CLOCS

# Looking out for vulnerable road users

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# Chairman’s welcome

Brian Weatherley


CLOCS
Looking out
for vulnerable
road users

# Keynote address

Sir Peter Hendy CBE

# Workstream 1:

## Improving vehicle safety


# Modelling HGV blind spots and safety features

Dr. Steve Summerskill

Dr. Russell Marshall

Loughborough University

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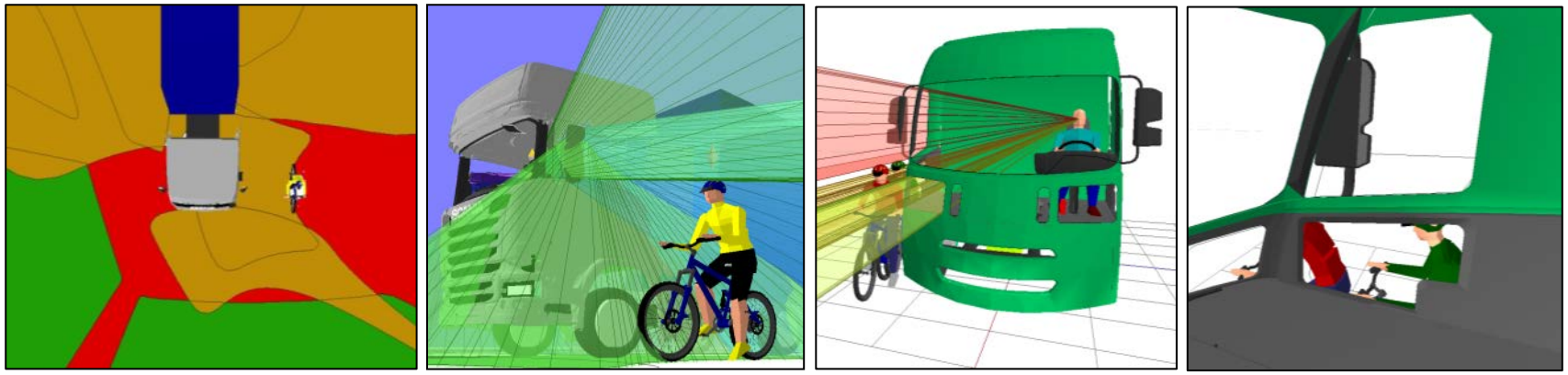
- Background – Blind spots in heavy goods and construction vehicles
- Aims and objectives of the project
- Example of the results that are being generated
- The application of blind spot modelling to future vehicle design

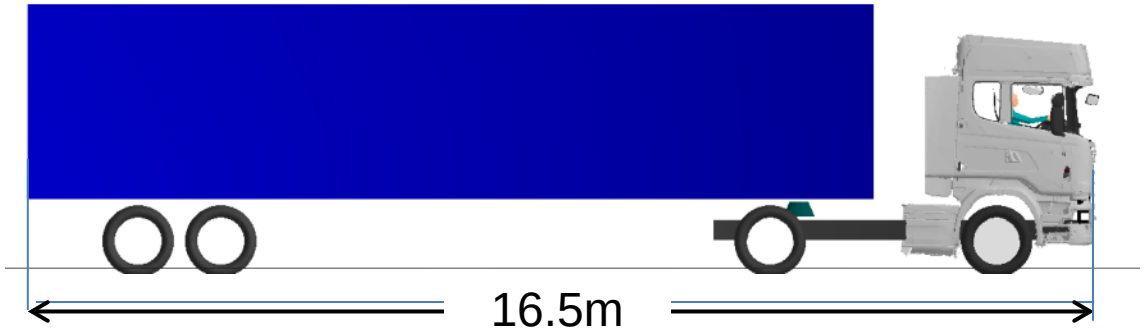


# Background

## Blind spots in heavy goods and construction vehicles

- Blind spots in existing vehicles are caused by a number of factors

1. The height of the driver position above the ground, which is a result of EC regulation 96/53/EC that limits the overall length of a tractor and trailer combination to 16.5m



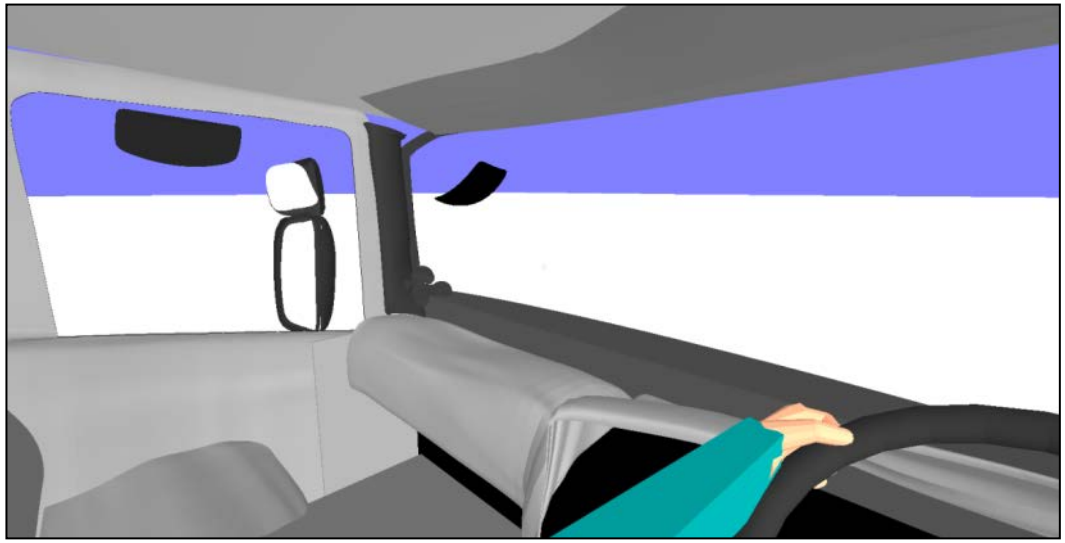

This has led to a vehicle design process where the driver cab is placed above the engine bay to allow the length constraints to be met, with flat fronted vehicles.

# Background

## Blind spots in heavy goods and construction vehicles

- Blind spots in existing vehicles are caused by a number of factors

2. The structure of the vehicle, including mirror mounts, A-pillars and the vehicle body, can obstruct vision of vulnerable road users and other vehicles

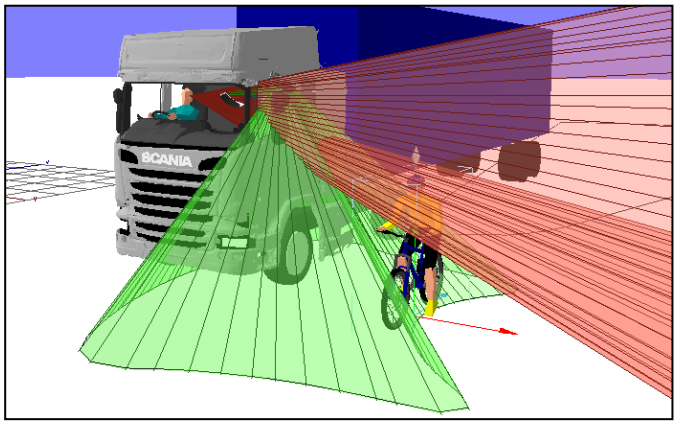



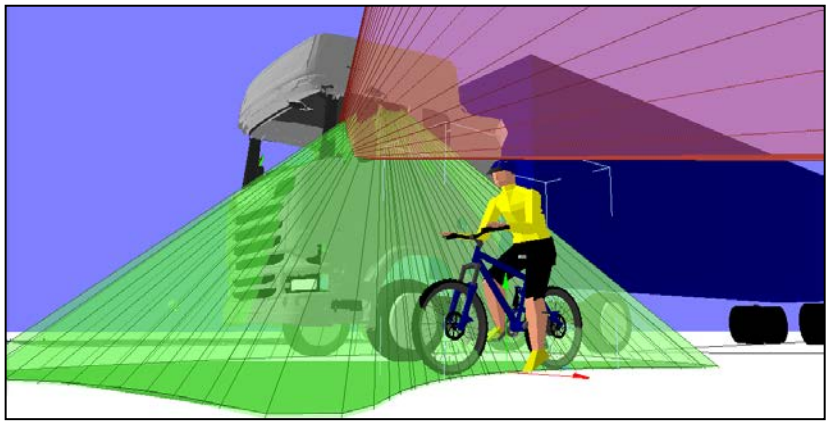
# Background

## Using Digital Human Software to simulate and quantify blind spots

- The Loughborough Design School (LDS) team developed a method to visualise and quantify blind spots in a previous project for the Department for Transport (DfT)

- This technique uses Digital Human Modelling software to visualise the volume of space that can be seen by a driver in the combination of direct vision (through windows) and in direct vision (through mirrors)

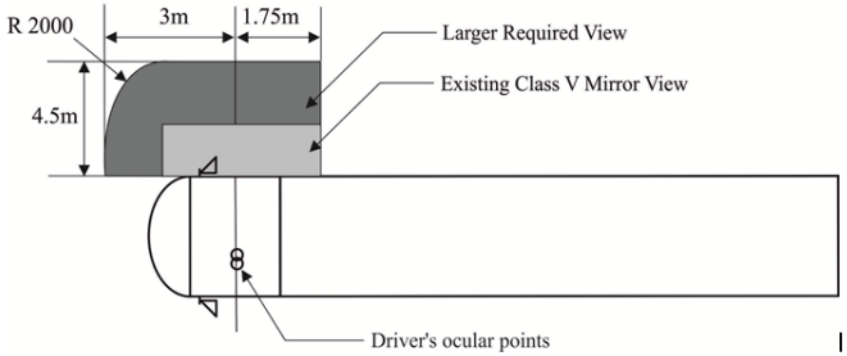


# Background

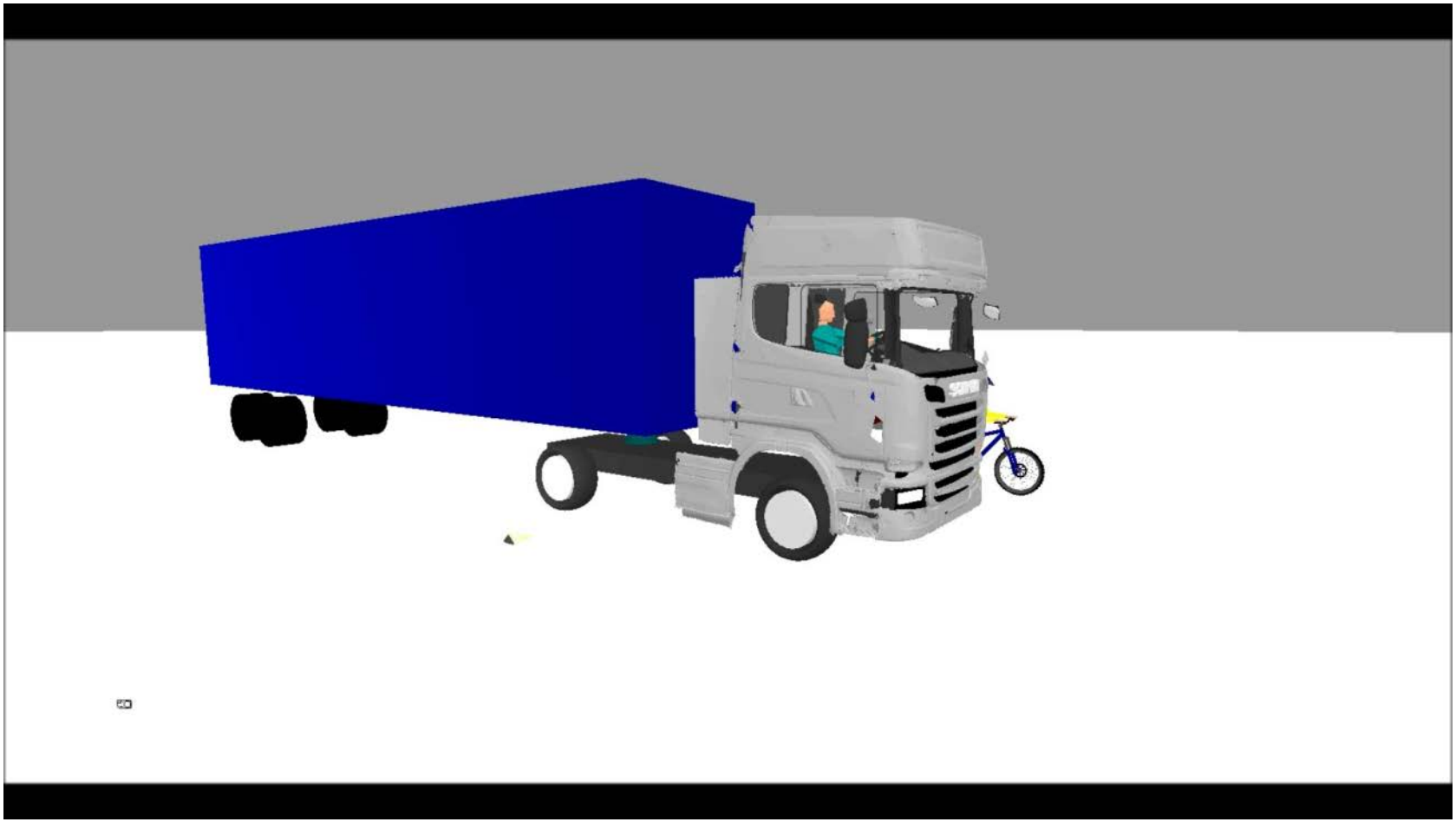
## Using Digital Human Software to simulate and quantify blind spots

- This technique was successfully used to identify a key blind spot next to the driver's cab
- The LDS team then supported the DfT in the definition of a revision of the United Nations Economic Commission for Europe Regulation 46 which specifies mirror coverage
- We acted as the UK experts at the 100th UNECE GRSG meeting which led to a revision of Regulation 46 to increase the required area of mirror coverage

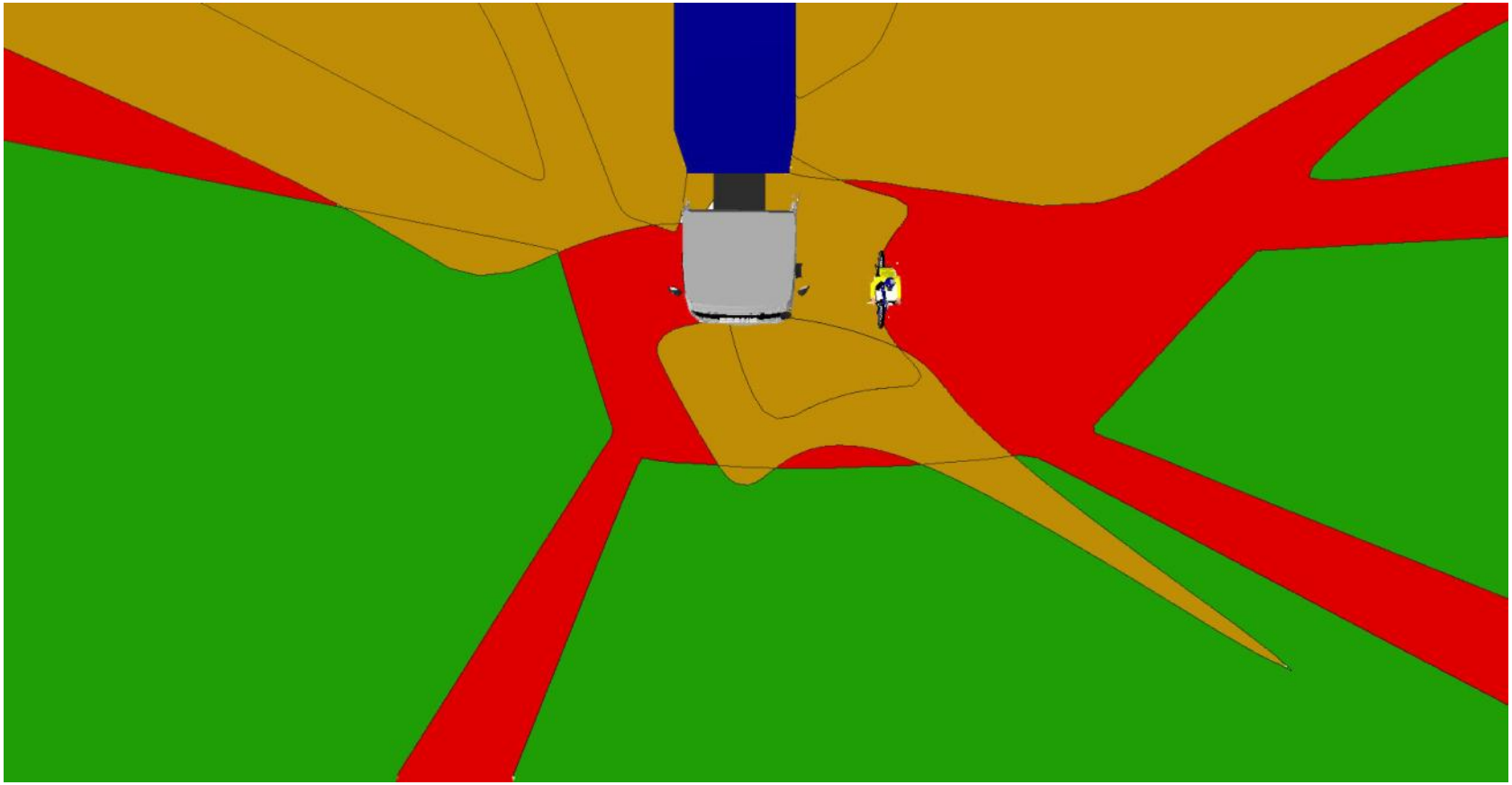



This change will be applied to all new vehicles in the near future

# The use of Digital Human modelling software in the identification and quantification of blind spots



# A ground plane projection showing the blind spots and the areas visible to the driver through mirrors and windows



# TfL Project aims: PART A

## Using Digital Human Software to simulate and quantify blind spots

- The aims of the current project being performed by the LDS team include:
  - To objectively model the extent of areas around different HGVs by make, model and body type which are:
    - Directly visible by the driver through the cab windshield and windows
    - Indirectly visible by the driver through the mandatory mirror set
    - Neither directly, nor indirectly visible by the driver (i.e. the blind spots)
  - Identify additional features common to different HGVs by make, model, and body type which may impact on the safety, or severity of injury of vulnerable road users

# TfL Project progress

## Methodology

- The aims of the project will be achieved through the combination of Digital Human Modelling and vehicle tracking software

- In order to allow an understanding of the blind spot issue 13 vehicles will be modelled:

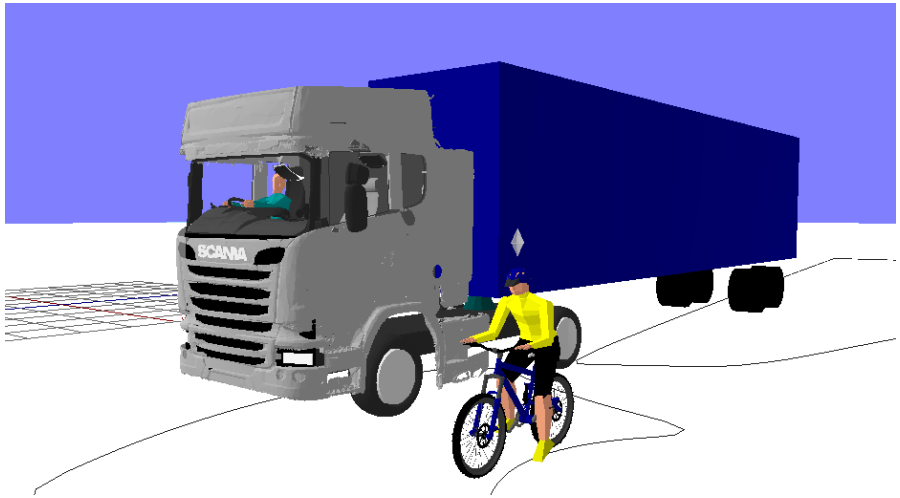
    - The top vehicles based upon SMMT vehicle registration data including: DAF, SCANIA, Mercedes, Volvo and Renault
    - In addition, three low entry cab vehicles have been selected from Mercedes, Volvo and Dennis

# TfL Project progress

## Methodology

- We are now 3D scanning each sample vehicle and processing them for analysis

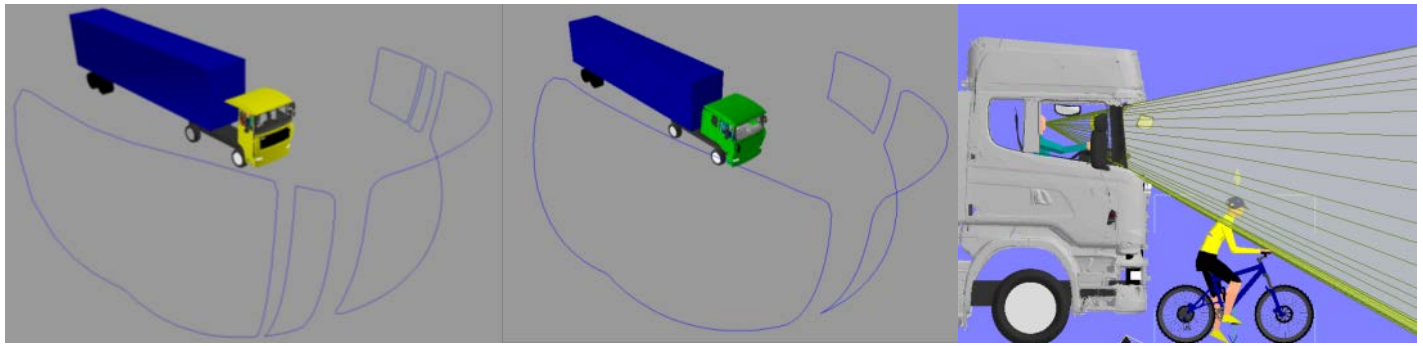
- The SCANIA R and P models have been scanned and processed, with the SCANIA R now ready for analysis



# TfL Project progress

## Example of the analysis outputs

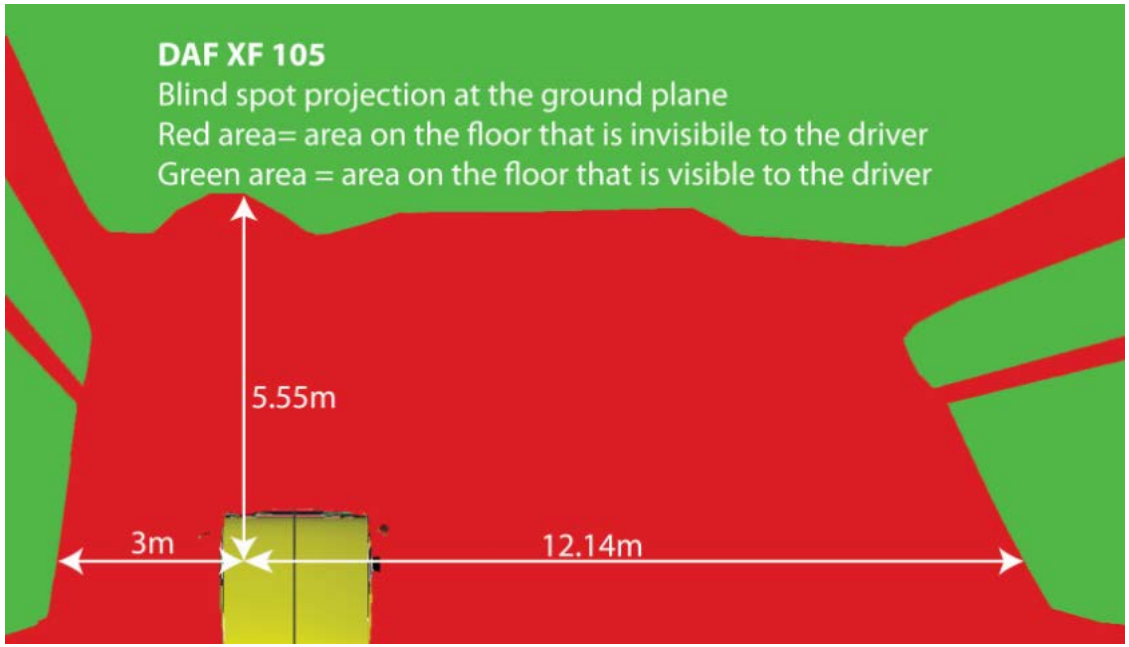
- The outputs from Part A of the project will allow a direct comparison between the 13 vehicles that are being analysed using both 2D and 3D methods
- The 3D approaches will provide a method for a direct numerical comparison between models in terms of square meters of visual area for both window and mirror coverage, combined with the illustration of visual targets that can be obscured from driver vision



# TfL Project progress

## Example of the analysis outputs

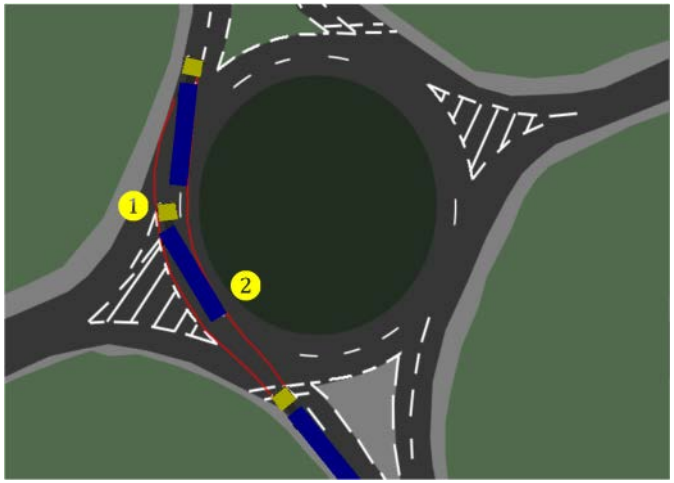
- The 2D approaches, which are more compatible with traditional methods for standards presentation, will illustrate the size of blind spots in direct and indirect vision

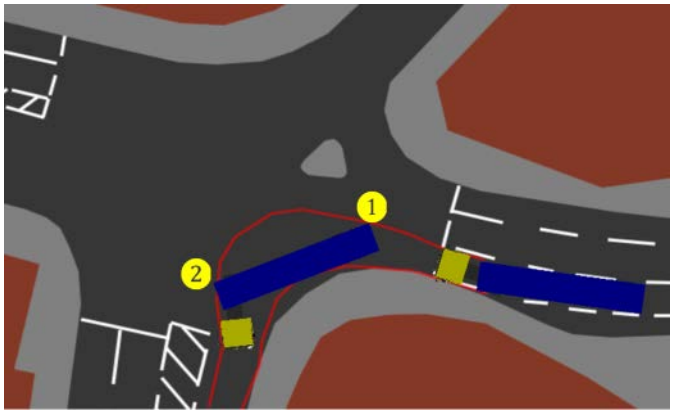


# TfL Project aims: PART B

## Using Digital Human Software to simulate and quantify blind spots

- Additional aims include;
  - To identify additional features common to different HGVs by make, model, and body type which may impact on the safety, or severity of injury of vulnerable road users
  - This will be done by examining how the positioning of the vehicles when performing a range of manoeuvers can affect the severity of blind spots



# The application of blind spot modelling to future vehicle design

- Additional work has been performed to support the current exploration of the regulations that govern vehicle length by the European Commission
- A HGV concept that aims to improve aerodynamics and driver vision has been analysed using the techniques described above, and redesigned to improve direct vision from the cab. A comparison was performed to a baseline vehicle


Baseline vehicle

Concept 1

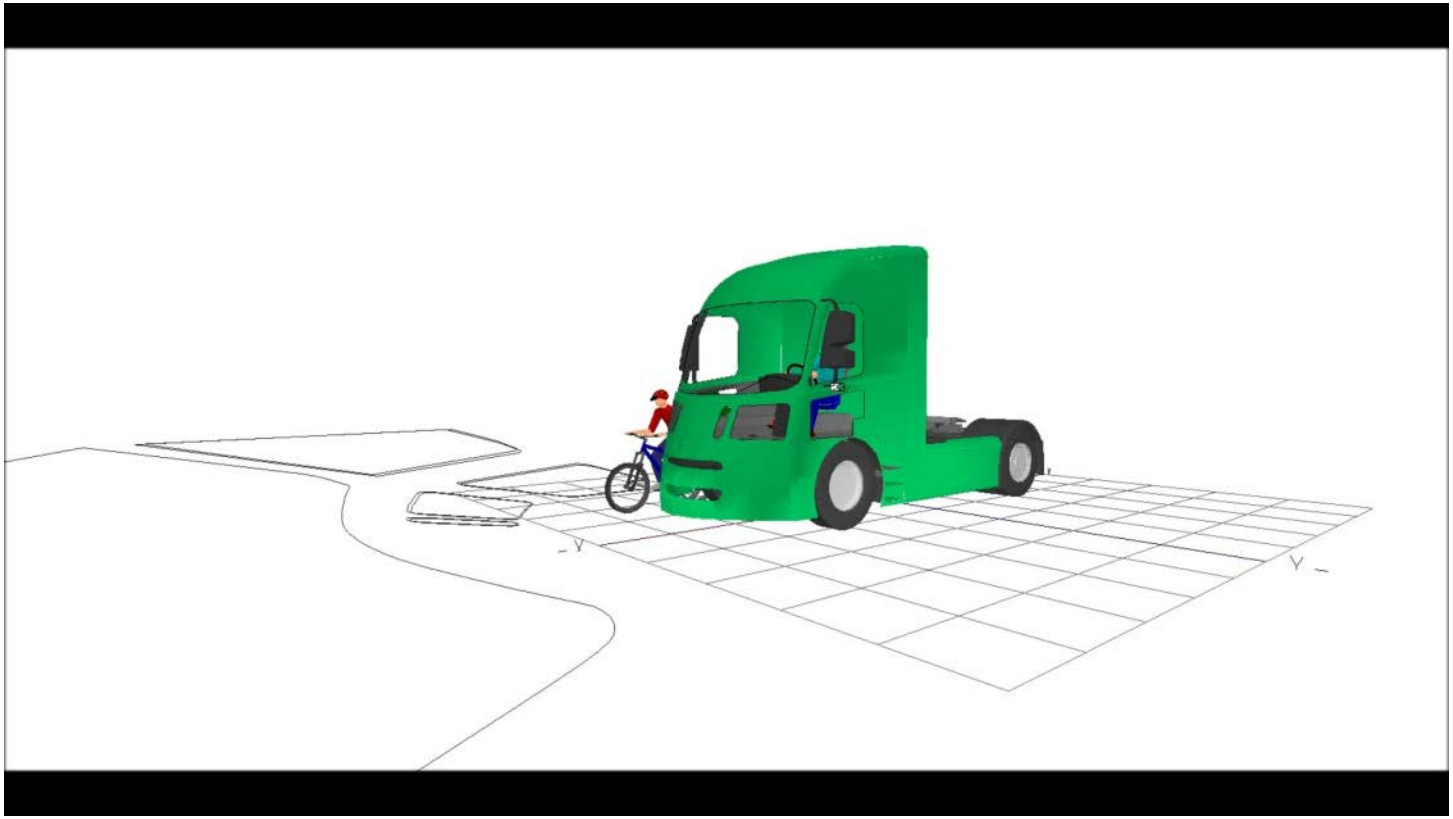
Concept 2
Additional
Window
Apertures

Concept 3
Lower driving
Position

Concept 4
Central
Driving
Position

# The application of blind spot modelling to future vehicle design

- The results of this analysis have highlighted how achievable reductions in driver height (230mm) combined with a reduced dashboard obscuration, and additional window apertures, can greatly reduce blind spots



Looking out for vulnerable road users

# Project information

## The project will be completed in September

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Design Ergonomics Group
Loughborough Design School
Loughborough University

# Evaluating the effectiveness of HGV safety technology

Presented by Emma Delmonte and Ryan Robbins

10th July 2014

1 Background

2 Methodology

3 Progress to date

4 Next steps

# Background to the research

## Objectives

Robustly and consistently perform an **independent evaluation** of the effectiveness of vehicle safety technology for HGVs against objective performance criteria

Provide potential purchasers of such systems with an easy method for **comparing** the strengths and weaknesses of **competing solutions**

**Aid** HGV safety technology **uptake**

**Measure** HGV safety technology **usability**

**Evaluate performance** of HGV safety technology

**Develop guidance** for **validation / certification** of HGV safety tech

# Background to the research

## Purpose of the evaluation

To further **develop and refine** a certification **methodology** that can be used to test and certify VRU detection technologies

Chose **6 devices** to enable TRL **to develop guidance for certification**, covering the broadest range of available technologies

# Methodology

## Six devices

**Limited to electronic devices**
Mirror solutions excluded

**Limited to devices that provide information to the driver**
Those that solely warn the VRU excluded

**Broad range of technologies**
So that certification process can be used for all device types

| | | | | | |
|---|---|---|---|---|---|
| 1 | Visualisation (360° surround vision) | 2 | Detection and discrimination (image processing) | 3 | Visualisation |
| 4 | Ultra-sonic sensors | 5 | Bicycle tag and vehicle detector | 6 | VRU discrimination (radar and image processing) |

# Methodology

## Overview

### Stage 1

Pre-test evaluation of documentation

Off-road testing


### Stage 2

On-road moving vehicle test

# Methodology

## Stage 1 - Pre-test

**Evaluation of documentation**

1. Product description
2. Installation
3. Training documentation
4. Complexity
5. Previous testing (environmental)

Before testing

# Methodology

## Stage 1 – Off road

**Off-road testing**

Static test to provide consistent assessment of different products

1. Hardware performance tests
2. Human factors analysis
3. VRU passes (day)
4. VRU passes (night)
5. Go/no go decision*

Day 1

Day 2

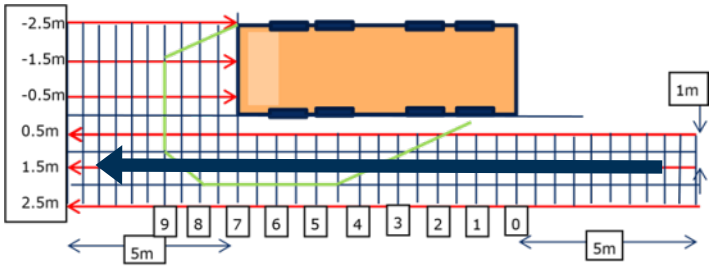
Day 3

# Methodology

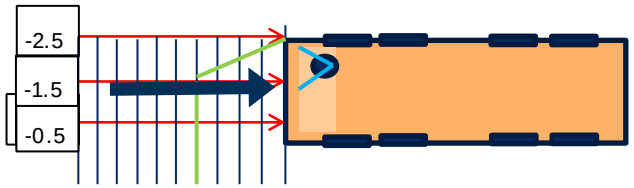
## Stage 1 – off road

The off-road hardware performance tests will cover:

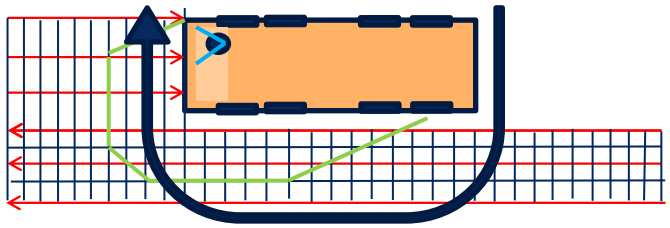
- Installation of the product
- Nearside visualisation or detection of VRUs (footprint and accuracy)
- Frontal and frontal crossing visualisation or detection of VRUs (footprint and accuracy)
- Human factors relating to the driver
- Other observations




Lateral passes




Frontal detection



Frontal crossing detection

# Methodology

## Stage 2 – On road

**On-road moving vehicle test**

City centre and urban routes including construction site

1. Test loop – morning peak
2. Test loop – morning off-peak
3. Test loop – afternoon off-peak
4. Construction site visit
5. Optional repeat day

Day 4

Day 5

# Methodology

## Stage 2

- Base depot
- System calibration
- Pre-determined driving route for 2.5 hours – mix of roads, street furniture, parked vehicles etc
- Driver will be observed and interviewed
- Construction site visit – wheel wash

# Progress to date and next steps

| Progress | Next steps |
| --- | --- |
| 1. Pilot methodology developed | 1. Analyse pilot data and refine method/scoring |
| 2. Pilot scoring system developed | 2. Complete first ‘live’ test (scheduled 14 July 2014) |
| 3. Six suppliers identified and contacted | 3. Report on system evaluations |
| 4. Test vehicle, route and base depot sourced | 4. Refine method and scoring system |
| 5. Pilot scheduled for week of 7 July 2014 | |

# Challenging the design of Heavy Goods Vehicles

CLOCS

Mark Starosolsky

LAING O'ROURKE

# ‘Off-Road’ or ‘Construction Specification’ Heavy Goods Vehicles are over represented in fatal incidents

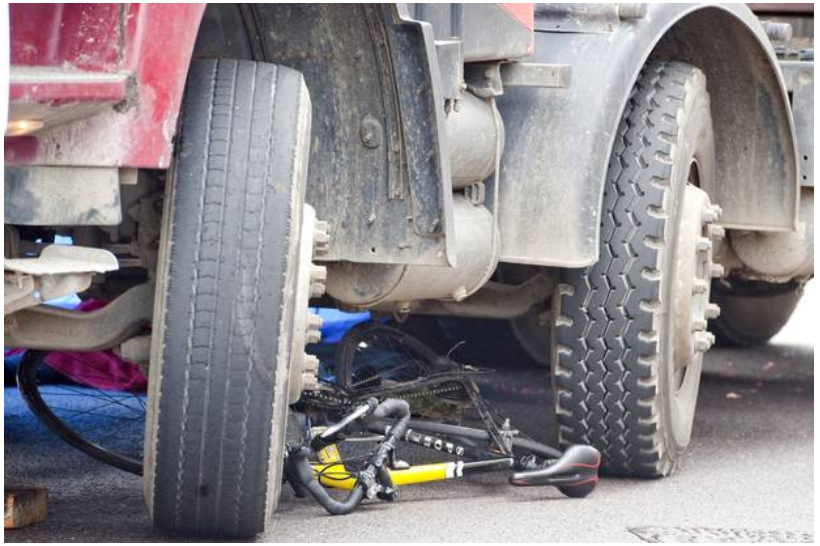
**Main criteria for an ‘off-road’ $N_3G$ vehicle:**

- Must have a minimum ground clearance
- At least half of the axles powered
- Must be able to climb a 25% gradient fully loaded

- The requirements aren’t that difficult to satisfy if you build a big powerful truck
- Exempt from front under-run protection rules
- There is no restriction for operating ‘off-road’ HGVs in the middle of cities

**How comfortable are we with bringing these vehicles into urban environments?**

*“a regulatory blind spot that needs a re-think”*

# Left-turning rigid vehicles are involved in the majority of cyclist deaths on London's roads – why?

- This comparison shows an N3 vehicle (left) vs N3G vehicle (right)
- Note the high driver position on the N3G, high ground clearance, and lack of under-run protection
- Research shows less driver vision from high cab rigid vehicles


# 44 tonne GVW articulated rigs aren't involved in as many fatalities despite their size and awkwardness - why?

**Theory 1** - They pose a more obvious threat, therefore people stay out of the way

**Theory 2** - Their left turning intentions are more obvious

**Theory 3** - It's more difficult to see from an N3G vehicle, and when there is contact it's more likely to have catastrophic consequences because of the lack of under- run protection


# A recent fatality at Vauxhall illustrates the scale of some of these vehicles and the context of their urban operations



# Research can encourage manufacturers and operators to specify vehicles at the less extreme end of the size range

# Why are off-road specifications necessary?

- Because of where they have to go to dispose of materials
- Operators will specify vehicles for the worst case or worst ground scenarios
- We need to do some work to further understand this in more detail
- Setting standards at disposal sites would be a significant enabler for safer designs


# Positive engagement with manufacturers is critical


- Sir Peter Hendy wrote to all the major truck manufacturers asking them to engage and come forward with new LGV designs
- Responses from vehicle manufacturers:
  - Supportive
  - Cited technical concerns about off-road operability of low cab designs
  - We need to recognise the European nature of their businesses and the size of the UK market
  - “legislation leads vehicle design”
- New ideas are emerging from the positive dialogue

CLOCS

# Engagement with manufacturers is being conducted by a delegation of CLOCS vehicle operators

## Vehicle Manufacturers

SCANIA

Mercedes-Benz

VOLVO

DENNIS EAGLE

RENAULT TRUCKS

MAN

DAF

## Operator Delegation

LAING O'ROURKE

DHL

LAFARGE TARMAC

CEMEX

CONWAY great people : great work

O'DONOVAN WASTE DISPOSAL

SIG UK

Hanson HEIDELBERGCEMENTGroup

RINEY

CITY OF LONDON

# Development of City Safe Trucks

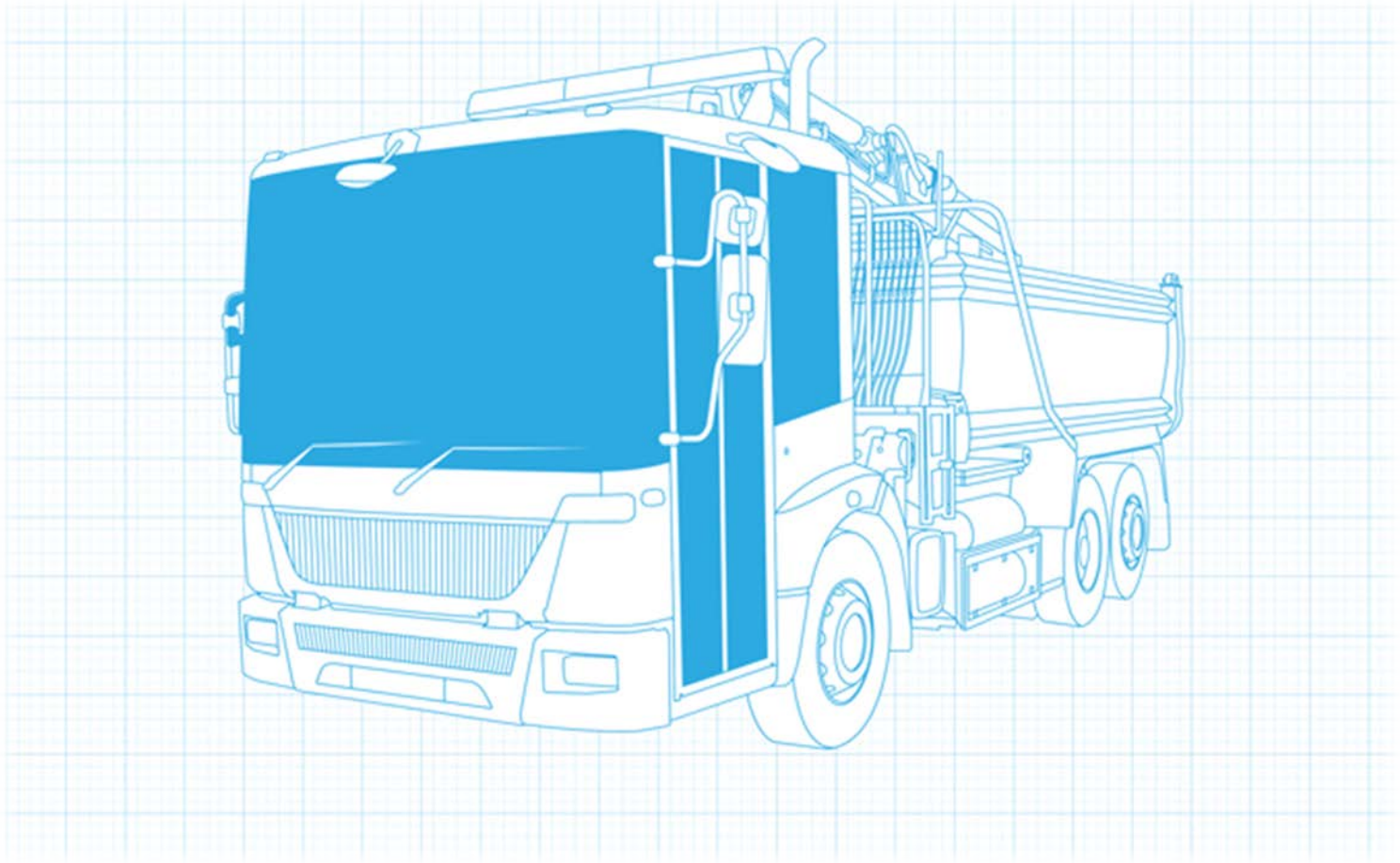
- **We can make safer trucks**
  - Eight wheel version of the Econic under investigation
  - Scania, Volvo & Dennis Eagle also have a low cab propositions
- **We can make the current designs safer**
  - Operators fitting VRU safety devices, progressing to dealer then factory fit
  - Scania & Volvo now have glass panel passenger doors available
  - Scania working on a hybrid design, DAF have a lower profile construction design


**Commercial Motor Photo Shoot - May 2014**

# The Mercedes Benz Econic vehicle is an example of what can be achieved through engineering

- Low cab vehicles dominate the refuse industry
- Barriers to adoption: Operability, Fragility, Cost

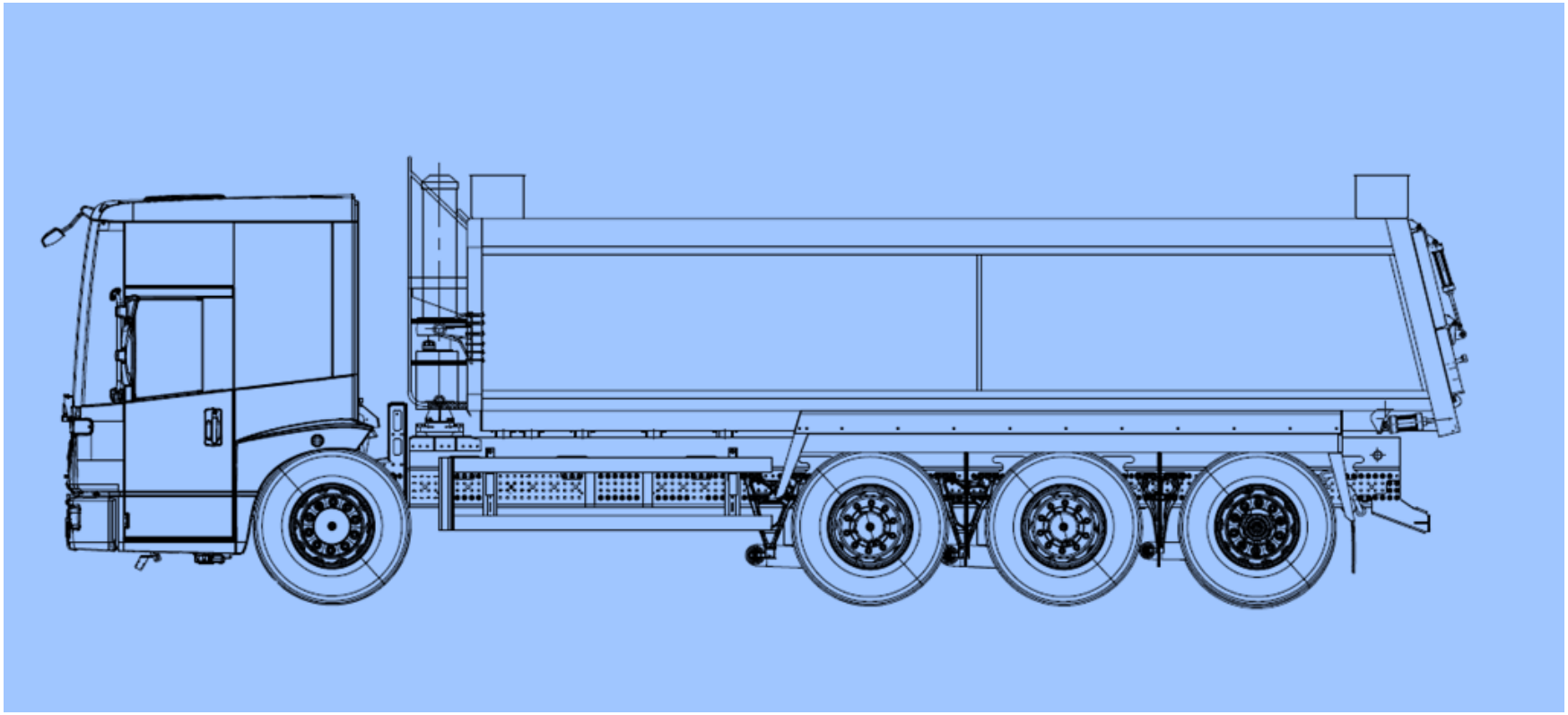
Mercedes-Benz



# Extension of Mercedes Benz Econic concept to a 32t Euro 6 tipper under investigation

- 8 x 2 32t tipper with rear steer

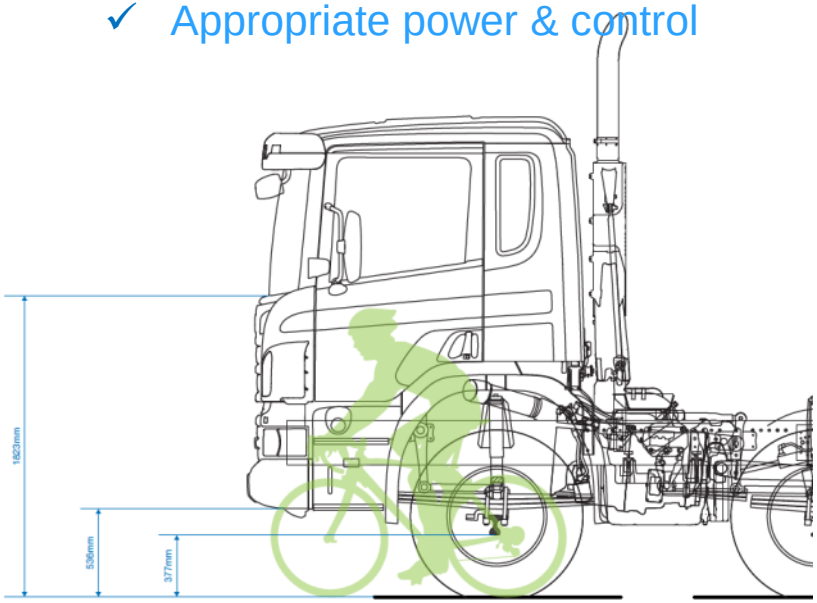
Mercedes-Benz



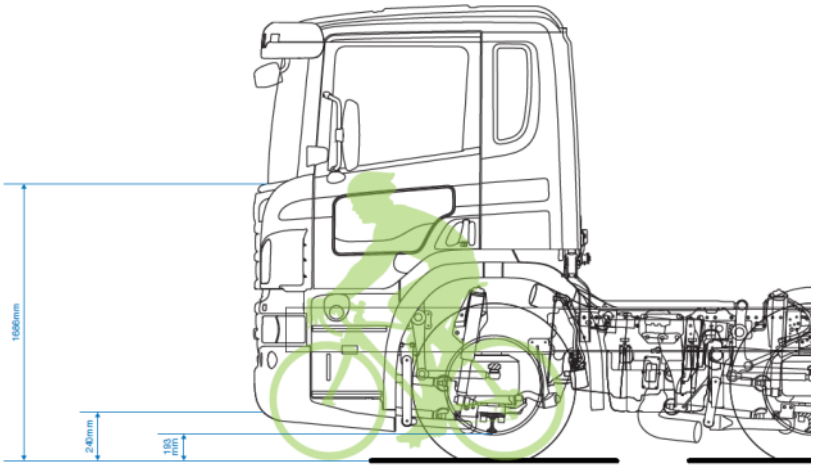
# Optimising currently available specifications would increase visibility, improve under run protection and manoeuvrability

- Laing O'Rourke, Scania, TfL and DHL working to produce an urban construction vehicle specification

✓ More direct vision
✓ Better manoeuvrability
✓ Appropriate power & control




✓ Lower under run protection
✓ Less weight
✓ Automatic transmission



# New DAF CF – Lower cab with front under-run protection

- Low cab, improved direct field of vision
- Cab height reduced by 120 mm

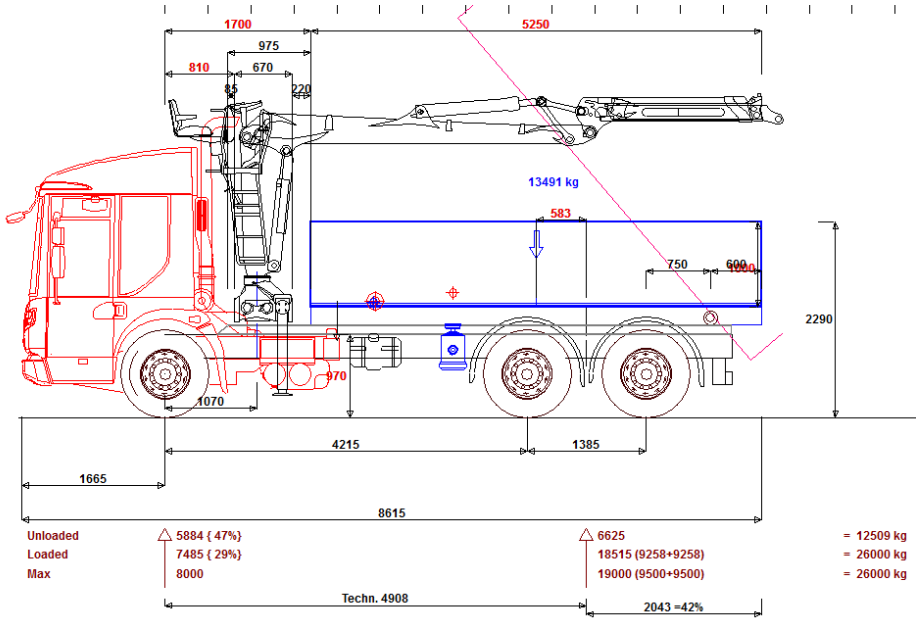
# Volvo low cab vehicle available in the UK as Euro6 6x2 for urban logistics operations

- Low cab vehicle
- Glass passenger door

# Dennis Eagle have developed a new urban tipper concept vehicle

- HiUCV Urban Concept Vehicle - 6x4 Tipper
- Based on the Elite cab

DENNIS EAGLE
RosRoca

# Roadmap – Where do we want to be and how fast?

1. Retrofit of aftermarket safety technology by operator
2. Point of sale safety technology fitment by vehicle manufacturer or dealer
3. New configuration of current generation of vehicles using vehicle manufacturer existing specifications (current parts bin)
4. New configuration of current generation of vehicles using vehicle manufacturer new specifications (face lift features)
5. New generation of vehicle developed within the existing regulations affecting vehicle design
6. New generation of vehicle developed adopting new regulations affecting vehicle design

# Summary

- We need to do more work to understand how we can influence the conditions of disposal sites before addressing the regulatory issues
- Manufacturers are responding to the engineering challenge with new models coming to market and some new features for existing models
- Better information, such as our index of direct visibility, will help operators to procure the safest of what is available and further encourage manufacturers
- It’s not just a construction logistics issue – the wider logistics community is becoming actively engaged in LGV safety engineering

# Scania (Great Britain) Limited
# A Manufacturers Response


SCANIA

# Background

- Scania is a commercial vehicle manufacturer with a strong presence within the construction sector.
- Understanding how vehicles interact with the environment in which they operate is crucial to ensure they meet the market and social demands applicable.
- Vehicles specified and developed to suit their individual requirements aid both safety and operational cost.

# Trends

- The world in which we live is changing
- 24 cities are now classified as megacities supporting over 10million inhabitants
- Urban areas are more densely populated
- Vehicles of all types compete for the same space
- Identification of vulnerable road users is key
- This is a global demand

# Mind-set


Look at things

differently

- In partnership with:
  - CLOCS Workstream 1
  - Transport operators – Laing O'Rourke
  - Transport for London
  - Academic institutes – Loughborough University
  - Equipment suppliers – Brigade Electronics
- Challenge the operation
  - Sites
  - Infrastructure
- Challenge the specification
  - Ground clearance
  - Configurations
  - Steered axles

# Activities – Current

- Working partnerships

Loughborough University

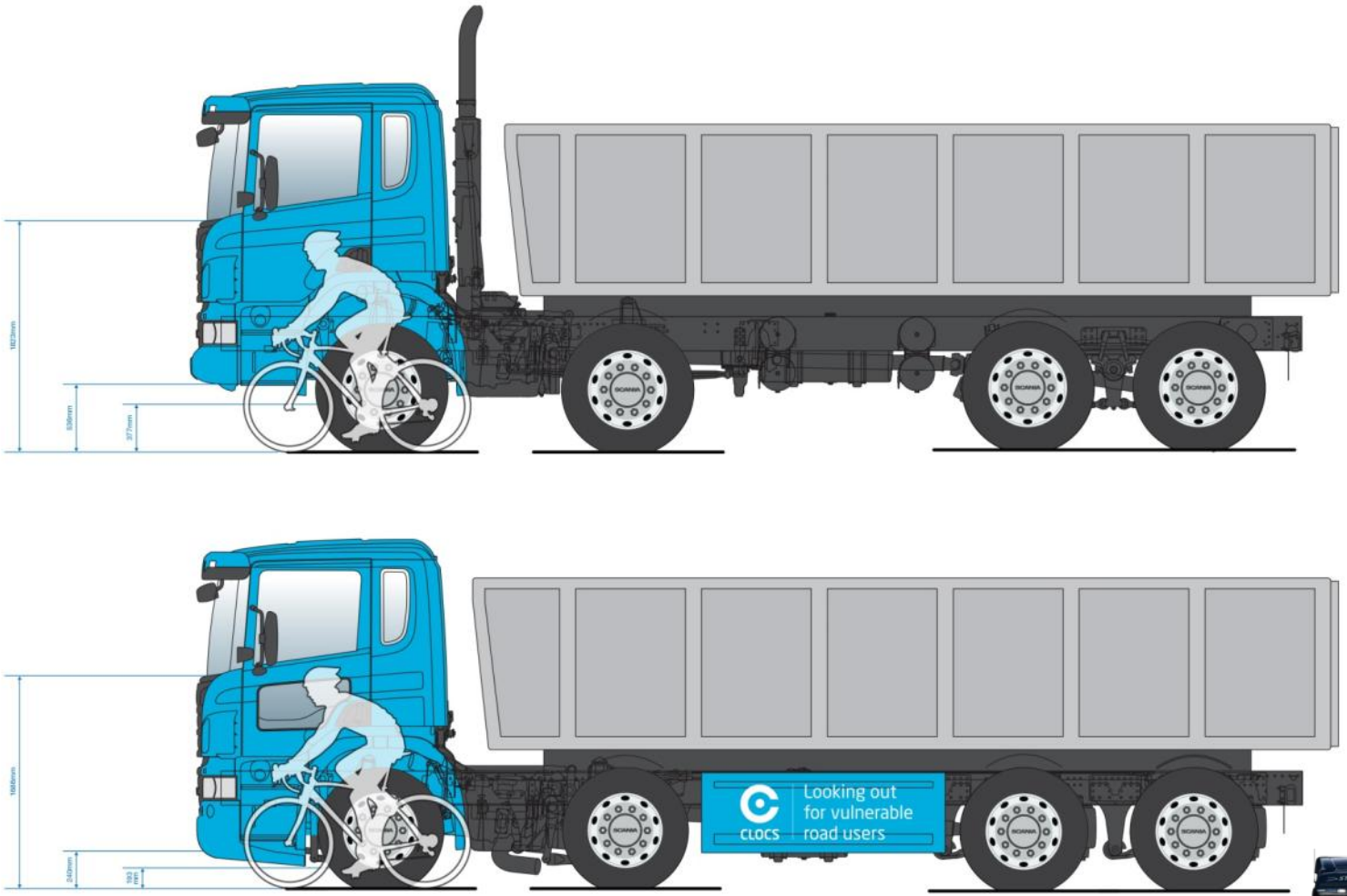

Brigade Electronics

Laing O'Rourke / Keltruck

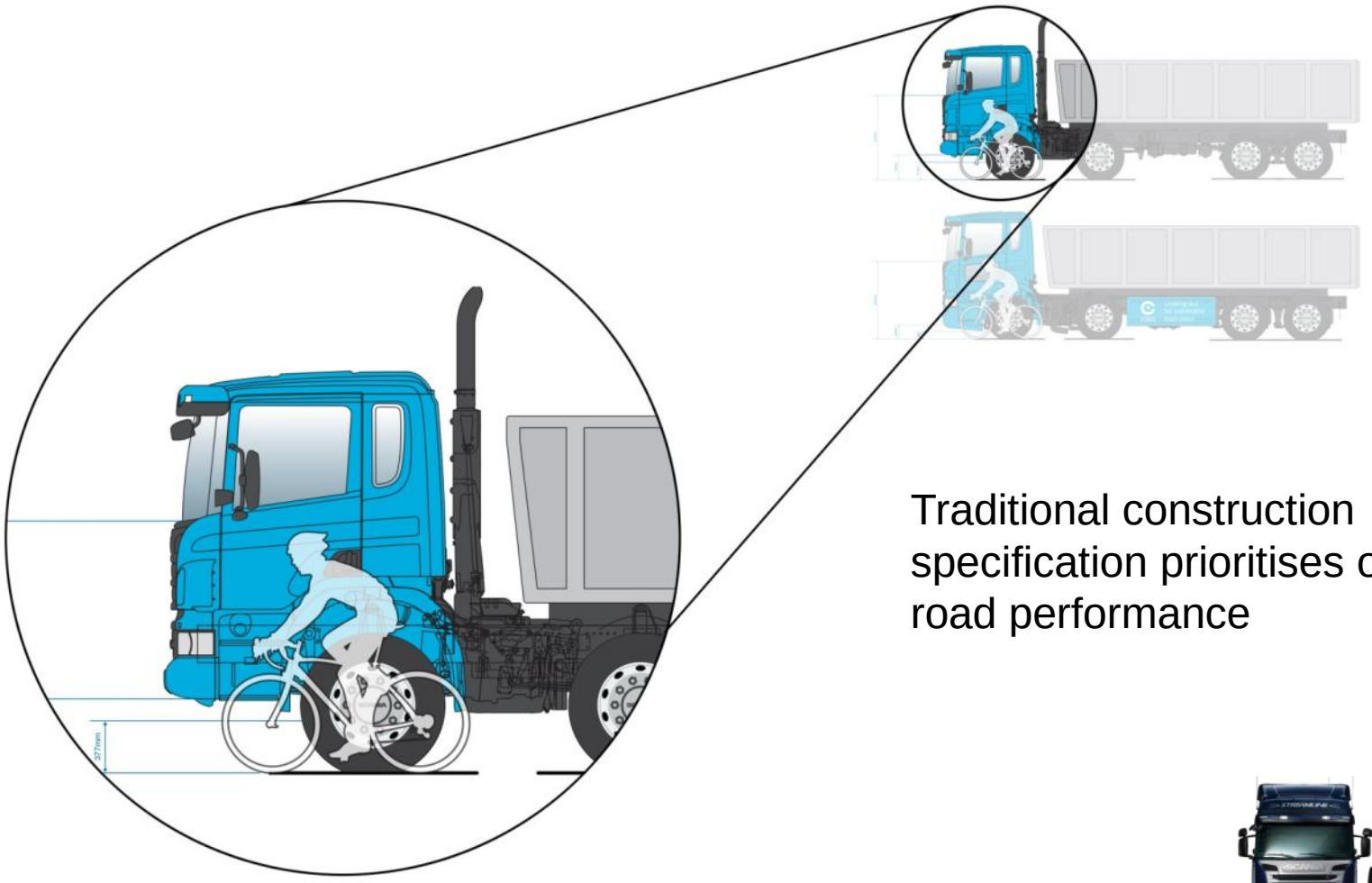
# Activities – Current

- Transport for London studies have shown that distribution vehicles present a lower risk
- Urbanising a construction vehicle to suit the working environment promotes safety
  - Front underrun protection
  - Side guards
  - Camera systems
  - Audible warnings
  - Increased vision
  - Lowered vehicle heights
  - Improved manoeuvrability
  - Automating functions within the vehicle to avoid driver distraction


# Concept Visualisation

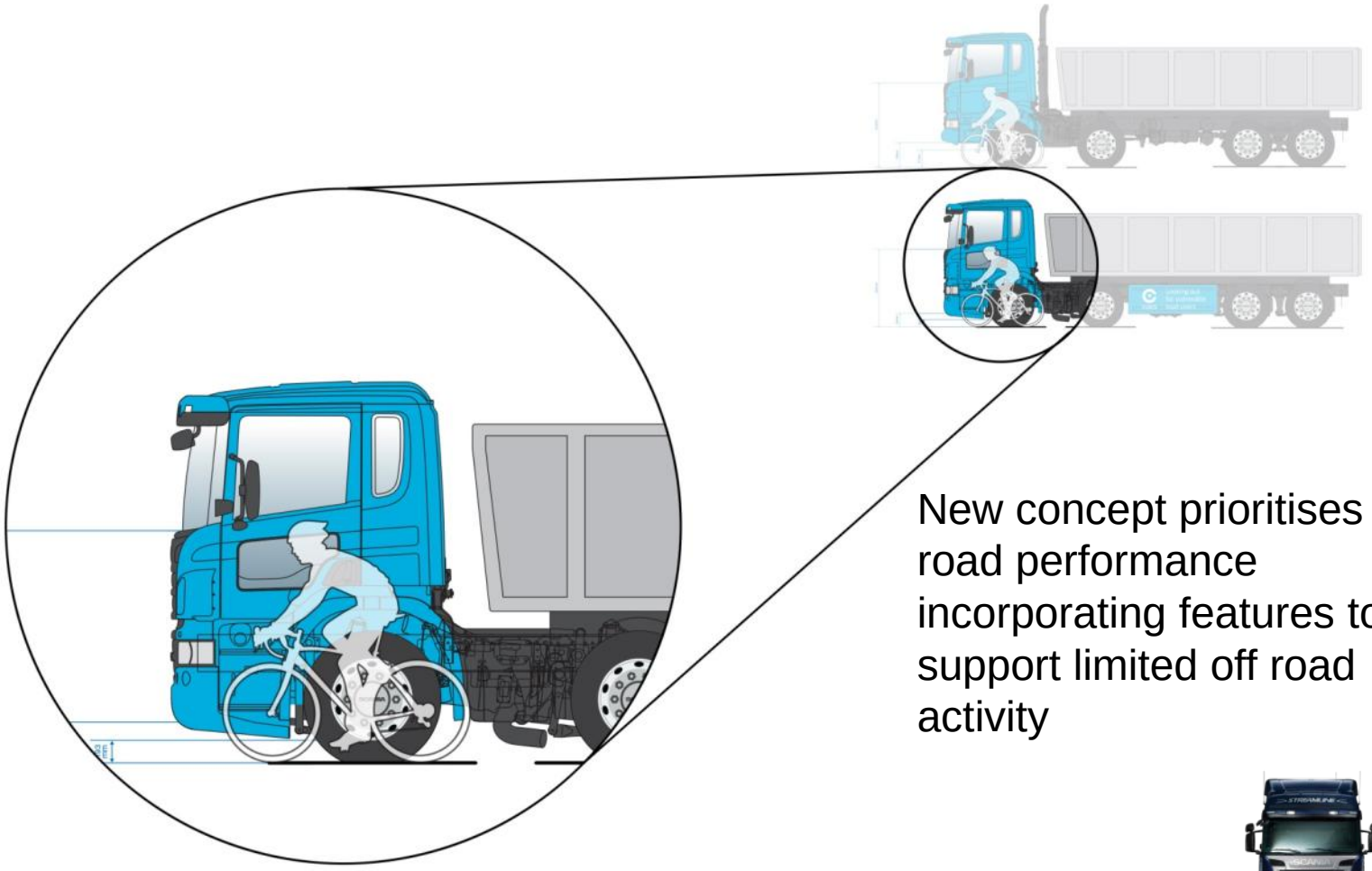



# Current



Traditional construction specification prioritises off road performance

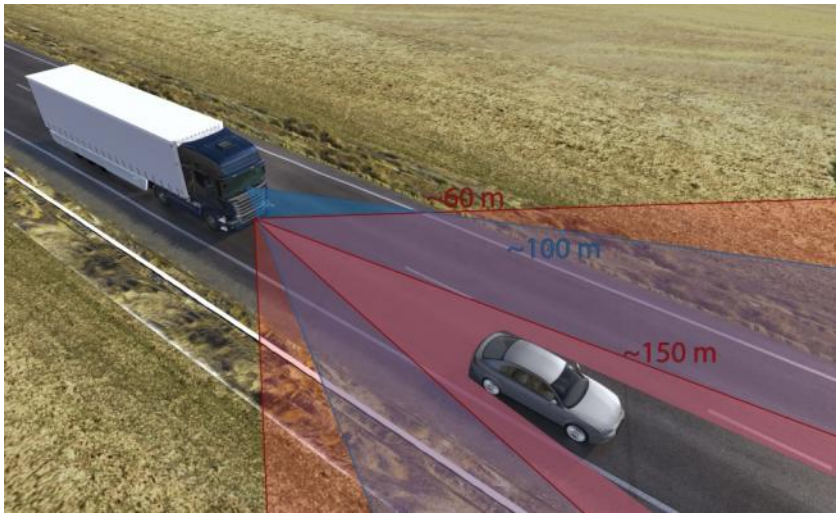
# Proposed



New concept prioritises on road performance incorporating features to support limited off road activity

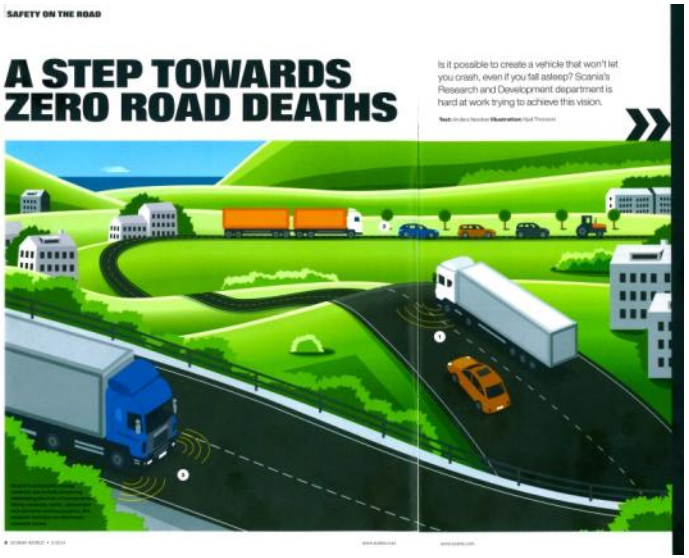
# Activities – Medium Term

- Vehicle fundamentals
  - Increase direct vision
  - Safety systems
    - Advanced emergency braking
    - Electronic vehicle stability programs
    - Improved driver feed back
    - Adaptive cruise systems
    - Lane change warning




# Activities – Long Term

- Development moves from identification to prevention
  - Lane change assistance
  - Vulnerable road user intervention
  - Vehicle to vehicle communication
  - Platooning
  - Dense traffic pilots





# Moving forward – What are the break points


- What is the minimum required ground clearance?
- Where is clearance required?
  - Under the axle?
  - Under the bumper?
  - Under the fuel tank?
- What is the off road surface?
- What gradients are applicable on and off road?
- How much time is spend in these conditions?
- Where are the operational break points
- Etc etc

# How do we move forward

- Produce a vehicle in combination with working partners
  - Ascertain buy in
  - Proof of concept
  - Raise awareness
  - Prove reduced cost of operation
  - Investigation of incentives for change
- The solution cannot come from a single stakeholder
  - Manufacturers
  - Operators
  - Site developments
  - Cyclists
  - Pedestrians
- We all have a responsibility to improve the current situation

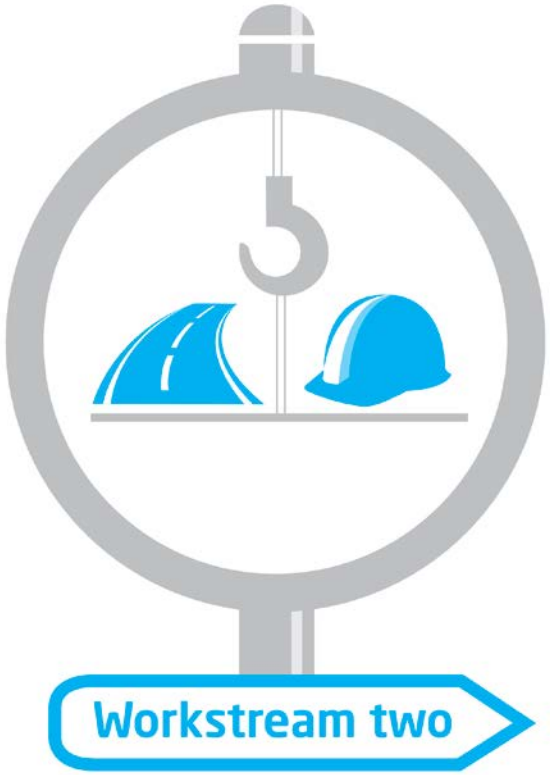

# Thank you


Steven.McLachlen@scania.com
Philip.Rootham@scania.com

SCANIA

# Workstream 2:

## Addressing the safety imbalance



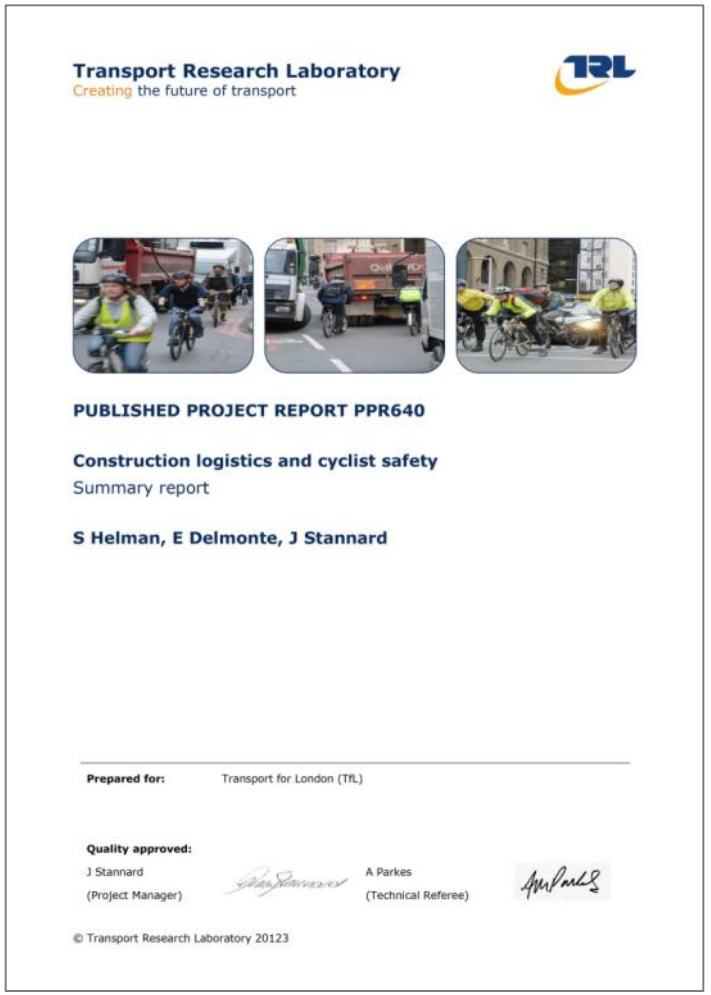

# Addressing the safety imbalance between managing safety on-site and on-road

Ian Vincent, AECOM

CLOCS

# Addressing the safety imbalance

> “The industry doesn’t know that these accidents are occurring…the industry is not going to do much about it until they’re told…how do you get everybody else to [improve their safety] unless you’re telling them that these things are going on?”



Transport Research Laboratory
Creating the future of transport

PUBLISHED PROJECT REPORT PPR640

**Construction logistics and cyclist safety**
Summary report

**S Helman, E Delmonte, J Stannard**

**Prepared for:** Transport for London (TfL)

**Quality approved:**
J Stannard (Project Manager)
A Parkes (Technical Referee)



CLOCS

# Addressing the safety imbalance

> “In the construction industry, the management of work-related road risk clearly lags behind the management of more general health and safety”

> “There seems to be an underlying attitude that managing road risk is not a legitimate use of time”

**Objective**

For work related road safety cultures within construction logistics operations to be considered as important as that of health and safety culture on construction sites

CLOCS

# Development of a reporting system and repository

## Inputs

- Police and transport authorities
- Construction industry clients
- Construction industry operators
- Courts, inquests, coroners
- CLOCS reporting spreadsheet
- Media
- Trade associations
- Road safety groups
- Cycling groups
- Third party input
- Highway Authorities

CLOCS

**Repository of information**

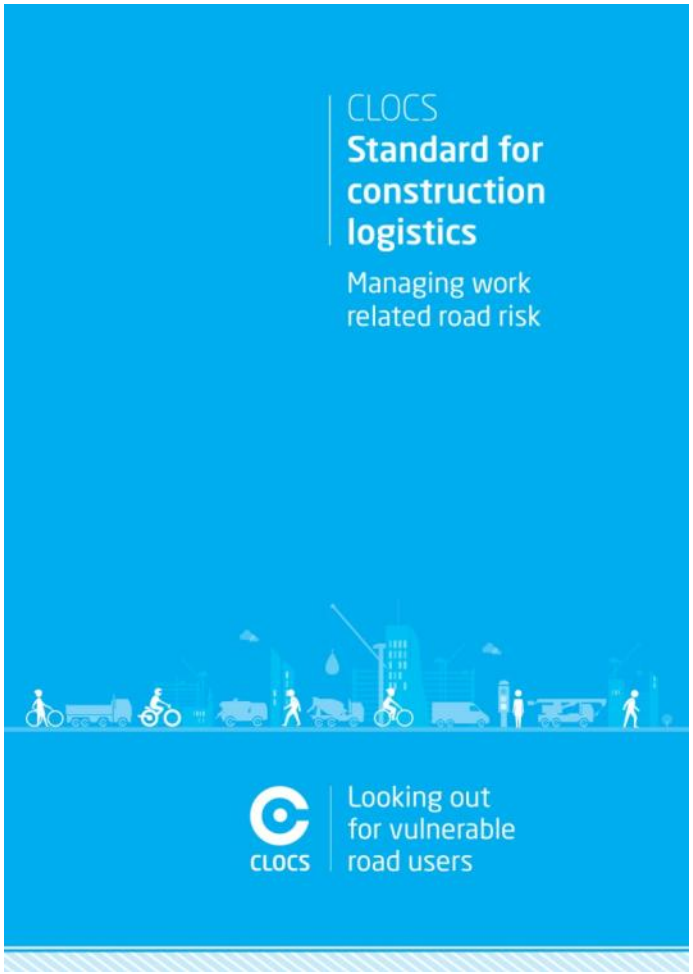
Accessible
Web-based
Managed centrally
Information investigated
Standard format of reporting at various stages

## Outputs

- Alerts
- Periodic reports
- Investigation outcomes
- Lessons learnt
- Causality
- Reports
- Trend analysis
- Insurance alignment
- Peer review
- Mapping

Looking out for vulnerable road users

# Collision reporting and CLOCS




### 3.1.2 Collision reporting

**Requirement**

Fleet operators shall capture, investigate and analyse road traffic collision information that results in injury or damage to vehicles and property. All collisions shall be reported to their client or contracting entity.

**Purpose**

To create transparency in the supply chain and enable fleet operators and clients to work together to mitigate the risk of road traffic collisions and prevent re-occurrence.

**Demonstration**

A log of all collisions shall be maintained which shall include details of all evidence required to investigate an incident.

Reporting shall include lessons learned and remedial measures identified to help prevent re-occurrence of similar incidents.

Fleet operators should use an approved reporting mechanism to report all traffic collisions that result in injuries or damage to vehicles and property.

CLOCS

# CLOCS Manager

## Objectives

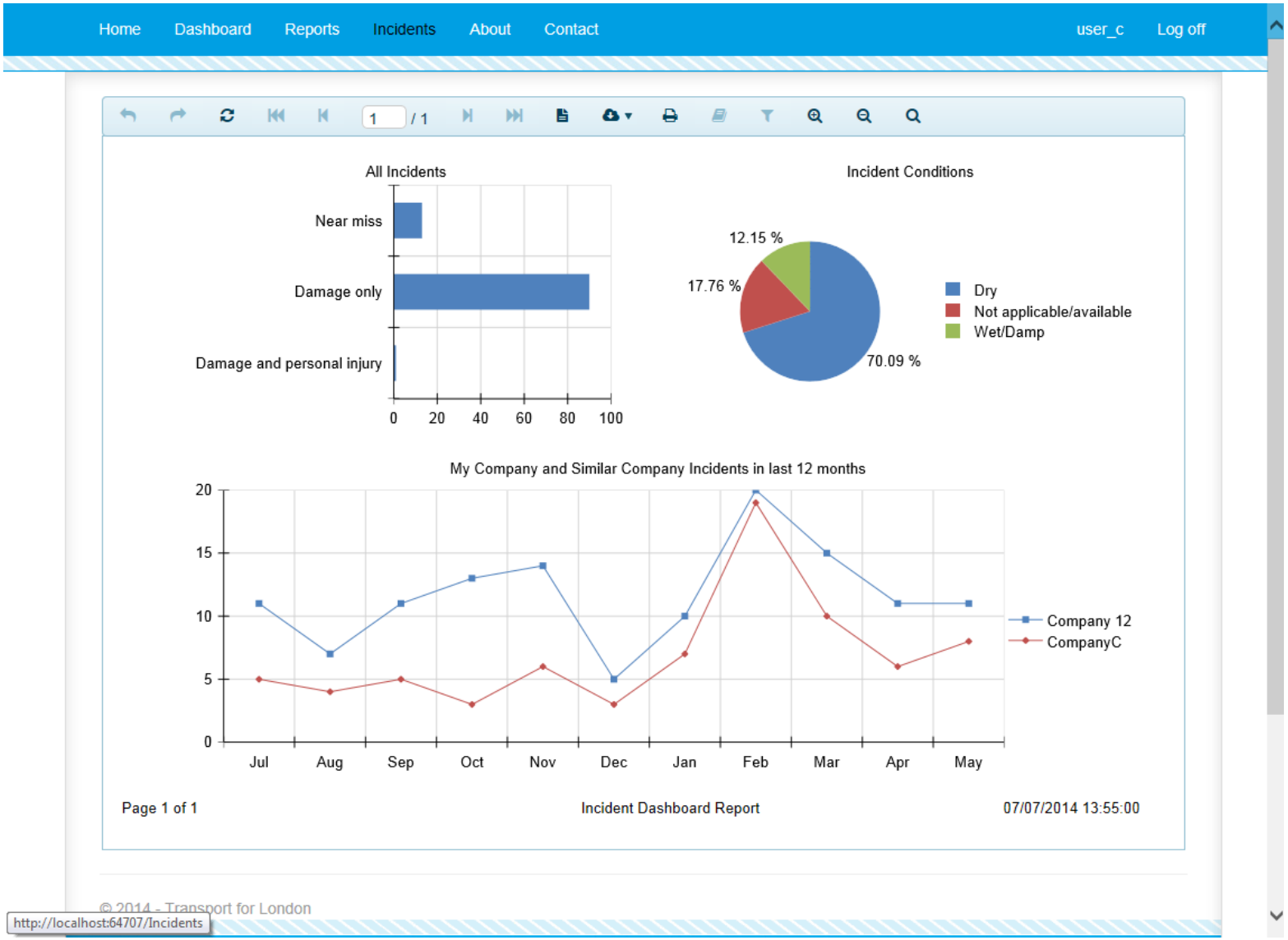
- Improve transparency of work related road risk incidents and collisions
- Assist industry to manage incidents and allow data upload to insurance companies
- Provide a forum to share lessons learnt
- Assist operators and clients in meeting the requirements of the CLOCS Standard
- Provide a central repository of data to inform policy
- **Reduce work related road incidents**

# CLOCS Manager

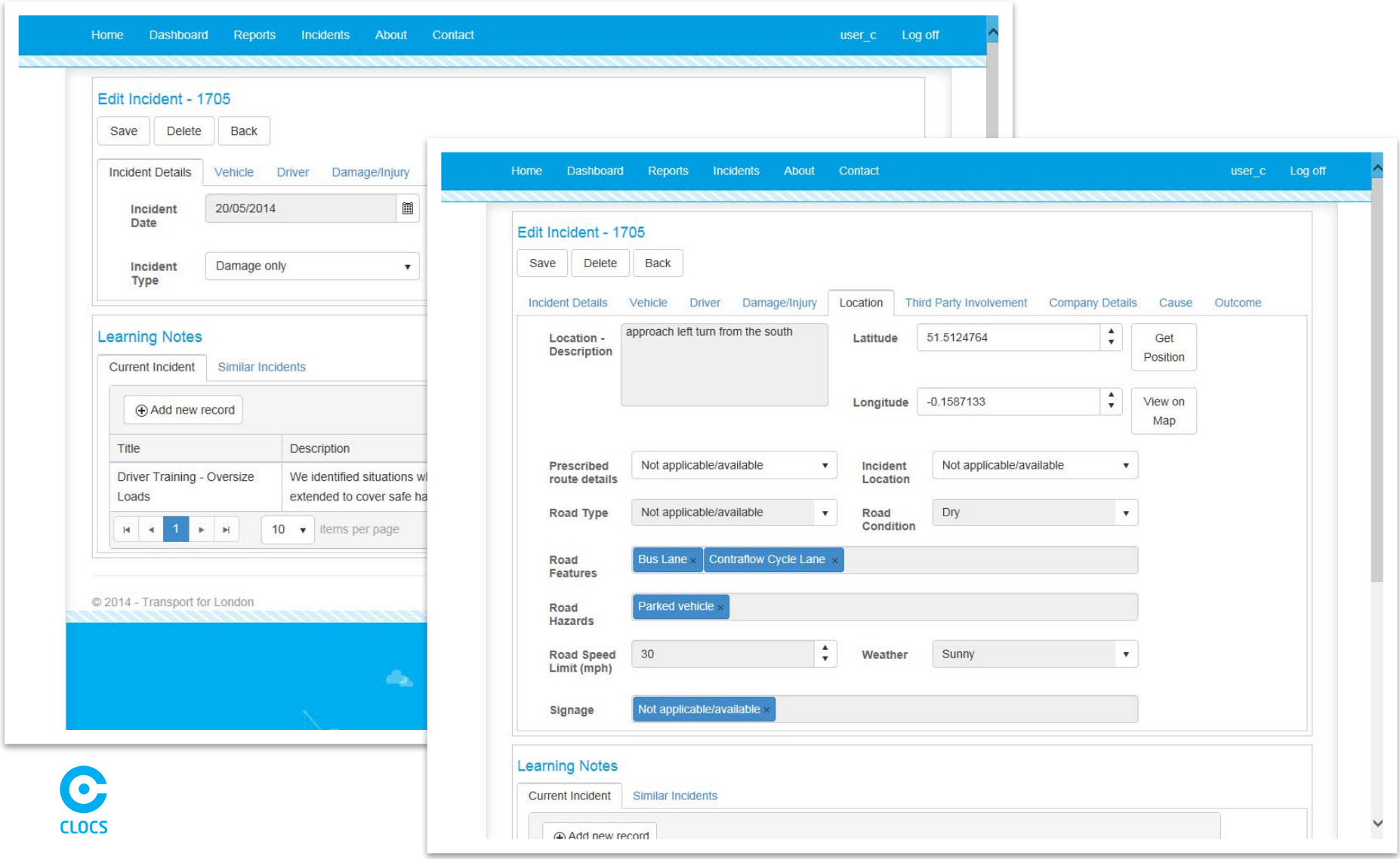
## Key functionality and capabilities

- Web based system with offline input option
- Peer comparison and benchmarking
- Anonymous with encrypted details
- Reporting
- Learning notes
- Insurance data tie-in
- Instant alerts and periodic summaries

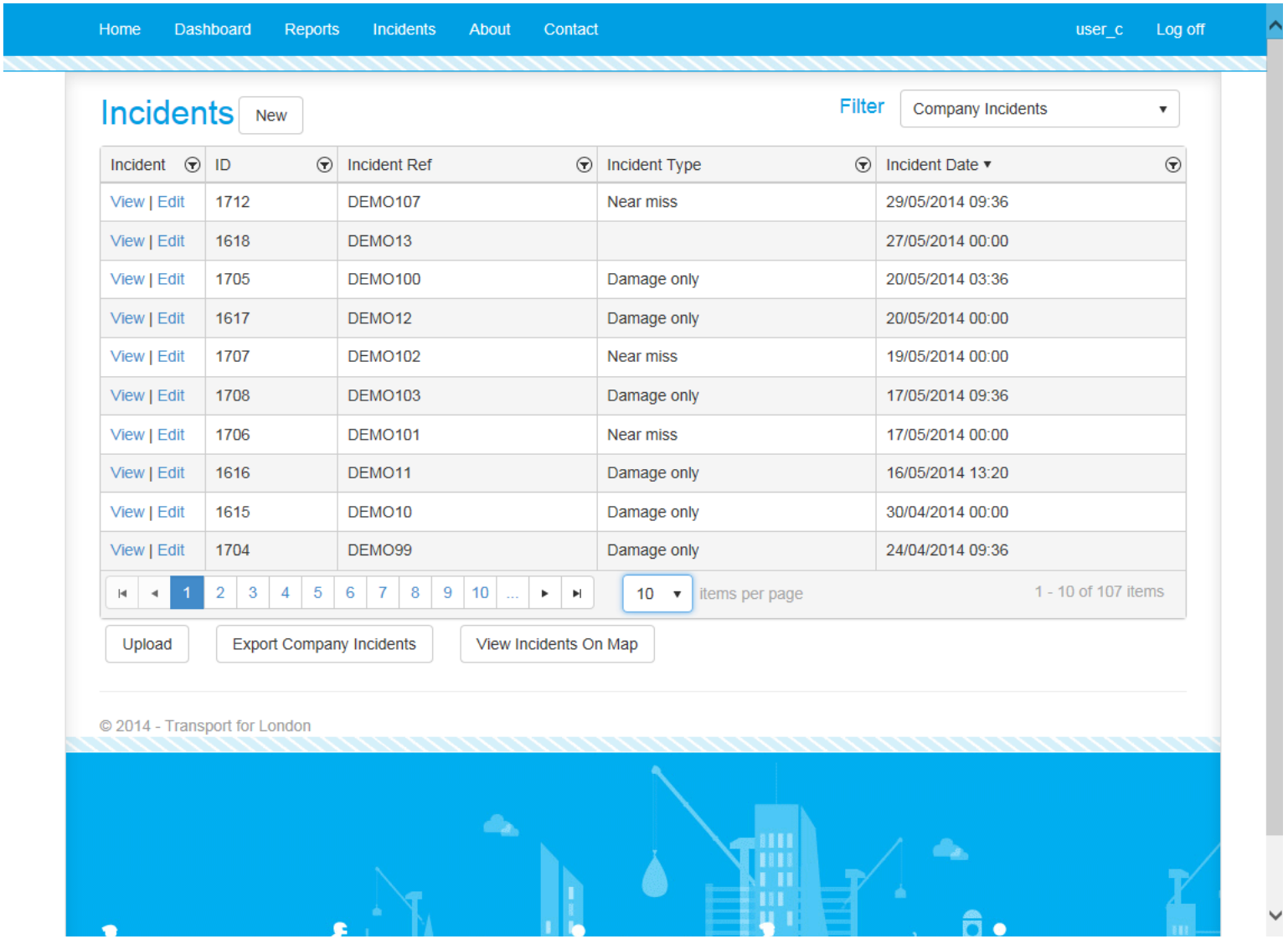
# CLOCS Manager - dashboards



# CLOCS Manager – incident input

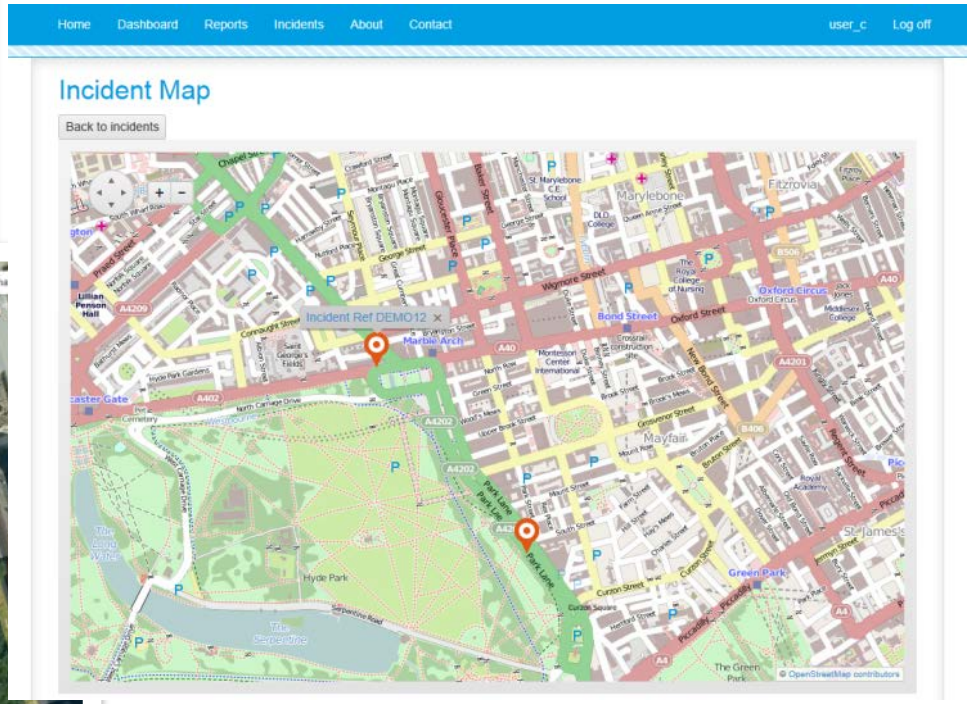


# CLOCS Manager – incident log



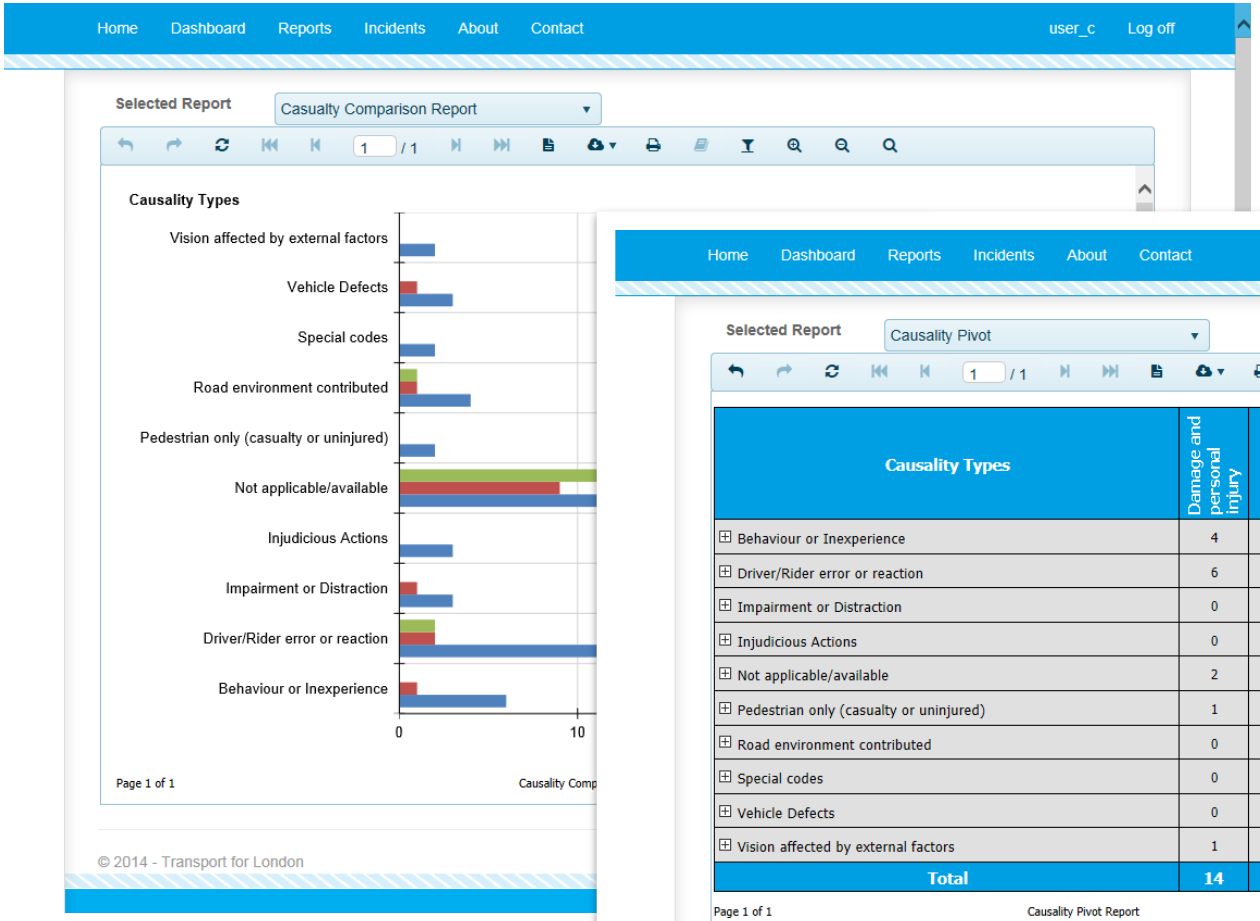
# CLOCS Manager – mapping incidents

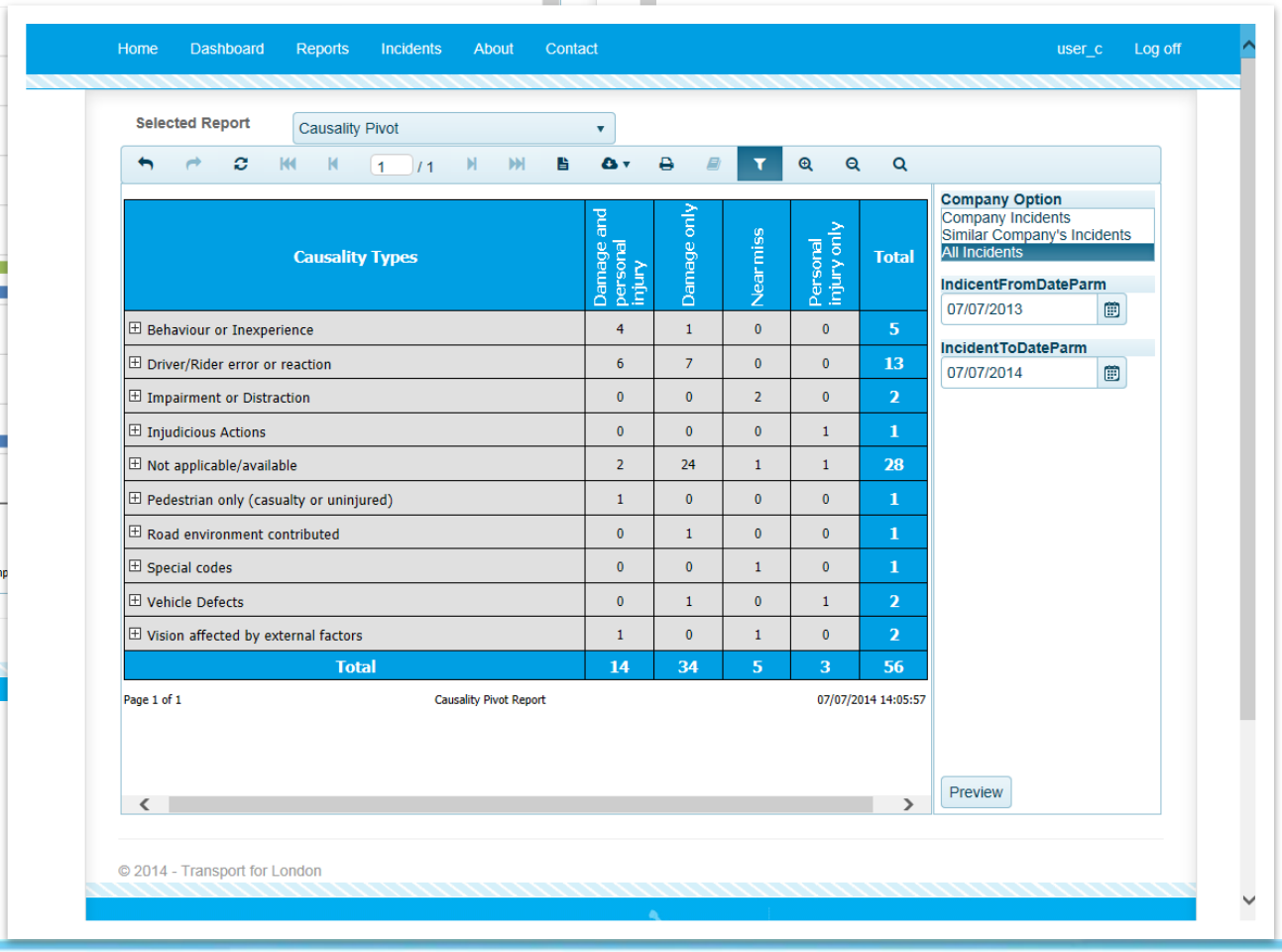





Looking out for vulnerable road users

# CLOCS Manager - reports

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# CLOCS Manager - alerts

London

9:42AM, MON 2 JUN 2014 CYCLIST KILLED IN COLLISION WITH LORRY IN VAUXHALL

## Cyclist killed in collision with lorry in Vauxhall

Last updated Mon 2 Jun 2014

UK

Credit: Daniel Knowles

A cyclist has died follow

London Evening Standard

HOME NEWS SPORT FOOTBALL SHOWBIZ & ENTS GOING OUT LIFE & STYLE BUSINESS

LONDON Crime Politics Mayor Transport Education Health Technology

VIDEO: HERO SAVES MAN FROM DROWNING IN THE THAMES

## Cyclist killed in rush hour crash with truck at 'nastiest' gyratory in London

The man's crushed bike at the scene in Vauxhall Picture: Jeremy Selwyn

BBC Sign in News Sport

NEWS LONDON

Home World UK England N. Ireland Scotland Wales Business

2 June 2014 Last updated at 18:48

## Mayor's adviser: Vauxhall jur hate most'

The man was the sixth cyclist to die in London this year

**The junction where a cyclist was killed earlier is "genuinely dangerous" and "the one I hate most", London mayor's cycling commissioner has said.**

A 52-year-old man, who has not been named, was killed in a collision with a lorry on Parry Street, Vauxhall at about 07:00 BST.

Transport for London (TfL) said he was the sixth cyclist to die in the capital this year.

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Looking out for vulnerable road users

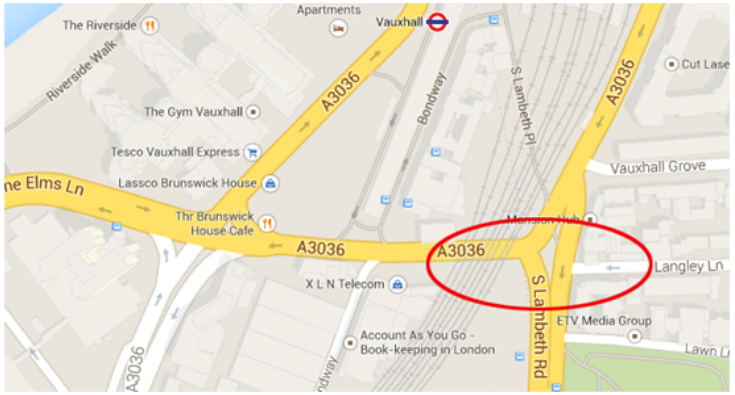
15 May 2014

## Cyclist killed in HGV collision

**Incident:** **Cyclist fatality**
A 52 year old man has died following a collision with an HGV

**When:** **Monday 02 June, 07:00**

**Where:** **Parry Street / South Lambeth Road, London Borough of Lambeth**
The incident occurred at the junction of Parry Street and South Lambeth Road (Vauxhall Cross junction area)




**Vehicle:**
Initial reports indicate the vehicle was a **tipper truck,** specific vehicle details have not yet emerged.

**Other details:**
The lorry driver stopped at the scene but nobody has been arrested. Police are

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# CLOCS Manager

## Benefits the whole industry

- Multi-purpose management tool, aligned with other reporting requirements e.g. insurance
- Fulfilling CLOCS requirement
- Learning notes across the industry responding to issues relating to
  - Operations
  - Vehicles
  - Drivers
  - Clients

- Benchmarking and peer comparison
- Incident mapping can inform routing and planning
- Incident and fatality alerts – raised awareness of issues
- Confidence that operators have access to an incident and collision management and reporting tool suitable to meet CLOCS requirement 3.1.2

## Join CLOCS Manager

- Beta trial launch 21 July
- Full launch end of August 2014
- Express your interest

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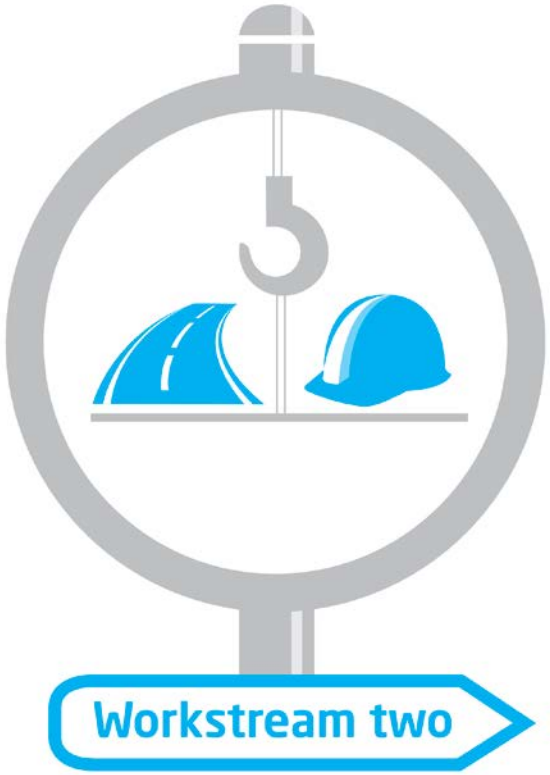



# An operator's perspective

## Sean McGrae, Lafarge Tarmac

LAFARGE TARMAC

# About Lafarge Tarmac

## Context

- The UK's leading sustainable building materials and construction solutions company
- Largest fleet in the industry – currently operating 1,700 trucks from our 330 sites across the UK
- Fleet structure:
  - Readymix
  - Aggregates and Asphalt
  - Cement and Lime

## Core Values

- Safety is a core company value – we're taking action to improve vulnerable road user safety
- Promoting the issue in a way that will make a real difference to not only the culture of our business, but our supply chain and the wider industry

# Lafarge Tarmac and CLOCS

## CLOCS

- Vital to have a single shared high standard for safety
- Closely aligned with company values
- Great example of cross industry co-operation

## Activity so far includes:

- FORS ‘Whole Fleet Accreditation’
- CLOCS Champion
- Commitment to retrofit vehicles (both owned and contract haulier)
- Promoting CLOCS as a standard beyond London

# Owning the issue

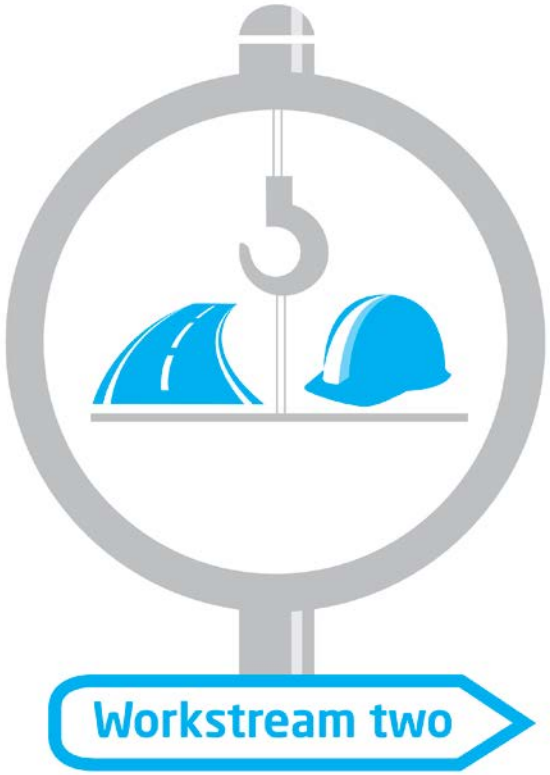
## Redrawing the boundaries

- Lafarge Tarmac approach is to manage risk across whole journey, ‘beyond the site’
- Inconsistent information on incidents and near hits - limited history as a result
- Safety and Health Transport Manager:
  - Focus on transport related incidents
  - Supporting  and vehicle safety through Driving Safety initiative
  - Clear boundaries and responsibilities
  - Gets involved in every incident involving a vehicle to review the investigation, communicate lessons learnt and use this to focus improvements

# Collaboration and incident reduction

## Working together

- Industry-wide information gathering and trend analysis
- CLOCS Manager enabling incident reduction through shared knowledge
- Shared responsibility to achieve collective incident reduction aim




# An operator's perspective

## Sharon Field, FM Conway

CONWAY
great people : great work

CLOCS

# Benefits Achieved by FMC from Central Reporting

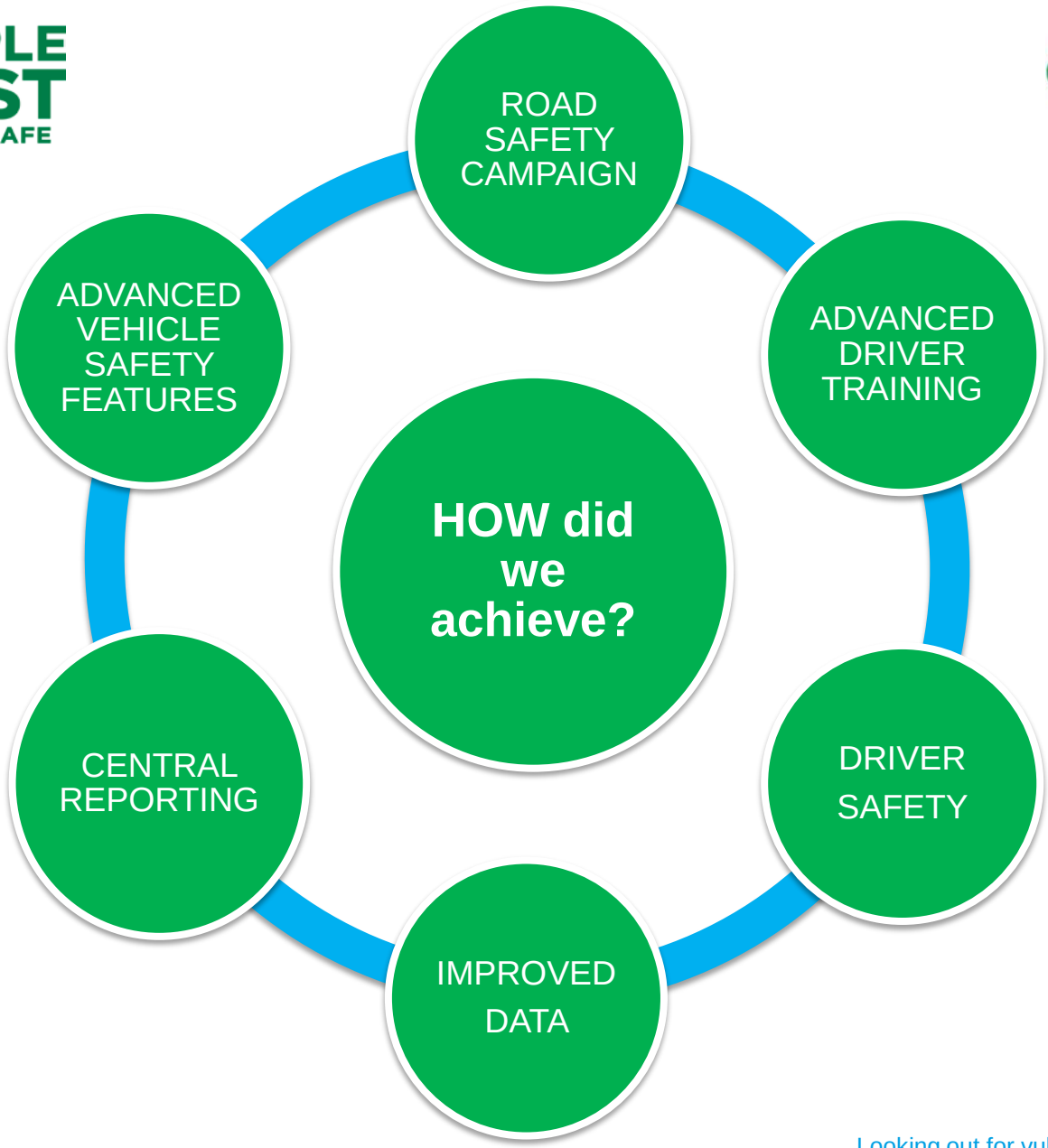
- Conway Fleet 890 vehicles
- Improved Safety Culture
- Improved Client & Community perception
- 32 % Reduction in Incidents
- 49.5% Reduction in Premiums

bsi. ISO 39001 Road Traffic Safety Management

GOLD FORS FLEET OPERATOR RECOGNITION SCHEME

CLOCS

Looking out for vulnerable road users


ROAD SAFETY CAMPAIGN
ADVANCED DRIVER TRAINING
DRIVER SAFETY
IMPROVED DATA
CENTRAL REPORTING
ADVANCED VEHICLE SAFETY FEATURES
HOW did we achieve?

# Communication

- Driver Induction : Assessment: Training
- Central Reporting Tools
- Exchanging Places
- Cycle Sportive
- CLOCS Forums

**NEW……**

- **Reporting to CLOCS will benefit EVERYONE!**


CLOCS

Looking out for vulnerable road users


# The insurance perspective

Jo Grosvenor, Towergate

towergate insurance

towergate insurance

# Towergate Telford

- Specialist insurance broker
- Over 30 years experience in HGV Insurance
- Risk management key to our success
- Major clients include :
  - Aggregate Industries
  - Breedon Aggregates
  - Hope Construction
  - Midland Quarry Products

# A near miss!

# A large claim

- Accident 2 years ago
- Cement mixer collided with a cyclist
- The cyclist sustained serious leg injuries
- Insurer estimate £750,000 day 1
- £75,000 estimated for pain and suffering
- Expert assistance

# Towergate and CLOCS

- Risk Management
- Reduction in accident frequency
- Social responsibility
- Committed to;
  - Promote data sharing
  - Commit resource & time
  - Support new ideas and initiatives
  - Provide advice and support


towergate insurance

# Workstream 3:

## Encouraging the adoption of best practice


# Construction logistics standards and encouraging road safety in supply chains

Michael Heduan MBE

Crossrail

# Crossrail: Managing working related road risk


**Principles**:

- We all have the right to go home unharmed every day
- We believe that all harm is preventable
- We must all work together to achieve this

## Target Zero and WRRR

- Management of health and safety extends beyond traditional construction site boundaries
- Work Related Road Risk clauses within contracts from April 2010
- Applies to all Crossrail supply chains at every tier
- Every driver > 3.5T, every journey, every vehicle

CLOCS

Looking out for vulnerable road users

# Crossrail: Managing working related road risk

## Lessons Learned

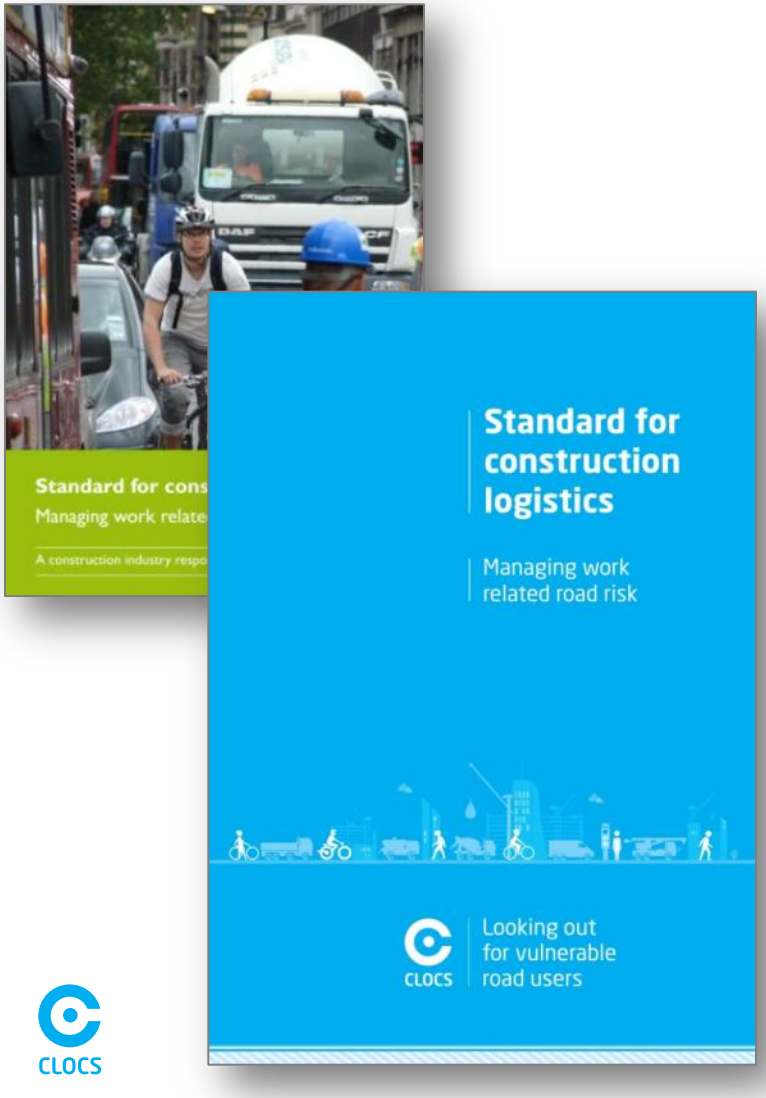
- Working to support the PC is key
- Don’t assume the contractor knows what compliance looks like
- Information is key to understanding what is happening
- Put in place the right controls and work together to reduce risks
- Don’t under estimate the effort that is involved and the barriers to be removed

## Measuring Success

- Over 7200 drivers trained
- Compliance rates over 98% for all vehicles across every worksites (PC data)
- Depth of information available
- Common compliance checking platform across all sites
- High level of engagement with contractors at all tiers
- 2 major awards in the last 2 years

# Informing CLOCS

# CLOCS Standard for construction logistics




## Common national standard

- Common objective to reduce collisions
- Agreed through review of eleven standards by CLOCS working group
- Launched 9 December 2013 (re-branded July 2014)
- Owned, edited and reviewed by CLOCS industry working groups
- Consistency brings a number of benefits

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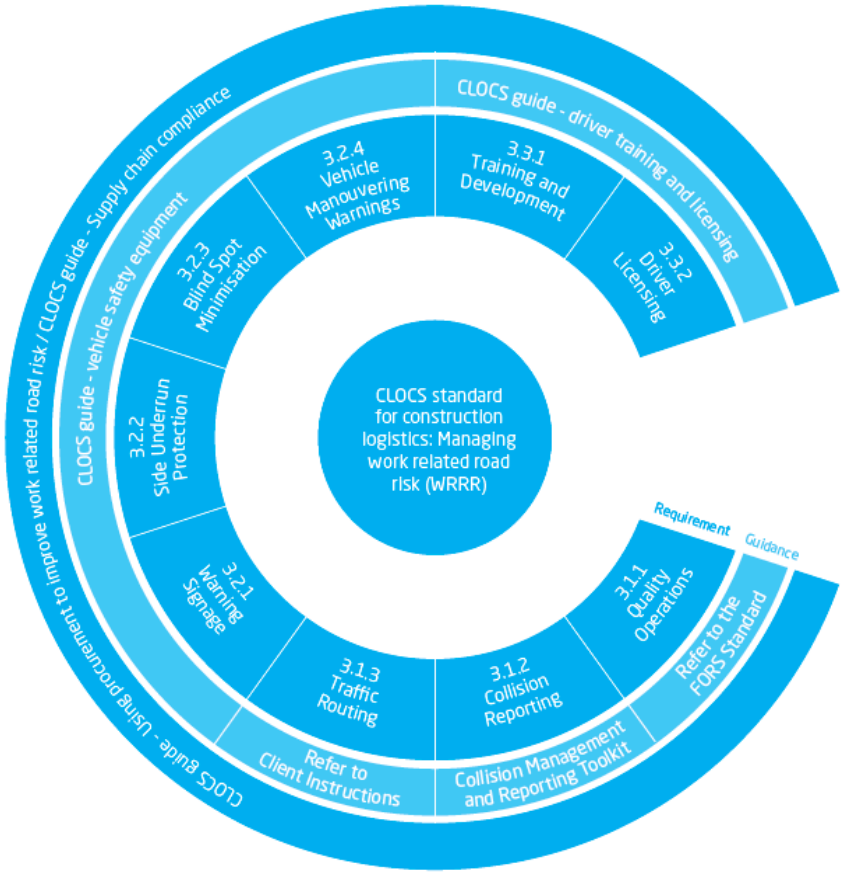
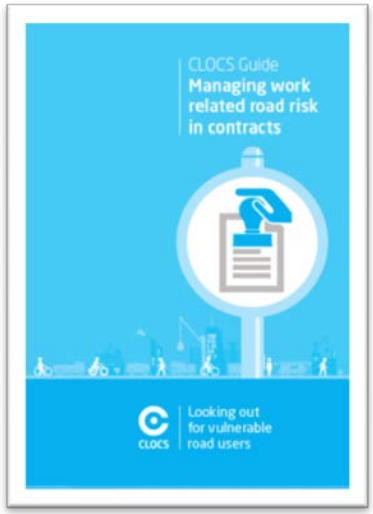
# Supporting implementation of the CLOCS Standard










Looking out for vulnerable road users

# CLOCS Community and MOU



































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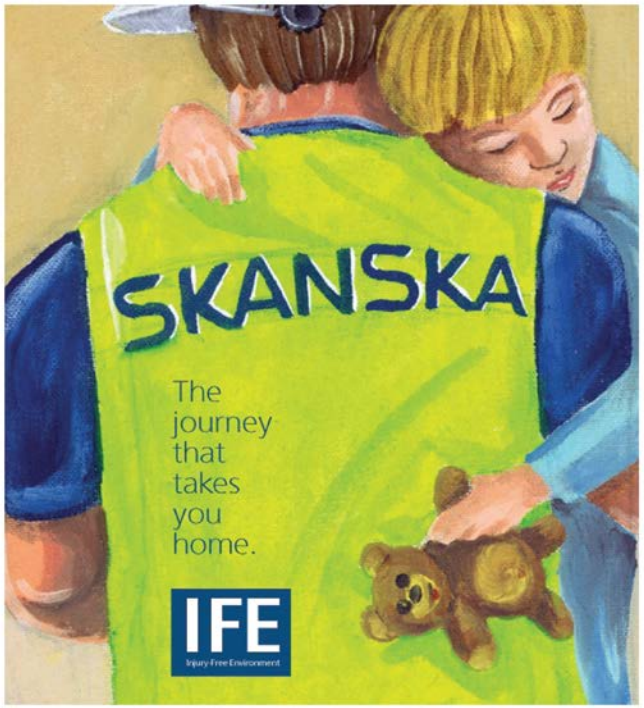
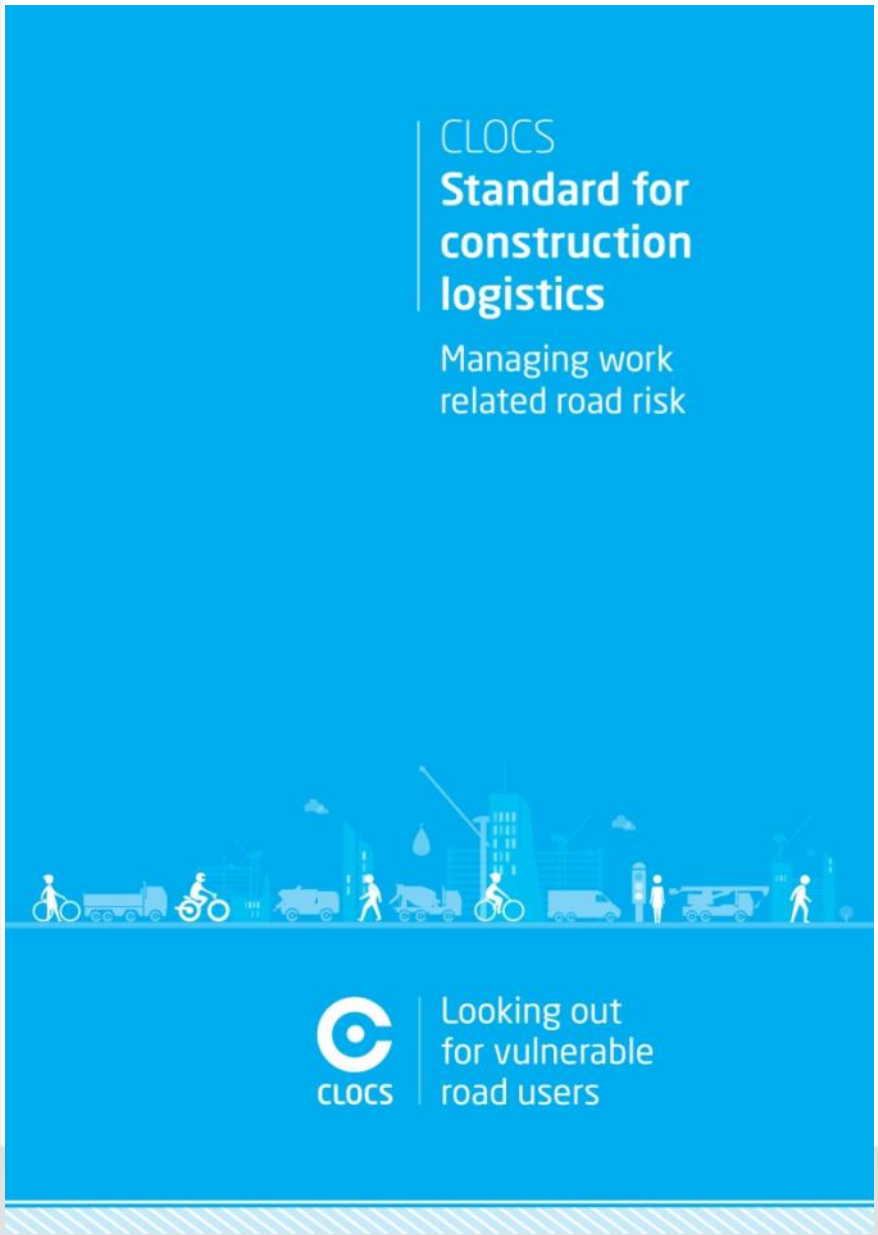



# Injury-Free Environment

# An opportunity to make a step change in road safety

Dylan Roberts
Director Health and Safety
Skanska UK




# Learn and lead

Acknowledgement is given to the following organisations:

Berkeley Group
British Land
British Safety Council
Broadgate Estates
carillion
CEMEX
The Chartered Institute of Logistics and Transport
Considerate Constructors
Conway
Costain
Crossrail
Department for Transport
FORS
FTA
Hanson HeidelbergCement Group
HS2 engine for growth
ice Institution of Civil Engineers
iosh
Lafarge Tarmac
Laing O'Rourke
Land Securities
Lend Lease
mace
Metropolitan Police
mpa essential materials sustainable solutions
O'Donovan Waste Disposal Ltd
pteg the voice of urban transport
RHA
Select
Skanska
St George Designed for life
Thames Tideway Tunnel Creating a cleaner, healthier River Thames
Transport for London Every Journey Matters
Vinci Construction UK
Westfield
Wilson James


- Safe vehicle routes and logistics
- Vehicle standards
- Educating vulnerable road users
- Drivers’ education

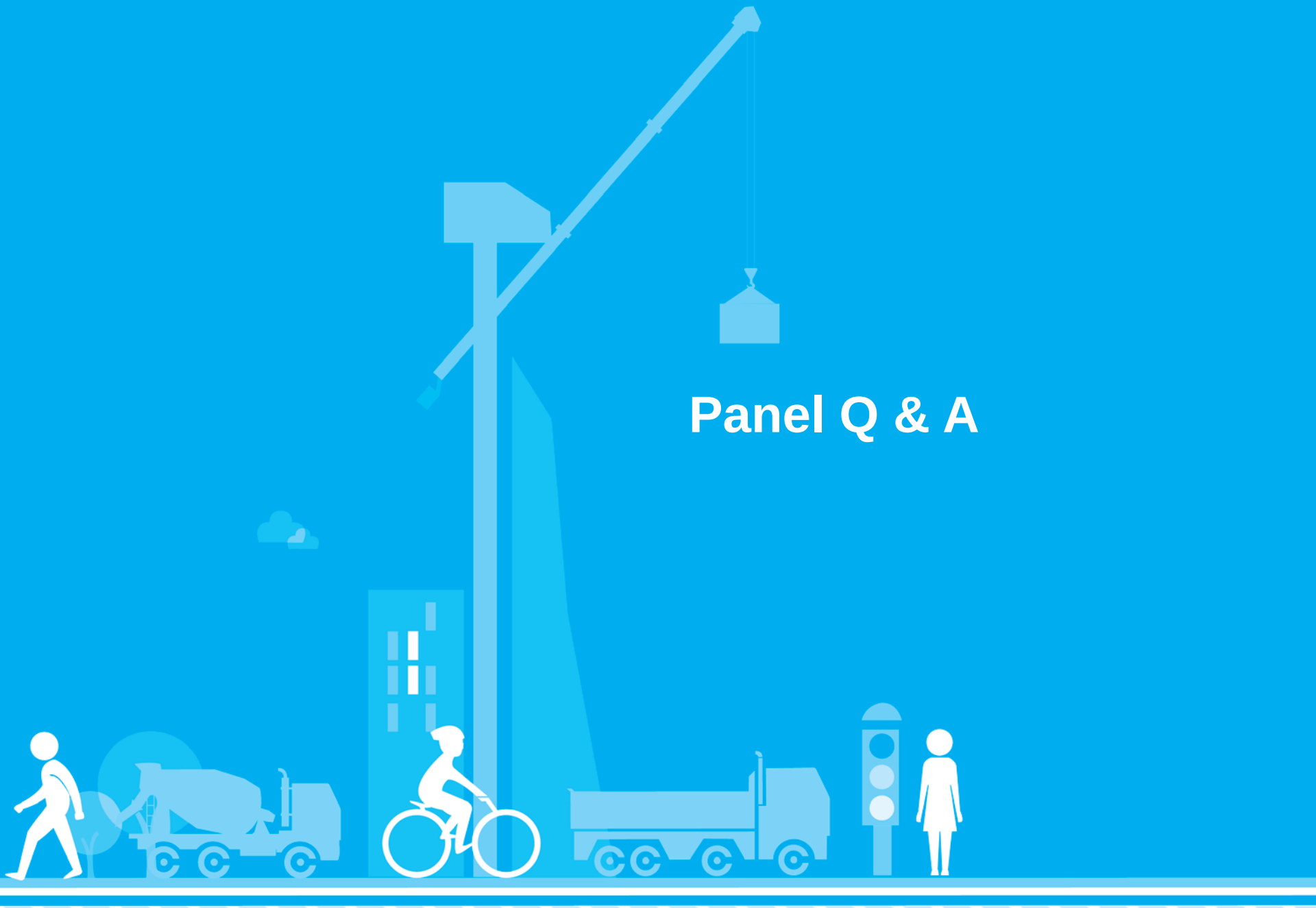

- Declared future
- UK wide standard
- Dates of UK wide implementation:
  - Standard set and communicated to all suppliers on 7 August 2013
  - Our own fleet compliant throughout UK
  - Supply chain by 1 March 2014
- Collaboration

# Evaluation of the work to date and next steps in the programme

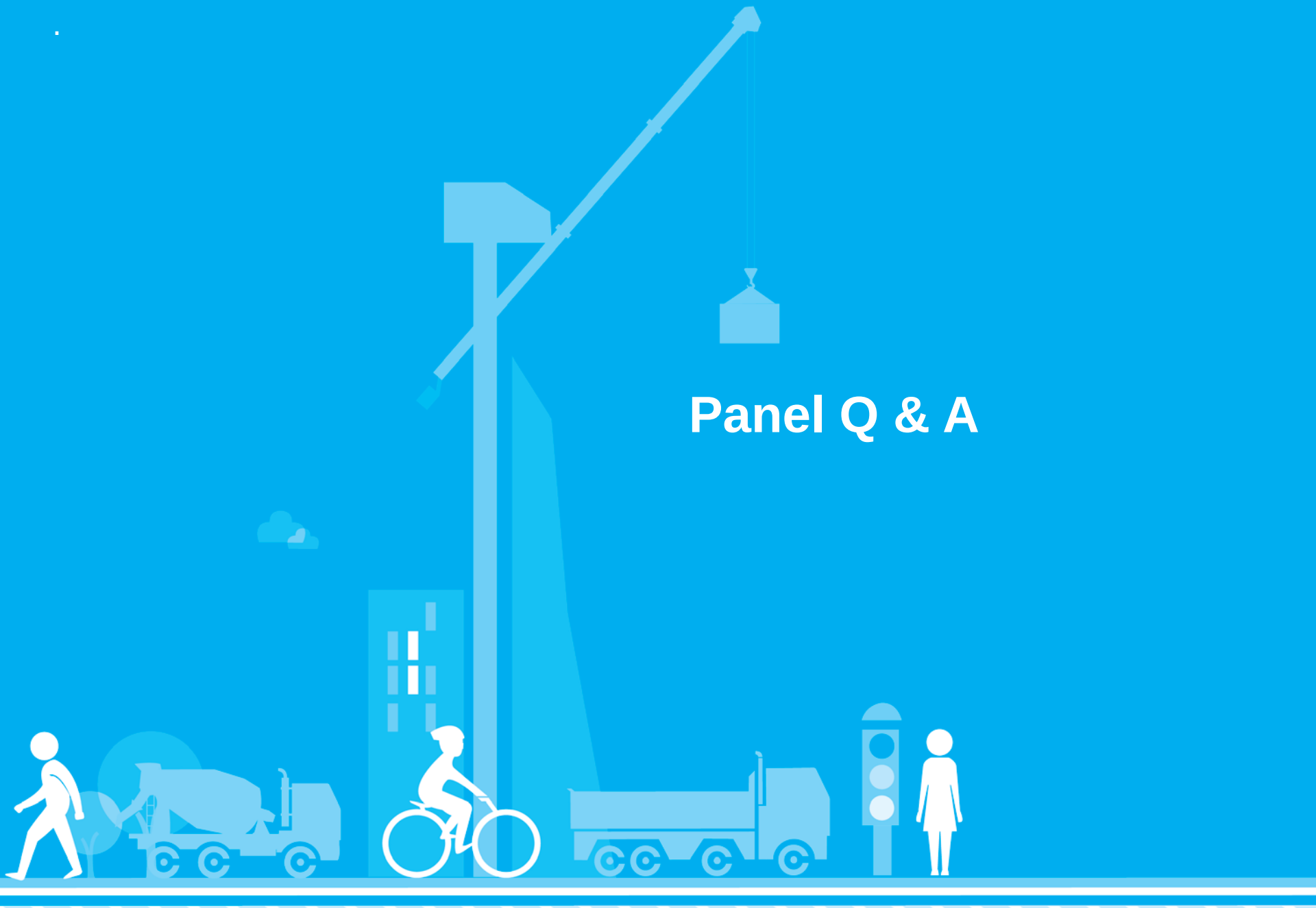
Glen Davies, TfL


Looking out
for vulnerable
road users
CLOCS
www.clocs.org.uk
Safety first. Second nature.
mac
CITY
OF
LONDON

# Panel Q & A



# Panel Q & A



# Chairman’s closing address

# Chairman’s closing address

# Thank you

www.clocs.org.uk

enquiries@clocs.org.uk