

# Evaluation of the High Volume Semi-Trailer Trial: Annual Report 2012

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A report for the Department for Transport  
May 2013  
Issue 1



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## Executive Summary

### Background to the trial

The Department for Transport (DfT) is undertaking a 10 year trial of the operation of high-volume semi-trailers (HVSTs) on the roads of Great Britain (GB). These trailers are permitted to be up to 2.05m longer than the standard 13.6m units commonly seen on the roads in this country.

The trial is designed to test the impact of such operations on efficiency, and on emissions. A reduction in emissions may be expected from the increased trailer capacity which should allow the same quantity of goods to be transported in fewer journeys. The trial will ascertain whether this potential reduction in emissions will be realised in practice.

The trial will permit up to 1,800 trailers in two length categories (up to 14.6m and up to 15.65m) to operate under tailored Vehicle Special Orders (VSOs) granted by the Vehicle Certification Agency (VCA).

In December 2011, DfT appointed Risk Solutions as the independent evaluation consultant on a contract for the first year of the trial. Risk Solutions was tasked with setting up a data collection process and managing this for 2012. The dataset to be collected was initially defined by DfT and then refined in consultation with Risk Solutions and a selection of operators. Risk Solutions have recently been reappointed in this role for the two years 2013-14.

### Trial data collection

The first HVSTs started to operate in March 2012, but they did not appear in service in significant numbers until April/May. Formal data collection began from 1 May 2012, with operators recording details of every individual journey leg covered by HVSTs, some basic trailer design details and also information on any incidents that took place. The process also gathers basic counterfactual<sup>1</sup> information about the non-HVST operations of the participants for a period prior to the trial.

Data from May-August and then September-December 2012 has been submitted to Risk Solutions who also gave support and advice to the participants on data collection systems and processes. Whilst the dataset is not yet large enough to support detailed analysis, summary figures from the first two periods have been produced for DfT.

This report records the development of the data gathering framework and processes, the extent of participation during 2012 and the status of the data gathered to this point.

### Scale of the trial

At the end of 2012, approximately 25% of the 175<sup>2</sup> companies holding allocations had taken up some or all of their trailers. Individual operators hold allocations from 1 to 90 trailers. The early uptake has been largely driven by medium (more than 50 drivers) or larger operators working in general haulage/pallet or larger retail operations.

Based on survey responses to date, HVST operations in 2012 involved approximately 350 trailers running almost 70,000 journey legs, totalling 8.3 million km and transporting

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<sup>1</sup> HM Treasury. The Magenta Book, Guidance for Evaluation, April 2011: "The key characteristic of a good impact evaluation is that it recognises that most outcomes are affected by a range of factors, not just the policy. To test the extent to which the policy was responsible for the change, it is necessary to estimate – usually on the basis of (often quite technical) statistical analysis of quantitative data – what would have happened in the absence of the policy. This is known as the counterfactual."

<sup>2</sup> The number of operators holding allocations varies slightly over time as some companies transfer allocations to other companies, or as result of business mergers or buy-outs.

more than 600,000 tonnes of cargo. The average single leg distance was 125 km although individual operator averages range from 35 to 358 km.

### **Trailer Lengths**

Of the trailers known to be on the road, only about 15% are the shorter length category, up to 14.6m. We will continually monitor this issue.

### **Recommendations**

Based on the experience of Year 1, a number of recommendations have been made to improve the trial evaluation and data processes. These have already been discussed with DfT and, where appropriate, are already being acted upon.

### **Looking forward**

The report looks forward to the next phase of the trial.

There will be a mid-year project review in Autumn 2013 and a further Annual Report on the trial and emerging findings, in the Spring of 2014.

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# 1 INTRODUCTION

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- 1.1 The Department for Transport (DfT) wants to evaluate a trial of the operation of high-volume semi trailers (HVSTs) on roads in Great Britain (GB). These trailers are permitted to be up to 2.05m longer than the standard 13.6m units commonly seen on the roads in this country and hence are also referred to as 'Longer Semi-Trailers' (LSTs).
- 1.2 A trial has been created to gather evidence about the operational performance of HVSTs in terms of safety, environmental impact and economics. The trial is proposed to last for 10 years from the launch in 2012. The first semi-trailers were granted Vehicle Special Orders (VSOs) early in 2012 and data collection began on 1 May 2012.
- 1.3 The outputs from the trial will feed into a decision about whether or not to permit an increase in the length of semi-trailers authorised for operation on roads in Great Britain. More broadly, the trial will contribute to DfT's work to:
- identify de-regulatory measures to reduce burdens on business; and
  - identify measures to reduce emissions from HGVs.
- 1.4 In December 2011, the Freight, Operator Licensing and Roadworthiness Division (FOLR) of the DfT commissioned Risk Solutions to:
- Design a process to collect data to support the evaluation of operational performance of HVSTs.
  - Set up the initial systems for data collection.
  - Initiate the process and support participants during the first year of the trial (2012).
  - Report on progress achieved during the year.
- 1.5 Results from the two data collection periods conducted during 2012 have already been provided to DfT. This document is a project report covering:
- the work carried out to design the system,
  - the experience gained during the first year,
  - the current status of the data and results, and
  - key recommendations for the process going forward.
- 1.6 Risk Solutions has recently been commissioned to continue in the role of independent evaluation consultant for the trial for the next two years, with an option for a further two year extension.
- 1.7 Terminology specifically related to the trial and the data gathering is used throughout this report and is defined either in the text or the appendices. Terms that are in common use in the industry are used without further explanation.
- 1.8 This report makes a number of recommendations relevant to the trial evaluation and data processes, based on the experience of Year 1. Many of these have already been discussed with DfT and, where appropriate, are already being acted upon.
- 1.9 There will be a mid-year project review in Autumn 2013 and a further Annual Report on the trial and emerging analysis, in the Spring of 2014.

## 2 TRIAL DATA SUBMISSION PROCESS

2.1 In this section we describe the data collection process that has been developed to support evaluation of the trial.

### Frequency

2.2 When the trial was first launched, late in 2011, the original proposal was to collect data in four three-month periods each year using a survey tool. The plan was adjusted in response to a number of events early in the trial.

#### Early uptake slower than anticipated

2.3 The allocation of trailers to applicant companies was announced in December 2011 but was not finalised until the beginning of February 2012, with the first deliveries of trailers to operators not taking place until March 2012 (excluding a few demonstration units). This was due to a combination of factors: operators needing time to clarify their needs and investment plans; and work with manufacturers to find the most effective designs. The trailers only started to operate on the roads in significant numbers from April/May 2012. Informal discussions with operators and trade association representatives suggest that uptake will continue to grow steadily during 2013.

#### Clarification of the data requirement and collection framework

2.4 We needed to clarify and refine the data requirements of the evaluation study. In December 2011/January 2012, DfT suggested additional data items that could be collected. We also needed to address operator questions regarding data security and confidentiality. The data collection framework was discussed and refined until a final version was agreed with DfT in February 2012.

#### Assessment of the burden on participants

2.5 In discussion with DfT, it was decided that we could reduce the burden on participants by reducing the annual cycle to three submissions per year rather than four. Whilst operators would still collect data continuously, they would only need to collate and submit data every four months. A further reduction to two six-month periods was considered, but it was felt that this would reduce the contact and engagement with participants too much, especially during their first submission processes. Six month periods might be an option for later trial years.

2.6 The submission cycle adopted in Year one and planned for Years 2 and 3 is shown below

Pd Ref	2012 P1 <sup>3</sup>	2012 P2	2013 P1	2013 P2	2013 P3	2014 P1	2014 P2	2014 P3
Data Collection Period	May-Aug 2012	Sep-Dec 2012	Jan-Apr 2013	May-Aug 2013	Sep-Dec 2013	Jan-Apr 2014	May-Aug 2014	Sep-Dec 2014
Data Submission by end of	Sept 2012	Jan 2013	May 2013	Sept 2013	Jan 2014	May 2014	Sept 2014	Jan 2015

<sup>3</sup> Periods were previously referred to using the format P1-1, P1-2 for year 1, periods 1 and 2.

Period Report  
to DfT by end of

Oct  
2012

Feb  
2013

June  
2013

Oct  
2013

Feb  
2014

June  
2014

Oct  
2014

Feb  
2015

## Data collection framework

- 2.7 Following on from early discussions about data requirements and the most effective collection approaches, it was agreed with DfT that the data collection would take two forms:
- An online survey to be completed at the end of each data period
  - An Excel-based log format (the Data Submission File (DSF)) provided as a support tool for use by survey participants.
- 2.8 We agreed to use the survey as the primary collection method because at the time it was not certain that all trial participants would agree to submit the actual details of trailer journeys, which could be deemed commercially sensitive information.
- 2.9 The survey approach also offered the possibility that simple results could be produced rapidly using charts built in to the survey system, rather than expending resources in Year 1 to create a master database to contain and analyse all the Excel data (although such a database will need to be created at some point).
- 2.10 The survey had six sections:
1. Operator Trial Information
  2. Non-HVST Fleet Information (to give context and comparisons for the HVST data)
  3. HVST Operations – Qualitative Experience
  4. HVST Journey Leg Summary Data
  5. HVST Reference (Design) Data Summary
  6. HVST Incident Data Summary
- 2.11 Survey sections 1 and 2 were only completed when a participant makes their first submission. Survey sections 4, 5 & 6 were be completed almost entirely by copying across summary figures created by the Excel tool, if it had been used.
- 2.12 The Excel tool was provided as an aid that could enable participants to collect their data in a consistent format and aggregate it to produce the figures for the survey sections 4-6. Use of the Excel tool was voluntary, but recommended.
- 2.13 Again, the context changed during the year.
- So far, all participants have been willing to submit detailed journey data, once they are assured that:
    - the data will be held securely and in confidence by Risk Solutions
    - The raw data will not be passed to DfT, other trial participants or any other party<sup>4</sup>
    - Analysis will be at an aggregate level so individual operators cannot be identified.
  - All participants, so far, have elected to use the Excel tool provided and in response to their experience, the tool has been refined and developed. Most participants seemed to treat the Excel tool as the primary element of the data submission.
  - The data required by DfT in the final framework was more detailed than we would normally attempt to gather using a survey tool.
  - For a few participants, having both the Excel tool and the survey was confusing.

<sup>4</sup> The only exception would be that in the event of DfT passing the evaluation role to a new contractor, the raw data and records would be passed directly from Risk Solutions to the new provider (not via DfT) and that equivalent security and confidentiality conditions would remain in place.

Given this experience, we have discussed alternative approaches with DfT and have agreed to eliminate the survey element. The information currently gathered in survey sections 1-3 will be collected in Excel format, noting that sections 1 & 2 are, in any case, only required during a participant's first data submission. We will then calculate the figures for sections 4-6 directly from the submitted Excel files, once they are imported into the master database.

2.14 The changes are being implemented in time for the 2013-P1 data collection due in May 2013.

2.15 Finally, DfT and Risk Solutions agreed that where an operator did not have any trailers on the road by the start of the last month before the end of a collection period, they would not be required to make their first submission until the end of the subsequent period. This 'waiver date' means that new entrants can bed in their data collection process for a few months before submitting. Data for the 'waiver month' is submitted along with the data for the subsequent period.

### 3 TRIAL PARTICIPATION IN YEAR 1

3.1 In this section we describe the number of operators who are participating in the trial and the rate at which they have been coming on board. A few operators brought trailers onto the road in March and April 2012, with participation expanding more rapidly from May 2012 onwards.

#### Actual vs. expected submissions

3.2 When data was first collected in September 2012 we knew of around 50<sup>5</sup> VSOs that had been granted before the waiver date (1 August 2012). However, not all of the trailers covered by these VSOs were delivered or on the road by the waiver date.

3.3 By the waiver date for 2012-P2 the net number of VSOs had risen slightly, with some 'loan' VSOs being revoked and replaced by ones for operators to obtain their own units.

3.4 As each data period progresses, we have had to contact the potential participants to establish who has actually had trailers delivered and on the road, and hence understand the number of expected submissions for the period.

3.5 With so many participants being new to the process at this early stage of the trial, inevitably some submissions have been late, or only partially complete. These are then followed up, but for each period we set a date when we produce a period summary report, in which the participation level is summarised. The participation and submission in each of the two 2012 data periods is shown below.

	2012-P2 (Sept-Dec)	2012-P1 (May-Aug)
<b>Submissions expected</b>	45	25
<b>Complete:</b>		
DSF and Survey	31	22
DSF Only	3	1
Survey Only	5	n/a
<b>Deferral to next period agreed</b>	6	2

3.6 Two operators who did not manage to submit 2012-P2 (P1-2) data have been followed up and although they have not completed the survey, their Data Submission File (DSF) Excel data has been added to the master data and is reflected in the analysis given here. **Hence data from 36 DSF files are included in the data presented in this report, with a few additional data items from 'Survey-only' respondents.**

3.7 Since the end of 2012, the number of participants has continued to grow steadily. At the time of writing (April 2013) there were 72 operators with live VSOs, representing 475 trailers either on the road or in construction.

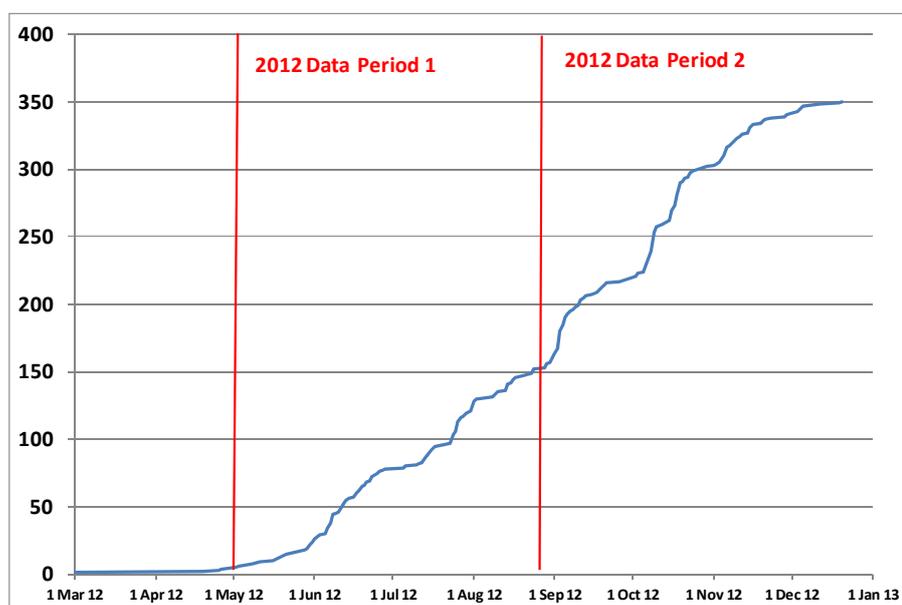
<sup>5</sup> Some VSOs were being granted for short periods when an operator had a trailer on loan from the manufacturer to test – hence the ambiguity about how many long-term VSOs were in place. VSO data is provided to Risk Solutions in a summary database by DfT – an updated file being sent when new VSOs are added.

## HVST Usage

3.8 The early uptake has been largely from medium (more than 50 drivers) or large operators. The majority are general haulage/pallet or larger retail operations.

3.9 Based on the submitted survey data and some initial analysis of the raw DSF files, we estimate that the actual HVST operations to the end of 2012 involved up to 350 trailers, carrying more than 600,000 tonnes of cargo over around 70,000 journey legs. The average single leg distance was 125 km across all the legs recorded, with individual operator averages ranging from 35 to 358 km. A summary of the statistics is given in Appendix B

3.10 Using an initial test upload of the raw DSF data, the chart below shows growth of the HVST fleet on the road, based on the first date on which each trailer ID appears in the log data.



**Figure 1 Daily cumulative number of HVSTs on the road in 2012**

3.11 Of the trailers known to be on the road, about 15% are the shorter length category, up to 14.6m. This is lower than the proportion of the allocations held by the same operators as shown below.

2012 Participant Group	Total Allocation	Total on the road in 2012
Trailers up to 14.6m	379 (40%)	49 (15%)
Trailers up to 15.65m	573 (60%)	301 (85%)
Ratio (15.65/14.6)	1.5 : 1	6 : 1

3.12 However, this does not cover the entire population of participants and can only reflect the allocation choices made so far by the sub-set of participants who have trailers on the road.

3.13 Further details on the spread of operator types participating in the trial in Year 1 are given in Section 5.

## 4 STATUS OF DATA AND EARLY RESULTS

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- 4.1 At this stage of the trial, we do not yet have sufficient data to perform any statistically significant or meaningful analysis that would lead to long term conclusions about the operation of HVSTs. At this stage therefore we can only comment on our initial observations on the emerging picture of how the trial participation and HVST usage is developing.

### Period summary reports

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- 4.2 In agreement with the DfT project sponsor, we have produced simple period summary reports of the data at the end of each data period. The first was presented at the FTA industry forum in October 2012. More detailed analysis of the data will be done in the Annual Report each year.
- 4.3 We will take care to ensure that any figures or results from the data collection and analysis that are included in period summary reports and annual reports will be suitably anonymised. Analysis results will be vetted to ensure that there is no commercially sensitive or confidential data identifiable.

### Excel Data Submission Files (DSFs)

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- 4.4 The data presented in this report comes solely from the survey submissions. The much more detailed data of individual journey legs, trailer design information and logs of incidents are contained in the DSFs.
- 4.5 DSFs are required from all participants. When they arrive we check them for basic errors and significant data gaps. Where necessary we then engage with the participant to try and resolve the issues until we have a DSF which we acknowledge as complete.
- 4.6 Completed DSFs are stored securely on our servers or encrypted personal computers ready for later analysis once a trial database has been created during 2013.
- 4.7 Once the DSF data is in a master database, we will be able to perform much more flexible analysis than can be achieved easily from the summary figures in the survey. It will be possible to analyse trailer usage patterns by different operator types, sectors, and basic trailer design features. We should also be able to look at incident patterns in relation to these factors, although statistically robust results cannot be produced until sufficient data have been gathered.
- 4.8 Once counterfactual data have also been brought into the database, then we will be able to compare HVST results with those for regular 13.6m semi-trailers. There are some counterfactual data in the baseline information on participating companies which is currently gathered in the survey. We have already discussed the likely need for wider counterfactual data at some point, possibly from existing analyses of the DfT Continuing Survey of Road Goods Transport.
- 4.9 The database also needs to be connected to the HVST Trial VSO database maintained by DfT. Ideally, at some point in the future, it would be valuable to be able to connect to a dataset of the underlying VCA model report data, which contains more detailed design details.

### Participant engagement: experience and future plans

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- 4.10 The data collection includes qualitative comments made by the participants regarding use of the trailers in real operations. So far, the comments are fairly consistent and are summarised here.

- 4.11 Most participants have reported no serious problems in incorporating the trailers into their work. There have been some issues to resolve around negotiating client sites and a few with onsite parking. On the whole, operators have made careful assessments of the viability of routes and site access issues and operated only where they are happy that the access is suitable. One operator noted some issues around loading.
- 4.12 Operators have almost all reported making special on-the-road or, at the very least, awareness training for drivers who will be operating HVSTs and many report that they have taken a decision not to permit agency drivers to do so.
- 4.13 The feedback from drivers has been very positive, with a number noting only that they needed to get used to the way the trailer moves – i.e. that the change in experience is not so much related to the length as to the presence of the steering rear axle. We have checked this with a number of operators verbally and they confirm this is the case.
- 4.14 The independent hauliers report good feedback from the clients for whom they have been running the trailers, as well as from loaders, with the only caution noted being the care needed to adhere to the loading guidelines to avoid overloading the rear axle. (All HVSTs in the trial are required to have axle load indicators fitted). A few planners have noted the increased complexity of managing load planning where they have to work with a mix of regular 13.6m trailers and the longer units for one client. This is an issue that the DfT impact assessment noted as being likely to arise, especially during the introduction of the new trailers.
- 4.15 To summarise, in response to the survey question: “How would you summarise the feedback you have received?”, the responses were all either “All positive” or “More positive than negative”.
- 4.16 When more data becomes available it will be interesting to see whether there is any difference in the qualitative experience of the 14.6m trailers and that from the majority 15.65 fleet. At this point we believe there is insufficient information submitted to make any robust observations.

## Data submission process: experience and future plans

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- 4.17 During the two data gathering rounds in 2012, we have had the chance to speak directly to the staff involved in obtaining and collating the data in almost all of the participating companies. The ease with which operators have managed the data process has varied widely, as have the approaches they have taken.
- 4.18 Reducing the experience down to a couple of key issues, we have recommended a number of practical ways in which we can work to bring the majority of operators to the same position of the best practitioners, with easy-to-execute processes that absorb the minimum amount of time, whilst producing high quality data.
- 4.19 As a result of experience in the first data collection period, we noted that many companies had appointed a ‘data contact’ separate from the primary contact for the operator’s participation in the trial. This allowed them to give the role to someone with appropriate skills to handle the day to day data collection or download process and contact with Risk Solutions. We are now recommending that all participants, especially those dealing with large fleets, consider appointing such a data contact.
- 4.20 The excel data collection templates are under continual development, with self-checking features being added in response to common errors observed in the submissions. Advice is also being given to data contacts on simple approaches they can take to checking their data files prior to submission.
- 4.21 We have had a small number of opportunities to speak to the providers of semi-trailer telematics. Indeed in more than one case we have seen operators putting in significant effort to generate their data manually, when they do in fact have telematics systems, but they had not investigated using them for the trial data. In the cases we have seen where telematics or other existing data has been accessed, we have observed that:

- 70% or more of the DSF fields can be populated automatically from existing data,
- The work required to create a bespoke report to download this data is not onerous,
- The data from such sources is of high quality (i.e. few if any missing fields or errors),
- The providers we have spoken to so far appear to be happy to be proactive, since this is a positive service they can offer to existing or potential clients,

and of course most importantly,

- The result is less effort required by the operators, especially the larger ones, with secondary benefits to the trial in terms of maintaining engagement.

4.22 After discussion with DfT, we have now started engaging with the companies that provide logistics data and telematics systems to the industry. We are acting on contacts generated both via participating operators and also directly with providers of these systems.<sup>6</sup> In addition to this, the data collection from new entrants to the trial is being adjusted to include a question about the systems they already use for routing, logistics management and, where present, vehicle tracking. A number of the major providers have welcomed our approach, realising that they are in a position to support a number of their clients who are participating in the trial.

## Incident Reporting

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4.23 All participants are required to report incidents involving HVSTs in two ways.

- All significant events have to be reported to DfT as quickly as possible so that DfT is aware of them. In the cases we have seen, incidents are being reported within 24 hours – often much faster.
- A more complete record of HVST incidents is then required in the Incident Log – one of the worksheets in the DSF submitted to Risk Solutions at the end of each data reporting period.

4.24 During 2012, three important adjustments to the incident reporting took place.

4.25 The first was a clarification the meaning of ‘significant’ by DfT – i.e. what had to be reported to DfT at the time of the incidents. The trial guide notes were updated with a statement that immediate reporting was required “**... for any incident involving injury or serious damage, or which could be picked up by the media for any reason .**”

4.26 The second was a clarification of what had to be recorded in the incident log. The guidance is:

- a) all incidents on the public highway involving either injury or damage to property
- b) all incidents on private land (e.g. depots) where there was injury or a risk of injury.

4.27 Some operators are choosing to use the incident log to record all incidents involving HVSTs, even those of only minor damage in depots, simply as a tool for their internal analysis.

4.28 The final change was to the basis of categorising injury levels from the simple ‘RIDDOR Reportable’ scale to the more refined scale used in the STATS19 police accident reporting system. This move will enable comparison with STATS 19 data for all HGV accidents once enough data are available.

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<sup>6</sup> Risk Solutions attended the Commercial Vehicle Show in Birmingham, April 2013, making providers of these products aware of the trial, the data requirements and how they might be able to support their clients in generating the required data. We have spoken to some other providers by phone.

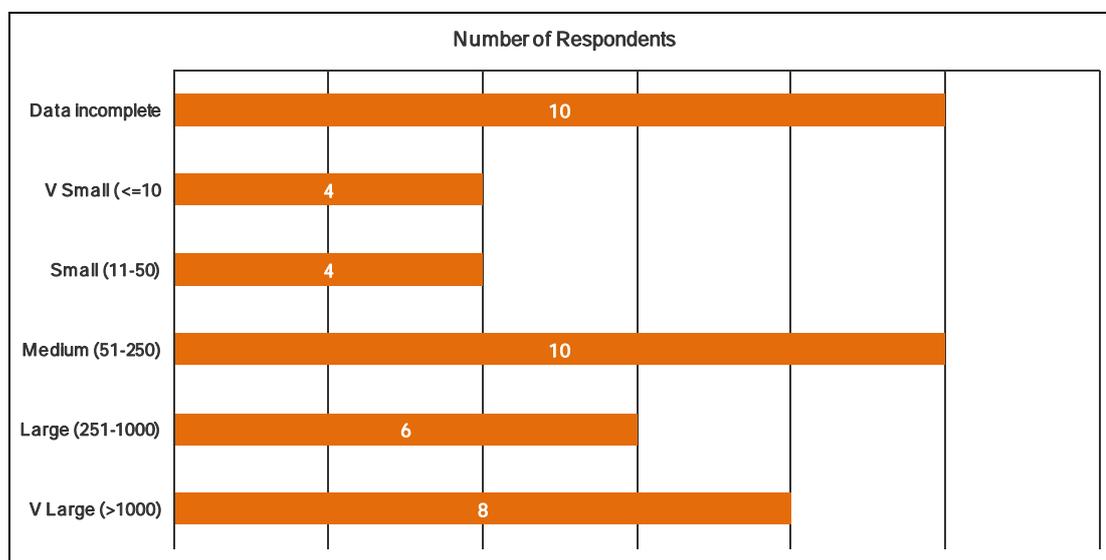
## 5 FACTS AND FIGURES 2012: HVST OPERATIONS

- 5.1 During 2012, data was collected for two periods:
  - 2012-P1 May-August
  - 2012-P2 September-December
- 5.2 Whilst raw journey data was generated by all participants and has been received by Risk Solutions, the development of a database to hold and analyse that data was not scheduled until 2013. During 2012, data was summarised by participants and entered into an online survey. The results presented in this report come from those survey results and therefore has some gaps where participants did not complete that particular question.
- 5.3 From 2013, all data (including the 2012 files) will be submitted in excel files and will be analysed directly and the data is expected to be more complete.

### 5.1 2012 Trial Participation

#### Operator size and primary business

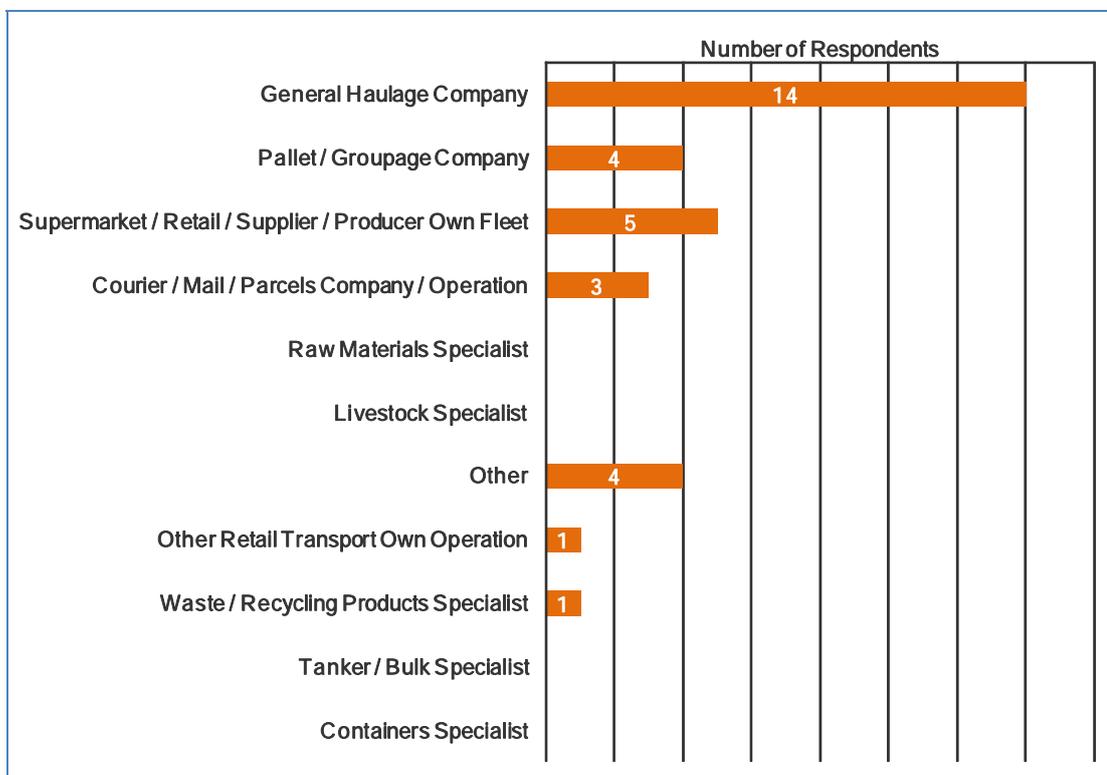
- 5.4 One of DfT’s stated intentions was that the trial should be accessible to operators of all sizes, as opposed to only large operators. Figure 2 presents the declared business size of the 42 operators who responded to the survey question, expressed by the number of drivers employed.
- 5.5 At this early stage of the trial the greatest proportion of the overall data is being generated by the medium-large operators. Whilst a number of these early entrants have required significant support to get their data collection processes running smoothly, there have also been a good number of participants who have required no more than a response to a few questions before their data was of good quality and largely complete.



**Figure 2: Size of business by number of drivers (All respondents in first year)**

- 5.6 There had been some expectation that the early entrants to the trial would be medium-large operators so it has been interesting to see 8 smaller organisations participating during the first year.

- 5.7 Where the larger operators face the challenge of collecting and managing a large dataset, perhaps including downloads from existing IT systems, the challenge for these smaller companies is related to the limitations on their IT systems and skills. In giving support to some of these operators it has been encouraging to see them making every effort to ensure their submissions are robust. Once they have got their mainly manual processes set up, the quality and completeness of data being submitted is excellent. Several of these smaller operators have required little or no assistance from Risk Solutions.
- 5.8 Risk Solutions has greatly appreciated the effort and time invested by these early entrants to the trial, as their experiences and suggestions have led to adjustments to the data gathering process and formats, which will benefit those entering the trial from 2013 onwards.
- 5.9 The spread of operators by their main business, presented in Figure 3, is in line with expectations. The greatest numbers of early entrants are General Hauliers and the Pallet/Groupage companies, in which group there is a spread of large and small operators. Many of these operations are actually fulfilling long term contracts for major retailers. There are then the directly operated fleets of the retailers and all types of mail operators, which represent some of the largest individual HVST fleets.

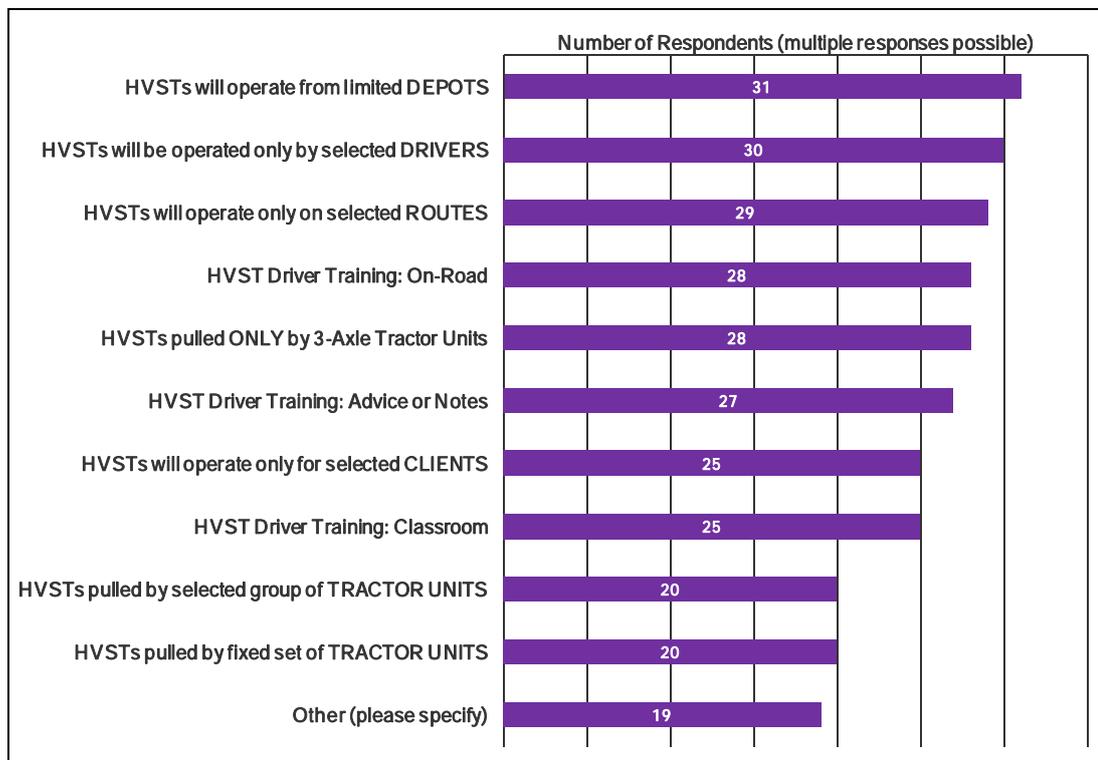


**Figure 3: Respondents' business types by largest or main part of their business. (All respondents in first year)**

- 5.10 This pattern is much as we would expect, with the operations focused on predictable, and in many cases repeated, transfers of goods between distribution centres and from those centres to retail stores.
- 5.11 It will be interesting to see how this spread of business types develops during 2013 as the UK fleet of HVSTs builds up. Categories such as the Livestock or Tanker/Bulk operators are not expected to necessarily become a major part of the fleet. The possible entrance of container specialists may depend on whether an interaction with rail freight operations develops as well as whether or not any issues emerge associated with infrastructure at container handling locations.
- 5.12 One of the earliest questions to be considered by all participants is the extent to which they would constrain the use of HVSTs within their operation, at least during their early use. Figure

4 shows operator responses to a series of possible constraint options posed in the survey, with operators selecting as many as applied.

### Operator imposed constraints on HVST operations

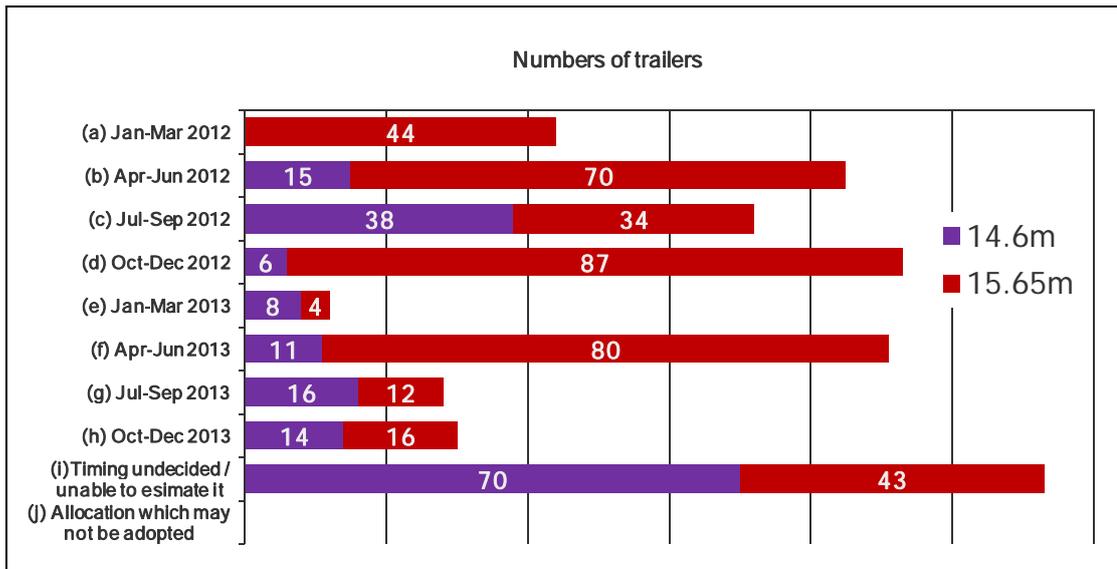


**Figure 4: Limits placed by respondents on longer trailer operations**

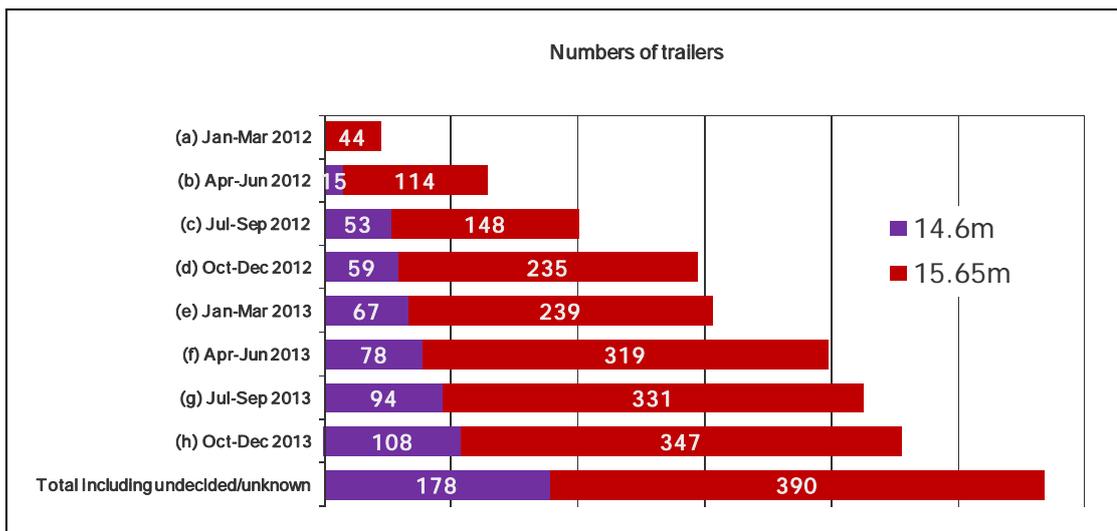
- 5.13 In conversation with operator contacts it is clear that these constraints were being applied for both practical considerations (e.g. could the trailer access the route/site easily) as well as operational factors, including direct contact between fleet or depot managers and the drivers to pick up on any issues as quickly as possible.
- 5.14 One practical issue of note is that when trailers are introduced to a new depot, the experience from earlier adopting depots should be factored in. Even with a good migration plan, some of the early operational lessons and driver experiences are repeated in the early weeks of running from a new depot.
- 5.15 It will be interesting to come back later in the trial and see to what extent any of these constraints have been relaxed by operators as they gain experience with the HVSTs.

### Uptake of allocation over time by 2012 participants

- 5.16 Operators who took on one or more units during 2012, even if only on a loan basis for trials, were asked about their intentions to take up their full allocation at the time of the survey. These are not absolute commitments and in many cases the operators simply have not made any firm plans. However, from the responses received we can anticipate the sort of fleet expansion that might be foreseen amongst those already in the trial, within the limits of their allocation.
- 5.17 Figure 5 shows the numbers of trailers of each length category which the operators took up or planned to take up by quarter for 2012 and 2013. Figure 6 presents the same data as a cumulative total for each semi-trailer length.



**Figure 5: Planned quarterly uptake of allocation, as reported by current trial participants who responded to the survey in Year 1 at the time of their first survey submission.**

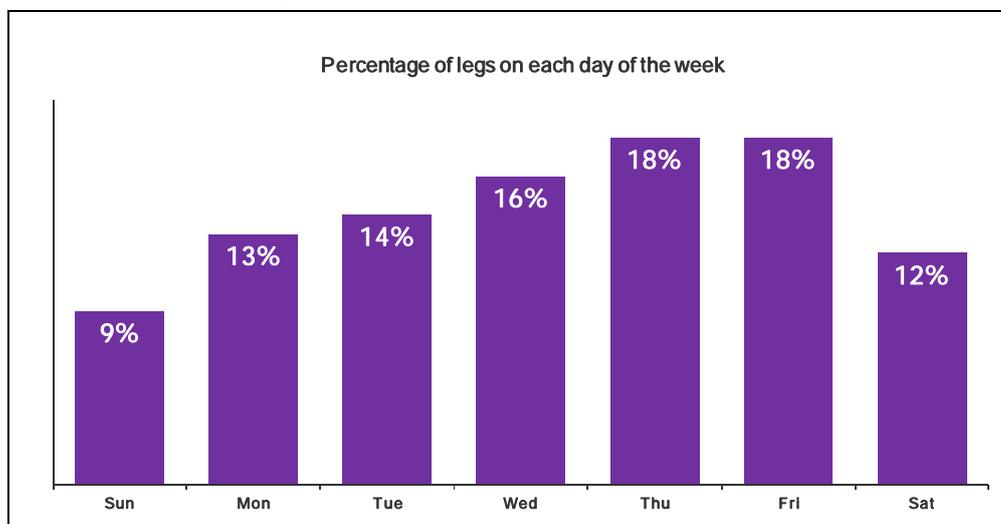


**Figure 6: Expected cumulative uptake of longer semi-trailer allocation, as reported by current trial participants who responded to the survey in Year 1 at the time of their first submission.**

- 5.18 Based on the data in Figure 6, we can see that the uptake by these first 40 or so operators was just under 300 trailers at the end of 2012, with a projection of that figure rising to at least 450 by the end of 2013.
- 5.19 Further trailers will be taken up by new entrants joining the trial during 2013. This projection will be updated as new data is submitted in each period.
- 5.20 At this stage the major observation on this chart is the difference between actual and anticipated uptake of the shorter trailers, those up to 14.6m in length.
- 5.21 Given that the charts above are, in part, projections, rather than actual data, they are only an indicator.

## 5.2 2012 HVST Operations

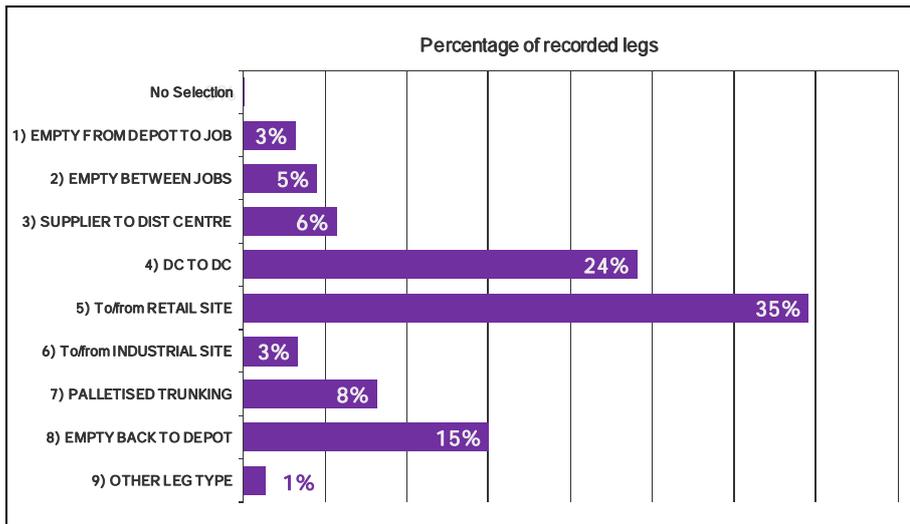
- 5.22 We are able to present a basic overview of the operations of HVSTs during 2012 using the summary journey data entered into the survey by operators. In future period and annual reports much more detailed or complex analysis will be possible as it will be based on the raw DSF data imported into a single database.
- 5.23 Journeys are expressed as legs in the data, meaning a single point-to-point trip without loading or unloading stops en-route. Any multi-drop journeys with fewer than five loading/unloading points are recorded as individual legs for each part of the trip. Where there were five or more drops, the journey is recorded as a single record in the data, with the number of drops noted.<sup>7</sup>
- 5.24 Figure 7 shows the profile of HVST journeys by day of the week. It shows the trailers being used in a similar pattern to much of the regular 13.6m fleet, with a rise in the number of legs in the run up to the weekend reflecting the dominance of the retail trade and its supply chain on the operations of both general hauliers and directly operated retail fleets.



**Figure 7: Distribution of longer semi-trailer journeys by day of week, all respondents**

- 5.25 The dominance of loads related to the retail trade and its supply chain is shown clearly in Figure 8 where 35% of the recorded legs were to or from a retail site. The 24% of legs which were between distribution centres would also, in part, be retail supply chain work, with the remainder being pallet/groupage loads and operations by the mail/parcels sector.

<sup>7</sup> This approach is the same as that used in the DfT Continuing Survey of Road Goods Transport.

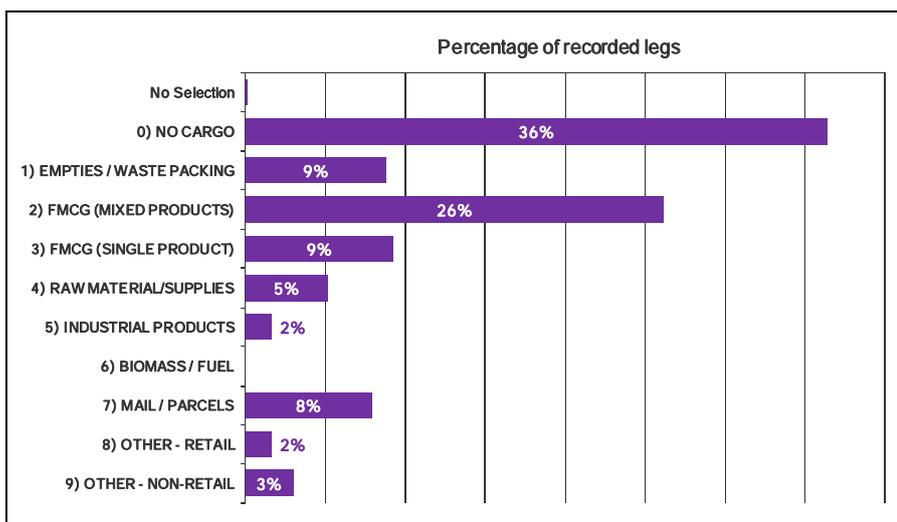


**Figure 8: Journey leg types for all recorded HVST journey legs, all respondents**

5.26 Figure 8 also gives the first indication of the extent of empty running. Adding up the three relevant leg types (1, 2 and 8) gives an estimate of around 23% of legs being operated without cargo, the majority being return legs to the depot following delivery of goods. However, the analysis of empty running needs to be taken as very provisional at this stage because

- This early trial data includes training and testing runs which are all categorised as empty
- It is known that in some of the early submissions, some operators did not distinguish clearly between ‘empty’ and loads of ‘empties/waste packaging’ in some of their data downloads from telematics systems. (These issues are being resolved.)
- Empty running needs to be assessed not just in terms of numbers of legs, but overall distance travelled and also needs to take into account the nature of the operation.

5.27 Figure 9 presents a summary of the type of cargo being carried, as a percentage of all legs where the goods type was recorded.

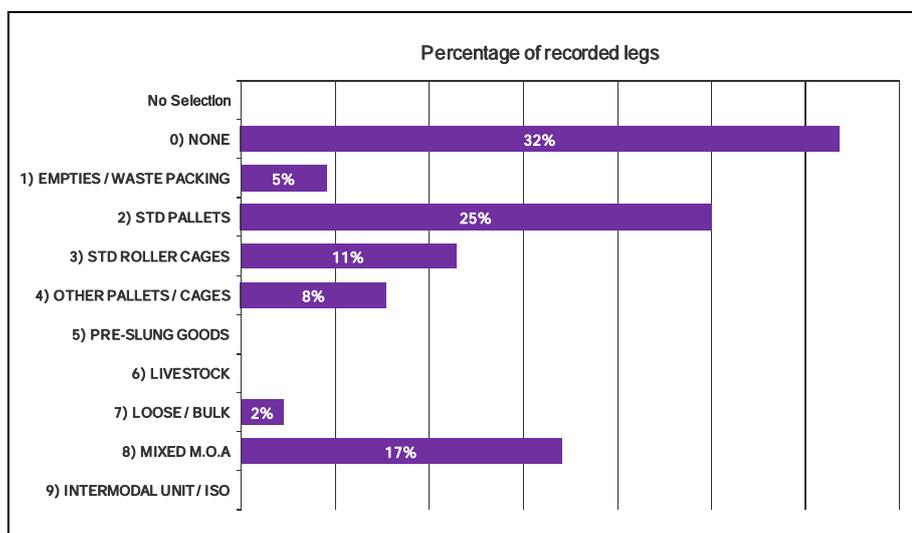


**Figure 9: Goods types for all recorded HVST journey legs, all respondents**

5.28 The 36% recorded as ‘No cargo’ is at odds with the 23% noted as empty running above. Part of this arises from the data download issues noted above, which are being resolved. However, once we load up the raw DSF data into a database we are planning a wider data

cleaning process and will revert to operators where there are discrepancies in their estimates of empty running, and we will seek to resolve these issues in the 2012 data. We expect some of the legs shown in this figure as 'Empty' to transfer to 'Empties / Waste Packing'

- 5.29 Retail trade operations are included in the 35% of all cargos being Fast Moving Consumer Goods (FMCG) loads, whether of a single product or a mixed load.
- 5.30 Mail/parcels work represents 8% of all legs in 2012. This proportion may grow as it is known that these operators entered the trial later than some of the retailers and hence these loads were moved in only the second half of the year.
- 5.31 Figure 10 shows the data split by Mode of Appearance (MOA)<sup>8</sup>. Again there is some discrepancy in the empty running estimate and this will be resolved by the data cleaning process noted above.
- 5.32 The mix of MOA is much as we would anticipate at this stage, with cages and pallets being the primary mode, given the dominance of FMCG and mail/parcels cargo.



**Figure 10: Goods mode of appearance for all recorded HVST journey legs, all respondents**

## 5.2 Semi-Trailer Designs

- 5.33 The detailed design of the underlying semi-trailer (exact dimensions, detailed axle data etc) is contained in the vehicle Model Report held by VCA as part of the process of granting a VSO to the operator. The detailed design data is not currently in a form that can be linked digitally to the trial operational data, but the possibility of doing so is being investigated by DfT.
- 5.34 Even if the model report data were provided, it would not necessarily give details of the design above the deck, in terms of the body design, whether the units are chilled or any special safety systems were added.
- 5.35 The trial data gathering therefore requires operators to submit some basic design information in a worksheet inside every DSF. Most of the data remains unchanged from period to period, but the sheet allows them to indicate time when the trailer was off the road and flag up any changes in status or sale of the units. An outline of the data collected is given in Appendix A5.

<sup>8</sup> Mode of Appearance is the commonly used term in the industry for the way in which the cargo is loaded or 'appears'. The categories being used in the trial are a subset of a much larger set of possibilities seen in the industry, selected to be the ones most likely to be used where goods density is less likely to weight limit the loads.

- 5.36 Figure 11 shows the basic body design of HVSTs on the road in 2012, with almost all of them being either solid box construction (tail loading) or curtain-siders. A proportion of the latter have some form of retention systems built in to allow the curtain-sider to be loaded with roller cages or goods in similar modes of appearance requiring such additional restraint.
- 5.37 Whilst 63% of the units are box construction, two-thirds of these (42% of the total) are chilled units, as shown in Figure 12 . This is an example of where understanding the construction is important to later analysis. In this case, when considering estimates of volume utilisation later in the trial, this information is relevant since these must necessarily have around 30% of the volume (above the cargo) free to permit the circulation of the chilled air.
- 5.38 At this stage this is just given as an example of the design data being collected and how it will become relevant to the analysis of the trial data once the dataset is large enough to permit meaningful examination.
- 5.39 Figure 13 provides another example, showing the deck arrangements of the trailers. Again, the presence of dual or part-dual decks becomes relevant to the analysis of both volume and deck-space utilisation. It will also be of interest in thinking about the impacts on, or constraints imposed by, depot infrastructure on the value that can be gained from operating HVSTs.

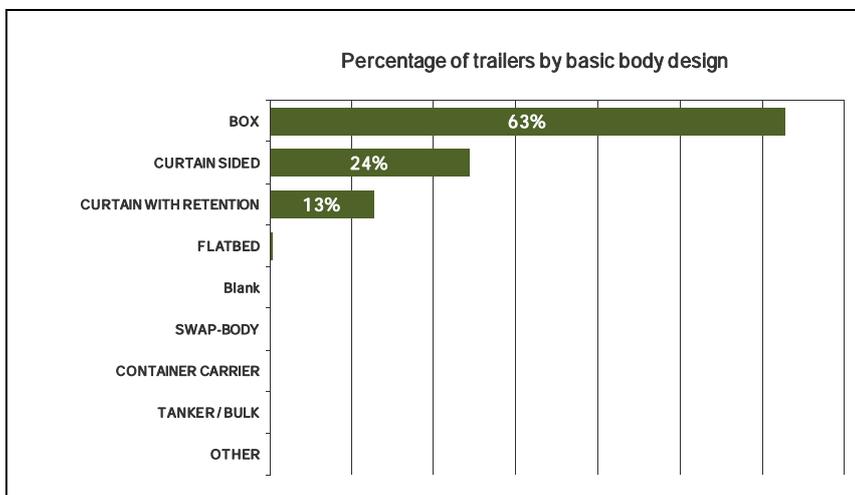


Figure 11: Body design of all HVSTs on the road (all respondents)<sup>9</sup>

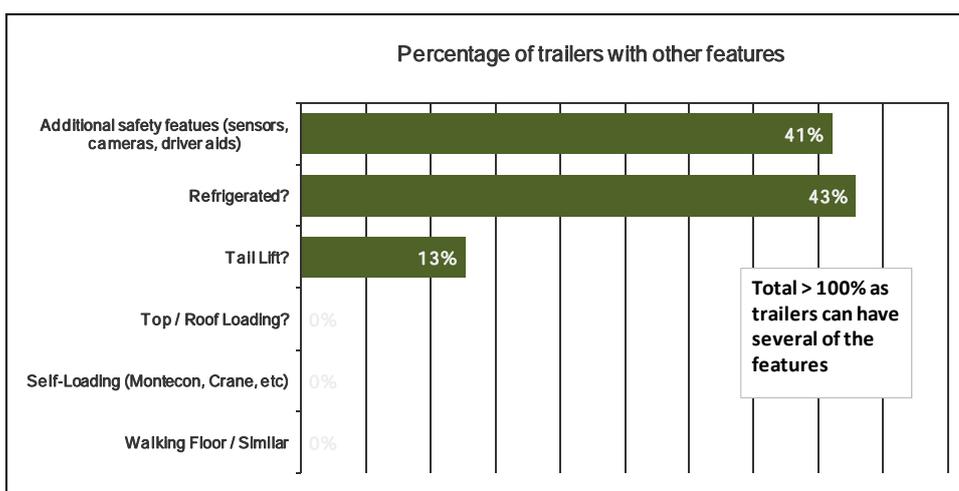
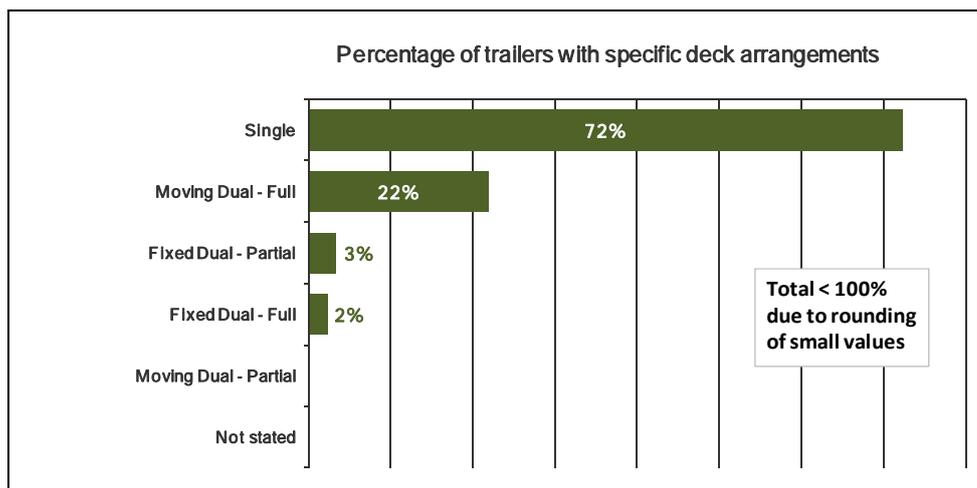
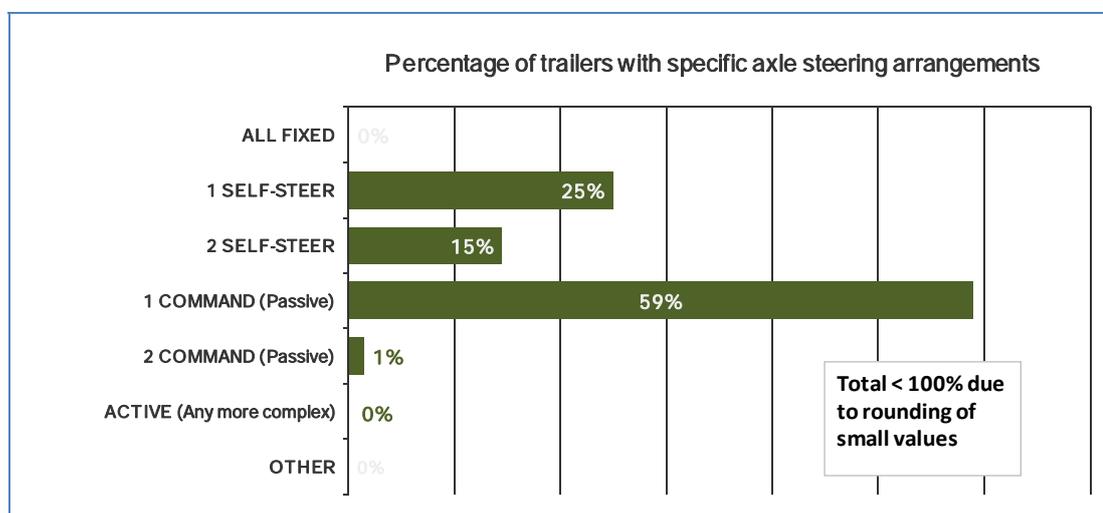


Figure 12: Other features of all HVSTs on the road (all respondents)

<sup>9</sup> Total on road the waiver date for period 2012-P2 – i.e. 1 December 2012 – also applies to subsequent figures.



**Figure 13: Deck arrangements of all HVSTs on the road (all respondents)**



**Figure 14: Axle steering arrangements of all HVSTs on the road (all respondents)**

- 5.40 Figure 14 shows the different axle arrangements present in the trailers operated during 2012. It has been demonstrated by most manufacturers that designs using a single steering axle at the rear of the trailer can be built to comply with the requirements of the trial in terms of turning circle, out-swing etc.
- 5.41 As the fleet grows, it will be interesting to see whether the use of self-steer vs. command steer and one vs. two steering axles emerges either in the data or in the choices made by different business types.

## 5.4 Other data being gathered

- 5.42 For this first Annual Report we have only presented a small selection of the possible views of the data, because at this stage we are aiming only to demonstrate the general nature of the early participation in the trial. The dataset is not yet sufficiently large to begin to conduct any detailed analysis or draw any strong conclusions.
- 5.43 A list of the full set of data being collected, along with the DfT rationale for requesting the main data items, is given in Appendix A.

- 5.44 Once the raw datasets (including 2012) are imported into the trial database during 2013, they will be subjected to appropriate cleansing and checking. They will then be available for more detailed analysis, including relevant cross-tabulation of data fields and, eventually, time series analysis and statistical significance testing.
- 5.45 Work during 2013 will also focus on the selection of suitable counterfactuals beyond what will be available from the simple Company Information File (CIF) data collected from each operator within the trial.

## 6 FACTS AND FIGURES 2012: HVST INCIDENTS

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### Reported incidents

- 6.1 We are aware of one slight injury during 2012, to a driver of a longer semi-trailer, who suffered cuts and bruises in an incident. No injuries to any other road users have been reported.
- 6.2 There were two incidents in 2012 involving a roll-over at a roundabout. Neither involved any other vehicle.
- 6.3 In the first case the vehicle was en-route from the manufacturer to a testing facility – i.e. before delivery to the customer. Although outside the trial journey data, we have received an incident report for this event. This incident led to the one slight injury to a driver noted above.
- 6.4 In the second case the vehicle was in service and loaded. This incident was not attributed by the operator to the trailer length.
- 6.5 Most of the incidents that have been experienced to date have been damage only events and have been associated with minor damage to property, mainly to parked cars or fixed assets in depots.
- 6.6 **There is insufficient data at this stage to make any comment on whether there is any difference in the frequency of accidents or the prevalence of particular incident causes for the HVST fleet compared to the regular 13.6m fleet.**

## 7 LOOKING AHEAD

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- 7.1 The trial is now in its second year and Risk Solutions has recently been commissioned to continue in the role of independent evaluator for the trial for 2013-14, with an option for extension to 2016. This gives us a stable platform from which to work on some major priorities for the coming year. With one exception, we have simply stated these as observations rather than adding them all to the list of specific recommendations for action since they largely reflect matters already agreed with DfT in the plans for the new programme of work.
- 7.2 The top priority during 2013 is to introduce new participants into the trial smoothly. When the allocations were first issued, DfT set a deadline of 31 December 2013 for all longer semi-trailers to be in place with operators. If all 1,800 allocations are to be taken up, this means that during the coming year we expect as many as 170 operators to be participating in the trial by the end of the year. For this to happen efficiently the VCA, DfT and Risk Solutions processes will need to manage around three times as many new entrants as were handled during 2012. For Risk Solutions this means:
- Helping existing participants to make their data collection more efficient and less demanding in terms of support, as well as improving the quality and completeness of the data produced.
  - Supporting new participants in setting up their systems and, where possible, transferring experience and lessons from the existing participants.
- 7.3 We will also need to further develop the process and system we have been using to manage the participant contact and engagement so that it can operate efficiently with up to 170 participants.
- 7.4 The second priority, for the evaluation work, is to develop the systems to support, store and analyse the data. An early task in the new programme of work is to develop the first version of a database into which the raw DSF data can be imported, cleaned and stored for analysis. The database needs to be designed to be:
- Secure
  - Capable of producing the basic period summary analysis directly from the raw data
  - Expandable to cope with the estimated 2 million journey leg records per year that will be generated once there are 1,800 semi-trailers in the trial
  - Extendable to allow the import of not only the basic counterfactual information currently gathered in the survey, but other counterfactual datasets in future, such as data from the DfT Continuing Survey of Road Goods Transport.
- 7.5 We note that the actual Model Report information that lies behind the VSOs is still not available in a form that could be linked to the trial database. This could be very useful in connecting any emerging data trends to design features. DfT is investigating options for addressing this issue.
- 7.6 Finally, this trial depends very heavily on the continued goodwill of the participants. DfT and Risk Solutions need to continue to engage with the industry and its trade bodies to maintain interest and commitment to the trial. Open dialogue at industry events is generally well received and also provides us with valuable insights into the experience of those operating these new semi-trailers



## APPENDIX A THE DATA FRAMEWORK

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The data framework for use by all participants is defined and explained in a document provided to all participants '**DfT High-Volume Semi-Trailer (HVST) Trial:Data Gathering Guide for Trial Participants**'. The latest version (v2-3) was issued in April 2013, although the work undertaken during 2012 would have used earlier versions issued in April 2012 and updated in August and December 2012. Whilst there has been some change in the formatting, the content of the guide and the data framework itself has not changed substantially since August 2012 and we have therefore chosen to publish the summary information from the latest edition here, so that it is up to date, rather than any of the earlier versions actually used in 2012.

Sections A1-A4 which follow are taken directly from Appendices A-D of the April 2013 guide and hence the language is framed in terms of guidance to participants rather than a report.

### A1 DfT Rationale for Data Requirement

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**The notes in this appendix have been edited from a DfT document outlining their rationale for the extent of the data being requested. The 'We' in these notes refers to DfT.**

#### Company Information File (CIF)

We ask for three years' information as this helps to ensure that it reflects your true situation (in current circumstances in particular, one year's information might not be properly representative).

We need the information on size of business and total number of employees because of the requirement on Government to monitor the impact of measures on small or medium enterprises; this is something that we had to cover in the Impact Assessment and that we need to verify through the trial.

The information on the nature of your operation allows us to assess whether the longer semi-trailers are likely to be used by a broad spread of operators.

The section about your preparation for HVST Trial / operations gives us background information on the way in which participants are using their vehicles that will help us to assess whether or not the original research was correct in assuming that the introduction of these vehicles would not be likely to have implications for infrastructure.

The questions about your Non-HVST fleet provides an initial benchmark information that we need in order to ensure that the comparisons with the standard articulated fleet established through the trial are robust. Again, we are asking for three years' data to ensure we have a representative picture. Although this is not the only comparison being considered, it is a starting point.

#### Qualitative Survey File (QSF)

The QSF provides an opportunity for operators to convey the experience of operating the HVSTs from the perspective of a range of staff and the business as a whole.

#### HVST Data Submission File (DSF)

##### Aggregated Journey Log

**Job Code:** there is no obligation to enter anything here but it could be useful for you in cross-checking if there are any queries.

**Client Code:** providing this will allow the Department to get a clear picture of the type of operations where the longer semi-trailers are being used in practice. The Impact Assessment that was derived from the initial research and the consultation in 2011 contained a number of assumptions on the type of operations – gathering this information will help us to review the original Impact Assessment and adjust it if necessary. In later years we may look at refining this to a set of generic client types from which you select.

**Date/Time:** self-explanatory – time is of specific interest to see the balance of peak/off-peak or day/night usage of the new trailers

**Company trailer ID:** this means we can cross-reference all the information to the specific trailer; if there were to be a number of incidents, this would give us an indication of whether there was a specific design that was particularly vulnerable. Specifically, it links to the trailer VIN, via the information given in the Trailer Reference Information sheet.

**Journey leg details / Distance:** this also helps build up a picture of the manner in which these vehicles are operating, and provides data for the assessment of the increased efficiency that they allow.

**Incidents on leg:** this column just takes a straight 'yes' or 'no'; the actual reporting of incidents is done on the Incident Log (see below).

**Type of Goods:** this is also to help us verify the assumptions in the research and the Impact Assessment on the type of loads for which these vehicles are most likely to produce the anticipated benefits.

**Mode of appearance / Quantity of Units / Weight of goods carried / Estimated % of volume & % deck space) / Load limited by weight?:** this information will help us to quantify the benefits by giving us data from which we can assess the increase in tonnes per lorry mile. This in turn will give us a more representative view of the carbon reduction than a straight comparison of fuel use would do.

(The trouble with just reporting on fuel consumption, without including load data, is that there could be any number of factors that affect this one way or another. For a start, the additional length of the trailer is likely to affect the fuel consumption so a straight comparison between a 13.6m trailer and a 15.65m trailer could be misleading.)

**Multi-Drop:** multi-drop journeys may treat runs with 5 or more drops as one data record (leg). For 1,2,3 or 4 drops, each part of the journey should be recorded as a separate Leg. This is the same principle as the DfT Continuing Survey of Road Goods Transport which will be familiar to most operators.

### Trailer Reference Information

Relates the usage of a trailer to its VIN and some basic design information.

Some of the design data would be included in the VSO data, but much of it is not, such as the body construction, presence of features such as refrigeration. (An important example, since chilled trailers necessarily have perhaps 30% empty volume above the goods to allow for circulation and this needs to be considered in volume utilisation data.

### Incident Log

**Trailer ID / Job code / Company incident ref / Date incident recorded and reported:** these columns will enable us to keep track of the circumstances of any incidents and cross-relate them to the vehicle.

**Date / Time / Location (by road) / Location (by description):** these will enable us to know what the driving environment was (for instance, trunk road at a time when there would be a steady traffic flow, built-up area in quiet hours)

**Road User Category of Injured Person / Level of Injury/ Damage to vehicle or load / Damage to property:** these will provide information on the degree of severity and the nature of any injuries.

**Please note** that we are using STATS19 injury levels: these are explained on the next tab in the workbook. **Please also note** the more detailed lists of category of injured person. For the most part these should be reasonably self-explanatory, but just to clarify:

- The driver of the HGV counts as 'HGV occupant';
- 'Pedestrian' means a member of the general public who is not in/on another vehicle;
- 'Company staff' and 'Client staff' are staff members not in the vehicle at the time of the incident.
- **It is vital that we have information on all injuries, so you will see that you are asked to fill in a separate row for each person injured in any incident.**

**Vehicle location / Incident location etc:** these build up the picture of what happened and the extent to which the trailer length may or may not have been a factor

**Additional details:** these allow you to enter a certain amount of additional relevant information. They will also allow you to enter 'near misses'; these could cover anything like having difficulty negotiating a roundabout, finding that the tail-swing narrowly misses parked vehicles, street furniture or buildings when turning corners, etc. The important thing is to record enough detail to describe the event and to include any details related to the trailer being an HVST rather than a standard 13.6.

**We know there has been a certain amount of concern that if any of these vehicles is involved in a serious accident, the trial could be halted. While we cannot second-guess what Ministers may decide in any given set of circumstances, it's important to remember that the intention of the trial is to compare the performance of these longer semi-trailers against that of the existing fleet. We know that accidents will sometimes occur. Among other things, the trial needs to look for evidence of whether or not the longer semi-trailers are more susceptible to accidents than the existing fleet. We will only know this if the trial uncovers a trend that can be linked to the extra length.**

## A2 CIF (Company Information File) Questions (v2-3)

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An outline of the CIF questions in use for every new entrant in to the trial and is collected only once.

### (1) COMPANY AND HVST TRIAL INFORMATION

- 1-1 Organisation Information
- 1-2 Respondent Details
- 1-3 Business Scale at end of last 3 years. Can be a best estimate if exact values are not easily available. Can be end of calendar or financial year depending on your data.
- 1-4 What is the PRIMARY or LARGEST part of your operation?
- 1-5 What, if any, systems do you use to generate and manage key data?  
(As with all data, this will remain confidential. The purpose in asking is to allow us to see what the primary sources of data are in the trial) and to enable us to ensure we can keep all the main software systems providers informed about the data element of the trial so that they can support trial participants effectively).  
Select products/suppliers from a list given.
- 1-6 What special limits have you put on your HVST operations (Tick as many as apply)
- 1-7 Actual or Estimated Date of HVSTs entering service

### (2) NON-HVST SEMI-TRAILER FLEET INFORMATION

- 2-1 Fleet Size and Body Design Mix
  - 2-1-1 Non-HVST Trailer Fleet Size
  - 2-1-2 Non-HVST Trailer Fleet Basic Design
- 2-2 Fleet Utilisation Measures
  - 2-2-1 Non-HVST Trailer Fleet Utilisation
  - 2-2-2 Trailer Availability. Number of days across all the operational fleet - estimated back in 2-1-1 as shown
  - 2-2-3 Proportion of Journeys/Legs where the available DECK SPACE filled is (list of bands):
  - 2-2-4 Proportion of Journeys/Legs where the available VOLUME filled is (list of bands)
  - 2-2-5 Proportion of Journeys/Legs where load was limited by weight:
  - 2-2-6 Proportion of trips by JOURNEY TYPE ‘
  - 2-2-6a If 'Other' is >10% please indicate journey type please describe usage
- 2-3 Goods Transported
  - Estimate of the actual average for your non-HVST semi-trailer fleet for 2012 for
  - 2-3-1 Nature of Goods Transported
  - 2-3-1 MODE OF APPEARANCE of Goods Transported

## 2-4 Incidents Involving Non-HVST Semi-Trailers

We are aware that different companies will hold differing levels of detail on incidents involving their regular fleet. In this section, apply common sense in terms of the materiality of the incidents and where appropriate, give estimates

2-4-1 Incidents Involving Injury

2-4-2 Known Injuries

2-4-3 Accidents where Police Involved

2-4-4 Accidents by location

2-4-5 Damage to Other Vehicles & Property

2-4-6 Damage to Your Vehicle (Ignore minor damage if in depot etc)

## A3 QSF (Qualitative Survey File) Questions (v2-3)

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This sheet differs from the others in three ways.

1. It can be filled in more than once in a single period – for example if the operator would like to submit a copy from each depot to reflect their differing experiences.
2. Not all the questions need to be answered every time it is completed.
3. The questions may change from time to time as the trial develops.

The questions shown here are those used in 2012-P2 and 2013-P1

### 3-1 Did you encounter any issues or problems with incorporating the HVSTs into your operation?

3-1a If 'Yes' to Q1, in which areas did you encounter problems (tick all that apply)?

During loading / During driving / Negotiating client depots / Other

3-1b: If 'Yes' to Q1, please describe the issues or problems you encountered:

### 3-2 Did you undertake any special training of staff in advance of operating the HVSTs?

3-2a If 'Yes' to Q2, which staff underwent training (tick all that apply)?

Loading/ depot staff / Drivers / Planners/ Managers / Other (please specify)

3-2b If 'Yes' to Q2, please briefly describe the training that was given to staff:

### 3-3 Did you undertake any other special preparation in advance of operating the HVSTs? (e.g. staff training, physical changes to loading areas or depots, changes to planning or operations processes etc.)

3-3a If 'Yes' to Q3, please describe the preparations you made

### 3-4 Have you had any feedback (positive or negative) from any of the staff and/or other groups listed here on the introduction of the HVSTs? (tick all that apply)

Loading/ depot staff / Drivers / Planners / Managers / Clients / General Public / Local Authorities or Politicians / Lobby Groups / Other (please specify)

3-4a If 'Yes' to Q4, please briefly summarise the feedback (positive or negative) you received.

3-4b How would you summarise the feedback you have received (Across all groups together)?

### 3-5 Have you chosen to operate the HVSTs in a more restrictive way than your other semi-trailers?

3-5a If 'Yes' to Q5 please describe any restrictions you imposed and the reasons for them:

### 3-6 Overall, what is your view of the performance of the HVSTs for your business?

## A4 Data Submission File (DSF) Journey Data Fields (v2-3)

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The tables overleaf give a more detailed description of each data field in the journey log.

This information will be of interest in any case where the operator is creating their own data gathering or collating tools, or more likely, in setting up a standard export or report from an existing IT system. In order to ensure the data created using these methods is 100% compatible with data from other operators, the format of key data fields is important.

The key examples are

- date and time fields need to be in excel Date/Time format
- text fields need to be **Text** or **General**
- numeric fields need to be **Number** or **General**
- percentage fields need to be **Percent format** (which can be forced by simply including a % symbol after any number)

The second important area is where responses to the trial bespoke fields are being generated or derived from existing IT systems and the actual entry is being created automatically. These include Leg Type, Goods Type, MOA and Estimate Volume % or Deck Space % Utilised. Here it is vital that the text (or 'string') generated matches the standard values exactly.

**Existing users from periods prior to 2013-P1 need to note that the text strings have been changed (tidied up) and hence any embedded copies of the text lines in automated reports needs to be updated. We apologise for this change, but judged that we needed to make this adjustment before the numbers of trial participants increased further.**

### **Special category lists for HVST trial in Trailer Reference and Incident Log Sheets**

Other specialised category lists are used in the DSF Trailer Reference Data and Incident Log sheets. However, they are not detailed here as it is expected that operators will simply fill in these data directly into a copy of the worksheet. If participants wish to generate this data by another means and hence required the detailed formats/options used, please contact Risk Solutions for information on how to unlock the file.

**TABLE 1: Journey Log Data Fields and Validation/Formatting Requirement**

Col	Title	Description ( <i>Purpose</i> )	Validation / Format
A	Row	Log row number (only required in log file)	
B	Company (& Depot)	Hidden and automatically generated in Log file – revealed in Data Submission File (DSF) <i>Depot only if DfT notified of depot submission</i>	Text with '>>' delimiter i.e. <b>Company&gt;&gt;Depot</b>
C	Data Code Stamp	Hidden and automatically generated in Log file – revealed in DSF A coded reference to the originating log file it is actually the exact Excel DATE/Time when the file was last saved.	Excel 'General' – numeric If not from LOG File leave blank or insert own ref.
D	Job Code (Optional)	Company unique reference for the leg/journey. One code may apply to several consecutive journey legs.	Text Company's own format.
E	Client(Optional)	Name or reference to client for whom the goods are being carried	Text
F	Date	Date of journey START	Date dd-mmm-yy
G	Day of the Week	Three letter format (Mon, Tue, Wed etc.) of journey START <i>Provides a cross-check on dates in data</i>	Text – 3 Char ddd format (Mon, Tue etc.)
H	Company Trailer ID	Company normal trailer ID (T146, ET4076 etc.). <i>Allows easy reference to trailer - VIN/TIN matching in DSF sheet</i>	Text – as used by company
<b>JOURNEY INFORMATION FOR EVERY POINT TO POINT LEG.</b>			
I	Origin Location	Town (and Postcode ) of Origin	None – free text
J	Depart	Time of departure from origin 24hr Format hh:mm	Automatic – time
K	Arrive	Time of arrival at destination Format hh:mm	Automatic – time
L	Dest'n Location	Town (and postcode) of Destination	None – free text
M	Journey Leg Type	Special set of journey descriptions, based on the likely market uses for HVSTs from the trial feasibility and impact report	Text from Valid Options as in Table 2
N	Distance (mile) (Optional)	Distance travelled in miles if that is your raw data format. If you enter data here it will be converted to km in column O.	Number – Zero Decimal Places (can be integer)
O	Distance (km)	Distance travelled in km. If you enter data here it will override (permanently) the conversion from miles of data in column N. <b>This is the only distance unit used in summary and analysis</b>	Number – Zero Decimal Places (can be integer)
P	Incidents	If any reportable incident occurs during the journey then record YES or company assigned incident references <i>Allows later matching of incident data to journey information</i>	Text Default / Empty is <b>blank</b> (not zero)
<b>CARGO AND LOADING INFORMATION</b>			
Q	Type of Goods	Not the standard DfT commodity list – a special shortened set of options for this trial	Text from Valid Options as in Table 2
R	MOA	Mode of Appearance - the way the goods are present and loaded	
S	MOA Quantity (Optional)	Number of units of the Mode (Pallets etc). For Bulk goods or Livestock use 1. For Empties, use 0 (Automated in LOG File)	Automatic – Zero or Positive whole number.
T	Goods Weight	The weight of goods loaded in kg. (i.e. If from weighbridge data, need to remove weight of tractor unit and trailer)	Kg Numeric – no decimals
U	(Estimated) Volume Utilised	From data, central estimate (based on knowledge of load and trailer, or driver best estimate – selected form bands OR (from v2-3 onwards) as actual % values	List of bands (overleaf) or Excel % format
V	(Estimate) Deck Space Utilised	From data (e.g. pallet count if all one size), central estimate or driver best estimate – selected from bands (Empty, 0-25% etc). OR (from v2-3 onwards) as actual % values	List of bands (overleaf) or Excel % format
W	Load Limited By Wt	Was the trailer less than 100% loaded due to 44 tonne limit or trailer load limit	Text - 'Yes' or 'No'
X	Multi-Stop	Multi-drop/pickup journeys with 5 or more stops, can be recorded on a single row. Simply enter number of drop/pickup stops here.	Integer. Default=1 - Any value >=5 then valid.

**TABLE 2: Special Trial ‘Valid Options’ Lists**

Some of the data to be collected for the trial is likely to be part of the normal information gathered by companies and is similar to that required by DfT when operators contribute to the Continuing Survey of Road Goods Transport. However, this trial differs from regular data gathering because it needs to

- a. Gather data about TRAILERS, rather than whole vehicles or tractor units
- b. Gather data in order to verify specific claims / forecasts that have been made in regard to the costs and benefits of permitting HVSTs in the UK

Four of the data fields requested therefore have bespoke lists of response options and validation in the log will ensure only these are used.

**Note to IT/Data Analysts Creating Data from Corporate Systems**  
 For these fields the LOG file requires the full option text. However, the DATA SUBMISSION FILE will accept just the number of the option to generate the results in the Summary worksheet. (I.e. Journey Type ‘4’ DC to DC’ can be coded simply as ‘4’, 90=76-90%’ as ‘90’). Hence when generating this bespoke data from existing systems or to insert into such data, only the numeric code from the option need be created if this is easier.

<p><b>JOURNEY LEG TYPE (Column M)</b></p> <ul style="list-style-type: none"> <li>1) EMPTY FROM DEPOT TO JOB</li> <li>2) EMPTY BETWEEN JOBS</li> <li>3) SUPPLIER TO DIST CENTRE</li> <li>4) DC TO DC</li> <li>5) To/from RETAIL SITE</li> <li>6) To/from INDUSTRIAL SITE</li> <li>7) PALLETISED TRUNKING</li> <li>8) EMPTY BACK TO DEPOT</li> <li>9) OTHER LEG TYPE</li> </ul>	<p><b>TYPE OF GOODS (Column Q)</b></p> <ul style="list-style-type: none"> <li>0) NO CARGO</li> <li>1) EMPTIES / WASTE PACKING</li> <li>2) FMCG (MIXED PRODUCTS)</li> <li>3) FMCG (SINGLE PRODUCT)</li> <li>4) RAW MATERIAL/SUPPLIES</li> <li>5) INDUSTRIAL PRODUCTS</li> <li>6) BIOMASS / FUEL</li> <li>7) MAIL / PARCELS</li> <li>8) OTHER - RETAIL</li> <li>9) OTHER - NON-RETAIL</li> <li>10) PALLETS - MIXED/UNKNOWN</li> </ul>
<p><b>MODE OF APPEARANCE (Column R)</b></p> <ul style="list-style-type: none"> <li>0) NONE</li> <li>1) EMPTIES / WASTE PACKING</li> <li>2) STD PALLETS</li> <li>3) STD ROLLER CAGES</li> <li>4) OTHER PALLETS / CAGES</li> <li>5) PRE-SLUNG GOODS</li> <li>6) LIVESTOCK</li> <li>7) LOOSE / BULK</li> <li>8) MIXED M.O.A</li> <li>9) INTERMODAL UNIT / ISO</li> </ul>	<p><b>VOLUME % (Column U) &amp; DECK % (Column V)</b></p> <ul style="list-style-type: none"> <li>0=EMPTY</li> <li>25=BELOW 25%</li> <li>50=26-50%</li> <li>75=51-75%</li> <li>90=76-90%</li> <li>100=91%- FULL</li> </ul> <p><b>NB: The format of these text lines has changed with v2-3 to remove spaces and minor inconsistencies in the format. Users with these text lines embedded in their download systems will need to make appropriate adjustments, although the old formats will still ‘work’ during 2013-P1 only.</b></p>

## A5 Trailer Reference Information

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- 5-1 Number of Trailers
- 5-2 Changes in Trailer Status (during survey period)  
No Change / New Entry / Sold / Scrapped / Out of Service
- 5-3 Basic Body Construction
  - FLATBED
  - BOX
  - CURTAIN SIDED
  - CURTAIN WITH RETENTION
  - SWAP-BODY
  - CONTAINER CARRIER
  - TANKER / BULK
  - OTHER
- 5-4a Other Features  
Refrigerated / Top / Roof Loading / Tail Lift / Self-Loading (Montecon, Crane, etc) /  
Walking Floor / Similar / Additional safety features (sensors, cameras, driver aids)
- 5-4b If Additional Safety Features are present on some trailers, please give an indication of  
the nature of the features and number of trailers fitted.
- 5-5 Decks (Numbers of trailers with each arrangement)  
Single / Fixed Dual – Full / Fixed Dual – Partial / Moving Dual – Full / Moving Dual -  
Partial
- 5-6 Axles Overall Arrangement (Number of trailers with each configuration)  
All Fixed / 1 or 2 Self-Steer / 1 or 2 Command Steer (Passive) / ACTIVE (Any more  
complex)
- 5-7 Axle Structures (Number of trailers with each structure)  
Standard / Wheel Box
- 5-8 Tyres Fitted  
Super Single (All Axles) / Double (All Axles) / Single (All Axles) / Mixed
- 5-9 Individual Axle Load and Lift Design – for each axle:
  - a) Design Max Load: Lowest cited [kg]
  - b) Design Max Load: Highest cited [kg]
  - c) Lift / Retractable:

## A6 Incident Log

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The incident log fields are based on a selection of the fields used in the national STATS19 database which is completed when the police attend a road incident. Some fields have then been expanded to allow recording of serious incidents on private property, such as in a depot, which would not fit into the normal STATS19 framework.

The fields are listed below. In most cases the user selects their response from a list given in the sheet and based on the STATS19 response options.

- Date and time of Incident
- Location (Road or nearest road)
- Location Description
- Person Number (if multiple injuries use one row per person)
- STATS19 Injury Level
- Damage to Vehicle and /or Load
- Damage to Property
- Vehicle manoeuvre at time of incident
- Vehicle location at time of incident
- Incident Location - relative to nearest junction
- Any vehicle skidding or overturning?
- Did vehicle hit object on road?
- Did vehicle hit another vehicle?
- Did vehicle leave carriageway?
- First object hit by vehicle off carriageway
- First point of impact on vehicle
- Comments on incidents and near misses (in addition to any comment in Part 3 of the survey)

## APPENDIX B KEY FACTS AND FIGURES

Figures as at 31 December 2012 or for operations during 2012, based on all data available in April 2012.

<b>Operators</b>	Number submitting trial data during 2012 (Some submitted data in only 1 period or for a limited time with a loan trailer on test)	42
	Sum of allocations held by this group: 14.6m 15.65m	379 573
	Allocation Ratio (15:65m to 14.6m) of 2012 Participants	1.5 : 1
<b>HVSTs On The Road in 2012</b>	Number on the road in 2012: 14.6m 15.65m <b>Total</b>	49 301 350
	A further 3 trailers were listed in operator data files but without any recorded journeys	
	Uptake Ratio (15.65m to 14.6m) of 2012 Participants	6 : 1
<b>Journeys</b>	Number of journey legs logged Total distance travelled (Recorded in 96% of all legs) Average recorded distance of a single leg Maximum recorded distance of single leg	69,997 8.3 Million km 125 km 819 km[1]
<b>Cargo</b>	Total weight of cargo 'lifted' (Recorded in 88% of all legs)	604 Thousand Tonnes

Note that these figures are based on the raw DSF data at an interim point of the data cleansing and import process to a new master database in April 2013, so they may change slightly in later reports once the full data cleansing has been completed.

[1] There are in fact a number of legs where the single leg distance recorded is much greater than this, but we expect these will be revised during data cleansing.