VIRTUAL RISK MANAGER®

INTERACTIVE® DRIVING SYSTEMS
Targeting Driver Risk Reduction
US Patent: 6,714,894

Data led work-related road safety

Dr Will Murray
Interactive Driving Systems

BT · Nestlé · Cummins · Pfizer · SIEMENS · Johnson & Johnson · Mondelēz International · e.on · ASDA · Roche · TNT · SANOFI · Iron Mountain · McCain It's all good · Royal Mail · Rentokil Initial

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Contents

- Why
- Collision causes
- How:
  - Understand risks & costs
  - Manage risks using systems based approach
  - Evaluate

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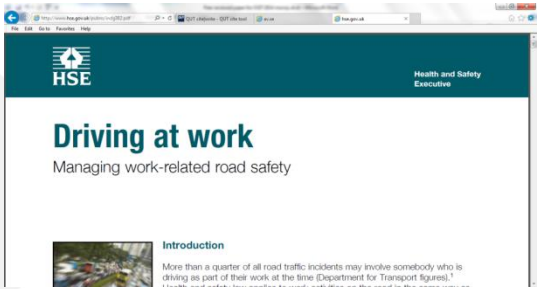
Why?

- Societal:
  - Driving is biggest risk workers, commuters & local communities face
- Legal:
  - Transport, OHS - 89/391/EEC
  - Vehicle = workplace for OHS – HSE/DfT
- Business:
  - Good practice, reputation, brand, CSR
- Financial:
  - Hidden costs twice actual & impact profitability
  - Injuries impact individual (57%, Company (20%) & Society (23%)

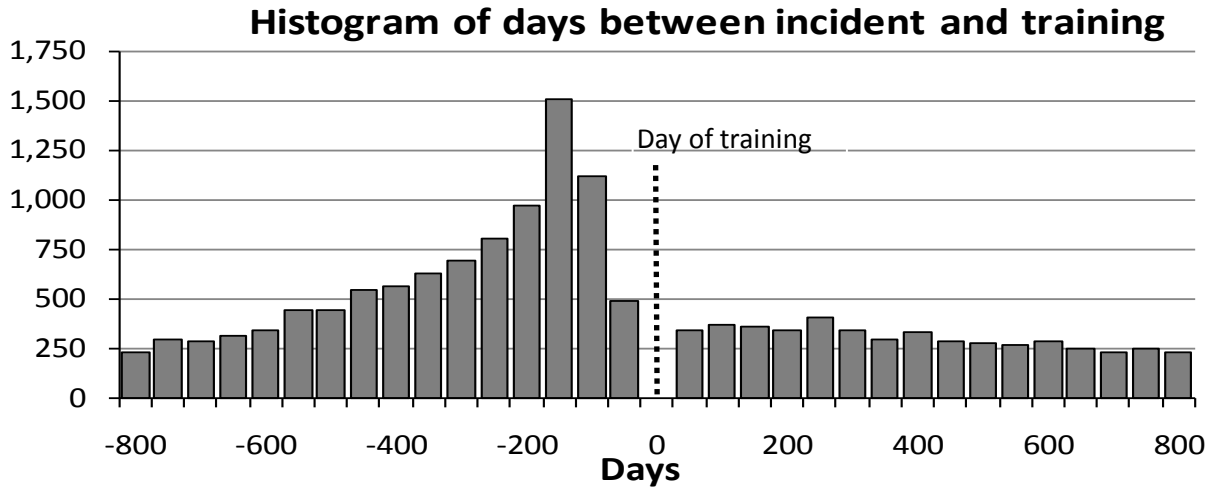


Discussion

- Drivers are the main cause of work-related road collisions

- Managers are the main cause of work-related road collisions

Behind the wheel outcomes



Benefit of BTW starts before training undertaken!

- All employees = 0.029 claims per year, never trained = 0.025
- Training = 0.347 per year before training - falling to 0.125 after training
- Claim rate improved with training, but still 5* higher than ‘never trained’ group
- Regression to the mean makes up approx. half of training impact
- Work-related road safety goes beyond drivers

Creating a Crash Free Culture

Research shows that:

'Fleet safety is most likely to be improved by the introduction of an integrated set of measures based on the safety culture within the organisation'

TRL, MUARC, CARRS-Q

Haddon Matrix framework

	Management Culture (30%)	Journey (10%)	Road/ Site Environment (10%)	People - Drivers and Managers (20%)	Vehicle (10%)	External/ Societal/ Community/ Brand (20%)
Pre-Crash or Pre-Drive	Leadership Business case Legal compliance Safety review Benchmarking Pilot studies Goals & policies Safety culture Committee Pledge Communications Contractors	Travel policy Mode choice Journey planning Routing Risk assessment Emergency preparation Shifts/ working time	Risk assess Observation Guidelines Site layouts Work permits Site rules Road design Hot-spot mapping Engage local road agencies	Recruit Contract Induct Check qualified Handbook Risk assess Train Equip Communicate Engage Monitor Correct	Risk assess Select Specification Safety features Service Maintain Check Use policy Mobile comms ITS/telematics Wear & tear Grey fleet	Regulator/policy engagement CSR Benchmarking Communications Family members Community Road safety weeks/ days Awards
At Scene	Emergency support to driver	Engage local investigators	Manage scene	Process to manage scene	Crashworthy 'ITS' data capture	Escalation process
Post-Crash	Report, record & investigate Change process Data linkages, evaluation & KPIs	Debrief & review journeys	Investigate and improve Review site/road elements of collision data	Reporting and investigation Driver debrief Counselling, trauma support Reassess/train	Strong openable doors Investigate 'ITS' data Inspection & repair	Manage reputation and community learning process

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How to improve work-related road safety

Understanding & targeting risks

Process data

Gap analysis

www.fleetsafetybenchmarking.net

10, 30 *, 150 & 300+ questions

Others eg Zurich

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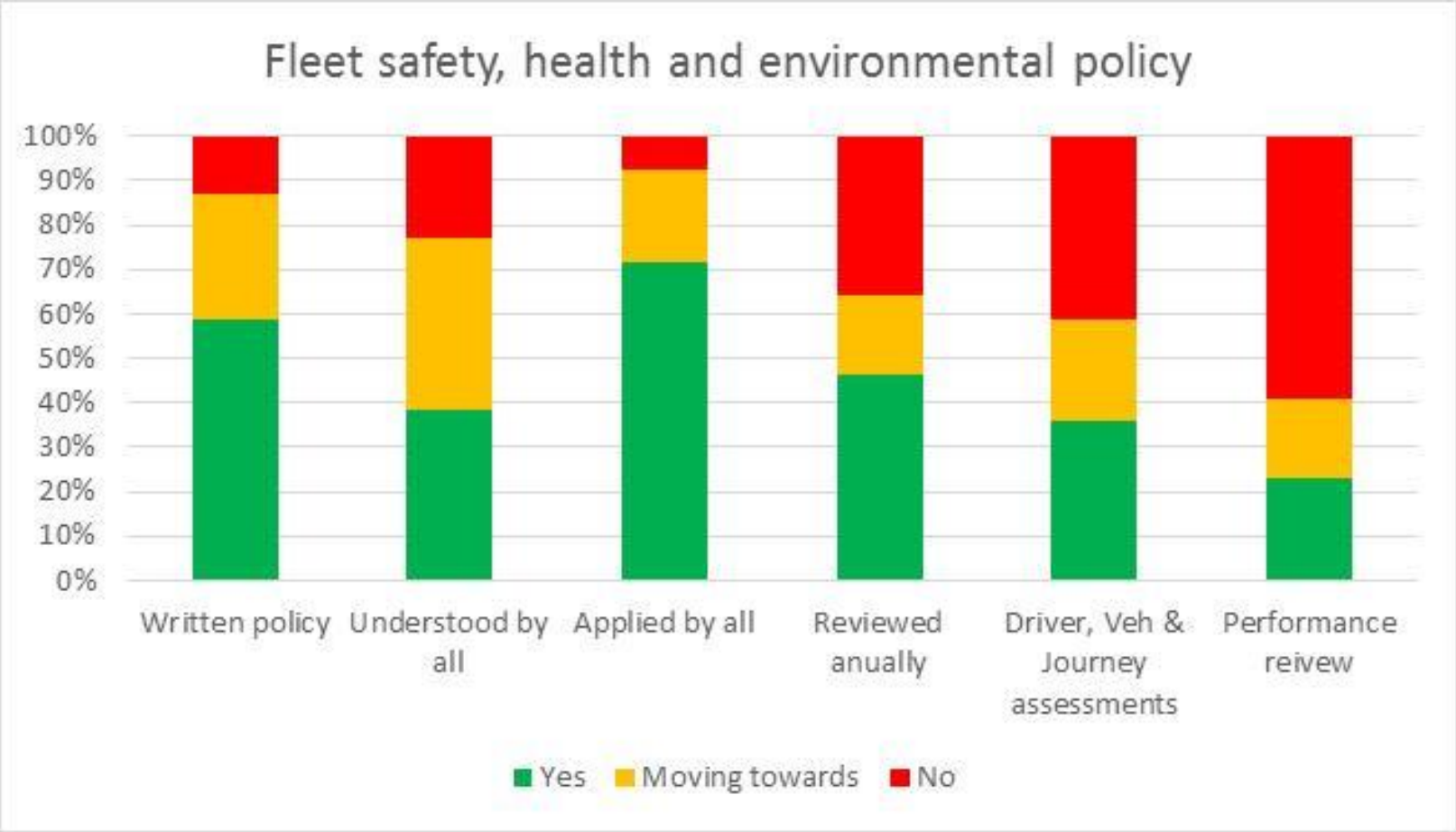
Policy



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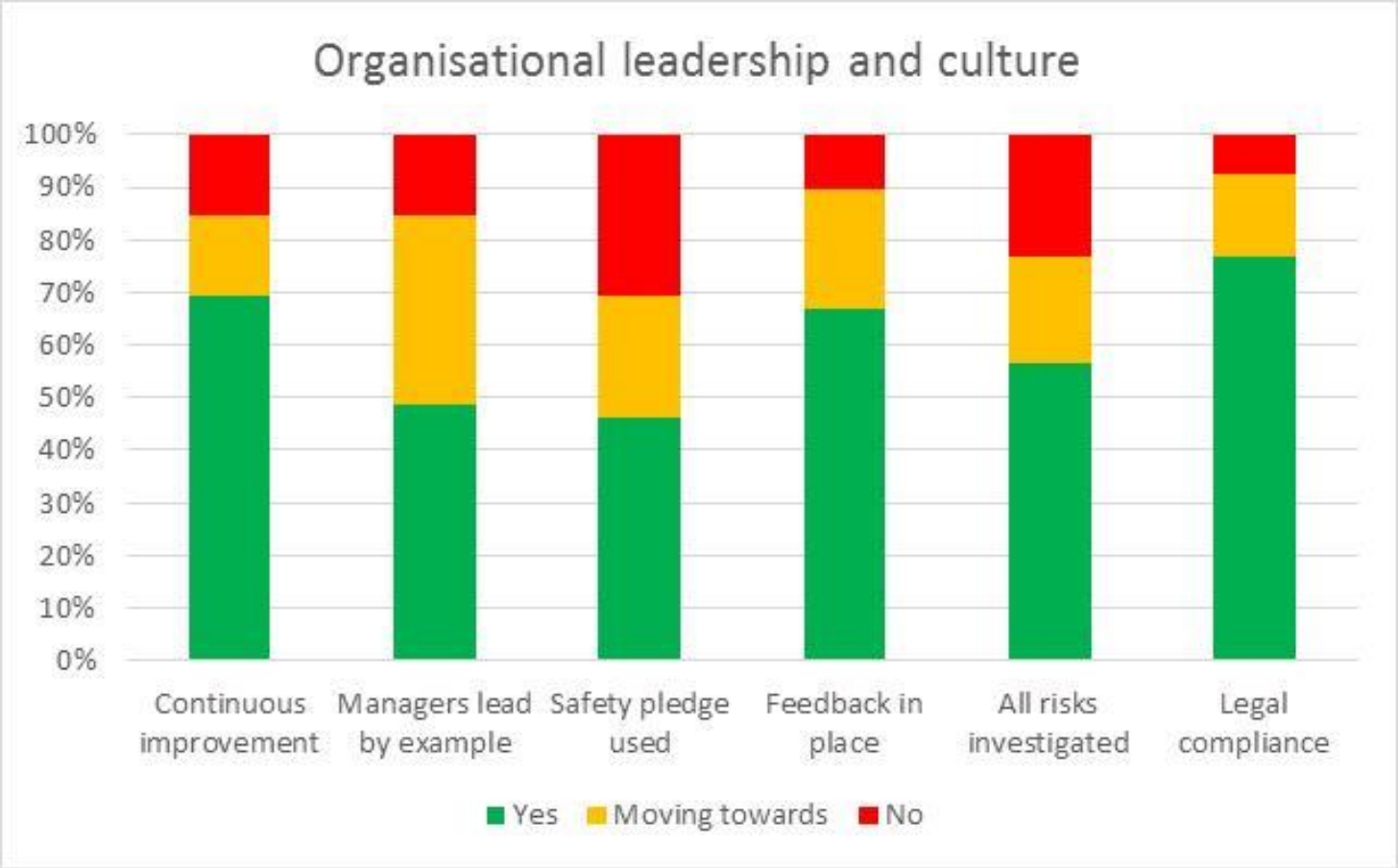
Leadership



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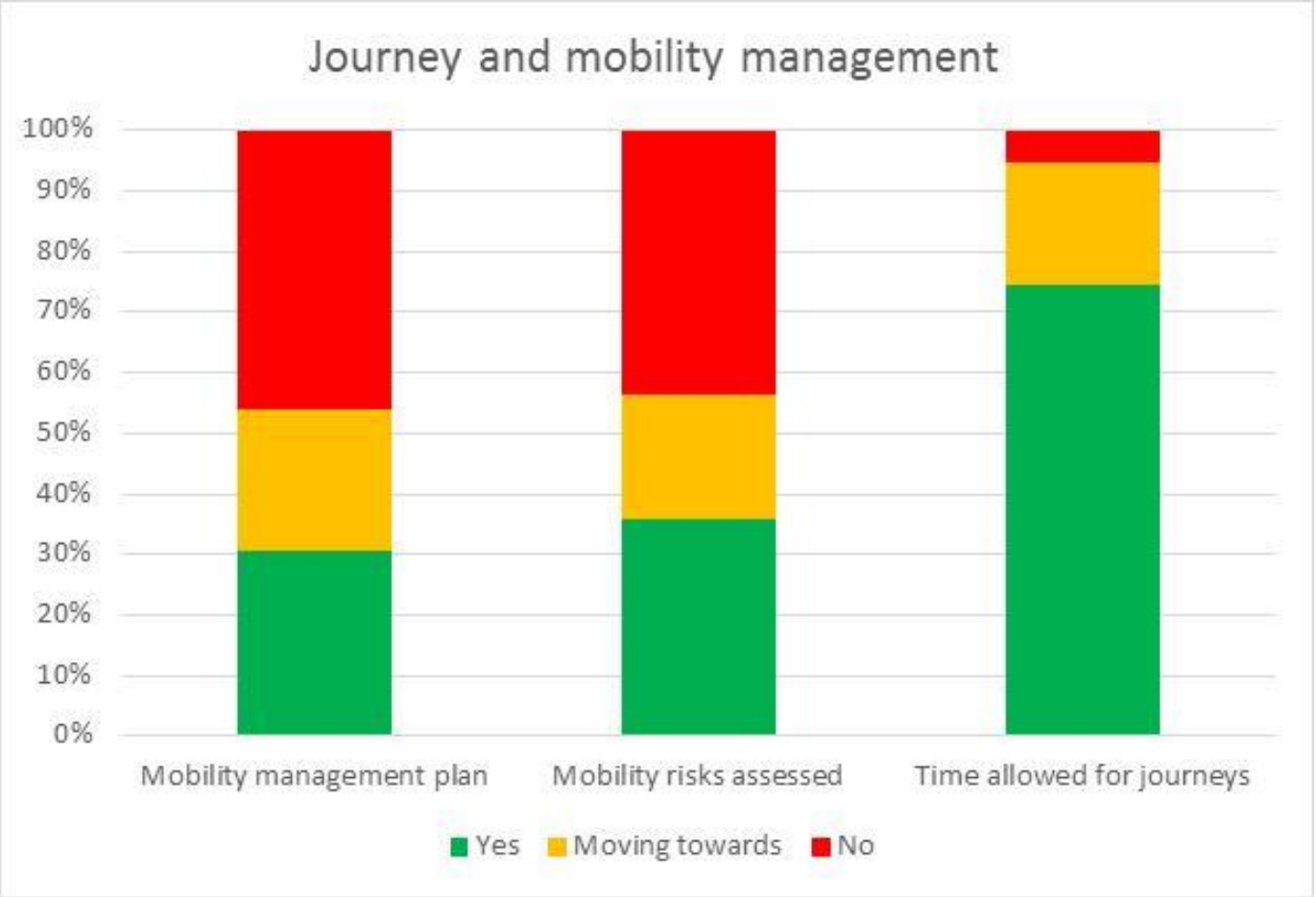
Mobility management



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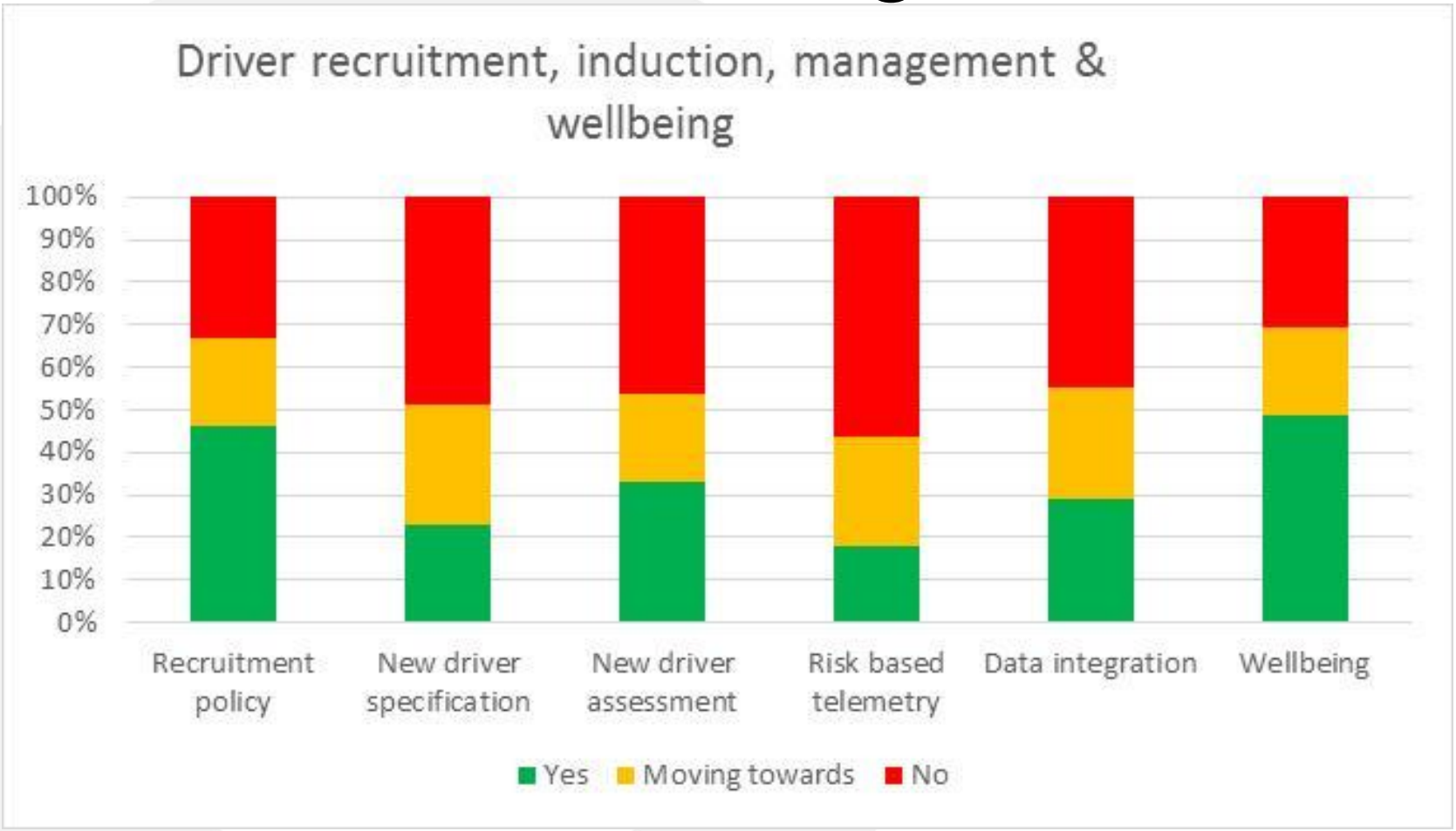
Driver management



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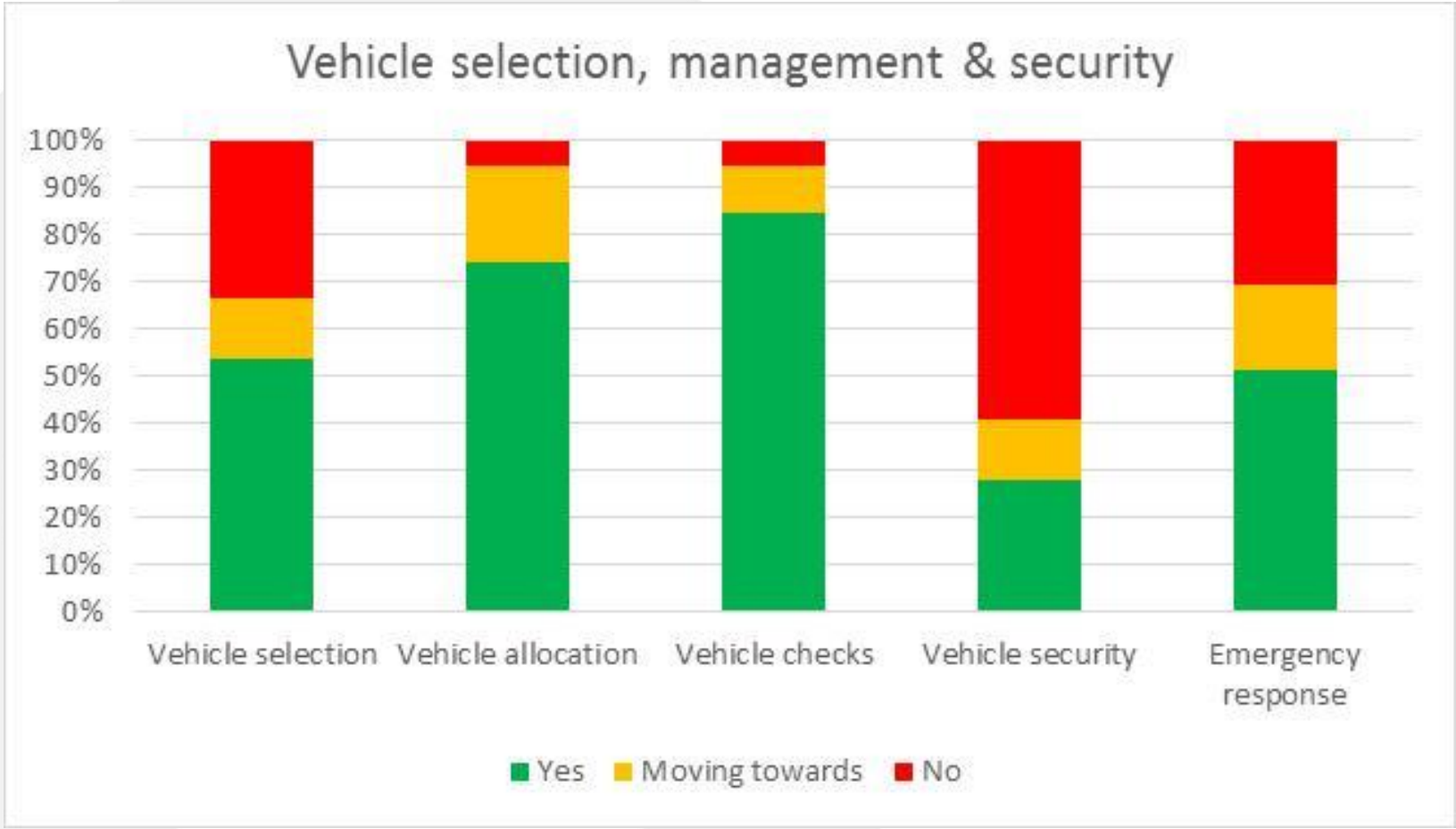
Vehicle management



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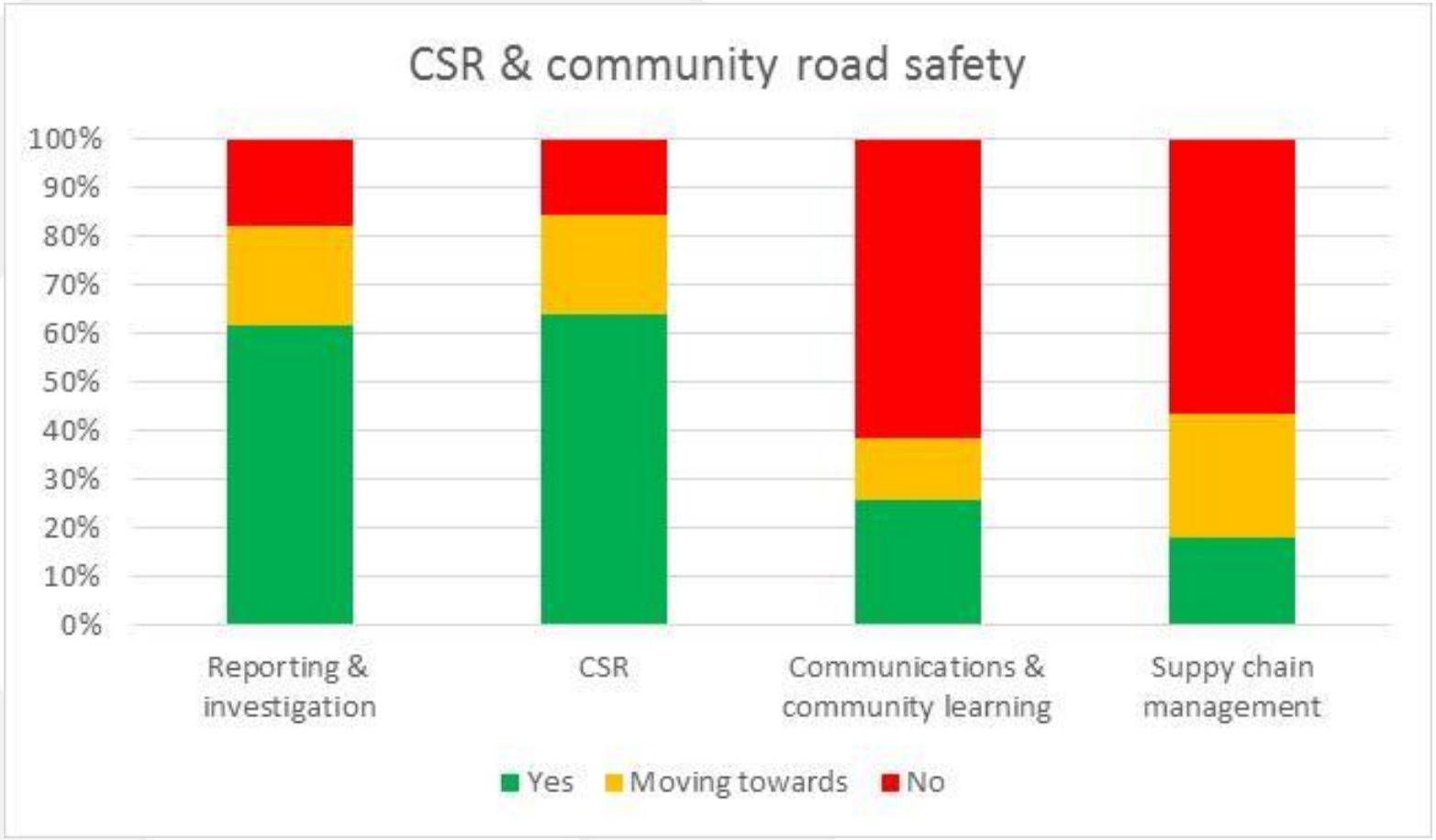
Corporate responsibility



Outcomes data:

- Risk assessment
- Licence checks
- Claims
- Telemetry

How do you compare?

What does the data tell us?

Outcomes data:

- Risk assessment
- Licence checks
- Claims
- Telemetry
- Grey fleet

How do you compare?

What does the data tell us?

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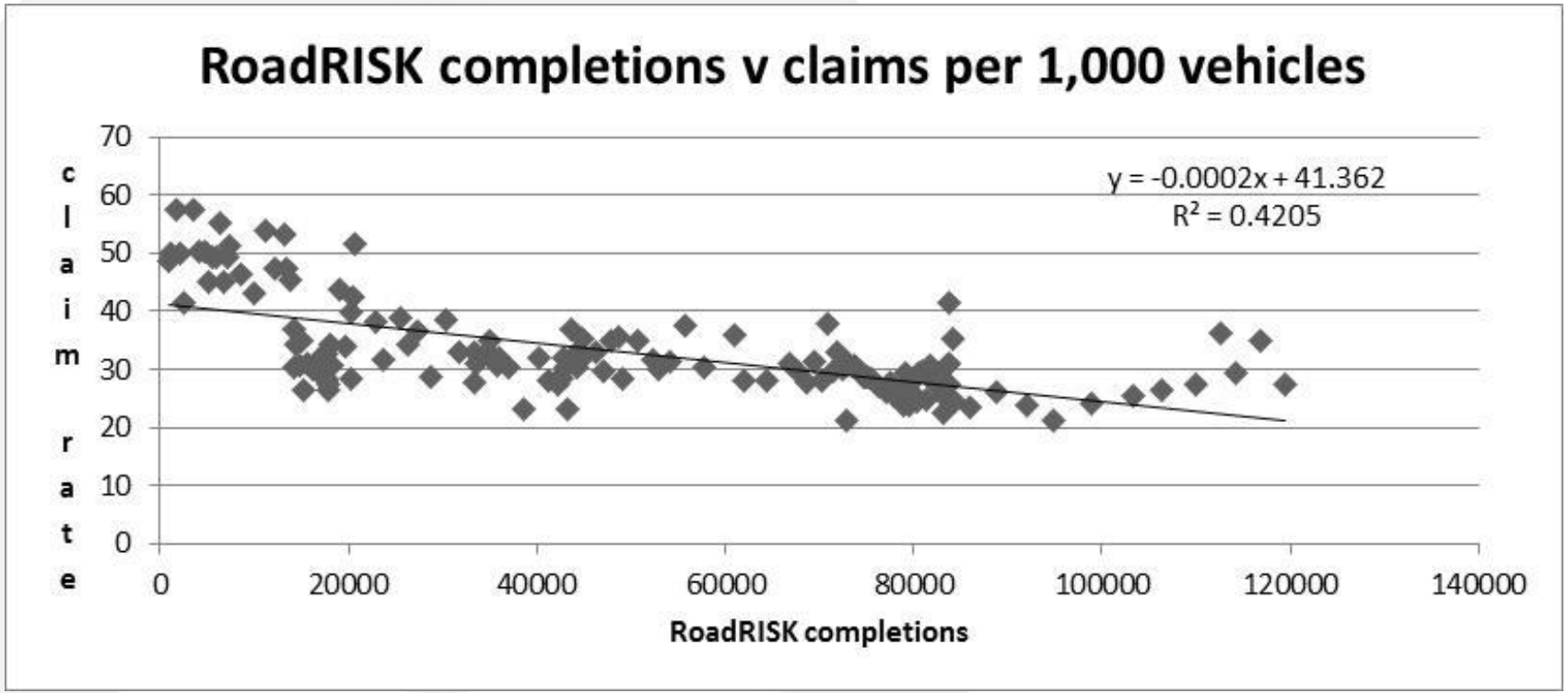
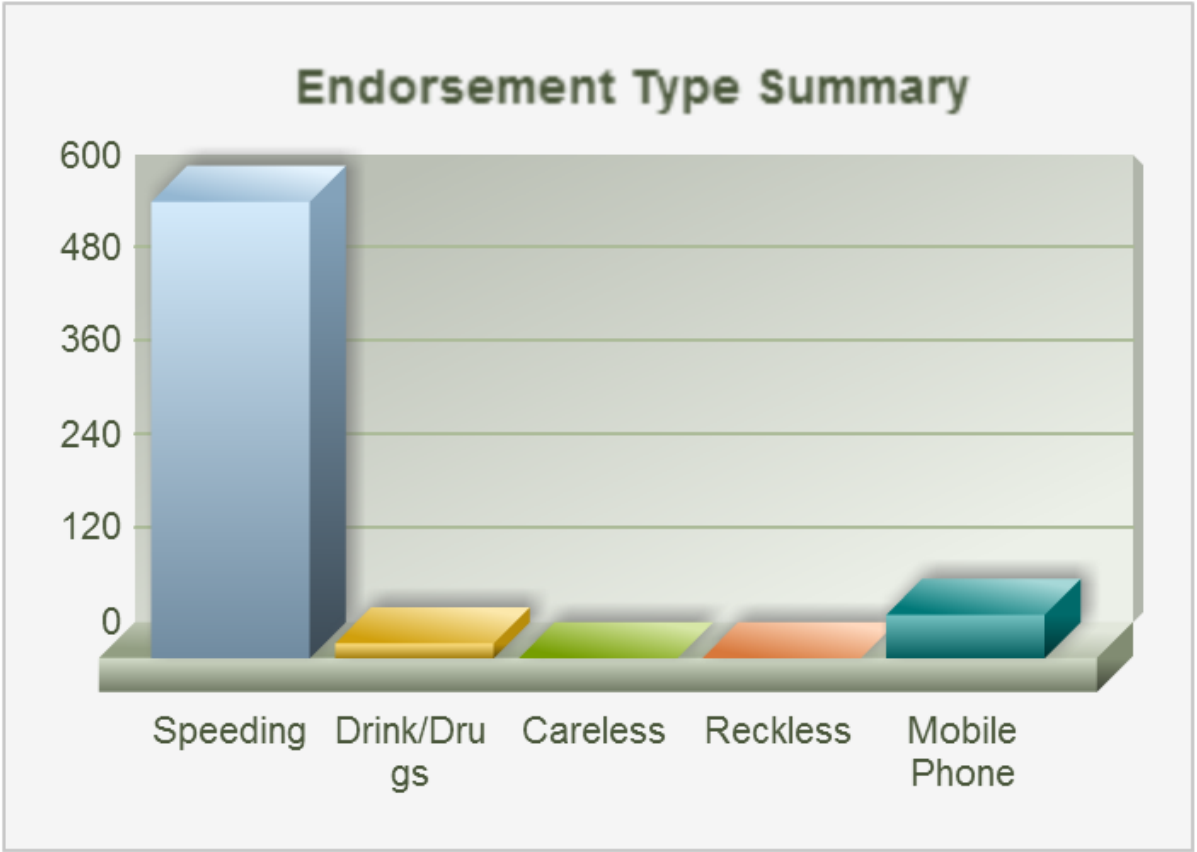
Risk assessment data



Licence check data



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Targeting Driver Risk Reduction

Claim Type	% of claims	% of €$£s	€$£ per claim	Total €$£
Hit Rear	15	21	2 621	2 059 853
Right of Way	9	14	2 870	1 323 250
Hit Object	14	11	1 400	1 047 451
Reversing	16	11	1 219	1 044 558
Damage while Parked	18	11	1 080	1 022 657
Undetected	7	6	1 635	598 481
Lost Control	2	6	5 318	584 974
Animals	5	6	2 066	553 734
Hit Stationary vehicle	3	3	2 016	318 526
Other (23 cat)	11	11	1 877	1 097 834
Total	100	100	1 784	9651319

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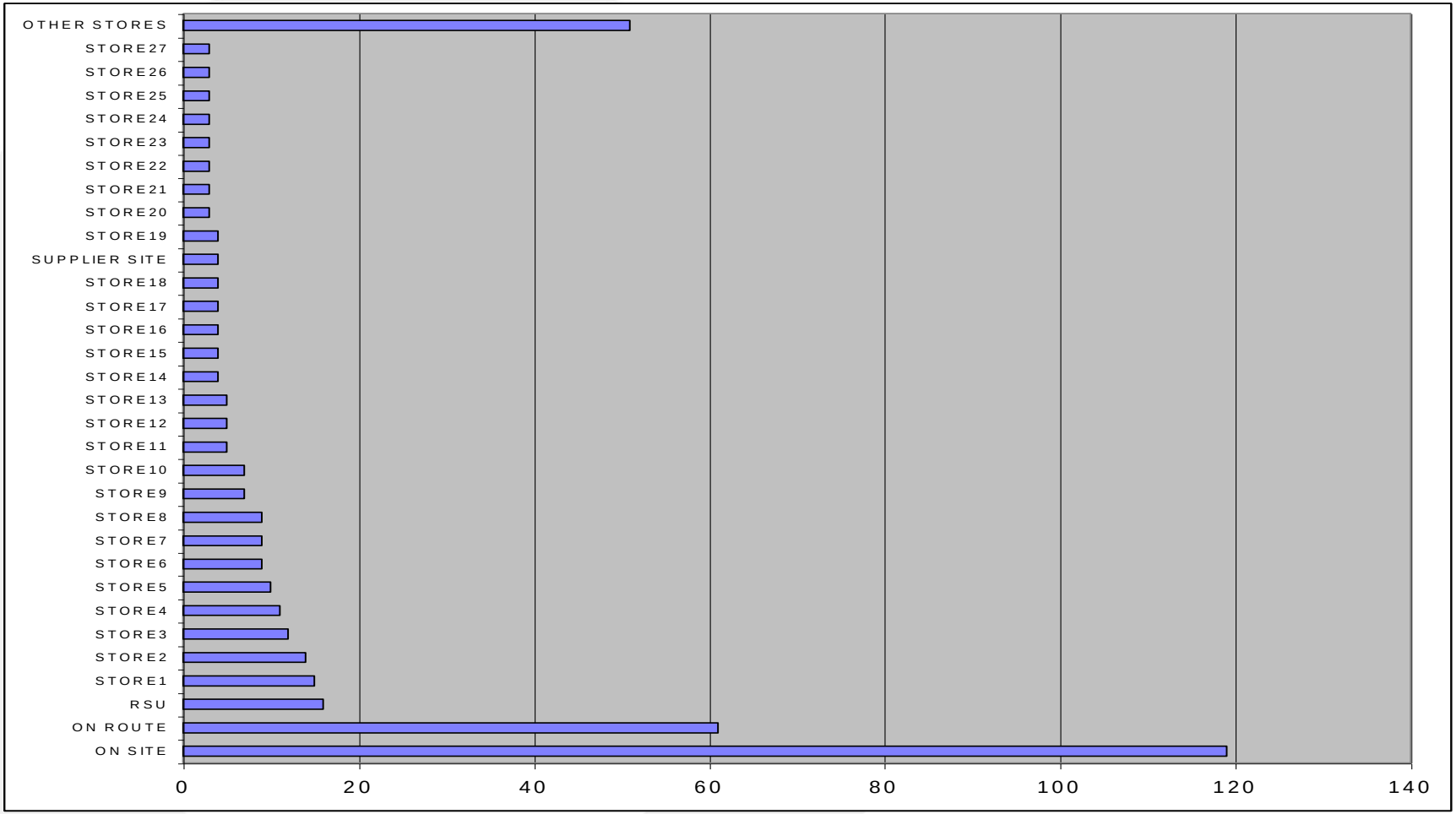
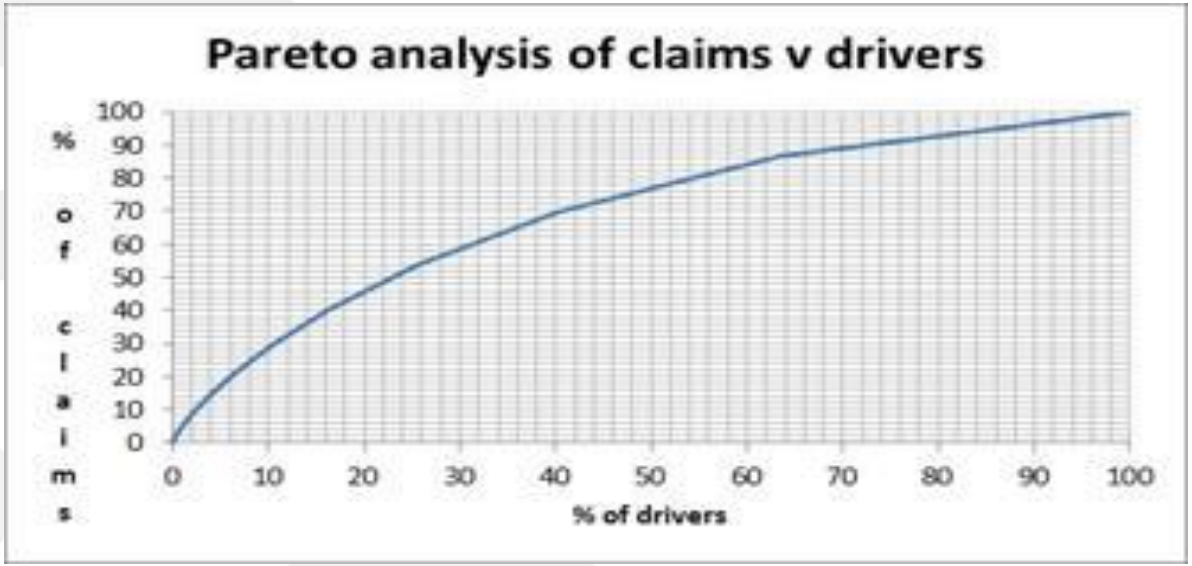
Locations



Driver level Pareto analysis

% of drivers	% of claims
10	29
20	46
50	77
80	93
100	100



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Telemetry data

BEHAVIOR CHANGE	
Performance Analytics: March – December, 2014	ALL XX Drivers *
Aggressive Events / 100 Miles Driven	70.09% Reduction
Speeding Events >15mph over the limit	91.87% Reduction
Speeding Events >10mph over the limit	77.71% Reduction
Reversing	46.67% Decrease (No Target)
Idling	60.53% Decrease (No Target)
Harsh Acceleration	20% Increase
Harsh Braking	25% Reduction
Harsh Cornering	218% Increase
Seatbelt Usage	77.69% Improvement in Usage

* Sales representatives in company cars

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Driver risk management - IE

Online RoadRISK driver assessment (driver, vehicle, journey, behaviour)	Co 1 All	Co 1 Ireland	Co 2 All	Co 2 Ireland
Compliance rate	94%	70%	80%	95%
DRIVING LICENCE NOT checked in last 12 months	52%	68.6%	15%	47.0%
NO SAFETY POLICY awareness	7%	15.1%	1%	1.3%
DRIVES between midnight and 6 am	26%	30.2%	26%	33.8%
USES MOBILE COMMUNICATIONS while driving	33%	44.8%	9%	29.1%
>2 SPEEDING/MOVING VIOLATIONS in last 3 years	0%	0.6%	0%	0.7%
Drives outside COUNTRY OF RESIDENCE	16%	26.2%	4%	21.2%
Drives OWN VEHICLE for work purposes *	66%	82.0%	20%	61.6%
Driver undertakes minimal vehicle SAFETY CHECKS	42%	44.2%	13%	42.1%
High KNOWLEDGE	4%	8.7%	2%	7.9%
High BEHAVIOUR	25%	43%	14%	27.2%
RoadRISK overall: HIGH	3%	5.2%	1.6%	2.3%

* Supported by online Grey Fleet self verification module

Systems based process

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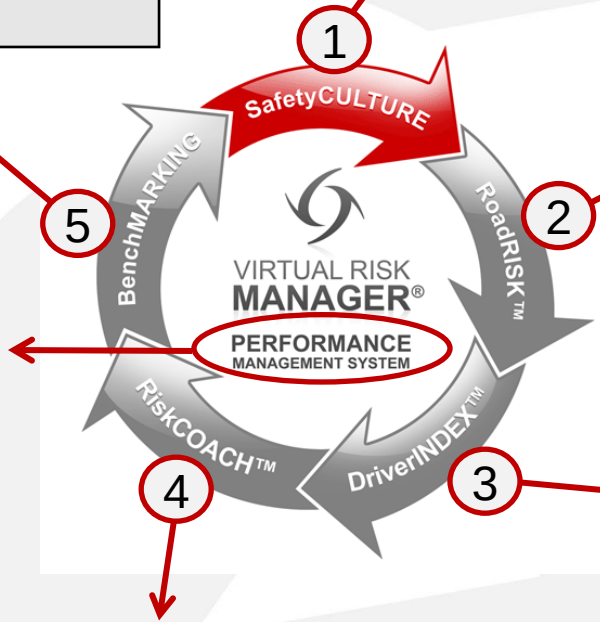
CRASH FREE CULTURE:

Reinforce mission critical, non-negotiable policies and standards designed to keep drivers (and the wider community) safe while driving for work purposes.

Internal/external performance analytics.

'Pro-active' driver/organisation self assessment & gap analysis – start to identify most 'at-risk' drivers.



CRASH FREE Culture

Global MIS/DATA HUB to monitor training and driver performance data.

'Pro-active risk management' of the 10% most 'at-risk' drivers for 'OneToOne' coaching and early intervention.
At High Risk Response Plan – VRM COACH

Subject specific training libraries to aid best practice awareness and target Identified risk exposures.

VIRTUAL RISK MANAGER® COACH

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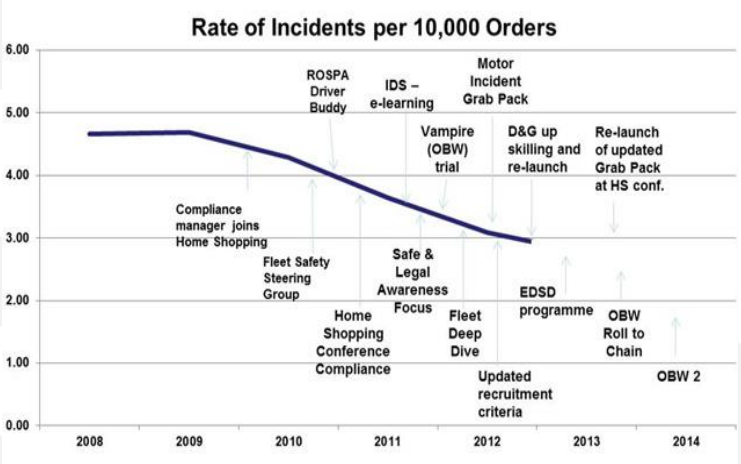
Evaluation: does it work?



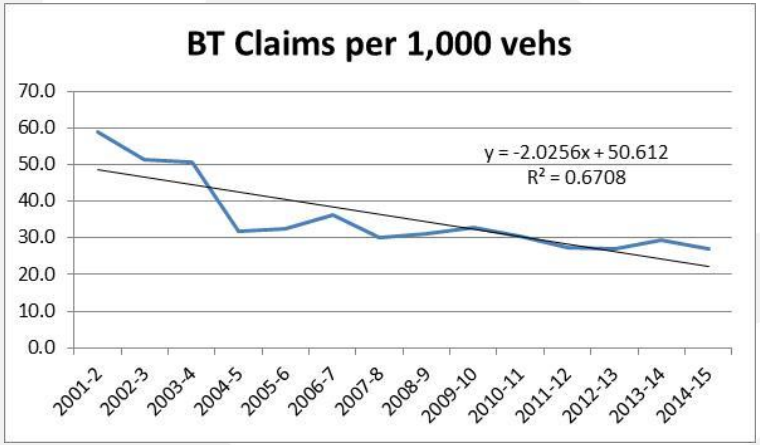

Contents lists available at ScienceDirect

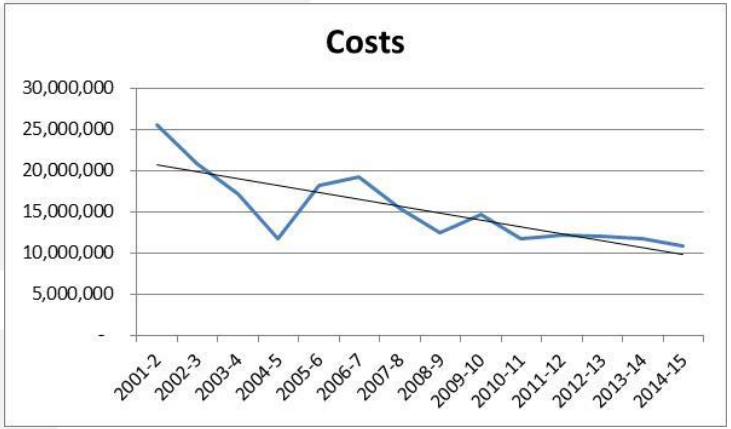
Transport Policy

journal homepage: www.elsevier.com/locate/tranpol

Work-related road safety: Case study of British Telecommunications (BT)

David Wallington [a], Will Murray [b], Phil Darby [c], Robert Raeside [d], Stephen Ison [c,*]





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Summary/recommendations

- Managing road risk at work: Why & How?
- Understanding exposures & making a business case are key starting points
- OHS & data-led systems-based approach
- Managing drivers, vehicles & mobility
- Next step:
  - www.fleetsafetybenchmarking.net
  - will.murray@virtualriskmanager.net