

## Managing the Workplace Transport Risk

### A Route Map

### Impact Assessment (Final)

#### **PURPOSE AND INTENDED EFFECT**

##### **Objectives**

1. The Workplace Transport Route Map provides the framework for a suite of guidance aimed at improving competence of workplace transport operators, supervisors and managers. It also sets benchmarks describing safe practice. Its aim is to reduce the number of accidents by influencing attitudes, beliefs and ultimately the way in which individuals choose to perform tasks.
2. The Route Map covers people working directly with vehicles and pedestrians in the vicinity of those vehicles, and includes the way work is planned, organised and managed.
3. In order to help managers to understand and control risks, the Route Map sets out the four key areas to be looked at as part of the risk assessment:
  - Site layout and design
  - Vehicle selection and maintenance
  - Personnel matters
  - Management responsibilities
4. To do this the Route Map specifically covers:
  - training & competence
  - management of visiting & agency drivers
  - fitness to drive
  - information provision to staff and visitors
  - risk assessment and management responsibilities
  - workplace layout

## Background and rationale for intervention

5. Workplace Transport continues to be a major cause of fatal and major injuries in the workplace. Since 1998/99 there has been an average of 66 fatalities each year as well as over 2100 reported major injuries and over 4200 reported other injuries resulting in the injured person being off work for more than 3 days. The numbers of reported non-fatal injuries understate the position - estimates based on the Labour Force Survey indicate that the level of reporting of non-fatal injuries is about 49%. HSE's targets as set out in "Revitalising health and safety"<sup>1</sup> include a 10% reduction of our baseline year (1999/2000) figures, or equivalently 5 fewer fatalities and around 260 fewer major injuries per annum.
  
6. "Workplace transport" covers any vehicle that is used in a work setting. It specifically excludes transport on the public highway; air, rail or water transport, and specialised transport used in underground mining. It is used in all sectors and a great variety of situations. The control of workplace transport risks is covered by several sets of regulations and Approved Codes of Practice (ACoPs), including the:
  - Management of Health and Safety at Work Regulations 1999;
  - Provision and Use of Work Equipment Regulations 1998;
  - Lifting Operations and Lifting Equipment Regulations 1998;
  - Workplace (Health, Safety and Welfare) Regulations 1992;
  - Road Vehicle (Construction and Use) Regulations 1986;
  - Health and Safety (Safety Signs and Signals) Regulations 1996;
  - and
  - Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995.
  - Rider-Operated Lift Trucks: Operator Training Approved Code of Practice 2000
  
7. Much good guidance exists on managing workplace transport and work related road risks, but a lot of this is hard to find and some is difficult to understand. The aim of the Route Map is to bring understandable versions of this guidance within easy reach of duty holders and so increase compliance with the law. The Route Map is not intended to introduce any new legal duties entailing additional costs to compliant businesses in the industry.

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<sup>1</sup> See: <http://www.hse.gov.uk/revitalising/index.htm>

## OPTIONS

### Option 1: Do nothing

8. In order to manage workplace transport risks, health and safety duty holders need to refer to large numbers of regulations, ACoPs and guidance documents<sup>2</sup>. The list is likely to grow and will certainly change with innovations in health and safety. The absence of easily accessible practical guidance that describes what duty holders need to do to comply with the law and manage workplace transport risks effectively constitutes a risk in itself. Making risk assessments less onerous is likely to encourage good practice and therefore reduce accidents.

### Option 2: Introducing new legal requirements

9. In 2004, HSC considered the option to amend Regulation 9 of the Provision and Use of Work Equipment Regulations (PUWER) 1998<sup>3</sup> to introduce a legal requirement for formal qualifications, re-training and/or re-testing within specified timescales; licensing/certification requirements; and, the possible need for fitness/medical requirements on drivers. Under this proposal, the EMPNTO, in conjunction with the five recognised bodies and other stakeholders, would draw together existing standards for driver training and develop them into national standards. The standards and the training providers (the five recognised bodies plus any other training providers) would be regulated by the QCA.
10. The Commission questioned the scope of driver licensing. There would need to be clearly defined limits and definitions of what constituted workplace transport and which vehicles were covered. This was not a straightforward issue and there were difficult considerations. The Commission questioned whether equivalent results could be achieved through other approaches.
11. Improving guidance, common practice and worksite standards were some approaches that needed to be tried in the first instance. Training was an important issue but further regulation might not be the only way to secure improvements. The Commission recognised the importance of this work but requested a further paper on options.

### Option 3: A Route Map to managing the risks for workplace transport

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<sup>2</sup> See paragraph 6.

<sup>3</sup> See <http://www.hse.gov.uk/aboutus/hsc/meetings/2004/100204/cm03.pdf>

12. The Route Map would be a nested web-based tool for managing workplace transport risks. It is intended to bring all current guidance together with practical interpretations of regulations and ACoPS and be a comprehensive source of easy-to-understand information on health and safety risk management. It will provide clear routes into the more detailed guidance on alternative ways to manage the risks that exist or are being developed.
13. During the initial round of consultation the public was asked for their opinions on the proposal<sup>4</sup>. Of the 86 people that answered, 83 per cent were in support of the approach, 9 per cent objected to the Route Map and 8 per cent were indifferent<sup>5</sup>.
14. The Route Map will only be accessible to those with internet access, although it is suggested that the top 20 most visited sections of the site will be made available in written format. The Office for National Statistics found that in 2005, about 50 per cent of businesses with 10 or more employees used the Internet to interact with public authorities, such as government departments, local and regional authorities<sup>6</sup>.

#### **Option 4: Consolidating all current guidance into one written document**

15. This proposal would consolidate all current risk management guidance, make it available in one written volume and therefore be accessible to businesses that do not have access to the internet. It would contain essentially the same information as the Route map and be made available to order from HSE, either in addition to existing workplace transport literature or replacing all current guidance.
16. As health and safety risk management evolves, for example through the release of new European recognised standards, HSE would need to publish a new edition of the guidance document each year.

## **COSTS AND BENEFITS**

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<sup>4</sup> The consultation was web-based and mainly includes the views of those who have internet access. Only 15.7 % of hard copies questionnaires were received. See [http://www.hse.gov.uk/consult/condocs/Route map.htm](http://www.hse.gov.uk/consult/condocs/Route%20map.htm).

<sup>5</sup> The exact wording of the question was, 'Do you support the approach we have suggested' (Question 27).

<sup>6</sup> Latest data from the ONS (see <http://www.statistics.gov.uk/pdfdir/ecom1006.pdf>) covers all sectors and not just those with workplace transport. The true figure is likely to be greater now as more business have access to the internet. But the Route map applies to firms of all sizes including those with fewer than 10 employees not included in the survey. Since smaller businesses make less use of ICT (ibid.), it is assumed that 50 per cent is about right.

## Background information and assumptions

17. Information about the costs and benefits have been obtained from stakeholder workshops and from within HSE. Earnings data has been taken from the Annual Survey of Hours and Earnings (ASHE), published by the Office for National Statistics (ONS). Injury data are taken from RIDDOR<sup>7</sup> (adjusted to compensate for underreporting). The number of organisations that recognise workplace transport as a health and safety risk was derived from figures published by the Small Business Service<sup>8</sup> combined with findings from the first wave of the Fit3 workplace survey<sup>9</sup>. Data on the number of workers affected come from the labour force survey, the first wave of the Fit3 employee survey<sup>10</sup> and the WHASS survey<sup>11</sup>.
18. There are approximately 4.2 million enterprises in Great Britain. Results from the Fit3 survey suggest that 32% -or 1.4 million enterprises in total- identify workplace transport as a risk to their workers.
19. Analysis of the Fit3 employee survey suggests that around 7.5 per cent of all workers in Great Britain, or equivalently 2.1 million people, drive a vehicle at work (though not mainly on public roads or car parks). We assume that these workers come within the scope of the proposals.
20. For options 3 and 4, costs and benefits accrue as practical information on how to manage workplace transport risks becomes more easily available, which leads to a reduction in the number of firms that do not employ good practice. Strictly speaking, since the cost analysis is based on results from the Fit3 survey of workers and the benefit analysis is based on workplace transport accident numbers that are not disaggregated to firm-level, the costs and benefits presented below are due to a reduction in the number of employees that work for firms that do not employ good practice. It is important to recognise that firms are not homogenous, nevertheless, although this is not perfectly

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<sup>7</sup> The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995.

<sup>8</sup> Small Business Service (<http://www.sbs.gov.uk/>), 2005

<sup>9</sup> See <http://www.hse.gov.uk/contact/faqs/fit3survey.htm>

<sup>10</sup> Unlike Fit3 Workplace survey data, data from the Fit3 Employee survey -which is based on 9,127 responses- are unweighted and may therefore suffer from selection biases. Data from the Fit3 Employee survey on the proportion of the workforce that drive a vehicle at work has been checked against occupational data in the Labour Force Survey. The two results are comparable.

<sup>11</sup> See <http://www.hse.gov.uk/statistics/books.htm#whass>

accurate the terminology 'a reduction in the number of firms that do not employ good practice' will be used throughout this assessment for simplicity.

21. Some of the costs to organisations are opportunity costs that are reflected by the loss of output as a result of undertaking activities to meet the standards indicated by the proposals, for example accredited lift truck training for a novice lift truck driver. It is assumed that the loss of output is approximately equal to the time spent carrying out their duties multiplied by average earnings (adding 30% for costs from superannuation and employers' national insurance contributions). Other costs, such as training costs, were obtained from industry.
22. Both Costs and Benefits have been discounted in line with treasury guidance. Costs have been discounted at a rate of 3.5% and health and safety benefits have been up rated by 2%, then discounted at 3.5%, giving an effective discount rate of 1.5%. Costs and benefits are calculated over a period of ten years and expressed in present value terms. All costs and benefits have been discounted back to a base year of 2007. The choice of base year does not affect the balance of costs and benefits, or the conclusions of this analysis.
23. Since the existing regulations and ACoPs mentioned in paragraph 6 were appraised at the time of conception, the effects of new guidance material aimed at improving compliance and which does not impose new requirements on duty holders, should not be treated as additive to the effects estimated in the original impact assessments. The degree of additionality depends on the assumptions about compliance rates in the original impact assessments. For example, if 100 per cent compliance was originally assumed then there is no additionality.

## **Benefits**

### **Health and Safety Benefits**

24. In 2005/06 there were 61 fatalities to workers and members of the public caused by workplace transport accidents. There were also around 5500 major injuries and 9600 other injuries which lead to absence from work for at least 3 days<sup>12</sup>. The benefits of the Route Map accrue because of an anticipated reduction of these accidents.

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<sup>12</sup> Accident numbers from RIDDOR, adjusted to account for underreporting. Reporting rates for employers were around 49% in 2005. For self-employed, a reporting rate of 5% is assumed.

25. In order to present these possibilities in a way that can be meaningfully compared with the likely costs associated with the options, monetary values have been attached to each accident prevented. These figures represent an estimate of the implicit value given, by society, to the prevention of “average” accidents. They include the direct costs associated with an incident (for instance, medical treatment costs), the value of lost productive output and a measure of the subjective costs, often referred to as “pain, grief and suffering” incurred due to the incident. More information on this approach can be found on the Department for Transport website.<sup>13</sup>

Type of incident	Prevention Value
Fatalities	£1,600,000
Serious injuries	£40,000
Over-three-day injuries <sup>14</sup>	£6,000

*Table 1: Monetary values of the prevention of different types of incidents.*<sup>15</sup>

26. HSE research has also shown that the cost of equipment and structural damage as a result of workplace transport accidents can be, and often is, significant. However, these costs have not been quantified because most businesses do not record them in such a way as to be able to disaggregate the information from other damage/maintenance costs.

### **Option 1 – Do Nothing**

27. This option has no impact.

### **Option 2 – Introducing new legal requirements for driver training**

28. Regulation 9 of PUWER (1998) states that ‘Every employer shall ensure that all persons who use work equipment have received

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<sup>13</sup> [http://www.dft.gov.uk/stellent/groups/dft\\_rdsafety/documents/page/dft\\_rdsafety\\_610642.hcsp](http://www.dft.gov.uk/stellent/groups/dft_rdsafety/documents/page/dft_rdsafety_610642.hcsp)

<sup>14</sup> This is a HSE category to indicate injuries where a worker is away from their job for over three days and is used as a proxy for a “minor” injury.

<sup>15</sup> The values for major and “O3D” injuries are generated by uprating the figures given in “The Costs to Britain of workplace accidents and work-related ill health”

adequate training for purposes of health and safety'. By specifying in more detail what is meant by adequate training and introducing a system whereby training providers require accreditation by the QCA, the quality of training is likely to improve. Moreover, as firms form a better understanding of training requirements, the number of drivers that receive training would increase.

29. Assuming that 5 per cent of all workplace transport accidents could have been prevented had the driver been adequately trained, then if the number of drivers that have not received training falls by 50 per cent as a result of amending Regulation 9, workplace transport accidents would fall by 2.5 per cent. This is equivalent to an annual saving of £10m per annum, or £94m over the 10-year appraisal period (NPV terms).

### ***Option 3 – The Route Map***

30. In order to estimate the benefits of the Route Map, it was first assumed that between 30 and 60 per cent of all workplace transport accidents could be prevented if all businesses properly managed risks (that is if they complied with the standards of the Route Map. Between a 5 per cent and a 15 per cent reduction in the number of firms that do not meet the Route Map standards was then considered. For example, a 5 per cent fall in non-compliance combined with the assumption that 30 per cent of all accidents are due to poor risk management gives a 1.5 per cent (=5% x 30%) reduction in injuries. A 15 per cent drop in non-adherence combined with the assumption that 60 per cent of all accidents are due to poor risk management gives a 9 per cent (=15% x 60%) reduction in injuries. The benefits generated, per year, from these scenarios are presented in Table 2.

	Value of prevented workplace transport accidents (£m)			
	1.5%	3.0%	4.5%	9.0%
Fatalities	1	3	4	9
Serious injuries	4	7	11	21
O3D injuries	1	2	3	5
Total	6	12	18	36

*Table 2: Annual benefits from preventing accidents*

31. As both the number of firms that would act as a result of the Route Map and the proportion of accidents that are preventable are uncertain

and not based on evidence, paragraph 66 under the 'uncertainties' section presents a sensitivity analysis around the entire spectrum of compliance rates and accident reduction.

32. The present values of the benefits over the ten-year appraisal period are as follows. Given a 1.5 per cent reduction in accidents the total benefit is £56 million, or £6 million as an annualised figure.<sup>16</sup> A 3 per cent reduction in accidents would give a benefit of £111 million (£12 million annualised). A 4.5 per cent reduction in accidents would give a benefit of £167m, or £18m in annualised terms. Finally, a 9 per cent reduction in injuries yields a benefit of £333m, or £36m in annualised terms.

#### ***Option 4 – Consolidating all existing guidance into an annual publication***

33. Although this option would potentially have greater reach than the Route Map as it would be accessible to businesses that do not have internet access, the process involved in ordering and paying for the publication is likely to be more onerous than referring to on-line guidance. Assuming that these effects cancel out, it is estimated that the benefits from this option would be similar to those of the Route Map.

### **Costs**

#### **Costs to Businesses**

##### ***Option 1 – Do Nothing***

34. There are not costs involved in this option.

##### ***Option 2 – Introducing new legal requirements for driver training***

35. The Fit3 survey revealed that 46 per cent of workers have not had training on the safe operation of their vehicle. It is assumed that this option will lead to a reduction in the number of drivers that have not received training by 50 per cent (see Paragraph 29). Using the methodology that was used to calculate training costs for the purpose of the Route Map (Paragraphs 44 to 48), the estimated costs in year one are £280m. Recurring costs are then between £20m and £44m per

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<sup>16</sup> Annual figures in this document have been calculated by dividing the present value of the cost or benefit by an annualisation factor. This transformation gives a figure which represents a yearly flow of funds which, when discounted over the appraisal period of 10 years, equals the present value. For this document the annualisation factors are 9.36 for benefits and 8.61 for costs.

annum. In net present value terms, the total costs over the appraisal period are £569m. Familiarisation costs are likely to be negligible.

### **Option 3 – The Route Map**

36. Since most firms already employ good practice and some firms may fail to comply with the standards even after the Route Map is introduced, only a minority of businesses that familiarise themselves with the Route Map will implement changes. For the purpose of the cost calculations and for each of the Route Map components (driver training, licence checks, etc.), results from the Fit3 workers survey (and to a limited degree WHASS) were used to identify the number of drivers who believe that their employer currently does **not** follow the practice set out in the Route Map<sup>17</sup>.

37. Analogous to the benefit calculations, a reduction of between 5 per cent and 15 per cent in the number of firms that do not meet the Route Map standards was considered<sup>18</sup>. The total cost is the sum of the product of unit costs for each element in the Route Map (training, licence checks, etc.) and the number of affected employees.

38. The costs to employers include time spent familiarising themselves with the Route Map and the costs of complying with its various elements. The latter involve:

- driver training costs;
- management time spent verifying that drivers are licensed to operate vehicles;
- ensuring drivers have the required fitness levels to drive vehicles (costs of processing medical assessment forms and the costs of medical examinations); and
- implementing changes to workplace layout (for example segregating pedestrians from vehicles.)

It should be emphasised that these costs arise from improved compliance and not because of the imposition of new duties.

39. HSE and local authorities will also incur costs as inspectors need to familiarise themselves with the Route Map. There are some further

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<sup>17</sup> These include: training on safe operation of vehicles, the use of driver licensing checks, assessment of the fitness of drivers.

<sup>18</sup> See paragraphs 66 under 'uncertainties' for a sensitivity analysis around the full range of compliance rates.

costs to HSE associated with designing and maintaining the Route Map website.

40. A number of the requirements indicated by the Route Map are not expected to have a major cost impact on an individual organisation basis, as organisations that are already employing good practice are unlikely to have to do anything additional to comply. However, in some cases, the Route Map may highlight that current working practices are now unsuitable. If this is the case, there are likely to be significant costs.

#### *Familiarisation*

41. Of those business that identify workplace transport as a risk to their workers (32 per cent) and use the internet to interact with public authorities (50 per cent of 32 per cent), we assume that between 40 and 60 per cent will be reached by and choose to familiarise themselves with the Route Map. Thus, between 20 per cent and 30 per cent of all firms that identify workplace transport as a risk will incur familiarisation costs.

42. We believe that familiarisation will be more time consuming for large firms than for small firms, because large firms are likely to have more complicated vehicle operations to manage. On average, across all enterprises we assume it takes managers 2 hours to familiarise themselves with the Route Map.

43. Given an average wage for a manager of £19 per hour<sup>19</sup> (including 30% for non-wage labour costs) and that 1.4 million businesses in total are thought to be affected by the Route Map, the total cost of familiarisation to employers in the first year will be between £11 million and £16 million. The turnover rate of businesses in Great Britain was around 4 per cent in 2005 (SBS). Based on this, the recurring annual costs of familiarisation are estimated at just under £1 million per annum.

#### *Training costs*

44. While all of the 2.1 million workers who drive/operate vehicles at work would not require formal training, it is the intention of the Route Map to clarify levels of training and competence to be achieved. For example,

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<sup>19</sup> Source: ASHE 2006, table 2.5a. Mean salary for 'Managers and proprietors in agriculture and services'.

for lift trucks the expected minimum training standard would be compliance with the lift truck approved code of practice, preferably with the training being delivered by an accredited lift truck training organisation. Industry sources suggest that a considerable number of workers would require additional training to meet the ACoP. Self-employed workers or those from smaller firms are generally known to be less likely to have received adequate training. However, they may interpret their experience sufficient to meet the “competence” requirement.

45. Findings from the WHASS survey suggest that just under half of all workers who drive a vehicle in their main job have not received training on safe operation and driving. We also know from the Fit3 worker survey that 61 per cent of all people who drive vehicles not mainly on public roads drive passenger vehicles or goods vehicles/trailers<sup>20</sup>. We assume that these workers have a standard (DVLA) driving licence and only require minimal site-specific safety training, which we assume takes two hours of management time.
46. The remaining drivers operate vehicles that are not covered by a DVLA driving licence, and will need to attend more formal driver training, which take 3 to 5 days to complete. Industry sources have informed us that prices range from £660 to £1,100.
47. Including the opportunity cost of management and driver time, the average training cost for all drivers is around £540. It is estimated that 4 per cent of these costs recur each subsequent year -this is the ratio of new entrants to workplace transport jobs compared to the total number of workplace transport jobs<sup>21</sup>. Total costs of training in year one are between £28m (5% reduction in the number of firms that do not provide adequate training) and £84m (15% reduction in the number of firms that do not provide adequate training).
48. Although the Route Map does not prescribe how often refresher training should be undertaken, for the purpose of the RIA we have assumed that those attending formal training courses attend a one-day refresher course on average every 3 years at a cost of approximately £380, including the opportunity cost of the driver’s time. This adds

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<sup>20</sup> Training requirements rely on the assumption that there is no correlation between the type of vehicle used and whether the respondent has had training on that vehicle.

<sup>21</sup> Derived from the Labour Force Survey and based on the whole labour market and not just workplace transport jobs in order for the result to be statistically significant.

another £2m to £7m to the annual costs of training from year 4 onwards.

### *Licence checks*

49. The Route Map introduces guidelines for checking that drivers are suitably qualified. This applies especially to visiting and agency drivers. The Fit3 worker survey revealed that 82 per cent of drivers believe their employer currently use drivers' licensing checks appropriately. After excluding the self-employed, 14% of all drivers would be within the scope of this particular measure. If it takes an estimated half an hour of management time to check a licence (this might include a phone call to the accrediting body), then the total cost in year one will range from less than £½ million to £1 million. The recurring costs, which depend on worker turnover rates, are estimated to be just under £½ million per annum.

### *Fitness to Drive*

50. The Route Map proposes that all drivers should be assessed to ensure that they are medically fit to perform their duties. The most basic form of assessment is to ask new recruits to complete a questionnaire. If a person has a medical condition that causes concern for the employer, then the employer may require that the individual undertake a medical examination<sup>22</sup>.

51. If processing a medical form takes half an hour of an administrative staff's time and a medical examination costs around £200 (including the opportunity cost of the driver's time), then the total cost in year one would be between £4 million and £11 million. Recurring costs are between £2 million and £6 million.

### *Unquantified Costs*

52. In addition to the costs outline above, there may be some further costs resulting from the Route Map. These include the costs of implementing changes to site layout, changes to vehicle maintenance and selection and additional management and risk assessment activities. These costs have not been quantified.

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<sup>22</sup> See Annex 1 for a list of medical conditions that we assume will trigger a medical examination. The fraction of the total workforce with these conditions was derived from the labour force survey.

### *Total Costs to businesses*

53. The total first-year costs to businesses of the Route Map are estimated to be between £43 million and £112 million, with ongoing costs of between £5 million and £20 million from year 2 onwards. The present value of all costs to businesses over the ten-year appraisal period is estimated to be between £91 million and £251 million. This can be expressed in annualised terms as between £11 million and £29 million, respectively.

### ***Option 4 – Consolidating all existing guidance into an annual publication***

54. Like the benefits, it is estimated that the costs to employers of this option will be similar to that of the Route Map.

### **Costs to HSE/LAs**

#### ***Option 1 – Do nothing***

55. There are no costs associated with this option.

#### ***Option 2 – Introducing new legal requirements for driver training***

56. It would take 600 HSE inspectors an estimated one day to familiarise themselves with the new requirements. Taking a weighted average wage across the different bands leads to an initial cost of £200,000.

57. It is estimated that the 3,660 LA inspectors (see paragraph 61) would require on average half a day to familiarise themselves with the new legislation. Across the 3660 local authority inspectors, this leads to a cost in year 1 of approximately £500,000.

#### ***Option 3 – A Route Map***

58. We estimate that it will take HSE inspectors half a day to familiarise themselves with the guidance. Taking a weighted average of different inspectors' wages across the different bands and assuming that 600 inspectors need time for familiarisation leads to an initial cost of £100,000. This is an implementation cost.

59. There are costs associated with designing, implementing and maintaining the Route Map website. These are estimated at just under £10,000 in year 1, with less than £1,000 recurring in years two to ten.

60. The Route Map serves to highlight existing requirements that should already be enforced by HSE and Local Authority. The additional costs of enforcement are not likely to be significant given that the Route Map reinforces what current good practice recommends. They are, therefore, extremely difficult to estimate.

61. In 2003/2004, which is the last year for which we have statistics, there were 3,660 Local Authority inspectors holding appointments under Section 19 of the HSW Act. If we assume that each of the 3,660 officers spend a third of a day familiarising themselves with the Route Map, then at a cost of £254 per inspector per day, the total cost of familiarisation for local authorities is £300,000.

***Option 4 – Consolidating all current guidance into a written document***

62. As with the Route Map and further costs associated with re-issuing annual editions, publishing and printing the guidance.

**Environmental Impacts**

63. No environmental impacts are expected from these proposals.

**Balance of costs and benefits**

***Option 1 – Do nothing***

64. There are no costs or benefits associated with this option

***Option 2 – Introducing new legal requirements***

65. This produces an estimated net cost of £476m in net present value terms over the appraisal period.

***Option 3 – The Route Map***

66. The total cost of introducing the Route Map has been estimated at between £91 million and £251 million over ten years, in present (2007) values. The potential benefits, given between a 1.5% and 9% reduction in injuries from workplace transport accidents, have been estimated at between £56 million and £333 million in present value terms, over the appraisal period. The net impact of the Route Map is estimated to be between £85m net cost to £89m net benefit (See Table 3).

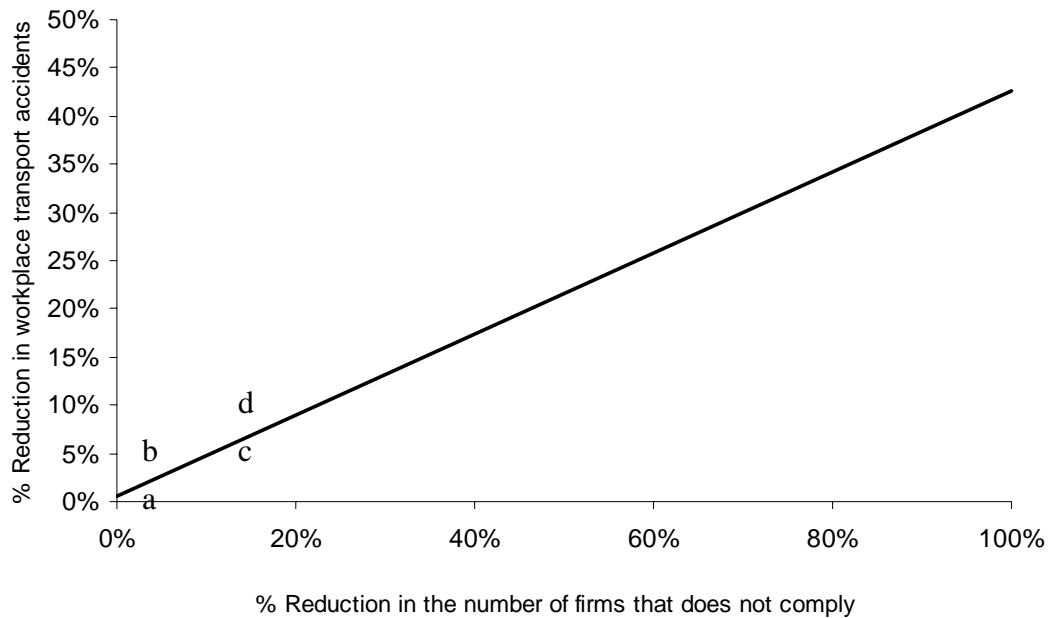
		<i>Assumption</i>	
		30% of all accidents are preventable through Route Map standard risk management	60% of all accidents are preventable through Route Map standard risk management
<i>Effect</i>	5% fall in firms which do not employ good practice	[1.5% fewer accidents] -£36m to -£43m (a)	[3% fewer accidents] £13m to £20m (b)
	15% fall in firms which do not employ good practice	[4.5% fewer accidents] -£78m to -£85m (c)	[9% fewer accidents] £82m to £89m (d)

Table 3. Net benefit of Route Map (NPV terms over appraisal period)<sup>23</sup>

### *Uncertainties*

67. The number of enterprises that will act upon the Route Map guidance and the number of injuries that will subsequently be prevented are uncertain. To address these uncertainties range estimates have been used in the analysis (for example, see Table 3 above). Figure 1 shows the required accident reduction for a given fall in non-compliance for benefits and costs to break even (assuming an uptake of 60 per cent<sup>22</sup>.) Any point above the line shows a combination of improvement in compliance and accident reduction that result in a net benefit to society. The points in table 3 (a, b, c, d) have been plotted in the graph. For example, point b in the Chart 1 represents a situation where the reduction in the number of workplace transport accidents (5%) brings considerable benefits from a small reduction in the number of firms that do not comply (5%).

<sup>23</sup> Two values per cell, where the lowest value represent the scenario where 40 per cent of all firms that identify workplace transport as a risk are reached by and familiarise themselves with the Route map. The greater value represents a 60 per cent uptake.



*Chart 1. Accident reduction required for benefits and costs to break even*

***Option 4 – Consolidating all current guidance into a written document***

68. Whereas it is estimated that the benefits are similar to the Route Map, the costs will be greater as guidance needs to be revised each year with a new edition of the guidance replacing the previous version.

**IMPACT ON SMALL BUSINESSES**

69. It is difficult to calculate the exact cost to small and medium businesses of improving their work sites in line with the proposals, as each business is likely to be at a different stage of readiness. However, there are no costs likely to arise from this that would represent an unreasonable, or disproportionate, burden on small and medium sized businesses. This is because we recognise that there are some relatively cheap methods to achieve the desired result, for example painted lines to demarcate pedestrian and vehicle routes. This was confirmed via consultation with a number of small businesses.

**COMPETITION ASSESSMENT**

70. The proposals cover all industry sectors. Each of the different industries affected will have different structures, but the effects of the proposals on competition should be generic. That is, because the costs, when they occur, will be in proportion to the size of the firm, and

apply to all existing and potential firms equally, the market structure and competition will not be affected.

## **ENFORCEMENT AND SANCTIONS**

71. Depending on the industry sector concerned, the proposals will be promoted and monitored by either the Health and Safety Executive or Local Authorities. The health and safety regulations underlying the Route Map are the Management of Health and Safety at Work Regulations 1999; The Workplace (Health Safety and Welfare) Regulations 1992; The Provision and Use of Work Equipment Regulations 1998; and the Lifting Operations and Lifting Equipment Regulations 1998.
72. Poor compliance will be identified by responding to queries raised, investigating accidents and incidents, and routine checks by inspectors. Inspectors may offer duty holders information and advice. Where appropriate enforcement action may be taken in accordance with the HSC Enforcement Policy Statement.
73. The Health and Safety at Work etc Act 1974, section 33 (as amended) sets out the offences and maximum penalties under health and safety legislation.
74. The impact of the Route Map will be assessed over time by monitoring reports of fatalities, injuries and near misses, which are submitted by duty holders.

## **COMMUNICATION**

75. It is intended that the launch of the Route Map will coincide with other action HSE is planning which focus on the risks of workplace transport and moving goods safely. The website will be promoted through media campaigns and by inspectors involved in these projects. The Route Map will also be advertised on the HSE website.
76. It will be communicated through networks established during stakeholder consultation events over the past three years, including the Freight Transport Association, the Road Haulage Association, HSC recognised lift truck training accrediting bodies, the National Association of Agricultural Contractors, trade and advisory press and organisation mailing lists etc.

77. The consolidated guidance document (option 4) could follow similar communication channels.

## **MONITORING AND EVALUATION**

78. These proposals will be subject to formal review by the Commission after 4 years. They will also be monitored by HSE during that period.

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## **ANNEX 1. MEDICAL CONDITIONS ASSUMED TO TRIGGER A MEDICAL EXAMINATION**

We referred to the Labour Force Survey<sup>24</sup> to estimate the proportion of workers in occupations most likely to involve workplace transport, with a medical condition listed below. The medical conditions include:

- (1) Problems or disabilities (including arthritis or rheumatism) connected with...arms  
or hands
- (2) ....legs or feet
- (3) ....back or neck
- (4) Difficulty in seeing (while wearing spectacles or contact lenses)
- (5) Difficulty in hearing
- (9) Heart, blood pressure or blood circulation problems
- (11) Diabetes
- (12) Depression, bad nerves or anxiety
- (13) Epilepsy
- (14) Severe or specific learning difficulties (mental handicap)
- (15) Mental illness, or suffer from phobia, panics or other nervous disorders
- (16) Progressive illness not included elsewhere (e.g. cancer, multiple sclerosis, symptomatic HIV, Parkinson's disease, muscular dystrophy)

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<sup>24</sup> Source: Labour Force Survey, July to Sept 2006.