ARTSA MEETING DECEMBER 2011

VicRoads' Heavy Vehicle Safety Update
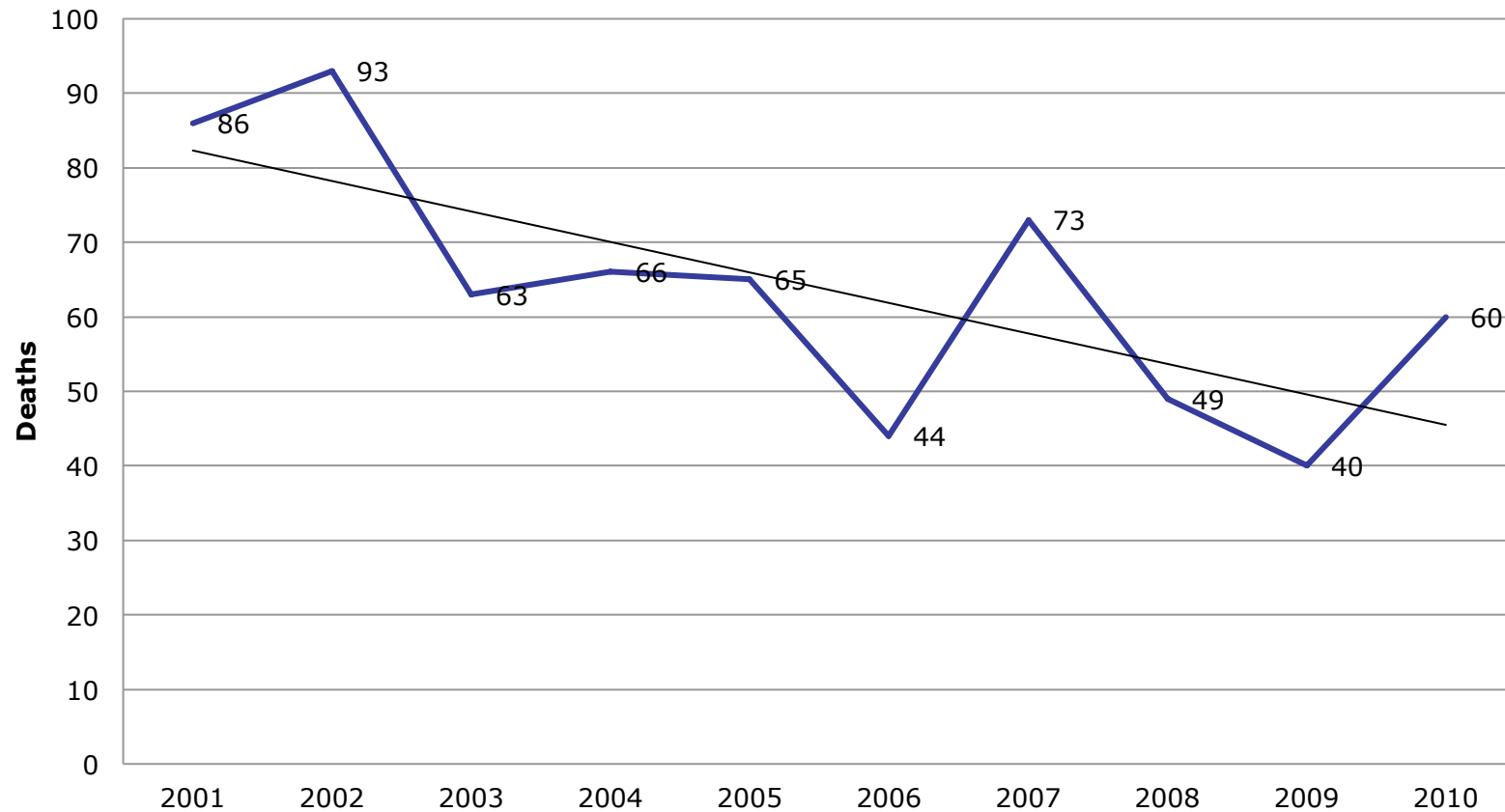
Ross McArthur Manager – Vehicle Safety and Policy

keeping victorians connected
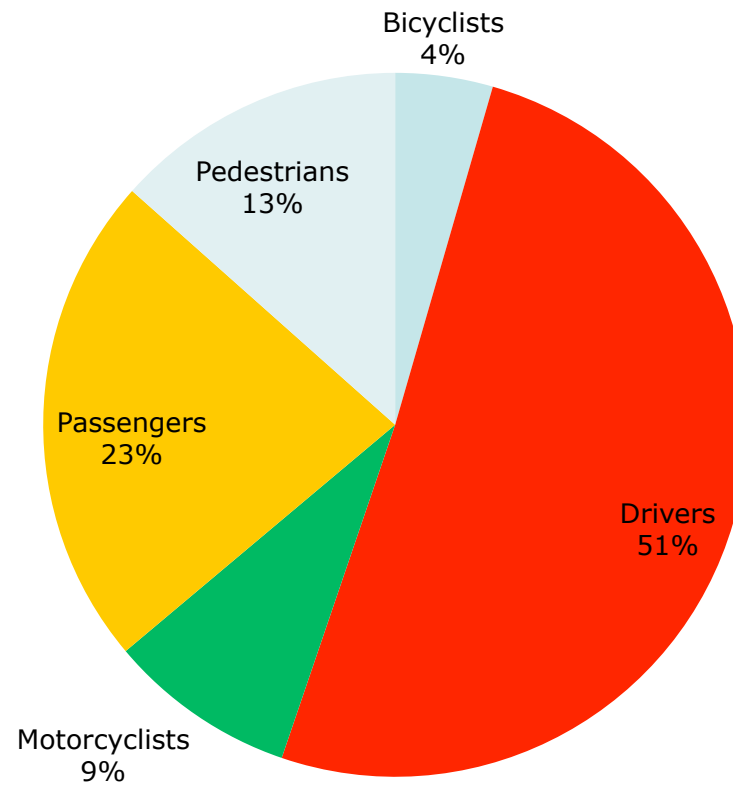
Victorian Road Toll Update

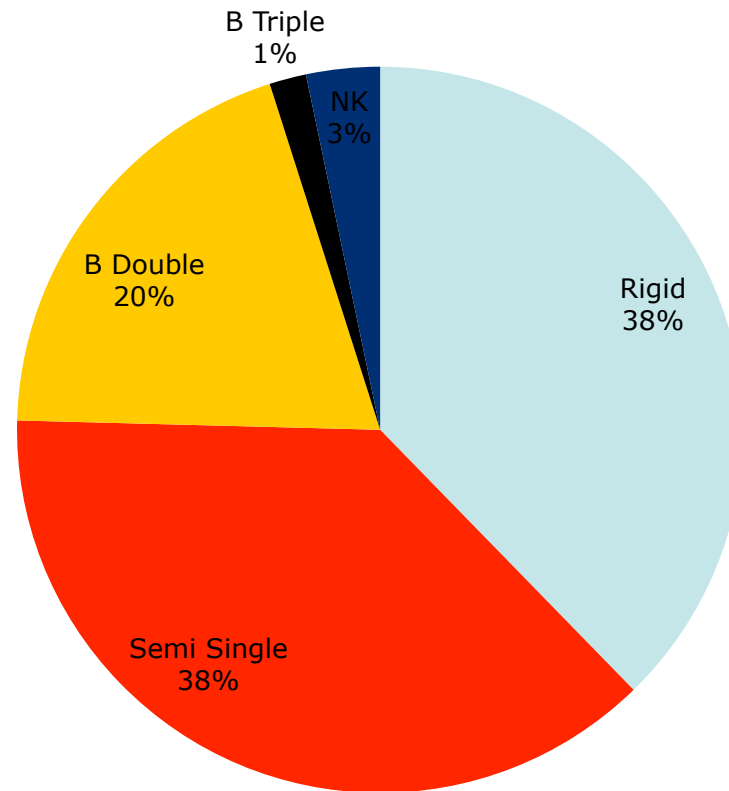## Truck Involved Fatalities Victoria 2001/2010

Victorian Road Toll Update

Truck Involved Deaths by Road User Type 2005/2010
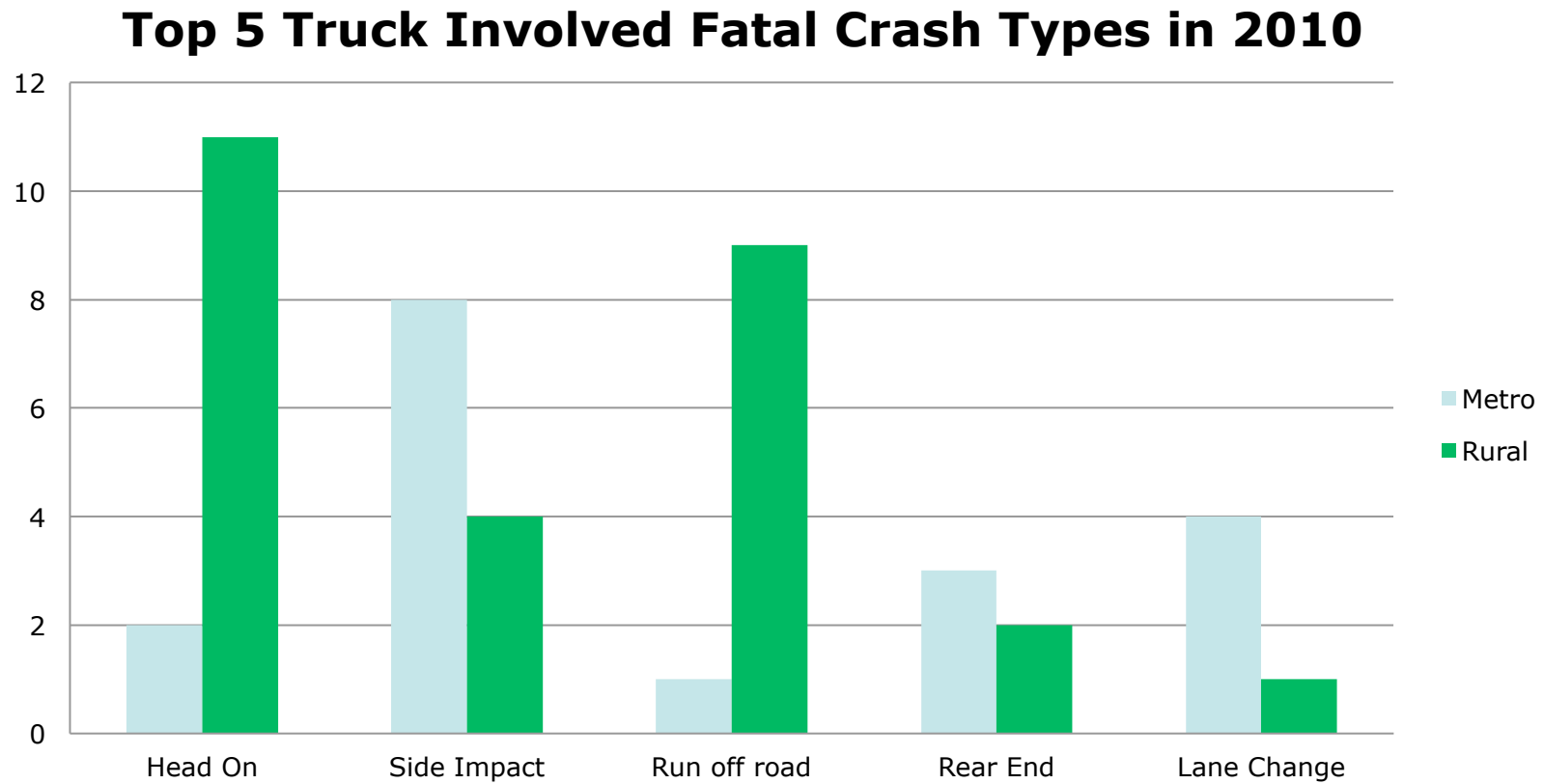
- Bicyclists 4%
- Drivers 51%
- Motorcyclists 9%
- Passengers 23%
- Pedestrians 13%

Victorian Road Toll Update

Type of Truck in Fatal Crashes 2010

Victorian Road Toll Update

Top 5 Truck Involved Fatal Crash Types in 2010

Options
for Improving Vehicle
Safety ?

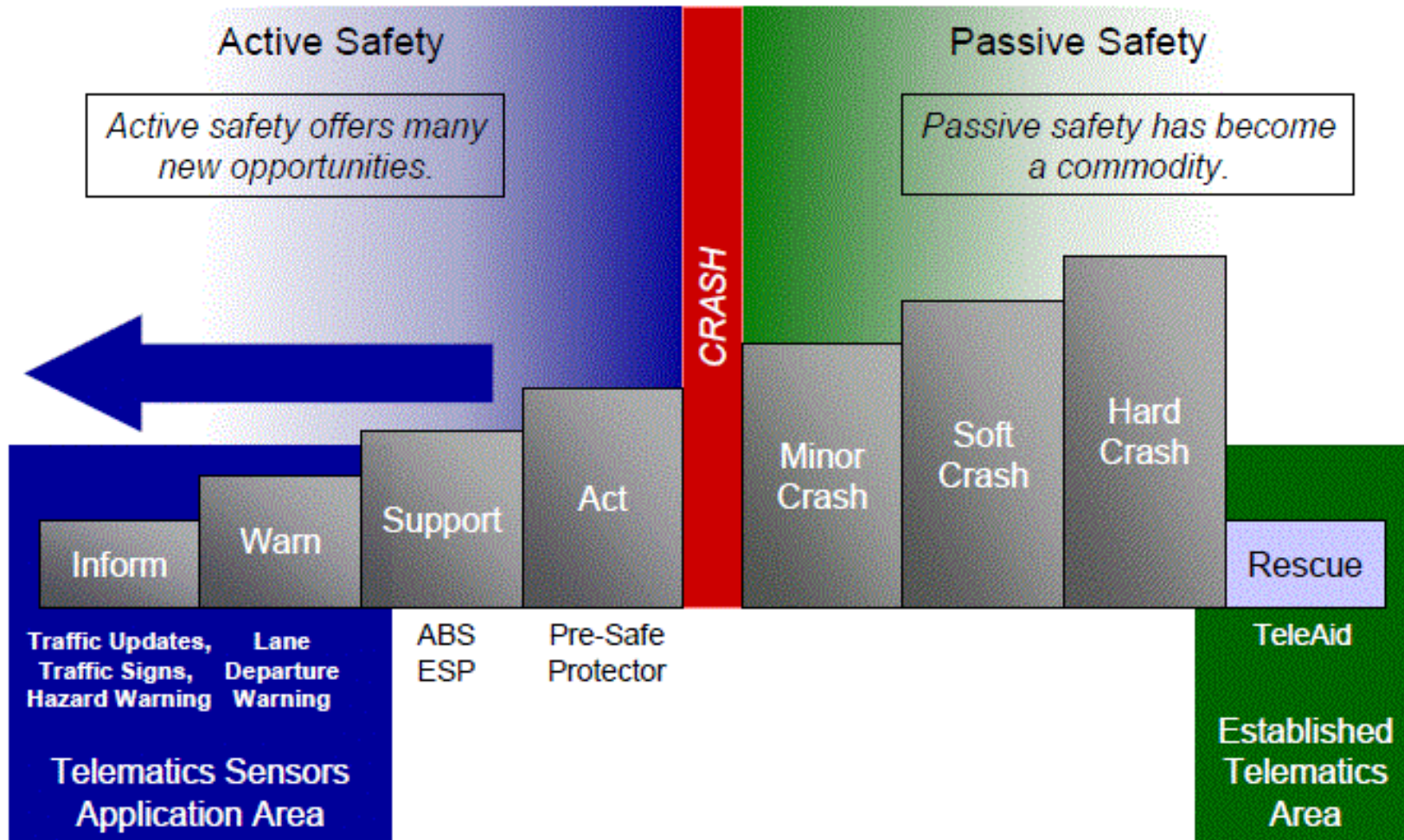# What's changed that can help? Cheap powerful technology

Future is largely based on Intelligent Technologies ?

Active & Passive Safety
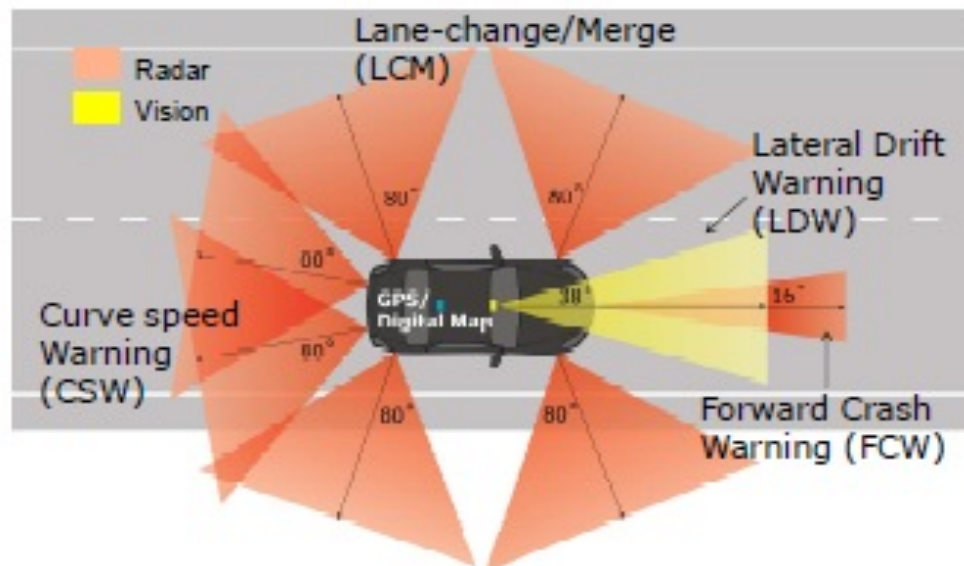
Heavy vehicles

- 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
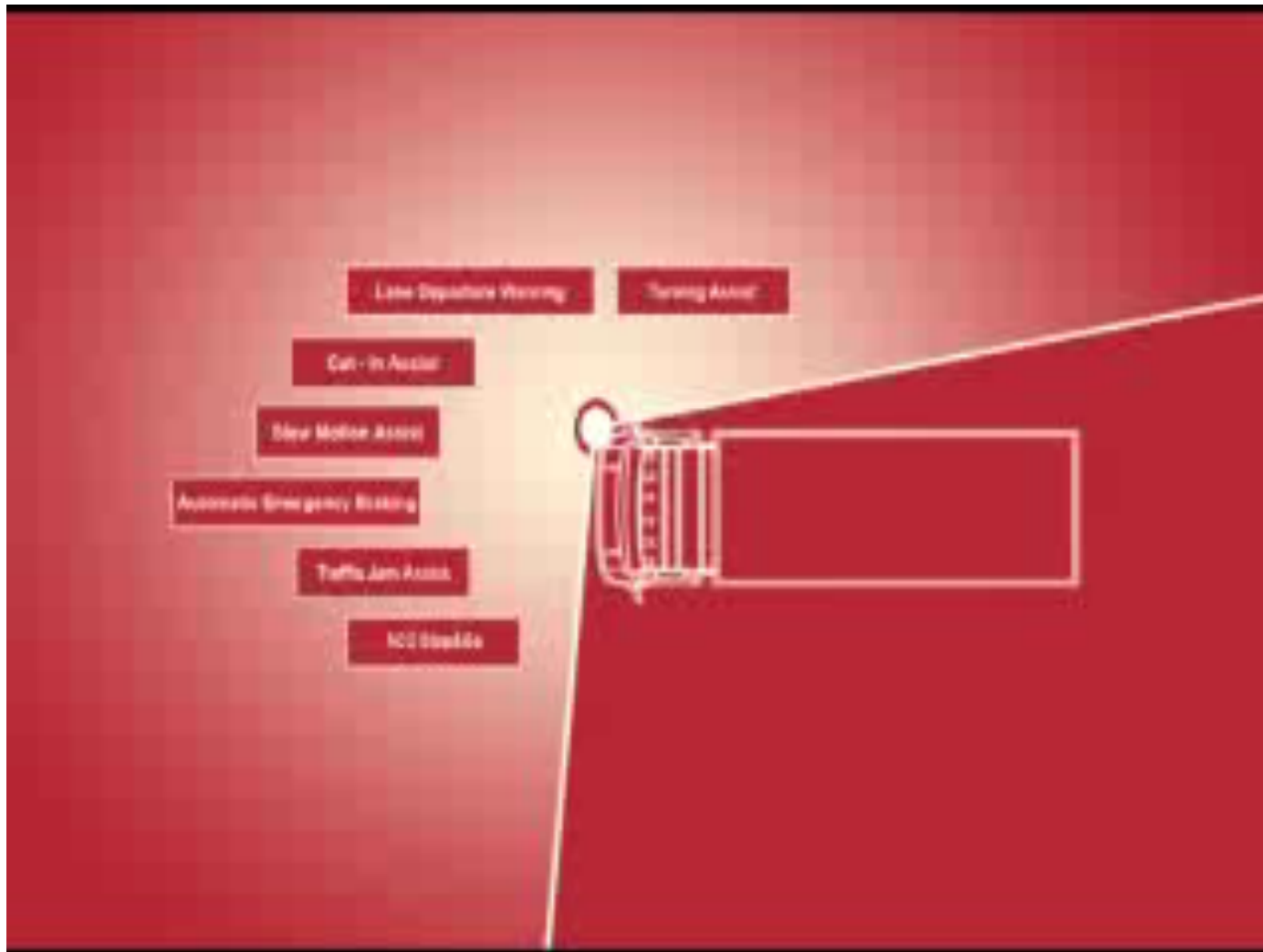
Heavy Vehicles

- 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

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.

Object Detection

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

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.
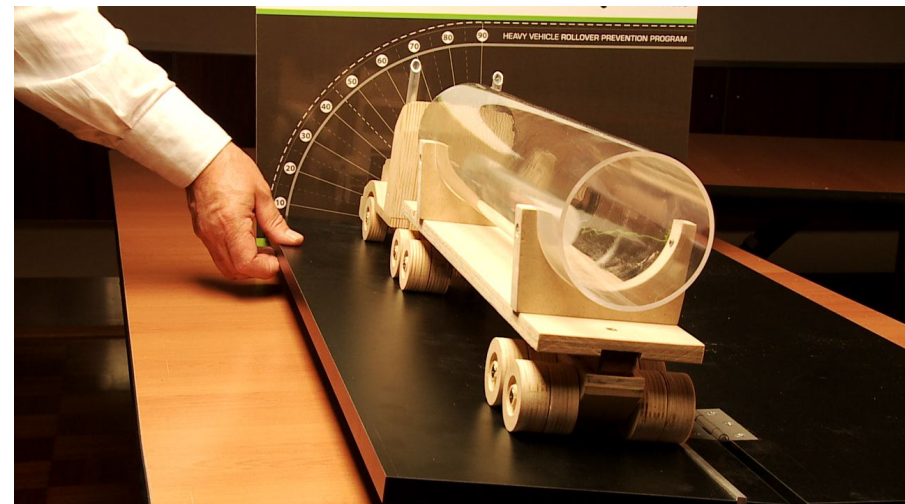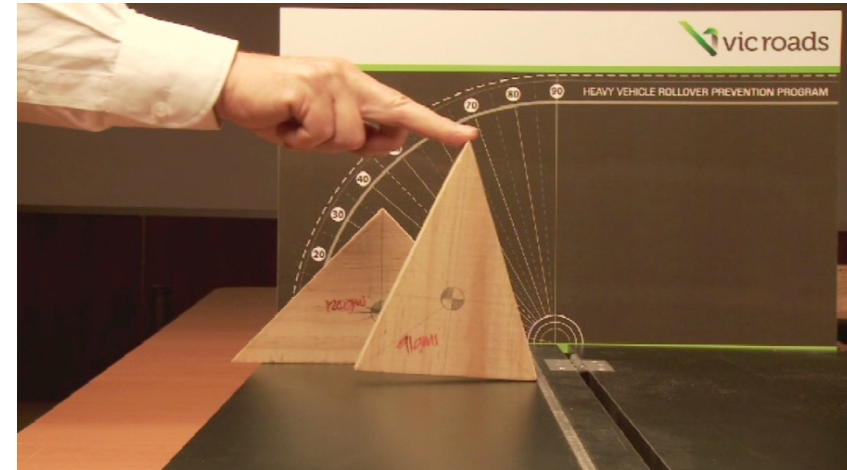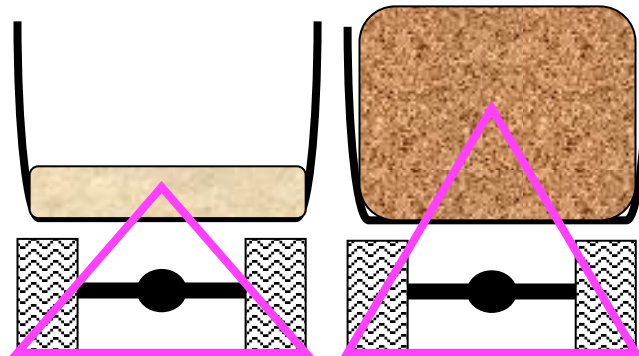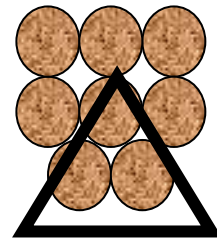
Rollover
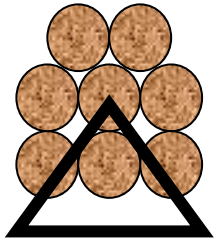# It Happens Really Easily !

Donner Pass USA - Just To Fast

Download the Rollover Program at

www.vicroads.gov.au

Maintenance easy to say
Hard To Do !

Operation Hazard

- Roadside inspection of heavy vehicles

- Three operations so far – more planned for 2012

Operation Hazard

- Approximately 82% of inspected vehicles found to have defects

- 74% of inspected vehicles found to have major defects (safety critical)

- 8% of inspected vehicles found to have minor defects

Operation Hazard

- Analysis of a sample of major defect notices found that:

    - 43 per cent had a braking defect;

    - 38 per cent had a steering defect;

    - 47 per cent had a suspension defect; and

    - 28 per cent had a tyre defect

Operation Hazard – Major Brake Defects

- Of the braking defects detected by VicRoads officers:

    - 56 per cent related to ineffective/in-operative systems;

    - 4 per cent related to out of balance brakes;

    - 15 per cent related to fluid changes being required; and

    - 7 per cent related to air system leaks.

Thanks ARTSA