Valuing health benefits of cycling

2012 'HEAT for Cycling' workshops
Benoit Blondel – Policy Officer

EUROPEAN CYCLISTS' FEDERATION

ECF gratefully acknowledges financial support from the European Commission.

ECF?

- Over 70 members in 39 countries
- "The European Cyclists' Federation (ECF) is pledged to ensure that bicycle use achieves its **fullest potential** so as to bring about **sustainable mobility** and **public well-being**.
- (…) ECF will stimulate and organise the exchange of information and expertise on bicycle related transport policies and strategies as well as the work of the cyclists' movement."

Structure

1. Physical activity
2. Active transport and health
3. Valuation of health benefits of cycling
    1. Why?
    2. WHO's Health Economic Appraisal Tool

HEAT for cycling

- Principles
- In practice

Physical activity

Recommended levels of physical activity

- Physical inactivity: one of the leading risk factors for health:
  - 10% of deaths in WHO Europe region
  - 2nd only to tobacco

- WHO recommended level of physical activity (PA) for adults:

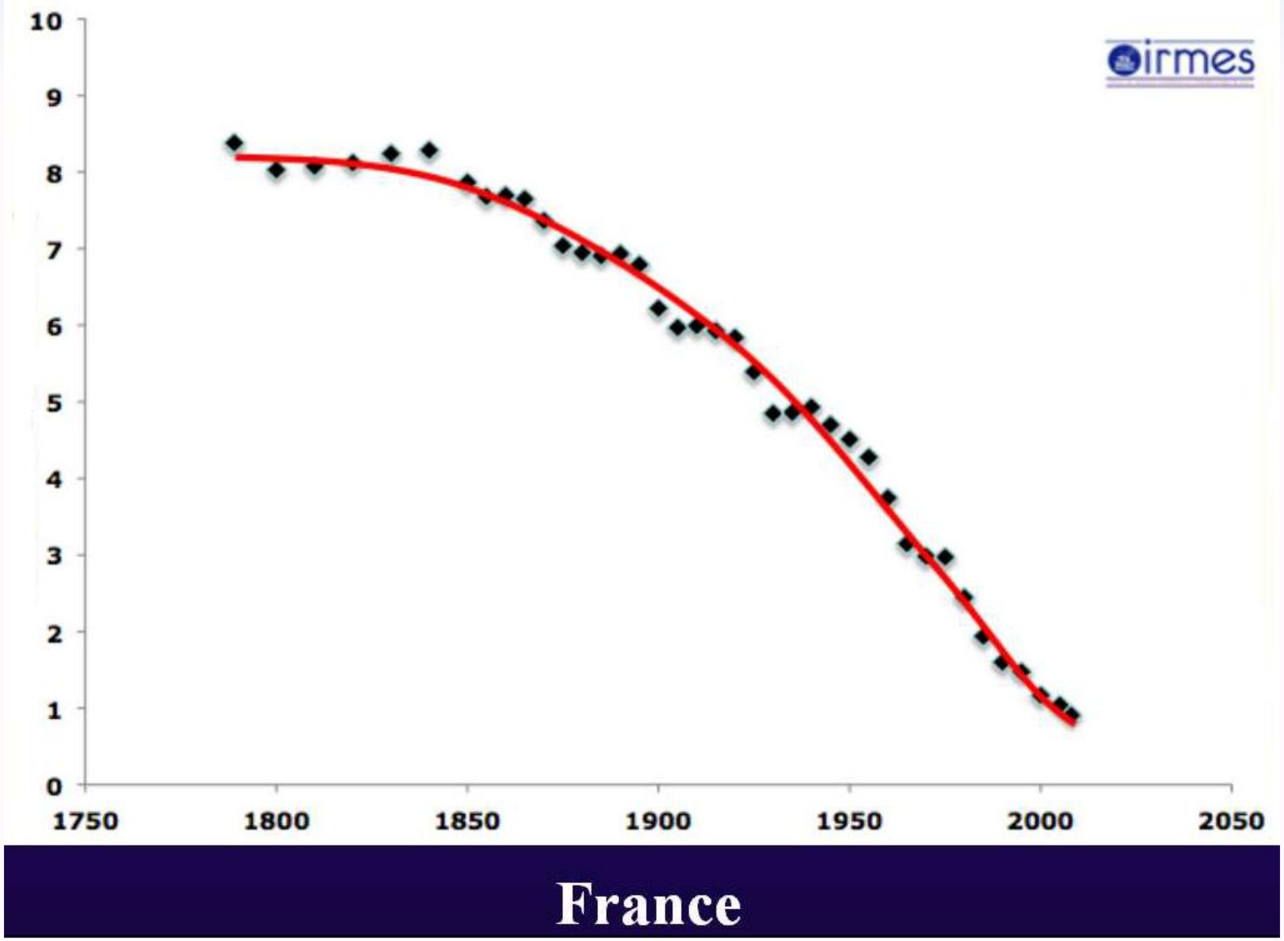
minimum 150 minutes per week

or 30 minutes on most days

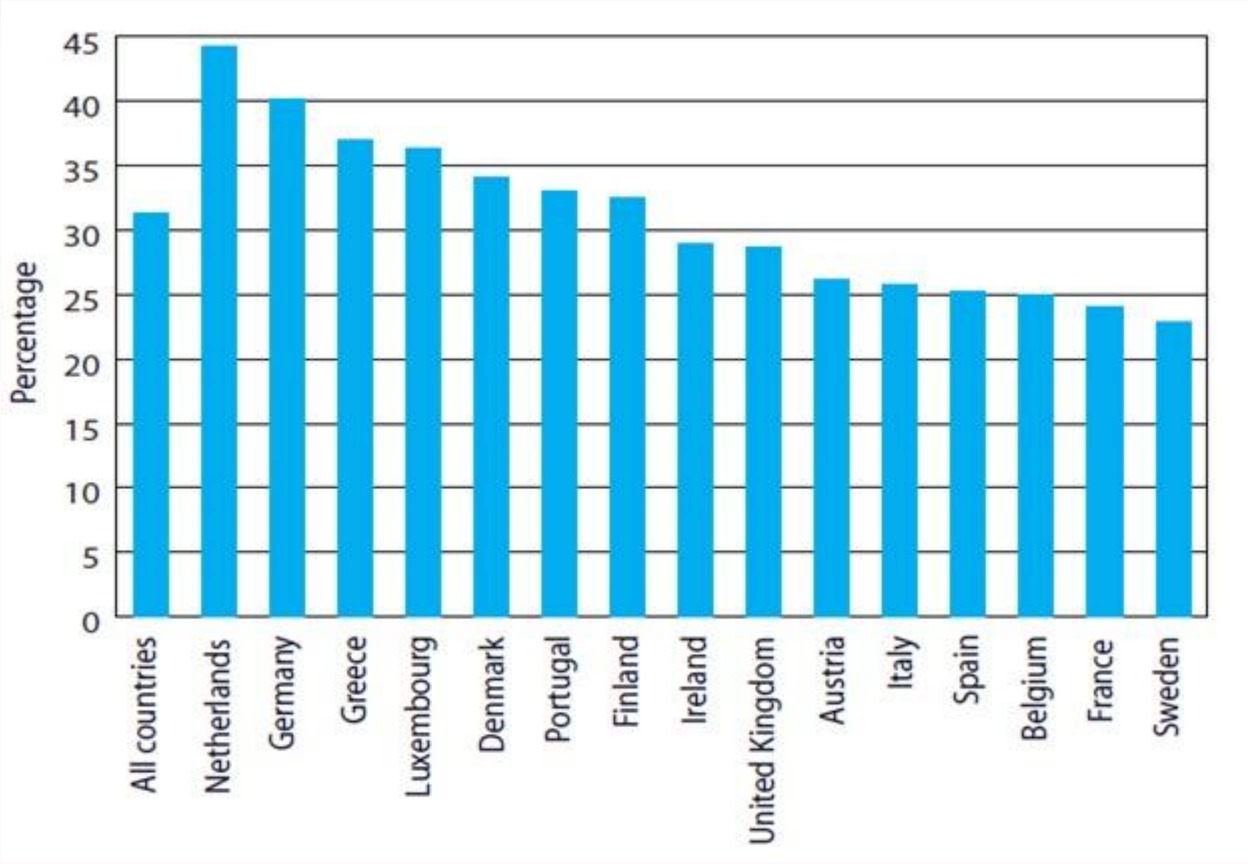
- Not reached by over 2/3 of adult population
- Share of population not reaching this level still increasing

Source: WHO

Physical activity (2)
Daily hours of physical activity

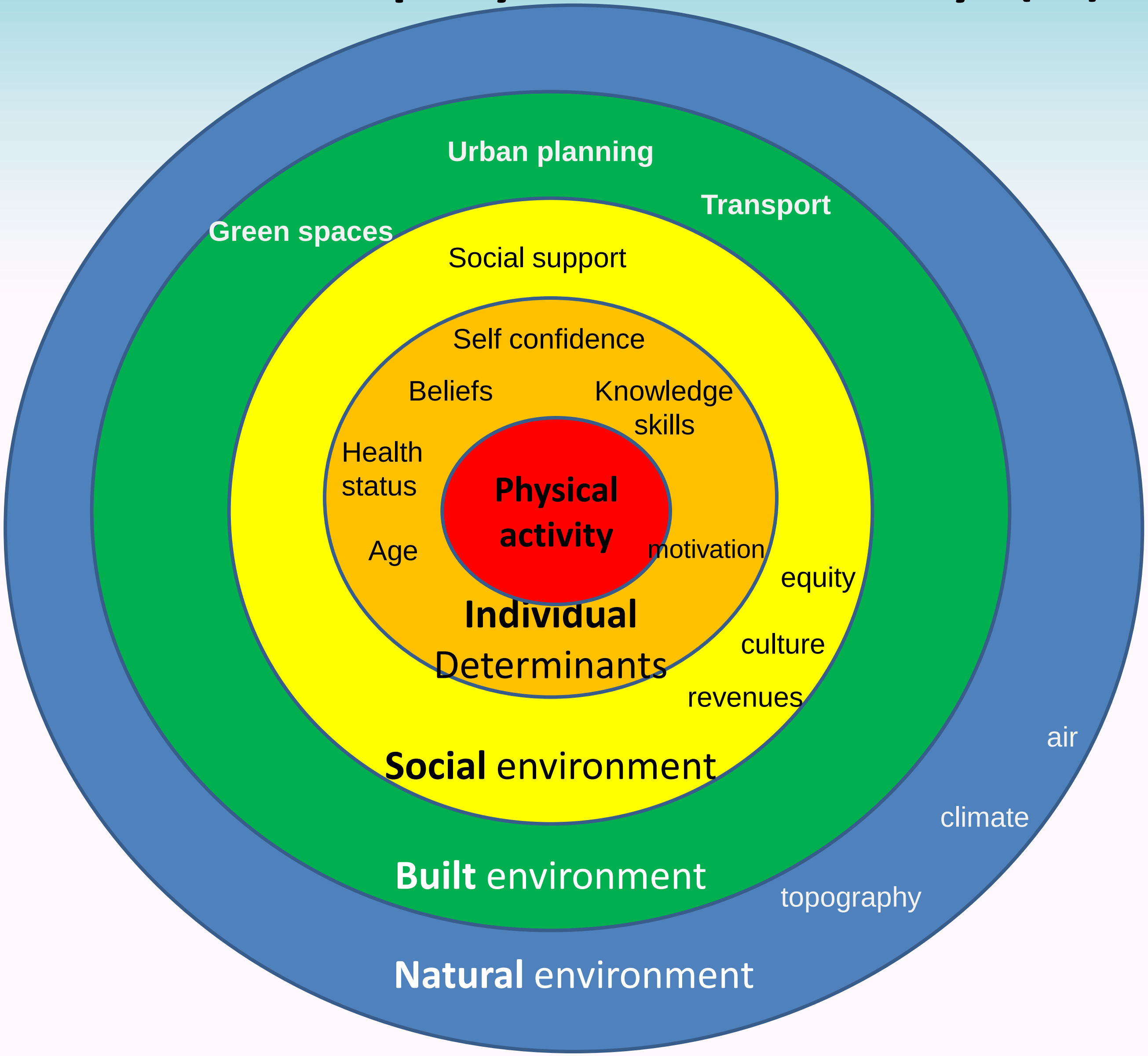


Physical activity (3)
Proportion of adults sufficiently active



Source: WHO Europe, Physical activity and health in Europe – Evidence for action, 2006

Factors of physical activity (4)



Urban environment

Urban environment

Active transport and health
Why can active transport make a difference?

- **High potential** because of the number of short motorised trips:
  - Motorised trips of less than 1km >10%
  - Motorised trips of less than 3km >30%
  - Motorised trips of less than 5km >50%
- Reduces dependency on sports infrastructures
- Easily accessible to most persons
- **Easily incorporates into daily activities**
- Modal shift to active transport has important **co-benefits** (congestion, air and noise pollution, fuel savings and fuel dependency, greenhouse gases emissions,…)

Active transport and health (2)
How important is health for cycling?

Indicator [€-ct/km]	Internal		External		Total	
	Bicycle	Car	Bicycle	Car	Bicycle	Car
Health	-	-	89.89	-	89.89	-
Noise	-	-	-	-1.02	-	-1.02
Accidents	-6.29	-1.44	-8.42	-1.85	-14.71	-3.29
Running costs	-10.20	-38.30	-	-	-10.20	-38.30
Travel time	-66.53	-54.29	-	-	-66.53	-54.29
Pollutants	-	-	-	-0.63	-	-0.63
CO_2	-	-	-	-0.85	-	-0.85
TOTAL	-83.02	-94.03	81.47	-4.35	-1.55	-98.38
DIFFERENCE bicycle-car	11.01		85.82		96.83	

Trunk G. (2011) Overall economic comparison of bicycle- and car-traffic, Institute for Transport Studies, BOKU, Vienna

Economic valuation of health benefits of cycling

Why?

Economic valuation of health benefits of cycling (2)
Why?

- Economic valuation is standard tool of transport planners
  →helps health sector to speak “their” language

  No YLLs, no YLDs, no DALYs, just EUROS!
- Translate public health benefits in financial terms, in times of crisis is very important
- Economic assessment are increasingly applied to cycling and walking infrastructure projects but not always in a transparent way and based on a robust methodology

Economic valuation of health benefits of cycling (3)

Why?

Analysis of life years gained /lost from shifting to bicycle use for a 7.5 km distance travelled per age

Stressor	Age category	Baseline mortality rate[a]	Mean Relative risk	Gain in life years [a]	Loss or gain in days / months per person*
Air pollution	18-39	238	1.03	-4153	-3 days
	40-64	1932	1.03	-26 019	-19 days
	65+	22 660	1.03	-83 788	-2 months
Traffic accidents	18-39	238	Age 18-29: 0.996 Age 30-39: 1.009	-806	-0.6 days
	40-64	1932	Age 40-49: 1.010 Age 50-59: 1.005 Age 60-64: 1.005	-4731	-3 days
	65+	22 660	Age 65-69: 1.004 Age 70-79: 1.010 Age 80+: 1.003	-14 532	-11 days
Physical activity	18-39	238	0.70	41 580	1 month
	40-64	1932	0.70	263 517	6 months
	65+	22 660	0.70	1 062 527	2 years

Values are rounded. A minus sign implies losses

de Hartog JJ, Boogaard H, Nijland H, Hoek G. 2010. Do the health benefits of cycling outweigh the risks? Environ Health Perspect 118:1109–1116

Economic valuation of health benefits of cycling (4)
‘HEAT for Cycling’
Health Economic Appraisal Tool for Cycling

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- **In collaboration with:**

THE PEP
Transport, Health and Environment
Pan-European Programme
United Nations Economic Commission for Europe (UNECE)
World Health Organization Regional Office for Europe (WHO / Europe)
WHO / Europe
United Nations

‘HEAT for Cycling’
Underlying study

Andersen L, Schnohr P, Schroll M, Hein H.. 2000. *All-cause mortality associated with physical activity during leisure time, work, sports, and cycling to work*. Arch Intern Med 160:1621–1628.

- 30.000+ participants followed up during over 14 years
- Study controlled and adjusted for
  - Usual socio-economic variables (age, sex, tobacco, ...)
  - Physical activity levels independent from cycling (leisure time PA)

‘HEAT for Cycling’

Health impacts considered

	Physical activity	Road safety	Air quality
Individual	Impact on mortality of higher level of PA > risk reduction of premature mortality	Impact on mortality of higher exposure to motorised transport (depends on local context, on modal split, cyclists’ behaviour,..)	Impact on mortality of higher exposure to air pollution ? Impact on risk of premature mortality?
Local		Risk reduction of crashes for other road users	Reduction in air and noise pollution
Global			Reduction in greenhouse gases emissions

‘HEAT for Cycling’
Output

If **X** people

cycle a distance of **Y** kilometres

what is the economic value of the associated reduced mortality

due to their increased physical activity?

‘HEAT for Cycling’
Functioning

Number of trips per day

X

Mean distance/trip

X

Cycling days/year

=

Cycling distance / year / cyclist in the study area

▼

Calculates (< mortality tables of general population)
the **number of avoided premature deaths**, linked to the level of bicycle use

▼

Evaluation of the economic benefit
of this reduced mortality due to cycling

‘HEAT for Cycling’
Findings of underlying study

- **Relative mortality risk of a regular cyclist is 0.72**

(relative to the general population: RR=1)

for a volume of cycling of

3 hours/week, 36 weeks/year at 14 km/h, i.e. ~1.500km/year

- For this **reference volume of cycling**, the reduction in mortality as a result of cycling is (1- 0,72= 0,28 or) **28%**
- **Linear response** between level of bicycle use and risk reduction: cycling half this reference volume will bring half of the protective benefit.

‘HEAT for Cycling’
Scope

1. to be applied for assessments on a **population level**, i.e. in groups of people, not in individuals
2. designed for **habitual** behaviour, such as cycling for commuting, or regular leisure time activities (not for one-day events,…)
3. designed for **adult** populations (aged approximately 20-64 years).
4. **may not be suited for populations with very high average levels of cycling** (i.e. about 1.5 hours per day or more (max. risk reduction: 50%)

Health Economic Assessment Tool for Cycling

UNITED NATIONS EUROPE

Fill in the two fields in Step 1 with your values and read the corresponding results in Step 3. You can use the default parameters supplied in Step 2 or adjust them according to your need
The population parameters used to calculate the results are displayed at the bottom of the sheet.

About this tool

Notes on how to use this tool. For additional instructions, hold the mouse over any red triangle.

Step 1: enter your data (all users must fill in the **red** fields)

Number of trips per day	300,000	How many trips are observed (or are estimated) on the specific route; across a city; or on a network, in any direction?
Mean trip length (km)	3.2	What is the mean trip length (estimated or measured)?

Step 2: check the parameters

The default parameters in green are based on best available evidence and are to be changed only if local data available.

Mean number of days cycled per year	124	The estimated number of days per year that people cycle
Proportion of trips that are one part of a return journey (or 'round trip')	0.9	What proportion of these observed cyclists do you expect will also be making a return trip later in the day?
Proportion undertaken by people who would not otherwise cycle	0.5	Proportion of these cyclists that are new users DIRECTLY as a result of the new infrastructure or policy
Mean proportion of working age population who die each year	0.005847	See local parameters page for explanation.
Value of life (in Euros)	EUR 1,500,000	What is the standard value of a statistical life used in the country of study?
Discount rate	5.0%	Discount rate used for future benefits. This is only used for the 'Present value of mean annual benefits', see step 3.

Click here to change local parameters

Click here to view underlying study parameters

Step 3: read the economic savings resulting from reduced mortality

Maximum annual benefit	**EUR 101,015,000**	Total value of lives saved (mortality only) assuming 'steady state' of health benefits achieved
Savings per km cycled per individual cyclist per year	EUR 0.81	
Savings per individual cyclist per year	EUR 612	
Savings per trip	EUR 2.72	
Mean annual benefit:	**EUR 75,256,000**	This value takes the likely build up of benefit into account (see below)
Present value of mean annual benefit:	**EUR 54,801,000**	This value uses the discount rate from section two to calculate the present value, taking inflation into account

Based on:

5% discount rate
5 year build-up of benefit and 1 year build-up of uptake, averaged over 10 years

Click here to change the timeframe used in calculation

Click here to view full calculation, graphs and adjust error

Reset all default values

Population parameters used to calculate results

Population that stands to benefit	82500	Based on number of individual cyclists calculated from data in steps 1 and 2
Mean proportion of working age population who die each year	0.005847	This reflects the relative risk of all cause mortality in the age groups that are most likely to cycle
Expected deaths in the local population	482.35	Yearly deaths expected among the population of cyclists (assuming they are aged 25-64)
Protective benefit, according to actual distance traveled	0.14	Relative risk of death among cyclists, adjusted for the actual distance cycled (assuming regular trips per year)
Lives saved	67.34	Reduction in number of deaths expected due to the modelled increase in cycling

'HEAT for cycling' online

www.heatwalkingcycling.org

ECF

EUROPEAN CYCLISTS' FEDERATION

‘HEAT for Cycling’
Different uses

- At current levels or at expected levels
- At the national/regional/local level
- Single point in time or before/after
  (actual intervention or hypothetical scenarios)
- Part of cost-benefit analysis
- …

HEAT Health economic assessment tool

Welcome to the WHO/Europe Health Economic Assessment Tool (HEAT).

This tool is designed to help you conduct an economic assessment of the health benefits of walking or cycling by estimating the value of reduced mortality that results from specified amounts of walking or cycling.

The tool can be used in a number of different situations, for example:

- **when planning a new piece of cycling or walking infrastructure.** HEAT attaches a value to the estimated level of cycling or walking when the new infrastructure is in place. This can be compared to the costs of implementing different interventions to produce a benefit–cost ratio (and help to make the case for investment)
- **to value the reduced mortality from past and/or current levels of cycling or walking**, such as to a specific workplace, across a city or in a country. It can also be used to illustrate economic consequences from a potential future change in levels of cycling or walking.
- **to provide input into more comprehensive economic appraisal exercises, or prospective health impact assessments.** For example, to estimate the mortality benefits from achieving targets to increase cycling or walking, or from the results of an intervention project

More information

What data do I need?

Before you begin, check that you have the data you need to produce an assessment.

more...

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HEAT
Health economic assessment tool

HEAT ▶ for cycling ▶ Q1: Single or before / after

HEAT
Health economic assessment tool

▲ HEAT for cycling

Q1: Single or before / after

HEAT for cycling

Q1: Your data: amount of cycling from a single point in time, or before and after an intervention

- (●) Single point in time
- ( ) Before and after

- Next question
- Back
- Exit the assessment

Hints & Tips

If you select 'Single', you will be asked to enter data on levels of cycling only once.

If you select 'Before and after', the tool will prompt you to enter two sets of cycling data.

The difference in levels of cycling between the pre- and post- measures will be used to calculate the health benefits and associated financial savings.

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HEAT ▸ for cycling ▸ Q2: Cycling data type

HEAT
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- ▴ **HEAT for cycling**
  - Q1: Single or before / after
  - **Q2: Cycling data type**
  - Q4: Distance
  - Q7: Population

HEAT for cycling

Q2: Enter your cycling data

The HEAT model requires an estimate of the average duration spent cycling in the study population in order to calculate the corresponding health benefit (based on a relative risk from a review of the epidemiological literature on the health benefits of cycling). This duration can be entered directly, if available (and this is the most direct data entry route), or calculated based on the distance, number of steps, or number of trips.

- ○ Duration (average time cycled per person)
- ● Distance (average distance cycled per person)
- ○ Trips (average per person or total observed across a population)

- Save changes
- Back
- Exit the assessment

Hints & Tips

More information on cycling data

more...

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HEAT
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HEAT ▸ for cycling ▸ Q4: Distance

HEAT
Health economic assessment tool

- HEAT for cycling
  - Q1: Single or before / after
  - Q2: Cycling data type
  - **Q4: Distance**

HEAT for cycling

Q4: Average distance cycled

Enter the average distance cycled per person per day:

4 km

How many days per year do people cycle this amount?

124 days

- Next question
- Back
- Exit the assessment

Hints & Tips

If this amount of cycling is done every day (or represents an average value per year, e.g. from a travel survey), enter 365. However, most individuals do not cycle every day. If you are unsure how many days are cycled a year, 124 is recommended as a default (the observed number of days in Stockholm*).

*Schantz, P, Stigell E (2008a): Distance, time and velocity as input data in cost-benefit analyses of physically active transportation. In: Proceedings from the 2nd International Congress on Physical Activity and Public Health, Amsterdam, 13-16 April, 2008:270 (http://www.gih.se/upload/Forskning/Rorelse_halsa_miljo/)

Passenger Transport

3.5.17

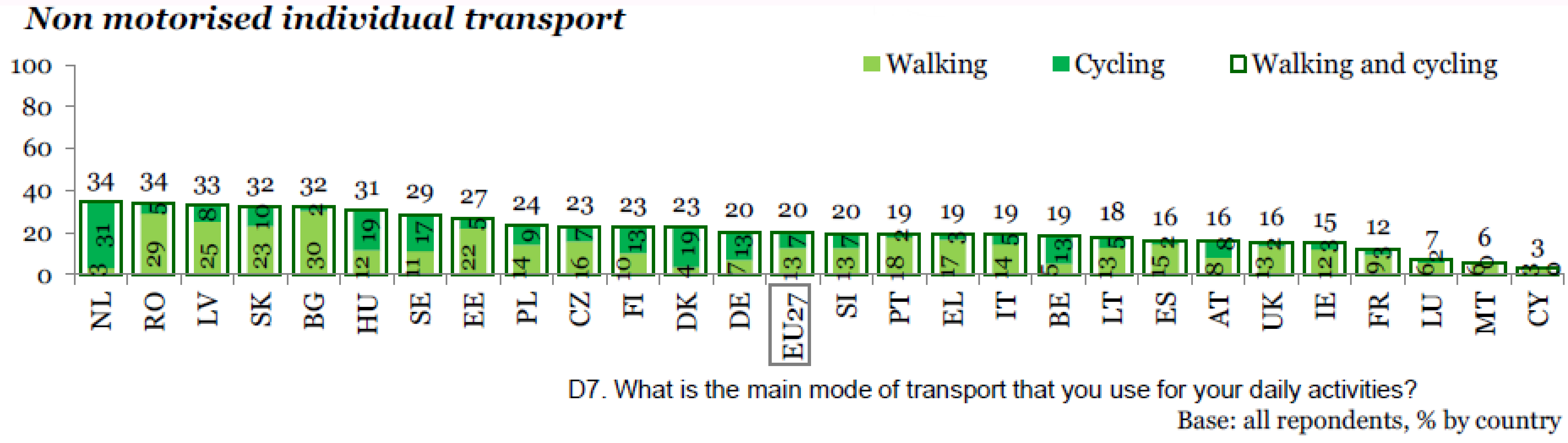
Cycling

1000 mio pkm

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU-15	Index 1992 =100
1992	3.4	5.3	23.7	0.8	0.8	4.5	0.7	9.0	0.0	12.5	1.3	0.3	1.4	2.2	4.7	70.6	100
1993	3.3	5.1	23.6	0.8	0.8	4.4	0.7	9.0	0.0	12.4	1.3	0.3	1.4	2.2	4.5	69.8	99
1994	3.3	4.6	23.6	0.8	0.8	4.4	0.7	9.0	0.0	13.0	1.2	0.3	1.0	2.3	4.5	69.5	98
1995	3.3	5.1	23.8	0.8	0.8	4.4	0.7	9.0	0.0	13.2	1.2	0.3	1.3	2.4	4.5	70.8	100
1996	3.3	4.8	23.7	0.8	0.8	4.4	0.7	9.0	0.0	12.6	1.1	0.3	1.3	2.1	4.3	69.2	98
1997	3.3	4.9	23.8	0.8	0.8	4.4	0.7	9.0	0.0	13.5	1.1	0.3	1.3	2.4	4.4	70.7	100
1998	3.3	5.0	23.8	0.8	0.8	4.4	0.7	8.9	0.0	13.3	1.1	0.3	1.3	2.3	4.4	70.4	100
1999	3.3	5.0	23.9	0.8	0.8	4.4	0.7	8.9	0.0	13.4	1.1	0.3	1.3	2.4	4.4	70.7	100
2000	3.3	5.0	23.9	0.8	0.8	4.4	0.7	8.9	0.0	13.5	1.1	0.3	1.3	2.4	4.5	70.9	100
	passenger-km per person per year																
2000	322	936	291	76	20	75	184	154	23	848	136	29	251	271	75	188	

Source : study for Energy and Transport DG

EC, Energy and Transport in Figures, Eurostat 2003



EC Eurobarometer, Future of Transport – Analytical report, March 2011

HEAT for cycling

Q7: How many people benefit?

The tool now requires information on the number of individuals doing the amount of cycling you entered in the previous questions.

In most cases, this will also be the number of people who stand to benefit from the reported levels of cycling. If the trips data you have entered is based on a representative sample of a larger population, you may need to change this number. In this case, you need to enter the total population number, rather than the number in your sample (e.g. in case of a national travel survey that is representative for the whole population, use the total number of population here, not the sample size of the travel survey). If you use survey data that has already been extrapolated to the whole population, the previously entered value is already the number of the total population and no change is required here.

It is important to ensure the right population figure is entered here, as this can substantially affect the resulting calculations.

Important note: Please bear in mind that HEAT works for averages across the population under study and not individual persons. The larger the study population is the more accurate the results will be.

Number of cyclists:

2800000 persons*

* Please enter full number without delimiters such as commas or full stops

HEAT ▶ for cycling ▶ Cycling Summary

HEAT for cycling

Summary of cycling data

Review your entered data

Average distance cycled per person per year in km: **496**
This level of cycling is likely to lead to a reduction in the risk of mortality of: **10 %**
Total number of individuals regularly doing this amount of cycling: **2,800,000**

Please bear in mind that HEAT is to be applied for assessments on a population level, i.e. in groups of people, not in individuals. HEAT does not calculate risk reductions for individual persons but an average across the population under study. The results should not be misunderstood to represent individual risk reductions.

- Next question
- Back

HEAT for cycling

Q8: Choose: evaluate the benefits of all current cycling or assess the impact of an intervention?

(◉) All current cycling

( ) Impact of an intervention

- Next question
- Back
- Exit the assessment

Hints & Tips

If you select 'All current levels of cycling', the tool will provide an estimate of the value of all the cycling data you entered.

If you select 'Impact of an intervention', the tool will ask you for an estimate of the proportion of your cycling data that can be attributed to the intervention.

HEAT ▸ for cycling ▸ Q11: Mortality rate

HEAT for cycling

Q11: Mortality rate

Health benefits are calculated based on a reduced probability of death for people who cycle. The mortality rate used in HEAT should reflect the rate of the population being studied. It is recommended to use the local crude mortality rate for the population aged 20-74 years, unless the age range of cyclists in your population is substantially different.

The default value is for all adults aged 20-74 years across the WHO European region, calculated using data from the countries and years shown in the drop down menu.

It is possible to use a mortality rate for a different age group, for example one which matches the age range of the population participating in the cycling assessed. However, it must be noted that HEAT is not appropriate for populations consisting mainly of children, very young adults, or older people, as the underlying relative risk would not be applicable as it applies to the age range of 20-74.

Please enter a figure for mortality data either by selecting the value for your country from the WHO Mortality database, or by entering your own value. If your national value is not available, it is suggested to use the WHO European Region average value

Select mortality data for your country using the drop down menu below:

Serbia (2009) ▾

Hints & Tips

This drop down menu allows you to select the most recent mortality data available for all adults aged 20-74 years in European countries, obtained from the WHO's European Detailed Mortality Database.

more...

If entering your own value, it is recommended that you use the crude mortality rate for adults aged 20-74 years in your own country.

More information on age range

More information on the recommended age range can be found in the scope for the use of HEAT for cycling.

more...

More information on death rates

HEAT for cycling

Q12: Value of statistical life

What is the value of a statistical life?

The value of a statistical life is derived with a methodology called "willingness to pay" to avoid death in relation to the years this person can expect to live according to the statistical life expectancy. The willingness to pay represents how much a representative sample of the population (who in this instance are potential victims) would be willing to pay (in monetary terms) to avoid a specific risk such as the risk of a road crash. Please bear in mind that such assessments do not assign a value to the life of one particular person but refer to an average value of a "statistical life".

Enter the standard value of a statistical life used in the country of study (and select your currency). This will form the basis of the financial savings shown in the model. If not known, use the default value of €1.574 million, which is a standard value used across Europe[2].

Please enter the local value of statistical life:

1574000 | European euro (EUR) ▾

- Next question
- Back
- Exit the assessment

Hints & Tips

According to economic theory, the willingness to pay comprises lost consumption, immaterial costs (e.g. suffering) and the share of health costs paid directly by the victims[1].

more...

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Health economic assessment tool

HEAT for cycling

Q13: Time period over which benefits are calculated

Please select the time period over which you wish average benefits to be calculated

10 years

The time period should not be longer than you believe the entered amount of cycling is being sustained.

- Next question
- Back
- Exit the assessment

Hints & Tips

This tool shows both total and average benefits over a time period selected by the user.

The time period over which savings should be examined is often standardized within a country, and where possible you should select the time period used locally; the default value has been set at 10 years.

HEAT Health economic assessment tool

HEAT for cycling

Q14: Costs to include a benefit–cost ratio in the HEAT calculation

If you know how much it costs to promote cycling in your case (e.g. in case of a specific promotion project or new infrastructure), and would like the tool to calculate a benefit-cost ratio for your local data, please select 'Yes'.

○ Yes

Otherwise please select 'No' and continue.

◉ No

- Next question
- Back
- Exit the assessment

HEAT Health economic assessment tool

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HEAT ▸ for cycling ▸ Q16: Discount rate

HEAT Health economic assessment tool

- HEAT for cycling
  - Q1: Single or before / after
  - Q2: Cycling data type
  - Q3: Duration
  - Q7: Population
  - Cycling Summary
  - Q8: All current walking or change
  - Q11: Mortality rate
  - Q12: Value of life
  - Q13: Time period for averaging
  - Q14: Benefit–cost ratio
  - **Q16: Discount rate**

HEAT for cycling

Q16: Discount rate to apply to future benefits

In most cases, the economic appraisal of health effects related to cycling will be included as one component into a more comprehensive cost-benefit analysis of transport interventions or infrastructure projects. The final result of the comprehensive assessment would then be discounted to allow the calculation of the present value. In this case, enter "0" here. If the health effects are to be considered alone, however, it is important that the methodology allows for discounting to be applied to this result as well. As default value, a rate of 5% has been set.

Please enter the rate by which you wish to discount future financial savings:

5.0 percent

- View HEAT calculation
- Back

Hints & Tips

Since benefits occurring in the future are generally considered less valuable than benefits occurring in the present, economists apply a so called "discounting rate" to future benefits.

HEAT ▶ for cycling ▶ Result

HEAT
Health economic assessment tool

- HEAT for cycling
  - Q1: Single or before / after
  - Q2: Cycling data type
  - Q4: Distance
  - Q7: Population
  - Cycling Summary
  - Q8: All current walking or change
  - Q11: Mortality rate
  - Q12: Value of life
  - Q13: Time period for averaging
  - Q14: Benefit–cost ratio
  - Q16: Discount rate
  - **Result**

HEAT estimate

Reduced mortality as a result of changes in cycling behaviour

The cycling data you have entered corresponds to an average of **496** km per person per year.

This level of cycling provides **an estimated** protective benefit of: **10 %** (compared to persons not cycling regularly)

From the data you have entered, the number of individuals who benefit from this level of cycling is: **2800000**

Out of this many individuals, the number who would be expected to die if they were not cycling regularly would be: **13,785**

The number of deaths per year that are prevented by this level of cycling is: 1,408

Financial savings as a result of cycling

Currency: EUR, rounded to 1000

The value of statistical life applied is: **1,574,000 EUR**

The annual benefit of this level of cycling, per year, is:	**2,216,661,000 EUR**
The total benefits accumulated over **10** years are:	**22,166,612,000 EUR**
When future benefits are discounted by **5 %** per year:	
the current value of the average annual benefit, averaged across 10 years is:	**1,711,647,000 EUR**
the current value of the total benefits accumulated over 10 years is:	**17,116,471,000 EUR**

Please bear in mind that HEAT does not calculate risk reductions for individual persons but an average across the population under study. The results should not be misunderstood to represent individual risk reductions. Also note that the VSL not assign a value to the life of one particular person but refers to an average value of a "statistical life".

It is important to remember that many of the variables used within this HEAT calculation are estimates and

'HEAT for Cycling'
Figures are conservative

- Only impacts on the cyclist are considered
- Only impact on mortality is considered, not on morbidity
- Co-benefits not considered
- Only impact on the 20-64 years old

HEAT for Cycling

Concrete applications

EUROPEAN CYCLISTS' FEDERATION

Concrete applications of HEAT

- **England (DfT) and Swedish Government** adopted HEAT for cycling as part of **official toolbox** for the economic assessment of cycling infrastructure

What benefit linked to reduced mortality?

- **Scotland**: If the objective of 13% modal share was to be achieved?
  3 billion USD/year
- **Pilsen** (CZ): If the objective of 2% modal share was to be achieved?
  1.2 million USD/year
- **Auckland:** If specific infrastructures for pedestrians and cyclists were to be added to a bridge?
  900.000 USD for 1000 regular cyclists using it

Concrete applications of HEAT

UK department for transport

Case Study – Upgrade of Canal towpath London

Analysis of Monetised Costs and Benefits – 60 yr appraisal

Objective	Value impact	%
Cost of scheme	£193,000	11%
Operating cost	£773,000	41%
Loss of tax revenue	£944,000	48%
TOTAL COST (present value)	2,000,000	
Transport User Efficiency (decongestion)	£12,000,000	17%
Greenhouse gases	£194,000	0.3%
Health / Physical fitness	£39,000,000	54%
Journey ambience	£16,000,000	22%
Accidents	£3,200,000	4%
Reduced absenteeism	£2,000,000	3%
TOTAL BENEFIT (present value)	£72,000,000	
Net Present Value	£70,000,000	
Benefit to Cost Ratio	36	

Questions for discussions

1. What do you see as strengths and weaknesses of this tool?
2. Are you missing anything to actually use it (or promote it)? What would be decisive, important or helpful?
3. What would be the most efficient way to see it adopted and effectively applied in Serbia?

How to promote cycling?

Presto

www.presto-cycling.eu

Technical sheets

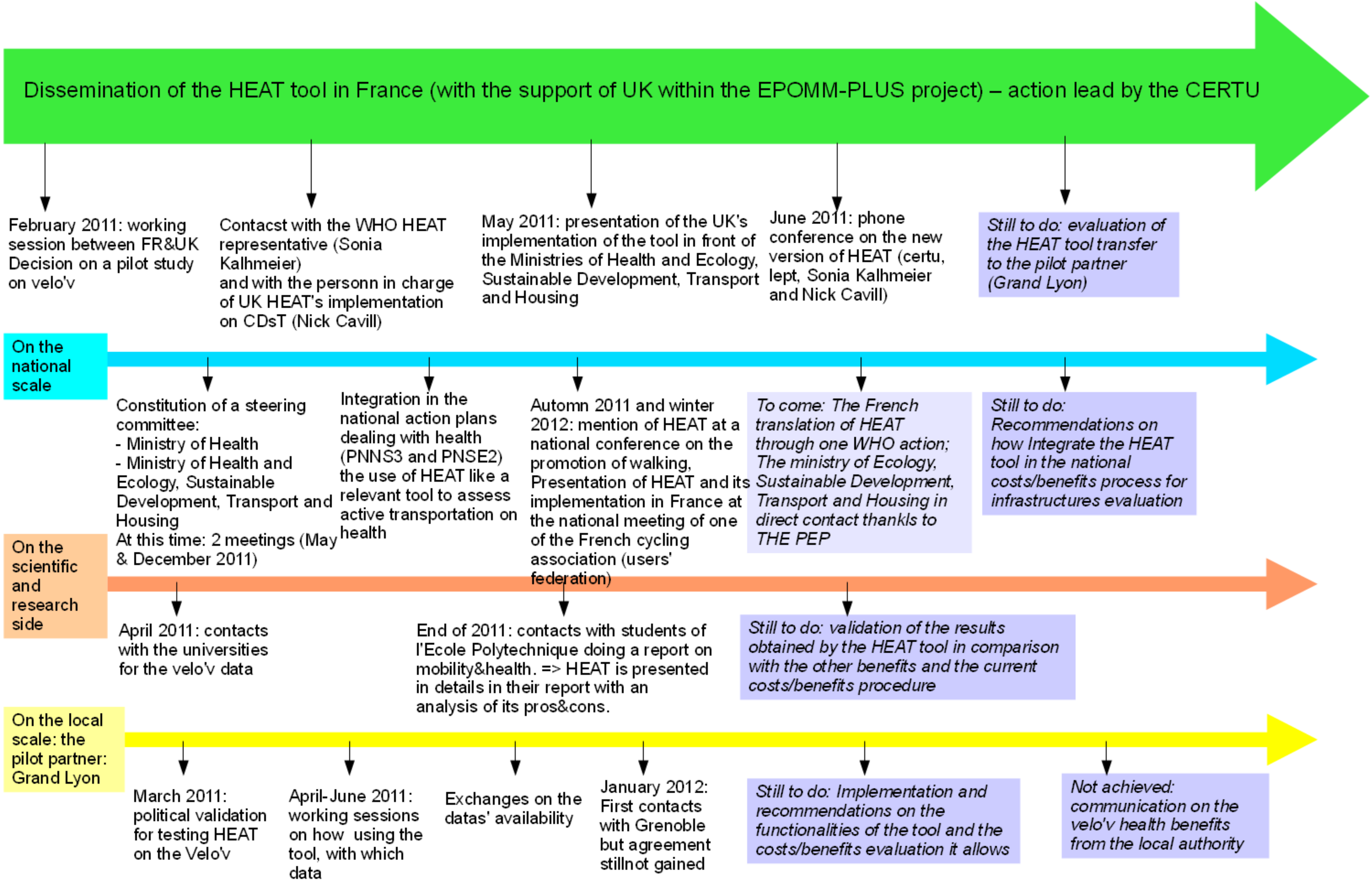
LifeCycle

www.lifecycle.cc

Practical ideas to inspire life-long cycling habits

Case studies

Implementation manual



Dissemination of the HEAT tool in France (with the support of UK within the EPOMM-PLUS project) – action lead by the CERTU
February 2011: working session between FR&UK Decision on a pilot study on velo'v
Contacst with the WHO HEAT representative (Sonia Kalhmeier) and with the personn in charge of UK HEAT's implementation on CDsT (Nick Cavill)
May 2011: presentation of the UK's implementation of the tool in front of the Ministries of Health and Ecology, Sustainable Development, Transport and Housing
June 2011: phone conference on the new version of HEAT (certu, lept, Sonia Kalhmeier and Nick Cavill)
Still to do: evaluation of the HEAT tool transfer to the pilot partner (Grand Lyon)
On the national scale
Constitution of a steering committee:
- Ministry of Health
- Ministry of Health and Ecology, Sustainable Development, Transport and Housing
At this time: 2 meetings (May & December 2011)
Integration in the national action plans dealing with health (PNNS3 and PNSE2) the use of HEAT like a relevant tool to assess active transportation on health
Automn 2011 and winter 2012: mention of HEAT at a national conference on the promotion of walking, Presentation of HEAT and its implementation in France at the national meeting of one of the French cycling association (users' federation)
To come: The French translation of HEAT through one WHO action; The ministry of Ecology, Sustainable Development, Transport and Housing in direct contact thankls to THE PEP
Still to do: Recommendations on how Integrate the HEAT tool in the national costs/benefits process for infrastructures evaluation
On the scientific and research side
April 2011: contacts with the universities for the velo'v data
End of 2011: contacts with students of l'Ecole Polytechnique doing a report on mobility&health. => HEAT is presented in details in their report with an analysis of its pros&cons.
Still to do: validation of the results obtained by the HEAT tool in comparison with the other benefits and the current costs/benefits procedure
On the local scale: the pilot partner: Grand Lyon
March 2011: political validation for testing HEAT on the Velo'v
April-June 2011: working sessions on how using the tool, with which data
Exchanges on the datas' availability
January 2012: First contacts with Grenoble but agreement stillnot gained
Still to do: Implementation and recommendations on the functionalities of the tool and the costs/benefits evaluation it allows
Not achieved: communication on the velo'v health benefits from the local authority

'HEAT for Cycling'
Future developments

- Available offline (Fall 2012)
- Expert meeting (12/2012) on updating and expanding functionality and scope of HEAT:
    - Air pollution
    - Road safety
    - CO_2 emissions
    - Morbidity
- Tool & guide translated in D, FR, E, RU, FI (02/2013)

For more information

- http://www.heatwalkingcycling.org
- Transport, Health and Environment Pan-European Programme (THE PEP): www.thepep.org
- HEPA Europe (Health-Enhancing Physical Activity network): www.euro.who.int/hepa

Thank you for your attention!

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ECF gratefully acknowledges financial support from the European Commission.