STUDY ON SAFE AND SECURE PARKING PLACES FOR TRUCKS
MOVE/C1/2017-500

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Final Report

Report title:

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Final Report

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Abbreviations

API	Application Program Interface
CNC	Core Network Corridor
DG-MOVE	European Commission – Directorate General for Mobility and Transport
ESPORG	European Secure Parking Organisation
EU	European Union
FRONTEX	European Border and Coastguard Agency
HGV	Heavy Goods Vehicle
ICT	Information and Communication Technology
IRU	International Road Transport Union
ITS	Intelligent Transport Systems
RORO	Roll-on, roll-off ferry
SSTPA	Safe and Secure truck Parking Area
TAPA	Transported Asset Protection Association
TEN-T	Trans-European Networks for Transport
TKM	Tonne Kilometre
VEDA	Vereinigung Deutscher Autohöfe (Association of German Truck-stops)

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Abstract

Every day, goods worth billions of euros are transported on the Trans-European Road Network, which constitutes the backbone of the EU economy. Despite the sector's successful performance in terms of volume, it faces a considerable range of issues, amongst which can be included a driver shortage but also a skills shortage related to numbers of qualified HGV drivers, an ageing workforce, and to an increasing extent, challenges related to security, safety and connectivity. In the road haulage sector, cargo, equipment and increasingly personnel are all targets for criminals. Such cargo theft and illegal boarding of trucks cause substantial financial and reputational losses to supply chain operators. Currently, there is a shortage of facilities that enable safe and secure parking of trucks and that also provide a minimum level of services to cater for the social well-being of the drivers.

By establishing a denser network of safe and secure truck parking areas (SSTPAs) with a clear definition of security levels, it is possible to tackle these problems in tandem. Drivers, transport companies, forwarders, shippers and insurers, and the society as a whole will benefit from an adequate supply of these facilities via the protection of drivers, cargo and transport equipment. Furthermore, road safety, through well rested and stress-free drivers, is also an area in which such facilities can have a considerable positive impact.

In this respect the European Commission commissioned a study on Safe and Secure Parking Places for Trucks, concluded in December 2018.

Key findings of this study were:

- A common **standard** and rating system for security and service.
- **Auditing** responsibilities and guidelines to ensure reliability.
- Comprehensive **maps** indicating at which locations SSTPAs are needed.
- Recommendations for the basis of a common **application program interface** (API) for the exchange of dynamic data between SSTPAs and information platforms.
- **Manuals** to support the preparation of business plans for the setup of SSTPAs.

1 Study on safe and secure truck parking

1.1 Background

Road is the dominant mode of transport in intra-European trade and logistics, accounting for close to 50% of all tonne kilometres, and 75% of inland freight. A large proportion of total road freight tonne kilometres are accounted for by heavy goods vehicles, with capacities of over 40 tonnes, travelling long distances and making cross-border trips. Every day, goods worth billions of euros are transported on the Trans European Road Network, which constitutes the backbone of the EU economy. However, despite the sector's successful performance in terms of volume, it nevertheless faces a number of issues, amongst which can be included a skills shortage related to numbers of qualified HGV drivers, an ageing workforce, and to an increasing extent, challenges related to security, safety and connectivity.

Unattractive working conditions and inadequate security affect job attractiveness and recruitment. Recruitment ultimately affects the prosperity of the sector. It is significant that only 3% of HGV drivers are female, and although there are programmes in place to redress this severe imbalance, there is a need for the road transport sector to offer the quality of working life and levels of security that can be found in other areas of the job market. Robberies, hijacks and other violent forms of cargo theft jeopardize employee safety. As a part of an attractive working environment, truck drivers, when resting in accordance with the driving and rest time rules as laid down in Regulation (EC) No 561/2006, need to be able to take their breaks in a safe and secure environment that also provides at least minimum levels of service.

In addition, criminals cause substantial financial and reputational losses to supply chain operators as the European road freight transport sector continues to be an attractive target for cargo thieves and traffickers. Cargo thefts in the European Union alone result in direct losses estimated to exceed € 8.2 billion per year, with most thefts taking place when trucks are parked[1]. Apart from the longstanding threat of cargo theft, lorries are becoming more of a target for human trafficking, a situation exemplified well by the increasing need for tight security, fences, guards, cameras, and lighting at parking areas in hotspots such as the Port of Calais and the Channel Tunnel.

1.2 Aims of the study

The needs identified give rise to the following questions:

- What are the characteristics in terms of security and service that are needed to make a parking facility sufficiently safe and secure and how can users be certain that a parking facility actually meets the requirements?
- Where is safe and secure truck parking capacity needed in Europe?
- How can companies investing in new parking facilities be guided and supported in their pursuit of realising more safe and secure truck parking capacity, also taking into account the need for adequate service levels?

[1] *van den Engel, A. W., & Prummel, G.J. (2007). Organised theft of commercial vehicles and their loads in the European Union (PE 379.229).*

To answer these questions, the European Commission commissioned a study on safe and secure truck parking. The study started on 22 December 2017 and lasted one year. It was performed by a consortium comprising the following partners:

- Panteia (lead)
- ESPORG
- CERTH/HIT
- CBRA
- IRU
- DEKRA

To safeguard the delivery of quality results that are supported by stakeholders, an Advisory Board was established that served as a consulting body.

1.3 Stakeholder needs and perspectives for the development of SSTPAs

The study confirmed the need for more safe and secure parking facilities in existing or new areas and the need for the greater availability of locations offering at least a minimum level of services[2]. It is widely felt that current capacity is inadequate in many areas along the main European transport corridors. Further, there is confusion about security and service levels due to the use of non-harmonized standards. There is a strong need for a reliable standard that provides a clear picture of the performance of a parking facility. Harmonized information is also important for online applications that allow truck drivers and logistics planners to see and compare available safe and secure parking facilities and book and pay parking places and other services in advance.

A survey was carried out as part of the 2018 study[3] to identify the needs and requirements of potential users for the safe and secure parking areas. The groups surveyed and interviewed included male and female[4] drivers, transport operators, shippers, insurers and truck parking areas' operators.

The main findings across the different stakeholder groups were:

- **Methods for locating SSTPAs**: 50% of drivers find information on parking locations via the internet; 46% of drivers would like to have access to a new (dedicated) SSTPA app, while 35% need a better information app.
- **Availability of safe parking areas**: A total of 83% of drivers say that there is an insufficient number of SSTPAs in Europe.
- **Female drivers' views**: 64% of female drivers have experienced unsafe situations at overnight parking areas. Sexual harassment was reported frequently. Additionally, there is a need for higher quality services and separate facilities (e.g. sanitary facilities) to be offered at parking areas.
- **Transport operators:** Transport operators usually reimburse truck drivers for overnight and weekly rests, while drivers pay for daily breaks themselves. For transport operators it is necessary that parking areas offer sanitary facilities, food and shopping, site surveillance by guards (or CCTV) and external fencing around the whole perimeter. A total of 86% of transport operators believe that there are not sufficient SSTPAs in Europe.

[2] *The number of valid responses in this survey was 314. The groups surveyed and interviewed included 209 drivers (159 male as well as 50 female drivers), 41 transport operators, 18 shippers, 11 insurers and 35 operators of truck parking areas.*
[3] *The survey was carried out between April 2018 and June 2018.*
[4] *Both male and female drivers were included in separate questionnaires.*

- **Shippers:** Amongst the shippers (cargo owners), 71% said there are not sufficient SSTPAs nor enough information sources to find (and book) available parking slots. Shippers need booking slots in parking areas with closed, dedicated truck slots. According to the shippers, it is necessary for parking areas to offer sanitary facilities, site surveillance by guards (or CCTV) and emergency contact points.
- **Parking operators – pre-booking services:** According to the parking operators, pre-payment services for booking parking slots do not exist in the majority of truck parking areas. In the survey, 40% of parking operators do operate a slot booking service.
- **Parking operators – current utilisation rates**: Operators reported that the average occupation rate of parking areas exceeds 60% for vehicles making overnight and weekly stops. A lorry stays, on average, 8-12 hours in a parking space. A total of 40% of parking operators in the survey were operating a slot booking service.
- **Parking operators – certification:** Out of the subset of parking operators with existing certification, 80% conducted a self-assessment of their service level and 47% conducted a self-assessment of their security level. They felt that there is an urgent need for a clear definition of SSTPAs in EU and for the establishment of an independent body to oversee truck parking area security standards.
- **Insurers:** Insurers require parking areas to have external fencing or alternative barriers, CCTV, and site surveillance through regular security checks. They also call for better information regarding parking availability and opening hours, to allow for better route planning.

Across the range of stakeholders there is therefore agreement about the shortage of certified safe and secure parking facilities, both in terms of the scarcity of certified-secure parking locations and the lack of capacity in terms of the number of parking spaces available. Moreover, stakeholders are critical about the security and service levels, the lack of consistent certification, and problems relating to information services, including the quality of information provided and facilities for pre-booking parking arrangements.

1.4 This report

The next chapters in this report cover the study results:

- Chapter 2 provides an accurate and reliable common EU standard for the required levels of security and service.
- Chapter 3 deals with mapping truck parking demand and supply indicating how many and where truck parking areas are needed across the EU.
- Chapter 4 describes the manual to help investors and operators in the preparation of business plans for the setup of SSTPAs.
- Chapter 5 is about the establishment of an expert group on safe and secure parking areas in order to assist the European Commission with the next steps needed for the implementation of SSTPAs.
- Chapter 6 contains the final conclusions from the study.

2 Common EU standard for the required levels of security and service

An EU-wide standard for truck parking areas has the potential to create greater transparency and build trust amongst users. Parking areas will need to be independently and regularly checked according to a common standard in order to obtain EU certification. Having a commonly recognised standard with long-term EU backing will also help to guarantee the right conditions for private sector investment by parking operators and financial investors.

Developed with the stakeholders from the study's standardisation working group[5], this EU standard for parking areas has been designed to cover both security and service elements. These two elements are strongly interrelated, and both have the potential to contribute significantly to the modernisation of the sector in Europe and the safety and well-being of drivers.

In the following sections, the key elements of the standard regarding (1) security, (2) service, and (3) auditing procedures are summarised.

2.1 Security

The prevention of threats to the security of drivers and cargo is the fundamental reason to provide safe and secure parking areas. In developing a rating system for parking facilities, it is however necessary to note that there are different kinds of users and different situations with regards to the security level needed. These situations may relate to the specific cargo or to the locality. For example, on the one hand, vehicles carrying high-value goods may demand higher security, whereas on the other hand, the location at which the parking facility is situated may be more or less prone to criminality. Threats may vary from opportunist theft to highly organised criminal gangs with access to the latest technologies. This variation calls for a multi-level rating system that is capable of providing higher levels of technical security to prevent theft and intrusion in cases of high risk, as well as lower grades, focusing to a greater extent on offering a comfortable stay for drivers, while still providing adequate security.

Therefore, **four different security levels** have been defined. These levels are named, from low security to high security:

- Bronze,
- Silver,
- Gold, and
- Platinum.

Security is assessed through establishment of security features and measures at the perimeter, the parking area, the entry/exit and through staff and management procedures.

[5] *The common standard on security and service has been developed by the study's standardisation working group composed of: Panteia (chair), ESPORG, TAPA, DEKRA, IRU and Kuehne & Nagel.*

The security levels build on one another, so that, for example the silver standard includes all the requirements for bronze, and so on. The following table contains an overview of the requirements per security level.

Table 1: Overview of requirements per security level

	BRONZE LEVEL	SILVER ADDITIONAL TO BRONZE	GOLD ADDITIONAL TO SILVER	PLATINUM ADDITIONAL TO GOLD
PERIMETER	■ Visual deterrent to recognize the secure parking area ■ Lighting at 15 Lux ■ Vegetation trimmed, good visibility	■ Physical deterrent to prevent unauthorised access (e.g. ditch, rocks, fence) or continuous video monitoring and recording by trained staff ■ Lighting at 20 Lux	■ > 1.8 m physical barrier (height) ■ Lighting at 25 Lux ■ CCTV covering perimeter ■ Measures to prevent unintentional damage to barriers ■ Clear zone of 1 meter between barrier and parking area	■ Add-on for physical barrier: Deterrents to climb over
PARKING AREA	■ Only freight vehicles and authorized vehicles allowed as indicated by signage ■ Physical or remote surveillance checks / inspection at minimum once in 24 h ■ Lanes must be lit at 15 Lux ■ Vegetation trimmed, good visibility	■ Physical or remote surveillance checks/ inspection at minimum twice in 24 h (one at daytime, one at night) ■ If pedestrian lanes exist, they must be lit at 15 Lux	■ Onsite or remote staff contact can be contacted 24/7 ■ Marked vehicle and pedestrian lanes	■ Site manned or video-controlled 24/7
ENTRY / EXIT	■ Lighting at 25 Lux ■ CCTV (good image quality)	■ Barriers ■ CCTV (records of entering vehicles)	■ Barrier with under-climbing and over- climbing protection ■ Intrusion prevention/ detection, e.g. turnstile for pedestrians ■ License plate recognition	■ Gates must be installed ■ License plate must match ticket ■ Real time monitoring of entry/exit, including pedestrian entry/exit ■ If there is a gatehouse, it must be able to withstand an external attack (door closed)
STAFF PROCEDURES	■ Fix unauthorized vehicles so that they cannot drive away or ■ Removal of unauthorized vehicles if legally permitted ■ Risk Assessment Plan in place	■ Staff trained by an accredited training provider is available 24/7 onsite or in a control centre ■ Appointment of formally responsible person for staff procedures in case of incidents ■ Documented staff training once a year in view of incident prevention ■ Incident and crime reporting to staff and police must be enabled	■ All security staff must be certified guards under national/European legislation ■ The formally responsible person for staff procedures will schedule compliance checks, communication, recertification ■ A technical user manual must be used ■ Alarm response procedures ■ The parking area management system should be prepared for DATEX II data transfer ■ Business Continuity Plan in place	■ Any remote staff also trained/certified ■ Staff has personal communication system ■ Security training of site manager ■ Measures against power failure ■ Local risk assessment once a year ■ Pre-booking available. If the pre-booking is offered via an app or similar systems, data transmission must be real time.

2.2 Service

Further to the security requirements, in order to obtain certification, a **basic service level** must always be reached. Certification for security cannot be obtained without achieving this service level. The service requirements are:

- Toilets (male and female) are available and working.
- Showers (male and female) are available and working.
- Toilets are clean and checked at regular intervals (with cleaning schedule).
- Washing facilities are clean and checked at regular intervals (with cleaning schedule).
- Water taps are available and working.
- Waste bins are available on site.
- Clear signs are provided promoting safe traffic movement at the parking facility.
- Emergency contacts are displayed at the parking facility.
- Snacks and drinks are available for purchase, 24/7.
- Internet connection available.
- Electricity connection is available for personal use.

Services offered can be shown by means of the following pictograms:

2.3 Audit procedure

A thorough audit procedure ensures compliance with the rating system as well as reliability for the transport sector and public authorities. Under the EU standard, both security and service levels are required to be audited. For the auditing, technical specifications have been formulated that are in line with the common SSTPA standard. The European Commission's DG MOVE has set up an Expert Group on SSTPAs to assist in preparing the steps needed to implement the system and to keep it up to date.

The scope of an audit covers the following elements:

Table 2: Scope of audit procedure

The third party audits should be conducted based on pre-discussions followed up by a site visit by the auditor. The auditor verifies the security requirements based on a control of the site plans, structural elements, the equipment, the IT-systems and staff procedures as well as the services available at the site by testing their existence and functioning and through interviews with the site management teams.

Since any audit is a snapshot at a single point in time, sustainable third party audits should also rely on regular re-audits and/or periodic unannounced (anonymous) inspections to check the daily implementation of all security requirements.

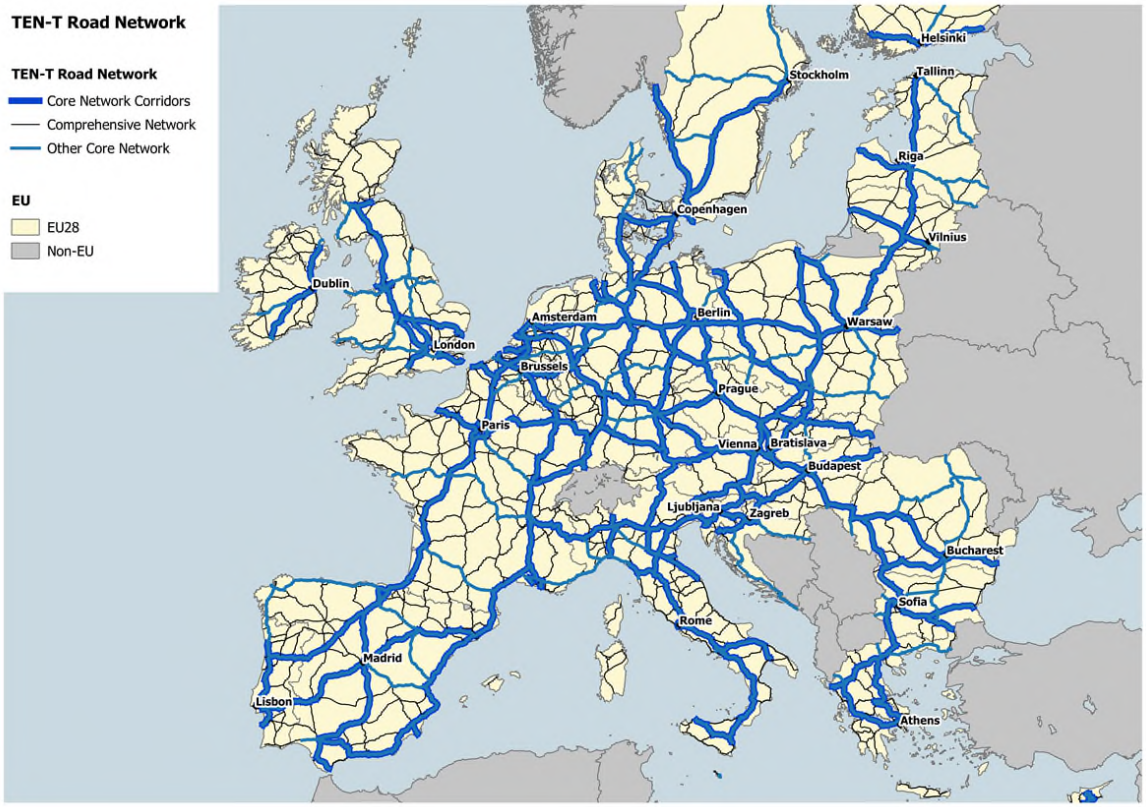
3 Mapping truck parking demand and supply

While the survey tasks highlighted the need to address the shortage of safe and secure parking at European level, it did not quantify or analyse in depth at network level the existing shortages. The study has therefore undertaken a further analysis based on the goods transport flows within the EU as well as the geographical patterns of demand and supply of safe and secure parking, indicating the locations at which truck parking areas are needed, and the balance of demand and supply in detail. From an EU perspective there has been a focus within this analysis upon long-distance road freight, on cross-border flows and on the TEN-T core network for which there are already designated infrastructure requirements[6] relating to safe and secure truck parking.

3.1 TEN-T Network

Figure 1 shows the TEN-T road network, highlighting the sections belonging to the nine TEN-T corridors, which are of primary importance for long-distance goods traffic flows.

Figure 1: TEN-T Road Network



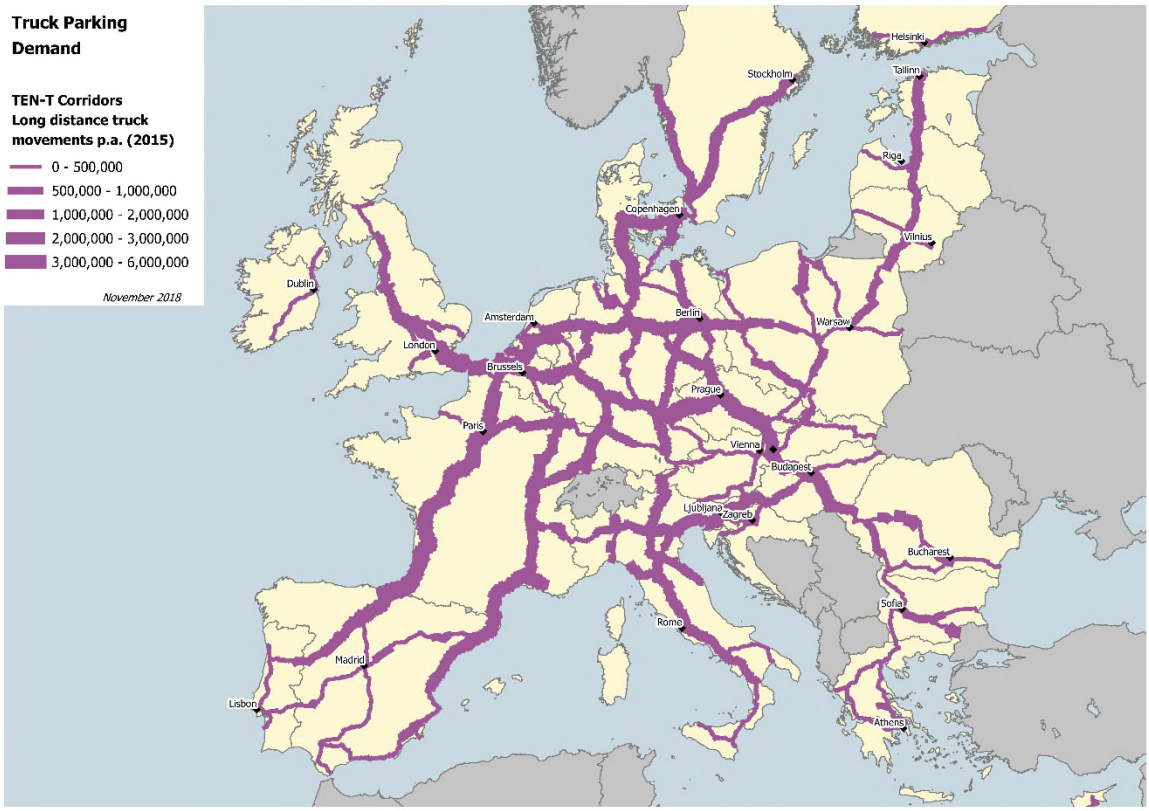
An analysis of goods traffic flows has been carried out based on 2015 traffic data, and from this basis, the long distance goods flows, i.e. those requiring the driver to take

[6] *Regulation 1315/2013, Article 39, 2(c).*

an overnight break have been selected. These long-distance trips account for 27% of total EU28 road freight tonne kilometres (TKM).

In Figure 2 the long distance traffic has been assigned onto the road network to show the levels of traffic per section. In the map, only the assigned flows on the corridor sections are shown.

Figure 2: Truck parking demand – TEN-T Corridors



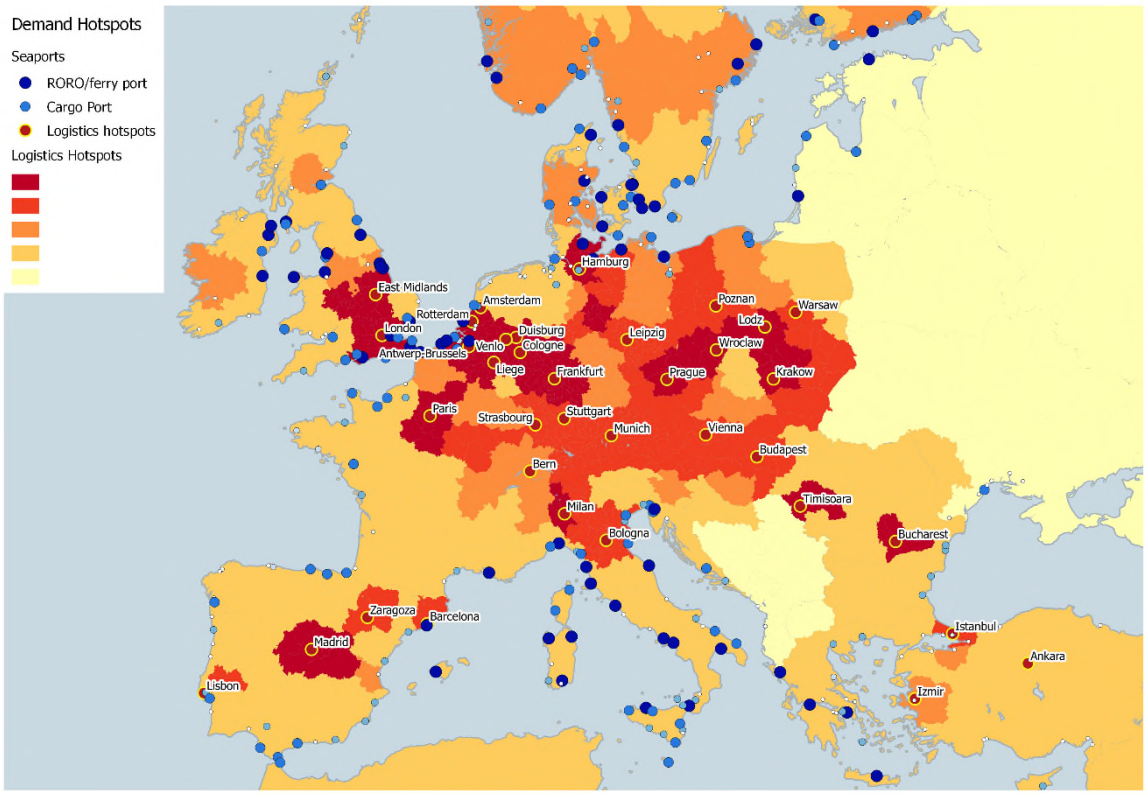
From this map it is possible to see the main road arteries carrying long-distance goods traffic around the European Union.

3.2 Logistical Hotspots

There is a concentration of demand in the centre of Europe with long-distance axes stretching in all directions to connect e.g. Iberia, Italy, Southern Scandinavia and the Balkans. In many cases the transport patterns are strongly influenced by the presence of natural gateway sections such as the main Pyrenees and Alpine crossings or ferry crossings such as the Dover Straits, and this causes the traffic to become focused along the corridors. By targeting infrastructure along the corridors, it is therefore possible to address a high proportion of the need in an efficient way.

Figure 3 indicates the main logistics freight demand "hotspots" and RORO ferry ports which the road freight sector is connecting. Key regions for logistical activity, such as warehousing and distribution are thus shown, as well as the RORO and other cargo ports.

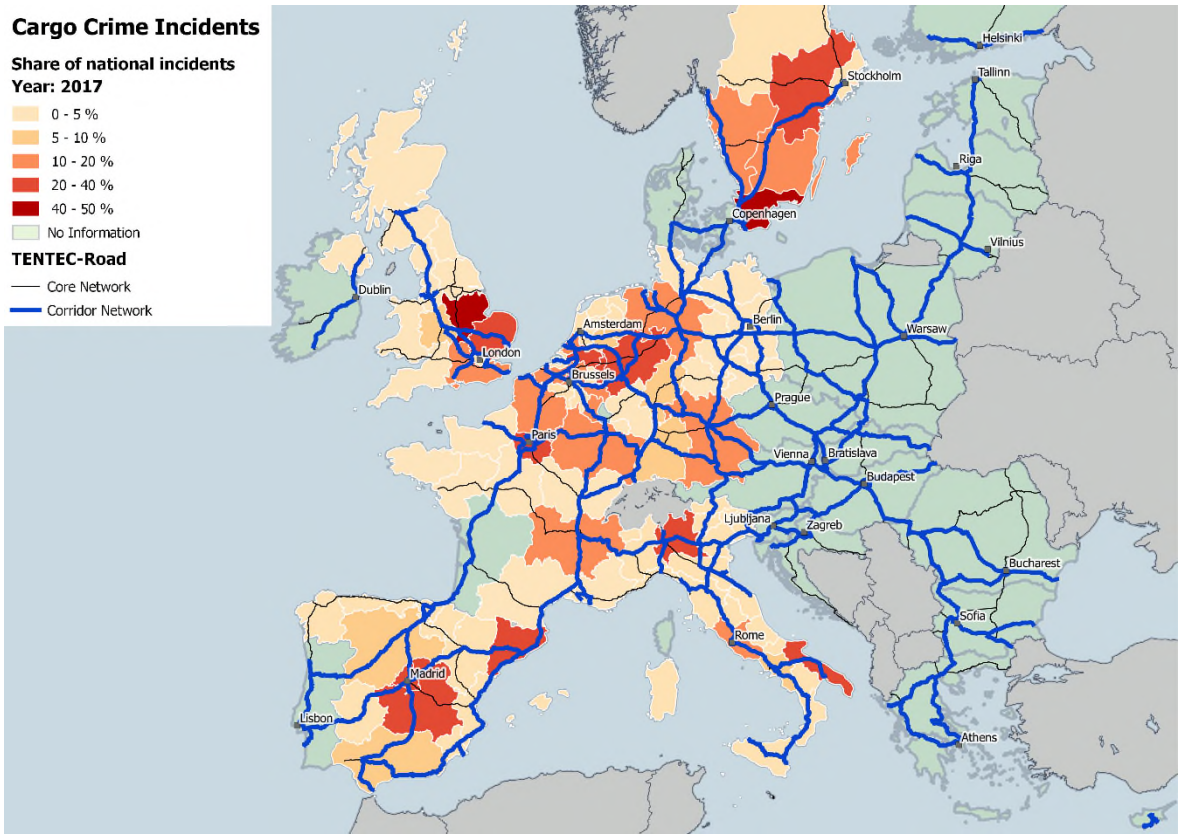
Figure 3: Freight demand hotspots



3.3 Cargo Crime Incidents

Analysis of the locations at which cargo crimes are recorded shows a similar pattern to the map of cargo and logistical hotspots. See Figure 4.

Figure 4: Cargo crime incidents

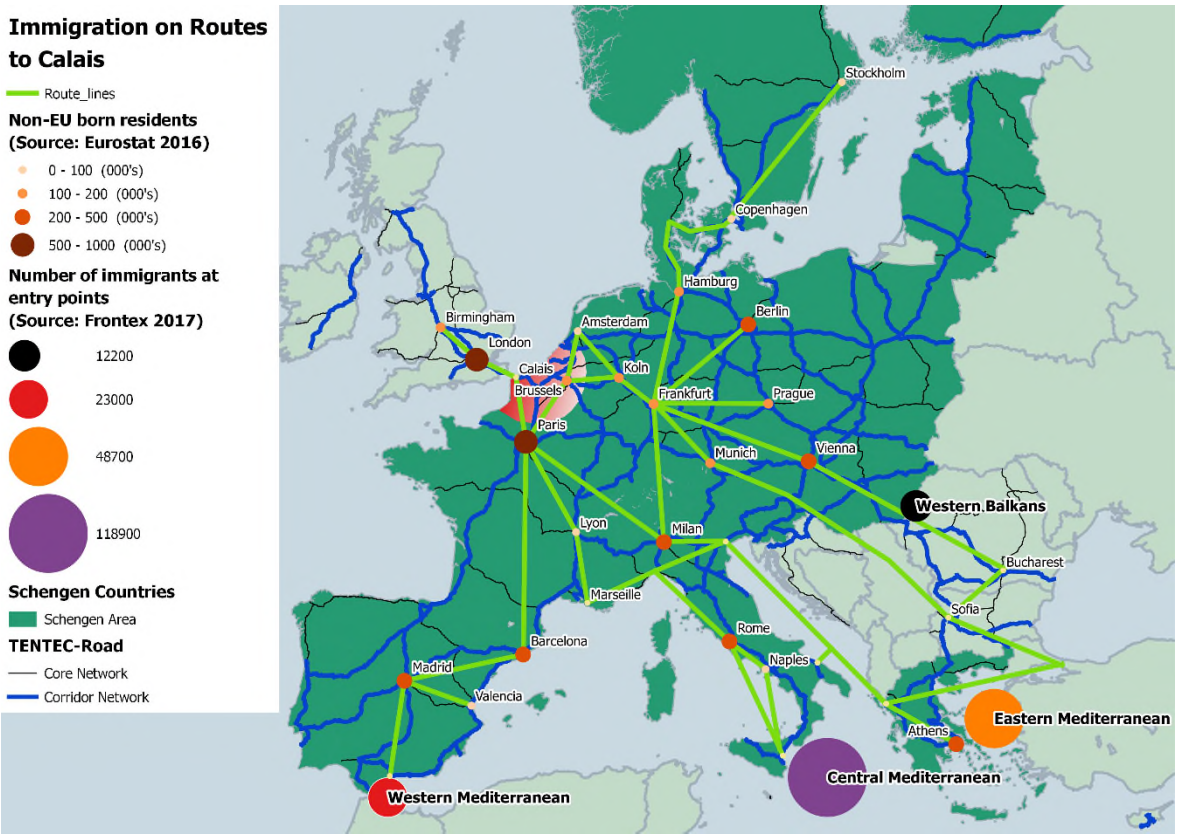


Cargo Crime Data Source: TAPA

Note that cargo crime incident data is only available for a few countries, and that the methodologies for reporting and recording crime statistics differ between countries. In the map above, cargo crime hotspot data is shown for those countries for which statistics are available at a regional level. The colour bands indicate the proportion of national cargo crime incidents for each region.

Since the mid-2010s, in addition to the mainly opportunistic threat of cargo theft, there has been an increase in trucks being targeted for illegal trafficking or stowaways of persons. According to FRONTEX statistics on detected migration along the southern and eastern EU borders, the numbers peaked in 2016, but they are still at a high level as can be seen in figure 5 where FRONTEX data for 2017 shows the number of detected migrants arriving at the four main entry points, the largest of which are the Central Mediterranean (Southern Italy) and the Eastern Mediterranean (Aegean) routes.

Figure 5: Immigration routes



According to Eurostat data[7] on citizenship by country of birth, the two largest destination cities for non-EU born citizens are London and Paris, and there are long established immigration patterns towards these cities, including in recent years, greater volumes of illegal migration from the entry points along the Mediterranean. Trucks on these routes are increasingly being targeted by criminal organisations taking advantage of the migrants, as a way of moving people illegally across the Schengen borders. In recent years this had led to a particular problem between the UK (non-Schengen) and the nearby continental ports in France and Belgium, especially Calais. Although security measures to protect truck drivers and trucks have been implemented at the Channel ports, the threat of illegal boarding of vehicles has dispersed inland. Thus, the security risk faced by lorry drivers has intensified and become more widespread.

3.4 Mapping the Supply of SSTPAs

Prior to the introduction of the common European standard for secure truck parking areas (SSTPAs), there was no comprehensive database on truck parking areas. Thus, in order to collect information about the supply of SSTPAs it was necessary to collect information manually from various sources. Since different classification schemes have been used (e.g. ESPORG, VEDA, LABEL and TAPA) there is also no commonly

[7] *Eurostat does not specify the destinations of migrants arriving in Europe illegally, so the indicator showing the number of non-EU born migrants (arriving legally or illegally) registered as living in specific cities is used as a proxy for probable destinations.*
See: Eurostat: Population by citizenship and country of birth - cities and greater cities [urb_cpopcb]

accepted definition of "secure" parking. Normally it is possible to determine the kinds of technical facilities offered at a parking area (e.g. security cameras, 24 hour guard, flood-lighting fencing etc.), but without independent verification and auditing of facilities and security management it is not possible to determine whether a parking area is actually secure.

Certified Secure Parking

For the mapping analysis, the key criterion applied is whether a parking area is "certified secure", meaning that an independent check and audit has been made to validate that the parking area has achieved the required level.

Certified secure sites include the following:

- ESPORG Certified,
- VEDA Premium, and
- Truck Parking Rotterdam.

These 57 sites are mapped below. See Figure 6.

Figure 6: Supply of certified secure parking

The map above shows the TEN-T core network, highlighting the corridor sections, with the certified secure parking areas superimposed. It shows that the certified secure parking areas are clustered in just a few countries, meaning that there are large gaps across the network.

Non-certified sites with potential for upgrade

To a certain extent, the gaps can be addressed through the certification and potential upgrade of other (currently) non-certified facilities.

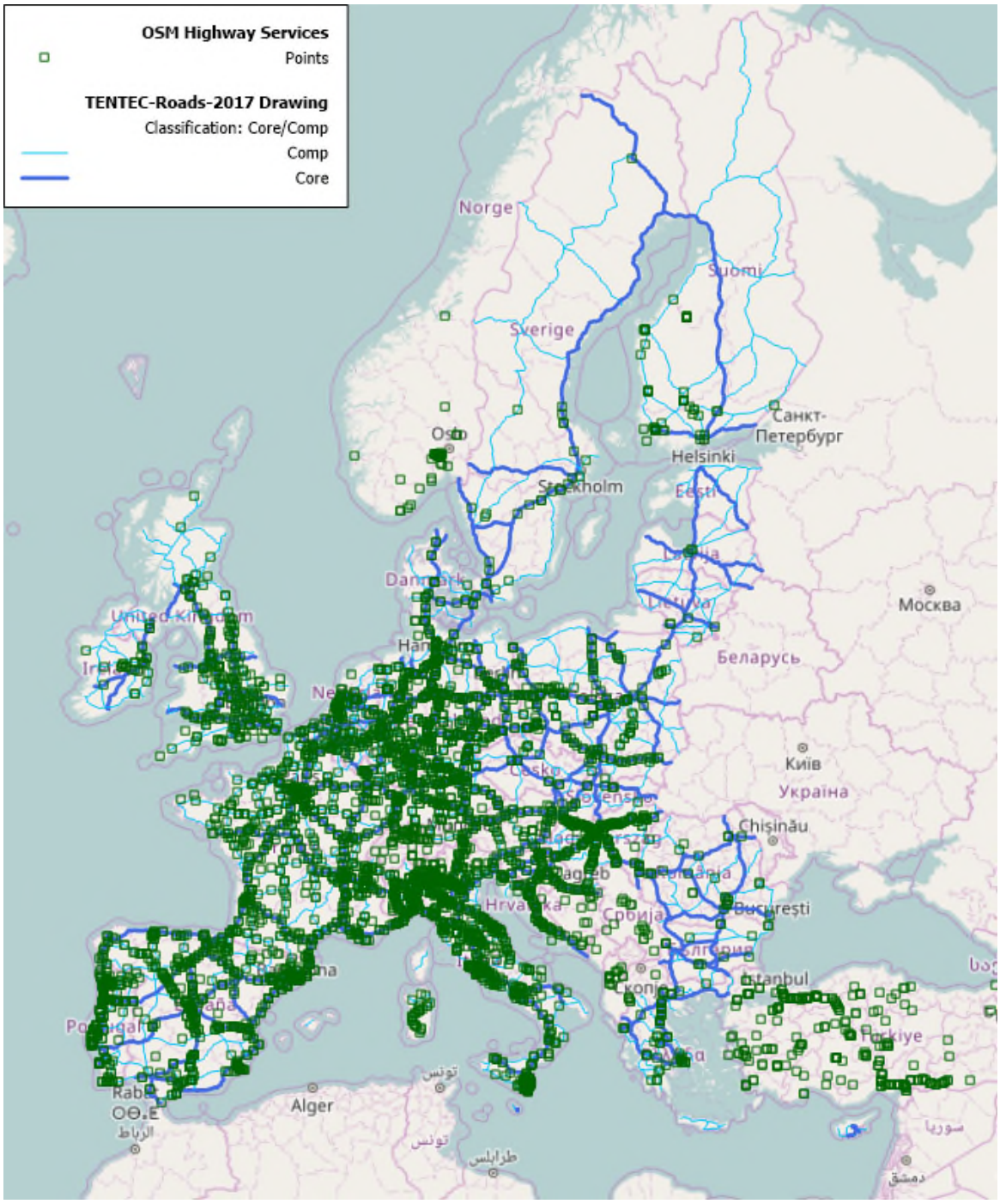
Figure 7 (below) indicates the location of 500 existing parking sites which advertise security facilities, but which do not have current validation or certification from one of the existing schemes listed above.

Figure 7: Supply of truck parking

Although the inclusion of non-certified sites with basic security facilities extends the network of parking areas along the core network considerably, there are still noticeable areas where availability is limited. National coverages are not consistent, and when examined in more detail it was also found that the kinds of security facilities provided and their quality differ across Europe. Without a consistent standard, drivers have to rely on informal means to be able to find acceptable parking areas.

Finally, it is possible to broaden the analysis by adding all identified lorry parking areas, including those with no advertised security facilities. There are approximately 5,000 of these in the EU (see Figure 8).

Figure 8: Supply of highway service areas - all categories



The majority of the parking areas indicated above have no technical security facilities, but they are still important in the wider context, and as designated parking areas (such as motorway services) they may offer better security and service compared to ad hoc parking. This map (in contrast to Figure 6) shows that the main obstacle is not the lack of designated parking sites, but rather the shortage of sites which can currently achieve the lowest acceptable certified security levels.

3.5 Gap Analysis

The purpose of the gap analysis is to compare secure truck parking demand and supply at the European level and in more detail along the core network. Taking all the contextual factors into consideration, it should be stressed that making comparisons between demand and supply can only be indicative. There is no specific benchmark ratio of demand and supply to indicate objectively that an adequate level of supply has been reached.

In the broadest supply context investigated, the study has identified around 5,000 lorry parking sites across the EU28 (See Figure 8). It is estimated that these offer in the region of 300,000 HGV spaces per night, of which about 47,000 HGV spaces offer some security and about 7,000 HGV spaces offer a level of security, which has been certified. The latter sites are located in only a few countries (see Figure 9), and with the geographical distribution offered today, it would not be possible for drivers to rely on the availability of certified secure parking along any given European transport corridor.

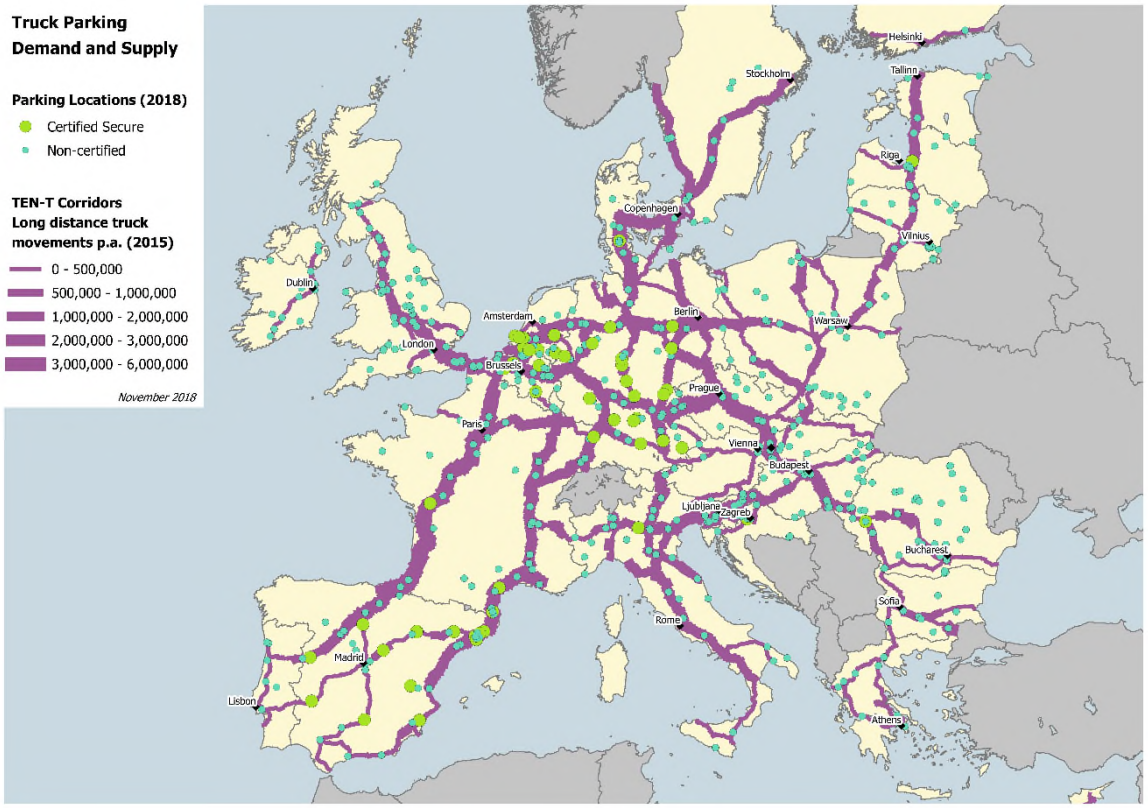
From a demand perspective, based on cargo flows and applying current driving and rest time rules, it is estimated that on an average weekday there are approximately 400,000 lorry drivers engaged in long-distance transport across Europe, requiring overnight parking. There is therefore a net shortfall of around 100,000[8] in the number of designated HGV parking spaces, even before the security levels are taken into consideration.

While transporters of high-value cargo typically are the main users of safe and secure parking areas there are, several other factors, including logistical hotspots and illegal boarding of trucks, vary across the network. Added to this is the important need to offer adequate services for drivers, and to have security and service levels independently certified.

Adding up these element, Figure 9 below presents the demand for parking areas, as indicated by the width of the TEN-T corridors, and where existing parking areas are located, giving a clear indication of where gaps are the most pronounced.

[8] *400,000 spaces demanded versus 300,000 spaces supplied.*

Figure 9: Truck parking on TEN-T Corridors, demand and supply



Overall, the gap analysis indicates a range of issues, including:

- The total demand of overnight parking is 400,000 HGV spaces per night.
- However, only 300,000 HGV spaces are available creating a net shortfall of approx. 100,000 extra spaces.
- The shortfall of certified secure parking areas is much greater given that only 7,000 spaces located in a few countries are available. In some countries and on certain corridors, drivers are not able to rely on the availability of certified secure parking.
- The current supply of non-secure parking areas is spread more evenly over the entire network. However, these places are not certified and offer no guaranteed services for drivers.

There is great potential for reducing the shortage by simply converting existing parking areas with existing security facilities to become certified secure. Some[9] can achieve certification (e.g. bronze level) with their existing facilities, but in other cases upgrading will be necessary to meet the standard security and service levels required by the European standard. With the overall lack of truck parking areas throughout the EU there is also a need for investing in new sites and in expanding current sites to cope with peak demands.

[9] *E.g. the sites which previously achieved LABEL certification.*

4 Manual for the setup and upgrade of SSTPAs.

The study found that developers of safe and secure parking areas as well as public authorities require a coherent vision of the elements needed to set up safe and secure truck parking areas.

Therefore, a detailed manual has been developed to support the preparation of business plans and the setup of SSTPAs, helping investors and operators create suitable conditions for an efficient and effective operation of the parking area.

The manual is based on feedback from users of SSTPAs in the survey, feedback from authorities and from the study's Advisory Board. Moreover, experiences with audits and re-audits under existing certification schemes have been taken into account. Throughout the manual a differentiation is made between the construction of new parking areas, the upgrade of existing parking areas and the combined extension and upgrade of existing parking areas.

The manual is available as a practical short version and more extended version:

- The short manual provides a clear overview of the major aspects regarding the setup of an SSTPA at a glance, including information of the abovementioned standard for safe and secure parking areas. The short manual is available in all official languages of the European Union.
- The long manual focuses more in-depth on the need for SSTPAs, the definition of SSTPAs, the common security and service standard, feasibility assessments for SSTPAs, the design and construction, the rating of SSTPAs and the operation and the connection of SSTPAs with the logistics chain. Best practices are shown by means of video clips of four existing showcase SSTPAs. Also, future trends for safe and secure parking areas are dealt with. Lastly, sources for further information are provided. This long manual is a valuable source of information for detailed business and construction planning of SSTPAs.

In addition to the long and short manual, two sources of information have been made available online, via the website of the study:

- A guide to cost-benefit modelling that is tailored to truck parking areas. This guide provides information that can be used in the business and cost-benefit modelling process, referring, *inter alia*, to the EU methodology on cost-benefit analyses for transport projects.
- A standard parking plot to further explain the design and construction of SSTPAs. This plot aims to help construction planners gain a quick overview of a best practice example.

Figure 10: Manual and standard plot

5 Next steps

In 2019, an expert group on safe and secure parking areas for trucks will be established to assist the Commission in preparing the steps needed for the implementation of such parking areas. The expert group's tasks are to:

- Provide advice and support to the Commission on the implementation of the recommendations of the 2018 Safe and Secure Truck Parking Study as well as the TEN-T guidelines.
- Elaborate and propose measures to ensure compliance with the common standards for safe and secure parking areas, as proposed by the study, in particular as regards auditing, certification, complaint handling and needs for refinement and/or adjustment of the standard.
- Develop technical requirements for safe and secure parking areas in the early preparation of possible future EU legislation following on from the Mobility Package I.
- Use the security and service elements of the SSTPA standard in legislation, guidelines and specifications.
- Establish SSTPAs as nodal points of the TEN-T network with a clear indication of where gaps exist.
- Explore and promote opportunities where SSTPAs and alternative fuel refuelling points can be introduced in tandem at the same locations.
- Set-up of a funding framework, focusing on gaps in the supply of safe parking, where SSTPA certification is a requirement for financial assistance.
- Disseminate findings and conclusions[10].

Moreover, a meaningful deployment of SSTPAs should be accompanied by an interconnection of such parking areas with Intelligent Transport Systems (ITS). While EU legislation already foresees a role for SSTPAs in IT[11], the increasing digitalization of the transport sector and the digital reporting requirements of truck parking areas will call for accompanying a rollout of physical parking infrastructure with the digitized transmission of information to authorities and information service providers that can in turn transfer it to the transport sector (e.g. regarding reservation of parking places). The study's report on APIs is a first step in this direction.

[10] *Study results are available via the study website: https://sstpa.eu-study.eu/*

[11] *Inter alia Directive 2010/40/EU of the European Parliament and of the Council of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport and Commission Delegated Regulation 885/2013/EU of 15 May 2013 supplementing 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.*

6 Conclusions

The study found that although several useful activities have been deployed at EU and Member State level in the past, there was no consistent definition of safe and secure parking areas for trucks, that no analysis of pan-European needs and locations was available and that updated coherent guidance on how to set up and operate SSTPAs was lacking.

The study addressed these shortfalls and its results will contribute to improving the provision and quality of security and services for truck drivers and transport companies.

The study provides:

- A sector survey showing the need for safe and secure truck parking areas as expressed by a clear majority of truck drivers (male and female), hauliers, shippers and insurance companies. The survey results were examined and validated during a series of regional stakeholder conferences in different parts of Europe.
- A gap analysis based on actual transport patterns, existing truck parking availability and logistics and crime hotspots, clearly showing that there are too few secure parking areas in Europe, so that vehicles are regularly obliged to use non-secure parking locations for overnight stops, which in turn makes them relatively easy targets for criminals, putting drivers and cargo at risk. The analysis also shows where the gaps are the largest and where potential upgrades or new construction should occur.

In order to ensure and provide a consistent definition of secure truck parking areas and a quality framework, an EU-wide rating system and security and service at SSTPAs has been defined during the study that included participation by all key stakeholders within the road transport and logistics sector. This rating system should now be implemented as a standard by a newly created EU expert group. The quality of the entire system and of the individual secure truck parking areas shall be guaranteed by ensuring that independent third party audits will occur for all secure truck parking areas within the system. In the future this quality system could also link to ITS solutions for the road transport sector.

In conclusion, the study has ensured that it is now possible, following a common and agreed approach, to set up and document sufficient security and service levels at existing and new truck parking areas throughout the EU and especially in the areas where the demand/supply imbalance at the moment is largest.

It is the clear belief of the study partners that by implementing the study results in both existing truck parking areas and in new truck parking areas and thereby increasing the number of available secure parking areas throughout Europe, there is a strong probability that cargo crime and incident rates will be reduced significantly and that the security and well-being of truck drivers will be improved, thereby benefitting road safety as well.

It is recommended to accompany such actions with improved reporting of incidents, and better channelling of information about crime rates. Furthermore, it should be ensured that information about the location of secure truck parking facilities should be disseminated in a user-friendly manner to drivers and the entire logistics chain via e.g. apps and other tools linked with Intelligent Transport Systems.

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