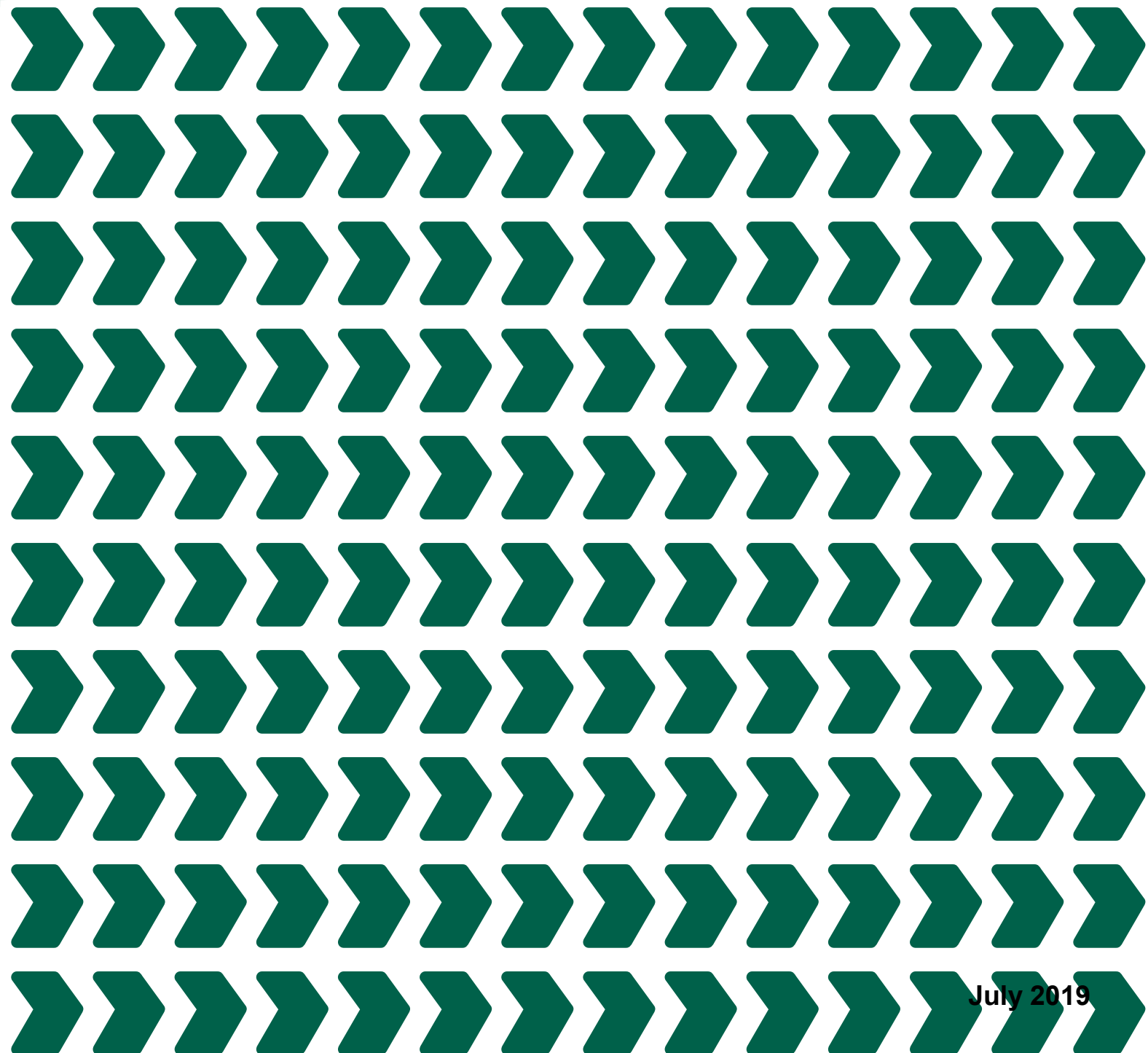




Department
for Transport

Trailer Safety Statutory Report

Moving Britain Ahead



July 2019

Trailer safety report

Presented to Parliament pursuant to section 20 of the Haulage Permits and Trailer Registration Act 2018.

Ordered by the House of Commons to be printed 18 July 2019



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ISBN 978-1-5286-1520-4

CCS0719617074 07/19

Printed on paper containing 75% recycled fibre content minimum

Printed in the UK by the APS Group on behalf of the Controller of Her Majesty's Stationery Office

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Foreword



This report has been drafted further to requirements in the Haulage Permits and Trailer Registration Act 2018. Preparation of the report has helped consolidate and develop the evidence base related to light trailers.

By global standards British roads are very safe, but every death and injury is a tragedy for the families involved. We have recently taken forward significant work to improve road safety, including forthcoming publication of the Road Safety Statement, and a consultation on a proposed ban on tyres aged 10 years and older from certain vehicle types, including heavy (O3 and O4) trailers. Where action to improve road safety is supported by the evidence and proportionate, we will not hesitate to take action.

It is clear including from roadside checks by DVSA undertaken for this report that many light trailers are used on public roads in a defective state. I recognise it is important that the focus already developed by campaigns and involving public agencies is taken forward.

Only in a relatively few cases do defects contribute to injury incidents. In some respects, trailer-related incidents share some characteristics with incidents in the wider light vehicle fleet, including that human error is a far more prevalent reason. On the basis of the information assessed so far, I am not convinced that the Government should extend vehicle testing to light trailers.

There is more information to consider and this report proposes some future steps. A number of non-regulatory and other regulatory levers, including previous changes in

driving licence entitlements now spreading through the motoring public, will also have an effect.

This report is an important milestone with data underpinning it and not itself an endpoint in the consideration of how to improve public safety effectively in relation to light trailers. I look forward to working together with those involved in trailer safety to ensure that momentum is maintained in this area, and that trailer safety continues to improve.

Michael Ellis MP

1. Executive summary

- 1.1 This report fulfils the requirements of the Haulage Permits and Trailers Registration Act 2018¹ ("the Act"). The report considers two key questions, which can be summarised as follows:
 - a. How safe are trailers over 750kg, on the basis of the best available data?
 - b. On the basis of that assessment, should mandatory testing and/or registration of trailers over 750kg be introduced?
- 1.2 From the main data source which covers all of 2017, there were approximately 20 collisions resulting in injury or death where a vehicle defect in a trailer was a contributory factor, and that defect would have been identifiable if present at testing. An in-depth study of road accidents suggests that trailer vehicle defects are not a major cause of injury incidents. Breakdown, trunk road and off-road monitoring data suggest tyre defects and hitching issues are amongst the more prevalent, within the relatively low levels of incidents.
- 1.3 DVSA undertook roadside checks to provide additional data on light trailers for this report. About 50% of O2 trailers checked were non-compliant in random stops, as opposed to about 20% of GB heavier (O3 and O4) trailers, with the rate of immediate prohibitions (i.e. defects so dangerous repairs were needed before further use of the trailer) being 29% for O2 and 5% for heavier trailers. There are a number of likely reasons for this differential, including enforcement, operator licencing and annual testing.
- 1.4 Some countries register and in fewer cases test some or all relevant trailers. Compulsory testing is under investigation at EU level. The Commission's most recent report in this area relies significantly on Croatian experience and a mathematical extrapolation, as opposed to empirical estimate of the benefits, which is not at this stage convincing evidence for a conclusion that there should be compulsory testing.
- 1.5 The compulsory testing of light (O2) trailers in Great Britain could have a safety-related benefit of about £2.2m per year (using standard valuations and subject to a significant margin, +/-50%, of uncertainty), whereas testing and registration are estimated to cost motorists about £74m per year in fees (more in the initial set-up year) plus would require time to take trailers to test.
- 1.6 On its own, trailer registration (without testing) would have no discernible direct safety benefit, although it may have some side-benefits related to crime reduction. It would cost £61m to set up for O2 trailers and then £6m per year for new trailers.
- 1.7 A clear case for regulations under either section 13 or 21 of the Haulage Permits and Trailer Registration Act 2018 has not therefore been made in the evidence considered in this statutory report. There are no plans to introduce such regulations.
- 1.8 The poor level of compliance of light trailers when stopped is a cause for concern. There will be further consideration of adding to the types of information used in this

¹ <http://www.legislation.gov.uk/ukpga/2018/19/contents/enacted>

report, including more stops of caravans during summer months to check compliance rates and consideration of incident-related data collection (including via STATS19).

- 1.9 There is planned to be continued activity to influence user behaviour, for example via the “Towsafe4Freddie” campaign. The extent of other non-regulatory actions, such as promoting checks, maintenance practices and voluntary codes will be considered.
- 1.10 DVSA’s remit in relation to stopping non-commercial vehicles for checks is limited, but enforcement practice related to light commercial trailers will be reviewed. However, it is important to emphasise that DVSA’s primary remit relates to larger, commercial vehicles and combinations where the consequences of incidents and failings when they happen are more often severe.
- 1.11 In respect of the licensing and regulatory regimes, the driving licence regime was changed in 1997 and again in 2013 to increase the cases when newer drivers need to pass specific tests before they can tow light trailers in many circumstances. DVSA will consider whether changes can be made to how testing is done to make it more effective. The boundary of the operator licensing regime in respect of light commercial trailers may be considered further.
- 1.12 Various non-regulatory and regulatory interventions continue to be under consideration – with some of the non-regulatory actions being implemented – at the time of the publication of this report. However, the registration and testing of light trailers is not planned to be taken forward.

Structure

1.13 This report composes three key elements:

- 1 A report on the number and causes of road traffic accidents occurring in Great Britain during the reporting period which
 - a. involved trailers, and
 - b. caused injury or death to any person (Section 2)
- 2 An assessment of whether regulations should provide for the compulsory registration of relevant trailers, and an assessment of whether regulations should provide for periodic testing of the construction, condition or safety of relevant trailers (Section 3)
- 3 An overview of further areas for consideration which may impact on trailer safety (Section 4)

1.14 This report has been informed by work undertaken by AECOM Infrastructure and Environment UK Limited, working on behalf of the Department for Transport. Their underlying report will be published following publication of this statutory report.

1.15 AECOM work included:

- an international literature review to identify the approaches taken to trailer registration and testing in other countries;
- quantitative data analysis of personal injury collisions to assess the number and causes of incidents involving relevant towing vehicles that resulted in injury or death; and
- stakeholder engagement including:
 - telephone interviews
 - user survey
 - work towards options analysis of testing/registration

1.16 AECOM's work was focussed particularly on trailers between 750kg-3,500kg.

1.17 All trailers over 750kg are within the scope of this report. However, the vast majority of trailers above 3,500kg are already subject to a range of regulation, including annual testing.

1.18 In order that this report concentrates on those trailers where the introduction of testing and/or registration could make the most significant impact, the majority of work toward this report has therefore been focussed on trailers with weights between 750kg-3,500kg.

Statutory Basis and Definitions

1.19 The statutory basis for this report is as set out in Section 20 of the Haulage Permits and Trailer Registration Act 2018 ("the Act"), reproduced in the Annex to this report. The statutory requirements are met by Sections 2 and 3 of this report. Section 4 of this report goes beyond these statutory requirements.

- 1.20 As set out in the Act, certain parameters have been set as to the vehicles and time period considered in this report. This report and the data relied upon relates to England, Wales and Scotland.
- 1.21 The reporting requirement as to number and causes of road traffic accidents refers to "trailers", rather than to "relevant trailers" as defined below.
- 1.22 "Relevant trailers" for the purpose of this report's recommendations on testing and registration are trailers which are kept or used on roads and —
- a. if constructed or adapted to carry a load, weigh more than 750 kilograms when laden with the heaviest such load;
 - b. otherwise, weigh more than 750 kilograms.
- 1.23 In defining "relevant trailers", it should be noted that no upper weight limit is given in the Act. However, many trailers over 3,500kg are required to undergo annual testing. This is explored in more detail in the report.
- 1.24 The definition of relevant weights does not align perfectly with the vehicle categories set out in the Road Vehicles (Construction and Use) Regulations 1986, which are determined by "maximum total design axle weight". For the purposes of this report we interpret the definition of "relevant trailer" given in the Act as applying to all O2, O3, and O4 trailers.
- 1.25 "Reporting period" as defined by the Act means a period determined by the Secretary of State, which must be a continuous period of at least 12 months ending no earlier than 18 months before the day on which this section comes into force.
- 1.26 For the purposes of this report, the Reporting Period is calendar year 2017. This aligns with the most recent available yearly road casualty statistics at the time of drafting². However, data outside of this calendar range has been used to inform the report where this could aid in building a comprehensive view of the issues. Additionally, some data sources are published by financial year, rather than calendar year. Where this is the case, 2017/18 data has been used in this report, in order to cover the majority of the Reporting Period.
- 1.27 Where trailer categories are referred to in this report, these are as defined in relevant EU Directives and in Regulation 15 of the Road Vehicles (Construction and Use) Regulations 1986. An illustrative table is provided in the Annex.
- 1.28 The STATS19 reporting method uses specific definitions for types of towing. These are given in the STATS20 instructions booklet, available online³. The relevant towing categories are reproduced in the Annex.
- 1.29 Further relevant definitions are provided in the Glossary in the Annex.

² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/744077/reported-road-casualties-annual-report-2017.pdf

³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/230596/stats20-2011.pdf

2. Trailer Safety Statistics

Road casualty data - STATS 19

- 2.1 Department for Transport Road Safety Statistics provide detailed road safety data about the circumstances of personal injury road accidents, the types of vehicles involved, and the resulting casualties. The statistics relate to personal injury accidents on public roads that are reported to the police, and subsequently recorded, using the STATS19 accident reporting form⁴.
- 2.2 The data is the most comprehensive available to the Department on which to base the assessment required by this report. Road Casualty statistics are published annually by the Department, with quarterly estimates. The figures make up part of a long running series going back to 1926. The current set of definitions and detail of information goes back to 1979, providing a long period for comparison.
- 2.3 The information used to create these statistics are collected by police forces, either through officers attending the scene of accidents or from members of the public reporting the accident in police stations after the incident. All accidents that were reported by the police and that occurred on a public highway involving at least one motor vehicle, horse rider or pedal cyclist, and where at least one person was injured are included.
- 2.4 A comprehensive overview of the STATS19 reporting process is beyond the scope of this report. However, further information is given regarding the methodology elsewhere in DfT statistical publications⁵. Definitions of terminology used in casualty reporting is reproduced in the Glossary to this report.
- 2.5 The Act requires that the reporting period to be covered by this report must be a continuous period of at least 12 months ending no earlier than 18 months before the day on which the Act came into force, 19 July 2018. As set out above, the full set of STATS19 data relating to calendar year 2017⁶ was analysed.
- 2.6 The total number of collisions involving personal injury or death in Great Britain, in the 2017 statistics, was 129,982. The total number of vehicles involved was 238,926.
- 2.7 STATS 19 data records show where a type of towing vehicle was involved. These categories are defined as follows:
 - Articulated vehicle - A tractor with a semi-trailer so constructed that a significant part of the weight of the semi-trailer is borne by the tractor. Articulated (bendy) buses are also included here.
 - Double or multiple trailer - Two or more trailers.

⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/230590/stats19.pdf

⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/259012/rrcgb-quality-statement.pdf

⁶ <https://data.gov.uk/dataset/cb7ae6f0-4be6-4935-9277-47e5ce24a11f/road-safety-data>

- Caravan - Two-wheeled or four-wheeled trailer designed for accommodation, or as a mobile office etc.
- Single trailer - Any rigid vehicle towing a drawbar trailer or trailer with fixed axle(s), other than a caravan, via a rigid bar.
- Other tow - Any other towing arrangement not defined in the other four STATS 20 towing definitions. Includes vehicles towing by rope, and breakdown trucks towing another vehicle by crane-mounted tow or a towing bar, but it specifically excludes any drawbar trailer.

2.8 The following table shows the number of each of these types of towing involved in a collision:

Type of tow	Number involved in a collision
Articulated Vehicle	2,324
Double/Multiple Trailer	50
Caravan	158
Single Trailer	791
Other Tow	382
No Tow/Articulation	230,772
Data Missing/Out of range	4,449
Total	238,926

Table 1 Number of towing vehicles involved in collisions

Limitations of STATS 19 data

- 2.9 Comparisons of road accident reports with death registrations show that very few, if any, road accident fatalities are not reported to the police. However, it has long been known that a considerable proportion of non-fatal casualties are not known to the police, as hospital, survey and compensation claims data all indicate a higher number of casualties than police accident data would suggest. This is made clear in the annual Road Casualty report⁷.
- 2.10 Additionally, there is no obligation for people to report all personal-injury accidents to the police (although there is an obligation under certain conditions, as outlined in the Road Traffic Act). Accidents that happened on private land (including private drives) or car parks are not included in the statistics, with damage-only accidents also excluded.
- 2.11 The recording of vehicle weights is by necessity somewhat approximate in STATS19 data. Police offices are not typically in a position to give exact vehicle weights when completing the STATS19 form, so some interpretation is necessary. Vehicle weights may be taken from manufacturer plates or other information available at the roadside, and the "contributory factors" section of the STATS19 form allows the recording of overloading as a contributory factor to an incident. However, there is a lack of

⁷ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/744077/reported-road-casualties-annual-report-2017.pdf#page=22&zoom=100,0,48

specificity in the data which makes firm conclusions of the number of incidents involving trailers from 750kg-3,500kg, in particular, difficult to reach.

2.12 STATS 19 also does not specify whether a mechanical defect defined as a contributory factor is attributable to the towed or towing vehicle.

Developing the STATS 19 analysis

2.13 Given these limitations, in order to ensure that analysis of the total collisions was as targeted as possible, and in order to guide policy development of options concerning testing and registration, further analysis then sought to narrow down the field of trailers considered.

2.14 As set out in Section 2 below, the key sector of trailers which would be affected by the introduction of new testing and registration requirements is those from 750-3,500kg. Given that the STATS 19 categories do not refer to vehicle weights, any narrowing of the field will be somewhat approximate. However, we have sought to select the most relevant categories for further analysis.

2.15 To this end, the data was broken down into the following levels of potential relevance to trailer registration and testing:

- Level 1: all personal injury collisions in England, Wales and Scotland.
 - 129,982 personal injury collisions in GB, 2017
- Level 2: personal injury collisions involving single, double/multiple trailers and caravans.
 - 983 collisions involving single, multiple trailers and caravans
- Level 3: personal injury collisions involving single, double/multiple trailers and caravans with a contributory factor assigned to the towing vehicle
 - 454 collisions with contributory factors assigned to towing vehicle
- Level 4: personal injury collisions involving single, double/multiple trailers and caravans with a vehicle related contributory factor assigned to the towing vehicle.
 - 62 collisions with vehicle related contributory factors
- Level 5: personal injury collisions involving single, double/multiple trailers and caravans with a vehicle defect related contributory factor assigned to the towing, that may be identified by the introduction of mandatory testing.
 - 20 collisions with vehicle defect contributory factors that may have been identified in a roadworthiness test

2.16 Contributory factors are recorded when a police officer attends the scene of a collision. There are 78 different factors that may contribute to an accident⁸. These 78 factors fall into nine categories:

- road environment contributed
- vehicle defects
- injudicious action

⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/230590/stats19.pdf

- driver/rider error or reaction
- impairment or distraction
- behaviour or inexperience
- vision affected by external factors
- pedestrian only factors (casualty or uninjured)
- special codes.

2.17 Up to six contributory factors can be attributed to a collision, along with the confidence level for each record, i.e. an indication of whether each contributory factor is 'possible' or 'very likely'. Each contributory factor is assigned to a vehicle or pedestrian but not to a trailer or caravan. More than one factor can be linked to a single road user, and the same factor can be linked to a series of road users.

2.18 Of the 983 collisions involving a vehicle towing single, multiple trailers and caravans, 758 had at least one contributory factor recorded, and 225 collisions had no contributory factors recorded.

2.19 There were 454 collisions with contributory factors assigned to a towing vehicle (325 solely to the towing vehicle) and 433 collisions with contributory factors assigned to the other vehicles involved (304 solely to the other vehicle) in these collisions. 129 collisions had contributory factors assigned to both vehicles.

2.20 These collisions were also analysed with contributory factors grouped by safe system pillar.

- Vehicle related contributory factors were assigned to 62 collisions
- People related contributory factors were assigned to 358 collisions
- Road related contributory factors were assigned to 65 collisions
- Other categories were assigned to 33 collisions.

2.21 It is notable that over five times as many collisions were assigned people related contributory factors as vehicle related contributory factors. This aligns with separate analysis undertaken by the National Towing Working Group⁹ which notes that most recorded contributory factors related to driver/rider error or reaction factors, rather than roadworthiness concerns.

2.22 The table below shows collisions where at least one vehicle towing was assigned a vehicle defect, that may be identified by the introduction of mandatory testing. A total of 20 collisions were assigned a contributory factor that may be identified during a test. The most common vehicle related contributory factor was overloaded or poorly loaded vehicle or trailer which had 31 records for collisions involving vehicles towing, but which would not be identified in a roadworthiness test.

CF	Contributory Factor	2017
201	Tyres illegal, defective or under inflated	3
202	Defective lights or indicators	8
203	Defective brakes	6

⁹ http://www.trailerappg.org.uk/media/bjgj15ap/mcr19_0054_-_national_towing_wg_safety_framework_web.pdf

Note: multiple contributory factors can be assigned to a single collision.

Table 2 Number of records in STATS 19 where a contributory factor was assigned that may be identified with mandatory testing

2.23 Additional analysis was undertaken relating to agricultural trailers. These vehicles are exempt from roadworthiness testing. There were 41 collisions involving agricultural vehicles in 2017, including either an articulated vehicle or other tow. There were 50 casualties associated with these collisions.

Other road collision data

2.24 STATS19 data is the most comprehensive, relevant data source available to the Department. However, due to the acknowledged limitations of that data, we have also considered other data sources to ensure that a well-evidenced view is established of collisions involving trailers.

RAIDS

2.25 The first of these sources is Road Accident In-Depth Studies (RAIDS)¹⁰. RAIDS brings together different types of investigation from earlier studies into a single programme combining existing data in a common and comprehensive database.

2.26 There are two types of investigation:

- a crash scene investigation done at the time of the collision while the emergency services are still present - these focus on the vehicle, the road user and the highway issues and can include non-injury crashes and those with relatively minor vehicle damage;
- a backward-looking investigation which examines vehicles that have had to be recovered from the crash site having suffered more serious damage and where the occupants have attended hospital due to their injuries.

2.27 In-depth studies provide an opportunity to understand how crashes occur and, from this understanding, contribute to the development of safer roads and safer vehicles. Detailed information is collected about the crash site, including highway features and environmental factors. Vehicle damage can be matched to the injuries received in the crash, allowing understanding of how vehicle design can be improved.

2.28 RAIDS data are currently only collected in a limited area of the country, and this dataset can therefore only play a complementary role to STATS19 data. However, as the RAIDS database contains some of the STATS19 fields associated with each case it can be used to gain an understanding of how collisions are recorded within STATS19.

¹⁰ <https://www.gov.uk/government/publications/road-accident-investigation-road-accident-in-depth-studies/road-accident-in-depth-studies-raids>

2.29 The RAIDS database contains 1,855 cases, however, only 16 of these cases involved a 'single trailer'. The below table summarises the towing and articulation category of the RAIDS cases.

Towing and Articulation (STATS19 Categories)	Number of cases in RAIDS
No tow or articulation	1,825
Articulated vehicle	113
Double or multiple trailer	0
Caravan	0
Single trailer	16
Other tow	2
Unknown	22

Note: More than one towing and articulation type can be involved in a case

Table 3 Number of cases in RAIDS database by towing and articulation category

2.30 From these 16 cases, seven were identified to have trailers between 750kg and 3500kg. These were selected for further analysis. From looking at these 'single trailer' cases in RAIDS it is evident that this category covers a wide variety of trailers. Of these seven cases, only in one was the incident directly attributable to the trailer. These seven cases are summarised in the table below.

Case	Summary
Case 1	A car which was towing a trailer took evasive action due to an oncoming vehicle drifting into the wrong lane.
Case 2	A car failed to stop at a junction and hit another car, which was towing, in the main road
Case 3	Braking whilst the towed trailer was snaking caused both the car and trailer to spin off the road. The driver was unfamiliar with towing and did not realise that applying the brakes would make the situation worse.
Case 4	A large trailer parked on the footway but encroaching on to the road was hit by a car driver trying to get around the trailer. The trailer was heavily covered in grey dust which possibly masked its presence on approach.
Case 5	Two cars collided at a junction and a third car, which was towing a single trailer, was unable to avoid colliding with one of the cars.
Case 6	A child fell from the pavement onto the road as a car was passing and hit the trailer which was being towed.

Table 4 Summary of cases involving relevant trailers in RAIDS database

2.31 This is obviously a very limited data set. However, some pertinent conclusions can be drawn:

- the vehicle towing the trailer is not always at fault
- even when the vehicle towing is deemed to be at fault it is not always as a consequence of towing.
- of the seven RAIDS cases that are in scope only one case (Case 3) can be directly attributed to the trailer, with one other case (Case 4) potentially influenced by the trailer.
- the case caused by the trailer (Case 3) might have been avoidable if the driver had a better understanding of the correct procedures to follow when towing.

Highways England Control Works Database

2.32 Highways England's control works database provides a record of incidents on the strategic road network (SRN) reported at Regional Operation Centres (ROC). The control works database records personal injury collisions and non-injury incidents.

2.33 Monitoring of the network is performed by traffic officers patrolling the network, ROC staff monitoring CCTV cameras on the network, or from third party calls to the ROC staff. Therefore, there are data limitations from incomplete CCTV coverage, gaps from patrolling officers, and incomplete information being reported by third parties.

2.34 The database form is designed to be completed quickly so has standard codes to populate fields as efficiently as possible. For a single incident up to 20 qualifier codes can be entered and a final qualifier is assigned which groups the incident into one of 14 categories. The qualifier code V11 indicates trailer/caravan and there is an additional field that can be populated to specify if this is a trailer, a caravan, or unknown. The database also has a free text field of details of an incident which allows for information not covered by the standard codes to be entered. However, this field is populated inconsistently, so the quality of using this method was limited.

2.35 Highways England supplied an extract of the database of the V11 qualifier code for this project. Of 474 RTCs involving trailer represented in this data, only 55 were identified as definitely involving injury or fatality. The majority of these did not result in injury (63.6 per cent) and there were a significant number of collisions where the injury details were not provided.

2.36 The table below shows incidents with 'traffic collision' final qualifier code by type of trailer or caravan and injury detail. Control works data shows that more caravans (128) were involved in collisions than trailers (71). However, a significant number of records captured the type of tow as unknown (276).

2.37

RTC type	Trailer	Caravan	Unknown	Count
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Injury/fatality	6	11	38	55
No injury	46	78	178	302
Injury detail not given	19	39	60	118
Total	71	128	276	475

Note:

1) There was one incident which involved both 'Injury/fatality' and 'No injury' qualifier codes. Therefore, there were 474 RTCs involving trailers in control works.

2) There were 4 incidents with RTC qualifier codes (no injury) which were not recorded as an RTC in the final code. These were not included in this analysis.

Table 5 Number of road traffic collisions on the strategic roads network involving trailers by injury type

2.38 The records from the Highways England control works with a 'injury/fatality' qualifier code were cross-referenced with the STATS19 data for personal injury collisions involving single, double/multiple trailers and caravans. In STATS19 there were 172 collisions of this nature recorded, however, in the control works database only 55 collisions entries were made for these types of collisions. When analysed there were only 24 records identified which were found in both data sets.

2.39 Possible reasons for the lack of overlap in these data sets include:

- Incident not attended by police or traffic officer so not captured in one of the databases.
- Data not shared between police and Highways England.
- STATS19 categories for other tow and articulation were filtered out of the STATS19 analysis which may have been included in the control works data.
- Improper inputting of information.
- Incidents reported to police by third parties may be captured in STATS19 but not in control works.
- Non-injury incidents in control works

2.40 Control Works data suggests that a significant number of caravans may be represented in incidents occurring on the strategic road network. This may potentially be a function of typically higher speeds. However, the data is not complete enough to draw strong conclusions, given the number of "unknown" towing records.

Non-injury incidents

Highways England Control Works Database

2.41 As highlighted previously, most collision data available relates to serious incidents, typically involving injury. We therefore sought further data sources to mitigate this. Many incidents on the road do not result in casualties but do cause disruption and can give an indication of "near misses", which if prevented have the potential to improve road safety.

- 2.42 The below table shows the records contained within the control works database by final qualifier code and V11 (caravans/trailers). Breakdown was the most frequently recorded incident type (72.1%), followed by traffic collision (11.7%).
- 2.43 Further analysis of this data was conducted to understand the key reasons for these incidents. A word search for 'detachment' was carried out on the free text fields for all non-injury incidents. Of the 474 traffic collisions six involved a detachment, and four of the 2,919 breakdowns included detachment in the record.
- 2.44 The details field for breakdown data was interrogated to ascertain the type of breakdowns reported. Relevant details were recorded for approximately one third of the breakdown dataset. The most frequently recorded issues were:
- Tyre or wheel related (65 per cent)
 - Insecure load (12 per cent)
 - Engine failure (10 per cent)
 - Issues with lights (10 per cent)
 - Ran out of fuel (3 per cent)
- 2.45 A total of 431 out of 2,919 breakdowns were tyre-related issues. Almost one third of the tyre-related breakdown records did not specify the vehicle with the issue (124). Where the vehicle was specified, these issues are equally distributed for trailer (133) and caravan (133) and were more common than for the towing vehicle (41).

Breakdown and vehicle recovery operator data

- 2.46 The RAC and Automobile Association (AA) supplied data on breakdowns attended. Nationally, the RAC attended around 2.2 million breakdowns in 2018 of which 7,343 had a trailer or caravan present, roughly 0.39 per cent of all breakdowns. The AA provided data on the type of breakdowns attended in 2018. There were 1,078 breakdowns involving a trailer or caravan. The majority of these were tyre-related (61 per cent). Of all the breakdowns attended by the AA in this period, these tyre-related breakdowns of trailers or caravans accounted for 0.1 per cent. The second most prevalent reason for breakdown was an issue with the towing hitch (15.4 per cent).
- 2.47 The non-injury incidents indicate that trailer/caravan related breakdowns constitute a minor proportion (0.39 per cent) of the overall incidents attended by recovery services. Most breakdowns recorded in control works are related to defective tyres or wheels (65 per cent) or poorly loaded vehicles (12 per cent). Most breakdowns attended by the AA were also puncture or tyre-related (61 per cent) followed by towing hitch issues (15.4 per cent). There were 12 reports of the towed vehicle becoming detached while on the SRN, out of the 4,046 towing related incidents recorded in control works (0.3 per cent).

Off-road incidents - RIDDOR

- 2.48 Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)¹¹ requires employers, the self-employed, and people in control of premises to report certain serious workplace incidents, occupational diseases, and specified dangerous occurrences to the Health and Safety Executive (HSE). This

¹¹ <https://www.hse.gov.uk/riddor/>

data is then held by HSE and can be interrogated to establish a limited picture of off-road towing incidents.

2.49 HSE cannot release the RIDDOR data as it contains significant personal information in the free text fields which makes it difficult to redact. However, they interrogated the data in order to inform this report.

2.50 On the basis of that investigation, there are approximately 1,800 trailer incidents per year. However, from the data it was not possible to narrow down to trailer types specifically related to this project, or to differentiate by exact weights.

2.51 A sample of 600 records which mention trailers or caravans was interrogated in more detail. This determined that:

- Incidents involving caravans were predominantly slips on caravan sites
- Of the 600 records only ten were incidents with trailers to be in the range 750kg-3,500kg. None of these occurred while the trailer was being towed. The two common features of these ten incidents were:
 - Hitching/unhitching
 - Handbrake malfunction

Roadworthiness data

2.52 From this overview of available collision data sources, it is clear that further information on the risk posed by trailers would be beneficial. Therefore, we additionally sought to understand data sources relating to the roadworthiness of trailers - or how likely they are to meet minimum safety requirements, when checked at the roadside or at an annual test.

Roadworthiness testing data

2.53 A summary of results is published annually by the Driver and Vehicle Standards Agency (DVSA) relating to vehicle testing. Figures given in this report for vehicle testing relate to the 2017/18 financial year, but are broadly comparable with those of the preceding year (also published online¹²).

2.54 DVSA publishes statistics relating to numbers of tests on trailers and rates of failure. These statistics relate to those trailers which are statutorily required to undergo testing - i.e. predominantly those over 3,500kg. As testing is conducted on heavy vehicles both in DVSA facilities and Authorised Testing Facilities (third-party sites manned by DVSA staff), the statistics are split on this basis and a subtotal given below.

Vehicle type	Premise type	Tests	Pass after rectification	Fails	Initial fail rate	Final fail rate	Retests	Retest fail rate
Trailer	Non DVSA	239,905	7,149	20,368	11.5%	8.5%	20,536	10.1%
Trailer	DVSA	1,687	50	143	8.5%	8.5%	158	8.9%

¹² <https://www.gov.uk/government/statistical-data-sets/commercial-vehicle-testing-data-for-great-britain>

Vehicle type	Premise type	Tests	Pass after rectification	Fails	Initial fail rate	Final fail rate	Retests	Retest fail rate
Trailer	Subtotal	241,592	7,199	20,511	11.5%	8.5%	20,694	10.1%

Table 6 Number of trailer tests and failure rates reported by DVSA

2.55 DVSA also publish a list of the top 10 reasons for failure, for trailers which are subject to testing. Typically, there is limited variation between these statistics year-on-year, with the most likely failure items remaining toward the top of the table. Brakes, lighting and suspension are all key concerns.

Testable item	Percentage
Service Brake Performance	5.0%
Parking Brake Performance	3.2%
Lamps	2.3%
Brake System Components	2.0%
Suspension	1.3%
Reflectors & Rear Markings	0.8%
Spray suppression, wings / wheel arches	0.7%
Tyres (Condition)	0.5%
Bumpers/Sguards	0.3%
Service Brake Operation	0.3%

Table 7 Most common reasons for trailer testing failure and rates of failure

2.56 DVSA also publish annual statistics relating to testing of light vehicles¹³. Although these figures do not relate to light trailers, they do allow an overview of test failures for towbars, which may have an influence on trailer safety.

2.57 These test results relate to the 2017/18 financial year and are grouped by vehicle class. These are defined as follows:

- class 3 and 4 vehicles - cars and light vans up to 3,000kg
- class 5 vehicles - private passenger vehicles with more than 12 seats
- class 7 vehicles - goods vehicles between 3,000kg and 3,500kg gross vehicle weight

Vehicle Class	Defect category	% of tests where defect present	% of defects detected at test
Class 3 and 4	Towbars	0.0	0.0

¹³ <https://www.gov.uk/government/statistical-data-sets/mot-testing-data-for-great-britain>

Class 5	Towbars	0.1	0.2
Class 7	Towbars	0.2	0.1

Table 8 Defect rate of towbars by vehicle class

Roadside check data

2.58 In addition to test data, we also sought to establish the safety of relevant trailers in use on the road. There are a number of sources available which are relevant to the condition and safety of vehicles involved in towing.

Fleet Compliance Check

2.59 Large commercial trailers (O3 and O4 trailers) operating within the UK are required to undergo yearly roadworthiness testing. Additionally, roadside checks are performed by the police and DVSA to ensure compliance, and they have the power to issue prohibitions if necessary.

2.60 In addition to the annual test data referred to above, the DVSA publishes an annual summary report of roadside checks of large commercial vehicles¹⁴. The checks detailed in this report are carried out on randomly selected vehicles at randomly selected roadside sites throughout Great Britain.

2.61 The DVSA categorisation of vehicle defects guidelines¹⁵ allow for four categories of defect severity:

- Compliant: the examiners find no defect on the vehicle, it is therefore declared as roadworthy and allowed for circulation on the road.
- Inspection notice: the examiners find defects that are not serious enough to warrant prohibition and they advise the user/owner to perform further vehicle inspections and repairs, as required. However, this notice is advisory only and does not prevent further use of the vehicle on the road.
- Delayed prohibition: the user/owner is required to repair defects and pass another test within 10 days from the notice. If the repairs are made and the new roadworthiness test is passed then the prohibition is removed, otherwise it stands until repairs are made.
- Immediate prohibitions: the severity of defects renders the vehicle not safe for use on the road until repairs are made and a new roadworthiness test is passed.

2.62 In the most recent report (2017/18), 1,392 GB trailers and 2,408 non-GB trailers were checked. 80.4% of GB trailers were compliant, with 74.5% of non-GB trailers compliant. Immediate prohibitions, for the most serious defects, were issued in 4.8% and 4.9% of cases respectively.

2.63 In relation to GB trailers, after adjusting for variables the main factor associated with prohibition rates of trailers was the age of the vehicle towing them. Older vehicles were more likely to have had a prohibitable defect than newer vehicles. Of

¹⁴ <https://www.gov.uk/government/publications/commercial-vehicle-fleet-compliance-checks-2016-to-2017/fleet-compliance-check-summary-report-2016-to-2017>

¹⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/757339/categorisation-of-vehicle-defects.pdf

prohibitions issued, 47% related to braking equipment, with 21% relating to axles, wheels, tyres and suspension.

2.64 In relation to non-GB trailers, after adjusting for variables the main factor associated with prohibition rates of trailers was the age of the vehicle towing them. Prohibitions issued were for similar reasons, with 45% relating to braking equipment and 35% relating to axles, wheels, tyres and suspension.

Additional roadside checks

2.65 There is very limited data relating to the roadworthiness of light trailers. In order to supplement the existing data and attempt to address the gap identified regarding the roadworthiness of relevant (O2) trailers the Department required DVSA to conduct a series of roadside checks throughout Great Britain.

2.66 DVSA conducted 800 roadside checks between December 2018 and February 2019. These were done across ten enforcement areas in order to capture a wide-ranging sample. These were focussed on light trailers (O2 trailers) but a number of other trailers outside this range (but not subject to roadworthiness testing) were also captured in the data.

2.67 Of the towed vehicles checked, 791 were trailers and 9 were caravans. The low representation of caravans reflects seasonal variations. Enforcement action was not recorded for 29 checks and so the analysis here refers to the 771 records where compliance action was reported.

2.68 Analysis of the data provided by DVSA shows that 50 per cent of the O2 trailers stopped were compliant, as shown in the below figure. 50 per cent of the O2 trailers were non-compliant, with 29 per cent of trailers being issued immediate prohibition notices, as severity of defects rendered these trailers not safe for use on the road.

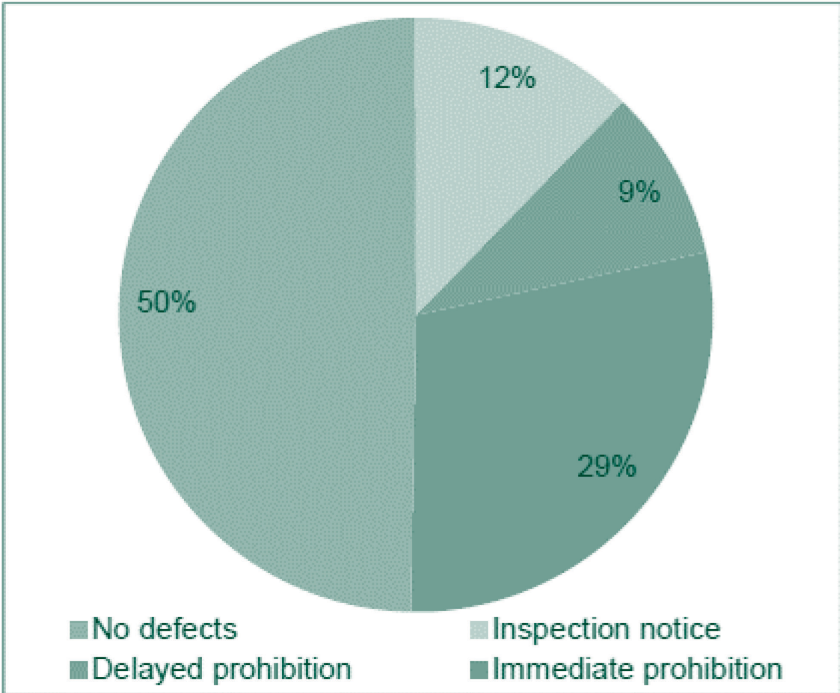


Figure 1 Per cent of vehicles tested by DVSA issued with prohibition notices

2.69 While conducting the roadside checks the DVSA also captured trailer ID, towing vehicle registration number, type of defect, and whether the trailer is registered or not. The questionnaire captured the age of the trailer, ownership, sector of use, and maintenance history.

2.70 The age of trailer was recorded for 539 vehicles encountered. The average age of those checked for which this data was available is 7.4 years. The average age of trailers for each type of action was as follows:

- Compliant - 6.1 years
- Inspection notice - 8.3 years
- Delayed prohibition - 8.5 years
- Immediate prohibition - 9.3 years

2.71 In common with the heavier trailers surveyed in the Fleet Compliance Check, the more severe enforcement actions were more frequently applied to older trailers and newer trailers generally showed higher levels of compliance.

2.72 The following figure shows the severity of defect by trailer type and the average age of trailer for each type. There is a correlation between improved compliance and younger trailers within each sector. Catering trailers represent the oldest average age at 11.8 years, while having the second lowest levels of compliance at 13 per cent. Whereas caravans represented the youngest average age (5.6 years) and were the most compliant (89 per cent), however, the sample size of caravans was very limited (only 9 caravans were captured in the roadside checks).

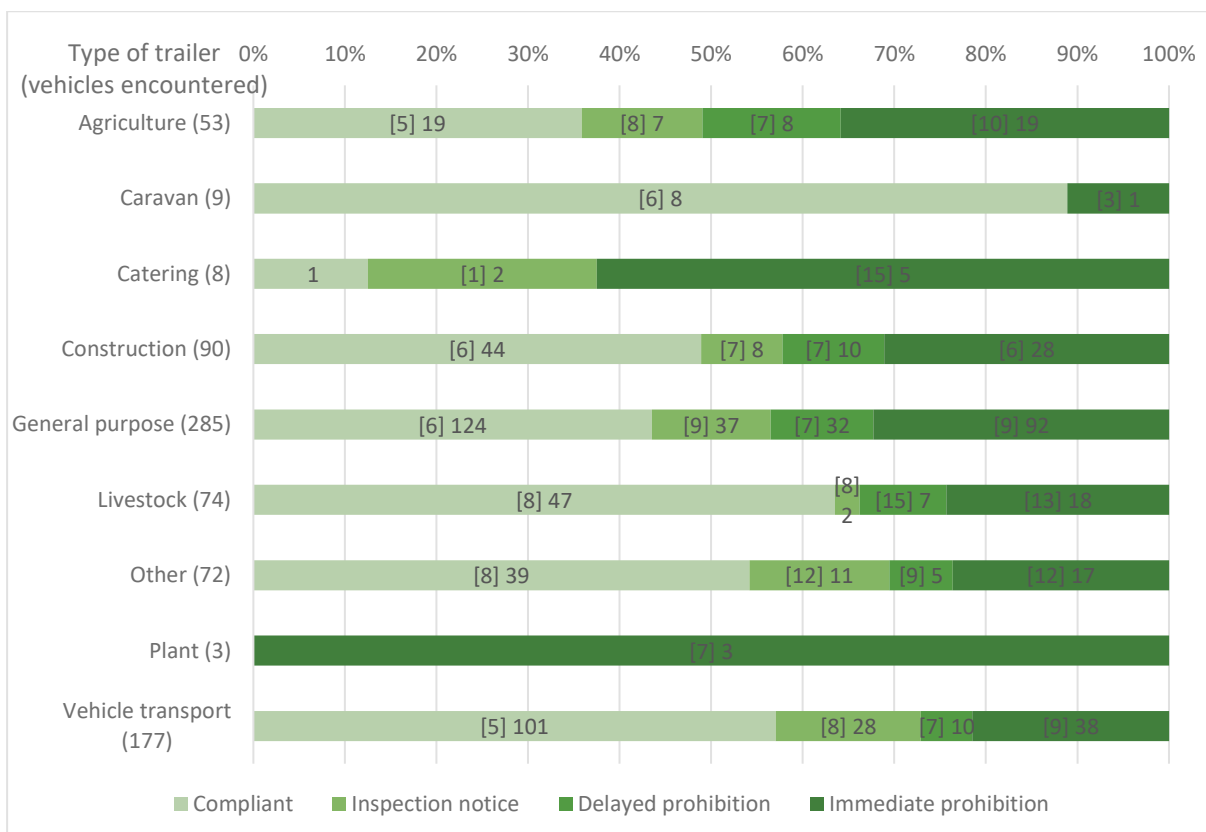


Figure 2 Severity of defect by trailer type and average age of trailer type

Note:

- 1) There were 29 blank enforcement action fields that have been excluded from the graph.
- 2) Average age [years] for each category is calculated from the 539 records that specified age.
- 3) Number of encounters recorded for each trailer type and enforcement action included in each bar.

- 2.73 The correlation seen above is not as strong across the other trailer types, for example, livestock trailers had the second highest level of compliance (64 per cent) and the second highest average age (10 years). Whereas general purpose trailers had an average age of 7.6 years and 44 per cent compliance, which would indicate that maintenance regimes play a role in increasing compliance.
- 2.74 A comparison of the results of these checks with those of the fleet compliance checks indicates a greater proportion of regulated trailers being found compliant (84 per cent versus 50 per cent). This is a significant differential. However, although the level of compliance does give rise to concern, this cannot be entirely attributed to roadworthiness testing.
- 2.75 In order to understand the reasons for this differential, consideration must be given to the roles of roadworthiness testing, maintenance by commercial/non-commercial users, the role of operator licencing (typically applicable to those using heavier trailers) and increased enforcement for heavier trailers, as each is likely to play a role in increased compliance levels for O3 and O4 trailers.

NTTA trailer safety checks

- 2.76 The National Towing and Trailer Association (NTTA) provided data from 307 free safety checks they conducted at NTTA certified servicing centres¹⁶, between July 2017 and January 2018. There is a significant differential between the results of these checks and those recorded by DVSA, with 89 per cent of trailers failing NTTA checks with one or more defects recorded.
- 2.77 There are significant differences in the targeting of these checks which may explain this differential, at least in part. DVSA light trailer checks were conducted in a random fashion as far as possible, in order to give a dataset broadly comparable with the Fleet Compliance Check. Conversely, NTTA checks were conducted by a self-selecting set of vehicle owners who voluntarily put vehicles forward for checks at a servicing site.
- 2.78 However, some similarities can be discerned in the two data sets. Lights/electrics and tyre condition were the two most frequent defect types recorded in both sets of checks. NTTA checks reported higher proportions of defective handbrakes and electrics than the DVSA checks, and defective breakaway cables were common defects for both datasets.

Caravan insurance data

- 2.79 The Caravan and Motor Home Club (CMHC) and The Camping and Caravanning Club (CCC) provided information on the most frequent types of claims made and the variation of these through the years, CAMC 2006 to 2018, and CCC 2016 to 2018.
- 2.80 The most frequent claims for caravans involved in an incident were:

¹⁶ https://ntta.co.uk/buyers-guide2/suppliers-free-trailer-safety-checks_34

- Detachment of the trailer;
- Nearside wheel loss;
- Collisions generated by snaking of the trailer.

2.81 Analysis of the year by year variation shows that claims related to the detachment of the trailer and loss of the nearside wheel remained constant, while there was a significant reduction of claims relating to snaking and tyre failure identified. Possible reasons for this were identified as new trailers models offering stability improvements, a greater awareness by trailer users of the need to correctly install a breakaway cable and how to load their trailers correctly. CAMC have stated that it is unclear to them whether tyre blowouts are produced because of tyre damage, tyre defects, or because of unsafe loading (overloading or poor distribution of weight). However, irrespective of cause, when tyres failed on caravans very few lost control of their vehicle and they were able to pull over safely, which is reflected in the relatively low frequency of tyre related claims.

2.82 Data from the CCC records showed the following main reasons for claims:

- Tyre blow out
- Detachment of trailer
- Nearside wheel loss
- Collisions generated by snaking of the trailer

2.83 CCC data shows that during the past three years of claims there was no noticeable reduction associated with trailer safety issues.

2.84 In addition, though CAMC and CCC data do not specify whether the reason for a claim is also the cause of the incident, the CCC data show that claims are not primarily related to mechanical faults of trailers but relate to distracted drivers, thefts, and adverse meteorological conditions.

Stakeholder views

2.85 As part of AECOM's stakeholder engagement work, views were sought relating to data relating to trailers. Feedback related to data covering both incidents and roadworthiness. These stakeholders include:

Stakeholder type	Name of stakeholder
Governance/safety	Derby and Derbyshire Road Safety Partnership
	Highways England
	Institute of Advance Motorists (IAM) RoadSmart
	International Motor Vehicle Inspection Committee (CITA)
	National Plant and Equipment Register Limited (TER)
	National Trailer and Towing Association (NTTA)
	National Vehicle Crime Intelligence Service (NaVCIS)
	Royal Society for the Prevention of Accidents (ROSPA)

Stakeholder type	Name of stakeholder
	Society of Motor Manufacturers and Traders (SMMT)
	Tilly your Trailer campaign
	Traffic commissioners
	TyreSafe
User groups	British Agricultural & Garden Machinery Association (BAGMA)
	British Animal Rescue and Trauma Care Association (BARTA)
	British Marine
	Camping and caravanning club (CCC)
	Caravan & Motorhome Club (CAMC)
	Confederation of Passenger Transport UK (CPT)
	Disabled motoring
	National Association of Agricultural Contractors (NAAC)
	National Caravan Council (NCC)
	National Farmers Union (NFU)
	Road Haulage Association (RHA)

Table 9 Stakeholders consulted by AECOM

- 2.86 Some stakeholders identified similar issues with STATS 19 to those identified above, taking the view that STATS19 data does not give an accurate representation of trailer safety. In part, stakeholders attributed this to a lack of trailer-specific police training and the need for improved data capture. Some local road authorities took a similar view and noted that STATS19 does not specifically cover some types of collisions such as trailer detachments.
- 2.87 Feedback was also received that a lack of trailer safety awareness among some police and traffic officers can cause issues, both for enforcement and the reporting of incidents. This was reinforced by experience of training provided by stakeholders.
- 2.88 Other feedback highlighted that trailer mileage would be useful information to collect. This would allow incident rates to be analysed in the safety assessment. However, without a tracking system, such as an odometer, this data cannot be collected.

Summary

- 2.89 STATS 19 is the most systematic and extensive data source relating to on-road incidents involving trailers. However, it has a number of limitations. Other sources relating to incidents have been identified and interrogated. There are some differences in data captured in different sources.

- 2.90 More limited data sources are available relating to off-road and non-injury incidents involving trailers. However, where possible these have been reviewed.
- 2.91 Data relating to the roadworthiness of trailers has also been interrogated, and further on-road checks conducted by DVSA, in order to better understand the level of compliance in the vehicle fleet. This is not directly related to the number of incidents involving trailers but is of relevance to the overall picture of trailer safety.
- 2.92 A number of themes can be seen to develop throughout this section.
- Data available on involvement of trailers in incidents is limited. This is especially the case in the light trailer sector (O2 trailers, 750--3,500kg). It is not possible to explicitly determine the number of incidents involving specific trailer categories (O2, O3, O4).
 - The data is particularly difficult to clarify in terms of trailer weight and type/usage of trailer. This is due to the format of data collection, and may be influenced by a lack of trailer-specific training for those collecting the data. The available data is not sufficient to draw firm conclusions about the relative safety of towing sectors. DVSA roadside checks begin to address this but numbers are too limited to guide sector-specific policy decisions.
 - Road user error is implicated in many times more incidents than vehicle defects.
 - Where vehicle defects are of concern, these typically relate to a number of key areas, with lights, brakes, suspension and tyres being of note.
 - The level of roadworthiness compliance in the light trailer fleet appears significantly lower than the heavy trailer fleet, which is a matter of concern. This may be for a number of reasons, and roadworthiness testing would be unlikely to wholly address this differential.
 - Analysis of serious incidents suggests that of 983 collisions involving single, multiple trailers and caravans, around 20 collisions involve vehicle defect contributory factors which may have been identified in a roadworthiness test. However, this is necessarily approximate due to the available data.

3. Trailer Registration and Testing

Current trailer testing and registration regimes

- 3.1 As set out above, all trailers over 750kg are within the scope of this report. However, many trailers above that weight are already subject to a range of regulation, including testing.
- 3.2 The Goods Vehicles (Plating and Testing) Regulations 1988 set out the testing requirements for a range of relevant vehicles. Summary information for public use is also available online¹⁷. In particular, the testing regime is applicable to the following types of trailers:
 - semi-trailers
 - horseboxes with a gross weight of more than 3,500kg
 - 'A' frame trailers and converter dollies manufactured on or after 1 January 1979
 - trailers with an unladen weight of more than 1,020kg with powered braking systems (instead of standard overrun brakes and as well as the required parking brake)
- 3.3 Due to this existing testing regime, a significant majority of trailers over 3,500kg (i.e. O3 and O4 trailers) are already subject to roadworthiness testing. Whereas most new light vehicles are required to be tested from their third year of service (the MOT test), it is notable that these vehicles are required to be tested annually from entry into service. Details of the testing regime itself may be found in the Heavy Goods Vehicle Inspection Manual¹⁸. When considering options for testing and registration for all trailers over 750kg, the existing trailer testing framework must therefore be considered.
- 3.4 Additionally, a range of voluntary roadworthiness testing schemes are available. The availability of these schemes has not factored into consideration of the options below. However, it is noteworthy that trailer owners have recourse to independent trailer testing if they have concerns about the roadworthiness of their vehicles. In particular:
 - The DVSA offers a non-statutory, voluntary roadworthiness test scheme¹⁹
 - Many private workshops offer an option voluntary servicing.
 - The Approved Workshop Scheme²⁰ offers voluntary servicing to address both roadworthiness and the habitation areas of caravans

¹⁷ <https://www.gov.uk/annual-test-for-lorries-buses-and-trailers>

¹⁸ <https://www.gov.uk/government/publications/hgv-inspection-manual>

¹⁹ <https://www.gov.uk/government/publications/heavy-goods-vehicle-fees/heavy-goods-vehicle-hgv-and-trailer-test-fees>

²⁰ <https://www.approvedworkshops.co.uk/>

- 3.5 The Central Registration & Identification Scheme (CRiS) is a voluntary registration scheme for caravans and leisure trailers established and managed by the National Caravan Council (NCC). It is estimated that CRiS covers 70 per cent of non-commercial O2 trailers.
- 3.6 The Equipment Register (TER) is a voluntary registration system used to assist the recovery of stolen plant and equipment, including trailers.

Operator Licencing

- 3.7 The current requirement is that a goods vehicle operator's licence for a motor vehicle and trailer combination is required if either the motor vehicle and the trailer(s) are plated and the total of their gross plated weights is more than 3,500 kg; or the total unladen weight of the vehicle and trailer combination is more than 1,525 kg. However, it is not required if the trailer's unladen weight is less than 1,020 kg and is used to carry the owner's goods.
- 3.8 This for O2 type trailers some in operation for the commercial carriage of goods are often in the scope of operator licensing, whereas those involved in commercial operations just involving the operator of the trailer's goods are generally out of scope. So for example the movement of materials by builders with this size of trailer is generally excluded. Many other operations of O2 trailers (including most caravans and horseboxes) are non-commercial.
- 3.9 The movement of the legal boundary between trailers used in business within and outside the operator licensing system to include more should be justified by information that those trailers specifically being reclassified into the regulatory system present a significant problem themselves. This information is not clear from the current report. The situation can be reviewed with further information and also if or when wider changes are envisaged to the operator licensing system. Already in Europe proposals have been developed which would bring some light goods vehicles into the operator licensing system. The operator licensing regime may present a more effective way than an annual test of influencing behaviour and effecting change with safety benefits. But it is not an option for very many light trailers, which are for personal, non-commercial use.

International comparators

- 3.10 In order to better understand the wider trailer safety context, the Department commissioned AECOM to undertake a review of trailer testing and registration regimes used in other countries.
- 3.11 A review of publicly available information from a range of transport departments was undertaken to identify similarities and differences in the requirements for registration and testing of relevant trailers. Where possible the description of the registration and testing procedures are supported by references to the relevant registration forms and the costs associated (correct at time of writing).

EU and other European registration and testing requirements.

- 3.12 Roadworthiness testing in the EU is governed by Directive 2014/45/EU, which has been transposed into UK law. Article 2 of the Directive states that it applies to "... trailers designed and constructed for the carriage of goods or persons, as well as for the accommodation of persons, having a maximum mass exceeding 3,5 tonnes – vehicle categories O3 and O4". The Directive does not apply to trailers below this weight.
- 3.13 However, as testing is a sovereign activity, this does not preclude Member States having domestic trailer testing regimes. There is therefore some variability in testing requirements, with some requiring testing or registration of all relevant trailers despite this not being mandatory under the Directive.
- 3.14 Additionally, the Directive requires the Commission to submit a report "...on the effectiveness of the inclusion of light trailers...in the scope of this Directive". This report has now been published, and is referred to below.
- 3.15 In all Member States, the owner is responsible for maintaining the vehicle in a condition suitable for driving, or being towed in the case of trailers, as well as being responsible for obtaining regular technical inspections where required. The frequency of the inspections differs from one country to another.
- 3.16 Insurance requirements also differ, with O1 trailers not requiring separate insurance, and insurance being required for O2 trailers in several EU member states.
- 3.17 The countries reviewed, and their requirements for registration and/or periodic testing are summarised in the table below.

Country	Registration required: Yes/No	Weight threshold	Periodic Inspection required: Yes/No
Croatia	Yes	Not specified	Yes
Denmark	Yes	Over 500kg	Not specified
France	Yes	Over 500kg	Not specified
Germany	Yes	Not specified	Yes
Ireland	No	N/A	No
Italy	Yes	All	Yes
Malta	Yes	All	Yes
Norway	Yes	All	Yes
Spain	Yes	Over 750kg	Yes
Sweden	Yes	All	Yes

Table 10 Countries with registration and testing requirements reviewed by AECOM

Croatia

- 3.18 Roadworthiness inspections of light trailers, including O1 and O2 trailers, have been carried out in Croatia since 1972. The number of registered light trailers in Croatia is 63,386 O1 trailers, and 5,891 O2 trailers.
- 3.19 O1 trailers in Croatia must have a roadworthiness inspection just before registration and then every three years following. O2 trailers must have an inspection prior to registration, two years following registration, and then every year following that. If the vehicle does not pass the roadworthiness inspection on the first attempt, the owner may make repairs and bring the trailer back for re-inspection at no additional charge within ten days of initial inspection.
- 3.20 To register a trailer in Croatia the following documents must be supplied:
- Registration form
 - Vehicle ID card specifying the owner
 - Technical inspection certificate
 - Fees and taxes payment confirmation

Denmark and France

- 3.21 Denmark and France both specify 500kg trailer gross vehicle weight (GVW) as the threshold between O1 and O2 categories, rather than the 750kg GVW adopted by most other EU countries. The 500kg threshold is used to determine registration requirements for use on the national road network. The below table summarises the registration and document requirements for France.

GVW less than 500kg	GVW exceeding 500kg
A caravan or trailer does not need to have a certificate of registration. It must have a licence plate, identical to that of the vehicle towing it. Homemade trailers must be approved to be able to circulate.	A trailer must be registered with a registration card issued to ensure authorisation for circulation. A caravan or trailer must always have a licence plate showing a registration number of its registration card. The regional identifier can be different from that of the towing vehicle. If required, the following should be presented to the police: The registration of insurance of the two vehicles.

Table 11 Summary of registration documents required for trailers in France

- 3.22 In addition to registration of trailer of GVW over 500kg, Denmark also charges a vehicle weight tax. A trailer number plate must be purchased, the cost of which is determined by the total weight of the trailer.

Germany

3.23 In Germany all trailers are required to have a license plate and be presented for inspection. The below table summarises the documents that must be presented to the administration authority when registering a trailer.

A new trailer acquired domestically	Vehicle registration document (registration certificate Part II). If applicable, EEC Certificate of Conformity. Insurance double card, or insurance code. Valid identity card of the future vehicle owner or passport (with confirmation of registration by the registration office). Authorization and identity card or passport (with confirmation of registration of the registration office) of the person to be represented as well as of the authorized representative).	Approval of a used trailer acquired domestically	Vehicle registration certificate (registration certificate Part I). Vehicle registration document (registration certificate Part II). In the case of a de-registered vehicle: de-registration or de-commissioning certificate.
A new trailer acquired abroad	Vehicle registration certificate (registration certificate Part II) and COC-papers / data confirmation / full report. Safety certificate of the Federal Motor Vehicle Office. Customs clearance certificate for import outside the EU. Import VAT return for EU import. Foreign vehicle documents or purchase contract or import certificate. Full expert opinion of a technical inspection agency with technical data sheet. Road traffic approval order or COC papers / data confirmation of manufacturer.	Authorisation of a used trailer acquired abroad	Vehicle registration document (registration certificate Part II). COC papers. Full technical report.

For clubs: extract from club register. For companies: business registration or commercial register extract.

Table 12 Summary of registration documents required for trailers in Germany

Ireland

- 3.24 Ireland adopted EC Directive 2007/46/EC into Irish law in 2009²¹. Following this Ireland introduced the National Small Series Type Approval (NSSTA) and the Individual Vehicle Approval (IVA) schemes for vehicles manufactured in small numbers or as individual vehicles.
- 3.25 A network of Approved Test Centres was established to examine and issue a test report for the technical requirements. These reports are then used by the National Standards Authorities of Ireland (NSAI) to grant the trailer approvals.
- 3.26 O1 and O2 trailers are classified differently from other categories of vehicles and do not have to be registered or licensed for use on Irish roads. However, type approval in the form of European Community Whole Vehicle Type Approval, NSSTA and IVA is required before they can be sold.
- 3.27 Since October 2012 manufacturers and retailers of light trailers in Ireland, just like other European countries (trailers with a GVW of 3,500kgs or less), must have type approval certification for every new trailer where:
- Single-stage built trailer placed on sale from October 2012,
 - Multi-stage built trailer placed on sale from October 2013,
 - Special purpose trailer placed on sale from October 2014.
- 3.28 The same rules as above apply to certain categories of Heavy Goods Trailers (>3,500kg).

Italy

- 3.29 Italian legislation²² requires the registration of O1 trailers in conjunction with a towing vehicle, where the registration number of the towing vehicle is also assigned to the trailer. However, it is also possible to register an O1 trailer alone for it to be used independently of the assigned towing vehicle. Independent registration is mandatory for O2 trailers.
- 3.30 O1 trailers are not subject to an individual insurance requirement, which is mandatory for O2 trailers. Rules for O2 trailers are applied to agricultural machinery, unlike most other EU member states where agricultural trailers are exempt from registration and testing requirement.
- 3.31 The Italian Ministry of Infrastructure and Transport stipulates that both O1 and O2 trailers must be tested by the 'Motorizzazione Civile e Trasporti in Concessione' (MCTC) at the frequency of the towing vehicle. For example, for cars this corresponds to four years after the date when the towing vehicle was first registered and every two years thereafter. The test consists of visual inspections with the exception for O2 trailers where, if designed with brakes, they are also tested.
- 3.32 The cost of the inspection is 45 Euros and it is usually payable in conjunction with the cost of testing the towing vehicle. The price is the same as for cars and includes a check of lights, brakes, hitch, and tyres. The price to test the towing hitch of a vehicle is fixed at 25 Euros of MCTC fee plus 14 Euros of government fee.

²¹ <http://www.rsa.ie/Documents/Vehicle%20Std%20Leg/Vehicle%20Type%20approval/Light%20Trailer%20Stakeholder%20Note.pdf>

²² <http://www.aci.it/i-servizi/normative/codice-della-strada.html>

Malta

3.33 All trailers in Malta must be registered with the National Transport Authority. The following documents must be presented to register a new or used trailer²³:

- Application form (VEH01)
- Invoice
- Copy of ID card of a purchaser
- Board resolution of the vehicle that is licensed on behalf of an organisation
- New trailers manufactured after October 2011 must have a Certificate of Conformity (i.e. type approval)
- Used trailers will require a documentation with manufacturer specifications

3.34 The vehicle registration fee in Malta is currently 15 Euros.

3.35 All trailers are subject to testing in Malta, specifically:

- Trailers with a GVW not exceeding, 3,500kg must pass a roadworthiness test two years from the date of first registration and every two years thereafter, which costs around 26 Euros.
- Trailers with a GVW exceeding 3,500kg must pass a roadworthiness test one year from the date of first registration and annually thereafter, which costs around 31 Euros.

Norway

3.36 The Norwegian Public Roads Administration approve and register a trailer (with certain exceptions) before it is used on the road for the first time. Approval stage is completed by documenting that the vehicle has been type approved or by having the vehicle undergo Individual Vehicle Approval.

3.37 Following the approval, a set list of documents must be provided to register a trailer for the first time, these are:

- Reporting form for tax calculation and registration;
- Valid photo ID;
- Motor vehicle liability insurance;
- One-off registration tax must be paid to the Norwegian Tax Administration before a trailer can be registered.

3.38 Trailers with GVW of exceeding 3,500kg must be tested at least 12 months after first registration, and every calendar year following.

Spain

3.39 The rules for trailer registration and testing in Spain have similarities with the guidelines for Italy. The table below outlines the requirements applicable to trailers

²³ <https://www.transport.gov.mt/Land-registering-and-licensing-a-motor-vehicle-POL02.pdf-f948>

purchased in Spain. The vehicle registration fee is currently around 95 Euros in Spain.

Trailers with GVW equal or less than 750kg	Trailers with GVW over 750kg
Registration is not required. Trailer Fichas Tecnicas (i.e. trailer technical documentation) is required. Separate insurance is not required.	Independent registration is required, showing red coloured plates. Valid ITV (equivalent of MOT in the UK) is required. Registration requirements of the towing vehicle should be clearly displayed. Separate insurance to the towing vehicle. Subject to payment of road tax.
Manufacturer's plate affixed close to the tow hitch is required.	
Note: This applies to trailers for personal use only and not commercial use, which will be treated as for trailers over 750kg, regardless of weight.	

Table 13 Summary of the registration requirements for trailers purchased in Spain

Sweden

3.40 All trailers must be registered for use in Sweden. Exceptions are made for those used in the same way as agricultural tractors²⁴²⁵. The Swedish transport authority clears the vehicle in two verification steps before registration.

- Step 1 is a check of the trailer origin, associated fee is SEK600 (around £51).
- Step 2 is a technical verification (also called a registration inspection) to identify the vehicle and to ensure that it meets Swedish legal requirements. The price varies depending on inspection company.

3.41 When both verification steps are complete the owner automatically receives a license plate and registration documents. Separate insurance is not required for trailers, however, road tax²⁶ does apply. The trailer owner is required to regularly check the vehicle for roadworthiness.

Other trailer testing regimes

Australia

3.42 Australia has variations in regulations within its own borders. The road transport authorities for each state or territory prescribe the process to be followed for motor vehicle inspection and registration in the respective area. Those surveyed typically require both testing and registration for trailers within the scope of this report.

²⁴ http://www.transportoversize.eu/files/Main/strategy/Oversize%20Transport%20Guidebook%20-%20Sweden.pdf?_sm_au_=iVV4tLSQ54rMDN2Q
²⁵ <https://www.global-regulation.com/translation/sweden/2989187/law-%25282001%253a558%2529-on-road-traffic-register.html>
²⁶ <https://www.transportstyrelsen.se/en/road/Vehicles/Off-road-notificationslicensing-for-use/Licensing-a-vehicle-for-use1/>

Canada

- 3.43 Individual Canadian provinces dictate the process to be followed for trailer registration and testing. Those surveyed require registration, with one requiring testing.

USA

- 3.44 There is no unified approach to trailer registration and inspection in the USA. Each state decides individually whether a proof of ownership is required for light trailers. Depending on the state it is related to trailers of GVW of 2,000lbs (approx. 907kg) or 3,000lbs (approx. 1,360kg).

Summary

- 3.45 The literature review has highlighted a range of approaches adopted across countries and states/territories with respect to registering and testing light trailers. Some countries with a requirement for trailer registration do not include obtaining the proof of ownership (i.e. USA).
- 3.46 The threshold of 750kg for GVW is primarily used to determine the requirement for a specific vehicle inspection, or not, before being used on the road. The age of the trailer is also considered when establishing the frequency of inspections (e.g. Northern Territory, Australia).
- 3.47 The costs of registration, licensing, and testing procedures vary greatly across the countries reviewed, as do the trailer elements that are checked during inspections.

Stakeholder Views

- 3.48 As part of AECOM's work for the Department, stakeholder interviews and surveys took place. These identified the following potential benefits and challenges to the introduction of testing and/or registration for O2 trailers.

Benefits

- Improved data quality and identification of O2 trailers
 - A registration system would create a record of number of trailers in circulation, weights and categories. This could be utilised in improving collision data.
- Crime reduction
 - A mandatory registration system may allow for the prompt return of stolen assets, aiding insurance companies with claims relating to stolen vehicles.
- Management of vehicles
 - Mandatory registration could allow for infrequently used trailers and caravans to be declared SORN when not in use and may help regulation of scrappage at the end of service life.
- Improved safety

- Mandatory registration and testing could improve the standard of trailer maintenance and safety
- Improve clarity of legislation
 - The introduction of a new testing/registration scheme could be an opportunity to rationalise and simplify legislation of trailers and driver licencing
- Employment and revenue generation
 - Mandatory testing of previously un tested vehicles would require an increase in capacity of test centres which will in turn require more trained staff.

Challenges

- Limited impact on safety
 - Many stakeholders agree that mandatory testing is unlikely to address all the issues associated with trailer safety. Human error/driver behaviour and overloaded or poorly loaded vehicles or trailers are a greater safety concern for many stakeholders than vehicle defects.
- Need for enforcement
 - Compliance with a testing/registration regime could only be ensured by on-road enforcement efforts
- Approach to testing
 - Testing of trailers may be required to address issues beyond simply roadworthiness. Extending the test to include the habitation area, for livestock trailers and caravans, may create complexity and possibly confusion but could also improve safety.
 - Concerns were raised about the implications for existing voluntary safety/testing schemes, and whether a mandatory scheme could lead to less concern about non-roadworthiness issues such as safety of livestock accommodation
- Lack of evidence
 - Some stakeholders viewed available evidence as insufficient to require a new testing regime, potentially leading to issues with compliance if the new regime is felt to be ineffective
- Test centre practicalities
 - Stakeholders raised concerns about the capacity, location, suitability and ability of test centres, particularly to deal with specialised/large/heavy trailers
 - Stakeholders also raised concerns around phasing of the introduction of a new scheme
- Cost and burden to trailer users
 - There could be unintended consequences arising from mandatory registration and testing. Stakeholders highlighted that some owners tend to live in their caravans and move them only rarely, with mandatory testing would requiring them to move their caravan more often than at present
 - The cost of testing may affect trailer usage and the leisure towing industry
- Giving provenance to stolen assets

- Mandatory registration may provide provenance for stolen assets. An identification process to validate the provenance of all trailers would prevent this but incur an extra, potentially significant, cost.
- Testing/registration of agricultural trailers
 - Significant concerns were raised by a majority of respondents in the agricultural sector at the potential for introduction of testing or registration for agricultural trailers.

Existing analysis

Previous DfT trailer safety work

3.49 The benefits of testing and/or registration of light trailers have been considered on a number of occasions by the Department, with the most notable recent investigations taking place in 2009 (a review of the merits of introducing a MOT test for light trailers, conducted by TRL for DfT), as well as EU-wide discussion and internal DfT work considering the costs and benefits of the introduction of light trailer testing, prior to and during negotiations towards EU Directive 2014/45.

3.50 The 2009 TRL study arrived at a number of relevant conclusions. In particular:

- The proportion of injury accidents which involve a defective vehicle-trailer combination (vehicle towing a trailer) where the defect was considered to have contributed to the accident is greater than for vehicles that are not towing. This can be partly explained by the fact that a vehicle-trailer combination is in effect two vehicles and so there are more systems that may potentially be defective.
- As with this report, it is important to note that these results were based on contributory factors recorded by the police as part of the STATS19 accident reporting system which does not indicate whether the defects that contributed to the accident were on the towing vehicle, on the trailer or on both.
- Information obtained from the police fatal accident archives showed that of the fatal accidents involving a vehicle towing a light trailer, about 25 per cent of the trailers were defective.
- Previous recommendations included a survey of trailers and the types of vehicles towing.
- Note: for the purposes of this study, light trailer was defined as anything up to 1,020kg so was different to the scope for this current report.

European Commission Report

3.51 When Directive 2014/45 was under consideration at a European level, the UK Government opposed the introduction of trailer testing, with contemporary estimates of the cost of putting in place a testing and registration scheme of around £239 million.

3.52 Although mandatory light (O1/O2) trailer testing was not introduced by the Directive, the European Commission was required to publish a report concerning the effectiveness of introducing mandatory testing for light trailers. This report has

recently been published²⁷. We have a number of significant concerns in relation to the conclusions drawn by this report.

- 3.53 The report itself notes that "In order to estimate the effect of PTI [periodic technical inspection] for trailers, some assumptions have to be made to be able to assess the effect. The data quality available for trailers is very low and much data that would be needed is practically non-existent."
- 3.54 The lack of data and uncertainty of the available information did not allow a full assessment of the costs and benefits associated with the introduction of light trailer testing. The EU report focussed in particular on findings from Germany and Croatia. The report itself notes that because "...there was no data available for Germany on how many accidents occur with and because of a trailer, a benefit-cost ratio for Germany was not obtainable."
- 3.55 The report covers O1 and O2 trailers, and is therefore wider in scope than this report (as well as covering powered two- and three-wheeled vehicles, which are already in scope of testing in the UK and are not relevant). Despite this, the total number of trailers involved in arriving at the benefit-cost ratio for Croatia is 69,277, the total number of O1 and O2 trailers in Croatia in 2017. This is a small sample in comparison to the estimated 1.39 million O2 trailers in scope of this report. The report authors arrived at a benefit-cost ratio of 6.32 for the introduction of trailer testing and registration in Croatia. This ratio relies on a mathematically-derived estimate of casualties and level of trailer usage due to lack of data.
- 3.56 Although we share the Commission's desire to improve trailer safety, we cannot support the conclusions reached on the basis of the available evidence. Despite a concerning lack of data, the authors of the report felt able to conclude that the introduction of periodic roadworthiness testing for light trailers may be beneficial for Member States and recommended that the frequency of such tests for O2 trailers should be once before registration, two years after registration, and then every year following. This is a more stringent inspection frequency than is currently used for cars in the UK.

Summary

- 3.57 In the EU, trailer testing is a sovereign activity, leading to some variability in testing requirements. A number of states require testing or registration of all relevant trailers despite this not being mandatory under the Directive.
- 3.58 Stakeholders raised a variety of benefits and challenges relating to the introduction of testing and registration of trailers. There was limited consensus relating to a particular option. A number of non-road safety issues were also highlighted by stakeholders, for example relating to vehicle crime.
- 3.59 Previous UK work suggested the introduction of registration and testing would be difficult to justify, with potentially significant financial costs.
- 3.60 Recent EU Commission work on trailer testing for O1 and O2 trailers takes a more positive view. However, we have doubts concerning the recommendations given limited available data.

²⁷ <https://citainsp.org/wp-content/uploads/2019/02/LO.pdf>

4. Statutory Assessment and Conclusions

- 4.1 This section sets out the Government's response to the specific requirements of s.20 of the Haulage Permits and Trailer Registration Act. These are set out in the Annex to this report.

Number and causes of road traffic accidents involving trailers

- 4.2 The total number of collisions involving personal injury or death in Great Britain, reported in the 2017 STATS 19 statistics, was 129,982. The total number of vehicles involved was 238,926.
- 4.3 The total number of towing vehicles (of any towing category) involved is 3,705. This number will include towing vehicles which are out of scope of this report, but the available data does not allow closer interrogation.
- 4.4 The available data does not allow evaluation of how many of these vehicles are "relevant trailers" for the purposes of Regulation 20(2) of the Act. However, in order to focus analysis where this could guide our recommendations, a selection of towing categories were selected.
- 4.5 Of the 983 collisions involving a vehicle towing single, multiple trailers and caravans, 758 had at least one contributory factor recorded, and 225 collisions had no contributory factors recorded.
- 4.6 There were 454 collisions with contributory factors assigned to a towing vehicle (325 solely to the towing vehicle) and 433 collisions with contributory factors assigned to the other vehicles involved (304 solely to the other vehicle) in these collisions. 129 collisions had contributory factors assigned to both vehicles.
- 4.7 These collisions were also analysed with contributory factors grouped by safe system pillar.
- Vehicle related contributory factors were assigned to 62 collisions
 - People related contributory factors were assigned to 358 collisions
 - Road related contributory factors were assigned to 65 collisions
 - Other categories were assigned to 33 collisions.

Testing and registration

- 4.8 AECOM were tasked by the Department with undertaking an analysis of options for testing and registration, as well as a high-level analysis of the risks and challenges that introduction of a new regime would pose. This has been developed and further considered by DfT analysts to ensure that a well-evidenced analysis has been undertaken.

- 4.9 The Act requires that this report give recommendations as to whether Regulations should be made to provide for the introduction of testing and/or registration for relevant trailers.

On the basis of the analysis which follows, our recommendation is that at the present time, Regulations should not be made which bring into force new or additional testing or registration requirements for relevant trailers.

Options considered

- 4.10 Three key options considered for trailer registration and testing of O2 trailers. This trailer category was selected for analysis as O3 and O4 trailers (with some limited exceptions) are already in scope of roadworthiness testing. It is noteworthy that the majority of O3 and O4 trailers are already operated safely, and that this safety is assured by existing systems of annual testing, roadworthiness enforcement, and operator licencing.
- 4.11 Agricultural trailers, which form a significant number of those heavy trailers which do not already fall within a testing regime, have been exempted from annual testing as a long-standing Government policy. Work towards this report has not produced significant new evidence which would alter this position, for example through interrogation of HSE records. Most agricultural vehicles are used off-road.
- 4.12 Additionally, agricultural stakeholder feedback was strongly (but not universally) against the introduction of new testing and registration requirements, especially without significant evidence to illustrate a need for this. Additionally, the question of testing for agricultural vehicles was addressed in part by recent consultation²⁸ on Fast Tractors, and the decision taken not to alter the current position. The consultation did not specifically ask about testing for trailers towed by fast tractors. However, the Government response made clear that where these trailers are not being used for agriculture, they do not benefit from the current exemption from testing for agricultural trailers, and are therefore required to be tested.
- 4.13 **Option 1.** No change. Following introduction of the Haulage Permit and Trailer Registration Act 2018, no periodic testing is required of O2 trailers, while registration will be required only for commercial trailers weighing over 750kg and non-commercial trailers weighing over 3,500kg if, and only if, travelling internationally.
- 4.14 Obviously this option has lower costs, lower numbers of users affected and allows the exchange of goods with countries abroad. Of itself it does not address key safety issues.
- 4.15 Stakeholder surveys and interviews have set out clear concerns about trailer user behaviour, as opposed to vehicle roadworthiness. A clear majority of accidents generally are caused by users rather than vehicles, and this is felt to be the case in relation to trailers. These concerns would not be addressed directly if we were to introduce testing and registration, but could be addressed more effectively through public messaging and campaigns targeted toward behavioural change.
- 4.16 This option does not preclude other actions, such as those set out in Section 4 below.

²⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/554759/fast-tractor-implementation-consultation.pdf

- 4.17 **Option 2.** Mandate registration for O2 trailers used in the UK (commercial or non-commercial), through application of a second registration plate or alternative trailer identifier.
- 4.18 There is no direct evidence to support Option 2. However, as supported by some stakeholder feedback, there is potential benefit in the prevention or identification of stolen vehicles. However, of itself this option would offer no direct link to road safety.
- 4.19 There is some potential to improve road safety if registered keepers are held responsible for the maintenance of their trailer, however, it is already the responsibility of the driver or user of the trailer to ensure it is in a roadworthy condition before using on a public road.
- 4.20 This option involves high costs to design a scheme and a high number of users would be affected. There is also an issue for enforcement, for example with a requirement for speed cameras to recognise two plates.
- 4.21 **Option 3.** Mandate registration and testing for O2 trailers used in the UK, (commercial or non-commercial).
- 4.22 There is an improved likelihood that option 3 would reduce road traffic collisions due to the testing requirements, which could improve vehicle maintenance and result in fewer defects on trailers being used on the public road.
- 4.23 With both registration and testing, there is the opportunity to raise awareness upon the need of performing preventative maintenance.

Cost-Benefit Analysis

- 4.24 This analysis appraises the introduction of mandatory registration and roadworthiness testing to commercial and non-commercial O2 trailers in the UK. O2 trailer owners will register their trailer online using the GOV.UK website and then purchase a number plate that must be displayed on the trailer. Roadworthiness testing of trailers will be carried out annually by a registered test centre.

O2 trailers in the UK

- 4.25 Currently, O2 trailers are not required to be registered in the UK and so there is no formal figure for the number of O2 trailers in use. The Department for Transport estimates there are around 1.39 million O2 trailers currently in use in the UK²⁹. This consists of around 890,000 trailers and 500,000 touring caravans. Each year around 139,000 new O2 trailers (10 per cent of the total number of O2 trailers) enter the market. It is unclear how many trailers exit the market per year, so for the purpose of this analysis it is assumed that the number of O2 trailers in use is constant at 1.39 million.

Personal injury collisions

- 4.26 Department for Transport's road safety data (STATS19) provides detailed information about the circumstances of personal injury road accidents, the vehicles involved and the consequential casualties³⁰. The most recent data from 2017 shows a total of 129,982 personal injury collisions resulting in 170,993 casualties. Breaking this down,

²⁹ http://www.legislation.gov.uk/ukia/2018/127/pdfs/ukia_20180127_en.pdf

³⁰ <https://data.gov.uk/dataset/cb7ae6f0-4be6-4935-9277-47e5ce24a11f/road-safety-data>

we can identify the number of personal injury collisions and casualties involving trailers, with a contributory factor of the collision associated with a vehicle defect that may be identified by the introduction of mandatory testing. In 2017, the STATS19 data identified 20 personal injury collisions and 26 casualties in scope. This is the upper limit of the number of casualties that could be prevented by improving roadworthiness of O2 trailers.

Breakdown of STATS19 data	Collisions	Casualties
Personal injury collisions in GB, 2017	129,982 collisions	170,993 casualties
Involving single, multiple trailers & caravans	983 collisions	1,361 casualties
Contributory factor assigned to a towing vehicle	454 collisions	626 casualties
Contributory factor is vehicle related	62 collisions	87 casualties
Contributory factor is a mechanical defect that may be identified through roadworthiness testing	20 collisions	26 casualties

Table 14 Breakdown of STATS19 data

Impacts of trailer registration and roadworthiness testing

- 4.27 The introduction of registration is an enabler for roadworthiness testing to take place. It is the introduction of roadworthiness testing that is expected to lead to improvements in the roadworthiness of O2 trailers, reducing the likelihood of collisions and therefore improving road safety.
- 4.28 Research carried out in 2011 by Transport Research Laboratory (TRL) for the Department for Transport³¹ states that there is no established link between MOT measured roadworthiness and vehicle defects contributing to accidents. From this, it can be inferred that roadworthiness testing of O2 trailers may therefore have a limited effect on O2 trailer mechanical defects that contribute to road accidents. However, there is scope to imply that the roadworthiness testing of O2 trailers can lead to road safety improvements through the ‘common sense approach’. Trailers with mechanical defects can be identified and repaired due to a roadworthiness test therefore reducing the likelihood of a defective trailer causing a road accident. The roadworthiness test deadline can influence motorists to be aware of safety issues with their trailer, keep on top of basic maintenance and conduct regular servicing.
- 4.29 For this analysis, illustrative scenarios have been used to show the benefits that could be achieved due to improvements in the roadworthiness of O2 trailers that leads to a reduction in the number of reported casualties.
 - Costs to introduce mandatory registration and roadworthiness testing of O2 trailers
 - Costs of the scheme are split into three categories:

³¹ <http://www.ewu.edu/Documents/CBPA/NWTTAP/Newsletter/Publications/PPR565.pdf>

- Costs to trailer owners
- Costs to Government and local bodies
- Costs to business

4.30 This analysis only includes costs directly associated with the policy consideration and those that are set out clearly in the proposal and existing data. Therefore, this appraisal will only include the costs to trailer owners. Costs to government, local bodies and businesses are outlined in the annex and require further research to understand their significance.

Component of registration and testing	Cost per trailer	Number of trailers in first year	Number of trailers from second year onwards	Cost to trailer owners in first year	Cost to trailer owners from second year onwards
Online registration	£28	1,390,000	139,000	£38.9m	£3.9m
Trailer number plate	£16	1,390,000	139,000	£22.2m	£2.2m
Total registration and number plate	£44	1,390,000	139,000	£61.2m	£6.1m
Annual roadworthiness test	£49	1,390,000	1,390,000	£68.1m	£68.1m
Total registration, number plate and roadworthiness test				£129.3m	£74.2m

Table 15 Total cost to trailer owners to register and test O2 trailers (2019 prices, per year)

4.31 Trailer owners will register their trailer online and pay a fee of £28 per trailer. Owners are then required to purchase and display a number plate on their trailer. The average cost of a number plate is £16 and can be purchased from private businesses registered with DVLA.

4.32 In the first year, all existing O2 trailers must be registered online and display a number plate. This is a total cost of £44 per trailer (£28 registration + £16 number plate) totalling around £61 million for all trailers. In the second year onwards, only new O2 trailers entering the market will need to be registered and display a number plate. This is a total cost of around £6 million per year.

4.33 Roadworthiness testing for O2 trailers will be required annually at a registered test centre. The average fee owners can expect to pay is £49 per trailer³². Assuming that the number of trailers remains constant each year, the total cost of roadworthiness testing is around £68 million per year.

4.34 In the first year, the total cost of registration and roadworthiness testing is around £129 million. From the second year onwards, annual costs will total around £74

³² An approximation of the average price currently applied to voluntary trailer testing from DVSA

million. Discounting over a 10-year appraisal period provides a present value cost of around £691 million.

Benefits of introducing mandatory registration and roadworthiness testing of O2 trailers

4.35 Benefits of the scheme are:

- Improvements in road safety – reduction in road casualties
- Reduction in the costs of congestion to road users
- Benefits to wider society

4.36 The purpose of the scheme is to improve road safety through the reduced likelihood of collisions involving O2 trailers. Therefore, benefits directly associated with this rationale are included in the appraisal. Benefits to wider society such as reductions in crime and reduction in breakdowns are outlined in the annex and require further research to determine their significance.

4.37 Introducing mandatory registration and roadworthiness testing can improve the roadworthiness of O2 trailers and could lead to a reduction in the 26 reported casualties per year. When a casualty occurs, there is an economic cost involved. This is the cost of the casualty (value of prevention) and the cost of congestion to road users due to delays caused by the accident. These costs are shown below for the 26 casualties currently in scope.

4.38 The average value of prevention per reported casualty calculates all aspects of the valuation of casualties, including the human costs, which reflect pain, grief and suffering; the direct economic costs of lost output, and the medical costs associated with road accident injuries³³.

Accident/casualty type	Cost per casualty	Number of casualties in scope	Total cost to the economy
Fatal	£1,965,772	1	£1,965,772
Serious	£220,897	9	£1,988,079
Slight	£17,029	16	£272,463
Total		26	£4,226,315
Average value of prevention per reported casualty			£162,550.57

Table 16 Average value of prevention per reported casualty³⁴ (2019 prices, per year)

4.39 Costs of congestion measure the negative effects to road users of delays on the roads. These calculate the journey time, reliability of the journey, fuel costs, carbon emissions and accident risks.

Total congestion cost to drivers in the UK³⁵ £39,102,693,759

³³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/244913/rrcgb2012-02.pdf
³⁴ DfT – Accident and Casualty Costs RAS60001: Average value of prevention per reported road casualty 2017
³⁵ INRIX 2017 Scorecard – Total cost of congestion for UK drivers

Proportion of congestion due to collisions³⁶	4%
Total congestion cost due to collisions	£1,564,107,750
Congestion cost from trailer collisions due to a mechanical defect³⁷	£237,744
Number of casualties in scope	26
Average congestion cost per casualty	£9,144.01

Table 17 Average cost of congestion per reported casualty (2019 prices, per year)

Costs	Per casualty	Total (26 casualties in scope)
Total average economic cost	£171,695	£4,464,059
Average value of prevention	£162,551	£4,226,315
Cost of congestion to road users	£9,144	£237,744

Table 18 Total average economic cost per reported casualty (2019 prices, per year)

4.40 For the 26 casualties in scope, this has an average cost to the economy of around £4.5 million per year. Per average casualty, this is around £172,000 per year.

4.41 Improvements in roadworthiness of O2 trailers may lead to a reduction in the number of reported casualties per year. This could therefore lead to a reduction in the annual economic cost of casualties and is measured as an economic benefit. This is shown below using illustrative scenarios:

Scenario	Reduction in casualties (%)	Reduction in casualties	Reduction in casualty costs	Reduction in congestion costs	Total economic benefits from reduced casualties	Net Present Benefit (over a 10-year appraisal period)
Low	25%	6.5	£1.06m	£0.06m	£1.12m	£9.56m
Central	50%	13	£2.11m	£0.12m	£2.23m	£19.11m
High	75%	19.5	£3.17m	£0.18m	£3.35m	£28.67m

Table 19 Illustrative scenarios of the economic benefits from a reduction in the number of casualties in scope (2019 prices, per year)

³⁶ Utilities' Street Works and the Cost of Traffic Congestion – Goodwin (2005) and Understanding and Managing Congestion – ITP (2017)

³⁷ Calculations using STATS19 – Personal Injury Collisions data (2017)
0.8% of all accidents attributed to towing a trailer and 1.9% of those reported a contributory factor of a mechanical defect
(£1.56bn*0.8%*1.9% = £237,000)

4.42 In the central scenario, a 50% reduction in the 26 casualties per year (prevention of 13 casualties) has a total economic benefit of around £2.2 million per year. Discounting over the 10-year appraisal period provides a net present benefit of around £19.1 million.

Net Present Value

Illustrative scenario	Present Value Costs	Present Value Benefits	Net Present Value
Low (25% reduction in casualties)	£690.7m	£9.6m	-£681.1m
Central (50% reduction in casualties)	£690.7m	£19.1m	-£671.6m
High (75% reduction in casualties)	£690.7m	£28.7m	-£662.0m

Table 20 Net Present Value for the introduction of registration and roadworthiness testing for O2 trailers over the 10-year appraisal period (2019 prices)

'What-if' analysis

4.43 Further scenario analysis has been conducted to understand 'what-if' situations. This includes a complete reduction in the total reported casualties attributable to trailer collisions and an exercise to identify the reduction in casualties required to make the net present value positive given the current cost estimates. These scenarios are shown below:

Scenario	Prevention of all 26 reported casualties (A)	Increase in benefits to match costs ³⁸ (B)	Decrease in costs to match central benefits ³⁹ (C)	Roadworthiness testing every two years ⁴⁰ (D)
Reduction in casualties per year	26	470	13	13
Present Value Costs (Over a 10-year appraisal period)	£690.7m	£690.7m	£19.1m	£404.2m

³⁸ This scenario increases the reduction in the number of casualties per year until the net present benefits are higher than the current net present costs. In this scenario, there would need to be a reduction of 470 or more casualties.

³⁹ This scenario decreases the costs to trailer owners to register, number plate and annually test their O2 trailers, until the net present costs decrease below the net present benefits. In this scenario, fees to register and number plate a trailer must be less than £1.32 per trailer and the annual roadworthiness test must cost less than £1.47 per trailer from the second year onwards. In the first year, these fees must be considerably lower.

⁴⁰ Reducing the frequency of roadworthiness testing may reduce the number of prevented casualties per year and therefore the economic benefits may be reduced.

Scenario	Prevention of all 26 reported casualties (A)	Increase in benefits to match costs ³⁸ (B)	Decrease in costs to match central benefits ³⁹ (C)	Roadworthiness testing every two years ⁴⁰ (D)
Present Value Benefits (Over a 10-year appraisal period)	£38.2m	£690.7m	£19.1m	£19.1m
Net Present Value (Over a 10-year appraisal period)	-£652.4	£0.1m	£0.0m	-£385.1m

Table 21 What-if' illustrative scenario analysis (2019 prices)

- 4.44 Prevention of all 26 reported casualties per year provides an annual economic benefit of around £4.5 million. Over the 10-year appraisal period this produces a net present benefit of around £38 million, but still provides a large and negative net present value of -£652 million.
- 4.45 To produce a positive net present value, 470 or more casualties must be prevented per year. This can produce an annual economic benefit of around £81 million and a small, but positive, net present value of around £100,000 over the 10-year appraisal period. However, a reduction of 470 casualties is around 18 times more casualties that are currently in scope.
- 4.46 We can also reduce the costs to trailer owners to match the economic benefits from a central reduction in casualties. However, costs to register, number plate and test O2 trailers would need to decrease considerably to around £1.32 to register and number plate a trailer and less than £1.47 for a roadworthiness test in the second year onwards. In the first year, these will need to be even lower.
- 4.47 Roadworthiness testing every two years would reduce costs to trailer owners but may have a negative impact on the number of casualties prevented due to a reduction in the frequency of roadworthiness testing. Over the 10-year appraisal period, this still produces a large and negative net present value of -£385 million.

Analytical Assurance

- 4.48 This analysis estimates the quantified costs and benefits from introducing mandatory registration and roadworthiness testing of O2 trailers. The analytical assurance rating is low as there is some uncertainty and scope for challenge. The outcome is sensitive to the number of O2 trailers currently in use and it is unclear whether the 26 casualties in scope are directly attributable to accidents caused by defective O2 trailers.
- 4.49 Costs and benefits not included in this appraisal may have a significant impact on the outcome. Additional costs to government, local bodies, trailer owners and businesses are expected to be substantial in comparison to the expected additional benefits, but will require further research to be quantified. These are detailed in the annex.

The number of O2 trailers currently in use

4.50 There is no reported figure for the number of existing O2 trailers in use in the UK, nor the number of trailers that enter and exit the market each year. Voluntary registration systems exist, such as the Central Registration and Identification Scheme, however these are estimated to capture only around 70% of non-commercial O2 trailers.

STATS19 data – personal injury collisions and casualties

4.51 STATS19 data is the most accurate recording of personal injury collisions, vehicles and contributory factors for this analysis. However, the data is Great Britain specific, does not specify the weight or type of trailer in use and does not specify whether the mechanical defect defined as the contributory factor is attributable to the towed or towing vehicle.

GB specific

4.52 The change in legislation is required across the UK, whereas STATS19 data records personal injury collisions for Great Britain only.

Trailer definition

4.53 The STATS19 data does not specify the weight or category of trailer involved in the road collision. Therefore, it is not possible to attribute the collisions and casualties specifically to O2 trailers. Some, or all, of the reported collisions may be attributable to trailers that are currently regulated (O3 and O4 trailers) or to trailers that are out of scope (O1 trailers).

Contributory factors

4.54 The STATS19 data records contributory factors that are attributable to a collision. Up to 6 contributory factors can be recorded per collision and can only be assigned to either a vehicle or a pedestrian, not a trailer or a caravan. The records cannot assign blame or cause of the collision directly to the towing vehicle. It also cannot be determined whether only one or multiple contributory factors are the cause of the collision.

4.55 The data cannot tell us the weight or category of trailer involved in a collision or whether the vehicle towing the trailer or the trailer itself has a mechanical defect that is a contributory factor to the collision. This indicates that the introduction of mandatory registration and testing of O2 trailers may therefore have no direct impact on the number of casualties in scope.

Annex

4.56 Costs and Benefits excluded from the analysis

- Costs to Government and local bodies
- Development costs – to build and develop the online registration system

- Operational costs – to operate and maintain the online registration system, to provide training and resources to O2 trailer test centres
- Enforcement – costs to police forces to enforce the regulations, update ANPR systems and speed camera detection of number plates.
- Costs to trailer owners
- Repair costs and re-test fees from non-compliant roadworthiness tests
- Insurance premiums
- Costs to business
- Investment into training and equipment required to provide O2 trailer testing
- Insurance premiums
- Administration, familiarisation and time costs
- Benefits to trailer owners and wider society
- Reduction in O2 trailer theft and use of O2 trailers in criminal activity
- Increased likelihood of lost and stolen O2 trailers returned to owners
- Reduction in the likelihood of breakdowns due to O2 trailer mechanical defects

5. Further Recommendations and Future Work

Future work

- 5.1 This report has presented an opportunity to consider trailer safety in a broad context, and to consider other interventions which may benefit towing and more general road safety.
- 5.2 Throughout this report, significant concerns have been raised about data availability and validity, the role of driver error in incidents, and ensuring that the current test regimes for drivers and vehicles are working correctly.

Stakeholder views

- 5.3 As part of AECOM's stakeholder engagement work, views of respondents were sought on other issues which are of concern, in addition to testing and registration.
- 5.4 There is a belief amongst some stakeholders that the STATS19 data does not portray an accurate representation of trailer safety. This is partly attributed to the lack of police training and that data capture could be improved to better reflect trailer safety.
- 5.5 Improved trailer safety awareness among police and traffic officers may benefit enforcement efforts and the reporting of incidents.
- 5.6 Trailer mileage would be useful information to collect. This would allow incident rates to be analysed in the safety assessment. However, without a tracking system, such as an odometer, this data cannot be collected. Best estimates are based on anecdotal evidence from trailer owners.
- 5.7 Some stakeholders questioned why O1 trailers were not included in this consideration of mandatory registration and testing. However, others thought O1 trailers should continue to be exempt from registration and testing.
- 5.8 Stakeholders noted that infrequent use of a trailer or caravan can lead to tyre-issues; stationary tyres may not experience wear and tear but can deteriorate due to chemical compounds reacting with the environment (ultra violet light, humidity and temperature changes). The steel bands in a tyre can deform if left for long periods, especially if the air pressure is low. A view was noted by some stakeholders that tyre pressure is not checked or adjusted for the load on commercial trailers.
- 5.9 Additionally, it was noted that the O2 trailer market is varied with different types and use of trailers, therefore different solutions could target various aspects of the sector. A single coordinated campaign, perhaps through the National Towing Working Group (NTWG) would ensure all parties promote a consistent message to the consumer, and avoid conflicting advice.

- 5.10 Views were received relating to the insurance industry - for example that a certificate of compliance could lead to insurance companies offering a discount on annual renewal.
- 5.11 Use of the VIN chip system as identification for trailers was also noted as worthy of further exploration.

Additional research

- 5.12 Throughout this report, it has been clear that a lack of clear data is a limiting factor to understanding the safety risks of light trailers, and to developing future policy options. This is particularly the case when considering whether to regulate specific sectors, such as commercial trailers, where stakeholder concerns have been raised.
- 5.13 DVSA undertook 800 roadside trailer checks during the drafting of this report, in order to assist our understanding of safety risks. However, these checks are limited in number and the results will be affected by the short time in which they were conducted. This is particularly clear when considering the small number of caravans captured in the data, which is understandable given the checks were conducted during winter months.
- 5.14 In order to address these concerns, and to provide further data on which to base future policy decisions, DVSA will therefore conduct an additional series of trailer checks, to commence shortly following the publication of this report. These checks will have the following aims:
- Capture a randomised selection of trailers of all types, in the 750 - 3,500kg range
 - Ensure a full calendar year of data is captured
 - Be of a sufficient number and geographical range to guide policy decisions
 - Provide an insight into whether there are significantly higher concerns specific to
 - trailer usage, e.g. commercial/non-commercial/agricultural
 - trailer type, e.g. caravans, boat trailers
 - specific components, e.g. tyres, brakes
- 5.15 This data will be thereafter be collated into a light trailer fleet compliance survey, to be published in a similar form to the Fleet Compliance Check of heavy trailers.

Improved data gathering

- 5.16 Road accident data is collected from the police with the Stats19 collection. As with any collection system, it needs to be periodically reviewed to keep up with changes in technology, to make improvements to completeness and accuracy, and to reduce the reporting burden.

- 5.17 STATS 19 was last reviewed in 2008, and during this year the collection is being reviewed. This process is overseen by the Standing Committee on Road Accident Statistics (SCRAS)⁴¹. The outline for the review agreed by SCRAS includes:
- Recommending modifications to STATS 19 variables with a view to improving quality/value of the data to users and to reducing reporting burdens on the police
 - Identifying areas where the STATS 19 specification can be streamlined and modernised in order to reduce burdens, including improving validation at source and therefore overall increase the quality of data collected and speed up the ability to report/produce findings
 - Considering the scope and opportunities for better use of technology, data sharing and matching to modernise road casualty data. This is both with a view to reducing the amount of data needing to manually rather than automatically input by the police, but also to enrich the data available to generate insight to improve road safety interventions
 - Developing a roadmap for any longer-term data changes needed to improve the evidence base for road safety interventions
- 5.18 As previously noted, a number of concerns have been raised regarding the capture of trailer safety data via STATS 19. These concerns have been relayed to the team reviewing STATS 19 in order that they can be taken into account.
- 5.19 Any amendment to the reporting form will have implications for the time taken to complete by police officers. It is therefore key that any changes to this system are proportionate.

Development of current testing regime

- 5.20 A range of issues have been raised relating to testing of trailers, towing vehicles and drivers. Further actions will be taken in order to address these:

Testing of trailers

- 5.21 Although we will not introduce new mandatory testing requirements for light trailers, the Department recognises the range of existing voluntary testing schemes in various sectors. DfT and DVSA can play a more developed role in sharing and promoting best practice, assisting new entrants to the voluntary testing arena, as well as providing technical advice where necessary. DfT and DVSA will therefore undertake discussions with voluntary testing providers about how we can assist in these areas.

Testing of towing vehicles

- 5.22 As many roadworthiness issues relate to the towing vehicle rather than the trailer, it is only right that effort is concentrated on testing of those vehicles most likely to be towing light trailers. Class 3,4,5 and 7 vehicles undergo an annual MOT test. This is undertaken by vehicle testers approved and overseen by the DVSA.

⁴¹ <https://www.gov.uk/government/publications/committees-and-usergroups-on-transport-statistics/the-transport-statistics-user-group>

- 5.23 DVSA will undertake focused communications relating to towing attachments (including towbars and lighting fixtures) to raise awareness of correct testing methods and to ensure that this testing is being undertaken to a high standard. This will include increased emphasis on this element of testing when quality-assuring MOT testers.
- 5.24 DVSA will also consider revisions to the current method of testing lighting attachments on towing vehicles during the MOT test, in response to stakeholder concerns.

Testing of drivers

- 5.25 The rules relating to testing of drivers vary according to when the car driving test was passed. If this was passed on or after 1 January 1997, the driver can:
- drive a car or van up to 3,500kg maximum authorised mass (MAM) towing a trailer of up to 750kg MAM
 - tow a trailer over 750kg MAM as long as the combined MAM of the trailer and towing vehicle is no more than 3,500kg
- 5.26 In order to tow heavier trailers, or an increased MAM, the driver must undertake an additional practical driving test, often called the "B+E" test. Given that a range of stakeholders and data sources pinpoint driver error as a key factor in towing incidents, it is sensible to consider improvements to this test.
- 5.27 DVSA will be considering revisions and improvements to the B+E safety questions, which form part of the practical test, over coming months. These will seek to address issues which have been raised during this report.
- 5.28 Additionally, DVSA will consider ways to promote the B+E syllabus in the national driving standard⁴², especially to increase awareness of safety issues among new and learner drivers and those who may only tow rarely.
- 5.29 DVSA will also explore the potential implications of a revision to the minimum test vehicle requirements. At present drivers undergoing the B+E test are required to use a trailer with a maximum authorised mass (MAM) of at least 1,000kg, carrying a load of at least 600kg. DVSA will explore whether increases to this requirement, for example requiring a combination over 3.5 tonnes, would lead to tests being undertaken in a more representative vehicle combination, and whether any safety benefits would be proportionate to the cost of amending the requirements.

User behaviour

- 5.30 As noted by stakeholders, establishing a link between safety and insurance premia could significantly influence the behaviour of trailer users. DfT will engage with insurers to explore the possibility of further action in this area.
- 5.31 DVSA will continue to communicate safety messages to trailer users through the Towsafe4Freddie campaign and will focus on reducing the number of non-compliant O2 trailers.

⁴² <https://www.gov.uk/guidance/national-standard-for-driving-cars-and-light-vans-category-b>

5.32 DVSA will use the findings of the report and stakeholder comments to further develop safety messages. This will include messaging on lights, brakes and tyres. DVSA will work with other agencies and organisations to ensure towing safety messages are shared. Once the additional series of trailer checks has been completed, DVSA will also explore audience segmentation to target specific trailer users.

Older Tyres

5.33 Following the Department's announcement in February 2019 to consult on banning the use of tyres 10 years or older on certain vehicle types, the Department has now developed its proposals to implement this legislative change. A consultation regarding these proposals was launched in June⁴³.

5.34 The vehicles included in our plans are heavy goods vehicles, heavy trailers, buses, coaches and minibuses. We are also seeking views and evidence on whether to introduce a similar maximum age for tyres fitted to taxis and private hire vehicles.

Road Safety Statement

5.35 On 13 July 2018, the Department published a progress report on the 2015 'Working together to build a safer road system: British Road Safety Statement'. The Department committed to publishing a refreshed Road Safety Statement focusing on four vulnerable road user groups – young road users, rural road users, motorcyclists and older road users. The refreshed statement and two year action plan will be published soon addressing these priority groups throughout a lifetime of safe road use.

⁴³ <https://www.gov.uk/government/consultations/banning-tyres-aged-10-years-and-older>

6. Annex

Glossary

Term	Definition
Relevant trailers	Trailers which are kept or used on roads and— (a) if constructed or adapted to carry a load, weigh more than 750 kilograms when laden with the heaviest such load; (b) otherwise, weigh more than 750 kilograms.
Articulated vehicle	A tractor with a semi-trailer so constructed that a significant part of the weight of the semi-trailer is borne by the tractor. Articulated (bendy) buses also included here.
Double or multiple trailer	Two or more trailers.
Caravan	Two-wheeled or four-wheeled trailer designed for accommodation, or as a mobile office etc.
Single trailer	Any rigid vehicle towing a drawbar trailer or trailer with fixed axle(s), other than a caravan, via a rigid bar.
Other tow	Any other towing arrangement not defined in the other four STATS 20 towing definitions and includes vehicles towing by rope, and breakdown trucks towing another vehicle by crane-mounted tow or a towing bar, but it specifically excludes any drawbar trailer.
Gross weight (GVW)	Maximum permissible weight of a trailer (or a powered vehicle).
Un-laden weight (ULW)	Weight of a trailer (or a powered vehicle) with no load.
Operator licensing (O licensing)	Licence for goods vehicle of over 3,500kg gross plated weight or (where there is no plated weight) an unladen weight of more than 1,525kg to transport goods for hire or reward or in connection with a trade or business.
Casualty	A person killed or injured in an accident. Casualties are sub-divided into killed, seriously injured and slightly injured
Fatal accident	An accident in which at least one person is killed; other casualties (if any) may have serious or slightly injuries.
Killed	Human casualties who sustained injuries which caused death less than 30 days (before 1954, about two months) after the accident. Confirmed suicides are excluded.
Serious accident	One in which at least one person is seriously injured but no person (other than a confirmed suicide) is killed.
Serious injury	An injury for which a person is detained in hospital as an “in-patient”, or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident.

An injured casualty is recorded as seriously or slightly injured by the police on the basis of information available within a short time of the accident. This generally will not reflect the results of a medical examination, but may be influenced according to whether the casualty is hospitalised or not. Hospitalisation procedures will vary regionally.

Slight accident

One in which at least one person is slightly injured but no person is killed or seriously injured.

Slight injury

An injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.

Trailer Categories





Category	Gross Vehicle Weight	Example
O1	≤750kg	
O2	>750kg ≤3,500kg	
O3	>3,500kg ≤10,000kg	
O4	>10,000kg	

Table 22 Categories of trailers and their weight

STATS 19 Towing and Articulation codes

Code	Note
0. No tow or articulation	N/A
1. Articulated vehicle	An articulated vehicle is a tractor with a semi-trailer so constructed that a significant part of the weight of the semi-trailer is borne by the tractor. It does not include a tractor without its semi-trailer, which should be coded 0, nor a combination made up of a rigid vehicle and a drawbar trailer, which should be coded 4. A drawbar trailer has at least 2 axles, the front axle of which is steered by the drawbar connecting it to the drawing vehicle. Articulated (bendy) buses should be coded 1.
2. Double or multiple trailer	A double/multiple trailer should be taken to mean two or more trailers.
3. Caravan	A caravan means a two-wheeled or four-wheeled trailer designed for accommodation, or as a mobile office etc.
4. Single trailer	Single trailer is any rigid vehicle towing a drawbar trailer or trailer with fixed axle(s), other than a caravan, via a rigid bar. Mobile compressors, other heavy plant and equipment, fairground and circus equipment are each to be regarded as single trailers - coded 2 or 4 if applicable.
5. Other tow	Other tow is any other towing arrangement not defined in codes 0 - 4 and includes vehicles towing by rope, and breakdown trucks towing another vehicle by crane-mounted tow or a towing bar but it specifically excludes any drawbar trailer.

Table 23 STATS19 Towing and Articulation codes

6. Annex

Glossary

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Caravan	Two-wheeled or four-wheeled trailer designed for accommodation, or as a mobile office etc.
Single trailer	Any rigid vehicle towing a drawbar trailer or trailer with fixed axle(s), other than a caravan, via a rigid bar.
Other tow	Any other towing arrangement not defined in the other four STATS 20 towing definitions and includes vehicles towing by rope, and breakdown trucks towing another vehicle by crane-mounted tow or a towing bar, but it specifically excludes any drawbar trailer.
Gross weight (GVW)	Maximum permissible weight of a trailer (or a powered vehicle).
Un-laden weight (ULW)	Weight of a trailer (or a powered vehicle) with no load.
Operator licensing (O licensing)	Licence for goods vehicle of over 3,500kg gross plated weight or (where there is no plated weight) an unladen weight of more than 1,525kg to transport goods for hire or reward or in connection with a trade or business.
Casualty	A person killed or injured in an accident. Casualties are sub-divided into killed, seriously injured and slightly injured
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Serious accident	One in which at least one person is seriously injured but no person (other than a confirmed suicide) is killed.
Serious injury	An injury for which a person is detained in hospital as an “in-patient”, or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident.

(b) regulations under section 21 should be made.

(3) The report must be laid before Parliament within the period of one year beginning with the day on which this section comes into force.

(4) In this section—

“relevant trailers” means trailers which are kept or used on roads and—

(a) if constructed or adapted to carry a load, weigh more than 750 kilograms when laden with the heaviest such load;

(b) otherwise, weigh more than 750 kilograms;

“reporting period” means a period determined by the Secretary of State, which must be a continuous period of at least 12 months ending no earlier than 18 months before the day on which this section comes into force.

21 Trailer safety: testing regulations

(1) Regulations may provide for periodic testing of the construction, condition or safety of relevant trailers.

(2) The regulations may amend provision made by or under Part 2 of the Road Traffic Act 1988.

(3) The regulations may, in making consequential or other provision as mentioned in section 25(1)(a), amend any Act (whenever passed or made).

(4) No regulations under this section may be made before the report is laid before Parliament under section 20.

(5) In this section, “relevant trailers” has the meaning given by section 20(4).

Costs and Benefits excluded from the analysis

- Costs to Government and local bodies
- Development costs – to build and develop the online registration system
- Operational costs – to operate and maintain the online registration system, to provide training and resources to O2 trailer test centres
- Enforcement – costs to police forces to enforce the regulations, update ANPR systems and speed camera detection of number plates.
- Costs to trailer owners
- Repair costs and re-test fees from non-compliant roadworthiness tests
- Insurance premiums
- Costs to business
- Investment into training and equipment required to provide O2 trailer testing
- Insurance premiums
- Administration, familiarisation and time costs
- Benefits to trailer owners and wider society
- Reduction in O2 trailer theft and use of O2 trailers in criminal activity
- Increased likelihood of lost and stolen O2 trailers returned to owners
- Reduction in the likelihood of breakdowns due to O2 trailer mechanical defects

CCS0719617074
978-1-5286-1520-4