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**HIGH-LEVEL MEETING ON TRANSPORT,  
HEALTH AND ENVIRONMENT**

Steering Committee on the Transport, Health and  
Environment Pan-European Programme<sup>1</sup>

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Item 6 (a) (iii) of the provisional agenda

**TRANSPORT-RELATED HEALTH IMPACTS AND THEIR COSTS AND BENEFITS  
WITH A PARTICULAR FOCUS ON CHILDREN:**

**DEVELOPMENT OF A “TOOLBOX” FOR ACTION ON TRANSPORT,  
ENVIRONMENT AND HEALTH**

**Report of the workshop on transport-related health impacts and their costs and benefits,**

25-26 June 2007, Telč, Czech Republic

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<sup>1</sup> THE PEP.





**Transport Research  
Centre**



**National Institute of  
Public Health, Czech  
Republic**



**United Nations  
Economic Commission  
for Europe**



**World Health  
Organization  
Regional Office for  
Europe**

## **TRANSPORT, HEALTH AND ENVIRONMENT PAN-EUROPEAN PROGRAMME (THE PEP)**

### **TRANSPORT-RELATED HEALTH IMPACTS AND THEIR COSTS AND BENEFITS WITH A PARTICULAR FOCUS ON CHILDREN: *DEVELOPMENT OF A “TOOLBOX” FOR ACTION ON TRANSPORT, ENVIRONMENT AND HEALTH***

**Report of the workshop on transport-related health impacts and their costs and benefits,  
25-26 June 2007, Telč, Czech Republic**

#### **BACKGROUND**

1. Following an ad-hoc session held under the auspices of THE PEP, to discuss follow-up activities of the project “Transport-related health impacts and their costs and benefits with a particular focus on children” (Geneva, 13 April 2005), participants agreed to develop a Toolbox for policy makers to help problem solving in transport, health and the environment

The aim of the Toolbox is to maximize the positive health, environmental and societal effects of transport and to reduce the negative effects. Specific objectives are:

- (a) To raise awareness of the links between transport, environment and health and to help identify obstacles to linking transport to environment and health policy;
- (b) To demonstrate that negative impacts can be reduced and positive effects enhanced by changing policies and through their implementation;
- (c) To raise awareness of the possible side effects of specific policies;
- (d) To present examples of recent practice and stimulate the development of case studies (e.g. of national or sub-national assessments used to generate evidence for action, or on evaluation of interventions) across the WHO/Europe–UNECE region through international consultation; and
- (e) To bring together, under a coherent and user-friendly framework, the results of relevant initiatives undertaken in the region.

2. The toolbox will be integrated into THE PEP clearing house. It will contain: an introduction to its scope and purpose, evidence briefings on key issues regarding transport, environment and

health, case studies of national or subnational assessments used to generate evidence for action or evaluation of interventions, and technical guidance and tools for health impact assessment and cost-benefit analysis. Content of the toolbox will be summarized in advocacy documents tailor-made to meet the information needs of the different target groups, which are a) senior politicians and decision makers; b) policymakers; and c) practitioners and experts. The Toolbox will be launched at the 3rd High-level Meeting on Transport, Environment and Health, to be convened in autumn 2008.

3. The Toolbox is developed by a task force consisting of 12 WHO/Europe–UNECE Member States<sup>1</sup> and one NGO (International Doctors for the Environment). It is co-chaired by Austria and the Netherlands. The development of the Toolbox includes a series of workshops to discuss progress made and next steps and to pilot-test its contents.

## **INTRODUCTION**

4. On 25-26 June 2007, the third workshop in this series was held, kindly hosted and supported by the Transport Research Centre and the National Institute of Public Health, Czech Republic. The secretariat of THE PEP supported the overall substantive and practical preparations for the workshop, assisted by the Dutch National Institute for Health and the Environment (RIVM).

The workshop was convened to serve two main purposes:

(a) To respond to the recommendations made at a workshop on Sustainable Urban Transport and Land Use Planning (18–20 October 2006, Tbilisi)<sup>2</sup>, to provide opportunities for capacity building for EECCA and SEE countries with a special focus on health impact assessment of urban transport, and

(b) To advance the development and pilot-test the first contents of the Toolbox together with the partners and to discuss the progress made and next steps for the Task Force.

5. The workshop was attended by 19 participants from the Czech Republic, France, Georgia, the Netherlands, Lithuania and the Russian Federation and 3 participants from THE PEP secretariat. All presentations are available online<sup>3</sup> and the detailed meeting program can be found in the Annex.

## **MAIN CONTENTS AND OUTCOMES OF THE WORKSHOP**

6. The first day of the workshop was dedicated to capacity building on environment, health and transport and it consisted of two main sessions: the first session presented developments and lessons learned on transport, environment and health since 1990 in the Czech Republic. It included presentations on fuel quality and emission standards, noise, air pollution data requirements for health assessment as well as two examples of practical applications. It emphasized policy and institutional

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<sup>1</sup> Albania, Austria, the Czech Republic, France, Georgia, Lithuania, Malta, the Netherlands, Switzerland, the Russian Federation, the former Yugoslav Republic of Macedonia and the United Kingdom) and one NGO (International Society of Doctors for the Environment).

<sup>2</sup> [http://www.thepep.org/en/committee/documents/ECE\\_AC.21\\_SC\\_2007\\_6-1R.pdf](http://www.thepep.org/en/committee/documents/ECE_AC.21_SC_2007_6-1R.pdf)

<sup>3</sup> [http://www.thepep.org/en/workplan/health/transport\\_related/docs\\_transporthealth.htm](http://www.thepep.org/en/workplan/health/transport_related/docs_transporthealth.htm)

changes faced by the Czech Republic and discussed the challenges that needed to be overcome to achieve the present policy and organizational settings.

7. Solutions for cleaner transport (e.g. cleaner or alternative fuel, use of public transport, non-motorised transport) were discussed. In small towns of the Czech Republic, non-motorised transport amounts to 40-50% of personal transport. Plans for road taxes (electronic toll), investment in walking and cycling networks, investments in biofuels (e.g. promotion of CNG fuel stations and buses) and ecodriving are underway.

8. The Czech Republic underwent a quick improvement in the quality of fuels, particularly of lead levels, following the scenarios of the European Commission (EC). One of the main drivers behind the reduction in lead levels was the restriction to buy leaded petrol. Also emissions of cars are monitored periodically in contrast to countries such as the Russian Federation and Georgia where systems to check the quality of the fuel and cars are lacking.

9. The EU noise directive (END) was transposed in to Czech legislation in 2006. The Ministry of Health is responsible for the development of strategic noise maps, the Ministry of Transport for action plans regarding the major roads. In Georgia and the Russian Federation action plans to reduce noise are not available, although in Russia at local level noise barriers are in use.

10. In the Czech Republic, road safety education starts at age 10-11, while the peak of accidents is at age 9-10, indicating possibilities for further reducing traffic accidents. A "Safe way to school" project was presented. It is based on experiences from the United Kingdom, combining different methods and approaches including e.g. data collection together with children, travel plan for the schools etc. Currently, it is piloted in 20 schools but not evaluated as yet.

11. The second session focused on training on transport, environment and health, with a particular focus on health-impact assessment (HIA) and monitoring of air pollution and noise. These presentations were delivered by invited experts from the Netherlands, both from the National Institute for Public Health and the Environment, the Environmental Assessment Agency and the Institute for Risk Assessment Sciences, Utrecht University. These presentations were contrasted with practical examples on health-impact assessment and strategic environmental assessment from the Czech Republic.

12. HIA of transport-related air pollution and noise is feasible and useful, though uncertainties in some estimates still exist, which need to be clearly stated with the outcome of the calculations. Participants expressed the wish for more guidance e.g. how to use the WHO Air Quality guidelines.

13. Experiences from Georgia show that views may differ between stakeholders with regard to the reliability of HIA methods and tools from other countries. It was stressed that HIA can be used as a tool to provide general guidance and for comparing alternatives. A focus on agreement and commitment between stakeholders to improve the health situation is important. To adapt expectations into an HIA process to available resources, data quality and feasibility and to be selective in the questions to address was judged as being important to ensure a positive process and result. Collecting additional data at extra costs may not be needed in situations where already sufficient evidence exists even if it is based on data from other countries. Nevertheless, the transferability of results (especially exposure-response functions) should always be considered, e.g. due to differences in the air pollution mixtures.

14. Regarding the development or improvement of air quality monitoring systems it was recommended to focus on a few monitoring stations of good quality. In selecting sites, not always

hot spots should be chosen but also urban background sites (where more people are living). In developing a monitoring framework plan, ask for advice on site selection.

15. Regarding the purpose of measurements, it was concluded that for defining the exposure distribution of the population measurements of particulate matter (PM) are sufficient. For source apportionment different measurements are needed, e.g. chemical composition, and statistical methods to assign contribution of transport sources to air pollution levels are necessary. If countries have a system running based on black smoke (BS) measurements, it was suggested not be abolished since BS is a better indicator of transport related air pollution than for example NO<sub>2</sub>.

16. The third session was dedicated to discussing first contents of the Toolbox on Transport, Environment and Health. It included an evidence briefing on noise, overviews of transport measures in the Netherlands and of benefits and costs of cycling as well as a case study on “Health impact assessment of speed limit reductions to 80km/h”. Practical tools were presented for cost-benefit analysis of cycling and for health-impact assessment.

17. The presented format for the evidence briefing was accepted, taking into account that major uncertainties should be linked more clearly to the key messages. The sectors and/or stakeholder to be involved should be added to the described actions.

18. The checklist for HIA was considered very useful but guidance on quantitative assessments should be added. Adding default values (together with guidance on these values e.g. where are they coming from, how robust are they etc.) was judged useful to help users who are not so familiar with the approach.

19. The effectiveness and acceptance of transport measures differs depending on the economic, social (culture) and technological situation in a country. The toolbox should reflect this. For example soot filters are effective in new cars, but not when retro-fitted in older cars. When introducing price incentives and tax regimes possible side-effects need to be considered as well (e.g. stimuli to use public transport may reduce biking and walking). Cycling has a low image in some countries and a strong barrier to reduce motorized transport is that often cars are linked to quality of life and individual freedom.

## **MEETING OF THE TASK FORCE ON TRANSPORT-RELATED HEALTH IMPACTS AND THEIR COSTS AND BENEFITS, WITH A PARTICULAR FOCUS ON CHILDREN - DEVELOPMENT OF A TOOLBOX**

20. The workshop was followed by a meeting of the Task Force to discuss steps towards the finalization of the Toolbox and an outline for a communication strategy (see Annex II for more details).

21. Main conclusions were:

(a) The workshop provided an excellent opportunity for an exchange of experience between experts from transport, health and environment from the Czech Republic and colleagues from other countries with economies in transition. Participants expressed interest to continue the workshops in this format.

(b) The process leading to becoming a member of the European Union (EU) has supported progress to reduce negative impacts of transport on health and environment in the Czech Republic. It also supported modernization of some of the monitoring systems, including for example an

important reduction in the number of air quality measurement stations due to better coordination among agencies and to the introduction of modeling techniques. The experience in the Czech Republic but also other EU Member States show that modernization or adaptation of monitoring systems can take considerable time.

(c) At the same time, the Czech Republic has been successful in translating previously existing instruments for the assessment and management of transport-related environment and health effects into the new political and institutional frameworks developed. The lessons learned from the transition process are valuable to countries in a similar situation, but also for other EECCA and SEE countries. Participants also expressed an interest in bilateral training opportunities, especially in air quality measurements.

(d) While progress has been made in reducing some of the negative effects of transport on health and environment, there are problems in the Czech Republic that need to be addressed further. For example, the car fleet which now is on average 14 years old should be renewed further; the number of deaths from traffic accidents is still comparably high (standardized mortality rate of 9.9 per 100,000 in 2005, compared with a rate of 4.5/100,000 in the best performing country among EU members before May 2004) and levels of air pollution and noise from road traffic need to be reduced further. While the level of leisure time cycling has increased, developments of cycling for transport purposes have been less favorable. In addition, environmental topics have been less high on the political agenda in recent years. Another area that deserves further attention is the evaluation of implementation projects.

(e) THE PEP is perceived as an important supportive international framework for related policy in the Czech Republic and it is specifically mentioned in the State Environmental Policy 2004 to 2010.

(f) Participants were pleased to be able to assess first contents of the Toolbox. The presented tools, particularly the check-list for health-impact assessment, were deemed useful and applicable also in EECCA and SEE countries, but the transferability of examples (good practices) from Western Europe must remain a main focus of the project. It was suggested to include training material developed for an earlier HIA workshop in the Czech Republic into the toolbox. Guidance on how to assess the quality of scientific studies and how to read scientific papers could also be added as content to the Toolbox (e.g. tool from APHEIS project). France offered to support the communication of the results of the toolbox project.

## **FURTHER SUB-REGIONAL WORKSHOPS**

22. Moldova expressed an interest in hosting a further sub-regional workshop for the development of the Toolbox. However, the desired focus of this proposal needs to be further specified and the necessary donor funds to support its organization must still be identified.

23. The final workshop to discuss the results and contents of the toolbox needs to be planned. A donor country to host this workshop and support its organizations also needs to be identified.

## ANNEX I

### DETAILED MEETING PROGRAMME

#### Monday, 25 June 2007: Capacity building on environment, health and transport

*Chair: Jaroslav Volf, National Institute of Public Health, Czech Republic*

08.30 – 09.00 Registration

09.00 – 09.45 Opening remarks

*Ministry of Health – Jaroslav Volf*

*Ministry of Environment – Jiří Bendl*

*Ministry of Transport – Hana Krýsová*

#### Session 1. Developments on transport, environment and health since 1990: the case of the Czech Republic

09.45 – 10.00 Transportation related issues within the State Environmental Policy  
*Jiří Bendl (Ministry of Environment)*

10.00 – 10.30 *Coffee break*

**10.30 – 11.10 Developments regarding measurement of emissions, environmental quality and health**

- Fuel quality, emission standards and Best Available Technology (BAT) in the transport sector  
*Jiří Jedlička (Transport Research Centre CDV)*
- Developments and future solutions in the field of transport noise  
*Rudolf Cholava (Transport Research Centre CDV)*
- Development in the field of air pollution data requirements for health assessment – last 20 years in the Czech Republic  
*Helena Kazmarová (National Institute of Public Health SZU)*

11.10 – 11.30 - Questions and discussion



- 11.30 – 12.10**            **Case studies and examples of interventions**
- Health risks of transport - case study from the town of Ostrava  
*Jaroslav Volf (National Institute of Public Health SZU)*
  - Safe way to school – practical example  
*Jaroslav Heinrich (Transport Research Centre CDV)*

**12.10 – 12.30**            **Questions and discussion**

*12.30 – 13.30*            *Lunch*

**Session 2.      Applied training on transport, environment and health / part 1**

**13.30 – 14.00**            **Introduction to health-impact assessment tools and techniques**

*Theo van Alphen, National Institute for Health and the Environment RIVM, the Netherlands*

**14.00 – 15.00**            **Health-impact assessments of transport**

- The Czech health-impact assessment – development and experience from MATRA project  
*Helena Kazmarová (National Institute of Public Health SZU)*
- Strategic environmental assessment and health impact assessment of the Czech Transport policy: experiences and challenges  
*Eva Rychlíková (National Institute of Public Health CVD)*
- Health impact (assessment) of transport-related air pollution and modeling  
*Gerard Hoek (Institute for Risk Assessment Sciences IRAS, Utrecht University, the Netherlands)*
- Health impact assessment of transport-related noise  
*Brigit Staatsen, National Institute for Health and the Environment RIVM, the Netherlands*

**15.00 – 15.30**            **Questions and discussion**

*15.30 – 16.00*            *Coffee break*

**15.45 – 16.30**            **Towards improving the monitoring of air quality: introduction into available tools and approaches**

*Michal Krzyzanowski, WHO Regional Office for Europe (presented by Gerard Hoek, IRAS University)*

**16.30 – 17.00**            **Summary of the discussions**

**Tuesday, 26 June 2007**

**Session 3. Toolbox on Transport, Environment and Health**

*Chair: Francois André, Chair of THE PEP Steering Committee*

**09.00 – 09.15**

**Introduction**

- Sonja Kahlmeier, WHO Regional Office for Europe

**09.15 – 10.30**

**Evidence briefings and other examples**

- Is transport related noise a problem in Europe?  
*Brigit Staatsen, National Institute for Health and the Environment RIVM, the Netherlands*
- Overview of transport measures in the Netherlands: a European perspective  
*Hans Nijland (Dutch Environmental Planning Agency):*
- Costs and benefits of cycling  
*Hans Nijland (Dutch Environmental Planning Agency)*

*10.30 – 11.00*

*Coffee break*

**11.00 – 11.15**

**Case study**

- Health impact assessment of speed limit reductions to 80km/h  
*Brigit Staatsen, National Institute for Health and the Environment RIVM, the Netherlands*

**11.15 – 11.45**

**Tools**

- Guidance and tool for cost-benefit analysis of cycling  
*Sonja Kahlmeier, WHO Regional Office for Europe*
- Development of a checklist for health-impact assessment: experiences and challenges  
*Theo van Alphen, National Institute for Health and the Environment RIVM, the Netherlands*

**11.45 – 12.00**

**Questions and discussion**

**12.00 – 12.30**

**Steps forward towards the finalization of the toolbox**

- Usability
- Most appealing and most needed services
- Building up the contents for capacity building (e.g. measurement tools and strategies, roster of experts etc.)?

- Dissemination and communication strategy

12.30 – 13.30      *Lunch*

**Session 4. Meeting of the Task Force on the Toolbox on Transport, Environment and Health**

*Chair: Sonja Kahlmeier, WHO Regional Office for Europe*

- 13.30 – 15.30**
- Progress
  - Planning and outputs in the coming year
  - Communication strategy

15.30 – 16.00      *Coffee break*

16.00 – 18.00      **Field trip option 1:**

In case of sunny weather: bicycle excursion in the Telč surroundings to visit and test cycling infrastructure

In case of rainy weather: excursion by bus to see technical solutions for health and environment

**Wednesday, 27 June 2007**

06.00-08.15      **Direct transport to Prague airport**

**OR**

08.30 – 12.30      **Field trip option 2:**

Excursion by bus to see technical solutions for health and environment in the Telč surroundings, including transport to the Prague airport (end point of the field trip is the airport)

**ANNEX II**  
**TASK FORCE ON TRANSPORT-RELATED HEALTH IMPACTS AND THEIR COSTS**  
**AND BENEFITS, WITH A PARTICULAR FOCUS ON CHILDREN. DEVELOPMENT OF A**  
**TOOLBOX**

**Report of the task force meeting 27 June 2007**

1. Currently, the following products of the Toolbox are available:
  - a. Templates for the evidence briefings and case-studies;
  - b. Evidence briefings on transport-related noise exposure and impacts and on road traffic injuries (provided by the Netherlands and WHO/Europe);
  - c. Case-studies from the Netherlands (Estimated effects of speed limit reduction on 10 highway sections), the United Kingdom (Health in transport appraisal), Belgium (tool for municipalities to calculate air quality levels in streets), Lithuania (experiences with inter-ministerial cooperation).
  
2. The communication strategy developed by France was discussed. Next steps, funding and implementation of this part of the project have to be clarified further.
  
3. The further development of the Toolbox project will consist of the following main steps:
  - a. Task force meeting (phone conference, January 2008)
  - b. Finalization of evidence briefings (WHO, France, Austria); autumn 2007
  - c. Evaluation and submission of case-studies (RIVM and different contributors; autumn 2007)
  - d. Technical implementation of the Toolbox and its integration into the Clearinghouse (2008)
  - e. Production of advocacy documents (2008)
  - f. Subregional workshop 3 (Moldova – tentative) - Spring 2008?
  - g. Final workshop (depends on date for high-level meeting – Sept 2008?)

Information to be disseminated will be collected in close coordination with relevant international projects and networks, such as INTARESE , PRONET.

4. It should be noted that contributors are still missing for essential parts of the toolbox (advocacy documents, technical implementation, deliverance of case-studies, hosting of two review workshops, review experts). Participants are urgently requested to seek for possible solutions and contributions. If contributors cannot be found quickly, the project plans need to be adapted accordingly. It could be considered to organize one instead of two workshops, or to organize a meeting back-to-back with another international meeting or PEP workshop.

5. RIVM will further advocate the use of the communication platform and coordinate and support the collection and dissemination of input for the toolbox. France is considering to support the communication and dissemination of the results.