Safe System Approach

Emma MacLennnan
Director General
About EASST

EASST is a partnership of local road safety organisations:

- Albania
- Armenia
- Azerbaijan
- Belarus
- Georgia
- Greece
- Kazakhstan
- Kyrgyzstan
- Latvia
- Moldova
- Mongolia
- Russia
- Tajikistan
- Ukraine

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The Global Road Safety Plan

Road Safety Management

Safer Road Users

Safer Roads and Mobility

Safer Vehicles

Post Crash Response
Thinking about road safety has changed over time
1900-1920

Crash caused by: Bad luck

Research into: What happened

Measures: Ad hoc

Time periods and their characteristic road safety paradigms (Hagenzieker et al, 2014, OECD 1997)
1920-1950

Crash caused by:
Really bad drivers

Research into:
Who

Measures:
Educate, punish

“The nut behind the wheel.”

Time periods and their characteristic road safety paradigms (Hagenzieker et al, 2014, OECD 1997)
1950-1970

Crash caused by:
Road user or vehicle or road

Research into:
The cause

Measures:
Education, enforcement, engineering – 3 E’s

*Time periods and their characteristic road safety paradigms (Hagenvieker et al, 2014, OECD 1997)*
1960-1985

Crash caused by: Multi-causal approach

Research into: Which causes, technical improvements

Measures: Technical solutions for vehicles and roads

Time periods and their characteristic road safety paradigms (Hagenzieker et al, 2014, OECD 1997)
1985/90 till now

Crash caused by: Result of an integral road system

Research into: Multi-dimensional including economic analysis

Measures: Adapt road system to road user

*Time periods and their characteristic road safety paradigms (Hagenzieker et al, 2014, OECD 1997)*
## Traditional v Safe System

<table>
<thead>
<tr>
<th></th>
<th>Traditional Approach</th>
<th>Safe System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Problem?</strong></td>
<td>Try to prevent crashes</td>
<td>Prevent crashes resulting in death and injury</td>
</tr>
<tr>
<td><strong>Goal?</strong></td>
<td>Reduce the number of fatalities and injuries</td>
<td>Zero fatalities and serious injuries</td>
</tr>
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<td><strong>Cause of problem?</strong></td>
<td>Bad road users and rule breakers</td>
<td>People make mistakes and are vulnerable. Quality and design of infrastructure. Speeds. Management and guidance.</td>
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<td>Shared responsibility – individuals and system designers</td>
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**Problem?**
- Try to prevent crashes
- Prevent crashes resulting in death and injury

**Goal?**
- Reduce the number of fatalities and injuries
- Zero fatalities and serious injuries

**Cause of problem?**
- Bad road users and rule breakers
- People make mistakes and are vulnerable. Quality and design of infrastructure. Speeds. Management and guidance.

**Who is responsible?**
- Individual road users
- Shared responsibility – individuals and system designers
Vision Zero

1997 Swedish Parliament – ‘Putting people first’
Key principles

Recognise that **People Make Mistakes**
Key principles

**Human Bodies** have little tolerance for crash forces
Key principles

Road Safety is a shared responsibility
# Haddon’s Matrix

<table>
<thead>
<tr>
<th>PHASE</th>
<th>FACTORS</th>
<th>HUMAN</th>
<th>VEHICLES &amp; EQUIPMENT</th>
<th>ENVIRONMENT</th>
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</thead>
<tbody>
<tr>
<td>BEFORE CRASH</td>
<td></td>
<td>Information</td>
<td>Maintenance</td>
<td>Road design</td>
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<td></td>
<td></td>
<td>Attitudes</td>
<td>Speed management</td>
<td>Speed limits</td>
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<td>Behaviour</td>
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<td>Pedestrian facilities</td>
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<td>Enforcement</td>
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<td>CRASH</td>
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<td>CRASH PREVENTION</td>
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<td>Using eat belts &amp;</td>
<td>Seat belts</td>
<td>Crash barriers</td>
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<td>car seats</td>
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<td>Safe &amp; forgiving roads</td>
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<td>Drink Driving</td>
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<td>Distraction</td>
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<td>AFTER CRASH</td>
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<td>LIFE SAVING</td>
<td>First aid skills</td>
<td>Cutting equipment</td>
<td>Rescue facilities</td>
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<td>Access to rescue aid</td>
<td>Fire risk</td>
<td>Congestion</td>
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Forgiving Roads

Good design can encourage good behaviour

Bad design can kill and injure
Speed

5% cut in average speed

Can result in a 30% reduction in fatal road crashes

Pedestrian fatalities increase with speed
Education & Enforcement

Enforcement is not about Catching and punishing

It is about prevention

Should be done together
We all have a role to play in reducing road death and injury
Thank you

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