Expected Benefits of New Technologies

Anders Eugensson, Volvo Car Corporation
Protective Safety Achievements 1967-2005

Model Year

67-74 75-79 80-84 85-89 90-94 95-99 00-05

Injury rate %

0 2 4 6 8 10 12

MAIS 2+ injury rate by model year
25,449 belted drivers in all crash types
Our Vision is that no one is killed or injured in a Volvo in the year 2020

Volvo Vision 2020
What Causes Accidents?

- Human error (up to 93%)
- Traffic environment
- Vehicle

**‘the 4 D’s’**
- Driver distraction
- Driver drowsiness
- DWI (alcohol and drugs)
- Driver capabilities

Source: Virginia Transportation Institute
The Holistic View of Safety

Time

State of the driver

State of the situation

Driver unable to avoid

Car still able to control

Dynamic Avoidance

Post-crash

Preventative

Avoidance

Mitigation

Impact

Driver and car unable to avoid
Reduce severity
Prepare to crash

• Non-conflict • Conflict • Imminent-crash • Crash • Post-crash

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[Volvo logo]
Technology as Countermeasure in the Holistic Perspective

BLIS
Driver Alert
Alcoguard

Forward Collision Warning
DSTC
RSC

City Safety
Emergency Lane Assist
Collision Mitigation

Safety Cage
Inflatable Curtain
Whiplash Prevention System

Volvo
On Call

Preventative
Dynamic
Avoidance/Mitigation
Impact
Post-crash
Integrated Safety – Combining Protective and Preventative Safety

Number of accidents vs. Loss of health

Threshold for health loss
Limit of protective safety

Area addressed by protective safety systems

Reduction of severity by braking

No injuries

Range beyond vehicle protective safety capacity

Improved protective safety

Accident severity
Annual Crashes Relevant to Vehicle Technologies 2002-06 (US)

Technology all fatal

• Forward Collision Warning with Automatic Braking 2,268,000 7,166
• Emergency Brake Assist 417,000 3,079
• Lane Departure Warning 483,000 10,345
• Blind Spot Detection 457,000 428
• Adaptive Headlights 143,000 2,553

Source: Insurance Institute for Highway Safety (IIHS)

and

• Alcohol Interlocks: 40% of all fatalities

43,000 Fatalities in US
Avoidance / Mitigation: Collision Warning with Autobrake
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New technologies have taken traffic safety one step further but...

• Can we find technical solutions quickly enough?
  • Only 12 years of development/research available
  • Only two generations of products to achieve target

• Will we have sufficient know-how?
  • We have only just commenced the learning curve for preventative safety systems
  • There is still a development need in protective safety systems

• We cannot solve this on our own – we must cooperate with other partners
• Incentives for increased penetration of preventative systems needed
• Consumers need to be aware of potentials with preventative safety systems
Thank You!