The Business Case:
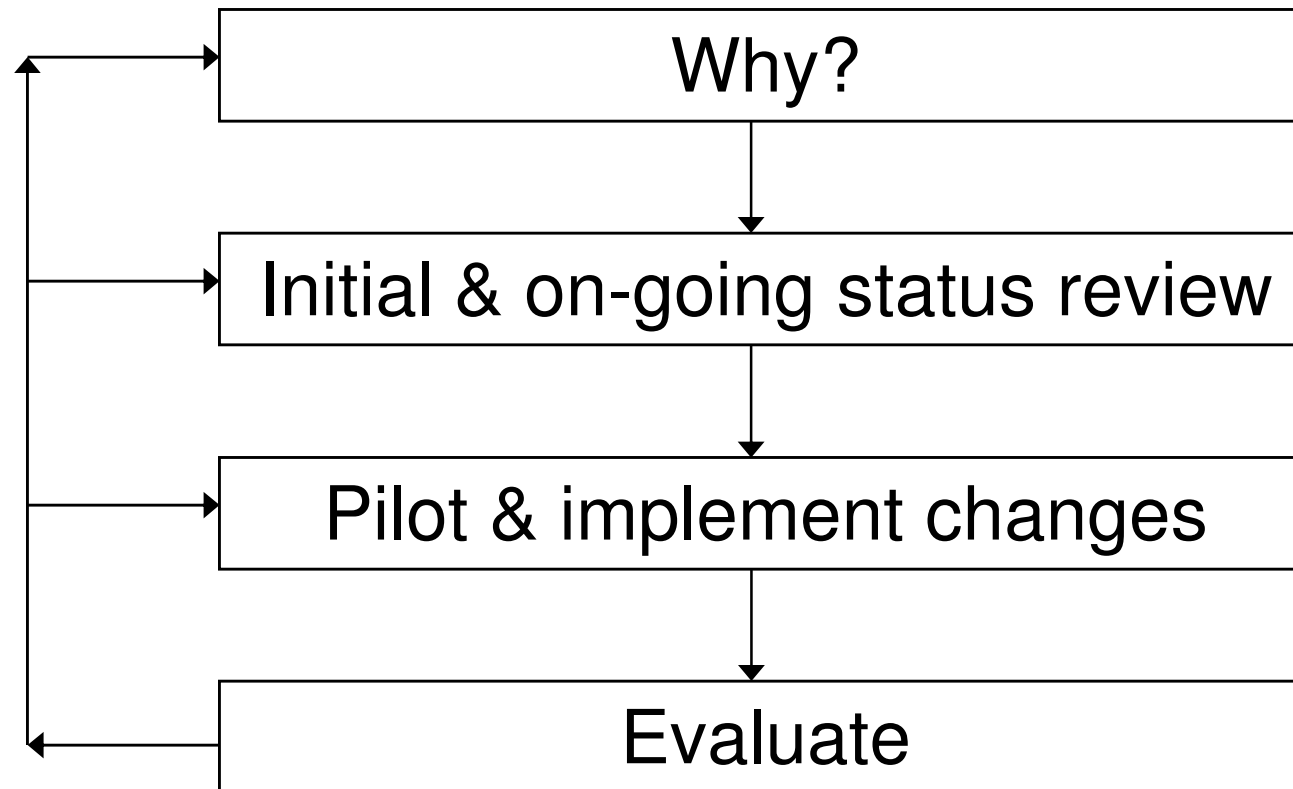# Work-related road safety -
'*Show me the data*'


- Dr Will Murray
  - will.murray@virtualriskmanager.net

WIPE approach

```
        ┌──────────────────────────────────────────┐
 ┌─────▶│                  Why?                     │
 │      └──────────────────────────────────────────┘
 │                          │
 │                          ▼
 │      ┌──────────────────────────────────────────┐
 ├─────▶│   Initial & on-going status review       │
 │      └──────────────────────────────────────────┘
 │                          │
 │                          ▼
 │      ┌──────────────────────────────────────────┐
 ├─────▶│      Pilot & implement changes           │
 │      └──────────────────────────────────────────┘
 │                          │
 │                          ▼
 │      ┌──────────────────────────────────────────┐
 └──────│               Evaluate                    │
        └──────────────────────────────────────────┘
```

VIRTUAL RISK **MANAGER**®

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

Why: Going beyond compliance?

- Societal reasons *:
  - Work-related driving = 25-30% of road deaths
  - Vehicle incidents = 40-50% of worker fatalities
  - Double these numbers if commuting included

- Legal compliance:
  - OHS, transport and corporate regulations
  - Negligent entrustment

- Business:
  - Brand, CSR, reputation, loss of key workers, link to fuel efficiency

- Costs:
  - Safety and fuel have significant impact on costs

- Email for business case & cost model templates
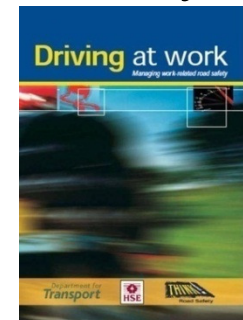
Country (NK = not known)	% of road fatalities excluding commuting	% of road fatalities including commuting	% of occupational fatalities excluding commuting	% of occupational fatalities including commuting
Australia (Queensland)	24	NK	46	NK
Austria	NK	NK	32	54
Bangladesh	70+	NK	NK	NK
Belgium	NK	NK	32	53
Canada	NK	NK	31	NK
Finland	NK	NK	NK	50
France	10	29	23	48
Germany	10	NK	34	61
India	42+	NK	NK	NK
Ireland	30		60	NK
Luxembourg	8	62	NK	71
Mexico	NK	NK	19% (trucks & buses)	NK
Netherlands	7	33	12.5	NK
New Zealand	NK	NK	16-29	NK
Spain	NK	NK	20	40
Sweden	NK	NK	20	NK
Turkey	NK	NK	14.4	NK
United Kingdom	17 (injuries)	26 (injuries)	NK	NK
United States	3	NK	35	NK

Initial and on-going status review – *'show me the data'*

2 questions:

1. How does this data compare with yours?
2. What would you do with this data?

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Fleet gap analysis

Fleet gap analysis	XXX 2006	All 2006	XXX 2010	All 2010
Fleet Safety Policy	75%	71%	87%	71%
H&S Policy and Risk Assessments	61%	63%	71%	65%
Legal Compliance	81%	62%	87%	79%
Organisational Leadership & Culture	62%	70%	82%	68%
Journey/Mobility Planning	77%	74%	92%	76%
Driver Recruitment, Selection & Induction	51%	62%	75%	67%
Driver Supervision, Monitoring, Assessment & Training	61%	59%	80%	65%
Driver Wellbeing	57%	61%	82%	64%
Vehicle Selection, Checking, Maintenance & Security	85%	77%	93%	79%
Claims Reporting, Investig.& Recording	81%	61%	96%	63%
Marketing & Community Involvement	49%	48%	-	47%
Total	69%	65%	86%	68%

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Van fleet 1

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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Van fleet 2

MOMENTUM	2006	2007	2008	2009	2010
FORWARD	27%	30%	28%	27%	30%
NOT KNOWN	13%	12%	17%	20%	17%
PARKED	40%	36%	35%	34%	32%
REVERSING	13%	14%	13%	12%	13%
STATIONARY	7%	8%	7%	7%	7%
TOTAL	100%	100%	100%	100%	100%

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8 Targeting **Driver Risk** Reduction
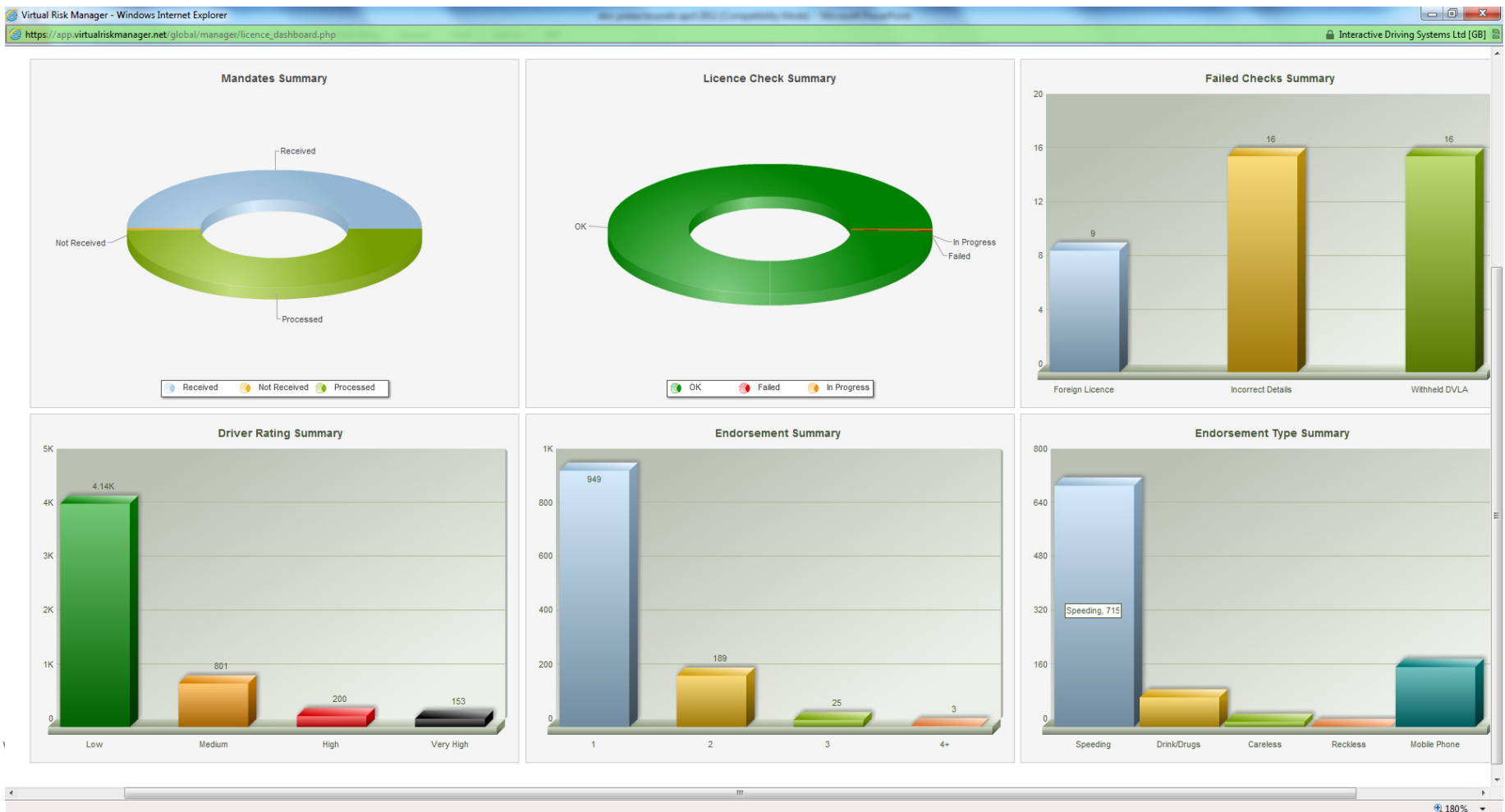US Patent: 6,714,894

Collision locations

Incidents involving delivery vehicles from a typical retail regional distribution centre (RDC)
RSU = recycling unit; Store = supermarket/retail outlet; Supplier site = factory/other
supplier; On route = road traffic accident; On site = at the RDC
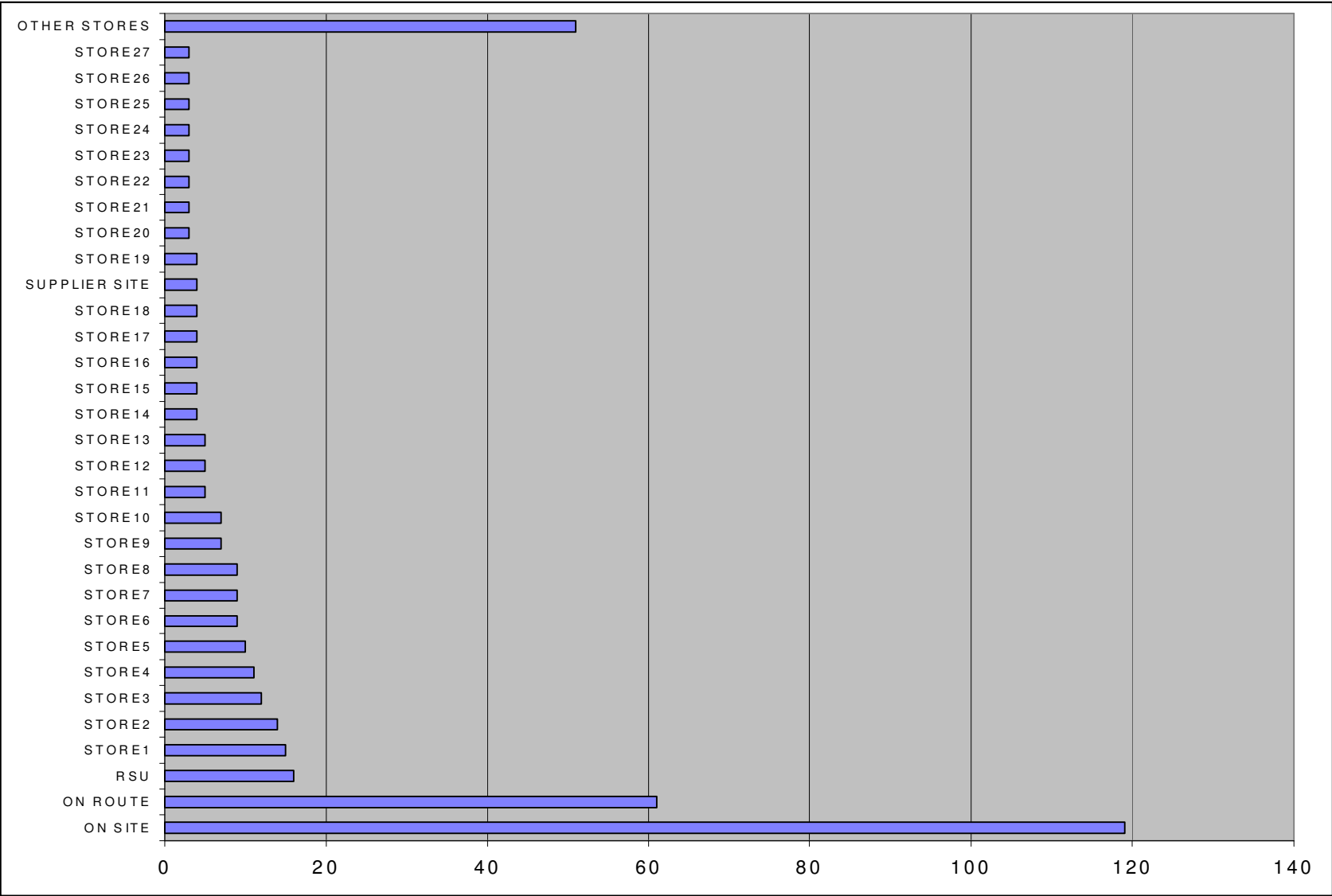
Driver risk assessment outcomes

Asessment outcomes against crashes

Legend:
- Crashes by attitude score
- Crashes by behavior score
- Crashes by knowledge score
- Crashes by hazard score
- Crashes by total score
- Crashes by exposure score
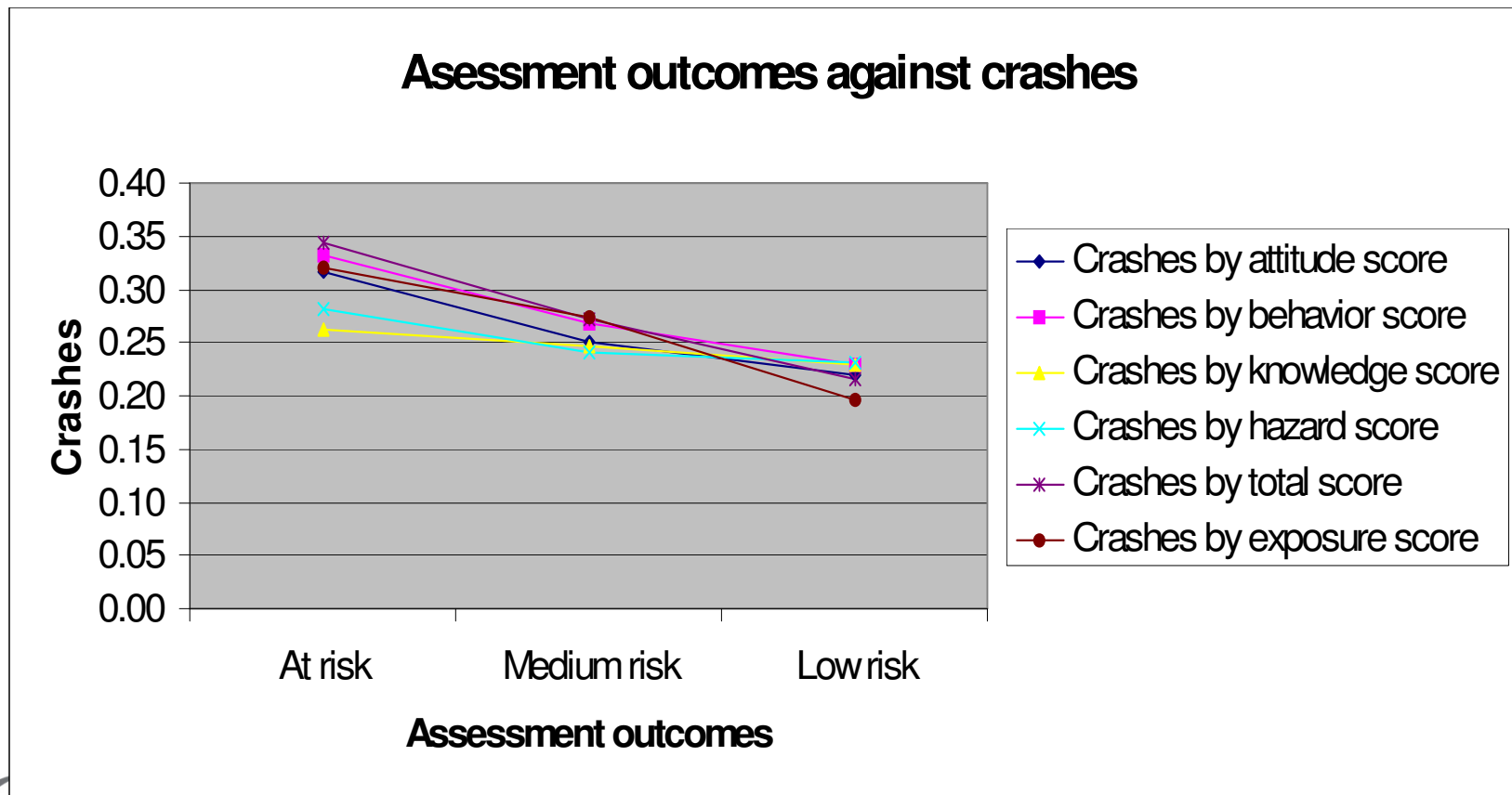
Licence check data

Driver level data warehouse

Virtual Risk Manager - Windows Internet Explorer

https://app.virtualriskmanager.net/global/manager/indexing_driver.php?id=223843&comefrom=indexing — Interactive Driving Systems Ltd [GB]

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

U.S.-EU SAFEHARBOR — U.S. DEPARTMENT OF COMMERCE

Status Report ▸ Culture ▸ RoadRISK ▸ DriverINDEX ▸ Licence Check ▸ Guides/FAQ ▸ Change Password ▸ Logout — English

Crash Free Culture: Driver Performance Record

Back

OneToOne History for Secret

➕ Start a new OneToOne ⭐ DriverINDEX Feedback Report

Name	Created By	Status		
No OneToOne's have been created				

Hide — **Active Event Summary**

	Driver #	Date	Event Type	Event Code	Description	Index Value		
1	223843	2012-02-19	RR	RoadRISK Medium		0.94		
2	223843	2011-04-11	UK_LIC	DRIVING LICENCE SUSPENDED BY DVLA	Driving License Violation	5.00		
3	223843	2010-09-27	UK_LIC	Vehicle Control/Distracted Driving/Mobile Phone	Using a mobile phone while driving a motor vehicle	1.90		
4	223843	2009-08-07	UK_LIC	Speeding: General	Exceeding statutory speed limit on a public road..........	0.19		

Hide — **Event History**

	Driver #	Date	Event Type	Event Code	Description	Index Value		
5	223843	2008-10-29	UK_LIC	Vehicle Control/Distracted Driving/Mobile Phone	Using a mobile phone while driving a motor vehicle	0.00		

Training/Activity History

Name	Date	Status
Licence Check Result	2012-02-10	● Very High
Privacy Notice	2012-02-19	Agree
Pledge	2012-02-19	Agree
Risk Foundation	2012-02-19	Complete
RoadRISK: Profile	2012-02-19	● Low
RoadRISK: Defensive Driving	2012-02-19	● Medium

🔍 130%

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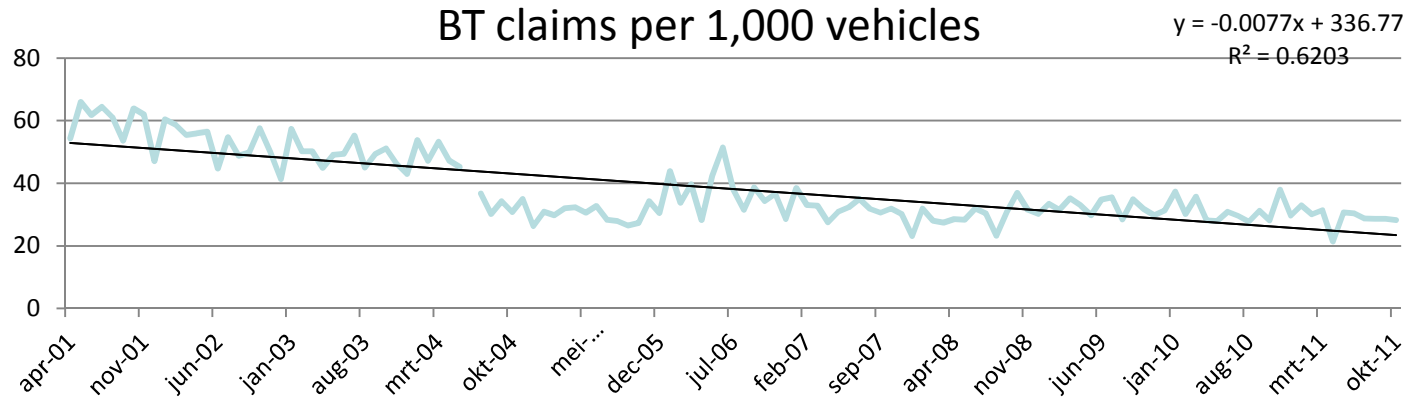
Pilot and implement programs

Pilot & Implement: Haddon Matrix

	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 C&D 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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Evaluation

How does this data compare with yours?

Evaluation large fleet

BT claims per 1,000 vehicles

$y = -0.0077x + 336.77$
$R^2 = 0.6203$

Year	Claims	Costs	vehicles	Claim/1kvehs	Cost/claim	£/vehicle
2001-2	32,610	25,583,981	46,028	59	785	556
2002-3	28,142	20,889,596	45,608	51	742	458
2003-4	26,556	17,173,742	45,188	51	647	380
2004-5	17,001	11,682,083	44,768	32	687	261
2005-6	17,170	18,227,418	44,280	32	1,062	412
2006-7	19,017	19,261,503	43,800	36	1,013	440
2007-8	15,626	15,362,492	43,320	30	983	355
2008-9	15,449	12,980,332	41,616	31	840	312
2009-10	14,707	13,969,604	37,488	33	950	373
2010-11	12,625	10,685,477	34,558	30	846	309

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Evaluation small fleet

Year	2004	2005	2006	2007	2008	2009	2010	2011
Average number of vehicles	259	226	219	211	166	149	127	120
Total Insurance Claims	97	67	76	66	44	42	35	13
Failed to Yield	4	4	4	4	1	2	2	3
Damaged while Parked	11	13	16	10	5	2	7	1
Hit Stationary Object	12	8	8	10	8	9	3	2
Hit in Rear by Third Party	24	10	24	20	12	17	5	3
Hit Third Party In Rear	10	7	4	5	5	2	6	0
Reversing	15	13	13	8	5	3	6	1
Various other	21	12	7	9	8	7	6	3
Overall Claims Rate	37%	30%	35%	31%	27%	28%	28%	11%
Days to Report	37	32	32	42	20	23	39	14

Roche claim type reductions
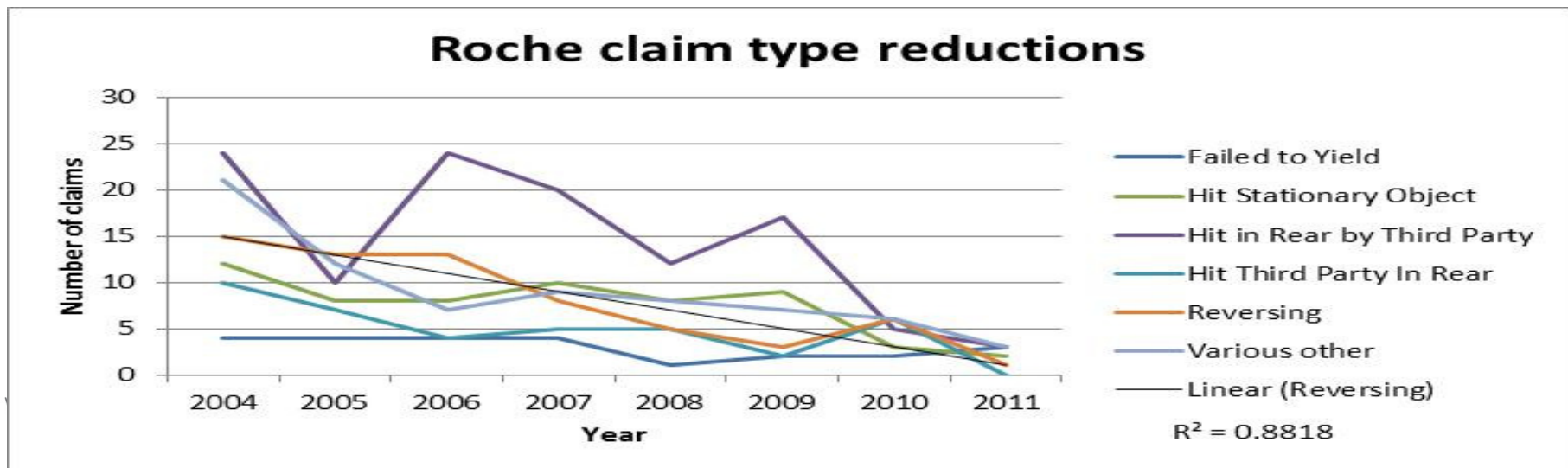
Summary

- Effective work-related road safety:
  - WIPE model
  - Business case
  - Data led status review
  - Long term sustained Virtuous Circle →
  - Work-related road safety can be massive conduit for community road safety & organisational success