

ITTEC 12

Heavy Vehicle Regulatory Outlook

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keeping victorians connected

How are we doing with the
road Toll ?

Targeting identified problems

- 287 fatalities down 1
- Victoria 5.1 deaths per 100,000 head of population
- UK 3.1 deaths per 100,000 head of population
- Sweden 2.8 deaths per 100,000 head of population

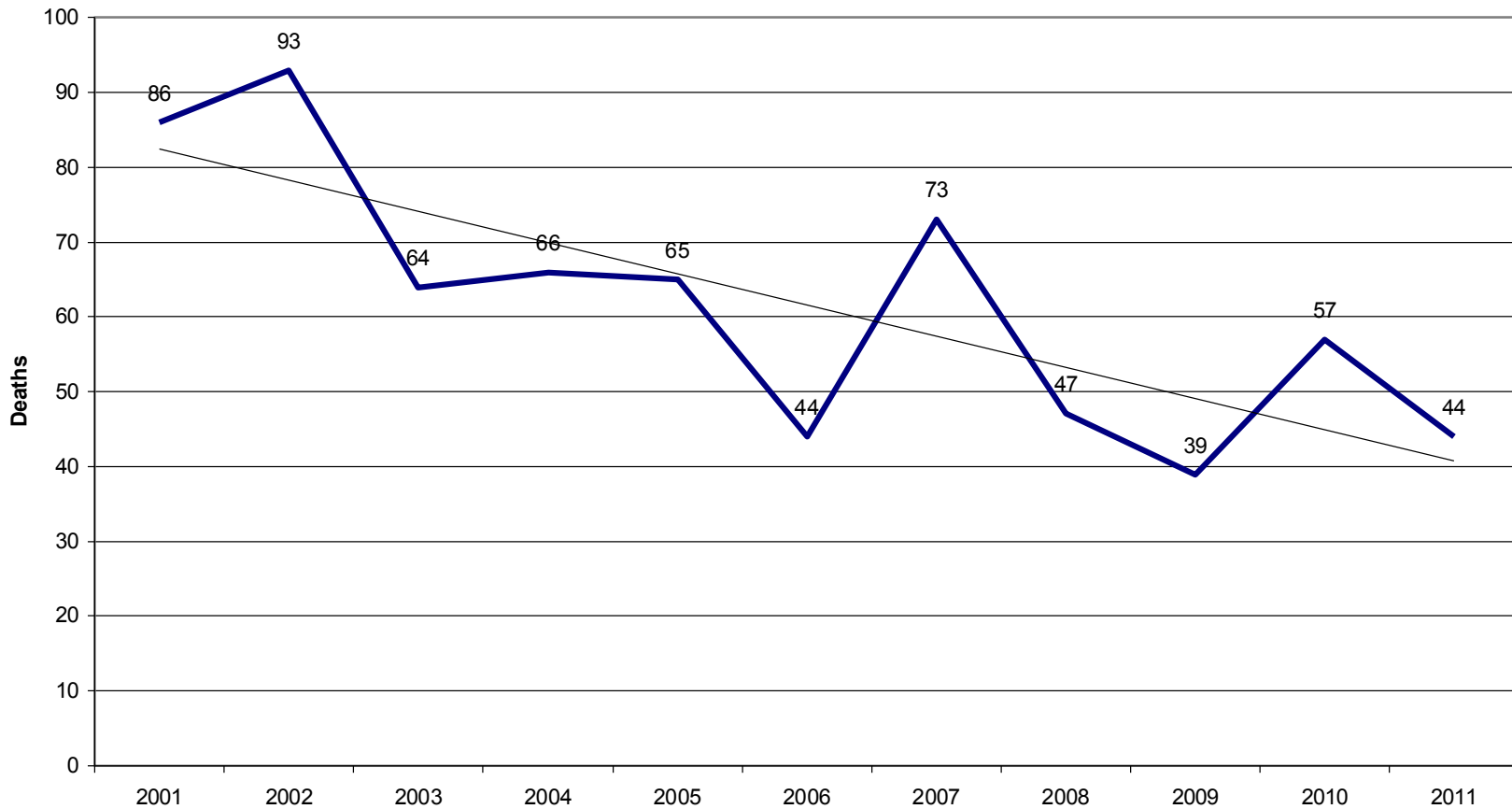
- Costs Victorians \$3 Bill Annually

- Most crash type down except:
 - Pedestrian
 - Victoria pedestrian fatalities were up from 39 to 49

 - Side Impacts
 - 40 Total an increase of 12
 - 27 Rural intersections an increase of 13

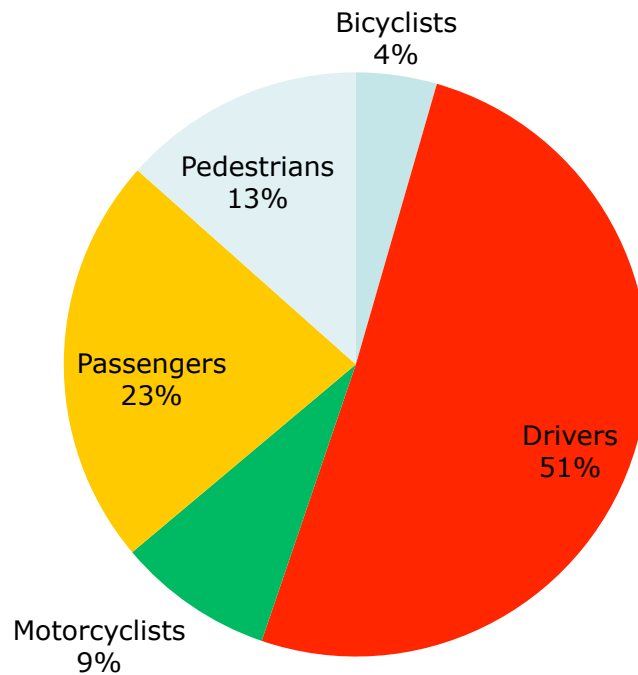
Victorian Road Toll Update

Truck Involved Fatalities Victoria 2001/2011



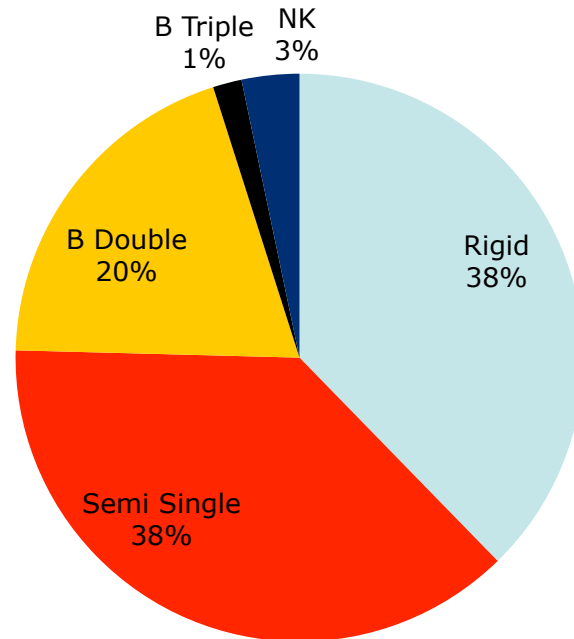
Victorian Road Toll Update

Truck Involved Deaths by Road User Type 2005/2010



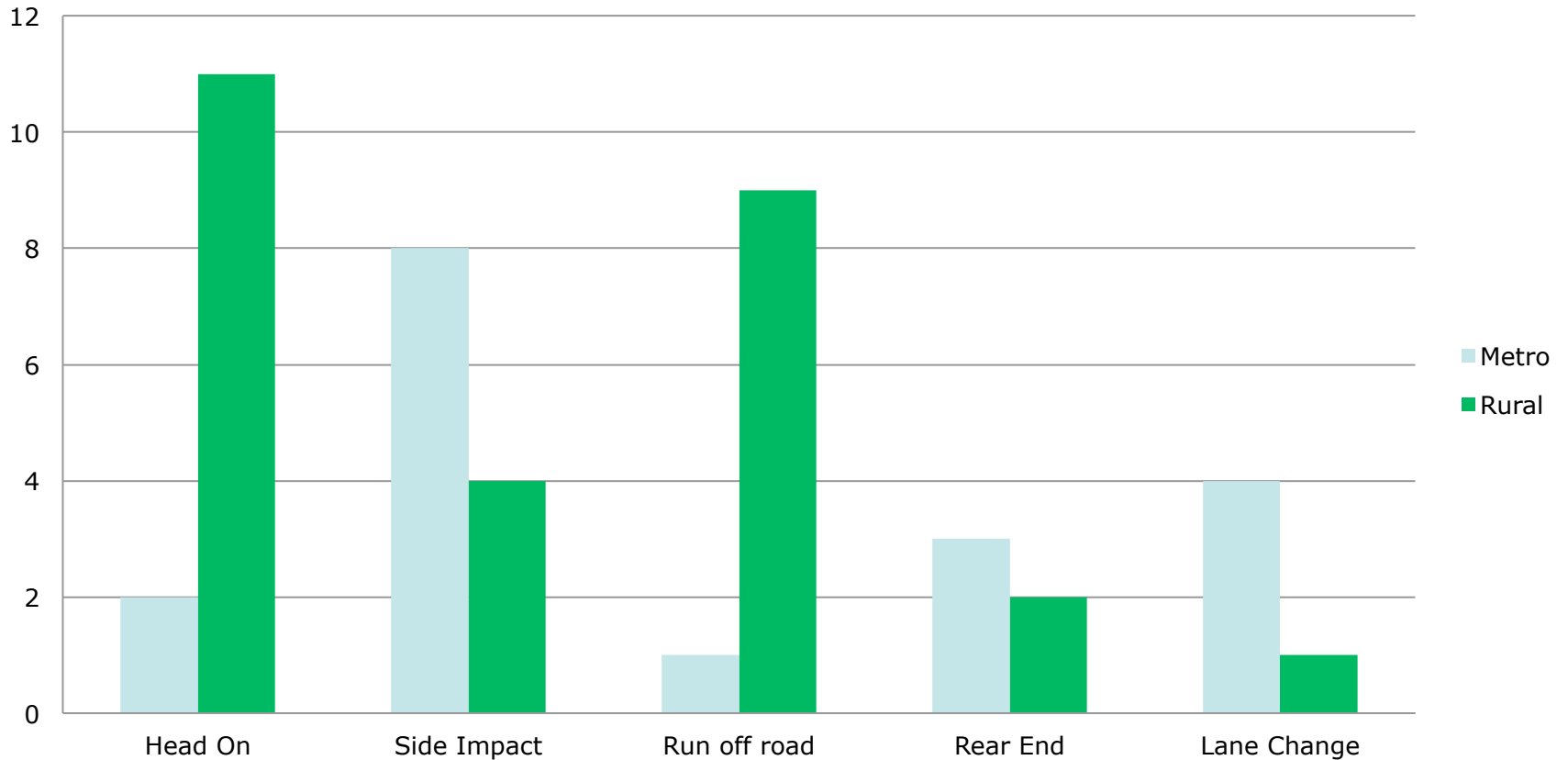
Victorian Road Toll Update

Type of Truck in Fatal Crashes 2010



Victorian Road Toll Update

Top 5 Truck Involved Fatal Crash Types in 2010

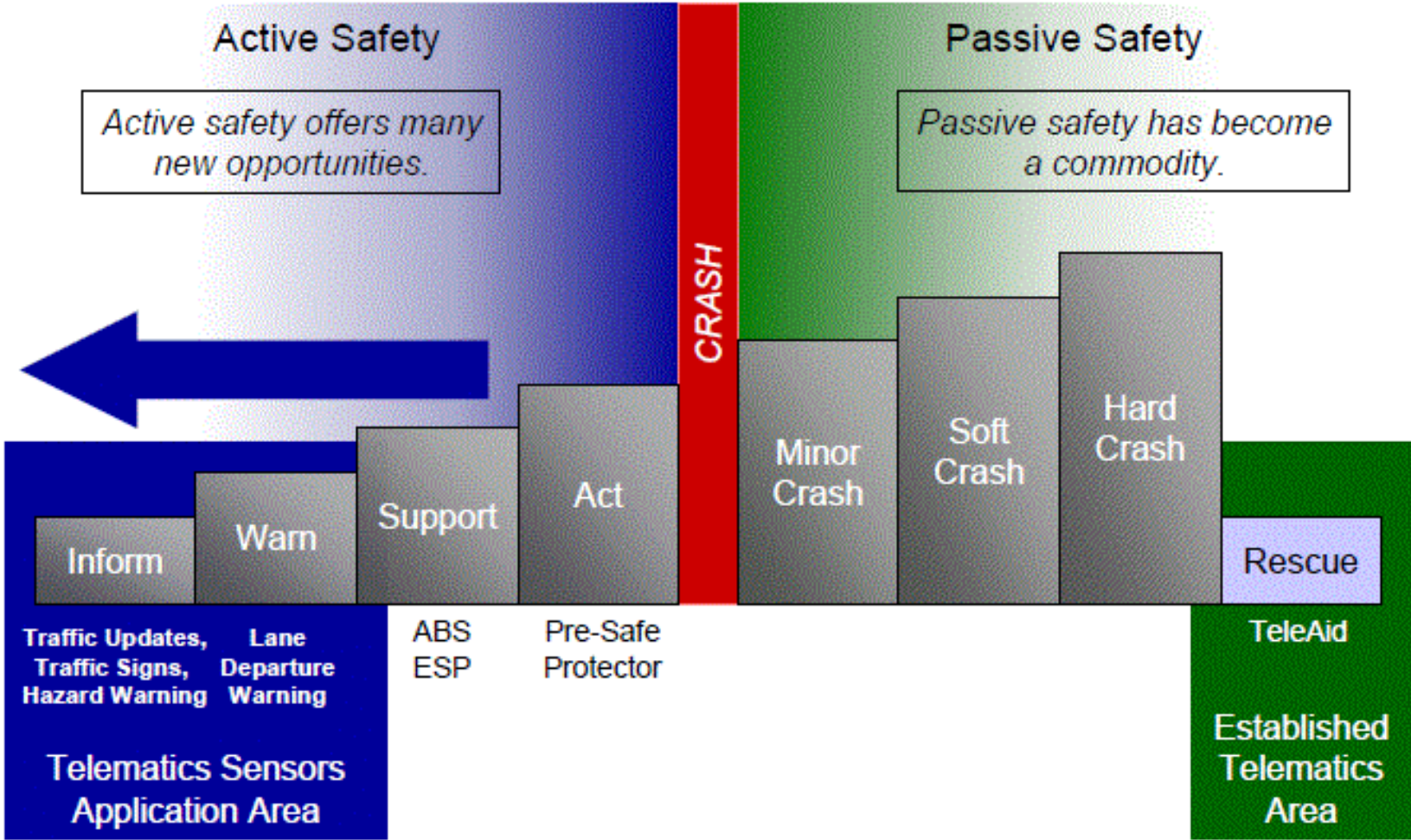




**Future is largely based on
Intelligent Technologies ?**



Active & Passive Safety



**Vehicle to Infrastructure
(V2I)**

**Infrastructure to Vehicle
(I2V)**

V2V and V2I

(Claims - Dedicated Short Range Coms. = 80 % drop in Crashes ??)

Intersection assistance

Intelligent vehicles show great potential in assisting drivers in hazardous situations, such as intersections where the view is compromised in one or both directions. If the vehicles are able to communicate, the vehicle approaching the intersection will be aware of another approaching vehicle and alert the driver.



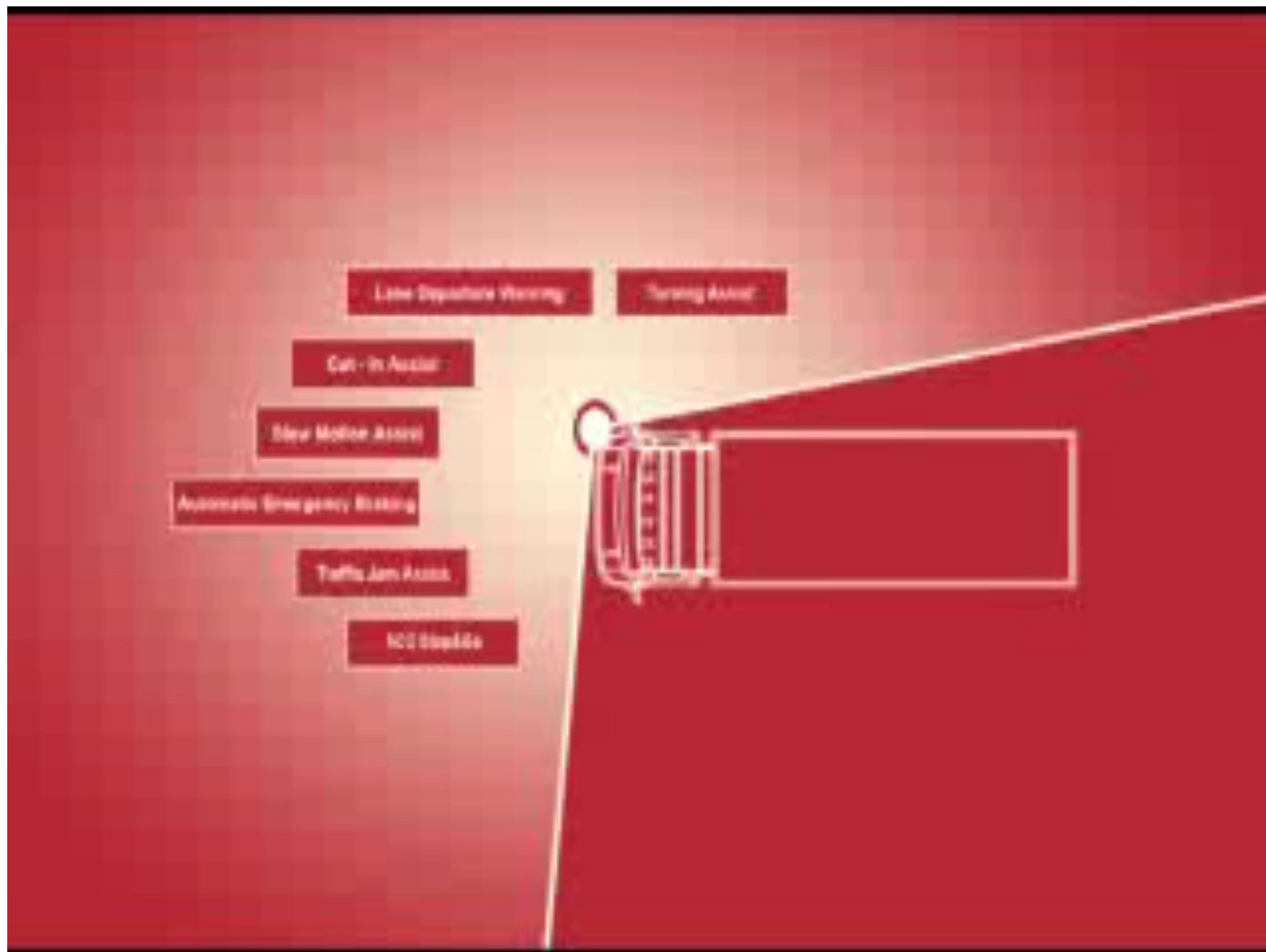
Lane-passing assistance



Intelligent vehicles also could help in lane-passing situations where the view is compromised. If vehicles approaching from opposite directions were communicating with each other, they could warn the drivers of oncoming vehicles, potentially avoiding head-on crashes.

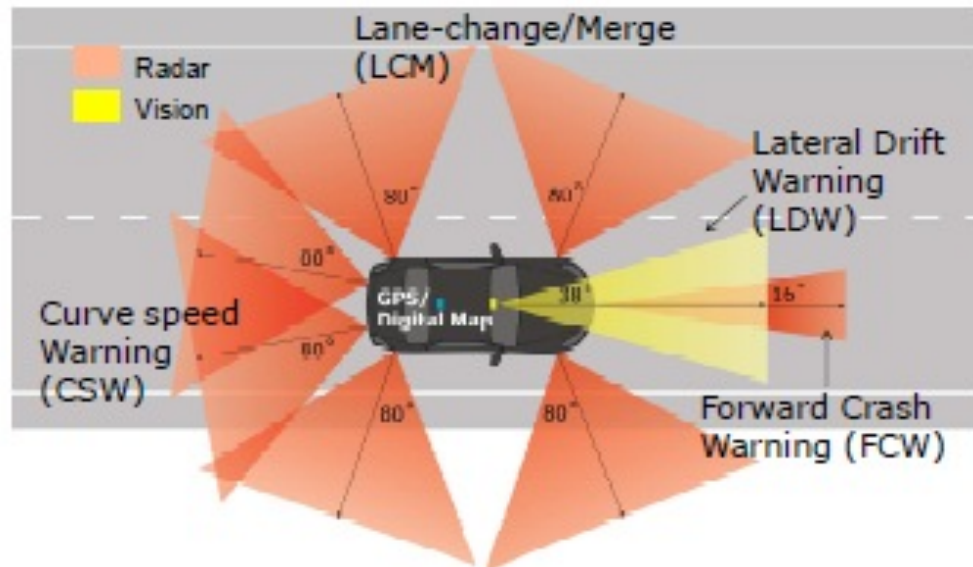


Object Detection



Sensor Technology

- Warning/detection systems could be effective in reducing police reported crashes by between 6% and 29%.
-
- If all light vehicles were equipped.
 - Reduction of between 162,000 and 788,000 each year in the United States.



Detecting Driver Impairment

- Stability Control Steering Sensor can detect to detect aberrant driving behaviour (20 min. response.)
 - Illness
 - Fatigue
 - Alcohol drugs
- Alcohol sensor DDASS USDOT (1 second response)
 - Tissue spectrometry
 - Distant spectrometry



Heavy vehicles

- German Insurers Accident Research found that:
 - Reverse assist cameras - 1.2% reduction in crashes
 - Lane departure warning systems - 1.8% reduction in crashes
 - Turning assistance systems - 4.4% (pedestrians and cyclists) reduction in crashes
 - Autonomous emergency braking systems - 11.9% reduction in crashes
 - Blind spot monitors - 7.9% reduction in crashes

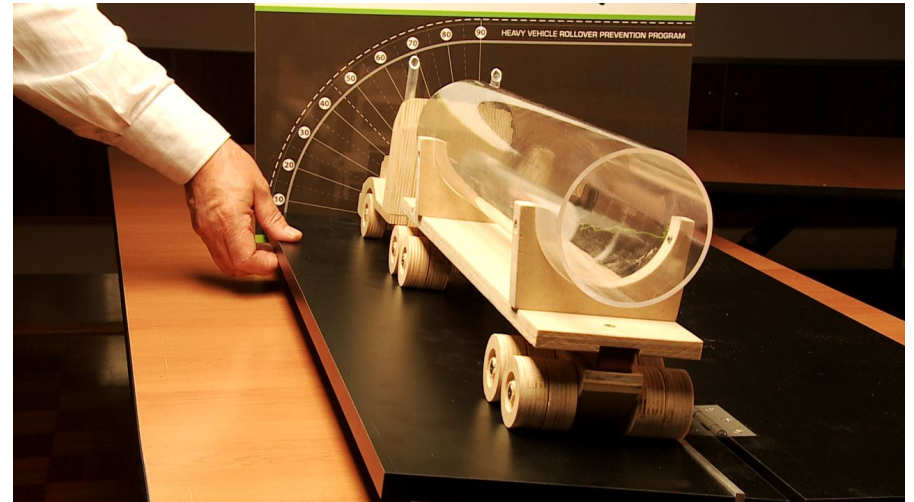
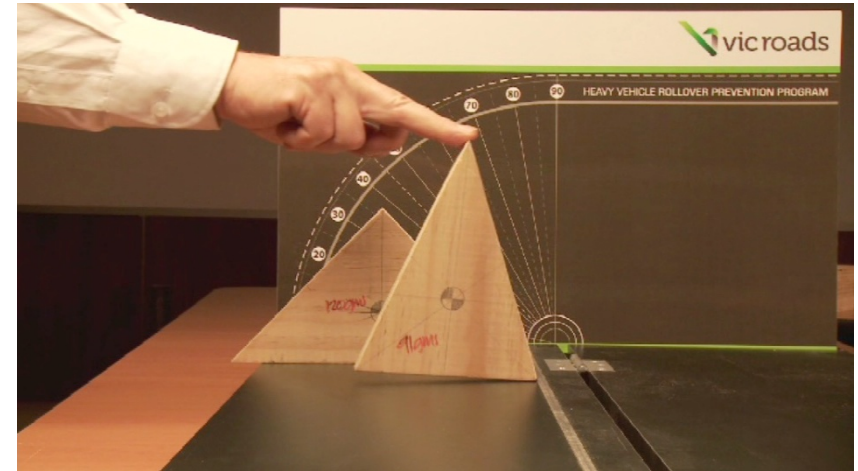
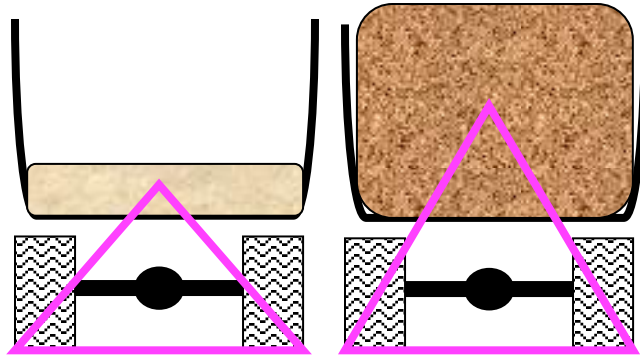
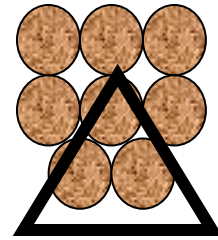
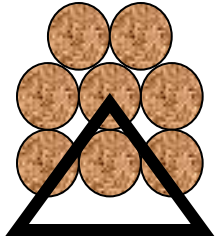
Heavy Vehicles

- ESC could reduce truck crashes by 5.6%.
- If All trucks with a gross vehicle mass of 5 tonnes or more around if fitted with just:
 - Autonomous emergency braking, turning assistance, lane departure warning and a reverse assist camera systems
 - 20% of truck crashes might be avoided
- If all trucks with a gross vehicle mass of 5 tonnes or more if fitted with just:
 - Blind spot monitor and ESC systems
 - 15% of truck crashes might be avoided

Rollover
It Happens Really Easily !

Download the Rollover Program at

www.vicroads.gov.au





VICTORIA'S ROAD SAFETY ACTION PLAN 2011–2012



Victorias Road Safety Action plan

Heavy Vehicles (Vehicles over 4.5 Tonnes)

- Heavy vehicle make up 3% registered vehicles
- 20% of fatal Crashes
- Number of heavy vehicles likely to increase by 60% by 2025

Actions

- Trial fatigue alert technology with heavy vehicle drivers**
- Promote the uptake of heavy vehicle safety features, including advanced braking technology, and seatbelt reminder systems**
- Introduce a standard for workplace drug and alcohol testing in the freight industry**
- Continue to enforce fatigue management laws**

**Maintenance easy to say
Hard To Do !**

MAINTENANCE

- There is not much point in having safety systems on heavy vehicles if they are not working

History - Defects Playing a Part in Crashes

Table 17: Analysis of 1998 AIS Investigations

Defects from 1998 AIS	Caused	Contributed	May have contributed	Caused, contributed or may have contributed
Heavy vehicles	4.9%	1.2%	3.7%	9.9%
Light vehicles	0.8%	0.4%	2.6%	3.9%
All Vehicles	1.4%	0.5%	2.8%	4.7%

History - What Causes Defect Related Crashes

Percentage Distribution of detected defects in crashed Heavy and Light vehicles

Category	Body	Brakes	Engine	Lamps	Steering	Tyres	Suspension	Other	Total
Heavy	4.3	38.3	2.1	4.3	6.4	12.8	12.8	19.1	100.0
Light	9.1	20.2	3.0	2.0	2.0	39.4	9.1	15.2	100.0
	7.5	26.0	2.7	2.7	3.4	30.8	10.3	16.4	100.0

Operation Hazard 1,2,3

Operation Hazard

- Three operations were conducted in 2011
 - Operation Hazard I, II and III
- Operations were led by VicRoads and included support from
 - Victoria Police
 - Worksafe
 - Sheriff's Office
- Focus: Heavy Vehicle Compliance issues including roadworthiness, registration and driver licensing, OH&S and fine collection



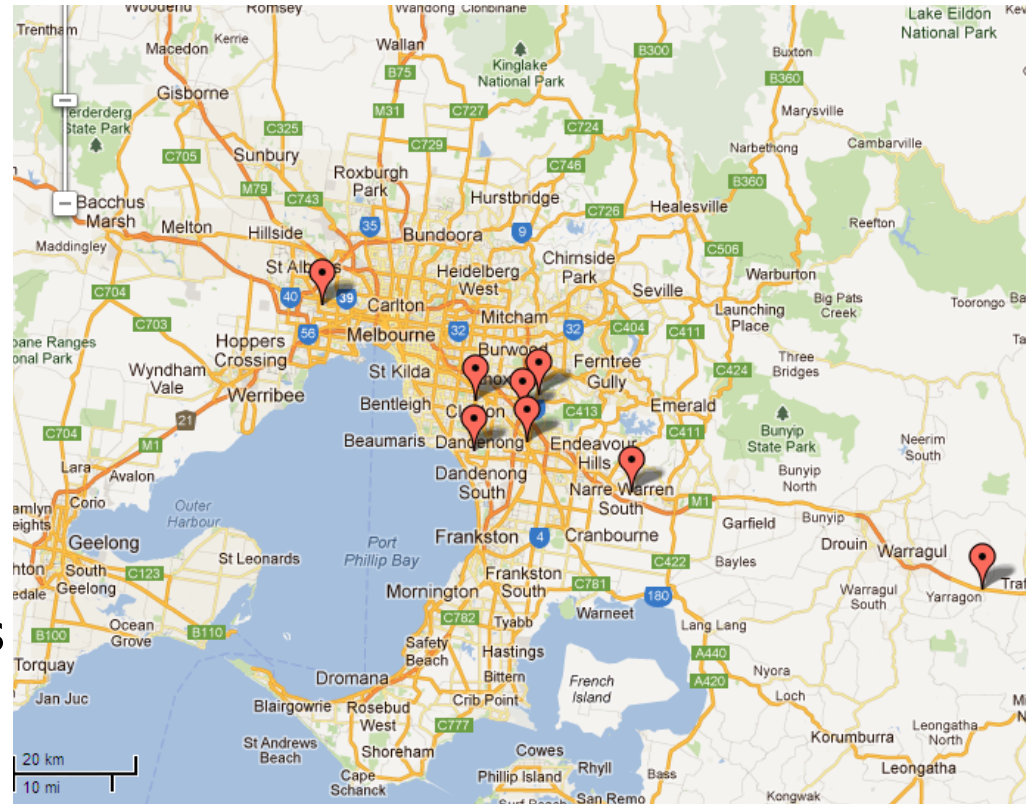
Operation Hazard 1,2,3

- Total of 860 vehicles were checked in the three operations

Operation Hazard

■ Locations

- Yarragon
- Sunshine
- Braeside
- Rowville
- Dandenong
- Eastlink
- Lilydale
- Dandenong Bypass
- Officer
- Clayton



Operation Hazard

- Inspection Method
 - Heavy Vehicles directed into inspection bay
 - “Walk Around” Inspection Conducted
 - Vehicle tested using Roller Brake Tester
 - Some vehicle were pulled over for roadside inspections



Operation Hazard

- Findings:
 - 85% of vehicles checked had defects recorded
 - 77% of vehicles checked had major defects recorded
 - 8% of vehicles checked had minor defects recorded

 - 15% of vehicles checked did not have any defects

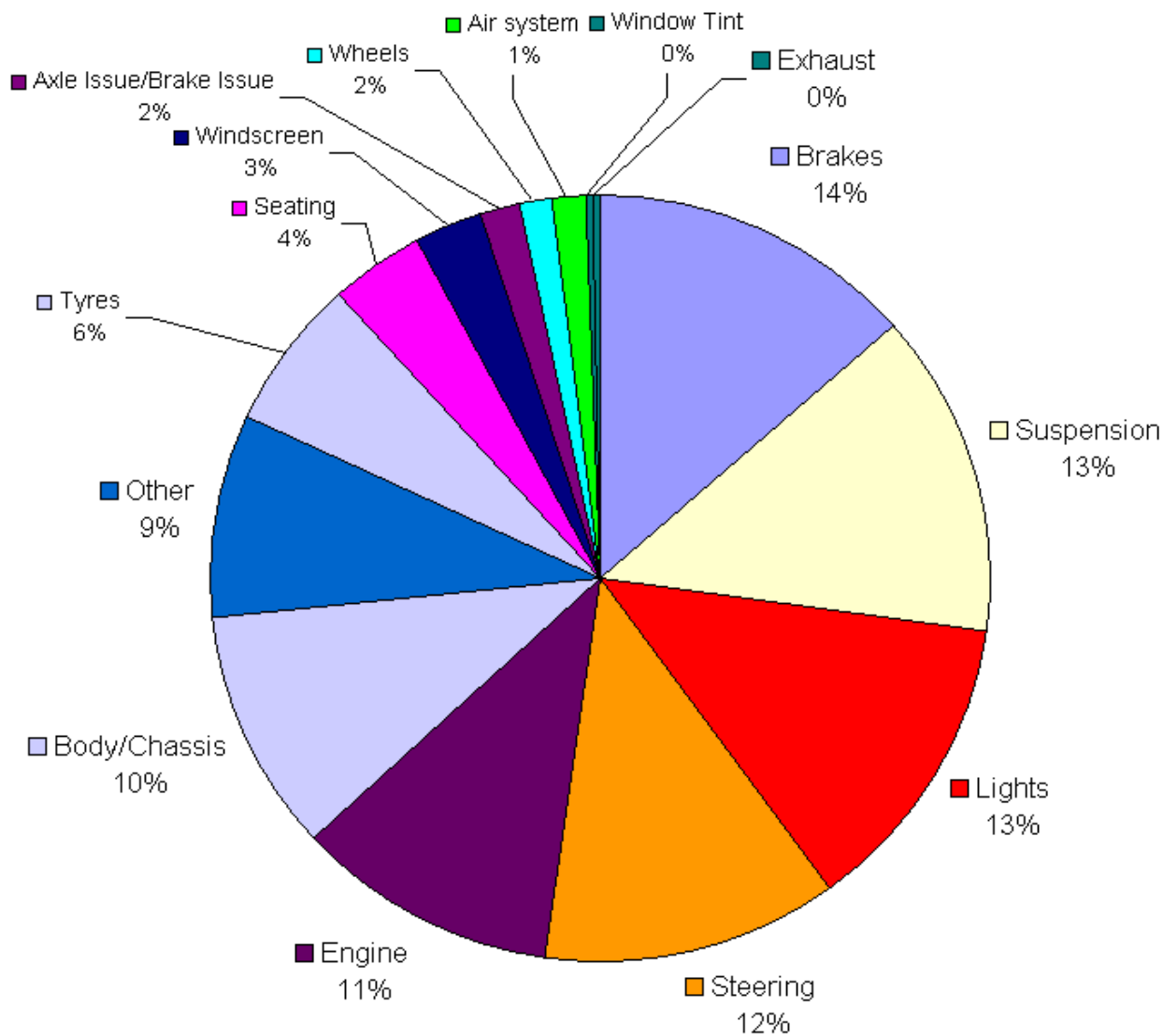
Operation Hazard

- Findings
 - Major Defects predominantly consisted of
 - Braking Defects
 - Suspension Defects
 - Steering Defects
 - Lighting Defects



Operation Hazard

Operation Hazard Three Major Defects



Thanks ITTEC 12