



Developing national action plans on transport, health and environment

A step-by-step manual for policy-makers and planners



By Christian Schweizer, Francesca Racioppi and Leda Nemer

THE PEP

Transport, Health
and Environment
Pan-European Programme



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Abstract

A national transport, health and environment action plan (NTHEAP) is a key tool and mechanism for developing sustainable and healthy transport in a country. NTHEAPs provide a comprehensive and intersectoral way of planning and implementing transport, environment and health action at the national level. They also call for working across sectors, and action can result in reducing health inequalities, thus contributing to Health 2020, the European policy for health and well-being; the Parma Declaration on Environment and Health; and the action plan for implementation of the European Strategy for the Prevention and Control of Noncommunicable Diseases 2012–2016. This manual was developed to guide NTHEAP development at the country level. It proposes four phases: planning, development, implementation and evaluation. It does not provide specifics on how to establish the general policies or strategies on sustainable and healthy transport, an activity that usually precedes the development of action plans. The manual provides practical advice for each of the phases and steps and highlights good practices from the European Region.

Keywords

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Introduction

When general policies on sustainable and healthy transport have been established in a country, implementation is most effectively achieved by developing a national transport, health and environment action plan (NTHEAP). In January 2009, at the Third High-level Meeting on Transport, Health and Environment, the Member States of the United Nations Economic Commission for Europe (UNECE) and WHO European Member States called for the development of NTHEAPs in Article 6 of the Amsterdam Declaration of the Third High-level Meeting on Transport, Health and Environment (1): “NTHEAPs could be developed and implemented by making use of existing mechanisms, plans and programmes in the field of transport, health and environment or by building on national processes across the three sectors; countries should develop initiatives and strategies that best suit the needs of their citizens and the capabilities of their administrations, taking account of different socioeconomic situations; in doing so, they should address transport-related health and environmental impacts and increase transport efficiency, as well as set targets and timetables for implementation; THE PEP Steering Committee, in cooperation with THE PEP secretariat, should develop guidance and assist in the formulation of NTHEAPs.”

The need for a step-by-step manual to develop NTHEAPs stems from requests by Member States to be supported in their efforts to carry out and coordinate the development of NTHEAPs, making use of existing mechanisms, plans and programmes.

The Parma Declaration on Environment and Health in the WHO European Region, adopted by the Fifth Ministerial Conference on Environment and Health (Parma, March 2010), also stresses the importance of national implementation mechanisms. It specifically calls for collaboration with “... local, regional and national authorities to advocate for actions to counteract the adverse effects of urban sprawl that cause socioeconomic, health and environmental consequences.” (2). The action plan for implementation of the European Strategy for the Prevention and Control of Noncommunicable Diseases 2012–2016 identifies the development of NTHEAPs as one of the supporting interventions for promoting intersectoral links between action on noncommunicable diseases and action within the broader environmental and educational agenda. NTHEAPs also provide a pragmatic tool to facilitate the whole-of-government approach to improving and maintaining health advocated by Health 2020, the European policy for health and well-being.

1.1 Target audience

This manual intends to assist policy-makers and planners in the European Region in developing NTHEAPs. It is primarily aimed at representatives of government ministries as well as subnational and local authorities that are concerned with land transport and its influence on health and environment. In particular, the manual targets the ministries and authorities working in health, environment, transport, interior, consumer affairs, education, finance and spatial planning. The manual also

has information that could be valuable to nongovernmental organizations, academics, international organizations and policy- and decision-makers in public health.

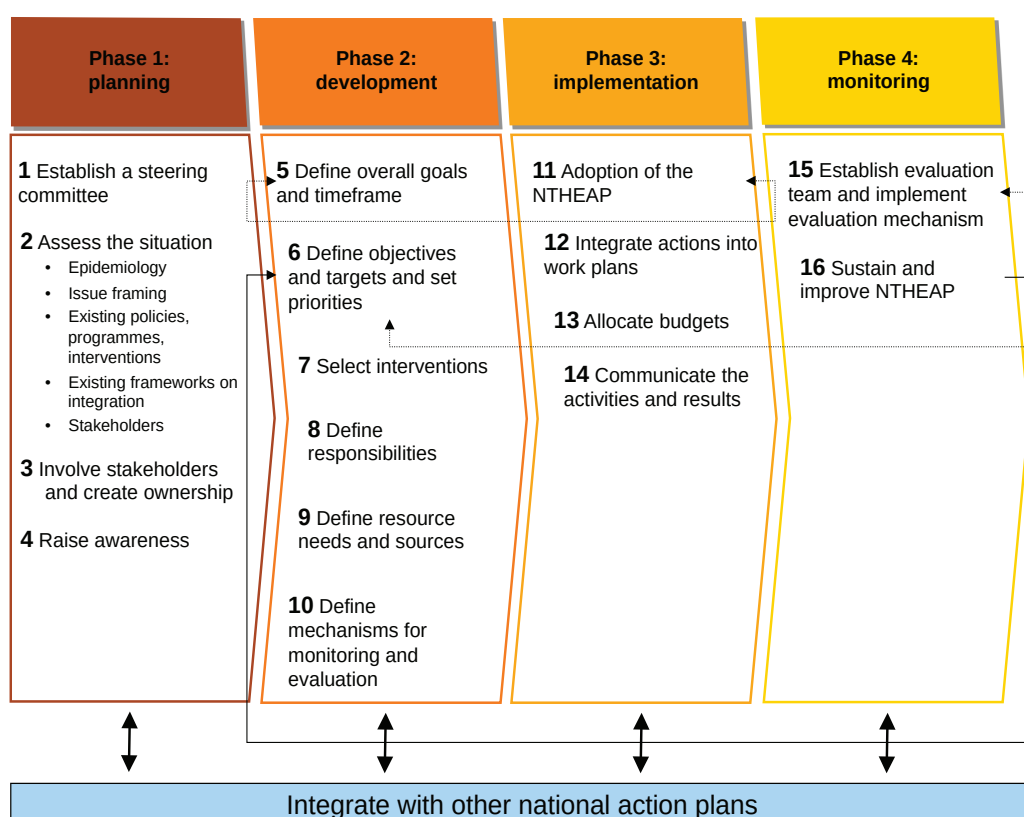
1.2 How to use this manual

The manual highlights how an NTHEAP can be developed in several different ways, including by integration in existing plans or strategies. The manual is informed by earlier work in developing national action plans on environment and health and aims to show how to make cost-effective use of existing mechanisms, plans and programmes. The manual includes national case studies of existing programmes and some demonstration projects to illustrate various steps. The manual proposes four phases to follow in developing NTHEAPs: planning, development, implementation and evaluation. However, it does not detail how to establish the general policies or strategies on sustainable and healthy transport,

which usually precedes the development of action plans. The manual provides practical advice for each of the phases and steps, highlighting good practices from the WHO European Region. The phases and steps are not meant as a specific set of instructions that are applicable in all situations. Rather they are a collection of suggested steps; an ideal checklist that can be used as a reference as NTHEAPs are developed, supported by tools that need to be adapted to the national context.

The main drafting of the action plan takes place in phase 2 (development). Each of the four phases can be broken down into a series of more specific steps. They are summarized in Fig. 1 and explained in more detail in Chapter 3. Most of the steps need not be implemented sequentially but can and sometimes should be applied simultaneously. Most are likely to require special adaptation to

Fig.1. The 16 steps towards a national transport, health and environment action plan

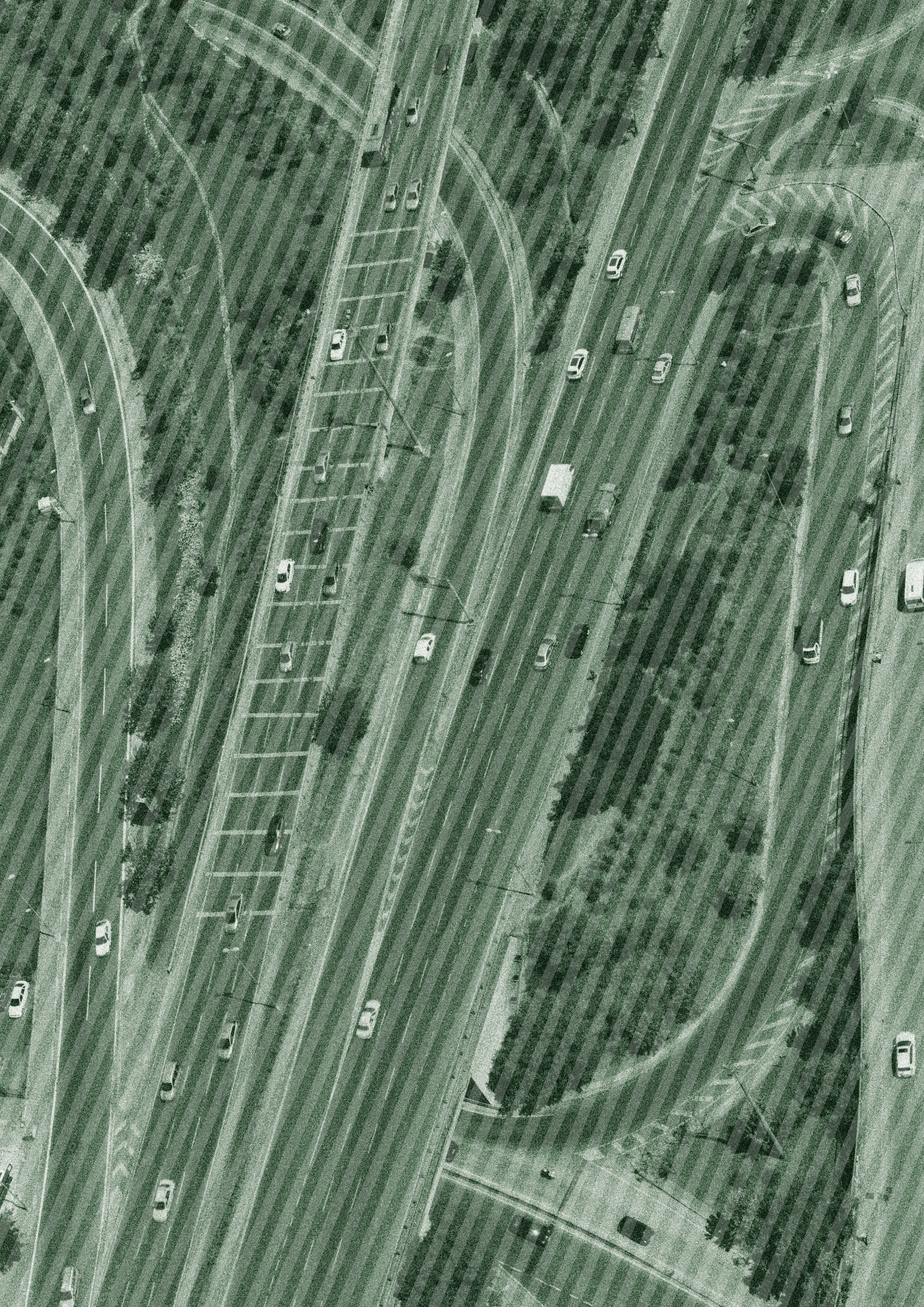


the national context. NTHEAP steps may be conducted in parallel or in sequence according to circumstances. However, the text notes the instances in which certain aspects, activities and considerations are deemed crucial for the success of an NTHEAP and should not be neglected.

Chapter 2 of this manual defines what NTHEAPs are and provides information on the benefits of developing such an action plan as well as the supporting role of

international and regional agreements and frameworks. Chapter 3 provides detailed information on the four phases of NTHEAP development and subsequent steps that can be followed. Case studies appear throughout the manual to illustrate a given step and feature links to more detailed information. The manual concludes with Chapter 4, which provides valuable tools and resources that can be used throughout different NTHEAP development phases.





Setting the scene

2.1 Overview of the environment and health effects of transport

Transport plays an important role in people's lives, whether in providing access to jobs, services, education and leisure; in supporting economic growth; or through its capacity to affect their environment and their health. In today's Europe, cars, heavy goods vehicles and motorcycles are the main means of road transport. The rapid growth of road transport has affected health and environment through congestion, car crashes, air pollution and noise. It has contributed to sedentary lifestyles, especially in urban areas, and to emissions of greenhouse gases. The total external costs of transport in the European Union (EU) plus Norway and Switzerland in 2008 is estimated to amount to more than €500 billion per year, or 4% of total gross domestic product (GDP), which in the European Union countries, excluding Croatia, in 2008 was about €12.5 trillion. Passenger transport causes 77% of the costs and freight 23%. On top of these, the annual congestion cost of road transport amounts to between €146 billion and €243 billion (delay costs), which is 1–2% of GDP (3). The following pressures from road transport in Europe need to be addressed.

- In the 32 member countries of the European Environment Agency, the length of **road infrastructure** increased by 36% between 1990 and 2005, while that of railways declined by 10% (4). The use of roads continues to increase, with more and more passenger- and tonne-kilometres travelled every year pressuring road infrastructure and consumption of land.
- The rising pressure on road infrastructure requires higher **efficiency of transport systems** if congestion is to be reduced.
- Of the people **dying in road traffic** in the European Region, 43% are vulnerable road users (27% pedestrians, 12% users of motorized two- and three-wheelers and 4% cyclists) and 50% are car occupants (5).
- Road transport is a significant source of **air pollution**. Exposure to particulate matter is estimated to cause an average loss of 9 months of life expectancy in Europe (6).
- Lack of adequate **physical activity** is estimated to be associated with about 900 000 deaths per year in the European Region, where about 20–30% of adults are estimated to be obese. Walking and cycling could help integrate physical activity into daily life (7).
- Up to 1.6 million healthy life-years are lost every year due to **transport noise** in EU cities (8).
- As to **climate change** in the EU, road transport is responsible for about 20% of carbon dioxide (CO₂) emissions, with CO₂ being the main greenhouse gas (9).
- As to **nature and landscape effects**, an assessment by the European



Environment Agency (EEA) of land take in 21 European countries showed that land take for transport infrastructure covered 7.1% of the taken area in 2000–2006, more than twice the 3% in 1990–2000 (10).

These effects are interlinked, and a comprehensive approach is needed (Fig. 2). For example, focusing on increasing walking and cycling without considering the safety of the surrounding environment

could lead to more injuries. In the case of diesel use, which may positively affect greenhouse-gas emissions, if cars are not equipped with adequate filters, it will lead to increased emissions of fine particles, which are known to be hazardous to health (11).

2.2 Why is it important to develop an NTHEAP?

Integrating transport, health and environment for sustainable and healthy mobility is imperative to solving the environment

Fig. 2. Health and environment effects of unsustainable transport



The many effects of unsustainable transport (12,13)

- Air quality: vehicle emissions harm human health and the natural environment
- Noise and vibration: noise affects productivity and health
- Crashes: globally, each year 1.2 million lives are lost due to road crashes
- Global climate change: vehicles are responsible for roughly 25% of fossil-based CO₂ emissions
- Waste disposal: disposing of vehicles and vehicle parts contributes to landfill problems
- Congestion: time lost in congestion affects overall productivity
- Energy security: dependence on petrol-based mobility affects national security
- Energy balance of payments: Europe is now a net importer of fossil fuels, at a value of €388 billion per year in 2011 (more than €1 billion per day)
- Economic efficiency: money consumed by car expenditure reduces capital for other investments
- Severance: roadways separate communities and inhibit social interactions
- Visual intrusion: cars, roads and parking areas distract from a city's beauty
- Loss of living space: roads and parking areas consume large amounts of urban space

and health problems of transport. Such integration implies horizontal integration across sectors (different departments and public authorities) as well as vertical integration across levels of government.

NTHEAPs have an important role in integrating the work of three sectors: transport, health and environment. This is achieved in two ways: (1) through the close cooperation required to develop the plans and (2) through the specific actions contained in the NTHEAP that aim to establish and institutionalize integration between the sectors.

Although policy integration between transport, health and environment has taken place on European political agendas, practical progress has been slow. Except for some country-specific situations, administrative bodies often tend to work in an independent and fragmented way with relatively narrow mandates and decision-making processes that result in competition for resources. Integrating policies has several benefits that are often not readily apparent. For example, integrating sectors in mobility planning can (14):

- reduce duplication of efforts;
- promote consistency between sectors and different levels of government;
- improve the achievement of goals and objectives;
- give more focus to the overall goals of the government, thus supporting its steering role;
- promote win-win solutions between sectors;
- encourage greater understanding of the effects of activities on other sectors; and
- help overcome financial constraints.

2.3 What is an NTHEAP?

NTHEAPs represent a comprehensive, holistic and intersectoral way of planning and implementing transport, environment and health action at the national level. NTHEAPs are not only plans but can be turned into continuous national transport, health and environment processes. Ultimately, an NTHEAP entails a process of developing, adopting, implementing and evaluating integrated transport, health and environment actions. Although NTHEAPs can exist in isolation, they should also be part of a framework of policies and strategies on transport, health and environment (such as public transport strategies and land-use policies). This manual has adopted the following definition:

NTHEAPs set out the main goals, objectives, priority actions, coordination mechanisms, roles and responsibilities, timelines and budgets as well as guidance on implementation, monitoring and evaluation for the development of sustainable and healthy transport in a country.

An NTHEAP is strongly recommended because it:

- consists of a tool and a mechanism to bring all relevant national stakeholders around the table to tackle complex transport, health and environment issues, define actions, assign responsibilities and establish accountability, thereby achieving win-win outcomes using a multistakeholder approach, including business;
- links to other national strategies and priorities and uncovers potential conflicts and divergences from other government objectives and plans to reduce the risk of duplicating efforts;
- aligns with international commitments taken by countries and is a cornerstone for national implementation;

- has a transparent focus and, accordingly, is relatively easy to communicate and implement;
- is one of the main pillars of national efforts towards sustainable development, reducing greenhouse-gas emissions;
- contributes to improving the health of the population and the quality of life, while meeting the accessibility needs;
- integrates supply-side (transport infrastructure) and demand-side (mobility) activities in one coherent approach;
- can help to attract funding for projects and can create jobs, investment and encourage social and business innovation;
- provides a mechanism for investing public funds in transport; and
- contributes to a beyond mobility approach that transcends transport alone and considers an important economic aspect – savings from better health due to reduced morbidity and mortality – and contributes to generating green jobs,

Table 1. Selected policy documents and legal instruments of relevance to transport, health and environment

Scope	Policy documents	Legal instruments
International	<i>Declarations and resolutions</i> • Global Strategy on Diet, Physical, Activity and Health. World Health Organization, 2004 (15) • WHO air quality guidelines, 2006 (16) • United Nations Millennium Development Goals (17) • United Nations General Assembly resolution on road safety, 2010 (18)	<i>Treaties and conventions</i> • United Nations Framework Convention on Climate Change 1992 (26) • United Nations Convention on Road Traffic, consolidated 2006 (27) • United Nations Convention on Road Traffic, 1968 (28) • Convention on Road Signs and Signals, 1968 (29) • Agreement concerning the Establishing of Global Technical Regulations for Wheeled Vehicles, Equipment and Parts which Can Be Fitted and/or Be Used on Wheeled Vehicles, 1998 (30) • Agreement concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of Such Inspections, 1997 (31)
Regional	<i>Declarations and resolutions</i> • Strategic Environmental Assessment Protocol, 2003) United Nations Economic Commission for Europe (19) • Parma Declaration on Environment and Health, 2010 (2) • Amsterdam Declaration, 2009 (1) • European Council recommendation on the prevention of injury and the promotion of safety, 2007 (20) • Charter on Transport, Environment and Health, WHO Regional Office for Europe, 1999 (21) • <i>A strategic framework for air quality management in Asia</i>, 2004 (22) • European Charter of Pedestrians' Rights. European Parliament, 1988 (23) • Harare Resolution on the prevention and control of regional air pollution in Southern Africa and its likely transboundary effects, Regional Air Pollution in Developing Countries (RAPIDS) (24) • <i>Health 2020 – a European policy framework and strategy for the 21st century</i>, 2013 (25)	<i>Treaties and conventions</i> • Convention on Long-Range Transboundary Air Pollution, 1979 (32) • UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, 1998 (33) • Espoo Convention on Environmental Impact Assessment in a Transboundary Context, 1991 (34) • Carpathian Convention, 2003 (35) • Transport Protocol of the Alpine Convention, 2006 (36) • European Agreement concerning the International Carriage of Dangerous Goods by Road, 1957 (37) <i>Multinational legislation</i> • EU directive on ambient air quality and cleaner air for Europe (38) • EU directive on the promotion of clean and energy-efficient road transport vehicles, 2009 (39) • EU regulation on emission performance standards for new passenger cars, 2009 (40)



which have social and health effects, including reducing health inequalities.

2.4 The role of international and regional agreements and frameworks

International declarations and frameworks, such as the Amsterdam Declaration or the Parma Declaration on Environment and Health, can offer considerable support for national efforts in making transport sustainable for environment and health. Such consensus documents could be considered as policy documents. By signing such agreements, countries demonstrate their willingness to subscribe to several principles, norms and standards. Table 1 lists a number of examples of international and regional documents and legal instruments that are relevant to transport, health and environment. Although it is not comprehensive, the list reflects the range of documents that can be used to guide and shape the development of an NTHEAP.

The Amsterdam Declaration of the Third High-level Meeting on transport, health and environment (1) calls on all Member States to use NTHEAPs as the main implementation mechanism to achieve the Declarations' four priority goals (Box 1). The four priority goals were reaffirmed in the Paris Declaration of the Fourth High-level Meeting on transport, health and environment (2014).

The Parma Declaration on Environment and Health (2) specifically highlights the importance of transport for health and the environment in the European Region and identifies it as one of the key challenges in reducing noncommunicable diseases. The Declaration further stresses the need to integrate health and environment into transport and mobility planning (including infrastructure). Tackling transport-related health and environment issues through NTHEAPs offers a great opportunity to implement the Parma Declaration. This is because NTHEAPs have capacity to address three out of the four regional priority goals for children's health established under the European environment and health process and confirmed in Parma. Specifically, regional priority goal 2 covers "obesity and injuries through safe environments, physical activity and healthy diet", regional priority goal 3 "preventing disease through improved outdoor and indoor air quality" and regional priority goal 4 "preventing disease arising from chemical, biological and physical environments" (including noise). The Parma Declaration directly refers to the relevant commitments of the Amsterdam Declaration. NTHEAPs also contribute to promoting working across sectors and reductions in health inequalities, thereby contributing to Health 2020, the new European policy for health and well-being (Box 2).

Box 1. Priority goals of the Amsterdam Declaration (1)

- **Priority goal 3: to reduce emissions of transport-related greenhouse gases, air pollutants and noise** by supporting a shift in the vehicle fleet towards zero- or low-emission vehicles and fuels based on renewable energy, promoting a shift towards clean transport modes and fostering electric mobility as well as eco-driving
- **Priority goal 4: to promote policies and actions conducive to healthy and safe modes of transport** by designing and modernizing urban areas and human settlements to improve the conditions for safe and physically active mobility, including infrastructure for walking and cycling and efficient and accessible public transport, particularly focused on vulnerable groups such as children and persons with reduced mobility
- **Priority goal 3: to reduce emissions of transport-related greenhouse gases, air pollutants and noise** by supporting a shift in the vehicle fleet towards zero- or low-emission vehicles and fuels based on renewable energy, promoting a shift towards clean transport modes and fostering electric mobility as well as eco-driving
- **Priority goal 4: to promote policies and actions conducive to healthy and safe modes of transport** by designing and modernizing urban areas and human settlements to improve the conditions for safe and physically active mobility, including infrastructure for walking and cycling and efficient and accessible public transport, particularly focused on vulnerable groups such as children and persons with reduced mobility

Box 2. Health 2020

Health 2020 (25) is the new European health policy framework. It aims to support action across government and society to: “significantly improve the health and well-being of populations, reduce health inequalities, strengthen public health and ensure people-centred health systems that are universal, equitable, sustainable and of high quality”.

Health 2020 is based on the values enshrined in the WHO Constitution: the highest attainable standard of health as a human right. It also views health as a resource that enables every person to realize his or her potential and to contribute to the overall development of society. In short, poor health wastes potential, causes despair and drains resources across all sectors of society. This new policy framework enables policy-makers to more effectively and efficiently address social, demographic, epidemiological and financial challenges, by resetting priorities, catalysing action in other sectors and adopting new approaches to organizing the health sector with other stakeholders.

Health 2020's two main strategic objectives are (i) improving health for all and reducing health inequalities and (ii) improving leadership and participatory governance for health.

As health improvements cannot rely solely on the health sector, Health 2020 calls for whole-of-society and whole-of-government approaches to involve a range of stakeholders at all levels. It also has an equity focus, suggesting new ways to identify important health gaps and focus individual and collective efforts on ways to reduce them.





Towards national action plans

The NTHEAP's four phases (planning, development, implementation and evaluation) are further subdivided into 16 steps considered important when preparing an NTHEAP (Fig. 1). The 16 steps represent an iterative process of continual improvement that is often embedded into existing plans or strategies. It should not be assumed that these steps will necessarily be undertaken in a rigid sequence. As previously stated, steps may be conducted in parallel or in sequence according to circumstance. In practice, in some countries with a specific context, some steps may not be required or will be combined with other steps. Some countries may choose to undertake several steps in parallel. In other cases, additional steps will be required. The approach to developing an NTHEAP should be characterized by flexibility and recognition that local circumstances will dictate the final process to be followed. In this sense, this manual will also be useful to countries that already have an NTHEAP but are keen to improve and sustain the process. Throughout the manual, the reader will encounter examples of good practice to help to illustrate the

different ways in which countries have approached each phase of the process.

Although it is preferable to develop national action plans to secure the widest possible impact, some countries might choose to set the scope of their first transport, health and environment action plan at a subnational level. Nevertheless, the basic steps outlined below still apply, even if the transport, environment and health issues encountered may differ, as will the scale of the interventions. Further, where there is to be more than one subnational transport, health and environment action plan in a country, coordination is necessary if duplication of efforts is to be avoided and beneficial synergy on issues of national priority is to be realized. Eventually, subnational plans are likely to evolve into an NTHEAP.

In addition to the steps outlined below, special consideration should be given to a key cross-cutting step that stresses the importance of linking to existing national strategies and action plans (boxes 3 and 4).

Box 3. Cross-cutting step: link to existing national strategies and action plans

There are several ways to go about developing and implementing an NTHEAP. The action plan can be either integrated in an existing national strategy or action plans – by introducing transport-related interventions into an existing national environment and health action plan – or developed as stand-alone action plans. Early consideration within the process of where the NTHEAP can be included in the national framework is indicated. Decisions on how the NTHEAP is to be developed and integrated depend mainly on local conditions. Throughout most of the 16 steps, it is necessary to consider how integration and linkage with existing action plans and policies can be pursued at different phases of the development and implementation process.

Box 4. Good practices: links to existing national strategies and action plans

Norway

Although Norway does not have an NTHEAP, considerations on health and environment are integrated in Norway's National Transport Plan 2014–2023 (41), which aims to provide an efficient, accessible, safe and environmentally friendly transport system that meets the society's transport requirements and promotes regional development. The National Transport Plan 2014–2023 includes a National Cycling Strategy and a new National Walking Strategy in its planning proposal for 2014–2023. A white paper on public health strategies (2012–2014) stressing the importance of cross-sectoral work on physical activity and more environmentally and health-friendly transport and transport systems, including walkable neighbourhoods, provides further support. Under the National Transport Plan 2014–2023, public transport will be strengthened in the largest urban areas to the extent necessary to ensure that the growth of passenger transport in urban areas can be absorbed by public transport, cycling and walking. New urban environment agreements with a more comprehensive urban policy approach will involve government, county authorities and municipalities in negotiations to pursue joint objectives and organize collaboration between central and local authorities.

Germany

The NTHEAP is being implemented at the national and subnational levels, and the National Cycling Plan (42) views cycling as a system. It does not consider cycling infrastructure sufficient to increase the number of cyclists and includes communication and service measures as well as transport or spatial planning for all modes of transport. Since Germany is already in the top third of European countries in terms of cycle use, the National Cycling Plan 2020 is designed to unlock the further potential inherent in cycling. The National Cycling Plan 2020 features basic guidelines to support cycling long term, including e-mobility in cycling, capacity problems in cities and challenges facing starter, climber and champion communities. It goes beyond promoting cycling and seeks to strengthen ecomobility, with promotion of local public transport, walking and cycling. It also has nine action areas to identify the major actions required for evolving cycling and describes the specific steps to be taken by the Federal Government, federal states and local authorities, each within their own sphere of responsibility.

3.1 Phase 1: planning

Initiating the process of planning NTHEAPs involves four main steps: establishing a steering committee with a strong sense of leadership and political commitment, assessing the current situation, involving all relevant stakeholders and achieving considerable awareness of the issues. Securing these four steps represents the first phase in the process of developing an NTHEAP and can either be undertaken consecutively or in parallel, depending on the circumstances of individual countries. In practice, several activities run well in tandem. For instance, the act of assessing

the situation can very often simultaneously raise awareness and political interest.

3.1.1 Step 1: establish a steering committee and strong leadership

Several events can trigger the start of the development of an NTHEAP. In some circumstances, the country's leadership decides to begin the process; in other cases, a government agency or group of motivated individuals drive the agenda. Generally, a good first step is to form a steering committee to manage the process. Ensuring that the NTHEAP extends beyond the interests of one particular sector requires involving health, environment and transport

ministries from the beginning. Depending on country preference, the committee might choose to drive the process from implementation to evaluation and continue beyond development and adoption of the NTHEAP. In other cases, the committee's mandate may be short lived. Even if the committee ceases to exist after the NTHEAP is adopted, its establishment and work should be seen as an important achievement in and of itself since it shows that the three sectors managed to collaborate together towards a common goal. Coordinating the process is a considerable challenge, with the main function of the leadership being to coordinate the input of those involved. Accordingly, it is useful to identify a lead agency, to foster political commitment, to secure integration of the three sectors and to clearly define the roles (Box 5).

3.1.2 Step 2: assess the transport, health and environment situation and frame the issue

Formulating an effective action plan on transport, health and environment requires good understanding of the extent of the environment and health effects of transport, a reasonable knowledge of existing policies, laws, regulations and action plans and a fair idea of possible additional interventions and the relevant stakeholder. It is of utmost importance to identify at the onset of the process the most important potential stakeholders, in particular from the three sectors involved. It is recommended that the situation be comprehensively analysed, covering each of the following aspects:

- epidemiologically assessing the environment and health effects of transport activities;
- framing the issue to support the development of a broad consensus on the factors that bear upon an issue and how they relate;
- assessing existing policies, programmes, interventions, tools and action plans for developing sustainable and healthy transport;
- assessing the existing framework for integrating environment and health into transport policies; and
- analysing and inventorying stakeholders to understand who else needs to be on board.

The national government makes the decision to develop an NTHEAP, and this should be followed by establishing the above-mentioned intersectoral steering committee to prepare the analysis of the transport, health and environment situation in the country. The analysis may also extend to the economic sectors and consider horizontal issues such as legislation, information systems, public participation and institutions concerned with the interface of environment and human health.

The results of the assessment will dictate the scope and overall direction of the action plan. They will also be a prerequisite for phase 2 of the development process: defining the content of the action plan in terms of goals, objectives and priority actions.

Although all four assessment components are important, collecting enough information sometimes needs to be balanced with not consuming too much resources and time. Before costly new data collection, it is therefore advisable to review any available information sources and to make use of these to the extent possible, while remaining aware of their potential shortcomings (Box 6).

Such a situation assessment can also provide a picture of the feasibility of implementing an NTHEAP in the current framework and with the current stakeholders. An independent body should carry out this exercise wherever possible, such as the previously established intersectoral steering committee or external consultants.

Box 5. Good practices: establishing a steering committee and strong leadership

Serbia

The government of Serbia established the National Road Safety Coordinating Body in September 2011 to initiate and monitor preventive and other activities in road safety. The National Road Safety Coordinating Body also plays a role in directing and harmonizing activities related to reducing the number of crashes and their consequences and monitors the implementation of the National Road Safety Strategy. It is represented by seven ministries and consists of seven different expert working groups. The working groups are monitored by a committee, which reports to the Coordinating Body, the latter reporting twice yearly to the government. Thus far, the National Road Safety Coordinating Body has involved working group members in drafting the National Road Safety Strategy and the National Road Safety Plan (in the process of being adopted) as well as organized road safety campaign seminars. Within the context of THE PEP and a future NTHEAP, the National Road Safety Coordinating Body will coordinate activities and set up implementation measures to reduce road crashes, thereby contributing to one of goals of THE PEP.

Malta

The first national environment and health action plan for Malta was launched in 1997. Malta convened a national stakeholder forum for revising the national environment and health action plan to reach consensus on the next version, identify national priorities and guide implementation across government departments and major sectors. An Interministerial Committee on Environment and Health, chaired by representatives from the health and environment ministries, was set up with representation by key actors, including young people. The main role of the Interministerial Committee on Environment and Health was a collaborative one in assisting the ministry responsible for health to review and implement the national environment and health action plan. The Interministerial Committee on Environment and Health allowed for sharing across more than 10 sectors to strengthen commitment towards reaching a number of measurable objectives and identified common goals. Since Malta is in the process of revising its national environment and health action plan for the coming period, high-level officials will be nominated to a new Intersectoral Committee on Environment and Health for this purpose.

3.1.2.1 Epidemiological assessment of the environment and health effects of transport activities

Identify existing data sources and analyse available information on the current transport-related environment and health situation in a country. Assessments of the environment and health burden of transport activities can be used to estimate the overall possible benefits (short, medium and long term) that can be gained in a country, region or city by creating sustainable and healthy transport through an NTHEAP. Both exposure data (noise, transport emissions and air pollution) and health data are needed to make the link to health effects.

Evaluation of the evidence of the health effects of transport-related emissions may require establishing emission monitoring networks linked to health records.

3.1.2.2 Issue framing

Issue framing involves a process (often involving the use of conceptual models) that supports the development of a broad consensus on the factors that bear upon an issue and how they relate. To achieve greater policy relevance, issue framing should also take account of the measures (policies and actions) that have the potential to influence the outcome being addressed. Health outcomes are inherently complex since they

Box 6. Good practice in situation assessment

The Environmental Performance Review Programme of the UNECE is considered an important instrument for countries with economies in transition. Environmental performance reviews assess a country's efforts to reduce its overall pollution burden and manage its natural resources; to integrate environmental and socioeconomic policies; to strengthen cooperation with the international community; to harmonize environmental conditions and policies throughout Europe and North America; and to contribute to sustainable development in the region. It especially emphasizes implementation, integration, financing and the socioeconomic interface with the environment. Road transport, as one of the main contributors to air pollution, is a main theme in environmental performance reviews. Through the peer-review process, environmental performance reviews also promote dialogue among UNECE member countries and the harmonization of environmental conditions and policies throughout the region.

are the product of a complex interaction of societal-level factors (including the environment and the economic influences) with the characteristics of the individual. Developing conceptual models to frame issues provides simplified representations of real-world situations that act as important as tools to think with, to communicate, to engage stakeholders and as frameworks for assembling available evidence. Using conceptual models in framing issues also contributes to clarity on the topic; it has the added value of leaving things out that have no or only marginal bearing on the issue.

3.1.2.3 Assessing existing interventions, tools and action plans for developing sustainable transport

Obtaining a clear view of the range of existing interventions, tools and action plans to integrate environment and health into transport policies and provide for the development of sustainable transport requires asking the following questions (Box 7) (43).

- What is already being undertaken in the country?
- What is known about possible interventions to address the problems?
- Which of the above interventions have been tested in the country or elsewhere?

- What is their potential effectiveness based on the latest international and national research results?
- Are the interventions relevant for this specific setting or can country-specific or culturally appropriate modifications be proposed?
- What are the important gaps in current knowledge?
- Is the government already allocating resources to make transport more environmentally friendly and healthy?
- Who else is devoting resources?
- Which nongovernmental organizations or other private entities are involved in developing sustainable and healthy transport?
- Are there university or research institutes that have worked to raise the profile of the environment and health burden of transport or evaluated potential solutions?

3.1.2.4 Assessing the existing framework for integrating environment and health into transport policies

Assessing the existing relevant policies (health, environment, transport, development, social etc.), laws, decrees and regulations





will inevitably highlight gaps that need to be addressed in the NTHEAPs to achieve sustainable and healthy transport. The assessment step will also examine the current policy-making mechanism: specifically, how policies are formulated, adopted, endorsed and implemented. In summary, this assessment will provide information on:

- political commitments of legally or non-legally binding nature;
- existing national and international policy and institutional frameworks;
- the existing legal framework (hard and soft law¹);
- degree and structural functioning of intersectoral collaboration (between transport, health and environment) and policy-making; and

¹ Soft law means commitments made by negotiating parties that are not legally binding. Hard law means binding laws. To constitute law, a rule, instrument or decision must be authoritative and prescriptive. In international law, hard law includes self-executing treaties or international agreements as well as customary laws. These instruments result in legally enforceable commitments for countries (states) and other international subjects.

- existing strategies on transport, health and environment.

As stated in section 3.4, international frameworks can motivate national action. For example, NTHEAPs offer a mechanism for national governments to implement the Parma Declaration on Environment and Health.

3.1.2.5 Stakeholder analysis

The primary function of the stakeholder analysis is to identify all possible partners that might have an interest in developing sustainable and healthy transport (Box 8). This also includes those who might (initially) oppose such efforts. It is important to identify stakeholders in at least two dimensions: horizontally across sectors and vertically down through the different levels of responsibility and government. The latter is particularly important, since most implementation activities of an NTHEAP typically take place at the subnational and local levels. Potential stakeholders include the state and government at all levels, academics, civil society (nongovernmental organizations and not-

Box 7. Good practices in assessing existing action for developing sustainable transport

Regional networks of national focal points

WHO and UNECE maintain networks of national focal points on various topics that are relevant to sustainable transport, such as road crashes, environment and health and THE PEP. These focal points can be instrumental in identifying relevant existing strategies, interventions and policies at the national level.

Hungary

As part of the country's efforts to develop a national policy on unintentional injury prevention, including road crashes, all relevant stakeholders have been thoroughly identified. This covers ministries, institutions, health care sector, nongovernmental organizations and manufacturers and distributors specializing in safety (44).

Box 8. Potential stakeholders in transport, health and environment action plans

Private sector: chambers of commerce, insurance industry, road construction companies, automobile industry, bicycle industry, tourism industry, transport management system providers

Civil society: nongovernmental organizations and not-for-profit entities focusing on environment, health and transport, community-based organizations, international nongovernmental organizations and foundations, transport user interest groups (car owners, public transport users, pedestrians and cyclist, women, people with disabilities), trade unions

Government: national, regional and local government entities dealing with health, environment, transport, finance, spatial planning, public works, commerce, law enforcement

Academe: health and environment impact assessment research, mobility management research

Media: print, television, Internet, radio

for-profit entities), formal or informal interest groups and private for-profit entities.

The second function of the stakeholder analysis is to examine the role and the strengths and weaknesses of each stakeholder as they relate to transport, health and environment issues and the relationships among them (Box 9). It is very important to identify supporters as well as opponents and to understand the motivations of each stakeholder in developing an action plan that satisfies the involved partners to the extent possible. Efforts should be made to develop reasoning to counteract the resistance of potential opponents. The key objectives are:

- to identify stakeholders;
- to assess their potential influence;
- to understand their relationships;
- to assess their capacity in developing and implementing of the NTHEAP; and
- to decide, based on the above, how to involve them (the nature, form and mode of their participation).

In summary, this exercise will provide information on the following as a basis for subsequent steps:

Box 9. Good practice in stakeholder analysis

Stakeholder analysis in the Latin America and Caribbean Regional Health Sector Reform Initiative

The experience from health reform exercises in Latin America (45) and literature reviews help to develop comprehensive and practical guidelines on how to conduct a stakeholder analysis. It provides templates for interviewing and mapping stakeholders to help to identify and analyse the strengths and weaknesses of relevant stakeholders.

- evaluating how transport activities affect environment and health in the national context;
- clarifying the benefits of an NTHEAP in the national context;
- providing an overview of recently completed and ongoing national programmes and activities for sustainable transport;
- evaluating the compatibility of various existing programmes and action plans: some actions may negatively affect the objectives of other actions and some bodies may unnecessarily repeat actions;
- identifying possible stakeholders that should be involved in the process;
- studying good practices in developing action plans, such as guidelines and case studies developed by regional and international bodies;
- identifying and discussing possible priority areas; and
- reviewing enabling factors to implement an NTHEAP and possible obstacles to overcome in the development and implementation process.



increasing calls for better horizontal management between transport and other sectoral policies, particularly since there is increasing acceptance in transport policy-making circles that integrating decisions across policy sectors (such as transport, land-use planning, health and environment) is crucial to policy-making, notably in helping to achieve sustainable development goals (46). In developing NTHEAPs, policy integration should not be seen as an end in itself, but it should be recognized as a way of achieving practical outcomes that simultaneously fulfil the goals of the three main sectors (46).

The more stakeholders from the three sectors and from other sectors are involved from the beginning of the process, the greater their sense of ownership will be. It is therefore highly important to involve those appropriately positioned and empowered to solve the issues of sustainable and healthy transport from the outset of the process. Even if some participants are not willing or able to join at the beginning, it is a good idea to keep them informed about the process in the hope they may be persuaded to join later. Further, since many of the interventions are likely to be implemented at the community level (such as in public transport, spatial planning, road safety etc.), community participation is vitally important.

Given the range of environment and health issues related to transport, the various stakeholders in this process will inevitably come from differing organizational cultures and will be diverse in their roles and responsibilities. Adopting this approach will require working in multidisciplinary groups

3.1.3 Step 3: involve stakeholders and promote ownership of the process

The need for integrating policy, especially in relation to transport, health and environment issues, is becoming increasingly recognized. Within the transport sector, there are

and understanding how other professions and sectors perceive and respond to transport, health and environment problems. Ultimately, success will require recognizing and complementing the competence and skills of each potential player. Stakeholders must first frame the transport, health and environment issues together and, through this process, identify the priority problems and agree on approaches to solve them. The participants then decide on how best to use their respective competencies most effectively. Consensus makes it much easier for the stakeholders to develop a sense of shared purpose and operate in a neutral and action-oriented effort to tackle transport, health and environment issues.

Establishing a clear framework for the process is important at this stage. The steering committee must then formally agree on the responsibilities and mechanisms for developing, implementing and monitoring the NTHEAP. Such a framework ideally should include the following components:

- a mechanism for coordinating the contributions of relevant stakeholders;
- a mechanism for ensuring the participation of relevant stakeholders; and
- a mandate and policy basis for developing the NTHEAP.

Although many of these components may already be in place, agreement on the platform should be secured before proceeding further with the process.

Some countries choose to give the responsibilities to a single government agency. However, interministerial cooperation needs to be encouraged due to the cross-sectoral nature of an NTHEAP. Incorporation in the functions of the finance ministry is also often a good choice given its inherent perspective across the many functions of government and its capacity to ensure that appropriate resources are

allocated to the proposed actions. The importance of creating and maintaining a multistakeholder orientation for the NTHEAP cannot be overstated. Only by effectively engaging stakeholders through a formalized process can their perspectives be reflected in the decision-making process (Box 10).

Effective coordination at the government level is often one of the greatest challenges, especially in implementation. Involving several ministries early in the process is therefore important. Broad government participation also provides the basis to discuss potential conflicts between different policies and activities being undertaken by ministries and at various levels of government. The situation analysis should have identified the possible conflicts and potential overlaps of the prevailing action plans, policies, activities and strategies. However, deciding on which priority areas or policies to select will require negotiation. A participatory approach is the best way to make the negotiated outcomes workable in the long term.

3.1.4 Step 4: raise awareness

Awareness-raising and communication are intended to influence the opinion of the public and of policy-makers. Attention to these activities is therefore important in mobilizing the political commitment and resources that are needed to drive forward the development of NTHEAPs. Results from step 1 (the situation assessment) can be used to raise awareness and support targeted lobbying, especially among key decision-makers. In parallel, the general public also needs to be targeted and made aware that the issues of transport, health and environment are important to their own well-being and that of future generations. The first steps in successful awareness-raising entail establishing partnerships, defining the target audience, understanding the baseline perception of the issues in the target audience and correspondingly defining the main message (Box 11).



Box 10. Good practices in involving stakeholders and establishing leadership and political support

Montenegro

In December 2009, Montenegro organized a kick-off workshop with previously identified relevant stakeholders to initiate the development of a national children's environment and health action plan. The stakeholders involved all relevant national partners as well as international organizations that could play a role in the action plan. By December 2010, the government had finalized and adopted the action plan. THE PEP Partnership provides assistance in organizing such kick-off workshops.

France

Since the 2002 Bastille Day speech of President Jacques Chirac, political commitments to road safety in France have been achieved. The new approach does not accept road casualties as a by-product of road transport and proposes action on four themes:

- better enforcement of traffic laws;
- reform of the highway code;
- safer vehicles; and
- increased action by all actors.

All relevant actors have been engaged in the process, focusing on the common aim of reducing road casualties. Overall political commitment to achieving road safety has been increased at all levels; traffic-police departments have been renamed road safety departments and have been given greater resources. The enforcement of traffic law has also been facilitated by legal changes allowing for automated speed control and increases in the number of speeding fines issued, reductions in average speeds and reduced crash rates.

England

The National Institute for Health and Care Excellence (NICE) is the national agency responsible for creating evidence-informed guidance on medical, clinical, public health and social care practice, with transport being an integral part of their public health work. NICE creates evidence and gathers consensus by means of a referral process: ministers request that a given topic be examined in depth, and NICE initiates a project plan in which the problem is initially scoped out. Diverse stakeholders are engaged by means of a consultation process, with input requested at various steps of the guidance development process. Public meetings and exchanges on the web provide stakeholders opportunities for input. The guidance developed considers world evidence and independent advice by relevant stakeholders who specialize in the given topic and may provide expert testimony in public or web-based consultation forums. Transcripts of evidence are compiled and posted on the web for feedback, to fill in evidence gaps and for comment from stakeholders and often, the mass media. Eighteen months usually pass by the time the guidance is ready, at which point stakeholders usually feel ownership of the process, since they have had ample opportunity to have their views or testimony and evidence considered for integration. Since local authorities have also engaged in the process, many have a programme for engaging their local authorities (47-49).

3.2 Phase 2: development

Building on the situation assessment and the interdepartmental consultation carried

out during phase 1, phase 2 involves setting priorities for environment and health action. The ministries responsible for

health, environment and transport organize consultations with key stakeholders, such as other ministries, business and industry, local authorities, nongovernmental organizations, new media and academe and begin the process of defining goals and time frame and setting objectives, targets and priorities.

The development of an NTHEAP is usually preceded by and directly follows up policies and strategies on sustainable and healthy transport. In some countries, a single policy or strategy for this purpose might exist, whereas in other countries, several policies and strategies such as sustainable development, transport and health might together provide a comprehensive framework. In either case, binding and non-binding international consensus documents can also provide a policy background for NTHEAPs.

The actions identified are weighted in terms of their technical and economic feasibility and their expected impact.

An individual or small group assigned by the steering committee usually formulates

the action plan. A six-step process is proposed to draft a national action plan on transport, health and environment.

3.2.1 Step 5: define overall goals and time frame

It is recommended that an action plan be written by first establishing the overall shape and direction it will have. This will provide a framework for the remainder of the document. The opening part should therefore set out the goals, a time frame and guiding principles (ethical and/or operational). This part of the action plan should also highlight the main reasons why such an action plan is necessary (based on the results from phase 1). Such an introductory section of the NTHEAP should seek to answer the questions “Where are we?”, “Where do we want to be?” and, in broad terms, “How do we get there?”.

An NTHEAP should include such a main statement: a mission statement or vision that conveys a sense of the NTHEAP’s ultimate goal. The goal may be idealistic or visionary and need not specify a timeline or a quantified target.

Box 11. Good practices in awareness-raising

Germany

Mobility education is part of many programmes at all authority levels in Germany. The targets are to educate children to critically examine current mobility options, safe participation in road traffic, avoiding crashes and raising awareness on how transport affects environment, health and social development.. Raising awareness also entails developing capacity to empower pupils to make future decisions concerning mobility and what autonomous mobility means. An interdisciplinary approach is used by means of teaching tools such as projects and workshops and activity-oriented and student-focused lessons (50,51).

Austria

The AlpInfoNet project (Sustainable Mobility Information Network for the Alpine Space) aims to provide travellers to and in the Alps with comprehensive information about sustainable transport modes beyond regional and national borders and to address them through smart channels that provide information when needed. The project connects and integrates already existing information systems in transport and tourism to facilitate the accessibility of the Alpine space and local mobility for users. The project has been developed by the Working Group on Transport of the Alpine Convention, is co-funded by the EU programme Alpine Space and implemented by partners from Austria, Germany, France, Italy and Slovenia.

The Amsterdam Goals mentioned above might serve as a framework or starting point for drafting such goals (see Box 1).

In addition, there should be a general statement about the timeframe within which the action plan is expected to deliver results. This provides a reference point against which progress made can be measured.

3.2.2 Step 6: define objectives and targets and set priorities

The broad goals stated above should then be broken down into more specific objectives, accompanied by specific timelines and quantifiable targets. Objectives describe outcomes that the action plan is expected to achieve. In areas of public health, for example, this often relates to morbidity, mortality or inequities related to transport, or the prevalence of risk factors (air pollution, noise, road crashes etc.). Transport-specific outcomes often concern the efficiency of public transport systems, congestion, access to mobility etc. Environmentally relevant outcomes usually refer to emissions from transport alone. However, objectives in NTHEAPs can also refer to institutional indicators on policy integration, for example. They can also be more process-oriented.

It is generally important to set measurable, time-limited and easy-to-understand objectives. Having verifiable and measurable target values for the objectives is extremely relevant for the monitoring and evaluation phase. Baseline data are needed to quantify an objective. In many low- and middle-income countries and at the subnational level, such data are often not available. In these cases, the objectives might have to be formulated in a more descriptive way. It is also suggested that the actions included aim at closing these information gaps. More specific and understandable objectives and targets make engaging the relevant stakeholders easier. Targets are usually categorized as short, medium and long term. For example, an objective of an NTHEAP might be to increase the use of bicycles in urban environments.

Targets could then be defined as specific percentages of bicycles among all trips in cities in the short, medium and long term. Targets are often difficult to determine and agree on. Although they can be adjusted through continual improvements in the NTHEAP, they should be as realistic as possible from the outset while still representing a challenge to society. Stakeholder involvement plays a very important role in setting targets. The targets need to address the political and economic realities of the country as well as the prevailing method for defining and communicating national targets. The targets should be in accordance with relevant targets in other national action plans, policies and strategies. The situation assessment in phase 1 should have unearthed all related objectives and targets in other action plans so that all competing and complementary targets can be efficiently integrated (Box 12).

To ensure that the action plan is comprehensive and coherent, it is recommended that a hierarchical approach be used in developing NTHEAPs. This means that, for each action plan goal, several objectives should be defined. Each objective can have a set of subobjectives. Such subobjectives are often directed at mechanisms that are expected to influence the overall objectives.

3.2.2.1 Setting priorities

At this stage in the process, setting priorities is also very important. This may also include differentiation between short-term and longer-term priorities. Priority areas may also vary as the NTHEAP undergoes improvement cycles over the years.

The setting of priorities should always be a collaborative process, involving all relevant stakeholders. A transparent consultative process supported by scientific evidence should help in making the priorities set acceptable by all parties involved. Priorities for transport, environment and health actions are set based on the situation analysis (phase 1) and interdepartmental and public consultation.

Box 12. Good practices in defining objectives and setting priorities

Serbia

In 2009, Serbia developed a national children's environment and health action plan (52) that includes transport-specific interventions. The drafting group structured the action plan around four long-term objectives (10 years) that are broken down into 4–5 mid-term objectives (5 years). Each had clearly defined expected results, indicators as well as proposals for data sources to verify the indicators.

Austria

Masterplan Cycling (53,54) is the Austrian national strategy to promote cycling. It contributes substantially to achieving environmental goals and positively affects health, with improved quality of life due to cycling benefits. This is the first time Federal Government has set a national target for cycling, with the aim of doubling the modal share of cycling from 5% in 2006 to 10% in 2015. The main focuses of Masterplan Cycling are: attractive and safe cycling infrastructure, bicycle-friendly and safe traffic organization, optimizing the intermodal network with public transport, mobility management for cycling, awareness-raising and traffic education, bicycle-friendly framework conditions and politically intensified cooperation of authorities at all levels for bicycle traffic. The mid-term evaluation of Masterplan Cycling showed an increase of the cycling modal share to 7% (2011).

The ministries responsible for transport, health and the environment organize consultation with key stakeholders, such as business and industry, local authorities, nongovernmental organizations, new media and academe. Such consultations should address the following questions.

- What areas have existing policies, strategies and action plans covered?
- What areas have discontinued or completed policies, strategies and action plans covered?
- What have other similar countries used as their priority areas?
- What areas would be the most challenging to implement?
- What important areas have yet to be covered at all?

Careful consideration and lengthy negotiations is normally required before a final set of priority areas can be identified. In many cases, a country

may arrive at only one or two short- to medium-term priority areas.

As transport, health and environment touch on a broad range of issues, a common reaction by stakeholders might be to claim that the proposed objectives and interventions are too onerous and cannot be achieved in a single action plan. It is then necessary to consider a phased approach to delivering objectives: what should come first and what should be left for a later stage of the action plan if and when more resources become available. Securing tangible short- and medium-term results (early wins) is very important to maintain stakeholder interest. The public might also be less inclined to support an NTHEAP that appears complex and overly ambitious. Since resources are often the limiting factor, priority might be given to the issues that affect the largest proportion of the population or for which the greatest political support and commitment can be gained. Generally, priorities are determined by:

- the range of potential effects specific to the environment, health and transport;

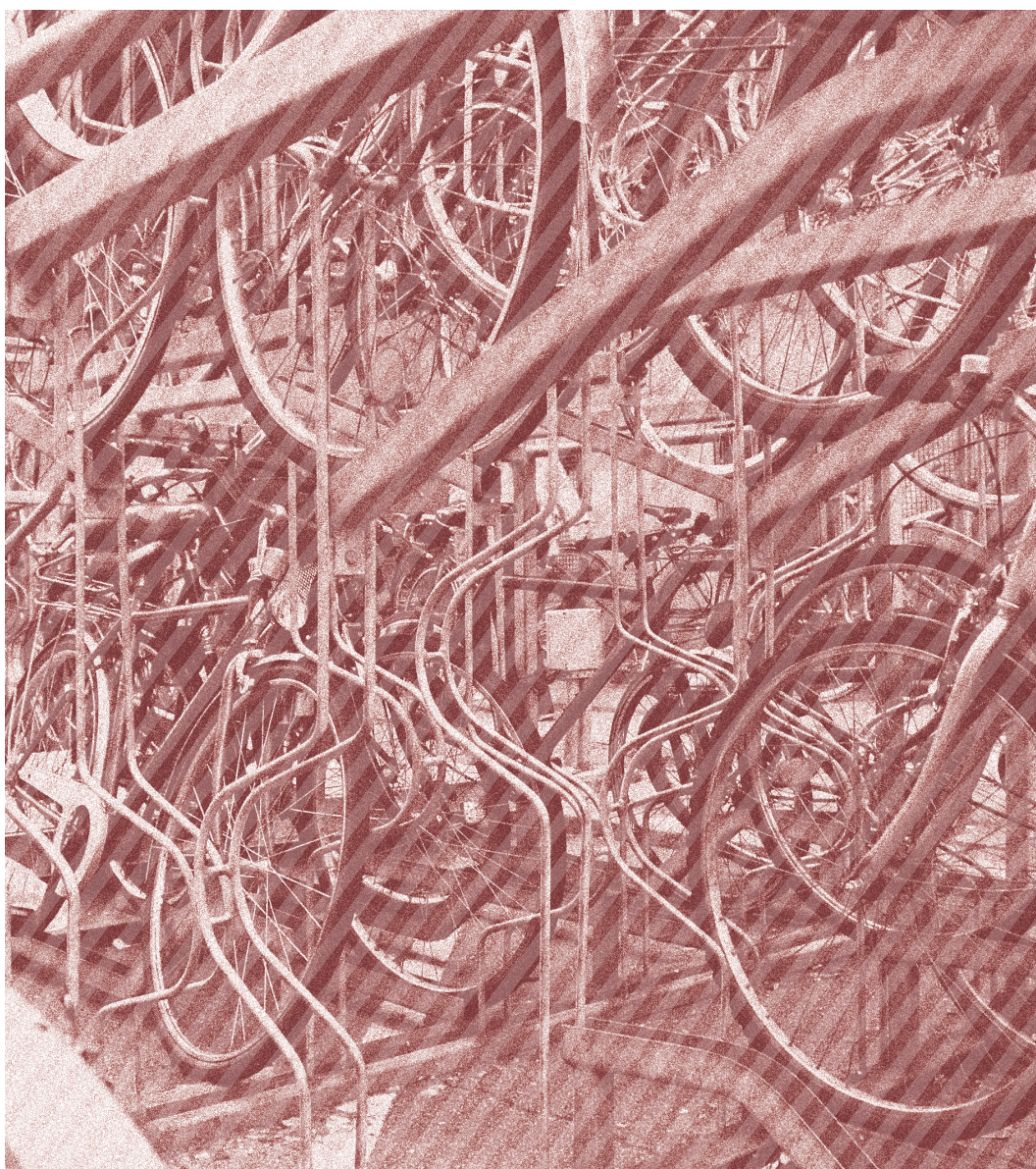
- the expected scale of impact on the population (including economic aspects);
- the feasibility of potential interventions (technical, acceptance etc.);
- the resource intensity of potential interventions;
- political support (political agenda and timetable);
- the strengths and weaknesses of existing programmes (synergy and overlap with existing action plans); and
- the visibility of results in the short and medium term.

Although priorities might differ at the national, regional and local levels, integrating transport, health and environment policies should always be a main objective of an NTHEAP. Creating coherence in policies and to establishing a national supportive framework for local action and implementation are extremely important.

3.2.3 Step 7: select interventions

The core of an NTHEAP comprises the interventions themselves (actions) to which have been attached responsibilities, resources and timelines.

The full range of interventions should be considered to determine which will be useful and successful in the national context. The action plan should support proven



or promising interventions and advocate withdrawal of support for interventions that have been shown to be ineffective. By drawing on national or international experience, the most relevant interventions should be identified for each (sub)objective, bearing in mind their likely effectiveness under local circumstances, feasibility, measurability and cost-effectiveness. Evidence-informed research needs to be harnessed to ensure that the most effective interventions are chosen. The expected impact on the economy should also be considered. Potential win-win opportunities, such as investing in green jobs, could be particularly favoured in times of economic recession and should be highlighted. Further, the same criteria as setting priorities among objectives (section 3.2.2) should also be applied in selecting interventions. In particular, an NTHEAP should ideally complement existing action plans and avoid duplicating efforts. Some interventions, such as information campaigns, might already be in place and only need to be modified to meet the objectives of the NTHEAP. As mentioned in the previous chapter, including interventions that can yield visible results in a short time frame is also important. This helps sustain high motivation among stakeholders and is politically rewarding.

Numerous possible interventions and instruments are available and must be mixed. Help in identifying and implementing suitable transport, health and environment interventions is available from several publications and other sources. THE PEP, for example, maintains two websites on healthy and environmentally sustainable transport: THE PEP Clearing House and THE PEP Toolbox. The environmentally sustainable transport project of the United Nations Environment Programme provides a clearing-house with good practices that especially focus on countries in central and eastern Europe. A few examples of interventions are given below.

In general, successful approaches and actions for creating healthy and sustainable transport are built on a

combination of spatial planning, modal split policies, technical solutions and campaigns aimed at influencing behaviour as well as financial instruments. Main topics to keep in mind include:

- transport, health and environment integration: strategies, institutional mechanisms, monitoring and assessment tools and capacity-building;
- urban transport: public transport, private cars, walking and cycling, urban traffic safety, integrated urban planning and intermodality;
- demand management: modal split, transport planning, taxation and regulation and eco-driving; and
- cross-cutting issues: ecologically sensitive areas, children and other vulnerable road users, specific issues related to countries in the eastern part of the WHO European Region, investing in green jobs, behavioural change and public acceptance and pricing infrastructure use.

Within the framework of THE PEP, key ways have been formulated to capture the breadth of areas for action (55).

Regulatory areas for action include:

- reducing and controlling emissions;
- giving priority to reducing and controlling speed;
- including health impact assessment in transport and urban planning policies, plans and programmes;
- including health and environmental effects in economic valuation of transport initiatives;
- using local and regional spatial planning; and



- using taxation (such as emission-based and congestion charges) and financial incentives (such as subsidies for public transport and low-emission vehicles) for managing demand.

Infrastructure areas for action include:

- investing in infrastructure with a focus on road safety;
- investing in cycling- and walking-friendly infrastructure;
- investing in clean and efficient public transport;
- improving intermodal changes; and
- discouraging car use for managing demand (such as by reducing the number of parking facilities and reducing the accessibility of city centres for cars).

Promotion areas for action include:

- promoting walking and cycling, specifically also for children;
- promoting school and company mobility plans focusing on walking and cycling;
- promoting environmentally friendly public transport;
- safeguarding the competitive position of rail transport;
- encouraging the use of intelligent transport systems;
- changing attitudes towards transport modes; and
- developing cycling and pedestrian skills (such as in schools).

Adopting a suitable and promising mix of transport, health and environment interventions requires careful consideration and meaningful negotiations between the stakeholders involved (Box 13). Selecting a

limited set of well-considered pilot activities could help in keeping the NTHEAP focused on short-term action. Conflicts over the best way to meet a certain objective or target can be anticipated. The steering committee should keep in mind that simply placating the concerns of all stakeholders by selecting actions that represent the lowest common denominator may not succeed in reaching the desired medium- and long-term targets. Although balancing the views of all stakeholders as much as possible towards a shared outcome is important, some stakeholders may emerge dissatisfied with a certain intervention.

Specific recommendations on action points for policy-makers were formulated for achieving the goals of the Amsterdam Declaration and can also serve as an inspiration for identifying transport, health and environment interventions (61).

Some of the interventions might depend on others and are only effective when combined, either in parallel or in close succession. In addition to interventions targeting specific transport, environment and health problems, an NTHEAP may typically also include horizontal activities such as:

- raising the profile of environmental health issues in economic sectors, usually through environmental health impact assessment of transport projects;
- developing a transport-related environment and health information system;
- public participation and consultation; and
- communication on the action plan itself and the results achieved.

To achieve the objective of integrating transport, health and environment policies, the following mechanisms are recommended to be included as interventions in an NTHEAP (Box 14) (13).



Box 13. Good practices in selecting interventions

Austria: regional mobility centres

To promote public transport use, Austria's regional authorities have established regional mobility centres supported by the National Action Programme for Mobility Management (klima:aktiv mobil). The services offered aim at improving public transport in general, attracting new customers and providing support. As such, the mobility centres are also contact points for businesses, communities, transport providers, institutions, schools and tourism associations. They are also the main coordinating body for the regional public transport plans and provide training and support for mobility management in communities, businesses and schools and to older people. Good practices are the mobility centres in the provinces of Upper Austria, Styria and Burgenland (56).

Austria: cycle helmets

Compulsory cycle helmet use entered into force in May 2011, with an information campaign initiated in June of that same year. The campaign focused on raising awareness among parents and children on the protective effect of the helmet and on wearing helmets. The results showed a significant increase in children using bike helmets and a decrease in the proportion of children who incur severe head injuries (57). Compulsory bike helmet use in children under 12 has been readily accepted and adopted as an intervention in Austria.

Austria: developing skills to cycle safely to school

In 2012, a cycle education programme was carried out with the aim of improving motor skills of children aged 10 years and younger while cycling (58). Children were taught how to identify correct helmets and how to properly use helmets while cycling. Children were also given knowledge on the statutory minimum of technical equipment their bicycles should have. Participating children reported improved movement, dexterity, balance and coordination while on bicycles and were empowered with new knowledge of the technical equipment in their own cycles. They now also recognize the importance of using a helmet while riding. Other important benefits included parents feeling sure that their children could now cycle independently to school, fewer car trips for children younger than 10 years old, and as a result, increased exercise for children.

Belgium

The introduction of free public transport encourages people to take public transport. Public transport between the home and the workplace is free for federal employees in Belgium. For companies that fund 80% of travel costs to Brussels with public transport, the state pays the remaining 20%. In addition, several categories of people are entitled (under certain conditions) to free public transport according to age (people aged 0–11 years and 65 years and older) and to specific tariff measures according to their disability or their social status (59).

Italy

The need for regional cooperation to promote intermodality by obtaining a critical mass has been recognized and led to the development of several freight villages (60). The concept is generally based on concentrating freight traffic flows by the self-settlement of the transport companies inside a dedicated area, highly efficient intermodal systems inside the same area and support from the government (such as co-funding). The advantages are less congestion (less heavy traffic inside the residential areas) and increased productivity (strategic construction of logistical infrastructure).

Box 14. Good practices in integrating transport, health and environment

Belgium

In 2003, Belgium put into action a cooperative agreement on environment and health, integrating government agencies dealing with health and the environment across all levels of government. It helped to institutionalize coordinated policy-making and was officially endorsed by the parliament. Integrated policy-making is no longer seen as an end in itself but is instead recognized as a way of achieving practical outcomes that simultaneously fulfil the goals of more than one stakeholder. Political will and allocation of resources are just as important as mechanisms and institutional conditions. Public participation has also helped to enhance policy coordination, leading to better performance and reception of activities, thus improving the trust and confidence of the public in political decisions.

London, United Kingdom

As part of an integrated transport strategy, nine new 20 mph zones were introduced in residential areas and near schools in Camden. The number of traffic injuries in these areas dropped by 58 per cent after introduction. The Camden walking plan in London is an example of integrated transport plans. To achieve an integrated transport strategy, intersectoral collaboration is crucial. In the walking plan, stakeholders from the transport sector and the health care sector helped make the plan a success.

Sources: Integration of environment into transport policy – from strategies to good practice. Highlights from the Conference on Good Practice in Integration of Environment into Transport Policy, 10–11 October 2002 (60) and Transport, Health and Environment Pan-European Programme (62).

- Set up organizational arrangements such as interdepartmental committees, commissions etc. to bring together members of various departments and ministries.
- Assign a permanent central steering role (as mediator and to monitor) to help coordinate the outcome of such organizational arrangements.
- Embed collaboration in the professional culture of the involved ministries through intersectoral strategies, programmes and policies, including intersectoral objectives.
- Support joint accountability:
 - include financial incentives for joint programmes, budgets for cross-sectoral implementation of common policies;
 - introduce common analytical indicators and parameters; and
 - involve public debates on the issues, since nongovernmental organizations and the public often perceive issues in more holistically.
- Support capacity-building and awareness-raising:
 - national and international exchange of good practices on how to build intersectoral capacity and overcome barriers (new methods, ideas and tools).
 - Regular workshops and trainings on good governance, management and integrative decision-making.
 - Job rotation to promote vertical and horizontal working relationships,

if supported by the administrative culture of the country.

- Create and train multidisciplinary teams in ministries to monitor and assess cross-cutting issues.
- Introduce benchmarking and competition for good practices in policy integration.
- Use monitoring and reporting processes to promote dialogue and exchange of information between sectors.

- Introduce benchmarking, monitoring and reporting tools to assess the progress towards better policy integration between transport, health and environment.

3.2.4 Step 8: define responsibilities

The success of an NTHEAP greatly depends on defining institutional responsibilities and coordination mechanisms between the ministries, national entities, nongovernmental organizations and academe involved in developing and implementing the action plan. This requires assigning overall leadership and responsibilities for the various objectives and interventions.

In countries with a decentralized public system, involving the regional and district authorities in the development phase is very important, since their collaboration is required in any case for implementing the NTHEAP. This might prove difficult for logistical and administrative reasons. Given their likely role in implementing the NTHEAP, it is advisable to sensitize regional and local authorities from early on (such as through a series of consultative meetings and workshops). Additional support, through training events for example, might be needed during the implementation phase. As mentioned in section 3.2.2, providing a coherent and supportive national policy framework for local action and implementation is important.

The ultimate responsibility for protecting health and the environment from the harmful effects of transport lies mainly at the national level. Most of the action, however, is usually taken at the subnational or local level. If such action is to be effective, the national authorities need to establish supportive frameworks and mechanisms to support subnational and local organizations and authorities. The national government usually takes the lead in preparing NTHEAPs, but ultimately, an NTHEAP is ideally a combination of several local transport, health and environment action plans. The support from the national government can be in the form of (63):

- providing a legal framework for local action;
- setting priorities;
- helping develop national indicators for local use and information systems that are also adapted to the local level;
- promoting integration across sectors at all levels of government;
- encouraging the involvement of the academic sector in risk assessment and cost-benefit analysis;
- providing funding;
- delegating authority to the subnational and local levels;
- accepting ultimate responsibility for transport, health and environment issues; and
- assisting in resolving any transboundary issues.

3.2.5 Step 9: define resource needs and sources

Successful implementation of an NTHEAP requires adequate financial and human resources. Developing an NTHEAP requires:

- estimating the required human resource needs, including training and participation in national and international meetings; and
- breaking down the costs of implementing the NTHEAP by intervention and identifying national and international funding sources.

Ministries and national agencies involved in implementing the NTHEAP should adjust their budgets accordingly and secure additional financial support from donors. Synergy between ministries should be identified to share and increase funding. Capacity-building in applying for financial support from international funding institutions and organizations might be necessary, and existing expertise should be shared across the ministries involved.

Developing a robust action plan that includes well-thought-out partnerships and initiatives (such as pilot activities) from the outset is likely to help to mobilize the required resources (Box 15). Bilateral donors and international funding bodies (such as the European Commission, the World Bank, the European Bank

for Reconstruction and Development, Germany's Deutsche Gesellschaft für Technische Zusammenarbeit and other countries in the European Region) will be more inclined to support the action plan's activities once an integrated and measurable NTHEAP has been developed.

3.2.6 Step 10: define a mechanism for monitoring and evaluation

The action plan should also address the question of monitoring and evaluation. The monitoring usually covers four levels: process, products, outcomes and effects (65). The process can be monitored throughout the development phase as well as after its inception. The other three elements can only be monitored as implementation gets underway. The process of monitoring is ongoing and should be updated as better methods and data become available. Although there is often a wish to evaluate the process of developing the NTHEAP, monitoring and evaluating the implementation should clearly be emphasized. The indicators selected for monitoring and evaluation should be the same throughout the process to ensure stronger synergy. The NTHEAP should:



- make explicit the need to document progress;
- define adequate resources needed for the monitoring and evaluation activities;
- set out a review process, including:
 - responsibilities for evaluating the implementation and impact of the action plan
 - reporting intervals
 - reporting hierarchy
 - possibilities for enforcing implementation;
- define a feedback mechanism to enable the action plan to be regularly revised improve its accuracy and relevance; and
- define the information (qualitative and/or quantitative indicators) and methods that should be used.

Monitoring an NTHEAP, the impact of its interventions and their links to objectives and targets, particularly quantitatively, is not easy. Each objective, target and intervention in the action plan should be complemented with indications of relevant and measurable information that will

enable it to be evaluated. There are several sets of proposed indicators to monitor sustainable transport in general. However, the quality and availability of data is often the limiting factor. The NTHEAP itself could specifically address these issues.

Possible quantitative and qualitative ways to monitor and evaluate an NTHEAP might include:

- national peer reviews
- internal reviews
- external auditing
- parliamentary reviews
- budgetary reviews
- indicator-based monitoring
- public or local monitoring
- international monitoring
- monitoring of related existing programmes, such as a national environmental action plan.

Combining several of the above might yield the best results. Some organizations carry out evaluation with the involvement of

Box 15. Good practices in defining needs and sources

Germany

The National Climate Protection Initiative is a programme of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (64). The National Climate Protection Initiative aims to use the existing potential for reducing emissions at low cost. In addition, the International Climate Protection Initiative supports measures for adaptation to climate change and for protecting climate-related biodiversity in developing and threshold countries. The National Climate Protection Initiative funds sustainable mobility projects such as the following investments in infrastructure:

- reorganizing streets to improve accessibility for all different modes of transport and especially to promote walking in order to mitigate CO₂ emissions;
- building intermodal mobility stations to improve connections between walking, cycling, car-sharing and public transport to promote sustainable mobility; and
- instruments to improve cycling routes, such as upgrading existing cycling routes and high-quality bike parking places at hotspots of public transport.

academic partners, alongside the day-to-day project monitoring and evaluation. This enables independent and more intensive research projects that can include factors such as the behavioural and mental aspects of travel conduct and practices (Philip Insall, Director of Health, Sustrans, United Kingdom, personal communication, 2014). Such information can later serve as a valuable source of evidence. The approach a country ultimately chooses for monitoring and evaluation of its NTHEAP needs to be clearly reflected in the NTHEAP and the appropriate information requirements stated.

Communicating the results of the monitoring and evaluation to all stakeholders and the general public is important to sustain the implementation of the action plan. For example, government websites might be used to display NTHEAP indicators, and brief awareness-raising brochures could be produced regularly.

3.3 Phase 3: implementation

The steering committee oversees the NTHEAP implementation. The committee comprises ministries responsible for transport, health and the environment, representatives of other government departments and agencies, scientists and representatives of the major stakeholders and implementers. The steering committee may wish to further elaborate the work plan laid out in the NTHEAP.

3.3.1 Step 11: adopting the NTHEAP

The way official approval of the action plan is sought must reflect local political conditions. Approval and endorsement of an NTHEAP should ideally be sought first from stakeholders and then ideally from the government. The adoption should be accompanied by public relations activities, such as a public launch of the action plan involving press conferences and other events to increase public awareness. It can obviously take some time for a plan to be ratified by the government or other decision-making body, but this varies greatly according to circumstances.

3.3.1.1 Stakeholder approval

The draft NTHEAP should be circulated for comments to the other government departments. The steering committee should consider the comments received and incorporate them as far as possible to increase ownership and acceptance of the NTHEAP among stakeholders and implementers.

3.3.1.2 Government approval

In some countries, ministers approve action plans, whereas in others they also require them to be submitted to senior officials or bodies. Sometimes a group of ministers or a committee may endorse a programme instead of it being put forward for official government approval. Depending on the government system, the ministers involved will ideally jointly approve the final text of the NTHEAP: the ministers responsible for transport, health and the environment, the national government or the president. It is also advisable that other relevant ministries such as those responsible for finance and/or urban planning approve the action plan, since many interventions may also fall also under their responsibilities. In some countries, the parliament also endorses NTHEAPs.

In some circumstances, obtaining official approval is easier where the NTHEAP is linked to another new or existing national mechanism such as a national plan on climate change, national programme on sustainable consumption and production or national environment and health action plan. For EU accession countries or those that have recently joined the EU, having NTHEAP objectives and interventions in accordance as much as possible with EU requirements would be beneficial; this would provide the double advantage of fulfilling EU requirements while embarking on NTHEAPs. This may also have the effect of raising the profile of the NTHEAP. However, regardless of any linkage to other plans or instruments having all ministries involved approve the NTHEAP is highly preferable. This will also help in the goal of integrating NTHEAP themes in all government policies. It is important throughout to demonstrate



to the decision-makers that a thorough and participatory process has been followed in developing the NTHEAP. The objectives, targets and interventions of the action plan must be in accordance with the country's overall priorities. Highlighting links to all relevant existing strategies, policies and action plans and delineating the complementary status of the NTHEAP's actions is therefore crucial. The NTHEAP should clearly define its short-, medium- and long-term goals and benefits to the country.

Since implementing an NTHEAP requires the collaboration of several ministries and its impact depends on long-term commitment, it is highly desirable that the action plan also be ratified by the legislative body (usually the parliament) and given a legal basis. This makes the action plan more resistant to changes in the political climate. Since such processes can take a long time, advocacy, lobbying and media communication can be pivotal during the approval process. In fact, it can be very helpful in implementing the NTHEAP if the adoption of the NTHEAP is accompanied by press coverage or other means of public information.

If official approval is not obtained at this stage, the NTHEAP may have to be further

modified before being resubmitted to the appropriate decision-making body. This may require the steering committee to go back to phase 2 and re-follow the steps accordingly.

3.3.2 Step 12: integrate actions from the NTHEAPs into the work plans of all relevant ministries

Once the NTHEAP is officially approved, the actual implementation of the action plan can begin. The actual process depends on the operating conditions of the country. As far as possible, the actions proposed in the NTHEAP should be followed closely. Since an NTHEAP usually spans more than a single planning cycle for government agencies, the short-, medium- and long-term targets and the corresponding interventions and activities of the NTHEAP need to be integrated in the work plans of all stakeholders and actors involved (Box 16). For this purpose, the steering committee might need to create working groups and assign them the task of elaborating the specific work plans.

If, during this phase, it becomes necessary to change the interventions originally proposed, any adjustments should be made with reference to the overall goal, objectives and targets of the NTHEAP.

Box 16. Good practices: integrating actions from the NTHEAPs into the work plans of all relevant ministries

Scotland

Good Places, Better Health (66) was launched in 2008 as the Scottish Government's strategy on health and the environment. It emphasizes the importance of cross-cutting working at the government and agency levels to meet the challenge of creating safe and positive environments. Much of the current focus at the national level is on how to ensure that the policy's recommendations can be taken up across the various sectors. Good Places, Better Health shows growing recognition of the additional need to shape places that can nurture positive health, well-being and resilience. This new approach to environment and health in Scotland recognizes that many key players operate at the local level, including through health boards, local government, community planning partnerships, third-sector organizations and communities themselves. Engagement and enabling work at the local level is also a key part of implementing this new approach. The initial phase explored various approaches and mechanisms to link the environment and selected health outcomes. The local dimension was emphasized to ensure that a range of agencies gained an appreciation, not only of environmental threats, but especially of the health-nurturing capacity of the environment.



3.3.3 Step 13: allocate the necessary budget

Allocating the necessary budget for implementation is a crucial and often challenging step in implementation (Box 17). Part of the money for implementing the NTHEAP may come from the state budget if the government or the parliament approves this. Otherwise, the ministries involved may allocate some portion of their budget for implementing activities under NTHEAP and/or mobilize resources to raise the required funds from external sponsors, such as bilateral donors. It is crucial that the action plan receive a given amount of money to ensure political endorsement and continuous support and to cover key activities such as participation in workshops, training, international conferences for which often money is lacking.

3.3.4 Step 14: communicate the activities and results

It is important to continue to advocate for and communicate the NTHEAP to the public and stakeholders after the development phase has finished and the government adopts the plan. For this purpose, a communication plan should be developed to support the implementation with the involvement of the mass media from the outset. A common weakness of large-scale travel behaviour change projects is that they are not planned and proactive enough in getting the message out through various media, with the result being that media activity becomes reactive.

In addition, once the first results from the evaluation phase become available, these should also be communicated and used for

Box 17. Good practices: allocate the necessary budget

Austria

The National Action Programme for Mobility Management (klima:aktiv mobil) is the national programme of the Federal Ministry of Agriculture, Forestry, Environment and Water Management to motivate and support companies and fleet operators, cities and regions, the tourism and leisure sectors, schools and youth groups to develop and implement climate-friendly mobility projects with the aim of reducing CO₂ emissions (54). The funding programme, also supported by the Austrian Climate and Energy Fund, is the central pillar of the offerings. During its first programme period (2007–2012), the programme achieved the following results:

- reduction of about 570 000 tonnes of CO₂ emissions per year through 4900 mobility projects;
- financial support of €66.6 million for 2000 projects from cities, regions, companies, tourism and leisure operators, schools and youth groups, and this investment induced further investment of about €495 million and created and saved 5600 green jobs;
- financial support for about 12 000 alternative vehicles for the fleets of companies and municipalities, including more than 10 000 electric vehicles;
- funding for 200 bicycle projects, covering bicycle infrastructure, logistics and awareness, including expanding the bicycle infrastructure in all nine Austrian federal states and the major cities; and
- upgrading 1000 driving trainers to become certified eco-driving trainers.

The cornerstones of the portfolio for 2020 are the advisory programme, the funding programme for climate-friendly mobility of companies, municipalities and associations, awareness-raising campaigns, partnerships and training and certification schemes. By extending the Programme until 2020, the Federal Ministry of Agriculture, Forestry, Environment and Water Management ensures the support of companies, municipalities and associations in implementing climate-friendly mobility management and transport projects on a long-term basis.

further advocacy and awareness-raising. This can be very helpful in sustaining the NTHEAP. There are several ways to communicate the NTHEAP to the stakeholders, including through a range of different media such as the Internet, print, television and radio. The communication campaign can target stakeholders with specific interest in certain topics, provide general information about the NTHEAP or combine these.

3.4 Phase 4: monitoring, evaluation and improvement

The steering committee should start monitoring and evaluating the NTHEAP at the earliest opportunity. At every stage of the planning, development and implementation, documentation should be produced for monitoring, learning about compliance and sharing information. Since many steps in the process need to be repeated later, the availability of existing documentation can be very useful. The steering committee may maintain a library of documentation of the planning, development and implementation phase. This can also be very useful for other countries interested in learning from experiences.

3.4.1 Step 15: establish an evaluation team and implement the defined evaluation mechanisms

The steering committee decides on evaluation of the NTHEAP and defines the terms of reference of the evaluation (see phase 2 – step 10).

Internal and external experts who have appropriate background and skills form an evaluation team responsible for creating a detailed plan and instruments for monitoring and evaluation from early in the process (Box 18). Evaluation approaches typically include:

- analysis of transport, environment and health indicators, as defined in the NTHEAP;
- interviewing people who represent the major stakeholders in developing and implementing the NTHEAP and who have been involved in the process;
- focus groups to discuss the strengths, weaknesses, opportunities and constraints of the NTHEAP, with a special focus on the lessons learned from implementation; and
- qualitative review of documents related to NTHEAP, such as other national action plans on transport, environment or health, national health programmes and strategies for development of sustainable transport.

3.4.2 Step 16: sustain and improve the NTHEAP

From the beginning of the process of developing an NTHEAP, a mechanism should be put in place to ensure that it can and will be updated. A schedule to review and update the NTHEAP is important. In practice, the main drivers for updating the NTHEAP are likely to emerge from the evaluation (step 15 above) and the repeating of certain steps in phases 1 and 2. However, there may be more subtle and complex reasons for updating the NTHEAP, such as changes in the political, social and economic context of a country. However, there is more to sustaining an NTHEAP than setting a schedule to update it (Box 19). The steering committee together with all implementing agencies also needs to continually foster interest in the NTHEAP. There are many ways to do this:

- ongoing multistakeholder meetings to report on progress and discuss improvements;
- regular information and communication campaigns targeting all stakeholders, including the general public;
- ongoing attempts by the steering committee to secure additional funding and political support for the NTHEAP from other stakeholders, including the government; and
- engaging business and industry.

Box 18. Good practices: establish an evaluation team and implement the defined evaluation mechanisms

France

A joint review committee (sustainable development, health, higher education and research inspectorates) was set up to evaluate the implementation and impact of France's national environment and health action plan (67). The committee emphasized the strength of the governance structure because of its national steering committee but also underlined the difficulty in accurately evaluating the implementation of action because precise indicators are lacking. The evaluation also recommended better integration of a regional dimension in the third national environment and health action plan and pointed out that transport, health and environment action should be carried out within specific plans while maintaining the link with the third national environment and health action plan. During 2014, France will prepare the third national environment and health action plan, which will feature a comprehensive and interdisciplinary approach to determining and managing national policy on environment and health with the following three objectives:

- reducing environmental exposure and characterize the effects of lifelong environmental exposure on health;
- giving priority to focusing on the types of environmental exposure leading to high-impact diseases; and
- strengthening environment and health training and education.

A specific working group for transport, health and environment will work separately to ensure links between the third national environment and health action plan and THE PEP.

Box 19. Good practices: sustaining and improving the NTHEAP

France

France develops or revises a national health and environment action plan every 5 years. The first national health and environment action plan (2005–2009) contained measures to prevent health risks related to the general environment. The second plan (2009–2013) originated from the Environment Grenelle and contained transport measures such as improvements in air quality, reductions in exposure to carcinogenic substances (such as radon and asbestos), mitigating the effects of noise, a study on emerging risks, protecting the health of children and vulnerable groups, protection from contaminated water, soil and air and strengthening research and expertise in health and environment (68,69). It also took into account how different transport modes affect health, promoted active transport and alternative mobility, reductions in traffic-generated noise and improved health and comfort of transport users and workers. The third national health and environment action plan will have three cross-cutting working groups and a specific working group dedicated to transport, health and environment. It also has a national steering committee called the GSE (environment health group) that will monitor and guide the implementation of the third national health and environment action plan. This working group comprises various stakeholders such as central government, members of parliament, local authorities, associations, trade unions and employers' representatives, suitably qualified personalities and health professionals. The committee will be authorized to adjust measures as needed and according to new knowledge. The GSE will act as a permanent think tank on environmental health issues.





Tools

For each phase and step in developing an NTHEAP, a range of tools and sources of information are available at the international, national, subnational and local levels. THE PEP maintains two main collections of useful information and tools and provides a framework to offer support in developing an NTHEAP.

THE PEP Toolbox (<http://www.healthytransport.com>) provides a repository of such information that is constantly being updated. The Toolbox was developed to help policy-makers and local professionals solve transport problems that affect health and the environment. In addition to tools and promising practices, it contains policy briefs on selected topics and provides access to information from relevant sources. It provides guidance on transport-related health effects and sustainable solutions focusing on issues such as road traffic injuries, air pollution, noise, climate change and physical activity.

THE PEP Clearing House (<http://www.thepep.org/CHWebSite>) is a web portal designed to facilitate exchange of information and knowledge across the transport, environment and health sectors in the pan-European Region. It aims to address, in particular, the needs of countries in eastern Europe, the Caucasus and central Asia and in south-eastern Europe. It serves to collect, disseminate and exchange information on sustainable transport policies, legislation, research and good practices. Its information content covers more than 100 topics relevant to the transport, environment and health sectors, including as priorities the health and

environmental effects of transport, policy integration, urban transport and transport demand management. The Clearing House has a very practical organization and intuitive method of accessing information on air pollution or noise in urban areas, policies regarding the effects of private cars or any other topics covered by THE PEP.

THE PEP Partnership is THE PEP “factory” or facility, capable of providing technical assistance for developing NTHEAPs and for producing tools, methods, resources and other substantive materials for THE PEP relay race workshops. The main objective of THE PEP Partnership is providing capacity-building for countries in eastern Europe, the Caucasus and central Asia and in south-eastern Europe. As such, THE PEP Partnership can play a central role in supporting countries in developing and implementing an NTHEAP.

Additional sources for exchanging experiences and disseminating good practice include:

- POLIS – European Cities and Regions Networking for New Transport Solutions;
- ACCESS – EUROCITIES for a New Mobility Culture;
- CPMR – the Conference of Peripheral Maritime Regions of Europe;
- BEST – Benchmarking European Sustainable Transport;



- the EU Transport Research Programme Knowledge Centre; internationaltransportforum.org/statistics/statistics.html
- ELTIS – European Local Transport Information Service;
- Eurostat: statistical office of the EU (<http://epp.eurostat.ec.europa.eu>)
- European training programme for urban transport professionals;
- Health impact assessment tools of the WHO Regional Office for Europe (<http://www.euro.who.int/en/what-we-do/health-topics/environmental-health/health-impact-assessment>)
- Database on Good Practice in Urban Management and Sustainability;
- CIVITAS Initiative; and
- OECD EST Project – Environmentally Sustainable Transport.

This chapter lists several additional tools, sources of information and further reading opportunities for each phase and step described previously in this manual.

4.1 Phase 1: planning

4.1.1 Situation analysis for the health and environment effects of transport

- UNECE's Environmental Performance Review (EPR) (<http://www.unece.org/env/epr/welcome.htm>)
- Environmental burden of disease country profiles from WHO (http://www.who.int/quantifying_ehimpacts/national/countryprofile/en/index.html)
- Country profiles in the *European status report on road safety. Towards safer roads and healthier transport choices*, WHO Regional Office for Europe, 2009 (<http://www.euro.who.int/en/what-we-publish/abstracts/european-status-report-on-road-safety.-towards-safer-roads-and-healthier-transport-choices>)
- Country profiles from the Transport Research and Innovation Portal (<http://www.transport-research.info/web>)
- *Economic valuation of transport-related health effects*, WHO Regional Office for Europe, 2008 (<http://www.euro.who.int/en/health-topics/environment-and-health/Transport-and-health/publications/pre-2009/economic-valuation-of-transport-related-health-effects-2008>)
- Environment and health performance reviews of the WHO Regional Office for Europe (<http://www.euro.who.int/en/what-we-do/health-topics/environmental-health/health-impact-assessment/country-work/environment-and-health-performance-reviews-ehprs>)
- Transport statistics of the European Commission (http://ec.europa.eu/transport/publications/statistics/statistics_en.htm)
- Transport and environment reporting mechanism (TERM) of the EEA (<http://www.eea.europa.eu/themes/transport/indicators>)
- Statistics provided by the International Transport Forum (ITF) (<http://www>.

- *Health Economic Assessment Tool (HEAT) for cycling*, WHO Regional Office for Europe, 2008 (<http://www.euro.who.int/en/what-we-do/health-topics/environmental-health/Transport-and-health/activities/promotion-of-safe-walking-and-cycling-in-urban-areas/quantifying-the-positive-health-effects-of-cycling-and-walking/health-economic-assessment-tool-heat-for-cycling>)
 - *Strategic environmental assessment for transport plans and programmes*, Department for Transport, United Kingdom, 2004 (<http://www.dft.gov.uk/webtag/documents/project-manager/unit2.11.php>)
 - *Outdoor air pollution: assessing the environmental burden of disease at national and local levels*, WHO headquarters, 2004 (http://www.who.int/quantifying_ehimpacts/publications/ebd5/en)
 - *Tools for health impact assessment of air quality: the AirQ 2.2 software*, WHO Regional Office for Europe, 2004 (<http://www.euro.who.int/en/health-topics/environment-and-health/air-quality/activities/tools-for-health-impact-assessment-of-air-quality-the-airq-2.2-software>)
 - *Burden of disease from environmental noise: quantification of health life years lost in Europe*, WHO Regional Office for Europe, 2011 (http://www.euro.who.int/__data/assets/pdf_file/0008/136466/e94888.pdf)
 - *Urban air quality management toolbox – toolkit*, United Nations Environment Programme, 2005 (http://www.unep.org/urban_environment/pdfs/toolkit.pdf)
 - Cost–benefit analysis tools from WHO (http://www.who.int/hia/tools/xtra_tools/en/index.html)
 - Example of joint issue framing with the Good Places, Better Health initiative of the Scottish Government (<http://www.scotland.gov.uk/Topics/Health/Healthy-Living/Good-Places-Better-Health/Approach/Methodology>)
- #### 4.1.2 International policies related to health and environmental impact assessment
- Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment. Official J Eur Communities. 2001;L 197:30–7 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32001L0042:EN:HTML>)
 - UNECE Protocol on Strategic Environmental Assessment, UNECE, 2003 (http://www.unece.org/env/eia/sea_protocol.htm)
 - Convention on Long-Range Transboundary Air Pollution, UNECE, 1979 (<http://www.unece.org/env/lrtap>)
 - Transport-relevant EU legislation (http://europa.eu/legislation_summaries/transport/index_en.htm)
- #### 4.1.3 Awareness-raising
- TEACH-VIP module on injury prevention, policy development and advocacy, WHO headquarters, 2007 (http://who.int/violence_injury_prevention/capacitybuilding/teach_vip/e-learning/en)
- ## 4.2 Phase 2: development
- ### 4.2.1 Sources for interventions in transport, health and environment
- THE PEP relay race (workshop series) on sustainable and healthy urban transport (<http://www.unece.org/index.php?id=26085>)
 - TEACH-VIP core (one) and advanced (three) modules on road traffic: risk

- factors, interventions, good practices, developing interventions, WHO headquarters, 2007 (<http://teach-vip.edc.org>)
- THE PEP. *Working together for sustainable and healthy transport: guidance on supportive institutional conditions for policy integration of transport, health and environment*, UNECE, 2008 (<http://www.unece.org/fileadmin/DAM/thepep/en/publications/WorkingTogether.Guidance.en.pdf>)
 - WHO's capacity-building tool on road traffic injury prevention: TEACH-VIP, core module 20, WHO headquarters, 2008 (<http://teach-vip.edc.org>)
 - Driving force–pressure–state–exposure–effect–action (DPSEEA) framework adapted to a broader context (Morris G. New approaches to problem framing in environmental health: application to water. *Public Health*. 2010;124:607–12)
 - Multiple exposures multiple effects (MEME) model, WHO headquarters, 2014 (<http://www.who.int/ceh/indicators/indiconcept/en>)
 - Health Economic Assessment Tool (HEAT) for cycling, WHO Regional Office for Europe, 2008 (<http://www.euro.who.int/en/what-we-do/health-topics/environmental-health/Transport-and-health/activities/promotion-of-safe-walking-and-cycling-in-urban-areas/quantifying-the-positive-health-effects-of-cycling-and-walking/health-economic-assessment-tool-heat-for-cycling>)
 - Case studies and good practices in transport, health and environment in low- and middle-income countries, WHO headquarters, 2010 (<http://www.who.int/heli/risks/urban/transpdirectory/en/index2.html>)
 - Partnership for Clean Fuels and Vehicles, established at the World Summit on Sustainable Development in September 2002 to reduce vehicular air pollution in low- and middle-income countries by promoting clean fuels and vehicles (<http://www.unep.org/pcfv/main/main.htm>)
 - United Nations Environment Programme environmentally sustainable transport clearing-house for central and eastern Europe (<http://est east.unep.ch>)
 - Children's Environment and Health Action Plan for Europe, WHO Regional Office for Europe, 2004 (<http://www.euro.who.int/en/health-topics/noncommunicable-diseases/chronic-respiratory-diseases/publications/pre-2011/childrens-environment-and-health-action-plan-for-europe>)
 - European Local Transport Information Service (<http://www.eltis.org>)
 - European Platform on Mobility Management (<http://www.epomm.eu>)
 - ADD HOME (<http://www.add-home.eu>)
 - Open Source for Mobile and Sustainable City (OSMOSE) (<http://www.osmose-os.org>)
 - Sustainable Mobility (SMILE) (<http://www.smilesproject.eu>)
 - Sustainable Energy Europe Campaign (http://www.managenergy.net/meta_informations/425)
 - United Nations Environment Programme environmentally sustainable transport clearing-house for central and eastern Europe (<http://est east.unep.ch>)
 - *Collaboration between the health and transport sectors in promoting physical activity: examples from European countries*, WHO Regional Office for Europe, 2008, (<http://www.euro.who.int/en/health-topics/environment-and-health/Transport-and-health/>)

publications/pre-2009/collaboration-between-the-health-and-transport-sectors-in-promoting-physical-activity.-examples-from-european-countries)

- *Transport interventions promoting safe cycling and walking: evidence briefing*, National Institute for Health and Clinical Excellence, 2007 (http://www.nice.org.uk/niceMedia/pdf/Transport_Evidence_Briefing_05-07.pdf, pages 22 and 35–38)
- *Preventing injuries in Europe: from international collaboration to local implementation*, WHO Regional Office for Europe, 2010 (<http://www.euro.who.int/en/health-topics/disease-prevention/violence-and-injuries/publications/2010/preventing-injuries-in-europe-from-international-collaboration-to-local-implementation>)
- *Green paper on urban mobility – stakeholder consultation report*, ECORYS Nederland BV for the European Commission, 2008 (http://ec.europa.eu/transport/urban/studies/doc/2008_green_paper_urban_mobility_stakeholder_consultation_report.pdf)
- *Sustainable urban transport plans*, European Commission, 2007 (http://ec.europa.eu/transport/urban/studies/doc/2007_sustainable_urban_transport_plan.pdf; annex: http://ec.europa.eu/transport/urban/studies/doc/2007_sustainable_urban_transport_plan_annex.pdf)
- European Commission portal on sustainable transport policies (http://ec.europa.eu/transport/sustainable/index_en.htm)
- May AD. *Developing sustainable urban land use and transport strategies – a decision makers' guidebook*, PROSPECTS project, 2003 (<http://www.ivv.tuwien.ac.at/fileadmin/mediapool-verkehrsplanung/Diverse/>

Forschung/International/PROSPECTS/pr_del15dmgen.pdf)

- *A healthy city is an active city: a physical activity planning guide*, WHO Regional Office for Europe, 2008 (http://www.euro.who.int/__data/assets/pdf_file/0012/99975/E91883.pdf)
- *GLZ sourcebook on sustainable urban transport*, Sustainable Urban Transport Project, 1999 (http://www.sutp.org/index.php?option=com_content&task=view&id=426&Itemid=189&lang=en)
- *Global age-friendly cities: a guide*, WHO headquarters, 2007 (http://www.who.int/ageing/age_friendly_cities_guide/en/index.html)
- Sustainable urban mobility plans, European Local Transport Information Service (<http://www.mobilityplans.eu/index.php?ID1=4&id=4>)

4.3 Phase 3: implementation

- THE PEP. *Working together for sustainable and healthy transport: guidance on supportive institutional conditions for policy integration of transport, health and environment*, UNECE, 2008 (<http://www.unece.org/fileadmin/DAM/thepep/en/publications/WorkingTogether.Guidance.en.pdf>)
- Guidance, training and capacity-building, WHO headquarters, 2014 (<http://www.who.int/heli/risks/urban/transpdirectory/en/index4.html>)
- Advocacy and community participation, WHO headquarters, 2014 (<http://www.who.int/heli/risks/urban/transpdirectory/en/index5.html>)
- *EU funding for environment: a handbook for the 2007–13 programming period*, World Wide Fund for Nature, 2005 (<http://assets.panda.org/downloads/eufundingforenvironmentweb.pdf>)

4.4 Phase 4: monitoring, evaluation and improvement

- Environment and Health Information System (EHIS), WHO Regional Office for Europe, 2014 (<http://www.euro.who.int/en/data-and-evidence/environment-and-health-information-system-enhis>)
- Transport and environment indicators, EEA, 2014 (<http://www.eea.europa.eu/themes/transport/indicators>)
- Surveillance and monitoring of transport trends, WHO headquarters, 2014 (<http://www.who.int/heli/risks/urban/transpdirectory/en/index6.html>)
- Surveillance and monitoring of pollution indicators and health impacts, WHO headquarters, 2014 (<http://www.who.int/heli/risks/urban/transpdirectory/en/index7.html>)



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References

1. Amsterdam Declaration: making THE link: transport choices for our health, environment and prosperity. Geneva: United Nations Economic Commission for Europe; 2009 (http://www.unece.org/fileadmin/DAM/thepep/en/hlm/documents/2009/Amsterdam_Declaration_ENG.pdf).
2. Parma Declaration on Environment and Health. Copenhagen: WHO Regional Office for Europe; 2010 (http://www.euro.who.int/__data/assets/pdf_file/0011/78608/E93618.pdf, accessed 14 March 2014).
3. CE Delft, Infras, Fraunhofer ISI. External costs of transport in Europe: update study for 2008. Delft: CE Delft; 2011 (http://www.cedelft.eu/publicatie/external_costs_of_transport_in_europe/1258, accessed 14 March 2014).
4. Length of land transport infrastructure in the EEA-32. Copenhagen: European Environment Agency; 2012 (<http://www.eea.europa.eu/data-and-maps/figures/term18-length-of-land-transport-infrastructure-in-the-eea-32>, accessed 14 March 2014).
5. Mitis F, Sethi D. European facts and global status report on road safety. Copenhagen: WHO Regional Office for Europe; 2013 (http://www.euro.who.int/__data/assets/pdf_file/0010/185572/e96811.pdf, accessed 14 March 2014).
6. Review of evidence on health aspects of air pollution – REVIHAAP Project: technical report. Copenhagen: WHO Regional Office for Europe; 2013 (http://www.euro.who.int/__data/assets/pdf_file/0004/193108/REVIHAAP-Final-technical-report-final-version.pdf, accessed 14 March 2014).
7. Global health risks: mortality and burden of disease attributable to selected major risks. Geneva: World Health Organization; 2009 (http://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_full.pdf, accessed 14 March 2014).
8. Burden of disease from environmental noise: quantification of healthy life years lost in Europe. Geneva: World Health Organization; 2011 (http://www.euro.who.int/__data/assets/pdf_file/0008/136466/e94888.pdf, accessed 14 March 2014).
9. Commission staff working document: accompanying document to the Communication from the Commission to the Council and the European Parliament. Results of the review of the Community strategy to reduce CO₂ emissions from passenger cars and light-commercial vehicles, Brussels: European Commission; 2007 (http://ec.europa.eu/clima/policies/transport/vehicles/docs/sec_2007_60_exsum_en.pdf, accessed 14 March 2014).
10. EEA land take (CSI 014/LSI 001) – assessment published Jun 2013. Copenhagen: European Environment Agency; 2013 (<http://www.eea.europa.eu/data-and-maps/indicators/land-take-2/assessment-2>, accessed 14 March 2014).

11. Loomis D et al. The carcinogenicity of outdoor air pollution. *Lancet Oncol.* 2013;14:1262–1263.
12. Environmentally sustainable transport for Asian cities: a sourcebook. Nagoya: United Nations Centre for Regional Development; 2007 (http://www.uncrd.or.jp/env/publication/est_sourcebook.pdf, accessed 14 March 2014).
13. Trilling M. Decreasing dependence on fossil fuels: the role of EU public banks in energy financing in central and eastern Europe. Prague: CEE Bankwatch and Friends of the Earth Europe EU Funds Campaign Coordinator; 2013 (<http://www.europarl.europa.eu/document/activities/cont/201304/20130425ATT65196/20130425ATT65196EN.pdf>, accessed 14 March 2014).
14. Transport, Health and Environment Pan-European Programme. Working together for sustainable and healthy transport: guidance on supportive institutional conditions for policy integration of transport, health and environment. New York: United Nations; 2009 (<http://www.unece.org/fileadmin/DAM/thepep/en/publications/WorkingTogether.Guidance.en.pdf>, accessed 14 March 2014).
15. Global Strategy on Diet, Physical Activity and Health. Geneva: World Health Organization; 2004 (http://www.who.int/dietphysicalactivity/strategy/eb11344/strategy_english_web.pdf, accessed 14 March 2014).
16. WHO air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide: global update 2005. Geneva: World Health Organization; 2006 (http://whqlibdoc.who.int/hq/2006/WHO_SDE_PHE_OEH_06.02_eng.pdf, accessed 14 March 2014).
17. Millennium Development Goals [website]. New York: United Nations, 2014 (<http://www.un.org/millenniumgoals>, accessed 14 March 2014).
18. United Nations General Assembly Resolution on road safety. New York: United Nations; 2010 (http://www.who.int/roadsafety/about/resolutions/sept_2011_sg_report_en.pdf, accessed 14 March 2014).
19. Strategic Environmental Assessment Protocol – the “SEA Protocol”. Geneva: United Nations Economic Commission for Europe; 2003 (<http://www.unece.org/fileadmin/DAM/env/eia/documents/legaltexts/protocolenglish.pdf>, accessed 14 March 2014).
20. European Council recommendation on the prevention of injury and the promotion of safety. Brussels: European Commission; 2007 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2007:164:0001:0002:EN:PDF>, accessed 14 March 2014).
21. Charter on Transport, Environment and Health. Copenhagen: WHO Regional Office for Europe; 1999 (http://www.salzburg.gv.at/charta_transport_environment_and_health.pdf, accessed 14 March 2014).
22. A strategic framework for air quality management in Asia. Nairobi: United Nations Environment Programme; 2004 (http://www.unep.org/PDF/APMA_strategic_framework.pdf, accessed 14 March 2014).
23. European Charter of Pedestrians’ Rights. Strasbourg: European Parliament; 1988 (<http://www.pezh.gr/english/pedchart.htm>, accessed 14 March 2014).
24. Harare resolution on the prevention and control of regional air

- pollution in southern Africa and its likely transboundary effects. Gaborone: Southern African Development Community; 1998 (<http://www.sei-international.org/mediamanager/documents/Projects/Atmospheric/RapidC/harres.PDF>, accessed 14 March 2014).
25. Health 2020: a European policy framework and strategy for the 21st century. Copenhagen: WHO Regional Office for Europe; 2013 (http://www.euro.who.int/__data/assets/pdf_file/0011/199532/Health2020-Long.pdf, accessed 14 March 2010).
 26. United Nations Framework Convention on Climate Change. New York: United Nations; 1992 (<http://unfccc.int/resource/docs/convkp/conveng.pdf>, accessed 14 March 2010).
 27. United Nations Convention on Road Traffic, consolidated 2006. Geneva: United Nations Economic Commission for Europe; 2006 (http://www.unece.org/fileadmin/DAM/trans/conventn/Conv_road_traffic_EN.pdf, accessed 14 March 2014).
 28. United Nations Convention on Road Traffic. Geneva: United Nations Economic Commission for Europe; 1968 (<http://www.unece.org/fileadmin/DAM/trans/conventn/crt1968e.pdf>, accessed 14 March 2014).
 29. United Nations Convention on Road Signs and Signals. Geneva: United Nations Economic Commission for Europe; 1968 (<http://www.unece.org/fileadmin/DAM/trans/conventn/signalse.pdf>, accessed 14 March 2014).
 30. Agreement concerning the Establishing of Global Technical Regulations for Wheeled Vehicles, Equipment and Parts Which Can Be Fitted and/or Be Used on Wheeled Vehicles. Brussels: European Commission; 1998 (<http://ec.europa.eu/world/agreements/prepareCreateTreatiesWorkspace/treatiesGeneralData.do?step=0&redirect=true&treatyId=631>, accessed 14 March 2014).
 31. Agreement concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of Such Inspections, Vienna, 1997. Geneva: United Nations Economic Commission for Europe; 1997 (<http://www.unece.org/fileadmin/DAM/trans/conventn/conf4e.pdf>, accessed 14 March 2014).
 32. Convention on Long-Range Transboundary Air Pollution (LRTAP). Geneva: United Nations Economic Commission for Europe; 1979 (<http://www.unece.org/fileadmin/DAM/env/lrtap/full%20text/1979.CLRTAP.e.pdf>, accessed 14 March 2014).
 33. Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. Geneva: United Nations Economic Commission for Europe; 1998 (<http://www.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf>, accessed 14 March 2014).
 34. Espoo Convention: Convention on Environmental Impact Assessment in a Transboundary Context. Geneva: United Nations Economic Commission for Europe; 1991 (<http://www.unece.org/env/eia/eia.html>, accessed 14 March 2014).
 35. Carpathian Convention. Vienna: United Nations Environment Programme; 2003 (http://www.carpathianconvention.org/tl_files/carpathiancon/Downloads/04%20Publications%20-%20Press%20-%20Gallery/Documents%20and%20Publications/4.1.1%20CarpathianConvention.pdf, accessed 14 March 2014).

36. Transport Protocol of the Alpine Convention. Brussels: European Commission; 2006 (http://europa.eu/legislation_summaries/environment/nature_and_biodiversity/128161_en.htm, accessed 14 March 2014).
37. European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Geneva: United Nations Economic Commission for Europe; 1957 (http://www.unece.org/fileadmin/DAM/trans/danger/publi/adr/ADRagree_e.pdf, accessed 14 March 2014).
38. EU directive on ambient air quality and cleaner air for Europe. Brussels: European Commission; 2008 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:152:0001:0044:EN:PDF>, accessed 14 March 2014).
39. EU directive on the promotion of clean and energy-efficient road transport vehicles. Brussels: European Commission; 2009 (http://europa.eu/legislation_summaries/environment/air_pollution/en0011_en.htm, accessed 14 March 2014).
40. EU regulation on emission performance standards for new passenger cars. Brussels: European Commission; 2009 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009R0443:en:NOT>, accessed 14 March 2014).
41. National Transport Plan 2014–2023: English summary. Oslo: Ministry of Transport and Communications, 2013 (<http://www.ntp.dep.no/English>, accessed 14 March 2014).
42. Germany's National Cycling Plan. Bonn: Federal Ministry of Transport and Digital Infrastructure; 2010 (<http://www.nationaler-radverkehrsplan.de/en/transferstelle>, accessed 14 March 2014).
43. Schopper D, Lormand JD, Waxweiler R, eds. Developing policies to prevent injuries and violence: guidelines for policy-makers and planners. Geneva: World Health Organization; 2006 (http://www.who.int/violence_injury_prevention/publications/39919_oms_br_2.pdf, accessed 14 March 2014).
44. Bényi M et al. Injury prevention: situation, analysis, policy – good practices. Budapest: National Centre for Healthcare Inspection and Audit; 2010 (http://193.225.50.35/dokumentum/2009/ANG_0602.pdf, accessed 14 March 2014).
45. Policy toolkit for strengthening health sector reform. Washington, DC: Latin American and Caribbean Regional Sector Reform Initiative; 2000 (http://www.google.it/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CC0QFjAA&url=http%3A%2F%2Fwww.healthsystems2020.org%2Ffiles%2F1002_file_lacpolicytoolkitforHSR_EN.pdf, accessed 14 March 2014).
46. Stead D. Institutional aspects of integrating transport, environment and health policies. Delft: Delft University of Technology; 2008 (Transport Policy 15:139–48).
47. Developing NICE public health guidance. London: National Institute for Health and Care Excellence, 2014 (http://www.nice.org.uk/aboutnice/howwework/developingnicepublichealthguidance/developing_nice_public_health_guidance.jsp, accessed 14 March 2014).
48. Public health guidance process and method guides. London: National Institute for Health and Care Excellence, 2014 (<http://www.nice.org.uk/aboutnice/howwework/developingnicepublichealthguidance/publichealthguidanceprocessand>

- methodguides/public_health_guidance_process_and_method_guides.jsp, accessed 14 March 2014).
49. Racioppi F et al. Preventing road traffic injury: a public health perspective for Europe. Copenhagen: WHO Regional Office for Europe; 2004 (http://www.euro.who.int/__data/assets/pdf_file/0003/87564/E82659.pdf, accessed 14 March 2014).
 50. Mobilitätserziehung. Bonn: Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety; 2014 (<http://www.umwelt-bundesamt.de/verkehr/mobil/projekte/schule.htm>, accessed 14 March 2014).
 51. Lehr- und Lernmaterialien zum Jahresthema Mobilität: UN-Dekade "Bildung für nachhaltige Entwicklung". Bonn: Deutsche UNESCO-Kommission; 2013 (http://www.bne-portal.de/fileadmin/unesco/de/Downloads/Dekade_Publikationen_national/20130207_Lehrmaterialien_2520Mobilit_25C3_25A4t.File.pdf, accessed 14 March 2014).
 52. [Children's Environment and Health Action Plan of Serbia.] Belgrade: Ministry of Health; 2009.
 53. Masterplan Radfahren. Vienna: Ministry of Life; 2011 (http://www.lebensministerium.at/publikationen/umwelt/laerm_verkehr_mobilitaet/masterplan_radfahren.html, accessed 14 March 2014).
 54. klima:aktiv mobil – the National Action Programme for Mobility Management. Vienna: Austrian Energy Agency; 2014 (<http://www.klimaaktiv.at/english/mobility/Mobility.html>, accessed 14 March 2014).
 55. Key messages for Transport Health and Environment Pan-European Programme (THE PEP) toolbox: what works? Geneva: Transport Health and Environment Pan European Programme, 2009 (http://www.healthytransport.com/athena/site/file_database/key_messages.pdf, accessed 14 March 2014).
 56. The first Austrian Mobility Centre in Graz. Brussels: ELTIS; 2014 (http://www.eltis.org/index.php?id=13&study_id=1301, accessed 14 March 2014).
 57. Bures: Helmpflicht wirkt – 100 Kinder weniger mit Kopfverletzungen im Spital. Vienna: Federal Ministry for Transport, Innovation and Technology; 2012 (<http://www.bmvit.gv.at/presse/aktuell/nvm/2012/0606OTS0123.html>, accessed 14 March 2014).
 58. Worum geht es? Vienna: AUVA Radworkshop; 2014 (<http://www.radworkshop.info/cms>, accessed 14 March 2014).
 59. Public transport [website]. Brussels: Belgian Federal Government; 2014 (http://www.belgium.be/en/mobility/public_transport, accessed 14 March 2014).
 60. Integration of environment into transport policy – from strategies to good practice. Highlights from the Conference on Good Practice in Integration of Environment into Transport Policy, 10–11 October 2002. Brussels, Belgium. Brussels: European Commission; 2003 (http://ec.europa.eu/environment/archives/gpc/pdf/transp_policy_en.pdf, accessed 14 March 2014).
 61. THE PEP institutional framework: note by the Secretariat. New York: United Nations; 2009 (<http://www.unece.org/fileadmin/DAM/thepep/en/committee/documents/2009/ECE.AC.21.SC.2009.7.e.pdf>, accessed 14 March 2014).
 62. Transport, Health and Environment Pan-European Programme. Working together for sustainable and healthy transport: guidance on

- supportive institutional conditions for policy integration of transport, health and environment. New York: United Nations; 2008 (<http://www.thepep.org/en/publications/WorkingTogether.Guidance.en.pdf>, accessed 14 March 2014).
63. MacArthur ID. Local environmental health planning: guidelines for local and national authorities. Copenhagen: WHO Regional Office for Europe; 2002 (http://www.euro.who.int/__data/assets/pdf_file/0006/98412/E76436.pdf, accessed 14 March 2014).
 64. Kommunaler Klimaschutz [website]. Cologne and Berlin: Kommunaler Klimaschutz; 2014 (<http://kommunen.klimaschutz.de/portal.html>, accessed 14 March 2014).
 65. Developing an effective evaluation plan. Atlanta: United States Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, Division of Nutrition, Physical Activity, and Obesity; 2011 (<http://www.cdc.gov/obesity/downloads/cdc-evaluation-workbook-508.pdf>, accessed 14 March 2014).
 66. Good Places, Better Health [website]. Edinburgh: Scottish Government; 2014 (<http://www.scotland.gov.uk/Topics/Health/Healthy-Living/Good-Places-Better-Health>, accessed 14 March 2014).
 67. Durand F et al. Contribution à l'évaluation du 2ème Plan National Santé Environnement 2009–2013. Paris: Conseil Général de l'Environnement et du Développement Durable; 2013 (<http://www.cgedd.developpement-durable.gouv.fr/contribution-a-l-evaluation-du-a1656.html>, accessed 14 March 2014).
 68. Environment and health: 2nd National Action Plan 2009–2013 – everything you need to know about the NEHAP 2. Paris: Ministry of Ecology, Energy, Sustainable Development and the Sea; 2010 (http://www.developpement-durable.gouv.fr/IMG/pdf/PNSE2_sup_grd_public_anglais-2.pdf, accessed 14 March 2014).
 69. Environment and health: 2nd National Action Plan 2009–2013. Paris: Ministry of Ecology, Energy, Sustainable Development and the Sea; 2010 (http://www.developpement-durable.gouv.fr/IMG/pdf/Health_environnement_second_national_action_plan__anglais-2.pdf, accessed 14 March 2014).

Annex 1.

Proposed structure for an NTHEAP

A possible template for the structure of an NTHEAP includes:

- preamble (justification for the NTHEAP: description of the current transport, health and environment situation and the goals and guiding principles of the action plan);
- objectives and indicators;
- interventions
 - objective(s)
 - intervention description
 - lead agency
 - involved partners
 - budget
 - time frame;
- timetable;
- roles and responsibilities;
- budgets;
- communication plan;
- performance management processes; and
- monitoring and evaluation.

Annex 2.

Country case studies

Country and regional resources and country case studies

Below is a list of some resources available from countries that have developed or are developing NTHEAPs. For updated information, see the online THE PEP Clearing House at: <http://www.thepep.org/chwebsite>.

Country	Action plan document	Links
Austria	Implementation report on the children's environment and health action plan (2010)	http://publikationen.lebensministerium.at/filemanager/download/57383
Belgium	Environment and health action plan, 2009–2013, French, Dutch and German only	http://www.health.belgium.be/filestore/18076820_FR/4_Annexe_Program_Operationelle_NEHAP_2009-2013-jvo-100304_18076820_fr.doc Main portal: www.nehap.be
Denmark	<i>Environment and health are closely related: strategy and action plan to protect public health against environmental factors</i> , 2003	http://www2.mst.dk/Udgiv/publications/2003/87-7972-931-2/pdf/87-7972-932-0.pdf
France	Second National Environment and Health Action Plan, 2009–2013 (<i>Deuxième plan national santé environnement</i>), French only	http://www.developpement-durable.gouv.fr/IMG/pdf/PNSE2.pdf http://http://www.developpement-durable.gouv.fr/PNSE2-2009-2013.html http://www.sante.gouv.fr/rapports-annuels-de-suivi-du-pnse-2.html Summary in English: http://www.developpement-durable.gouv.fr/IMG/pdf/PNSE2_gdPUBLIC_GB_web.pdf Summary in Russian: http://www.developpement-durable.gouv.fr/IMG/pdf/PNSE2_gdPUBLIC_RUS_web.pdf
France	Evaluation report on the First Environment and Health Action Plan, 2004–2008, French only	http://www.developpement-durable.gouv.fr/IMG/pdf/CODEV_Rapport.pdf
Germany	Environment and health action plan, 1999, German only	http://www.apug.de
Malta	Environment and health performance review of Malta <i>National Environmental and Health Action Plan: summary and priorities – a review</i>	http://ehealth.gov.mt/HealthPortal/public_health/environmental-health/policy_coord_unit/seminars_publications.aspx
Norway	Transport action plan 2010–2019 with integrated sustainable approaches, involving also the health sector	http://www.ntp.dep.no
Portugal	National environment and health action plan, Portuguese only	http://www.apambiente.pt/politicasambiente/AmbienteSaude/emportugal/Paginas/default.aspx
Serbia	National children's environment and health action plan, 2009	http://www.cehap.gov.rs/en.html
Sweden	National environment and health action plan, 2007, Swedish only	http://www.socialstyrelsen.se/publikationer2007/2007-131-28
United Kingdom	<i>A Children's Environment and Health Strategy for the United Kingdom</i> , 2009	http://www.hpa.org.uk/cehape

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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