basingstoke.

As outlined in the methodology, the four count points used were at the following locations:

- North of the village of Chobham (marked E on Figure B.6)
- West of Farnborough (marked F on Figure B.6)
- West of Basingstoke (marked G on Figure B.6)
- North of Winchester (Marked H on Figure B.6)
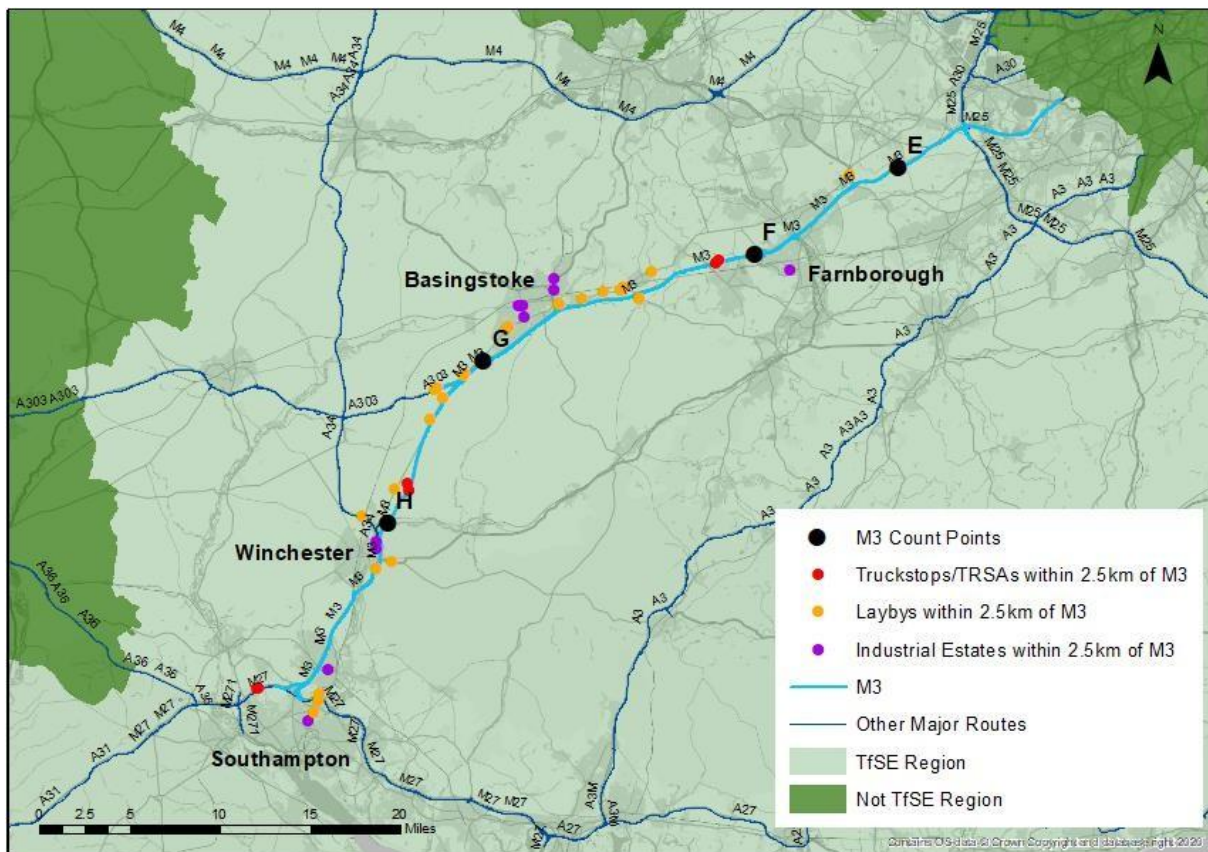
Figure B.6 Routing of the M3 and lorry parking sites along the route

Figure B.7 shows the northbound and southbound HGV flow at each of the count points. This shows a daily average weekday flow in March 2022 of 5,919 HGVs northbound and 6,325 HGVs southbound. The average for Count Point E is slightly higher than the other count points, at 9,653 HGVs northbound and 11,477 HGVs southbound, however this can be explained by the fact that this location is the only count point between junctions for key industrial sites such as Bracknell and Farnborough and the M25.
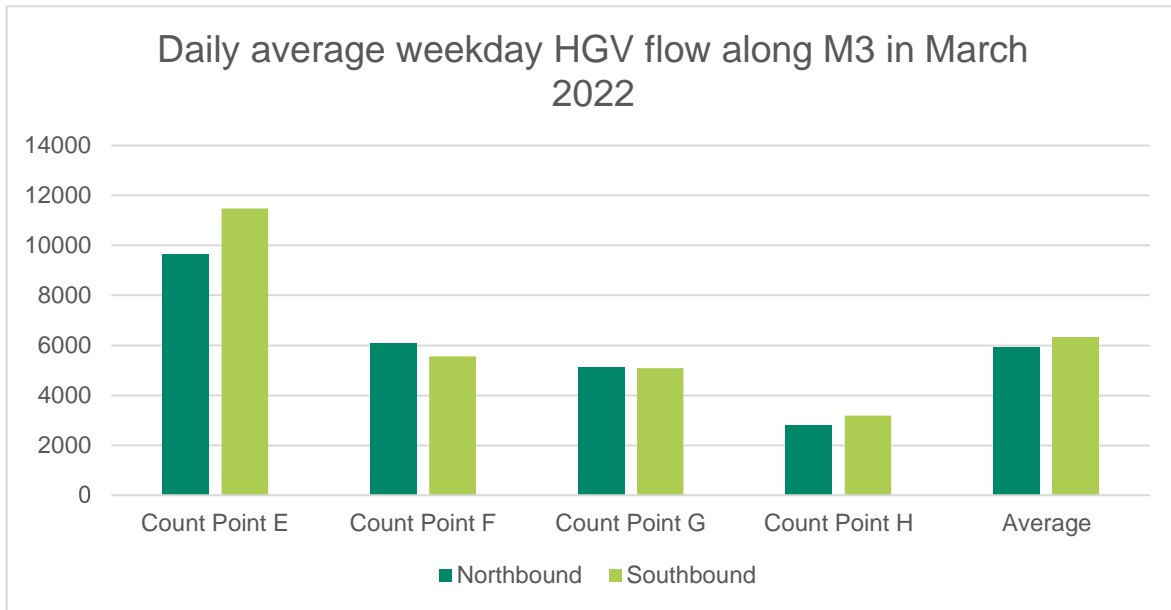
Figure B.7 Daily average weekday HGV flow along M3 in March 2022

Table B.2 shows an overview of key truck parking statistics for the M3. This shows that there was an 81-space deficit in the total on-site capacity versus the number of HGVs recorded as being parked along the corridor. The parking demand factor of 2.8 means that approximately 2.8% of the weekday 24-hour HGV flow was observed being parked during the 2022 DfT national survey of lorry parking.

Table B.2 Overview of key lorry parking statistics for the M3

	M3
Average HGV flow per 24 hours per weekday in both directions in March 2022	12,245
Total HGVs parked	339
Parked at on-site parking facilities	266
Parked in laybys	46
Parked in industrial estates	27
2022 on-site capacity on route	258
2022 on-site % of use vs capacity on route	103.1
2022 on-site capacity versus total HGVs parked	-81
Parking demand factor	**2.8**

Figure B.8 shows the forecast daily average weekday flow along the M3. This shows that in the low case daily weekday flows are forecast to increase by around 1,455 vehicles by 2040 to a total of 13,699. In the medium case, daily weekday flows are forecast to increase by around 1,940 vehicles by 2040 to a total of 14,184 and in the high case daily weekday flows are forecast to increase by around 2,424 vehicles by 2040 to a total of 14,669.
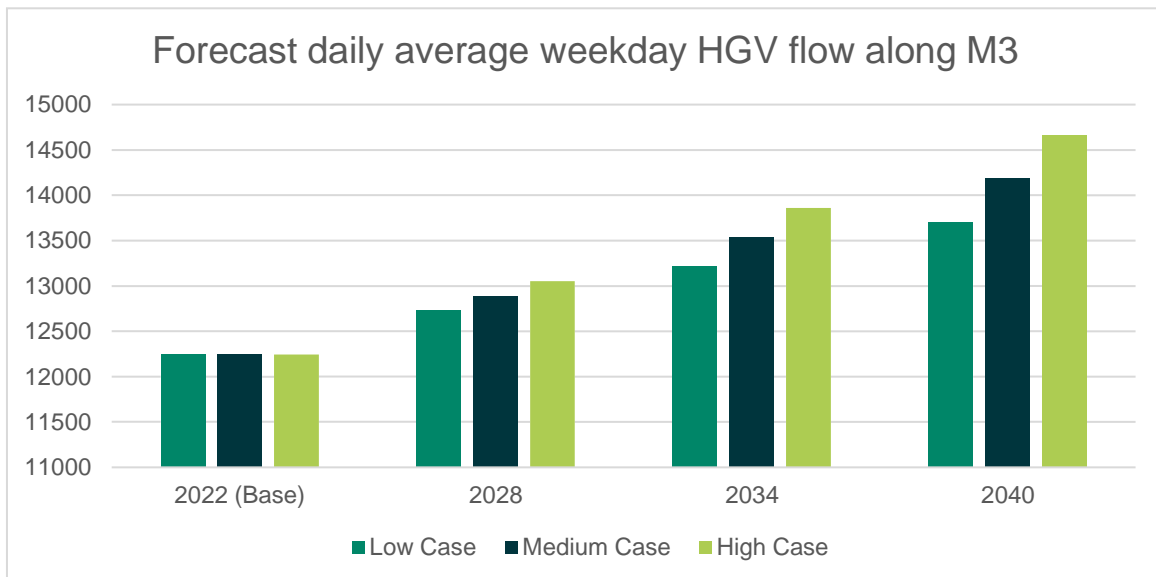
Figure B.8 Forecast daily average weekday HGV flow along M3

Figure B.9 shows the forecast requirement for HGV parking spaces along the M3. This shows that in the low case the required number of HGV parking spaces is forecast to increase by 40 to 379 by 2040. In the medium case, the required number of HGV parking spaces is forecast to increase by 54 to 393 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 67 to 406 by 2040.
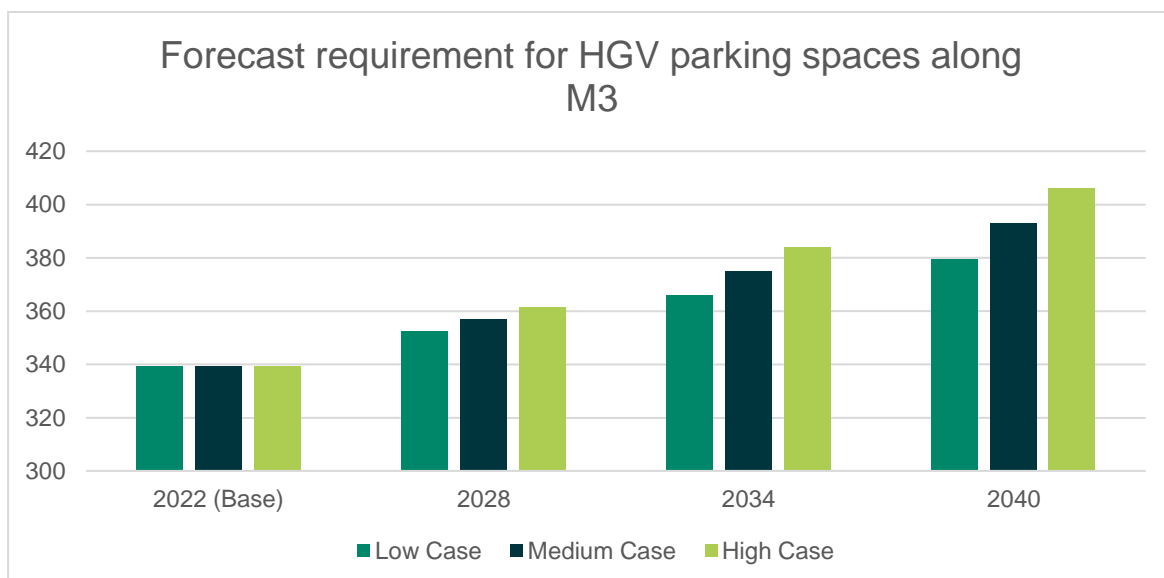
Figure B.9 Forecast requirement for HGV parking spaces along M3

A3/A3(M)

The A3 and A3(M) forms a key route between London and Portsmouth, routing via Guildford and Petersfield.

Figure B.10 shows the routing of the A3, as well as the on-site parking facilities, laybys and industrial estates within 2.5km. This shows key clusters of on-site parking facilities around Portsmouth as well as a cluster of industrial estates around Guildford.

As outlined in the methodology, the four count points used were at the following locations:

- West of Cobham (marked I on Figure B.10)
- West of Godalming (marked J on Figure B.10)
- North of Petersfield (marked K on Figure B.10)

- North of Portsmouth (Marked L on Figure 4.10)
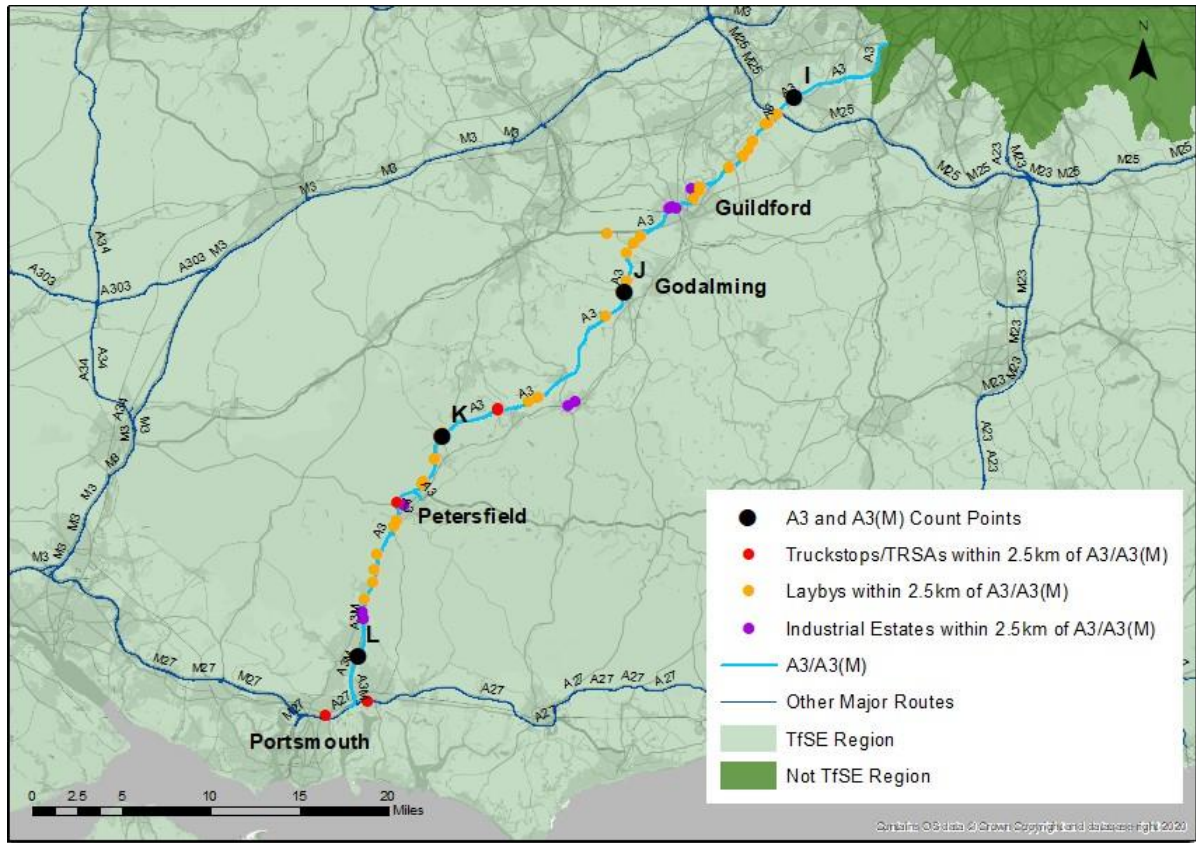
Figure B.10 Routing of the A3/A3(M) and lorry parking sites along the route

Figure B.11 shows the northbound and southbound HGV flow at each of the count points. This shows a daily average weekday flow in March 2022 of 1,961 HGVs northbound and 1,914 HGVs southbound. The average for Count Point L is slightly higher than the other count points, at 2,497 HGVs northbound and 2,363 HGVs southbound, however this can be explained by traffic passing this count point that is turning to or from the A272 north of Petersfield to serve destinations in West Sussex and beyond.
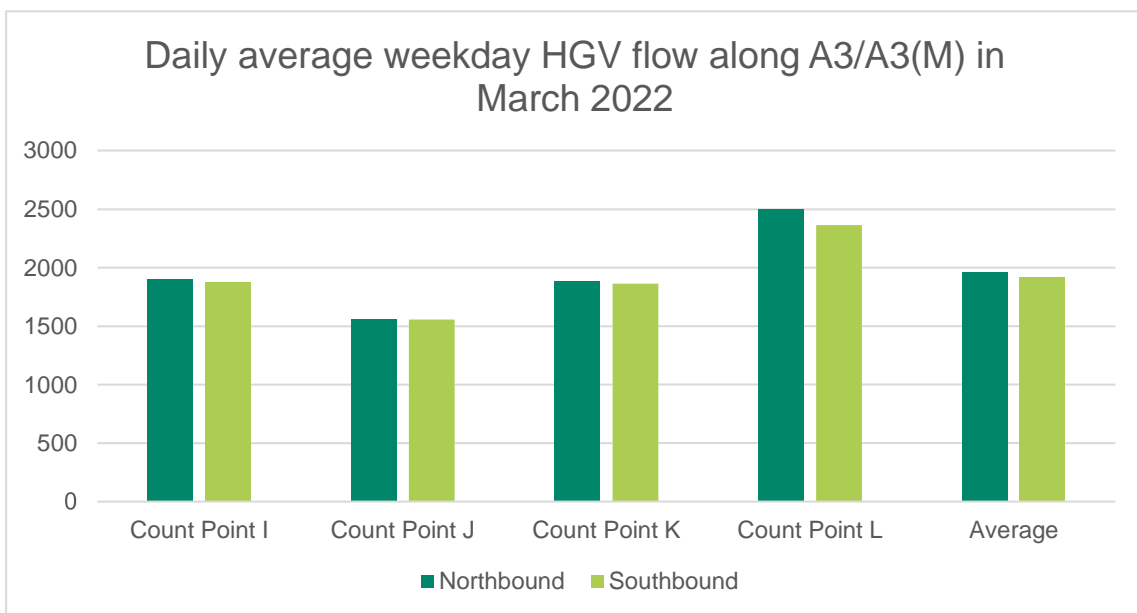
Figure B.11 Daily average weekday HGV flow along A3/A3(M) in March 2022

Table B.3 shows an overview of key truck parking statistics for the A3/A3(M). This shows that there was an 85-space deficit in the total Truckstop capacity vs the number of HGVs recorded as being parked along the corridor. The parking demand factor of 2.9 means that approximately 2.9% of the weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking.

Table B.3 Overview of key lorry parking statistics for the A3/A3(M)

	A3/A3(M)
Average HGV flow per 24 hours per weekday in both directions in March 2022	3,875
Total HGVs parked	113
Parked at on-site parking facilities	55
Parked in laybys	50
Parked in industrial estates	8
2022 on-site capacity on route	85
2022 on-site capacity versus total HGVs parked on route	64.7
2022 on-site capacity versus total HGVs parked	-28
Parking demand factor	**2.9**

Figure B.12 shows the forecast daily average weekday flow along the A3/A3(M). This shows that in the low case daily weekday flows are forecast to increase by around 460 vehicles by 2040 to a total of 4,335. In the medium case, daily weekday flows are forecast to increase by around 614 vehicles by 2040 to a total of 4,488 and in the high case daily weekday flows are forecast to increase by around 767 vehicles by 2040 to a total of 4,642.
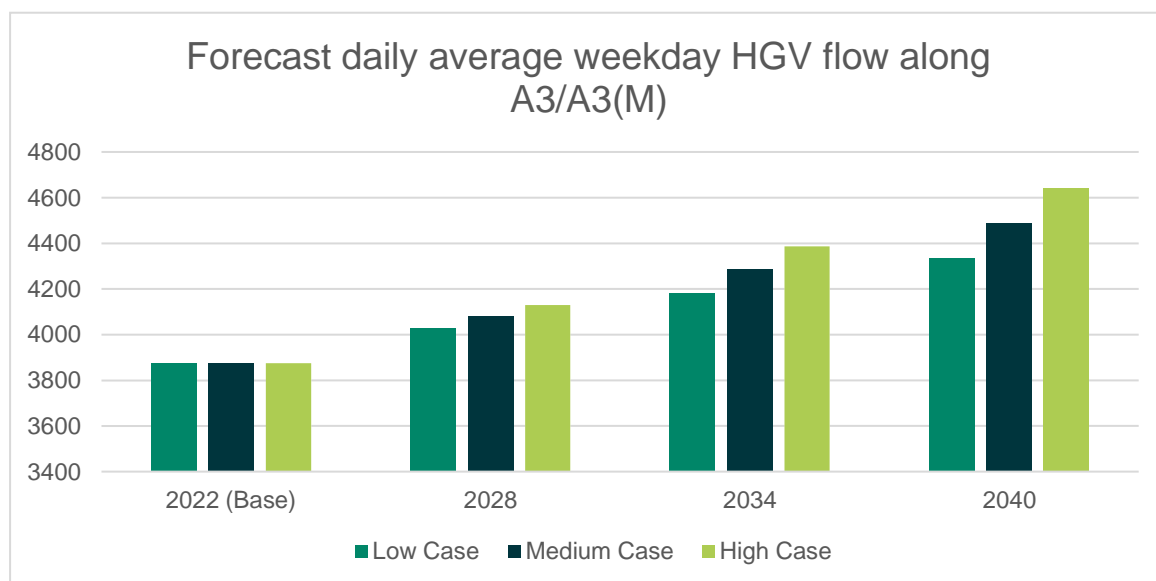
Figure B.12 Forecast daily average weekday HGV flow along A3/A3(M)

Figure B.13 shows the forecast requirement for HGV parking spaces along the A3/A3(M). This shows that in the low case the required number of HGV parking spaces is forecast to increase by 13 to 126 by 2040. In the medium case, the required number of HGV parking spaces is forecast to increase by

18 to 31 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 22 to 135 by 2040.
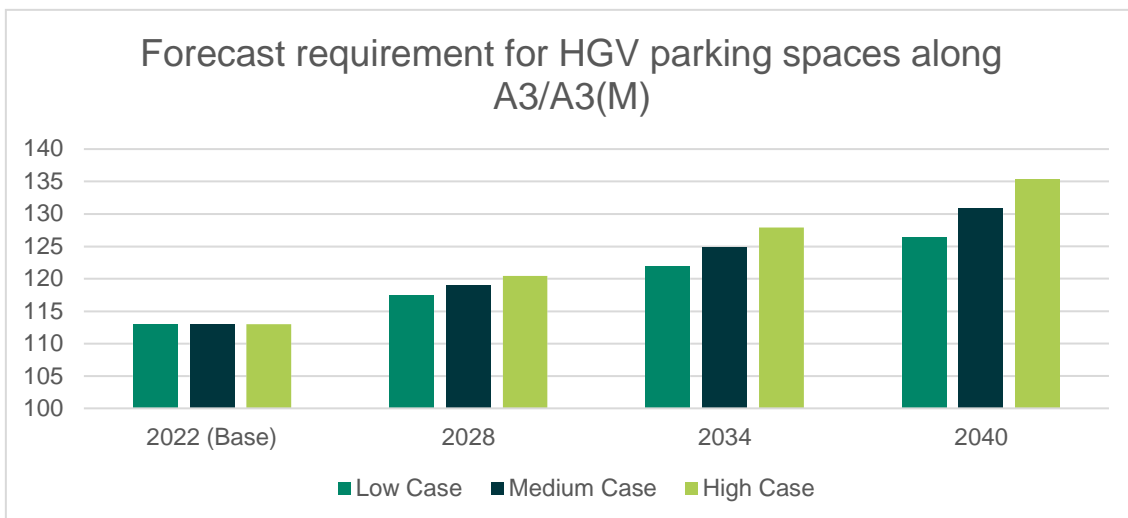
Figure B.13 Forecast requirement for HGV parking spaces along A3/A3(M)
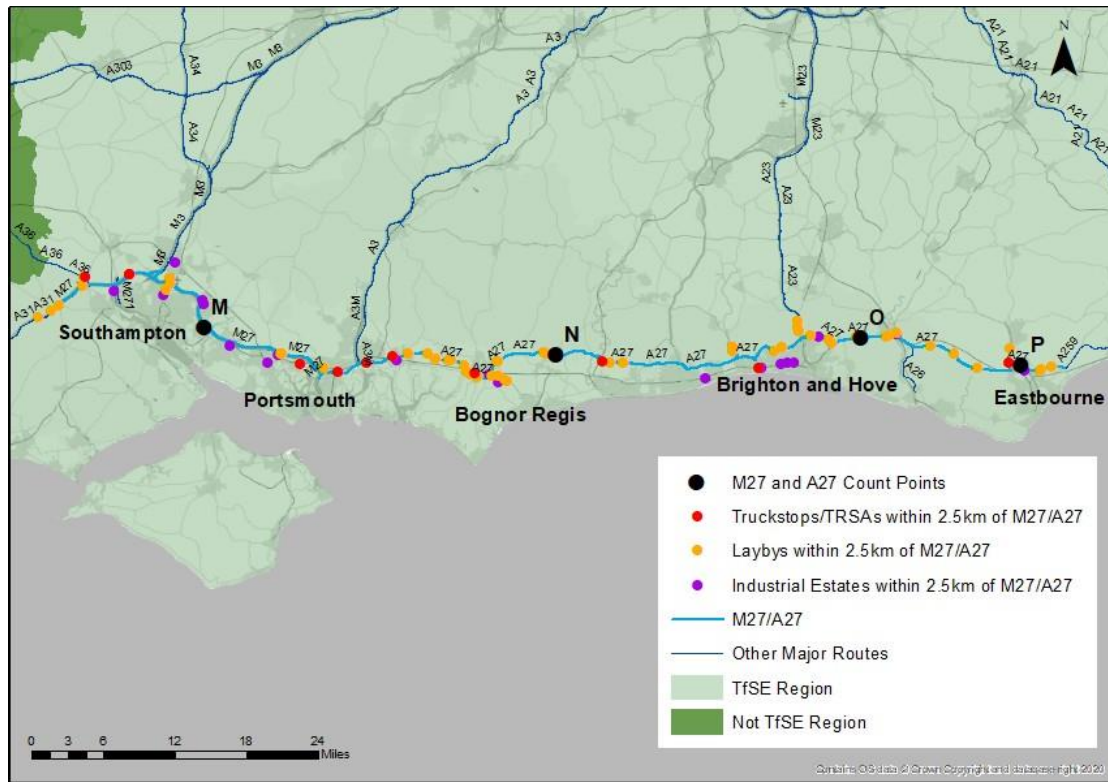
M27/A27

The M27 and A27 forms a key route between Southampton and Pevensey, routing via Guildford and Petersfield.

Figure B.14 shows the routing of the M27/A27, as well as the on-site parking facilities, laybys and industrial estates within 2.5km. This shows key clusters of on-site parking facilities around Southampton and Portsmouth and a cluster of industrial estates in Brighton and Hove.

As outlined in the methodology, the four count points used were at the following locations:

- East of Swanwick (marked M on Figure B.14)
- East of Chichester (marked N on Figure B.14)
- East of Brighton and Hove (marked O on Figure B.14)
- West of Pevensey (Marked P on Figure B.14)

Figure B.14 Routing of the M27/A27 and lorry parking sites along the route

Figure B.15 shows westbound and eastbound HGV flow at each of the count points. This shows a daily average weekday flow in March 2022 of 2,173 HGVs westbound and 2,279 HGVs eastbound. The average for Count Point M is slightly higher than the other count points, at 4,047 HGVs westbound and 4,430 HGVs eastbound, however this can be explained by traffic passing this count point that is only running between the key port cities and urban conurbations of Southampton and Portsmouth.
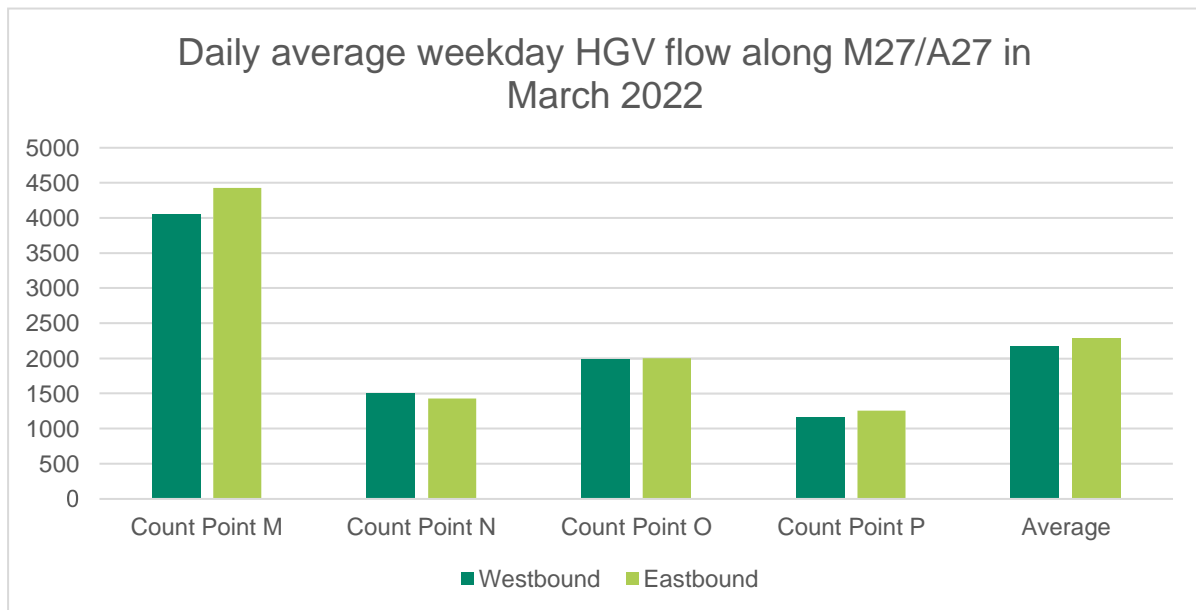
Figure B.15 Daily average weekday HGV flow along M27/A27 in March 2022

Table B.4 shows an overview of key truck parking statistics for the M27/A27. This shows that there was a 103-space deficit in the total Truckstop capacity vs the number of HGVs recorded as being parked along the corridor. The parking demand factor of 8.1 means that approximately 8.1% of the weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking.

**Table B.4 Overview of key lorry parking statistics for the M27/A27**

	M27/A27
Average HGV flow per 24 hours per weekday in both directions in March 2022	4,453
Total HGVs parked	360
Parked at on-site parking facilities	233
Parked in laybys	57
Parked in industrial estates	70
2022 on-site capacity	257
2022 on-site capacity versus total HGVs parked on route	90.7
2022 on-site capacity versus total HGVs parked	-103
Parking demand factor	**8.1**

Figure B.16 shows the forecast daily average weekday flow along the M27/A27. This shows that in the low case daily weekday flows are forecast to increase by around 529 vehicles by 2040 to a total of 4,982. In the medium case, daily weekday flows are forecast to increase by around 705 vehicles by 2040 to a total of 5158 and in the high case daily weekday flows are forecast to increase by around 882 vehicles by 2040 to a total of 5,334.
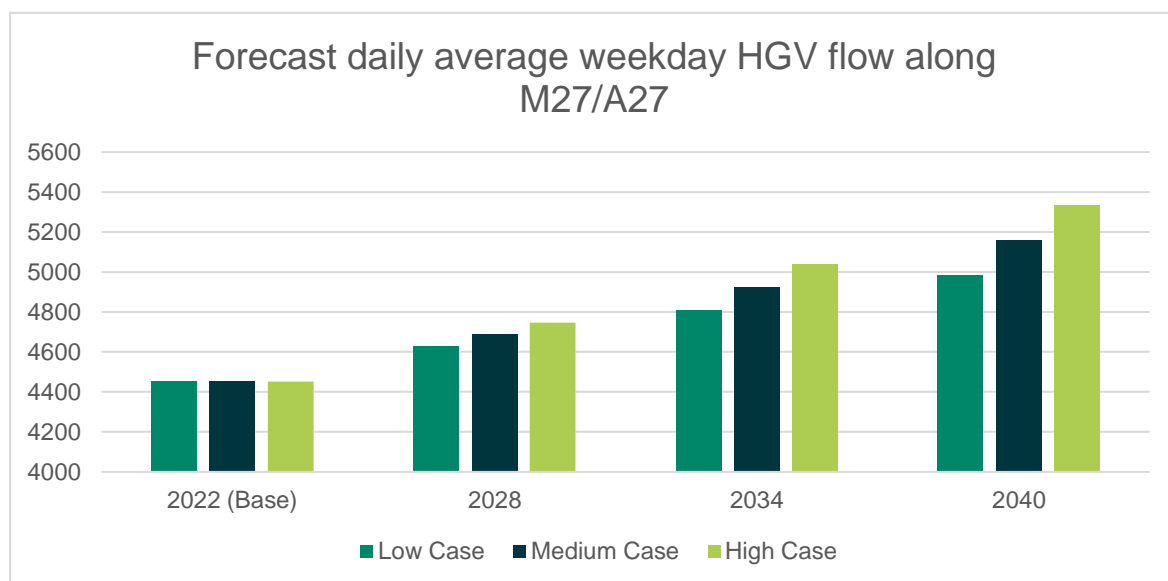
Figure B.16 Forecast daily average weekday HGV flow along M27/A27

Figure B.17 shows the forecast requirement for HGV parking spaces along the M27/A27. This shows that in the low case the required number of HGV parking spaces is forecast to increase by 43 to 403 by 2040. In the medium case, the required number of HGV parking spaces is forecast to increase by 57 to 417 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 71 to 431 by 2040.
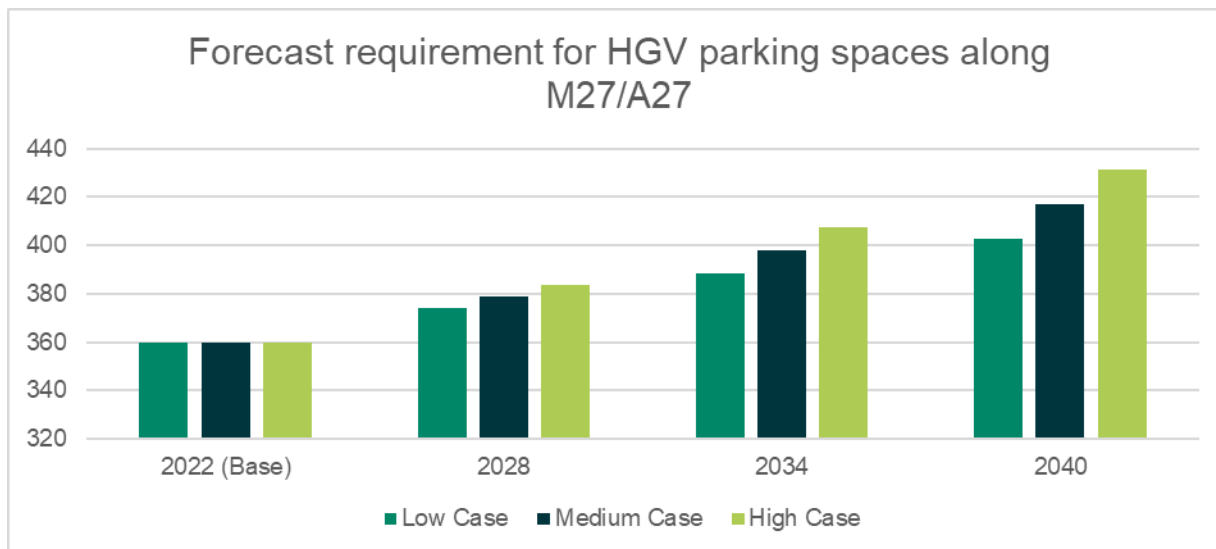

Figure B.17 Forecast requirement for HGV parking spaces along M27/A27

M2/A2

The M2 and A2 form a key route between London and Dover, routing via Rochester and Canterbury.

Figure B.18 shows the routing of the M2 and A2, as well as the on-site parking facilities, laybys and industrial estates within 2.5km. This shows key clusters of on-site parking facilities west of Canterbury and near Dover, as well as a cluster of industrial estates in Rochester.

As outlined in the methodology, the four count points used were at the following locations:

- South of Gravesend (marked U on Figure B.18)
- Adjacent to the village of Bredhurst (marked V on Figure B.18)
- Adjacent to the village of Doddington (marked W on Figure B.18)
- North of Dover (marked X on Figure B.18)
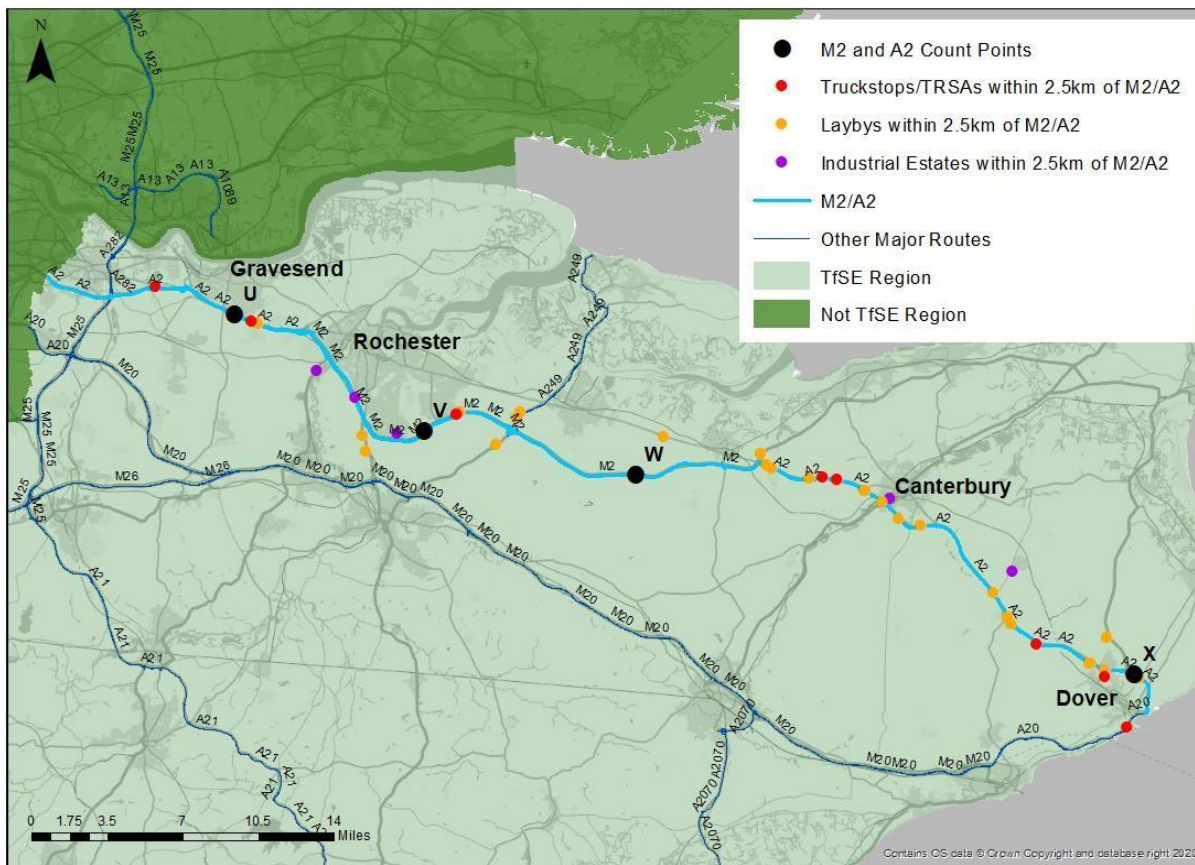
Figure B.18 Routing of the M2/A2 and lorry parking sites along the route

Figure B.19 shows the westbound and eastbound HGV flow at each of the count points. This shows a daily average weekday flow in March 2022 of 5,518 HGVs westbound and 5,893 HGVs eastbound. The average for Count Point U is significantly higher than the other count points, at 11,408 HGVs westbound and 12,632 HGVs eastbound, however this can be explained by the fact that this location is the only count point between the M25/A282 and the key industrial locations of Gravesend and Rochester, as well as the turnoffs for the A228 and A229 which link the M2 and M20.
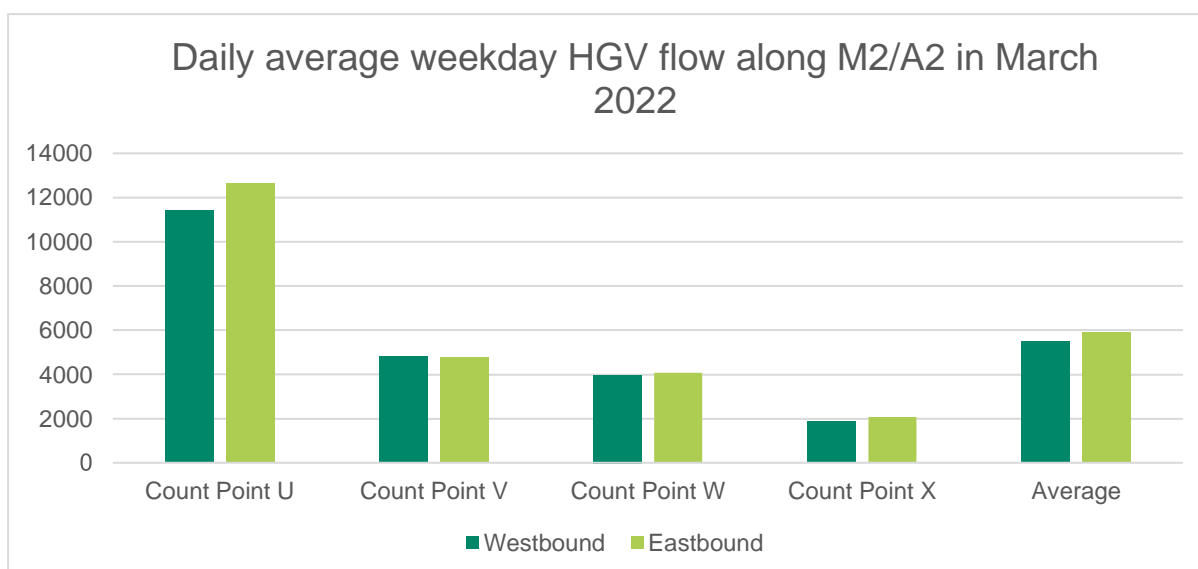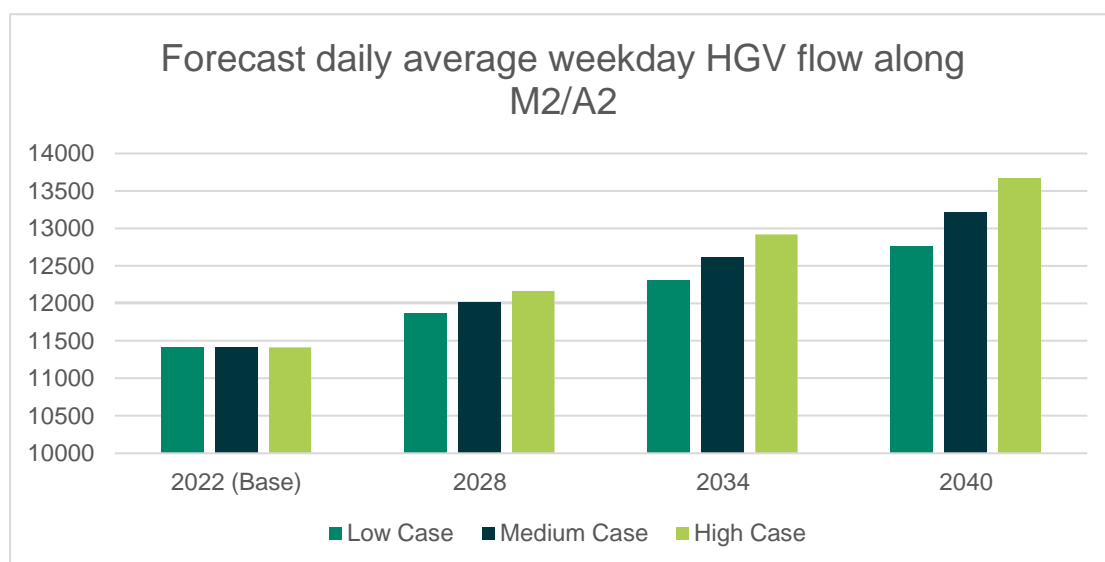

Figure B.19 Daily average weekday HGV flow along M2/A2 in March 2022

Table B.5 shows an overview of key lorry parking statistics for the M2/A2. This shows that there was a 122-space deficit in the total on-site parking capacity versus the number of HGVs recorded as being parked along the corridor. The parking demand factor of 7.0 means that approximately 7% of the weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking.

Table B.5 Key lorry parking statistics for the M2/A2

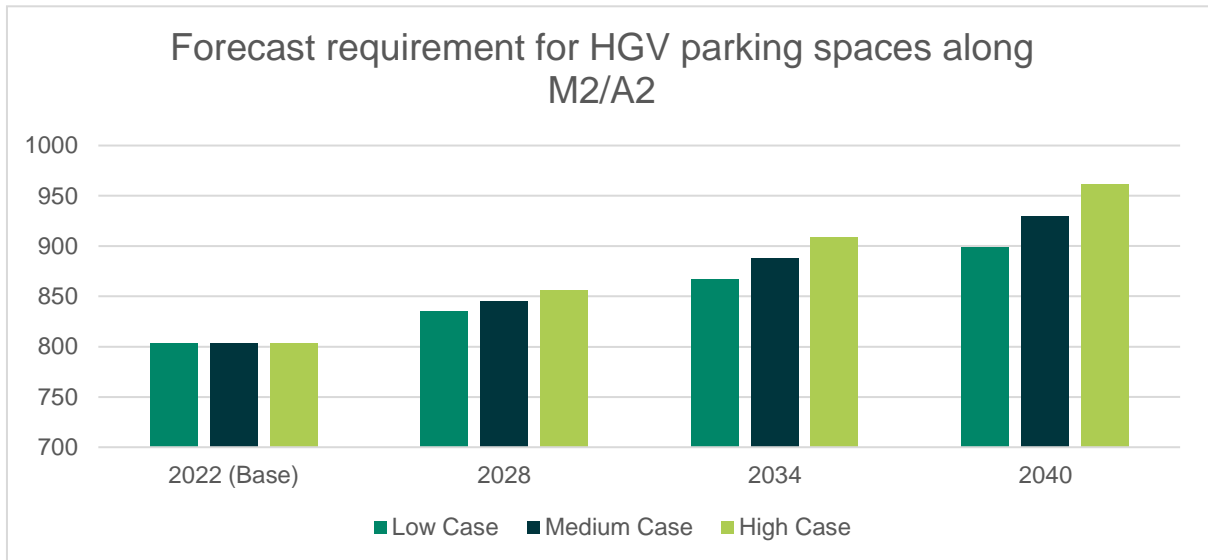|	M2/A2
Average HGV flow per 24 hours per weekday in both directions in March 2022	11,411
Total HGVs parked	803
Parked at on-site parking facilities	626
Parked in laybys	125
Parked in industrial estates	52
2022 on-site capacity on route	681
2022 on-site capacity versus total HGVs parked on route	91.9
2022 on-site capacity versus total HGVs parked	-122
Parking demand factor	**7.0**

Figure B.20 shows the forecast daily average weekday flow along the M2/A2. This shows that in the low case daily weekday flows are forecast to increase by around 1,356 vehicles by 2040 to a total of 12,766. In the medium case, daily weekday flows are forecast to increase by around 1,807 vehicles by 2040 to a total of 13,218 and in the high case daily weekday flows are forecast to increase by around 2,259 vehicles by 2040 to a total of 13,670.

Figure B.20 Forecast daily average weekday HGV flow along M2/A2

Figure B.21 shows the forecast requirement for HGV parking spaces along the M2/A2. This shows that in the low case the required number of HGV parking spaces is forecast to increase by 95 to 898 by 2040. In the medium case, the required number of HGV parking spaces is forecast to increase by 127 to 930 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 159 to 962 by 2040.

Figure B.21 Forecast requirement for HGV parking spaces along M2/A2
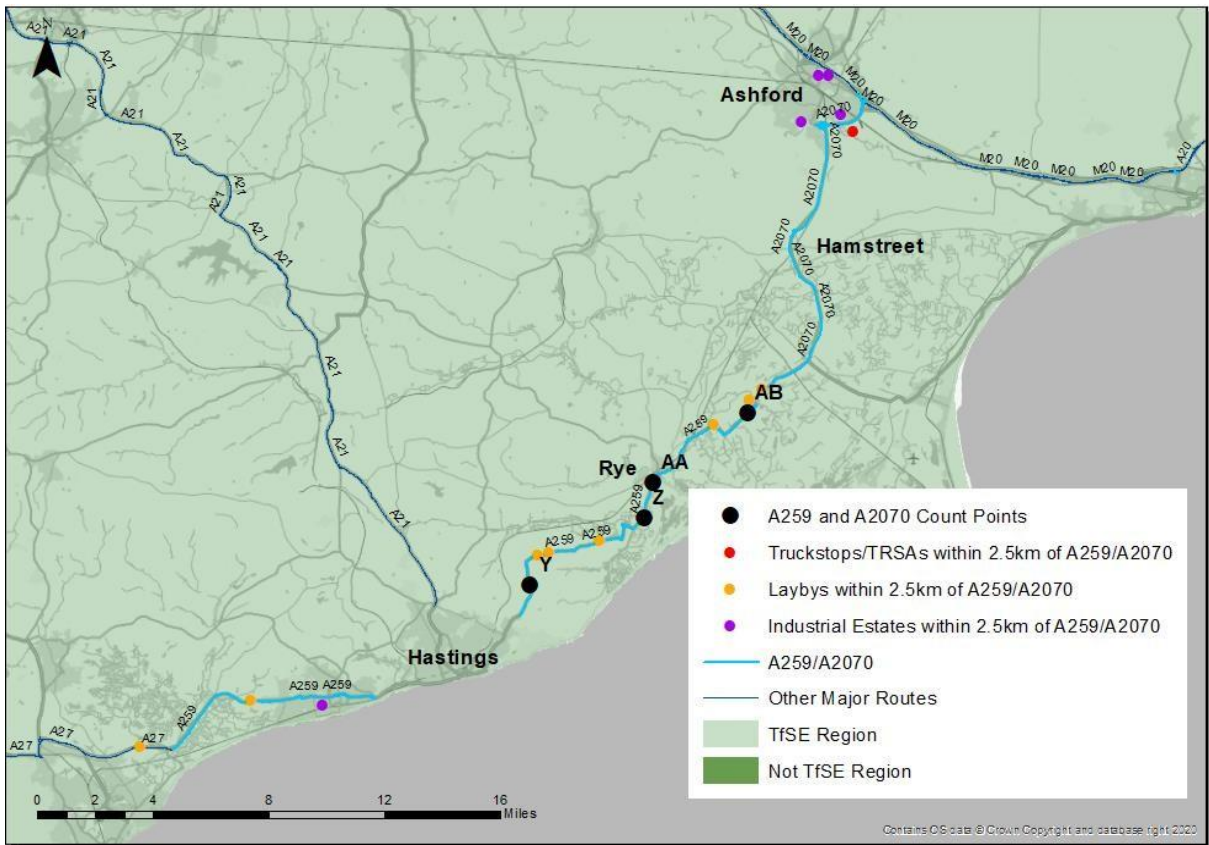
A259/A2070

The A259 and A2070 form a key route between Pevensey and Ashford, routing via Hastings and Rye.

Figure B.22 shows the routing of the A259 and A2070, as well as the on-site parking facilities, laybys and industrial estates within 2.5km. This shows clusters of laybys either side of Rye, as well as a cluster of industrial estates in Ashford.

As outlined in the methodology, the four count points used were at the following locations:

- Near to the village of Guestling Green (marked Y on Figure B.22)
- Near to the village of Winchelsea (marked Z on Figure B.22)
- Near to the village of Rye (marked AA on Figure B.22)
- Near to the village of Brookland (marked BB on Figure B.22)

For this route, as there were no appropriate count points on the A2070, all count points for this route are on the A259.

Figure B.22 Routing of the A259/A2070 and lorry parking sites along the route

Figure B.23 shows the westbound and eastbound HGV flow at each of the count points. This shows a daily average weekday flow in March 2022 of 208 HGVs westbound and 257 HGVs eastbound. The eastbound average for Count Point AA is significantly higher than the other count points, at 454 vehicles eastbound, however this can be explained by the fact that this location also enables local traffic within the village of Rye to access and use the village one-way system, which increases eastbound traffic through this count point as a result.
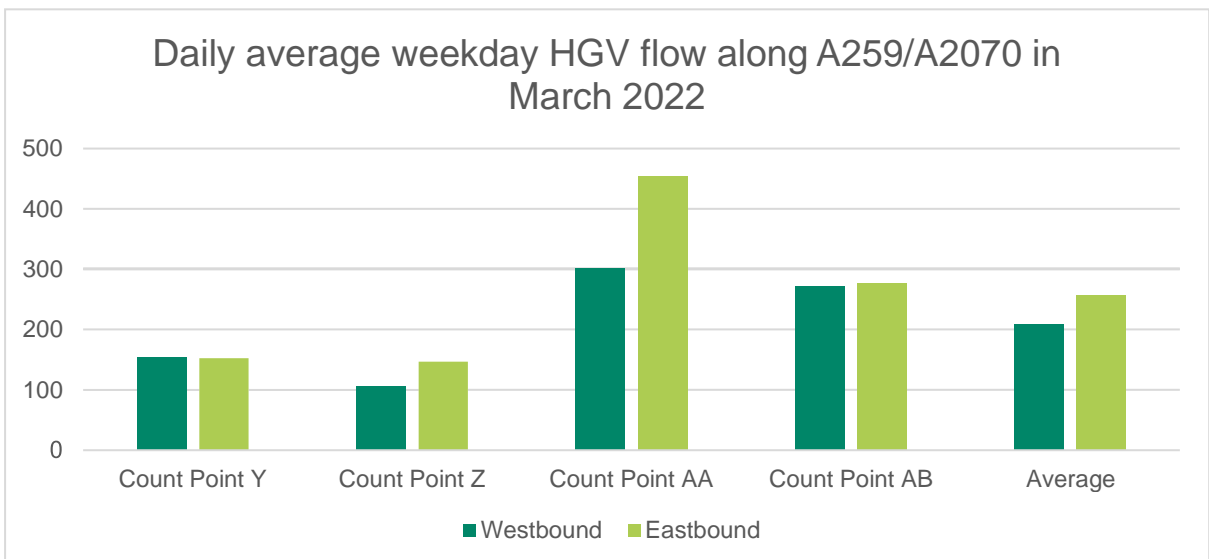
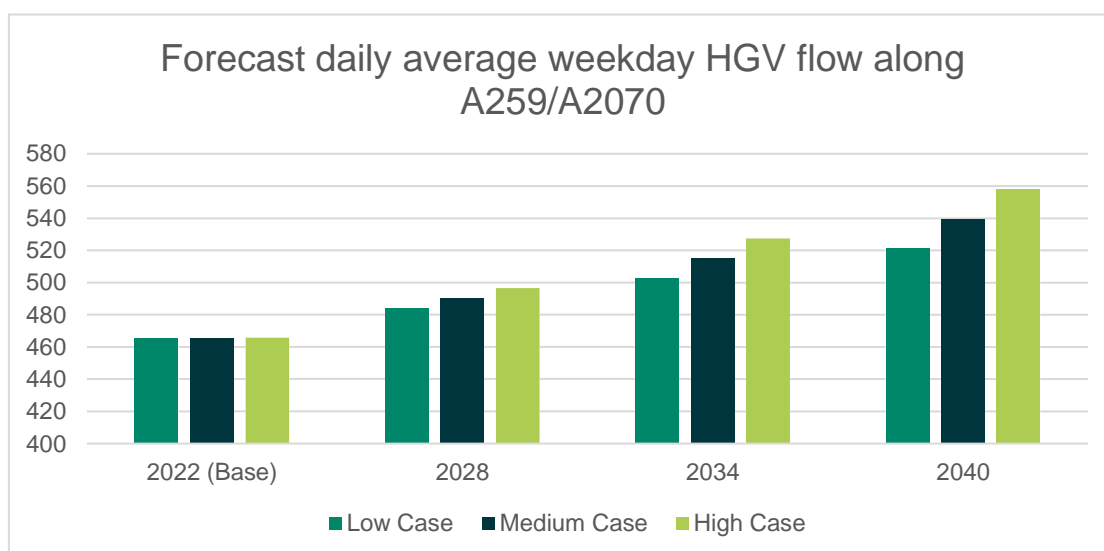**Figure B.23 Daily average weekday HGV flow along A259/A2070 in March 2022**

Table B.6 shows an overview of key lorry parking statistics for the A259/A2070. This shows that there was a 32 space deficit in the total on-site parking capacity versus the number of HGVs recorded as being parked along the corridor.

For this route, the parking demand factor of 146.0 means that nearly 1.5 times the weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking. However, this is due to the Ashford International Truckstop being along the route, which primarily serves the M20/A20 route, therefore skewing the parking demand factor for the A259/A2070.

**Table B.6 Key lorry parking statistics for the A259/A2070**

	A259/A2070
Average HGV flow per 24 hours per weekday in both directions in March 2022	466
Total HGVs parked	682
Parked at on-site parking facilities	650
Parked in laybys	3
Parked in industrial estates	29
2022 on-site capacity on route	650
2022 on-site capacity versus total HGVs parked on route	100
2022 on-site capacity versus total HGVs parked	-32
Parking demand factor	**146.4**

Figure B.24 shows the forecast daily average weekday flow along the A259/A2070. This shows that in the low case daily weekday flows are forecast to increase by around 55 vehicles by 2040 to a total of 521. In the medium case, daily weekday flows are forecast to increase by around 74 vehicles by 2040 to a total of 540 and in the high case daily weekday flows are forecast to increase by around 92 vehicles by 2040 to a total of 558.

Figure B.24 Forecast daily average weekday HGV flow along A259/A2070

Figure B.25 shows the forecast requirement for HGV parking spaces along the A259/A2070. This shows that in the low case the required number of HGV parking spaces is forecast to increase by 81 to 763 by 2040. In the medium case, the required number of HGV parking spaces is forecast to increase by 108 to 790 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 135 to 817 by 2040.
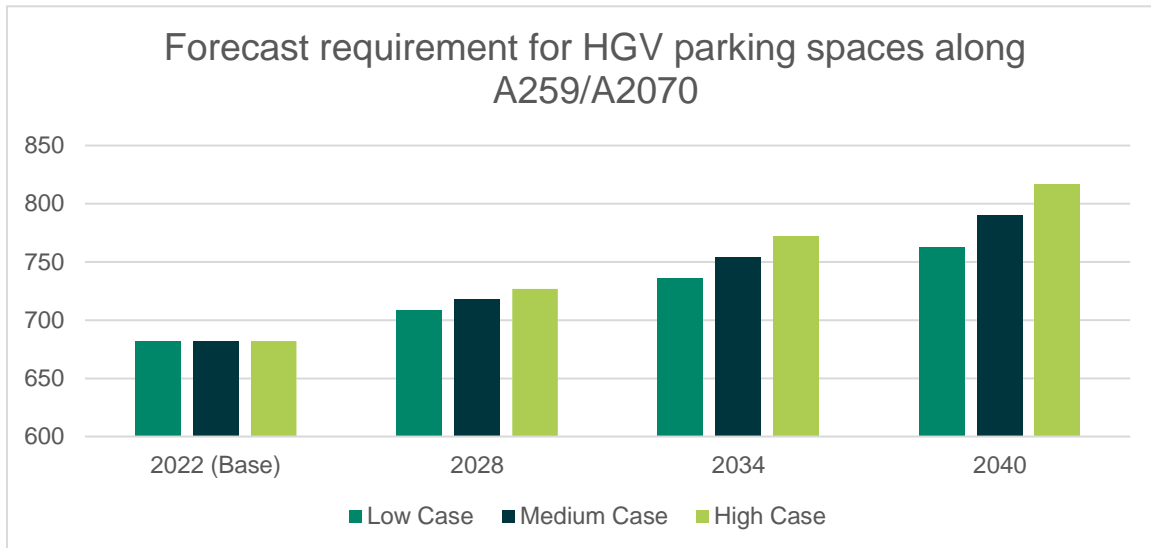
**Figure B.25 Forecast requirement for HGV parking spaces along A259/A2070**

M23/A23

The M23 and A23 form a key route between London and Brighton and Hove, routing via Gatwick Airport and Crawley.

Figure B.26 shows the routing of the M2 and A2, as well as the on-site parking facilities, laybys and industrial estates within 2.5km. This shows key clusters of on-site parking facilities south of Crawley, as well as a cluster of laybys on the A23 north of Brighton and Hove.

As outlined in the methodology, the four count points used were at the following locations:

- East of Merstham (marked CC on Figure B.26)
- East of Salfords (marked DD on Figure B.26Figure B.26)
- East of Gatwick Airport to the village of Doddington (marked EE on Figure B.26)
- Near to the village of Bolney (marked FF on Figure B.26)
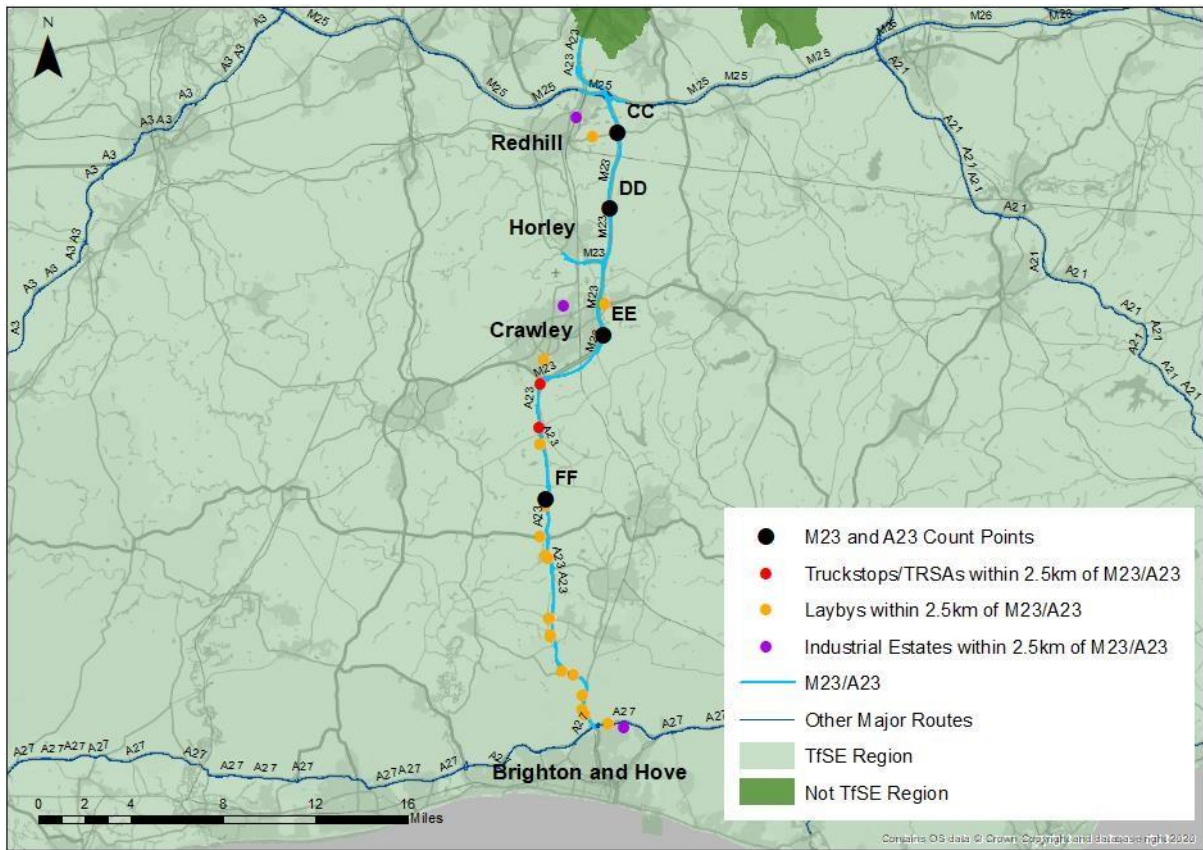
Figure B.26 Routing of the M23/A23 and lorry parking sites along the route

Figure B.27 shows the northbound and southbound HGV flow at each of the count points. This shows a daily average weekday flow in March 2022 of 6,067 HGVs northbound and 5,389 HGVs southbound. At each of the count points there is a higher northbound flow than southbound flow, whilst the overall number of HGVs increases as the route gets closer to London.
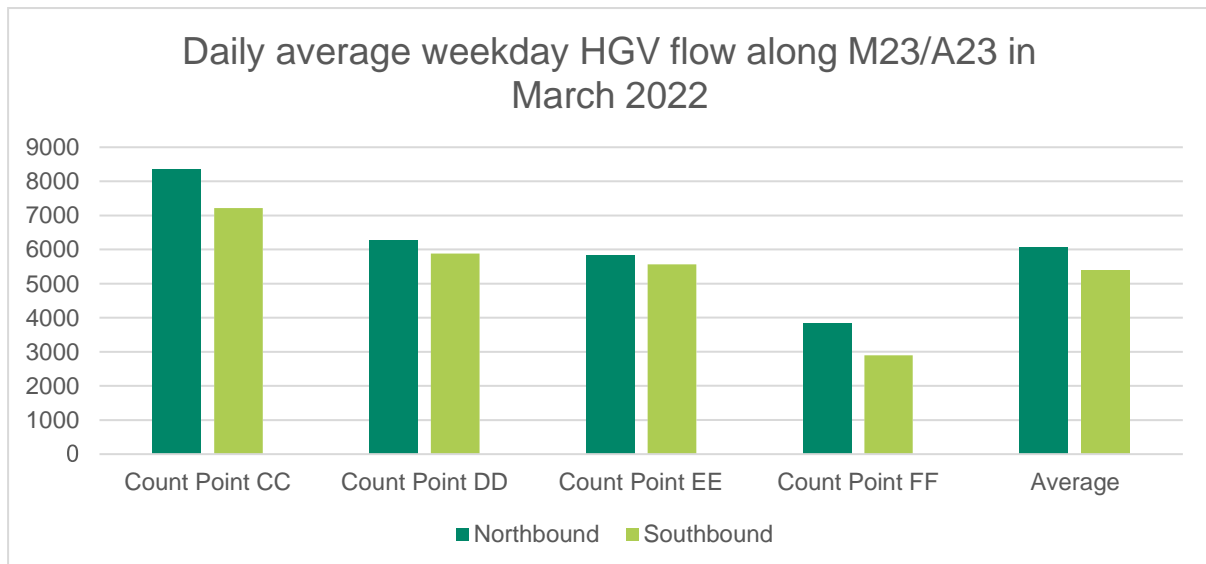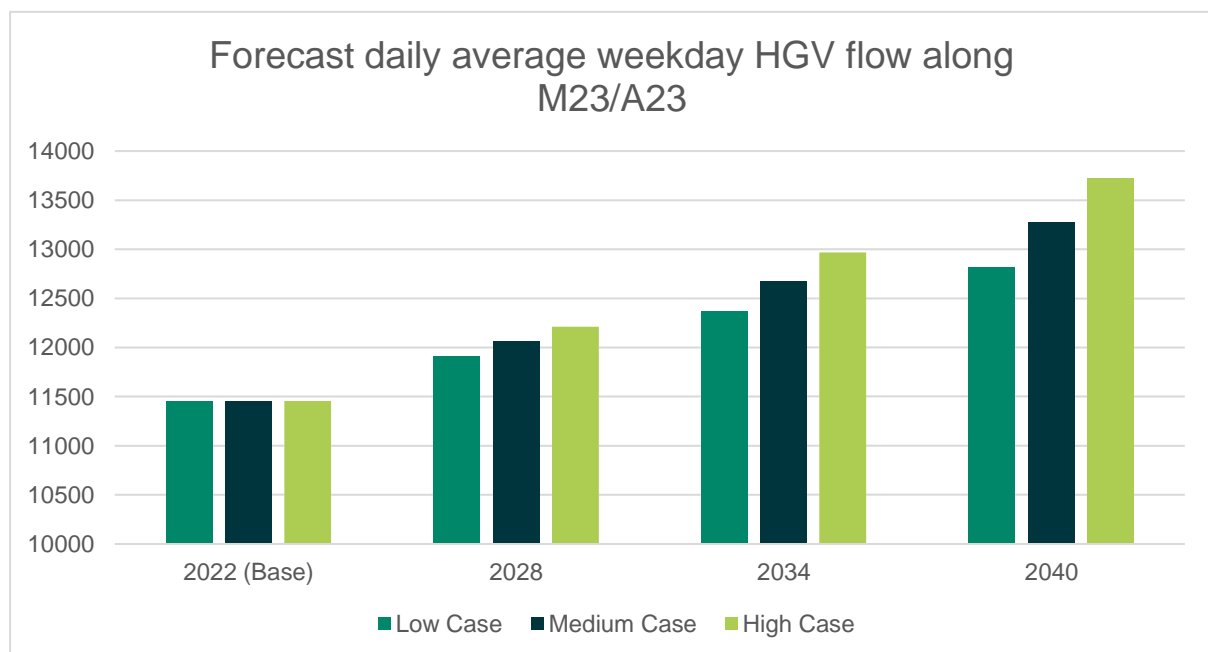

Figure B.27 Daily average weekday HGV flow along M23/A23 in March 2022

Table B.7 shows an overview of key lorry parking statistics for the M23/A23. This shows that there was a 47-space deficit in the total on-site parking capacity versus the number of HGVs recorded as being parked along the corridor. The parking demand factor of 0.6 means that approximately 0.6% of the weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking.

**Table B.7 Key lorry parking statistics for the M23/A23**

	M23/A23
Average HGV flow per 24 hours per weekday in both directions in March 2022	11,457
Total HGVs parked	73
Parked at on-site parking facilities	34
Parked in laybys	33
Parked in industrial estates	6
2022 on-site capacity on route	26
2022 on-site capacity versus total HGVs parked on route	130.8
2022 on-site capacity versus total HGVs parked	-47
Parking demand factor	**0.6**

Figure B.28 shows the forecast daily average weekday flow along the M23/A23. This shows that in the low case daily weekday flows are forecast to increase by around 1,361 vehicles by 2040 to a total of 12,818. In the medium case, daily weekday flows are forecast to increase by around 1,815 vehicles by 2040 to a total of 13,271 and in the high case daily weekday flows are forecast to increase by around 2,268 vehicles by 2040 to a total of 13,725.

Figure B.28 Forecast daily average weekday HGV flow along M23/A23

Figure B.29 shows the forecast requirement for HGV parking spaces along the M23/A23. This shows that in the low case the required number of HGV parking spaces is forecast to increase by 9 to 82 by 2040. In the medium case, the required number of HGV parking spaces is forecast to increase by 12 to 85 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 14 to 87 by 2040.
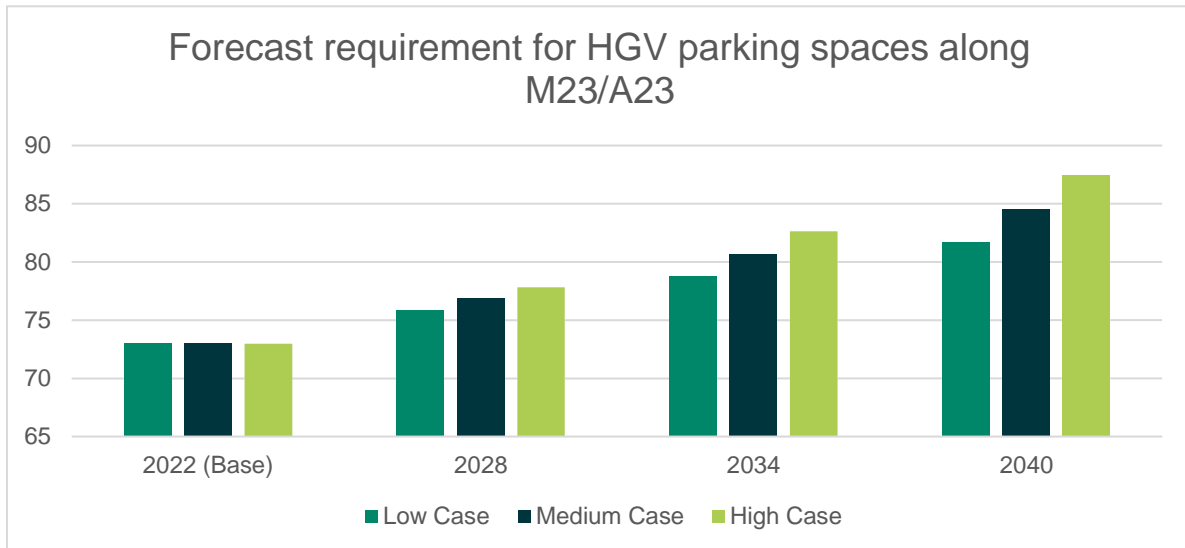
**Figure B.29 Forecast requirement for HGV parking spaces along M23/A23**

A21

The A21 is a key route between London and Hastings, routing via Tonbridge and Royal Tunbridge Wells.

Figure B.30 shows the routing of the A21, as well as the on-site parking facilities, laybys and industrial estates within 2.5km. This shows key clusters of laybys around Sevenoaks and around Robertsbridge, as well as a cluster of industrial estates in Hastings.

As outlined in the methodology, the four count points used were at the following locations:

- South of Sevenoaks (marked GG on Figure B.30)
- Near to the village of Lamberhurst (marked HH on Figure B.30)
- Near to the village of Hurst Green (marked II on Figure B.30)
- Near to the village of St Johns Cross (marked JJ on Figure B.30)
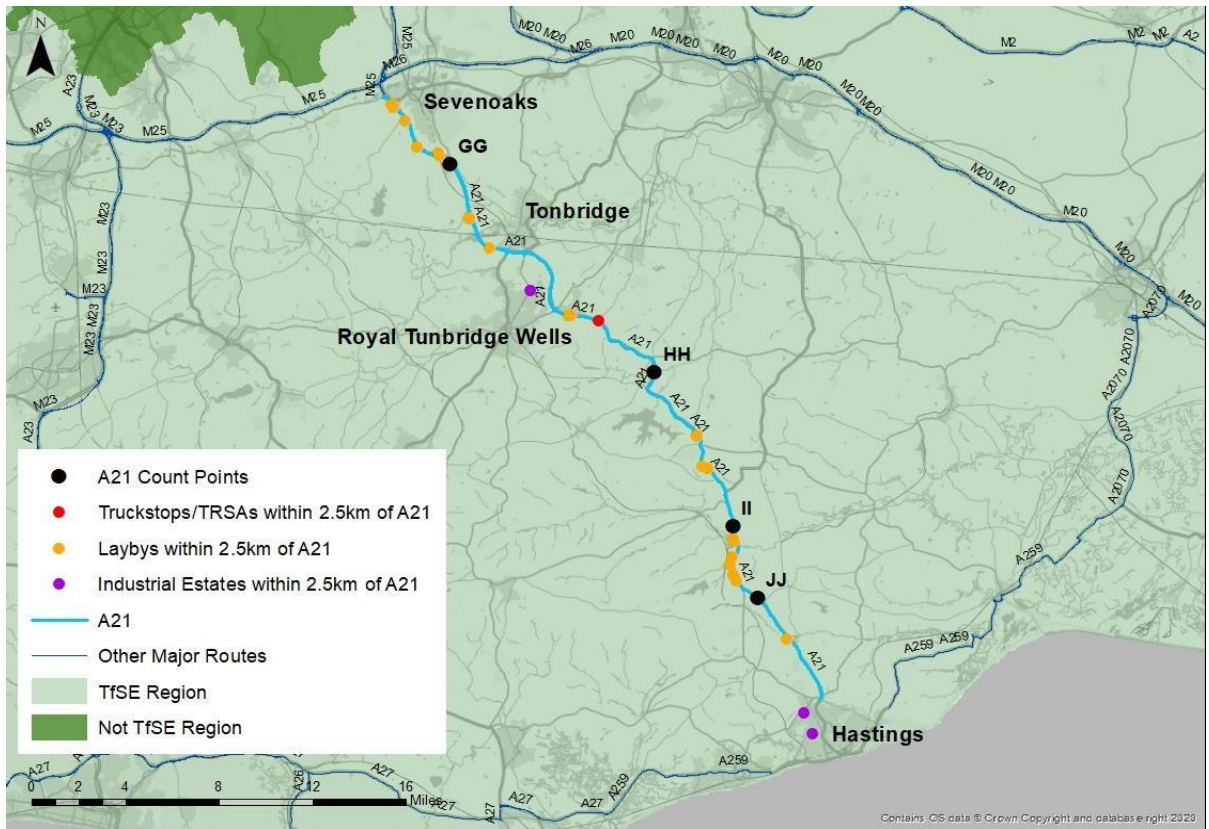
Figure B.30 Routing of the A21 and lorry parking sites along the route

Figure B.31 shows the northbound and southbound HGV flow at each of the count points. This shows a daily average weekday flow in March 2022 of 1,103 HGVs northbound and 1,062 HGVs southbound. The average for Count Point GG is significantly higher than the other count points, at 2,011 HGVs northbound and 1,941 HGVs southbound, however this can be explained by the fact that this location is closest to the M25 and London, and also the only count point between the M25 and the turnoff for the A26, as well as the key urban clusters of Tonbridge and Royal Tunbridge Wells.
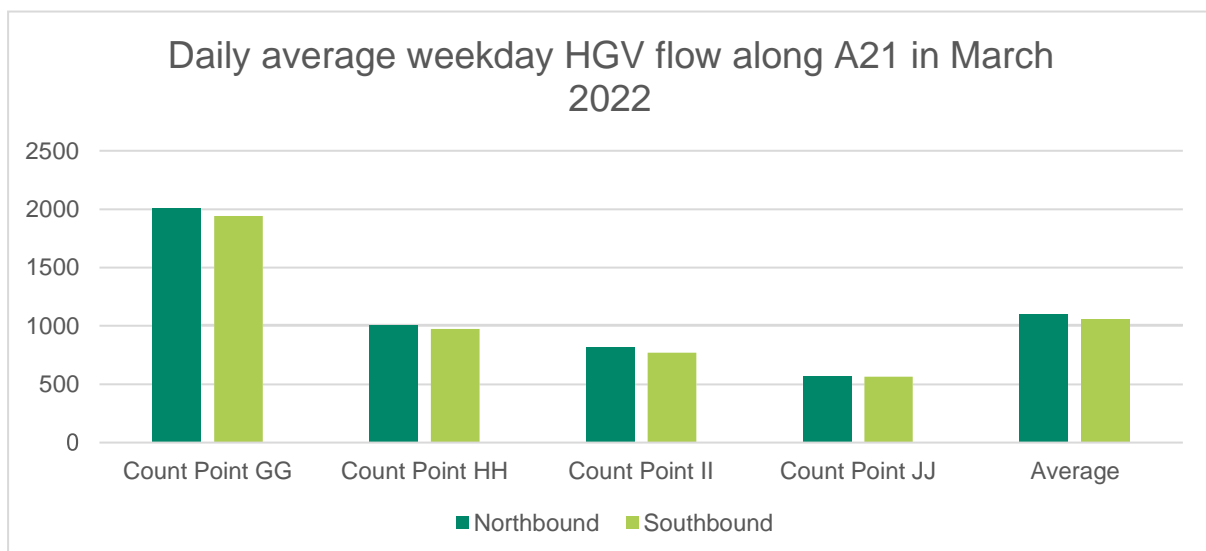
Figure B.31 Daily average weekday HGV flow along A21 in March 2022

Table B.8 shows an overview of key lorry parking statistics for the A21. This shows that there was a 49-space deficit in the total on-site parking capacity versus the number of HGVs recorded as being parked along the corridor. The parking demand factor of 2.6 means that approximately 2.6% of the weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking.

**Table B.8 Key lorry parking statistics for the A21**

	A21
Average HGV flow per 24 hours per weekday in both directions in March 2022	2,165
Total HGVs parked	57
Parked at on-site parking facilities	3
Parked in laybys	50
Parked in industrial estates	4
2022 on-site capacity on route	8
2022 on-site capacity versus total HGVs parked on route	37.5
2022 on-site capacity versus total HGVs parked	-49
Parking demand factor	**2.6**

Figure B.32 shows the forecast daily average weekday flow along the A21. This shows that in the low case daily weekday flows are forecast to increase by around 257 vehicles by 2040 to a total of 2,422. In the medium case, daily weekday flows are forecast to increase by around 343 vehicles by 2040 to a total of 2,508 and in the high case daily weekday flows are forecast to increase by around 429 vehicles by 2040 to a total of 2,594.
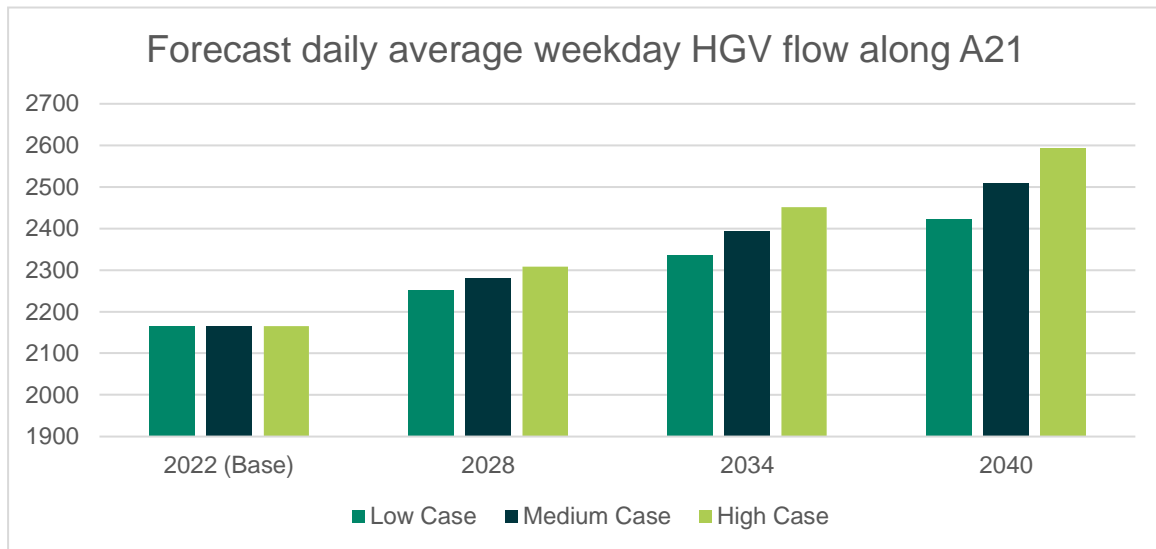
Figure B.32 Forecast daily average weekday HGV flow along A21

Figure B.33 shows the forecast requirement for HGV parking spaces along the A21. This shows that in the low case the required number of HGV parking spaces is forecast to increase by 7 to 64 by 2040. In the medium case, the required number of HGV parking spaces is forecast to increase by 9 to 66 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 11 to 68 by 2040.
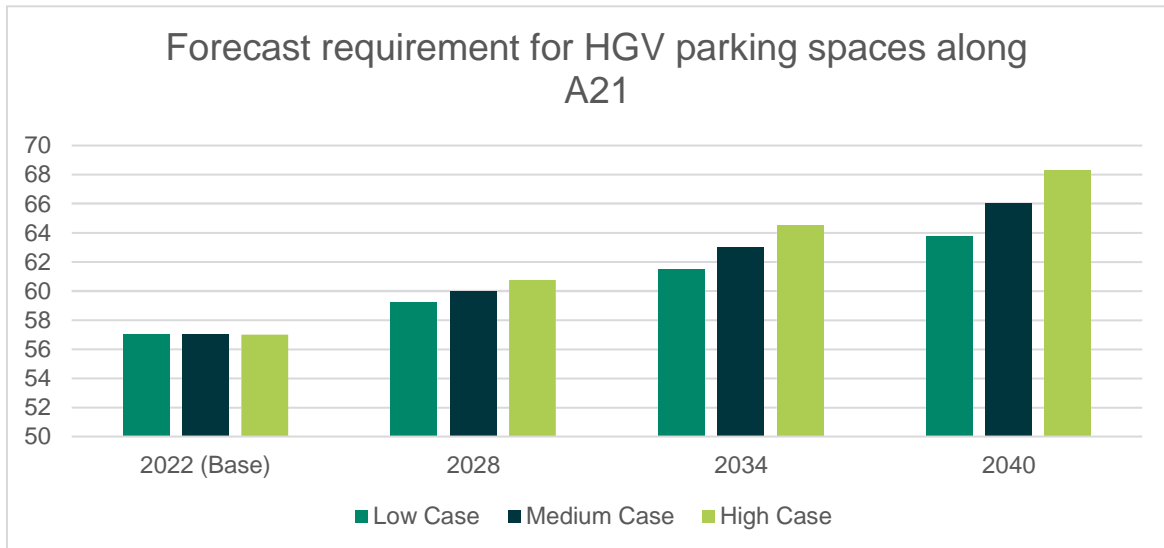
Figure B.33 Forecast requirement for HGV parking spaces along A21

M25/A282

The M25 and A282 form an orbital route around London. Within the TfSE area, this route connects Egham in the south west to Dartford in the south east.

Figure B.34 shows the routing of the M25/A282, as well as the on-site parking facilities, laybys and industrial estates within 2.5km. This shows key clusters of laybys and industrial estates around Egham and on-site parking areas spread along the route.

As outlined in the methodology, the four count points used were at the following locations:

- South of Egham (marked KK on Figure B.34)
- Near to Ashtead (marked LL on Figure B.34)
- Near to Oxted (marked MM on Figure B.34)
- Near to the village of Crockenhill (marked NN on Figure B.34)
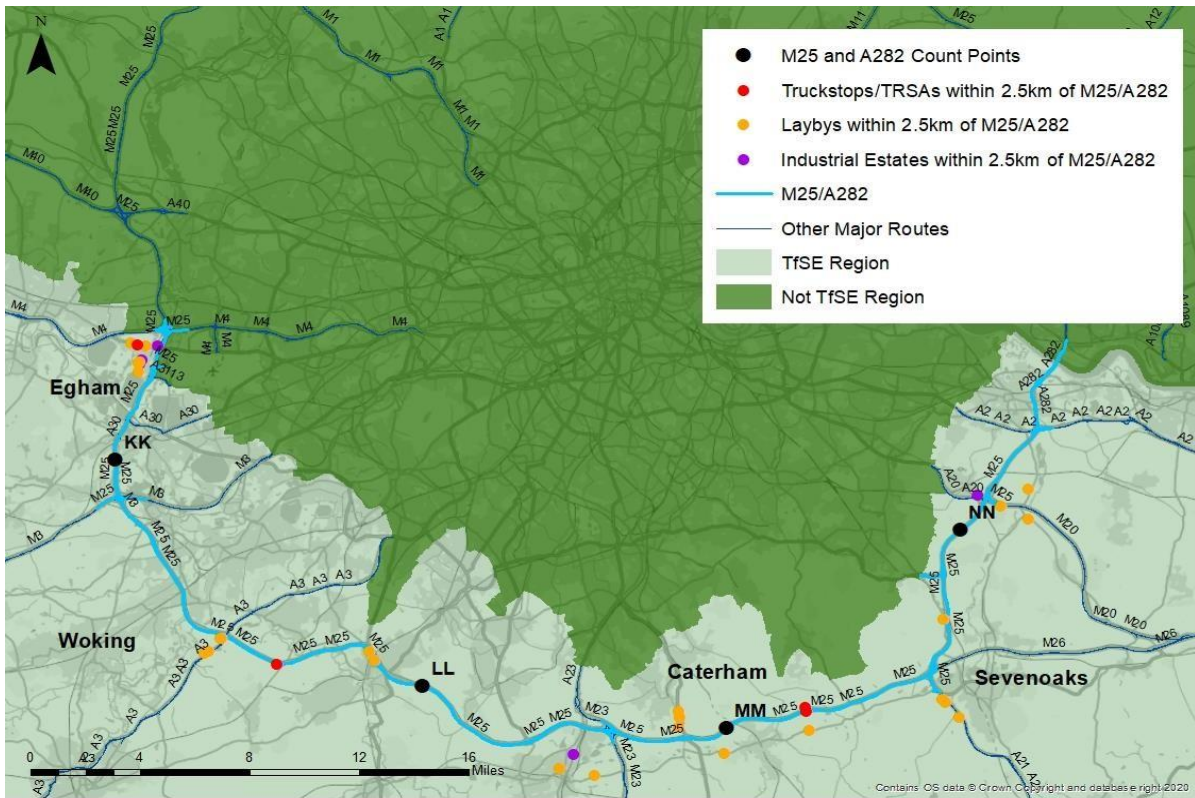
**Figure B.34 Routing of the M25/A282 and lorry parking sites along the route**

Figure B.35 shows the anticlockwise and clockwise HGV flow at each of the count points. This shows a daily average weekday flow in March 2022 of 12,418 HGVs anticlockwise and 12,242 HGVs clockwise. The average for Count Point NN is significantly lower than the other count points, at 8,568 HGVs anticlockwise and 8,153 HGVs clockwise. This can be explained by the fact that this location is between the junctions of the M25 and M26, and the M25 and M20, where many trucks travelling both anticlockwise and clockwise would turn off to travel towards locations such as the Channel Tunnel and Dover.
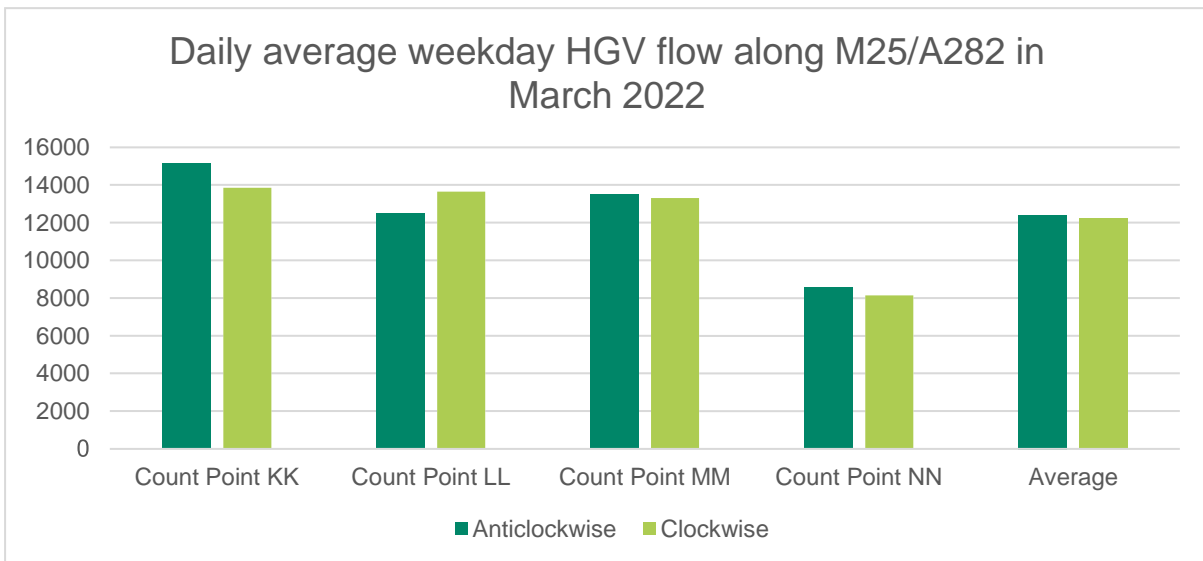
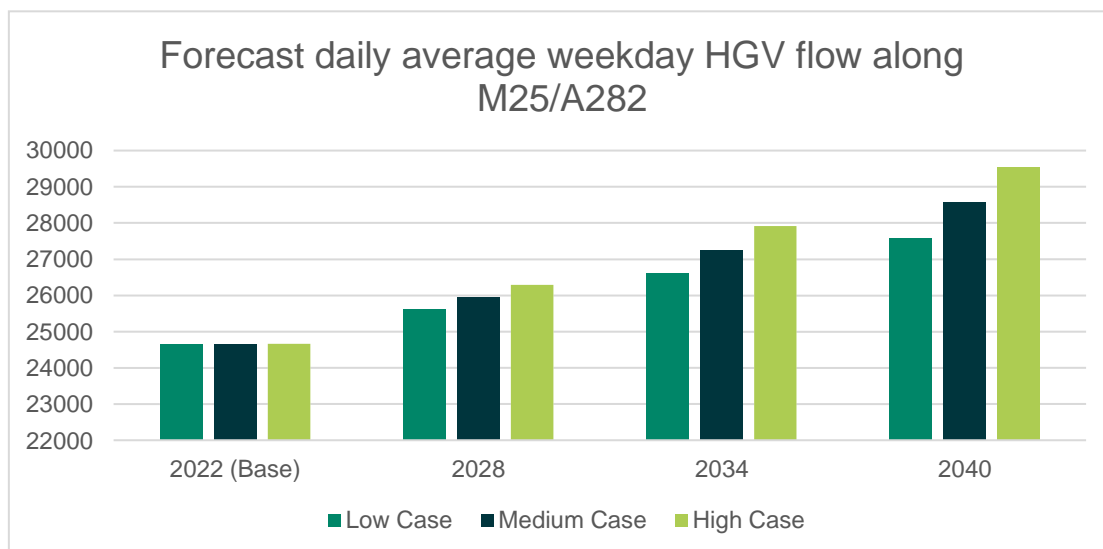**Figure B.35 Daily average weekday HGV flow along M25/A282 in March 2022**

Table B.9 shows an overview of key lorry parking statistics for the M25/A282. This shows that there was a 173-space deficit in the total on-site parking capacity versus the number of HGVs recorded as

being parked along the corridor. The parking demand factor of 2.3 means that approximately 2.3% of the weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking.

Table B.9 Key lorry parking statistics for the M25/A282

	M25/A282
Average HGV flow per 24 hours per weekday in both directions in March 2022	24,661
Total HGVs parked	565
Parked at on-site parking facilities	444
Parked in laybys	113
Parked in industrial estates	8
2022 on-site capacity on route	392
2022 on-site capacity versus total HGVs parked on route	113.3
2022 on-site capacity versus total HGVs parked	-173
Parking demand factor	2.3

Figure B.36 shows the forecast daily average weekday flow along the M25/A282. This shows that in the low case daily weekday flows are forecast to increase by around 2,930 vehicles by 2040 to a total of 27,590. In the medium case, daily weekday flows are forecast to increase by around 3,906 vehicles by 2040 to a total of 28,567 and in the high case daily weekday flows are forecast to increase by around 4,883 vehicles by 2040 to a total of 29,544.

Figure B.36 Forecast daily average weekday HGV flow along M25/A282

Figure B.37 shows the forecast requirement for HGV parking spaces along the M25/A282. This shows that in the low case the required number of HGV parking spaces is forecast to increase by 67 to 632 by 2040. In the medium case, the required number of HGV parking spaces is forecast to increase by 89 to 654 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 112 to 677 by 2040.
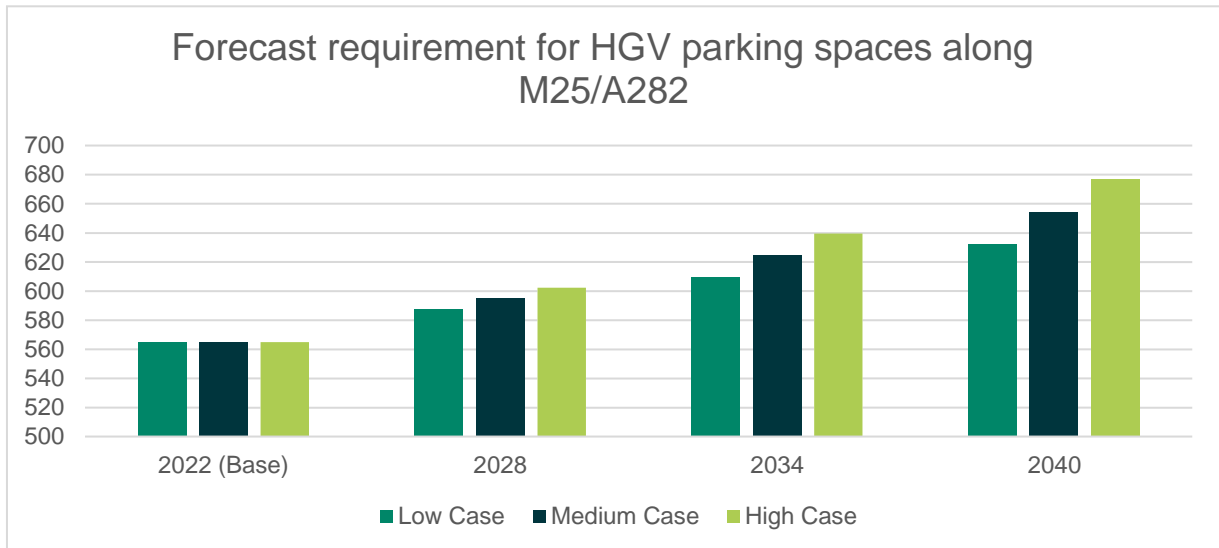
Figure B.37 Forecast requirement for HGV parking spaces along M25/A282

A34

The A34 is a key route between Winchester and the Midlands. Within the TfSE area it links locations including Winchester, Whitchurch and Newbury.

Figure B.38 shows the routing of the A34, as well as the on-site parking facilities, laybys and industrial estates within 2.5km. This shows several laybys along the entire route, as well as a cluster of industrial estates around Winchester.

As outlined in the methodology, the four count points used were at the following locations:

- Near to the village of Enborne Row (marked OO on Figure B.38)
- Near to the village of Burghclere (marked PP on Figure B.38)
- Near to the village of Sutton Scotney (marked QQ on Figure B.38)
- Near to the village of South Wonston (marked RR on Figure B.38)

Figure B.38 Routing of the A34 and lorry parking sites along the route

Figure B.39 shows the northbound and southbound HGV flow at each of the count points. This shows a daily average weekday flow in March 2022 of 5,217 HGVs northbound and 4,605 HGVs southbound. The northbound figure for Count Point PP is significantly higher than the southbound figure, with 6,682 HGVs northbound and 4,672 HGVs southbound. One explanation for this may be that large vehicles travelling north to Newbury may find it easier to travel one junction further north up past this count point on the A34 to avoid having to navigate the double gyratory at the previous junction with the B4640 which is quite tight, and easier to navigate for vehicles travelling southbound.
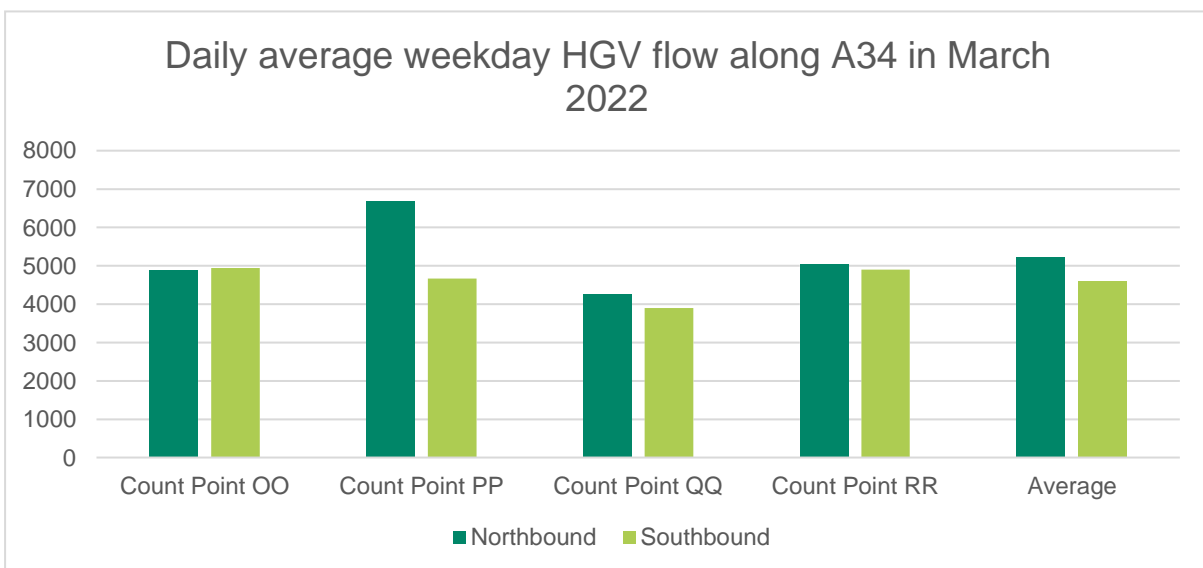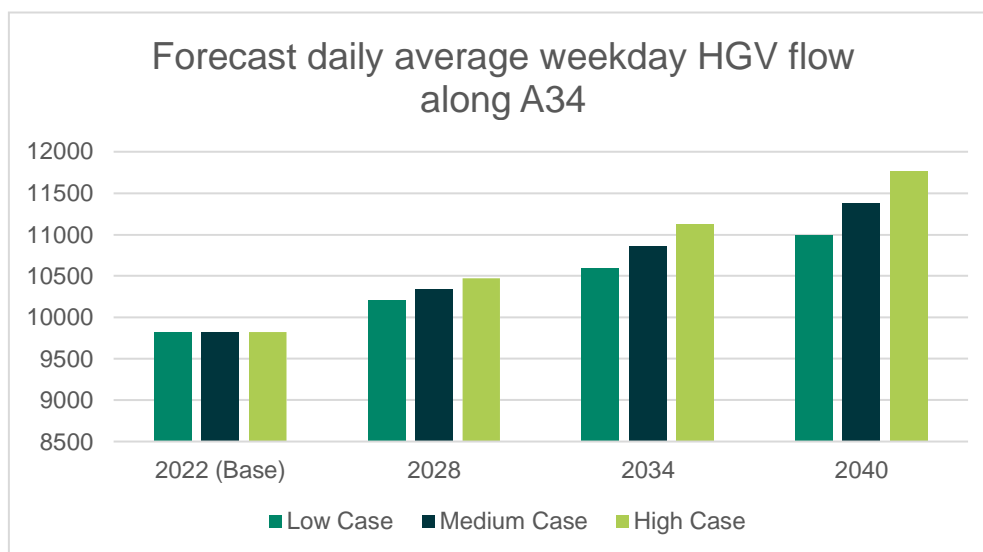

Figure B.39 Daily average weekday HGV flow along A34 in March 2022

Table B.10 shows an overview of key lorry parking statistics for the A34. This shows that there was a 132-space deficit in the total on-site parking capacity versus the number of HGVs recorded as being parked along the corridor. The parking demand factor of 2.9 means that approximately 2.9% of the weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking.

Table B.10 Key lorry parking statistics for the A34

	A34
Average HGV flow per 24 hours per weekday in both directions in March 2022	9,822
Total HGVs parked	284
Parked at on-site parking facilities	187
Parked in laybys	80
Parked in industrial estates	17
2022 on-site capacity on route	152
2022 on-site capacity versus total HGVs parked on route	123
2022 on-site capacity versus total HGVs parked	-132
Parking demand factor	**2.9**

Figure B.40 shows the forecast daily average weekday flow along the A34. This shows that in the low case daily weekday flows are forecast to increase by around 1,167 vehicles by 2040 to a total of 10,988. In the medium case, daily weekday flows are forecast to increase by around 1,556 vehicles by 2040 to a total of 11,377 and in the high case daily weekday flows are forecast to increase by around 1,945 vehicles by 2040 to a total of 11,766.

Figure B.40 Forecast daily average weekday HGV flow along A34

Figure B.41 shows the forecast requirement for HGV parking spaces along the A34. This shows that in the low case the required number of HGV parking spaces is forecast to increase by 34 to 318 by

2040. In the medium case, the required number of HGV parking spaces is forecast to increase by 45 to 329 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 56 to 340 by 2040.
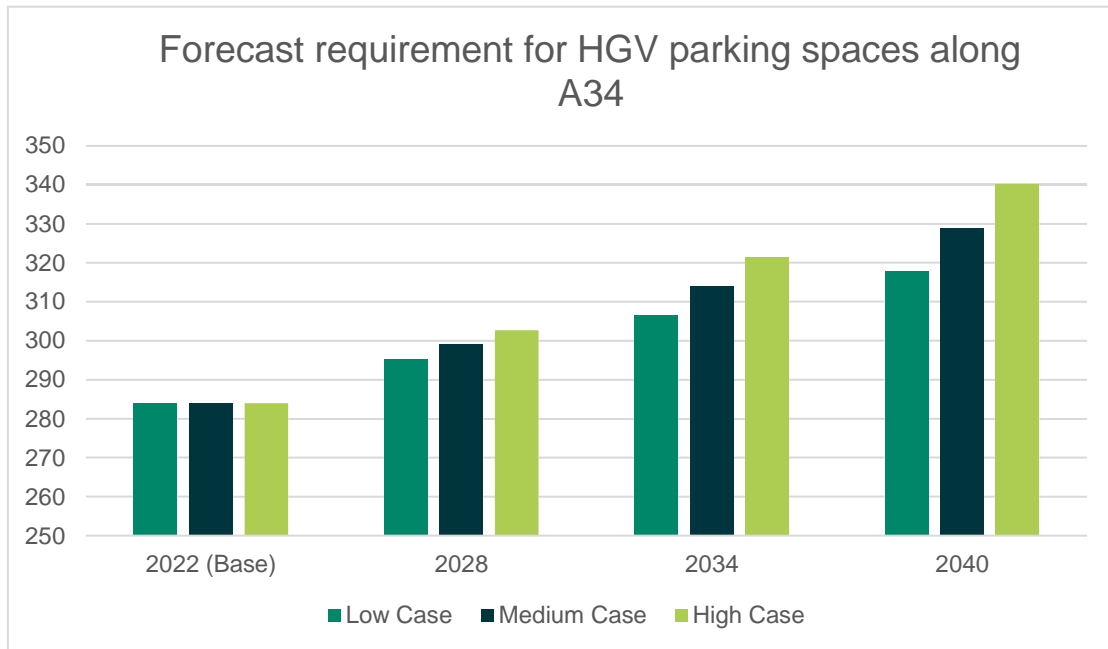
Figure B.41 Forecast requirement for HGV parking spaces along A34

M4

The M4 is a key route between London and South Wales. Within the TfSE area it links locations including Slough, Maidenhead and Reading.

Figure B.42 shows the routing of the A34, as well as the on-site parking facilities, laybys and industrial estates within 2.5km. This shows a cluster of facilities east of Slough, as well as several on-site parking facilities spread along the route.

As outlined in the methodology, the four count points used were at the following locations:

- Near to the village of Enborne Row (marked SS on Figure B.42)
- Near to the village of Burghclere (marked TT on Figure B.42)
- Near to the village of Sutton Scotney (marked UU on Figure B.42)
- Near to the village of South Wonston (marked VV on Figure B.42)
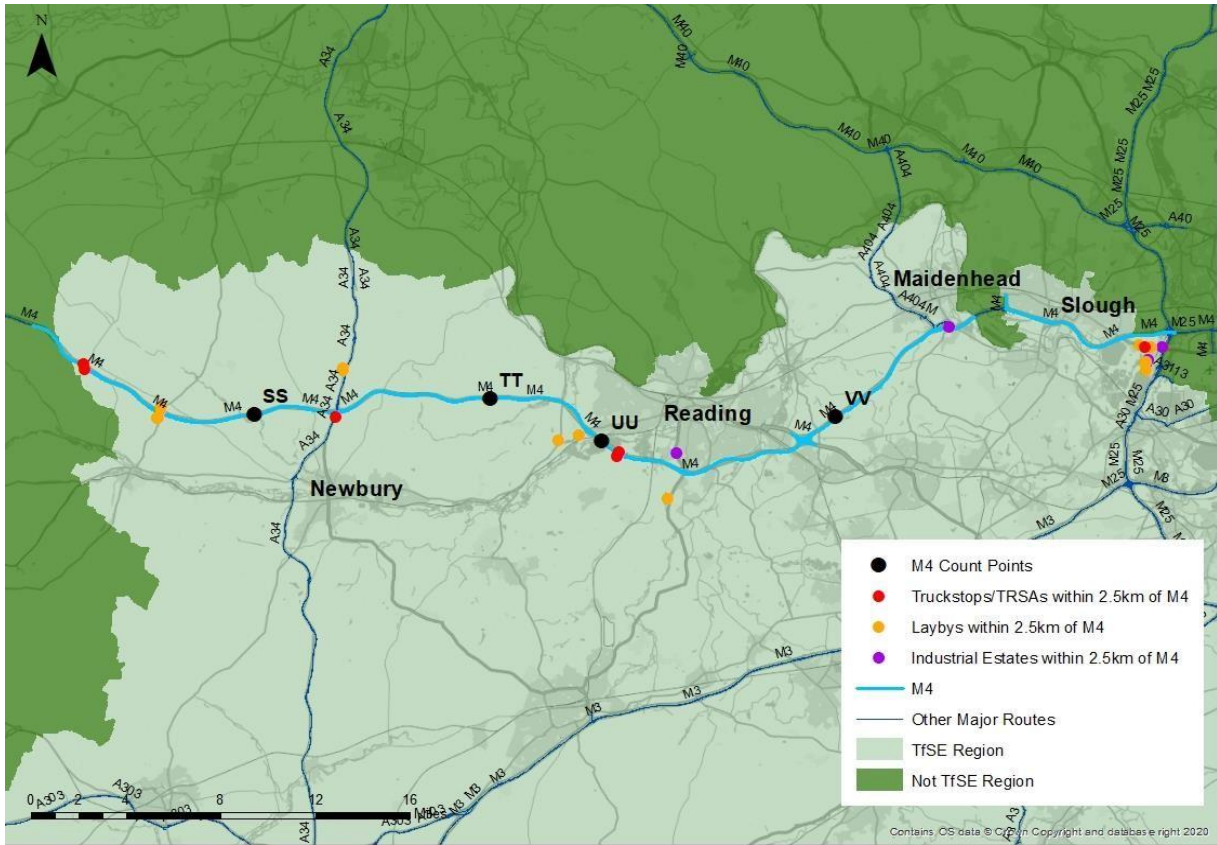
Figure B.42 Routing of the M4 and lorry parking sites along the route

Figure B.43 shows the westbound and eastbound HGV flow at each of the count points. This shows a daily average weekday flow in March 2022 of 6,092 HGVs westbound and 6,715 HGVs eastbound. At each of the count points there is a higher eastbound flow than westbound flow, whilst the overall number of HGVs travelling westbound decreases as the route gets further from London.
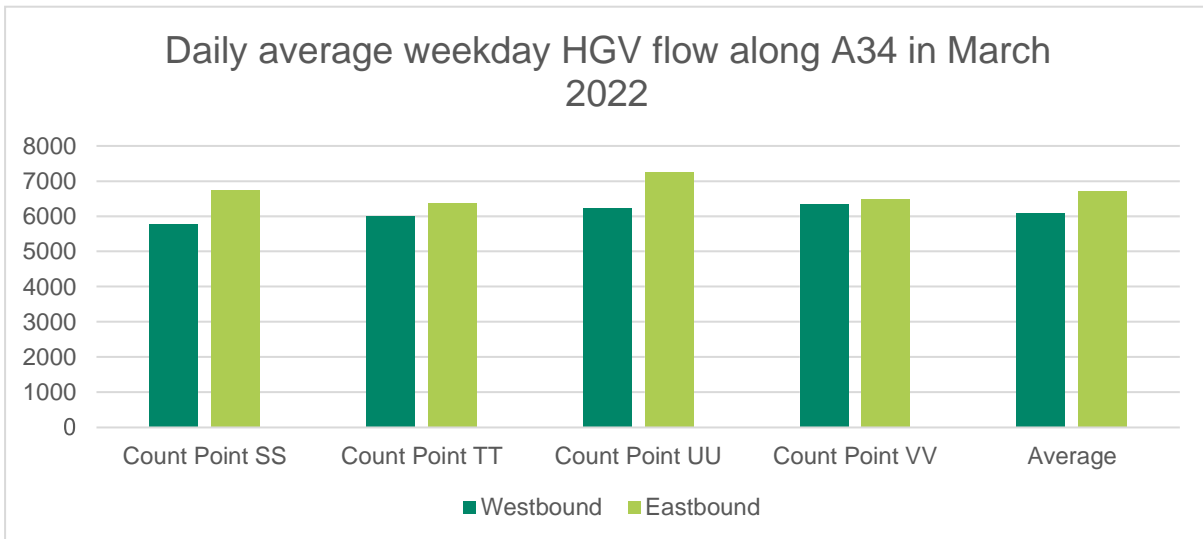
Figure B.43 Daily average weekday HGV flow along M4 in March 2022

Table B.11 shows an overview of key lorry parking statistics for the M4. This shows that there was a 58-space surplus in the total on-site parking capacity versus the number of HGVs recorded as being parked along the corridor. The parking demand factor of 2.6 means that approximately 2.3% of the

weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking.

Table B.11 Key lorry parking statistics for the M4

|	M4
Average HGV flow per 24 hours per weekday in both directions in March 2022	12,807
Total HGVs parked	328
Parked at on-site parking facilities	297
Parked in laybys	23
Parked in industrial estates	8
2022 on-site capacity on route	386
2022 on-site capacity versus total HGVs parked on route	76.9
2022 on-site capacity versus total HGVs parked	58
Parking demand factor	**2.6**

Figure B.44 shows the forecast daily average weekday flow along the M4. This shows that in the low case daily weekday flows are forecast to increase by around 1,521 vehicles by 2040 to a total of 14,328. In the medium case, daily weekday flows are forecast to increase by around 2,029 vehicles by 2040 to a total of 14,835 and in the high case daily weekday flows are forecast to increase by around 2,536 vehicles by 2040 to a total of 15,343.
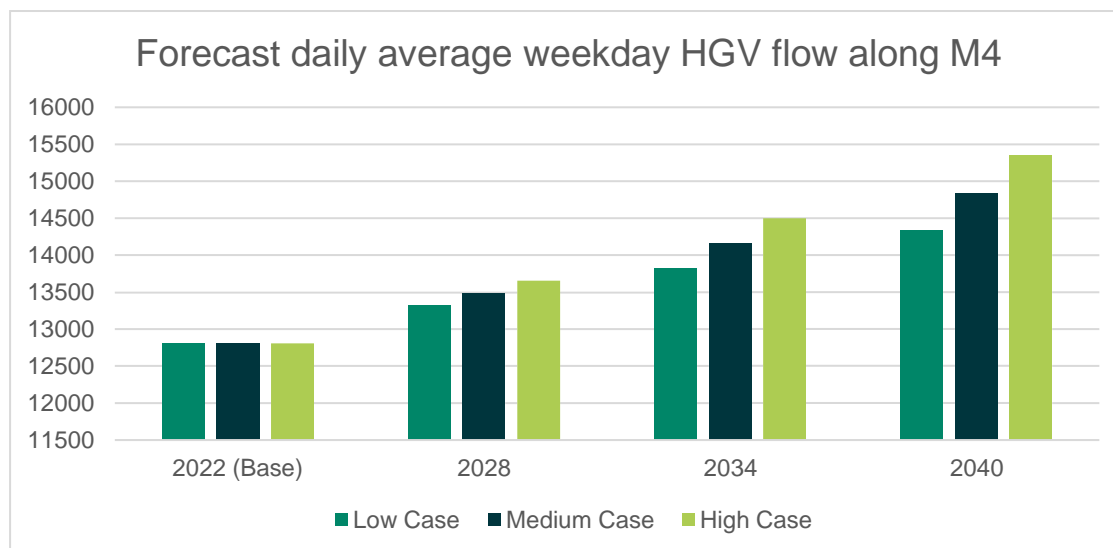
Figure B.44 Forecast daily average weekday HGV flow along M4

Figure B.45 shows the forecast requirement for HGV parking spaces along the M4. This shows that in the low case the required number of HGV parking spaces is forecast to increase by 39 to 367 by 2040. In the medium case, the required number of HGV parking spaces is forecast to increase by 52 to 380 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 65 to 393 by 2040.
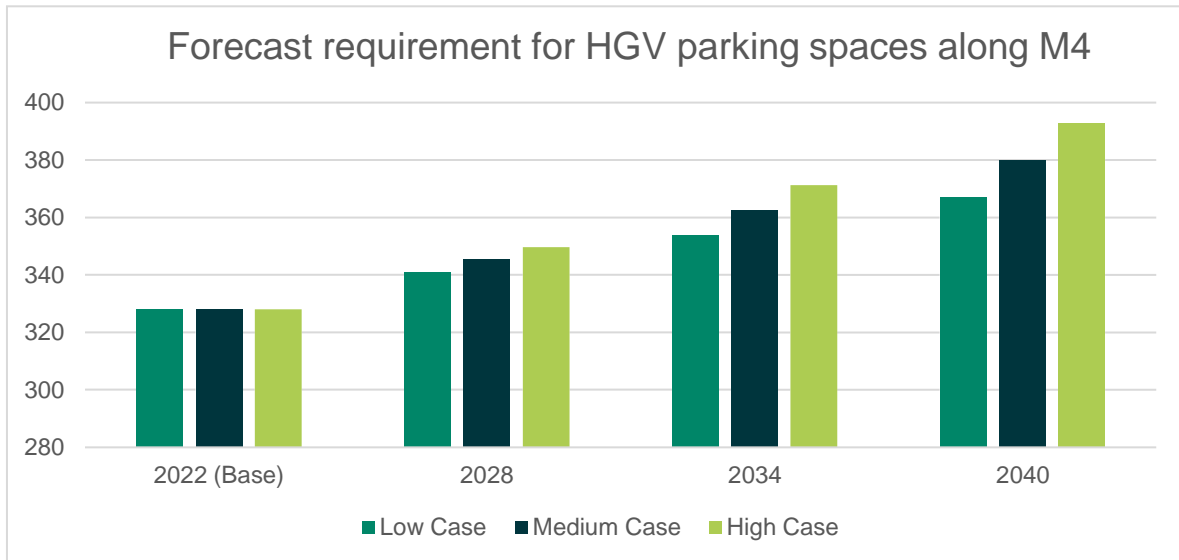
Figure B.45 Forecast requirement for HGV parking spaces along M4

A31

The A31 forms a key route between Winchester and Guildford, routing via Alton.

Figure B.46 shows the routing of the A31, as well as the laybys and industrial estates within 2.5km. There were no on-site parking facilities within 2.5km of the A31. This shows key clusters of industrial estates around Alton and laybys around Alton and east of Winchester.

As outlined in the methodology, the four count points used were at the following locations:

- West of Guildford (marked Q on Figure B.46)
- East of Farnham (marked R on Figure B.46)
- West of Alton (marked S on Figure B.46)
- East of Winchester (Marked T on Figure B.46)

Also, as noted in the methodology, the flows data for the A31 comes from DfT Road Traffic Statistics from 2019, whilst the lorry parking count data is from 2023. This is different from the other routes, which use WebTRIS data from 2022 and lorry parking counts data from 2022.
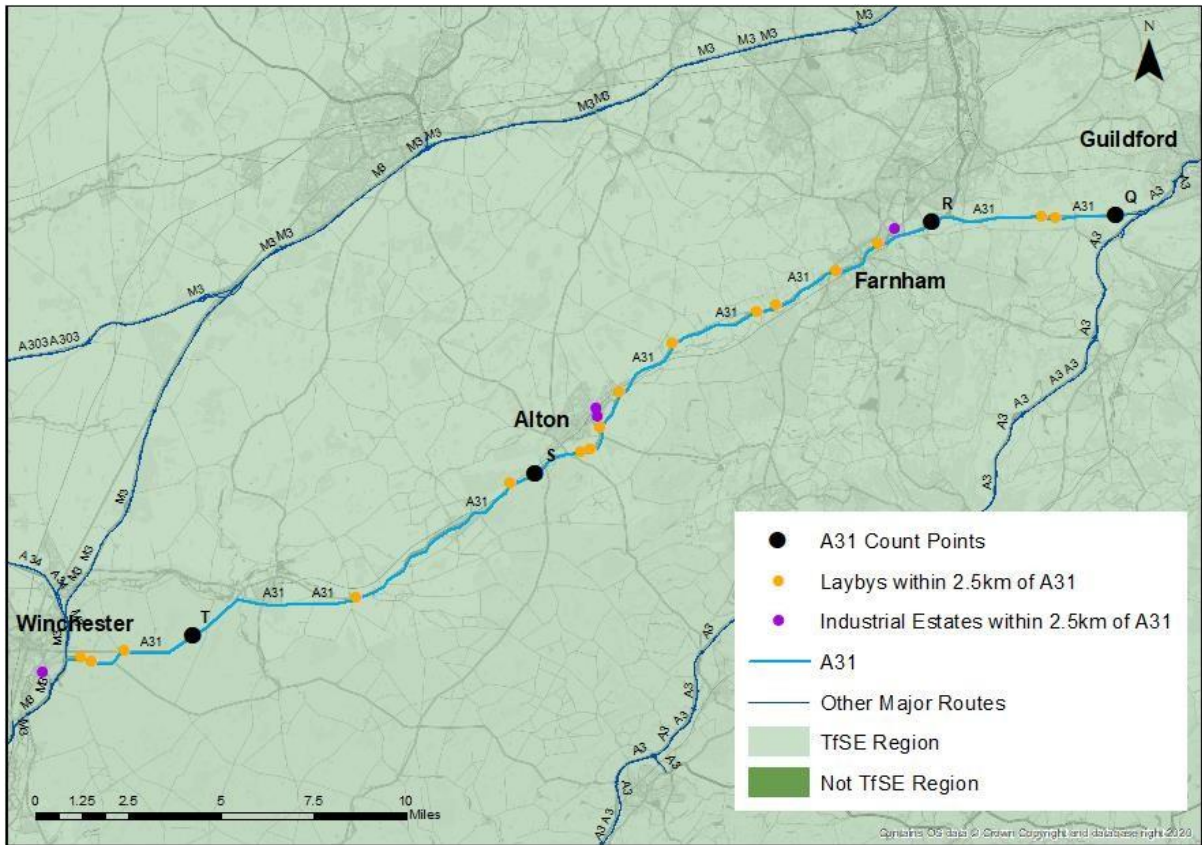
Figure B.46 Routing of the A31 and lorry parking sites along the route

Figure B.47 shows westbound and eastbound HGV flow at each of the count points. This shows a daily average weekday flow in March 2022 of 523 HGVs westbound and 482 HGVs eastbound. The averages for Count Point S and T are slightly higher than the other count points, however this can be explained by traffic passing this count point that is only running between the port of Southampton and the cluster of industrial estates around Alton.
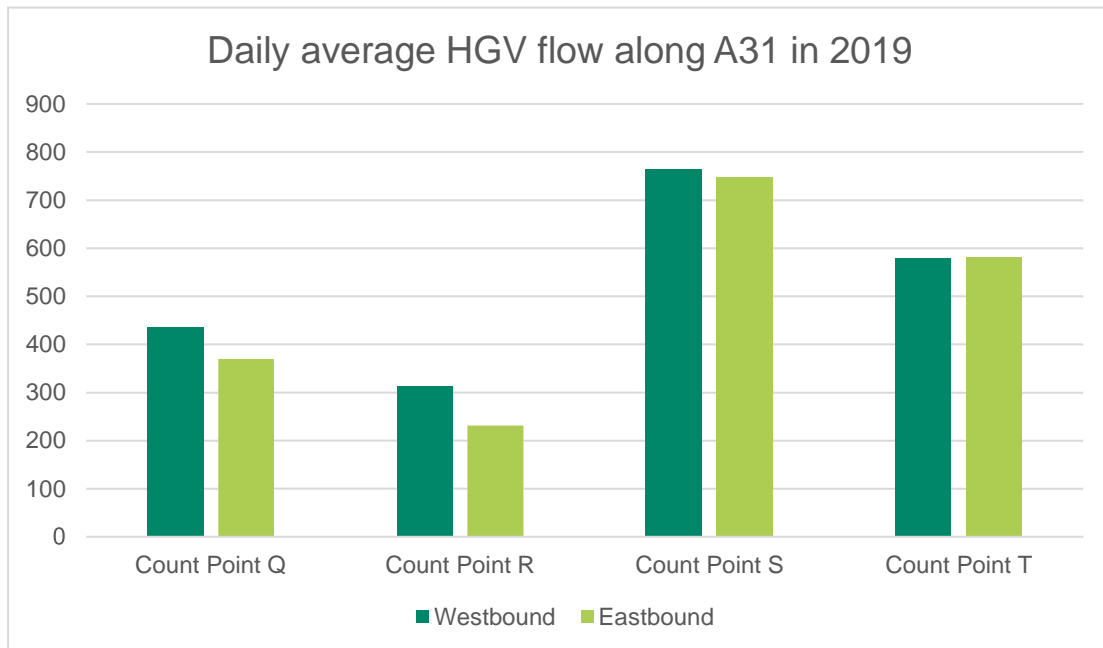
Figure B.47 Daily average HGV flow along A31 in 2019

Table B.12 shows an overview of key truck parking statistics for the A31. This shows that there was an 85-space deficit in the total Truckstop capacity vs the number of HGVs recorded as being parked

along the corridor. The parking demand factor of 2.9 means that approximately 2.9% of the weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking.

Table B.12 Overview of key lorry parking statistics for the A31

	A31
Average HGV flow per 24 hours per weekday in both directions in 2019	1,005
Total HGVs parked	14
Parked at on-site parking facilities	0*
Parked in laybys	9
Parked in industrial estates	5
2023 on-site capacity	0*
2022 on-site capacity versus total HGVs parked on route	N/A*
2023 on-site capacity versus total HGVs parked	-14
Parking demand factor	**1.4**

*There are no on-site facilities within 2.5km of the A31

Figure B.48 shows the forecast daily average flow along the A31. As noted in the methodology, for continuity, the 2023 A31 survey counts and the 2019 flows data have been used as the basis for the 2022 base year. The data shows that in the low case daily weekday flows are forecast to increase by around 119 vehicles by 2040 to a total of 1,124. In the medium case, daily weekday flows are forecast to increase by around 159 vehicles by 2040 to a total of 1,164 and in the high case daily weekday flows are forecast to increase by around 199 vehicles by 2040 to a total of 1,204.
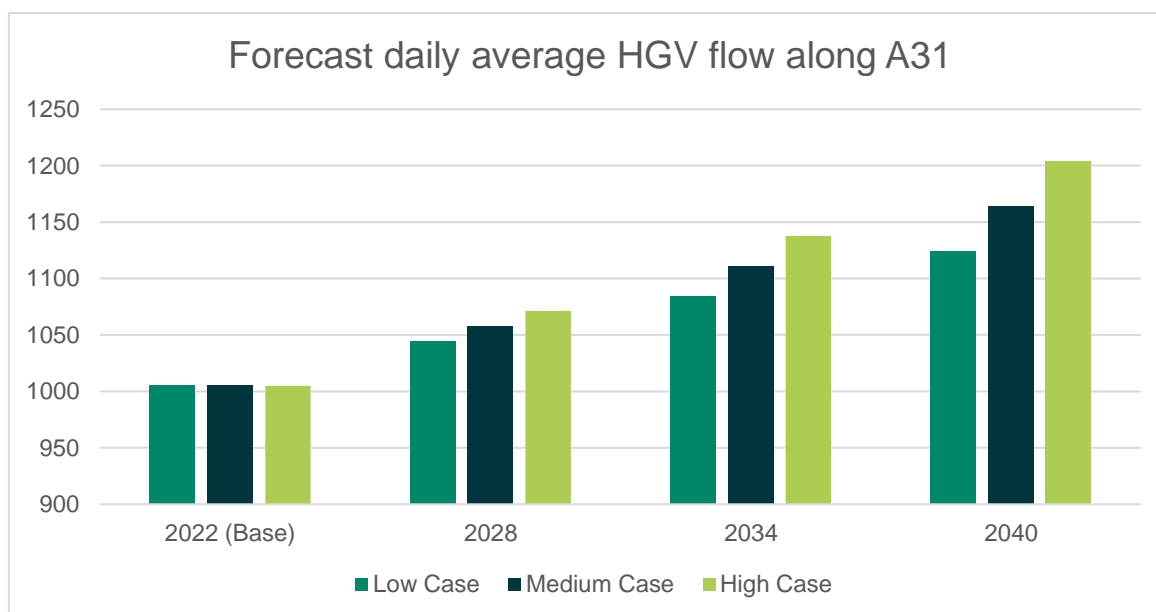
Figure B.48 Forecast daily average HGV flow along A31

Figure B.49 shows the forecast requirement for HGV parking spaces along the A31. This shows that in the low case and medium case the required number of HGV parking spaces is forecast to increase

by 2 to 16 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 3 to 17 by 2040.
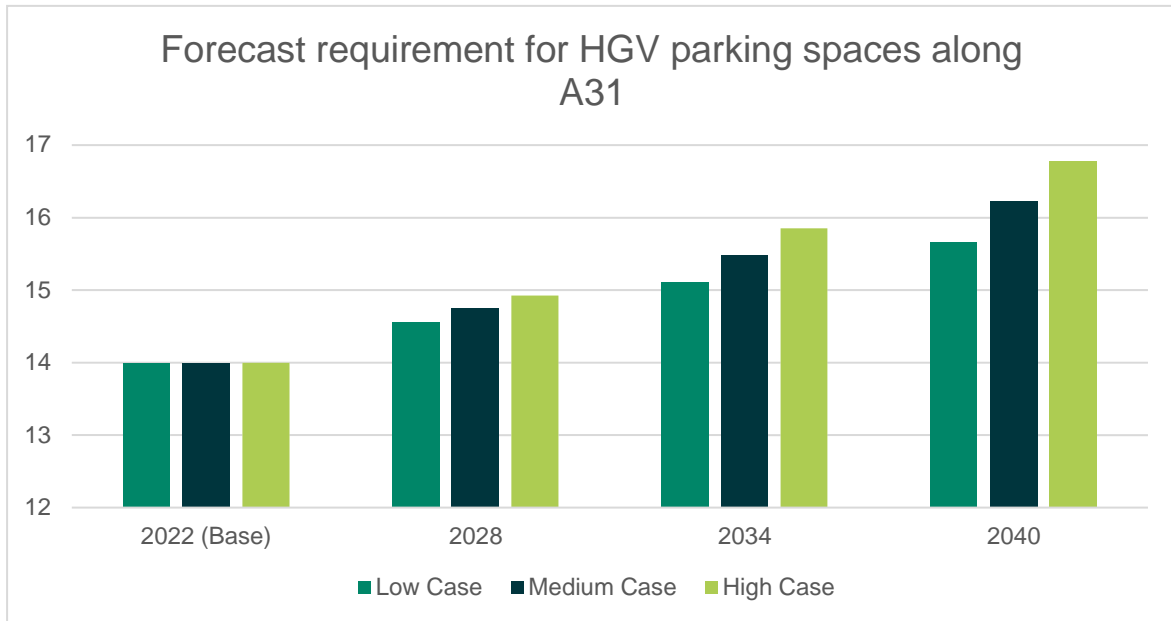
Figure B.49 Forecast requirement for HGV parking spaces along A31

Summary of routes

Table B.13 provides an overview comparison table for all routes that have been studied. This helps to illustrate the diverse nature of the routes, with interesting and significant differences in flows and requirement for lorry parking between them. However, there were also similarities, especially that all but one of the routes had a lower capacity within the on-site parking facilities when compared with the number of vehicles parked on the route, showing a need for drivers to use off-site parking (laybys and industrial estates) on each.

It is worth noting that for the A259/A2070, the parking demand factor of 146.0 means that nearly 1.5 times the weekday 24-hour HGV flow was observed being parked during the 2022 national survey of lorry parking. However, this is due to the Ashford International Truckstop being along the route, which primarily serves the M20/A20 route, therefore skewing the parking demand factor for the A259/A2070.

Table B.14 Comparison of routes investigated

	M20/ A20	M3	A3/ A3(M)	M27/ A27	M2	A259/ A2070	M23/ A23	A21	M25/ A282	A34	M4	A31
Average HGV flow per 24 hours per weekday in both directions	13,044	12,245	3,875	4,453	11,411	466	11,457	2,165	24,661	9,822	12,807	1,005
SRN/Non-SRN	SRN	SRN	SRN	SRN	SRN	SRN	SRN	SRN	SRN	SRN	SRN	Non-SRN
Total HGVs parked	1,463	339	113	360	803	682	73	57	565	284	328	14
Parked at on-site parking locations	1,336	266	55	233	626	650	34	3	444	187	297	0
Parked in laybys	86	46	50	57	125	3	33	50	113	80	23	9
Parked in industrial estates	41	27	8	70	52	29	6	4	8	17	8	5
Recorded on-site capacity	1,318	258	85	257	681	650	26	8	392	152	386	0
Recorded on-site % of HGVs parked versus capacity	101.4	103.1	64.7	90.7	91.9	100	130.8	37.5	113.3	123	76.9	N/A
On-site capacity versus total HGVs parked	-145	-81	-28	-103	-122	-32	-47	-49	-173	-132	58	-14
Parking demand factor	11.2	2.8	2.9	8.1	7.0	146.4	0.6	2.6	2.3	2.9	2.6	1.4
2040 Forecast Flows (Low Case)	14,594	13,699	4,335	4,982	12,766	521	12,818	2,422	27,590	10,988	14,328	1,124
2040 Forecast Flows (Medium Case)	15,110	14,184	4,488	5,158	13,218	540	13,271	2,508	28,567	11,377	14,835	1,164
2040 Forecast Flows (High Case)	15,627	14,669	4,642	5,334	13,670	558	13,725	2,594	29,544	11,766	15,343	1,204
2040 Forecast HGV spaces required (Low Case)	1,634	379	126	403	898	763	82	64	632	318	367	16
2040 Forecast HGV spaces required (Medium Case)	1,692	393	131	417	930	790	85	66	654	329	380	16
2040 Forecast HGV spaces required (High Case)	1,750	406	135	431	962	817	87	68	677	340	393	17

It is important to highlight the parking demand factors, for example the M3 which is significantly lower (2.8) compared to the M20/A20 (11.2) despite them both having similar average HGV flows over 24 hours (12,245 and 13,044). This is due to the difference in the number of vehicles seen parking on the M3 as a result of there being less HGV parking spaces available on the SRN, 1,366 onsite locations on the M20/A20 compared to just 266 on the M3. The site surveys looked at whether non-SRN parking was increased around this route as a result, but this does not appear to be the case. It is likely that HGV drivers may be finding early places to park either around or before the M25 as a result. It is recommended that some further work is undertaken to identify where HGVs are parking instead.

Table B.15 shows the forecast additional on-site capacity requirement for each route, based on the low, medium and high forecast cases for each route and based on the recorded on-site capacity.

Table B.15 Forecast additional on-site capacity requirement for routes analysed

|	M20/ A20	M3	A3/ A3(M)	M27/ A27	M2	A259/ A2070	M23/ A23	A21	M25/ A282	A34	M4	A31
Total HGVs parked versus recorded on-site capacity	145	81	28	103	122	32	47	49	173	132	-58	14
2040 Forecast additional HGV spaces required (Low Case)	316	121	41	146	217	113	56	56	240	166	-19	16
2040 Forecast additional HGV spaces required (Medium Case)	374	135	46	160	249	140	59	58	262	177	-6	16
2040 Forecast additional HGV spaces required (High Case)	432	148	50	174	281	167	61	60	285	188	7	17

Outputs from Non-SRN Summary

Table B.16 shows an overview of key lorry parking statistics for the non-SRN. This shows that there is an estimated 674 space deficit in the total on-site parking capacity versus the number of HGVs recorded as being parked along the non-SRN. The parking demand factor of 5.8 means that approximately 5.8% of the 24-hour HGV flow was estimated as being parked.

**Table B.16 Overview of key lorry parking statistics for the non-SRN**

	Non-SRN
Average HGV flow per 24 hours per weekday in both directions in 2019	21,608
Total HGVs parked	1,245
Parked at on-site parking facilities	445
Parked in laybys	381
Parked in industrial estates	419
2023 on-site capacity	571
2023 on-site % of HGVs parked versus parking capacity at sites	78
2023 on-site capacity versus total HGVs parked	-674
Parking demand factor	**5.8**

Figure B.50 shows the forecast daily average flow along the non-SRN. The data shows that in the low case daily weekday flows are forecast to increase by around 2,567 vehicles by 2040 to a total of 24,175. In the medium case, daily weekday flows are forecast to increase by around 3,423 vehicles by 2040 to a total of 25,031 and in the high case daily weekday flows are forecast to increase by around 4,278 vehicles by 2040 to a total of 25,886.
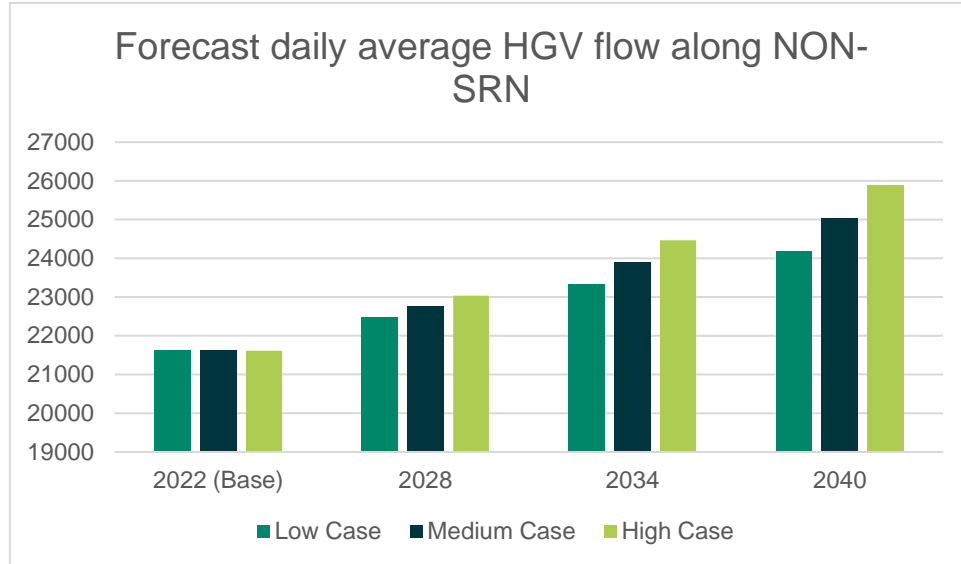
Figure B.50 The forecast daily average flow along the non-SRN

Figure B.51 shows the forecast requirement for HGV parking spaces along the A31. This shows that in the low case the required number of HGV parking spaces is forecast to increase by 148 TO 1,393 by 2040 and for medium case the required number of HGV parking spaces is forecast to increase by 197 to 1,442 by 2040. And in the high case the required number of HGV parking spaces is forecast to increase by 247 to 1,492 by 2040.
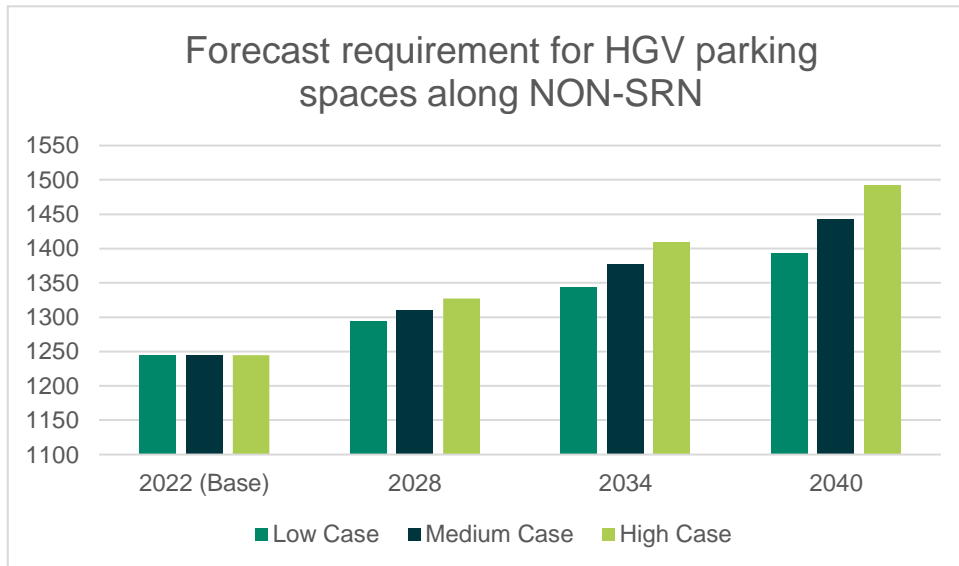
Figure B.51 The forecast requirement for HGV parking spaces along the non-SRN

Appendix C Qualitative Analysis

In addition to the quantitative forecast, a qualitative narrative has also been developed regarding trends and changes likely to influence HGV parking supply.

There are several factors and influencers that will be explored as part of this qualitative analysis. These are:

- Port growth
- Road upgrades
- Change in freight originators and attractors
- Growth in Channel Tunnel intermodal freight

Port growth

The TfSE area is home to several key seaports including Dover, Newhaven, Portsmouth, and Southampton. These ports are of strategic importance for trade with Europe, offering key routes with the rest of Europe, including direct links to France, Belgium and Spain[23]. The UK port market is very competitive, and therefore many ports are looking to diversify and expand their operations. Port expansion can lead to additional requirement for lorry parking on corridors leading to these ports. This is the case both during the construction phase (with vehicles from the construction requiring parking whilst travelling to ports) as well as parking for higher number of HGVs visiting ports during the operational phase once expansion is complete.

The March 2021 budget announced that the Solent was successful in its bid to become one of eight new freeports in England. This will provide several incentives relating to customs, tax, planning, regeneration, infrastructure and innovation. It is hoped that the Solent freeport will create over 30,000 jobs for the UK, with over 15,000 in the Solent region itself[24]. The expansion of Southampton Port is also referenced in TfSE's own transport strategy[25]. The growth associated with the Solent freeport may have an impact on the lorry parking provision for the roads that connect it with the rest of the TfSE area, including the M3 and M27.

The most recent masterplan for Newhaven Port was published in 2012 and points to several proposals for the different sub-areas of the port. This includes cargo and waste recycling for the North Quay and a centre for trade and offshore wind for the East Quay[26]. As part of this, the Rampion Offshore Wind Farm Operations and Maintenance Base opened in 2018. With this masterplan due for renewal, increased development at Newhaven Port may require an increase in lorry parking provision on routes leading to the port.

For the Port of Portsmouth, the most recent masterplan was released in 2020 focusing on growth for the next 20 years[27]. This includes improving the site layout to help freight flows through the port as well as expanding facilities on site to cater for a range of different cargo operations. The diversification and increase in cargo operations may require an increase in lorry parking provision on key routes such as the M3 and the M27/A27. Additionally, for the Solent freeport and the Portsmouth freeport, not only will the ports expand but there are tax free areas that will be used for industrial and manufacturing and therefore the requirement for lorry parking provision may increase even more.

For the Port of Dover, consultation is underway on the development of the port masterplan to 2045. Key goals that have been identified include increasing space and efficiency in the eastern docks as well as facilitating growth for cruise and cargo activities[28]. An increase in port activity relating to movement of construction materials is also expected to take place[29], alongside the more established

[23] https://www.newcivilengineer.com/ice/viewpoint-south-east-ports-are-key-to-growth-06-04-2020/
[24] https://solentfreeport.com/
[25] https://transportforthesoutheast.org.uk/app/uploads/2020/09/TfSE-transport-strategy.pdf
[26] https://www.lewes-eastbourne.gov.uk/_resources/assets/inline/full/0/276522.pdf
[27] https://portsmouth-port.co.uk/wp-content/uploads/2022/02/Masterplan-web.pdf
[28] https://www.doverport.co.uk/port/about/port-of-dover-master-plan-for-2045/
[29] https://www.investindover.co.uk/News/2022/Port-of-Dover-builds-for-the-future-as-construction-hub.aspx

roll on-roll off operations. These increases in activity will lead to greater demand for lorry parking on key routes to the port, including the M20 and the M2/A2.

Road upgrades

Both the SRN and non-SRN in the TfSE area are vital for enabling freight to be transported efficiently around the region, as well as linking key international gateways and industrial hubs.

Road upgrades can cause an additional requirement for lorry parking, both during the construction phase and post upgrade. HGVs travelling to and from sites where upgrades are taking place will cause additional parking demand, and upgraded routes may attract additional freight traffic, leading to a requirement for additional parking capacity.

There have been several priority SRN schemes that have been approved for construction in the 2020-2025 period[30] as part of the DfT's five-year Road Investment Strategy 2 (RIS2), although these have now been pushed back to 2025-2030 period and some of these may be extended further depending on the outcomes of RIS3. These include:

- The Lower Thames Crossing between Kent and Essex, as well as supporting roads that link to the M25, A13 and M2
- A27 East of Lewes, which includes improvements between Lewes and Eastbourne such as improving junctions around Eastbourne and dualling south of the Polegate roundabout
- A27 Worthing and Lancing, which includes several enhancements between Worthing and Lancing to improve the capacity and flow of traffic

There are several non-SRN priority schemes within the TfSE area, as outlined on the TfSE website[31]. These are:

- Northam Rail Bridge Replacement and Enhancement (Southampton City Council)
- A284 Lyminster Bypass (West Sussex County Council)
- Redbridge Causeway (Hampshire County Council)
- A249 at M2 Junction 5 (Kent County Council)
- A22 Corridor Package (East Sussex County Council)
- A320 North Corridor (Surrey County Council)
- A259 (King's Road) Seafront Highway Structures Renewal Programme (Brighton & Hove City Council)
- A28 Birchington, Acol and Westgate-on-Sea Relief Road (Kent County Council)
- A259 Bognor Regis to Littlehampton Enhancement (West Sussex County Council)
- A259 South Coast Road Corridor (East Sussex County Council)

With works or upgrades making any of these roads more attractive to HGV drivers, redistribution of demand within the network and potential increase in lorry parking demand on certain routes may be inevitable. It is also important that diversion routes in place during construction offer suitable lorry parking provision if parking sites become unavailable due to works. It may also make sense for lorry parking provision to be included in key documents such as road plans and route strategies.

Change in freight originators and attractors

Lorry parking demand is influenced by the number and types of businesses near the route, as well as generators of freight activity such as ports and airports. Demand along certain routes is also often dependent on businesses operating along these corridors which cause additional HGV journeys to and from their premises.

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[30] https://transportforthesoutheast.org.uk/our-work/major-road-network/
[31] https://transportforthesoutheast.org.uk/our-work/major-road-network/

Any increase in the number or size of freight originators and attractors will also have a further long-term impact on lorry parking demand. This can come in the form of impacts while types of sites such as housing (construction), shops, factories, etc. are being built and expanded, which will attract HGVs from the construction sector that will require parking, as well as the eventual additional HGVs and subsequent lorry parking requirement for when sites are built.

National Infrastructure Planning, managed by the Planning Inspectorate, provides information on proposed Nationally Significant Infrastructure Projects (NSIPs) within England and Wales[32]. This includes projects within the TfSE area. Information on specific dates of opening/operation are not given because of the early stage of these projects. At time of writing, there are several developments that are listed as being at the decided or pre-application stage which may become key freight originators and attractors during the construction phase, the operational phase, or both.

The following projects are marked as 'decided', meaning that a decision has been made by the relevant body or individual, such as the Secretary of State, on whether development consent is accepted or refused. The following projects include those for which development consent was granted:

- Manston Airport (RiverOak Strategic Partners Ltd)
- Thurrock Flexible Generation Plant (Thurrock Power Ltd)
- Southampton to London Pipeline Project (Esso Petroleum Company, Ltd)
- Cleve Hill Solar Park (Cleve Hill Solar Parl Ltd)
- Tilbury2 (Port of Tilbury London Ltd)
- Richborough Connection Project (National Grid)

Projects marked as 'pre-application' include:

- Gatwick Airport Northern Runway (Gatwick Airport Limited)
- Stonestreet Green Solar (EPL 001 Limited)
- Rampion 2 Offshore Wind Farm (Rampion Extension Development Limited)
- Hampshire Water Transfer and Water Recycling Project (Southern Water Services Limited)
- Sea Link (National Grid Electricity Transmission)
- Perrys Farm Hazardous Waste Management Facility (Peel Environmental)

It will be important that suitable provision of lorry parking is considered during the construction and operational phases of these projects to ensure adequate provision and facilities are available for lorry drivers.

Growth in Channel Tunnel intermodal freight

Network Rail forecasts predict that Channel Tunnel intermodal freight tonnage will grow by an average of 3.88% per year up to 2033/34 (based on the central scenario)[33]. The TfSE Transport strategy notes that the key railway corridor for accessing the Channel Tunnel "could carry more freight and is underutilised at present", with most rail freight currently operating from Kent running through busy areas of London using suburban lines to reach key terminals such as Willesden. Eurotunnel has also called for upgrades on rail lines in Kent to boost the amount of freight traffic that uses the Channel Tunnel, with the potential to convert passenger paths to freight path given the growth of people working from home[34].

Upgrades to suburban lines in Kent to facilitate an increase in Channel Tunnel intermodal freight will lead to an increase in the requirement for lorry parking spaces. This is both during the construction phase with lorry parking required for HGVs visiting the site as part of the upgrades as well as a greater number of spaces for lorries making increased numbers of journeys to and from terminals once upgrades are complete.

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[32] https://infrastructure.planninginspectorate.gov.uk/projects/south-east/
[33] https://www.networkrail.co.uk/wp-content/uploads/2020/08/Rail-freight-forecasts-Scenarios-for-2033-34-and-2043-44.pdf
[34] https://www.transportinfrastructurenews.com/2022/06/21/channel-tunnel-operator-pushes-for-kent-rail-upgrade/

The potential increase in Channel Tunnel intermodal freight may lead to a rise in the number of lorry journeys from intermodal terminals located within the TfSE area, and consequently to greater demand for lorry parking near these terminals. The various terminals in the region also have different status levels and are documented by Network Rail[35].

 Active terminals include:

- Port of Southampton Maritime, Millbrook and 107-108 berth
- Tilbury 1a/1b/2

There are also other Railfreight interchange sites which are operational but have infrequent or no rail services at present. These include:

- Fratton
- Thamesport

An increase in intermodal freight using the Channel Tunnel is also likely to mean more freight journeys to and from the Eurotunnel terminal, and consequently greater demand for lorry parking on roads near this location. This may also be the case if there is expansion of businesses in the TfSE area close to this site as a result.

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[35] https://www.networkrail.co.uk/wp-content/uploads/2022/02/Network-Rail-freight-map-intermodal-sector.pdf

Appendix D Non-SRN audits

The AECOM audit team undertook several in-depth nighttime investigations on a number of non-SRN routes to record the number of UK and foreign HGVs parked sites along this route. These routes were chosen as a small selection to collect information on areas where further information was required.

Background to non-SRN audits

The Department for Transport (DfT) commissioned AECOM to undertake a national survey of lorry parking[36], which was a comprehensive audit of lorry parking within five kilometres of the strategic road network (SRN) in England. This took place in March 2022 and was conducted with the aim of supporting the DfT in producing an accurate assessment of lorry parking provision and demand.

Whilst this was a comprehensive study of on-site and off-site parking locations within five kilometres of the SRN, including routes in the TfSE area, there are several other important routes for freight which were not included as they were outside of the DfT study area. Therefore, as part of this TfSE lorry parking study, additional nighttime audits were undertaken on non-SRN routes and areas where further investigation was needed within the TfSE area.

Audits included two types of on-site and off-site parking locations, as defined in the DfT 'National survey of lorry parking 2022 – Part one' report, including:

On-site parking facilities

- Independent truckstops
- Trunk road service areas (TRSAs)

Off-site parking locations

- Industrial estates
- Laybys

There are several aims and benefits of additional region-specific audits being undertaken, including:

- Helping to identify any locations used for parking by HGVs away from the SRN
- Building a more comprehensive picture of lorry parking across the TfSE area, by looking to add to (and not duplicate) the data pool from the March 2022 DfT national survey
- Identifying potential 'rat-runs' and cut-through routes that HGVs are using in the TfSE area
- Looking at whether any non-SRN routes are close to or over lorry parking capacity and whether there are any key hotspots
- Understanding what lorry parking facilities are available to drivers using non-SRN routes in the TfSE area

Audits took place during weeknights in February and May 2023. A number of routes were selected representing a small sample for the TfSE area. The routes were chosen to supplement the existing data captured for the SRN freight routes and to answer some of the questions raised during the project. This included a review of a number of locations to understand whether trucks were parking overnight on non-SRN routes due to the lack of truck-park facilities on the M3 approach to Southampton.

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[36] https://www.gov.uk/government/publications/national-survey-of-lorry-parking-part-one-2022

The routes surveyed included sections of the following roads and areas:

- A31 (Guildford to Winchester)
- A272 (Winchester to Hadlow Down)
- A322 (Lightwater to Reading via Bracknell)
- A265 (Heathfield to Hurst Green)
- A229/A268/A28/A262/A274 (Hurst Green to Maidstone)
- A32 (Fareham to Alton)
- A30 (Basingstoke to Farnborough)
- A24 (Dorking to Horsham)
- A25 (Reigate to Sevenoaks)
- A257 (Sandwich to Canterbury)
- A26 (Uckfield to Lewes)
- A29 (Fontwell to Clemsfold)
- A283 (Pullborough to Milford)
- A22 (Polegate to East Grinstead)
- A264 (Royal Tunbridge Wells to Crawley)
- A339 (Alton to Basingstoke)
- A226 (Dartford to Wainscott)
- A228 (Wainscott to Grain)
- A227 (A2 to A25)
- Industrial estate clusters, for example the Riverside Industrial Estate, Crossways Business Park, Crete Hall, Northfleet Industrial Estate, Medway City Estate and Knight Road around Dartford and the Medway Towns

Figure D.1 shows a map of the TfSE area with the lorry parking sites visited as part of these additional audits, and the routes taken.


Figure D.1 Lorry parking sites visited, and routes taken as part of non-SRN 2023 audits

Key findings

Figure D.2 shows the breakdown of lorry parking locations audited, by type. Overall, 251 sites were audited, of which 191 were laybys (76% of all locations), 34 were industrial estates (13% of all locations), 9 were on-site parking facilities (independent truckstops and TRSAs) (3% of all locations) and 17 were other miscellaneous locations, such as bus stops and on the side of the road (7% of all locations).
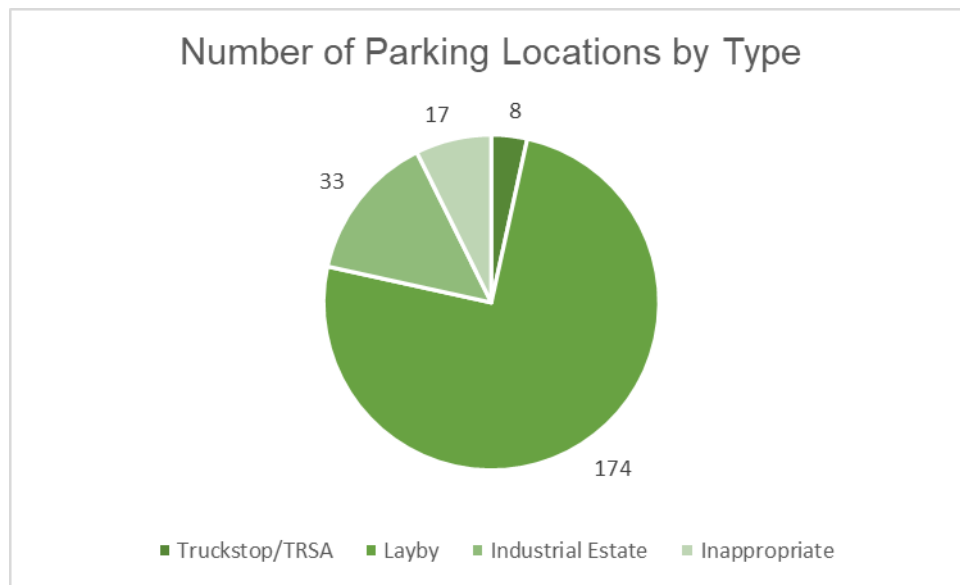
Figure D.2 Number of parking locations audited by type

Figure D.3 shows the locations of the sites audited. There are clusters of laybys in locations such as around Uckfield, Horsham, and along roads such as the A29 and the A31. Additionally, there are long sections of road with no locations for lorries to park, such as the section of the A272 between Billingshurst and the A23, and the A283 between Petworth and the A3 (though it is noted that the A283 runs through a number of small towns and villages before reaching the A3 which likely reduces the number of potential parking locations).
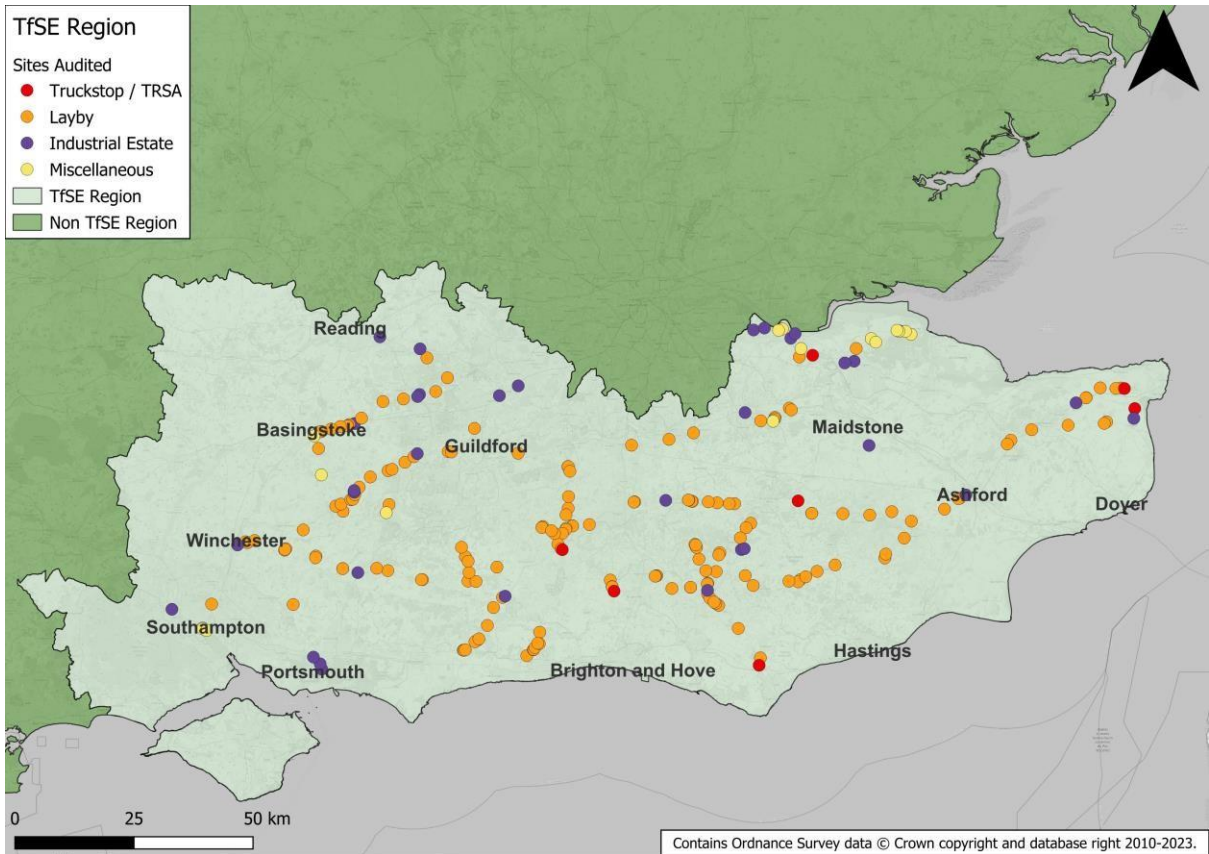
Figure D.3 On-site and off-site lorry parking locations visited as part of non-SRN audits

Figure D.4 shows the capacity of the on-site parking facilities audited. Many of the on-site parking locations audited were TRSAs and, as such, have limited capacity. While conducting audits, an HGV was observed parking inappropriately at a site near Uckfield where there were no formal parking spaces for HGVs.

Figure D.4 Capacity of on-site parking facilities visited as part of non-SRN audits

Figure D.5 shows the percentage of HGVs parking compared to the parking capacity of the on-site parking facilities audited. The number of HGVs observed parking at Embassy Truck Park was low compared to the site capacity as there are currently works being undertaken at the site.

Figure D.6 shows an overview of the percentage of HGVs observed parking compared to the available capacity at the on-site parking facilities audited. Of the nine on-site parking locations audited, around 44.5% of them (4 sites) were found to have an acceptable level of parking compared to capacity, 11% (1 site) was found to have a serious level of parking compared to capacity, and around 44.5% of them (4 sites) were found to have a critical level of parking compared to capacity.

This is broadly in line with the findings of the March 2022 DfT national audit which found that 42% of all on-site parking facilities audited (138 sites) had an acceptable level of parking compared to capacity, 14% (45 sites) were found to have an acceptable level of parking compared to capacity, and 44% (143 sites) were found to have a critical level of parking compared to capacity.

Figure D.5 Percentage of parking capacity being used at on-site parking facilities visited as part of non-SRN 2023 audits
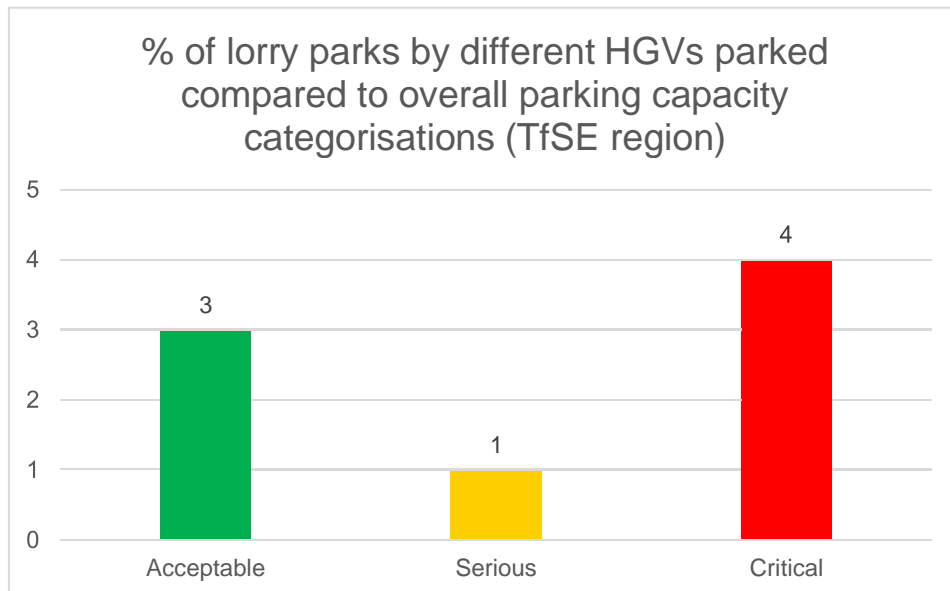
Figure D.6 Truck stops visited as part of audits by usage status

Figure D.7 shows the number of vehicles observed at each site audited. Clusters of HGVs were observed around locations such as Horsham, where five out of the 11 laybys audited near the town were occupied. Another cluster of trucks was observed on the A272 at New Cheriton, where four HGVs,

split between two successive westbound laybys, located approximately 300m apart, were the only vehicles observed at laybys on the A272 between Winchester and Billingshurst.
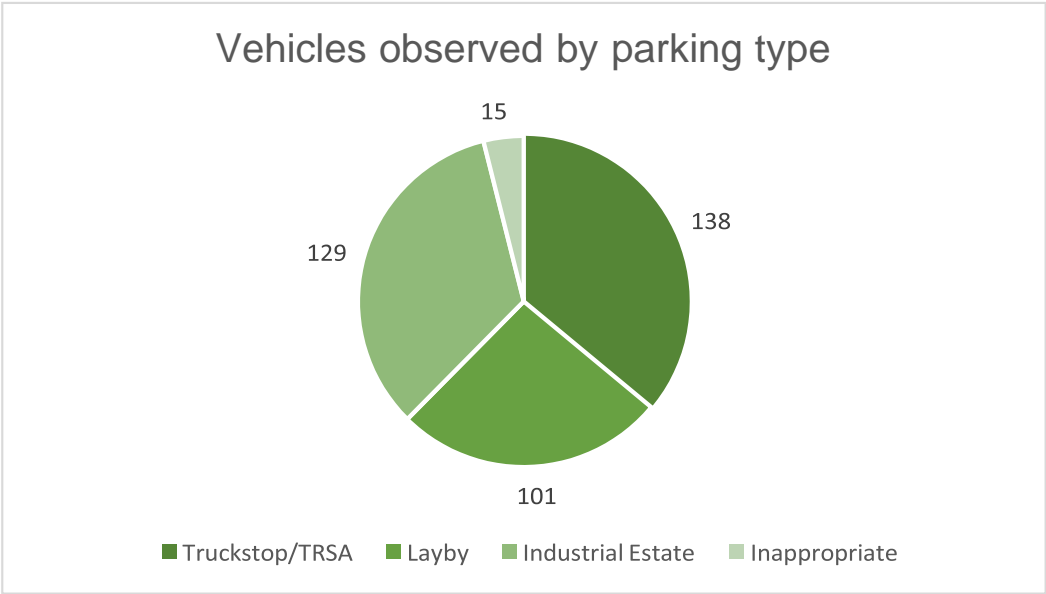
A number of vehicles were also observed at sites on, or near, the A31 between Winchester and Guildford. HGVs were observed at 10 of the 21 sites on audited on this corridor.

In general, vehicles were observed at sites near to the SRN, or on larger roads connecting two strategic roads, such as the A272 between the A3 at Petersfield and the M3 at Winchester, the A31 between the M3 at Winchester and the A3 at Guildford, and the A322 between the A3 at Guildford and the M4 at Reading. However, within the areas not covered by the SRN, vehicles were observed on the outskirts of larger settlements, such as Horsham and Uckfield.

Figure D.7 Number of vehicles observed at each location visited as part of non-SRN audits

Figure D.8 shows the number of vehicles observed by parking site type. 118 vehicles in total (around 29% of all vehicles observed) were parked at the 191 laybys audited, 138 at the nine on-site parking facilities audited (around 34%), and 130 (around 32%) at the 34 industrial estates audited. The on-site facility figure includes two independent truckstop (Embassy and United Truckstops) which accounted for 101 of the 138 vehicles (73%) observed at on-site parking facilities.

Vehicles observed by parking type

- 138 — Truckstop/TRSA
- 101 — Layby
- 129 — Industrial Estate
- 15 — Inappropriate

■ Truckstop/TRSA   ■ Layby   ■ Industrial Estate   ■ Inappropriate

Figure D.8 Number of vehicles observed by parking site type at each location visited as part of audits

Appendix E Driver Surveys

To better understand the overnight parking preferences of drivers, driver interviews were undertaken at eight MSAs across the TfSE area. A minimum of five interviews were undertaken at each MSA, to total a minimum of 40 drivers surveyed; in total, 42 drivers were surveyed. The locations of each of the MSAs visited within the TfSE area is shown in Figure E.1.
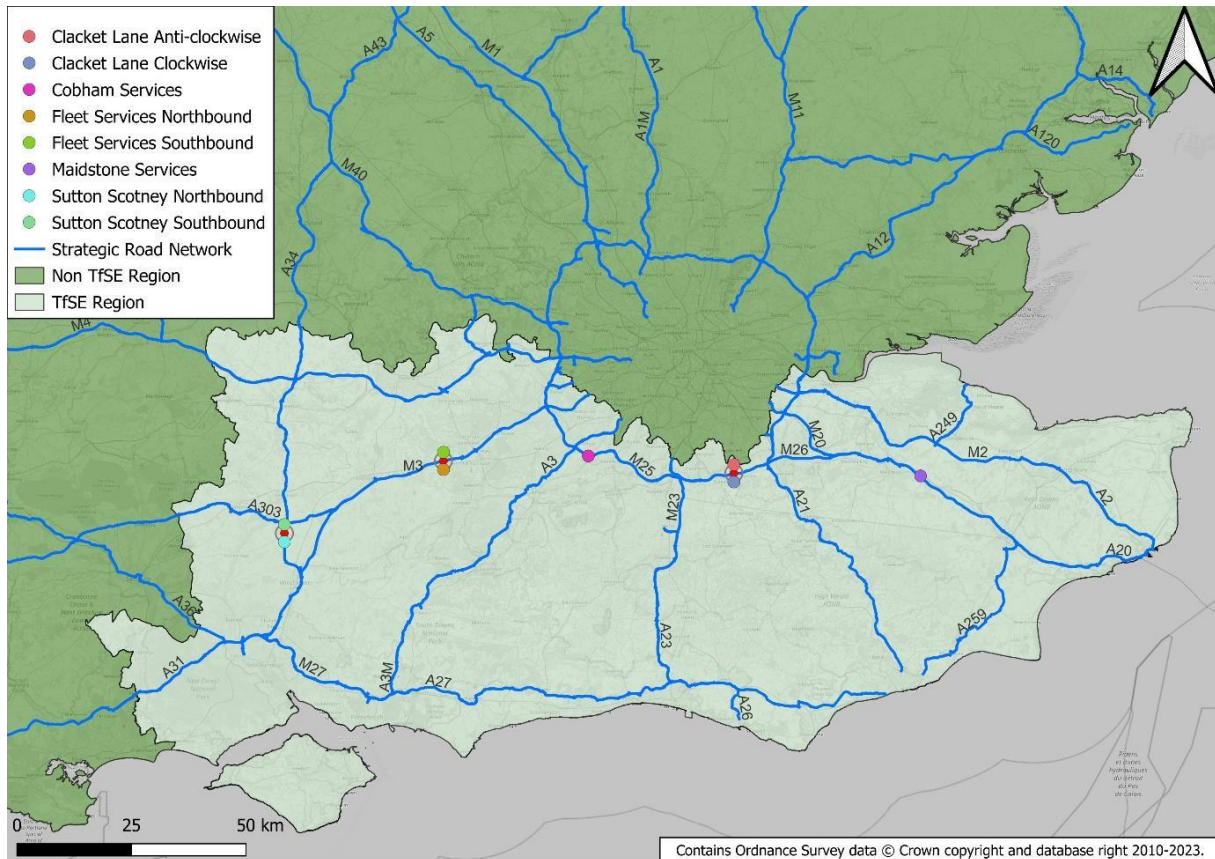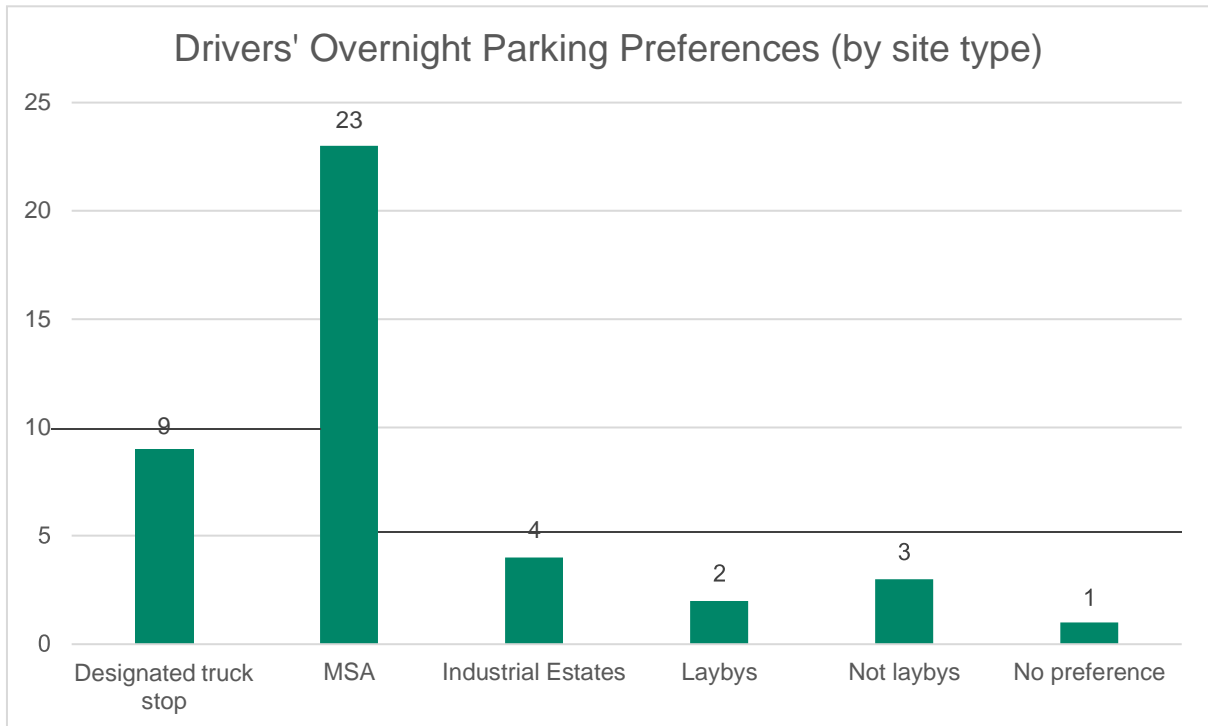

Figure E.1 Locations of MSAs where surveys were conducted

In terms of the type of overnight parking facility:

- the majority of responses (32 out of 42) displayed a clear preference for utilising on-site parking facilities (MSAs and designated truck stops) as their preferred choice.

- Laybys, on the other hand, were generally avoided by drivers, except as a last resort, with only two responses saying that it was their preferred choice.

- One of the reasons given for this preference was that drivers may be compelled by their company, or the customer, to park at on-site facilities for security purposes. This occasionally leads to drivers resorting to double parking, parking on slip lanes, or further inappropriately parking to ensure that they are on-site.

- Similarly, inappropriate parking practices by cars, caravans, and other vehicles at MSAs were found to restrict the availability of spaces for HGVs.

Figure E.2 shows the responses given by drivers, however it is important to note that these are not unique responses (many drivers said designated truck stop and MSA for example)

Drivers' Overnight Parking Preferences (by site type)

Site type	Value
Designated truck stop	9
MSA	23
Industrial Estates	4
Laybys	2
Not laybys	3
No preference	1

Figure E.2 Drivers' preferred overnight parking preferences by site type

When their desired Motorway Service Area (MSA) was at capacity, drivers demonstrated a preference for actively seeking alternative parking locations rather than settling for inappropriate parking. However, if time constraints were a factor, drivers would park wherever a spot was available, even if it meant parking in unconventional areas such as bus stops or on double yellow lines, or parking inappropriately at the MSA. Drivers expressed a willingness to risk receiving a parking ticket rather than facing a driving infringement notice from the Driver and Vehicle Standards Agency (DVSA) for exceeding their driving hours. This indicates a perceived preference for the consequences associated with parking violations over those stemming from driving infringements.

Site selection was primarily driven by immediate availability, as there were no distinct preferences among drivers regarding specific MSA sites. One driver mentioned that, given sufficient time, they would continue driving until they found a suitable location that accepted Snap. Drivers relied heavily on their local knowledge of the area when planning and selecting overnight parking locations, indicating the significance of their familiarity with their surroundings in making informed decisions. Proximity to the strategic road network (SRN) was a crucial factor for drivers when selecting locations for overnight parking as there could be difficulties re-joining the SRN.

Cobham services were identified by a number of drivers as an MSA that tends to fill up quickly, with drivers saying that they were best avoided after 18:00 due to the lack of capacity. Weekend parking habits at Cobham services were also noted to be a concern amongst the drivers surveyed, with HGVs often occupying parking spaces for the entire weekend, restricting the availability of spaces for other drivers.

The respondents also identified several common issues with overnight parking locations, of particular concern were the lack of security measures, such as the absence of CCTV, lighting, and fences at a number of locations, and inadequate facilities such as toilets and showers. Furthermore, the high costs associated with parking at MSAs led some companies to consider it more cost-effective to risk occasional fuel theft rather than paying for parking; one company determined that it was cheaper to have fuel stolen from an HGV once a month than pay for on-site overnight parking for their drivers.

The scarcity of MSAs and other on-site parking locations within the South East of England was also highlighted by respondents as an issue as it increased the likelihood of drivers receiving infringements while searching for locations to take their mandatory breaks. The closure of laybys due to issues with litter and the increasing prevalence of double yellow lines in industrial estates further limited parking options.

Appendix F References to lorry parking from the TfSE Freight, Logistics and Gateways Strategy

Within Strategic Action Area F (Enhance Infrastructure and Connectivity) Key action KA F7 is:
- Review and raise awareness of current and future demand for HGV parking

In addition, Measure F7.1 is:
- Develop truck parking sub-group of the TfSE Freight Forum

Within Measure F7.1, part of the remit of this measure is to:
- Understand existing capacity v demand and future likely demand, with a focus on innovative solutions to accommodate volumes and improve quality of provision and driver welfare

Appendix G Technical appendix including glossary and acronyms

Glossary

Terminology	Description
On-site parking	Includes ■ Independent truckstops ■ Local authority truckstops ■ Motorway service areas (MSAs) ■ Trunk road service areas (TRSAs)
Off-site parking	Includes ■ Industrial estates ■ Laybys
On-site parking facility/locations	Refers to provision of dedicated lorry parking at the above four types of on-site parking facilities
Off-site parking locations	Refers to lorries parking at the above two types of off-site parking locations

Acronyms

Kent county council - KCC

Motorway service area - MSA

National vehicle crime Intelligence service -NaVCIS

Strategic road network - SRN

Trunk road service area - TRSA

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