



## Securing the health benefits of active travel in Europe

### Conclusions from the Roundtable on Transport & Health Polis conference, 29–30 November 2011<sup>1</sup>

Active travel refers to all modes of travelling involving cycling and walking as main modes of transport.

**A shift to active mobility and public transport combined with improved land use can yield immediate health benefits, much greater than those achievable by focusing only on improving air quality and the local environment through greater fuel and vehicle efficiencies.**

**More walking and cycling, for all trip purposes – to work, education, shopping, social and leisure trips – can generate important economic benefits through large public health gains (which are not offset by accident costs) in addition to reduced pollution and congestion.**

**Physical activity deficiency is one of the leading risk factors for ill-health in the 53 Member States in the World Health Organization (WHO) European Region, where nearly 1 million deaths/year are estimated to be attributable to physical inactivity.<sup>2</sup>**

**While there are a number of European policies acknowledging the link between transport and health, there is a need for more initiatives, including by EU institutions, to actively promote the health benefits of active travel.**

**This paper calls upon European institutions and other European actors to take action, to ensure that the promotion of health benefits of active travel are maximised in all relevant European policies and programmes.**

#### Summary of recommendations

1. References in European policy documents to improving health through active travel should form the basis of shared objectives, policies, work programmes and investment to increase levels of walking and cycling.
2. A leader for the work on active travel and health should be clearly identified in the European Commission.
3. Stakeholders from the health, environment and transport sectors should be consulted to explore the opportunity of further European initiatives on this topic.
4. Initiatives on the internalisation of external costs in transport should aim at ensuring that all health costs are taken into account, including physical inactivity. This should therefore be part of the future European initiatives which will be taken to ensure the full internalisation of external costs as foreseen by the European Commission's White Paper on transport.<sup>3</sup> WHO's health economic assessment tool (HEAT) facilitates the inclusion of the health effects of cycling and walking in economic assessments of transport initiatives which could be taken into account.

<sup>1</sup> On 30 November 2011, at the Polis annual conference, a roundtable of health experts and transport decision makers discussed the links between transport and health, with a particular focus on the role of active travel (walking and cycling) in health promotion and disease prevention. This short paper summarises the position of the group on this issue and puts forward a number of recommendations to the European Institutions on the topic.

<sup>2</sup> Global health risks. Geneva, World Health Organization, 2009 ([http://www.who.int/healthinfo/global\\_burden\\_disease/global\\_health\\_risks/en/index.html/](http://www.who.int/healthinfo/global_burden_disease/global_health_risks/en/index.html/)).

<sup>3</sup> White Paper on transport: Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system. Brussels, European Commission, 2011 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0144:FIN:EN:PDF>).



5. The economic dimension of active mobility, and the long-term savings it can generate in healthcare costs and environmental benefits, should be taken systematically into consideration when appraising transport and urban development plans and policies.
6. Institutions at the European level may wish consider funding activities:
  - to further research the links between active travel and health;
  - to spread good practice and disseminate knowledge on the links between active travel and health, including in portals on urban mobility and energy efficiency, through initiatives such as Eltis<sup>4</sup> or the Covenant of Mayors;
  - to further develop and promote the use and deployment of the WHO HEAT;
  - to support the insertion of references to health in Sustainable Urban Mobility Plans (SUMP);<sup>5</sup>
  - to help create a safe and supportive environment for active travel.

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<sup>4</sup> Eltis is Europe's portal on urban mobility, <http://www.eltis.org/>.

<sup>5</sup> Sustainable Urban Mobility Plans define a set of interrelated measures designed to satisfy the mobility needs. They are the result of an integrated planning approach and address all modes and forms of transport in cities and their surrounding area. A website supports local authorities across Europe in developing SUMP. It is financed by the European Union under the Intelligent Energy - Europe (IEE) Programme, <http://www.mobilityplans.eu/>.

## I - Background

### *Transport and health in the European Union (EU)*

Until now, although the health impacts of transport have been addressed to some extent through local and national policy and investment programmes, this has been less true at the European level. The European action in this area has mainly focused on addressing the health effects of air quality (e.g. ExternE Transport) and road casualties. Some studies have also investigated the health effects of noise (e.g. Road Traffic & Aircraft Noise & Children's Cognition & Health RANCH), and others have invested in integrated models for the assessment of the combined effects of transport policies through air pollution, noise and road traffic injuries (e.g. Integrated Software For Health, Transport Efficiency. And Artistic Heritage ISHTAR, Health Effects and Risks of Transportation Systems, HEARTS, Integrated Assessment of Health Risks of Environmental Stressors in Europe INTARESE). However, few studies have assessed the effect of transport and urban development policies on levels of physical activity attained through active mobility (cycling and walking), in spite of the growing body of evidence that transport and urban environments that support active mobility can deliver very large health benefits.

In European policy, there are a number of policy documents linking transport and health: these include most prominently Action 3 of the Urban Mobility Action Plan;<sup>6</sup> the WHO European Charter on Counteracting Obesity, which mentions safe cycling and walking as part of the package of measures and policies to be promoted to address overweight and obesity;<sup>7</sup> and the mention of the importance of physical activity in the 2007 "Strategy for Europe on Nutrition, Overweight and Obesity-related health issues",<sup>8</sup> stressing the role of active urban commuting in encouraging physical activity.

Additionally, since health represents the largest part of the external costs of transport,<sup>9</sup> active transport and health fits within the strategy of improving the calculation of the external costs posed by the transport sector to society. It is already stated in the European Commission's transport White Paper that full internalisation of external costs should be pursued,<sup>10</sup> and health is clearly an important external cost that should be taken into account.

### *Physical activity is essential to improve health and prevent major diseases and conditions*

Regular moderate intensity physical activity – such as walking, cycling, or participating in sports – has significant benefits for health. For instance, it can reduce the risk of cardiovascular diseases, diabetes, colon and breast cancer, and depression. Moreover adequate levels of physical activity reduce the risk

<sup>6</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Action Plan on Urban Mobility, Brussels, Commission of the European Communities, 2009 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52009DC0490:EN:NOT>).

<sup>7</sup> "European Charter on counteracting obesity", WHO European Ministerial Conference on Counteracting Obesity, Diet and physical activity for health, Istanbul, Turkey, 15-17 November 2006 ([http://www.euro.who.int/\\_data/assets/pdf\\_file/0009/87462/E89567.pdf](http://www.euro.who.int/_data/assets/pdf_file/0009/87462/E89567.pdf)).

<sup>8</sup> White Paper On a Strategy for Europe on Nutrition, Overweight and Obesity related health issues. Brussels, Commission of the European Communities, 2007 ([http://ec.europa.eu/health/ph\\_determinants/life\\_style/nutrition/documents/nutrition\\_wp\\_en.pdf](http://ec.europa.eu/health/ph_determinants/life_style/nutrition/documents/nutrition_wp_en.pdf))

<sup>9</sup> Source: EEA indicators,

[http://themes.eea.europa.eu/Sectors\\_and\\_activities/transport/indicators/cost/TERM25\\_2002/index.html](http://themes.eea.europa.eu/Sectors_and_activities/transport/indicators/cost/TERM25_2002/index.html)

<sup>10</sup> White Paper on transport: Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system. Brussels, European Commission, 2011 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0144:FIN:EN:PDF>).

of hip or vertebral fracture and help control weight.<sup>11</sup> On the other side, physical activity deficiency is one of the leading risk factors for ill health in the 53 Member States of the WHO European Region, where nearly 1 million deaths/year are estimated to be attributable to physical inactivity.<sup>12</sup>

The main reason given by individuals for not taking more physical activity is a lack of time to do so.<sup>13</sup> Making more trips by bike or foot (the 'active travel' modes) as a substitute for sedentary travel modes is now recognized as an easy and accessible way for individuals to raise their levels of physical activity.

The recently adopted WHO "Action Plan for Implementation of the European Strategy for the Prevention and Control of Noncommunicable Diseases 2012–2016"<sup>14</sup> identifies the promotion of active mobility as one of the supportive interventions for the prevention of noncommunicable diseases.

*Active travel brings more benefits to health than cleaner vehicles and fuels alone*

In addition, a recent study by WHO,<sup>15</sup> which investigated mitigation strategies discussed in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Working Group III),<sup>16</sup> found that a shift to active mobility and rapid transit/public transport combined with improved land use can yield immediate and much greater health "co-benefits" than improving fuel and vehicle efficiencies. In turn, this highlights the very important benefits of active mobility promotion in the context of policies for the reduction of emissions of greenhouse gases from the transport sector.

More walking and cycling, for all trip purposes – to work, education, shopping, social and leisure trips – can generate important economic benefits through large public health gains (which are not offset by accident costs) in addition to reduced pollution and congestion. WHO has suggested that barriers to physical activity might have the greatest impact of all traffic-related health risks.<sup>17</sup>

*Health benefits related to active travel translate into savings worth millions of euros*

HEAT,<sup>18</sup> developed by WHO is an on-line tool that facilitates the calculation of these benefits, through reduced total mortality from increases in cycling and walking. HEAT illustrates that investment in walking and cycling can generate large financial returns through better health. For example, a recent study from Vienna shows that a reduction in modal share of the car from 25% to 21% combined with an increase in cycling from 4% to 8% resulted in total external benefits worth €257 million.<sup>19</sup>

<sup>11</sup> Source: WHO Physical activity, [http://www.who.int/topics/physical\\_activity/en/](http://www.who.int/topics/physical_activity/en/).

<sup>12</sup> Global Health Risks. Geneva, World Health Organization, 2009  
([http://www.who.int/healthinfo/global\\_burden\\_disease/global\\_health\\_risks/en/index.html/](http://www.who.int/healthinfo/global_burden_disease/global_health_risks/en/index.html/)).

<sup>13</sup> Prevalence of barriers for physical activity in adults according to gender and socioeconomic status Sebastião Sequeira, Cristina Cruz, Diogo Pinto, Luis Santos, Adilson Marques Br J Sports Med 2011;45:A18-A19  
doi:10.1136/bjsports-2011-090606.59

<sup>14</sup> Action plan for implementation of the European Strategy for the Prevention and Control of Noncommunicable Diseases 2012–2016, World Health Organization, 2011  
([http://www.euro.who.int/\\_data/assets/pdf\\_file/0003/147729/wd12E\\_NCDs\\_111360\\_revision.pdf](http://www.euro.who.int/_data/assets/pdf_file/0003/147729/wd12E_NCDs_111360_revision.pdf)).

<sup>15</sup> Health in the green economy – health co-benefits of climate change mitigation – transport sector. Geneva, World Health Organization, 2011  
([http://www.who.int/hia/examples/trspt\\_comms/hge\\_transport\\_lowresdurban\\_30\\_11\\_2011.pdf](http://www.who.int/hia/examples/trspt_comms/hge_transport_lowresdurban_30_11_2011.pdf)).

<sup>16</sup> Metz B et al. eds. *Climate Change 2007: Mitigation of Climate Change. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge & New York, Cambridge University Press, 2007

<sup>17</sup> *Transport, environment and health*. Copenhagen, WHO Regional Office for Europe, 2000 (WHO European Series No 89).

<sup>18</sup> HEAT Health economic assessment tool (<http://www.heatwalkingcycling.org/>).

<sup>19</sup> Trunk, G. (2011). *Gesamtwirtschaftlicher Vergleich von Pkw- und Radverkehr*. Ein Beitrag zur Nachhaltigkeitsdiskussion. Masterarbeit am Institut für Verkehrswesen der Universität für Bodenkultur, Wien.

### *Land use and infrastructure planning influence modal split and active travel*

The four Chief Medical Officers in the United Kingdom have stated, “For most people, the easiest and most acceptable forms of physical activity are those that can be incorporated into everyday life. Examples include walking or cycling instead of travelling by car, bus or train”.<sup>20</sup> However, in many parts of Europe physically active travel is deterred by the hostile traffic environment. People, especially parents, perceive the streets as dangerous places and seek to control their children’s outdoor activities to reduce this perceived risk.<sup>21</sup> It is therefore essential to make the streets safe and liveable for the active modes.

## **II – Overcoming institutional barriers to gain the health benefits of active travel**

Although the health benefits of active travel are clear and well accepted, this is not always translated into concrete actions and funding on the local or national levels for active travel, and not yet at the European level. The institutional barriers to be addressed include:

1. lack of awareness of the extent and magnitude of the benefits of active mobility in health, environment and economic terms;
2. a tendency to consider active mobility as marginal to transport systems;
3. a lack of indicators and accurate monitoring of active mobility, which makes it difficult to document and monitor trends and effects of interventions;
4. a disconnection between the authorities which fund measures supporting active travel modes (transport authorities, often at local level) and those receiving the economic benefits of better health (health departments, often within central government): this may reduce the incentive for the local authorities to act;
5. the need to overcome sectoral protectionism<sup>22</sup> for roles and responsibilities among departments and a willingness to have shared responsibilities and programmes: this requires the promotion of active mobility to be embraced at the cross sectoral policy level (e.g. at level of mayor or prime minister).

If the impact of transport on health is to be taken into consideration, the breaking down of barriers and creation of common goals for health and active travel must be led from the European level. If the transport, environment, climate and health sectors can share objectives and possibly coordinate activities in the European Commission, significant benefits – including major cost savings in future healthcare needs – can be achieved across the field of action of all these directorates-general.

This inter-service cooperation would centre around defining approaches and methods for systematically including the evaluation of the health effects, including those related to active mobility, within transport policy-making and investment planning. There is an increasing body of evidence as to the impacts of the built environment on transport, environment and mortality which needs to be complemented with a more thorough analysis of the more frequent and significant health effects, on which the evaluation of the costs and benefits, and links between transport and health can be further developed.

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<sup>20</sup> Start Active, Stay Active: a report on physical activity from the four home countries’ Chief Medical Officers, Department of Health 2011, London.

<sup>21</sup> Future Foundation (2006) *The Changing Face of Parenting: Professional parenting, information and healthcare*. London; in: Gill, T. (2007) *No Fear, Growing up in a risk averse society*, Calouste Gulbenkian Foundation, London (p62).

<sup>22</sup> Degeling, P. 1995 The significance of ‘sectors’ in calls for urban public health intersectoralism, *Policy and Politics*, 23(4): 289-301.



At the pan-European level, an example of synergic international cooperation bringing together the transport, environment and health sectors to achieve common goals is offered by the Transport, Health and Environment Pan-European Programme, serviced by WHO and the United Nations Economic Commission for Europe.<sup>23</sup>

### III - Recommendations

1. References in European policy documents to improving health through active travel should form the basis of shared objectives, policies, work programmes and investment to increase levels of walking and cycling.

This may be achieved by defining shared active travel objectives between relevant directorates-general, as well as by considering establishing joint funding streams and implementing consultation mechanisms that can promote coordination and synergy in funding schemes. Particularly important is the exploration of coordinated and synergic funding streams, and a strong focus on monitoring the public health benefits. The health benefits from active travel should include air quality, emissions of greenhouse gases, noise, safety, and the physical activity impacts of increased active travel taking into account the inequality dimension.

2. A leader for the work on active travel and health should be clearly identified in the European Commission.

This would facilitate ownership and facilitate interactions with stakeholders.

3. Stakeholders from the health and transport sector should be consulted to explore the opportunity of further European initiatives on this topic.

In particular stakeholders and networks should be consulted for the implementation of Action 3 of the European Action Plan on Urban Mobility.

There could also be opportunities to develop initiatives under the umbrella of the EU platform for action on diet, physical activity and health.<sup>24</sup> A new working group could be established, with a broader remit and the wider stakeholder group, including relevant directorates-general, research institutions and transport and health experts.

4. Initiatives on the internalisation of external costs in transport should aim at ensuring that all health costs are taken into account, including physical inactivity. This should therefore be part of the future European initiatives which will be taken to ensure the full internalisation of external costs as foreseen by the European Commission's White paper on transport.<sup>25</sup> WHO's HEAT is a tool that facilitates the inclusion of the health effects of cycling and walking in economic assessments of transport initiatives which could be taken into account.

Given the important effects that transport policies have on health, and in particular the important positive benefit of active travel for the health and environment of European citizens, the evaluation of public health impacts should consistently and systematically be taken into consideration through health impact assessment in the allocation of European funds.

<sup>23</sup> Transport, Health and Environment Pan-European Programme ([www.thepep.org](http://www.thepep.org)).

<sup>24</sup> Source: European Commission Public Health, [http://ec.europa.eu/health/nutrition\\_physical\\_activity/platform/index\\_en.htm](http://ec.europa.eu/health/nutrition_physical_activity/platform/index_en.htm).

<sup>25</sup> White Paper on transport: Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system, Brussels, European Commission, 2011 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0144:FIN:EN:PDF>).

A comprehensive assessment of the health impacts of transport policies should be part of sustainable urban mobility plans in Europe. The allocation of European funds should include incentives for the adoption of sustainable urban transport plans, and therefore also of their health impacts. Evaluation of health benefits could also be included within SUMP guidelines, to bring health indicators into the heart of urban mobility policies.

The allocation of European funds to transport projects should take into consideration the external costs of the projects, and therefore also the health costs.

5. The economic dimension of active mobility, and the long-term savings it can generate in healthcare costs and environmental benefits, should be taken systematically into consideration when appraising transport and urban development plans and policies.
6. Institutions at the European level may wish consider funding activities:
  - i. to further research the links between active travel and health.

WHO's HEAT is already backed by a wealth of research, but at the moment allows to calculate only the effects related to reduced total mortality rate due to active travel.<sup>26</sup> Further developments should be considered to allow estimates of cause-specific mortality and morbidity, as well as to express the results of the estimates also according to other metrics, such as disability-adjusted life-years (DALYs) and quality-adjusted life-years (QALYs). In addition, further research is needed to better clarify the links between active travel and health (notably with respect to effects related to injuries and the effects of air pollution for cyclists and pedestrians) as well as a fuller calculation of the cost-benefit ratio for investment in active travel. This could include the introduction of studies in a variety of different countries / contexts to build on existing work (for example as carried out by the Flemish Institute for Technological Research VITO, and the University of Natural Resources and Life Sciences BOKU, Vienna):<sup>27 28</sup>

- ii. to spread good practice and disseminate knowledge on the links between active travel and health, including in portals on urban mobility and energy efficiency, through initiatives such as ELTIS<sup>29</sup> or the Covenant of Mayors.

The European Union plays an important role in disseminating good practice on urban mobility. This dissemination should include information on the links between active travel and health, and best practice in securing the public health gains through policies and programmes encouraging growth in walking and cycling. It could, for example, be done through guidance on SUMP, <sup>30</sup> and inclusion in the ELTIS portal on urban mobility and the Covenant of Mayors.

- iii. to further develop and promote the use and deployment of the WHO's HEAT tool.  
(as it is, for example, within the United Kingdom's department for transport<sup>31</sup>)
  - iv. to support the insertion of references to health in SUMP<sup>32</sup>.

<sup>26</sup> Source: HEAT Health economic assessment tool, <http://www.heatwalkingcycling.org/>.

<sup>27</sup> The Belgian SHAPES project:

[http://www.belspo.be/belspo/ssd/science/Reports/SHAPES\\_FinalReport%20ML.pdf](http://www.belspo.be/belspo/ssd/science/Reports/SHAPES_FinalReport%20ML.pdf).

<sup>28</sup> Trunk, G. (2011). Gesamtwirtschaftlicher Vergleich von Pkw- und Radverkehr. Ein Beitrag zur Nachhaltigkeitsdiskussion. Masterarbeit am Institut für Verkehrswesen der Universität für Bodenkultur, Wien ([https://zidapps.boku.ac.at/abstracts/oe\\_list.php?paID=3&paSID=8320&paSF=-1&paCF=0&paLIST=0&language\\_id=DE](https://zidapps.boku.ac.at/abstracts/oe_list.php?paID=3&paSID=8320&paSF=-1&paCF=0&paLIST=0&language_id=DE)).

<sup>29</sup> Eltis is Europe's portal on urban mobility, <http://www.eltis.org/>.

<sup>30</sup> Sustainable Urban Mobility Plans, <http://www.mobilityplans.eu/>.

<sup>31</sup> United Kingdom DfT, Webtag guidance: <http://www.dft.gov.uk/webtag/documents/expert/pdf/unit3.14.1.pdf>

<sup>32</sup> Sustainable Urban Mobility Plans (<http://www.mobilityplans.eu/>)



Evaluation of health benefits could also be included within SUMP guidelines, to bring together health indicators into the heart of urban mobility policies:

- v. help create a safe and supportive environment for active travel.

As stated above, the built environment is key in enabling active transport. An important element in this is to reduce speeds of motor vehicles to create a safer environment for active transport. We recommend – following the European Parliament<sup>33</sup> – a European standard for 30kph (20mph) speed limits in urban residential areas to create safer conditions for pedestrians and cyclists.

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***“the top five policy responses assessed as having the greatest average impact on levels of obesity [include] increasing walkability/cyclability of the built environment”<sup>34</sup>***

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<sup>33</sup> European Parliament resolution of 27 September 2011 on European road safety 2011-2020 (<http://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P7-TA-2011-0408>).

<sup>34</sup> Government Office for Science, 2007 Foresight Tackling Obesities: Future Choices London 2007.