

17. Traffic safety as part of sustainable development

Introduction

Traffic safety is not an isolated problem, but part of a broader agenda encompassing mobility, land use, urban planning, public health, equity, and economic growth. Addressing these issues in an integrated way rather than working in ‘silos’ accelerates progress through synergies between different goals. The United Nations Sustainable Development Goals (SDGs) provide a globally agreed framework for this integration, with traffic safety explicitly referenced in at least two goals and connected to many others. With 1.19 million road traffic deaths per year and tens of millions more injured, road safety is both a public health crisis and a development challenge. Eventual conflicts between goals are also better addressed when discovered early and treated holistically.

Learning outcomes

After completing this module, the students should be able to:

- Recall the stages of traffic safety evolution and recognise the Sustainable Development Goals (SDGs) and their sub-targets that directly relate to traffic safety.
- Explain the broader connections between various SDGs and traffic safety, including how progress in one area can reinforce or hinder progress in another.
- Apply the SDG framework to assess how a specific road safety intervention relates to multiple sustainability goals simultaneously.
- Analyse synergies and conflicts between traffic safety and individual SDGs, and propose ways to resolve or mitigate identified conflicts.
- Evaluate road safety policies from a sustainability perspective and develop recommendations that integrate traffic safety with broader development objectives.

Key messages to learners

- Traffic safety theory and practice went through several development stages: (i) reacting to single accidents and their causes; (ii) attempting to generally ‘improve’ surviving capacity of road users; (iii) realising the system’s complexity (road users–vehicles–environment) and strengthening its components; and finally arriving to (iv) Safe System with its pro-active and humanistic approach to traffic safety. But what comes next? The answer might be a broader integration of traffic safety with other domains and agendas, related to road transportation, and beyond it.
- Sustainable Development Goals (SDGs) were developed by the United Nations as a tool for addressing most urgent environmental, political and economic challenges facing our world. The Goals are designed to be ‘integrated and indivisible, global in nature, and universally applicable’. Progress cannot be achieved without all goals being met, and a broad range of stakeholders must cooperate and apply their resources towards this global agenda.
- Traffic safety is explicitly mentioned in at least two of the SDGs. These include:
 - SDG 3 ‘Good health and well-being (Target 3.6 ‘Reduce road injuries and deaths’)

- SDG 11 ‘Sustainable cities and communities’ (Target 11.2 ‘Affordable and sustainable transportation systems’ and Target 11.3 ‘Inclusive and sustainable urbanization’).
- However, connections to traffic safety can be found with many other goals, such as:
 - SDG 9 ‘Industry, innovation and infrastructure’ (Target 9.1 ‘Develop sustainable, resilient and inclusive infrastructures’)
 - SDG 12 ‘Responsible consumption and production’ (Target 12.6 ‘Encourage companies to adopt sustainable practices and sustainability reporting’).
- Integration of traffic safety in SDGs is a reminder that it is a piece in a bigger puzzle and should be considered/addressed in a broader context. Understanding of how traffic safety is interconnected with other issues reveals both potential synergies and conflicts.
- A synergy means that the combined efforts from the teams pursuing two goals yield greater results compared to if they worked separately in ‘silos’. Examples of synergetic relations are:
 - Promotion of public transport reduces car traffic in general and switches travels from riskier (individual cars) to safer (bus, train) modes. This is also beneficial for air quality (reduced pollution), reduces congestion, makes public space more liveable and attractive, etc.
 - Stricter requirements for providing safe working conditions, including when travelling at work (professional drivers, handymen moving between clients, etc.) or working in traffic environments (road construction, car assistance services, etc.), benefits traffic safety in general.
 - Improved transparency and corporate responsibility through the entire value chain forces large companies to improve safety of their transports; this has particularly noticeable effect in the LMICs, since the companies must apply the same safety standards as they already use in the HICs.
- Sometimes, however, there are conflicts between the different goals, i.e. efforts to approach one goal are detrimental to the other goal. Few conflicts, however, are ‘true’ in nature, most often they arise due to differences in procedures, short-term strategies, or simple misunderstanding and pre-existing opinions of the two parties. Examples of conflicts are:
 - Increase of walking and cycling, at least in a short run, leads to increased traffic fatalities since these modes have higher injury risk compared to motor vehicles. This contradiction can, however, be turned into a synergy if safety is seen as a necessary pre-condition for increased walking and cycling, and their promotion is achieved by building safer infrastructure accommodating these modes.
 - A more difficult to resolve is the conflict between increased mobility demand (more trips made and kilometres driven), reduction of the travel time (often reached by increased travelling speeds), and traffic safety.
- To be able to exploit the synergies and resolve potential conflicts (or at least mitigate their negative outcomes), it is necessary to leave the traffic safety ‘silo’ and improve communication and understanding with other relevant domains.

Learning activities

Exercise 1

Discuss how the following seemingly unrelated problems affect traffic safety and how addressing them may improve it. Are there any positive aspects related to other SDGs? Can you think of any conflicts with traffic safety or other SDGs?

- Two-thirds of the world's population experience water scarcity for at least one month each year. This results in a significant number of daily trips made by women and children to collect water from available sources.

Possible answer: Direct access to water at home reduces the exposure of women and children to traffic environments that are often unfriendly or unsafe. Improved water supply is directly linked to SDG 6 ‘Clean water and sanitation’. Additionally, the time saved can be used for education (SDG 4 ‘Quality education’) and income-generating activities (SDG 8 ‘Decent work and economic growth’). It also promotes gender equality (SDG 5) and helps reduce inequalities in society (SDG 10).

- Population age structures are changing due to improved access to healthcare. Notably, the proportion of both young children (due to better survival rates in early life) and elderly people (due to prompt treatment of life-threatening conditions) is increasing. Communities need to adapt to these demographic shifts.

Possible answer: SDG 11 ‘Sustainable cities and communities’ calls for cities and human settlements to be inclusive, safe, resilient, and sustainable. Inclusiveness often requires modifications to the physical environment to meet the needs of specific groups. For children, this may involve the provision of schools, playgrounds, and sports facilities that are protected from traffic, noise, and air pollution. Safe and independent access to these facilities often requires separated sidewalks and speed-controlled pedestrian crossings. For the elderly, well-maintained walking infrastructure is crucial to prevent falls. Signalized pedestrian crossings may need adjusted timing (e.g. longer green lights) or safe waiting areas in the middle of the road to accommodate slower walking speeds.

Assessment quiz

The assessment quiz can be used as a part of the examination, or as another form of learning activities.

Question 1

What is correct about the Sustainable Development Goals (SDGs):

- SDGs are meant to be integrated and indivisible, global in nature, and universally applicable. (correct)
- It is impossible to succeed in reaching all SDGs due to inherent conflicts between most of the goals. (incorrect)
- Traffic safety is explicitly omitted from SDGs because it is a marginal issue compared to the global problems of poverty, wars, and climate change. (incorrect)
- Possible conflicts between SDGs (concerning traffic safety) are seldom ‘true’ in nature and arise mostly due to differences in procedures, short-term strategies, or simple misunderstanding. (correct)

Comment (shown after the answer has been given): Traffic safety is explicitly mentioned in at least two of the SDGs (SDG 3 ‘Good health and well-being’ and SDG 11 ‘Sustainable cities and communities’). Direct connections to traffic safety can be found in several other SDGs.

Question 2

Which of the following is an example of a synergy between traffic safety and another SDG?

- Promoting public transport reduces car traffic and switches trips to safer modes, while also reducing air pollution and congestion. (correct)
- Building more highways always improves both economic growth and road safety simultaneously. (incorrect)

- c. Traffic safety goals are independent from climate goals and cannot reinforce each other. (incorrect)

Comment (shown after the answer has been given): Promoting public transport is a clear synergy. It reduces crash risk by shifting trips from private cars to safer modes (buses, trains), while simultaneously contributing to SDG 13 (Climate action) through lower emissions, SDG 11 (Sustainable cities) through reduced congestion, and SDG 3 (Good health) through improved air quality. Highway expansion may increase speeds and traffic volumes, which can worsen safety outcomes for vulnerable road users.

Question 3

What is a potential conflict between promoting active mobility (walking and cycling) and traffic safety?

- a. Active mobility reduces congestion, which always improves safety. (incorrect)
- b. Increasing walking and cycling can initially raise fatality numbers because these modes have higher injury risk than motor vehicles, unless accompanied by safer infrastructure. (correct)
- c. There is no conflict; walking and cycling are always safer than driving. (incorrect)

Comment (shown after the answer has been given): Walking and cycling have higher per-kilometre injury risk than travelling in a motor vehicle. Promoting active mobility without investing in safe infrastructure (separated paths, lower speed limits, safe crossings) can increase fatalities in the short perspective. However, this conflict can be turned into a synergy by treating safety as a precondition for active mobility promotion, and building infrastructure that makes walking and cycling both attractive and safe.

Recommended reading and resources for students

- Tingvall, C. (2021). Saving lives beyond 2020. ICTCT webinar, 3 December 2021. <https://www.ictct.net/webinars/december-2021>
- Krafft, M., & Tingvall, C. (2025). Saving lives beyond 2025: lessons from Marrakech conference. ICTCT webinar, 9 May 2025. <https://www.ictct.net/webinars/may-2025>

Recommended (additional) reading for teacher

- Ma, T., Peden, A. E., Peden, M., Hyder, A. A., Jagnoor, J., Duan, L., Brown, J., Passmore, J., Clapham, K., Tian, M., Rahman, A. K. M. F., & Ivers, R. Q. (2021). Out of the silos: embedding injury prevention into the Sustainable Development Goals. *Injury Prevention*, 27(2), 166. <https://doi.org/10.1136/injuryprev-2020-043850>
- Academic Expert Group. (2020). Saving lives beyond 2020: the next steps. <https://trafikverket.diva-portal.org/smash/get/diva2:1413366/FULLTEXT01.pdf>
- Academic Expert Group. (2025). Saving lives beyond 2025: taking further steps. <https://trafikverket.diva-portal.org/smash/get/diva2:1936696/FULLTEXT01.pdf>

Prepared by expert

If you have specific questions, need a discussion partner, or would like feedback on your lecture materials, you may contact the author(s) of this module. Please include 'AfroSAFE curriculum' in the email subject line.



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