

HGV Direct Vision Standard

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6th VRU-Proxi Meeting, Sweden

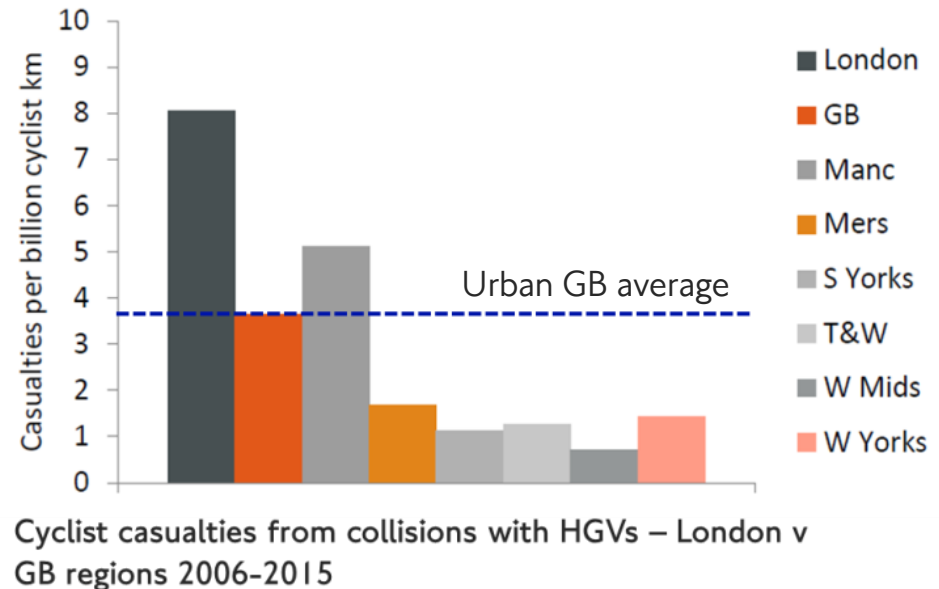
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EVERY JOURNEY MATTERS

London has a particular problem with HGVs and VRUs

- In London, HGVs were involved in 136 fatalities between 2010-2016
 - Most (107) were with larger HGVs
- HGVs are disproportionately involved in fatalities with pedestrians and cyclist in London
 - HGVs make up 4% of road kms
 - But were involved with over 70% of cyclist and 20% of pedestrian fatalities over the past three years
 - London much worse than rest of UK urban areas
- Analysis of UK accident database (STATS 19) shows that poor vision is a commonly cited cause of HGV incidents



Mitigating the risk

To reduce road danger so that no deaths or serious injuries occur on London's roads by 2041

Vision Zero for London

People make mistakes. A **safe system** approach can be used to accommodate human error and ensure impact energy levels are not sufficient to cause fatal or serious injury.



Safe Speed



Safe Roads



Safe Vehicles



Safe Behaviours

Freight safety

**Safer supply
Chains**

Using buying power and planning to manage road risk in supply chains

**Safer
Operations**

Encouraging, supporting and recognising safe and compliant fleets

**Safer
People**

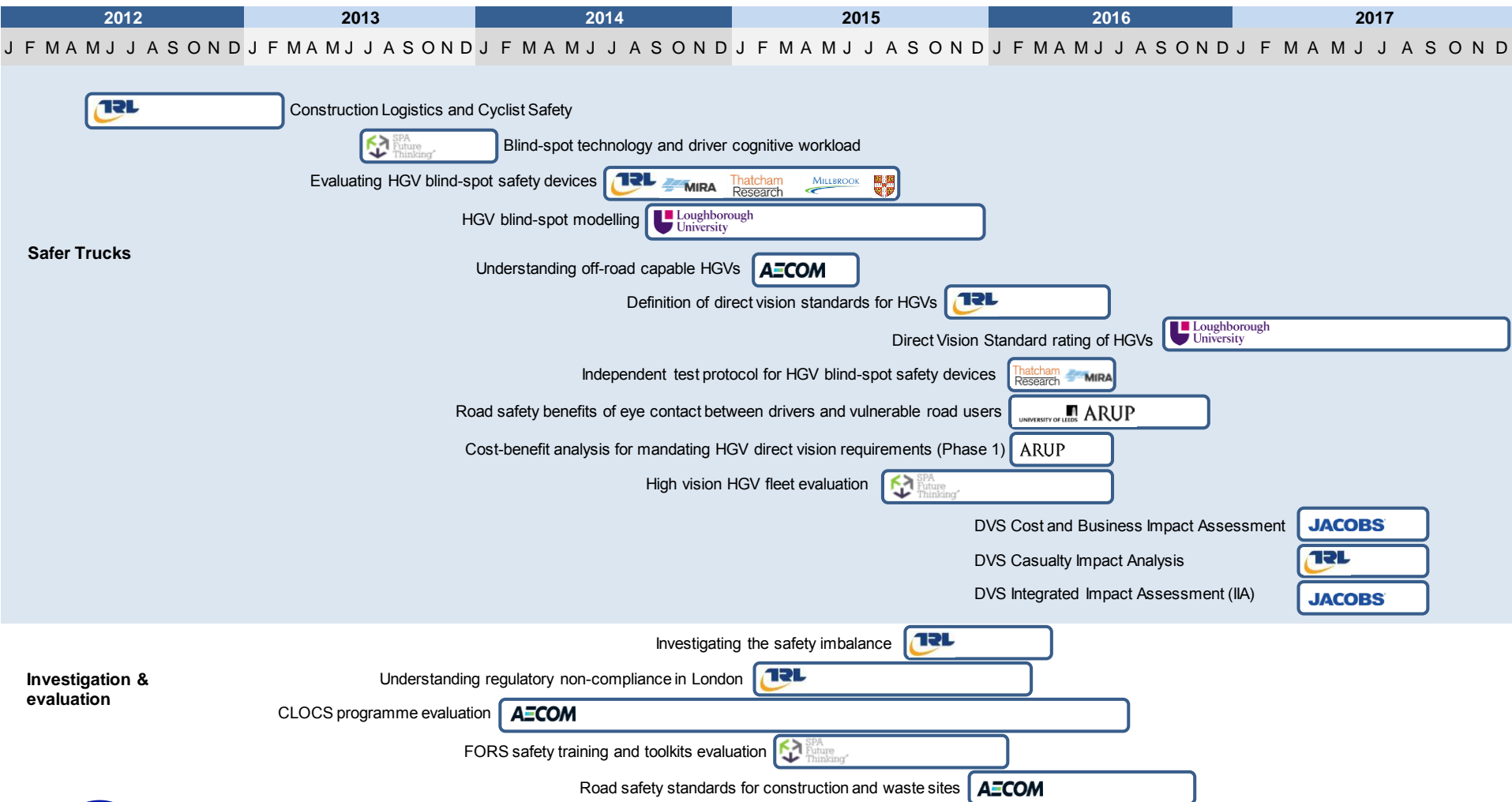
Improving driver and manager knowledge, skills and performance

**Safer
Vehicles**

Stimulating innovative HGV design and providing evidence for change



The case for improving direct vision



The case for improving direct vision

TfL commissioned research to exploring the road safety benefits of direct vision

Indirect vision has a 0.7s slower response time

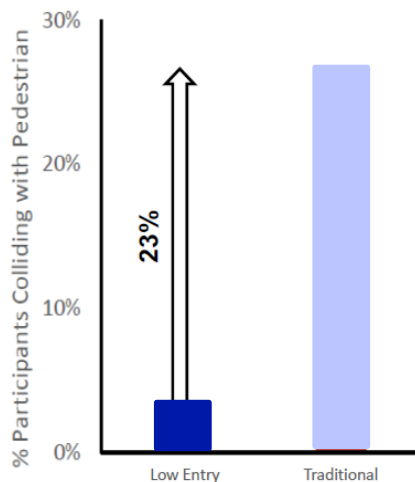
Risk increases with speed as more distance travelled

Extra distance in urban environment especially high risk

Speed	Distance
15 mph	4.7m
10 mph	3.1m
5 mph	1.5m

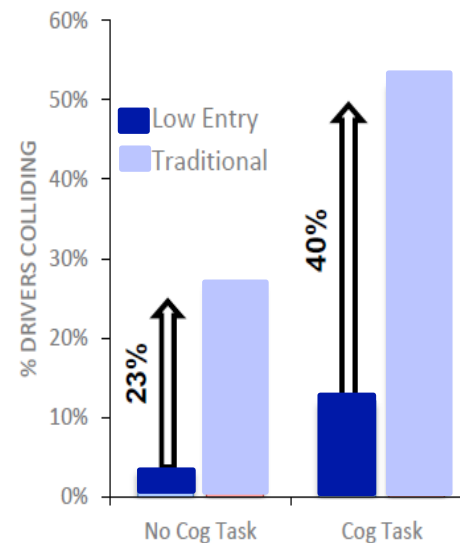
Bigger collision risk

Indirect vision resulted in increased incidence of simulated pedestrian collisions by 23%



Limits to technology benefits

Drivers processing a cognitive task increased simulated collision by 40%



The case for improving direct vision

'I feel much more confident driving in the higher vision cab. I don't want to go back to a standard tipper'

"I'd say just give it a go, it's opened my eyes. I didn't see how it could be improved before"

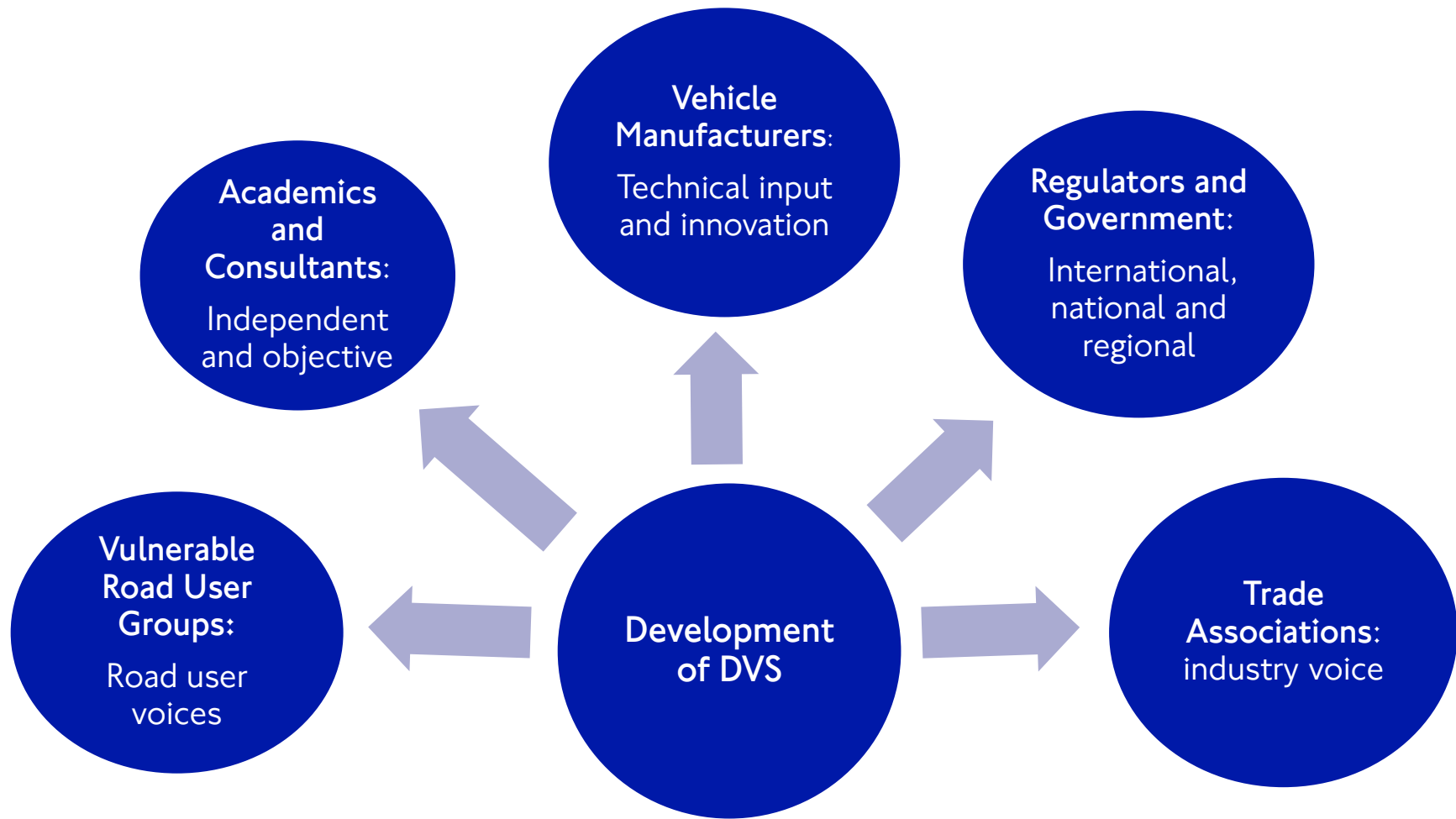


'You just need to sit in one of the old cabs then get in the new one to realise how important this change is'

'As a lorry driver, it pains me to say this, but its actually pretty good'

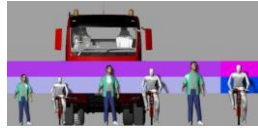


A collaborative approach



Developing a Direct Vision Standard (DVS) for HGVs

A measure



- The world's first and only HGV Direct Vision Standard
- It's an **objective measurement** of the visible 'volume of space'

A rating



- This measurement is converted to a “star rating” from zero (worst) to five (best)
- Loughborough University have worked with the principal manufacturers

Application of DVS

- Informs operator purchasing decisions - most suitable vehicle for the city environment
- Manufacturers can use it to improve future designs
- Future European regulations governing HGV designs – an **International DVS**
- Accelerated adoption of safer HGVs in London:
 - DVS based restriction/ban
 - GLA/TfL contracts



9 Proposal for London

An HGV Safety Permit – London-wide, operating 24/7

- Current HGV fleet has poor direct vision: Safety Permit aims to improve the overall safety of existing HGVs
- From 2020, all HGVs over 12 tonnes would require a permit to enter Greater London

Safety Permit requirement

1. Meet the minimum DVS star rating to be granted a permit (1 star and above from 2020, 3 star and above from 2024)
2. If a vehicle does not meet the minimum DVS star rating, “Safe System” requirements must be met for a permit to be granted



Safe System requirements

- Blind spot elimination and minimisation
- Warning of intended manoeuvre
- Minimising physical impact of a hazard
- Driver safety training: highly recommended, but not mandatory

