

Reviewing facts and figures on transport, health and environment

I. Introduction

1. As part of preparations for the Fifth High-level Meeting on Transport, Health and Environment (Vienna, 2020), member States have been discussing challenges related to the transport, health and environment in the region of the United Nations Economic Commission for Europe (ECE) and the World Health Organization (WHO)-Regional Office for Europe.
2. The Bureau of the Steering Committee of the Transport, Health and Environment Pan-European Programme (THE PEP) has been responsible for working on the draft declaration for the High-level Meeting. In drafting the declaration, the Bureau identified ten challenges currently faced by member States and concerning the intersection of transport, health and environment in the region. The Bureau considered that facts and figures relating to the challenges identified would help in positioning THE PEP and highlighting its role in addressing them.
3. At its thirty-sixth meeting (Bonn, Germany, 1–2 July 2019), the Bureau agreed that a review of current challenges related to transport, health and environment in the region be prepared. The Bureau member representing the Netherlands took the lead.

II. The challenges in transport, health and environment

4. Among the challenges identified, the drafting group decided to focus on the following:
 - (a) Ambient air pollution, which causes about half a million premature deaths per year in the WHO European region;
 - (b) Traffic noise, which causes millions of healthy years of life to be lost annually with, for example, about 1.6 million years lost in European Union member States alone;
 - (c) Greenhouse gas emissions from inland transport, which account for a large and growing proportion of total emissions;
 - (d) Physical inactivity, which causes about 1 million deaths per year in the WHO European region;
 - (e) Socioeconomic disparities and exclusion, which result from poor quality transport services;

(f) Road traffic injuries, which are globally the leading cause of death globally among young people between 5 and 29 years of age;

(g) Economic inefficiency due to externalization of health, environmental and congestion costs, with city-dwellers in rich countries each losing nearly \$1,000 per year while sitting in traffic;

(h) Land take and the loss of biodiversity.

5. The review will serve to highlight information on the above-listed challenges, which is often available through research carried out by entities such as WHO, the European Environment Agency, the Organization for Economic Cooperation and Development (OECD), the United Nations system at large and universities and academia.

6. Often this information is scattered geographically. For instance, data is available for a given set of countries, but not for the entire UNECE/WHO-Europe region, or only for certain cities and not for the entire country, or only globally. Information is also often scattered from the substantial perspective, as it might focus on only one sector and not on the intersection of transport, health and environment.

(a) Ambient air pollution

The transport sector is probably the largest contributor of nitrogen oxide emissions in the European Union [more data on the entire UNECE region is needed] as well as PM10 and PM2.5.

The amount of air pollution in the region [additional information to be gathered] is estimated to cause almost 500,000 premature deaths per year [figure related to EU countries. More information from UNECE region is needed].

WHO estimated that, worldwide, outdoor air pollution caused up to 4.2 million premature deaths.

(b) Traffic noise

WHO has classified traffic noise, including road, rail and air traffic, as the second most important cause of ill health in Western Europe, behind only air pollution caused by very fine particulate matter. It is supposed to cause millions of healthy years of life to be lost annually with, for example, about 1.6 million years lost in European Union member States alone. [more information needed, including information from non-EU member States].

Other WHO studies show that over 83 million Europeans are exposed to harmful levels of noise from night-time road traffic.

(c) Greenhouse gas emissions from inland transport

Air pollutants as methane and black carbon have effects on climate change. Black carbon, a component of particulate matter, is one of the largest contributors to global warming. Black carbon warms the earth's atmosphere by absorbing sunlight and it accelerates the melting of snow and ice. Methane is a potent greenhouse gas that is 84 times more powerful than CO₂ and is a precursor to the air pollutant ozone. Among the major sources

of outdoor pollution caused by human activities there is fuel combustion from motor vehicles (e.g. cars and heavy-duty vehicles).

Poor urban planning, which leads to sprawl and over-dependence on private vehicle transport, is also a major factor in accelerated pollution emissions.

(d) Physical inactivity

WHO estimates physical inactivity to be the cause of nearly 1,000,000 death per year in the WHO European Region. Furthermore, it is estimated to be the primary cause of approximately 21-25 percent of breast and colon cancers, 27 percent of diabetes and approximately 30 percent of ischemic heart disease worldwide.

(e) Socioeconomic disparities and exclusion, which result from poor quality transport services

Studies showed that levels of exposure to pollutants are often socially patterned. More socioeconomically deprived or ethnically diverse communities are more adversely exposed. Other studies showed that air pollution and noise levels from residential traffic are higher among low-income groups and minorities, as their residences are often located in high traffic areas.

Researchers conceptualized a trend for lower-income population to be less mobile as “transport poverty and defined it as “a denial of access to the opportunity to participate in the social, and political life of the community, resulting not only in diminished material and non-material quality of life, but also in tempered life chances, choices and reduced citizenship”. [more detailed references to be indicated].

(f) Road traffic injuries

Despite the general trend in the ECE region towards a decrease in road traffic fatalities per inhabitant, there are large disparities between member States. In 2015 [more information needed], the member States with the highest fatality rates reported incident rates almost 10 times higher than those with the lowest fatality rates. The ECE region as a whole reported approximately 87 fatalities per one million inhabitants in 2015. In 2017, ECE counted a total of 105,345 road traffic fatalities.

(g) Economic inefficiency due to externalization of health, environmental and congestion costs

Already in 1999 researchers analysed how decisions on transport means were affected by the distribution of costs. The observed that non-market and indirect costs (not easy to measure and rarely considered by transportation planners) are undervalued and can lead to economic inefficiency and inequity. The result of the research lead to see that the use of private cars was under-priced. This, in turn, resulted in overconsumption and inefficient use of resources. This bring them to consider the effects and implication on sustainability – considered from the economic perspective, the environment impact and land-use patterns and equity.

For instance, under-priced driving and car dependency resulted on impacts on land use patterns and encouraged urban sprawl.

Well-integrated transportation services can lead to competitive regions. Therefore, good quality of transportation is key asset for prosperous economy and can empower the economy.

(h) Land take and the loss of biodiversity

As the transportation infrastructure develops, biodiversity is at risk. Increase in spatial land take has effects on the ecosystem and on the wildlife. Land take can also cause loss of biodiversity. In turn, the latter poses a threat to various ecosystem services, potential impact on humanity and economic instability. [more information needed]

In some studies, the impact of climate change on biodiversity is thought to be worse in fragmented landscapes, because penetration of predators, invasive species, wind damage, and fire risk is increased. For example, clearing trees from a forest eliminates the shading, temperature and moisture regulation, animal habitat, and nutrient transport services they provide to the ecosystem.

III. Objectives of the review

7. The objectives of the review are to:

(a) Provide the High-level Meeting with short and precise key facts and figures related to transport, health and environment in the ECE/WHO-Europe region;

(b) Elaborate the content of a brochure on “THE PEP facts and figures” for the Fifth High-level Meeting. The brochure should be easily readable for a wide audience and the content should also presented using data visualization tools.

8. In preparing the review, the authors should also identify for which substantial or geographical areas information is missing. The Steering Committee and, ultimately, the High-level Meeting might then decide on a possible follow-up after 2020.

III. Proposed organization of work and timeline

9. The Bureau decided to create a task force that would coordinate two or three scientific journalists or academics who would carry out the review – the authors.

10. Additionally, the task force would need to support the selected experts in narrowing down the scope of the challenges identified, as needed during the overview.

11. The role of the authors would be to:

(a) Elaborate a short review of facts and figures related to transport, health and environment in the ECE/WHO-Europe region;

(b) Identify what information is available on topics related to THE PEP and for which substantial or geographical areas information is missing.

12. Communication officers of the authorities of Bureau members and the secretariat organizations could be involved to ensure the clarity of the brochure.

13. The Netherlands committed to identify resources to support this activity, including for compiling the brochure and supporting the use of data visualization tools. Other member States represented in the Bureau committed to identify resources to contribute to the review, so that it would be a joint effort of member States under THE PEP.

14. The work of the task force would be carried out through electronic means or with meetings back to back with events already scheduled.

15. The results of the review should be available before the Fifth High-level Meeting.

IV. Role of the Bureau

16. Bureau members are invited to consider contributing to the overall activity by:

- (a) Finalizing the terms of reference of the review;
- (b) Overseeing the work of the task force;
- (c) Identifying in-kind or financial resources to carry out the review;

(d) Supporting the activity by liaising with relevant organizations, such as the European Environment Agency and OECD, with the aim of identifying and sharing information with the authors of the review.

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