

Hvordan påvirkes trafiksikkerheden i Europa af tiltag fra EU?

- En gennemgang af, hvordan effekterne af et nyt politiktiltag evalueres

Ole Kveiborg, olek@cowi.com

Larus Ágústsson, laag@cowi.com

EU og trafiksikkerhed

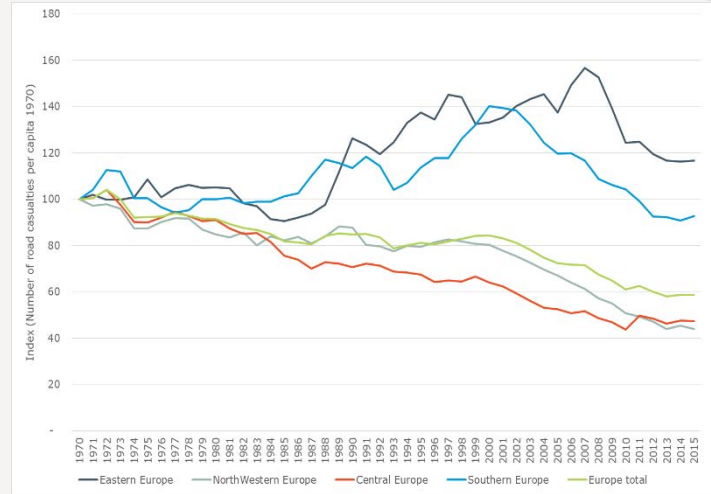
- Hvad skal EU blande sig i?
 - Alt det der drejer sig om fælles Europæiske anliggender
 - Og her falder trafiksikkerhed også under

"The transport ministers will undertake to....**improve the safety** of road users by developing **safer road infrastructure**, bearing in mind the possibility of extending the application of infrastructure safety management principles beyond the Trans-European Transport Network (TEN-T) roads"

The Valletta Declaration 2017

"Every death or serious injury is one too many. We have achieved impressive results in **reducing road fatalities** over the last decades but the **current stagnation** is alarming. If Europe is to reach its objective of halving road fatalities by 2020, **much more needs to be done.**"

Violeta Bulc, EU Commissioner for Transport



Initiativer

- > Forskellige **Direktiver**
- > 2004: Tunnel sikkerhed
 - > Mont Blanc tunnel uheld
- > 2008:
Trafiksikkerhedsledelse
 - > En række procedurer

DIRECTIVES

DIRECTIVE 2008/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 November 2008 on road infrastructure safety management

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION, shared responsibility' the Commission identified road infrastructure as the third pillar of road safety policy, which should make an important contribution to the

Having regard to the Treaty of the European Community, and in particular Article

30.4.2004

EN

Official Journal of the European Union

L 167/ 39

Having regard to the proposal from

Having regard to the opinion of the Social Committee (1),

After consulting the Committee of the

Acting in accordance with the procedure laid down in Article 251 of the Treaty (2),

Whereas:

(1) The trans-European road network (TEN-T) is defined in Directive 1692/96/EC of the European Council of 23 July 1996 on the development of the trans-European network (TEN-T) of transport

DIRECTIVE 2004/54/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004

on minimum safety requirements for tunnels in the
Trans-European Road Network

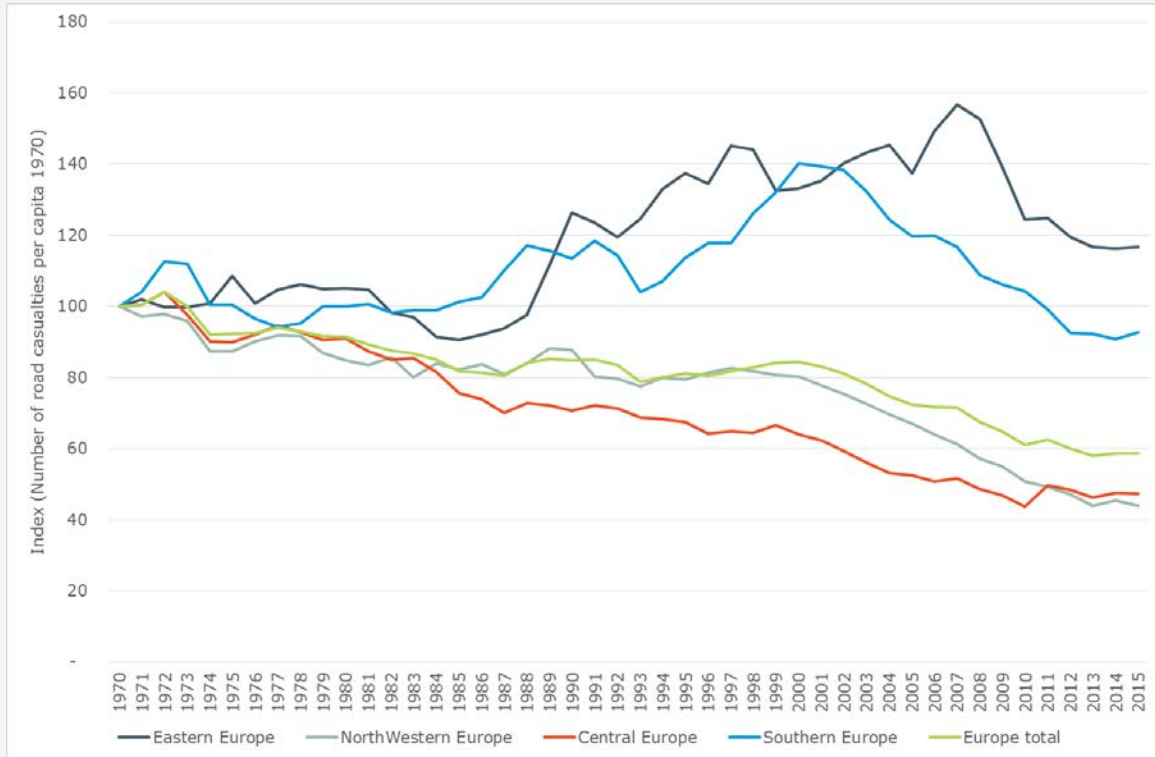
THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 71(1) thereof,

Having regard to the proposal from the Commission,

Having regard to the Opinion of the European Economic and Social Committee¹,

Men udviklingen kræver mere handling



- > Stadig mere end 25.000 dræbte
- > 250.000 svært tilskadekomne

Evalueringer af Direktiver

- › RISM Directive:
 - › Ja, der er nogle problemer
 - › Adresserer ikke der hvor problemerne er størst (*ikke TEN-T veje, VRU*)
 - › Ingen krav om handling
 - › Finansiering en stor udfordring
- › Tunnel safety Directive
 - › Primært problemer med implementering
 - › Lande med mange tunneller
 - › Ingen sammenhæng med trafiksikkerhed



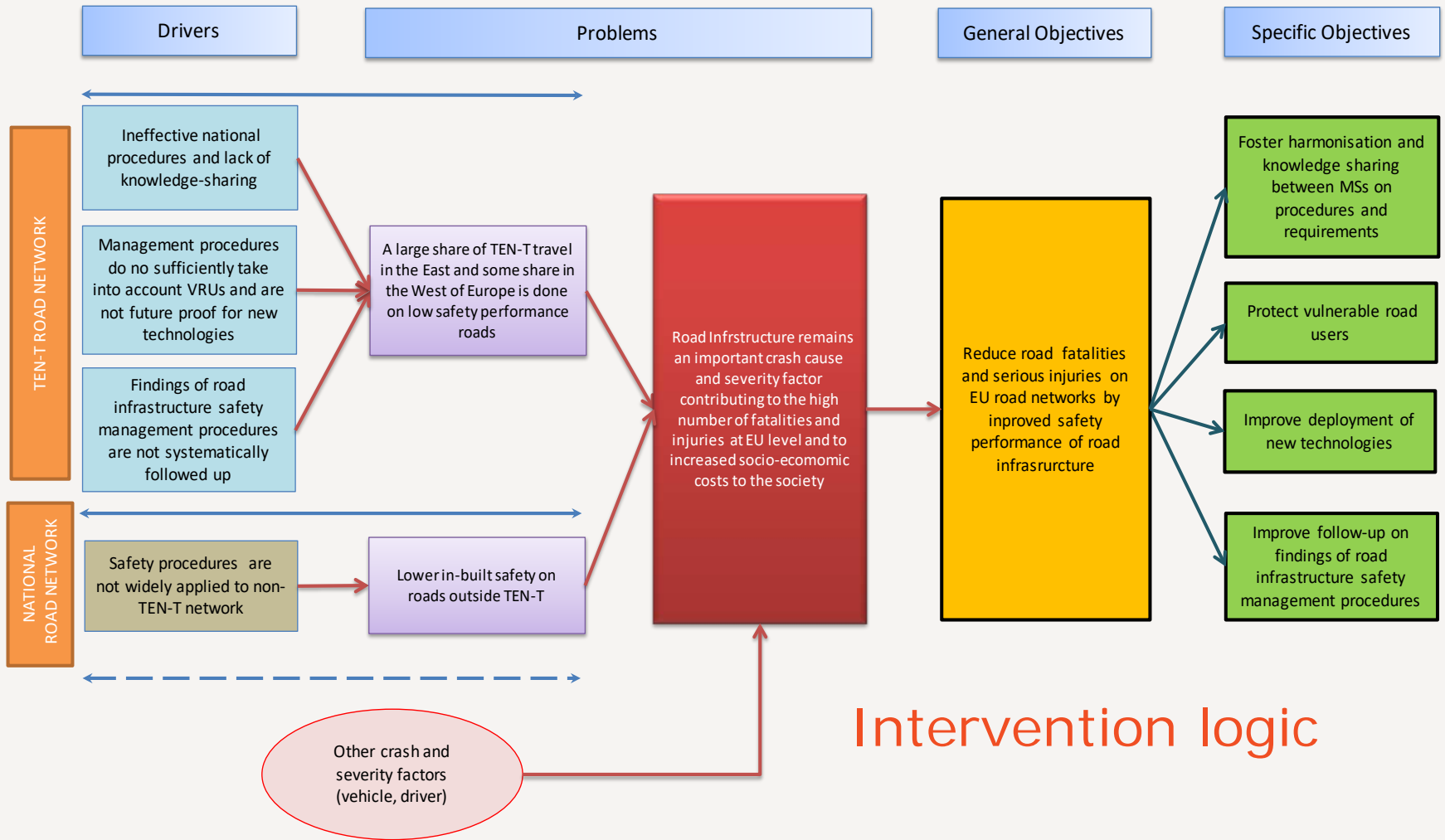
Hvilken proces skal EU gå igennem

BETTER REGULATION GUIDELINES

> *Impact assessment*

- > *Hvad er konsekvenserne af et politiktiltag*

1. Problem formulering og analyse
2. Målsætning for EU og dermed den nye lovgivning (*Objectives*)
3. Alternative politikforslag (*Policy Options*)
4. Vurdering af konsekvenser (*Impact assessment*)
5. Sammenligning og valg af foretrukne alternativ



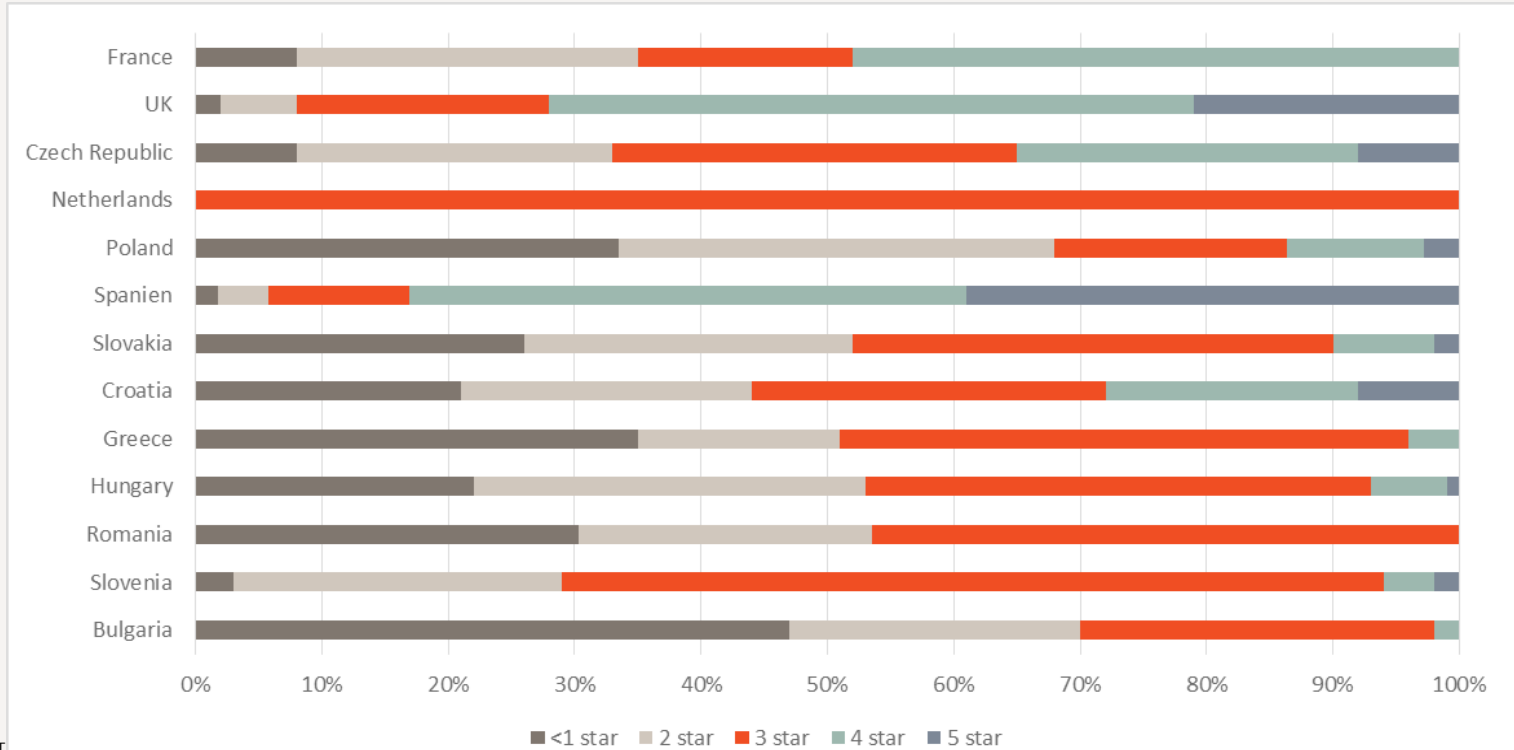
Problemerne

1. Lovgivningen omfatter alene TEN-T vejnettet; dvs. primært motorveje, hvor sikkerheden er højest, mens de farligere landeveje og byveje ikke er med
2. Trafiksikkerhedsniveauet **er ikke konsistent højt på hele vejnettet**; eller med andre ord: der er stor variation i det sikkerhedsniveau man finder på vejene i de forskellige lande

Country	Region	Rating - Quality of roads	Fatality per mio. vkm
NL	Central Europe	6.14	1.7
FR	Central Europe	6.05	2.7
AT	Central Europe	5.99	2.7
PT	Southern Europe	5.91	4.1
DK	North-western Europe	5.71	1.9
FI	North-western Europe	5.67	2.2
LU	Central Europe	5.57	1.7
DE	Central Europe	5.55	2.3
ES	Southern Europe	5.52	1.8
HR	Eastern Europe	5.51	8.5
SE	North-western Europe	5.29	1.6
UK	North-western Europe	5.13	1.4
IE	North-western Europe	4.96	2.3
CY	Southern Europe	4.93	8.7
BE	Central Europe	4.88	3.0
LT	Eastern Europe	4.87	6.4
EE	Eastern Europe	4.67	6.3
IT	Southern Europe	4.55	3.7
SI	Eastern Europe	4.42	4.6
EL	Southern Europe	4.30	6.3
CZ	Eastern Europe	4.10	5.4
SK	Eastern Europe	4.10	5.6
HU	Eastern Europe	4.06	8.4
PL	Eastern Europe	3.97	9.9
BG	Eastern Europe	3.37	9.6
LV	Eastern Europe	3.24	8.0

Quality of roads, 2015-2016. Source: World Economic Forum Global Competitiveness Report

EuroRAP



Objectives

Reducere antal dræbte og alvorligt tilskadekomne på det Europæiske vejnet

- › Hvilket suppleres af en række specifikke målsætninger:
 - › Understøtte harmonisering og vidensdeling om procedure og krav mellem medlemslandene
 - › Beskytte bløde trafikanter
 - › Forbedre udbredelsen af nye teknologier
 - › Forbedre opfølgning på resultaterne af vejtrafiksikkerheds analyse procedurerne

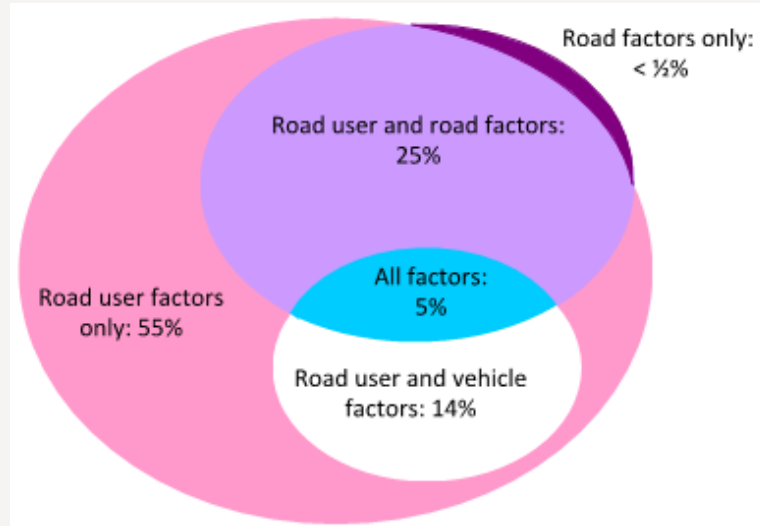
Policy options

> Udfordring:

- > Direktivet omhandler alene procedurer om infrastrukturen

Procedurer -> skal udføres -> problemer identificeres -> handling -> effekt

- > Ikke kun infrastruktur:



	Addressing problem driver	Key measures included
Option 1	<p>Different national procedures and lack of knowledge sharing</p> <p>Gaps in legislation regarding VRUs and new technologies</p>	<p>Soft measures on knowledge sharing</p> <p>Including reference to the protection of VRUs in all procedures</p> <p>Reference to C-ITS and automation in all procedures</p>
Option 2	<p>As above</p> <p>+ Findings of RISM procedures not always implemented</p>	<p>As above plus requirements to make a plan of prioritised actions resulting from the inspections and assessing safety level of all TEN-T roads</p>
Option 3	<p>As above</p>	<p>As Option 1 and 2 plus adoption of minimum safety standards on all TEN-T roads</p>
Option A	<p>RISM Directive does only cover TEN-T roads</p>	<p>Mandates the use of the RISM for all road infrastructure projects receiving EU funding</p>
Option B	<p>RISM Directive does only cover TEN-T roads</p>	<p>Application of the current RISM to all national roads</p>
Option C	<p>RISM Directive does only cover TEN-T roads</p>	<p>Option 2 measures for all national roads notable to make a plan of prioritised actions based on the inspections and to undertake road assessment programs.</p>

Impacts – economic, environment, social, cohesion..

- › Sammenligning med baseline
- › Meget *interessant* stykke arbejde
- › Hvordan fastsætter man egentlig en forventning til fremtidig udvikling?
- › Hvad er det egentlig, der betyder noget?
- › Hvad sker der, hvis vi ikke gør noget?
- › Konsistens med andre initiativer

Mange antagelser og forudsætninger

- › Fra procedure til handling og effekt
- › Nogle lande har allerede gjort meget, så derfor kun lille effekt
- › Andre lande er langt bagefter, men har ikke penge til at gøre noget
- › Hvad ved vi egentlig konkret om det enkelte land

SafetyCube project

Handbook of Road Safety Measures

- › Estimation of the **effect of each measure** expressed as the percentage reduction in the baseline number of fatalities and serious injuries;
- › Estimation of the **share of fatalities** and serious injuries that the measure applies to;
- › Calculation of the **expected reduction in number of fatalities** and serious injuries by Member State for the proportion of the fatalities and injuries that are covered by the measure;
- › Application of social unit costs of fatalities and serious injuries to the above-calculated impacts to derive the estimated benefits.

Særligt ét punkt var vigtigt

RSI procedures

RSI are carried out using different procedures in different countries.

- Some countries use very detailed procedures where in-depth analysis of the inspected network is made.
- Other countries use the quicker Road Assessment approach (such as the EuroRAP/iRAP method).

The difference in inspection method have two consequences:

1. A detailed RSI can only deal with limited sections of the infrastructure. Defects are therefore only detected for the (small) subset of the infrastructure inspected.
2. A RAP approach can inspect the entire road network, but will not detect all defects or be able to devise the most appropriate measure.

When a Member State therefore reports that it is doing 15 RSI per year, this is typically done for 15 specific road sections of varying length.

When another country is reporting 511 annual RSI's, this is typically done by using a simpler approach.

Enkelte resultater

Effectiveness

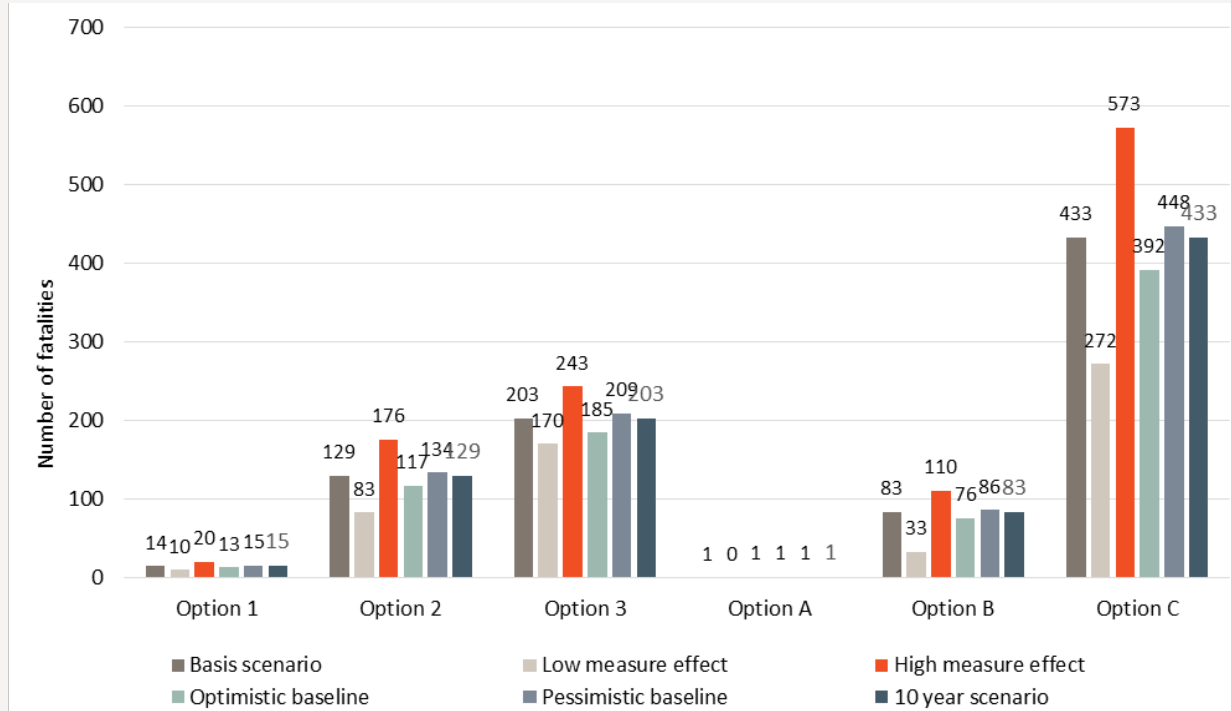
Impact (2030)	PO 1	PO 2	PO 3
Absolute change			
Fatalities	14	129	203
Seriously injured	116	815	1,076
Relative change (TEN-T network)			
Fatalities	1.0%	8.8%	13.8%
Seriously injured	0.9%	6.5%	8.6%
Relative change (All roads)			
Fatalities	0.1%	0.6%	0.9%
Seriously injured	0.0%	0.3%	0.5%

Beregninger for hvert enkelt land

- Så mange (få?) for et enkelt år

Member state	Fatalities				
	% change	Absolute change			
	CE	CE	Low	-	High
AT	1.4%	0	0	-	1
BE	12.3%	3	2	-	4
BG	14.4%	5	3	-	7
CY	16.8%	1	1	-	1
CZ	13.5%	9	6	-	12
DE	0.9%	1	1	-	2
DK	9.1%	2	1	-	3
EE	18.4%	4	2	-	5
EL	18.1%	11	7	-	14
ES	1.4%	2	1	-	3
FI	7.1%	6	3	-	8
FR	12.5%	18	13	-	26
HR	11.2%	2	1	-	3
HU	13.6%	4	3	-	6
IE	2.9%	1	0	-	1
IT	8.8%	11	8	-	16
LT	7.4%	2	1	-	3
LU	4.3%	0	0	-	0
LV	15.1%	4	2	-	5
MT	15.1%	0	0	-	0
NL	1.6%	0	0	-	0
PL	14.6%	16	10	-	21
PT	16.2%	7	5	-	10
RO	14.8%	10	6	-	14
SE	3.2%	3	1	-	4
SI	8.3%	1	1	-	1
SK	13.5%	3	2	-	4
UK	2.6%	2	1	-	3
Total (TEN-T motorways and main roads)	8.8%	129	81	-	177
Total (whole)	2.8%	120	71	-	149

Usikkerheder – ja mange, men ikke i forhold til dét vi har set på



Efficiency

	Policy Option 1 (m. EUR)	Policy Option 2 (m. EUR)	Policy Option 3 (m. EUR)
Social benefits			
Fatalities costs	339	2,788	3,916
Injuries costs	443	2,620	3,080
Total social benefits	782	5,408	6,996
Costs			
Compliance costs (Investments and use of procedures)	103	2,004	5,563
Other derived costs	No specific impacts	No specific impacts	No specific impacts
Net benefits (present value)	679	3,404	1,433
Benefit-cost ratio	7.6	2.7	1.3

Sammenligning på tværs

	Effectiveness	Effectiveness	Efficiency	Coherence
	Cumulative reduction in the number of fatalities over 2020-2050 (compared to Baseline)	Cumulative reduction in the number of serious injuries over 2020-2050 (compared to Baseline)	Cost-benefit ratio	Qualitative scoring
Option 1	374	3,247	7.6	+++
Option 2	3,377	21,778	2.7	+++
Option 3	5,370	29,100	1.3	++
Option A	20	209	2.4	+++
Option B	2,179	11,166	12.8	++
Option C	11,273	75,724	2.7	++

Og hvad har vi så lært?

Tjaeh.....

- › Det er i hvert fald ikke nemt at gøre et så komplekst område enkelt at forstå
- › "*Vi havde håbet, at I og SVOW ville komme med det, der virkelig kunne ændre situationen*"
 - › Meget svært at overbevise dem om, at der nok ikke kan forventes så meget
- › EC har lagt op til en kombination af Option 2+C
 - › Systematisk gennemgang af hele hovedvejsnettet, opfølgning

Mange tak

Spørgsmål

Ole Kveiborg, olek@cowi.com