

Support Goods Vehicle Incident Prevention – Drivers’ Hours

**Business Case, Implementation Plan and
Lessons Learnt Report**

Highways England

Support Goods Vehicle Incident Prevention – Drivers' Hours Business Case, Implementation Plan and Lessons Learnt Report

Highways England

Quality information

Document name	Ref	Prepared for	Prepared by	Date	Reviewed by
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Revision history

Revision	Revision date	Details	Name	Position
1 st Draft	05/04/17	Draft report	James Nankivell	Senior Consultant
2 nd Draft	30/05/17	Final Draft	James Nankivell	Senior Consultant

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Contents

Executive Summary.....	3
1. Introduction.....	8
2. Key Findings and Recommendations.....	10
3. Lessons Learnt Evaluation.....	Error! Bookmark not defined.
4. Implementation Plan	20
5. Drivers' Hours Business Case.....	32

Glossary of Terms

Term(s)	Definition
BCR	An acronym for 'Benefit Cost Ratio'.
CVIPT	An acronym for 'The Commercial Vehicle Incident Prevention Team'.
DfT	An acronym for 'Department for Transport'.
DVSA	An acronym for 'Driving and Vehicle Standards Agency'.
Fleet operator	An economic entity which operates a vehicle fleet.
FORS	An acronym for 'Fleet Operator Recognition Scheme'.
FTA	An acronym for 'Freight Transport Association'.
Gross Vehicle Weight (GVW)	The maximum weight of a vehicle inclusive of the vehicle, load, fuel, driver and accessories.
Heavy Goods Vehicle (HGV)	Goods vehicles over 3.5 tonnes GVW.
Key Performance Indicators (KPIs)	A measurable value that demonstrates how effectively a company is achieving key business objectives.
KSI	An acronym for 'Killed or Seriously Injured'.
NPV	An acronym for 'Net Present Value'.
PVB	An acronym for 'Present Value of Benefits'.
PVC	An acronym for 'Present Value of Costs'.
RHA	An acronym for 'Road Haulage Association'.
SES	An acronym for the 'Safety, Engineering and Standards' team
SRN	An acronym for 'Strategic Road Network'.
Tachograph	A device fitted to a vehicle that automatically records its speed and distance, together with the driver's activity selected from a choice of modes
TO	An acronym for 'Highways England Traffic Officer'.



Executive Summary

Executive Summary

AECOM and our project partners PA Consulting and Road Safety Support (RSS) were commissioned by Highways England (HE) to explore a number of options for reducing the frequency and severity of incidents involving Heavy Goods Vehicles (HGV) on the Strategic Road Network (SRN) which HE are responsible for. During the initial research investigation a number of issues were discovered. These are as follows:

- There is a lack of Police funding which is leading to low levels of drivers' hours enforcement particularly in certain parts of the UK
- There is a lack of drivers' hours enforcement by the Police due to a low level of knowledge of commercial vehicle operations
- Tacho fraud methods are always changing and becoming more advanced
- Fines for parking on the hard shoulder are much lower than those issued for drivers' hours offences. This in some instances may cause drivers to risk the hard shoulder fine rather than risk getting the higher fine associated with drivers' hours offences.
- Smart motorways are causing issues with DVSA enforcement as the variable speed limits mean that it is technically illegal for them to intercept and pull over HGVs when a variable speed limit is in place. This is causing some DVSA sites to close (e.g. Sandbach) as they are no longer effective for enforcement purposes.
- The issue of variable speeds on SMART motorways is only going to get worse in the future as more and more of the Highway's England network is upgraded.
- Graduated fixed penalty fines for drivers' hours offences are too low. Some drivers choose to run the risk of being caught as the economic benefits of breaking the rules are greater than the fines.
- Drivers taking breaks on hard shoulder. There is also a lack of evidence showing why drivers are doing this, and the number of occurrences.
- Operators manually planning routes and not considering suitable parking areas

Detailed within this report is the implementation plan and business case for the drivers' hours interventions. A number of key findings have been drawn from these pieces of work and a recommended option is proposed for Highways England to consider moving forward with.

An evaluation of the lessons learnt is also provided as is a priority list (by Benefit Cost Ratio (BCR)) for all of the interventions from each of the three workstreams (e.g. drivers' hours, diesel spillages, and tyre management).

Agreed interventions and timescale for implementation

Of the suggested interventions that were proposed within the Drivers' Hours initial intervention report, Highways England has decided to move forward with the following two recommendations:

Ref	Group	Proposed Approach	Timescale
DH1	Best Practice Guides / Awareness Campaigns	1. Develop a good practice guide and raise level of awareness / education for drivers and operators	Short (3 - 6 Months)
		2. Develop guidance for operators focusing on the benefits of using computerised route planning software as a means of instructing drivers' when and potentially where to take breaks	Short (3 - 6 Months)
		3. Investigate reasons for drivers taking tachograph breaks on the hard shoulder and develop an awareness / education campaign for drivers	Short (6 Months)
DH2	Enhanced Police Enforcement Pilot	1. Identify all training courses that are available and which courses benefit the police officer the most with a view to providing funding. This should initially be rolled out as a pilot aiming to enhance the levels of police enforcement in one area of the SRN	Medium (9 Months)
		2. Highways England to fund enhanced levels of Police enforcement in one area of SRN – e.g. Lancashire / Greater Manchester Police CVU's as they are keen on enforcement – Drivers' hours rules and tachograph fraud (i.e. switches). Then potentially roll out to other parts of the SRN	Medium (9 – 12 Months)

Results from the Business Case

Sensitivity analysis

Evaluation Results based on 2016 discounted rates	Option 1 Do Nothing	Option 2 DH1 Information campaign	Option 3 DH2 Police pilot scheme	Option 4 Combined approach
Value Benefits (PVB) - Safety benefits only	As is	£149,692	£308,971	£458,663
Value Cost (PVC)	As is	£28,270	£39,861	£68,131
Net Present Value (NPV)	As is	£121,422	£269,110	£390,532
Benefit Cost Ratio (BCR)	0	5.3	7.8	6.7
Ranking	4	3	1	2

Recommended Option

The recommendation is Option 4, to deliver a combined approach to influencing and enforcing drivers' hours compliance on the SRN. This is *best* achieved through delivery of an influence campaign aimed at changing driver/operator behaviours, backed up by a proposed solution to reinforce this awareness and behaviour through an enhanced drivers' hours enforcement pilot.

This programme will be conducted in cooperation with the police through a pilot trial using two police officers allocating 20% of their overall time. The outcomes of this trial will then be used to calculate the costs of expansion and as evidence to support efforts to expand the scope of enforcement in further areas with additional forces. A further advantage of working with the police is that the specially trained officers will be able to enforce a wider set of regulations in addition to the drivers' hours issue. It is difficult to put a value on this secondary variable but it is likely to have a positive outcome for Highways England.

The overall cost of implementing Option 4 (DH1 and DH2) will be **£68,131**.

Priority List of Interventions

The following table presents all of the agreed interventions for each of the three workstreams (e.g. Diesel spills, tyre management and drivers' hours) and puts these in order of priority by Benefit Cost Ratio (BCR) number.

Order of Priority	Ref	Intervention Name	BCR Number
1	DH2	Enhanced Police Enforcement Pilot	7.8
2	DH1	Best Practice Guides / Awareness Campaigns	5.3
3	DS1	Develop diesel spillage guidance for operators and raise awareness of best practice procedure	5.2
4	TM2	Continue roll-out of tyre checking facilities	5.0
5	DS2	Identify most effective product(s) for treating diesel spills through trialling and train traffic officers in their use	2.4
6	TM1	Debris management	1.4



Introduction

01

1. Introduction

Background

The strategic road network (SRN) whilst only constituting 2.4% of England's road network, carries 67% of its freight traffic and incidents on the SRN have a significant and disproportionate effect in terms of network disruption and severity of Personal Injury Collisions (PIC). Reducing the frequency and impact of commercial vehicle incidents is therefore vitally important in helping Highways England deliver a more free-flowing network to support economic growth and drive forward plans to deliver a safer road network.

The Commercial Vehicle Incident Prevention Team (CVIPT) identified through previous work, pilots and monitoring of Commercial Vehicle data, a number of interventions which were believed to have a significant and protracted impact on the SRN. These have been further developed by AECOM and presented to Highways England in the Initial Goods Vehicle Incident Prevention Intervention reports which covered the areas of tyre management, diesel spillages and drivers' hours.

As part of the ongoing support AECOM has been asked to produce detailed and comprehensive business cases, implementation plans and a lessons learnt evaluation report. This can be used by Highways England to help lower the number of casualties, killed or seriously injured (KSI) on the SRN, as well as reduce disruption to the network by restoring it to normality at the earliest opportunity.

Methodology

The approach used to undertake this piece of work comprised of three phases as follows:

1. Phase 1 – Production of business case (the full business case is included in Section 5)

AECOM has worked alongside PA Consulting to produce Business Cases for each of the three workstreams (Tyre management, diesel spillages and drivers' hours).

Each business case has been based on the agreed proposals and recommendations following the initial intervention reports review meeting. They provide justification for the financial investment for each intervention, the objectives, benefits, risks, costs and value for money and provide a recommendation on the viability of each project at each stage.

2. Phase 2 – Implementation plan (the full implementation plan is included in Section 4)

A series of implementation plans for the proposals which Highways England wish to take forward have been produced. These plans communicate changes and proposals to both internal and external stakeholders and facilitate the transfer of knowledge developed for Highways England.

3. Phase 3 – Lessons learnt evaluation (the lessons learnt evaluation is included in Section 3)

An evaluation of the work areas has been conducted to contribute to lessons learnt which enable benefits realisation for Highways England.



Key Findings and Recommendations

02

2. Key Findings and Recommendations

A number of key findings and recommendations can be drawn from the three business cases and implementation plans.

Of the suggested interventions that were proposed within the drivers' hours initial intervention report, Highways England has decided to move forward with the following two recommendations:

Agreed interventions and timescale for implementation

Ref	Group	Proposed Approach	Timescale
DH1	Best Practice Guides / Awareness Campaigns	1. Develop a good practice guide and raise level of awareness / education for drivers and operators	Short (3 - 6 Months)
		2. Develop guidance for operators focusing on the benefits of using computerised route planning software as a means of instructing drivers' when and potentially where to take breaks	Short (3 - 6 Months)
		3. Investigate reasons for drivers taking tachograph breaks on the hard shoulder and develop an awareness / education campaign for drivers	Short (6 Months)
DH2	Enhanced Police Enforcement Pilot	1. Identify all training courses that are available and which courses benefit the police officer the most with a view to providing funding. This should initially be rolled out as a pilot aiming to enhance the levels of police enforcement in one area of the SRN	Medium (9 Months)
		2. HE to fund enhanced levels of Police enforcement in one area of SRN – e.g. Lancashire and Greater Manchester CVU's as they are keen on enforcement – Drivers' hours rules and tachograph fraud (i.e. switches). Then potentially roll out to other parts of the SRN	Medium (9 – 12 Months)

DH1 – Best Practice Guides / Awareness Campaigns

Issue

Drivers taking breaks on the hard shoulder is a growing issue and there is also a lack of evidence detailing why drivers are doing this. The Closure Code Database shows that 2797 drivers took a tachograph break on the hard shoulder in 2013 and 2014. It is thought that in many cases drivers have finished their break before they are challenged and hence true numbers are unknown.

Stakeholder consultation with Heavy Goods Vehicle (HGVs) operators conducted as part of this study revealed that 76% of respondents manually plan routes and only 41% are ensuring there are suitable rest in which drivers can take their breaks. It was also highlighted that Senior Police do not prioritise commercial vehicle enforcement, due to having higher priorities.

Solution

Firstly Highways England might consider developing a guidance document that outlines a best practice approach to drivers' hours regulations and advice to drivers on the dangers of driving while tired. It should also highlight the dangers and penalties of taking breaks on the hard shoulder.

Further to this, the guidance could outline the merits of using computerised routing software to prevent unnecessary mileage when looking for suitable parking and potentially incurring driving infringements.

Secondly, Highways England should develop guidance for operators focusing on the benefits of using computerised route planning software as a means of instructing drivers when and potentially where to take breaks.

The materials could be carried by Highways England Traffic Officers, who could distribute to HGV drivers and be translated into a number of European languages.

Finally, Highways England should investigate the reasoning for drivers taking tachograph breaks on the hard shoulder as currently there is no information recorded by Highways England Traffic Officers or the Police when they attend these types of incidents.

DH2 – Enhanced Police Enforcement Pilot

Issue

A lack of Police funding coupled with a low level of knowledge of commercial vehicle operations is leading to low levels of drivers' hours enforcement particularly in certain parts of the UK. A lack of drivers' hours training for the Police means that without the necessary training it is impossible for a police officer to identify offences effectively. There is also a lack of training capacity for courses covering drivers' hours regulation and tachograph analysis.

Smart motorways are causing issues with DVSA enforcement as the variable speed limits mean that it is technically illegal for them to intercept and pull over HGVs when a variable speed limit is in place. The issue of variable speeds on SMART motorways is only going to get worse in the future as more and more of the Highway's England network is upgraded.

Solution

The first step that Highways England could take to solve these problems is to identify relevant training courses available covering drivers' hours regulation and tachograph analysis. Consideration should be given to the quality, cost and duration of the training course. As part of this study, stakeholder engagement has already taken place with Cheshire CVU and Greater Manchester Police (see Section 4, Annex 1 and 2). Following this initial research, a gap analysis should be conducted to identify police forces where more training provision may be required.

Based on the recommendation from the training gap analysis, Highways England could provide funding for Police training. Highways England should use the DVSA and Police HGV load security training model that was previously implemented. A forum was also used for this training programme with industry representation.

Secondly, Highways England could provide funding to the Police in return for targeted enforcement in certain areas (i.e. drivers' hours and tachograph infringements). The trial concept is to appoint and train two police officers in certain aspects of commercial vehicle law either on a full or part time basis. Their record of enforcement would then be assessed over a 12 month period. The success ratio would include key performance indicators such as number of HGV drivers engaged in discussion, the number of items of literature distributed and the number of penalties issued, be it warnings, fines or points on licences. The officers would be asked to do enforcement in the full range of traffic related matters but specifically target and record information in the following areas which all relate to safety;

- Drivers' hours infringements
- Road worthiness
- Overloading

- Load security

Two options have been explored by the project team. These options are as follows:

- Option 1: Employ two officers part-time who would allocate 20% of their overall time to this intervention at hard charging rate
- Option 2: Employ two officers full-time (e.g. 45 weeks per year (factors in holidays etc.), five days per week) This amounts to 450 working days which could be shared in different ways, either just for two people or across a wider number of interested officers

Option 1 has been used to calculate the manpower costs in the business case (Section 5) however, the percentage of time allocated by each officer is scalable and would be dependent on both Highways England's needs and the ability of the selected police force to commit resource.

The trial could also include the use of the Highways England, tractor unit which is available for different police forces to use. This vehicle could be deployed for the equivalent of 20 shifts during the trial year to establish the level of success of use on enforcement. It is understood that the vehicle is rent free and the only costs that relate to the police force would be for the fuel and insurance.

Initial investigation suggests that the Cheshire and Hampshire Commercial Vehicle Units business models represent good examples which could be replicated for this enhanced level of Police enforcement as they operate in busy areas of the network, have high levels of current enforcement and have CVUs already present, trained and well established.

The outcomes of this trial could be used to calculate the costs of expansion as evidence to support efforts to expand the scope of enforcement in further areas with additional forces. A further advantage of working with the Police is that the specially trained officers will be able to enforce a wider set of regulations in addition to the drivers' hours issue. It is difficult to put a value on this secondary variable but it is likely to have a positive outcome for Highways England.

Highways England might also consider running this pilot alongside the planned Weigh in Motion (WiM) pilot due to commence later this year (17/18). The WiM site earmarked for this pilot is located close to Junction 27 on the M6. This falls within Lancashire Police's area of jurisdiction. Highways England is planning on working closely with DVSA during this pilot and they have a check site based in Charnock Green. The idea is that any vehicle passing over the WiM arrays found to be overweight would be flagged up to DVSA who would then direct the vehicle to the check site for further investigation. As a general point the Police could assist in the 'pulling over' of vehicles as DVSA are not allowed to break the speed limit (50m.p.h) in Smart Motorway sections of the SRN and they could also conduct drivers' hours rules and tachograph fraud analysis at a check site.

Results from the Business Case

Sensitivity analysis

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The costs and assumptions attached to DH1 and DH2 and provided in the tables below:

DH1 - 2017 Costs non-discounted

Ser	Activity	Yr3 (17/18)	Yr 4 (18/19)	Yr5 (19/20)	Total	Comments
(a)	(b)	(e)	(f)	(g)	(h)	(i)
	Resource RPI inflation rate	3.30%	2.50%	2.50%		Ref:HE efficiency and inflation monitoring manual
1	DH1 Information campaign					
1.1	Printed production costs	£1,500	£1,538	£1,576	£4,613	Assumed cost based on web research for 5000 pamphlets annually for design and production. Rates inflated at RPI.
1.2	Printed distribution costs	£2,500	£2,563	£2,627	£7,689	Assumption based on approx. £50 per 1000 leaflets targeted delivery annually
1.3	Translation costs	£700	£0	£0	£700	Translation into French, German, Spanish, Italian, Polish, Hungarian and Romanian @ £100 per translation
1.4	Resources (incl T&S)		£0	£0	£0	Assumes 2 months of resource to research if guides already exist or develop new ones
1.5	Video material production costs	£2,500	£0	£0	£2,500	Assumed costs for 1 x video production. Rates inflated at RPI. source(http://www.videomybusiness.co.uk)
1.6	Web production and hosting costs	£1,000	£1,025	£1,051	£3,076	Assumes internal costs using existing HE website
1.7	Public performance licences	£225	£231	£236	£692	Based on PPL tariff for business of 951-1000m2
1.8	Resources (incl T&S)	£9,000	£0	£0	£9,000	Assumes 1 month resource to develop awareness doc
2	Data collection for drivers taking breaks on hard shoulders					
2.1	Multi-agency co-operation costs	£0	£0	£0	£0	
Annual totals		£17,425	£5,356	£5,490	£28,270	

DH2 - 2017 Costs non-discounted						
Ser	Activity	Yr3 (17/18)	Yr 4 (18/19)	Yr5 (19/20)	Total	Comments
(a)	(b)	(e)	(f)	(g)	(h)	(i)
	Resource RPI inflation rate	3.30%	2.50%	2.50%		Ref:HE efficiency and inflation monitoring manual
1	DH2 - Police training identification enhancement					
1.1	Cost of training analysis funding selected course for trial	£1,700	£0	£0	£1,700	
1.2	Funding selected course for trial	£4,000	£0	£0	£4,000	Cost of training delivery
2	Sub total	£5,700	£0	£0	£5,700	
3	DH2 - Enforcement for selected Police Force as pilot scheme					
3.1	Tachograph purchases	£1,000	£0	£0	£1,000	Assumes 1 x machine per team
3.2	tachograph licences	£1,000	£0	£0	£1,000	Assumes Inelo licence will be bought at start of the current FY.
3.3	Training costs	£2,000	£0	£0	£2,000	Assuming 2 x officers and that training could be done before end of current FY
3.4	Manpower costs (hard charging)	£30,000	£0	£0	£30,000	Assuming 2 x officers. Also assume that they are allocated 20% of their overall time to this intervention at Hard Charging rate.
3.5	Vehicle costs (running and maint)	£4,000	£0	£0	£4,000	Assuming 1 x vehicle with 2 x officers. Also assume that vehicle costs are allocated 20% of overall time to this intervention at Hard Charging rate.
4	sub total	£38,000	£0	£0	£38,000	
	Annual totals	£39,861	£0	£0	£39,861	

The following benefits have been attached to DH1 and DH2:

DH1 Benefits

Ser	Previous Atkins Reference	Tranche Reference	Division	In progress	Reference	Yr3 (17/18)	Yr 4 (18/19)	Yr5 (19/20)	Total	Comment
(a)	(b)	(c)	(d)	(e)	(f)	(i)	(j)	(k)	(m)	
KSI Benefits										
1	Road user knowledge and attitudes									
1.1	Comms	4	CO	No	GVI12	£658,294	£0	£0		
1.2	% benefits for this intervention =					10.0%	£65,829	£0	£0	£65,829
2	Goods Vehicle driver behaviours									
2.1	Legislation	2	CO	No	GVI45	£93,052	£98,139	£103,605	£294,796	
2.2	% benefits for this intervention =					10.0%	£9,305	£9,814	£10,361	£29,480
3	% benefits allocated Total						£75,135	£9,814	£10,361	£95,309
Delay Benefits as vehicle hour saving										
4	Road user knowledge and attitudes									
4.1	Comms	4	CO	No	GVI12	£362,554	£0	£0		
4.2	% benefits for this intervention =					15.0%	£54,383	£0	£0	£54,383
5	Goods Vehicle driver behaviours									
5.1	Legislation	2	CO	No	GVI45	£0	£0	£0	£0	
5.2	% benefits for this intervention =					15.0%	£0	£0	£0	£0
6	% benefits allocated Total						£54,383	£0	£0	£54,383
Total % Benefit allocated						£129,518	£9,814	£10,361	£149,692	

DH2 Benefits

Ser	Previous Atkins Reference	Tranche Reference	Division	In progress	Reference	2017	2018	2019	Total	Comment
(a)	(b)	(c)	(d)	(e)	(f)	(i)	(j)	(k)	(m)	
KSI Benefits										
1	Road user knowledge and attitudes									
1.1	Comms	4	CO	No	GVI12	£362,554	£0	£0		
1.2	% benefits for this intervention =					20.0%	£72,511	£0	£0	£72,511
2	Goods Vehicle driver behaviours									
2.1	Legislation	2	CO	No	GVI45	£93,052	£98,139	£103,605		
2.2	% benefits for this intervention =					33.0%	£30,707	£32,386	£34,190	£97,283
3	% benefits allocated Total						£103,218	£32,386	£34,190	£169,794
Delay Benefits as vehicle hour saving										
4	Road user knowledge and attitudes									
4.1	Comms	4	CO	No	GVI12	£362,554	£0	£0		
4.2	% benefits for this intervention =					33.0%	£119,643	£0	£0	£119,643
5	Improve vehicle selection process									
5.1	RnD	2	CO	No	GVI16	£58,064	£60,328	£0		
5.2	% benefits for this intervention =					16.5%	£9,581	£9,954	£0	£19,535
7	Goods Vehicle driver behaviours									
7.1	Legislation	2	CO	No	GVI45	£0	£0	£0		
7.2	% benefits for this intervention =					33.0%	£0	£0	£0	£0
8	% benefits allocated Total						£129,223	£9,954	£0	£139,178
Total % Benefit allocated						£232,441	£42,340	£34,190	£308,971	

Recommended Option

The recommendation is Option 4, to deliver a combined approach to influencing and enforcing driver's hour's compliance on the SRN. This is best achieved through delivery of a behavioural change campaign aimed at changing driver/operator awareness and behaviours, backed up by a proposed solution to reinforce this awareness through an enhanced drivers' hours enforcement programme.

This programme will be conducted in cooperation with the police through a pilot trial. The outcomes of this trial will then be used to calculate the costs of expansion as evidence to support efforts to expand the scope of enforcement in further areas with additional forces. A further advantage of working with the police is that the specially trained officers will be able to enforce a wider set of regulations in addition to the driver's hours issue. It is difficult to put a value on this secondary variable but it is likely to have a positive outcome for Highways England.

The overall cost of implementing Option 4 (DH1 and DH2) will be **£68,131**.



Lessons Learnt Evaluation

03

3. Lessons Learnt Evaluation

In this section, we have conducted an evaluation of lessons learnt during the course of the project. This includes issues, which we discovered during the project and how these can be addressed, providing value to Highways England.

Section Content Summary

Area	Sub-area
Data	<ul style="list-style-type: none"> • Management • Sharing
Foreign Vehicles	<ul style="list-style-type: none"> • Enforcement • Knowledge • Data
Drivers Hours	<ul style="list-style-type: none"> • Non-emergency use of the hardshoulder • Enforcement • Tachograph Fraud

Lessons Learnt

Data

Highways England, Police and DVSA all have useful data relating to commercial vehicles however, it is not being managed and shared at present in order to provide the maximum benefits.

Internally, Highways England has a number of separate data sets that are all useful but could be better managed. Further to this, the Police have data for each force but consultation suggests that for commercial vehicles there is no central database.

Data is a very powerful tool for making informed decisions and supporting enforcement efforts. There are significant benefits to the better management of data internally and sharing between different agencies.

- Consider data gaps that can be addressed
- Develop a data sharing agreement with other relevant agencies

Foreign Vehicles

During the course of the project, we have learnt a number of things specifically relating to foreign operators and drivers.

Data suggests that compliance levels among foreign operators are lower than those of GB operators. As an example, DVSA found that 42% of foreign vehicle tachograph records would be subject to a fixed penalty compared to 28% for GB vehicles.

As well as poorer levels of compliance, there are issues with enforcing against foreign operators, as the Traffic Commissioners do not have jurisdiction over them. Foreign drivers are made to pay fixed penalties on the day of the offence whereas if UK operators they would have 28 days to make the payment.

- Review existing data and improve quality of data collected
- Work with enforcement agencies to improve enforcement against foreign operators
- Educate foreign drivers on UK motorway usage

Drivers' Hours

Non-Emergency Hardshoulder Use

Drivers are regularly taking drivers' hours breaks on the hardshoulder. Highways England recorded almost 3000 instances of this during 2013-14 however, the actual number of incidents is unknown as many drivers may finish their break before Highways England respond.

Possible reasons for this include severe/unexpected congestion, lack of understanding (particularly from foreign drivers), lack of parking provision at service areas, lack of planning of breaks during route planning.

- Investigate the reasons for inappropriate use of the hardshoulder further
- Develop a best practice guide
- Promote the use of Computerised Vehicle Routing Software (CVRS)

Enforcement

Research shows that the current approach to drivers' hours enforcement is not consistent between different regions. The number of checks undertaken varies significantly between different Police Forces, while DVSA enforcement efforts are focused in particular areas and intelligence based.

Following consultation with enforcement bodies, we have also found that Police data does not feed into the DVSA intelligence based method of targeting operators (OCRS).

There is a suggestion that current penalties are not severe enough for breaking drivers' hours rules and committing tachograph fraud.

There is potential for Highways England to fund increased drivers' hours enforcement on their network and this model of funding enforcement already exists.

- Identify Police appetite for increased drivers' hours enforcement
- Fund police training so that more police officers have the expertise necessary (similar to the load security training model)
- Consider running a pilot in one area in order to demonstrate the benefits to other forces
- Consider increasing penalties

Tachograph Fraud

During the course of the project, we discovered that methods of tachograph fraud are becoming increasingly sophisticated and more difficult to detect. In the past, magnets were used for this purpose and although they are still found by enforcement agencies, much more sophisticated methods are now being used with devices built into the vehicle systems. These devices are increasingly hard to detect and constantly evolving.

Given the increasingly complex devices being used, there is a need for knowledge sharing and a more targeted approach from enforcement agencies. Given the differences between regions, there is clearly a need for a joined up strategy.

- Knowledge sharing between enforcement bodies in the UK and Europe (e.g. TISPOL)
- Targeting of manufacturers of devices as well as users



Implementation Plan

04

4. Implementation Plan

Drivers' Hours Interventions Implementation Plan

This section outlines two interventions for how the number of drivers' hours incidents on the SRN can be reduced. Each intervention comprises of a number of sub-tasks and each of the sub-tasks has been allocated timescales for implementation.

The recommended interventions have been collated into the following groups:

- Best practice guides and raising awareness
- Pilot study

The table below presents two interventions that Highways England might consider moving forward with:

Ref	Group	Intervention	Timescale
DH1	Best Practice Guides / Awareness Campaigns	1. Develop a good practice guide and raise level of awareness / education for drivers and operators	Short (3 - 6 Months)
		2. Develop guidance for operators focusing on the benefits of using computerised route planning software as a means of instructing drivers' when and potentially where to take breaks	Short (3 - 6 Months)
		3. Investigate reasons for drivers taking tachograph breaks on the hard shoulder and develop an awareness / education campaign for drivers	Short (6 Months)
DH2	Enhanced Police Enforcement Pilot	1. Identify all training courses that are available and which courses benefit the police officer the most with a view to providing funding. This should initially be rolled out as a pilot aiming to enhance the levels of police enforcement in one area of the SRN	Medium (9 Months)
		2. HE to fund enhanced levels of Police enforcement in one area of SRN – e.g. Lancashire and Greater Manchester CVU's as they are keen on enforcement – Drivers' hours rules and tachograph fraud (i.e. switches). Then potentially roll out to other parts of the SRN	Medium (9 – 12 Months)

Detailed write-ups of what the interventions involve, what has led to their creation and how they can be implemented are provided overleaf:

DH1 Best practice guides / Awareness campaigns

Issues

- Drivers taking breaks on hard shoulder. There is also a lack of evidence showing why drivers are doing this, and the number of occurrences
- Operators manually planning routes and not considering suitable parking areas for their routes
- Senior Police do not prioritise commercial vehicle enforcement, due to having higher priorities

Evidence

- Closure Code Database showing that 2797 drivers took a tachograph break on hard shoulder in 2013 and 2014. It is thought that in many cases drivers have finished their break before they are challenged and hence true numbers are unknown
- 76% of respondents manually planned routes
- Only 41% of operators ensure there are suitable rest areas on route

1. Develop a good practice guide and raise level of awareness/education for drivers and operators

Highways England might consider developing a guidance document that outlines a best practice approach to drivers' hours regulations and advice to drivers on the dangers of driving while tired. It should also highlight the dangers and penalties of taking breaks on the hardshoulder.

Further to this, the guidance could outline the merits of using computerised routing software to prevent unnecessary mileage when looking for suitable parking and potentially incurring driving infringements.

Highways England should develop any guidance in conjunction with existing guidance material that is available and use trade associations and other relevant organisations to help distribute the guidance materials (e.g. DVSA, FTA, RHA, CILT and FORS).

The materials could be carried by Highways England Traffic Officers, who could distribute to HGV drivers and be translated into a number of European languages.

The drivers' hours best practice guide may include the following elements:

- The responsibilities of the driver with regards to managing their own drivers' hours and maintaining vehicle records
- A summary of the drivers' hours rules (e.g. Driving, breaks and rest) for both EU and working time directive
- Tachograph modes and how they apply
- Best practice procedures with regards to downloading the driver card and what to do if the card is lost or stolen

It is important to note that there are various pieces of existing material which should be used to develop the contents of the guidance. There is no point in creating new material if some already exists.

Summary of elements:

- a) Consult relevant stakeholders such as Traffic Commissioners, FTA, RHA, DVSA, FORS, Police and gather existing material
- b) Develop preliminary best practice guide and obtain feedback from stakeholders
- c) Translate into multiple languages

- d) Raise awareness of best practice procedure via FTA, RHA, FORS, trade fairs etc.
- e) Enforce on network

2. Develop guidance for operators focusing on the benefits of using computerised route planning software as a means of instructing drivers' when and potentially where to take breaks.

Evidence shows that the majority of operators manually plan their routes and under half ensure that there are suitable rest areas on route. This is against best practice, therefore guidance material should be developed for operators focusing on the benefits of using computerised route planning software and ensuring suitable rest areas are available on routes.

The guidance material should take the form of a short booklet and a summary presentation providing information relevant to both transport managers and drivers. The presentation should be designed to allow transport managers to use it to conduct driver briefings to help communicate the message.

Summary of elements:

- a) Collate information on computerised route planning software
- b) Collate information on examples of software that can be used to plan routes
- c) Develop the guidance document and any supporting materials
- d) Develop summary presentation material facilitating an easy to use briefing pack for the transport managers to enable them to conduct briefings
- e) Decide how the guidance document is to be distributed – e.g. RHA, FTA, FORS etc.
- f) Distribute guidance material to industry

3. Investigate reasoning for drivers taking tachograph breaks on the hard shoulder and develop and awareness / education campaign for drivers

A project should be conducted to investigate the reasoning for drivers taking tachograph breaks on the hard shoulder. Currently there is no information recorded by Highways England Traffic Officers or the Police when they attend these types of incidents.

When the Commercial Vehicle Unit in Kent find a driver (often 2 or 3 trucks together) parked on the hard shoulder they move them onto the next service station where they can be dealt with appropriately. Therefore a joint operation between the Highways England and the police could help to identify the reasons why drivers are parking on the hard shoulder.

Once the main reasons are identified appropriate awareness campaigns can be developed to improve awareness and educate drivers of suitable parking areas for their trucks. Any awareness campaign should be translated into European languages common to truck drivers (e.g. Polish, German, Austrian etc.) so these drivers are covered by the campaign.

The awareness campaign could use variable message signage and leaflets to educate truck drivers that it is illegal to park on the hard shoulder and educating them of how to deal with unforeseen circumstances (i.e. they are allowed to go over their hours so long as they follow the correct procedure).

Highways England Traffic Officers could hand out leaflets outlining laws and where to find appropriate parking facilities when they find a driver parked on the hard shoulder. Motorway Buddy could be used for this.

Other ideas to consider as part of this intervention are:

- Explore the potential to outline rules / educational messages on the road levy receipt in different languages
- Reinstate the Highways England Traffic radio station or use other radio stations to communicate messages to drivers on the SRN (similar to 'Red X' campaign)

- Have signs (pictogram) in laybys which deter drivers from having tacho breaks on the hard shoulder

Summary of elements:

- a) Agree mechanism to record the reason for drivers parking on the hard shoulder
- b) Agree incident details to be recorded
- c) Instruct Highways England Traffic officers and the Police to record the data
- d) Analyse data collected
- e) Decide what documents / leaflets are to be included in the awareness campaign
- f) Develop the awareness campaign for truck drivers
- g) Translate the awareness campaign into foreign languages
- h) Explore potential to use part of the road levy receipt for communicating the awareness messages to drivers
- i) Explore potential to reinstate the Highways England traffic radio station

DH2 Enhanced police enforcement pilot

Issues

- A lack of Police funding is leading to low levels of drivers' hours enforcement particularly in certain parts of the UK
- Lack of drivers' hours enforcement by the Police due to a low level of knowledge of commercial vehicle operations
- Lack of drivers' hours training for Police. Without the necessary training it is impossible for a police officer to identify offences effectively
- Also a lack of training capacity for courses covering drivers' hours regulation and tachograph analysis
- Lack of drivers' hours enforcement by the Police due to a low level of interest and lack of training in commercial vehicles
- Tacho fraud methods are always changing and becoming more advanced
- Smart motorways are causing issues with DVSA enforcement as the variable speed limits mean that it is technically illegal for them to intercept and pull over HGVs when a variable speed limit is in place. This is causing some DVSA sites to close (e.g. Sandbach) as they are no longer effective for enforcement purposes.
- The issue of variable speeds on SMART motorways is only going to get worse in the future as more and more of the Highway's England network is upgraded
- Infrastructure investment on the network (i.e. SMART motorways) is having detrimental effects on the level of enforcement that can be conducted
- Tachograph fraud (i.e. magnets, switches etc.) is becoming very complex and is therefore difficult to identify and enforce against
- Discussions with DVSA, Police, former Police Traffic Officers have highlighted that DVSA cannot legally stop vehicles on Smart Motorways when a variable speed limit is applied

Evidence

- Findings from Police and DVSA interviews
- Police stated that enforcement on commercial vehicles is only conducted by officers that have an interest in the area
- Some police forces stated that there are only a few training centres in the UK that offer training on drivers' hours regulation and tachograph analysis
- Levels of enforcement activity within the Police vary considerably dependant on the level of interest and training of officers
- Police resourcing issues have been identified for vehicle enforcement along with Police training issues and approval to issue PG9 vehicle prohibitions

1. Identify all training courses that are available and which courses benefit the police officer the most with a view to providing funding. This should initially be rolled out as a pilot aiming to enhance the levels of police enforcement in one area of the SRN

The first step is to identify all of the relevant training courses available covering drivers' hours regulation and tachograph analysis. Consideration should also be given to the quality of the courses, how long they would take to deliver and how much they would cost. As part of this study stakeholder engagement has already taken place with Cheshire and Greater Manchester Police CVU's. These can be viewed below in Annex 1 and 2.

Following this initial research gap analysis should be conducted to identify police forces where more training provision may be required.

Based on the recommendation from the training gap analysis Highways England could provide funding for Police training. Highways England should use the DVSA and Police HGV load security training model that was previously implemented. A forum was also used for this training programme with industry representation.

Summary of elements:

- a) Consult with Police forces, and training providers to identify all training courses available across England – This should include a breakdown of cost, duration, capacity etc.
- b) Identify which Police forces are currently utilising the training
- c) Create database / guidance of available courses and make this accessible by the Police
- d) Conduct gap analysis to identify:
 - Which police forces require training
 - Geographical areas where training / training providers is lacking
 - Topics that are not widely covered but need to be
- e) Agree training that is most useful and cost effective – findings from training research intervention can be used for this.
- f) Identify Police Forces that are in need of training
- g) Agree funding arrangement / requirements – consider using the DVSA and Police HGV load security training model

2. Pilot – Highways England to fund enhanced levels of Police enforcement in one area of SRN – e.g. Cheshire / Hampshire Police CVU's as they are keen on enforcement – Drivers' hours rules and tachograph fraud (i.e. switches). Then potentially roll out to other parts of the SRN

Highways England could provide funding to the police in return for targeted enforcement in certain areas (i.e. drivers' hours and tachograph infringements). The trial concept is to appoint and train two police officers in certain aspects of commercial vehicle law either on a full or part time basis. Their record of enforcement could then be assessed over a 12 month period. The success ratio would include key performance indicators such as number of HGV drivers engaged in discussion, the number of items of literature distributed and the number of penalties issued, be it warnings, fines or points on licences. The officers would be asked to do enforcement in the full range of traffic related matters but specifically target and record information in the following areas which all relate to safety;

- Road worthiness
- Load security
- Overloading
- Drivers' hours infringements

Two options have been explored by the project team thus far. These options are as follows:

- Option 1: Employ two officers part-time who would allocate 20% of their overall time to this intervention at hard charging rate
- Option 2: Employ two officers full-time (e.g. 45 weeks per year (factors in holidays etc), five days per week) This amounts to 450 working days which could be shared in different ways, either just for two people or across a wider number of interested officers

Option 1 has been used to calculate the manpower costs in the business case (Section 5) however, the percentage of time allocated by each officer is scalable and would be dependent on both Highways England's needs and the ability of the selected police force to commit resource.

The trial could also include the use of the Highways England tractor unit which is available for different police forces to use. This vehicle could be deployed for the equivalent of 20 shifts during the trial year to establish the level of success of use on enforcement. It is understood that the vehicle is rent free and the only costs that relate to the police force would be for the fuel and insurance.

The outcomes of this trial could be used to calculate the costs of expansion and as evidence to support efforts to expand the scope of enforcement in further areas with additional forces. A further advantage of working with the police is that the specially trained officers will be able to enforce a wider set of regulations in addition to the drivers' hours issue. It is difficult to put a value on this secondary variable but it is likely to have a positive outcome for Highways England.

Highways England might also consider running this pilot alongside the planned Weigh in Motion (WiM) pilot due to commence later this year (2017/ 2018). The WiM site earmarked for this pilot is located close to Junction 27 on the M6. This falls within Lancashire Police's area of jurisdiction. During this pilot Highways England is planning on working closely with DVSA who have a check site based in Charnock Green. The idea is that any vehicle(s) passing over the WiM arrays found to be overweight would be flagged up to DVSA who would then direct the vehicle to the check site for further investigation. The Police could assist in the 'pulling over' of vehicles as DVSA are not allowed to break the speed limit (50m.p.h) in Smart Motorway sections of the SRN and they could also conduct drivers' hours rules and tachograph fraud analysis at the check site

Any roll out of this intervention should be targeted and carefully monitored through a Service Level Agreement (SLA) to maximise any return on investment. The following aspects should be taken into consideration when considering police forces to conduct the pilot.

- **Busy parts of the road network** – This will ensure that sufficient commercial vehicles are present to allow effective targeted enforcement
- **Police forces which have a large proportion of motorways in their jurisdiction** – This will help to ensure that investment in enhanced police resource is maximised
- **Police forces which have large ports within their jurisdiction** – Evidence shows that truck drivers on long journeys are more likely to be at or near their maximum driver hours and hence more likely to be tired
- **Police forces with well-established CVU's** - This would provide support and on the job training to any new recruits and also ensure that the resource is used predominantly for commercial vehicle enforcement

Initial investigation suggests that the Cheshire and Hampshire Commercial Vehicle Units business models represent good examples which could be replicated for this enhanced level of Police enforcement as they operate in busy areas of the network, have high levels of current enforcement and have CVU's already present, trained and well established.

Key performance indicators (KPIs) should also be outlined as part of the SLA to enable clear targets to be set and monitored.

Summary of elements:

- a) Identify suitable police forces
- b) Gain buy-in from identified police forces
- c) Agree police force to conduct pilot study
- d) Agree number of officers to be recruited
- e) Agree enforcement areas to concentrate on
- f) Agree targets / KPIs for the police force to meet
- g) Monthly progress meeting / report to be provided against agreed targets
- h) Assess success of pilot using findings from progress meetings / reports
- i) Decide if the intervention should be rolled out to other areas of the SRN

Annex 1 – Drivers' hours pilot study - Question and answer session with Greater Manchester Police

1. Would you be interesting in taking part in the drivers' hours enforcement pilot study?
GMP said yes but they don't have a dedicated CVU anymore so couldn't commit to being in full time as they now have other commitments.
2. What training would be needed in order to make this a reality? (e.g. drivers' hours enforcement training, prohibition training)
Training needed would be tachograph and drivers' hours, PG9 prohibition training and possibly the carriage of dangerous goods.
3. What would be the cost of this training? (I think Cleveland police have been quoted £6,000 to train 8 officers in drivers' hours enforcement from DVSA)
The last courses GMP ran were provided by a company in Gloucester called AiTS - it may be worth contacting them for up to date course prices.
4. How would this training be delivered and how long would it take?
Generally outside companies will attend individual forces and provide training. A digital and analogue tachograph and drivers' hours course is 8 days.
5. How many officers it would take to conduct the pilot?
2-4 officers would be sufficient for the purposes of the pilot study.
6. Could drivers' hours rules and tachograph fraud enforcement be done for part of an officers working week (e.g. 1 or 2 days) or would this take up a full week of an officers time?
Drivers' hours enforcement can be conducted on a day to day basis.
7. What would be the cost of a police vehicle used for the pilot?
A police motorway spec BMW X5 costs £38,626.
8. What would be the general recommended approach to delivering this pilot?
There are a number of ways of doing this but dedicating a number of days in the year might be an easy way of doing it, that way rather than just going out on patrol we can provide dedicated days of action. These can be intelligence led i.e. when we have an increase of HGVs on the road, ferry times and targeting repeat offenders.
9. What are the limitations on the benefits that could be realised if officers are unable to issue prohibitions?
GMP - From my experience hitting companies with financial penalties has an effect, what they are concerned with the most is can their vehicle continue the journey. Prohibitions have a huge effect as it disrupts their transport operation. If they know their vehicle will be prohibited they will try harder to comply.

Annex 2 – Drivers’ hours pilot study - Question and answer session with Cheshire CVU

1. Would you be interesting in taking part in the drivers’ hours enforcement pilot study?
At this moment we would have to decline in participation.

It is our concern, that should Cheshire participate in such a program with additional staffing, that it would be seen as a means of getting staff trained, but instead of allowing the staff to focus on HGV drivers’ hours enforcement, it would be seen as just another skill the officer would use on an ad-hoc basis or when it suited and would remain on a shift and not moved to create a larger Full Time CVU, and potentially could see the 2 full time CVU officers being moved to shifts to make up numbers and dilute the skills and knowledge base. At this time there is only 1 non CVU officer who shows any true interest in the subject matter.

To give you an example, when the current roads policing format was created 3 years ago, there were 5 shifts with a maximum of 15 officers on each shift, and a minimum of 12 on duty, this has now been cut back to 5 shifts of 11 officers with a minimum of 8 on duty.

2. What training would be needed in order to make this a reality? (e.g. drivers’ hours enforcement training, prohibition training)

Cheshire already have 2 officers fully trained in drivers’ hours legislation. To expand the number of officers qualified, they would need to attend the following required courses:

- Drivers’ Hours Legislation
- Analogue Tachographs and Chart Reading
- Digital Tachographs and Data Analysis.

3. What would be the cost of this training? (I think Cleveland police have been quoted £6,000 to train 8 officers in drivers’ hours enforcement from DVSA)

Cheshire Police have a preferred training provider - a company called AiTS. AiTS are the largest supplier of collision investigation and roads policing training in the UK and Ireland. They also specialise in providing training overseas. They have provided Tachograph related training to Cheshire Police for over 10 years. Each of the above areas are provided in a modular format.

- Drivers’ Hours Legislation - 2.5 days
- Digital Tachographs and Data Analysis 2.5 days
- Analogue Tachographs and Chart Reading TG1003 (3 days (2.5 with Legislation above))

Each of these courses costs £450 + accommodation + £22.50 IMI Registration per officer.

- The accommodation cost is £99 inc VAT per night for Dinner, Bed and Breakfast (Net £82.50 + VAT) for Standard rate Accommodation at the Blunsdon House Hotel. AiTS receive a preferential rate from the hotel, which is below the local government rate when they book the accommodation.

For 2 Officers to attend all 3 courses the total cost would be
3 Courses (£450 x 3) + 8 nights Accommodation (£99x8) + Course Registration (3 x £22.50) = £4418

4. How would this training be delivered and how long would it take?

The training is delivered at AiTS own offices based at South Cerney, Gloucestershire. They normally only deliver the courses once or at most 2 times a year.

5. How many officers it would take to conduct the pilot?

This would depend on how invested the force would agree to becoming. At present the force fully supports 2 Full time Commercial Vehicle Officers. To seek an increase in the full time establishment in the Commercial Vehicle Unit, it would have a cascade effect on a lower staffing level on normal Roads policing Teams, who in turn would have to recruit suitable officers. It would also need to take into consideration the depth of a pilot and its intended outcomes.

At this time the CVU officers conduct tachograph examination and control checks by use of a program called "Tachoscan Control" supplied by Inelo in Poland. The program is loaded onto each officer's personal issue Force Laptop and controlled by Single user Licence, so cannot be loaded onto multiple devices without multiple Licences being purchased. Initial licences, Installation and Training was provided by Inelo at a cost of £4800 for 2 officers

6. Could drivers' hours rules and tachograph fraud enforcement be done for part of an officers working week (e.g. 1 or 2 days) or would this take up a full week of an officers time?

The difficulty with selecting officers who would use these skills for 1 or 2 days a week, alongside their other duties, is as we have found, is that there are unplanned demands which occur during the shift or are planned for the following day, and the officer is abstracted away from HGV enforcement duties. With having a dedicated Commercial Vehicle Unit is that the level of abstraction is very low (1-2 days a month typically) so this allows for a better use of the officers key skills.

7. What would be the cost of a police vehicle used for the pilot?

Currently the CVU have a dedicated vehicle (Liveried BMW X5) based at the check site at Sandbach. The cost of running this vehicle is met by the day to day costings of Cheshire Police. This vehicle is part of the Roads Policing Fleet, and as such, when not used by the CVU is available for use by other Roads Policing officers.

The Annual cost for the vehicle used by the CVU is recorded as follows:

- Fuel: £7,300
- Maintenance: £5,100 (Based on 2015-16 figures when vehicle was in shared use and based at Congleton Police Station)

To consider the use of a Sponsored type vehicle, the following costs would be applicable:

The cost for purchasing and equipping a Police spec BMW X5 XDrive 3.0D is as follows:

- Vehicle: £29,000,
- Commissioning: £10,000,
- ANPR: Extra cost (The CVU do not use ANPR currently and consider it a blocker to effective HGV enforcement as very little Intelligence is submitted regarding HGV's, and anecdotally there are very few activations on the current fixed camera network along the SRN)

8. What would be the general recommended approach to delivering this pilot?

No comment

9. What are the limitations on the benefits that could be realised if officers are unable to issue prohibitions?

Historically, the last stated document from ACPO regarding Drivers' Hours Enforcement, was that Tachograph enforcement would not be undertaken by officers who had not been trained. Once an officer has been trained, they would be able to issue prohibitions. If an officer was aware of regulations and conducted a check, but detected a Current daily rest offence, they would not be able to immobilise the vehicle.

Trained and authorised officers within the CVU are able to immobilise vehicles for rest/driving offences, and also for non-payment of roadside deposits / penalty notices. The payment system for these Cable fees are payable direct to the police and as such utilise an online payments system from Barclaycard, and only CVU officers are authorised to complete payments via the system.

If an officer is not able to lawfully immobilise a vehicle, then assuming the offending driver was to pay the penalty notices, say within 30minutes of being reported for the offences, the officer has no options to ensure the driver observes the imposed rest period, and once the officer leaves the checksite/location of check there is nothing to prevent the driver from leaving in the vehicle.



Business Case

05

Appendix 2 – Drivers’ Hours Business Case



Highways England Business Case

Funding for drivers’ hours interventions

Document control**Document information**

Document title	Funding for drivers' hours interventions
Author	PA Consulting
Owner	John Walford
Distribution	AECOM
Document status	Final

Revision history

Version	Date	Description	Author
1	27/02/17	1 st Draft	PA Consulting
2	03/04/17	Final	PA Consulting

Reviewer list (consultation/concurrence)

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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Estates
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Information Communications Technology
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Programme/Portfolio Office

Document sign-off

Name	Signature	Title	Date of issue	Version
TBC	TBC	Project Manager	TBC	TBC
TBC	TBC	Senior Responsible Owner	TBC	TBC

References:

- A. Highways England Outline Business Case for the Commercial Vehicle Incident Prevention Programme (file reference) dated XXXX

1. Executive Summary

1.1 Introduction

This Business Case is derived from the strategic objectives outlined in Reference A. It seeks approval to invest **£68,131** to undertake the following activities:

Production of a good practice guide to raise operator and driver awareness to understand and comply with the drivers' hours legislation¹ and of the benefits of using computer based route planning to assist in the planning of where and when drivers should take their breaks.

Fund a trial in conjunction with a selected police force to enhance and increase the levels of monitoring and enforcement over a selected area for 12 months. The outcome of this trial will be used to provide the baseline evidence for a potential extension of the trial or roll out of the initiative to other forces.

1.2 Strategic Case

1.2.1 Strategic context

The strategic drivers for this business case have been developed from the Highways England Outline Business Case² for the Commercial Vehicles Programme. The overarching aim of the CVIP team to support Highways England's strategy is to '*Maintain incident management capability whilst developing and delivering a targeted, intelligence led commercial vehicle incident prevention programme*'.

1.2.2 The case for change

The SRN whilst only constituting 2.4% of England's road network, carries 67% of its freight traffic and incidents on the SRN have a significant and disproportionate effect in terms of network disruption and severity of Personal Injury Collisions (PIC). Reducing the frequency and impact of commercial vehicle incidents is therefore vitally important in helping Highways England deliver a more free-flowing network to support economic growth and drive forward plans to deliver a safer road network.

1.3.1 OBC options

The OBC outlined a set of 27 interventions that had been analysed and refined into three delivery streams – safer people, safer roads and communication enablers that would support the CVIP team strategy. Within these three work streams were recommendations for a number of intervention activities.

¹ Reference the drivers hours legislation

² Reference OBC

1.3.2 The refinement of the options

The OBC was written with the intention of delivery of these 27 interventions as part of a delivery plan. However, within these 27 interventions there are a number of interventions and proposals that are either the subject of stakeholder influence and/or case study activity that sit as project work, or stakeholder engagement activity and/or issues that require analysis or case studies. These activities therefore lack the clarity or detail required currently to be translated into a deliverable business case that focuses on a particular intervention from which clear deliverables can be determined.

The interventions have, as a result, been reviewed in order to identify outputs that can be delivered in the short/medium/long terms and these will be taken forward by the CVIP team as Business Case proposals in three focus areas:

- Drivers' hours interventions
- Diesel spillage interventions
- Tyre management interventions

In this Business Case the focus is on **Drivers' Hours interventions** for which the options for delivery are as follows:

Option 1 - Do nothing. This option changes nothing in terms of planned interventions to enforce drivers' hours beyond that which is already undertaken. Whilst there is therefore no increased cost, there are also no benefits that can therefore be derived from this option.

Option 2 – Run an information Campaign only. This option focuses on producing guides and information for drivers/operators to inform them of the impact of good drivers' hours management and of the use of aids in route planning to reduce incidents of HGV drivers using hard shoulders to undertake their compulsory driver breaks.

Option 3 – Trial and enhanced police enforcement pilot only. This option looks to carry out two activities. First to identify the training that would offer the best overall value to police undertaking this proposed activity and then to run a pilot enhanced enforcement scheme with a selected force to establish the cost and benefits, which could then be rolled out on a wider basis across a number of forces.

Option 4 – Combined information and enforcement. To undertake both activities outlined in Options 2 and 3 as a comprehensive approach to informing and enforcing compliance with drivers' hours among drivers and operators.

1.3.3 Key Findings

	Net Present Cost (Value) (£)
Option 1 – Do Nothing	As is
Non capital costs	As is
Risk retained	As is
Total Costs	As is
Less Non-cash releasing benefits	As is
Total	As is
	Net Present Cost (Value) (£)
Option 2 – DH1 Information campaign	
Non capital costs	£28,270
Risk retained	
Total Costs	£28,270
Less Non-cash releasing benefits	£149,692
Total	£121,422
	Net Present Cost (Value) (£)
Option 3 – DH2 Police pilot scheme	
Non capital costs	£39,861
Risk retained	
Total Costs	£39,861
Less Non-cash releasing benefits	£308,971
Total	£269,110
	Net Present Cost (Value) (£)
Option 4 – Combined approach	
Non capital costs	£68,131
Risk retained	
Total Costs	£68,131
Less Non-cash releasing benefits	£458,663
Total	£390,532

1.3.4 Sensitivity Analysis

Evaluation Results - based on 2010 discounted rates	Option 1 – Do Nothing	Option 2 – DH1 Information campaign	Option 3 – DH2 Police pilot scheme	Option 4 – Combined approach
Value Benefits (PVB) - Safety benefits only	As is	£149,692	£308,971	£458,663
Value Cost (PVC)	As is	£28,270	£39,861	£68,131
Net Present Value (NPV)	As is	£121,422	£269,110	£390,532
Benefit Cost Ratio (BCR)	0	5.3	7.8	6.7
Ranking	4	3	1	2

1.3.5 Preferred Option.

Overall, while Option 3 represents the best Value for Money (VfM) in term of pure cost as a single intervention, the additional impact and potential benefits of Option 4 (combining Options 2 and 3) is believed to better achieve the desired strategic outcomes that CVIP team hopes to achieve.

Therefore Option 4 (ranked 2) is the recommended option to be taken forward.

1.4 Commercial Case

1.4.1 The following goods and services are proposed to be contracted:

(2016 undiscounted price total with OB)	Costs (estimated)(PV)
Printed production costs	£4,613
Printed distribution costs	£7,689
Printed material translation ³	£700
Police pilot costs	£39,861

³ Translation of material into key overseas driver operator languages – French, German, Spanish, Italian, Polish, Romanian, Hungarian.

1.4.2 Agreed risk allocation and charging mechanism

The agreed risk assessment will require value attribution by the SES and any areas where risks involve commercial contract or engagement will require Highways England Commercial sign off.

1.4.3 Key contractual arrangements

Options 3 and 4 will require a SLA to be made with the selected Police force for the proposed pilot scheme and thereafter with those forces targeted for any expansion of the scheme. The charging mechanism will be in accordance with Highways England Commercial directives.

1.4.4 Agreed implementation timescales

The timescale for the options is as follows:

Option	Agreed timescale
Option 2 – DH1 Information campaign	6-9 months
Option 3 – DH2 Police pilot scheme	1 year
Option 4 – Combined approach	1 year

1.4.5 Accountancy treatment

The agreed accountancy treatment will be in line with the agreed Highways England Financial and TAME directives.

1.5 Financial Case

1.5.1 Financial expenditure

The financial implications of the preferred option are that the SLA and agreement for funding of the endorsed police pilot scheme will require agreement and approval for final budgetary spending figures that are currently only proposed in this business case. This is because these figures cannot be finalised until such agreements are in place.

The agreed funding can still only be the model for potential expansion as the associated costs in this case will require further SLA and agreements with the selected forces.

1.5.2 Financial expenditure

	Yr3 (17/18)	Yr4 (18/19)	Yr5 (19/20)	Total
Preferred choice:				
Cost	£57,286	£5,356	£5,490	£68,131
Benefit	£361,959	£52,154	£44,550	£458,663
Total	£304,673	£46,798	£39,061	£390,532

1.5.3 Overall affordability and balance sheet treatment

This proposal requires the cooperation of the selected Police force for the pilot trial and for formal agreement for commitment of resources and time through an SLA. Costs agreed will be managed in accordance with the financial direction of the Highways England SES Financial manager and the SES team.

1.6 Management Case

1.6.1 Project management arrangements

This project will be managed by the SES project team under the CVIP team. Overarching programme management will be conducted by SES PMO through the Programme Manager to the SRO. The Governance arrangements are laid out in Figure 2-1 of the OBC at Ref A.

1.6.2 Benefits and risk management

Benefits management process will be in accordance with existing Highways England Benefits Management directives.

Risk management

Risks have been identified and recorded in the SES risk registers. Risk ownership and delegation has been agreed with Highways England Commercial and escalation processes are managed in accordance with the Highways England Risk Management directive.

1.6.3 Post project evaluation arrangements

SES will conduct post project evaluation in accordance with the Highways England Programme Management directive.⁴

1.7 Recommendation

The recommendation is Option 4, to deliver a combined approach to influencing and enforcing drivers' hours compliance on the SRN. This is best achieved through delivery of an influence campaign aimed at changing driver/operator awareness and behaviours, backed up by a proposed solution to reinforce this awareness and behaviour through an enhanced drivers' hours enforcement programme.

This programme will be conducted in cooperation with the police through a pilot trial. The outcomes of this trial will then be used to calculate the costs of expansion and as evidence to support efforts to expand the scope of enforcement in further areas with additional forces.

Signed:

Date:

Senior Responsible Officer

CVIPT

⁴ The project control framework handbook v2 April 2013.pdf

2. The Strategic Case

2.1 Introduction

This Full Business Case (FBC) is for the provision of funding and support to deliver interventions aimed at improving awareness of drivers' hours regulatory requirements and then by enhancing enforcement through a pilot scheme with a selected police force with a view to further expansion to other areas and forces.

Structure and content of the document

The FBC has been prepared using the standards laid out in the Green Book guidance on delivering Public Sector Business Cases using the five case model.

Part A: The strategic context

2.2 Organisational overview

The SRN whilst only constituting 2.4% of England's road network, carries 67% of its freight traffic and incidents on the SRN have a significant and disproportionate effect in terms of network disruption and severity of Personal Injury Collisions (PIC). Reducing the frequency and impact of commercial vehicle incidents is therefore vitally important in helping Highways England deliver a more free-flowing network to support economic growth and drive forward plans to deliver a safer road network.

The strategic drivers for this business case have been developed from the Highways England Outline Business Case for the Commercial Vehicles Programme. The overarching aim of the CVIP team is to support Highways England's strategy⁵ is to 'Maintain incident management capability whilst developing and delivering a targeted, intelligence led commercial vehicle incident prevention programme'.

The following objectives have therefore been developed:

- Contribute to the ongoing reduction in killed or serious injury incidents on the strategic road network to assist Highways England in reducing the severity and number of commercial vehicle incidents by 20%.
- Reduce the economic impact of commercial vehicle related incidents
- Contribute to the longer term vision of a network with zero unplanned disruption
- Provide a reliable network which supports business and commerce
- Foster multi-agency relationships to promote a coordinated response
- Prudent use of funding to enable Highways England to act as an agent for change.

Highways England's 5 Year Health and Safety Plan (2015) requires the SES team to deliver a Commercial Vehicle Incident Prevention Programme in recognition of the impact that this class of vehicle has when involved in a collision, and reduce the severity and number of commercial vehicle incidents by 20%.

2.3 Other organisational strategies

The Department for Transport (DfT) Performance Specification sets out a number of key performance indicators (KPIs) on which the Government and Strategic Roads Network Monitor will monitor Highways England⁶. These areas are also considered in the Roads Investment Strategy (RIS) which outlines the DfT's long term proposals for the strategic road network.

Part B: The case for change

2.4 Investment objectives.

The objectives of this initiative are focused on two areas namely short and medium term initiatives to deliver benefits:

⁵ OBC Section 2, Table 2-2 CVIPT alignment with Highways England strategic objectives.

⁶ See Section 2, Table 2-2 CVIPT alignment with Roads Investment Strategy.

2.4.1 Objective 1 – DH1 Operator Awareness.

An issue identified has been of drivers taking breaks on the hard shoulder, but there is a lack of evidence showing why drivers are doing this, and the number of occurrences. Factors that influence this behaviour may include operators manually planning routes and not considering suitable parking areas for their routes. The aim is therefore to research the causes and look at potential responses to mitigate behaviours.

Ser	Intervention	Timeframe
DH1 Operator Awareness Campaign		
1.	Develop a good practice guide and raise level of awareness / education for drivers and operators	3 – 6 months
2.	Develop guidance for operators focusing on the benefits of using computerised route planning software as a means of instructing drivers' when and potentially where to take breaks.	3 – 6 months
3.	Using available data and a short focused analysis of data, investigate reasons for drivers taking tachograph breaks on the hard shoulder and develop an awareness / education campaign for drivers.	This will involve a study – set up time, prep, briefings and study period – 6 months

2.4.2 Objective 2 – DH2 Drivers' hours enforcement.

Low prioritisation, interest and lack of funding within the police have led to reduced levels of resourcing being allocated by police forces to enforcing drivers' hours rules regulations and preventing abuse of tachographs. In order to rejuvenate focus on this gap a pilot scheme targeting specific forces is proposed. The aim is to provide funding to enable the selected forces to be able to apply greater resources.

Ser	Intervention	Timeframe
DH2 Drivers' hours enforcement		
1.	Identify all training courses that are available and which courses benefit the police officer the most with a view to providing funding. This should initially be rolled out as a pilot aiming to enhance the levels of police enforcement in one area of the SRN	9 months
2.	HE to fund enhanced levels of Police enforcement in one area of SRN – e.g. Lancashire / Greater Manchester Police CVU's as they are keen on enforcement – Drivers' hours rules and tachograph fraud (i.e. switches). Then potentially roll out to other parts of the SRN	9 – 12 months

2.5 Spending (investment) objectives

The objectives of this initiative are focused on two areas of activity – Operator Awareness and Drivers' hours enforcement. It looks at objectives to deliver benefits in terms of reduced KSI and traffic delays to support the Highways England delivery plan Key Performance Indicators (KPIs)⁷.

2.6 Business Needs

The OBC identified a number of interventions focusing on delivering safer roads and safer drivers. These have been further refined and analysed. As a result a number of issues relating to drivers'

⁷ See Section 2, Table 2-2 CVIPT alignment with Roads Investment Strategy.

hours compliance were identified and proposals for addressing these put forward for delivery as a business case. These can be summarised into three key areas of concern:

- **Drivers taking breaks on hard shoulder.** There is a lack of evidence showing why drivers are doing this, and the number of occurrences.
- **Operators manually planning routes and not considering suitable parking areas for their routes.** Evidence shows that the majority of operators manually plan their routes and less than half ensure that there are suitable rest areas on route. This is against best practice, therefore guidance material should be developed for operators focusing on the benefits of using computerised route planning software and ensuring suitable rest areas are available on routes.
- **Police do not prioritise commercial vehicle enforcement, due to having higher priorities.** This has resulted in a lack of Police funding leading to low levels of drivers' hours enforcement particularly in certain parts of the UK and a lack of drivers' hours enforcement by the Police due to a low level of interest and lack of training in commercial vehicles

2.7 Main benefits.

2.7.1 Strategic Benefits.

The initiatives outlined in the objectives to this case are intended to support the strategic benefits outlined in the CVIP team's programme at reference A:

"to deliver a clear and measurable impact against performance indicators in the Highways England Business Plan – most notably in delivering a target saving of 33 KSI casualties by 2020/2021,

2.7.2 Benefits by key stakeholder group.

Highways England - This information and enforcement intervention will deliver CVIPT benefits that also contribute to Highways England's overall target of a 20% reduction in commercial vehicle related KSI casualties by 2020 compared to a 2005-2009 baseline."

Department for Transport - Achieving a reduction in KSI and/or delays will also support the DfT's Road Investment Strategy.

2.7.3 Key risks

The key risks are outlined in Section 6.9 of (Reference OBC) and remain extant for this Business Case. A more detailed list of the risks for this pilot study is at Annex A.

Intervention Serial	Risk	Impact	Probability	Costs
DH1-1	No clear evidence of why drivers are stopping on hard shoulder	Compromises any intervention data support	Low	Ongoing costs as applied to KSI/Delays
DH1-2	Best practice guides have no discernible impact on driver/operator behaviours	Continue current incident rates	Medium	Ongoing costs as applied to KSI/Delays
DH1-3	Too many systems and standards for guidance to comply or adhere to relating to DH (UK, EU, other International, incl foreign drivers' standards and training), to develop a comprehensive guidance	Intervention becomes undeliverable	Medium	Ongoing costs as applied to KSI/Delays

Intervention Serial	Risk	Impact	Probability	Costs
DH2-1	No clearly identifiable single or set of courses identified	Lack of coherence in training	Low	Increased training cost
DH2-2	No agreement for single or preferred training with Police	Higher training costs, lack of coherence, lack of standard outcomes	Low	Increased training cost, potential conflicting outcomes
DH2-3	No single force identified to conduct trial	Compromises and stalls trial	Low	Failure of trial
DH2-4	Priority for Police conflicts with Highways England aims	Compromises and stalls trial	Medium	Delay or failure of trial within desired timeframe
DH2-5	Priority is lower and doesn't get focus	Compromises and stalls trial	Medium	Delay or failure of trial within desired timeframe
DH2-6	Funding allocated is moved elsewhere without Highways England being informed	Compromises and stalls trial	Low	Delay or failure of trial within desired timeframe

2.7.4 Constraints

The key constraints are outlined in Section 2.3.7 of the OBC, of note the key constraints are:

- Delivery of the programme will consume a significant proportion of the SES Incident Prevention Teams' available resource limiting capability to deliver other tasks or identify other incident prevention needs.
- The CVIPT Programme is constrained by a reliance on alignment with work-streams of other Highways England departments.

2.7.5 Dependencies

The key external dependencies for this Business case are as follows:

- Endorsement and agreement of the selected pilot police force.
- Police forces and DVSA for endorsement and reinforcement of the messaging in the distributed awareness campaigns and guides.

3. Economic Case

3.1 Introduction

In accordance with the Capital Investment manual and requirements of HM Treasury's Green Book (A Guide to Investment Appraisal in the Public Sector), this section of the FBC documents the process and evidence to demonstrate that this is the most economic option in terms of HE CVIPTs business needs and in realising VfM.

3.2 Critical Success Factors.

Critical success factors for this pilot scheme will include:

- Consensus and buy in from the Police authorities and the selected force/s⁸.
- Allocation of Police resources as planned for the duration of the pilot study.
- A robust and simple monitoring process to inform key stakeholders.
- An effective and simple reporting process that delivers key success data on the pilot study to inform planning for potential expansion of the intervention. This will particularly focus on the benefits to DfT, Highways England and the Police forces involved to encourage participation.

3.3 Delivery Options

3.3.1 Option 1 - Do nothing. Provide no additional funding to combat the number of commercial vehicle incidents relating to drivers' hours compliance on the Highways England network. This is therefore likely to result in little or no change to the impact commercial vehicles have on the network and the existing threat to the Highways England safety target remains.

This option changes nothing in terms of planned interventions to enforce drivers' hours beyond that which is already undertaken. Whilst there are therefore no increased costs, there are also no benefits that can therefore be derived from this option.

Option 2 – Run an information Campaign only. This option focuses on producing guides and information for drivers/operators to inform them of the impact of good drivers' hours management and of the use of aids in route planning to reduce the incidents of HGV drivers using hard shoulders to undertake their compulsory driver breaks.

Option Costs over period of implementation	Potential Benefits value over that period	Benefit Ratio
£28,270	£149,692	5.3

3.3.3 Option 3 – Trial and enhanced police enforcement pilot only. This option looks to carry out two activities. First to identify the training that would offer the best to police undertaking this proposed activity and then to run a pilot enhanced enforcement scheme with a selected force to establish the cost and benefits that could then be rolled out on a wider basis across a number of forces.

Option Costs over period of implementation	Potential Benefits value over that period	Benefit Ratio
£39,861	£308,971	7.8

3.3.4 Option 4 – Combined information and enforcement. To undertake both activities outlined in Options 2 and 3 as a comprehensive approach to informing and enforcing compliance with drivers' hours among drivers and operators.

Option Costs over period of implementation	Potential Benefits value over that period	Benefit Ratio
£68,131	£458,663	6.7

⁸ GVI 48 Police forces to be engaged in trials and suggest Cheshire, Hampshire and Greater Manchester forces Commercial Vehicle Units

3.4 Summary of economic appraisals of costs and benefits, with cost benefit analysis.

The breakdown of costs is at Annex B. The annual costs are summarised below:

Period	DH1 - Information Campaign	DH2 – Drivers' hours enforcement costs	Savings/benefits	Total cost
Yr3	£17,425	£39,861	£361,959	£57,286
Yr4	£5,356	£0	£52,154	£5,356
Yr5	£5,490	£0	£44,550	£5,490
Total	£28,270	£39,861	£458,663	£68,131

3.5 Optimism bias adjustment

All costs have applied optimism bias of 44% that is for a Pilot Scheme as a Stage 1 project⁹. This data will be refined as data is analysed during the scheme.

3.6 Risk assessment

The Risk register is at Annex A. The key economic risks identified are as follows:

Intervention Serial	Risk	Impact	Probability	Costs
DH1-2	Best practice guides have no discernible impact on driver/operator behaviours	Continue current incident rates	Medium	What is the statistical impact of an info campaign on behaviours - Q to PA
DH2-6	Funding allocated is moved elsewhere without Highways England being informed	Compromises and stalls trial	Low	Delay or failure of trial within desired timeframe

3.7 Sensitivity analysis

Evaluation Results - based on 2010 discounted rates	Option 1 – Do Nothing	Option 2 – DH1 Information campaign	Option 3 – DH2 Police pilot scheme	Option 4 – Combined approach
Value Benefits (PVB) - Safety benefits only	As is	£149,692	£308,971	£458,663
Value Cost (PVC)	As is	£28,270	£39,861	£68,131
Net Present Value (NPV)	As is	£121,422	£269,110	£390,532
Benefit Cost Ratio (BCR)	0	5.3	7.8	6.7

All figures rounded to the nearest £1,000

⁹ Source: DfT TAG Unit A1.2 Section 3.5.7 and Table 8. November 2014

3.8 Preferred Option

The recommendation is that **Option 4** be taken, as it delivers a combined approach to influencing and enforcing drivers' hours compliance on the SRN. This is best achieved through delivery of an influence campaign aimed at changing driver/operator awareness and behaviours, backed up by a proposed solution to reinforce this awareness and behaviour through an enhanced drivers' hours enforcement programme.

This programme will be conducted in cooperation with the Police through a pilot trial. The outcomes of this trial will then be used to calculate the costs of expansion and as evidence to support efforts to expand the scope of enforcement in further areas with additional forces.

4. Commercial Case

4.1 Procurement strategy.

- To deliver the DH1 and DH2 interventions there will be a requirement to agree MOUs and Service Level agreements with participating forces, agencies and industry partners. This will need to be outlined/discussed to agree time, engagement level, commitment, governance and reporting.

4.2 Service requirements

Inter departmental communication and information passage arrangement will need to be agreed between participating forces and the SES / CVIP teams.

4.3 Charging mechanism.

Inter departmental charging and accruals/costs methodology and system needs to be developed and agreed with the police forces participating police force.

4.4 Risk transfer.

The key Commercial risks are at Annex A, highlighting the ownership and transfer of key risks for this study:

4.5 Key contractual arrangements (including contract length).

Existing contractual will continue to apply, where applicable MOU or SLA will be agreed with Police Force and supporting agencies.

4.6 Personnel implications ('TUPE').

Nil

4.7 Accountancy treatment.

Highways England's Finance and TAME accountancy processes apply.

5. Financial Case

5.1 Public capital and revenue requirements

In accordance with Highways England's Financial direction.

5.2 Overall funding and affordability

The cost/benefit analysis is at the table at ref Annex 2.

6. Management Case

6.1 Programme and project management methodology and structure.

This pilot scheme will be managed and monitored in accordance with the agreed SES governance and approval processes described at Para 6.3 of Ref A. This will include project, risks, stakeholder and benefit management strategy and plans.

6.2 Programme and project management plans.

6.2.1 Engage.

- Gain buy-in from selected police forces, agencies and industry partners.
- Agree cross agency and industry relationships, forum and data sharing protocols.
- Develop and manage a stakeholder management strategy and plan.

6.2.2 Develop plan in conjunction with selected forces

- Agree number of officers to be recruited
- Agree vehicle utility, hours to tasks and support arrangements for those vehicles
- Agree enforcement areas to concentrate on and duration of activity
- Agree targets / KPIs for the police force to meet

6.2.3 Monitoring and control.

A joint working group and reporting process will need to be established to monitor and report on performance of the pilot scheme to the CVIP team / Highways England and the engaged Police Force. This will need to look at the implementation phase, study phase and post study evaluation.

6.2.4. Review and identification of learning from experience.

A key requirement will be the review, reporting and identification of lessons identified for the interventions in this plan, especially where initiatives are to be developed further.

It will require engagement from the key stakeholders as well as a plan for dissemination of the findings to potential expansion forces, agencies and industry partners.

Annex A

Pilot Study Risks

An expanded set of the risks shown earlier should go here. These should go into more detail in terms of risks identified and impacts

Intervention Serial	Risk	Owner	Impact	Probability	Mitigation	Response	Comment
DH1-1	No clear evidence of why drivers are stopping on hard shoulder	Highways England	Compromises any intervention data support	Low	Focus study onto discreet areas that may be more quantifiable - use of sat nav, lost drivers(foreign), tacho lack of planning, better signage and mapping of truck stops	Accept	Ongoing costs as applied to KSI/Delays
DH1-2	Best practice guides have no discernible impact on driver/operator behaviours	Highways England	Continue current incident rates	Medium	Consider other means of messaging (Internet/TV/Advertising media - all have costs	Accept	Ongoing costs as applied to KSI/Delays
DH1-3	Too many systems and standards, incl foreign drivers, to develop a comprehensive guidance	Highways England	Intervention DH2-2 becomes undeliverable	Medium	Engagement with sat nav providers (tom tom/Garmin etc.), engagement with map book providers (AA/RAC Michelin etc.) to mark truck stops for HGV specific software and in map books - stakeholder engagement with AA! Need to encourage use of both satnav combined with wider view map books	Accept	Ongoing costs as applied to KSI/Delays
DH2-1	No clearly identifiable single or set of courses, identified	Police / Highways England	Lack of coherence in training	Low	Evaluate training outcomes and engage with stakeholders	Accept	Increased training cost

Intervention Serial	Risk	Owner	Impact	Probability	Mitigation	Response	Comment
Intervention Serial	Risk	Owner	Impact	Probability	Mitigation	Response	Risk
DH2-2	No agreement for single or preferred training with Police	Highways England / Police	Higher training costs, lack of coherence , lack of standard outcomes	Low	Need to engage and get buy in from Police - idea, impact of not doing it, benefits of doing it	Accept	Increased training cost, potential conflicting outcomes
DH2-3	No single force identified to conduct trial	Highways England	Compromises and stalls trial	Low	Stakeholder engagement to get buy in - potential incentivisation through offer of funding support	Accept	Failure of trial
DH2-4	Priority for Police conflicts with Highways England aims			Medium	as above	Accept	Delay or failure of trial within desired timeframe
DH2-5	Priority is lower and doesn't get focus	as above				Accept	
DH2-6	Funding allocated is moved elsewhere without Highways England being informed			Low		Accept	as above

Annex B

Intervention Costs & Benefits

DH1 – 2 Costs and Benefit Summary

Summary of costs for DH1 and 2						
DH1-2 costs taking into account wider range of required activities						
Ser	Activity	Yr3 (17/18)	Yr 4 (18/19)	Yr5 (19/20)	Total	Comment
(a)	(b)	(d)	(e)	(f)	(g)	(h)
1	DH1	£17,425	£5,356	£5,490	£28,270	
2	DH2	£39,861	£0	£0	£39,861	
3	Total	£57,286	£5,356	£5,490	£68,131	
Benefits to cost ratio						
Ser	Activity	Yr3 (17/18)	Yr 4 (18/19)	Yr5 (19/20)	Total period	
(a)	(b)	(e)	(f)	(g)	(h)	
1	Option 2 - DH1	7.4	1.8	1.9	5.3	
2	Option 3 -DH2	5.8	0.0	0.0	7.8	
3	Option 4 - Combined DH1/2	2.3	1.8	1.9	2.2	
DH1-2 Benefits summary						
Ser	Yr3 (17/18)	Yr 4 (18/19)	Yr5 (19/20)	Total	Comment	
(a)	(c)	(d)	(e)	(f)	(g)	
KSI Benefits						
DH1	£75,135	£9,814	£10,361	£95,309		
DH2	£103,218	£32,386	£34,190	£169,794		
Delay benefits						
DH1	£54,383	£0	£0	£54,383		
DH2	£129,223	£9,954	£0	£139,178		
Total DH1 Benefits	£129,518	£9,814	£10,361	£149,692		
Total DH2 Benefits	£232,441	£42,340	£34,190	£308,971		
Total DH1 and DH2	£361,959	£52,154	£44,550	£458,663		
Total DH1/2 Costs						
	£57,286	£5,356	£5,490	£68,131		
Total DH1/2 Benefits						
	£361,959	£52,154	£44,550	£458,663		
Total	£304,673	£46,798	£39,061	£390,532		
Evaluation Results - based on 2010 discounted rates						
	Option 1 - Do nothing	Option 2 – DH1 Information campaign	Option 3 – DH2 Police pilot scheme	Option 4 – Combined approach		
	Value Benefits (PVB) - Safety benefits only	As is	£149,692	£308,971	£458,663	
	Value Cost (PVC)	As is	£28,270	£39,861	£68,131	
	Net Present Value (NPV)	As is	£121,422	£269,110	£390,532	
	Benefit Cost Ratio (BCR)	0	5.3	7.8	6.7	
	Ranking	4	3	1	2	

DH1 and DH2 Costs

DH1 - 2017 Costs non-discounted

Ser	Activity	Yr3 (17/18)	Yr 4 (18/19)	Yr5 (19/20)	Total	Comments
(a)	(b)	(e)	(f)	(g)	(h)	(i)
	Resource RPI inflation rate	3.30%	2.50%	2.50%		Ref:HE efficiency and inflation monitoring manual
1	DH1 Information campaign					
1.1	Printed production costs	£1,500	£1,538	£1,576	£4,613	Assumed cost based on web research for 5000 pamphlets annually for design and production. Rates inflated at RPI.
1.2	Printed distribution costs	£2,500	£2,563	£2,627	£7,689	Assumption based on approx. £50 per 1000 leaflets targeted delivery annually
1.3	Translation costs	£700	£0	£0	£700	Translation into French, German, Spanish, Italian, Polish, Hungarian and Romanian @ £100 per translation
1.4	Resources (incl T&S)		£0	£0	£0	Assumes 2 months of resource to research if guides already exist or develop new ones
1.5	Video material production costs	£2,500	£0	£0	£2,500	Assumed costs for 1 x video production. Rates inflated at RPI.source(http://www.videomybusiness.co.uk)
1.6	Web production and hosting costs	£1,000	£1,025	£1,051	£3,076	Assumes internal costs using existing HE website
1.7	Public performance licences	£225	£231	£236	£692	Based on PPL tariff for business of 951-1000m2
1.8	Resources (incl T&S)	£9,000	£0	£0	£9,000	Assumes 1 month resource to develop awareness doc
2	Data collection for drivers taking breaks on hard shoulders					
2.1	Multi-agency co-operation costs	£0	£0	£0	£0	
Annual totals		£17,425	£5,356	£5,490	£28,270	

DH2 - 2017 Costs non-discounted

Ser	Activity	Yr3 (17/18)	Yr 4 (18/19)	Yr5 (19/20)	Total	Comments
(a)	(b)	(e)	(f)	(g)	(h)	(i)
	Resource RPI inflation rate	3.30%	2.50%	2.50%		Ref:HE efficiency and inflation monitoring manual
1	DH2 - Police training identification enhancement					
1.1	Cost of training analysis funding selected course for trial	£1,700	£0	£0	£1,700	
1.2	Funding selected course for trial	£4,000	£0	£0	£4,000	Cost of training delivery
2	Sub total	£5,700	£0	£0	£5,700	
3	DH2 - Enforcement for selected Police Force as pilot scheme					
3.1	Tachograph purchases	£1,000	£0	£0	£1,000	Assumes 1 x machine per team
3.2	tachograph licences	£1,000	£0	£0	£1,000	Assumes Inelo licence will be bought at start of the current FY.
3.3	Training costs	£2,000	£0	£0	£2,000	Assuming 2 x officers and that training could be done before end of current FY
3.4	Manpower costs (hard charging)	£30,000	£0	£0	£30,000	Assuming 2 x officers. Also assume that they are allocated 20% of their overall time to this intervention at Hard Charging rate.
3.5	Vehicle costs (running and maint)	£4,000	£0	£0	£4,000	Assuming 1 x vehicle with 2 x officers. Also assume that vehicle costs are allocated 20% of overall time to this intervention at Hard Charging rate.
4	sub total	£38,000	£0	£0	£38,000	
Annual totals		£39,861	£0	£0	£39,861	

DH1 and DH2 Benefits

DH1 Benefits

Ser	Previous Atkins Reference	Tranche Reference	Division	In progress	Reference	Yr3 (17/18)	Yr 4 (18/19)	Yr5 (19/20)	Total	Comment
(a)	(b)	(c)	(d)	(e)	(f)	(i)	(j)	(k)	(m)	
KSI Benefits										
1	Road user knowledge and attitudes									
1.1	Comms	4	CO	No	GVI12	£658,294	£0	£0		
1.2	% benefits for this intervention =				10.0%	£65,829	£0	£0	£65,829	
2	Goods Vehicle driver behaviours									
2.1	Legislation	2	CO	No	GVI45	£93,052	£98,139	£103,605	£294,796	
2.2	% benefits for this intervention =				10.0%	£9,305	£9,814	£10,361	£29,480	
3	% benefits allocated Total					£75,135	£9,814	£10,361	£95,309	
Delay Benefits as vehicle hour saving										
4	Road user knowledge and attitudes									
4.1	Comms	4	CO	No	GVI12	£362,554	£0	£0		
4.2	% benefits for this intervention =				15.0%	£54,383	£0	£0	£54,383	
5	Goods Vehicle driver behaviours									
5.1	Legislation	2	CO	No	GVI45	£0	£0	£0	£0	
5.2	% benefits for this intervention =				15.0%	£0	£0	£0	£0	
6	% benefits allocated Total					£54,383	£0	£0	£54,383	
Total % Benefit allocated						£129,518	£9,814	£10,361	£149,692	

DH2 Benefits

Ser	Previous Atkins Reference	Tranche Reference	Division	In progress	Reference	2017	2018	2019	Total	Comment
(a)	(b)	(c)	(d)	(e)	(f)	(i)	(j)	(k)	(m)	
KSI Benefits										
1	Road user knowledge and attitudes									
1.1	Comms	4	CO	No	GVI12	£362,554	£0	£0		
1.2	% benefits for this intervention =				20.0%	£72,511	£0	£0	£72,511	
2	Goods Vehicle driver behaviours									
2.1	Legislation	2	CO	No	GVI45	£93,052	£98,139	£103,605		
2.2	% benefits for this intervention =				33.0%	£30,707	£32,386	£34,190	£97,283	
3	% benefits allocated Total					£103,218	£32,386	£34,190	£169,794	
Delay Benefits as vehicle hour saving										
4	Road user knowledge and attitudes									
4.1	Comms	4	CO	No	GVI12	£362,554	£0	£0		
4.2	% benefits for this intervention =				33.0%	£119,643	£0	£0	£119,643	
5	Improve vehicle selection process									
5.1	RnD	2	CO	No	GVI16	£58,064	£60,328	£0		
5.2	% benefits for this intervention =				16.5%	£9,581	£9,954	£0	£19,535	
7	Goods Vehicle driver behaviours									
7.1	Legislation	2	CO	No	GVI45	£0	£0	£0		
7.2	% benefits for this intervention =				33.0%	£0	£0	£0	£0	
8	% benefits allocated Total					£129,223	£9,954	£0	£139,178	
Total % Benefit allocated						£232,441	£42,340	£34,190	£308,971	

Annex C

Intervention Scope

DH1 Operator awareness campaign

Ser	deliverables	tasks	Comment
1	A guide that achieves the proposed guidance that meets the requirements for educating operators and drivers.	Develop a good practice guide for operators on drivers hours and raise level of awareness / education for drivers and operators	
2	A guide, in agreed languages that achieves the proposed guidance that meets the requirements for educating operators and drivers.	Develop guidance for operators focusing on the benefits of using computerised route planning software as a means of instructing drivers' when and potentially where to take breaks.	
3	A report summarising investigation findings. A guide, in different languages that draws on the data study that achieves the proposed guidance that meets the requirements for educating operators and drivers.	Investigate reasons for drivers taking tachograph breaks on the hard shoulder and develop an awareness / education campaign for drivers.	

DH2 Drivers' hours enforcement

Ser	deliverables	tasks	Comment
1	A summary of training conducted that covers drivers' hours regulation and tachograph analysis, supported by recommendations and guidance to identify and fill training gaps.	Identify all training courses that are available and which courses benefit the police officer the most with a view to providing funding.	
2	A planned and funded pilot scheme that determines the value of targeted funding for Police forces to enhance the focus of regulation of drivers' hours enforcement and tachograph fraud.	Highways England to fund enhanced levels of Police enforcement in one area of SRN – e.g. Lancashire and Greater Manchester CVU's as they are keen on enforcement – Drivers' hours rules and tachograph fraud (i.e. switches). Then potentially roll out to other parts of the SRN	

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