The new WHO Health Economic Assessment Tool for Walking and Cycling

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an introduction

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Opportunities for better health through transport

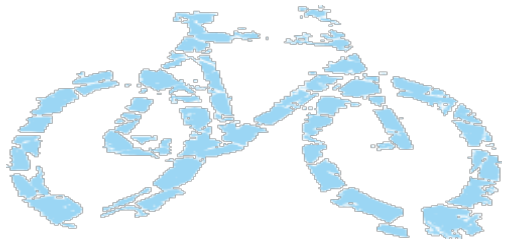
- Health potential from increased physical activity through cycling & walking clearly recognized
- But: collaboration across relevant sectors to find win-win-win situations needed
- **How to integrate health into transport planning?**


AFE BAR
GLACES

Integration of health in transport planning

- Importance of economic analysis in transport planning
- Economic value of the health benefits of regular walking and cycling

-> easy-to-use tool needed



What is the HEAT?

- Online tool www.heatwalkingcycling.org
- Designed for transport planners
- Economic assessment of health benefits of walking or cycling
- Effects on mortality ‘only’

HEAT - a collaborative project

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

NATURAL ENGLAND

MINISTERIUM FÜR EIN LEBENSWERTES ÖSTERREICH

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

RÉPUBLIQUE FRANÇAISE

PASTA
PHYSICAL ACTIVITY THROUGH SUSTAINABLE TRANSPORT APPROACHES

THE PEP Transport, Health and Environment Pan-European Programme
UNECE
World Health Organization Europe

Core group: Harry Rutter, Francesca Racioppi, Sonja Kahlmeier, Thomas Götschi, Nick Cavill, Alberto Castro-Fernandez, Paul Kelly, Christian Brand, David Rojas Rueda, James Woodcock, Christoph Lieb/Heini Sommer, Pekka Oja

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Software development and design: Tomasz Szreniawski, Alberto Castro Fernandez, Ali Abbas, Vicki Copley, Duy Dao

Expertise involved:

Epidemiology / Public Health	**Environmental Science**	**Air pollution**	**Health Economics**
Transport Economics	**Transport Planning**	**Policy making**	**Practice / Advocacy**

For whom was HEAT originally developed?

53 Member States:

- Civil servants
- Staff supporting policy makers,
- Officers/experts locally responsible for transport and urban planning
- Large differences in:
  - capacities
  - data availability

HEAT “core principles”

- Scientific robustness
- Usability
  - Minimal data input requirements
  - Availability of default values
  - Clarity of prompts/questions
  - Design and flow of the tool
- Transparency
  - Approach and assumptions
- Conservative
- Adaptable
- Modular

What can you use it for?

- **Assessing current (or past) levels of cycling/walking**
  - What is walking/cycling worth now in my city, region, country?
- **Assessing changes over time**
  - E.g. before – after, scenario A vs. scenario B
- **Evaluating new or existing projects**
  - Value of health benefits of investments and benefit–cost ratios

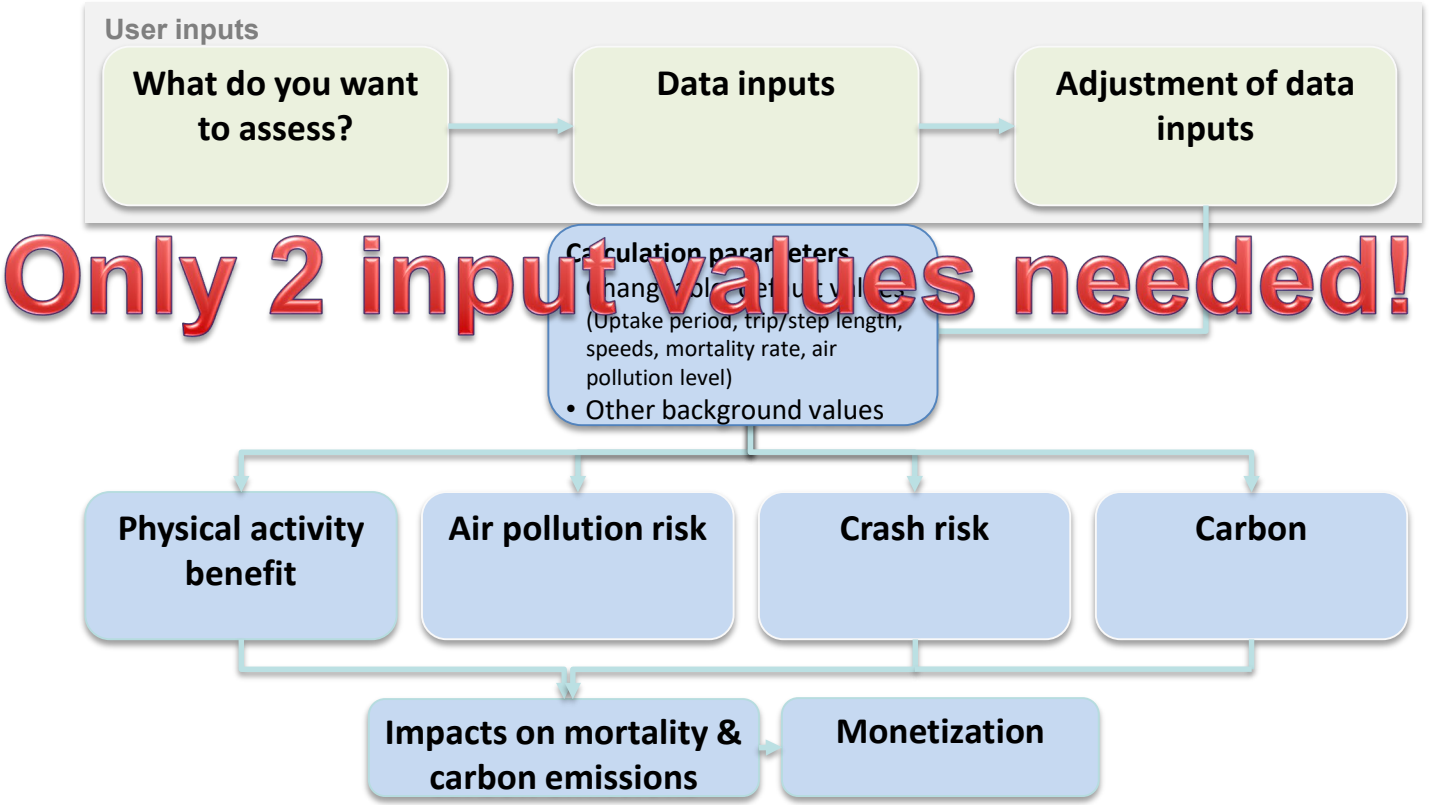
The question

If *x* people walk/cycle an amount of *y* on most days, what is the economic value of the health benefits that occur as a result of the reduction in mortality due to their physical activity?

New HEAT options

- How much do air pollution or crashes affect these results?
- What are the carbon effects?

HEAT workflow (simplified)

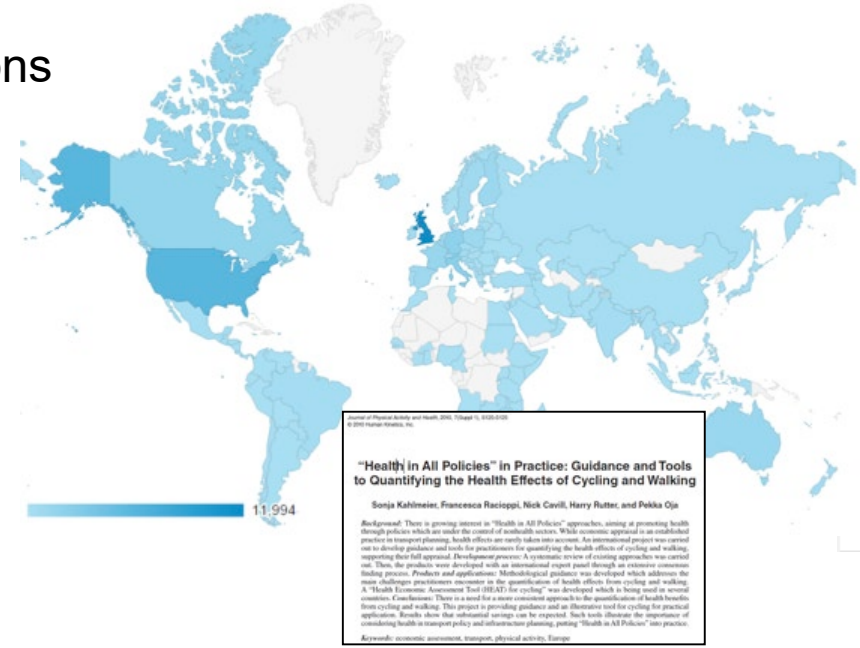


Methods and user guide

www.euro.who.int/HEAT

Worldwide use

- Project website visited about 85,000 times by over 55,000 visitors since 2011
- Variety of applications



1.	United Kingdom
2.	United States
3.	Italy
4.	Germany
5.	Canada
6.	France
7.	Australia
8.	Finland
9.	Poland
0.	Spain
1.	Belgium
2.	Sweden
3.	Netherlands
4.	Switzerland
5.	Denmark

Documented applications

Type	Number	Percent
Reports	51	47%
• **English**	*30*	*28%*
• **Non-English**	*21*	*19%*
Academic paper/abstract	28	26%
Government papers/guidance	14	13%
Other (slides, website etc.)	7	6%
Total	**92**	100%

Cavill N, Kahlmeier S: Turn up the HEAT: Reocmmendations for increasing the use of the WHO HEAT for cycling across Europe – Summary report. ECF, 2015.

National uses of the HEAT

NATIONAL USES OF THE HEAT	
Status of the HEAT	Country
Compulsory; mandated by national government	None
Included in official national guidance	England, United Kingdom, Sweden
Promoted by national government	Austria, Finland, France

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Case Studies

SPACE
Supporting Policy and Action for Active Environments

Case study 1: Trikala, Greece

Overview

Trikala is a city in central Greece. The Municipality of Trikala consists of the city of Trikala and another 39 small settlements. It covers a total area of 608 square kilometres, with a population of around 75,000.

Trikala's Action Plan focused primarily on increasing cycling through investing in cycle infrastructure.

Trikala

- Survey of cyclists in the city
- mean days cycling per week 5.04; mean distance covered per day 1.8km.
- 200 days per year on average – taking into account the weather conditions in Greece

- Projection 1: If the Municipality increases the number of cyclists by 3% the economic benefit over 10 years will be **€8,970,000**
- Projection 2: If the Municipality helps increase the mean distance cycled by 500m the economic benefit over 10 years will be **€9,395,000**
- Projection 3: If the Municipality increases the number of cyclists by 3% AND increases the mean distance cycled by 500m the 10 year economic benefit will be **€11,274,000.**

- Used to lobby for more funds for cycling in the city

Case study 2: Tukums, Latvia

Overview

Tukums is a small town in Latvia. In Tukums, the HEAT was used for general advocacy purposes, to persuade decision-makers to invest in cycling and walking by demonstrating the economic benefits of increased levels of cycling and walking across the city.

Tukums

- Population survey in 2016

Cycling

- 12.5% use their bicycle every day;
- 16.9% use it at least once a week,
- 12.3% use it less than once per week

Walking

- 69.9% walk every day
- 13% walk at least once per week
- 5% walk less than once per week

- **Scenario**: What would be the value of persuading everyone who has a bike and cycles at least occasionally in Tukums, to cycle 3 times a week?
- In Tukums, if we targeted only people who have cycled in the last year, and encouraged them to cycle three times a week, we would save three lives per year. This is valued at **€2,5m** per year
- Used for planning cycle infrastructure in the city

Case study 3: Brasov, Romania

Overview

Brașov is the main urban centre in the central region of Romania, with a population of around 290,000. The Action Plan for Brasov sets out plans for a number of initiatives to promote cycling and walking across the city.

Brasov

- Survey showed:
    - cyclists ride for an average of 41 minutes, 4 days/week
    - the main reason for cycling is transportation to the main daily points of interests (school, job, shopping etc)
    - If the infrastructure was improved, cyclists say they would cycle for an average of 92 minutes/day and 6 days/week.
- Wishful thinking? Instead, modal share was used as a baseline (0.2% of trips)
- Scenarios:
- If cycling in Brasov increased to the level in Bratislava (from 0.2% to 2% of all trips), this would save 1.6 lives per year. This is valued at **€626,000** per year
- If cycling in Brasov increased to the level in Zagreb (from 0.2% to 10.1% of all trips), this would save 8.9 lives per year. This is valued at **€3,480,000** per year.
- If cycling in Brasov increased to the level in Amsterdam (from 0.2% to 32% of all trips), this would save 28.3 lives per year. This is valued at **€11,066,000** per year
- Used for cycling advocacy

Case study 4: Toledo, Spain

Economic assessment of the health benefits of a new cycle path

Overview

Toledo is a municipality and a city in Spain, capital of the autonomic community of Castilla-La Mancha. It has around 83,000 citizens (2015) and it is the second most populated municipality in the province.

A major part of Toledo's action plan was focused on the building of a new cycle path from Toledo city to the Santa Mª de Benquerencia neighbourhood. The HEAT was therefore used to estimate the health benefits of the path, assuming different levels of usage. It also helped to compare the benfits to the cost of building the path (€400,000).

Toledo

- Detailed scenarios to help plan a new bike path
- a) A 5% of transportation switch from public or private transportation to biking.
- b) A 10% of transportation switch from public or private transportation to biking.
- c) A 20% of transportation switch from public or private transportation to biking.

- Also using the projected costs of the bike path
- Benefit:cost ratios between 5:1 and 22: 1

- Helped secure funding for the path

Conclusion

- HEAT is a valuable tool
- Based on assumptions and projections
- Can be used to help decision-making – but the path is not clear!
- Political process is a ‘dark art’, but tools like HEAT can contribute

Interreg Central Baltic

EUROPEAN UNION

HEAT
PARTICIPATORY URBAN PLANNING FOR HEALTHIER URBAN COMMUNITIES