

Direct Vision Standard: London's Experience

Alina Tuerk
Delivery Planning Manager, Transport
for London



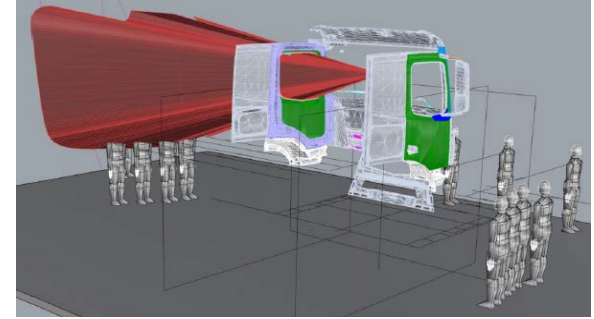
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What is Direct Vision?

Direct Vision measurement

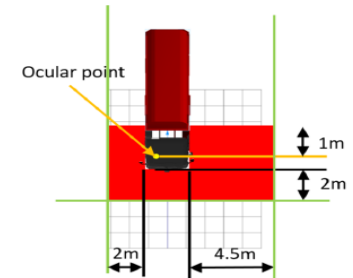
Measure

- 3D volume of space that can be seen directly by the driver from the cab
- The greater the volume, the closer the person can be seen to the vehicle and the more of them that can be seen



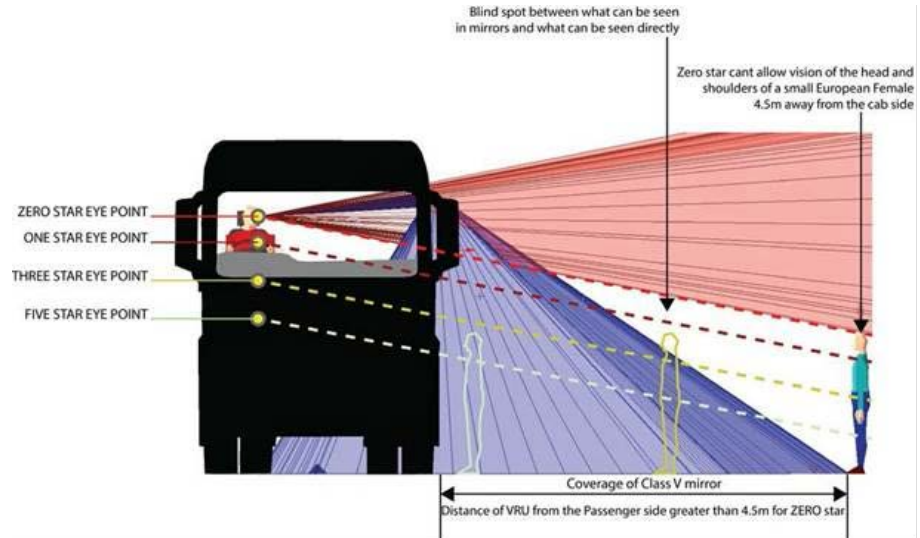
Assessment zone

- The assessment volume zone created concentrates on the area of greatest risk to VRUs – class V and VI mirrors (UNECE Reg 46)
- 3D zone accounts for all of the space in which someone could be seen
- The more of the assessment zone that can be seen, the higher the volume result



Applying the DVS rating

- For a 'one star' rating, at least the head and shoulders of 99% of the European adult population must be seen within an 'acceptable' distance
- 'Acceptable' distance = 4.5m to the nearside, 2m to the front, 0.6m on the offside. This distance is linked to where people become directly visible within the area covered by the existing close proximity mirrors and indirect vision becomes complemented by direct vision
- The two, three, four and five star rating boundaries are set by equally dividing the volume of space over and above the one star measurement to show relative direct vision performance



Direct Vision benefits

Faster reaction time

Slower response time

Indirect vision has a 0.7s slower response time

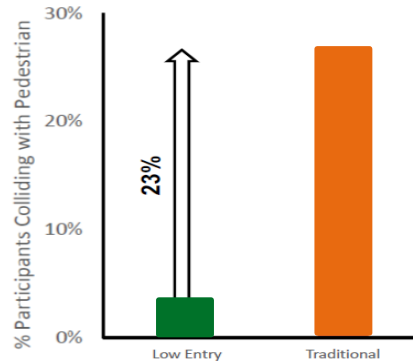
Risk increases with speed as more distance travelled

Extra distance in urban environment especially high risk

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

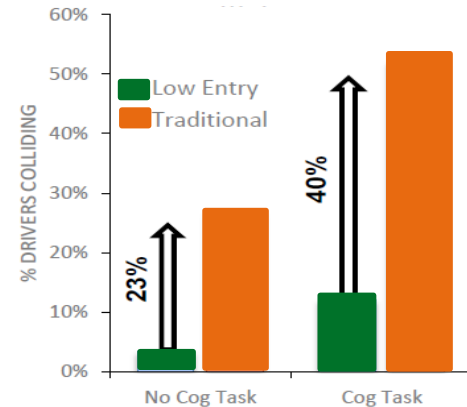
Bigger collision risk

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%



Driver comfort

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

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

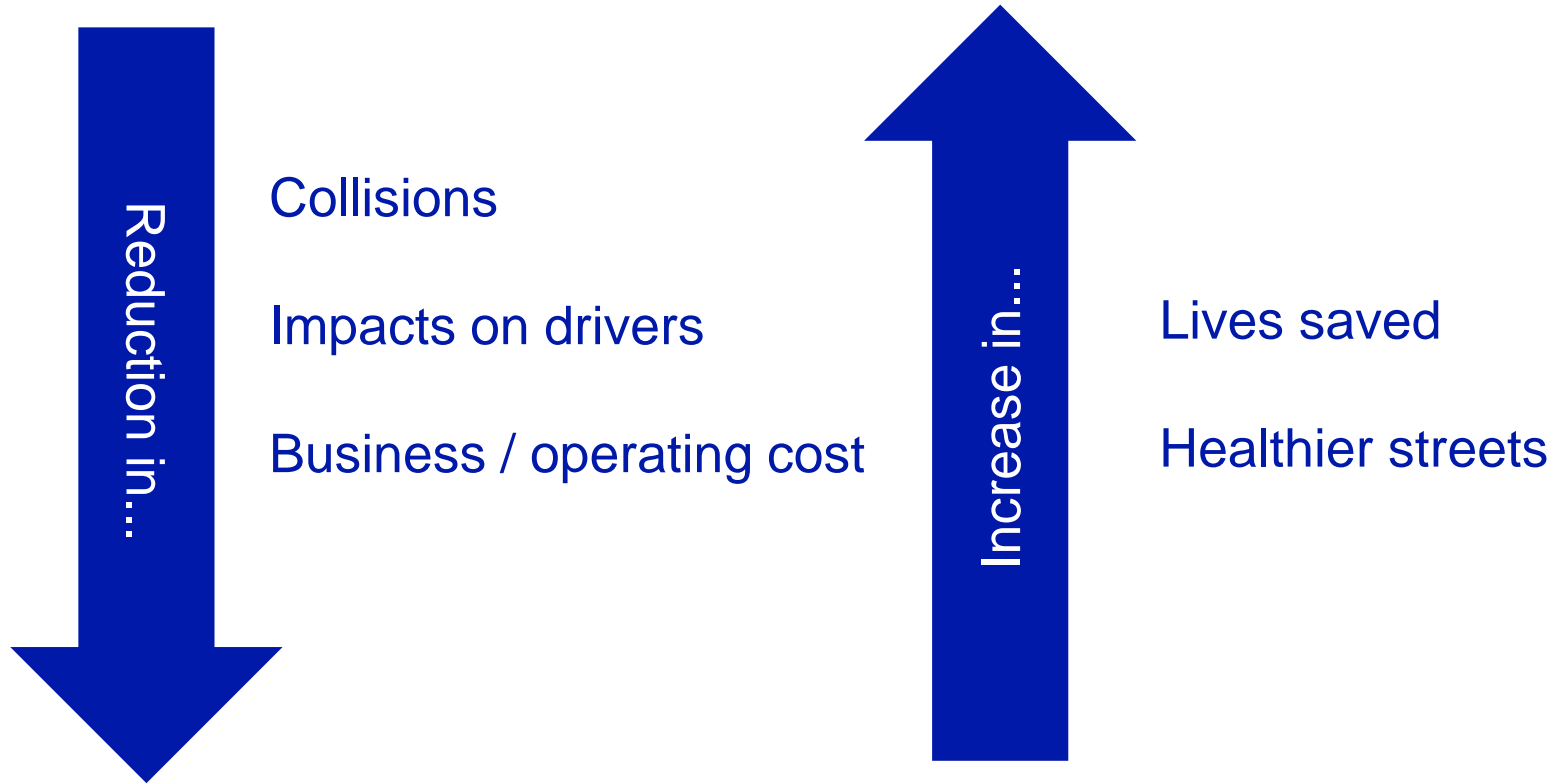
'You just need to sit in one of the old cabs then get in the new one to realise how important this change is'

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



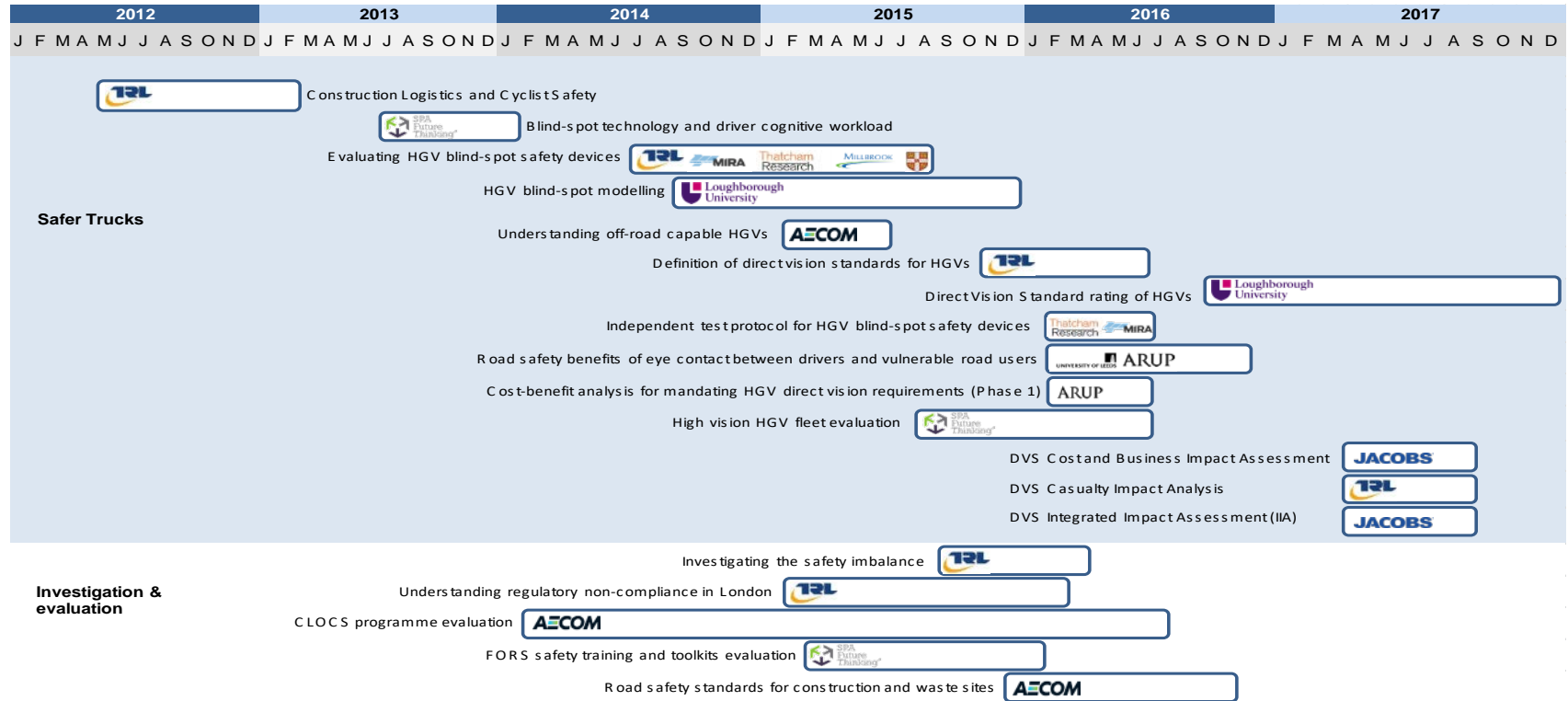


Benefits of direct vision trucks

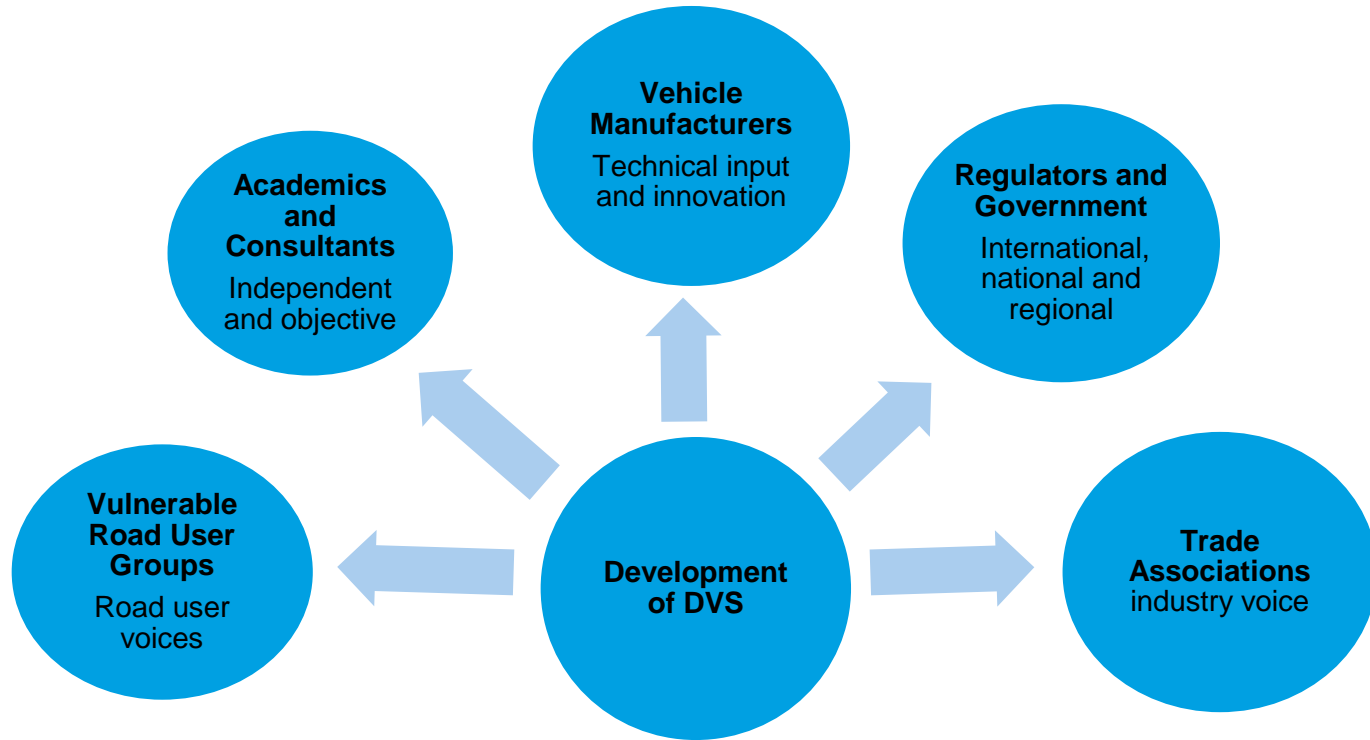


Plans for London

The case for improving direct vision



A collaborative approach

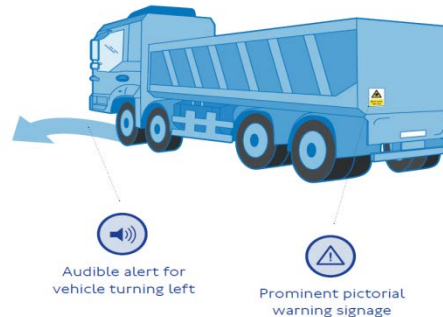
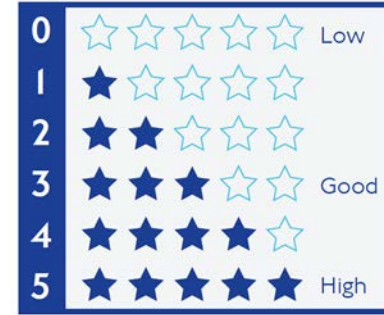


Proposal for London: DVS and HGV safety permit

2019: Permit issuing commences
Scheme 'go-live'

2020: all zero star HGVs banned unless
they prove a 'safe system'

2024: all zero - two star HGVs banned unless
they prove a 'progressive safe system'



An international standard



An international standard



UNECE



Contact

Alina Tuerk
AlinaTuerk@tfl.gov.uk



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