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E-mail: research.competitions@defra.gsi.gov.uk

# SID 5 Research Project Final Report

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## Project identification

1. Defra Project code: AW0942
2. Project title: Study to assess the impact of legislation to improve the welfare of animals during transport
3. Contractor organisation(s): Delta-innovation Ltd, Bedford i-lab, Priory Business Park, Bedford, MK44 3RZ
4. Total Defra project costs (agreed fixed price): £ 112,965
5. Project: start date ..... 01 April 2009
   end date ..... 31 March 2010

6. It is Defra's intention to publish this form.
Please confirm your agreement to do so.....**YES** ☒ **NO** ☐

(a) When preparing SID 5s contractors should bear in mind that Defra intends that they be made public. They should be written in a clear and concise manner and represent a full account of the research project which someone not closely associated with the project can follow.

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In all cases, reasons for withholding information must be fully in line with exemptions under the Environmental Information Regulations or the Freedom of Information Act 2000.

(b) If you have answered NO, please explain why the Final report should not be released into public domain

## Executive Summary

7. The executive summary must not exceed 2 sides in total of A4 and should be understandable to the intelligent non-scientist. It should cover the main objectives, methods and findings of the research, together with any other significant events and options for new work.

This project set out to assess what impact legislation (specifically EC 01/2005) has had on the protection of animals during transport. Through a combination of desk-research (e.g. mapping animal movements, reviewing the context in which legislation has been introduced), interviews with industry bodies, a telephone survey of farmers, one-to-one surveys of farmers and hauliers at livestock markets, and telephone surveys of livestock market and abattoir operators, the project has attempted to determine whether the legislation has driven improvements in welfare status, whether the legislation has led to unintended consequences that may have reduced animal welfare, whether there is a better suite of indicators that might be used to demonstrate changes in the welfare of animals during transport and what additional non-legislative strategies could be used to further improve the welfare of animals during transport? Additionally, the project was intended to provide indications as to where (i) monitoring of animal welfare and (ii) animal welfare in transport might be improved.

The legislation only made slight changes to the conditions in which animals are transported as compared to the previous legislation. Far greater changes were made to the procedures under which animals may be transported, including requirements for training and certification. It is of note that the uptake of training has been significant (over 40,000 have been awarded the Certificate of Competence for short journeys) and that there are indications from a small proportion of industry (including farmers, market and abattoir operators) that the welfare of livestock at key points such as loading and unloading has improved and that there has been a reduction in the transport of animals that are unfit to travel.

Although awareness of the legislation appears high amongst farmers and hauliers, knowledge of the requirements set out under the legislation is relatively poor. In particular, many farmers are unaware of who has responsibility for determining whether animals are fit to transport, and there could be numbers of farmers transporting livestock over the threshold distance of 65km without having obtained the necessary authorisation and certificate of competence.

Interviews with representatives of horse keepers indicate that the legislation has, for the most part, had minimal impact. The greatest impact reported was within the semi-feral equine sector, for which the requirement to provide partitions to limit group sizes to four horses, reductions in stocking densities, restrictions on journey lengths and the requirement for individual stalling of horses being transported on RO-RO vessels is reported to have damaged trade.

There was little evidence forthcoming on unintended consequences of the legislation impacting negatively on the welfare of animals.

Discussions with monitoring and enforcement organisations including Local Authorities, Animal Health, the Meat Hygiene Service and the RSPCA indicated that there may be a suite of indicators within the AMES database (a database that is owned by Defra, managed by Animal Health and populated by Local Authorities under the Framework Agreement) which would be suitable for demonstrating changes in the welfare of animals during transport. Defra may wish to consider whether the AMES database should be subject to review by a suitably qualified and experienced epidemiologist / statistician to determine the extent to which data collected to date may be used to describe changes in the welfare of transported livestock, and to advise on future data collection included within AMES so that this might be used to monitor changes in welfare

Market-based strategies to further improve the welfare of animals during transport seem unlikely to succeed at this juncture, because much livestock transport takes place at a distance from the end-consumers and because, regardless of distance, transport of livestock is not thought to be a 'current' issue. However, a significant proportion of livestock farms, hauliers and markets sit within livestock assurance schemes. There is scope to work with these assurance schemes to address, for example, the improvement of livestock vehicles, loading and unloading facilities. In addition, the high levels of uptake of training may be used as a springboard to further improve the standards of animal welfare for farmed livestock. Building on these high levels of uptake, opportunities to promote 'advanced training', perhaps with the backing or promotion of assurance schemes, maintaining a focus on shorter journeys, would allow for the improvement of (i) knowledge of the legislation and (ii) overall driving standards.

Official monitoring of animal welfare appears to be least robust during farm: farm transportation, and may also be usefully improved for farm: abattoir journeys. Extending the role of Local Authority officers to include an increased level of monitoring at abattoirs may therefore be of value.

The possible 'exploitation' of the 14:1:14 rule was highlighted as an area that might be addressed to improve animal welfare, since the 1 hour rest period is set as a minimum, and so livestock may be kept on vehicles that are not entirely suitable for an indefinite period of rest. Additionally, the single animal exemption appears to offer no animal welfare benefits and its inclusion in future drafts of the legislation and guidance might be usefully questioned.

## Project Report to Defra

8. As a guide this report should be no longer than 20 sides of A4. This report is to provide Defra with details of the outputs of the research project for internal purposes; to meet the terms of the contract; and to allow Defra to publish details of the outputs to meet Environmental Information Regulation or Freedom of Information obligations. This short report to Defra does not preclude contractors from also seeking to publish a full, formal scientific report/paper in an appropriate scientific or other journal/publication. Indeed, Defra actively encourages such publications as part of the contract terms. The report to Defra should include:
   - the scientific objectives as set out in the contract;
   - the extent to which the objectives set out in the contract have been met;
   - details of methods used and the results obtained, including statistical analysis (if appropriate);
   - a discussion of the results and their reliability;
   - the main implications of the findings;
   - possible future work; and
   - any action resulting from the research (e.g. IP, Knowledge Transfer).

## 1. Introduction

Council regulation (EC) No 1/2005 on the protection of animals during transport and related operations, came into force in January 2007. Amending previous legislation, Council regulation (EC) No 1/2005 has a strong focus on the agricultural and equine industries. For the agricultural industry, the regulation sets out to ensure that farm animals being transported to and from farms, markets and slaughterhouses are transported in a way that will not cause injury or undue suffering. For the equine sector the regulation's focus is relative to horses and ponies being transported to and from stable yards/holdings, competitive events, markets and slaughterhouses.

The extent to which welfare of animals in transport legislation, particularly Council regulation (EC) No 1/2005) is able to deliver desirable welfare targets, will to a great extent be dependent on the ability to effectively impact

those people who on a day to day basis (farmers, hauliers, horse keepers, and others engaging in transport related activities) have the ability to make a significant difference to the welfare of animals in transport. Equally, the effective monitoring and enforcement of legislation has a large role to play in delivering key legislative targets. A better understanding of whether Council regulation (EC) No 1/2005 is leading to the intended outturns will place the UK Government/Defra in a firm position to encourage and deliver appropriate strategies to ensure the best levels of animal welfare are achieved within a commercial environment, and to ensure that if possible, a recourse to further legislation is avoided. Responsibility for monitoring animal welfare in transport falls to a number of different organisations, and there are no single, clear indicators based on current data collection and collation that tell us what impact, if any, Council regulation (EC) No 1/2005 has had on the actual welfare of animals in transport.

## 2. Project brief

This project set out to assess what impact legislation (specifically EC 01/2005) has had on the protection of animals (pigs, sheep, cows, horses, ponies, layer hens and broilers) during transport. Through a combination of desk-research, interviews with industry bodies, a telephone survey of farmers, one-to-one surveys of farmers and hauliers at livestock markets, and telephone surveys of livestock market and abattoir operators, the project was intended to answer the following four questions:

1. Has legislation driven improvements in welfare status?
2. Has legislation led to unintended consequences that may have reduced animal welfare?
3. Is there a better suite of indicators that might be used to demonstrate changes in the welfare of animals during transport?
4. What additional non-legislative strategies could be used to further improve the welfare of animals during transport?

Additionally, the project was intended to provide indications as to where (i) monitoring of animal welfare and (ii) animal welfare in transport might be improved.

## 3. Background to Council Regulation (EC) No. 1/2005

Council regulation (EC) No 1/2005 came into force on the 05 January 2007 and is being implemented within England through the Welfare of Animals (Transport) Order 2006, and similarly by the devolved authorities. The legislation replaced EC Directive 91/628 (amended under EC Directive 95/29), implemented in the UK under the Welfare of Animals (Transport) Order 1997.

Council regulation (EC) No 1/2005 set out new rules for those who transport animals in connection with an economic activity, including livestock and equine hauliers, farmers and commercial pet breeders, people handling animals at markets, assembly centres and slaughterhouses. The rules include a requirement for transporter authorisation, training and holding a certificate of competence for those transporting animals over 65km, and a requirement for transporters to produce an Animal Transport Certificate for all journeys (with the exception of farmers using their own vehicles and transporting livestock less than 50km).

Under Council regulation (EC) No 1/2005, regulatory requirements relate specifically to different types of journeys defined as ‘short journeys’ (under 8 hours) and ‘long journeys’ (over 65km and over 8hrs). Under the regulations, vehicle approval licenses attached to higher specifications (ventilation, ramp angles, water/feed equipment) are now required for vehicles transporting animals on long journeys. There is an extension to the ‘on-board’ requirements (satellite tracking and recording devices for the opening/closing of the tailgate) once vehicles are engaging in transport of over 12 hours. All transporters transporting animals over 65km must also obtain a Transport Authorisation, and a Journey Log is required for any export journey made to another EU member state.

## 4. Methods

### 4.1 Structured telephone interviews with industry organisations

#### 4.1.1 Sampling frame & timetable

A sampling frame of industry organisations was generated, consisting of agricultural, equine and veterinary organisations. The organisations were selected to provide a representation of the key sectors, including members who are involved in the transport of animals. This included specialist agricultural livestock organisations; general agricultural organisations; equine organisations representing keepers of thoroughbred, registered, unregistered and competition horses/ponies; equine organisations representing keepers of semi-feral and unbroken horses/ponies; veterinary associations representing the different farm livestock and equine specialists. Industry organisations were contacted between July and October 2009.

#### 4.1.2 Prior briefing of respondents

A letter (see Section 4.1 of the Appendixes), detailing the reason for the project was sent prior to interviewees being contacted by telephone.

4.1.3 Interview structure
The questions used within the interview are presented in Section 4 of the Appendixes, which also details the summaries of interview responses. The questions related directly to Council regulation (EC) No 1/2005 and aimed to identify whether representatives thought that the regulations were making an impact and if so where the primary impact had been. It was also the intention to draw out any weakness to the legislation and to gather opinions on how the regulations could be made more effective in the future.

4.1.4 Interview response rates
All organisations approached within the project with the exception of one were able to participate in the interviews. A total of 27 interviews were held, including 8 agricultural, 11 equine, and 6 veterinary organisations were interviewed. A one-to-one meeting was conducted with a senior delegate of the equine sector who represented 2 organisations. Of 3 organisations that represented the semi-feral sector, one organisation was represented twice in two separate interviews for depth of information. Two organisations representing the semi-feral equine sector also provided written responses. For a detailed list of the industry organisations interviewed see Section 3 of the Appendixes – Schedule of organisations).

## 4.2 Structured telephone interviews with livestock assurance schemes and inspection bodies

4.2.1 Sampling frame & timetable
The sampling frame consisted of the principal livestock assurance schemes and certification/inspection bodies overseeing the farm livestock sectors across the UK, including pigs, sheep, beef cattle, dairy cattle and poultry. There were fewer certification bodies than assurance schemes within the sample. Livestock assurance schemes and certification schemes were contacted during the autumn and winter of 2009.

4.2.2 Prior briefing of respondents
A letter (see Section 5.1 of the Appendixes), detailing the reason for the project was sent prior to interviewees being contacted by telephone.

4.2.3 Interview structure
The questions used within the interview can be seen in Section 5.3 of the Appendixes, which also details the summaries of responses. The questions aimed to find i) the extent to which assurance schemes have improved the welfare of animals during transport as a result of changes in legislation; ii) the extent to which these improvements might have taken place in the absence of legislation; and iii) the level to which formal training in the welfare of animals during transport has increased as a result of legislation.

4.2.4 Interview response rates
A total of 12 livestock assurance schemes and certification bodies were represented. Of the livestock assurance schemes represented, there were 4 that preferred to participate in the form of a joint written response, as each scheme was owned and run by one central assurance group. Two assurance schemes and one certification body were unable to participate.

## 4.3 Structured telephone interviews with multiple retailers

4.3.1 Sampling frame & timetable
All 8 of the main multiple retailers within the UK were contacted, with interviews aimed at agriculture managers. Interviews and written responses were conducted between August and October 2009.

4.3.2 Prior briefing of respondents
A letter (see Section 6.1 of the Appendixes), detailing the reason for the project was sent prior to interviewees being contacted by telephone.

4.3.3 Interview structure
The questions used within the interview can be seen in Section 6.3 of the Appendixes, which also details the summaries of responses. The interview questions were designed to address the same areas as addressed in the livestock assurance scheme interviews (see above), from the perspective of retailers.

4.3.4 Interview response rates
There were 5 multiple retailers that provided responses, with 2 of these preferring to respond in a written format.

## 4.4 One-to-one survey of drivers (farmers/hauliers) at livestock markets

4.4.1 Sampling frame

A sample frame was drawn based on a target of completing 120 surveys to represent farmers and commercial hauliers at livestock markets throughout the UK. Starting with an estimate that around 10 surveys could be conducted per livestock market, 12 markets were selected. Two markets were selected in each of Scotland, Wales, Northern Ireland, Northern England, Central England and Southern England. Markets were selected on the basis that each country/region should have a representation of 1 high throughput market (over 300 average livestock units per week) and 1 low throughput market (100 to 300 average livestock units per week). This way, seasonal and regular markets, and those capturing local trade and/or trade from further distances should be represented. The Meat and Livestock Commission's 'Meat and Livestock Industry' map was referred to for locations of livestock markets across the UK and their level of throughput. An additional 2 markets (1 low throughput and 1 high throughput) were also selected to ensure that sufficient drivers were recruited.

4.4.2 Prior briefing of respondents
An advance-notice letter (see Section 7.2 of the Appendixes) was sent to senior auctioneers and/or market managers, detailing the reason for contact and asking for permission to visit their market. It was necessary to speak to auctioneers/managers prior to visiting markets so that a visit date could be booked in relation to the market's operation days and the types of livestock being transported to and from the market. On approaching farmers and hauliers at the markets, it was necessary to provide an introductory briefing, detailing the origins and reasoning of the survey and its confidentiality.

4.4.3 Pilot survey
Prior to conducting the main survey the questionnaire was piloted first of all on an individual haulier firm, and then on a sample of drivers at a livestock market. Learning from these pilot stages, and to ensure that the questionnaire was not overly long, some of the questions were subsequently amalgamated and re-formatted.

4.4.4 Questionnaire structure
A copy of the survey form used can be seen at Section 7.3 of the Appendixes. The survey was designed to collect attitudinal and behavioural data as well as knowledge and understanding of good practice, and to identify whether farmers and hauliers had changed the ways in which they operate since the introduction of legislation. It was also the intention that the survey would reveal any additional sources of 'pressure to improve' from, for example, retailers.

4.4.5 Survey response rates
A total of 127 surveys were completed, including 80 farmers and 47 commercial hauliers. The response split between farmers and hauliers was reflective of there generally being a higher attendance of farmers at markets than hauliers. Also included within the sample of commercial hauliers were three hauliers that were surveyed at their base. Out of the farmers and hauliers interviewed there were very few transporting pigs and poultry. In order to increase the representation of pig and poultry hauliers, a small supplementary telephone survey was conducted of 8 pig hauliers and 2 poultry hauliers.

4.4.6 Timetable
Surveys were conducted at livestock markets between the 8th October and the 9th December 2009. The supplementary pig and poultry telephone survey was conducted during January 2010.

### 4.5 Telephone survey of market operators

4.5.1 Sampling frame
A sample frame was drawn based on a target of completing 48 market operator surveys across the UK. Six high throughput and 6 low throughput markets were selected in each of England, Scotland, Wales and Northern Ireland. Markets in England were selected to represent northern, central and southern counties. The Meat and Livestock Commission's 'Meat and Livestock Industry' map was referred to for locations of livestock markets across the UK and their level of throughput. Three additional markets were included in the sample to ensure that sufficient would be recruited in total.

4.5.2 Prior briefing of respondents
A letter (see Section 8.1 of the Appendixes), detailing the reason for the project was sent prior to interviewees being contacted by telephone.

4.5.3 Pilot survey
Prior to conducting the main survey, a pilot exercise was carried out on the first two market operators spoken to. Following this, minor changes to the presentation of questions were made to aid respondents' interpretation.

4.5.4 Questionnaire structure
A copy of the survey form can be seen at Section 8.3 of the Appendixes. At the start of the survey, respondents were screened to ensure that they had a responsibility for the welfare of livestock being traded through the market.

4.5.5 Survey response rates
A total of 50 market operator surveys were completed. Northern Ireland fell short of the target survey number by 50% and Wales fell short by 1 survey. Consequently, it became necessary to increase numbers by raising the number of surveys completed within England.

4.5.6 Timetable
Market operator surveys were conducted during October, November and December 2009.

### 4.6 Telephone survey of farmers

4.6.1 Sampling frame
A target was set of 120 farmers to be contacted across the UK, broken down by country as follows: 60 English, 20 Welsh, 20 Scottish and 20 Northern Irish. A total sample of 240 farmers was selected on the assumption that a proportion that would prove unobtainable. Criteria for selecting the sample in each country were agreed with Defra's Food and Farming Group. A farm size banding (small, medium or large) was allocated to livestock farms based on Standard Labour Requirements (SLR), i.e. the theoretical hours and the equivalent full time labour requirement required to run a holding per year accordance to the livestock and cropping on that holding. Small farms were defined as 1≤ SLR <2; medium farms as 2≤ SLR <3; large farms as 3≤ SLR. Holdings to contact were then selected equally from each band and in proportion to the total numbers of each farm type (livestock species farmed) typical to each country.

4.6.2 Prior briefing of respondents
An advance-notice letter (see Section 9.1 of the Appendixes) was sent to farmers providing a very brief introduction to the study, and providing the opportunity for them to decline any further involvement.
A further introductory briefing was also given at the start of the interview, reiterating the background to the survey and the confidentiality of responses.

4.6.3 Questionnaire structure
A copy of the questionnaire used can be found at Section 9.3 of the Appendix. The survey was designed to collect attitudinal and behavioural data as well as knowledge and understanding of good practice, and to identify whether farmers and hauliers had changed the ways in which they operate since the introduction of legislation.

4.6.4 Survey response rates
A total of 127 surveys were completed, comprising 57 English, 30 Northern Irish and 20 each within Scotland and Wales.

4.6.5 Timetable
Farmer surveys were conducted during December 2009 and January 2010.

### 4.7 Telephone survey of abattoirs

4.7.1 Sampling frame
A target number of 120 abattoirs was set to be contacted across the UK. A list of all abattoirs from across the UK was drawn (from the MHS schedule of abattoirs) and these were used as the target sample.

4.7.2 Prior briefing of respondents
A letter (see Section 9.1 of the Appendixes), detailing the reason for the project was sent prior to interviewees being contacted by telephone.

4.7.3 Questionnaire structure
A copy of the questionnaire used can be found at Section 9.3 of the Appendixes. At the start of the survey, respondents were screened to ensure that they had a responsibility for the welfare of livestock being delivered to the abattoir.

4.7.4 Survey response rates
Abattoirs proved difficult to contact and a total of 71 surveys were completed. Of these there were no abattoirs slaughtering poultry.

### 4.8 One-to-one meetings with monitoring bodies

A series of meetings were held with monitoring/enforcement bodies to gain an understanding of the role that they take in the delivery of legislation on the welfare of animals during transport. This included investigating i) responsibilities and / or powers of monitoring bodies, ii) where monitoring is conducted and what information is

collected, iii) the extent to which monitoring bodies think that legislation has had an impact and iv) what monitoring bodies believe could be done to make enforcement more effective.

Monitoring/enforcement bodies that were consulted included the RSPCA, Meat Hygiene Service, Animal Health and Local Authorities (Trading Standards). A total of 8 one-to-one meetings and 1 telephone conference were carried out. A list of meetings conducted can be seen in Table 1.

Monitoring data collected by these bodies was also provided by these organisations including monthly MHS exception reporting data (anonymised) for the period 2005-2009, Animal Health's returns to the Divisional Veterinary Manager for 2006-2008 and Animal Health's information on Transporter Authorisation applications. The team were also shown the AMES database by Animal Health teams at Worcester and Carlisle.

**Table 1. Meetings conducted with monitoring bodies**

| Monitoring body | Section or division |
|---|---|
| Meat Hygiene Service | Headquarters, York |
| Animal Health | Dover office |
| | Welfare in Transport Team (WIT), Worcester (2 meetings) |
| | Welfare in Transport Team (WIT), Carlisle |
| | Telephone conference: - WIT and Animal Movement Enforcement System (AMES) Teams, Carlisle/Worcester/Wales. |
| Trading Standards | Gloucester Trading Standards, Cirencester |
| | National Panel Transport Group, Gloucester |

### 4.9 One-to-one meetings with other industry representatives

Four meetings were held with industry experts to a wider view of the welfare of animals in transport legislation and its impact. These included meetings with the Road Haulage Association (RHA), the Livestock Auctioneers Association (LAA), the Pullet Rearers Association (PRA) and Miriam Parker, an independent animal welfare and animal transport consultant.

### 4.10 Uptake of training

Data on the uptake of training was requested from the training bodies approved to provide the assessment and delivery of the Certificate of Competence across the agricultural and equine sectors and was obtained from Lantra, the NPTC, The Scottish Skills Testing Service, BHEST and the British Driving Society.

## 5. RESULTS

### *5.1 Awareness*

Levels of awareness of the existence of Council regulation (EC) 1/2005 appear to be high amongst those handling and/or transporting livestock. When asked, 'Are you aware of the EU regulations on the transport of animals that came in to force in January 2007?' the majority of farmers, hauliers, market operators and abattoir operators claimed to be so. Industry bodies interviewed believed awareness to be high. Stated awareness was lowest within the abattoir operators. Possession of a Certificate of Competence and membership of an assurance scheme both increased the likelihood that a farmer or a haulier would state that they were aware of the regulations. Trade journals and the farming press were the most frequently cited sources of information about the regulation.

i) Awareness of the existence of Council regulation (EC) 1/2005 is believed to be high amongst farmers, commercial hauliers and horse keepers (Appendix 4 - interviews conducted with industry organisations).
ii) 98% of market operators were aware of Council regulation (EC) 1/2005 (Appendix 8.4 – Market operator survey results).
iii) 92% of farmers within the telephone survey were aware of Council regulation (EC) 1/2005 (Appendix 9.4 – Farmer survey results).
iv) 74% of abattoir operators were aware Council regulation (EC) 1/2005 (Appendix 10.4 – Abattoir survey results).
v) 90% of farmers and professional hauliers in the survey of drivers at livestock markets were aware of Council regulation (EC) 1/2005 (Appendix 7 –Farmer /haulier survey results).
vi) Farmers in Ireland were less aware than other UK farmers of the existence of the transport regulations (Chi Square=8.55, $p<0.05$) (Appendix 9.5 – Farmer analysis).

vii) Possession of a training certificate (Chi Square=10.21, p<0.05) and membership of an assurance scheme (Chi Square=21.96, p<0.001) increased the likelihood of farmer and hauliers being aware of the regulations (Appendix 7 –Farmer /haulier survey results).
viii) Farmers and horse keepers who do not regularly transport their animals are thought to be least aware of the Regulation's existence and transport implications (Appendix 4 - interviews conducted with industry organisations).
ix) The highest proportion of farmers and professional hauliers had become aware of the EC regulations through trade journals and press, followed closely by word of mouth (Appendix 7 –Farmer /haulier survey results).
x) The highest proportion of farmers had heard about the Council regulation through trade journals and farming press (Appendix 9.4 – Farmer survey results).

*5.2 Training and certification of farmers and drivers*

A substantial number of livestock farmers have undertaken a Certificate of Competence for transporting livestock, with over 41,000 having registered for or been awarded the Certificate up to September 2009. Around one third of farmers interviewed by telephone stated that they had a Certificate, and over 40% of farmers interviewed at livestock markets stated they had a Certificate. The majority of hauliers stated that they had a Certificate. However, of those farmers transporting livestock over 50km, 63% in the 'phone survey and 38% in the survey at livestock markets did not have a Certificate. That is, although there has been a widespread uptake of Certificates of Competence, it was not necessarily the case that these were being taken by the right body of farmers. Counter to this, only one commercial haulier transporting livestock over 65km stated that they did not have a Certificate of Competence. Farmers and professional hauliers that were members of a farm assurance scheme were more likely to have a Certificate of Competence than those who were not members.

i) At March 2009, over 41,000 Certificates of Competence for short journeys had been issued by NPTC and Lantra. An additional 715 Certificates of Competence for short journeys had been issued by BHEST. The issue of certificates peaked during March – May 2008 and has since declined to less than 500 a month for the NPTC and Lantra combined, and less than 50 per month for the equine related certificates issued by BHEST.
ii) At March 2009, over 2,600 Certificates of Competence for long journeys had been issued by NPTC. An additional 5,546 Certificates of Competence for long journeys had been issued by the BDS and BHEST. The issue of certificates peaked during March – May 2008 and has since declined to less than 50 a month for the NPTC and Lantra combined, and less than 100 per month for the equine related certificates issued by BDS and BHEST.
iii) Within the telephone survey of livestock farmers, 29% had been on a training course relating to the welfare of animals in transport. Out of the 30 farmers who transported animals over 50km, 19 of them (63%) of them were not in possession of a Certificate of Competence (Appendix 9.4 – Farmer survey results).
iv) Within the survey of farmers and hauliers at livestock markets, 43.8% of farmers were in possession of a Certificate of Competence and 96% of hauliers had obtained a certificate. Out of 40 farmers who transported livestock over 50km, 15 (37.5%) of them did not have a Certificate of Competence (Appendix 7 –Farmer /haulier survey results).
v) Within the telephone survey of livestock farmers, the largest proportion (50%) of farmers that had taken a Certificate of Competence took their Certificate of Competence in 2008 (Appendix 9.4 – Farmer survey results).
vi) Within the survey of farmers and hauliers at livestock markets, out of 74 responses, 39% of hauliers and farmers had taken their certificates of competence in 2007, 49% in 2008 and 8% in 2009 (Appendix 7 –Farmer /haulier survey results).
vii) Farmers and professional hauliers that were members of a farm assurance scheme were more likely to have a Certificate of Competence (Chi Square=16.18, p<0.001) (Appendix 7 –Farmer /haulier survey results).
viii) Only farmers that had not been on the training courses were unaware of the regulations (Chi Square=4.52, p<0.05) (Appendix 9.4 Farmer survey results).
ix) Beef farmers are the most likely to have a Certificate of Competence, whilst sheep farmers are the least likely to have a certificate (Wald statistic=20.13, p<0.001) (Appendix 9.5 – Farmer analysis).
x) Farmers using fixed trailers and operating tractor and trailers are more likely to have a Certificate of Competence (Wald statistic=12.39, p<0.05) (Appendix 9.5 – Farmer analysis).
xi) All of the 10 professional hauliers that transported livestock on journeys over 8 hours held a Certificate of Competence (Appendix 7 –Farmer /haulier survey results).
xii) Only 1 professional haulier out of 21 who transported livestock over 65km had not obtained a Certificate of Competence (Appendix 7 –Farmer /haulier survey results).
xiii) Slightly more farmers and commercial hauliers had obtained an NPTC certificate than Lantra certificate (Appendix 7 –Farmer /haulier survey results).
xiv) The highest proportion of farmers and hauliers by a significant margin had taken their certificates of competence through a local college/learning resource centre (Appendix 7 –Farmer /haulier survey results).
xv) The NFU was the most popular administrator used by farmers receiving training for welfare of animals during transport, followed secondly by local colleges/learning resource centres, and thirdly by livestock/machinery rings (Appendix 9.4 – Farmer survey results).
xvi) No farmers in Northern Ireland reported that they had a training certificate (Appendix 9.5 – Farmer analysis).

*5.3 Training of market and abattoir operatives*

There was a high level of uptake of training at livestock markets, driven by a combination of assurance schemes and regulation, and written into market protocols. The level of uptake of training in abattoirs was also relatively high, and for markets and abattoirs alike staff were chosen for training because of their roles in handling animals.

i) Staff had received training relating to animal transport and handling in the last three years at 84% of the markets interviewed. NVQs in animal handling, followed closely by regular in-house training were the most popular forms of training received by staff at livestock markets (Appendix 8.4 – Market operator survey results).
ii) Handling stock regularly was the prime reason for why staff at markets were chosen to participate in training, but more specifically, to comply with assurance schemes, market protocol and to comply with regulations (Appendix 8.4 – Market operator survey results).
iii) 58.5% of abattoir operators indicated that they or their staff had received training in animal handling in the past two years. Abattoir operators indicated that the main reason for putting staff through training was because they had regular direct contact with animals (Appendix 10.4 – Abattoir survey results).

*5.4 Perceived value of training*

Training and the achievement of Certificates of Competence were not seen as highly useful by the majority of farmers. In part this was due to certification being aimed at a level which most farmers would achieve with little difficulty, so that they were seen to cover little more than 'common practice'. However, it was also highlighted within the survey of farmers and hauliers at livestock markets that they are never, or very infrequently, asked to show their Certificates; this lack of policing is seen to undermine the value of the Certificate. Counter to this, over half of the market and abattoir operators who commented on the usefulness of training indicated that it had provided some benefits.

i) Out of the farmers in the telephone survey who commented on the usefulness of training courses on the welfare of animals during transport, 75% of them indicated they had gained nothing useful (Appendix 9.4 – Farmer survey results).
ii) 81% of responses made (78) to the usefulness of the certificates of competence and any associated training received by farmers and professional hauliers were negative (Appendix 7 –Farmer /haulier survey results).
iii) The majority of negative responses given by farmers and hauliers related to the certificates of competence not being able to deliver anything above what to them was seen as common practice, basic knowledge and experience, whilst there were also a few comments relating to the poor format of the competence tests and the lack of policing in asking to see certificates (Appendix 7 –Farmer /haulier survey results).
iv) Only 10.5 % of farmers in the telephone survey felt that their Certificate of Competence had affected the way in which they transported livestock during transport (Appendix 9.4 – Farmer survey results).
v) 68.1% of market operators who commented on the usefulness of animal handling training reported benefits (Appendix 8.4 – Market operator survey results).
vi) The most useful outcome of receiving training was believed by market operators to be an increase in general awareness (Appendix 8.4 – Market operator survey results).
vii) There was a high proportion of abattoir operators who felt that animal handling courses were limited in usefulness, but of the 35 respondents expressing an opinion, just over half (54%) indicated that there had been a benefit (Appendix 10.4 – Abattoir survey results).

*5.5. Understanding and knowledge*

Interviews with agricultural and equine organizations indicated that professional hauliers would be most aware of the detail of the legislation, with less understanding in farmers and keepers of horses. Pig and poultry transporters were highlighted by agricultural organizations as having probably the best levels of understanding of the legislation.

i) Commercial hauliers are the most aware of the detail and requirements attached to the regulations (Appendix 4.3 - interviews conducted with agricultural organisations).
ii) Farmers' and horse keepers' understanding and knowledge into the detail of the regulatory requirements is weaker (Appendix 4 - interviews conducted with industry organisations).
iii) Horse keepers' understanding of the definition of a 'registered horse' as opposed an 'unregistered' horse; and the differentiation between 'economic activity' and 'leisure activity' is low (Appendix 4.6 and 4.5 - interviews conducted with equine organisations).
iv) The pig and poultry sectors are believed to have the highest level of understanding and knowledge of animal transport legislation (Appendix 4.3 - interviews conducted with agricultural organisations).

*5.5.1 Knowledge – fitness to travel*

Asked questions on who is responsible for deciding if an animal is fit to be transported, the majority of farmers interviewed by telephone answered incorrectly saying that it was the livestock owner. Of farmers surveyed at livestock markets, the majority answered incorrectly saying that it was the livestock owner or the livestock owner with the driver. Only around one fifth of farmers answered correctly that it is the driver's responsibility. Three quarters of commercial hauliers answered correctly that it is the driver's responsibility. Holding a Certificate of Competence increased the likelihood of answering this question correctly, although substantial numbers of Certificate holders still managed to answer incorrectly.

i) 79.5% of farmers indicated that livestock owners should be responsible for deciding if an animal is fit to travel and 12.5% indicated that drivers were responsible (Appendix 9.4 – Farmer survey results).
ii) 6% of farmers indicated that veterinarians should be responsible for deciding whether an animal was unfit to travel (Appendix 9.4 – Farmer survey results).
iii) The highest proportion of farmers (38%) indicated that the livestock owner should be ultimately responsible for deciding whether an animal is fit to travel, followed closely by 'drivers and livestock owners' (35%) and then drivers (21.5%). (Appendix 7 – Farmer /haulier survey results).
iv) 76% of professional hauliers indicated that 'drivers' were responsible for deciding whether an animal was fit to transport whilst 17% indicated that the 'driver and livestock owner' were responsible (Appendix 7 – Farmer /haulier survey results).
v) Professional hauliers were more likely to state that the driver was responsible for deciding whether an animal was fit to transport as opposed to farmers who were more likely to state that themselves or themselves and the driver were responsible (Chi Square=38.36, $p<0.001$) (Appendix 7 – Farmer /haulier survey results).
vi) Farmers and commercial hauliers with certificates were more likely to state that the driver was responsible for deciding whether an animal was fit to transport (Chi Square=18.37, $p<0.001$), but there were also significant numbers that indicated the livestock owner was responsible (Appendix 7 – Farmer /haulier survey results).
vii) Slightly greater numbers of farmers and hauliers in Scotland stated that the driver was responsible for the deciding an animal's fitness to travel (Chi Square=36.50, $p<0.05$) (Appendix 7 – Farmer /haulier survey results).

*5.5.2 Knowledge – responsibility during transport*

Asked who is responsible for the welfare of animals during transport, the highest proportion of farmers and virtually all hauliers answered correctly that this is the driver's responsibility. Professional hauliers, members of assurance schemes, farmers and hauliers with certificates of competence and farmers and hauliers with less than ten years experience were more likely to indicate correctly that the responsibility for the welfare of animals during transport sits with the driver.

i) The highest proportion of farmers (76%) indicated that drivers should be responsible for the welfare of animals during travel, followed by 30% who indicated that livestock owners were responsible (Appendix 9.4 – Farmer survey results).When farmers indicated 'livestock owners', they may have assumed that the livestock owner was the 'driver' and vice versa.
ii) 91% of farmers and 97% of hauliers indicated that the 'driver' was responsible for the welfare of animals during transport (Appendix 7 – Farmer/haulier survey results).
iii) Professional hauliers were more likely to indicate that the driver was responsible for animal welfare in transport ($p<0.001$) (Appendix 7 – Farmer /haulier survey results).
iv) Employees of haulage companies were the most likely group to indicate that the driver was responsible for animal welfare in transport ($p<0.001$) (Appendix 7 – Farmer /haulier survey results).
v) Farmers and hauliers that had less than 10 years experience were more likely to state that the 'driver' was responsible for the welfare of animals in transport ($p<0.05$) (Appendix 7 – Farmer /haulier survey results).
vi) Farmers and hauliers with certificates of competence were more likely to state that the driver was responsible for the welfare of animals in transport ($p<0.001$), but there were also significant numbers indicating other answers (Appendix 7 – Farmer/haulier survey results).
vii) Members of an assurance scheme were more likely to indicate that the 'driver' was responsible for the welfare of animals in transport (Appendix 7 – Farmer/haulier survey results).
viii) Professional hauliers that transported animals over 8 hours were more likely to state that the driver was responsible for the welfare of animals in transport (Appendix 7 – Farmer/haulier survey results).

*5.5.3 Knowledge – journey times*

Knowledge of how journey times are measured was inconsistent for farmers. In both surveys the most frequent response was 'from loading to unloading' with only 5% of farmers in the telephone survey and 26% in the survey at livestock markets providing the correct answer of 'from first animal on to last animal off'. However, there is a significant caveat here that the majority of farmers in both surveys were transporting animals for significantly less than 8 hrs. Amongst professional hauliers there was a far greater awareness of how journey times are measured.

i) 73% of farmers believed that livestock journey time is measured from when animals are loaded until they are unloaded, 22% from gates to place of destination and only 5% indicated that journey time is measured from first animal on to the last animal off (Appendix 9.4 – Farmer survey results).
ii) 26% of farmers measured livestock journey time from the first animal on to the last animal off, whilst a significant proportion (38.5%) measured journey time from loading to unloading (Appendix 7 – Farmer/haulier survey results).
iii) 66% of professional hauliers measured livestock journey time from the first animal on to the last animal off, whilst 21% measured journey time from loading to unloading (Appendix 7 – Farmer/haulier survey results).
iv) 51 out of 96 farmers thought that journeys over 40 miles or 65km were covered by the transport regulations, whilst the other answers that were given were either vague or given in the form of a range of miles or a specified journey time (Appendix 9.4 – Farmer survey results).

*5.5.4 Knowledge –other*

i) Age and size, followed closely by animal sex and maturity were the criteria that farmers and professional hauliers mentioned the most for separating animals (Appendix 7 – Farmer/haulier survey results).
ii) The most popular way indicated by farmers and professional hauliers for judging stocking density was by experience and by eye (Appendix 7 – Farmer/haulier survey results).
iii) Out of 10 professional hauliers that transported animals over 8 hours, 5 of them indicated correctly that 0 degrees Celsius was the minimum temperature that livestock could be transported at (Appendix 7 – Farmer/haulier survey results).
iv) 38.5% of farmers felt that they had some bearing of how the EC regulations had changed any requirements for professional hauliers (Appendix 9.4 – Farmer survey results).

*5.6 Impact*

*5.6.1 Impact on farmers & hauliers*

Views on the impact of the Regulation are mixed, with many organizations stating that the standards demanded by the Regulation were in most cases the same as those demanded by previous regulations, thus requiring little by way of change. However, with the exception of some respondents on the issue of unbroken horses, there were very few negative impacts identified by farmers, hauliers, markets or abattoirs. Over one third of farmers and professional hauliers surveyed at livestock markets believed that animal welfare in transport had improved as a result of the EC Regulation; through better vehicles, awareness of stocking densities and a reduction in transport distances. Around one fifth of farmers interviewed within the telephone survey and using professional hauliers to transport their own livestock stated that they had noticed changes in animal handling practices over the past two years. Only professional hauliers had made changes to ramp angles or to record keeping or navigation facilities.

i) Veterinary associations feel that Council regulation (EC) 1/2005 has had a positive impact on animal welfare (Appendix 4.7 – interviews conducted with veterinary associations).
ii) Agricultural and the equine organisations (excluding the semi-feral sector) feel that the regulation's impact has been limited, as a result of the same standards and principles existing prior to the legislation coming into force (Appendix 4.3 - interviews conducted with agricultural organisations).
iii) 35.5% of farmers and professional hauliers who expressed an opinion believed that there had been an improvement in animal welfare in transport and the factors attributed to it as a result of the EC regulations (Appendix 7 – Farmer/haulier survey results).
iv) Out of 78 opinions expressed by farmers and professional hauliers that reflected negativity or a limitation to the EC regulations, 67% of these voiced that there had been no impact of the EC regulations (Appendix 7 – Farmer/haulier survey results).
v) Only 12% of farmers indicated that they had made changes to the way in which they transport livestock over the past three years (Appendix 9.4 – Farmer survey results).
vi) There have been very few changes seen in farmers' choice of markets and abattoirs as a result of the regulations coming into force (Appendix 4.3 - interviews conducted with agricultural organisations).
vii) Better vehicles, a better awareness of stocking densities and a reduction in transport distances were the top three occurrences that farmers and professional hauliers felt had been a positive impact of the EC regulations (Appendix 7 – Farmer/haulier survey results).

viii) Farmers that undertook journeys greater than 50km were less likely to believe the regulations helped animal welfare (Appendix 9.4 – Farmer survey results).
ix) 22% of farmers who were able to comment (74) had noticed changes in loading/unloading practices of professional hauliers in the last two years (Appendix 9.4 – Farmer survey results).
x) Animal handling awareness, followed by better vehicle equipment were two of the most significant changes that farmers had noticed commercial hauliers addressing over the last two years (Appendix 9.4 – Farmer survey results).
xi) Only professional hauliers had made changes to ramp angles as a result of the regulations (Chi Square =14.53, $p<0.005$) and they were more likely to have made changes to record keeping (Chi Square=9.34, $p<0.01$) and on-board satellite navigation/GPS facilities (Chi Square=5.23, $p<0.05$) (Appendix 7 – Farmer /haulier survey results).
xii) Hauliers that transported animals over 8 hours were more likely to have made changes to ramp angles (Fisher's exact test (1df), $p<0.05$) and record keeping (Fisher's exact test (1df), $p<0.05$) (Appendix 7 – Farmer /haulier survey results).

### *5.6.2 Impact on animals transported through markets*

Around two thirds of market operators reported a reduction in the numbers of animals seen that are unfit to travel, and around one fifth of market operators reported seeing changes in loading and unloading practices. Changes were attributed to compliance with legislation and improving awareness of animal welfare.

i) 68% of market operators felt that there had been a reduction in the numbers of animals unfit to transport over the past three years and only one market operator felt there had been an increase.
ii) Compliance with legislation was highlighted the most by market operators to be the main reason for a decline in the numbers of animals unfit to transport, with an increase in awareness cited as the second most likely reason (Appendix 8.4 – Market operator survey results).
iii) 80% of market operators felt that there had not been a change in loading practices of hauliers at their market in the last three years. Out of a minority (20%) who thought there had been a change in loading/unloading practices by hauliers at markets in the last three years, an increase in welfare awareness was highlighted the most by market operators as being the reason for any change (Appendix 8.4 – Market operator survey results).
iv) Just over half of the market operators felt that there had not been any change over the last three years in the way staff operate when handling animals throughout the market, although the reason given for this was because the standards prior to that were as high then as they are now. Of the market operators commenting on how their staff had changed the way in which they operate, 86% of them indicated that staff were working more to legislation, codes of practice, and receiving training in animal handling (Appendix 8.4 – Market operator survey results).

### *5.6.3 Impact on animals transported to abattoirs*

Abattoirs generally reported either no change or a decrease over the past three years in factors including animals in pain, suffering or distress upon arrival, animals unfit to travel being transported, visible bruising of carcases and meat being affected by stress levels before slaughter. Higher throughput abattoirs and abattoirs which were part of an assurance scheme were more likely to report reductions in pain suffering and distress upon arrival and increases in the care taken unloading animals by hauliers. Nineteen of the twenty abattoirs which had changed the way in which they handle animals at unloading were part of an assurance scheme.

i) In the majority of cases abattoir operators indicated that there had either been no change or an improvement in the level of distressed animals upon arrival, unfit animals being transported, visible levels of bruising on carcasses and meat quality of meat affected by stress levels before slaughter and care taken when unloading and handling animals (Appendix 10.4 – Abattoir survey results).
ii) The most significant level of improvement to problems seen at abattoirs in the last three years was in the care taken by hauliers unloading and handling animals (Appendix 10.4 – Abattoir survey results).
iii) Awareness and competency in animal handling was seen by the highest proportion of abattoir operators as the reason for why changes in the problems seen at abattoirs had occurred (Appendix 10.4 – Abattoir survey results).
iv) The top three reasons for why changes had been seen in the way abattoir staff handle livestock at unloading in the last three years included: a) attitudes and initiatives of abattoirs; b) the training and experience of staff; and c) changes to lairage facilities and layout (Appendix 10.4 – Abattoir survey results).
v) The majority of abattoir operators (71%) believed there had been no change in the way abattoir staff operate in relation to animal handling at unloading (Appendix 10.4 – Abattoir survey results).
vi) Out of 45 abattoir operators, the highest proportion (51%) believed that the EC regulations had not had an impact on the welfare of animals during transport (Appendix 10.4 – Abattoir survey results).

vii) 19 out of 20 abattoirs that had made changes to loading practices occurred at abattoirs which handled farm assured animals (Chi Square=11.51, p<0.001) (Appendix 10.4 – Abattoir survey results).
viii) Higher throughput abattoirs showed greater improvement (Chi Square=5.911, p<0.05) in areas such as pain, suffering or distress upon arrival and the care taken when unloading and handling of animals by hauliers over the last three years(Appendix 10.4 – Abattoir survey results).
ix) Abattoirs that were slaughtering animals from farm assurance schemes showed greater improvement (Chi Square=7.55, p<0.05) in the levels of animals seen to be in pain, suffering or distress upon arrival and also in the care taken when unloading and handling of animals by hauliers over the last three years (Appendix 10.4 – Abattoir survey results).

*5.6.4 Impacts on horse keepers*

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| The impact of the Regulation on horse keepers (aside from the uptake of training and the possible consequences for the semi-feral trade noted elsewhere) appear to have been relatively minor, with most industry organisations indicating that there had been no change in the extent to which professional hauliers are used, in the numbers of horse keepers deciding not to transport their own horses, or in the markets and competitive events attended. Those transporting semi-feral horses had been most impacted, with the requirement to provide partitions to limit group sizes to four. |

i) The majority of equine industry organisations (not including the semi-feral sector) indicated that there had been no changes seen as a result of the Regulation, particularly in: i) the extent to which professional hauliers are being used; ii) the number of keepers deciding to not transport horses; and ii) the choice of markets / competitive events attended (Appendix 4.5 - interviews conducted with equine organisations).
ii) Just over half of the points made by equine industry organisations (not including the semi-feral sector) in relation to the extent of change in vehicles or trailers as a result of the EC Regulation, reported that there had been 'isolated change' (Appendix 4.5 - interviews conducted with equine organisations).
iii) The semi-feral sector appear to be making the most changes to their vehicles as a result of the Regulation (in particular the installations of compartments to handle 4 unbroken horses per partition), whilst many competition horse owners and other commercial equine entities in this field have made little change to their vehicles, which for the most part are believed to already meet the regulatory requirements (Appendix 4.5 and 4.6 - interviews conducted with equine organisations).
iii) Equine organisations (also including the semi-feral sector) indicated that they believed the EC Regulation had been of limited impact on horse/pony welfare (Appendix 4.5 and 4.6 - interviews conducted with equine organisations).

*5.6.5 Impacts on vehicle standards*

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| Vehicle standards are believed to have improved significantly over the past three years, although major improvements are also attributed to the impact of regulations introduced post-FMD. Improvements have been noted by markets and abattoirs and are reported in the telephone survey of farmers and in the survey of farmers and hauliers at livestock markets. Recent improvements reported in the survey of farmers include increases in trailer size, the inclusion of dividing gates and partitioning. |

i) Vehicle/trailer quality over the last three years was thought by 92% of market operators to have changed (Appendix 8.4 – Market operator survey results).
ii) Of the positive changes seen in vehicles and trailers at markets, these changes were in relation to a general improvement to quality and standard of vehicle/trailers, vehicle upgrades and additional on-board equipment being added (Appendix 8.4 – Market operator survey results).
iii) Compliance with legislation, followed closely by the 2001 FMD outbreak were given as the prime reasons for why market operators felt that the specified changes to vehicles/trailers had occurred. (Appendix 8.4 – Market operator survey results).
iv) Vehicle/trailer standards have improved over recent years within the agricultural and equine sectors, but are due to other external factors not the 2007 regulations (Appendix 4 - interviews conducted with industry organisations).
v) The most changes to vehicles and trailers as a result of the regulations can be expected to be seen amongst the semi-feral sector (Appendix 4.6 –interviews conducted with semi-feral equine organisations).
vi) The increase in trailer size and/or the modernisation of trailers, followed closely by the use of dividing gates and partitioning were the two most prevalent changes that farmers had made to livestock transport in the last three years (Appendix 9.4 – Farmer survey results).
vii) Vehicle quality was reported by the highest number of abattoir operators as presenting a significant change that had occurred in livestock transport over the past five years (Appendix 10.4 – Abattoir survey results).

viii) 35% of farmers and professional hauliers felt that they had improved their management in the last three years to some extent in fuel efficiency, time keeping, stocking rate, driving speed, journey length, driving style, loading/unloading, ventilation and livestock comfort (Appendix 7 – Farmer /haulier survey results).
ix) Improvements to trailer/container standards and specifications had been the most significant improvement made by farmers and hauliers in the last three years in relation to the management of their business (Appendix 7 –Farmer /haulier survey results).

*5.7 Changing practices*

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| In addition to changes in vehicles, other factors reported as influencing welfare in transport include management changes by farmers and hauliers, a reduction in the number of commercial hauliers and increasing distances travelled to markets and to abattoirs. |

i) The main factors that have brought about changes in practices and standards administered by farmers and hauliers, include changes to markets and abattoirs, rising transport costs, routine upgrades to modern manufactured vehicles/trailers and disease outbreaks, particularly FMD (Appendix 4.3 - interviews conducted with agricultural organisations).
ii) 59% of farmers and professional hauliers believed that the management changes that they had made to their business in some or all of the listed criteria (fuel efficiency, time keeping, stocking rate, driving speed, journey length, driving style, loading/unloading, ventilation and livestock comfort) had led to better welfare (Appendix 7 – Farmer /haulier survey results).
iii) 27% of farmers' journeys to a market had lengthened, whilst 4% of farmers' journeys had shortened (Appendix 9.4 – Farmer survey results).
iv) 12.6% of farmers' journeys to an abattoir had lengthened, whilst 4% of farmers' journeys had shortened (Appendix 9.4 – Farmer survey results).
v) Of the impacts mentioned by market operators relating to improvements in animal welfare status, the highest proportion believed that this had been seen in the form of a specific welfare improvement (Appendix 8.4 – Market operator survey results).
vi) The top three 'other changes' occurring in livestock transport over the last five years as mentioned by market operators include: 1) better vehicles and equipment ; 2) a decrease in the number of commercial hauliers; and 3) changes made a result of foot and mouth (Appendix 8.4 – Market operator survey results).
vii) A reduction of professional hauliers and more farmers conducting their own transport, and also changes in laws, such as double ear tagging in sheep, multiple pickup laws and electronic identification were highlighted the most by farmers and hauliers as 'other' changes relating to livestock transport that had occurred in the last three years (Appendix 7 – Farmer/haulier survey results).

*5.8 Attitudes of farmers & hauliers*

*5.8.1 Welfare considerations*

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| When asked 'what are the three most important things to consider when transporting livestock?', spacing and stocking density and the handling of animals at loading and unloading were two of the most frequent responses in the telephone survey of farmers and in the survey of farmers and hauliers at livestock markets. |

i) Spacing/stocking density is the most important factor that farmers consider when transporting livestock, followed secondly by vehicle standards/maintenance and then thirdly by the handling of animals at loading/unloading (Appendix 9.4 – Farmer survey results).
ii) The top three most important factors highlighted by farmers and professional hauliers when transporting livestock were: 1) spacing and stocking density; 2) general welfare and animal comfort; and 3) the handling of animals at unloading/loading (Appendix 7 – Farmer /haulier survey results).

*5.8.2 Business considerations*

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| When asked to score factors for their importance in relation to their own businesses, farmers and hauliers surveyed at livestock markets scored livestock comfort, ventilation and driving style most highly. Professional hauliers scored all of the factors except for livestock comfort and driving speed more highly than farmers. |

i) On a scale of 1-5 in importance (5 being high), livestock comfort (3.91), ventilation (3.90) and driving style (3.71) were the top three transport factors that scored the highest in relation to how farmers and professional hauliers run their businesses (Appendix 7 – Farmer /haulier survey results).
ii) Whilst other transport factors, such as fuel efficiency, stocking rates driving speed and loading/unloading were scored above 3 on a 1-5 scale of importance (5 being high), time keeping (2.81) and journey length (2.65) were scored the lowest in terms of how hauliers and farmers run their businesses (Appendix 7 – Farmer /haulier survey results).

iii) Professional hauliers expressed a higher level of importance than farmers for each of the transport criteria listed in relation to how they run their business (F-test, $p<0.001$ for time, stocking density, journey length, driving style and loading & $p<0.05$ for fuel efficiency and ventilation), apart from the importance of livestock comfort and driving speed (Appendix 7 – Farmer /haulier survey results).
iv) Professional hauliers that transported animals for over 8 hours attached higher importance to each of the transport criteria listed in relation to how they run their business (F-test, $p<0.05$) apart from fuel efficiency, stocking rates, driving speed and livestock comfort (Appendix 7 – Farmer /haulier survey results).
v) Farmers and professional hauliers that had a Certificate of Competence attached a higher level of importance to each of the transport criteria listed in relation to how they run their business (F-test, $p<0.001$ for stocking density & driving style, $p<0.01$ for time keeping & $p<0.05$ for driving speed and journey length), apart from fuel efficiency, loading/unloading, ventilation and livestock comfort (Appendix 7 – Farmer /haulier survey results).
vi) Those farmers and professional hauliers who were in an assurance scheme considered time keeping to be of greater importance to how they run their business ($F(1,124)=3.708$, $p<0.05$) (Appendix 7 – Farmer /haulier survey results).
vii) Farmers and professional hauliers in the North of England were more likely than those in Scotland and Northern Ireland to believe that changes made to their business within the criteria listed had led to improvements in animal welfare (Chi Square=47.34, $p<0.001$) (Appendix 7 – Farmer /haulier survey results).
viii) Professional hauliers that made longer journeys (over 8 hours) were more inclined to feel that changes made to their business within the criteria listed had lead to better welfare for animals (Chi Square=6.14, $p<0.05$) (Appendix 7 – Farmer /haulier survey results).

*5.8.3 External influences*

When asked to score factors on how they affect the welfare of animals transported, farmers and hauliers surveyed at livestock markets scored supermarkets, monitoring bodies (e.g. Local Authorities), legislation, abattoirs and assurance schemes on average between 'moderate influence' and 'strong influence'. Members of assurance schemes, professional hauliers, less experienced drivers and those driving over 65km all tended to score the influence of assurance schemes on animal welfare in transport more highly.

i) On a scale of 1-5 (5 being high), the top three external bodies that farmers and professional hauliers felt presented the most influence on the welfare of animals they transported included: 1) supermarkets (3.50); 2) monitoring bodies (3.35); and 3) lawmakers/legislators (3.33). Whilst not seen to present the most influence on the welfare of animals transported, abattoirs, followed by assurance schemes were seen to be only slightly less influential. (Appendix 7 – Farmer /haulier survey results).
ii) Consumers and commercial pressures were seen by farmers and professional hauliers to be the least influential external groups impacting on the welfare of the animals being transported (Appendix 7 – Farmer /haulier survey results).
iii) Farmers and hauliers in farm assurance schemes felt that assurance schemes held greater influence over the welfare of the animals they transported ($F(2,114)=13.89$, $p<0.001$) (Appendix 7 – Farmer/haulier survey results).
iv) Professional hauliers ($F(1,115)=8.066$, $p<0.01$), less experienced drivers ($F(7,109)=2.282$, $p<0.05$) and respondents driving over 65km ($F(1,23)=5.284$, $p<0.05$) felt that assurance schemes had a greater influence on the welfare of the animals that they transported (Appendix 7 – Farmer/haulier survey results).
v) In general, Northern Ireland and Scottish farmers and hauliers felt that the external groups/factors listed (lawmakers/legislators, commercial pressures, consumers, abattoirs, supermarkets, assurance schemes, employer pressures, markets and monitoring bodies), except from commercial pressures and consumers, had less influence on the welfare of animals they transported (F-test, $p<0.001$ for legislators, supermarkets and monitoring bodies; $p<0.01$ for abattoirs, employer pressures and markets & $p<0.05$ for assurance schemes) (Appendix 7 – Farmer/haulier survey results).
vi) Farmers and owner operators with more than one lorry felt that employer pressures had more influence on the welfare of the animals that they transported ($F(5,86)=3.164$, $p<0.05$) (Appendix 7 – Farmer/haulier survey results).

*5.8.4 Monitoring and enforcement*

Effective monitoring of animal welfare in transport is believed by the majority of farmers interviewed by telephone, by many of the industry bodies interviewed and by just less than half of farmers and hauliers interviewed at livestock markets to help animal welfare. Respondents also highlighted where monitoring hindered animal welfare (e.g. at unloading, during roadside checks), indicating that it was the disruption to their operations which was the cause for concern

i) Enforcement and delivery (e.g. robustness of enforcement on the continent, more effective policing and less bureaucracy), is seen as a major area of focus for making animal welfare legislation more effective (Appendix 4 - interviews conducted with industry organisations).

ii) Credibility and justification for welfare in transport legislation will benefit from indicators being developed that provide evidence of legislation's impact on improving animal welfare in transport (Appendix 4.3 – interviews conducted with agricultural organisations).
iii) 41% of farmers and professional hauliers felt that monitoring helped improve welfare standards, whilst 29% felt that monitoring neither helped or hindered (Appendix 7 – Farmer /haulier survey results).
iv) Monitoring and inspection of vehicles at markets and elsewhere was thought to help animal welfare by 72% of farmers interviewed in the telephone survey (Appendix 9.4 – Farmer survey results).
v) Farmers were more likely than hauliers to believe that monitoring was helpful (Chi Square=15.114, $p<0.01$) Appendix 7 – Farmer /haulier survey results).
vi) Of the professional haulier group, employees were more likely to believe than owner-operators that monitoring was a hindrance to animal welfare (Chi Square=18.630, $p<0.05$) (Appendix 7 – Farmer /haulier survey results).
vii) Welsh respondents were more likely to believe that monitoring was helpful to animal welfare, whilst in the South of England respondents were more likely to think that it neither helped or hindered (Chi Square=17.165, $p<0.05$) (Appendix 7 – Farmer/haulier survey results).

*5.9 Attitudes of market operators*

The majority of market operators were of the opinion that the way in which livestock is handled in transport can improve its cleanliness, welfare and value. Driver personality and stocking rate were both rated as major influences by over two thirds of market operators; vehicle qualities by just over half; driver training by one third and journey length by only one fifth of market operators.

i) The majority of market operators felt that the way in which animals are handled during transport does have an impact on the cleanliness, welfare and value of those animals traded through markets (Appendix 8.4 – Market operator survey results).
ii) Stocking rate (82%) was seen as the most significant factor, followed closely by driver personality (68%) in enhancing the cleanliness, welfare and value of livestock trade through markets (see Appendix 8.4 – Market operator survey results).
iii) Journey length (68%) and driver training (62%) were seen by market operators as presenting the least influence on enhancing cleanliness, welfare and value of livestock trade through markets (see Appendix 8.4 – Market operator survey results)
iv) Preparation of livestock before travelling was highlighted the most as an 'other' factor that can enhance the cleanliness of livestock on arrival to a market (Appendix 8.4 – Market operator survey results).
v) Market operators emphasised slightly more than other UK countries the importance of journey length in enhancing cleanliness, welfare and value of livestock (Chi Square=12.568, $p<0.05$) (Appendix 8.4 – Market operator survey results).
vi) Journey length's influence in enhancing cleanliness, welfare and value of livestock was emphasised more by less experienced market operators (Chi Square=7.807, $p<0.05$) (Appendix 8.4 – Market operator survey results).
vii) Out of 4 market operators who felt that vehicle/trailer quality had not changed over the last three years, 3 of these market operators were Northern Irish (Chi Square=17.165, $p<0.001$) (Appendix 8.4 – Market operator survey results).

*5.10 Attitudes of abattoir operators*

The majority of abattoir operators were of the opinion that the way in which livestock is handled in transport can improve its cleanliness, welfare and value. Journey length and stocking rate were highlighted by the largest proportion of abattoir operators as having some influence on these factors.

i) The majority of abattoir operators felt that the way in which animals are handled during transport does have an impact on the cleanliness, welfare and value of those animals traded through markets (Appendix 10.4 – Abattoir survey results)
ii) Stocking rate was highlighted the most by abattoir operators as being the most significant factor in having an influence on the cleanliness, welfare and value of livestock, followed closely by journey length and then driver training (Appendix 10.4 – Abattoir survey results).
iii) Bedding and weather conditions were highlighted specifically by a small number of abattoir operators as 'other' transport factors having an important effect on the cleanliness, welfare and value of livestock (Appendix 10.4 – Abattoir survey results).

*5.11 Background*

*5.11.1 Assurance scheme membership*

Membership of farm assurance schemes appears relatively high amongst farmers, hauliers, markets and abattoirs. However, small farms are less likely to be members of an assurance scheme, and there was a lower proportion of assurance scheme members in the sample of farmers at markets than there was in the telephone survey of farmers. Counter to this, all livestock markets are within farm assurance schemes; the majority of professional hauliers are within assurance schemes and almost two thirds of abattoirs indicated that they slaughtered farm assured livestock. All multiple retailers indicated that they relied on third party assurance schemes to set the standards under which they procure their meat, with some adopting additional in-house policies to extend the assurance standards.

i) 78% of farmers indicated that they were a member of a farm assurance scheme (Appendix 9.4 – Farmer survey results).
ii) 57.5% of farmers and 94% of hauliers were members of a farm assurance scheme (Appendix 7 –Farmer / haulier survey results).
iii) Smaller farms were less likely to be farm assured (Chi Square=8.010, $p<0.05$) (Appendix 9.5 – Farmer analysis).
iv) Professional hauliers were more likely to have a Certificate of Competence and also be a member of a farm assurance scheme than farmers (Chi Square=34.334, $p<0.001$; Chi Square=19.597, $p<0.001$) (Appendix 7 – Farmer /haulier survey results).
v) A large proportion of professional hauliers indicated that more than 75% of their farmer customers were farm assured (Appendix 7 – Farmer /haulier survey results).
vi) Farm Assured British Beef and Lamb (EFSIS-FABBL) had the highest membership of farmers and there were very few farmers operating under an organic assurance scheme (Appendix 9.4 – Farmer survey results).
vii) The highest number of professional hauliers indicated that they transported animals for a farmer who was a member of the Farm Assured British Beef and Lamb (EFSIS-FABBL) assurance scheme (Appendix 7 – Farmer /haulier survey results).
viii) There were more hauliers in Scotland than other regions of the UK that indicated that more than 75% of their farmer and market customer base were members of a farm assurance scheme (Chi Square=46.704, $p<0.05$) (Appendix 7 – Farmer /haulier survey results).
ix) 64% of abattoirs indicated that they slaughtered animals under a farm assurance scheme (Appendix 10.4 – Abattoir survey results).
x) Farm Assured British Beef and Lamb (EFSIS-FABBL) was the most recognised assurance scheme that abattoirs were slaughtering meat under (Appendix 10.4 – Abattoir survey results).
xi) Quality Meat Scotland (QMS), Assured Food Standards (AFS), Organic Farmers and Growers (OFG) and Soil Association Farm Assured (SAFA) were highlighted the most as assurance schemes under which multiple retailers were procuring their meat (Appendix 6.3 – interviews conducted with multiple retailers).
xii) All multiple retailers indicated that they relied on third party assurance schemes to set the standards under which they procured their meat. Two of the retailers highlighted that they used their own in-house codes of practice as a minor adjustment or a bolt on to the third party assurance schemes in place (Appendix 6.3 – interviews conducted with multiple retailers).
xiii) The need to consistently enforce and police standards between the different assurance schemes, with inspectors also being assessed for their competence, and the need for more on farm spot checks was highlighted (Appendix 6.3 – interviews conducted with multiple retailers)

*5.11.2 Assurance schemes and animal transport*

The major livestock assurance schemes include standards relating to the transport of livestock and these are based for the most part on the legislation in place. Certification and inspection takes place of vehicles, loading and unloading facilities and records and documentation.

i) All livestock assurance schemes indicated that they had criteria within their standards relating to the transport of livestock (Appendix 5.3 – interviews conducted with livestock assurance schemes and inspection bodies).
ii) Assurance schemes and certification/inspection bodies highlighted that audits took account of the loading/unloading and transport facilities used before or after livestock journeys, and of vehicles, rather than directly appraising welfare in transport (Appendix 5.3 – interviews with livestock assurance schemes and inspection bodies).
iii) The majority of assurance schemes and certification/inspection bodes indicated that most of the criteria of Council Regulation (EC) No 1/2005 had already been in place before it's enforcement (Appendix 5.3 – interviews with livestock assurance schemes and inspection bodies).
iv) The majority of livestock assurance schemes and certification/inspection bodies indicated that loading/unloading facilities, records and documentation, casualty animals and vehicle inspection had all improved in recent years (Appendix 5.3 – interviews with livestock assurance schemes and inspection bodies).

v) The largest proportion of livestock assurance schemes believed that their producer and transport members felt they had benefited from animal welfare in transport training (Appendix 5.3 – interviews with livestock assurance schemes and inspection bodies).
vi) Nearly all assurance schemes and certification/inspection bodies indicated that there had been no significant changes in transport related issues as a result of inspections since the introduction of the regulations (Appendix 5.3 – interviews with livestock assurance schemes and inspection bodies).
vii) A general improvement in livestock vehicles/containers inspected since the introduction of the regulations was reported by livestock assurance schemes and certification/inspection bodies, but some of these changes had come about as a result of the FMD aftermath (Appendix 5.3 – interviews with livestock assurance schemes and inspection bodies).

*5.11.3 Journey types*

Farm to market journeys are the most prevalent journey type made by farmers, with four fifths of respondents in the telephone survey indicating that they take livestock to/from markets. There were regional differences in farmer journeys made; with longer journeys made in Scotland, shorter journeys in Wales and fewer farm to farm journeys in Northern Ireland. Hauliers were more likely than farmers to carry out all of the journey types, Scottish farmers were more likely to use commercial hauliers for transporting beef and sheep. Almost all decisions on who should be used for commercial transport were made by the farmer rather than (for example) assurance schemes or abattoirs.

i) Hauliers were more likely than farmers to carry out each of the different types of journeys (apart from farm to market journeys) and these journeys were more likely to be undertaken by certificate holders and/or be farm assured (all comparisons: Chi Square, $p<0.001$) (Appendix 7 – Farmer /haulier survey results).
ii) Farm to market journeys were the most prevalent journey made with 80% of all farmers making this journey. Scottish farmers were more likely to make journeys over 50km (Chi Square=33.135, $p<0.001$) and there were no journeys over 50km reported in Wales (Appendix 9.5 – Farmer analysis).
iii) Farm to farm journeys were made less often in Northern Ireland (Chi Square=24.996, $p<0.001$) (Appendix 7 – Farmer /haulier survey results).
iv) Scottish farmers were more likely to use commercial hauliers for transporting beef cattle and sheep and a higher than expected number of journeys over 50km were made by hauliers transporting these types of animal (Appendix 9.5 – Farmer analysis).
v) Farmers with greater experience were more likely to transport sheep themselves using their own transport (Chi Square=35.180, $p<0.001$) (Appendix 9.5 – Farmer analysis).
vi) English farmers were more likely than other countries to use both commercial hauliers and their own transport (Appendix 9.5 – Farmer analysis).
vii) Almost all decisions on who to use for transporting livestock were made by the farmer (Appendix 9.5 – Farmer analysis).
viii) Beef animals are less likely to be transported by farmers using their own transport than dairy stock or sheep and beef and dairy animals were all transported more by commercial hauliers than sheep (Appendix 9.5 – Farmer analysis).

*5.11.4 Vehicles*

The vehicle of choice for the majority of farmers for hauling their own livestock was the Ifor Williams style trailer. Fixed trailers were more likely to be used for journeys over 50km. The average age of trailers at livestock markets was 9 years old, with drivers at lower throughput markets using (on average) older trailers.

i) Drivers interviewed at low throughput markets drove older trailers than those interviewed at high throughput markets ($F(1,117)=8.993$, $p<0.005$) (Appendix 7 –Farmer /haulier survey results).
ii) Ifor Williams or similar style trailers were used by the majority of farmers for both on-farm (74%) and off-farm (80%) transport (Appendix 9.4 – Farmer survey results).
iii) Ifor Williams style trailers were proportionately smaller in numbers in Scotland and England (Appendix 9.4 – Farmer survey results) than in Northern Ireland or Wales.
iv) Fixed trailers were more likely to be used for journeys over 50km (Chi Square=21.245, $p<0.001$) (Appendix 9.5 – Farmer analysis).
v) The average age of trailers in use by farmers was 7 years old (Appendix 9.4 – Farmer survey results).
vi) The average age of trailers/containers operated by farmers and hauliers at livestock markets was 9 years old and the average total container/trailer length of these vehicles was 22.9 ft, ranging from trailers of 8ft (farmers) to total trailer/container lengths of 65 ft (hauliers) (Appendix 7 – Farmer/haulier survey results).
vii) The highest proportion of transporters at livestock markets (48.3 %) were operating trailers/containers with double decks (Appendix 7 –Farmer/haulier survey results).

*5.11.5 Longer journeys*

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| Only professional hauliers made journeys over eight hours. These were generally in longer, higher capacity trailers, and by assurance scheme members with certificates of competence. |

i) Only professional hauliers were making journeys over 8 hours (Chi Square=19.324, p<0.001) (Appendix 7 – Farmer /haulier survey results).
ii) Transporters of livestock with a Certificate of Competence were more likely to be travelling over 8 hours (Chi Square=6.550, p<0.01) (Appendix 7 – Farmer /haulier survey results).
iii) Employee hauliers were seen to be driving higher capacity trailers than owner operators (F(1,120)=50.171, p<0.001) (Appendix 7 – Farmer /haulier survey results).
iv) Drivers of higher capacity trailers were more likely to be members of a farm assurance scheme and/or have a Certificate of Competence, and also more likely to travel over 8 hours (F(1,122)=28.582, p<0.001) (Appendix 7 – - Farmer /haulier survey results).
v) Of those overseas journeys conducted, all four journeys made between Britain and Ireland were made by hauliers (Chi Square=7.030, p<0.01) and journeys made from Scotland to the Scottish Isles were more likely to be made by professional hauliers (Chi Square=18.998, p<0.001) (Appendix 7 – Farmer /haulier survey results).

*5.11.6 Multiple pick-ups*

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| Multiple pick-ups are most likely to be made by professional hauliers and high throughput markets are most likely to receive loads with multiple pick-ups. |

i) Pigs were more likely to be subject to journeys involving multiple pickups (z=4.630, p<0.001) and multiple pickups were more likely to be carried out by less experienced drivers (Chi Square=47.011, p<0.001), those with certificates of competence (Chi Square=39.206, p<0.001) and farm assurance (Chi Square=19.013, p<0.05) (Appendix 7 – Farmer /haulier survey results).
ii) Hauliers were more likely to make multiple pickups (Chi Square=118.760, p<0.001) (Appendix 7 – Farmer /haulier survey results).
iii) High throughput markets are more likely to receive loads with multiple pick-ups (Chi Square=9.764, p<0.05) (Appendix 7 – Farmer /haulier survey results).

*5.12 Difficulties encountered with the legislation*

*5.12.1 Semi-feral equine*

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| Industry organisations representing the trade in unbroken, unshod horses believe that the requirements of EC 01/2005 have (i) increased the levels of stress by reducing stocking densities in transport and (ii) damaged the trade in unbroken horses. |

i) The semi-feral equine sector believes that the requirements of the regulation for unbroken and semi-feral horses/ponies have led to greater stress in these animals (taken from interviews conducted with semi-feral equine organisations - see Appendixes Sections 4.6)
ii) The semi-feral sector state that the requirements of the legislation have weakened horse/pony trade, resulting in increased numbers of these animals being destroyed at early stages (taken from interviews conducted with semi-feral equine organisations - see Appendixes Sections 4.6).
iii) The rules that the semi-feral sector have highlighted as not practical and of damage to their trade include that: a) any unbroken horse or pony should not be transported for journeys longer than 8 hours; b) any horse/pony when being transported on a RO-RO vessel should be transported in individual stalls; and c) unbroken horses should be transported in groups of no more than four per partition (Appendix 4.6 - interviews conducted with semi-feral equine organisations).
iv) Research conducted to investigate the welfare of semi-feral ponies in transport generated an outcome in favour of the 'no more than 4 unbroken horses per partition' rule. However, the semi-feral sector believes that the validity of this research is weak and that further research is needed (Appendix 4.6 - interviews conducted with semi-feral equine organisations).

*5.12.2 Technical difficulties*

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| There are a number of minor issues of understanding (or confusion) relating to the legislation, particularly in relation to certification for the equine sector and requirements for transporter authorisation. Knowledge of threshold distances at which (for example) training and certification becomes mandatory is not consistent across livestock farmers. |

i) Completion of the incorrect Certificate of Competence (driver certificate versus driver and attendant certificate) amongst horse keepers is likely to exist (Appendix 4.5 - interviews conducted with equine organisations).
ii) Transport authorisation requirements for farmers present an area of the legislation open to misinterpretation (Appendix 4.3 - interviews conducted with agricultural organisations).
iii) Strategies for improving guidance and facilitation are recognised as important in delivering legislation and helping to reduce the reliance on red tape (Appendix 4 - interviews conducted with industry organisations).
iv) 40% of farmers surveyed by telephone stated that journeys over 65km (or 40 miles) would be covered by the legislation.
v) Of non-welfare related impacts of the EC regulations an increase in paperwork and bureaucracy was seen to be the biggest impact by the highest number of market operators (Appendix 8.4 – Market operator survey results).

*5.12.3 Practical difficulties*

A proportion of farmers, hauliers, livestock market and abattoir operators thought that there were areas in which the legislation could be changed to improve the welfare of animals in transport. The predominant area raised for consideration was journey length.

i) 58% of farmers felt that there were no laws and regulations that needed changing or moderating to improve the welfare of animals in transport (Appendix 9.4 – Farmer survey results).
ii) 51% of farmers and professional hauliers who expressed an opinion thought that changes in transport legislation could be made to further improve the welfare of animals in transport (Appendix 7 – Farmer /haulier survey results).
iii) Out of 63 responses, 55.5% abattoir operators felt that there were no further improvements needing to be made to the EC regulations on the welfare of animals during transport.
iv) 48% of market operators indicated that there were areas in the EC regulations that could be changed or moderated (Appendix 8.4 – Market operator survey results).
v) Out of those farmers that highlighted an area in the welfare of animals in transport legislation that needed changing or moderating, the largest proportion indicated that journey times needed revisiting (Appendix 9.4 – Farmer survey results).
vi) Addressing confusion amongst the agricultural industry over parts of the EC regulations and providing more leeway to drivers' hours in accordance to them having to make decisions/judgments for the benefit of the welfare of animals in transport were highlighted the most by farmers and professional hauliers as areas that could be changed to improve the welfare of animals in transport. (Appendix 7 – Farmer/haulier survey results).
vii) Of the market operators who thought a change could be made to areas of the EC regulations, the highest proportion (48%) felt that change should be made in relation to reducing unnecessary stress related loading/unloading of animals and through addressing journey time allowances (Appendix 8.4 – Market operator survey results) .
viii) Of 28 responses that were made bearing some relation to how the EC regulations could be improved or moderated, journey times and drivers' hours were highlighted by the largest proportion of abattoir operators. Comments made had some relation to encouraging shorter distances and consideration of the implications of 'on-board' transport time on welfare, cleanliness and value of livestock (Appendix 10.4 – Abattoir survey results).
ix) Contention exists between whether transport times take enough account of the stress incurred by animals subject to being unloaded and loaded more often (Appendix 4.3 - interviews conducted with agricultural organisations).

# 6. Discussion

This project set out to assess what impact legislation (specifically EC 01/2005) has had on the protection of animals (pigs, sheep, cows, horses, ponies, layer hens and broilers) during transport. Through a combination of desk-research, interviews with industry bodies, a telephone survey of farmers, one-to-one surveys of farmers and hauliers at livestock markets, and telephone surveys of livestock market and abattoir operators, the project was intended to answer the following four questions:

1. Has legislation driven improvements in welfare status?
2. Has legislation led to unintended consequences that may have reduced animal welfare?
3. Is there a better suite of indicators that might be used to demonstrate changes in the welfare of animals during transport?
4. What additional non-legislative strategies could be used to further improve the welfare of animals during transport?

Additionally, the project was intended to provide indications as to where monitoring of animal welfare might be usefully improved and the areas in which animal welfare in transport might be improved.

### 6.1 Improvements arising as a result of the legislation

Awareness of the legislation is high and uptake of training has been strong. However, there is little by way of direct evidence that training has led to increased knowledge of some of the basic elements of EC 01/2005. In particular, regardless of training or possession of certificates of competence, many farmers were unable to state correctly who was responsible for deciding whether or not an animal was fit to transport and knowledge of the journey lengths at which the legislation operates is inconsistent.

There is little evidence that the legislation has led to improvements in vehicles used to transport livestock, although this results from the widely held view that such improvements have been made by farmers and hauliers in order to comply with post-FMD legislation. That is, vehicles have improved but not as a result of this legislation: now that the legislation is in place it may be used to maintain a relatively high baseline of quality standards.

A proportion of respondents to farmer, market and abattoir surveys believed that the legislation had led to improvements through better awareness of stocking densities and a reduction in transport distances. The fact that the legislation amended only slightly that which was in place previously would mean that only slight changes, if any, would be registered.

Data from Meat Hygiene Service (MHS) exception reports and from returns made by Local Authorities to Divisional Veterinary Managers within Animal Health (AH) cannot be used to determine whether improvements have taken place. This should not be taken to mean that the data shows that improvements have not taken place. Reported incidents within the MHS data are low for individual species. Within the AH data, the rationale for inspections of different types is not given and the sampling frame cannot be assumed to be consistent from year to year.

The legislation is used as a baseline for assurance schemes and can be regarded as setting the minimum standards for these.

### 6.2 Unintended consequences

There are indications from the trade in semi-feral horses (Dartmoor Ponies etc) that EC 01/2005 has had detrimental impacts on that trade due to the reductions in stocking density; in reduced journey time allowances for the ‘typical’ vehicles used to transport these animals; and in the requirement for individual partitions for transport on roll-on-roll-off vessels. The authors are unable to comment on the welfare implications of these changes.

The introduction of journey logs prior to the introduction of satellite tracking appears to have caused an unnecessary level of paperwork for little or no apparent benefit. Without the ability to physically check the accuracy of journey logs submitted, they are dependent on the honesty of hauliers. Honest hauliers, it might be argued, do not require the impetus of a journey log to remain within the law. Dishonest hauliers on the other hand may easily present false information in the knowledge that it is highly unlikely to be checked.

There are indications from a small number of farmers that animals may be being kept on farm because they are unfit to transport, rather than being transported for slaughter. However, it should be noted that the issue here is not with EC 01/2005 but with the welfare of animals on farm.

### 6.3 Demonstrating change

Whilst the returns to DVM’s held by AH cannot be usefully analysed to determine the nature or extent of changes in animal welfare resulting from the legislation, or indeed from non-legislative factors, the AMES database which holds details of inspections from the majority of Local Authorities in England and in Wales, has the potential to provide useful data in this regard. However, the database has not been set up for this use and the extent to which the data that it holds can be interrogated has not (as far as we are aware) been tested.

The specific advantage of the AMES database is that the rationale for each inspection, as well as the outcome, is recorded. As such, it should theoretically be possible to construct a sampling frame for this data that allows year-on-year comparisons of infringements and offences relating to welfare in transport.

### 6.4 Areas in which animal welfare in transport may be improved

There were relatively few areas highlighted by survey respondents or through interviews with industry bodies as offering scope for the improvement of welfare during transport (it might be argued, this reflects the adequacy of the current laws). However, there were a small number of issues that are worthy of mention:

The 14:1:14 rule sets out the minimum rest period for (cattle and sheep) transported over 14 hours as being 1 hour. Although sound in principle, this may be seen to fall down in practice because of the difficulties in assessing the welfare of animals held on a transporter for the duration of the rest period. Not all transporters are ideally suited for the species that they carry, nor can it be assumed that all ages of all species will respond similarly to different transporters, so it is possible to provide a rest period of indeterminate length on a vehicle unsuited for the livestock being carried but within the law. The authors were told that hauliers take advantage of this rule when it is convenient to leave livestock on vehicles overnight, for example when engaged in multiple pick-ups from markets prior to delivery to abattoirs.

The single animal exemption does not appear to provide any benefit in terms of animal welfare, and potentially allows for levels of welfare to fall significantly.

### 6.5 Non-legislative strategies to further improve welfare

Animal welfare in transport is not considered to be a significant consumer issue at the present time, as reported by respondents including multiple retailers. Furthermore, it is apparent from surveys of farmers and hauliers that there is a significant gap between the influence of consumers and that of more direct customers (abattoirs, supermarkets and so on). As such, the potential of market-based incentives to improve animal welfare in transport would appear limited.

However, it is also clear form this study that assurance schemes have a significant place in ensuring that appropriate livestock management and handling protocols are followed and it may be that by working through these, then further improvements can be made without recourse to legislation.

In the absence of consumer demand for higher welfare in transport, and in the light of the fact that improving welfare in transport is at this juncture a relatively technical issue (e.g. addressing handling facilities at farms, the suitable preparation of animals for transport, encouraging fewer and better-managed journeys, ensuring that drivers and handlers are of the right temperament and so on), the most appropriate conduit for achieving such improvements, whilst avoiding the need for further legislation, may be to work with and through the assurance schemes.

### 6.6 Monitoring and policing welfare in transport

If it can be assumed that transport of livestock to abattoirs is similar to transport to and from markets in terms of vehicles used, transporters and so on, then examination of MHS exception reporting data in comparison to returns to DVMs made by AH would indicate that there may be under-reporting of non-compliance in transport to abattoirs.

Examination of animal movements indicates that the area least likely to be monitored is that of direct farm: farm movements. These will in general be shorter distance than farm: abattoir or farm: market journeys and so are also less likely to be picked up within roadside checks and / or Transport Authorisation.

The value of training and certification within the population of farmers and hauliers would appear to be undermined by the very few times that they are asked to present evidence of this; and by the proportion of farmers transporting livestock over 65 km in the absence of a Certificate of Competence and / or Transport Authorisation.

## 7. Options for consideration

Information on the requirements of EC 01/2005 might be usefully re-publicised, with care taken to ensure that this is as simple and straightforward as possible e.g. to show who requires training / certification; to explain the difference between registered and unregistered horses; to clarify the differences between economic and leisure activities; and to provide support for determining ‘fitness to travel’.

The AMES database appears to be a very powerful tool for monitoring changes in animal welfare in transport seen by Local Authorities. The AMES database should therefore be subject to review by a suitably qualified and experienced epidemiologist / statistician to determine the extent to which data collected to date may be used to describe changes in the welfare of transported livestock, and to advise on future data collection included within AMES so that this might be used to monitor changes in welfare. If this review indicates that AMES holds significant long-term use as a tool for monitoring welfare, then consideration should be given by Scotland in particular to funding the use of the database by Scottish LAs.

Monitoring / policing of compliance serves a dual purpose: validating efforts made to comply, and ensuring the welfare of livestock. A more overt schedule of monitoring (including requests for documentation at markets, for

example) would, we believe, be welcomed by industry provided that this did not interfere with routine livestock handling.

Increasing the frequency of Local Authority monitoring of livestock transport at abattoirs would provide a more comprehensive monitoring and policing service than that operated currently, which may miss much of the farm: abattoir transport.

Assurance schemes provide on-farm inspection of vehicles and facilities for loading and unloading animals. Defra and the devolved authorities might usefully work with assurance schemes to (i) identify how those farms with poorer facilities could be supported e.g. through the Rural Development Programme for England or similar funding, to upgrade these and (ii) to ensure that farm vehicles used for livestock transport are inspected regardless of whether these are used for farm: market or farm: abattoir transport.

Addressing the legislation itself, there are a small number of 'loopholes' that offer some cause for concern. Consideration might be given to what the maximum rest period should be within the 14:1:14 rule to counter the (possible) scenario that for example, animals are untrained to the type of drinker on-board. Current legislation assumes that vehicle specifications it dictates are suitable for all animals, and this may not be the case. Second: contingency plans might usefully be linked to journey logs (made for individual routes) rather than transporter authorisations (which are not route-specific).

There are perhaps inevitably calls for journey times to be extended by some in the sector, whilst there are indications from some abattoirs and markets that extended journey times reduce the value of livestock traded through or processed by them. Information on the impacts of journeys on the physiology, and hence the welfare and the value of livestock, might usefully be made available alongside guidance on legislation.

There appears to be little good reason for the differentiation between 50km as a cut off point at which farmers are required to hold an Animal Transport Certificate and 65 km as a cut off point at which all livestock transporters require Transporter Authorisation and Certificates of Competence. The adoption of one or the other would seem logical for clarity and ease of communication. If this is not possible then reiterating the relevance of each cut off point by providing this information to industry in a simple format may be of benefit.

With some of the basic requirements of the legislation unknown to a large proportion of those stating that they have obtained a certificate of competence, the value of this training and certification may be questioned. However, the uptake of training has been significant. Building on these high levels of uptake, opportunities to promote 'advanced training', for example through RDPE funding (in England, or equivalents in Scotland, Wales and Northern Ireland) and perhaps with the backing or promotion of assurance schemes, maintaining a focus on shorter journeys, would allow for the improvement of (i) knowledge of the legislation and (ii) overall driving standards.

The scale of any impacts of legislation on the semi-feral equine sector might be usefully examined, not only for the animal welfare implications but also for the business and economic consequences that are reported to have arisen.

Whilst there appears to be no rationale behind and no benefit to the single animal exemption, consideration should be given to its removal from the guidance.

## References to published material

9. This section should be used to record links (hypertext links where possible) or references to other published material generated by, or relating to this project.


Council Regulation (EC) No 1/2005 on the protection of animals during transport and related operations and The Welfare of Animals (Transport) (England) Order 2006. Part 1 - main Guidance. Defra. 2008.

Council Regulation (EC) No 1/2005 of 22 December 2004 on the protection of animals during transport and related operations and amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) and Regulation No 1255/97. Official Journal of the European Union.

The Welfare of Animals (Transport) (England) Order 2006. Statutory Instruments, 2006 No.36260.