How 3-star or better roads can cut death and trauma

The European Union wants deaths on the region’s roads in 2020 to be no more than 50% of the figure for 2010, which was 31,500. In 2014 the death toll was 25,900.

The United Nations Sustainable Development Goal 3.6 calls for road deaths and serious injuries to be 50% of 2015’s figure by 2020.

Our aim should be for zero deaths and serious injuries because no figure above zero is an acceptable price for road-based mobility.

WHAT ARE THE TARGETS?

But we need to ACT NOW!

EuroRAP
EUROPEAN ROAD ASSESSMENT PROGRAMME
What does ‘3-star or better’ really mean?

Referring to known road safety attributes, star ratings objectively measure the risk of death and serious injury on roads for four categories of road user: pedestrians, cyclists, motorcyclists and vehicle occupants.

On important trade routes, such as major motorway corridors, a 4 or 5-star standard is needed because there are so many road users.

Star ratings can be improved by proven safety features like pedestrian crossings, safe intersection layouts, safety barriers and clear road markings.

These features can often be inexpensively installed during regular maintenance programmes.

A 1-star road is the least safe and a 5-star road is the safest with each star rating improvement halving the cost of road crashes.

The more a road is used, the more likely it will be cost-effective to improve a star rating to 3-star or beyond.

Why do we need a 3-star or better Europe?

• In Europe in 2014, nearly 26,000 road users were killed in crashes and 260,000 were seriously injured.

• Road crashes are the second biggest cause of death for school age children.

• The global economic cost of road deaths and serious injuries is estimated to be US$1.8 trillion or three per cent of global GDP.

But why do roads matter so much?

• We need action in other areas, too, if we are to build ‘a safe system’
  › We have road laws but they are not always rigorously enforced
  › Cars are much safer than they used to be but vehicle makers need to be encouraged to make them safer still

• Safer road infrastructure is the last great challenge in creating a truly ‘safe system’ for all road users

• Getting rid of 1- and 2-star roads and making high volume roads 3-star or better will save lives.

Is it affordable and is it value for money?

Yes it is!

• Each year the world spends more than US$500 billion on roads.

• Using part of that budget for measuring and improving the inbuilt safety of our roads will reduce deaths and serious injuries.

• It could also deliver 30-50% efficiency savings and create jobs.

• Investing 0.1% of international GDP in safer roads for 10 years could save 40,000,000 deaths and serious injuries over 20 years.

• More than $8 of benefits for each $1 invested and internal rates of return of 30%+ are common.
Crash costs are **halved** for each star rating improvement*

★★★★★ ★★★★★ ★★★★★ ★★★★★ ★★★★★

**Where are we now?**

- **Pedestrians:** Only 26% of roads are 3-star or better for pedestrians.
- **Cyclists:** Only 26% of roads are 3-star or better for cyclists.
- **Motorcyclists:** Only 29% of roads are 3-star or better for motorcyclists.
- **Vehicles:** Only 44% of roads are 3-star or better for vehicle occupants.

*Based on the cost of people killed and serious injury crash costs per vehicle kilometer traveled.

**The policy opportunity**

**Recommended policy goal for national and busy regional road networks**

\[ \geq 75\% \text{ of travel on 3-star or better roads for all road users} \]

**Recommended design goal for new and upgraded roads**

- 4-star or better for relevant road users on high volume roads
- 3-star or better for relevant road users on all road projects

**Why do we need to act now?**

- Today less than 50% of Europe’s roads are 3-star or better.
- Improving Europe’s roads – not only motorways but also heavily used national roads – to a 3-star or better rating is cost-effective.
- We should also strengthen road law and enhance its enforcement.
- At the same time steps need to be taken to accelerate the **continuous improvement** of the active and passive safety technologies used in vehicles.
- And we need to do these things now if we are to make **significant progress** towards the 2020 targets!
Where are we today?

England: Highways England has a goal for 90% of travel on 3-star or better roads by 2020

Netherlands: Only 0.5% of the Netherlands national road network is still to achieve a 3-star standard

Sweden: Is aiming for 3-star or better on all national roads by 2025

The business case for safer roads

<table>
<thead>
<tr>
<th>What could be achieved</th>
<th>Low Income</th>
<th>Lower-middle income</th>
<th>Upper-middle income</th>
<th>High Income</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve highest risk 10% of roads</td>
<td>108,000 km</td>
<td>610,000 km</td>
<td>992,000 km</td>
<td>1,546,000 km</td>
<td>3,255,000 km</td>
</tr>
<tr>
<td>Build viable countermeasures</td>
<td>$8 bn</td>
<td>$61 bn</td>
<td>$149 bn</td>
<td>$464 bn</td>
<td>$681 bn</td>
</tr>
<tr>
<td>Reduction in fatalities</td>
<td>384,000</td>
<td>1,483,000</td>
<td>1,528,000</td>
<td>283,000</td>
<td>3,678,000</td>
</tr>
<tr>
<td>Reduction in fatalities and serious injuries</td>
<td>4,224,000</td>
<td>16,313,000</td>
<td>16,808,000</td>
<td>3,113,000</td>
<td>40,458,000</td>
</tr>
<tr>
<td>Economic benefit</td>
<td>$83 bn</td>
<td>$663 bn</td>
<td>$2,766 bn</td>
<td>$2,202 bn</td>
<td>$5,715 bn</td>
</tr>
<tr>
<td>Benefit cost ratio</td>
<td>11</td>
<td>11</td>
<td>19</td>
<td>5</td>
<td>8</td>
</tr>
</tbody>
</table>


CASE STUDY: SLOVAKIA

A 327km sample of carriageways on Slovakia’s motorways and expressways has undergone a series of improvements drawing on guidance from EuroRAP assessments. This increased the percentage of motorway rating 3-star or above from 27% to 77%. Resulting in an estimated 355 fewer deaths and serious injuries over 20 years.

About EuroRAP

The European Road Assessment Programme (EuroRAP) is an international not-for-profit organisation registered in Belgium, dedicated to saving lives through safer roads. EuroRAP:

- Aims to reduce death and serious injury on Europe roads through a systematic programme of risk assessment, identifying major safety shortcomings that can be addressed by practical road improvement measures.
- Ensures risk assessment lies at the heart of strategic decisions on route improvements, crash protection and standards of route management.
- Forges partnerships between those responsible for a safe road system – motoring organisations, vehicle manufacturers and road authorities.

For more information about EuroRAP, please visit www.eurorap.org