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Goals and Visions for Safety in Road Transport



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Goals and Visions for Safety in Road Transport

Levels and Institutions



Global Level: United Nations (UN)

Decade of Action for Road Safety 2011-2020 „Make Roads Safe“

„Make Roads Safe“ Decade of Action for Road Safety 2011-2020

global goal:

- to halve the number of road traffic deaths
- basis: projected number of fatalities in BAU-scenario (2020)
- to save 5 million lives

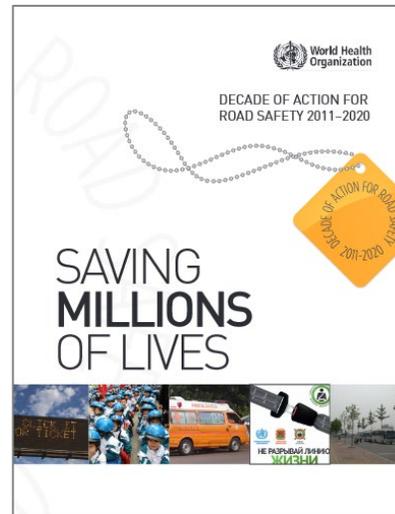


Figure [1]

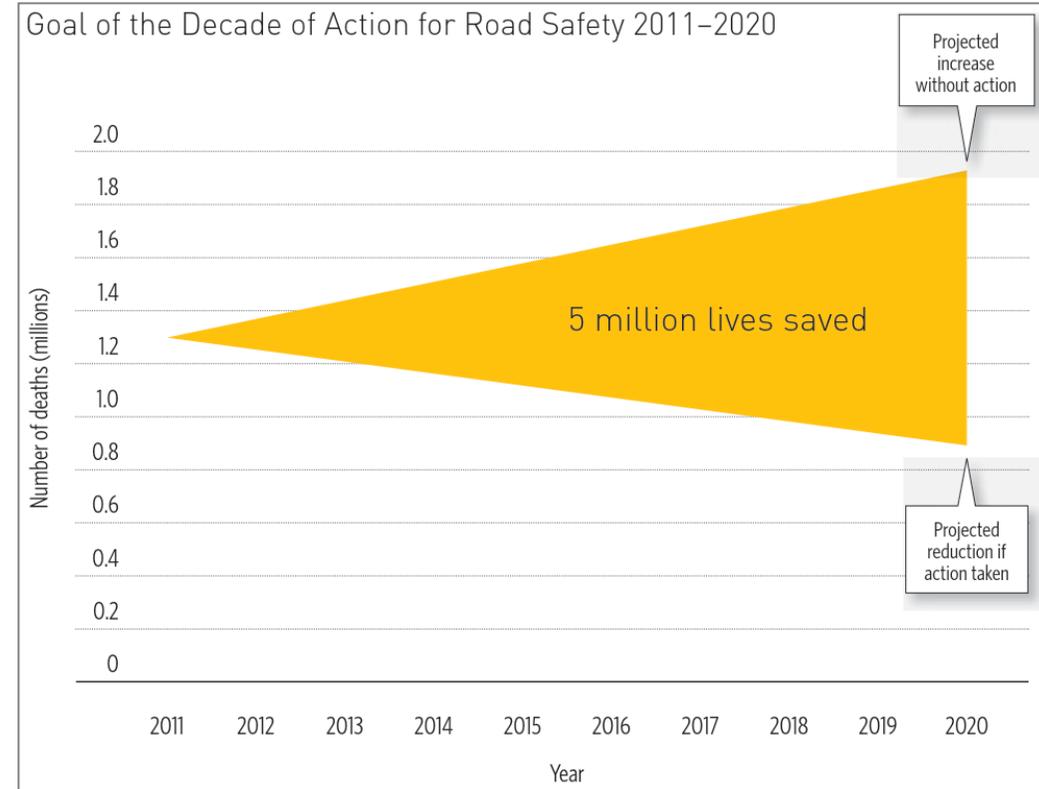


Figure [2], **2016: 1.35 million road traffic fatalities [WHO 2018]**

GLOBAL PLAN

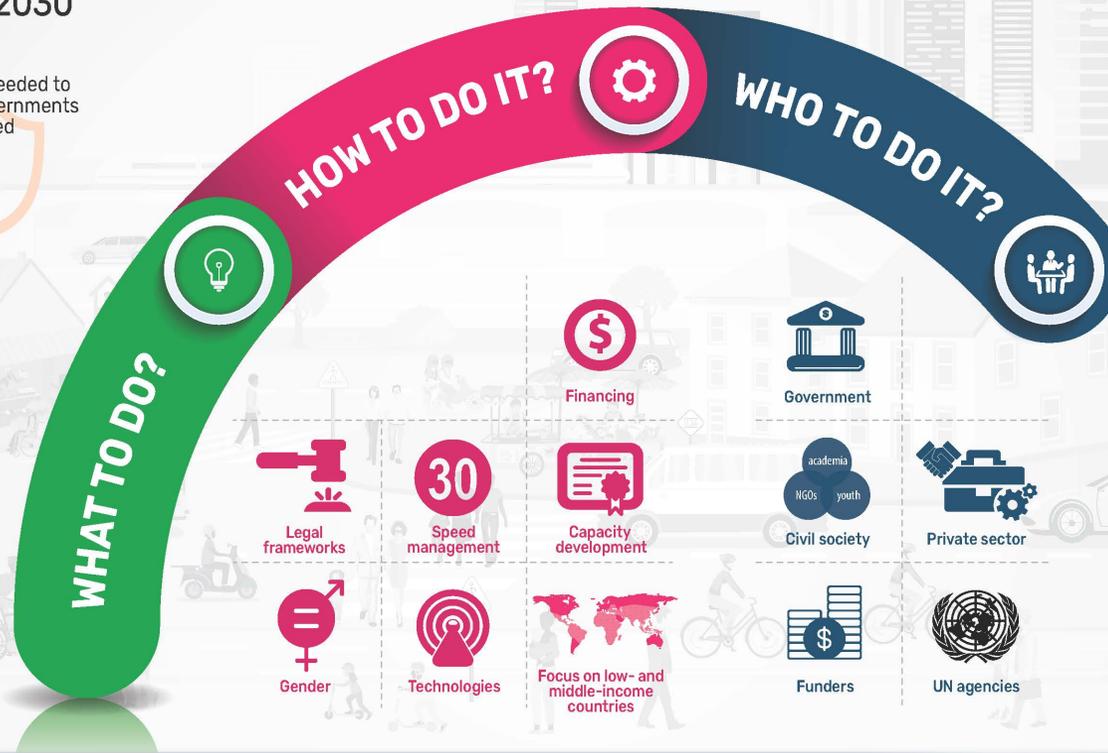
DECADE OF ACTION FOR ROAD SAFETY
2021-2030

The **Global Plan** describes what is needed to achieve that target, and calls on governments & partners to implement an integrated

SAFE SYSTEM APPROACH

UN General Assembly Resolution 74/299 declared a **Decade of Action for Road Safety 2021-2030**, with the target to reduce road traffic deaths & injuries

BY AT LEAST 50% during that period



For further information, visit:
DECADE OF ACTION FOR ROAD SAFETY 2021-2030



Global Level: United Nations (UN) Decade of Action for Road Safety 2021-2030 „Make Roads Safe“

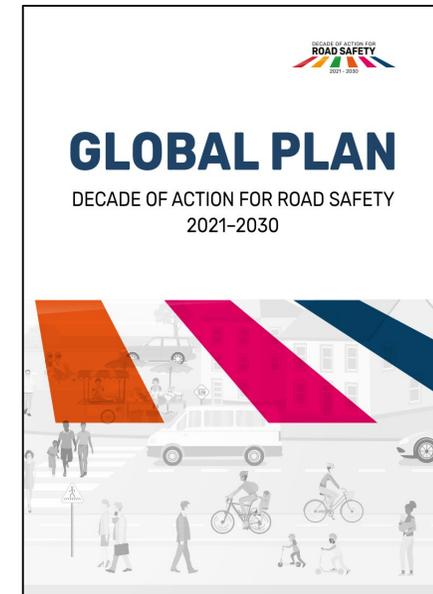


Figure [4]

Figure [3]

Global Level: United Nations (UN)

Sustainable Development Goals, <https://sustainabledevelopment.un.org/sdgs>

Approved in 2015 by all UN member states, operative from 01 January 2016, duration 15 years until 2030



Figure [5]

Figure [6]

Global Level: WHO Global Status Report on Road Safety 2018

Number and Rate of Road Traffic Deaths per 100,000 population: 2000–2016

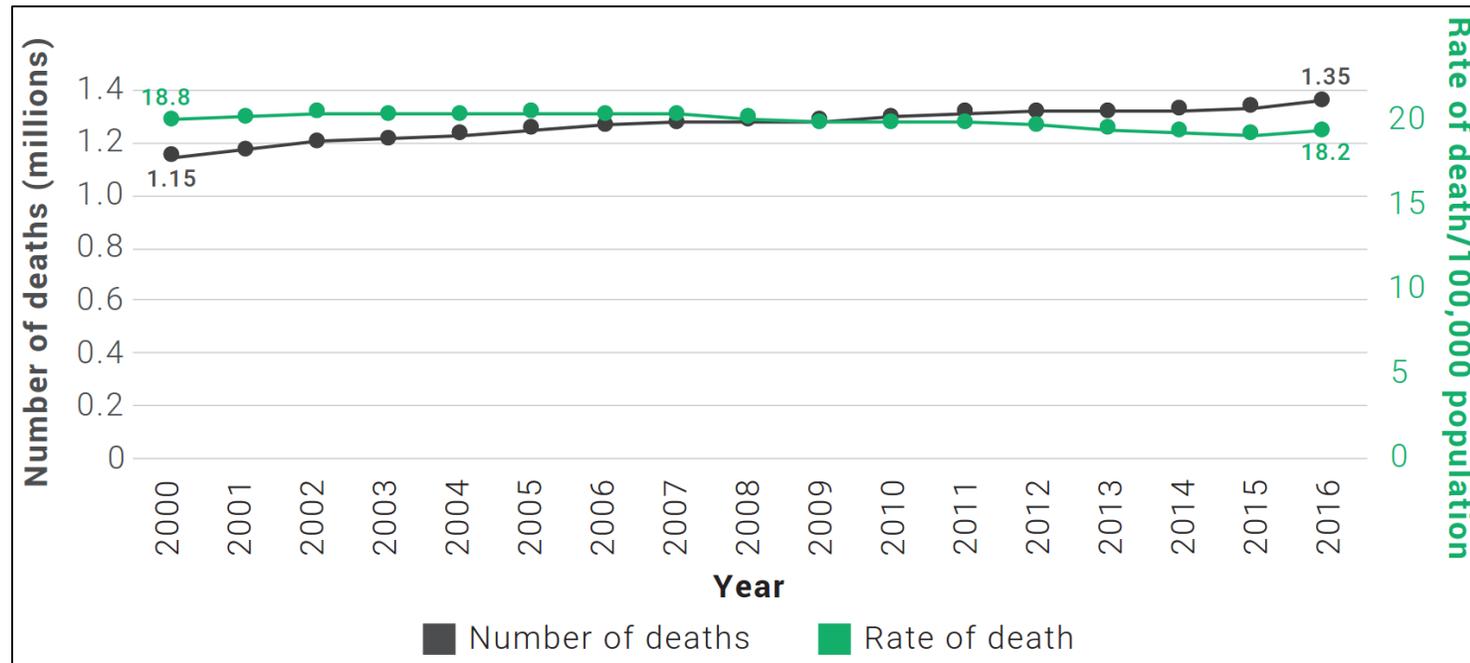


Figure [7]

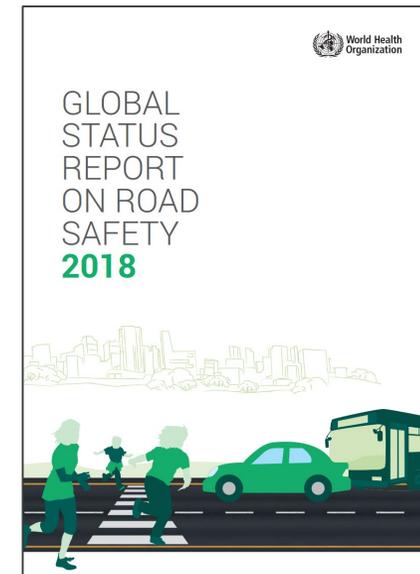


Figure [8]

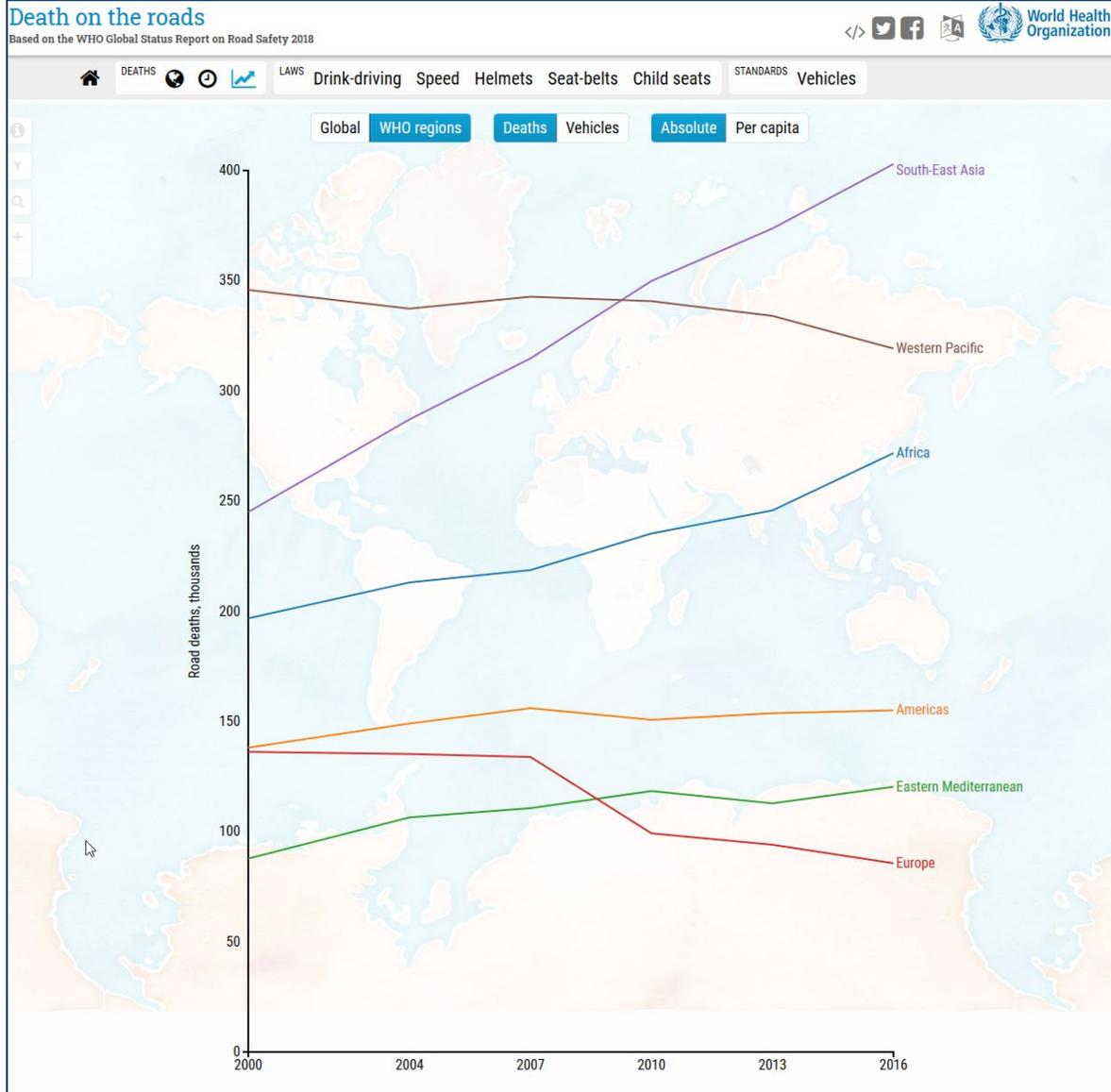
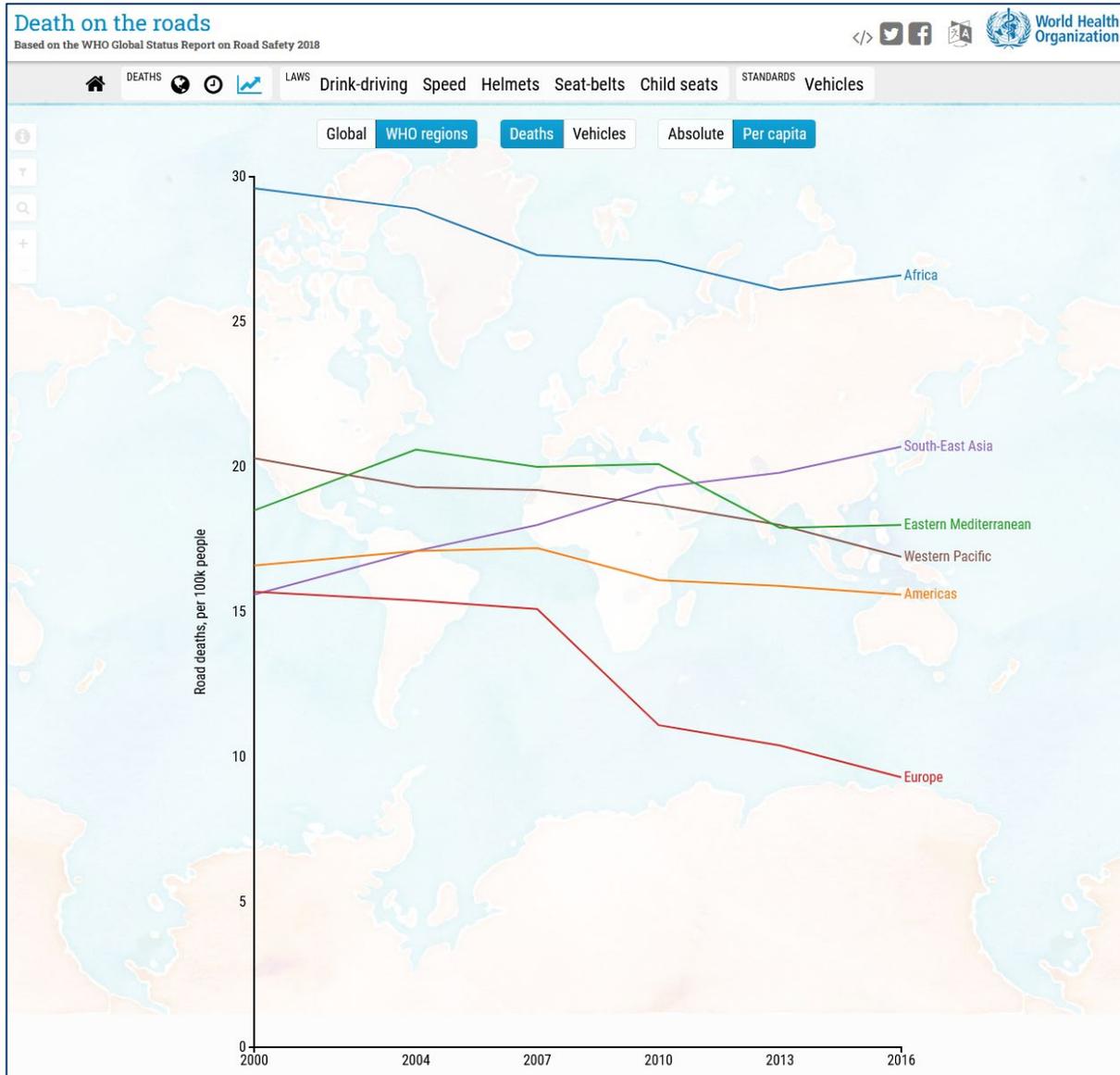


Figure [9]

Global Level: WHO Road Safety Inventory Deaths on the Roads

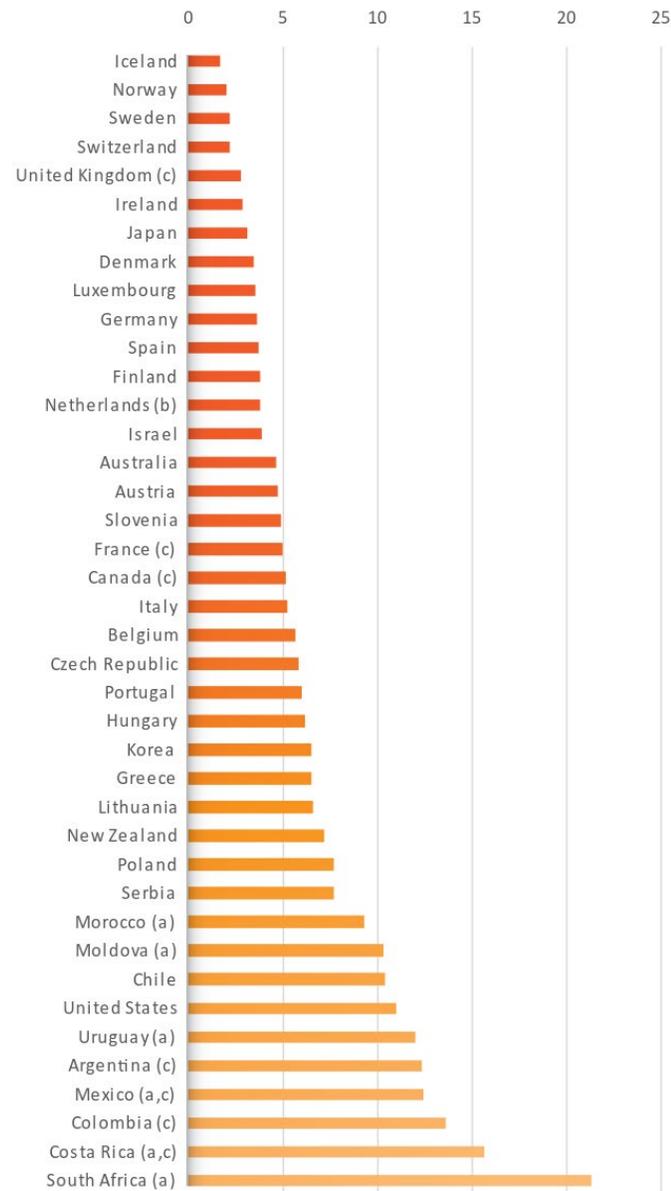
based on WHO Global Status Report on Road Safety 2018



Global Level: WHO Road Safety Inventory Deaths per Capita on the Roads

based on WHO Global Status Report on Road Safety 2018

Figure [10]



Global Level: ITF Road Safety Annual Report 2020

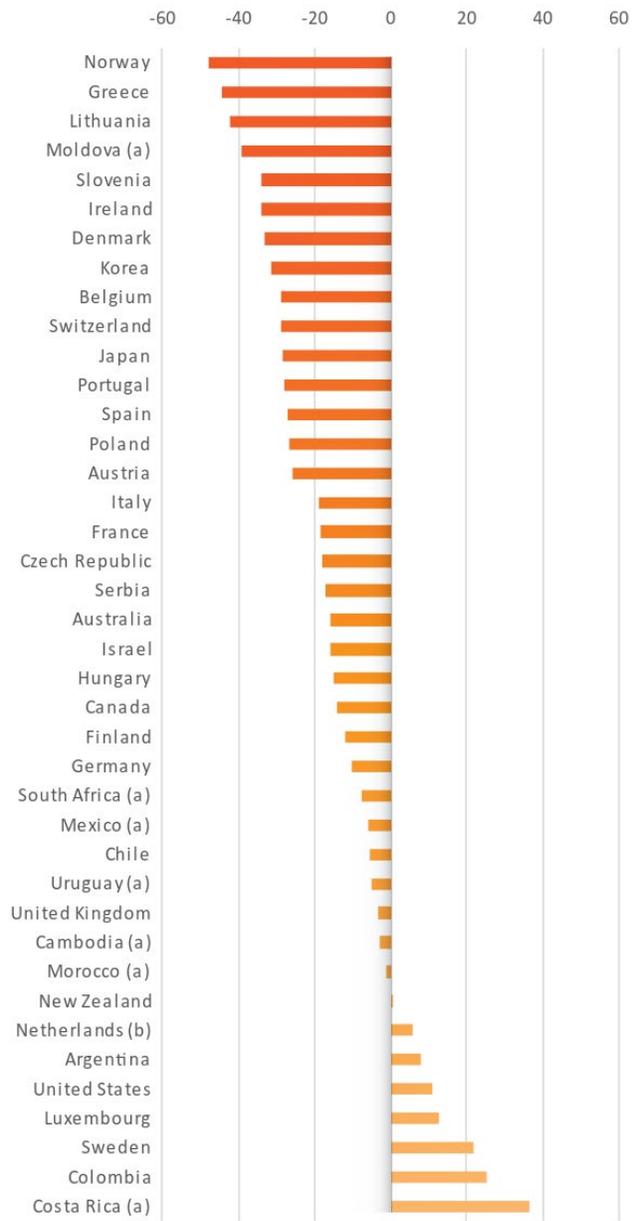
Road Fatalities per 100,000 inhabitants 2019 or latest available year



Figure [12]

Figure [11]

- (a) Data as provided by the countries and not validated by IRTAD.
- (b) Real data (actual numbers instead of reported numbers by the police).
- (c) 2018 data.



Global Level: ITF Road Safety Annual Report 2020

Percentage Change in the Number of Road Deaths from 2010-2018

- OECD: Organisation for Economic Co-operation and Development
- ITF: International Transport Forum

Figure [13]

Iceland is not shown because numbers are too small to provide meaningful analysis.
 (a) Data as provided by the countries and not validated by IRTAD.
 (b) Real data (actual numbers instead of numbers reported by the police).

Global Level: ITF Road Safety Annual Report 2020

Percentage Change in the Number of Pedestrians Killed 2010-2018

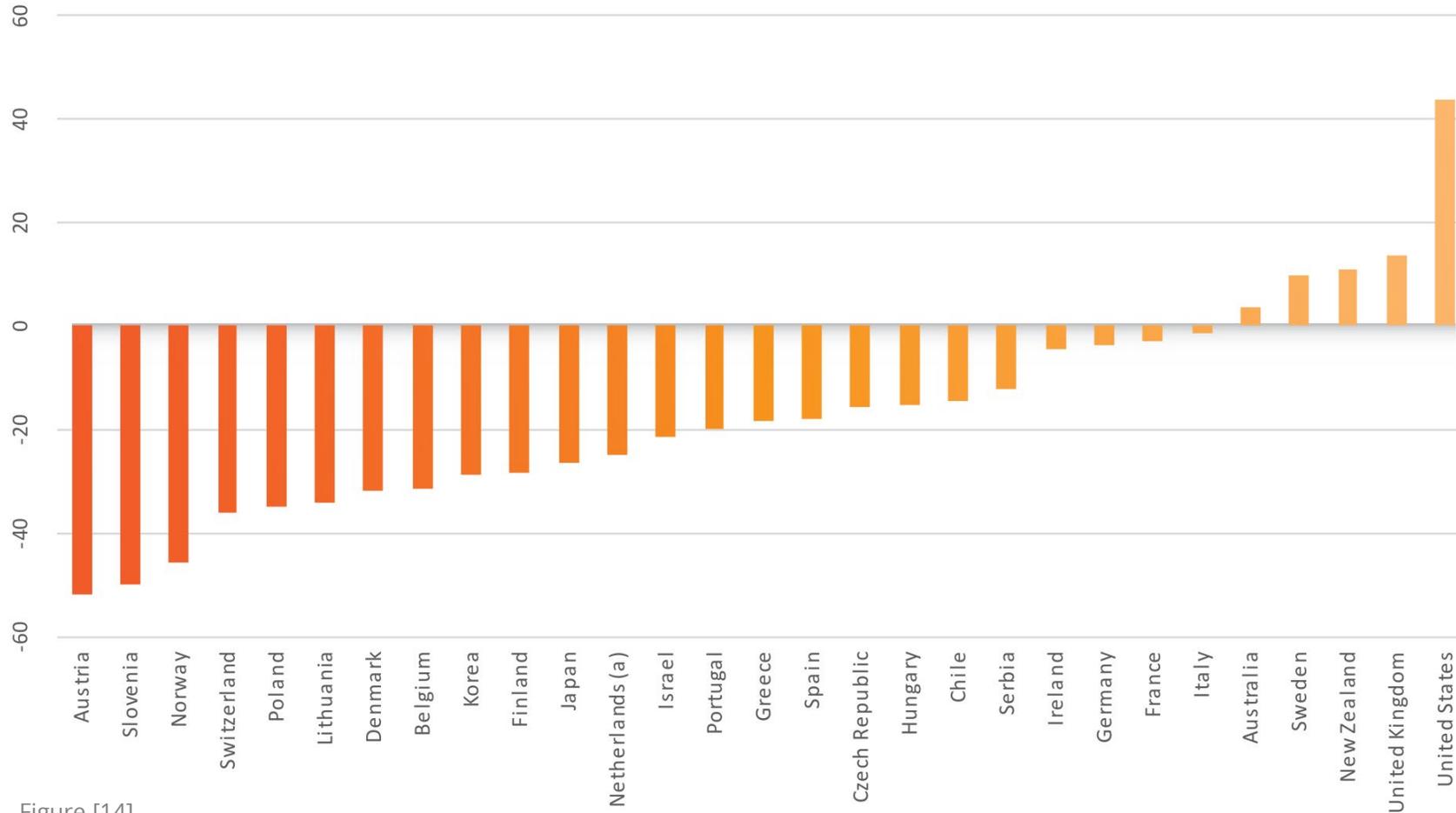
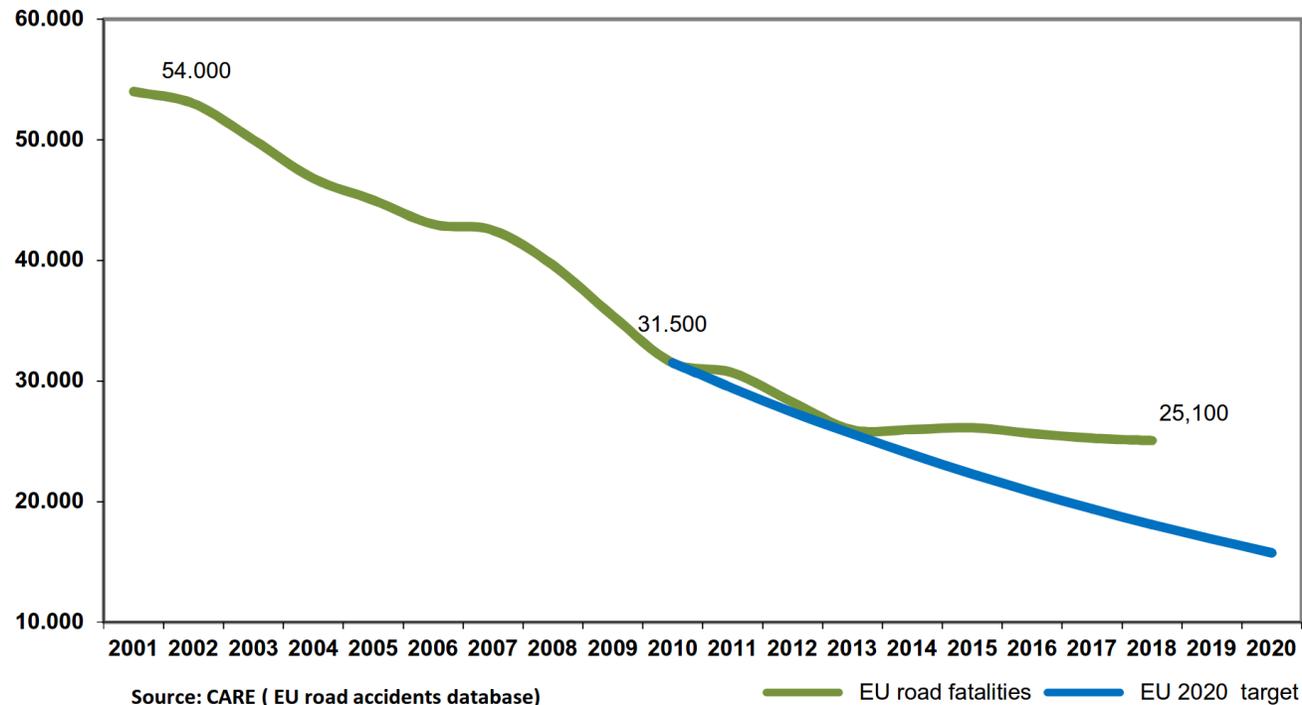


Figure [14]

Iceland and Luxembourg are not shown because numbers are too small to provide meaningful analysis.
(a) Real data (actual numbers instead of reported numbers by the police).

European Level: European Commission (EC) Towards a European Road Safety Area (2010)



goal 2010-2020 (same 2000-2010):

- halving the number of road traffic deaths [EC 2010]

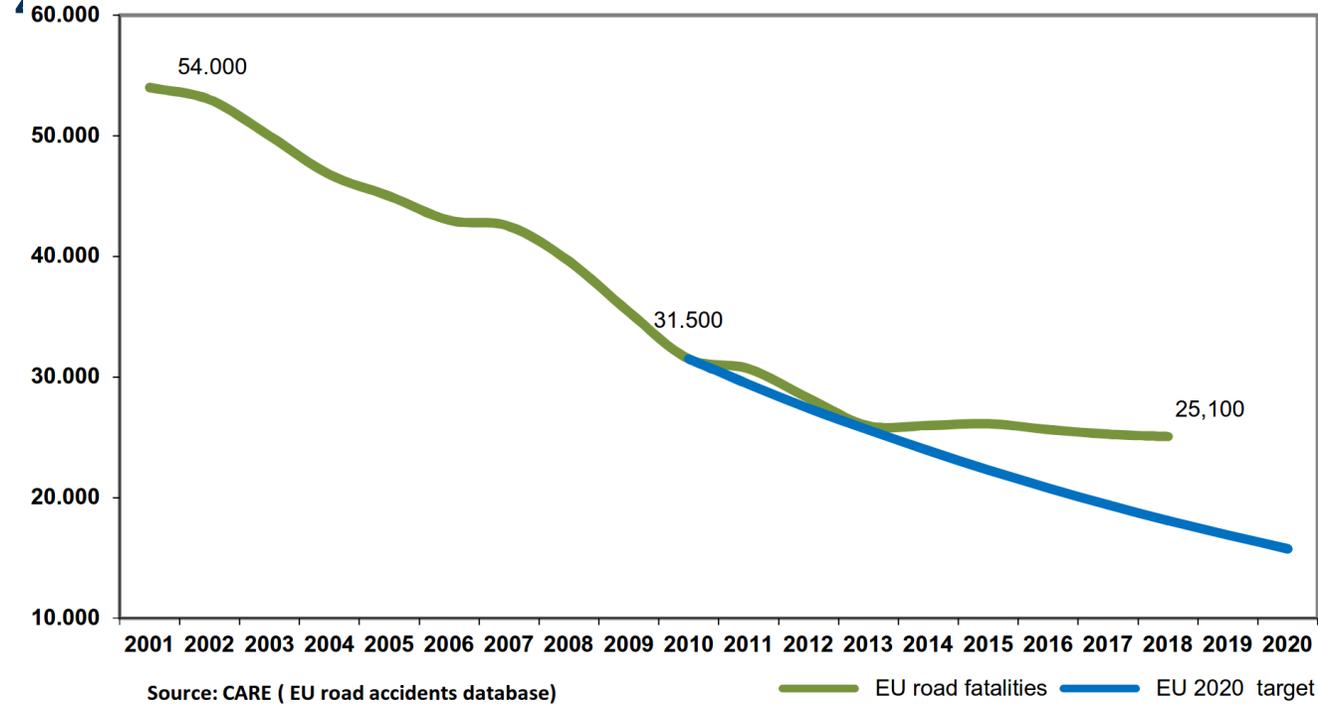
development of road traffic fatalities:

- 2001-2010: -43%, 2010-2018: -21% [EC 2018a]

Figure [15]

European Level: European Commission (EC)

EU Road Safety Policy Framework 2021-30, Next Steps Towards „Vision Zero“



goal 2010-2020 (same 2000-2010):

- halving the number of road traffic deaths [EC 2010]

development of road traffic fatalities:

- 2001-2010: -43%, 2010-2018: -21% [EC 2018a]

goals 2021-2030:

- -50% road traffic fatalities, -50% serious injuries [EC 2018a]

long-term goal 2050:

- vision zero (fatalities and serious injuries) [EC 2018a]

Figure [15]

EU Road Safety Policy Framework 2021-30, Steps Towards „Vision Zero“

Key Performance Indicators (KPIs) for Monitoring Progress

Indicator		Definition
1	Speed	Percentage of vehicles travelling within the speed limit
2	Safety belt	Percentage of vehicle occupants using the safety belt or child restraint system correctly
3	Protective equipment	Percentage of riders of powered two wheelers and bicycles wearing a protective helmet
4	Alcohol	Percentage of drivers driving within the legal limit for blood alcohol content (BAC)
5	Distraction	Percentage of drivers NOT using a handheld mobile device
6	Vehicle safety	Percentage of new passenger cars with a EuroNCAP safety rating equal or above a predefined threshold*
7	Infrastructure	Percentage of distance driven over roads with a safety rating above an agreed threshold*
8	Post-crash care	Time elapsed in minutes and seconds between the emergency call following a collision resulting in personal injury and the arrival at the scene of the collision of the emergency services

* Complementary definitions are foreseen for this KPI.

Figure [16]

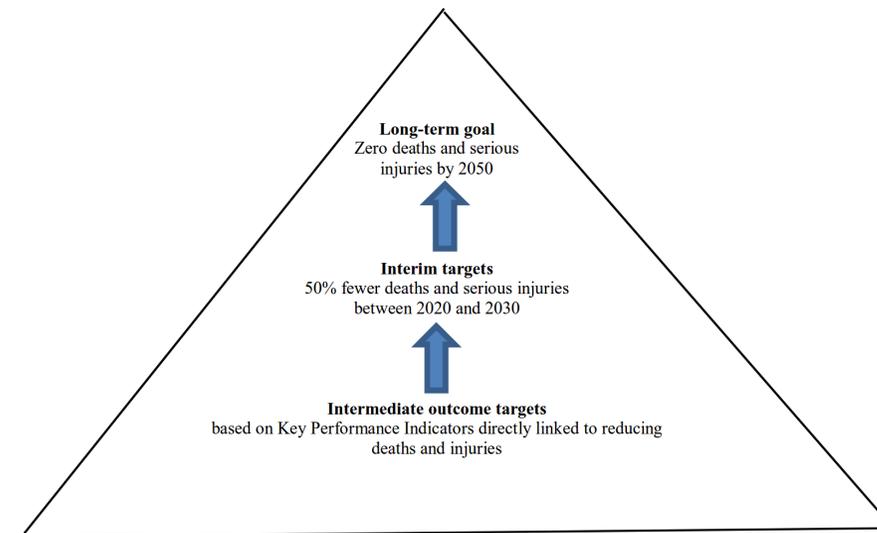


Figure [17]

National Level: Germany, Sweden, USA, ...

Vision Zero as a Cross-National Road Traffic Safety Project

- advancement of measures to improve road safety
 - No one should be killed on the road or injured so severely that they suffer lifelong damage.
- goal: zero fatalities, mostly zero serious injured as well

VISION ZERO.

Keiner kommt um. Alle kommen an.

Figure [18]: en „Vision Zero. No one gets killed. All arrive“
(example from Germany)

- principles and objectives (according to European Commission):
“[...] No loss of life is acceptable. [...] It is based on the simple fact that we are human and make mistakes. The road system needs to keep us moving. But it must also be designed to protect us at every turn.” [EC, TRIMIS]
- idea (1994) and implementation by means of law (1997) in Sweden
- adopted by many other countries

National Level: Germany, Sweden, USA, ...

Vision Zero as a Cross-National Road Traffic Safety Project

Responsibilities:

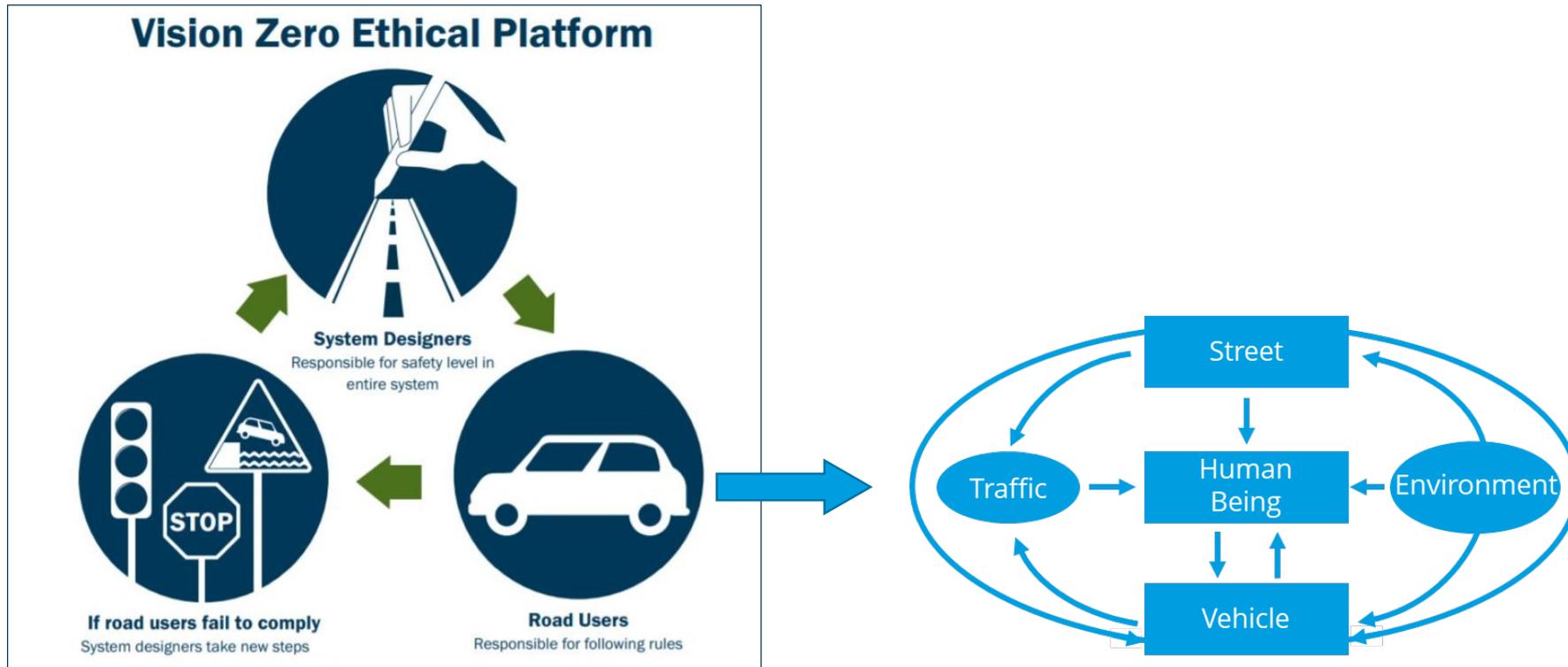
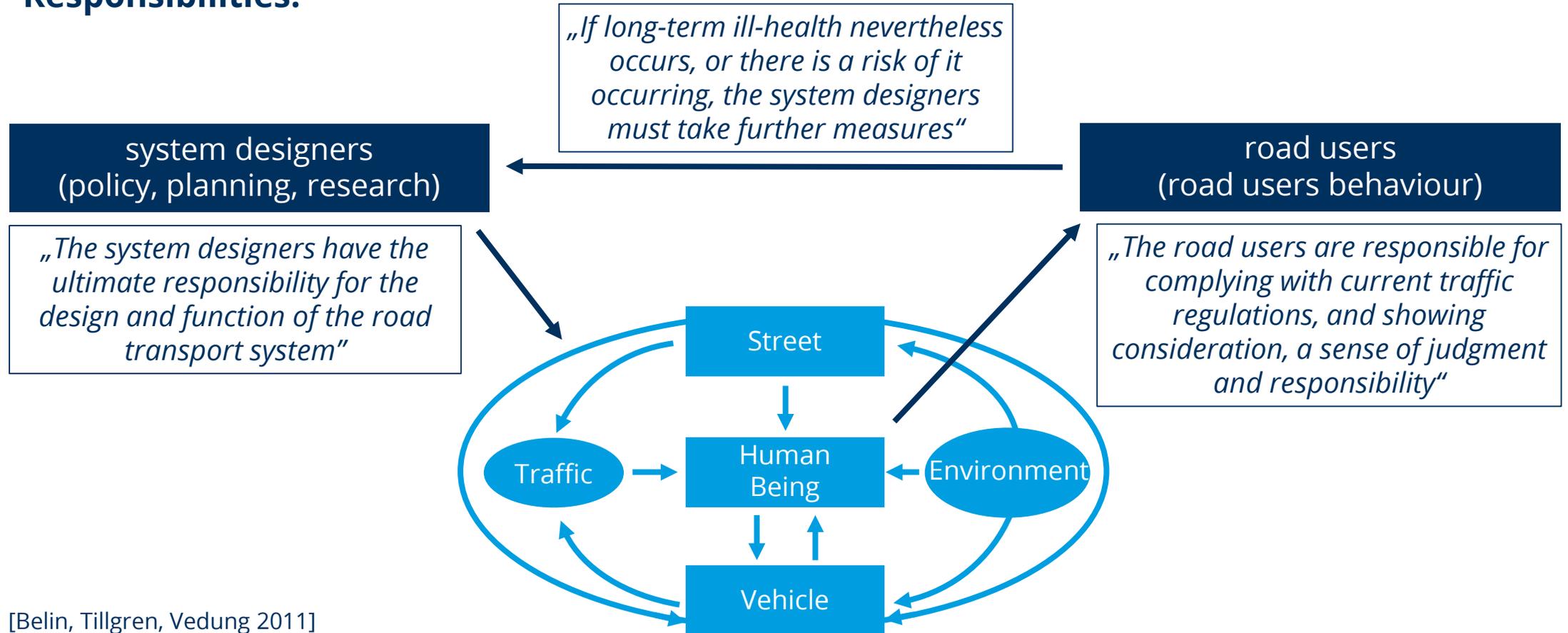


Figure [19]

National Level: Germany, Sweden, USA, ...

Vision Zero as a Cross-National Road Traffic Safety Project

Responsibilities:



[Belin, Tillgren, Vedung 2011]

European Level: European Commission (EC)

Europe On The Move | Safe System Approach

"The Safe System approach to road engineering involves matching road function, design, layout and speed limits to accommodate human error in a way that crashes do not lead to death and serious injury." [EC 2018b]



Figure [21]

- fields of action (determinants): people, vehicles, infrastructure
- exchange Best Practice, research
- campaigns, raising awareness, education
- regulation

National Level: Sweden

Safe System Approach for Vision Zero

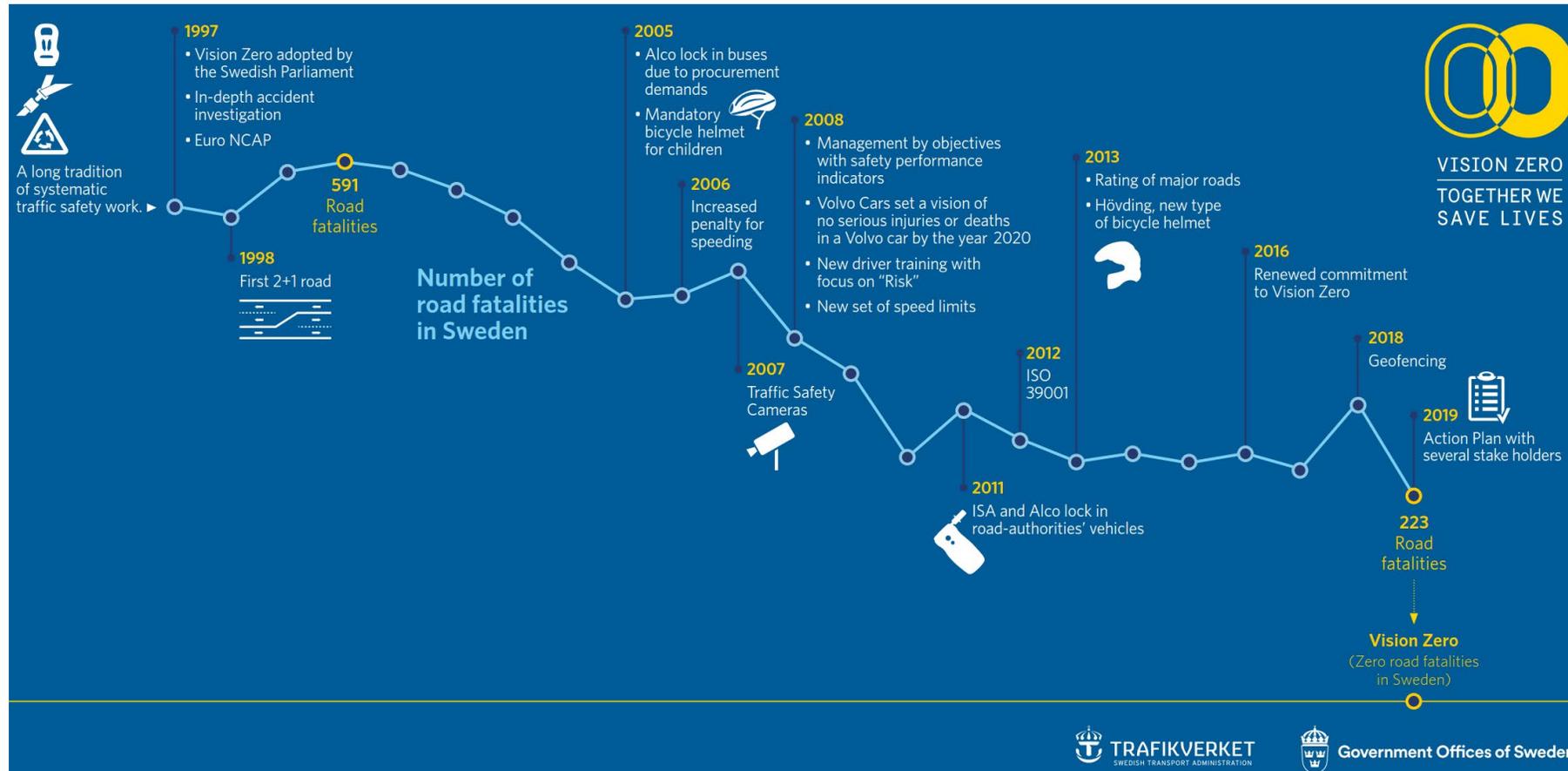


Figure [20]

National Level: Germany – Ministry of Transport and Digital Infrastructure

Road Safety Program

- goal:
 - 40% fatalities until 2020 (base: 2011)
- target institutions and stakeholders:
 - federal government, states, non-government organizations, road users
- mid-term review 2015,
 - report on road traffic accident prevention every 2 years
- fields of action: people, vehicles, infrastructure

The national Road Safety Program is intended to serve as a guiding framework for corresponding programmatic approaches by the states as well as private institutions. [BMVI 2011]

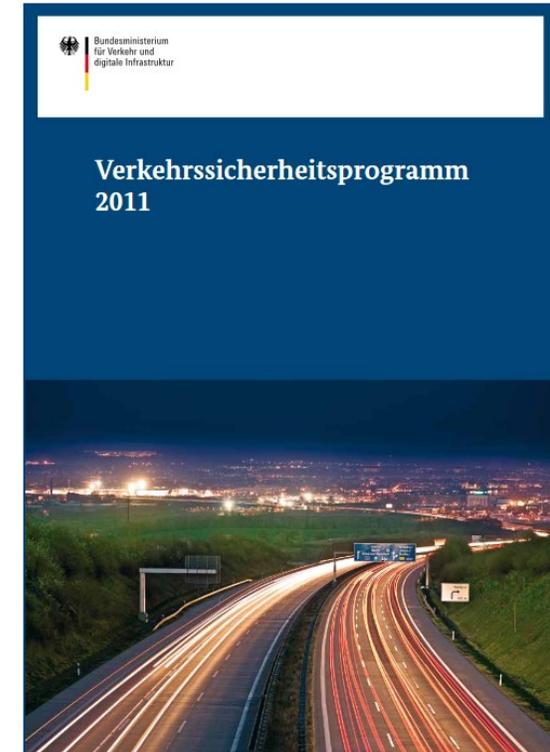
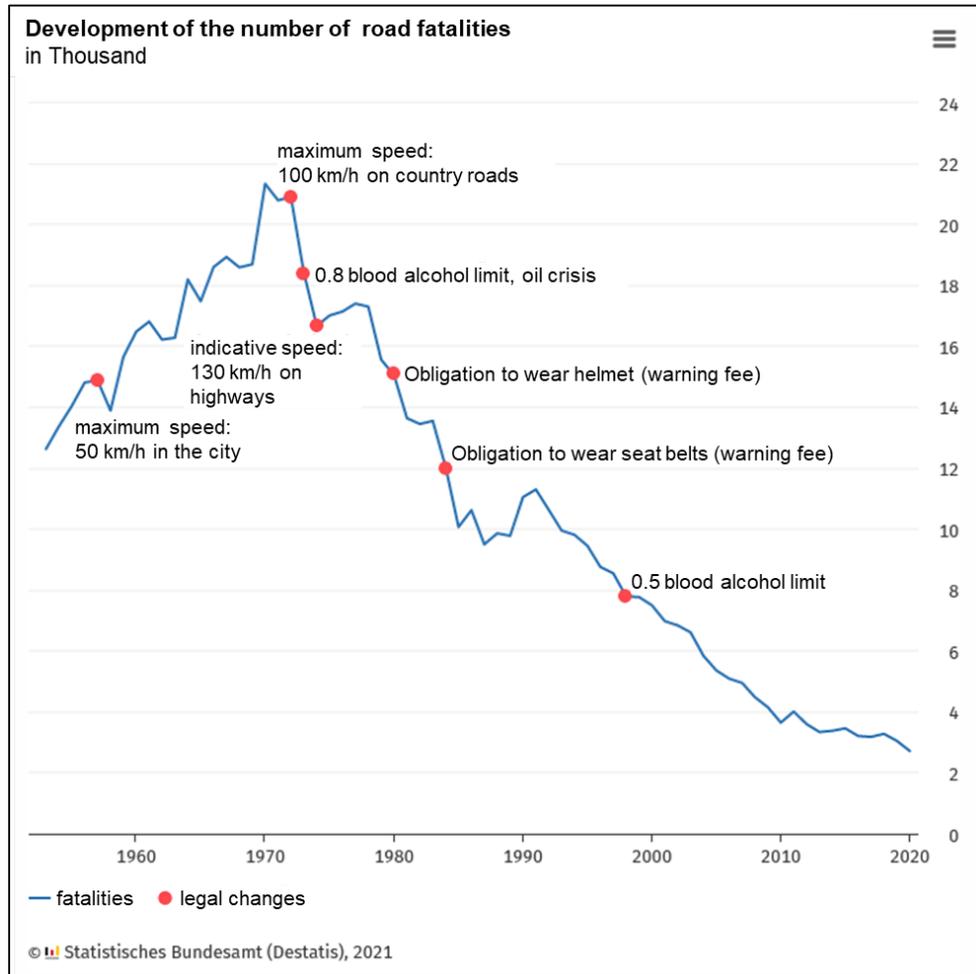


Figure [22]

National Level: Germany

Number of Road Fatalities 1953-2019



- goal 2011-2020: -40% fatalities
- change in number of road fatalities 2011-2019: -32%

Figure [23]

National Level: Germany

Number of Road Injuries 1999-2020

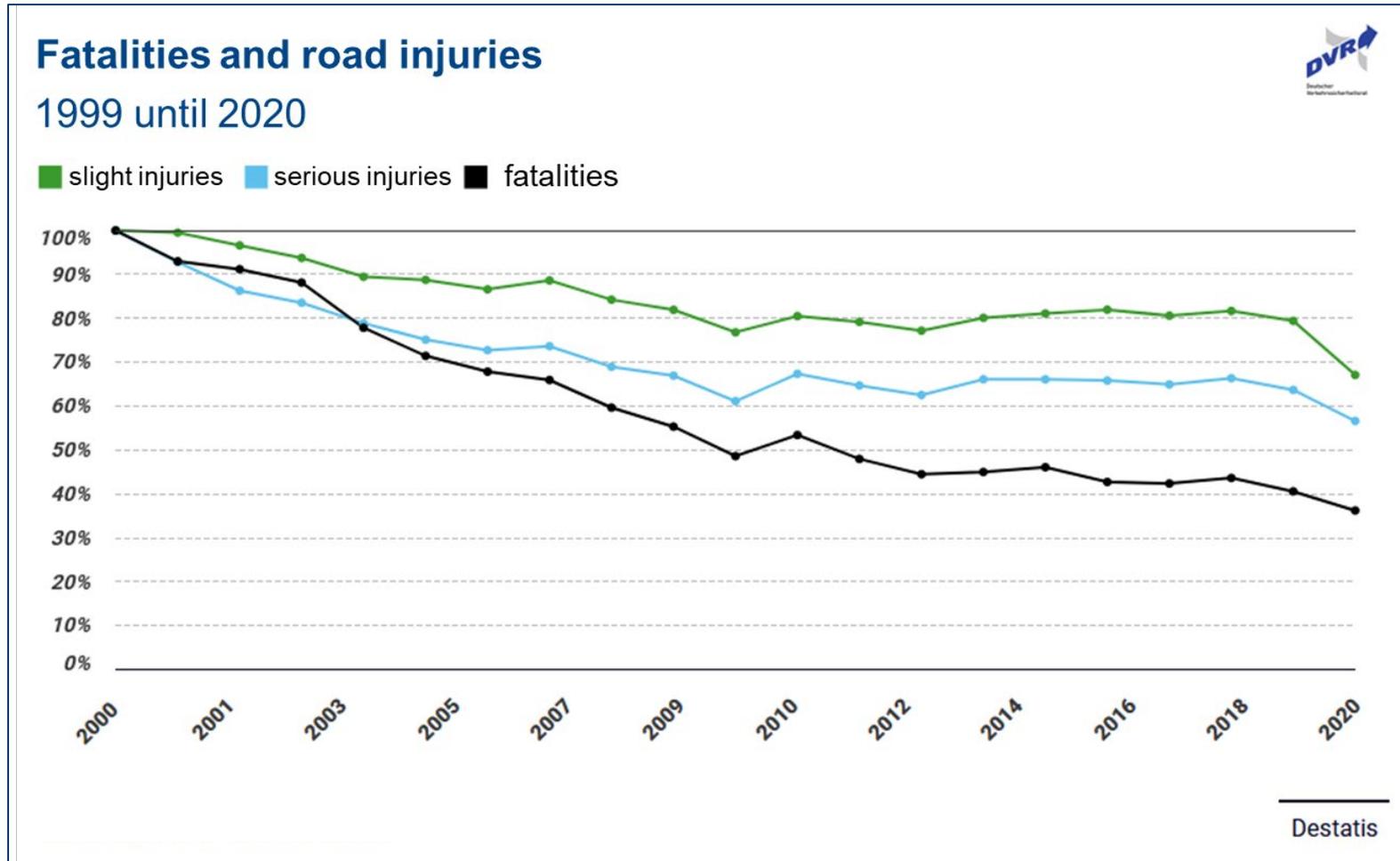


Figure [24]

National Level: Germany – Ministry of Transport and Digital Infrastructure

Strategic Road Safety Policy

- „Road Safety Pact“ in addition to Road Safety Programme
 - cooperation between ministry/federal government, states, municipalities, stakeholders of road safety work
 - goal 2021-2030:
 - 40% road fatalities
 - significant reduction in the number of serious injuries
 - Vision Zero in the long run
- [BMVI 2020]



Figure [25]

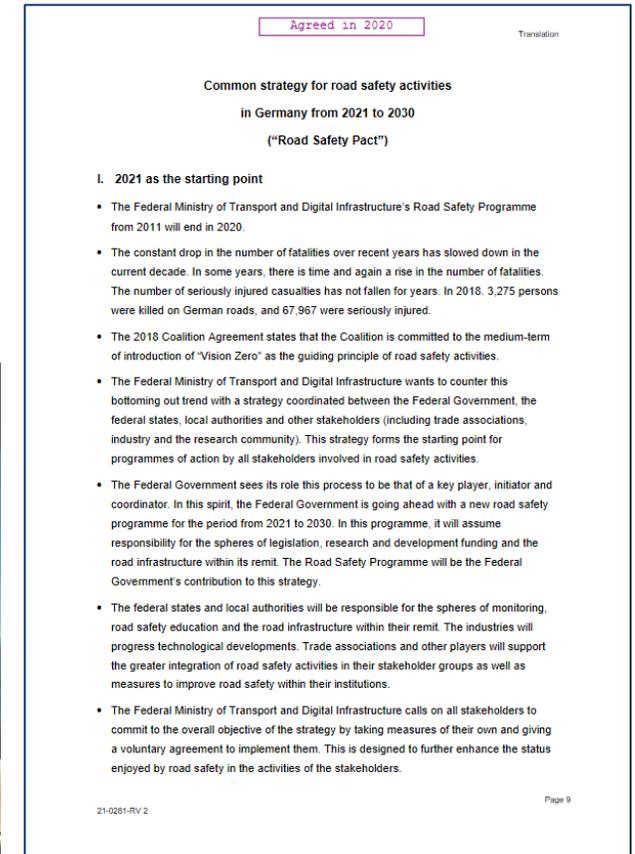


Figure [26]

National Level: Germany

Vision Zero - Monitoring

legend:



Figure [28]

values for Germany (2009-2019)



Figure [29]

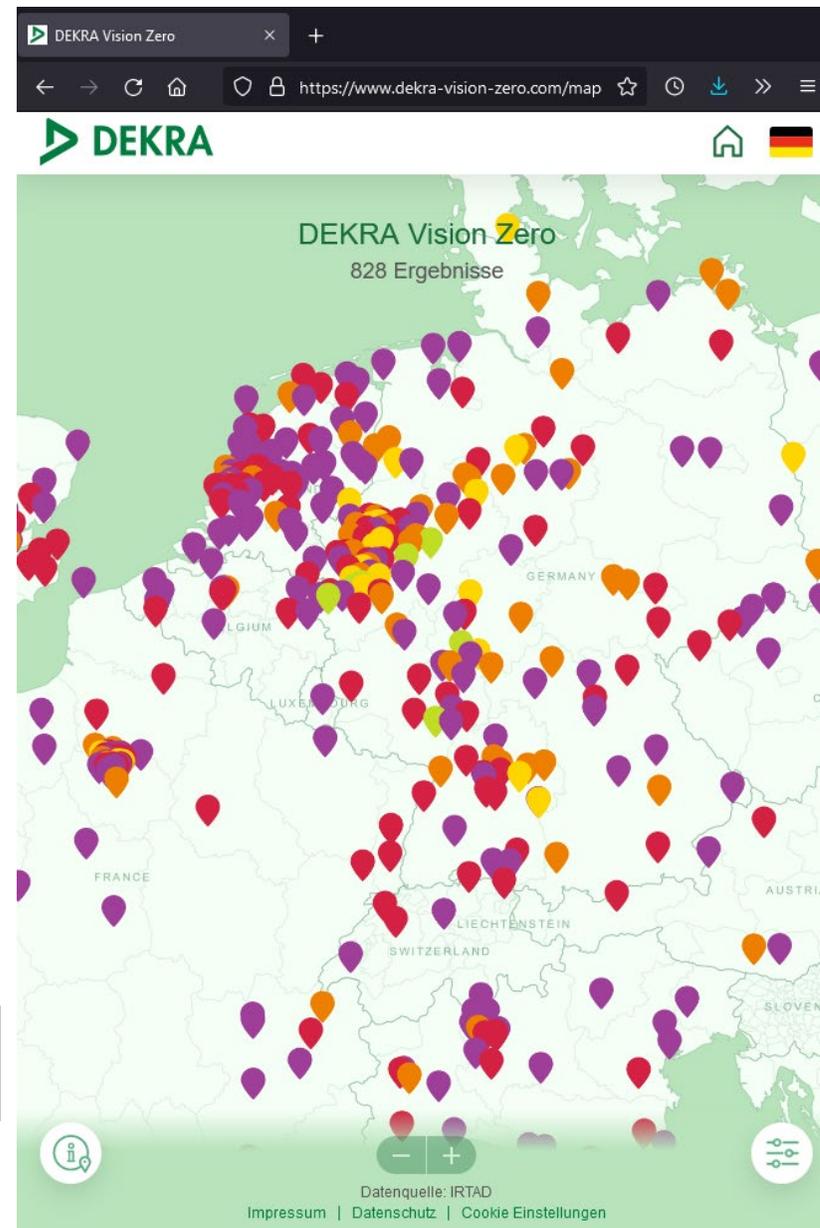
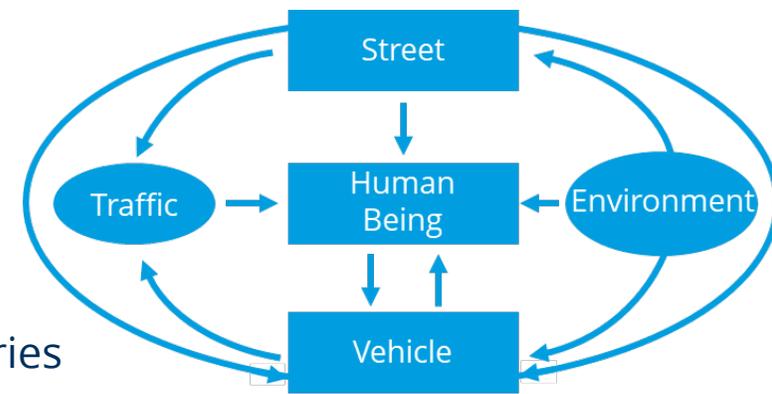


Figure [27]

Goals and Visions for Safety in Transport

Summary

- achievements
 - significant reduction of the number of road fatalities in industrial countries
 - Vision Zero for fatalities achieved in some cities
- goals – worldwide, EU, selected countries
 - well coordinated, target year: 2020/2030, halving road fatalities every 10 years
 - consideration of serious injuries in the goals up to 2030 as second indicator
 - increasing consensus for long-term goal of vision zero
- challenges
 - increasing numbers of road fatalities in developing countries (still to be expected)
 - increasing traffic volumes at global level, priority/finance of measures for road safety not sufficient
 - EU: demographic development, rising percentages in pedestrians and cyclists > more vulnerable road users
- policy measures in line with feedback control system of road safety



References

United Nations (2019): *Improving global road safety*. <https://digitallibrary.un.org/record/3826998#record-files-collapse-header> (last access: 03-2022)

Government Offices of Sweden, World Health Organization (WHO) (2020): *Stockholm Declaration*. Third Global Ministerial Conference on Road Safety: Achieving Global Goals 2030 Stockholm, 19–20 February 2020. <https://www.roadsafetysweden.com/contentassets/b37f0951c837443eb9661668d5be439e/stockholm-declaration-english.pdf> (last access: 03-2022)

European Commission (2010): *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. Towards a European road safety area: policy orientations on road safety 2011-2020*. COM(2010) 389 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0389&from=EN> (last access: 03-2022)

European Commission (2018a): *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. EUROPE ON THE MOVE. Sustainable Mobility for Europe: safe, connected, and clean*. COM(2018) 293 final. https://eur-lex.europa.eu/resource.html?uri=cellar:0e8b694e-59b5-11e8-ab41-01aa75ed71a1.0003.02/DOC_1&format=PDF (last access: 03-2022)

European Commission (2018b): *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. EUROPE ON THE MOVE. Sustainable Mobility for Europe: safe, connected, and clean*. COM(2018) 293 final. Annex. https://eur-lex.europa.eu/resource.html?uri=cellar:0e8b694e-59b5-11e8-ab41-01aa75ed71a1.0003.02/DOC_2&format=PDF (last access: 03-2022)

Bundesministerium für Verkehr und digitale Infrastruktur BMVI (en: German Federal Ministry of Transport and Digital Infrastructure) (2011): *Verkehrssicherheitsprogramm 2011*. https://www.bmvi.de/SharedDocs/DE/Publikationen/StV/verkehrssicherheitsprogramm-2011.pdf?__blob=publicationFile (last access: 11-2021)

Bundesministerium für Verkehr und digitale Infrastruktur BMVI (en: German Federal Ministry of Transport and Digital Infrastructure) (2020): *Pakt für Verkehrssicherheit. „Sichere Mobilität – jeder trägt Verantwortung, alle machen mit.“*. <https://www.bmvi.de/SharedDocs/DE/Artikel/StV/Verkehrssicherheit/pakt-fuer-verkehrssicherheit.html> (last access: 03-2022)

European Commission: Transport Research and Innovation Monitoring and Information System TRIMIS. Project: Vision Zero Initiative. <https://trimis.ec.europa.eu/project/vision-zero-initiative> (last access 03-2022)

References

World Health Organization (2020): *Decade of Action for Road Safety 2021-2030*. https://cdn.who.int/media/docs/default-source/documents/health-topics/road-traffic-injuries/global-plan-for-road-safety.pdf?sfvrsn=65cf34c8_27&download=true (last access: 03-2022)

Belin, Matts-Åke; Tillgren, Per; Vedung, Evert (2011): *Vision Zero – a road safety policy innovation*. In: International Journal of Injury Control and Safety Promotion. Vol. 19, No. 2, June 2012, 171-179. <https://doi.org/10.1080/17457300.2011.635213> (last access: 03-2022)

List of Figures

[1], [2]

World Health Organization (2014): *Decade of Action for Road Safety 2011-2020. Saving Millions of Lives*. URL: <https://www.who.int/groups/united-nations-road-safety-collaboration/decade-of-action-for-road-safety-2011-2020> (last access: 03-2022)

[3], [4]

World Health Organization (2020): *Decade of Action for Road Safety 2021-2030*. URL: https://cdn.who.int/media/docs/default-source/documents/health-topics/road-traffic-injuries/global-plan-for-road-safety.pdf?sfvrsn=65cf34c8_27&download=true (last access: 03-2022)

[5] United Nations, Project Everyone (2015): *Sustainable Development Goals to kick in with start of new year*. URL: <https://news.un.org/en/story/2015/12/519172-sustainable-development-goals-kick-start-new-year> (last access: 03-2022)

[6] United Nations: *Overview*. URL: <https://sdgs.un.org/goals/goal3> (last access: 03-2022)

[7], [8]

World Health Organization (2018): *Global status report on road safety 2018*. Geneva. Licence: CC BY-NC-SA 3.0 IGO. URL: <https://www.who.int/publications/i/item/9789241565684> (last access: 03-2022)

[9], [10]

World Health Organization (2018): *Death on the roads. Based on the WHO Global Status Report on Road Safety 2018*. URL: <https://extranet.who.int/roadsafety/death-on-the-roads/#trends> (last access: 03-2022)

[11], [12], [13], [14]

Organization for Economic Co-operation and Development (OECD)/International Transport Forum (ITF) (2020): *Road Safety Annual Report 2020*. URL: https://www.itf-oecd.org/sites/default/files/docs/irtad-road-safety-annual-report-2020_0.pdf (last access: 03-2022)

[15], [16], [17]

European Commission (2019): *Commission staff working document. EU Road Safety Policy Framework 2021-2030 - Next steps towards "Vision Zero"*. SWD(2019) 283 final. URL: [https://ec.europa.eu/transparency/documents-register/detail?ref=SWD\(2019\)283&lang=en](https://ec.europa.eu/transparency/documents-register/detail?ref=SWD(2019)283&lang=en) (last access: 03-2022)

List of Figures

- [18] Deutscher Verkehrssicherheitsrat (en: German Road Safety Council): *Braucht die Vision Zero im Straßenverkehr auch eine neue Kultur?* URL: <https://www.bgetem.de/redaktion/arbeits-sicherheit-gesundheitsschutz/dokumente-und-dateien/praeventionskampagnen/kommitmentmensch/praesentation-eichendorf-15-08.2019/view> (last access: 03-2022)
- [19] Vision Zero Network 2018-2021: *What is Vision Zero?* URL: <https://visionzeronetwork.org/about/what-is-vision-zero/> (last access: 03-2022)
- [20] Government Offices of Sweden, Trafikverket (Swedish Transport Administration) (2020): *Vision Zero timeline*. Global Ministerial Conference on Road Safety 2020. URL: https://www.roadsafetysweden.com/contentassets/7ecbcb46d4684a9982b1f85c3bd8cb1e/4950x2500mm_monter-nollvisionen_tidslinje_20100219.pdf (last access: 03-2022)
- [21] Northern Territory Government: *The safe systems approach*. URL: <https://roadsafety.nt.gov.au/safety-topics/the-safe-systems-approach> (last access: 03-2022)
- [22] Bundesministerium für Verkehr und digitale Infrastruktur BMVI (en: German Federal Ministry of Transport and Digital Infrastructure) (2011): *Verkehrssicherheitsprogramm 2011*. URL: https://www.bmvi.de/SharedDocs/DE/Publikationen/StV/verkehrssicherheitsprogramm-2011.pdf?__blob=publicationFile; cover picture: ©Miredi-Fotolia (last access: 11-2021)
- [23] Statistisches Bundesamt Destatis (en: German Federal Statistical Office) (2021): *Entwicklung der Zahl der im Straßenverkehr Getöteten*. URL: https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Verkehrsunfaelle/_Grafik/_Interaktiv/verkehrsunfaelle-getoetete-jahr.html (last access: 12-2021) (translated into English)
- [24] Deutscher Verkehrssicherheitsrat (en: German Road Safety Council) (2021): *Getötete und Verletzte im Straßenverkehr*. URL: <https://www.dvr.de/service/unfallstatistik/langfristige-entwicklung> (last access: 03-2022) (translated into English)
- [25] Bundesministerium für Verkehr und digitale Infrastruktur BMVI (en: German Federal Ministry of Transport and Digital Infrastructure) (2021): *Verkehrssicherheitsprogramm 2021*. URL: https://www.bmvi.de/SharedDocs/DE/Anlage/K/broschuere-verkehrssicherheitsprogramm-2021-bis-2030.pdf?__blob=publicationFile; pictures: Getty (last access: 03-2022)

List of Figures

[26] Bundesministerium für Verkehr und digitale Infrastruktur BMVI (en: German Federal Ministry of Transport and Digital Infrastructure) (2020): *Common strategy for road safety activities in Germany from 2021 to 2030 ("Road Safety Pact")*. URL: https://www.bmvi.de/SharedDocs/DE/Anlage/StV/road-safety-pact-en.pdf?__blob=publicationFile (last access: 03-2022)

[27], [28], [29] DEKRA e.V. (2021): *DEKRA Vision Zero*. URL: <http://www.dekra-vision-zero.com/map> (last access: 03-2022)

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