



Encouraging the Fitment of Sideguards to Exempt Commercial Vehicles

A Feasibility Study for Transport for London

Prepared by: 
Victoria Sims
Consultant

Checked by: 
Anne Johnson
Principal Consultant

Approved by: 
John Hix
Regional Director

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Telephone: Website: <http://www.aecom.com>

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Executive Summary

Executive Summary

AECOM were commissioned by Transport for London (TfL) to carry out a feasibility study to investigate how operators exempt from sideguard legislation can be encouraged to fit sideguards to their vehicles to help improve safety for cyclists and other vulnerable road users on London's roads. Sideguards can greatly benefit the safety of vulnerable road users and reduce the likelihood of fatalities, particularly for cyclists who are at risk of being dragged underneath a lorry.

Proposal 68 of the Mayor's Transport Strategy states that 'The Mayor, through TfL, the police and working with the DfT, London boroughs, road freight operators and other stakeholders, will improve safety for cyclists in the vicinity of HGVs and other vehicles, by:

- a) Encouraging the Government to amend legislation and remove the current exemption for HGVs being fitted with sideguard protection
- b) Working to increase the number of HGVs with sideguards or fitted with electronic warning devices that detect cyclists
- c) Raising awareness among drivers of the safety benefits of advance stop line areas'

Research and analysis

An extensive desktop research programme was carried out, combined with an online survey and direct engagement with operators, Government bodies, trade associations and sideguard manufacturers, bodybuilders and suppliers. The qualitative and quantitative data provided an understanding of current legislation and regulations, industry opinions surrounding the regulations, the type of operators/sector/vehicles that are exempt from sideguard fitment and the reasons behind voluntary fitment and equally reasons for non-fitment.

The research formed the basis of a suggested strategy to encourage fitment of sideguards to exempt vehicles.

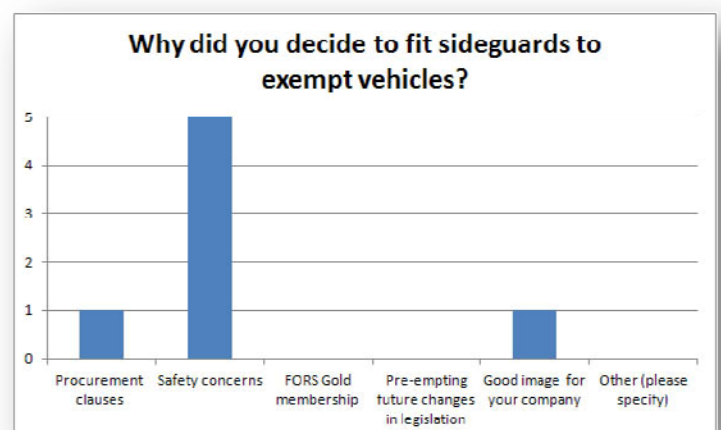
Conclusions

The study concluded that:

- Fitment to most exempt vehicles is possible

“The casualty figures speak for themselves. This is an area where all responsible operators can help to bring down the number of cyclists deaths and injuries and help protect their drivers from the chance of having to deal with a fatality. Anything to help cyclists and HGV safety should be implemented”

Peter Parle. FM Conwav Ltd



- Procurement clauses requiring sideguard fitment are rare
- Safety is a major contributing factor when deciding to fit sideguards
- The cost of sideguard fitment is relatively low but it remains an inhibiting factor
- Annual HGV MOT inspection criteria is not as stringent for exempt vehicles
- EC Whole Vehicles Type Approval is being phased in for commercial vehicles - this regulation does not offer a blanket exemption for the fitment of sideguards to new tipper and refuse vehicles
- Providing and communicating accurate information to operators is key

Research also demonstrated that there is a lack of clear, consistent and accessible information available to operators to help them make informed decisions regarding the fitment of sideguards.

Strategy development

From the research, analysis and recommendations AECOM recommended a strategic plan for TfL, the focus of which was on:

- Raising awareness
- Increasing understanding
- Improving clarity of information
- Showcasing best practice
- Targeting and communicating with the right people at the right time
- Removing barriers

A three-point strategy approach was recommended with TfL taking a co-ordinating role between the three overlapping elements:

Marketing and communication – production of an operator information pack, web presence, email campaigning, workshop and event organisation, and a safety demonstration day

Incentives and encouragement – Empowering through knowledge, provision of benefits and financial incentives

Procurement options – targeting the London Boroughs, targeting private company procurement, Government organisation procurement leading by example

1 Introduction

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1.1 Background to the project

In the UK sideguards have been a legal requirement on certain large vehicles and trailers since the 1980s, and compliance checks are included as part of the statutory annual roadworthiness test. However, there are a number of vehicle types which are exempt from the legal requirement to have sideguards fitted (See section 3.1.2).

Sideguards can play a significant role in reducing the number of fatalities associated with heavy vehicles where cyclists and pedestrians are particularly vulnerable. Section 497 of the Mayor's Transport Strategy identifies that:

One in three pedal cycle fatalities in London are from collisions with left-turning HGVs. In 2008, of the 15 pedal cyclist fatalities, nine involved an HGV and five of these included a left-turning manoeuvre by the lorry. Research has shown that HGVs without sideguards are involved in a disproportionately large number of fatal collisions with cyclists considering the very small number of HGVs without sideguards.

In addition, Proposal 68 of the Mayor's Transport Strategy states that:

'The Mayor, through TfL, the police and working with the DfT, London boroughs, road freight operators and other stakeholders, will improve safety for cyclists in the vicinity of HGVs and other vehicles, by:

- a) Encouraging the Government to amend legislation and remove the current exemption for HGVs being fitted with sideguard protection*
- b) Working to increase the number of HGVs with sideguards or fitted with electronic warning devices that detect cyclists*
- c) Raising awareness among drivers of the safety benefits of advance stop line areas'*

1.2 Why install sideguards?

Sideguards can greatly benefit the safety of other road users and reduce the likelihood of fatalities, particularly for cyclists who may be unsighted by left turning heavy vehicles. There is a danger of a cyclist being dragged underneath a lorry without sideguards, with the potential for a serious or fatal injury to occur. With sideguards fitted the chances of being dragged underneath the vehicle are reduced, along with the likelihood of serious injury. It has also been suggested that the introduction of sideguards benefits pedestrians.

In 2009 there were seven fatal collisions involving a goods vehicle and two other fatal collisions involving a refuse lorry and a cement mixer. In 2010 there were two fatal collisions involving a goods vehicle and two other fatal collisions involving a skip lorry and a cement truck.¹

More recently TfL accident data shows that in 2011 over one-third of cycle fatalities occurred as a result of a collision with an HGV over 7.5 tonnes.

Refuse, cement vehicles and skip lorries are all exempt from sideguard regulations; with large construction projects such as Crossrail and the Olympics the number of such exempt vehicles on the roads is likely to increase.

The requirement for sideguards to be fitted to certain trailers and motor vehicles was introduced in the 1980s, and codified in the Construction and Use Regulations 1986 under Regulations 49 and 51. In 2000 VOSA advised testing staff that vehicles with incorrect sideguard dimensions should not be failed. As a result VOSA testing staff saw an increase in the number of vehicles with sections of sideguards missing where they should have been fitted.²

Following an unsuccessful attempt to reintroduce full compliance checks in 2007, consultation with industry was undertaken and full compliance checks resumed in 2010. An alternative to the Construction and Use Regulations is the technical standards of Directive 89/297/EEC, which VOSA has also accepted since 2010. The two documents are largely similar, however the main differences between the two pieces of legislation relate to the following:

- The minimum height of top rail from the ground
- The number of rails required
- The height of the sideguard from the ground
- The depth of each rail
- Max distance inward from side of tyre/body
- Continuous vertical front rail

1.3 Objective of the study

The purpose of this report is to propose a strategy to enable TfL to assist the Mayor in meeting requirements of Proposal 68, in particular to increase the number of exempt HGVs that have sideguards fitted. To achieve this, AECOM investigated how operators that are exempt from sideguard legislation could be encouraged to fit sideguards to their vehicles.

¹ Cycle Safety Action Plan end of year review 2011

² FTA Sideguards Compliance Guide, Edition 1, March 2010

2 Methodology

2 Methodology

To achieve the objectives of this study, AECOM developed and implemented the methodology below in order to gain an understanding of the current industry position and to identify both quantitative data and qualitative results to form a position from which a strategy of encouragement could be developed.

2.1 Desktop research

In order to develop this study AECOM has undertaken extensive desktop research into sideguard use in the UK. Existing legislation and regulations have been investigated, and information and guidance from VOSA has been researched to develop an understanding of the issues that affect sideguard use on heavy vehicles.

Documents relevant to this study include:

- Mayor's Transport Strategy
- Cycle Safety Action Plan
- Cycle Safety Action Plan end of year review 2011
- Construction and Use Regulations 1986
- Directive 89/297/EEC
- DfT's Heavy Goods Vehicle Inspection Manual
- VOSA Individual Vehicle Approval Manual for Vehicle Categories N2 and N3 (heavy goods vehicles)
- FTA Compliance Guide – Sideguards
- TRL Analysis of police collision files for pedal cyclist fatalities in London 2001-2006

The study team also investigated accident statistics relating to heavy vehicles and vulnerable road users to help determine the potential impact of increasing the number of heavy vehicles which have sideguards fitted.

2.1.1 Online survey and data collection

To gain an initial insight into the current industry situation and attitude regarding the fitment of sideguards to exempt vehicles a short online survey was constructed. The survey was sent to a filtered selection of Freight Operator Recognition Scheme (FORS) members ie. those that operate within the sectors that use exempt vehicles such as construction, waste and agriculture. The survey asked the following key questions:

- Do you operate, or plan to operate, any vehicles which are exempt from current sideguard legislation?

- Have you voluntarily fitted or do you plan to voluntarily fit sideguards to any of your exempt vehicles?
- What vehicle types are they fitted to / planned to be fitted to? (tick all that apply)
- Why did you decide to fit sideguards to exempt vehicles? (tick all that apply)
- What would encourage you to fit sideguards to exempt vehicles? (tick all that apply)
- Do you feel that TfL should promote the fitment of sideguards for exempt vehicles?
- Which of these methods do you think TfL should use to promote the fitment of sideguards to exempt vehicles? (please tick all that apply)
- Do you have any other comments on the promotion of sideguards on exempt vehicles?

Results of the survey are summarised in section 3.4. A full version of the survey questions can be found in Appendix B and full online survey results can be found in Appendix C.

2.1.2 Operator and supplier engagement

Further in-depth research with certain operators, suppliers and manufacturers was central to the study. A combination of companies identified as operating exempt vehicles and a number of operators identified through the online survey were contacted and in-depth interviews arranged. These were largely qualitative open-ended interviews with the relevant personnel. The results of these interviews are outlined in section 3.4.7. Operators engaged:

Operator	Main Business / Sector	Reason for engagement
Veolia Environmental Services	Waste & Recycling	Veolia fit sideguards to some but not all of their exempt vehicles
SITA UK	Waste & Recycling	SITA operate, and fit sideguards to, exempt vehicles
FM Conway Ltd	Construction, Utilities	FM Conway are in the process of both retrofitting existing vehicles and specifying new vehicles with sideguards
London Waste	Waste & Recycling	London Waste operate exempt vehicles but do not fit sideguards
Atlas Bulk Carriers Ltd	Aggregates, Construction, Waste & Recycling	Atlas operate exempt vehicles but do not fit sideguards
Cemex	Aggregates, Construction	Cemex operate, and fit sideguards to, exempt vehicles

Table 2.1 Operators engaged

Each operator was asked to provide details of where and by whom their sideguards were fitted and how they were specified in order to provide us with contact details of manufacturers / suppliers / bodybuilders to contact for further discussion.

2.1.3 Manufacturer, supplier and bodybuilder engagement

A combination of internet research, existing contacts and information given by the operators engaged with provided a list of manufacturers, suppliers and bodybuilders to contact in order that we may better understand the technical reasons and issues behind sideguard fitment to exempt vehicles. The companies in table 2.2 were identified and contacted.

Manufacturer / bodybuilder name	Main business e.g. tipper bodies	Reason for engagement
Dennis Eagle	Refuse vehicles - chassis and body	To understand the processes and issues of fitting sideguards to refuse vehicles bodies
Iveco	HGV manufacturer – chassis only	To understand the role of vehicle manufacturers in the fitment of sideguards to exempt vehicles
Brit-tip	General bodybuilders	To understand the processes and issues of fitting sideguards exempt vehicles bodies
Commercial Body Fittings	General bodybuilders	To understand the processes and issues of fitting sideguards exempt vehicles bodies
Thompson Group	Tipper bodybuilders	To understand the processes and issues of fitting sideguards to tipper vehicles bodies
VFS	Vehicle conversion	To understand the processes and issues of fitting sideguards during exempt vehicle conversions
Charlton Bodies	Tipper bodybuilders	To understand the processes and issues of fitting sideguards to tipper vehicles bodies

Table 2.2 Manufacturers, suppliers and bodybuilders

The following key questions were posed as well as probing for further in-depth information:

- Do you get many requests for sideguard fitment to exempt vehicles and what are the reasons stated for having them fitted?
- Have you come across any issues with fitting sideguards to exempt vehicles?
- What are the most common exempt vehicles that have sideguards fitted e.g tippers or refuse vehicles? And the most common industry sectors e.g construction or waste?
- Do/could you supply or manufacture detachable, retractable or extendible sideguards?
- At what stage of the process are you involved in fitting sideguards?
- How much does it cost to fit/retrofit sideguards to an exempt vehicle?

2.1.4 Trade Association and Government body engagement

Key contacts at the Freight Transport Association (FTA) and Road Haulage Association (RHA) were also engaged to gain an understanding of the issue from the perspective of the various representative bodies and their members. Representatives from the DfT, VOSA and the Vehicle Certification Agency (VCA) were also contacted.

Trade association / Government body	Reason for engagement
Vehicle and Operator Services Agency (VOSA)	Gain an understanding of the inspection criteria for exempt vehicles fitted with sideguards and understand the proportion of operators passing/failing annual inspections
Department for Transport (DfT)	Clarify the reasons for exemption and understand the issues relating to European Whole Vehicle Type Approval regulations and any changes to the directive
Freight Transport Association (FTA)	Gain an industry perspective on uptake and understanding of voluntary fitment of sideguards to exempt vehicles
Road Haulage Association (RHA)	Gain an industry perspective on uptake and understanding of voluntary fitment of sideguards to exempt vehicles
Vehicle Certification Agency	Gain an understanding of current and future safety standards and regulations

Table 2.3 Trade associations and Government bodies engaged

3 Research, analysis and feedback

3 Research, analysis and feedback

AECOM's starting point in this study was to research, engage and analyse the available resources including previous research papers, regulations/directives/legislation, operator and trade association feedback and technical/industry information from suppliers, manufacturers and bodybuilders.

3.1 Overview of legislation

3.1.1 What vehicles are included?

The following vehicle types are required to have sideguards fitted under the Construction and Use Regulations³:

- In the case of an articulated vehicle with plated train weight of more than 32,520kg, to the semi-trailer if its plated gross weight exceeds 26,000kg, it was manufactured before 1 May 1983 and the distance between the foremost axle and the centre of the kingpin (the rearmost kingpin if there is more than one) exceeds 4.5m;
- To a motor vehicle exceeding 3,500kg maximum gross weight first used on or after 1 April 1984
- A trailer (including a semi-trailer) with unladen weight exceeding 1,020kg, manufactured on or after 1 May 1983, except:
 - For a drawbar trailer if the distance between 2 axles does not exceed 3 metres
 - For a semi-trailer if the distance from the foremost axle to the centre of the kingpin, exceeds 4.5m
- All semi-trailers with driven wheels must be fitted with sideguards

However, there are a number of exemptions to this requirement, which are set out in Section 3.1.2.

3.1.2 What vehicles are exempt?

The following vehicle types are exempt from the legal requirement to have sideguards fitted under the Construction and Use Regulations act:

- A motor vehicle incapable because of its construction of exceeding 15 mph on the level under its own power when fully laden
- Engineering plant
- A fire engine

³ source: *The Road Vehicles (Construction and Use) Regulations 1986*

- An agricultural motor vehicle or agricultural trailer/trailed appliance
- A vehicle so constructed that it can be unloaded by part being tipped sideways or rearwards
- A vehicle owned by the Secretary of State for Defence and used for naval, military or air force purposes
- A chassis without bodywork that is being driven or towed:
 - for a quality or safety check by its manufacturer, dealer or distributor, or
 - by previous arrangement to premises where bodywork is to be fitted or preparatory work done or to premises of a dealer or distributor
- A vehicle being driven or towed to a place where by previous arrangement a sideguard is to be fitted so that it complies with this regulation
- A vehicle designed solely for use and used solely in connection with street cleansing, collection or disposal of refuse or collection or disposal of the contents of gullies or cesspools
- A trailer designed and constructed, and not merely adapted, to carry round timber, beams or girders of exceptional length
- A motor car or heavy motor car constructed or adapted to form part of an articulated vehicle
- A vehicle designed and constructed, and not merely adapted, to carry other vehicles loaded onto it from the front or rear
- A trailer with a load platform:
 - No part of any edge of which is more than 6mm inboard from the plane
 - The upper surface of which is not more than 750mm from the ground over whichever distance would be applicable if this exemption did not apply
- A temporarily imported foreign trailer

The table in Appendix A summarises the vehicle types exempt from legislation requiring the fitment of sideguards.

3.1.3 Vehicle specific issues preventing fitment

The primary reason why many of these vehicles do not require sideguards is their operational requirements. For example, a heavy goods vehicle such as a tipper requires the box on the back of the vehicle to tip either backwards or sideways. There is potential for a sideguard to restrict the ability of the vehicle to perform this action, or cause damage to the vehicle as a result of this movement. Refuse vehicles also fall into this category as a result of equipment such as bin lifts and hydraulic equipment, which can limit ground clearance.

Similarly a car transporter does not require sideguards to ensure the ability of the haulier to load cars onto the trailer. It should be noted that given the low profile of many of these vehicles, the benefit of introducing sideguards on these vehicles may be limited.

In addition, a fuel tank is often located between two sets of wheels on certain vehicles, making it difficult to install sideguards to some vehicles. Vehicles such as fire engines often have a low road profile due to storage areas for equipment and water storage and therefore fitting a sideguard may not be beneficial in this instance.

Finally, heavy vehicles which operate on building sites or other off-road locations (such as military or agricultural vehicles) are likely to experience uneven terrain, and the installation of sideguards may impact on the ability of the vehicle to navigate off-road.

3.1.4 Testing and inspection issues

The DfT's Heavy Goods Vehicle Inspection Manual states that sideguards can be manufactured and tested to any of the following standards:

- The Road Vehicles (Construction and Use) Regulations 1986 as amended
- Directive 89/297/EEC
- The technical requirements of Directive 89/297/EEC

Where sideguards are fitted to a vehicle, the following points demonstrate a number of circumstances in which a vehicle would fail an inspection as a result of sideguards:

1. Sideguards not fitted to a vehicle required to have them fitted.
2. A sideguard or bracket:
 - a) That is insecure
 - b) That is cracked, fractured, corroded or damaged so that its effect reduced
 - c) With exposed surfaces which are not smooth (e.g. project jagged edges, bolt heads that are not dome shaped)
 - d) With external edges that are not radiused
 - e) With incorrect dimensions
 - f) That is not continuous along the vehicle length in other than accepted circumstances
 - g) That increases the overall width of the vehicle
 - h) With more than 550 mm min height to the lowest edge of the guard (vehicle unladen or semi-trailer load platform horizontal)

A vehicle which has a sideguard fitted where it is exempt under the Construction and Use Regulations may still fail the inspection on items 2a (that it is insecure), 2c (with exposed surfaces which are not smooth) and 2g (that increases the overall width of the vehicle). This can discourage operators from fitting their vehicles with sideguards when they are not required to do so.

3.1.5 EC Whole Vehicle Type Approval

EC Whole vehicle Type Approval (ECWVTA) provides for the approval of whole vehicles, vehicle systems, and separate components. It is a way of making sure vehicles are safe to use on the road, without having to inspect and test every single one.

Under the vehicle type approval system, a prototype is tested. If it passes the tests and the production arrangements also pass inspection, then vehicles or components of the same type are approved for production and sale within Europe, without further testing.

The regulations introducing EC Whole Vehicle Type Approval became UK law on 29th April 2009 and there are now four approval schemes in operation; the first three are administered by the Vehicle Certification Agency (VCA) and the fourth is administered by the Vehicle & Operator Services Agency (VOSA):

- EC Whole Vehicle Type Approval – Primarily for large volume vehicle manufacturers selling across Europe
- EC Small Series Type Approval – Aimed at low volume car producers selling across Europe
- National Small Series Type Approval – For low volume vehicle manufacturers selling in the UK only
- Individual Vehicle Approval – for manufacturers or importers of single vehicles

The application of the ECWVTA Directive to all new vehicles and trailers came into effect on 29 April 2009, and will be phased in up to 29 October 2014 depending on vehicle category and build process.

In the Construction and Use Regulations specific vehicle types have exemptions from fitting sideguards, however under ECWVTA there are no vehicle specific exemptions simply a blanket statement exempting vehicles if it is deemed that the vehicle type is incompatible with sideguards. In order to gain an exemption it would need to be proved that the particular vehicle type was unable to be fitted with sideguards. However, this will be increasingly difficult to argue as sideguards are currently being fitted to some tipper and refuse vehicle fleets.

3.2 Evidence to promote the use of sideguards

In September 2011, TfL produced a factsheet⁴ detailing a breakdown of pedal cyclists (P/C) collisions and casualties that occurred in London in 2010. It stated that there has been a significant increase in the amount of cyclists on the streets of London since 2000 (150%), with the majority (65%) of incidents occurring in Inner London boroughs.

In 2011 there were 4,497 incidents involving cyclists in London, of which 571 resulted in a serious injury or a fatality. The number of serious injuries and fatalities involving cyclists rose by 22% between 2010 and 2011, following on from a 9% rise between 2009-10. Pedal cyclists accounted for 14% of total casualties in Greater London in 2010.

In total, there were 16 fatal P/C collisions in Greater London in 2011 (compared with 10 in 2010). In six fatal collisions (37.5%) the pedal cyclist was in collision with an HGV over 7.5 tonnes.

The TRL report also states that 69 of the 92 collisions resulting in a pedal cycle fatality that occurred between 2001-6 occurred at a junction, with a higher proportion of female cyclists killed. 33 collisions involved a heavy goods vehicle and a pedal cyclist fatality. Given that junctions are the locations most likely to experience turning traffic (and hence the likelihood of cyclists being dragged under the wheels of an HGV) then the introduction of sideguards on a greater proportion of HGVs looks to be of benefit.

Guardrails can contribute to a safer pedestrian environment, however the TRL police incident report details a case where a cyclist was trapped by the guardrail and knocked under a HGV that was turning left. A sideguard may have prevented this from occurring.

22 of the 69 pedal cycle fatalities during the reporting period (2001-6) involved a heavy vehicle turning left or changing lanes to the left, representing approximately one in three of such incidents.

It should be noted that other measures may have had a positive impact on road safety for cyclists, such as Class VI mirrors.

Crucially, the TRL report identifies 20 cyclist fatalities that the introduction of sideguards, or better fitting sideguards may have prevented. A key recommendation of the TRL report is that operators should be encouraged to fit sideguards to exempt vehicles. They also recommended consideration of potential changes to sideguards design including a stronger and lower integrated structure.

⁴ Source - Pedal cyclist collisions and casualties in Greater London, September 2011, TfL

It is clear, therefore, that left turning heavy vehicles remain a serious hazard for cyclists on London's streets. As it is likely that if a collision occurred the cyclist could get dragged underneath the wheels of a heavy vehicle performing such a manoeuvre, the benefits of installing sideguards are clear. It is likely that sideguards have reduced the seriousness of a number of incidents involving cyclists and heavy vehicles.

However, given the number of heavy vehicles on London's roads which are exempt from installing sideguards under the Construction and Use Regulations 1986, there is a clear benefit to investigating the appropriateness of encouraging the use of sideguards on vehicles such as cement mixers, tippers and refuse vehicles.

Given the scale of construction in the city at present, particularly with ongoing works associated with the Olympics and Crossrail, there is additional construction traffic on London's roads. As many of these vehicles are exempt from sideguards it is likely that any measures to encourage the fitment of sideguards would be particularly beneficial in the city.

Of course, cyclists are not the only road users that may conflict with heavy vehicles. Pedestrians are also particularly vulnerable to being struck by a heavy vehicle, with significant potential for a serious injury or a fatality to occur. Sideguards therefore have a role to play in the safety of pedestrians, particularly in London where there is significant footfall.

3.3 Arguments against exemptions

For almost every vehicle type that is exempt from sideguard legislation there is an argument as to why it should not be exempt. Table 3.1 summarises these arguments and offers an insight into the types of vehicles which should in theory be able to have sideguards voluntarily fitted and should therefore be encouraged to do so.

Vehicle type	Reason for exemption	Arguments against exemption ⁵
<p>A vehicle so constructed that it can be unloaded by part being tipped sideways or rearwards</p>	<ul style="list-style-type: none"> - Vehicle requires space for tipping mechanism and often travels off highway. On rigid vehicles, fuel tanks and other structures are often located where sideguards would be meaning fitment is difficult and the empty space is already filled 	<ul style="list-style-type: none"> - Little evidence of tipping mechanisms being situated in areas of the vehicle that would interfere with underrun protection - The majority of vehicles being discussed are not really used off-road in the most severe sense of the word - Tippers with sideguards fitted have been known to operate on extreme terrain have been found suggesting that the exemption is not justified because the majority operate on much easier terrain than this. - Some tipping vehicles have structures between their axles (fuel tanks, landing legs) which reduce ground clearance anyway so adding sideguards would cause little disturbance and may also protect against protruding equipment
<p>A vehicle owned by the Secretary of State for Defense and used for naval, military or air force purposes</p>	<ul style="list-style-type: none"> - Requirements to travel over many different types of off-road terrain reducing ground clearance and affecting traction 	<ul style="list-style-type: none"> - Not all vehicles owned by the Secretary of State will be required to travel on rough off-road terrain in the UK (e.g troop transporters or delivery vehicles) – if this is the case and there is no complex machinery / equipment obstructing fitment then there is no technical justification for such vehicles to be exempt from the regulations
<p>An agricultural motor vehicle or agricultural trailer/trailed appliance</p>	<ul style="list-style-type: none"> - Agricultural motor vehicles must be able to travel off-road in order to be able to perform their function. They may not spend much time on the highway 	<ul style="list-style-type: none"> - For the short periods that these vehicles are on the road they are slow moving and therefore susceptible to impact when turning across roads. It may be practical to fit demountable sideguards as long as there is a code of practice for their use
<p>A trailer designed and constructed, to carry round timber, beams or girders of exceptional length</p>	<ul style="list-style-type: none"> - Extendible trailers would have large gaps between the sideguards and the axles when extended. They are required to comply only when closed 	<ul style="list-style-type: none"> - If it is possible to design a trailer that extends, it should also be possible, in theory, to design extendible sideguards. Reasonable practicality and price would need to be considered for feasibility in this instance

⁵ Source – TRL - Review of side and underrun guard regulations and exemptions, T L Smith and I Knight, 2004

Vehicle type	Reason for exemption	Arguments against exemption ⁵
<p>A vehicle designed solely for use and used solely in connection with street cleansing, collection or disposal of refuse or collection or disposal of the contents of gullies or cesspools</p>	<ul style="list-style-type: none"> - The nature of such vehicles means they must be fitted with a variety of equipment such as bin lifts and hydraulic equipment, which can limit the ground clearance of the vehicle 	<ul style="list-style-type: none"> - Refuse vehicles generally don't travel off-road and other structures/ancillary equipment limit ground clearance anyway - Controls can be positioned in an accessible place (e.g between the rails of the sideguard) - Street cleaning vehicles are often fitted with a large amount of equipment under the body and between the axles where sideguards would be fitted. The equipment may be sharp and protruding and boxing it in behind sideguards (still maintaining access to controls) would reduce risk of injury – particularly as they run close to kerbs
<p>Vehicles designed and constructed to carry other vehicles loaded from the front or rear</p>	<ul style="list-style-type: none"> - The structure of car transporters is typically very low, with no space for a sideguard to be fitted 	<ul style="list-style-type: none"> - Loading mechanism, for example ramps shouldn't get in the way of sideguards - Unlikely to be travelling off-road - Smaller single deck transporters generally have higher ground clearance than large multiple car transporters making them more suitable for sideguard fitment
<p>A motor vehicle incapable because of its construction of exceeding 15mph on the level under its own power when fully laden</p>	<ul style="list-style-type: none"> - Less likely to be able to overtake other road users, likely to be agricultural or construction vehicles 	<ul style="list-style-type: none"> - These vehicles are still capable of overtaking cyclists/pedestrians - No reason why a vehicle should be exempt solely because it's incapable of exceeding 15mph - Most agricultural or construction vehicles are covered by their own separate exemption
<p>A motor car or heavy motor car constructed or adapted to form part of an articulated vehicle</p>	<ul style="list-style-type: none"> - Often have structures present in between the axles which negate the requirement for the fitment of sideguards 	<ul style="list-style-type: none"> - Structures present between the axles can often have hard protrusions – sideguards could prevent the occurrence of injury to vulnerable road users - Voluntary fitment does occur which demonstrates exemption is not necessarily justified
<p>A trailer with a load platform which is not more than 750mm from the ground</p>	<ul style="list-style-type: none"> - These vehicles have low structures and therefore no requirement for sideguards 	<ul style="list-style-type: none"> - Can be argued that there is no need for specific exemption as there is already a clause in the regulation allowing body structure to substitute for the sideguard

Table 3.1 Arguments against exemption

3.4 Understanding the market

A short online survey was sent to a filtered selection of FORS members – the survey concentrated on those operating within sectors that run exempt vehicles such as construction and waste. From the survey we identified operators to speak with and carry out in-depth interviews.

3.4.1 Who responded to the survey?

Table 3.2 provides an overview of the 26 operators that responded to the online survey. A comprehensive list of respondents and their survey responses can be found in Appendix C.

Respondent	Operator	Sector
Mark Forster	SITA UK Ltd	Waste & Recycling
Peter Lambert	LondonWaste Ltd	Waste & Recycling
Mark Costello	Lee Haulage Ltd	Construction
Dave Newland	Transfreight Euro Ltd	Aggregates, General Haulage
Victor Stock	Bywaters Leyton Ltd	Waste & Recycling
Andrew Wislocki	Atlas Bulk Carriers Ltd	Aggregates, Construction, Waste & Recycling
Mike Harrison	SCA Recycling UK Ltd	Waste & Recycling
Tom Ainsworth	Le-dale Transport	Construction, Engineering, General Haulage, Metals and Metal Products
Dave Hueston	Hendricks-Lovell	Aggregates, Construction
Ian Gray	Sheffield Insulations	Construction
Jonathan Murphy	Garic Ltd	Construction
Terry Good	Keltbray Ltd	Construction, Waste & Recycling
Gareth Jones	Speedy Services	Construction
Andrew Pumphrey	NSL Ltd	Chemicals, Construction, Engineering
Ralph Sheridan	RTS Waste Management	Waste & Recycling
Paul Green	Selwood Ltd	Construction, Engineering, Manufacturing, Parcels & Courier Services, Service & Maintenance, Utilities
Steve Hall	Turners (Soham) Ltd	Aggregates, Construction, Non Food Retail
Tony Buckland	R M Page Ltd	Construction
Maurice Thompson	Dean Transport 94 Ltd	Construction, Containers, Engineering, General Haulage

Peter Parle	FM Conway Ltd	Construction, Utilities
Paul Sheekey	Brett Concrete	Construction
Julie Welch	Cemex	Aggregates, Construction
Brendan Sugrue	J Murphy & Sons Ltd	Construction
Garry Orr	One Call Hire Ltd	Construction
Gary Batchelor	PHS WASTETECH	Waste & Recycling
Charlie Stanford	Cemex UK*	Aggregates, Construction

*It should be noted that 2 of the respondents were from Cemex

Table 3.2 Survey respondents

3.4.2 Results of the survey

The Construction & Use regulations clarify which vehicles are exempt from sideguard legislation and therefore the sectors that exemptions apply to. This does not tell us anything about the actual operators and sectors that are voluntarily fitting sideguards, to what type of vehicle and why. The following survey results give an indication of industry thinking on voluntary fitment of sideguards. A copy of the full survey results with details of all respondents can be found in Appendix C.

3.4.3 Description of who voluntarily fits sideguards

Of the 26 survey respondents, 14 (54%) operated vehicles exempt from sideguard regulations, see figure 3.1.

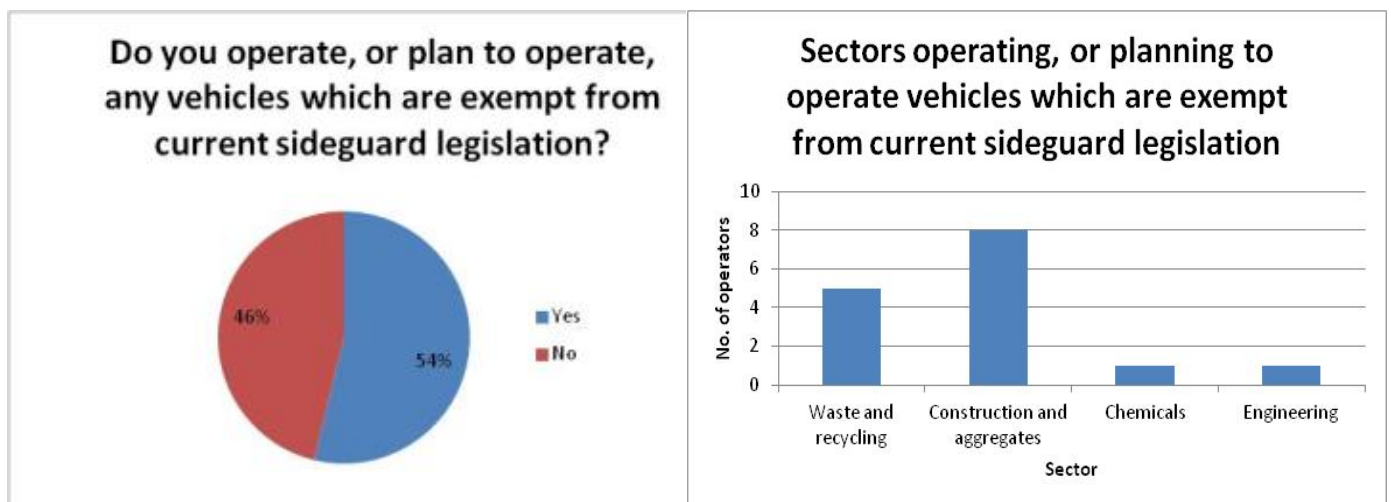


Figure 3.1 Percentage of respondents operating exempt vehicles and sectors operating exempt vehicles

Of the 13 respondents operating exempt vehicles, only 5 actually fit sideguards to these vehicles, see figure 3.2. Table 3.3 shows the operators that fit sideguards to exempt vehicles.

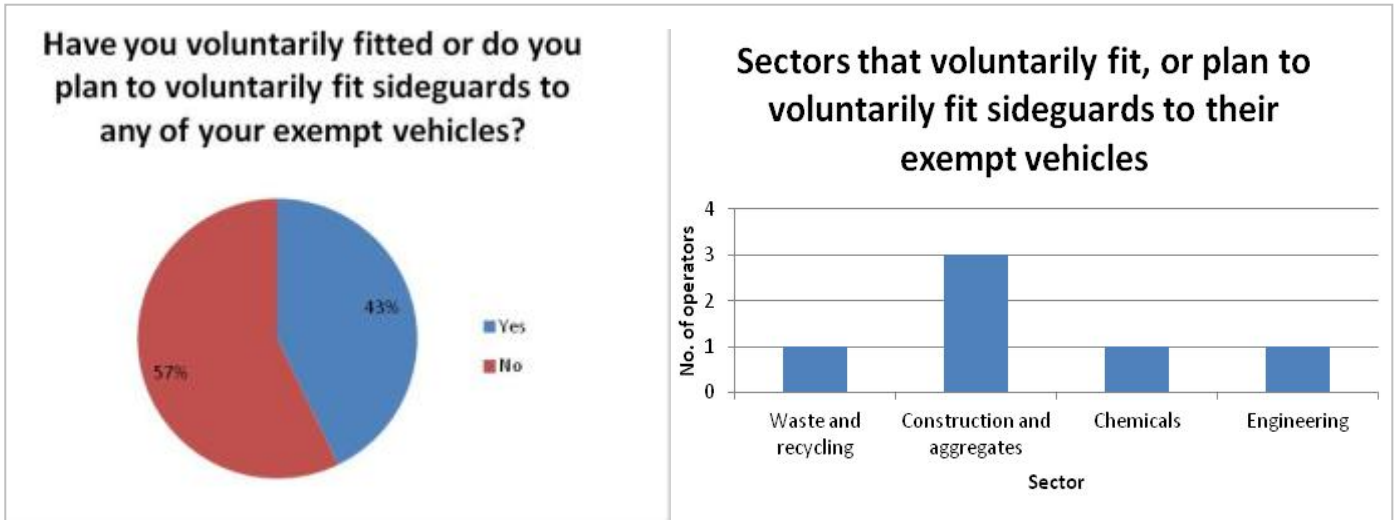


Figure 3.2 Percentage of operators running exempt vehicles and fitting sideguards and sectors fitting sideguards to exempt vehicles

Company	Sector
SITA UK Ltd	Waste & Recycling
Speedy Services	Construction
NSL Ltd	Chemicals, Construction, Engineering
FM CONWAY LTD	Construction, Utilities
Cemex UK*	Aggregates, Construction

**It should be noted that 2 of the respondents were from Cemex.*

Table 3.3 Operators voluntarily fitting sideguards to exempt vehicles

What vehicle types are they fitted to / planned to be fitted to? (tick all that apply)	No. of Operators
Tipplers	4
Street sweepers, refuse collection vehicles etc	1
Car transporter	1
An agricultural motor vehicle or agricultural trailer/trailed appliance	1
A trailer designed and constructed, and not merely adapted, to carry round timber, beams or girders of exceptional length	1
A chassis without bodywork that is being driven or towed for a quality or safety check by its manufacturer, dealer or distributor, or by previous arrangement to premises where bodywork is to be fitted or preparatory work done or to premises of a dealer or distributor	1
A vehicle being driven or towed to a place where by previous arrangement a sideguard is to be fitted so that it complies with this regulation	1

Table 3.4 Vehicle types operators are voluntarily fitting sideguards to

In combination, table 3.3 and table 3.4 demonstrate that the construction and waste sectors feature more highly as those fitting sideguards to exempt vehicles. In particular, fitment to tipplers seems most common with four out of the five operators stating that they fit to this vehicle type. Looking at the arguments against exemption in section 3.3 it appears that the reasons for exemption (that they require space for the tipping mechanism and are required to drive off-road) are most easily overcome in tipplers. SITA UK stated that they carried out a trial before fitting sideguards to their hooklift tipplers which demonstrated to them that the majority of potential issues could be overcome. For example, access to controls and ancillary equipment need not be hindered as long as the sideguards are positioned correctly. Because exempt vehicles do not have to comply fully with the dimensional specifications (see section 3.1.4) of sideguards to pass the annual inspection, it is much more feasible that they can be fitted in a non-obstructive way.

3.4.4 What drives them to do this?

Whilst understanding which sectors and vehicles most commonly fit sideguards to exempt vehicles is useful in determining where encouragement should be targeted, it is important to understand *why* operators have made the effort to fit their vehicles out, at an extra cost, with equipment that they are not legally required fit.

Figure 3.3 shows the reasons for fitment specified by the survey respondents. All five operators stated safety as a reason demonstrating how high it is on the agenda of urban operators. This is supported by the telephone conversations outlined below in section 3.4.7.

One operator also gave ‘procurement clauses’ and ‘good image for your company’ as reasons. In this instance the procurement clause was in a contract with Crossrail. It is fair to say that whilst creating a good company image may not be a key *reason* for fitting sideguards, it is a positive side-effect that operators should make the most of.

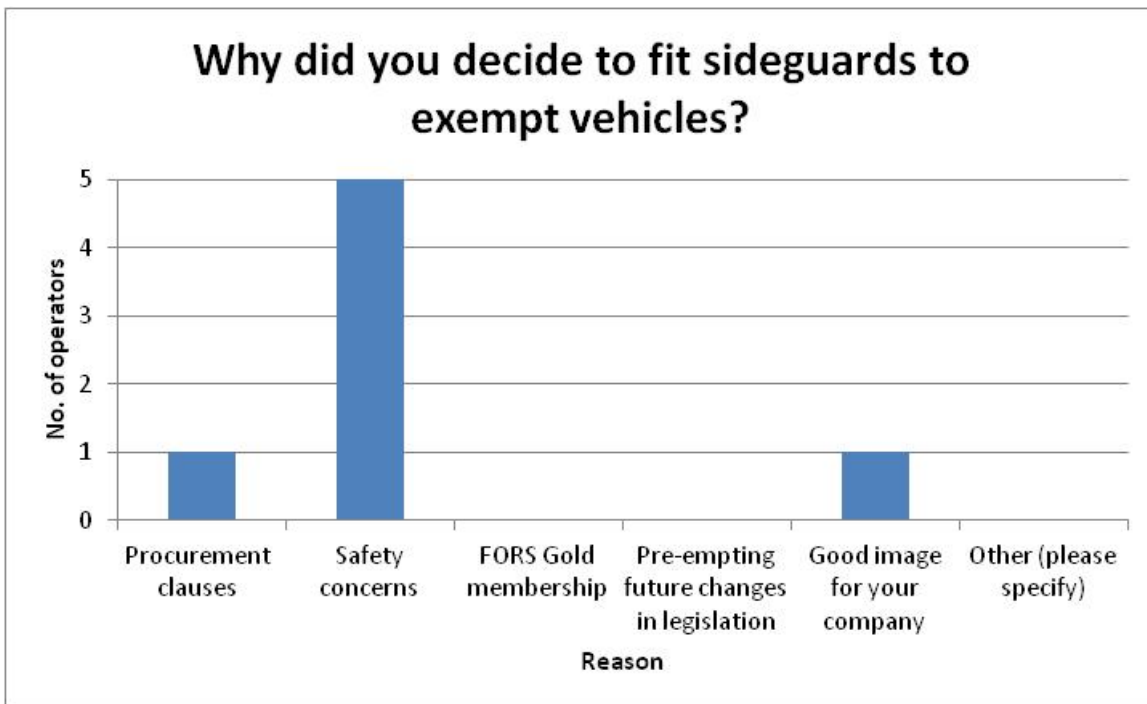


Figure 3.3 Reasons for fitment of sideguards to exempt vehicles

For those operators that operate exempt vehicles but do not fit (or plan to fit) sideguards, the question was posed as to what might encourage them to do so. Figure 3.4 shows the responses.

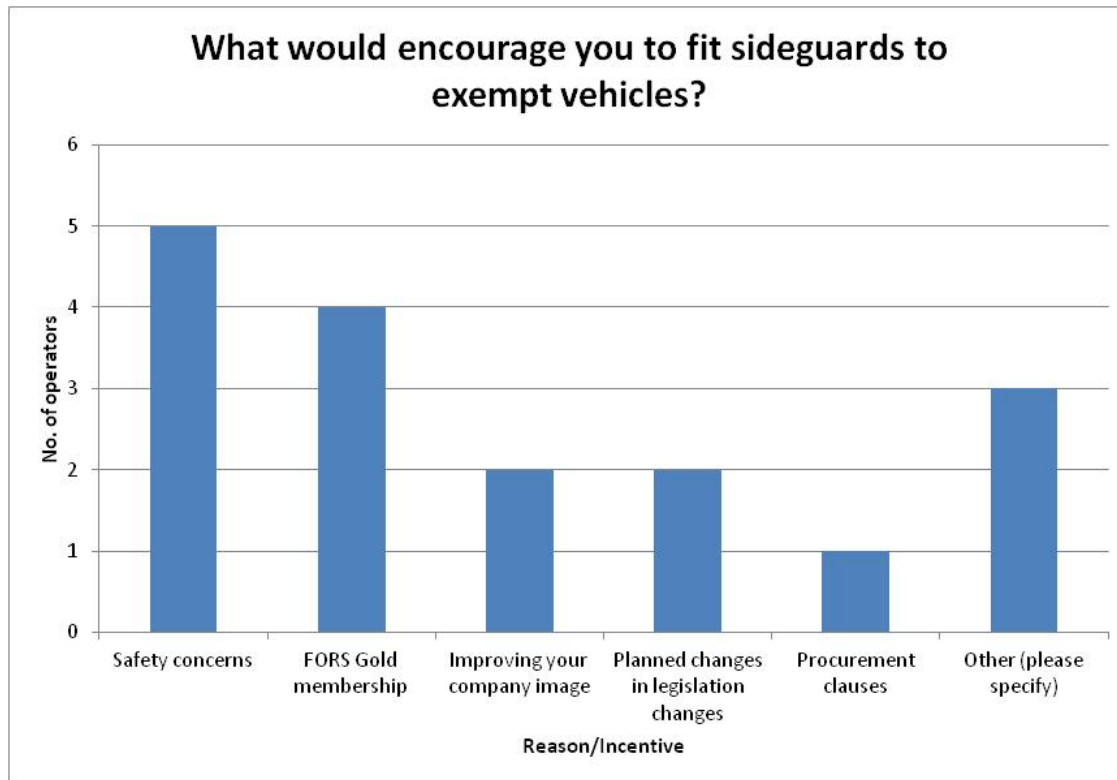


Figure 3.4 Reasons/incentives that would encourage operators of exempt vehicles to fit sideguards

Again it is clear that safety concerns are high on the agenda of operators with 63% of respondents stating that this would encourage them to fit sideguards. FORS gold membership was the second most popular choice – demonstrating the importance and credence operators apportion to the scheme.

Two operators selected ‘improving your company image’ suggesting if they could fit sideguards they would do so. It may be the case that operators believe it is physically impossible to fit sideguards to their vehicles rather than simply apathy or financial concerns. In many cases this may be justified but it is equally important to consider the reasons against exemption (section 3.3) and to realise that many operators may simply be unaware of the options available to them in terms of specialised manufacturing and fitment.

It is interesting that only one operator indicated that procurement clauses would encourage them to fit sideguards. Perhaps again this is the belief that they simply cannot have them fitted and therefore a clause in a client contract would either have to be negotiated or the contract declined. Three operators stated ‘other’ reasons, these were:

- “The type of vehicle we run does not require them as they are tippers”

- “Suitability for our operation - our vehicles are tippers and off road much of the time driving over rough terrain”
- “Financial incentive”

One company also stated that they would be encouraged by ‘planned changes in legislation’ and would consider specifying sideguards on newly procured vehicles in the future, but currently their tipper vehicle mechanisms do not allow for sideguards.

Section 3.4.5 provides further insight into why operators may chose not to fit sideguards.

3.4.5 Promoting the fitment of sideguards

We asked all of the operators whether they felt TfL should promote the fitment of sideguards for exempt vehicles. A positive response came from 92% of respondents (see figure 3.5):

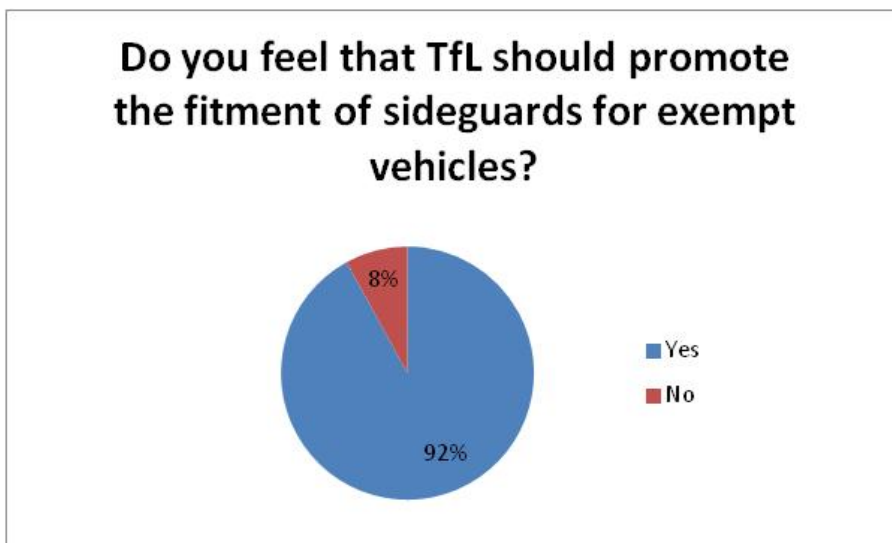


Fig 3.5 Should TfL promote the fitment of sideguards?

Of the 23 respondents who felt that promotion by TfL was a good idea we asked *how* this could be achieved. Fig 3.6 shows the responses. By asking operators their opinion on promotion it is possible to gauge which methods the target audience will be most receptive to.

Every method of promotion was selected by at least 12 of the operators showing that all methods would be popular. The most popular method, with 19 operators selecting it, seems to be the development of an information pack for operators of exempt vehicles.

Setting up discounts and offers through FORS, inclusion in the procurement process and manufacturer demonstrations of fitment to exempt vehicles were all selected as viable promotion

options by 14 of the respondents. Slightly less popular but still showing 52% support from respondents were promotion via newsletters and inclusion in the FORS workshop programme.

Promotional methods and encouragement of fitment will be considered further in section 5.

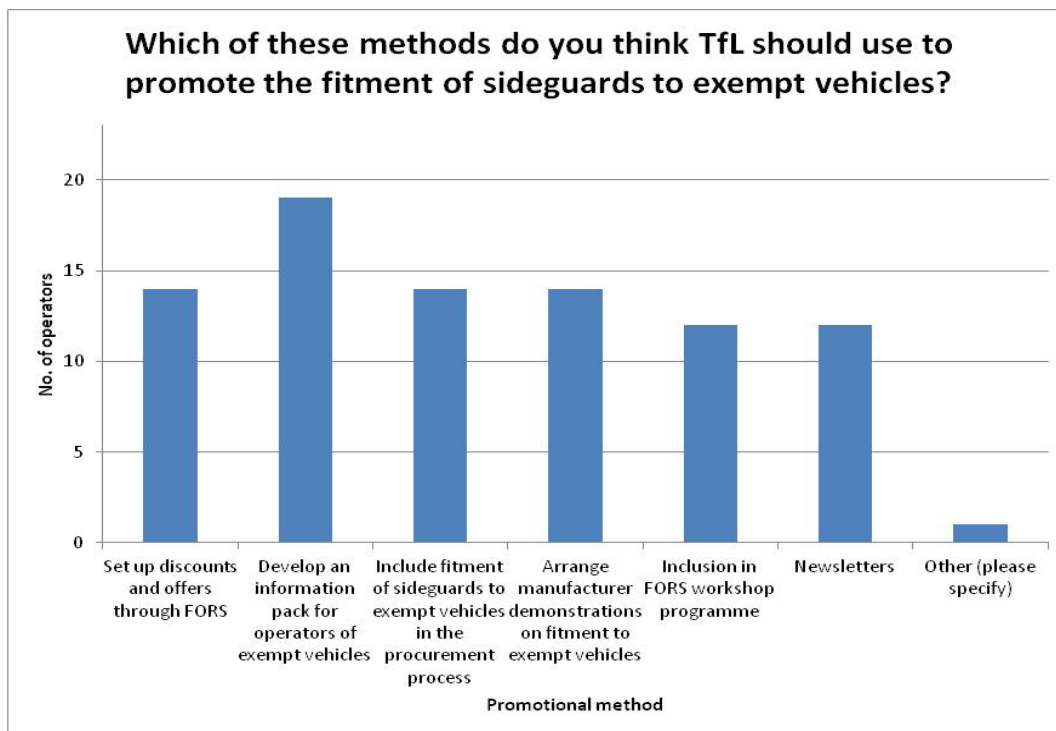


Fig 3.6 Selected methods for TfL promotion of sideguard fitment

3.4.6 Reasons given for not fitting sideguards

Reservations for fitment of sideguards seem largely to be financial; the cost of fitment, or the belief that the vehicle will be damaged during fitment or through operating in an environment where sideguards might be susceptible to getting caught and ripped off the vehicle. This is particularly the case for those operating vehicles travelling off-road. One operator felt that fitting sideguards to a vehicle may increase the chances of entanglement where space is already limited. One operator stated that they didn't believe that sideguards could be fitted to tippers vehicles. Another operator stated that they simply cannot afford to fit sideguards when they are not required to do so – they maintain that cycle safety is important but feel unable to act regarding sideguards.

3.4.7 Other Comments

Survey respondents were given the opportunity to offer any other comments and opinions on the promotion of sideguards on exempt vehicles:

“Put adverts on the rear of buses so that HGV drivers and cyclists would be aware of the problems”

Dave Newland, Transfreight

“It may be an idea to introduce a driver awareness pack and some instruction on what to look for to avoid cyclist collisions”

Jonathan Murphy, Garic Ltd

“Sideguards should be fitted on all new vehicles as part of safety”

Victor Stock, Bywaters Leyton Ltd

“Educate cyclists to obey the Highway Code. Fine them for jumping red lights, not using lights at night, failure to check before signalling and manoeuvring, cycling on the pavement etc. Money raised from this could pay for their education at left-hand junctions and sideguards for exempt trucks. I am a truck driver/car driver/motorcyclist/pedal cyclist and pedestrian”

Dave Heuston, Hendricks Lovell

“Due to the off road useage of our fleet a retractable sideguard system would have to be designed and fitted. There could be implications with insurers when fitting modifications to our fleet”

Terry Good, Keltbray Ltd

“We have enough rules in the UK I don’t believe another body or authority should change what’s already in place via a promotion. We should all use the right legal process to change rules that need to be amended”

Andrew Pumphrey, NSL Ltd

“They should only be promoted where they are practical to be fitted. I would think that if a vehicle is exempt then they are exempt for practical reasons because sideguards are not possible to be fitted or would create operational difficulties”

Paul Green, Selwood Ltd

“Any fatality is devastating not only for the victim and their family but also the driver and their family, a simple solution is to enforce sideguards on every vehicle at manufacture stage, this would reduce the possibility of destroying so many lives. May not achieve 100% reduction but even 1 fatality reduced is worth the effort, costing should not come into the equation at all, sideguards are a minimal cost compared to overall cost of an HGV vehicle”

Gary Orr, One Call Hire Ltd

“You need to look at which types of vehicles are exempt and target the ones where fitment is a practical option”

Tony Buckland, R M Page Ltd

“They should be fitted to all trucks where possible”

Paul Sheekey, Brett Concrete

“Any safety feature that saves injuries and lives must be promoted”

Garv Batchelor. PHS Wastetech

“The casualty figures speak for themselves. This is an area where all responsible operators can help to bring down the number of cyclists deaths and injuries and help protect their drivers from the chance of having to deal with a fatality. Anything to help cyclists and HGV safety should be implemented”

Peter Parle, FM Conway Ltd

3.4.8 Operator feedback profiles

Further qualitative engagement took place with a range of operators to expand on the results of the survey. All of the operators questioned operated exempt vehicles but not all fitted sideguards. The following profiles give a more in-depth insight into why and how they fit/don't fit sideguards and looks at individual experiences and opinions which will in turn help shape strategy going forward.

Operator Profile: SITA UK Ltd



Exempt vehicles in operation...

SITA UK Ltd operate a number of exempt vehicles, the bulk of which are hooklifts, refuse collection vehicles and front end loaders. SITA estimate around 50% of their vehicles are exempt the sideguard legislation however, SITA are committed to fitting sideguards to their exempt vehicles.

Reasons for fitting / not fitting sideguards...

- **Policy?** It is a company-wide policy to fit sideguards to their exempt vehicles
- **Reasons?** A few years ago they suffered a fatality whereby a pedestrian ran under one of their trucks, it was an exempt vehicle and didn't have sideguards fitted. Following this they took measures to fit sideguards to all vehicles – they undertook a trial first to check feasibility and to identify any issues they may experience
- **Justification?** The trial demonstrated to them that the majority of potential issues caused by sideguards on exempt vehicles could be overcome – for example access to controls and ancillary equipment needn't be hindered as long as they are positioned correctly
- **Outcomes?** Following the trial SITA took the decision to roll sideguards out across the fleet

Any other comments?

- Initially they retrofitted all of their exempt vehicles but it is now a case of specifying when they order new vehicles. They do this with the body manufacturer.
- Since SITA have fitted sideguards there was an incident where a vehicle was turning left as a cyclist undertook on the nearside – they firmly believe that had it not been for the sideguards the cyclist would almost certainly have gone under the wheels



Operator Profile: Veolia Environmental Services



Exempt vehicles in operation...

Veolia operate a number of exempt refuse vehicles and cage tippers. They have sideguards fitted to some but not all of their vehicles.

Reasons for fitting / not fitting sideguards...

- **Restrictions?** Within the category of refuse vehicles there are a variety of types – narrow width, standard width etc and the amount of ancillary equipment on the chassis varies making some suitable for fitment and others not
- **Considerations?** Since the introduction of Euro IV and V regulations there is even more ancillary equipment to take into consideration, for example the addition of Ad Blue tanks
- **Limitations?** Where space is limited, smaller sideguards could be fitted but they are not convinced that this is always effective and may even cause a bigger hazard by increasing the chance of entanglement
- **Issues once fitted?** Where they have fitted sideguards to suitable vehicles they have had no problems at all
- **Procurement clauses?** Veolia have not come across any contracts that have specifically required them, in the written contract, to fit sideguards but they have come across clients who have requested it, mainly London Boroughs. It is largely on a borough by borough basis – each contract is different and each borough has different requirements and policies

Any other comments?

- Veolia are currently in dialogue with a London Borough who have expressed an interest in sideguards in terms of cycle safety. Veolia will always look into it and carry out a feasibility study but at the end of the day they are the vehicle operator and operational risk is their responsibility so if they believe it is not feasible or even dangerous they will not fit them
- If they decide to fit sideguards to any exempt vehicles then they will specify them *after* the chassis has been built
- If the manufacturers could incorporate sideguards as part of the ancillary chassis equipment when they are built then Veolia believe this may be a solution to the problems associated with limited space and access to ancillary equipment
- Veolia believe that if the fitment of sideguards was something the bodybuilders could easily achieve and make a profit from then they would be pushing to sell them to them, which isn't happening

Veolia are heavily involved in cycle safety in London. They participated in the TfL HGV cycle safety technology trial and organised an exchanging places day in Lambeth. They feel strongly that HGV / cycle safety is a dual responsibility between both drivers and cyclists regardless of whether sideguards are fitted.



Operator Profile: London Waste



LondonWaste

Exempt vehicles in operation...

London Waste operate 7 exempt hooklift vehicles. They do not fit sideguards to any of these exempt vehicles

Reasons for fitting / not fitting sideguards...

- **Reasons?** Due to their design, the hooklifts are physically not able to accommodate sideguards, particularly because of the operating equipment under the body. It would cause problems with the lifting gear.

Any other comments?

- In two years time they are planning on specifying new vehicles which will be able to have sideguards fitted but in the meantime it is simply not possible.
- London waste are very involved in and committed to FORS and cycle safety. They have recently had their vehicles fitted with Backwatch side sensors and were involved in the recent TfL HGV cycle safety technology trial



Operator Profile: Atlas Bulk Carriers Ltd



Exempt vehicles in operation...

- Atlas Bulk Carriers Ltd (ABC) operate 23 tipper vehicles which are exempt from sideguard legislation and none of the 23 have sideguards fitted. ABC work in the construction industry as ground workers and waste disposal (they do not operate RCV waste vehicles)

Reasons for fitting / not fitting sideguards...

- As ABC work largely off-road, the tipper mechanism can potentially get damaged, especially with sideguards fitted. Some of their vehicles are grabloaders which makes it even more complicated in terms of the mechanism
- Cost is also a factor for ABC – they simply can't afford to fit sideguards to vehicles when they are not required to, especially in the current economic situation

Any other comments?

- If there were a grant system or financial incentives to fit sideguards then they certainly would try to fit them to the vehicles that don't go off-road as much
- The fuel tank and oil tank on their vehicles provide a certain amount of protection along the side of the vehicle – they realise it is not the same as a sideguard but it nevertheless provides a certain amount of protection
- In terms of cycle safety they fit as many mirrors as they can – additional nearside mirrors. Thinking about adding side cameras to their vehicles in future which would help. Currently have reversing cameras but not installed with cycle safety in mind



Operator Profile: FM Conway Ltd



Exempt vehicles in operation...

- FM Conway are currently in the process of retrofitting their current tippers and grabs and are also in the process of specifying new vehicles with sideguards. In total they will have around 50-60 exempt vehicles fitted.

Reasons for fitting / not fitting sideguards...

- **Reasoning** – purely cycle safety. As a London based company, making around 300,000 trips into London every year, cycle safety is obviously an issue of great importance to them.
- **Procurement clauses?** They have not come across any contracts that have required them to fit sideguards. FM Conway do a lot of work for the London Boroughs and whilst they have not specifically been required to fit sideguards, they are well aware that cycle safety is high on the agenda of the authorities

Any other comments?

- For the retrofitting they are fabricating and fitting the sideguards themselves. They use the Construction and Use regulations to ensure the correct specifications are used. For the new vehicles they use Charlton Bodies (part of Thompsons Group) in New Addington (see section 3.7.1)
- A major concern for FM Conway regarding HGVs and cycle safety is the London Lorry ban which puts HGVs on the road at 7am just when the commuters are cycling into work. They believe this increases the risk factor significantly and if this could be moved back by 1hr, they believe it could make a huge difference
- FM Conway believe that anything that can be done to help cyclists and HGV safety should be implemented
- They are active FORS members and have achieved silver status. They are also working with the Noise Abatement Society to make their vehicles quieter

Operator Profile: Cemex UK



Exempt vehicles in operation...

Cemex operate concrete mixers and tipper vehicles (rigid and articulated) and fit sideguards to all of their exempt tipper vehicles in London. All vehicles since 2008 have sideguards fitted as standard and the rest have been retrofitted. In 2010, Cemex retrofitted all pre-2008 eight wheel tippers with nearside sideguards and both nearside and offside sideguards to their articulated tippers.

Reasons for fitting / not fitting sideguards...

- **Incidents?** Cemex encountered a few 'near misses' in the past prompting them to fit sideguards to their London vehicles:
 - In one instance a vehicle had stopped at traffic lights and a pedestrian decided to cross underneath the vehicle rather than at the lights. Luckily the driver was vigilant and saw the pedestrian and didn't pull away as the lights changed
 - An incident in Millennium Village, Greenwich involved a vehicle making a right hand turn as a cyclist passed through a red traffic light and slipped on the wet road. The bike went under the wheels of the vehicle. The cyclist fell off the bike before it went under the wheels but the incident could have been a lot more serious.
- **Procurement?** Crossrail are the only company they have come across that have contractually required the fitment of sideguards but they believe it will become a more common requirement going forward
- **Commitment:** In 2000, RMC (now Cemex) were involved in a fatal accident. Since then Cemex have been committed to becoming industry leaders in safer vehicle design and cycle safety advocates.

Any other comments?

- Cemex have had no problems at all with sideguards impeding the mechanisms of their exempt vehicles – they cause no obstruction to the landing legs which wind down just as easily as before. They do not see 'obstruction to mechanism' as a feasible reason for exemption.
- Cemex believe the biggest issue is with articulated tippers as the vulnerable area is bigger and blind spots are enhanced as the trailer follows the cab when the vehicle is turning.
- They would estimate that cost of fitting sideguards to their articulated vehicles is approximately £1000 per vehicle and approximately £800 per rigid vehicle. Cemex are strong advocates of sideguards and believe the cost of fitment is nothing in comparison to the loss of a life.
- Since fitting the sideguards to their fleet, Cemex have encountered a near miss which they believe would've resulted in a serious injury or fatality had sideguards not been fitted:
 - An articulated tipper was making a right hand turn into a site in Fulham, as the trailer followed through the entrance a man in a mobility scooter crashed straight into the sideguards. Had they not been fitted he would have almost certainly gone under the wheels. This demonstrates that cyclists and pedestrians are not the only vulnerable road users that should be considered.
- Additionally, Cemex have fitted rear signage on the nearside corner, additional nearside mirrors over and above legislation to aid visibility all around the vehicle and proximity sensors which have an indicator in the cab to warn the driver and activated message for anyone passing too close to the nearside of the vehicle. They are also involved in 'Exchanging Places' cycle safety events with the Met police.

3.5 Manufacturers, bodybuilders and suppliers

3.5.1 Who are the main manufacturers, bodybuilders and suppliers?

Table 3.5 lists some of the major vehicle manufacturers and bodybuilders as well as sideguard suppliers. Those highlighted represent the companies engaged for the purposes of this research project.

Manufacturer / bodybuilder	Vehicle types
Thompson UK	Tipper
Charlton Bodies (Thompson Group)	Tipper
VFS	Commercial vehicle converters
Bevan Group	Specialist vehicle bodybuilders
Dennis Eagle	Refuse vehicles
Brit-tip	Tippers, Waste, general bodybuilders
Iveco	Chassis only vehicle manufacturer
Mercedes	Commercial Vehicle manufacturer
MAN	Commercial Vehicle manufacturer
Commercial Body Fittings	General bodybuilders
Tipmaster	Tippers
Incomol	Refuse
Lacre Limited	Refuse
Boughton	Front loader, roll-off and hooklift
Glover, Webb & Liversidge	Fore & aft tipper, RL refuse bodies
Powell Duffryn Engineering	Front and rear load refuse bodies
Shefflex	Fore and aft tipper, rotary tipper, RL refuse body, semi-automated loader systems
Walkers & County Card Ltd	Detachable body system, RL refuse bodies, bin lifts
John Dennis Coachbuilders	Fire Vehicles
Cartwright Parts	Supplier of sideguard components
Nationwide Trailer Parts Ltd	Supplier of sideguard components
TRP Truck & Trailer Parts	Supplier of sideguard components
UK Trailer Parts	Supplier of sideguard components

Table 3.5 Major manufacturers and bodybuilders

3.5.2 How are sideguards fitted or retrofitted?

Unless specified by the customer, sideguards are not fitted to exempt vehicles as standard. Engagement with both operators and manufacturers indicates that sideguards are fitted during the bodybuilding stage. Iveco stated that they have no involvement with sideguards at all – they simply produce the chassis.

Brit-tip, a commercial vehicle bodybuilder, state that they try to make bespoke vehicle systems for whatever type of vehicle they encounter, this includes fitting sideguards to exempt vehicles *where possible*.

Alternatively, some bodybuilders will supply the material to companies, along with the instructions on fitment requirements and they will fit the sideguards themselves. FM Conway are an example of a company that do this – they have the capabilities and resources to produce and fit their own sideguards and they do so according to the Construction & Use regulations. Exempt vehicles have more flexibility with dimensions and specifications due to the fact they are not failed at inspection on as many factors as non-exempt vehicles, making self production and fitment a more feasible option should the facilities allow.

VFS, commercial vehicle converters, said they get very few requests for sideguards to be fitted to exempt vehicles but they believe that there is the engineering capability in the UK to overcome any problems with fitment, that it is possible to fit sideguards to nearly all exempt vehicles with some consideration. This is in line with comments from operators such as SITA and Veolia who have experienced no mechanical issue with the sideguards they have had fitted.

Thompson UK suggested that they would work on the bodies of around 13 or 14 exempt vehicles a week before the recession. That figure is currently closer to 8 exempt vehicles a week and of these only around 6 in the entire year would request sideguards.

3.5.3 Identification of cost

VFS believe that the decision to fit sideguards to exempt vehicles is largely cost-driven. Thompson UK, tipper specialist bodybuilders, quoted roughly £50 for sideguard parts and £200-£250 with labour/fitment added on. VFS quoted £100-150 as an estimate price for sideguards, including fitment. When purchasing a brand new vehicle this cost may seem negligible but it should be considered that retrofitting to an entire fleet may prove a costly disincentive for operators.

Charlton Bodies also observed that, in their experience, most operators want to get by with minimum requirements and do not want to add any extra, unnecessary cost or maintenance. This feeling was also reflected by Thompson UK. They believe that health and safety is not top

priority for many operators, but cost is. Whilst this is contrary to the results of the online survey it should be considered that the survey was sent to FORS members who are more likely to be conscientious operators. It should also be considered that many operators simply would not admit to putting cost above safety.

3.5.4 Detachable / retractable / extendable sideguards

Variations to standard sideguards are available. Dennis Eagle confirmed that they offer detachable or hinged sideguards for their refuse vehicles although these are not as popular due to the additional costs involved. Companies either tend to completely opt in or opt out of fitting sideguards. As VFS state, there should be an engineering solution available for most vehicular design issues.

3.5.5 Sector Specific Issues

Dennis Eagle provides both the chassis and the body for refuse vehicles. They estimate that around 40-50% of companies opt to have sideguards fitted. Of these, they estimate that around 30% choose to have them fitted for safety reasons. This perhaps represents the importance that Local Authorities in particular place on safety and the pressure to optimise health and safety standards wherever possible. They also raise the point that in rural areas sideguards seem not to be as much of a priority, the emphasis on cycle safety appears to be in urban towns and cities where the risk of injuries and fatalities are much higher.

Thompson UK and Charlton Bodies (part of the Thompson group) both stated that requests for fitment of sideguards to exempt vehicles, in their case tippers, were rare. FM Conway were Charlton's first ever order for an exempt company. They have not yet fitted the sideguards and say it is a learning curve for them too – they plan to build up the whole vehicle, fit all equipment and then see what space is left for the sideguards.

Of the few exempt tippers that Thompson UK fit in a year, the majority are for councils who are very conscious of health and safety issues and wary of potential legal action being taken against them. Conversely VFS state that they get very few requests for sideguards to be fitted to council / local authority vehicles. They deal mainly with tippers and were surprised by the lack of example that local government set.

3.6 Trade Associations and Government Bodies

Engagement with Trade Associations and Government bodies helped clarify legislation and regulatory issues relating to the fitment of sideguards to exempt vehicles and helped gauge industry opinion on the issue.

3.6.1 Freight Transport Association (FTA)

FTA is aware that certain sideguard exemptions will disappear next year through further implementation of EU Whole Vehicle Type Approval. They believe that the list of exemptions will reduce significantly, for new vehicle type approval only. The DfT issued consultation on HGV MOT Testing Exemptions and the proposal to remove ten of the exemptions (not only for sideguards) on 10 December 2009, the results of which are currently unavailable (see section 3.6.3).

With regards to why some companies voluntarily fit sideguards, they believe it is generally about “managing risks”. The message is clear - if companies are involved in accidents with a cyclist, it is generally their responsibility – sideguards make it less likely that the accident will be fatal. It is about proving, should the worse happen, that the company had all the maximum safety devices possible (blind spot mirrors / technology, sideguards, etc). Nobody wants to be the next company in the press for having a fatality.

Generally a lot of companies will also fit sideguards because “it’s the right thing to do”, there is a moral sense involved as well as being simply about managing risks. Companies surveyed were not particularly aware of fitment for contractual reasons, although we know that this has started to happen, with for example Crossrail.

Sideguards are cheap to fit (unlike rear under-run guards for instance) as they are designed only to stop vulnerable road users such as cyclists and pedestrians (as opposed to a fast moving vehicle) and some are removable. Some companies who retrofit have been ingenious (ie moving the control box for the tipper mechanism to the front rather than the side so that space is available for sideguards).

The FTA is encouraging its members to have sideguards fitted and has been campaigning for about two years for the fitment of sideguards. Not through incentives but really by showing evidence of the benefits and how it can be justified.

3.6.2 Road Haulage Association (RHA)

The RHA’s comments concentrated largely on tipper vehicles and the impact on tipper operators. They also stated that the exemptions for tipper vehicles are currently under review and *may change*. At the moment tippers are exempt from fitting sideguards and rear under-run protection on the grounds of safety and damage – the sideguards can be severely damaged during the ingress and egress from construction sites, particularly in the initial and ground work phase – the damage is particularly hazardous as it may cause jagged edges and be pushed out of line meaning they may catch on other road users – particularly pedestrians and cyclists.

If regular site repairs are necessary to comply with sideguard legislation it may affect the productivity of the vehicles to the extent that additional vehicles may be needed with the knock-on effect of additional emissions and extra cost to industry.

Most modern tipping vehicles, particularly rigid vehicles, have much ancillary equipment bolted to the chassis, which means large gaps along the chassis have virtually disappeared which goes some way to substituting sideguards.

From discussions with their members, the RHA believe that the majority of companies fit sideguards for contractual reasons i.e. to win new work or to keep existing business. They suggest that some companies make a business decision to give themselves a commercial advantage in winning work by fitting sideguards and they would then factor in the cost for repairing sideguard damage into their tenders.

3.6.3 Department for Transport (DfT)

In December 2009, DfT issued an informal consultation regarding the current sideguard exemptions provided in the Construction & Use Regulations. This review was to assist DfT in interpreting and deciding what exemptions to implement under the EC Whole Vehicle Type Approval Directive (in which there are no vehicle specific exemptions for sideguards simply a blanket statement exempting vehicles if it is deemed that the vehicle type is incompatible with sideguards - see section 3.1.5).

The outcome is unlikely to be made public until Spring 2012. However it is understood that ECWVTA requirements will mean that more vehicles will need to be fitted with sideguards and only vehicles where it is impossible to fit them, very expensive to fit them, or where the sideguards would be damaged in normal use, would be exempt.

3.6.4 Vehicle and Operator Services Agency (VOSA)

VOSA provided statistics on the number of inspection tests failed due to sideguards, rear under-run devices and bumper bars. Whilst they were unable to distinguish between exempt and non-exempt vehicles it is clear, from table 3.6 that between April 2010 and March 2011 the number of trailers and HGVs failing for this reason is a relatively minor amount.

A copy of the Freedom of Information request response from VOSA can be found in Appendix D.

Vehicle type	Total tests (1 st & annual & Prohibition clearances)	Number of bumper/sideguard fails	% bumper/sideguard test failures
Motor vehicles	425,970	7,469	1.75
Trailers	227,057	1,091	0.48
HGV	653,027	8,560	1.31

Table 3.6 Vehicle test failures due to sideguards, rear under-run devices and bumper bars between April 2010 and March 2011

VOSA reiterated the point that when it comes to a vehicle's annual inspection, those that are exempt from fitting sideguards will only be assessed on the following:

- Check that the sideguard for security – i.e. that it is not unstable and is secure on the vehicle
- Check that the sideguard surfaces are smooth – with exposed surfaces that are smooth (e.g. no projecting brackets, jagged edges, bolt heads that are not dome shaped)
- Check the sideguard for overall width – the sideguard should not increase the overall width of the vehicle

Essentially, if the effort has been made by an operator to fit sideguards when they are not required to do so, they do not need to comply with dimensional requirements. This is a key point to consider promoting as it may not be universally known in the industry.

3.6.5 Vehicle Certification Agency

The Vehicle Certification Agency directed AECOM to EU Directive 2007/46/EC⁶ - *Establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles*. Specific reference was made to Annex IV outlining a general list of applicable rules; Annex XI listing 'special purpose vehicles' (those exempt for various requirements); and Annex XIX giving a timetable of applications for the various rules.

⁶ EU Directive 2007/46/EC - http://ec.europa.eu/enterprise/sectors/automotive/documents/directives/directive-2007-46-ec_en.htm

4 Conclusions

4 Conclusions

This section highlights the conclusions that can be drawn from analysis of the research outcomes in section 3. These conclusions will be addressed and used to inform the strategy development in section 5.

4.1 Fitment is possible

Fitting sideguards to exempt vehicles, even those exempt for reasons of engineering/mechanical obstruction, is possible. Feedback from both operators and bodybuilders demonstrates that there are ways to engineer sideguards around ancillary equipment in order to avoid obstructing controls and mechanisms such as landing legs. Vehicles that travel off-road may be more likely to incur damage to sideguards but it is possible to overcome this with the fitment of detachable or retractable sideguards. Sideguards fitted to exempt vehicles are not accountable for as many inspection criteria as non-exempt vehicles, making fitment options more flexible.



Fig 4.1 Refuse vehicles with and without sideguards

4.2 Procurement clauses are not prevalent

The majority of operators engaged had not encountered contractual clauses requiring the fitment of sideguards. The only contract quoted as requesting sideguard fitment was Crossrail. This indicates that there is scope to encourage companies to introduce cycle safety procurement clauses, such as the fitment of sideguards, into their operations. Local Authorities, in particular the London Boroughs, were often quoted as key contracts and deemed influential.

4.3 Importance of safety

For operators who do fit sideguards to exempt vehicles and also those who do not, safety was a top reason, or potential reason, for fitment of sideguards. With a Health and Safety culture firmly engrained in the UK and recent legislation such as the Corporate Manslaughter Act coming into action, operators cannot afford to ignore safety concerns. Equally an operator recognised as a safety conscious company is a well regarded company that may win more work as a result – company image is a secondary effect of good safety practice but an important effect to consider.

“Any safety feature that saves injuries and lives must be promoted”

Gary Batchelor,
PHS Wastetech

4.4 Cost is a factor

Whilst safety is of paramount concern to operators and the key reason behind voluntary fitment of sideguards to exempt vehicles, cost is also a discouraging factor. Whilst prices are low in comparison to the cost of whole vehicle procurement it is still an additional cost that the operator is not *required* to incur. In an ideal world safety comes above cost but in a time when many companies are threatened by economic difficulty, priorities can be different.

4.5 Annual inspection criteria should not be discouraging

Vehicles exempt from fitting sideguards only need to comply with three of the eight annual inspection criteria – security, smooth surfaces and no increase in overall width. This means there is allowance for damage that may be incurred on off-road terrain and there is flexibility in the way the sideguards are fitted around ancillary equipment and mechanisms. Whilst a vehicle with voluntarily fitted sideguards will be tested (and potentially failed) on features they would otherwise not be, the relaxed criteria mean there is little justification for discouragement.

4.6 Regulation awareness

Industry is aware that EC Whole Vehicle Type Approval is being phased in for commercial vehicles over the next few years. ECWVTA offers no blanket exemption to the fitment of sideguards. Operators that act on this information sooner rather than later will save themselves time, effort and potentially money.

The impacts of these changes are likely to be:

- Small increase in vehicle cost due to fitment of sideguards
- Small impact on vehicle payload due to additional equipment
- More vehicles fitted with sideguards that are currently exempt

- Positive impacts on safety

There is a view that under ECWVTA tipper and refuse vehicles will no longer be exempt fitment of sideguards. Sideguards are currently being fitted to these vehicle types by some operators therefore as the concept has been proved it will be difficult to argue that these vehicle types should be exempt.

The average vehicle life of a tipper is considered to be around 8 years (longer if it is an articulated vehicle). Due to reduced mileage and more expensive equipment, a refuse vehicle is likely to last for ten years before it is replaced. Should a removal of exemptions affect tipper and refuse vehicles, it would be at least 5 years from the date of introduction of any new legislation before the vast majority of refuse and tipper vehicles have sideguards fitted.

Whilst DfT's informal consultation period has closed, AECOM suggests that TfL should seek to discuss the results with them prior to publication in order to ascertain whether TfL's priorities are being addressed.

4.7 Knowledge is key

Engagement with operators suggested that the development of an information pack would be the most popular method of promoting voluntary fitment of sideguards. Throughout the research process, inconsistency of information and understanding from all parties seemed to be a recurring theme. Locating and interpreting the correct and current legislation required particular caution and consideration. In order to avoid misunderstanding and frustration value should be placed on communicating the facts, dispelling inaccurate understanding and making information easily accessible in order to raise awareness and empower operators to take action.

“It may be an idea to introduce a driver awareness pack and some instruction on what to look for to avoid cyclist collisions”

Jonathan Murphy,
Garic Ltd

5 Strategy Development

5 Strategy development

5.1 How can fitment of sideguards be encouraged?

Having established the current industry position on the voluntary fitment of sideguards to exempt vehicles – why? what? and who? - AECOM are in a position to advise a system or strategy for Transport for London (TfL) to promote and encourage best practice in this area and improve safety for cyclists on London's roads. Essentially, the strategy should focus on the following objectives:

- Raising awareness
- Increasing understanding
- Improving clarity of information
- Showcasing best practice
- Targeting and communicating with the right people at the right time
- Removing barriers

In order to achieve these objectives, it is recommended that an overlapping, three-point approach is adopted, incorporating marketing and communication, incentives and encouragement, and procurement options, with TfL taking a central co-ordinating role making use of existing TfL projects and programmes such as the Freight Operator Recognition Scheme (FORS):



Fig 5.1 Recommended three-point strategy approach

5.1.1 Marketing and communication

Encouraging the fitment of sideguards to exempt vehicles will only be worthwhile and effective if a robust communication plan is in place. Targeting the right people in the right way and communicating the relevant information is crucial.

5.1.1.1 Operator information pack

AECOM have found that there is both a difficulty in locating relevant information and an inconsistency in the information found. Offering operators a single 'point of knowledge' where they are able to access valuable information, clarify the facts and assess their needs/suitability regarding sideguard fitment is key. Research has demonstrated that operators would benefit from and appreciate the development of an information pack for operators of exempt vehicles.

The pack could be a printed and/or online resource and potentially containing the following elements (the elements of which can also be utilised separately in their own right):

Procurement guide – a concise leaflet summarising the arguments for fitment of sideguards to exempt vehicles, cycle safety statistics, key legislation, the procurement process and relevant contact details for key suppliers/manufacturers of sideguards and sector specific bodybuilders.

Best practice case studies – identifying operators that already fit sideguards to exempt vehicles and showcasing their experiences. Demonstrating that fitment is possible and proving it through real-life examples and operator endorsements is likely to have greater impact than direct government advice as operators will relate to their peers. The operator profiles in section 3.4.7 may act as a good starting point for case study development.

Legislation fact sheet – a brief statement of current, relevant legislation written in easily understandable terms, minimising unnecessary legal jargon. For operators looking for more in depth legal documentation, links to full, official directives and requirements can be included on the fact sheet.

Safety fact sheet - a one page fact sheet giving statistics on HGV safety and the improvements that could be gained by fitting sideguards. Information would be researched to identify accident reductions and types of accidents that are prevented / minimised through fitment of sideguards to exempt HGVs. This can be used by the operator as part of their business case for fitment of sideguards.

5.1.1.2 Webpage

Web pages offer an easily accessible, easily updateable platform for information dissemination. A sub-page within the TfL freight matters microsite would be an ideal targeted space on which to post information on current and future legislation, testing and inspection requirements, a supplier/manufacturer/bodybuilder contact directory, case studies and downloadable information such as the operator information pack outlined in section 5.1.1.1. Informing industry contacts and promoting the webpage will be a crucial marketing activity. Considered use of existing contact databases such as the FORS membership list can be utilised to achieve this, for example through an eNews bulletin. The FORS online system should also be considered a key resource for promotion.

5.1.1.3 Email campaigns

Occasional use of existing contact databases, carefully filtered by sector to target the relevant operators and minimise unnecessary mail for non-exempt operators, to send out dedicated eNews bulletins should be considered. Summarising the key information that operators need to know, focussing on the benefits of sideguard fitment and emphasising the ease and variety of fitment options will act as a trigger for action. Many exempt operators may not have considered the possibility that sideguards can or should be fitted to their exempt vehicles – a direct email campaign should raise awareness.

5.1.1.4 Workshop and event utilisation

A number of workshops are already run for the freight industry, both by TfL and externally. If TfL are able to incorporate an element of sideguard safety and fitment into existing workshops at no additional cost it will help, as a minimum, to raise awareness.

FORS currently offer five safety workshops, of which three in particular could successfully incorporate an element of sideguard promotion without going off-topic:

- Managing work related road safety
- Writing road safety policy
- Crash analysis and investigation

Additionally, should a more vehicle orientated workshop be established in the future, this would offer an ideal forum for promotion of sideguard fitment, along with other vehicle/cycle safety elements? Workshops in the past have been supported by external companies – approaching sideguard manufacturers or relevant bodybuilders to sponsor a workshop will be beneficial to all parties.

Another very relevant forum for sideguard promotion would be the ongoing Olympics workshops which are particularly popular with operators in the run-up to London 2012. Presence at these workshops could vary from simple dissemination of marketing material to a brief presentation segment on the benefits of fitting sideguards to exempt vehicles.

Fitment of sideguards is obviously also of great interest to cycle groups – wherever the cycle and freight industries come together would be an ideal place for promoting sideguards. In particular, Exchanging Places events where both sides are represented and specifically interested in cycle safety. Any sector specific events, such as the Tip-Ex show, should also be considered for distribution of promotional material.

5.1.1.5 Safety demonstration day

Taking workshop utilisation a step further and following the success of the HGV cycle safety technology day in September 2011, the organisation of another demonstration day looking at the wider aspects of HGV safety would act as an ideal mechanism for promoting the fitment of sideguards to exempt vehicles. Taking a similar format, best practice operators (of tippers or refuse vehicles for example) and their vehicles would be on display along with a range of suppliers and bodybuilders offering fitment services to exempt vehicles. To maximise attendance on the day, a range of safety features could be promoted including updated/different cycle safety technology.

5.1.2 Incentivise and encourage

Whilst marketing and communication concentrates on getting the information into the hands of the right people, it is important that this knowledge is converted into action.

5.1.2.1 Empowering through knowledge

It is worth noting that simply putting knowledge out there and giving operators the power to make reasoned decisions based on accurate information is encouragement in itself.

5.1.2.2 Benefits and financial incentives

It has been ascertained that cost of fitment can be a discouraging factor in the fitting sideguards to exempt vehicles and it is important to counteract this by giving operators positive encouragement to voluntarily make change. Financial incentives may be best placed for operators who want to retrofit their fleets – fitting a bulk number of vehicles may prove too big a cumulative cost for many operators.

Incentives may take the form of official grants, reductions in charging schemes, or perhaps through benefits and discounts from suppliers and/or bodybuilders. FORS is a good example of a programme that incentivises its members by offering exclusive benefits and discounts from FORS associates. By encouraging relevant suppliers and bodybuilders to become FORS associate members and offering discounts it both strengthens the appeal of FORS and encourages voluntary fitment of sideguards. Separate to FORS it may be possible to engage certain bodybuilders and recommend a strategy of advertising price reduction for fitment specifically to exempt vehicles. In return they can be added to a list of recommended bodybuilders and included in various marketing communications.

Reductions in charging schemes such as the Congestion Charge or Low Emissions Zone for operators that fit sideguards to exempt vehicles may be a popular incentive but it would need to be considered for feasibility and fair treatment i.e. operators who run non exempt vehicles and are required by law to fit sideguards would not benefit from the charging scheme reductions but still be paying out for sideguards as standard.

Similarly other exclusive but non-financial incentives could be put into place, for example a requirement to have sideguards fitted in order to achieve gold FORS membership.

5.1.3 Procurement options

AECOM have established that procurement clauses requiring the fitment of sideguards to all vehicles working on a particular contract are rare. Research flagged only one construction project, Crossrail, making use of responsible procurement in this way.

Crossrail Procurement

Crossrail is Europe's largest infrastructure and requires the establishment of many construction sites in Central London. With cycling on the increase in London, construction vehicles and cyclists are sharing the roads more and more.

As part of Crossrail's commitment to responsible procurement and employment of safe and sustainable transport companies, the scheme requires/encourages a number of cycle safety measures to be in place:

- Fitment of sideguards to all HGVs
- Fitment of Fresnel lenses to improve driver vision of cyclists
- Membership of the Freight Operator Recognition Scheme
- Undertaking of Crossrail Lorry Driver Induction Training



5.1.3.1 London Boroughs

If the influential London Boroughs can be encouraged to include sideguard procurement clauses in their relevant contracts or at the very least to ensure engagement and discussions with the vehicle operators is guaranteed then operators bidding for work with the Boroughs will have to consider voluntary fitment of sideguards. Emphasis within the Boroughs should be placed on waste and construction contracts. London Boroughs represent key clients for both sectors, particularly refuse companies.

A 'call to action' engagement strategy may be appropriate, placing emphasis on Health and Safety. It is as much about persuading and encouraging the Boroughs to create procurement clauses as it is about encouraging the operators to fit sideguards.

5.1.3.2 Private company procurement

In a similar way, encouraging private companies and large construction projects to include sideguard procurement clauses will result in operators at the very least having to consider the fitment of sideguards. Encouraging private uptake may take considerably more effort as each company will have their own policies and procedures. It may simply be a case of providing a set of procurement recommendations to major companies and projects.

5.1.3.3 Government organisations and procurement

TfL and other Government bodies should be seen to be setting an example and include the voluntary fitment of sideguards to exempt vehicles as a procurement clause in their own policies.

The Mayor of London's Responsible Procurement Policy is implemented across the Greater London Authority (GLA), Transport for London (TfL), the London Development Agency (LDA), London Fire & Emergency Planning Authority (LFEPA) and the Metropolitan Police Authority (MPA) / Service (MPS), collectively known as the GLA group. Guidelines implemented in this same manner, outlining requirements for fitment of sideguards to HGVs should set the standard amongst public sector organisations.

5.2 Next Steps

Moving forward, implementing the three-point strategy outlined in section 5.1 should begin with further engagement and involve:

- Communicating with London Boroughs
- Opening negotiations with sideguard manufacturers and bodybuilders to establish possible benefit offerings
- Collaborating with the relevant internal teams within TfL
- Early communication with DfT regarding changes to EC Whole Vehicle Type Approval exemption categories prior to the exemptions being published in Spring 2012, giving TfL a chance to influence
- Development of case studies via operator engagement
- Development of information packs and online web development

5.2.1 Further Discussion

AECOM are very happy to discuss the implementation and / or further development of this strategy with Transport for London.

6 References

6 References

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EU Directives:

Directive 89/297/EEC - Lateral protection (side guards) of certain motor vehicles and their trailers, 1989

Directive 2007/46/EC - European Whole Vehicle Type Approval Directive - establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, 2007

Directive 2009/40/EC - On roadworthiness tests for motor vehicles and their trailers, 2009

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Directive 2010/48/EU - Adapting to technical progress Directive 2009/40/EC of the European Parliament and of the Council on roadworthiness tests for motor vehicles and their trailers, 2010

7 Appendices

7 Appendices




Appendix A – Vehicle types exempt from legislation requiring the fitment of sideguards






Appendix B - Online survey





Appendix C – Full online survey results

Appendix D – VOSA Freedom of Information response

Appendix A – Vehicle types exempt from legislation requiring the fitment of sideguards

Vehicle exempted	Vehicle description	Example of vehicle
	<ul style="list-style-type: none"> - A motor vehicle incapable because of its construction of exceeding 15 mph on the level under its own power when fully laden 	Yard Tug
	<ul style="list-style-type: none"> - Engineering plant 	Crane, bulldozer
	<ul style="list-style-type: none"> - Fire engines 	Fire Engine
	<ul style="list-style-type: none"> - An agricultural motor vehicle or agricultural trailer/trailed appliance 	Tractor, combine harvester
	<ul style="list-style-type: none"> - A vehicle so constructed that it can be unloaded by part being tipped sideways or rearwards 	Tipper

Vehicle exempted	Vehicle description	Example of vehicle
	<ul style="list-style-type: none"> - A vehicle owned by the Secretary of State for Defence and used for naval, military or air force purposes - 	Military supply vehicle
	<ul style="list-style-type: none"> - A chassis without bodywork that is being driven or towed: - For a quality or safety check by its manufacturer, dealer or distributor, or - By previous arrangement to premises where bodywork is to be fitted or preparatory work done or to premises of a dealer or distributor 	See picture
	<ul style="list-style-type: none"> - A vehicle being driven or towed to a place where by previous arrangement a sideguard is to be fitted so that it complies with this regulation 	See picture
	<ul style="list-style-type: none"> - A vehicle designed solely for use and used solely in connection with street cleansing, collection or disposal of refuse or collection or disposal of the contents of gullies or cesspools 	Street sweeper, refuse collection
	<ul style="list-style-type: none"> - A trailer designed and constructed, (and not merely adapted – UK), to carry round timber, beams or girders of exceptional length 	Timber lorry

Vehicle exempted	Vehicle description	Example of vehicle
	<ul style="list-style-type: none"> - A motor car or heavy motor car constructed or adapted to form part of an articulated vehicle (UK); tractors for semi-trailers (EC)* 	Leisure passenger vehicle
	<ul style="list-style-type: none"> - A vehicle designed and constructed, and not merely adapted, to carry other vehicles loaded onto it from the front or rear 	Car transporter
	<ul style="list-style-type: none"> - A temporarily imported foreign trailer 	Foreign vehicle
	<ul style="list-style-type: none"> - A trailer with a load platform which is not more than 750 mm from the ground 	Low Loader

* Exemptions common to both EC and UK regulations with variations highlighted

Appendix B - Online survey

A short online survey was sent to a selection of freight operators, specifically targeting those that operate within the key sectors that host exempt vehicles such as construction, waste and agriculture. The survey is replicated in Appendix B (carried out via www.surveymonkey.com).



HGV sideguards and cycle safety



One in three pedal cycle fatalities in London are from collisions with left-turning HGVs. In 2008, of 15 pedal cyclist fatalities, nine involved an HGV and five of these included a left-turning manoeuvre by the lorry. Research has shown that HGVs without sideguards are involved in a disproportionately large number of fatal collisions with cyclists, given that the majority of HGVs are required to fit them. Do you operate vehicles that are exempt from the sideguard legislation? If so we'd like to hear your views.

*1. Please provide contact details

Name:	<input type="text"/>
Company:	<input type="text"/>
Email Address:	<input type="text"/>
Phone Number:	<input type="text"/>

*2. Do you operate, or plan to operate, any vehicles which are exempt from current sideguard legislation?

- Yes
 No

Next

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HGV sideguards and cycle safety



3. Have you voluntarily fitted or do you plan to voluntarily fit sideguards to any of your exempt vehicles?

- YES
 NO

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HGV sideguards and cycle safety



*4. What vehicle type are they fitted to / planned to be fitted to? (tick all that apply)

- Tipper
- Engineering plant
- Concrete mixer
- Street sweepers, refuse collection vehicles etc
- Car transporter
- Fire engines
- Military supply vehicles
- Motor vehicles incapable because of their construction of exceeding 15 mph on the level under their own power when fully laden eg yard tugs
- An agricultural motor vehicle or agricultural trailer/trailed appliance
- A trailer designed and constructed, and not merely adapted, to carry round timber, beams or girders of exceptional length
- A motor car or heavy motor car constructed or adapted to form part of an articulated vehicle
- A temporarily imported foreign trailer
- A trailer with a load platform which is not more than 750 mm from the ground
- A chassis without bodywork that is being driven or towed for a quality or safety check by its manufacturer, dealer or distributor, or by previous arrangement to premises where bodywork is to be fitted or preparatory work done or to premises of a dealer or distributor
- A vehicle being driven or towed to a place where by previous arrangement a sideguard is to be fitted so that it complies with this regulation
- Other (please specify)

*5. Why did you decide to fit sideguards to exempt vehicles? (tick all that apply)

- Procurement clauses
- Safety concerns
- FORS Gold membership
- Pre-empting future changes in legislation
- Good image for your company
- Other (please specify)

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HGV sideguards and cycle safety



*6. Do you feel that TfL should promote the fitment of sideguards for exempt vehicles?

- Yes
- No

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HGV sideguards and cycle safety



*7. Which of these methods do you think TfL should use to promote the fitment of sideguards to exempt vehicles? (please tick all that apply)

- Set up discounts and offers through FORS
- Develop an information pack for operators of exempt vehicles
- Include fitment of sideguards to exempt vehicles in the procurement process
- Arrange manufacturer demonstrations on fitment to exempt vehicles
- Inclusion in FORS workshop programme
- Newsletters
- Other (please specify)

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HGV sideguards and cycle safety



8. Do you have any other comments on the promotion of sideguards on exempt vehicles?

Prev Done

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Appendix C – Full online survey results

		Do you operate, or plan to operate, any vehicles which are exempt from current sideguard legislation?	Have you voluntarily fitted or do you plan to voluntarily fit sideguards to any of your exempt vehicles?	What vehicle type are they fitted to?	Why did you decide to fit sideguards to exempt vehicles? (tick all that apply)
Respondant	Sector	Yes / No	Yes / No	Response	Procurement clauses, Safety concerns, FORS Gold membership, Pre-empting future changes in legislation, Good image for your company, Other (please specify)
1	Waste & Recycling	Yes	YES	*Tippers *Street sweepers, refuse collection vehicles etc	*Safety concerns
2	Waste & Recycling	Yes	NO		
3	Construction	Yes	NO		
4	Aggregates, General Haulage	No			
5	Waste & Recycling	No			
6	Aggregates, Construction, Waste & Recycling	Yes	NO		
7	Waste & Recycling	Yes	NO		
8	Construction, Engineering, General Haulage, Metal	No			
9	Aggregates, Construction	No			
10	Construction	No			
11	Construction	No			
12	Construction, Waste & Recycling	Yes	NO		
13	Construction	Yes	YES	*An agricultural motor vehicle or agricultural trailer/trailed appliance *A trailer designed and constructed, and not merely adapted, to carry round timber, beams or girders of exceptional length *A trailer with a load platform which is not more than 750 mm from the ground *A chassis without bodywork that is being driven or towed for a quality or safety check by its manufacturer, dealer or distributor, or by previous arrangement to premises where bodywork is to be fitted or preparatory work done or to premises of a dealer or distributor *A vehicle being driven or towed to a place where by previous arrangement a sideguard is to be fitted so that it complies with this regulation	*Safety concerns *Procurement Clauses *Good image for your company *Other - cross rail project
14	Chemicals, Construction, Engineering	Yes	YES	*Car transporter	*Safety concerns
15	Waste & Recycling	Yes	NO		

16	Construction, Engineering, Manufacturing, Parcels	No			
17	Aggregates, Construction, Non Food Retail	No			
18	Construction	Yes	NO		
19	Construction, Containers, Engineering, General H	No			
20	Construction, Utilities	Yes	NO		
21	Construction	Yes	YES	Tippers	*Safety concerns
22	Aggregates, Construction	No			
23	Construction	No			
24	Construction	No			
25	Waste & Recycling	Yes	YES	Tippers	*Safety concerns
26	Aggregates, Construction	Yes	YES	Tippers	*Safety concerns

What would encourage you to fit sideguards to exempt vehicles? (tick all that apply)	Do you feel that TfL should promote the fitment of sideguards for exempt vehicles?	Which of these methods do you think TfL should use to promote the fitment of sideguards to exempt vehicles? (please tick all that apply)	Do you have any other comments on the promotion of sideguards on exempt vehicles?
<i>Safety concerns, FORS Gold membership, Improving your company image, Planned changes in legislation changes, Procurement clauses, Other (please specify)</i>	<i>Response</i>	<i>Set up discounts and offers through FORS, Develop an information pack for operators of exempt vehicles, Include fitment of sideguards to exempt vehicles in the procurement process, Arrange manufacturer demonstrations on fitment to exempt vehicles, Inclusion in FORS workshop programme, Newsletters, Other (please specify)</i>	<i>Open-Ended Response</i>
	Yes	*Set up discounts and offers through FORS *Develop an information pack for operators of exempt vehicles *Include fitment of sideguards to exempt vehicles in the procurement process *Arrange manufacturer demonstrations on fitment to exempt vehicles *Inclusion in FORS workshop programme *Newsletters	
*Planned changes in legislation changes *The type of vehicle we run does not require them as the are tippers (other)	Yes	*Develop an information pack for operators of exempt vehicles *Include fitment of sideguards to exempt vehicles in the procurement process	We operate hooklift type vehicles which cant be fitted as it would impose a problem with the lifting gear. Only a small percentage of our trucks are exempt
*Safety concerns	Yes	*Set up discounts and offers through FORS *Develop an information pack for operators of exempt vehicles *Arrange manufacturer demonstrations on fitment to exempt vehicles (other)	
	Yes	*Set up discounts and offers through FORS *Develop an information pack for operators of exempt vehicles *When these type of vehicles are sent road tax reminder dvla should enclose details of the problem of not having these sideguards and the problems if an accident with a cyclist can cause i.e.insurance claims etc. (OTHER)	put adverts on the rear of buses so that hgv drivers and cyclist would be aware of the problems as cyclist are guilty of pulling up along side hgvs at traffic signals even if the nearside indicator is flashing the seem to think because it is an hgv they can eet it away fom the standing position.
	Yes	*Set up discounts and offers through FORS *Develop an information pack for operators of exempt vehicles *Include fitment of sideguards to exempt vehicles in the procurement process *Arrange manufacturer demonstrations on fitment to exempt vehicles *Inclusion in FORS workshop programme	sideguards should be fitted on all new vehicles as part of safty.
*Suitability for our operation - our vehicles are tippers and off road much of the time driving over rough terrain. (other)	Yes	*Set up discounts and offers through FORS *Develop an information pack for operators of exempt vehicles	
*Safety concerns *FORS Gold membership *Planned changes in legislation changes *Financial incentive (other)	Yes	*Set up discounts and offers through FORS *Develop an information pack for operators of exempt vehicles *Include fitment of sideguards to exempt vehicles in the procurement process	
	Yes	*Develop an information pack for operators of exempt vehicles *Newsletters	
	Yes	*Include fitment of sideguards to exempt vehicles in the procurement process	Educate cyclists to obey the Highway Code. Fine them for jumping red lights, not using lights at night, failure to check before signalling & manoeuvring, cycling on the pavement etc. Money raised from this could pay for their education at left-hand junctions & sideguards for exempt trucks. I am a truck driver/car driver/motorcyclist/pedal cyclist & pedestrian.
	Yes	*Develop an information pack for operators of exempt vehicles *Inclusion in FORS workshop programme *Newsletters	It may be an idea to introduce a driver awareness pack and some instruction on what to look for to avoid cyclest collisions .
*Safety concerns *FORS Gold membership	Yes	*Develop an information pack for operators of exempt vehicles *Include fitment of sideguards to exempt vehicles in the procurement process *Arrange manufacturer demonstrations on fitment to exempt vehicles *Inclusion in FORS workshop programme	Due to the off road useage of our fleet a retractable sideguard system would have to be designed and fitted. There could be implications with insurers when fitting modifications to our fleet.
	Yes	*Set up discounts and offers through FORS *Develop an information pack for operators of exempt vehicles *Include fitment of sideguards to exempt vehicles in the procurement process *Arrange manufacturer demonstrations on fitment to exempt vehicles *Inclusion in FORS workshop programme *Newsletters	
	No		We have enough rules in the UK I dont believe another body or authority should change whats already in place via a promotion. We should all use the right legal process to change rules that need to be amended
*Safety concerns *FORS Gold membership *Improving your company image *Procurement clauses	Yes	*Set up discounts and offers through FORS *Arrange manufacturer demonstrations on fitment to exempt vehicles *Inclusion in FORS workshop programme *Newsletters	The majority of our fleet is exempt and happy to be involved with FORS

	Yes	*Set up discounts and offers through FORS *Develop an information pack for operators of exempt vehicles *Arrange manufacturer demonstrations on fitment to exempt vehicles	They should only be promoted where they are practical to be fitted. I would think that if a vehicle is exempt then they are exempt for practical reasons because sideguards are not possible to be fitted or would create operational difficulties.
	Yes	*Include fitment of sideguards to exempt vehicles in the procurement process *Arrange manufacturer demonstrations on fitment to exempt vehicles	
*None as semi lowloaders are so low to the ground.	No		You need to look at which types of vehicles are exempt and target the ones that fitment is a practical option.
	Yes	*Set up discounts and offers through FORS *Develop an information pack for operators of exempt vehicles *Inclusion in FORS workshop programme *Newsletters	
*Safety concerns *FORS Gold membership *Improving your company image *Planned changes in legislation changes	Yes	*Develop an information pack for operators of exempt vehicles *Include fitment of sideguards to exempt vehicles in the procurement process *Arrange manufacturer demonstrations on fitment to exempt vehicles *Inclusion in FORS workshop programme *Newsletters	They should be fitted to all trucks where possible.
	Yes	*Set up discounts and offers through FORS *Develop an information pack for operators of exempt vehicles *Include fitment of sideguards to exempt vehicles in the procurement process *Arrange manufacturer demonstrations on fitment to exempt vehicles *Inclusion in FORS workshop programme *Newsletters	
	Yes	*Develop an information pack for operators of exempt vehicles *Arrange manufacturer demonstrations on fitment to exempt vehicles *Inclusion in FORS workshop programme *Newsletters	
	Yes	*Set up discounts and offers through FORS *Develop an information pack for operators of exempt vehicles *Include fitment of sideguards to exempt vehicles in the procurement process *Newsletters	Any fatality is devastating not only for the victim and their family but also the driver and their family, a simple solution is to enforce sideguards on every vehicle at manufacture stage, this would reduce the possibility of destroying so many lives. may not achieve 100% reduction but even 1 fatality reduced is worth the effort, costing should not come into the equation at all, side gaurds are a minimal cost compared to overall cost of an HGV vehicle.
	Yes	*Develop an information pack for operators of exempt vehicles *Include fitment of sideguards to exempt vehicles in the procurement process *Arrange manufacturer demonstrations on fitment to exempt vehicles *Inclusion in FORS workshop programme *Newsletters	Any safety feature that saves injuries and lives must be promoted.
	Yes	*Set up discounts and offers through FORS *Include fitment of sideguards to exempt vehicles in the procurement process *Arrange manufacturer demonstrations on fitment to exempt vehicles	
	Yes	*Set up discounts and offers through FORS *Develop an information pack for operators of exempt vehicles *Include fitment of sideguards to exempt vehicles in the procurement process *Arrange manufacturer demonstrations on fitment to exempt vehicles *Inclusion in FORS workshop programme *Newsletters	The casualty figures speak for themselves. This is an area where all responsible operators can help to bring down the number of cyclists deaths and injuries and help protect their drivers from the chance of having to deal with a fatality. Anything to help cyclists and HGVs safety should be implemented

Appendix D – VOSA Freedom of Information response



Vehicle & Operator Services Agency

From: **Information Access**
inform@vosa.gsi.gov.uk

Information Access Team
Berkeley House
Croydon Street
Bristol
BS5 0DA

Sonia Hayward

Sonia.hayward@aeom.com

Tel: 0117 954 2545
Fax: 0117 954 2546

BY E-MAIL

Our Ref: **F0003673**

Date: 21st October 2011

Dear Ms Hayward

FREEDOM OF INFORMATION ACT 2000

I refer to your e-mail of 19th October 2011. We have dealt with this under the terms of the Freedom of Information Act 2000.

You have asked for information relating to: *how many vehicles fail the test because of sideguards, and of that what percentage is for exempt vehicles who had sideguards fitted.*

VOSA is unable to distinguish vehicles that are exempt so the figures I have provided includes rear under run devices and bumper bars from April 2010 to March 2011.

Sideguards comes under item 9 in the HGV manual defined as – 9. *Sideguards, rear under-run devices and bumper bars.*

Number of bumper/Sideguard Fails:	Motor Vehicles	7,469
	Trailers	1,091
	HGV	8,560
Total Tests (1 st & annual & Prohibition clearances):	Motor Vehicles	425,970
	Trailers	227,057
	HGV	653,027

If you have any queries about this letter, please contact us, quoting reference **F0003673**.