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AECOM

Department for Transport

National Survey of Lorry Parking

Quality information

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Revision History

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Table of Contents

Executive Summary

Introduction

The aim of this study is to provide information on the current capacity and demand for overnight lorry parking across England. To do so, a thorough analysis has been conducted across the entire Strategic Road Network (SRN), as well as all lorry parking sites within 5km of the network.

During the month long survey:

- A total of 4509 parking sites were visited, these were made up as follows:
  - 311 lorry parks including Motorway Service Areas (MSAs) (on-site);
  - 801 Industrial / Retail Estates (off-site);
  - 3397 Laybys (off-site).
- 18,670 vehicles were found to be parked overnight across England. The total capacity of on-site spaces was found to be 15,012, hence leaving a theoretical excess of 3,658 vehicles that could not park in an on-site space **Figure E1.**
  - 39% of all vehicles counted were recorded as parking off-site;
  - 25% of vehicles counted making overnight stops were foreign registered in contrast to the 3.3%[1] of total UK HGV vehicle kilometres that is made up of foreign vehicles.

The following regions have parking that exceeds or is close to exceeding capacity: East Midlands, East of England, North East, South East, West Midlands and South West.

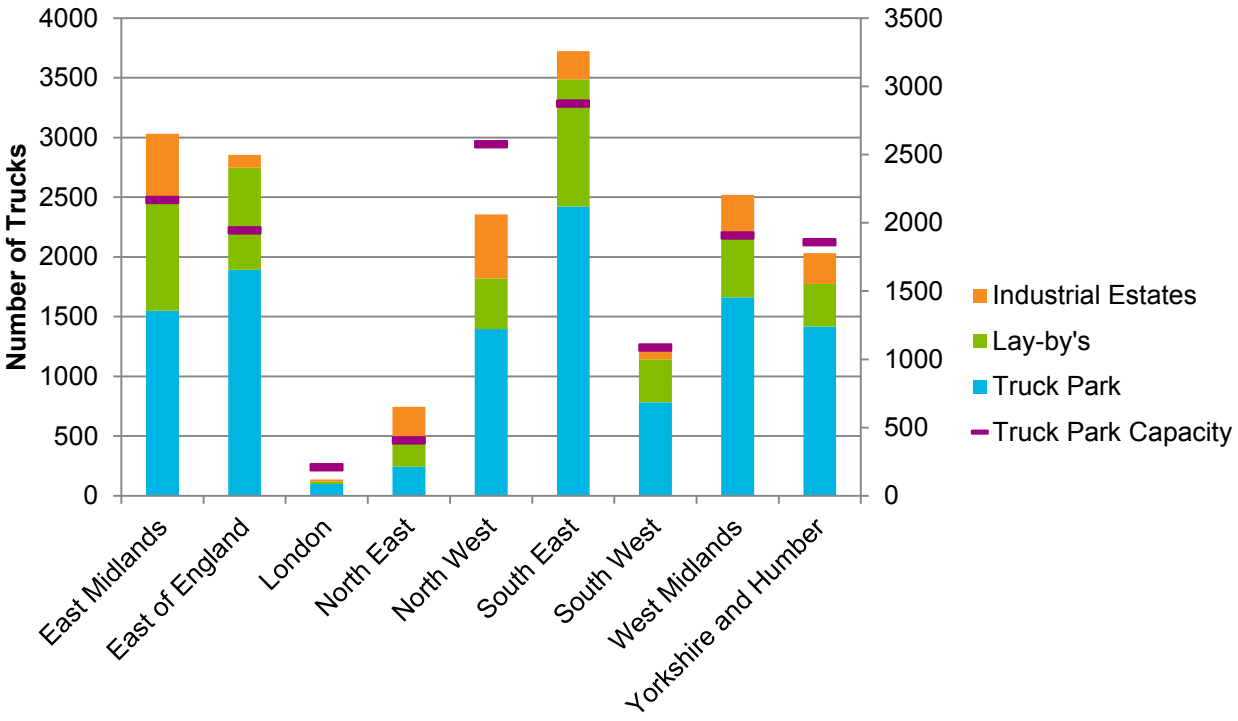

Figure E1: Summary of Parking Demand against Capacity

[1] Department for Transport, 2015 - Road Traffic Estimates: Great Britain 2014 (R)

On-Site Parking

Utilisation

The utilisation of on-site lorry parking facilities compares the number of vehicles parked against current capacity - it is a useful indicator for areas where capacity is struggling to meet demand.

A categorisation system has been created to identify when high utilisation becomes problematic:

- At utilisation ≥85% it is difficult for drivers to find parking spaces due to the size of vehicles and the way they are positioned, hence at this point the lorry park is considered to be full in a practical sense.
- As with previous studies we have specified ≥70% utilisation as reaching an increasingly serious level where drivers have to search carefully for spaces.

Table E1: Utilisation Categorisation

Description	Utilisation (%)
Critical	≥ 85
Serious	70-84
Acceptable	<69

Six out of nine regions are categorised as having serious or above levels of utilisation, whilst two of these, the East of England and West Midlands are categorised as critical. The average for the whole country is 76%.

Notably the South East is just 1% off being categorised as serious.

Table E2: Regional Utilisation

Region	Lorry Park Utilisation	
	2010	2017
East of England	80%	97%
West Midlands	71%	87%
South East	71%	84%
Yorkshire and Humber	47%	76%
East Midlands	56%	72%
South West	46%	72%
North East	50%	60%
North West	55%	54%
London	45%	48%
England	**58%**	**76%**

Utilisation has increased across England by 18% from 58% to 76% in the last seven years (2.6% per year) since the previous survey. If this trend continues then six regions will be categorised as critical by 2024. According to DfT registration figures[2], 493,600 HGVs were registered in Great Britain in 2016. This represents a fourth consecutive year of increase after five years of decline following the market peak in 2007. In 2016 the number of HGVs on the roads in the UK increased by 2% compared to the previous year[3]. When the previous survey was conducted the freight sector was experiencing some lag from the economic downturn and this may have affected the 2010 results.

In some cases the utilisation for a particular site has been recorded as >100% with the highest being recorded at 305%. Instances where the number of lorries parked is higher than the capacity are due to lorries parking in spaces that are not designed / suitable for lorry parking. This was observed in the form of parking across car/coach parking spaces, on slip roads leading to off-site parking locations and on kerb sides.

Comparison against previous study

The number of HGVs counted making overnight stops on a typical mid-week night has risen from 13,708 (2010) to 18,670 (2017). This represents a 36% increase (4,962 vehicles). In comparison, the total capacity of on-site spaces available in lorry parks or motorway service areas (MSAs) has increased by just 14% to 15,012.

[2] DfT, 2017 - Vehicle Licensing Statistics: Annual 2016. Pg10
[3] DfT, 2017 - Road Freight Statistics (June 2015 - June 2016.) Pg1

On average each lorry park has a capacity of 48 vehicles and the lorry parking facilities that have been added since 2010 have an average of 59 spaces per site.

Table E3: Comparison against previous study

	2010 Data	2017 Data	Difference
Vehicles parked overnight	13,708	18,670	4,962 (36% increase)
On-site spaces	13,173	15,012	1,839 (14% increase)
Number of lorry parks surveyed	280	311	31 (11% increase)
Regions with greater than 70% utilisation	South East West Midlands East of England	East of England 97% West Midlands 87% South East 84% Yorkshire and Humber 76% East Midlands 72% South West 72%	A greater number of regions have high utilisation as Yorkshire and Humber, the East Midlands & South West now also have utilisation over 70%
% of vehicles parking off-site	41	39	2

Facilities and Price

A system was devised to rate all on-site lorry parking facilities as described in the **Table E4** below. This rating was based on a five point scale which is broadly in line with LABEL, the European Truck Park Area Certification system. As the system devised does not include all of the LABEL criteria, the results should be used indicatively. Nevertheless, it provides a useful overview of the types of facilities available at lorry parks on a regional basis.

Table E4: Lorry Park rating basis

Truck Stop Rating	Truck Stop Facilities	Description
1	Toilets	Basic rest area offering truck drivers a place to park and access to toilets.
2	Toilets & Café	Basic/medium rest area offering truck drivers a place to park and access basic amenities.
3	Toilets, Shower & Café	Medium level facility that offers truck drivers a place to park with basic amenities including wash facilities.
4	Toilets, Lighting, Shower, Café, & Security Fence	Medium/high level facility that offers a degree of secure and safe truck parking whilst also offering reasonable facilities for truck drivers.
5	Toilets, Lighting, Shower, Café, Security Fence Accommodation & CCTV	High end truck parking facility offering truck drivers a place to park securely and safely whilst also enjoying extensive facilities.

According to the labelling system outlined in **Table E4** the facilities ranked ≥ level 4 have security provision. **Table E5** indicates that just 5% are rated at level 5 and only 21% of facilities across England are rated ≥ level 4 and hence provide security features.

It is important to note that CCTV was recorded through visual auditing, yet stakeholder consultation has indicated that a number of cameras in place are used for Automatic Number Plate Recognition (ANPR) based parking fees enforcement rather than security.

Table E5: Lorry Park Ranking – Regional Summary

Region	Number of Lorry Parks ranked at each level					Average Price (£)
Levels of Ranking	**1**	**2**	**3**	**4**	**5**	**-**
London	25%	0%	75%	0%	0%	£21.70
East of England	7%	23%	33%	27%	10%	£18.70
South East	8%	31%	52%	6%	4%	£18.60
North West	5%	11%	49%	22%	14%	£18.00
Yorkshire and Humber	6%	6%	73%	12%	3%	£17.20
West Midlands	8%	16%	47%	21%	8%	£16.30
South West	8%	16%	49%	24%	3%	£15.50
North East	6%	19%	63%	13%	0%	£13.50
East Midlands	9%	30%	48%	11%	2%	£13.20
England	**8%**	**20%**	**51%**	**16%**	**5%**	**£16.60**

Figure E2: Lorry Park Ranking – Regional Summary

The average price for overnight parking across England is £16.60[4]. As expected London, the East of England and the South East have higher than average parking prices due to the high land value in these regions. The North West and Yorkshire and Humber also have higher average prices than the national average which aligns with the level of facilities available in the regions:

- In the North West 36% of facilities are ranked level 4 or 5 in comparison to the national average of 21%;
- 88% of facilities are ranked higher than level 3 in Yorkshire and Humber in comparison to the national average of 72%.

[4] Based on this figure the annual cost of paying for overnight parking in on-site facilities is approximately £3,187

Off-Site Parking (e.g. parking in laybys and industrial / retail parks)

Appropriate Parking

Whether off-site parking is to be considered as inappropriate for overnight parking is undetermined. However, there is a shortage of HGV drivers and one reason for this is the negative public perception of the industry as well as drivers feeling underpaid and undervalued. Providing drivers with suitable wash and food facilities, to enable them to have a pleasant overnight rest, is important for improving driver morale, perception and road safety. If this is the standard set for what can be defined as 'appropriate' parking then most laybys and industrial/retail parks would then be considered 'inappropriate.' A total of 39% of vehicles were found to be parking off-site. The breakdown of this is as follows:

- 14% of all vehicles counted parking overnight were found to be in industrial estates or retail parks, of these 6% have cafes and 42% are lit.
- 25% of all vehicles counted parking overnight were found to be in laybys, of these: 6% were found to be lit, 1% have toilets and 2% have a café – the cafés observed were usually a portable trailer which closed in the evenings.

With lorry parking averaging at £16.60/night many drivers would prefer to supplement their salary with a tax-free "night-out" payment from their employer and spend the night parked off-site for 'free'. One solution to this problem could be to adapt these locations into 'enhanced' off-site parking facilities having basic amenities for drivers at a modest price.

Hotspots

The East Midlands was found to have the greatest number of vehicles parking off-site (42% - 1254 vehicles seen). This is shown in **Table E6** where all three indicative factors are high; the M1 corridor has an extremely high off-site parking density as well as the A1 corridor - this can be seen in **Figure E3**.

The SRN surrounding the three ports in the South East and East of England is under a lot of pressure for additional lorry parking. The heat map (**Figure E3**), shows high off-site parking on the M20, A2, A14, A12 and A120 leaving the ports and also in and around the counties of Essex and Kent. Almost all lorry parks within the counties of Essex and Kent are at critical levels of utilisation.

There is high off-site parking density around the Port of Liverpool and no lorry parking facilities close by. A number of those on routes close to the port are at critical utilisation.

The A34 in the South East leading north from the ports of Southampton and Portsmouth has high levels of offsite parking and a high number of serious and critically utilised lorry parks.

Table E6: Off-Site and Excess Vehicles

Region	Total Parked Vehicles	Total Vehicles Parked offsite	Percentage of vehicles parked offsite	Excess vehicles
East of England	2,854	731	26%	911
East Midlands	3,032	1,264	42%	865
South East	3,723	890	24%	852
West Midlands	2,519	740	29%	613
North East	745	468	63%	340
South West	1,272	424	33%	188
Yorkshire and Humber	2,032	563	28%	179
London	136	31	23%	-71
North West	2,357	883	37%	-216
England	**18,670**	**7,201**	**39%**	**3,658**

Off-Site Parking Map

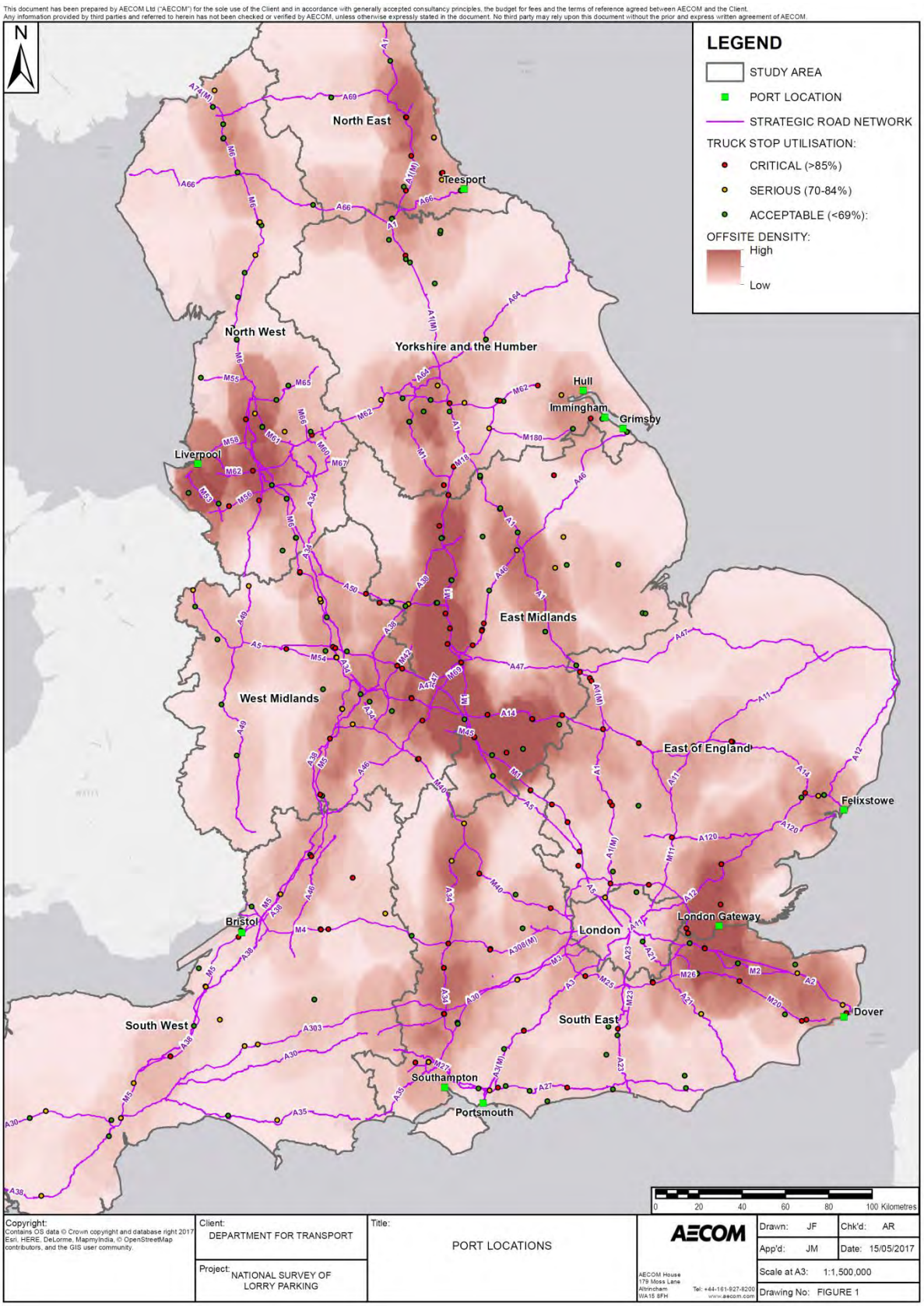

Figure E3: Map to show off-site parking density

Foreign registered vehicles

Table E7: Foreign registered vehicles compared to UK registered vehicles

All Parking	UK vehicles	Foreign vehicles	All Vehicles	Foreign / Total
South East	2,203	1,520	3,723	41%
London	96	40	136	29%
East of England	2,098	756	2,854	26%
East Midlands	2,341	691	3,032	23%
West Midlands	1,955	564	2,519	22%
Yorkshire and Humber	1,678	354	2,032	17%
North East	619	126	745	17%
North West	1,951	406	2,357	17%
South West	1,074	198	1,272	16%
England	**14,015**	**4,655**	**18,670**	**25%**

Across England, 25% of vehicles counted taking overnight stops were found to be foreign registered in contrast to the 3.3% of total UK HGV vehicle kilometres that is made up of foreign vehicles[5]. A high of 41% of the total vehicle traffic (3,723) was recorded in the South East. A number of journeys made by UK vehicles can be completed within the day and do not require an overnight stop.

The percentage of foreign vehicles parked on-site is 1% lower than those parked off-site. In both cases on and off-site parking has the highest proportion of foreign vehicles in the South East. As the majority of international road movements move across the Dover Straits and Channel Tunnel, this is an expected outcome.

London has a notable difference between the numbers of foreign vehicles found on and off-site. One of many reasons for this may be concern over congestion charging.

Crime

Crime data was collected from NaVCIS for the whole of 2016. NaVCIS highlighted that not every police force reports crime to them and as such there are significant differences in crime statistics from region to region. The issue of comprehensive reporting of truck crime is beyond the scope of this report but is worthy of further examination.

The key areas of freight crime have been captured in detail in the regional analysis.

The areas found to have the biggest freight crime problems from data and stakeholder interviews are:

- Northampton (East Midlands),
- Essex (East of England),
- Leicester (East Midlands) and;
- Nottinghamshire (East Midlands).

Unsurprisingly, the area with the highest crime rate is the East Midlands where the number of vehicles counted parking off-site is the highest across the country, making up 17.5% of all off-site parking. The East of England has the highest utilisation and number of excess vehicles - when considering remaining on-site spaces.

[5] Department for Transport, 2015 - Road Traffic Estimates: Great Britain 2014 (R)

Estimation of additional parking required

We have developed immediate and long term responses which could be used to progress developments in increasing lorry parking capacity. The immediate response is focused on specific lorry parking locations that currently are at critical capacity of over 85%. Whereas the long-term estimations are based on all overnight parking compared with current capacity, this considers a situation where all overnight parking occurs on-site.

Immediate response

The following **Table E8** has been created to aid response decisions, the terminology can be defined as:

- Theoretical: the total number of spaces required if there is an on-site parking space provision for every single lorry counted overnight;
- Practical: the total number of spaces required for every lorry to be able to park in a space overnight considering that a lorry park is, in practice, full at 85% capacity.

To deliver an immediate response, only lorry parks recorded as critical (≥ 85%) were considered, as such London is excluded from the table. Theoretically six regions require additional spaces; yet practically eight regions have been identified as needing increased parking facilities, with the most urgent need found to be in the South East.

Table E8: Immediate response estimation of additional parking requirements from considering lorry parks currently equal to or above ≥ 85% capacity

Region	Theoretical Spaces needed	Practical total spaces needed	Practical number of additional spaces needed	Practical additional spaces needed (%)
South East	210	1,731	470	37%
North East	8	153	31	25%
South West	17	351	70	25%
East of England	58	1,848	335	22%
West Midlands	27	1,262	216	21%
Yorkshire and Humber	15	844	142	20%
North West	-10	472	61	15%
East Midlands	-43	866	87	11%
England	**282**	**7,526**	**1,411**	**19%**

Taking just the critical areas >85% utilisation, there is an immediate need for 1,411 more spaces across the country (19%), with the most urgent need found to be in the South East where 37% more overnight parking spaces are required.

1. Introduction

1.1 Introduction

AECOM was commissioned by the Department for Transport (DfT) to undertake research on lorry parking demand in England. DfT wanted to gain a clear picture of the demand for lorry parking and facilities that can be easily updated in the future and require a comprehensive survey, which reviewed the lorry park locations, their capacity and utilisation, as well as other indicators of demands such as lorry parking in laybys and on industrial / retail estates.

The previous national lorry parking survey undertaken by AECOM in 2010 found there was nearly enough parking capacity to meet demand but on average, it was only 61% occupied. 41% of HGVs were parked in lay-bys and industrial estates. Recent publicity suggests the number parked other than in lorry parks and Motorway Service Areas (MSAs) may have increased, with repeated complaints about laybys being full of foreign-registered vehicles. There have also been instances of HGVs parking illegally on motorway hard shoulders.

This survey provides a clear and up to date picture of the amount of inappropriate parking and identifies where there is a shortage of parking facilities.

1.2 Aims and Objectives

The overall objective of the work package is to *"undertake a comprehensive review of lorry park locations, including their capacity and utilisation, as well as other indicators of demand, in order to gain a clear picture of the demand for lorry parking and facilities that can be easily updated in the future."*

There were four specific requirements completed to achieve this objective:

- Determine and map the number, type and capacity of lorry parks
- Determine and record the type of facilities at each lorry parking facility
- Determine and map the utilisation of lorry parks
- Determine and map the extent of other indicators of demand

The primary outcome of this project was to provide DfT with comprehensive data, evidence and mapping of current lorry parking demand that will be used to assess current needs and forecast future demand for lorry parking easily accessible from the SRN in England.

1.3 Structure of Report

This report has been structured as follows:

Chapter 1 - Introduction

Chapter 2 - Methodology

Chapter 3 - Desk based research

Chapter 4 - Consultation

Chapter 5 - Lorry parking audit findings

Chapter 6 - Summary findings

1.4 Background

This study focuses on the SRN in England. This network consists of over 7081 KM (4,400 miles)[6] of motorways and trunk roads that are managed by Highways England as well as the M6 Toll. These are highlighted in **Figure 1.1**. One third of all road traffic and over half of all road freight is carried by the SRN.

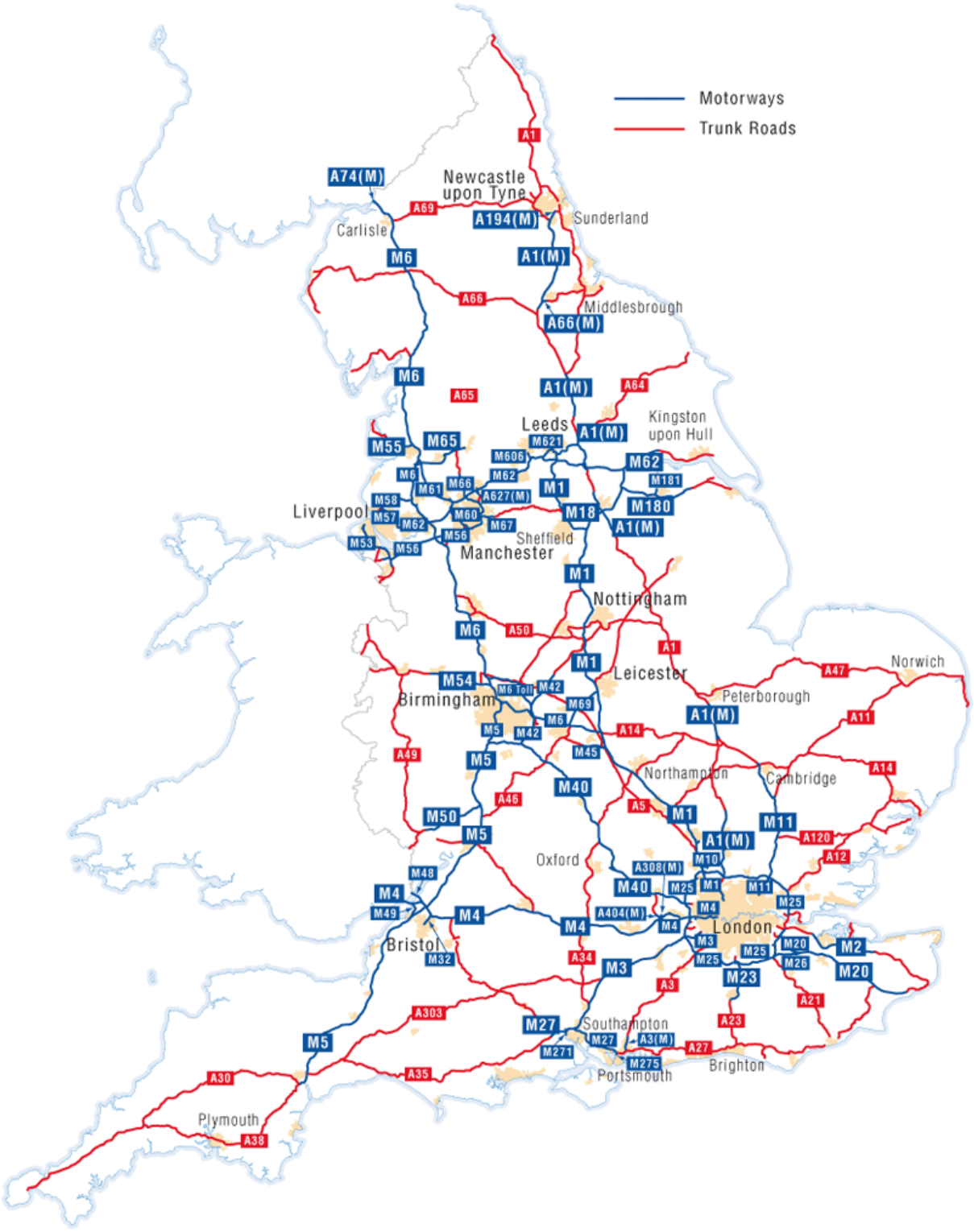

Figure 1.1: The Strategic Road Network

[6] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/448276/strategic-road-network-statistics.pdf

Whilst sea, air and rail play an important role in the movements of goods in England, the UK economy is very much reliant upon the movement of road freight. Latest Eurostat statistics (2014)[7], detail that road freight in the UK is by far the most dominant mode of inland freight transport accounting for 87%. Rail accounts for 12.9% and inland waterways 0.1%. According to DfT registration figures[8], 493,600 HGVs were registered in Great Britain in 2016. This represents a fourth consecutive year of increase after five years of decline following the market peak in 2007. The majority of freight movements start or end with a journey by lorry and it would appear that the needs of the driver and his employer often go unseen.

There is increasing concern that the shortage of lorry drivers experienced in some parts of Europe will get worse as more drivers leave the industry than joining, a problem exacerbated by an aging workforce approaching retirement. One of the issues is that drivers are less willing to sleep in their cab without the ability to take a shower, freshen up and have something good to eat. Also, most employers insist that drivers should not drink alcohol during an intensive driving week and so the traditional picture of trucks parking up overnight near a pub or similar hostelry may be reducing in number.

Rest areas are a vital means of supporting EU Drivers' Hours legislation, which requires regular breaks (at least 45 minutes after no more than 4 hours 30 minutes driving) and a minimum number of rest hours per day. Appropriate facilities ensure that drivers have locations where they can park their vehicles and rest.

It is important therefore to consider the needs of modern logistics drivers and cater for this. Provision can come in several forms, from motorway service stations, lorry parking facilities, lay-bys or private company facilities. However, many private organisations do not want HGVs parked on their premises unless they are specifically being unloaded at the time. There are many issues that lorry drivers encounter during the working week and the need to find somewhere suitable to park each night is just one of them.

This study covers all types of lorry parks (Independent and Local Authority owned lorry parks and Motorway and Trunk Road Service Areas within 5km of the SRN. A common theme is that drivers who are not willing or able to pay for high quality facilities will seek more basic and lower cost options. In order to meet such practical needs and prevent inappropriate parking there are different types of facilities available which will be discussed in this report.

In addition, recent project work conducted on behalf of Highways England by AECOM has involved the collection and analysis of data relating to instances where HGVs have been parked on the hard shoulder. Findings from this analysis have indicated that some drivers are using the hard shoulder illegally to park up and take their 45 minute driving time break.

Theft from HGVs, either the consignment they are carrying or the diesel from their tanks costs the European economy €11.6 billion per annum[9] as well as putting driver welfare at risk. A lack of secure parking areas for HGVs can lead to a greater risk of theft occurring, increasing the costs associated with the supply chain.

DfT has disclosed "repeated complaints about laybys being full of foreign-registered vehicles." A report published by Texaco[10] highlights that over the past decade, the share of UK-registered HGVs travelling out of the UK has shrunk from 15.4% in 2005 to 10.8% in 2014. Foreign-registered HGVs' share of the overall market has risen by 11.7% to 65.7% in that time. The number of HGVs travelling from the UK to mainland Europe (excluding the Republic of Ireland) in 2014 is at the second-highest in the past 10 years at 2.89 million journeys, compared to 2.9 million in 2007.

Many drivers arrive at their delivery points in the evening ready to tip / reload in the morning. Often the companies they are delivering to do not provide them with onsite parking overnight

[7] Eurostat, 2014 - Freight transport statistics – modal split. http://ec.europa.eu/eurostat/statistics-explained/index.php/Freight_transport_statistics_-_modal_split
[8] DfT, 2017 - Vehicle Licensing Statistics: Annual 2016. Pg10
[9] Freight watch, 2013. http://www.freightwatchintl.com/intelligencecenter/securitynews/how-much-really-stolen-every-year-europe
[10] Texaco in partnership with Motor Transport and Commercial Motor, 2016 - Overview of the UK commercial vehicle industry. pg43

or toilets and facilities and so they must park in a lorry park nearby (if there is one) or in a layby or on the industrial park with many choosing the latter because they are free. Due to laybys and industrial estates not having any facilities for drivers. Complaints arise where litter is left by the drivers or the grass verges are damaged by lorry tyres. Many examples were observed first hand by our roving auditors travelling around the country. All of these issues are discussed in more detail later in this report.

2. Methodology

2.1 Introduction

This section sets out our overall methodology and approach taken to complete the various stages of this study

The methodology is split into a number of key areas from identifying the base information through desk based research and stakeholder consultation to conducting the lorry parking surveys and analysing the results. The following sub-sections below provide the full background details of how we undertook the full range of tasks set out in the scope.

2.2 Overview of methodology

Figure 2.1 below outlines the individual work activities of the methodology.

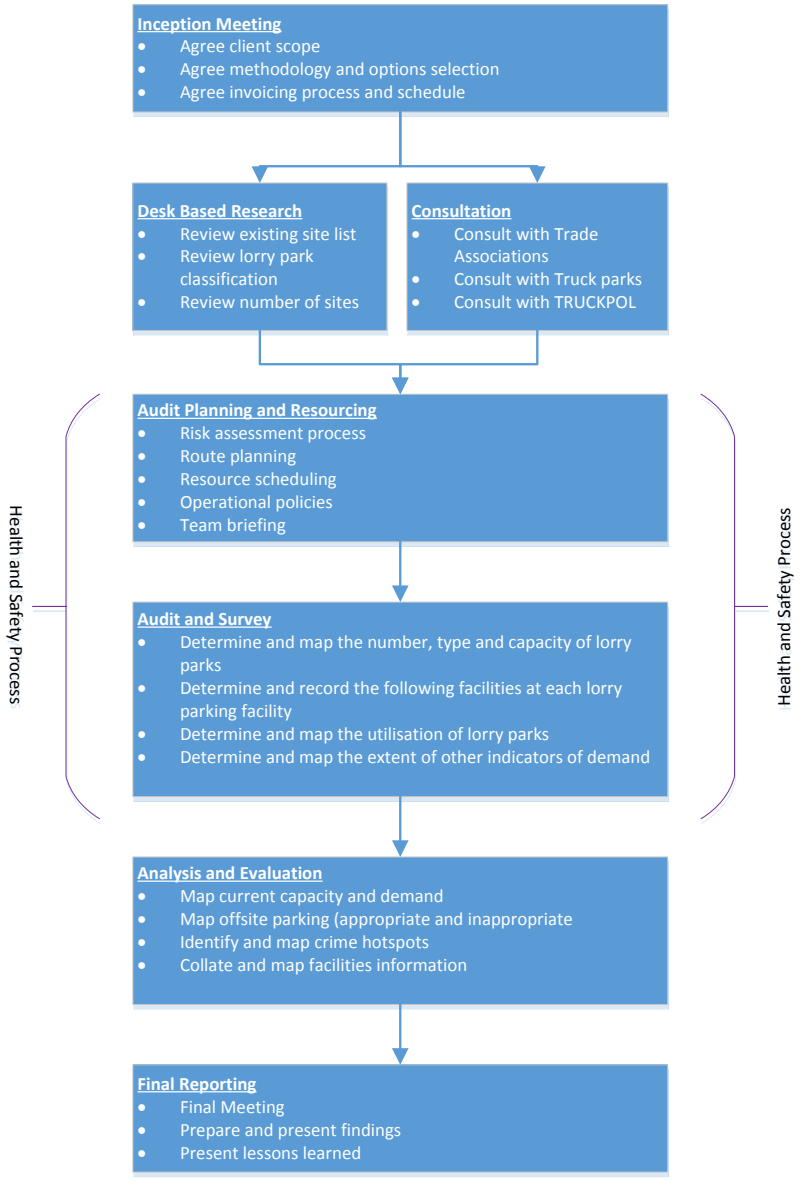

Figure 2.1: Methodology Process

2.3 Identifying the base information

2.3.1 Desk Based Research

Extensive desk top research was conducted which took into account existing data including the preceding 'Lorry Parking Study (2010)'. This research helped create the platform from which to launch the practical site audits and survey work and ensured that the most efficient and effective approach was used.

DfT's lorry parking database which included details of existing lorry parking locations, facilities, GPS coordinates, capacity and main point of contact, were reviewed by our team and populated with secondary data collected from desk based research. This included verifying whether the facilities were still active, if there had been any expansions and whether there had been any changes in management. If any changes were identified the database was updated accordingly.

In addition, a detailed search for new parking facilities was conducted using online sources such as:

- www.highways.gov.uk/publications/truckstops-in-England
- www.transportcafe.co.uk
- www.truckanddriver.co.uk
- www.hgvparking.com
- www.truckparkingeurope.com

Any new facilities that were discovered within a 5km radius of the SRN were added to the database.

A key element of this study was to also identify laybys and industrial estates which were within the 5km radius. To assist, a pre-drive assessment utilising Google Maps was undertaken to identify the roads within 5km of the SRN with parking facilities.

Consideration was also given to vehicle and load theft, and a detailed review of crime statistics across England was undertaken by the project team. To support the desk based research, engagement with stakeholders was undertaken to gather their perspective on crime when parking overnight, the findings of the engagement are presented in **Chapter 4.**

2.3.2 Policy review

This study has been guided by a number of policies at European, National and Regional level to ensure it is consistent and any policy changes identified can be incorporated into the study where appropriate. A summary of findings from the policy review can be found in **sub-section 3.2**

2.3.3 Consultation

This study has been developed following a comprehensive stakeholder consultation process. Engagement with stakeholders was conducted via email and telephone interviews. Stakeholders engaged with included:

- **Industry trade associations**; such as the Road Haulage Association (RHA), Freight Transport Association (FTA), CILT, Unite Union, Transport Focus, Highways England (HE), Food Storage and Distribution Federation (FSDF) and Snap Account.
- **Lorry parking managers;** and
- **National Vehicle Crime Intelligence Service (NaVCIS)**

Stakeholder consultation helped to fill gaps found during the desktop research phase and provided valuable and detailed insights into the demand/crime hotspots and stakeholder

views on issues relating to lorry parking. The results from the consultation can be found in **Chapter 4.**

2.4 Audit Planning and Resourcing

2.4.1 Routing and scheduling of audits

As in 2010 the country was split into nine separate regions and each region was assigned an area manager. The regions were as follows:

- North East
- North West
- Yorkshire and Humber
- East Midlands
- West Midlands
- East of England
- South East of England
- South West of England
- Greater London

Each area manager was responsible for planning the nightly workloads of the audit team working in their region. This was done by using a combination of the Esri Collector Application (**See Section 2.5**) and route optimisation software to produce route maps containing multiple destinations for each team to visit each survey night. This approach meant that the amount of time, distance, environmental and financial cost of undertaking the lorry parking audits could be minimised as much as possible.

2.4.2 Resource Planning

This study required the mobilisation of a large number of staff resources. Nine survey teams were allocated to different regions across England. In order to give maximum value and provide local knowledge, some auditors were sourced from offices in or close to the region being surveyed. In the event that an auditor was unavailable due to sickness or other project work commitments, there were reserves on standby ready to step in.

2.4.3 Risk Mitigation

A formal risk assessment process was checked and approved by AECOM's Health and Safety Lead and was signed by all members of the project team. All staff read the risk assessment to make sure that they fully understood it and were fully aware of the risks and how to mitigate them prior to conducting the surveys.

The risk assessment covered a variety of areas to reduce personal risk to staff as well as risk of incidents such as collisions with other vehicles, vehicle breakdowns and driver fatigue. It also took into account each member of staff's emergency contact details. In addition first aid kits were included in the rental vehicles, use of torches whilst on site, appropriate and high visibility clothing whilst on site, regular communication with other members of the audit team and other risks associated with travelling to and from site.

To further reduce risk to staff, each audit team was tracked using 'find my friends' and this enabled the project manager to track teams in real time and locate teams instantly in the event of an emergency.

As well as 'find my friends', a 'WhatsApp Group' was created for project communication. The group included all members of the audit team and was used for communicating any issues relating to the project. Audit team members were also required to check-in with the project coordinator (who monitored the group) at two hour intervals from the moment they started their shift until they returned back to their overnight accommodation.

2.4.4 Briefing Sessions

Before the utilisation surveys were undertaken, the project team was briefed by the project manager and project director. The briefing was presented in two separate sessions as follows:

- **Briefing session one**: covered what the working week would entail, an overview of the project, the roles of the auditors and regional managers, information to be collected whilst surveying, regions to be covered, the number of people per team, scheduling of audits, resource planning, emergency and breakdown procedures, the risk assessment and a list of frequently asked questions from team members.
- **Briefing session two**: covered route planning and optimisation, instructions on using the data collection mobile application, contact details for regional managers and also provided the opportunity for the auditing team to ask questions on anything they did not understand or were unsure of.

In addition, separate briefing sessions were delivered to regional managers to clarify and rectify any issues they were experiencing prior to the commencement of full utilisation surveys. Further briefing sessions were held with regional managers after the first week of surveying to discuss the working week and any issues experienced (whether collecting data or route planning) which could be solved to make the following week's data collection more productive.

2.4.5 Letter of Authority

Audit teams were required to carry hardcopies of a letter of authority **(see Figure 2.2)** which demonstrated the authenticity of the study and provided details of project objectives and activities being undertaken during the site visit. It was signed by a DfT representative and it included the project manager's contact details in the event that audit teams were stopped by security at a site or the police whilst surveying offsite locations.

AECOM

Department for Transport

Department for Transport
Great Minster House
33 Horseferry Rd
Westminster
London
SW1P 4DR

RE: Letter of Authority (National Survey of Lorry Parking)

The Department for Transport (DfT) are keen to get a better understanding of the demand for HGV parking and driver facilities in England so that it can forecast lorry parking demand over the next decade and inform and progress a number of planned lorry parking initiatives.

In order to complete this objective DfT have commissioned AECOM to undertake a comprehensive review of lorry park locations, including their capacity and utilisation, as well as other indicators of demand. As such, AECOM staff will be visiting facilities across England and assessing the following:

- Type of facility (e.g. Independent Lorry Park, Local Authority Lorry Park, Motorway / Trunk Road Service Area, Industrial Estates and Laybys
- Parking charge
- Facilities available (e.g. Toilets, Showers, Café / Restaurant, Security Fence, CCTV, Lighting, Accommodation and any other security features)
- Capacity (e.g. number of parking spaces available)
- Utilisation (e.g. number of parking spaces used)
- Breakdown of UK registered vehicles vs foreign registered vehicles

In order to make an accurate assessment of utilisation, these audits will be conducted after 18:00 hours on Tuesdays, Wednesdays and Thursdays, when the majority of freight traffic will have parked for the night. The audits will cover all facilities within 5km of the Strategic Road Network (SRN).

Audits will begin on 21st February 2017 and are planned for completion by 30th March 2017.

DfT would like you to support the delivery of this project by allowing AECOM staff to access to lorry parking facilities to assess the factors outlined above. Any information and data collected shall only be used for the purposes of this study and shall not be further processed or disclosed without permission.

Signed

Print name: Philip Martin
Position: Head of Freight Policy (Department for Transport)

Should you require further information regarding this project, please contact:

James Nankivell (AECOM Project Manager)
Tel: 0161 927 8331 **Email:** james.nankivell@aecom.com

Figure 2.2: Signed letter of authority

2.5 Audit and Surveys

2.5.1 Primary Data Collection

The site surveys were used to gather information on each of the lorry parking locations. These details were categorised under the following headings:

- Type, capacity and cost of lorry park
- Facilities available
- Utilisation of lorry park (by UK and foreign registered vehicles)
- Additional comments

Data on the lorry parking sites was collected using a mobile application 'Collector for ArcGIS'. This is a cloud based mapping platform designed by Esri. This 'App' allowed audit teams to digitally record site visit observations using a mobile phone, tablet or iPad.

The revised database formed during the desk based research phase was imported into the 'App' and the GPS coordinates were used to pinpoint each of the lorry parking sites on a map (see **Figures 2.3 and 2.6** below). Each site was allocated an icon depending on what type of lorry parking facility it was. These icons were as follows:

 = Truck Stop

 = Industrial Estate

 = Layby

Audit teams were able to collect data using the live atlas mode or offline by downloading area maps to their devices beforehand and uploading collected data to the cloud at the end of their shift when they had access to the internet. The use of the mobile application reduced the time required to process data and made it simpler to update information if required.

Figure 2.3: Full Map View of Facilities

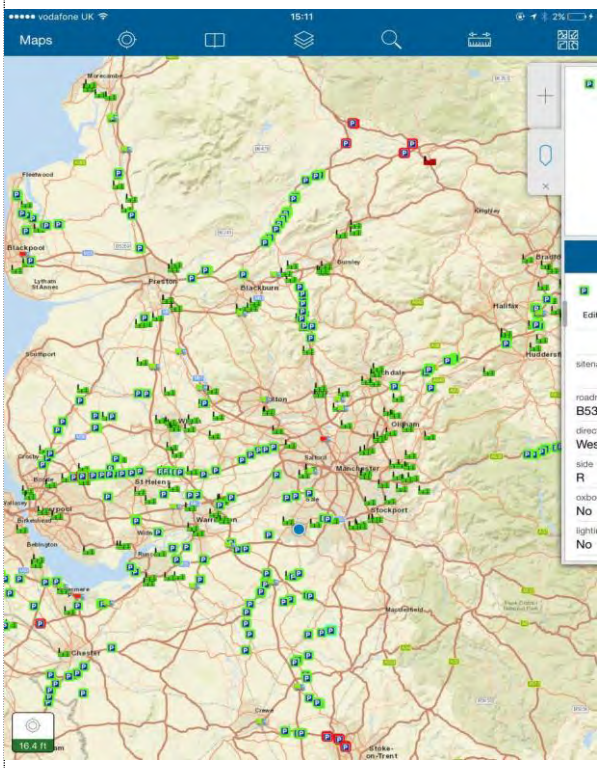

Figure 2.4: Sub Regional View

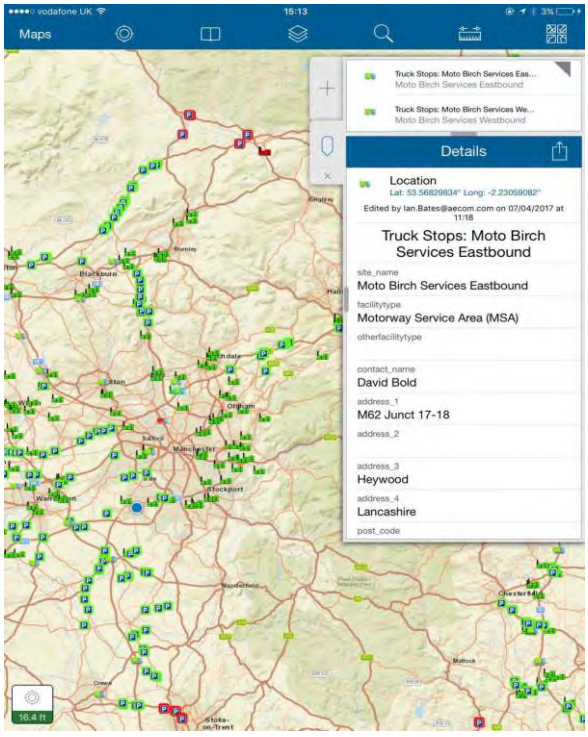

Figure 2.5: Selected Truck Stop

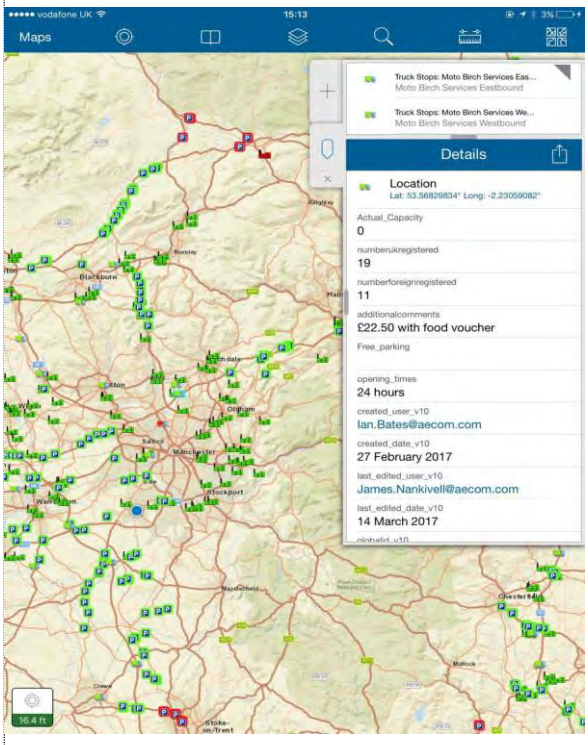

Figure 2.6: Edit information of selected truck stop

In addition to the mobile application, audit teams were required to carry hard copies of the data collection form (as shown in **Figure 2.7**) as back up in the event that technology failed

and it did not operate as planned or if it was difficult to enter new lorry parking locations using the mobile application..

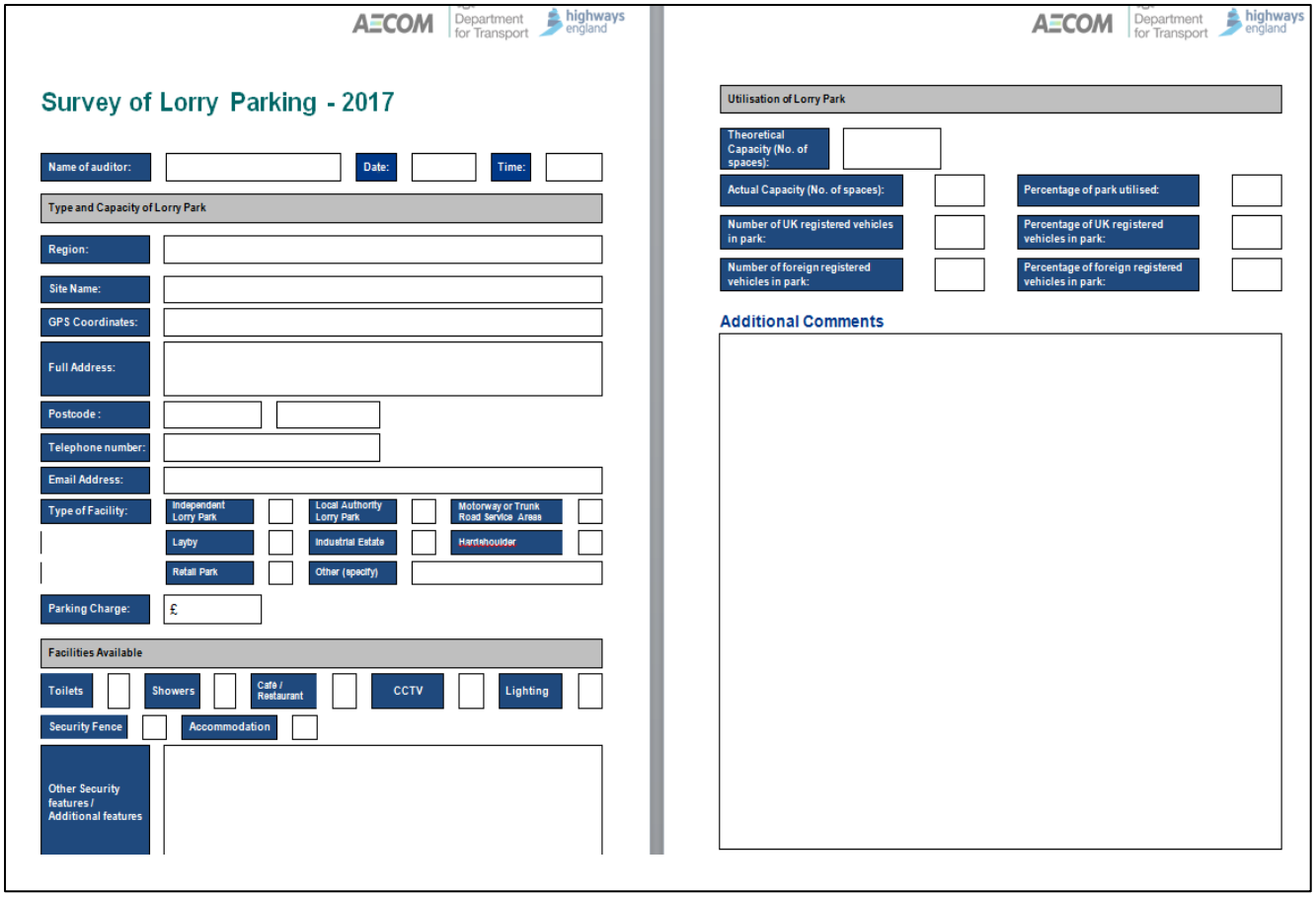

Figure 2.7: Manual data collection form

2.5.2 Pilot utilisation survey

To fully calibrate the mobile application and ensure everything was working as it should, it was necessary to undertake a pilot survey prior to the full utilisation survey. The pilot survey was undertaken by the project manager and project coordinator in the North West region where a total of 35 sites were visited.

The pilot survey provided the opportunity to get a better understanding of how the audits should be conducted during the full utilisation survey. It aided the process of offering advice to regional managers on how to plan their audit schedules more effectively, what to avoid whilst conducting the surveys and provided an indication of how many sites could realistically be visited by the audit teams each night.

2.5.3 Full utilisation survey

The full utilisation surveys were undertaken during the evenings between the hours of 6pm and 2am on Tuesdays, Wednesday and Thursdays throughout the month of March 2017. There was a team assigned to each of the nine regions and each team consisted of two team members. All of the truck stops, industrial estates and laybys were visited in England within 5km of the SRN. The total number of lorry park locations visited is presented in **Table 2.1.**

Table 2.1: Total number of lorry park locations visited by type

Lorry Park Type	Number visited
Truck Stops including MSAs	311
Industrial Estate	801
Layby	3,397

The results of the utilisation survey are presented in **Chapter 5**.

A number of key truck stops were visited a second time in early April 2017 to verify that the data collected was broadly correct and the utilisation of the lorry parks had not been skewed by an unknown event. The results of the second visits are presented in **Chapter 5**, but in essence our finding is that there is little overall variation in vehicle numbers using facilities on a midweek working day from one week to the next. Hence the 'snapshot' approach used by this and previous studies provides a robust set of data.

2.6 Analysis and evaluation

2.6.1 Analysis and evaluation

Chapter 5, **and 6** present the headline information from the surveys along with conclusions from a variety of factors considered.

3. Desk Based Research

3.1 Introduction

In this chapter we present key findings from materials found online and of those provided or referenced during stakeholder engagement. **Table 3.1** outlines the documents reviewed and their sources.

Table 3.1: Documents Reviewed

Document Title	Author(s)	Theme
Directive 2010/40/EU	European Commission	EU Directive
Directive 2008/96/EC	European Commission	EU Directive
Road Investment Strategy(RIS): for the 2015/16 to 2019/20 Road Period	DfT	Policy/Strategy
Secure European Truck Park Operational Services (SETPOS) Project Handbook	European Commission	Policy/Strategy
Security and Service at Truck Parking Areas Along the Trans-European Road Network – Handbook for Labelling	European Commission/ DG Move	Policy/Strategy
The Future of Transport: A Network for 2030 (2004)	DfT	Policy/Strategy
The National Planning Policy Framework (2012)	Department for Communities and Local Government	Policy/Strategy
The Strategic Road Network and The Delivery of Sustainable Development (2013)	DfT and Highways Agency	Policy/Strategy

3.2 Policy Review

In this section, we have reviewed a number of European and National policy and strategy documents that relate to or are closely linked to the provision and standards of lorry parking facilities on the SRN.

3.2.1 EU Directives and Regulations

Directive 2010/40/EU

Regulation (EU) No 885/2013 supplements ITS Directive 2010/40/EU of the European Parliament and of the Council with regard to the provision of information services for safe and secure parking places for trucks and commercial vehicles.

The Directive requests the Commission to define specifications for the provision of information and reservation services for safe and secure parking places for trucks and commercial vehicles (Intelligent Truck Parking).

Directive 2008/96/EC

This Directive relates to on-road infrastructure safety management and recognises that a sufficient number of safe rest areas are important for crime prevention and road safety. This legislation also ensures through road safety impact assessments and audits, that when new road sections are built, adequate and safe parking areas are foreseen.

Regulation EC No 561/2006

This regulation provides a common set of EU rules for maximum daily and fortnightly driving times, as well as daily and weekly minimum rest periods for all drivers of road haulage and passenger transport vehicles.

3.2.2 LABEL

LABEL is a certification system for lorry parking facilities in Europe. The scheme consists of five categories of security and service quality requirements for lorry parking areas. The five categories range from 1 to 5, of which level 1 is the basic level whereby basic facilities and security measures are in place and 5 is the highest level whereby there are a variety of high quality facilities and high security measures in place.

LABEL describes the security measures at a truck parking area as the steps that have been taken to create conditions for better security. Some examples of security measures include fencing, CCTV, prevention of unauthorised entry/exit, lighting, records of all incoming and exiting vehicles, alarm procedures and the availability of pre-booking of parking. The criterion for security at a truck parking area is shown in **Figure 3.1** below:

Security Level 1 	**Providing the Basics** Level 1 Truck Parking Areas (TPAs) offer some basic security features. A requirement is that the site is recognisable as a parking area. Driving and pedestrian areas are well-lit. Elementary security checks take place.
Security Level 2 	**Technical Measures to Improve Security** Security level 2 adds to the level 1 requirement that the TPA is either surrounded by a continuous fence or that there is a CCTV system that monitors the perimeter. The parking is well-lit. Vehicles that are allowed to park are indicated by a sign. A CCTV monitors entrances/exits. Security checks take place by TPA staff or a professional organisation. CCTV images are clear and stored safely.
Security Level 3 	**Security Measures are Combined, Access of Persons Restricted** Security level 3 adds to the level 2 requirement that both a fence and a CCTV system monitoring the perimeter need to be in place. The site is set up for good visibility. Constant measures are taken to keep the fence in a good condition. Only truck parking users or staff are allowed access. Criminal incidents are reported.
Security Level 4 	**Real Time Monitoring of Vehicles and Persons by Professional Staff** Security level 4 adds to the level 3 requirement that on-site or remote staff monitor vehicles and pedestrians real time. Registration of vehicles and drivers takes place. Guards and staff are trained professionals, their references are checked. They are equipped to be able to react quickly to an alarm situation. Pre-booking is possible. Gates are closed.
Security Level 5 	**Verification of Vehicles and Persons by Professional Staff, Site Manned Around the Clock** Security level 5 adds to level 4 that the site is manned around the clock. The identity of all vehicles or persons that enter is verified and logged. The fence is equipped with an anti-intrusion system and protected against a truck intentionally driving through. CCTV covers the entire area of the TPA.

Figure 3.1: LABEL Security Standards

The service level is measured by the amount of characteristics that are considered service-enhancing. The service is divided into a number of categories, including comfort and dignity, food and shopping, safety and other services such as a fuel station, cash machine, internet, truck wash/repairs and laundry. The higher the service level criteria the better the service will be at a selected truck parking area.

3.2.3 SETPOS

SETPOS was a pilot project initiated by the European Commission — Directorate General for Energy and Transport (€5.28m co-funded) in June 2007. The project responded to the growing concerns about attacks on high value cargo and vehicles, coupled with the lack of adequate rest facilities for drivers[11].

LABEL is closely linked to the SETPOS project and builds on the information and findings from that project.

Label takes into consideration a number of factors including:

- Security – are drivers, goods and vehicles in a secured environment?
- Comfort and dignity – for example can drivers take a shower?
- Food and shopping – for example are warm meals provided?
- Services – for example can basic repairs be undertaken?
- Safety – for example traffic safety at the truck parking area

We developed a system to rate all on-site lorry parking facilities and the rating was based on a five point scale which is broadly in line with LABEL the European Truck Park Area Certification system (this rating system is illustrated in **Chapter 6).** As the system devised does not include all of the LABEL criteria, the results should be used indicatively. Nevertheless, it provides a useful overview of the types of facilities available at lorry parks on a regional basis.

3.2.4 The National Planning Policy Framework (2013)

This policy requests local authorities work with neighbouring authorities and transport providers to develop strategies for the provision of viable infrastructure necessary to support sustainable development. This includes facilities such as rail freight interchanges, roadside facilities for motorists or transport investment necessary to support strategies for the growth of ports, airports or other major generators of travel demand in their areas. The primary function of roadside facilities for motorists should be to support the safety and welfare of the road user.

The policy states that local planning authorities should work with other authorities and providers to:

- Assess the quality and capacity of infrastructure for transport, water supply, wastewater and its treatment, energy (including heat), telecommunications, utilities, waste, health, social care, education, flood risk and coastal change management, and its ability to meet forecast demands; and
- Take account of the need for strategic infrastructure including nationally significant infrastructure within their areas.

The National Planning Policy Framework does not change the statutory status of the development plan as the starting point for decision making. Proposed development that accords with an up-to-date local plan should be approved and, proposed development that

[11] https://ec.europa.eu/transport/sites/transport/files/modes/road/parking/doc/2010_04_28_setpos_project_handbook.pdf

conflicts should be refused unless other material considerations indicate otherwise. It is highly desirable that local planning authorities should have an up-to-date plan in place.

3.2.5 Road Investment Strategy (RIS): for the 2015/16 – 2019/20 Road Period

The RIS sets out an ambitious vision for the future of the network – 'by 2040, the network will be smoother, smarter and more sustainable.' In the RIS the Government highlights many of the key challenges faced by the network namely:

- The network is struggling to cope in the face of increasing demand and the volume of high speed traffic
- Delays to journeys deter investment and constrain the ability of business to compete
- Stop-start funding available for roads investment has made it difficult to plan for the long term
- Vehicle emissions and noise significantly impact local communities
- Our customers need better and more up to date information to manage their journeys

3.2.6 The Strategic Road Network and the Delivery of Sustainable Development (2013)

This document sets out the way in which Highways England will engage with communities and the development industry to deliver sustainable development and economic growth, whilst safeguarding the primary function and purpose of the strategic road network.

It replaces the policy set out in Department for Transport (DfT) Circular 02/2007 Planning and the Strategic Road Network and DfT Circular 01/2008 Policy on Service Areas and other Roadside Facilities on Motorways and All-purpose Trunk Roads in England. Annex B of the document provides policy for facilities on the SRN. The policy applies to all existing signed roadside facilities and proposed signed facilities.

Statutory Rest Breaks

The policy recognises the need for commercial vehicle drivers to take statutory rest breaks and that roadside facilities assist drivers and operators in compliance with these requirements.

Spacing of Facilities

The policy provides that the network of SRN service areas has been developed on the premise that opportunities to stop should be provided at intervals of approximately half an hour. However recognising congestion and other factors, the policy states the following.

"Highways England therefore recommends that the maximum distance between motorway service areas should be no more than 28 miles".

The distance between services can be shorter, but must comply with the requirements of the Design Manual for Roads and Bridges.

Local Planning Authorities Role

The local planning authorities are responsible for assessing applications for new or existing facilities in line with relevant planning legislation and regulation.

In relation to the role of the local planning authorities, the policy says that local planning authorities should not consider the merits of sites beyond conformity with the spacing criteria. Further to this, the policy says that the planning authority should not seek to prevent competition between operators; rather they should determine applications based on their specific planning merits.

Highways England Role

Highways England is a statutory consultee within the planning system and encourages local authorities and developers to engage with Highways England regarding any roadside developments at the earliest opportunity.

Highways England only supports proposals for or within service areas if it can be shown that there will be no overall increase in trip mileage or adverse impact on safety or operation of the network.

Private Sector Role

The policy recognises that it is the role of the private sector to promote and operate service areas that meet the needs of the travelling public.

Parking Charges

The policy states that where facilities charge for parking over the mandatory two hour free parking period, the charges for parking must clearly be displayed in the parking area and amenities building. Further to this, cash payments for parking must be accepted.

SRN Facilities Signing

The policy provides minimum requirements that roadside facilities must satisfy in order to be eligible for signing from the SRN. These requirements are shown in **Table 3.2** overleaf.

Table 3.2: Minimum Requirement for Signage of Facilities

Minimum Requirements to be eligible for signing M = Mandatory P = Permitted	Motorways		APTR Service Area*	Truckstops on Motorways	Truckstops Signed from SRN	Truckstops on All-purpose trunk roads
	Service Area	Rest Area				
Open 24 hrs a day 365 days a year	M	M	N/A	M	N/A	N/A
Open minimum 12 hours per day between 8am and 8pm every day except Christmas Day, Boxing Day and News Years Day	N/A	N/A	M	N/A	M	M
Free parking for up 2 hours minimum for all vehicles permitted to use the road served by the facility (see schedule 1)	M	M	M	M	M	M
Free toilets / hand washing facilities with no need to make a purchase	M	M	M	M	M	M
Shower and washing facilities for HGV drivers including secure lockers in shower / washing area	M	P	P	M	M	M
Fuel	M	P	M	M	P	P
Hot drinks and hot food available at all opening hours for consumption on premises	M	P	P	M	P	P
Hot drinks and hot food available 8am to 8pm for consumption on premises	N/A	P	M	N/A	M	M
Access to a cash operated telephone	M	M	M	M	M	M
Use as an operating centre for the purposes of Good Vehicles (Licensing Operators) Act 1995 or Public Passenger Vehicles Act 1981	Prohibited	Prohibited	Prohibited	Prohibited	P	P

* Limited to a single or exceptionally 2 adjoining interconnected premises, accessed directly from the trunk road or directly from a junction on the trunk road.

The policy provides an exception for the roadside signing of truckstops if they are within two miles of the SRN and otherwise meet requirements for signing, as long as vehicles would not have to pass through residential areas.

Parking Requirements

The policy provides a method for calculating parking requirements for different types of vehicles in Schedule 1. In the case of HGV parking at MSAs, the parking requirement is 0.5% of the average daily flow of goods vehicles for the peak month and should be based on the most recent complete years' worth of data.

The policy prescribes that at trunk road service areas; there must be a minimum of two standards of HGV parking spaces.

A self-help tool known as HATRIS is available to use for completing these calculations[12].

3.2.7 The Future of Transport: A Network for 2030 (2004)

The White Paper on the Future of Transport sets out the approach the Government will take in developing infrastructure and services to safeguard the country's economic, social and environmental wellbeing.

Within this context the policy chapter makes reference to freight and states:

> *"Local and regional regulation – we will encourage local authorities to consider how their various regulatory powers that relate to freight transport (traffic and parking regulations, night-time bans, planning powers and the use of planning*

[12] https://data.gov.uk/dataset/highways-england-network-journey-time-and-traffic-flow-data

conditions) can be co-ordinated to make life easier for businesses while protecting the interests of local people."

3.3 Logistics Hubs

There are a number of locations in England where logistics activity is most concentrated and are considered prime locations. Traditionally, the Midlands area bounded by the M1, M6 and M42 known as the 'Golden Triangle' (**see Figure 3.2**) has been seen as a key hub for logistics activity in the UK.

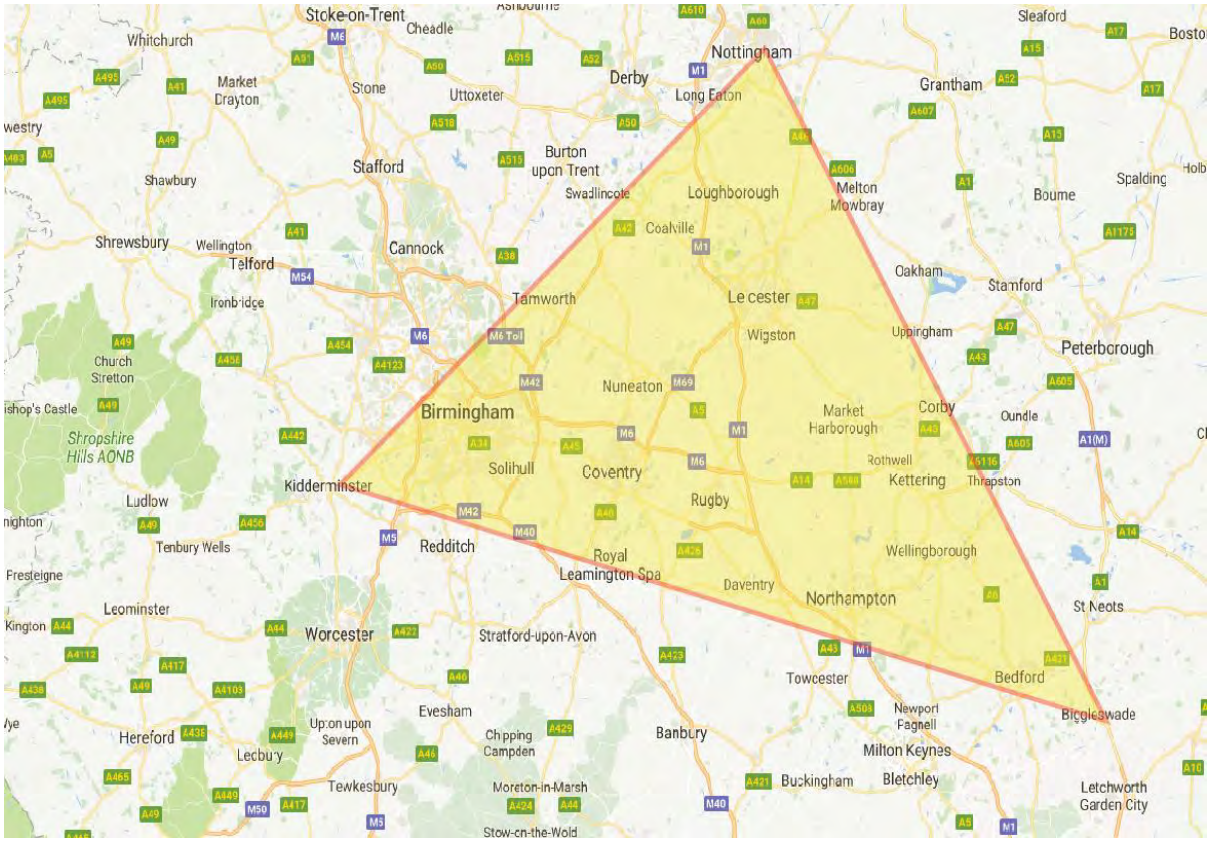

Figure 3.2: UK Golden Triangle of Logistics

The region benefits from its proximity to the motorway network and the fact that the majority of locations in England, Scotland and Wales can be reached within 4.5 hours driving. This means that goods vehicles can return to base for reloading within driving time regulations (maximum of 9 -10 hours driving per day). Some of the largest logistics hubs in the UK such as Magna Park are located in the Golden Triangle.

In the North of England and Scotland, Warrington and Manchester have the highest rents per M^2 and land values per acre, which are comparable to the rates in the 'Golden Triangle'[13].

Within London, the cost of logistics sites is much greater than elsewhere in the UK. The highest rents in the capital are seen close to Heathrow, which is also the UKs number one air freight hub, handling 65% of all air freight. **Table 3.3** outlines the UKs major logistics hubs.

[13] http://www.colliers.com/en-gb/uk/insights/industrial-rents-map

Table 3.3: Major UK Logistics Hubs

Regions	Sub-regions
London	• Heathrow • Barking/ London Gateway
Midlands	• Northampton • Daventry • Lutterworth • Hams Hall • Kegworth
North of England	• Warrington • Manchester • Wakefield

3.4 Freight Crime

Freight Watch International (FWI) estimates that freight crime costs European Union (EU) Member States €11.6 billion in the loss of goods each year. In reality, the figure could be much higher as other factors such as repair costs, replacement goods, contractual penalties, hire vehicle/equipment costs, insurance premium increases and administration/investigative costs are difficult to assess.

At present, the UK is the third worst country in the EU for cargo thefts. Only Germany and the Netherlands have higher rates of such crimes[14].

High-value consumer goods are the preferred cargo for thieves as they can quickly and easily be sold on. Recent high-profile thefts from laybys on the A14 reported thieves taking £62,000 worth of TV's on one occasion and £66,000 worth of fashion clothing on another.

The CART Report recognises the issue of freight crime reporting throughout Europe. The report cites an EU study conducted in 2007 that includes the following statement[15]:

"*There is no simple way to provide a clear picture of the extent and nature of the theft of goods and commercial vehicles in Europe. In most countries vehicle and goods theft is not seen as a priority and few resources are given to collecting and analysing data on it.*"

TruckPol was the body responsible for compiling freight crime data however; it was disbanded in 2012. In 2016, the National Vehicle Crime Intelligence Service (NaVCIS) established a 'freight desk' following industry support and now collates UK freight crimes from roughly half of police forces, industry and open sources.

We engaged with NaVCIS as part of the stakeholder consultation element of this project. The results of this consultation are displayed in **Chapter 4** of the report.

3.5 Driver and Operator Opinion

Transport Focus published a report detailing road users' views of roadside facilities in July 2016. In this sub-section, we have provided some of the key findings from the report from engagement with lorry drivers and transport operators.

Lorry drivers have more complex needs than other users of roadside facilities. Drivers must comply with driving time regulations and may face prosecution for non-compliance. As such, roadside facilities are of a greater significance to lorry drivers compared with other road users.

Lorry drivers tend to compare MSAs with truck stops and in general, they prefer to use truck parks. Some of the reasons for this include:

[14] https://NaVCIS.police.uk/portfolio-item/NaVCIS-freight-2/
[15] European Parliament, 2007 – Organised Theft of Commercial Vehicles and their Loads in the EU (2007)

- Truck stops address more than just functional needs
- They feel more welcome than at MSAs
- Truck stops tend to have 'sit-down' restaurants with 'home cooked' food
- Parking is perceived to be better value and more secure at truck stops

Some lorry drivers use laybys frequently for either short breaks or overnight stops. Due to the absence of facilities, many drivers are forced to relieve themselves outside. While many drivers are now used to this, they do not think it is acceptable.

As well as the absence of facilities, drivers were of the opinion that stopping at laybys was unsafe due to the proximity to fast moving traffic and short slip roads.

In some cases, laybys are being removed due to safety concerns. While drivers do not object to this, they feel that the capacity needs to be replaced elsewhere.

Transport operators suggested that the requirement to take regular breaks, monitored by tachograph combined with the lack of parking capacity is contributing to driver recruitment and retention problems.

Operators agree with drivers that truck stops are better than MSAs overall, however they are too few in number and often require significant detours to reach them.

Operators were of the opinion that obtaining planning permission and funding is a major barrier to developing more lorry parking facilities.

In relation to lorry parking, one of the main conclusions of the report is as follows:

"Highways England should develop a strategy to ensure there is sufficient capacity for lorries to park in the right places and with facilities that meet drivers' needs. It will need to work with the freight industry, government, local authorities and others to do this."

3.6 Overnight Subsistence

When a driver has to spend a night away from home a tax free payment may be made to cover essential personal expenses. Where drivers have a sleeper cab a reduced rate of 75% of the allowance may be paid.

The tax-free amount or "scale rate" is the maximum amount that can be paid to lorry drivers. The changes in scale rate, calculated in January each year are shown in **Table 3.4.**

Table 3.4: Driver Subsistence Payments

Year ended	Payment per Night	Payment for sleeper cabs (75%)
31 December 2013	£34.90	£26.20
31 December 2012	£33.85	£25.39
31 December 2011	£32.20	£24.15
31 December 2010	£30.75	£23.06

From 2010 to 2013, payment per night increased by 13.5%. The rate of inflation has averaged 2.7% per year between 2010 and 2016 and therefore £34.90 in 2010 would be worth £36.19, showing that the increase in payment per night has fallen behind inflation[16].

Between 2013 and 2017 there has been no increase in the maximum tax-free subsistence payment that can be paid to drivers.

HMRC does not make the payments mandatory but does set maximum rates that can be paid without tax and national insurance. As such, some operators may choose to pay less than the maximum rates depending on individual company policy.

An employer paying above the tax free allowance will have to pay tax on the excess amount. However there are some exceptions of claims over the allowance. For example if a HGV

[16] http://www.bankofengland.co.uk/education/Pages/resources/inflationtools/calculator/default.aspx

broke down or temperatures dropped to a point where it was not possible to stay in the lorry. The outcome is case specific but any claim that is a personal choice and not in the interest of the business would be rejected and tax would have to be paid.

From April 2017, new requirements have been brought in, changing the agreement that has stood for the past 26 years. There are no changes in the amount of tax-free allowance but the operator is now required to do more in order to claim. The new rules are as follows:

- In order to pay the overnight allowance free of tax and National Insurance up to the agreed rate, currently £26.20, the operator must have a bespoke allowance agreement with HMRC. Operators request a five-year agreement showing that drivers were genuinely away and in a subsistence position and showing that a random sampling of drivers' receipts in line with HMRC guidance.
- A checking system must be in place to ensure that drivers are genuinely away and in a subsistence position. This is the same as has been required for the past 26 years.
- A system for random checking drivers' receipts, to check they are incurring costs, must be in place. HMRC states that 10% of drivers must have their receipts checked each month.

The £2 mid-day meal allowance is unaffected by any of these changes. The allowance can be paid free of tax and without reference to HMRC.

Evidence of an overnight stay can include[17]:

- Receipts
- Drivers' log sheet
- Drivers' expenses claims
- Receipts obtained on payment for lodging (for example hotel bills)
- Parking receipts and itinerary records kept by the employer in the pay records, or separately, as evidence of nights away from home and permanent workplace

HMRC has confirmed that the costs of buying specialist bedding, fridge, microwave etc., where these are bought by the driver, are not recognised. Further to this, parking costs are not recognised.

The system has been described as a "very grey area" within HMRCs rules and regulations by an accountancy firm[18].

The RHA have been opposed to the changes that came into place in April 2017 for several years since they believe that the system has worked well and that the change is unenforceable in practice and will disadvantage compliant hauliers in terms of cost and recruitment. They are also strongly critical of the way HMRC approached the issue, since wrong dates were released and not resolved quickly[19].

[17] https://www.gov.uk/hmrc-internal-manuals/employment-income-manual/eim66120
[18] http://www.caseron.co.uk/travel-subsistence-overnight-expenses/
[19] https://www.rha.uk.net/getmedia/781f25d3-3144-4e13-8b24-0b366d1a4197/overnight-allowance-update-revision_1.pdf.aspx

3.7 Types of Lorry Parking

There are a number of different types of lorry parking facilities, which for the purpose of this project have been considered under the titles 'on-site' and 'off-site' parking. Examples of on-site parking include motorway and roadside facilities as well as independent truck parks with dedicated spaces for goods vehicles.

Figure 3.3: On-Site Lorry Parking Example

There is an existing network of lorry parking facilities in England which as identified in **Section 4.2.6** have been developed on the premise that opportunities to stop should be provided at intervals of approximately half an hour (or no more than 28 miles) on the SRN.

Figure 3.4 shows extracts from the Highways Agency (now Highways England) Truckstop guide which was last updated in 2009.

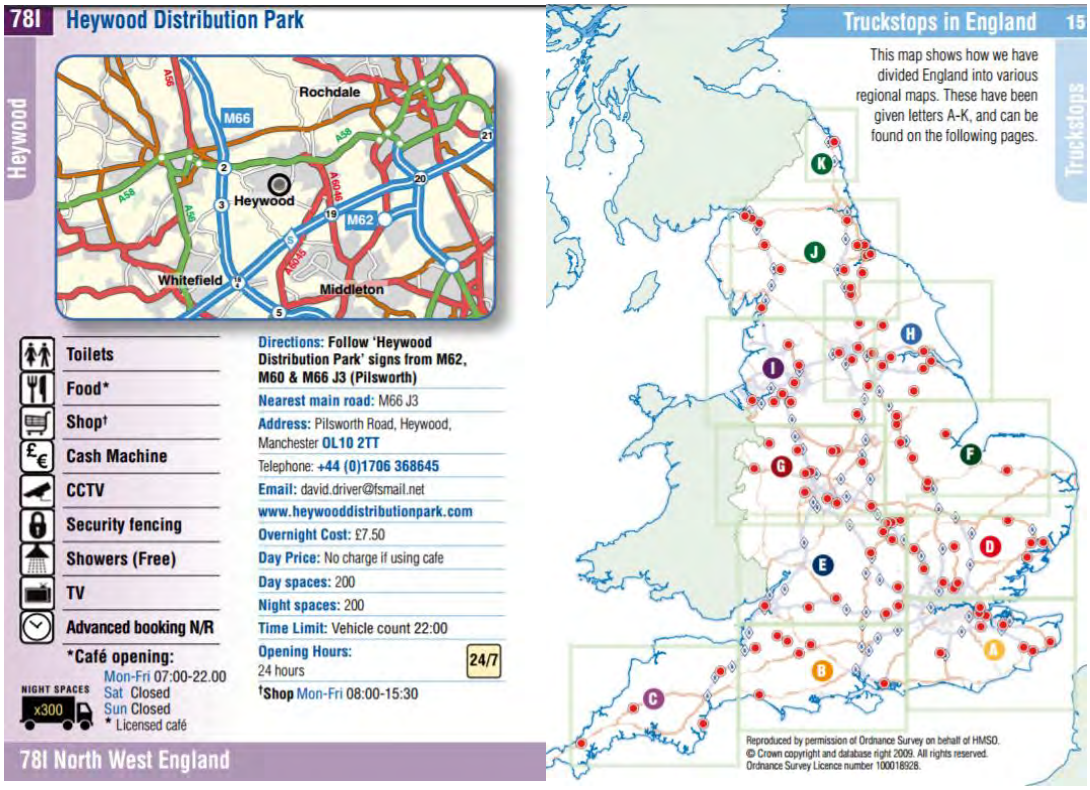

Figure 3.4: Highways Agency Truckstop Guide Extract (2009)[20]

[20] http://www.highways.gov.uk/publications/truckstops-in-England

Off-site parking has been considered as locations that are not suitable for goods vehicles to park overnight. This includes roadside laybys and industrial estates, which although commonly used and in many cases legal, are considered inappropriate for overnight parking due to a lack of welfare facilities for drivers. The image below illustrates off-site parking in an industrial estate.

Figure 3.5: Example of Off-Site Lorry Parking[21]

[21] http://www.rugbyadvertiser.co.uk/news/safety-fear-over-lorries-parked-in-somers-road-industrial-estate-in-rugby-1-4041776

4. Consultation

4.1 Introduction

This chapter of the report details the consultation undertook with a range of stakeholders with an interest in lorry parking. This includes trade associations, trade unions, infrastructure operators, enforcement agencies and other relevant organisations.

The project team conducted a number of telephone interviews with stakeholders in order to garner their thoughts and organisational stance on a range of issues such as lorry parking shortage hotspots, planning conditions, crime and pricing.

In addition to direct consultation, we have conducted desktop research for information on stakeholders' stance with regard to lorry parking. **Table 4.1** outlines the organisations that we have engaged with during this element of the project.

Table 4.1: Stakeholder Consultation

Organisation	Date(s) of Consultation
Chartered Institute of Logistics and Transport (CILT)	27/03/2017 & 23/03/2017
Road Haulage Association (RHA)	23/03/2017
Unite the Union	23/03/2017
Freight Transport Association (FTA)	28/03/2017
Highways England	21/04/2017 & 28/04/2017
Food Storage & Distribution Federation (FSDF)	24/04/2017
National Vehicle Crime Intelligence Service (NaVCIS)	24/04/2017
Kent Police	21/04/2017
SNAP	25/04/2017
Extra Services	21/04/2017
Welcome Break	28/04/2017

The consultation findings have been grouped under themes rather than according to the opinions of particular individuals or organisations. The theme groupings are as follows:

- Parking Shortage Hotspots
- Parking Policy
- Parking Pricing & Overnight Allowances
- Planning Policy
- Best Practice
- Crime

4.2 Parking Shortage 'Hotspots'

This subsection outlines the areas of the country where stakeholders felt that the shortage of lorry parking facilities is the most pronounced. Generally, there was agreement that the level of provision is insufficient in terms of capacity and inconsistent in terms of standards and facilities. A number of stakeholders held the view that the level of provision at logistics hubs and distribution centres is a particular issue.

Service area operators are aware of the lack of capacity at some of their sites. One such operator is in the process of adding over 200 additional spaces across three of their most well utilised sites in the South of England and recently gained planning permission for additional spaces at one site. Another operator also has expansion plans.

In some areas, laybys are being closed due to repeated problems with the negative aspects of overnight lorry parking e.g. litter, anti-social behaviour, prostitution and crime. While this addresses the immediate issue of HGVs parking in laybys, it only displaces the lorries. Thurrock, Grantham and Kent were identified as locations where layby closures have occurred recently.

Locations

Stakeholders highlighted the following areas as having particular HGV parking shortage issues:

- South Leicester (Magna Park), Milton Keynes, Northampton Arc
- Around Daventry Intermodal Rail Freight Terminal (DIRFT)
- Hams Hall to Dordon (around Birch Coppice)
- North West - Liverpool to Salford Corridor
- South Surrey/Hampshire Border
- M25 Periphery (Cobham in particular)
- Humber Region

Figure 4.1 shows the areas of the country identified by stakeholders as having a shortfall in lorry parking provision, excluding Kent, which is covered separately in the following subsection.

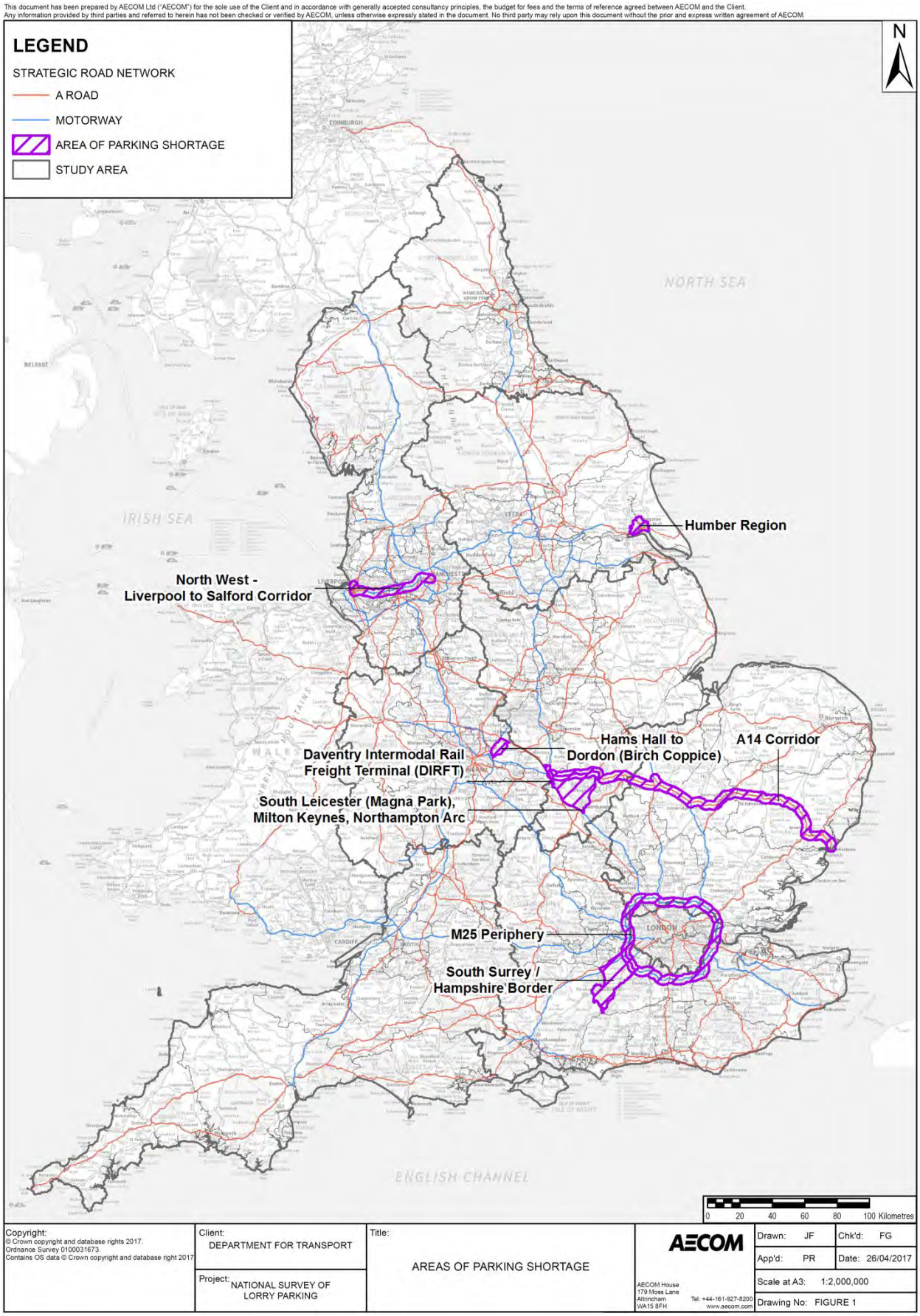

Figure 4.1: National Parking Shortage 'Hotspots'

Kent

Kent was discussed repeatedly during consultation. Issues relating to lorry parking in Kent have been well publicised in recent years particularly in relation to Operation Stack. In terms of numbers, the CILT and Kent Police agreed that there is a shortage of between 1,000 and 1,200 HGV parking spaces in Kent.

Parking issues are more pronounced in Kent due to the Port of Dover and the Channel Tunnel (Folkestone). It was suggested that issues are exacerbated by the fact that the Eurotunnel shuttle journey, which takes 35 minutes, may not be long enough to count as a full 45-minute driving break. However, the 45 minute break can be taken in smaller cumulative portions of 30 and 15 minutes. It was suggested that drivers are arriving in the country and needing to take driving breaks within a relatively concentrated area.

Another contributory factor is that other Western European countries do not permit weekend rest to be taken in the cab and actively enforce against it. Fines were described as being significant (>€1,000) and drivers are made to get out of their vehicles. Also several European countries do not allow the movement of HGVs during certain times of the weekend. This may prompt patterns of vehicle movement to factor this in.

Some operators are involved in cabotage and a recent report on the Kent lorry parking situation suggests that drivers are 'touting' for work in the area. The HGV Road Levy was introduced with the intention of using funds to enforce cabotage and in some regions; it is used for such purposes. Some stakeholders reported seeing foreign articulated vehicles offloading to smaller foreign vans in public areas such as car parks and this practice is fairly common.

Between February and April 2016, Kent Police fined or 'moved-on' 494 trucks that were illegally parked on hard-shoulders or slip roads of the M20, A20 and A2. The RHA has been calling for improved enforcement against illegal parking on motorways across the country, reflecting the concern of its members.

Stakeholders suggested that additional parking capacity is required in the following areas or at existing facilities within Kent:

- Gravesend/Cobham
- Lydden
- Northeast Maidstone
- Sevenoaks (M25/M26)
- Ashford
- Stop 24 Folkestone

Figure 4.2 shows the areas within Kent where stakeholders suggested there is a need for additional parking provision.

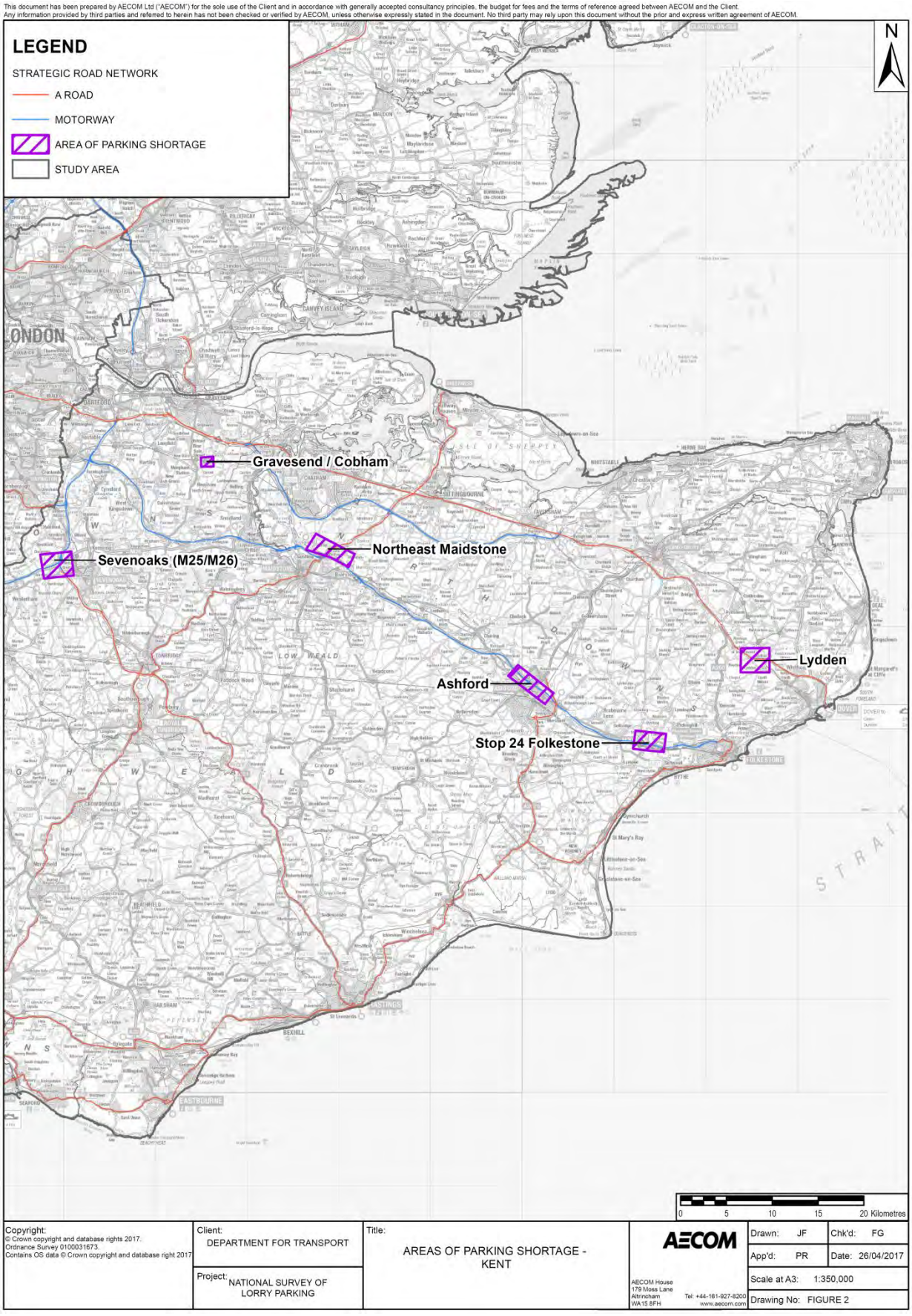

Figure 4.2: Kent Parking Shortage 'Hotspots'

4.3 Parking Policy

Trade Associations

The CILT National Policy Committee conducted an investigation into the driver shortage in 2014/15 and suggested that there is a national shortage of 50,000 HGV drivers in the UK. Unite the Union suggested that although people generally do not want more lorries and drivers, consumer attitudes and the introduction of free returns is leading to an increased need for them.

Suggested reasons for the driver shortage and the failure to attract young people to the industry include:

- Inadequate driver welfare and insufficient parking
- Poor perception of the road haulage sector
- Young people's parents also have a poor perception of the industry
- Perception of low pay and unsociable hours

It was suggested that EU co-workers are plugging much of the driver shortage. The CILT estimates that there are 140,000 EU co-workers filling gaps in UK supply chain when forklift truck and van drivers are included.

Some European lorry drivers are working for less than £1,000 per month, which is approximately 40% less than the average monthly wage for UK based drivers (£1,650). While this has a cost benefit to the supply chain and end-users, it has many negatives including exacerbating lorry parking issues.

It was suggested that retailers are happy that large logistics companies are undercutting each other as it makes their supply chain overheads cheaper.

The FTA is in the process of developing the Commercial Vehicle Operators Facilities Charter, which will set out the associations' position with regard to lorry parking facilities. This will consider the following areas:

- New roads programme
- Provision of services (surface, bay dimensions, facilities and cleaning, catering value for money, fuel including gas and bio-diesel, security of vehicle, load and driver, fee consistency and payment systems)
- Welfare facilities at Distribution Centres (DCs)
- Parking provision requirements at or near to DCs

The RHA welcomes the government's commitment to tackling illegal lorry parking but suggests that the issue can only be solved by better legal parks to help drivers who are often desperate to find parking for their legal breaks[22].

The RHA supports measures that require industry to use appropriate, secure parking where provided and sensibly priced.

Standards

There was agreement between different stakeholders that there are too many different standards for lorry parking facilities such as Park Mark, LABEL/SETPOS and British Parking Association. It was suggested that there is a need for a single standard and a means of ensuring it is put in place.

[22] https://www.rha.uk.net/news/press-releases/2016-11-november/rha-welcomes-government-commitment-to-tackle-illeg#sthash.I746uSmD.dpuf

4.4 Parking Pricing & Overnight Allowances

It was suggested that there should be more clarity on lorry parking charges. Laybys should have signage stating that they are only to be used for emergencies or for short stay. If laybys are being used for more than two hours of parking, there should be a fee and enforcement.

The majority of facilities do not charge for the first two hours of parking so drivers can usually take their shorter mid-shift rest breaks without incurring any parking charges.

Overnight parking can cost up to £30 per night for 'good quality and secure' parking at motorway services areas. Many companies will not pay or reimburse drivers for secure parking and those that do may only pay up to £26.50.

The reason for this limit is that it is equal to the maximum tax-free allowance from HMRC of £26.50 per day for 'in-cab' rest. This means drivers make no profit from their allowance or they have to pass parking facilities to get to one that their company will cover.

Many drivers are able to keep their allowance if they do not use it on parking. This can be a considerable increase to their pay and this can be the reason why laybys are sometimes preferred.

There is inconsistency particularly among foreign operators in the level of payment for overnight rest. Some European operators pay up to €55.00 per night (approximately £47.00) whereas others may pay nothing.

4.5 Planning Policy

Stakeholders made a range of comments relating to the planning process and requirements. These related to large-scale logistics developments such as warehousing, new highways and highways upgrades.

One stakeholder suggested that at present, there is gap in DfT lorry parking policy, which the DfT consider a local planning issue but in their opinion, local authorities are not addressing issues. In some cases, local authorities are looking for developers to invest in lorry parking facilities while in other regions, facilities have been allowed to close down.

All stakeholders agreed that there is a need to consider lorry parking facilities during the planning process. This is part of the process for other developments e.g. a new block of flats might not be approved if insufficient parking is provided, so it was felt that this model exists.

Some industry associations informed us that they have supported planning applications for additional secure lorry parking facilities across the UK.

4.5.1 Highways

Some stakeholders suggested that in the case of new roads, developers are not considering the need for lorry parking facilities. One stakeholder suggested that the A1 in North Yorkshire is a case of such oversight, where until recently there has been a lack of rest areas.

In cases where trunk roads have become motorways, parking facilities have been lost. Planning policy provides that motorways must have rest areas every 28 miles or 30 minutes; however stakeholders suggested that when a trunk road becomes a motorway, there is no such planning requirement.

4.5.2 Class B8 Developments

Class B8 developments (storage and distribution) are inevitably going to attract large numbers of goods vehicles. If drivers visiting a site run out of driving hours or need to take a break then there should be an area for them to do this. Often drivers are forced to park inappropriately, in the surrounding area.

The CILT and FTA both suggested that planning policy should include a requirement for proportional levels of parking provision at Class B8 developments.

4.5.3 Section 106 Condition

It was suggested that Section 106 planning conditions could be used to mitigate the effects of inappropriate parking associated with distribution centres.. If this was applied, local authorities would be able to get developers to fund the inclusion of parking facilities at new developments. At present, it was felt that large developers and site occupiers do not take responsibility for vehicles after they leave the gates.

4.6 Driver Welfare

Stakeholders agree that access to toilets during the course of a drivers' working day is a serious issue. In some cases, drivers are not allowed to use facilities at DCs and this exacerbates problems on the network. The reasons given for this have previously related to security concerns and health and safety. However, the HSE - Workplace Health, Safety and Welfare Regulations 20 & 21 provide that drivers should be able to use such facilities.

Truckers Toilets UK (TTUK) is a campaign group which seeks to improve access to and quality of facilities for drivers on the network and at distribution centres. The group's angle is that not allowing drivers to use facilities is damaging to their health and may encourage them to drink less to reduce the number of times they must use toilets.

Drivers may stop at motorway service areas during the course of their working day to use the facilities. In some instances, the parking area is full and they are forced to park inappropriately and may be issued with a penalty charge notice (PCN). Trade associations did not disagree with penalties for inappropriate parking however; there are some places where the next service area could be 30 miles away. This is a particular issue in the South East as facilities are often full but also across the network e.g. from Wetherby Services heading north.

4.7 Best Practice

Some British and European operators have agreements in place with lorry parking facilities. These include reserving parking bays and permission to complete trailer swaps on site. Although some operators have this agreement in place, it was suggested that others use laybys for trailer swaps.

Stakeholders said that some good quality facilities have been opened on the network in recent times and cited Road King Holyhead (North Wales) and Exelby Services (Yorkshire) as examples.

Some operators have arrangements with third parties, which allow drivers to pay for parking and other tolls on their fuel card or another dedicated card. This means that drivers do not have to worry about cash payment and operators get one itemised invoice. Some lorry parking facilities accept such payment schemes but do not offer meal vouchers if drivers use this system as they do for cash or card payments.

The Police suggested that around 85% of drivers are on regular runs and as such, should have reasonable knowledge of infrastructure and the ability to better plan their parking.

Some DCs do provide good facilities for visiting drivers as highlighted by the following comment:

"Dachser in Northampton has excellent facilities for drivers visiting their premises." – Trade Association Member.

4.8 Crime & Enforcement

Stakeholders expressed that the levels of Police for the enforcement of lorry parking and related issues are 'massively under-resourced'. Some stakeholders felt that the situation was getting worse.

4.8.1 Layby Usage

Parking in laybys is not an offence unless there is a byelaw or Traffic Regulation Order (TRO) in place; or vehicles are parked in a dangerous manner. As an example, many laybys in Kent have no byelaws/TRO in place. As such, the Police approach to 'moving on' vehicles is risk based. Vehicles protruding into the carriageway or damaging verges will be moved but those that are parked within the layby are often not.

The police are aware that 'moving on' trucks only displaces the problem so before carrying out enforcement, they tend to visit nearby truck parking facilities so that they know whether there is capacity for the vehicles which they move on. Some stakeholders believe that lorry parking on industrial estates is not a particular issue, as long as littering and kerb damage does not happen.

In some regions, police work with Highways England Traffic Officers to move on vehicles as it allows them to cover a greater area. If the Highways England officers are ignored, then police will support them.

Police are able to issue a £30 parking fine to vehicles in areas where parking is not permitted or where vehicles are parked in manner that is deemed to be dangerous. The police suggested that there needs to be a regulatory review of the current fines as they are roughly the same as one nights HGV parking. It was also suggested that 'blanket TROs' should be considered in some areas, if and when there is sufficient parking provision.

4.8.2 Load Theft

In terms of load thefts, vehicles carrying high-value easily transferable goods such as cigarettes and alcohol were described as 'prime targets' for criminals. Unite the Union said that although load thefts were an issue in the UK, they do not tend to get that many complaints relating to it.

Curtain slashing is a particular problem at MSAs, where criminals cut open curtainside trailers to see what goods are on-board. It was suggested that organised gangs are operating in certain areas with Yorkshire and the Northamptonshire-Bedfordshire border identified as particular crime hotspots. Such gangs are aware of where vehicles will be parked and use stolen vehicles to steal loads.

Such thefts are the reason why many trucks can be seen with the rear trailer doors open if parked for the night. The cost of a replacement curtain is in the region of £1,000 however; in some cases it is possible to 'patch' the damaged curtains.

Although still considered an issue by trade associations, some police forces suggested that load theft crime is much less prevalent than it has been in the past, at least in their region. This notion was also supported by some service area operators who suggested that issues with curtain slashing had become less prevalent in recent times.

4.8.3 National Vehicle Crime Intelligence Service (NaVCIS)

NaVCIS gathers vehicle crime intelligence from UK police forces, industry, open sources and European law enforcement agencies. This intelligence can then be used to spot emerging trends and help put resource in place to stop them. Following private funding support, NaVCIS has established a 'freight desk' targeting freight transport crime in the UK.

NaVCIS produce a Freight Bulletin that details instances of theft across various regions. From reviewing these documents, there are a number of suggested load theft 'hotspots'[23]:

- A45 - Flore, Northamptonshire
- Leigh Delamere Services - M4 J17-18, Wiltshire
- Swift Valley Industrial Estate - Rugby, Warwickshire
- Forum Drive – Rugby, Warwickshire
- Leicester Forest East Motorway Services - M1 J21a-J21, Leicestershire
- Purfleet and Grays, Essex
- A12 – Wiltham, Essex
- A66 – Penrith, Cumbria
- A1 – North Muskham, Nottingham

4.8.3.1 Crime Data

In this section, we have provided a high-level analysis of freight crimes reported to NaVCIS in 2016. The total stolen value of all freight crimes reported to NaVCIS, including those at operating depots and those in Scotland and Wales is estimated to be £51.7 million.

It must be stressed that not all freight crime is reported to NaVCIS, while the data is useful, it does not provide a full picture of the national situation. NaVCIS believe that around half of forces are reporting to them. They would like all forces to report to them and stressed that there is a need for national reporting into a central database.

The database includes crimes recorded in 37 out of 43 police areas as it includes data from direct reporting, the industry and open sources. **Table 4.2** shows the worst ten regions by police force for crimes reported at laybys or industrial estates, MSAs and truckstops.

Table 4.2: Freight Crime Ten Worst Regions by Number of Reported Incidents

Rank	Police Force	Crime Count	Value Stolen (£ millions)
1	Northamptonshire	231	£9.9m
2	Essex	185	£8.6m
3	Leicestershire	105	£3.4m
4	Nottinghamshire	75	£3.3m
5	Thames Valley	71	£1.5m
6	Cambridgeshire	57	£1.2m
7	South Wales	51	£1.0m
8	Hertfordshire	47	£1.8m
9	Derbyshire	44	£1.2m
10	Bedfordshire	37	£1.9m

Table 4.2 shows that Northamptonshire is the worst region for freight crime. Further analysis shows that crimes in Northamptonshire equated to £9.9 million, which is almost one quarter (24%) of the total for England.

Northamptonshire up to Leicestershire marks the centre point of the so called 'Golden Triangle' of national distribution centres for the whole UK. Hence, the density of warehousing and distribution movements attracts the highest levels of criminal activities.

Kent, although highly publicised for its parking issues, is not in the worst regions in terms of freight crime. Kent is ranked 11th with 30 recorded crimes.

There were 1029 reported freight crimes in England, which occurred at laybys or industrial estates, MSAs or dedicated truckstops. The total 'value' of goods stolen from these crimes

[23] http://www.bifa.org/information/national-vehicle-crime-NaVCIS

exceeds £42 million but this would be greater if other factors such as damage, downtime and insurance were considered.

Figure 4.3 provides a breakdown of reported crimes in England by location type and the sum of their reported 'stolen value'.

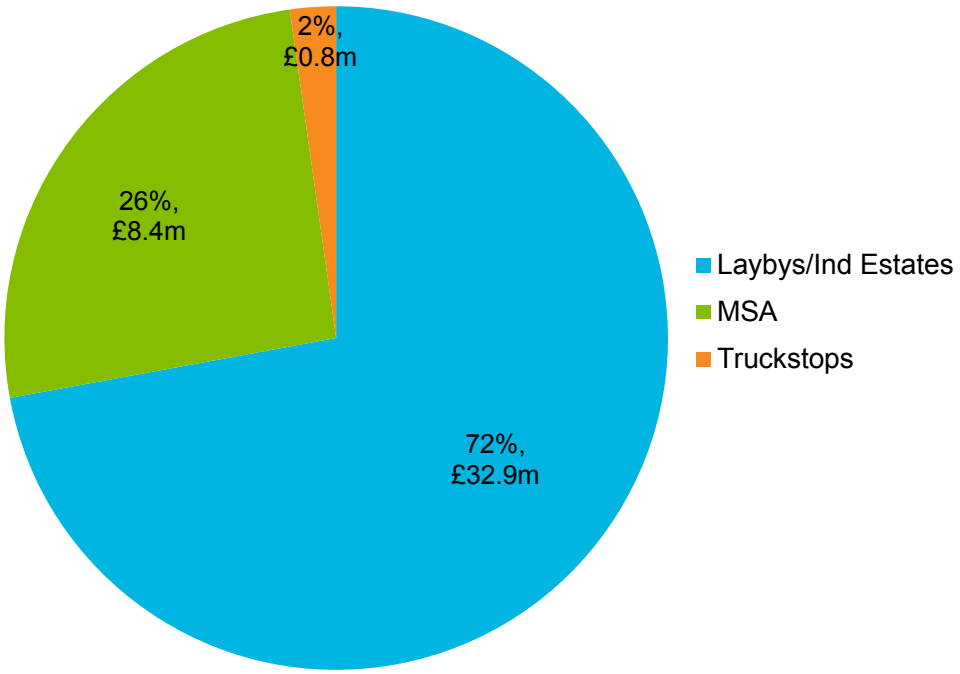

Figure 4.3: Freight Crimes by Location Type and Cost

Almost three quarters of crimes reported took place at laybys or industrial estates. In terms of value, crimes at laybys/industrial estates account for over three quarters (77%) of the total stolen value during the year.

It is also notable that over one quarter (26%) of these crimes took place at MSAs. This is concerning as these facilities are seen as 'secure parking' by many in the industry and cost between £20-30 per night to park.

Some stakeholders suggested that security at MSAs is insufficient. Further to this, there is a belief that CCTV is not used for crime prevention but for ensuring parking fees are levied to those staying over the free parking period (typically 2-3 hours) and the data appears to support this.

4.9 Summary

This section summarises the key points raised by stakeholders during the consultation phase, particularly those where there was agreement by multiple parties on a particular topic or issue:

- The provision of lorry parking is a national issue in terms of capacity and quality.
- There are a number of areas where stakeholders feel the issues are most pronounced (**Figures 4.1 and 4.2**).
- Stakeholders agreed that the issue is most pronounced in Kent and suggested that there is a need for 1000+ additional lorry parking spaces.
- The shortage and quality of driver facilities contributes to the sectors negative public perceptions and compounds recruitment issues.
- There is a driver shortage in the UK and it is 'plugged' by EU workers.
- Trade associations support measures requiring operators to use appropriate secure parking facilities but stressed that there is a need to increase overall capacity and improve quality at some facilities.
- There should be more clarity on lorry parking charges.
- Stakeholders suggested that there is a need for better communication between DfT and local authorities in relation to lorry parking, as issues, which DfT considers the local planning authority's responsibility, are not being managed.
- Lorry parking facilities should be considered during the planning process, particularly for class B8 developments.
- In some areas laybys are being closed without additional parking provision elsewhere. Local Authority planners need to understand that lorry parking is a national issue and that drivers must legally stop after set period to take rest.
- There were mixed responses relating to load theft. Some stakeholders felt that the situation was improving at their site or region however data suggests it is a serious issue.

5. Lorry Parking Audit Findings

5.1 Introduction

This chapter presents the detailed results from the data analysis of the lorry parking audits, including both national and regional results. A shorter summary of the findings appears in **Chapter 6.**

5.1.1 Audit Highlights

- During the month long survey, 18,670 vehicles were counted parked overnight across England in off-site and on-site locations. Each site was counted for a single weekday night.
- The total capacity of on-site spaces available in lorry parks or motorway service areas (MSAs) was found to be 15,012.
- Therefore, when compared with the total number of vehicles counted, there was an excess of 3,658 vehicles that could not be parked even if every parking space could be filled.
- 311 on-site lorry parking facilities were surveyed across England. Lorry parking facilities include:
    - Motorway service areas (MSAs) with overnight lorry parking options
    - Independently owned/managed truck stops
    - Trunk road service areas
    - Local authority truck park
- 801 industrial estates and 3397 laybys were also surveyed.
- Regions with ≥70% utilisation of lorry parks include:
    - East of England 97%
    - West Midlands 87%
    - South East 84%
    - Yorkshire and Humber 76%
    - East Midlands 72%
    - South West 72%
- 39% of all vehicles recorded were parked off-site in laybys or Industrial Estates.

5.2 National Findings

5.2.1 Introduction

This section provides a national overview of the study results. It aims to inform stakeholders of the broad trends and highlight the key findings at the national level. It discusses the factors influencing demand, including:

- Number of facilities and spaces available;
- The level of on-site parking (utilisation);
- The level of off-site parking (lay-by and industrial estates);
- A comparison of the number of Foreign and UK drivers, and;
- An overview of the types of facilities available to drivers on-site.

5.2.2 Locations of all lorry parking facilities

A map showing the locations of all truck stops (311), laybys (3397) and industrial estates (801) that were visited can be seen in **Figure 5.1** as expected the laybys display a structure mirroring the strategic road network, and most industrial estates and lorry parks are close by.

To achieve the brief every stretch of the SRN was visited and through desk based research lorry parks and industrial estates within 5km of the SRN were identified and also visited, the routes leading to these sites were also included in the survey.

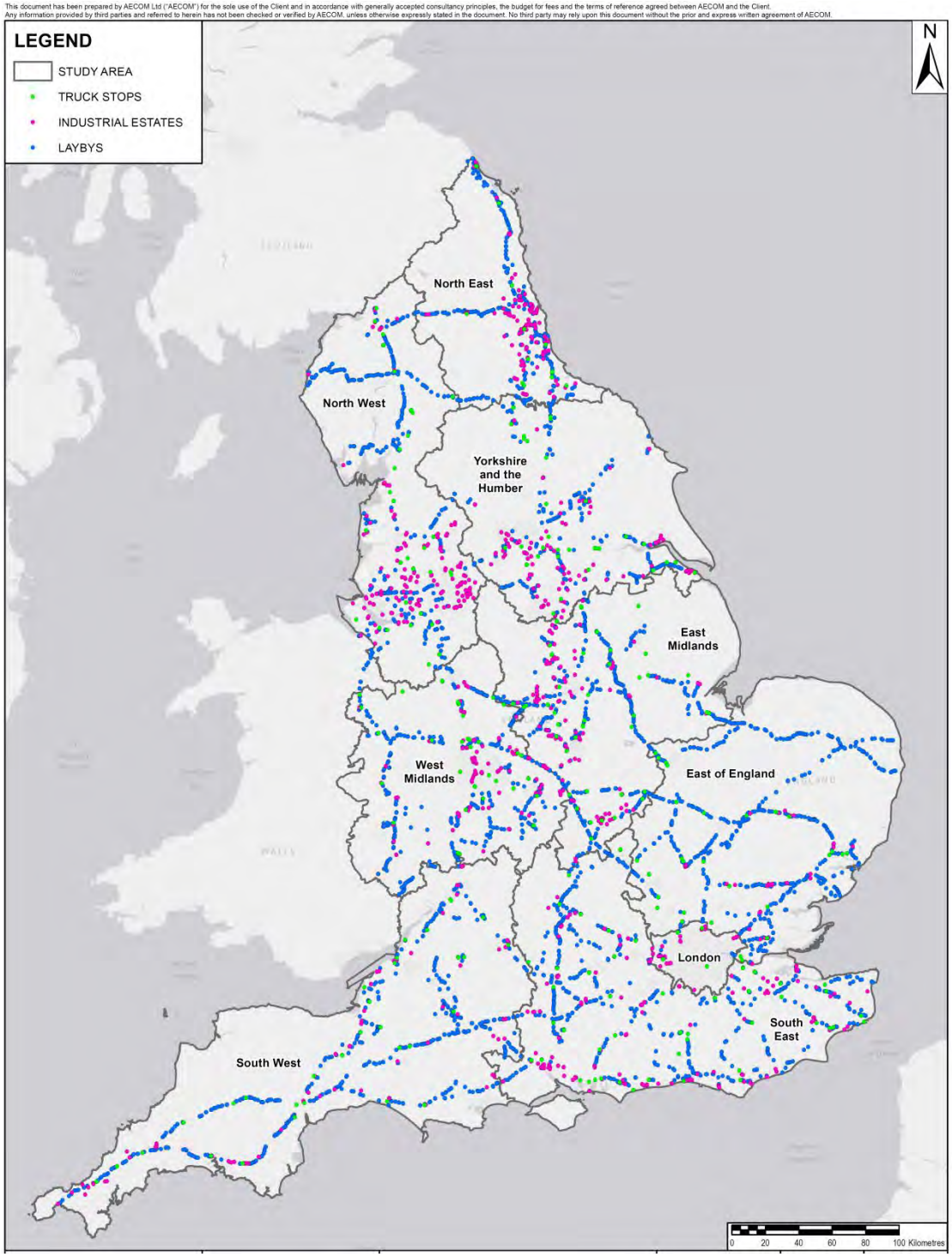

Figure 5.1: All locations visited

5.2.3 Utilisation of on-site lorry parking facilities

This section shows the total number and type of facilities in England, and how these are split across regions. This includes the number of spaces provided by each type of facility.

The study recorded 311 sites across England allowing overnight parking. These sites had a total capacity of 15,012 parking spaces. The on-site utilisation of these sites varied across regions, from 48% to 97%, with the national average being 76%.

Two thirds of all regions have serious lorry park utilisation (above 70%) and five out of nine regions have parking which exceeds or is close to exceeding capacity as seen in **Figure 5.2** – this indicates that there is insufficient capacity to meet demand in many places.

Table 5.1: Utilisation by Region

Region	Sum of capacity	Total Number of Vehicles	Utilisation
East of England	1,943	1,892	97%
West Midlands	1,906	1,663	87%
South East	2,871	2,423	84%
Yorkshire and Humber	1,856	1,418	76%
East Midlands	2,167	1,550	72%
South West	1,084	783	72%
North East	405	244	60%
North West	2,573	1,397	54%
London	207	99	48%
England	**15,012**	**11,469**	**76%**

A system has been used to categorise lorry park utilisation – see **Table 5.2**. This is similar to the categories used in the previous studies in 2010.

As with previous studies we have taken 70% full as reaching a seriously full status where drivers have to search carefully for spaces. At utilisation of 85% or more it becomes critical and very difficult for additional drivers to find parking spaces depending on the size of vehicles and the way they are positioned. So in practice drivers may say a lorry park which is utilised at greater than 85% may in fact be full.

Table 5.2: Utilisation Categorisation

Description	Utilisation (%)
Critical	≥ 85
Serious	70-84
Acceptable	<69

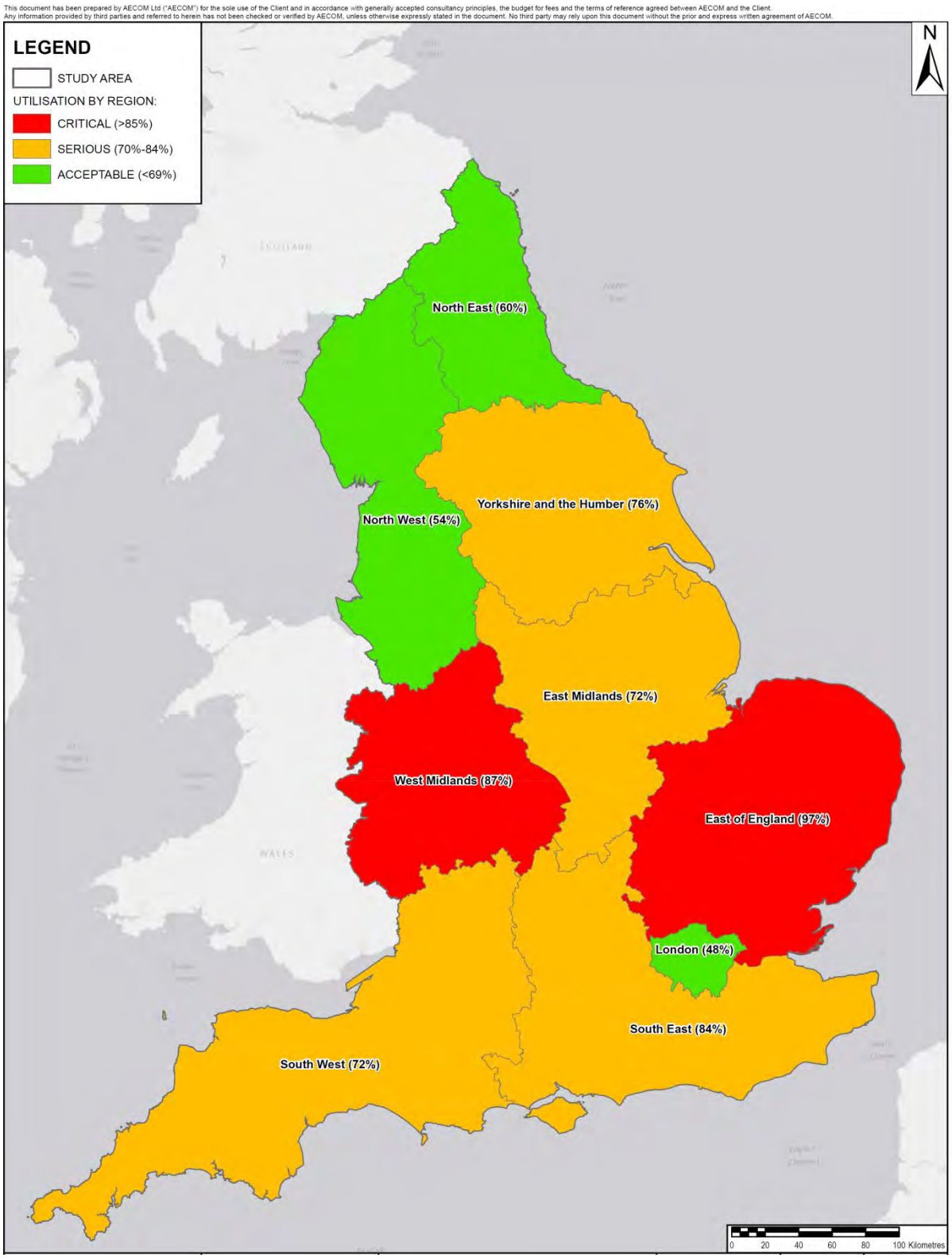

Figure 5.2: Utilisation by region

The East of England and West Midlands have critical utilisation of over 85%, closely followed by the South East where the utilisation is 84% - **Figure 5.2**.

5.2.3.1 Excess Demand

The level of excess demand shows the relationship between the total capacity of a region and the total number of vehicles parking in that region. A large excess indicates that at a regional level there is a problem with a lack of spaces – **See Table 5.3.** Only the North West

and London appear to have sufficient lorry parking capacity as they are the ones with a negative figure in the excess column.

Table 5.3: National overview of result

Region	Lorry Park Capacity	Total Parked Vehicles	Excess Vehicles
East Midlands	2,167	3,032	865
East of England	1,943	2,854	911
London	207	136	-71
North East	405	745	340
North West	2,573	2,357	-216
South East	2,871	3,723	852
South West	1,084	1,272	188
West Midlands	1,906	2,519	613
Yorkshire and Humber	1,856	2,032	176
England	**15,012**	**18,670**	**3,658**

Figure 5.3 shows a breakdown of the number of vehicles parked in lorry parking facilities, industrial estates and lay-bys. The bar (maroon line) indicates the total capacity of lorry parking facilities surveyed in that region.

This demonstrates that the East Midlands, East of England and North East had more vehicles parking than there was space, additionally the South East and West Midland regions are also close to exceeding capacity. This survey was conducted in a representative month, March. However there are seasonal fluctuations in some types of freight goods transport traffic that mean it is possible that these regions could be over capacity during busy times of the year.

There is evidence to suggest that some drivers choose to park off-site in lay-bys or industrial estates even when spaces are available on-site – for example the North East has a lower capacity than total trucks parked yet overall utilisation is only 60% - see **Figure 5.2.**

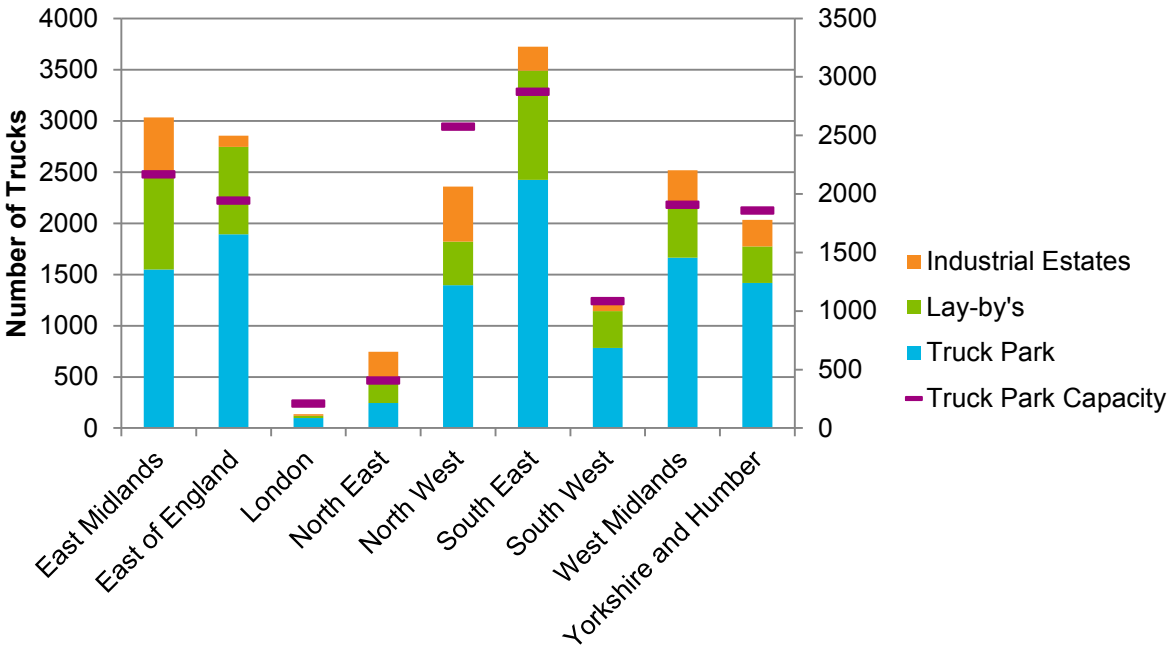

Figure 5.3: Number of vehicles parked by region and parking type

5.2.3.2 Overview of facilities available to drivers

A system was devised to rate all on-site lorry parking facilities as described in **Table 5.4** below. This rating was based on a five point scale which is broadly in line with LABEL the European Truck Park Area Certification system. As the system devised does not include all of the LABEL criteria, the results should be used indicatively. Nevertheless, it provides a useful overview of the types of facilities available at lorry parks on a regional basis. Standard 4 and 5 have security features.

Table 5.4: Facility rating basis

Truck Stop Standard Level	Truck Stop Facilities	Description
1	Toilets	Basic rest area offering truck drivers a place to park and access to toilets.
2	Toilets & Café	Basic/medium rest area offering truck drivers a place to park and access basic amenities, including toilets and a cafe.
3	Toilets, Shower & Café	Medium level facility that offers truck drivers a place to park with shower facilities as well as toilets and a cafe.
4	Toilets, Lighting, Shower, Café, & Security Fence	Medium/High level facility that offers a degree of secure and safe truck parking whilst also offering a decent level of facilities for truck drivers.
5	Toilets, Lighting, Shower, Café, Security Fence Accommodation & CCTV	High end truck parking facility offering truck drivers a place to park securely and safely whilst also enjoying extensive facilities.

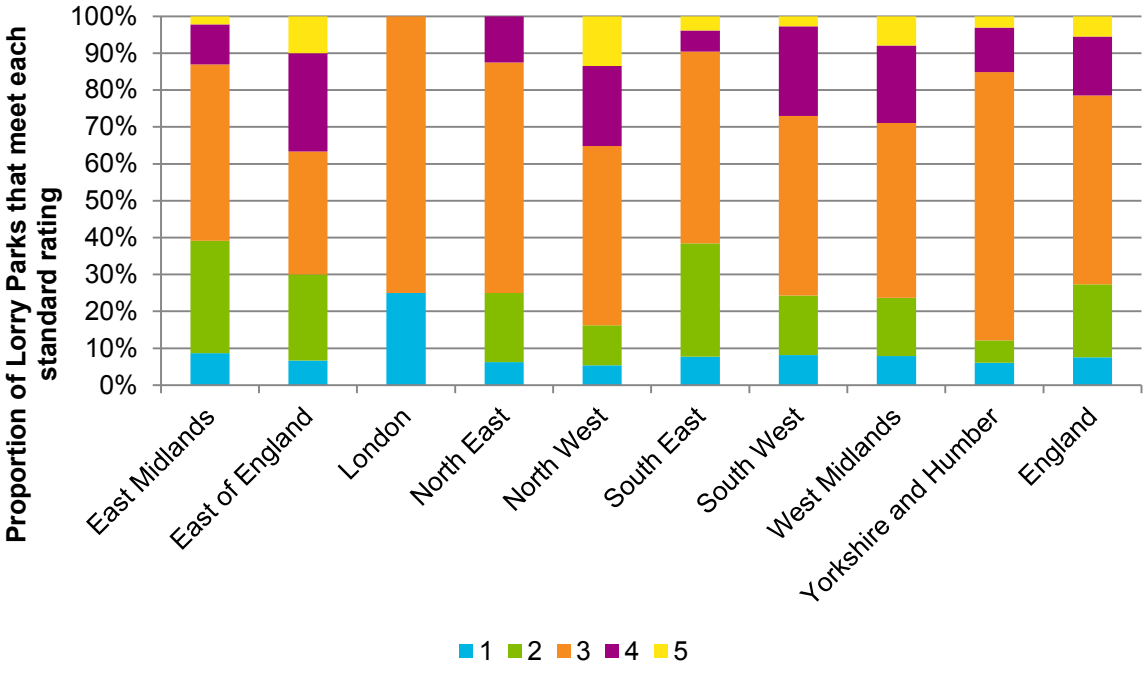

Figure 5.4: Regional split of rated facilities at lorry parks

Table 5.5: Number of lorry parks and their ratings in each region

Region	Number of Lorry Parks ranked at each level										Average Price (£)
Levels of Ranking	**1**		**2**		**3**		**4**		**5**		-
East Midlands	4	9%	14	30%	22	48%	5	11%	1	2%	**£13.20**
East of England	2	7%	7	23%	10	33%	8	27%	3	10%	**£18.70**
London	1	25%	0	0%	3	75%	0	0%	0	0%	**£21.70**
North East	1	6%	3	19%	10	63%	2	13%	0	0%	**£13.50**
North West	2	5%	4	11%	18	49%	8	22%	5	14%	**£18.00**
South East	4	8%	16	31%	27	52%	3	6%	2	4%	**£18.60**
South West	3	8%	6	16%	18	49%	9	24%	1	3%	**£15.50**
West Midlands	3	8%	6	16%	18	47%	8	21%	3	8%	**£16.30**
Yorkshire and Humber	2	6%	2	6%	24	73%	4	12%	1	3%	**£17.20**
England	**22**	**8%**	**58**	**20%**	**150**	**51%**	**47**	**16%**	**16**	**5%**	**£16.60**

The North West has the highest proportion of highly rated lorry parks, meaning these have the most facilities including security features; this is also represented in cost as the North West has the second highest average pricing.

The East of England and West Midlands also have a significant proportion of highly rated parks.

The majority (51%) of lorry parks have a rating of three which denotes good amenities but no security features.

London and the North-East do not have any secure lorry parks; this is because the region denoted as London only considers areas within and not including the M25.

London has the highest priced Lorry Parks as expected, however this does not relate to facility ranking but the high land cost.

5.2.4 Offsite parking

Table 5.6 below shows the amount of vehicles parking in lay-bys, industrial estates compared to the utilisation of on-site parking facilities in each particular region. The three regions with the highest on-site utilisation have particularly high levels of off-site parking; Eastern, South East and West Midlands. The East Midlands also had a high level of parking in lay-bys.

Table 5.6: Offsite parking

Regions	Lorry Parks	Industrial Estates		Laybys		Total Off-site
	On-site utilisation	Number of Sites Visited	Number of Vehicles Parked	Number of Sites Visited	Number of Vehicles Parked	Number of Vehicles Parked
East Midlands	72%	115	561	559	921	1,482
South East	84%	128	235	554	1,065	1,300
East of England	97%	26	107	470	855	962
North West	54%	150	536	357	424	960
West Midlands	87%	86	352	362	504	856
Yorkshire and Humber	76%	95	258	276	356	614
North East	60%	108	298	287	203	501
South West	72%	67	130	523	359	489
London	48%	26	15	9	22	37
England	**76%**	**801**	**2,492**	**3,397**	**4,709**	**7,201**

Figure 5.5 and **Table 5.7** show that the East Midlands has the highest number of vehicles parked off-site. The East Midlands also has the second largest percentage of vehicles parked offsite at 42%. It is likely that this is due to high demand for parking in industrial estates as a number of distribution centres are in this area and many have no provision for lorry parking after delivery. The East Midlands also has the highest issues with freight crime across the UK.

The North East has a high percentage of off-site vehicles parked but this is likely due to the low capacity of lorry parking as well as a lot of the off-site parking being centred near the Port at Teesport.

The South East has the second highest number of total vehicles parked off-site and the highest number for total vehicles counted parking overnight.

Table 5.7: Off-site Parking Summary

Region	Lorry Park Capacity	Total Parked Vehicles	Total Vehicles Parked offsite	Percentage of vehicles parked offsite
North East	405	745	468	63%
East Midlands	2,167	3,032	1,264	42%
North West	2,573	2,357	883	37%
South West	1,084	1,272	424	33%
West Midlands	1,906	2,519	740	29%
Yorkshire and Humber	1,856	2,032	563	28%
East of England	1,943	2,854	731	26%
South East	2,871	3,723	890	24%
London	207	136	31	23%
England	15,012	18,670	7,201	39%

To create **Table 5.8** the length of the SRN in each region was estimated using the google maps measuring tool, in doing so the number of vehicles found parked per km of SRN could be used as a basis to compare data across regions. The higher the number for "parking density" shows that there is a high off-site parking in relation to the length of SRN within a region.

As expected, the regions with the highest number of excess vehicles in a region also have a high number of vehicles per km of SRN and the three areas of highest lorry park utilisation also have an off-site parking density above 1 vehicle/km.

East Midlands has 72% utilisation but has high off-site parking, it has the highest density of vehicles parked off-site and the second highest number of excess vehicles, and this is also evident from looking at **Figure 5.5.**

Table 5.8: Off-site Parking Density and Excess Vehicles

Region	Lorry Parks	Industrial Estates	Laybys	Off-site (Laybys and Industrial Estates)			All Parking
	On-site utilisation	Number of Vehicles Parked	Number of Vehicles Parked	Number of Vehicles Parked	Estimated distance of SRN (km)	Density vehicle/km of SRN	Excess vehicles
East of England	97%	107	855	962	840	1.1	911
East Midlands	72%	561	921	1,482	550	2.7	865
South East	84%	235	1,065	1,300	1,210	1.1	852
West Midlands	87%	352	504	856	700	1.2	613
North East	60%	298	203	501	430	1.2	340
South West	72%	130	359	489	1,080	0.5	188
Yorkshire and Humber	76%	258	356	614	780	0.8	179
London	48%	15	22	37	360	0.1	-71
North West	54%	536	424	960	1,130	0.8	-216
England	**76%**	**2,492**	**4,709**	**7,201**	**7,080**	**1**	**3,658**

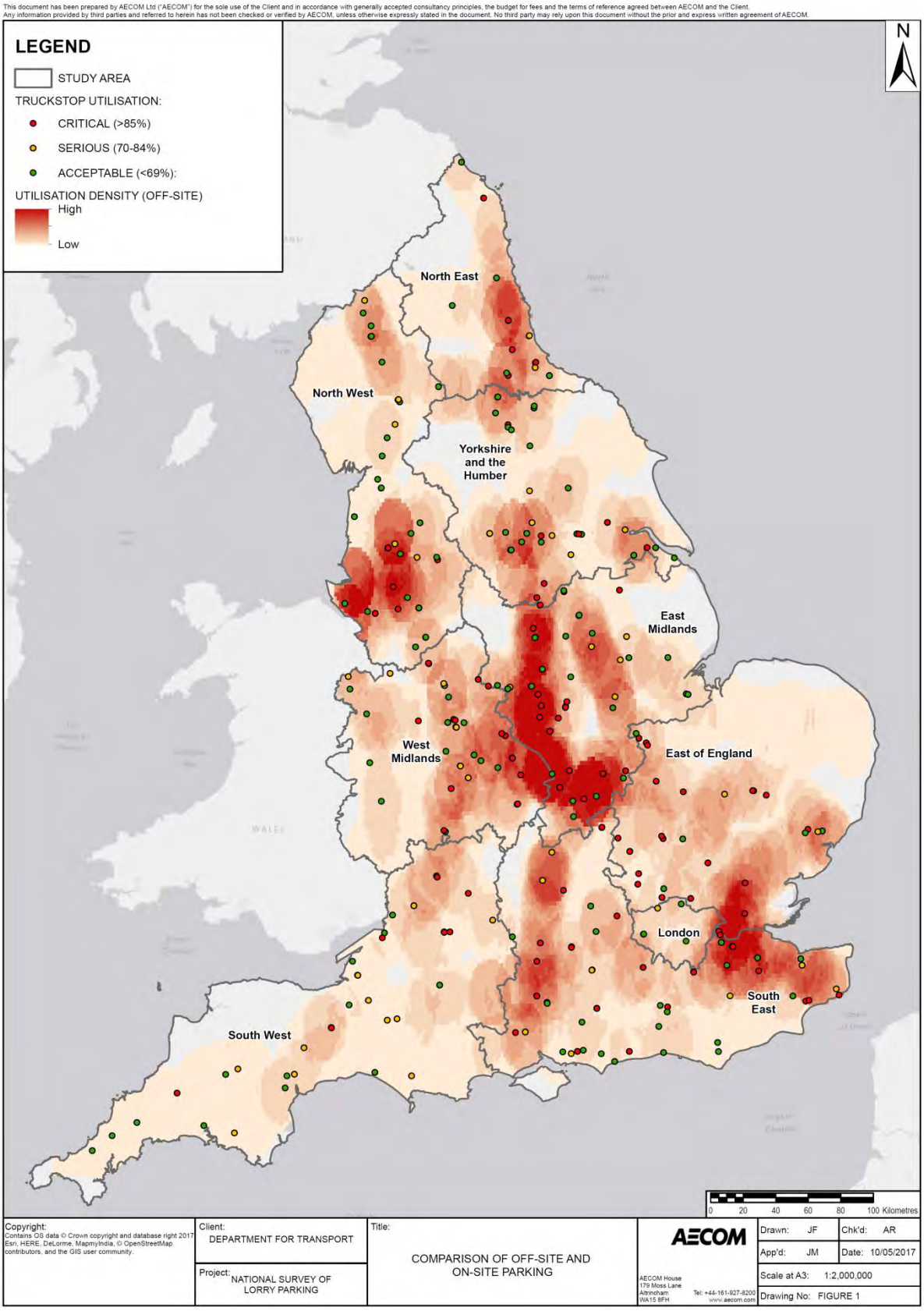

Figure 5.5 – Off-site density and On-site utilisation

5.2.5 UK and Foreign vehicle parking comparison

Across England 25% of vehicles counted taking overnight stops were foreign registered in contrast to road freight data which suggests that 3.3%[24] of total UK HGV vehicle kilometres are made up by foreign registered vehicles. This confirms that a number of journeys made by UK vehicles can be completed within the day and do not require an overnight stop.

The range of foreign vehicles parked overnight in UK lorry parking areas was from 17% in the North East to 41% in the South East – as shown in **Figure 5.6.** The percentage of foreign vehicles parked on-site is 1% lower than those parked off-site. However, in both cases (on and off-site parking) the highest proportion of foreign vehicles is in the South East. The majority of international road movements move across the Dover Straits and Channel Tunnel, so this is an expected outcome.

London has a notable difference between the numbers of foreign vehicles found on and off-site, one of many reasons may be concern over congestion charging.

[24] Department for Transport, 2015 - Road Traffic Estimates: Great Britain 2014 (R)

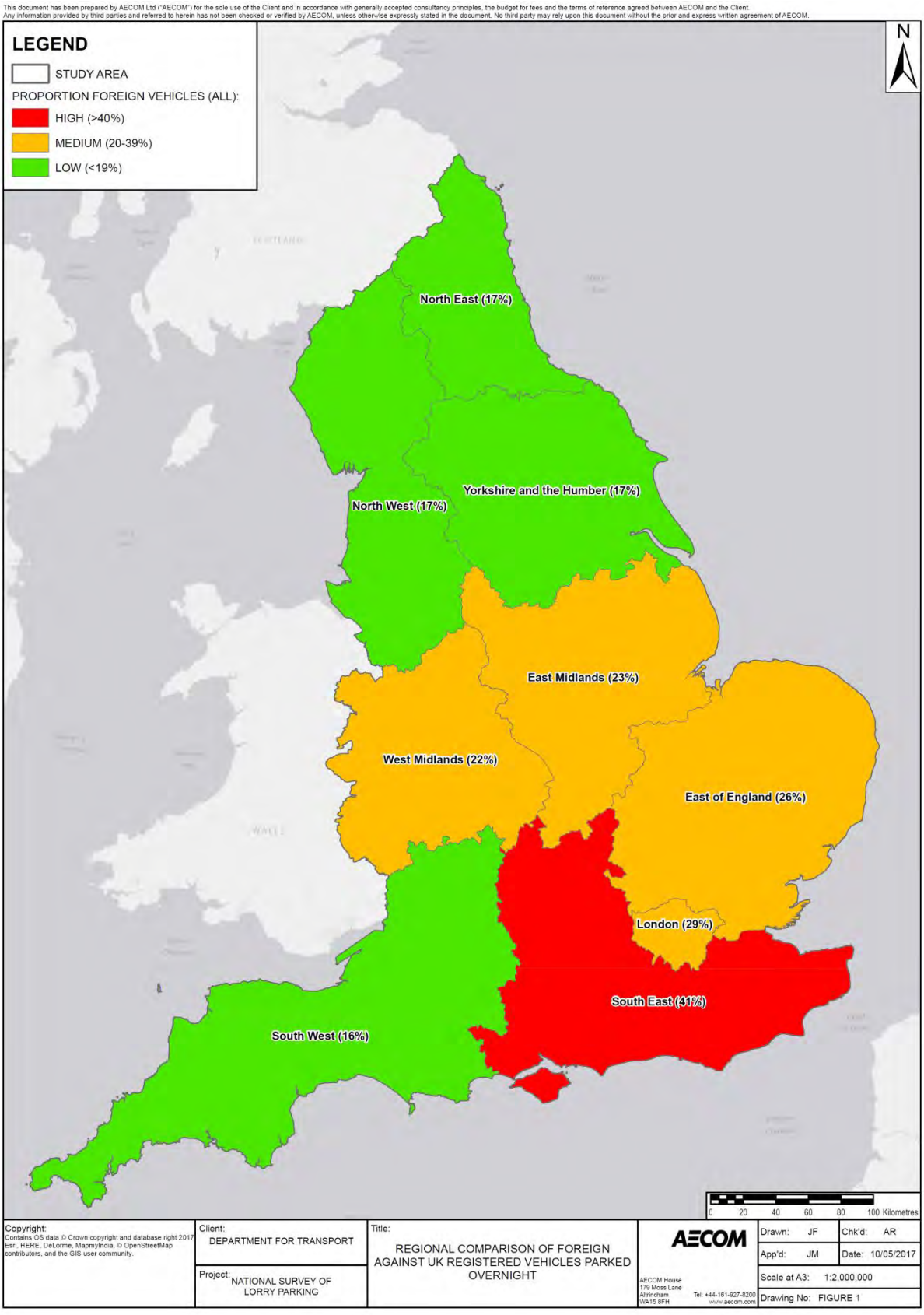

Figure 5.6: UK to Foreign vehicle comparison for all overnight parking

Table 5.9: UK to Foreign vehicle comparison for all overnight parking

All Parking	UK vehicles	Foreign vehicles	All Vehicles	Foreign / Total
East Midlands	2,341	691	3,032	23%
East of England	2,098	756	2,854	26%
London	96	40	136	29%
North East	619	126	745	17%
North West	1,951	406	2,357	17%
South East	2,203	1,520	3,723	41%
South West	1,074	198	1,272	16%
West Midlands	1,955	564	2,519	22%
Yorkshire and Humber	1,678	354	2,032	17%
England	**14,015**	**4,655**	**18,670**	**25%**

5.2.6 Major ports in England and strategic corridors connecting to the ports

The heat maps below identify areas of high off-site parking in relation to 10 main ports, the locations considered are:

- Liverpool
- Bristol
- Southampton
- Portsmouth
- Dover
- London Gateway
- Felixstowe
- Immingham & Grimsby
- Hull
- Teesport.

Ovals, which are 10km wide and 50km in length, have been overlaid onto the map, **Figure 5.7,** with their origins starting at key ports – the dimensions of the ovals have been created to highlight the audit boundaries of 5km from the SRN and 50km being within an hour's driving distance of the port - meaning one can reasonably assume that a proportion of the parking in this area is related to the port.

Key areas of high offsite density are surrounding the port of Dover, London Gateway, Felixstowe, Southampton and Liverpool.

The SRN surrounding the three ports in the South East and East of England is under a lot of pressure from lorry parking. The heat maps show high off-site parking on the M20, A2, A14, A12 and A120 leaving the ports and also in and around the counties of Essex and Kent. Almost all lorry parks within the counties of Essex and Kent are at critical levels of utilisation.

The A34 leading north from the ports of Southampton and Portsmouth had high levels of offsite parking and a high number of serious and critically utilised lorry parks – although a lot of this is outside the '50km' defined distance from the ports, it is the logical route leading north from the ports.

As an example there is high off-site parking density around the Port of Liverpool and no lorry parking facilities in the immediate vicinity and a number of facilities on routes close to the port are at critical utilisation. Port expansion is likely to make the issue more acute.

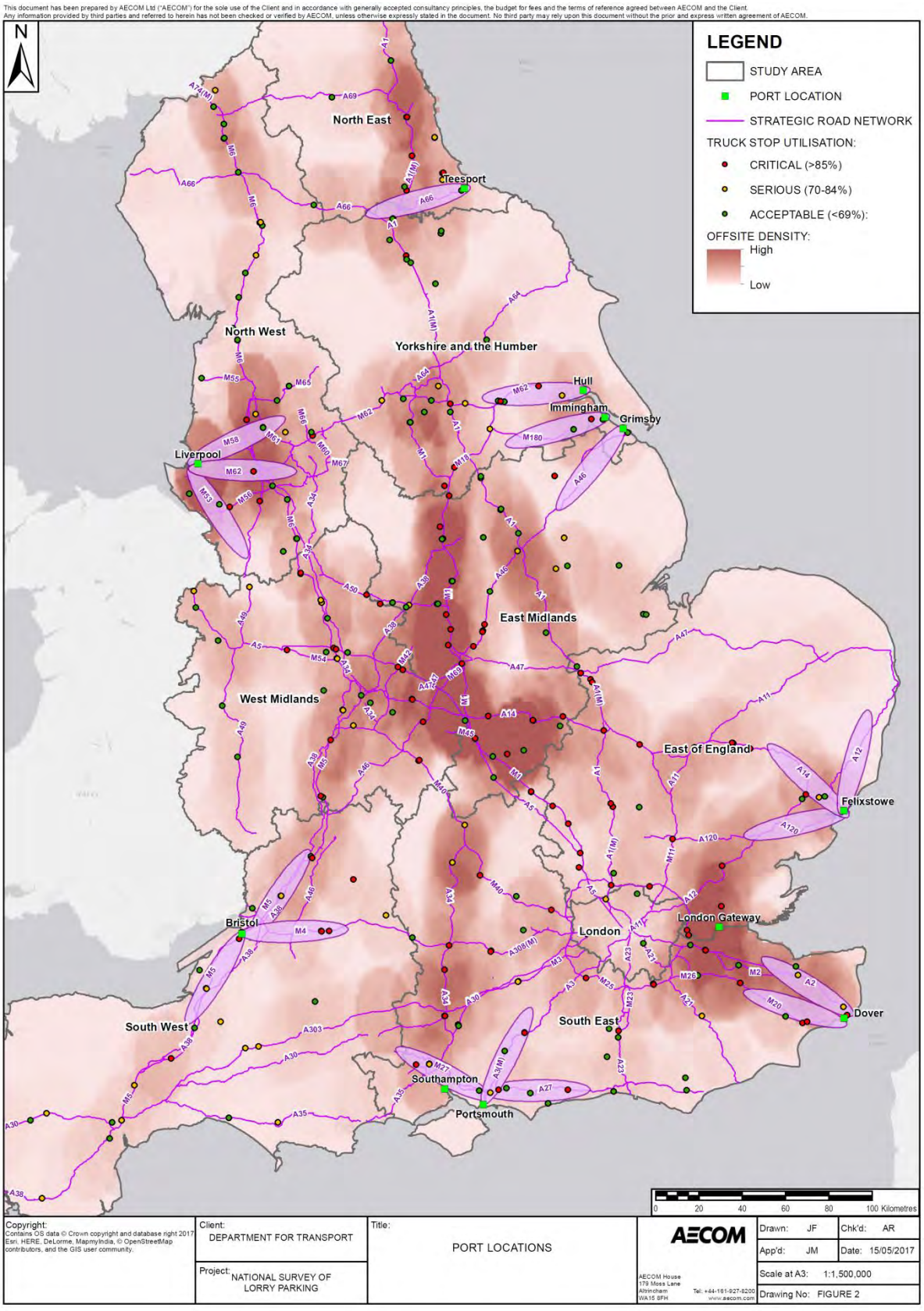

Figure 5.7: Map to show the effect of ports on overnight lorry parking

5.2.7 Crime

All crime data was collected from NaVCIS, it was recorded across the whole of 2016. NaVCIS identified an issue that not every police force report crime to them, as such there is significant differences in crime statistics from region to region. The issue of comprehensive reporting of truck crime is beyond the scope of this report but is worth of further examination.

The key areas of freight crime have been captured in detail in the regional analysis.

The areas found to have the biggest freight crime problems from data and stakeholder interview are:

- Northampton (East Midlands),
- Essex (East of England),
- Leicester (East Midlands) and;
- Nottinghamshire (East Midlands).

This is supported in **Table 5.10** which displays the East Midlands and East of England as having significant crime problems having a total collective stolen value of almost £35Million.

Table 5.10: Regional Crime Summary (2016)

Region	Total Number of Offences	Number of Offences On-site	Number of Offences Off-site	Total Value of Stolen Items	Average Value of Stolen Items
East Midlands	455	162	293	£ 17,850,867	£ 39,232
East of England	389	69	320	£ 16,601,017	£ 42,676
West Midlands	45	6	39	£ 3,166,000	£ 70,356
South East	105	42	63	£ 2,581,210	£ 24,583
North West	19	2	17	£ 831,000	£ 43,737
Yorkshire and Humber	6	2	4	£ 676,700	£ 112,783
London	5	3	2	£ 248,000	£ 49,600
South West	5	1	4	£ 232,200	£ 46,440
England	1,029	287	742	£ 42,186,994	**£ 40,998**

5.2.8 Estimation of additional parking required

We have developed immediate and long term responses which could be used to progress developments in increasing lorry parking capacity. The immediate response is focused on specific lorry parking locations that currently are at critical capacity of over 85%. Whereas the long-term estimations are based on all overnight parking compared with current capacity, this considers a situation where all overnight parking occurs on-site.

5.2.8.1 Immediate response

The following **Table 5.11** has been created to aid initial response decisions, the terminology can be defined as:

- Theoretical : the total number of spaces required if there is an on-site parking space provision for every single lorry counted overnight;
- Practical: the total number of spaces required for every lorry to be able to park in a space overnight considering that a lorry park is, in practice, full at 85% capacity.

To deliver an immediate response, only lorry parks considered as critical (≥ 85%) were considered, as such London is excluded from the table. Theoretically six regions require additional spaces; yet practically eight regions have been identified as needing increased parking facilities, with the most urgent need found to be in the South East

Table 5.11: Immediate response estimation of additional parking requirements from considering lorry parks currently equal to or above ≥ 85% capacity

Region	Theoretical Spaces needed	Practical total spaces needed	Practical number of additional spaces needed	Practical additional spaces needed (%)
East Midlands	-43	866	87	11%
East of England	58	1,848	335	22%
North East	8	153	31	25%
North West	17	351	70	25%
South East	210	1,731	470	37%
North West	-10	472	61	15%
West Midlands	27	1,262	216	21%
Yorkshire and Humber	15	844	142	20%
Total	**282**	**7,526**	**1,411**	**19%**

5.2.8.2 Long term response

It is useful to examine a long term response to the need for rest areas. The following need to be considered;

- The purpose of lay-bys should be limited to short breaks and emergency stops.
- Overnight parking in industrial estates is inappropriate.
- Thus, the ideal is for all overnight lorry parking to be contained within appropriate on-site facilities.

There is an excess of 3,658 vehicles (24%) when compared to the total number of on-site parking spaces (11,469). Hence, in theory, if there is to be no off-site parking overnight, *there is a need for 24% more lorry parking spaces immediately.*

In practice it is difficult to fill each lorry park above 85%, as explained in the utilisation categorisation, so on the basis that a 15% excess of spaces are required, *there is a real need for 46% more lorry parking spaces.*

N.B. This figure, of 46%, factors in the need for 15% more spaces than vehicles needing to park; it has been calculated by dividing total number of vehicles needing to park by a factor of 0.85 (21,965) before dividing this by the current number of on-site spaces.

5.3 Regional Findings

5.3.1 Introduction

This sub-section provides a regional analysis of the study results. By dividing England into nine regions it aims to inform stakeholders at a more detailed level.

The nine regions considered are:

- East Midlands
- East of England
- London (inside and excluding the M25)
- North East
- North West
- South East
- South West
- West Midlands
- Yorkshire and Humber.

The analysis is structured as follows;.

- ***Regional Overview:*** A summary of key information such as the on-site utilisation, capacity, percentage of foreign vehicles and crime totals. This is important to provide the context for each region before it is discussed in detail.
- ***On-Site Parking:*** This is used to start the process of understanding demand. The on-site utilisation is considered within the region, which is usage as a percentage of total capacity. The key sites with critical demand (>85% utilisation) are identified which indicates that these areas that do not have enough capacity to accommodate on-site parking demand.
- ***Off-Site Parking:*** This analysis is done in three ways
    - ***Calculating excess demand*** - presents an overall situation of demand for each local authority in the region, in terms of the total vehicle numbers that needed to park (on and off-site combined) compared to total capacity.
    - ***Calculating off-site parking density*** – by estimating the total length of SRN within each region this allows us to compare each region fairly by considering scale. The density is therefore the total number of vehicles parked off-site divided by the total length of SRN in kilometres.
    - ***Density mapping*** – GIS allows the user to collate points identifying specific locations with high off-site parking issues.
- ***Crime:*** This is used to add a further level of comparison to demand issues[25]. The total number of crimes is highlighted in each local authority of the region. A further map is then used to show specific locations of where crime was happening in key areas, to help understand relationships between location of crime and off-site parking.

Facilities: A system was devised to rate all on-site lorry parking facilities as described in **Table 5.4**. It provides a useful overview of the types of facilities available to drivers at lorry parks and their respective costs.

[25] All crime data sourced from Truckpol 2010

5.3.2 East Midlands

5.3.2.1 Regional overview

Table 5.12: East Midlands Regional Overview

East Midlands Regional Overview				
	On-site	**Laybys**	**Industrial Estates**	**Total**
Total Number of Vehicles Parked	1,550	921	561	3,032
Foreign vehicles (%)	20	24	28	24
Number of Sites	49	470	115	634
Utilisation	72%			
Lorry Park Capacity	2,167			
Excess vehicles	(Total Number of vehicles parked – Capacity = Excess)			865

The East Midlands has the largest number of vehicles parking offsite (1,264) which amounts to 42% of all parking in the region. The utilisation is 72% which although in the serious criteria is comparatively low when considering other regions with such high off-site parking – this may be due to the large number of distribution centres in the East Midlands that do not provide off-site parking provision for their delivery drivers.

5.3.2.2 Critical Utilisation of on-site parking

Table 5.13 displays the 18 lorry parking sites in the East Midlands which have a Critical Utilisation (Critical: >85% utilisation).

Table 5.13: Onsite Utilisation

East Midland Sites with Critical Utilisation (>85%)	Utilisation
Welcome Break Leicester Forest East Southbound	102%
BP Kettering Eastbound	100%
BP Kettering Westbound	100%
Junction 23 Lorry Park	100%
Leicester North Services	100%
Portly Ford Cafe	100%
Six Hills Service Station	100%
Spicenick	100%
Super Sausage Cafe	100%
Trussington Services Southbound	100%
Welcome Break Leicester Forest East Northbound	98%
Leicester (Markfield) Services (BP)	96%
Roadchef Watford Gap Services Northbound	91%
Roadchef Watford Gap Services Southbound	89%
Junction 29 Truckstop	89%
Caenby Corner Transport	87%
Moto Donington Park	86%
Shell Thrapston	85%
Regional Average Utilisation	**72%**

5.3.2.3 Off-site parking hotspots

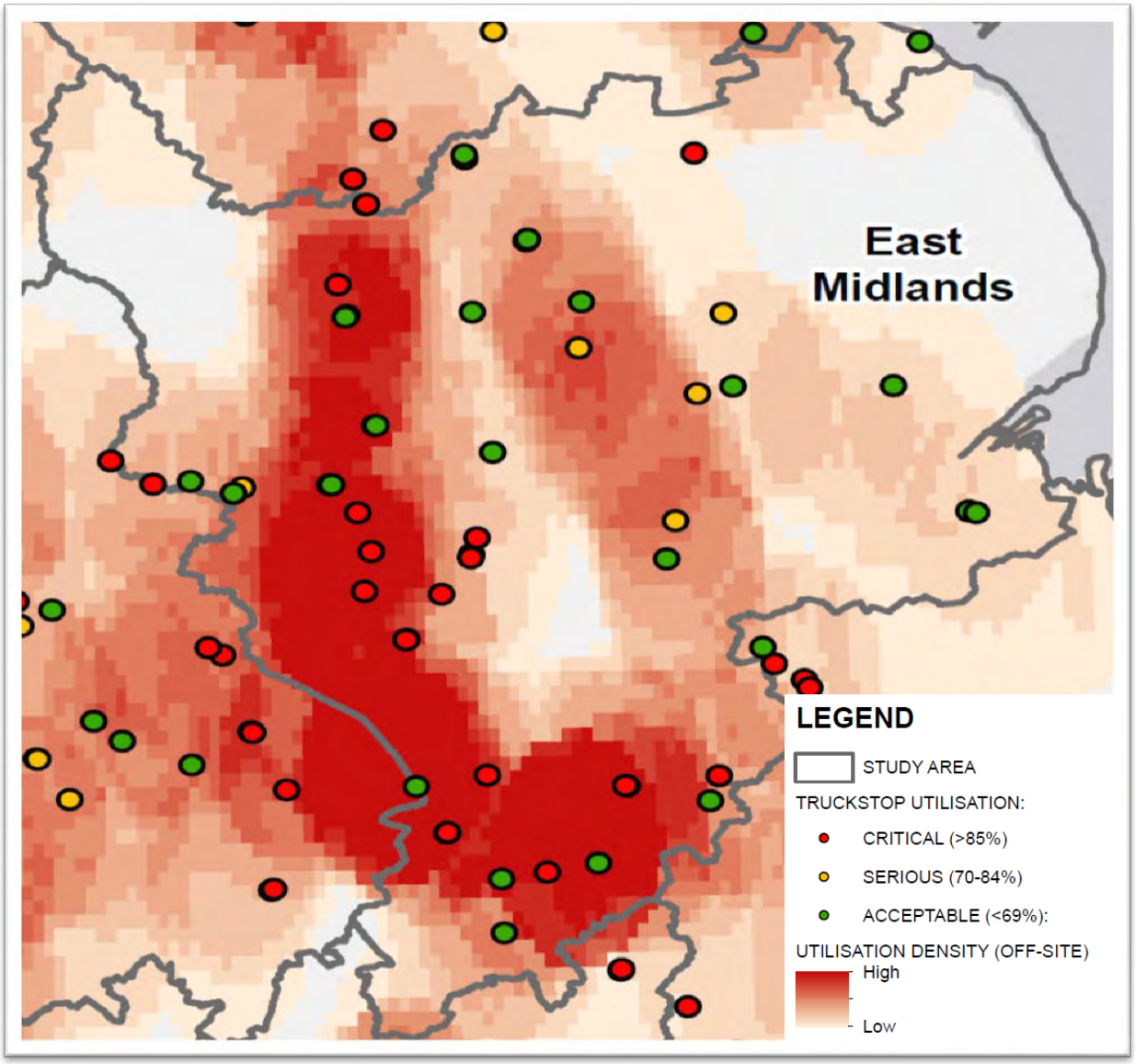

Figure 5.8: Off-site parking locations

The East Midlands has severe levels of offsite parking. The region has the highest off-site parking density of 2.7 vehicles/km of SRN, and has the second highest number of excess vehicles in the region. The overall lorry park utilisation, whilst still at a seriously level, is relatively low when compared with other regions with similarly high off-site parking.

Table 5.14: Off-site parking density and excess vehicles

Region	Lorry Parks	Industrial Estates	Laybys	Off-site (Laybys and Industrial Estates)			All Parked Vehicles		
	On-site utilisation	Number of Vehicles Parked	Number of Vehicles Parked	Number of Vehicles Parked	Estimated distance of SRN (km)	Density (vehicles /km of SRN)	Number of Vehicles Parked	Percentage parked off-site	Excess
East Midlands	72%	561	921	1,482	550	2.7	3,032	42%	865
England	**76%**	**2,492**	**4,709**	**7,201**	**7,080**	**1**	**18,670**	**39%**	**3,658**

5.3.2.4 Crime

The East Midlands was found to have the highest number of freight crimes in the UK when compared with other regions data – this also amounted to the largest total value of goods stolen. The issue of comprehensive reporting of truck crime is beyond the scope of this report but is worthy of further examination.

Table 5.15: Crime Data

Crime			
	On-site	**Off-site**	**Total**
Total number	293	162	455
Value (£)			£ 17,850,867

Specific problematic areas found from data collection and stakeholder interview are:

- Northamptonshire,
- Leicestershire,
- Nottinghamshire.

A map has been produced for each of these areas, from the data collected from NaVCIS, to identify key problematic areas.

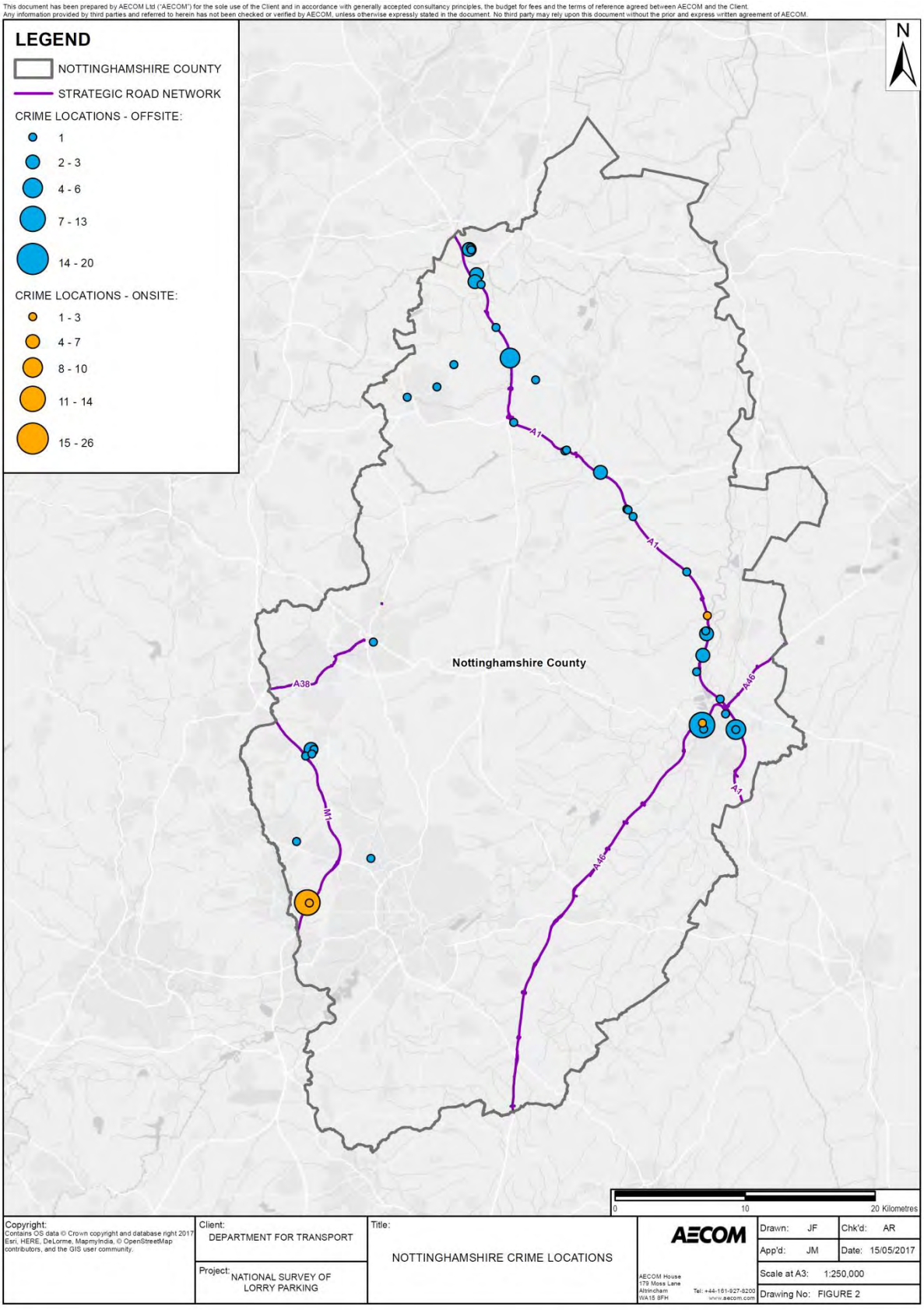

Figure 5.9: Freight Crime reported to NaVCIS in Nottinghamshire

The majority of crime reported in Nottinghamshire was found along the A1 with a hotspot at the intersection between the A1 and A46.

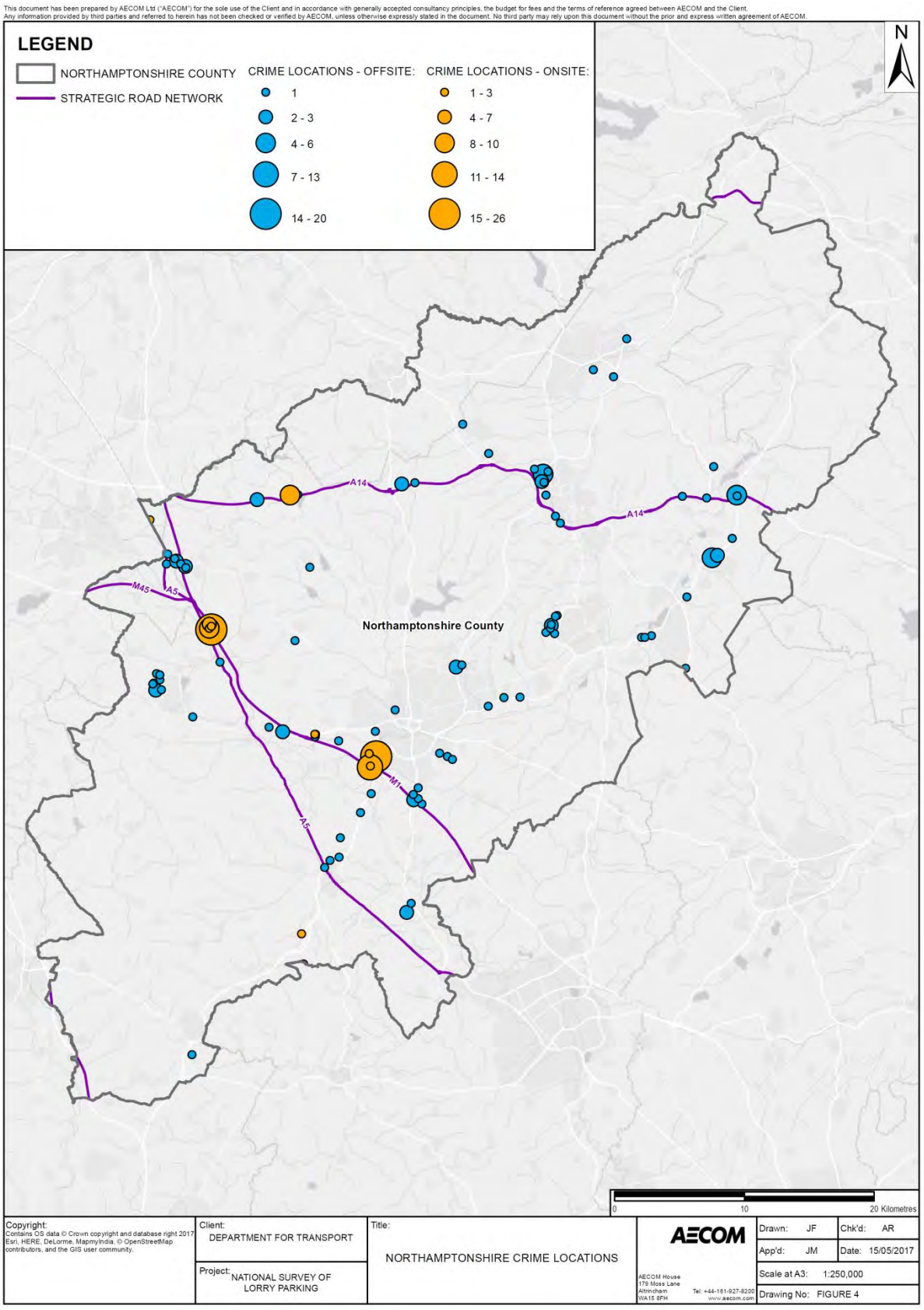

Figure 5.10: Freight Crime reported to NaVCIS in Northamptonshire

A number of freight crimes reported in Northamptonshire were away from the SRN in-between the A5 and A14. There are clusters of off-site crimes to the south of the M45, on the A5 and along the A14. There were also a high number of on-site crimes reported along the M1.

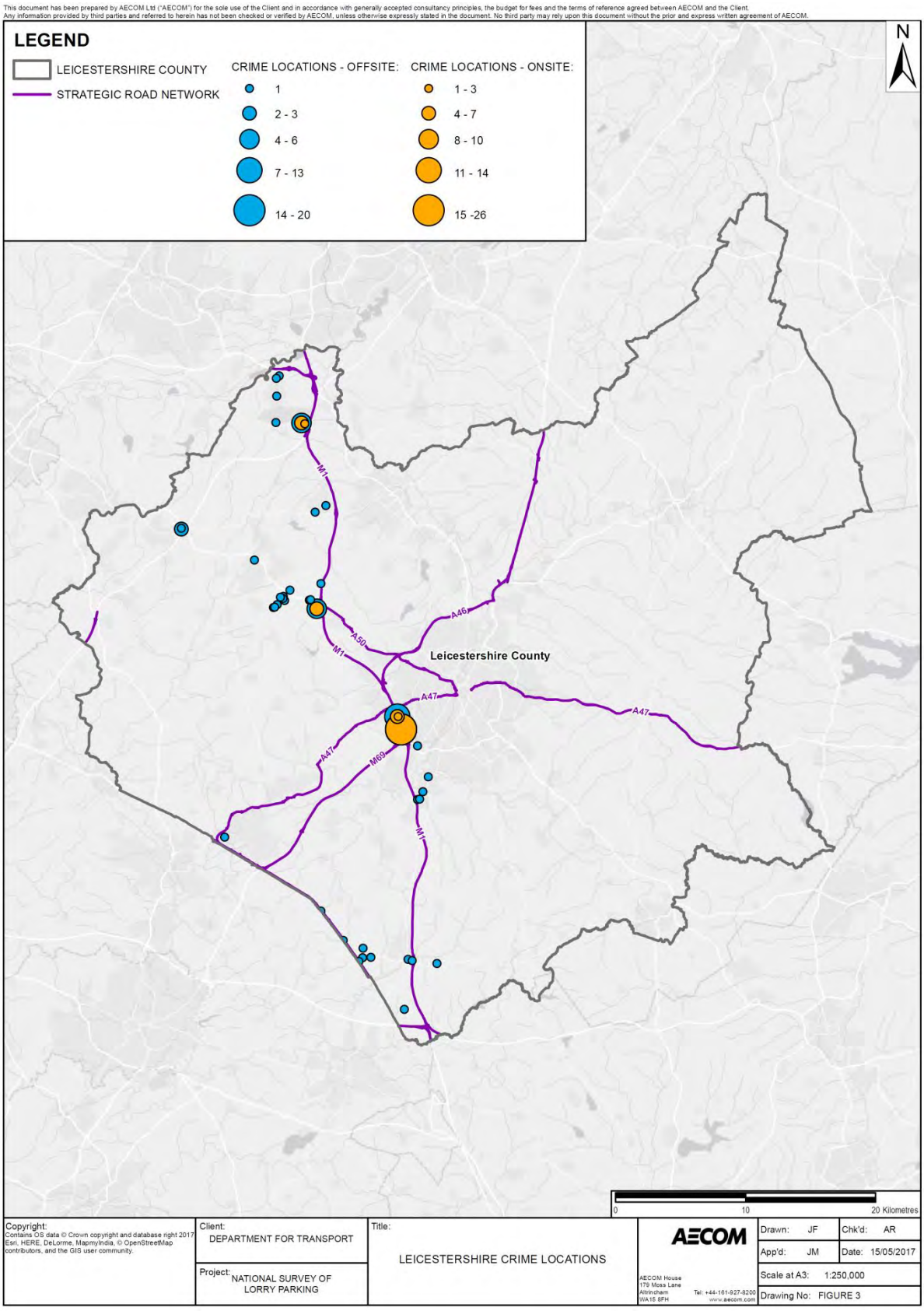

Figure 5.11: Freight Crime reported to NaVCIS in Leicestershire

The majority of freight crime reported in Leicestershire is along the M1 and West of the A50.

5.3.2.5 Facilities

Table 5.16: Regional Summary of On-Site Facilities

Region	Number of Lorry Parks ranked at each level					Average Price (£)
Levels of Ranking	**1**	**2**	**3**	**4**	**5**	**-**
East Midlands	9%	30%	48%	11%	2%	£13.20
England	8%	20%	51%	16%	5%	**£16.60**

5.3.3 East of England

5.3.3.1 Regional overview

Table 5.17: East of England Regional Overview

East of England				
Regional Overview				
	On-site	Laybys	Industrial Estates	Total
Total Number of Vehicles Parked	1,892	855	107	2,854
Foreign vehicles (%)	26%	27%	30.84%	28%
Number of Sites	31	559	26	616
Utilisation	97%	-		
Lorry Park Capacity	1,943			
Excess vehicles	(Total Number of vehicles parked – Capacity = Excess)			911

5.3.3.2 Critical Utilisation of on-site parking

Table 5.18 displays the 24 lorry parking sites in the East of England which have a Critical Utilisation (Critical: >85% utilisation). Notably Brampton Hut Services, which is located at the intersection of the A14/A1, has been recorded as having a utilisation of 305%. Through observation it was noted that this particular truck stop had lorries parking along the slip road and on surrounding kerb sides and car parking spaces; every lorry parked in the immediate vicinity of the truck stop was assigned to this service point. Crucially this lorry park is priced at £11 for overnight parking which compares to the regional average of £18.70 yet has extensive features such as: toilets, showers, a petrol station, a security fence and a range of food/drink facilities. This evidences that providing lorry parking facilities which are good value for money and in busy areas is likely to be worthwhile and lead to high utilisation. Very high utilisation leads to issues such as inappropriate parking and safety concerns.

Table 5.18: Onsite utilisation

Sites with Critical Utilisation (>85%)	Utilisation
East of England	**97%**
Brampton Hut Services	305%
Extra Cambridge	132%
Kates Cabin Cafe	120%
Extra Peterborough Services	120%
Extra Baldock Services	118%
Junction 26 Truckstop	110%
Welcome Break Birchanger Green Services	104%
Crawley Crossing (Truckstop café)	103%
BP Baldock	100%
Courtaulds Road now 2010 truck stop	100%
Furnells Transport and Storage	100%
Watling Street Truck Stop	100%
Welcome Break South Mimms Services	100%
Moto Toddington Southbound	98%
Titan Truckstop	97%
Stibbington Diner	97%
BP Connect @ Chelmsford LA Truckstop	96%
Beacon Hill services	93%
Coopers Cabin Truck Stop	93%
Risbys	89%
Moto Thurrock	89%
Tesco fuelling station	88%
Moto Toddington Northbound	86%
Hill Top Cafe	85%

5.3.3.3 Off-site parking hotspots

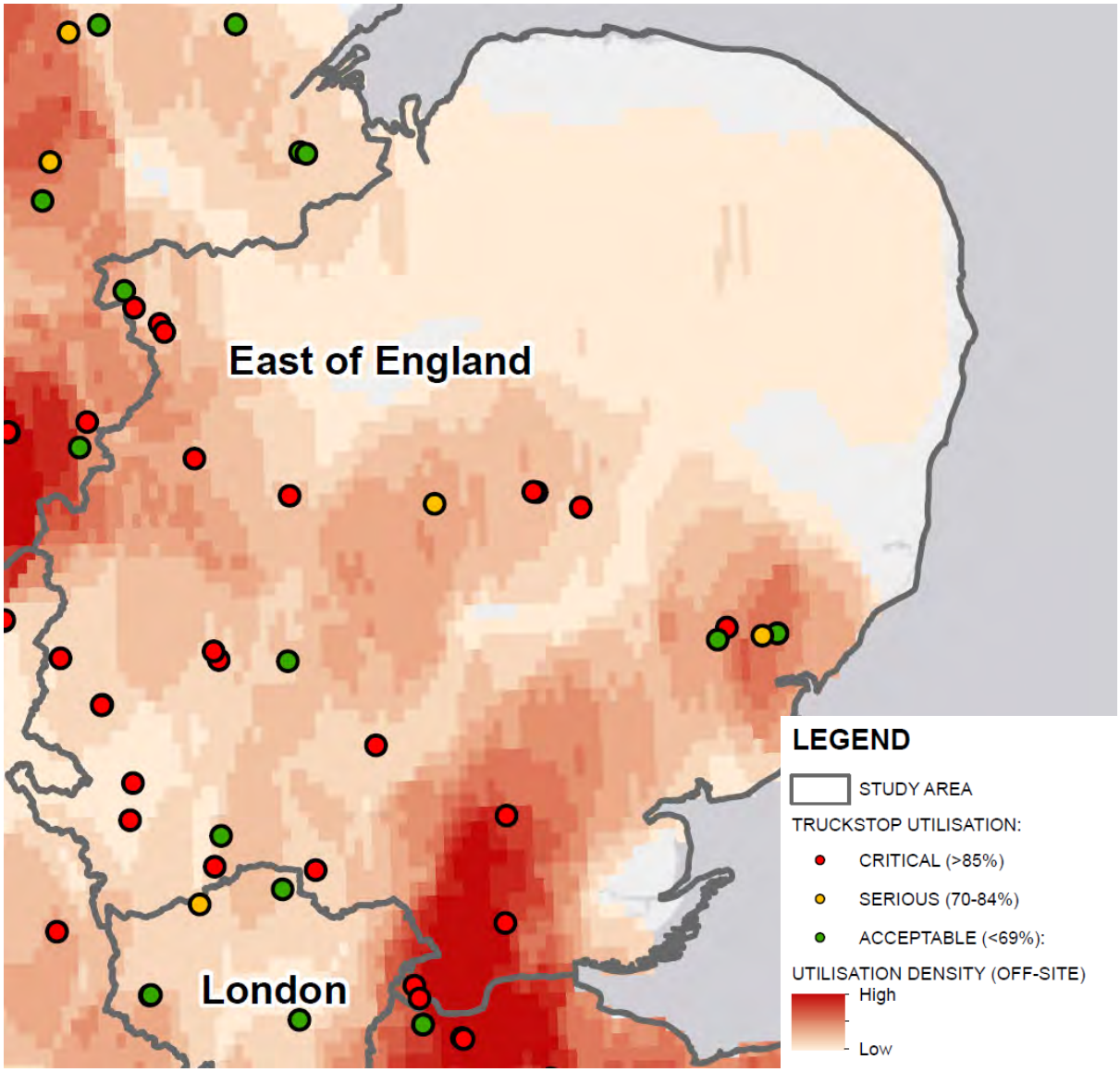

Figure 5.12: Off-site parking locations

Whilst only 26% of vehicles were counted off-site in the East of England, it has the second largest number of vehicles counted off-site when compared with other regions. The region also has the highest lorry park utilisation of all regions therefore suggesting that additional lorry parks are required here. **Figure 5.12** indicates that the south-east area of the region, namely Essex, has particular issues with off-site parking and all lorry parks have critical levels of utilisation; Essex also has one of the largest freight crime issues in the country.

Table 5.19: Off-site parking density and excess vehicles

Region	Lorry Parks	Industrial Estates	Laybys	Off-site (Laybys and Industrial Estates)			All Parked Vehicles		
	On-site utilisation	Number of Vehicles Parked	Number of Vehicles Parked	Number of Vehicles Parked	Estimated distance of SRN (km)	Density - vehicles/km of SRN)	Number of Vehicles Parked	Percentage parked off-site	Excess vehicles
East of England	97%	107	855	962	840	1.1	2,854	26%	911
England	**76%**	**2,492**	**4,709**	**7,201**	**7,080**	**1**	**18,670**	**39%**	**3,658**

5.3.3.4 Crime

The East of England has the second largest number and value of freight crimes/stolen goods across England, a particular hotspot for crime has been identified as Essex.

Table 5.20: Crime Data

Crime			
	On-site	**Off-site**	**Total**
Total number	162	293	455
Value (£)			£ 16,601,017

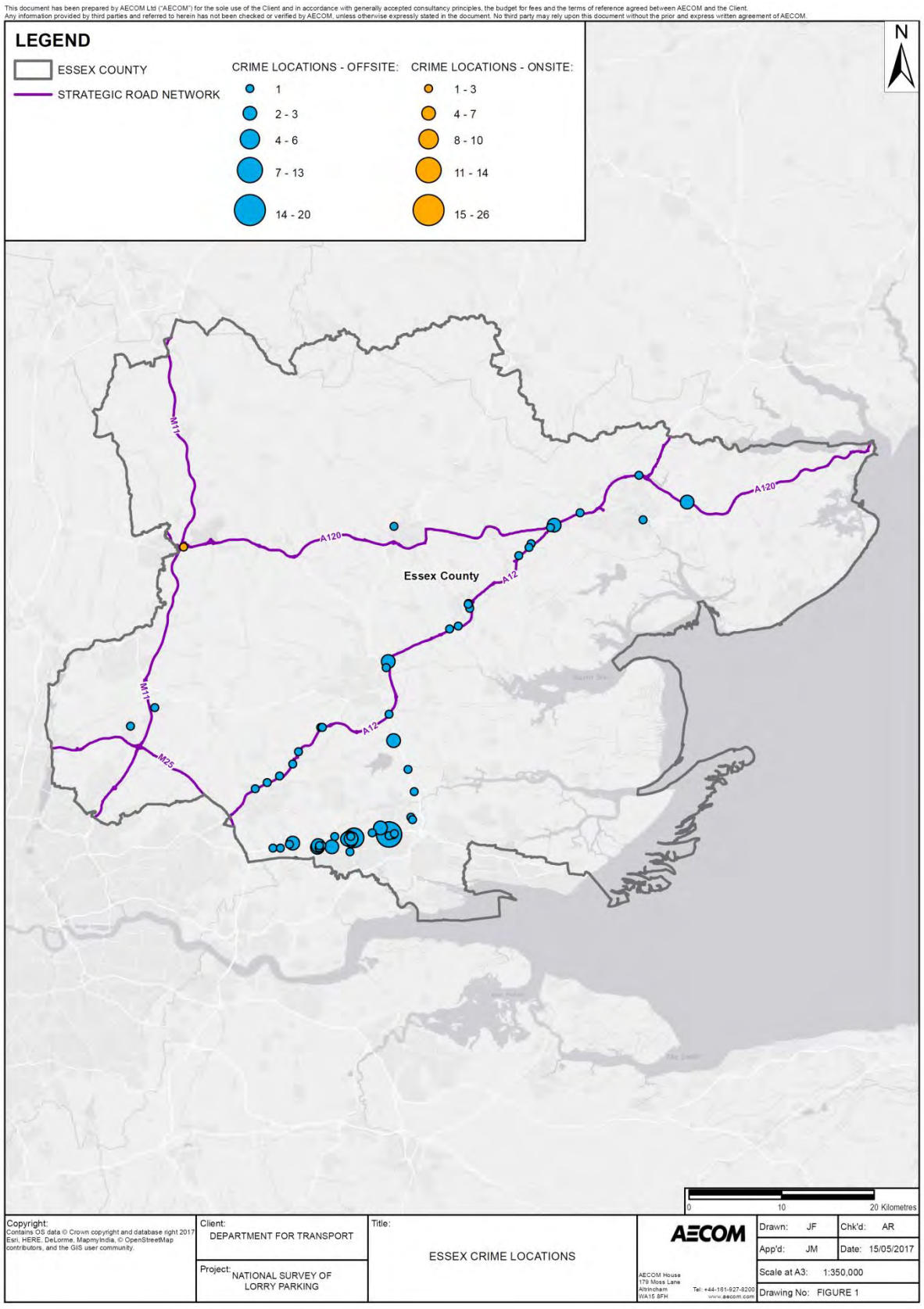

Figure 5.13: Freight Crime reported to NaVCIS in Essex

The majority of crime reported in Essex was found off-site – there have been a number of incidents reported along the A12. A problematic area can be seen to be on the A13/A130 around the Basildon area.

5.3.3.5 Facilities

The East of England has a high percentage (37%) of secure facilities which is denoted by lorry parks in category 4 (security fence) or 5 (CCTV) – this is the highest across England and the average price is higher than the average across England.

Table 5.21: Regional Summary of On-Site Facilities

Region	Number of Lorry Parks ranked at each level					Average Price (£)
Levels of Ranking	**1**	**2**	**3**	**4**	**5**	**-**
East of England	7%	23%	33%	27%	10%	£18.70
England	8%	20%	51%	16%	5%	**£16.60**

5.3.4 London

5.3.4.1 Regional overview

Table 5.22: London Regional Overview

London				
Regional Overview				
	On-site	Laybys	Industrial Estates	Total
Total Number of Vehicles Parked	99	22	15	136
Foreign vehicles (%)	34%	27%	0.00%	21%
Number of Sites	5	9	26	40
Utilisation	48%			
Lorry Park Capacity	207			
Excess vehicles	(Total Number of vehicles parked – Capacity = Excess)			-71

5.3.4.2 Critical Utilisation of on-site parking

There are no critically classified lorry parks within London (inside the M25) however **Table 5.23** displays the London Gateway Welcome Break site as it is 1% off having a Critical Utilisation (Critical: >85% utilisation) and is the most utilised site within the M25.

Table 5.23: Onsite utilisation

Sites with Critical Utilisation (>85%)	Utilisation
London	48%
Welcome Break London Gateway Services	84%

5.3.4.3 Off-site parking hotspots

London was not found to have excessive overnight off-site lorry parking this may be due to a number of reasons:

- A congestion charge is applied to some areas of London – if a lorry is to park within these areas overnight the driver may have to pay the congestion charge twice over, meaning some drivers may opt to park outside of these areas.
- The SRN within the M25 is reasonably small, therefore the parking could take place at locations farther than 5km from the SRN which was the boundary set within this study.
- There are fewer distribution centres in London than other areas due to the high land value, meaning less deliveries are likely to occur outside working/daytime hours – hence the logical places for lorry drivers to park up for their overnight stop is near their night-time delivery/collection points.

The area between London and the South East coast leading to Dover port can be seen to have an excess of vehicles parking off-site and a high number of critically defined Truckstops.

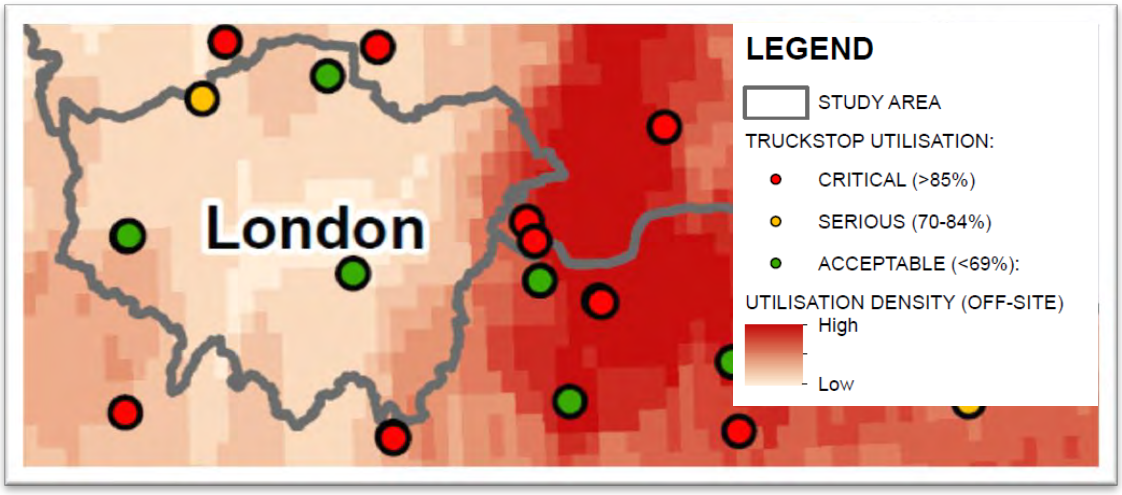

Figure 5.14: Off-site parking locations

Table 5.24: Off-site parking density and excess vehicles

Region	Lorry Parks	Industrial Estates	Laybys	Off-site (Laybys and Industrial Estates)			All Parked Vehicles		
	On-site utilisation	Number of Vehicles Parked	Number of Vehicles Parked	Number of Vehicles Parked	Estimated distance of SRN (km)	Density - vehicles/km of SRN)	Number of Vehicles Parked	Percentage parked off-site	Excess vehicles
London	48%	15	22	37	360	0.1	136	23%	-71
England	**76%**	**2,492**	**4,709**	**7,201**	**7,080**	**1**	**18,670**	**39%**	**3,658**

5.3.4.4 Crime

The crime data for London is not complete due to the London Police Force not reporting all crimes to NaVCIS who supplied the crime data; however the crimes that have been reported are of high value averaging at £49,600. The issue of comprehensive reporting of truck crime is beyond the scope of this report but is worth of further examination.

Table 5.25: Crime Data

Crime			
	On-site	**Off-site**	**Total**
Total number	3	2	5
Value (£)			£ 248,000

5.3.4.5 Facilities

London was defined as the boundary within and not including the M25, as such there are only four lorry parks to consider – however none of these have any security features (4/5) and 75% have the basic provisions of Toilets, Showers and a Café.

London has, as expected, got the highest average pricing across all regions – this is due to the high land cost within the M25.

Table 5.26: Regional Summary of On-Site Facilities

Region	Number of Lorry Parks ranked at each level					Average Price (£)
Levels of Ranking	**1**	**2**	**3**	**4**	**5**	**-**
London	25%	0%	75%	0%	0%	£21.70
England	8%	20%	51%	16%	5%	**£16.60**

5.3.5 North East

5.3.5.1 Regional overview

Table 5.27: North East Regional Overview

North East Regional Overview				
	On-site	Laybys	Industrial Estates	Total
Total Number of Vehicles Parked	244	203	298	745
Foreign vehicles (%)	15%	16%	19%	17%
Number of Sites	17	287	108	412
Utilisation	60%			
Lorry Park Capacity	405			
Excess vehicles	(Total Number of vehicles parked – Capacity = Excess)			340

5.3.5.2 Critical Utilisation of on-site parking

Table 5.28 displays the 6 lorry parking sites in the North East which have a Critical Utilisation (Critical: >85% utilisation). Two of the sites are recorded as having utilisation over 100% which indicates that a number of lorries were counted parked outside of the designated parking spots, this often includes on the kerb side or straddling car parking spaces.

Table 5.28: Onsite utilisation

North East Sites with Critical Utilisation (>85%)	Utilisation
North East	**60%**
Roadchef Durham Services	117%
Ron Perry (Southbound)	110%
Wentworth Car Park	100%
Purdy Lodge	97%
Moto Washington Southbound	90%
Newton Park Services	86%

5.3.5.3 Off-site parking hotspots

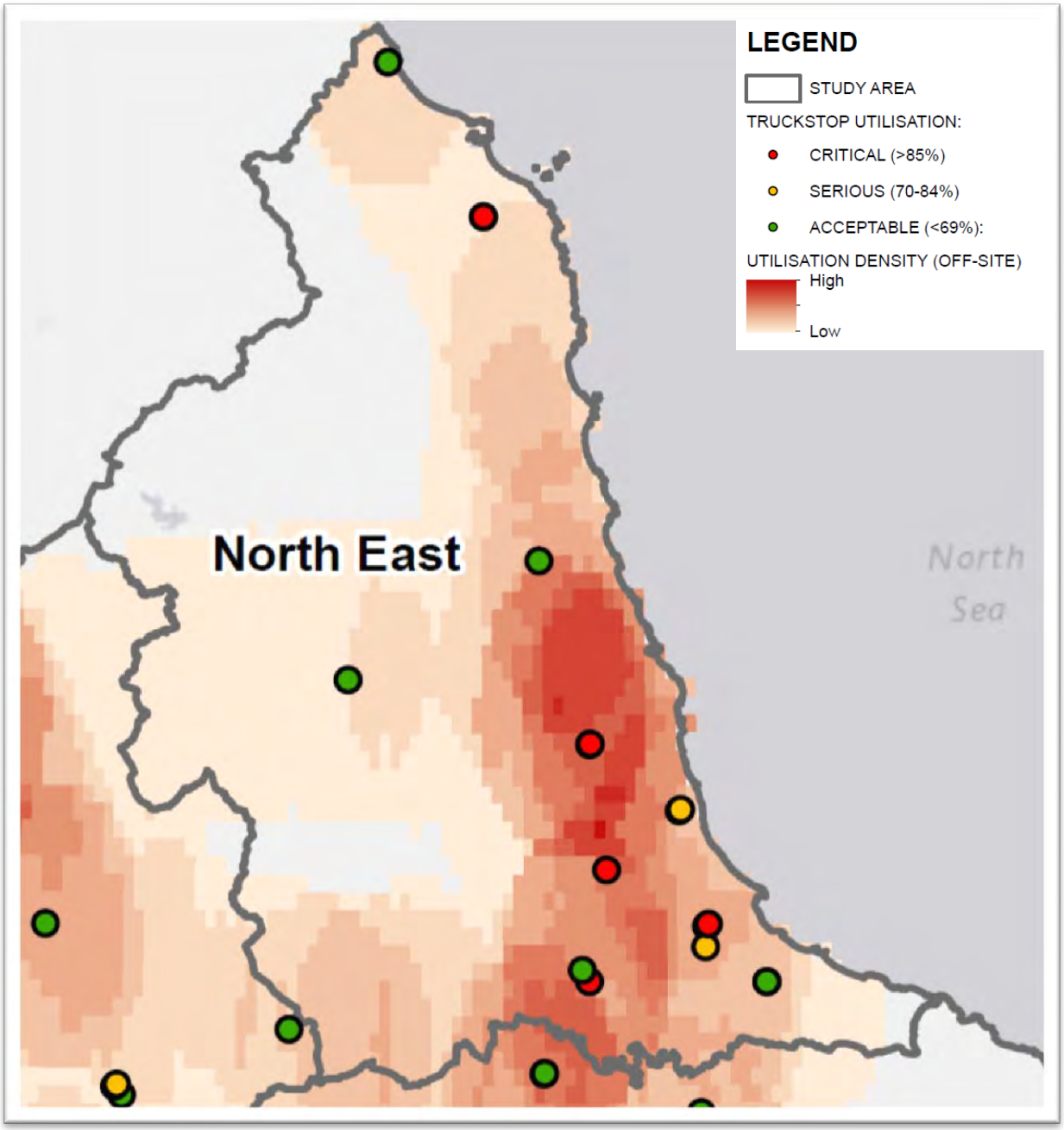

Figure 5.15: Off-site parking locations

The North east has the highest percentage of vehicles parking off-site across the whole of England which is surprising as the utilisation is relatively low at 60%. The North East also has one of the lowest average overnight parking charges for lorries so it would suggest that there are number of lorry parks which are not located in the busiest road freight areas.

The area indicated in **Figure 5.15** as having high off-site parking surrounds Teesport, and all of the lorry parks within the immediate area of this port are shown as red or yellow indicating critical and serious utilisation respectively. It may be feasible to locate an additional lorry park within this region.

Table 5.29: Off-site parking density and excess vehicles

Region	Lorry Parks	Industrial Estates	Laybys	Off-site (Laybys and Industrial Estates)			All Parked Vehicles		
	On-site utilisation	Number of Vehicles Parked	Number of Vehicles Parked	Number of Vehicles Parked	Estimated distance of SRN (km)	Density - vehicles/km of SRN)	Number of Vehicles Parked	Percentage parked off-site	Excess vehicles
North East	60%	298	203	501	430	1.2	745	63%	340
England	**76%**	**2,492**	**4,709**	**7,201**	**7,080**	**1**	**18,670**	**39%**	**3,658**

5.3.5.4 Crime

No crime data was reported to NaVCIS for the North-East. The issue of comprehensive reporting of truck crime is beyond the scope of this report but worthy of examination.

5.3.5.5 Facilities

87% of facilities in the North East do not have any security facilities which are greater than average; however the average price is lower than the average.

Table 5.30: Regional Summary of On-Site Facilities

Region	Number of Lorry Parks ranked at each level					Average Price (£)
Levels of Ranking	**1**	**2**	**3**	**4**	**5**	**-**
North East	6%	19%	63%	13%	0%	£13.50
England	8%	20%	51%	16%	5%	**£16.60**

5.3.6 North West

5.3.6.1 Regional overview

Table 5.31: North West Regional Overview

North West Regional Overview				
	On-site	Laybys	Industrial Estates	Total
Total Number of Vehicles Parked	1,397	424	536	2,357
Foreign vehicles (%)	17%	18%	16%	17%
Number of Sites	39	357	150	546
Utilisation	54%			
Lorry Park Capacity	2,573			
Excess vehicles	(Total Number of vehicles parked – Capacity = Excess)			-216

5.3.6.2 Critical Utilisation of on-site parking

Table 5.32 displays the eight lorry parking sites in the North West which have a Critical Utilisation (Critical: >85% utilisation).

Table 5.32: Onsite utilisation

North West Sites with Critical Utilisation (>85%)	Utilisation
North West	54%
Welcome Break Charnock Richard Services Southbound	126%
Welcome Break Charnock Richard Services Northbound	125%
Roadchef Chester Services	113%
Moto Birch Services Westbound	113%
Welcome Break Burtonwood Services M62	94%
Let's Eat Cafe	90%
Moto Knutsford Northbound	90%
Moto Lancaster (Northbound)	88%

5.3.6.3 Off-site parking hotspots

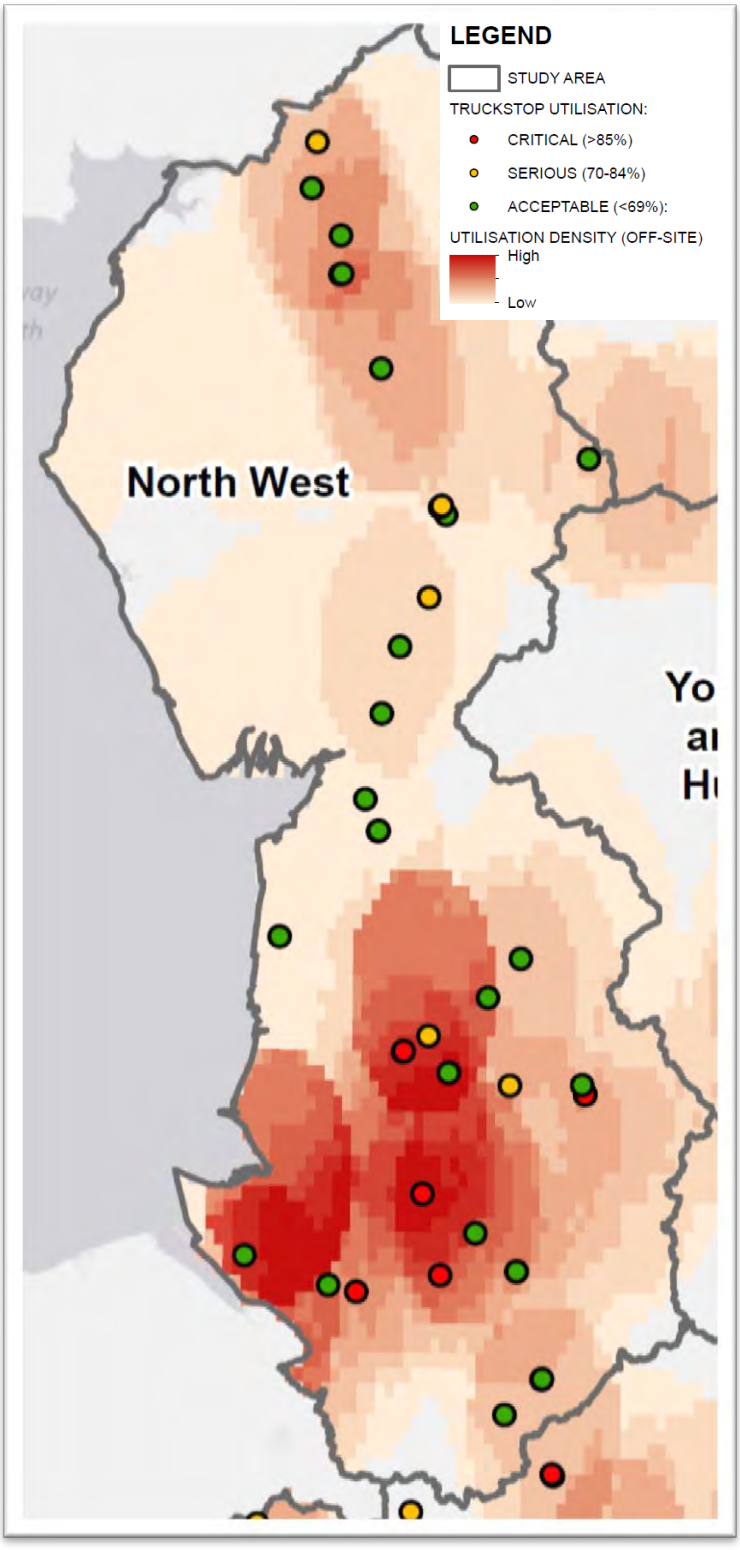

Figure 5.16: Off-site parking locations

In the North West a high proportion of vehicles were found off-site (37%), this was the area with the fourth largest number of vehicles parked offsite (960); conversely the onsite utilisation was relatively low at 54%. **Figure 5.16** shows a high off-site parking density around the Port of Liverpool and no lorry parking facilities in the immediate vicinity and a number of those on routes close to the port are at critical utilisation. However further from the port and particularly in the North most of the lorry parks are showing an acceptable level

of utilisation, therefore if a lorry park is to be considered in the North West this should be in the immediate vicinity of the Port of Liverpool.

Table 5.33: Off-site parking density and excess vehicles

Region	Lorry Parks	Industrial Estates	Laybys	Off-site (Laybys and Industrial Estates)			All Parked Vehicles		
	On-site utilisation	Number of Vehicles Parked	Number of Vehicles Parked	Number of Vehicles Parked	Estimated distance of SRN (km)	Density - vehicles/km of SRN)	Number of Vehicles Parked	Percentage parked off-site	Excess vehicles
North West	54%	536	424	960	1,130	0.8	2,357	37%	-216
England	**76%**	**2,492**	**4,709**	**7,201**	**7,080**	**1**	**18,670**	**39%**	**3,658**

5.3.6.4 Crime

19 crimes were reported to NaVCIS from the North West region – this is the fourth highest crime value across England. The North West has not been identified as one of the four major crime hotspots. The issue of comprehensive reporting of truck crime is beyond the scope of this report but is worth of further examination.

Table 5.34: Crime Data

Crime			
	On-site	**Off-site**	**Total**
Total number	2	17	19
Value (£)			£ 831,000

5.3.6.5 Facilities

The North West has the highest percentage of vehicles ranked at level 5 which includes the highest security level of CCTV and comfort level including accommodation. It should be noted that CCTV has been recorded when cameras were seen on the facility however stakeholder engagement has identified that in most cases these cameras do not provide security but just function as parking revenue protection systems using Automatic Number Plate Recognition (ANPR). The North West also has a greater than average number of facilities rated as a 4; this higher percentage of secure facilities may be reflected in the average price being higher than the national average.

Table 5.35: Regional Summary of On-Site Facilities

Region	Number of Lorry Parks ranked at each level					Average Price (£)
Levels of Ranking	**1**	**2**	**3**	**4**	**5**	**-**
North West	5%	11%	49%	22%	14%	£18.00
England	8%	20%	51%	16%	5%	**£16.60**

5.3.7 South East

5.3.7.1 Regional overview

Table 5.36: South East Regional Overview

South East Regional Overview				
	On-site	Laybys	Industrial Estates	Total
Total Number of Vehicles Parked	2,423	1,065	235	3,723
Foreign vehicles (%)	42%	38%	42%	41%
Number of Sites	58	554	128	740
Utilisation	84%			
Lorry Park Capacity	2,871			
Excess vehicles	(Total Number of vehicles parked - Capacity)			852

The South East unsurprisingly has the highest percentage of foreign registered vehicles parking overnight (41%) across the whole of England. This reflects the fact that around 88% of all Mainland Europe to UK road freight comes into Kent ports or through the Channel Tunnel.

5.3.7.2 Critical Utilisation of on-site parking

Table 5.37 overleaf displays the 24 lorry parking sites in South East which have a Critical Utilisation (Critical: >85% utilisation).

19/24 of the critical lorry parks have reached ≥100% - observations at site visits found a number of vehicles parked outside of designated parking spaces:

- across car parking spaces
- on kerbs
- on the roads leading up to off-site parking locations.

Table 5.37: Onsite utilisation

South East Sites with Critical Utilisation (>85%)	Utilisation
South East	**84%**
Welcome Break Newport Pagnell Southbound	245%
Extra Beaconsfield	237%
Sutton Scotney Southbound	173%
Roadchef Maidstone Services	168%
Esso Cobham	150%
Airport Cafe	135%
Moto Reading Westbound	120%
Sutton Scotney Northbound	120%
Roadchef Rownhams Services Eastbound	118%
Roadchef Clacket Lane Services Westbound	116%
Welcome Break Oxford Services	114%
Welcome Break Newport Pagnell Northbound	111%
Moto Pease Pottage	108%
Extra Cobham Services	108%
Roadchef Clacket Lane Services Eastbound	104%
Moto Chieveley	102%
Motis Truckstop	100%
Shell TotHills Service Area	100%
Texaco Ower Roundabout services	100%
Moto Reading Eastbound	94%
Crossbush Services	87%
Havant Lorry Park	86%
Liphook Services Southbound	86%
Stop24 Services - Folkestone	85%

5.3.7.3 Off-site parking hotspots

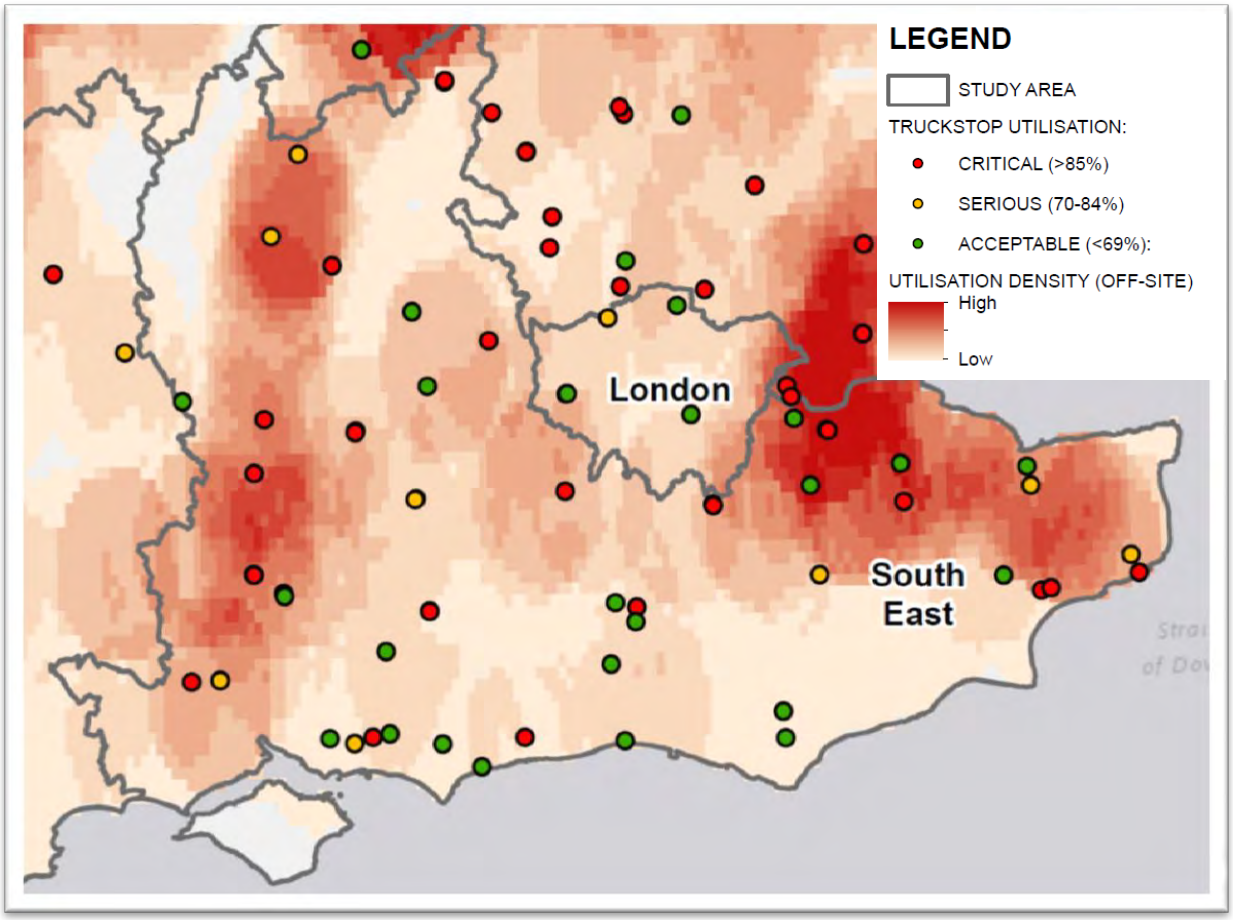

Figure 5.17: Off-site parking locations

The largest numbers of vehicles were counted inside the South East and the region also had the second highest number of vehicles found parked off-site.

Onsite utilisation was 84% which is just 1% off being included in the critical level of parking. The hotspots of high off-site parking can be seen clearly on **Figure 5.17** as the A34 corridor leading from Southampton north and the M20 and M2 corridors leading from the Port of Dover towards London. Kent has a particularly high density of off-site parking.

Table 5.38: Off-site parking density and excess vehicles

Region	Lorry Parks	Industrial Estates	Laybys	Off-site (Laybys and Industrial Estates)			All Parked Vehicles		
	On-site utilisation	Number of Vehicles Parked	Number of Vehicles Parked	Number of Vehicles Parked	Estimated distance of SRN (km)	Density - vehicles/km of SRN)	Number of Vehicles Parked	Percentage parked off-site	Excess vehicles
South East	84%	235	1,065	1,300	1,210	1.1	3,723	24%	852
England	**76%**	**2,492**	**4,709**	**7,201**	**7,080**	**1**	**18,670**	**39%**	**3,658**

5.3.7.4 Crime

The South East has the fourth highest total crime value across the whole of England, with each crime averaging at a value of £24,583. All crime data was collected from NaVCIS, N.B. not all crimes are reported to NaVCIS. The issue of comprehensive reporting of truck crime is beyond the scope of this report but is worth of further examination.

Table 5.39: Crime Data

Crime			
	On-site	**Off-site**	**Total**
Total number	42	63	105
Value (£)			£ 2,581,210

5.3.7.5 Facilities

Only 10% of all on-site parking facilities in the South East have safety features (4/5), surprisingly the average price of lorry parking facilities is higher than the national average.

Table 5.40: Regional Summary of On-Site Facilities

Region	Number of Lorry Parks ranked at each level					Average Price (£)
Levels of Ranking	**1**	**2**	**3**	**4**	**5**	**-**
South East	8%	31%	52%	6%	4%	£18.60
England	8%	20%	51%	16%	5%	**£16.60**

5.3.8 South West

5.3.8.1 Regional overview

Table 5.41: South West Regional Overview

South West Regional Overview				
	On-site	Laybys	Industrial Estates	Total
Total Number of Vehicles Parked	783	359	130	1,272
Foreign vehicles (%)	16%	18%	5.38%	13%
Number of Sites	37	523	67	627
Utilisation	72%			
Lorry Park Capacity	1,084			
Excess vehicles	(Total Number of vehicles parked - Capacity)			188

5.3.8.2 Critical Utilisation of on-site parking

Table 5.42 displays the eight lorry parking sites in the South West which have a Critical Utilisation (Critical: >85% utilisation).

Table 5.42: Onsite utilisation

South West Sites with Critical Utilisation (>85%)	Utilisation
South West	72%
Welcome Break Sedgemoor Services Northbound	129%
Welcome Break Gordano Services	115%
BP Burford Road	100%
Chippenham Pitstop	100%
Esso HGV Stop	94%
Gloucester services southbound	86%
Moto Leigh Delamere Westbound	85%
Roadchef Taunton Deane Services Southbound	85%

5.3.8.3 Off-site parking hotspots

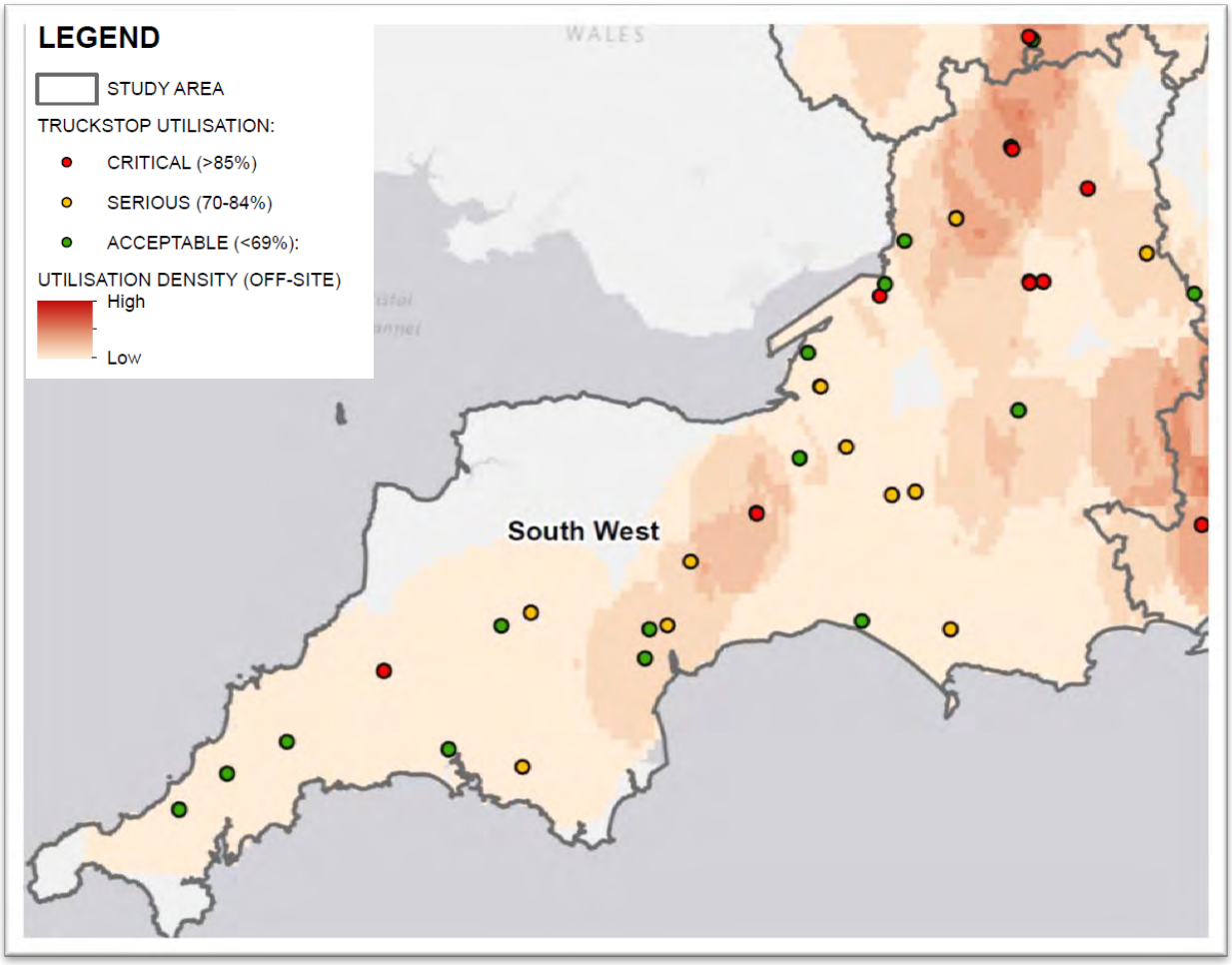

Figure 5.18: Off-site parking locations

The South West has on average a serious level of lorry park utilisation (72%) and a hotspot for offsite parking on the M5 corridor leading north from the Bristol Port; however the percentage and numbers of vehicles parked offsite is relatively low in comparison to other regions.

Table 5.43: Off-site parking density and excess vehicles

Region	Lorry Parks	Industrial Estates	Laybys	Off-site (Laybys and Industrial Estates)			All Parked Vehicles		
	On-site utilisation	Number of Vehicles Parked	Number of Vehicles Parked	Number of Vehicles Parked	Estimated distance of SRN (km)	Density - vehicles/km of SRN)	Number of Vehicles Parked	Percentage parked off-site	Excess vehicles
South West	72%	130	359	489	1,080	0.5	1,272	33%	188
England	**76%**	**2,492**	**4,709**	**7,201**	**7,080**	**1**	**18,670**	**39%**	**3,658**

5.3.8.4 Crime

The South West was not identified as a crime hotspot. All crime data was gathered from NaVCIS and not all police forces report their crime.

Table 5.44: South West Crime Data

Crime			
	On-site	**Off-site**	**Total**
Total number	1	4	5
Value (£)			£ 232,200

5.3.8.5 Facilities

27% of facilities in the South West have security features (4/5) which is higher than average however the average price to park overnight is lower than the national average.

Table 5.45: Regional Summary of On-Site Facilities

Region	Number of Lorry Parks ranked at each level					Average Price (£)
Levels of Ranking	**1**	**2**	**3**	**4**	**5**	**-**
South West	8%	16%	49%	24%	3%	£15.50
England	8%	20%	51%	16%	5%	**£16.60**

5.3.9 West Midlands

5.3.9.1 Regional overview

Table 5.46: West Midlands Regional Overview

West Midlands Regional Overview				
	On-site	Laybys	Industrial Estates	Total
Total Number of Vehicles Parked	1,663	504	352	2,519
Foreign vehicles (%)	23%	23%	18.47%	22%
Number of Sites	38	362	86	486
Utilisation	87%			
Lorry Park Capacity	1,906			
Excess vehicles	(Total Number of vehicles parked - Capacity)			613

5.3.9.2 Critical Utilisation of on-site parking

Table 5.47 displays the 16 lorry parking sites in the West Midlands which have a Critical Utilisation (Critical: >85% utilisation).

Nine of the lorry parks were at or above 100% capacity which could be explained indicates that a number of lorries were counted parked outside of the designated parking spots, this often includes on the kerb side or straddling car parking spaces.

Table 5.47: Onsite utilisation

West Midlands Sites with Critical Utilisation (>85%)	Utilisation
West Midlands	**87%**
Welcome Break Keele Services Northbound	221%
Welcome Break Telford Services	158%
Welcome Break Warwick Services Northbound	142%
Welcome Break Corley Services Westbound	119%
Welcome Break Warwick Services Southbound	115%
Welcome Break Keele services southbound	107%
Dorton service station	100%
Pitstop Truckstop Bromsgrove	100%
PJs Café and Sudbury Services	100%
Truckers Rest	97%
New Hollies Truckstop	94%
Roadchef Strensham services north	93%
Moto Tamworth	92%
Uttoxeter Services	91%
Stafford Services Southbound	90%
PJM Lorry Park	88%

5.3.9.3 Off-site parking hotspots

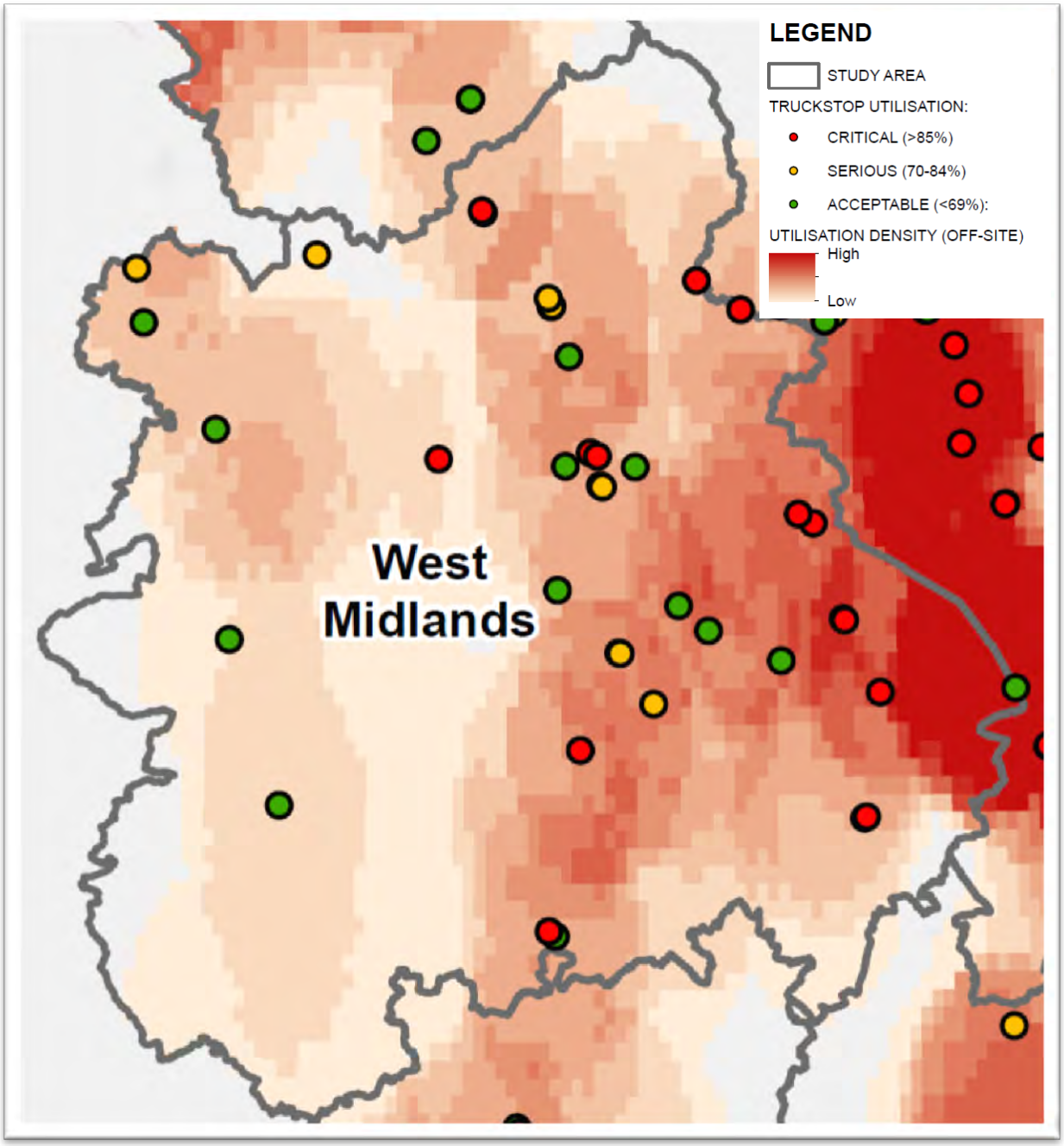

Figure 5.19: Off-site parking hotspots

The West Midlands has a high on-site utilisation and a high number of excess vehicles, off-site parking can be seen in **Figure 5.19,** to be predominantly centred on the M6 and A5.

Table 5.48:Off-site parking density and excess vehicles

Region	Lorry Parks	Industrial Estates	Laybys	Off-site (Laybys and Industrial Estates)			All Parked Vehicles		
	On-site utilisation	Number of Vehicles Parked	Number of Vehicles Parked	Number of Vehicles Parked	Estimated distance of SRN (km)	Density - vehicles/km of SRN)	Number of Vehicles Parked	Percentage parked off-site	Excess vehicles
West Midlands	87%	352	504	856	700	1.2	2,519	29%	613
England	**76%**	**2,492**	**4,709**	**7,201**	**7,080**	**1**	**18,670**	**39%**	**3,658**

5.3.9.4 Crime

The West Midlands had the third highest number of items reported as stolen which also equated to the third highest value. However, not all crime data is reported to NaVCIS. The issue of comprehensive reporting of truck crime is beyond the scope of this report but is worth of further examination.

Table 5.49: Crime Data

Crime			
	On-site	**Off-site**	**Total**
Total number	6	39	45
Value (£)			£ 3,166,000

5.3.9.5 Facilities

29% of facilities in the West Midlands had security features which are higher than the national average, yet the average price was lower than the average across England.

Table 5.50: Regional Summary of On-Site Facilities

Region	Number of Lorry Parks ranked at each level					Average Price (£)
Levels of Ranking	**1**	**2**	**3**	**4**	**5**	**-**
West Midlands	8%	16%	47%	21%	8%	£16.30
England	8%	20%	51%	16%	5%	**£16.60**

5.3.10 Yorkshire and Humber

5.3.10.1 Regional overview

Table 5.51: Yorkshire and Humber Regional Overview

Yorkshire and Humber				
Regional Overview				
	On-site	Laybys	Industrial Estates	Total
Total Number of Vehicles Parked	1,418	356	258	2,032
Foreign vehicles (%)	19%	14%	11.63%	15%
Number of Sites	37	276	95	408
Utilisation	76%			
Lorry Park Capacity	1,856			
Excess vehicles	(Total Number of vehicles parked - Capacity)			176

5.3.10.2 Critical Utilisation of on-site parking

Table 5.52 displays the nine lorry parking sites in Yorkshire and Humber which have a critical utilisation (Critical: >85% utilisation).

Table 5.52: Onsite utilisation

Yorkshire and Humber Sites with Critical Utilisation (>85%)	Utilisation
Yorkshire and Humber	**76%**
Welcome Break Woodall Services Northbound	179%
Moto Ferrybridge Services	117%
Exelby Services Ltd - Coneygarth	109%
The Stockyard Truckstop	98%
Shell Beacon	92%
Ulceby Truckstop	91%
Junction 31 Secure Parking	88%
Welcome Break Woodall Services Southbound	88%
Glews Truck Stop	87%

5.3.10.3 Off-site parking hotspots

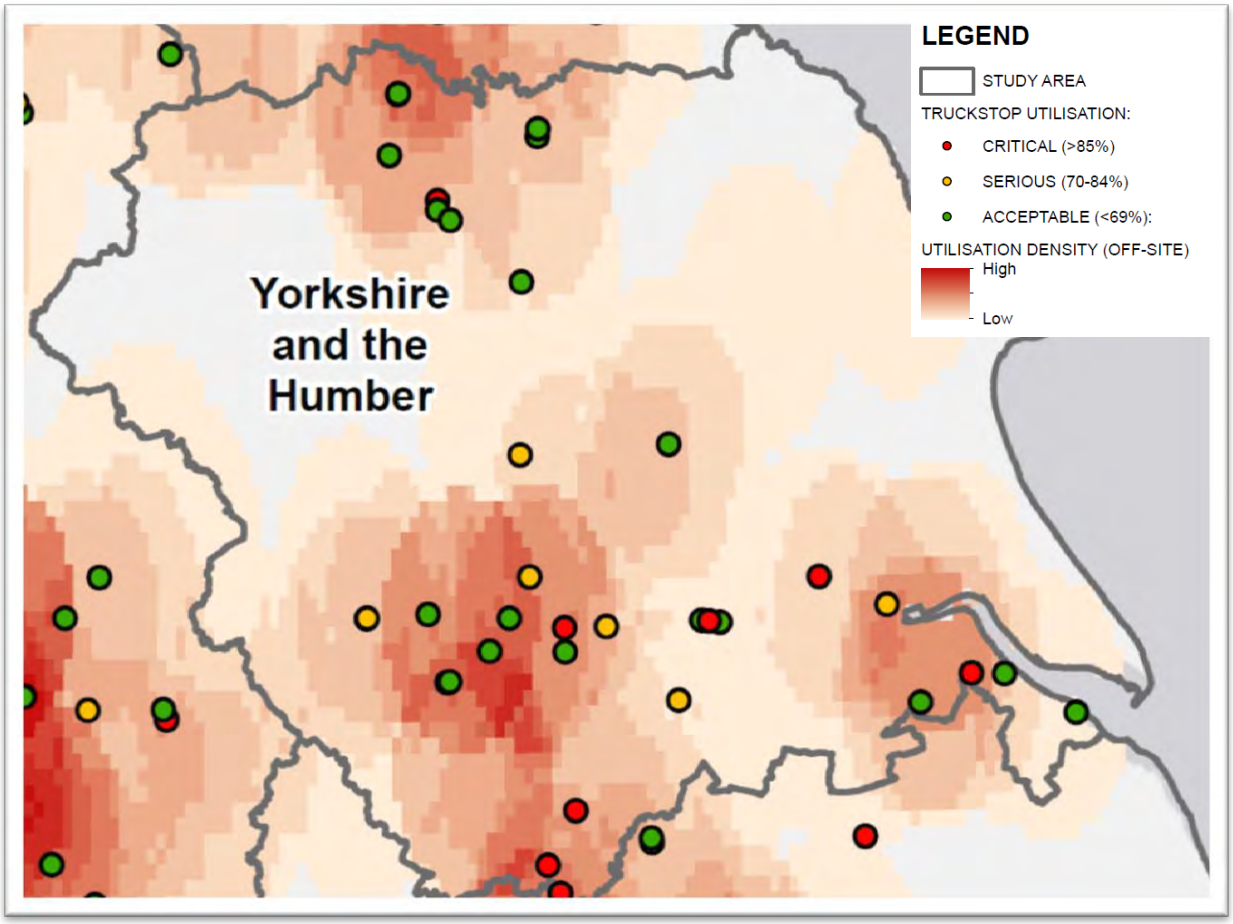

Figure 5.20: Off-site parking locations

Yorkshire and Humber has relatively low numbers of vehicles parked off-site but there is a high density of offsite parking surrounding the ports and around the A1. Utilisation of lorry parks is at serious levels (76%).

Table 5.53: Off-site parking density and excess vehicles

Region	Lorry Parks	Industrial Estates	Laybys	Off-site (Laybys and Industrial Estates)			All Parked Vehicles		
	On-site utilisation	Number of Vehicles Parked	Number of Vehicles Parked	Number of Vehicles Parked	Estimated distance of SRN (km)	Density - vehicles/km of SRN)	Number of Vehicles Parked	Percentage parked off-site	Excess vehicles
Yorkshire and Humber	76%	258	356	614	780	0.8	2,032	28%	179
England	**76%**	**2,492**	**4,709**	**7,201**	**7,080**	**1**	**18,670**	**39%**	**3,658**

5.3.10.4 Crime

Yorkshire and Humber was not identified as having particular issues with crime as only six incidents of crime were reported to NaVCIS. The issue of comprehensive reporting of truck crime is beyond the scope of this report but is worth of further examination.

Table 5.54: Crime Data

Crime			
	On-site	**Off-site**	**Total**
Total number	2	4	6
Value (£)			£ 676,700

5.3.10.5 Facilities

The price of parking in Yorkshire and Humber is on average higher than the national average. A high majority of lorry parks are ranked at level 3 meaning they have basic facilities such as toilets, showers and a café – only 15% of lorry parks have security features (4/5).

Table 5.55: Regional Summary of On-Site Facilities

Region	Number of Lorry Parks ranked at each level					Average Price (£)
Levels of Ranking	**1**	**2**	**3**	**4**	**5**	**-**
Yorkshire and Humber	6%	6%	73%	12%	3%	£17.20
England	8%	20%	51%	16%	5%	**£16.60**

6. Summary Findings

6.1 Introduction

Lorry parking locations were surveyed within 5km of the Strategic Road Network (SRN) in England in March 2017. Desk based analysis identified all lorry parking locations within the 5km, this was then used to plan routes for all audit teams; to be clear every road in the SRN was surveyed as well as all routes leading to off-site parking locations and industrial estates. The aim of the study was to assess capacity and demand for overnight lorry parking; as such the physical "site visits" were conducted mid-week (Tuesday-Thursday) after 6pm. Data was recorded using a web based mobile application system, and a summary of findings is listed below. A broadly similar audit exercise was done in 2010.

- During the month long survey, 18,670 vehicles were counted parked overnight across England in off-site and on-site locations. Each site was counted for a single weekday night.
- The total capacity of on-site spaces available in lorry parks or motorway service areas (MSAs) was found to be 15,012.
- Therefore, when compared with the total number of vehicles counted, there was an excess of 3,658 vehicles that could not be parked even if every parking space could be filled.
- 311 on-site lorry parking facilities were surveyed across England, lorry parking facilities include:
    - Motorway service areas (MSAs) with overnight lorry parking options
    - Independently owned/managed truck stops
    - Trunk road service areas
    - Local authority truck park
- In addition to this 801 Industrial / Retail Estates and 3,397 Laybys were surveyed.
- Regions with ≥70% utilisation of lorry parks include:
    - East of England 97%
    - West Midlands 87%
    - South East 84%
    - Yorkshire and Humber 76%
    - East Midlands 72%
    - South West 72%
- 39% of all vehicles recorded were parked off-site in laybys or Industrial Estates.

Figure 6.1 shows the locations of all truck stops, laybys and industrial estates that were visited can be seen below. As expected the laybys display a structure following the strategic road network, and most industrial estates and lorry parks are close by.

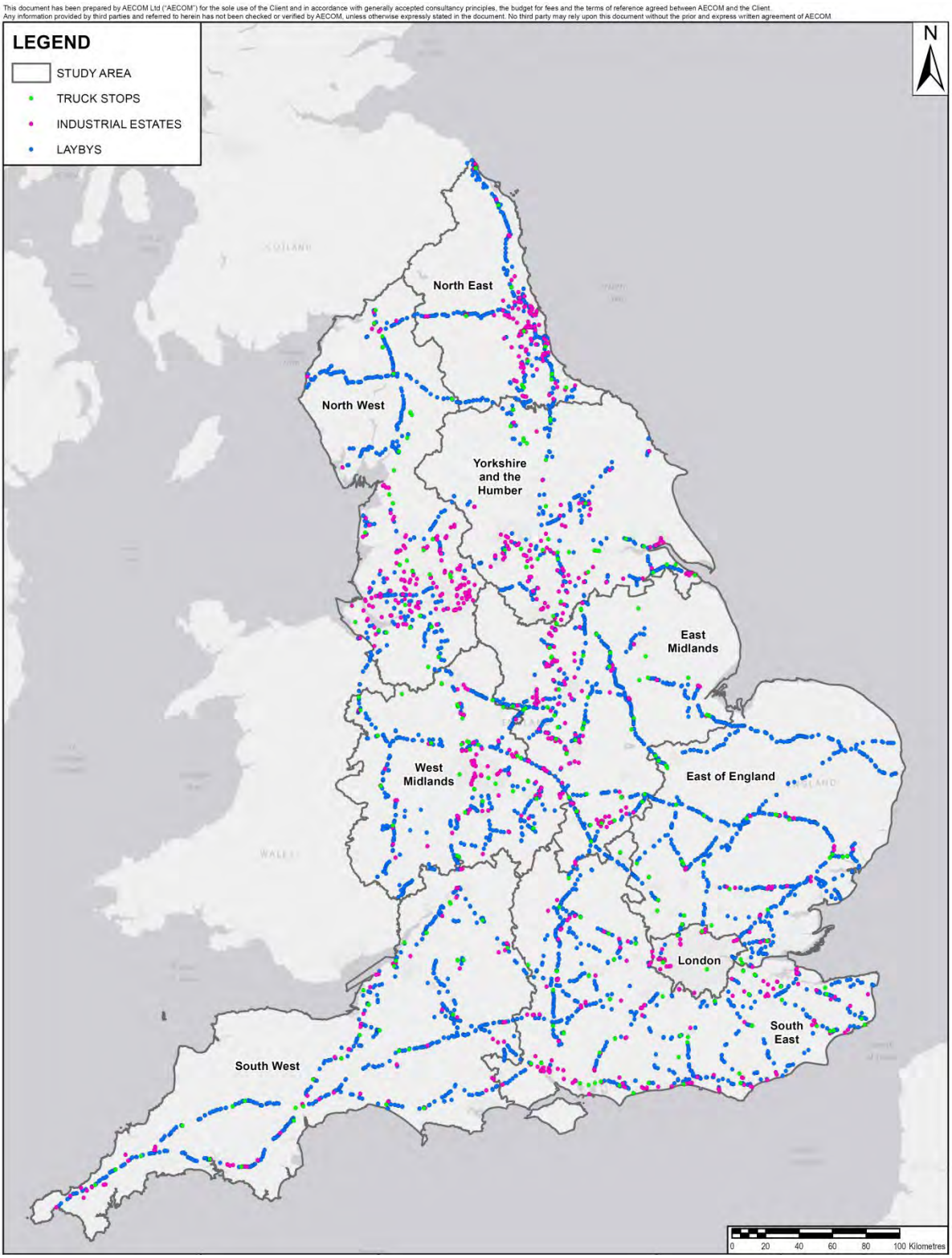

Figure 6.1: Locations of all truck stops, laybys and industrial estates surveyed

6.2 Results

The study recorded 311 sites across England allowing overnight parking. These sites had a total capacity of 15,012 parking spaces. The on-site utilisation of these sites varied across regions, from 48% to 97%, with the national average being 76%.

Table 6.1 and **Figure 6.2** breakdown the number of vehicles parked in lorry parks, industrial estates and lay-bys. The total capacity of on-site lorry parking facilities in each region is also presented allowing utilisation to be assessed.

Table 6.1- National overview of result

Region	Lorry Park Capacity	Parked vehicles				Total Parked Vehicles	Excess Vehicles
		On-site	On site utilisation	Industrial estates	Lay-bys		
East Midlands	2,167	1,550	72%	561	703	3,032	865
East of England	1,943	1,892	97%	107	624	2,854	911
London	207	99	48%	15	16	136	-71
North East	405	244	60%	298	170	745	340
North West	2,573	1,397	54%	536	347	2,357	-216
South East	2,871	2,423	84%	235	655	3,723	852
South West	1,084	783	72%	130	294	1,272	188
West Midlands	1,906	1,663	87%	352	388	2,519	613
Yorkshire and Humber	1,856	1,418	76%	258	305	2,032	176
England	15,012	11,469	76%	2,492	4,709	18,670	3,658

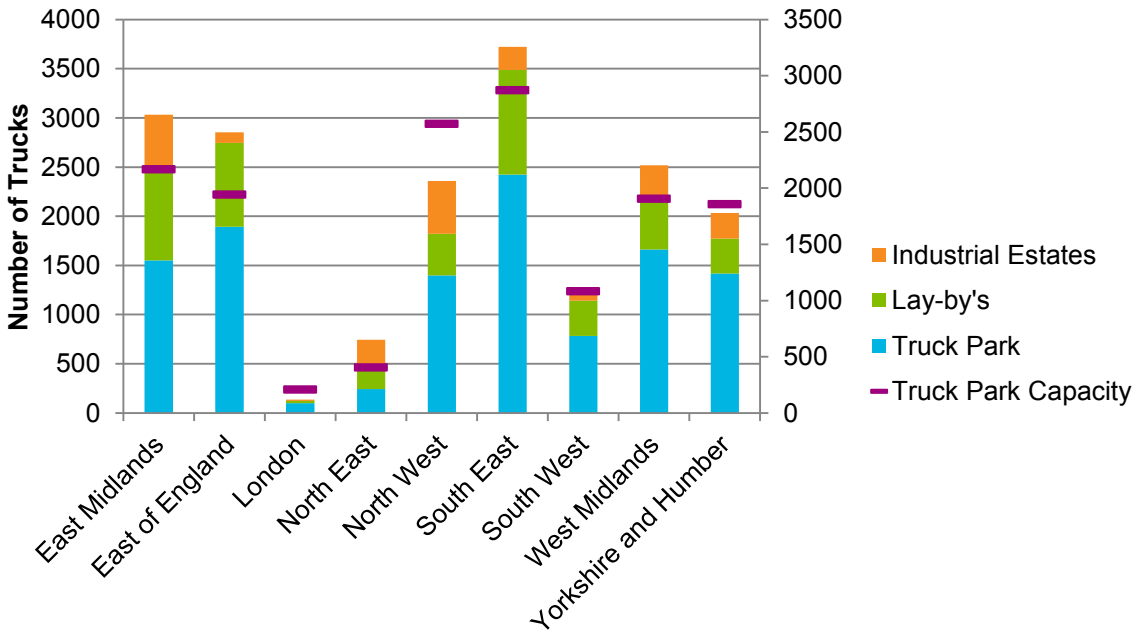

Figure 6.2: Number of vehicles parked by region and parking type

Two thirds of all regions have high lorry parking utilisation (above 70%) and five out of nine regions have parking which exceeds or is close to exceeding capacity as seen in **Figure 6.2** – this indicates that there is insufficient capacity to meet demand in many places.

Figure 6.2 also shows that the East Midlands, East of England and North East had more vehicles parking than there was space, additionally the South East and West Midland regions are also close to exceeding capacity. This survey was conducted in a representative month, March. However there are seasonal fluctuations in some types of freight goods transport traffic that mean it is possible that these regions could be over capacity during busy times of the year.

There is evidence to suggest that some drivers choose to park off-site in lay-bys or industrial estates even when spaces are available on-site – for example the North East has a lower capacity than total trucks parked yet overall utilisation is only 60%.

6.3 Comparison against previous study

The data collected in 2017 has been compared to the data collected from the previous lorry parking study in 2010. Comparisons of the two years are shown in **Table 6.2** below.

There has been an increase in the number of observed lorry parks by 11% which equates to 14% more spaces. On average each lorry park has a capacity of 48 vehicles and the lorry parking facilities that have been added since 2010 have an average of 59 spaces per site.

Table 6.2:Comparison of data from 2010 to 2017

	2010 Data	2017 Data	Difference
Vehicles parked overnight	13,708	18,670	4,962 (14% increase)
On-site spaces	13,173	15,012	1,839 (14% increase)
Number of lorry parks surveyed	280	311	31 (11% increase)
Regions with greater than 70% utilisation	South East West Midlands East of England	East of England 97% West Midlands 87% South East 84% Yorkshire and Humber 76% East Midlands 72% South West 72%	A greater number of regions have high utilisation as Yorkshire and Humber, the East Midlands & South West now also have utilisation over 70%
% of vehicles parking off-site	41	39	2

Table 6.3: Regions ordered in order of highest utilisation

Region	Lorry Park Utilisation	
	2010	2017
East of England	80%	97%
West Midlands	71%	87%
South East	71%	84%
Yorkshire and Humber	47%	76%
East Midlands	56%	72%
South West	46%	72%
North East	50%	60%
North West	55%	54%
London	45%	48%
England	58%	76%

Table 6.3 displays the utilisation of each region in descending order from the 2017 figures. There are noticeable trends across the regional data with most utilisations having increased since the previous study, and the areas with the highest utilisation remaining the same (East of England, West Midlands and South East).The utilisation in Yorkshire and Humber has increased the most since the previous study in 2010.

The data shows a low utilisation and low number of offsite parking in London. There are a number of reasons this may be so, a very small proportion of the road network in London is classed as part of the SRN and there may be industrial estates further than 5km from this network that were not captured. Additionally congestion charges in London may deter drivers from spending the night within the M25 as they may be charged for both days.

6.4 UK vs. Foreign Vehicles

Table 6.4: UK to Foreign vehicle comparison for Lorry Parks and MSAs

Lorry Parks and MSA's	UK vehicles	Foreign vehicles	All Vehicles	Foreign / Total (%)
South East	1,412	1,011	2,423	42%
London	65	34	99	34%
East of England	1,380	442	1,822	26%
West Midlands	1,280	383	1,663	23%
East Midlands	1,236	314	1,550	20%
Yorkshire and Humber	1,145	273	1,418	19%
North West	1,155	242	1,397	17%
South West	657	126	783	16%
North East	207	37	244	15%
England	**8,537**	**2,862**	**11,399**	**23%**

Table 6.5: UK to Foreign vehicle comparison for layby's and industrial estates

Offsite Parking	UK vehicles	Foreign vehicles	All Vehicles	Foreign / Total
South East	791	509	1,300	39%
East of England	698	264	962	27%
East Midlands	1,105	377	1,482	25%
West Midlands	675	181	856	21%
North East	412	89	501	18%
North West	796	164	960	17%
London	31	6	37	16%
South West	417	72	489	15%
Yorkshire and Humber	533	81	614	13%
England	**5,458**	**1,743**	**7,201**	**24%**

- Across England 25% of vehicles counted taking overnight stops were foreign registered in contrast to the 3.3%[26] of total UK HGV vehicle kilometres that is made up of foreign vehicles.
- This confirms that a number of journeys made by UK vehicles can be completed within the day and do not require an overnight stop.
- The percentage of foreign vehicles parked on-site is 1% lower than those parked off-site.
- In both cases on and off-site parking has the highest proportion of foreign vehicles in the South East. As the majority of international road movements move across the Dover Straits and Channel Tunnel, this is an expected outcome.
- London has a notable difference between the numbers of foreign vehicles found on and off-site, one of many reasons may be concern over congestion charging.

6.5 Facilities

A system was devised to rate all on-site lorry parking facilities as described in the **Table 6.6** below. This rating was based on a five point scale which is broadly in line with LABEL the European Truck Park Area Certification system. As the system devised does not include all of the LABEL criteria, the results should be used indicatively. Nevertheless, it provides a useful overview of the types of facilities available at lorry parks on a regional basis.

[26] Department for Transport, 2015 - Road Traffic Estimates: Great Britain 2014 (R)

Table 6.6: Lorry Park rating basis

Truck Stop Rating	Truck Stop Facilities	Description
1	Toilets	Basic rest area offering truck drivers a place to park and access to toilets.
2	Toilets & Café	Basic/medium rest area offering truck drivers a place to park and access basic amenities, including toilets and a cafe.
3	Toilets, Shower & Café	Medium level facility that offers truck drivers a place to park with shower facilities as well as toilets and a cafe.
4	Toilets, Lighting, Shower, Café, & Security Fence	Medium/High level facility that offers a degree of secure and safe truck parking whilst also offering a decent level of facilities for truck drivers.
5	Toilets, Lighting, Shower, Café, Security Fence Accommodation & CCTV	High end truck parking facility offering truck drivers a place to park securely and safely whilst also enjoying extensive facilities.

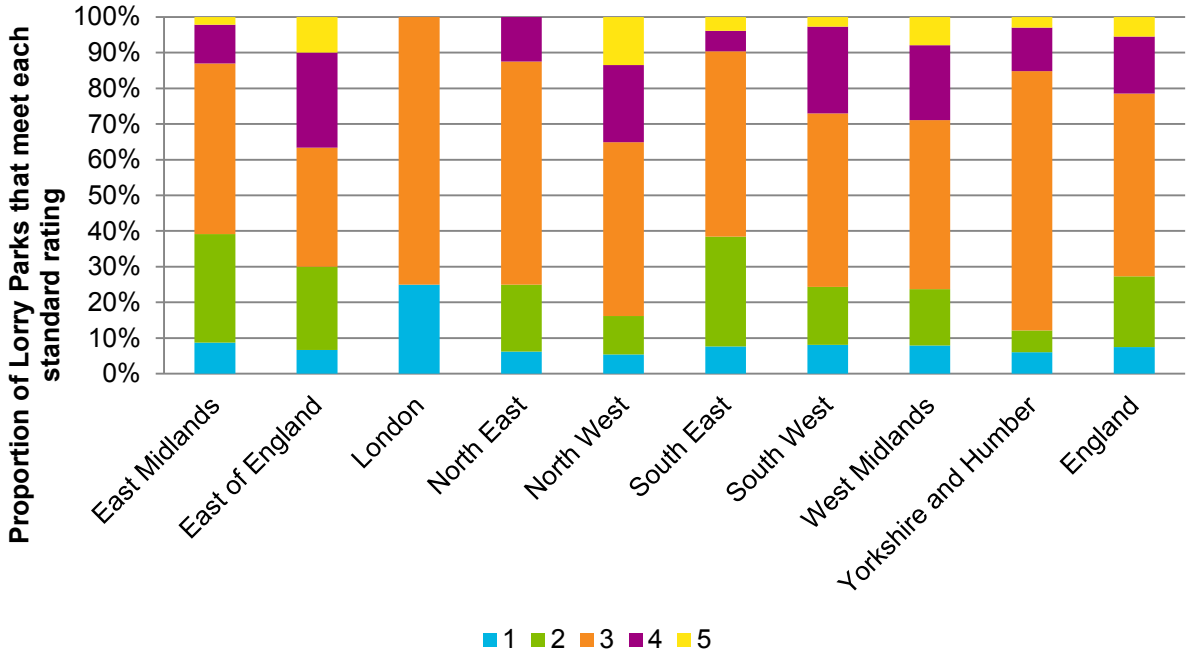

Figure 6.3: Lorry park ratings by regions

The North West and East of England have the highest proportion of highly rated parks, meaning these have the most facilities including security features – closely followed by the West Midlands.

The majority of lorry parks have a rating of three which denotes good amenities but no security features.

6.6 Other Observations

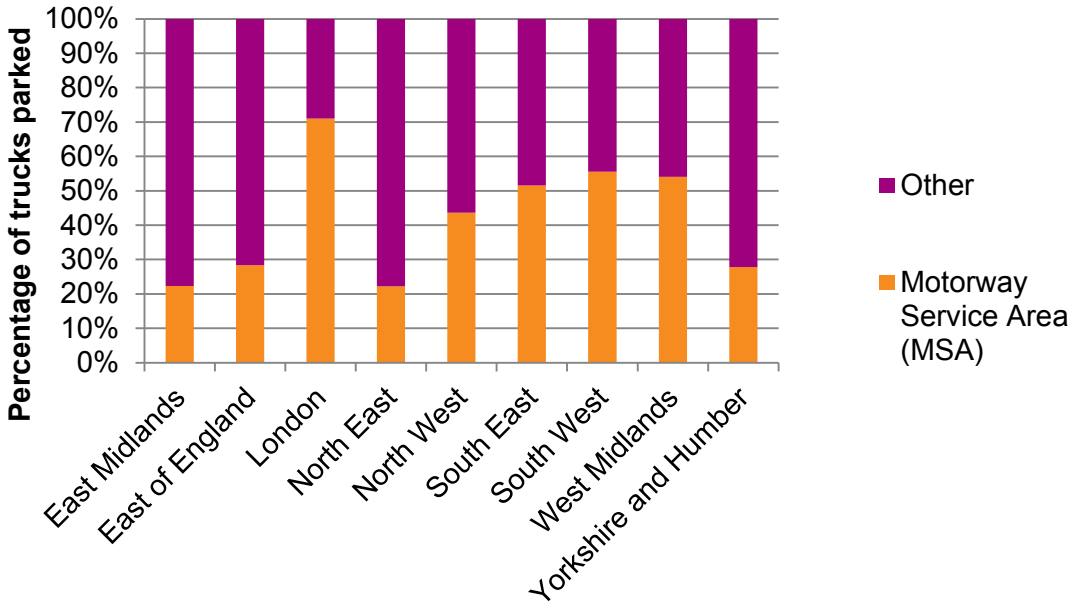

Figure 6.4: Proportion of MSAs compared to other parking facilities

Figure 6.4 shows how the split of MSA facilities versus other off-site parking facilities varies across the regions.

London covers the area inside M25 and has a small number of kilometres of SRN but it does have the highest proportion of MSAs compared to other parking areas.

East Midlands, East of England, North East and Yorkshire and Humber all have low proportions of MSAs (under 30%). This is due to the SRN in those regions being predominately made up of A roads.

Table 6.7: Average overnight parking charge for a lorry park regionally

Row Labels	Average Overnight Parking Charge for a lorry.
London	£ 21.70
East of England	£ 18.70
South East	£ 18.60
North West	£ 18.00
Yorkshire and Humber	£ 17.20
West Midlands	£ 16.30
South West	£ 15.50
North East	£ 13.50
East Midlands	£ 13.20
England	**£ 16.60**

Not surprisingly average parking charges are highest in London, the South East and the East of England; the North East and East Midlands have the lowest average parking charges.

6.7 Estimation of additional parking required

6.7.1 Utilisation Categorisation

A system has been used to categorise lorry park utilisation – see **Table 6.8.**

As with previous studies we have taken 70% full as reaching an increasingly serious level where drivers have to search carefully for spaces. At 85% utilisation or more it becomes difficult for drivers to find parking spaces due to the sizes of vehicles and the way they are positioned. So in practice some drivers may interpret a lorry park which is 85% utilised as being full.

Table 6.8:Utilisation Categorisation

Description	Utilisation (%)
Critical	≥ 85
Serious	70-84
Acceptable	<69

6.7.2 Immediate response

Table 6.9 has been created to aid initial response decisions, the terminology can be defined as:

- Theoretical : the total number of spaces required if there is an on-site parking space provision for every single lorry counted overnight;
- Practical: the total number of spaces required for every lorry to be able to park in a space overnight considering that a lorry park is, in practice, full at 85% capacity.

To deliver an immediate response, only lorry parks considered as critical (≥ 85%) were considered, as such London is excluded from the table. Theoretically six regions require additional spaces; yet practically eight regions have been identified as needing increased parking facilities, with the most urgent need found to be in the South East.

Table 6.9: Immediate response estimation of additional parking requirements from considering lorry parks currently equal to or above ≥ 85% capacity

Region	Theoretical Spaces needed	Practical total spaces needed	Practical number of additional spaces needed	Practical additional spaces needed (%)
South East	210	1,731	470	37%
North East	8	153	31	25%
South West	17	351	70	25%
East of England	58	1,848	335	22%
West Midlands	27	1,262	216	21%
Yorkshire and Humber	15	844	142	20%
North West	-10	472	61	15%
East Midlands	-43	866	87	11%
Total	**282**	**7,526**	**1,411**	**19%**

6.8 Summary

- This study concentrated on parking within 5kms of the SRN.
- The lorry parking situation has got more acute since the previous study in 2010.
- During a typical mid-week night there are 18,670 vehicles parked overnight across England in off-site and on-site locations.
- This is a 36% increase (4,962) since 2010. Part of the reason for this is that in 2010 the UK was in a recession and there were fewer HGVs on the road.
- In comparison, the total capacity of on-site spaces available in lorry parks or motorway service areas (MSAs) was found to be 15,012. This is an increase of just 14%.
- Six out of nine English regions have reached serious levels of utilisation (>70%). The average for the whole country is 76%.
- Taking just the critical areas >85% utilisation, there is an immediate need for 1,411 more spaces across the country (19%), with the most urgent need found to be in the South East where 37% more overnight parking spaces are required.
- The highest number of vehicles spotted was in the South East (3,723). 41% of these were foreign registered. This was followed by the East Midlands (3,032).
- 25% (4,605) of the vehicles parked overnight are foreign registered. This relates to foreign vehicles making up just 3.3% of HGVs on the roads.
- The highest concentration of UK vehicles was found in the East Midlands 77% (2,341).
- The average price for overnight parking in England is £16.60. Based on this figure the annual cost of paying for overnight parking in on-site facilities is approximately £3,187.
- 39% of vehicles were found to be parking off-site (e.g. in laybys and industrial / retail parks).
- In terms of the total number of vehicles parked off-site, the East Midlands was top with 1,264 followed by the South East with 890.
- The North East had the greatest percentage of vehicles parked off-site however (63%) followed by the East Midlands (42%).
- Freight crime is estimated to cost EU member states €11.6 billion each year.
- Just 21% of lorry parking facilities across England provide security features.

Glossary

Term(s)	Definition
Capacity	The total number of vehicles that could park in a lorry park.
Facilities	What is provided by lorry parks and includes services and security.
Heavy Goods Vehicle (HGV)	A heavy goods vehicle is the European Union (EU) term for any truck with a gross vehicle weight of over 3.5 tonnes
Local Authority Parking	A lorry park which is operated by a local council, generally these are council car parks which allow overnight lorry parking.
Motorway Rest Area (MSA):	A lorry park which is signed from the motorway and provides at least 2 hours free parking, free toilets, fuel and are open 24 hours a day.
Motorway Rest Area (MRA):	A lorry park which is signed from a motorway but does not meet all the requirements to be a motorway service area.
Strategic Road Network (SRN)	The road network maintained and operated by the Highways England (HE). It includes all motorways and major trunk roads. The vast majority of long distance trips take place on the SRN.
Utilisation	How busy the lorry park is as a percentage of number of vehicles parked compared to the capacity.

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