

# *Healthy transport - Happy people*

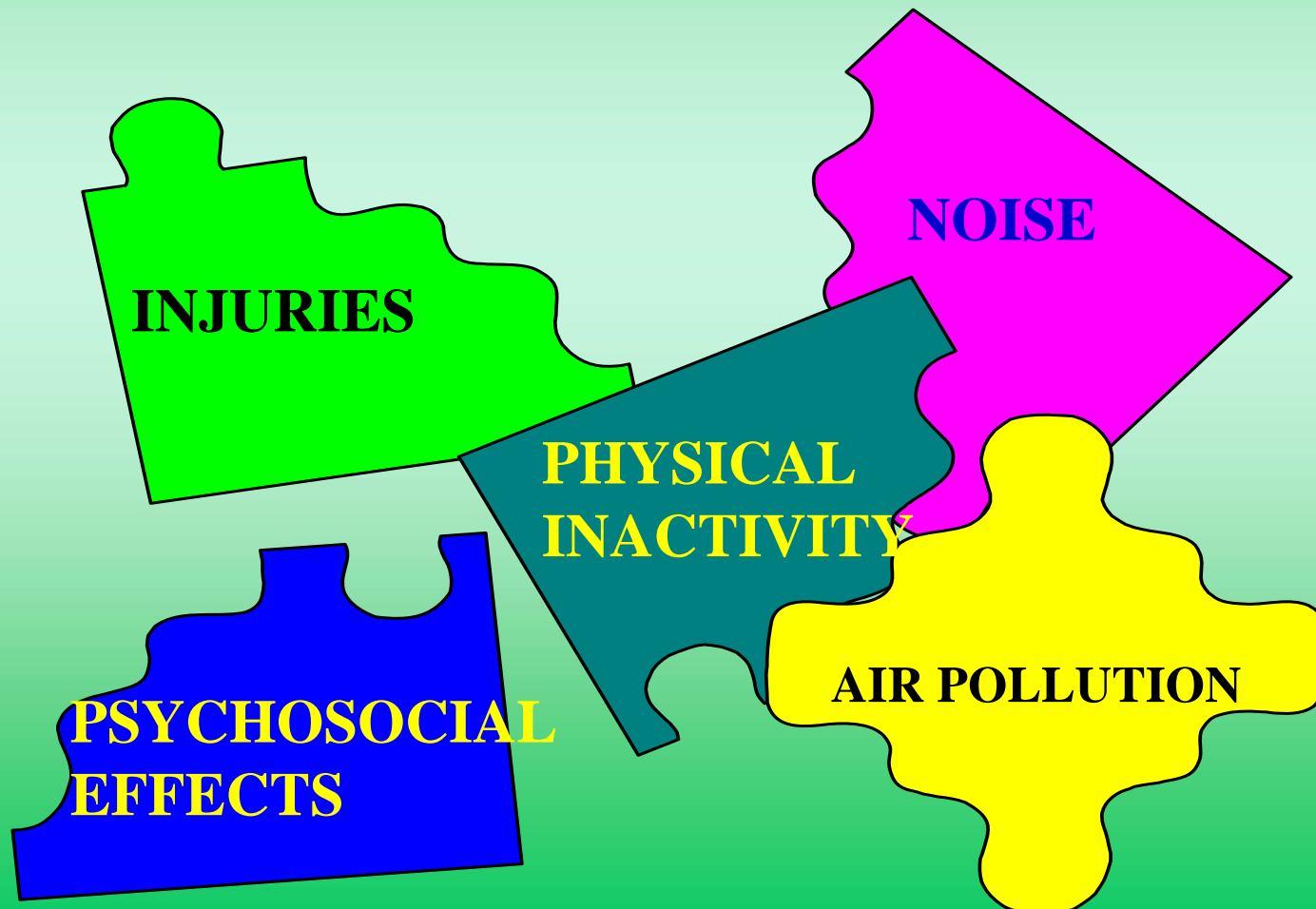
*How transport policies  
determine the health of the  
population and why governments  
should act*

*Carlos Dora & Francesca Racioppi*

*World Health Organization*



# Transport Policies Have Major Health Impacts, BUT they Are Dealt With Separately



# Air pollution leads to heart and respiratory disease and premature deaths



- ◆ Increase in hospital admissions, and asthma attacks
- ◆ Loss of millions of working days
- ◆ Children living near busy roads with heavy/diesel vehicle traffic have higher risks of respiratory problems.
- ◆ Fine particles from combustion engines are the culprits
- ◆ Diesel exhaust is classified as a “Toxic Air Contaminant” (California EPA).

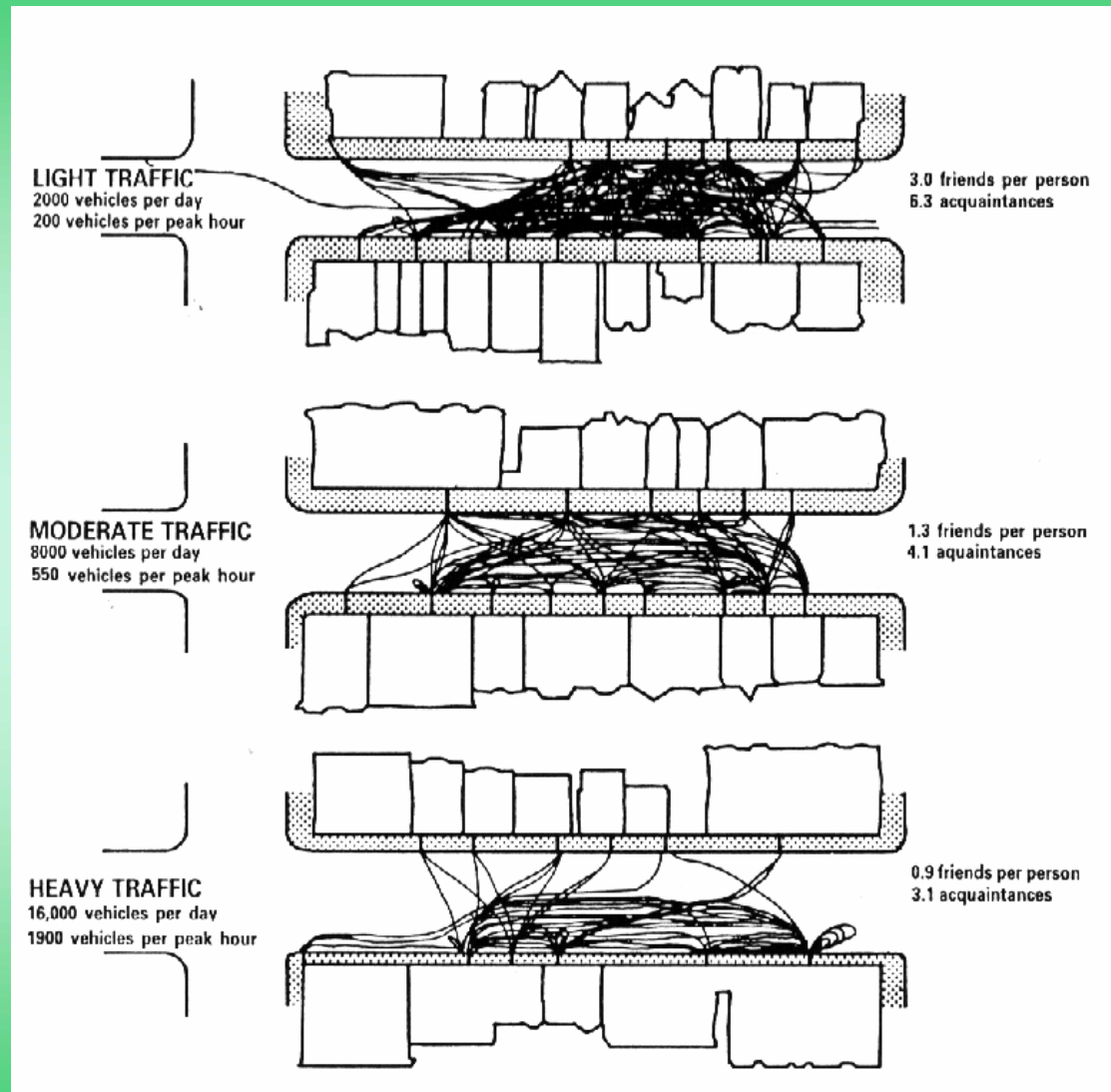


# Traffic injuries

- ✓ A leading cause of death for children aged 5-14 and young people aged 15-29.
- ✓ Vast majority accidents happens in the urban environment
- ✓ Pedestrians and cyclists account for a great proportion of total deaths.
- ✓ Major Costs : 2.0 % GDP



# Traffic linked to neighbourhood social support



**Busy streets are less convivial, more anonymous**

# Traffic Noise is a major cause of annoyance; Interferes With Memory, Attention and Ability to Deal With Analytical Problems



Children chronically exposed to loud noise show:

- ◆ impaired acquisition of reading skills,
- ◆ attention and problem-solving ability.
- ◆ Emerging and consistent evidence for impact on hypertension and cardiovascular disease
- ◆ Road traffic is the major source of exposure to noise.



# Epidemic of obesity leading to heart disease, diabetes, cancers, from little daily Physical Activity:



- 1.9 million deaths
- 19 million Disability Adjusted Life Years (DALYs)
- 10-16% of cases of breast cancer, colon and rectal cancers, and diabetes mellitus
- 22% of ischaemic heart disease



# Epidemic of obesity linked to obstacles to cycling and walking as part of daily life

INTERNATIONAL NEWS

FEBRUARY 11 2001

HERVE DONNEZAN



## Revealed: why so many Americans are so fat (it's not the

by JAMES LANGTON  
in New York

THE mystery as to why Americans have become the fattest people on the planet has been uncovered by public health experts, who say that decades of uncontrolled suburban sprawl conceived around the motor car have left them unable to walk even if they wish to.

Such delicacies as the stuffed crust pizza and triple bacon cheeseburger have played their part, but the main culprit for the ever-expanding American waistline seems to be the way modern suburbs are built.

Researchers for the US Centres for Disease Control and Prevention are preparing to test the theory with a series of experiments to find out how far Americans actually walk. In Atlanta, Georgia, they plan to equip 800 people with satellite tracking devices to follow their daily routine step by step.

The drift to the suburbs has been one of the most significant trends in population movement in the last 50 years. It has been accompanied by a rise in vehicle ownership, so that many new

the corner and we don't walk to the park."

Doctors and health experts have puzzled for some time as to just why so many Americans are so fat. At least one in five is defined as obese — more than 30 per cent above their ideal weight.

Yet over-eating does not seem to be the simple explanation. Most adults consume only around 100 calories a day more than they did 20 years ago, while the amount of fat in their diet has dropped from 42 per cent to 34 per cent.

The problem now seems to be a way of life so sedentary

**“A mother said that when she took a walk to burn off a few pounds, neighbours stopped to ask if she needed help?”**

Decades of uncontrolled suburban sprawl conceived around the motor car have left them unable to walk even if they wish to.

of Seattle. The correlation between physical activity and the year a house was built. Residents in streets built before 1940 walked or cycled at least three times every two days. Those in more modern houses used cars almost exclusively. The Atlanta study, to begin in March, will look at 8,000 households in two districts: one where the shops and houses are close together and the other in an outer suburb. One in 10 of those taking part will wear a tracking device so that researchers can monitor their activity.

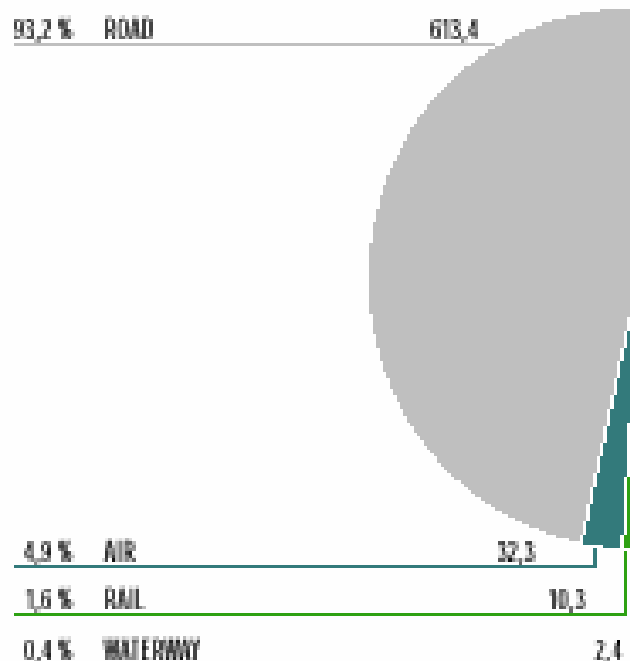
What worries organisations such as the American Medical Association about America's bulging waistline is that children seem to be among the worst affected



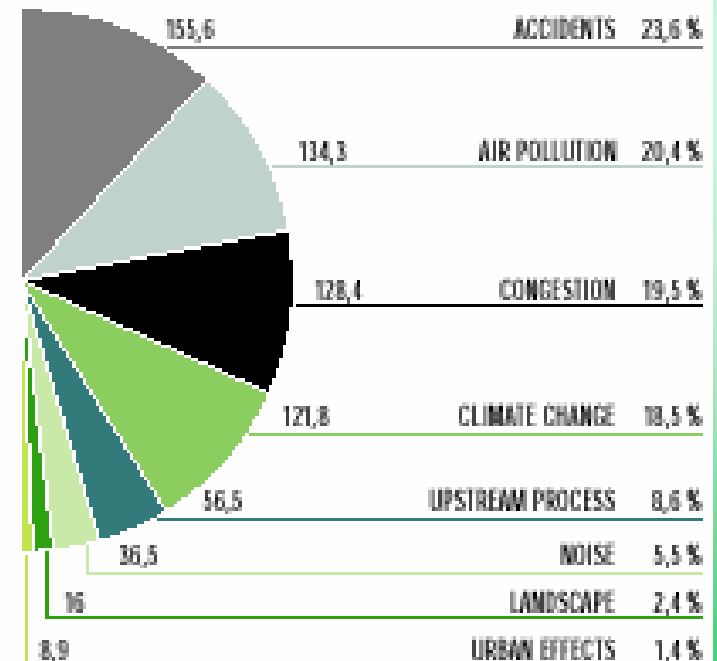
# Transport-related Health Costs Are Very Large

External Costs of Transport in Western Europe:  
Euro 658 billion (1995) (INFRAS/IWW, 2000)

*by transport mode*



*by category of cost*



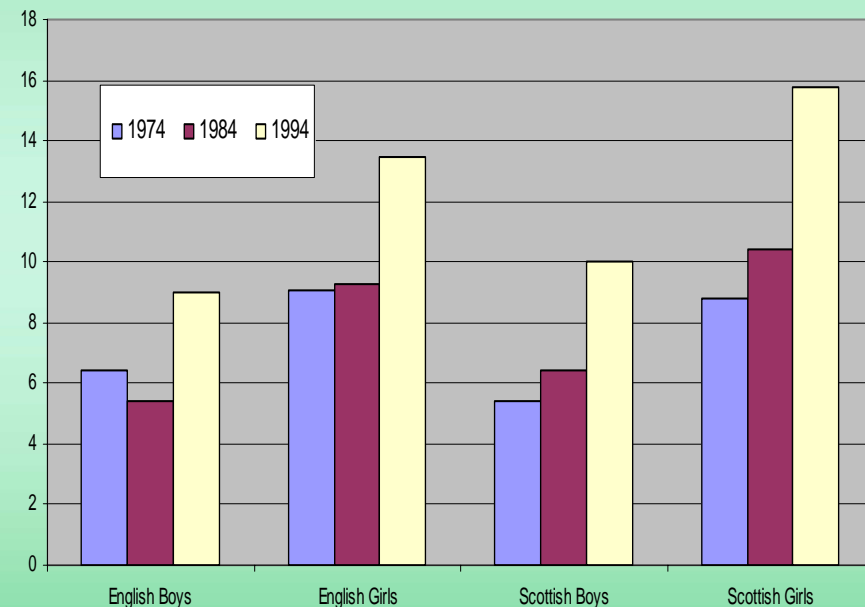
# Children pay a High Price

◆ They are at higher risk of being involved *traffic injuries*.

◆ Play unhindered by street traffic = double *social contacts*

◆ Restrictions to walk and cycle hinder the development of their *independence*.

◆ Lack of physical activity contributes to the epidemic of *obesity*.



Obesity in children  
BMJ, 2001; 322:24-6



# Most benefits to health of the STS can be expected in Urban Areas:




- ◆ 65 % of accidents occur in urban areas (only 5 % on motorways).
- ◆ Air pollution is higher in urban areas, as is the risk of exposure for vulnerable groups.
- ◆ Annoyance from noise from roads, airports and railways is reported more by urban dwellers.
- ◆ Opportunities for commuting by cycling and walking are greater



# There Is a Need for Integrated Strategies That:

- ◆ Tackle simultaneously all environmental and health impacts of transport
  - Accidents, effects of air pollution, noise, climate change, physical activity through walking and cycling
- ◆ Leverage on synergies
- ◆ Can be implemented quickly



*e.g. consider co-benefits of reducing emissions of greenhouse gases*



# Integrated Policies benefit health, environment and development:



- ◆ Transport Demand Management via:
  - Economic measures
  - Changes in individual travel behaviours
  - Compact land use to reduce need to travel
- ◆ Maintain high walking and cycling
- ◆ Support public transport



# Why governments should act?

To make optimal decisions in view of competing points of view

Car and Road lobby:  
“Benefits outweigh the Costs, the health burden is a price societies pay for mobility and convenience they enjoy.”

Health & Environment:  
“Healthy transport can improve public health, safeguard the environment, enhance access and the economic vitality of cities”



# First: To ensure sound economic decisions

On one hand: Society is unlikely to want to make sacrifices to eliminate all risks from transport

However: The Market for transport fails to deliver socially optimal patterns as

Transport Costs are not all paid for the user, and the costs borne by others (external costs) are substantial.

The overall use of transport, particularly more polluting modes, is then higher than socially optimal

The right investments and prices (for pollution, accidents etc.) would correct these distortions



# 1. To ensure sound economic decisions cont...

The end result is cost to all society that are not seen by the individual:

- ◆ absenteeism to work and costs to businesses,
- ◆ increasingly high health care costs of chronic diseases,

The economic and social impact of transport to society would be further increased if certain journeys were made by different modes, or in the need to travel long distances to meet basic needs was reduced.



## 2nd. To ensure policy making draws on existing knowledge and best practice

- ◆ Difficulty in accessing information on the health impacts of transport interventions
- ◆ Myths about what is good practice are repeated and reinforced
- ◆ Scientific evidence is often not translated regarding its implications for policy
- ◆ A trusted and balanced information broker is needed



## 3rd. To protect vulnerable groups

- ◆ Children are vulnerable to injuries, air pollution and noise, their cognitive and physical development require exploration of the neighbourhood and outdoor activity.
- ◆ Children and other vulnerable groups are exposed to risks from traffic but enjoy few benefits from it.
- ◆ These groups often do not have a voice to influence decisions. Governments need to be that voice.



# 4th. To promote health equity

Exposure to health risks depends on mode of transport used  
Need to ensure safety of people using all modes

Pedestrians and cyclists do not cause pollution, contribute to reducing traffic congestion, will use health services less and be more assiduous to work, but are exposed to health risks caused by motor vehicle users (injuries, pollution)



# What actions can be taken?

Examples show it is essential to:

1. Develop a vision for healthy and sustainable transport  
Where does the country/city want to be in 10, 20, 50 years? health and sustainability targets
2. Agree on a strategy to get there  
Who will do what, what is the plan?
3. Ensure access to best available evidence  
Scientific knowledge, best practice examples,
4. Identify the barriers to Healthy Transport and address them  
Social perceptions – walking is for the poor, urban sprawl
5. Develop and apply the tools needed to do the job and know if you achieved what you expected  
Environment and health assessments, evaluation on costs, monitoring and reporting mechanisms,



# The Transport, Health and Environment Pan-European Programme (THE PEP)

- ◆ Engages Transport, Environment and Health actors (government, IGOs, NGOs)
- ◆ Joint secretariat (WHO & UNECE)
- ◆ Work Plan for 2003-2005:
  - Clarify Transport Related Health Impacts and Costs
  - Establish a Clearing House on Transport, Environment and Health
  - Elaborate and Implement Urban Plans for Sustainable Transport
  - Establish indicators to monitor integration of environmental and health aspects into transport policies



# Identify synergy with other policy frameworks: The Transport, Health and Environment Pan European Programme (THE PEP)

//www.thepep.org/CHWebSite/

**THE PEP** *Transport, Health and Environment*  
*Pan-European Programme*

WHO / Europe UNECE

Effects of transport THE Integration Urban transport Demand management Cross-cutting issues

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EN

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**THE PEP Clearing House**

The Clearing House web site is in the pilot operation phase until the end of 2005.

The portal for user-friendly access to policy, legal and scientific information, as well as good practices, on Transport, Health and Environment in the [pan-European region](#). The Clearing House was established within the Transport, Health and Environment Pan-European Programme (THE PEP) [learn more](#)

- ▶ [Browse the Clearing House Information Tree](#)
- ▶ [Latest additions](#)
- ▶ Glossary (available soon)
- ▶ Forum (available soon)

**Summary of latest added items** [more](#)

Clean Accessible Transport for Community Health – CATCH : CATCH is a demonstration project in the European Commission's Life-Environment Programme. It supports the EC's Sixth Environmental Action Programme by promoting sustainable mobility in order to improve air quality. CATCH is being implemented in ... [more](#)  
Posted on 2005-05-18

GUIDEMAPS - Successful transport decision-making : The main output of the GUIDEMAPS project has been the development of a Handbook that is designed to support the decision makers involved in local and regional transport planning in Europe. [more](#)

thepep.org/ Ir

- Established by representatives of transport, environment and health ministries in 2002
- Provides a policy framework to take action on selected priority areas, including:
  - integration of environmental and health aspects into transport policy
  - promotion of cycling and walking, in combination with public transport
  - dissemination of knowledge and experiences through THE PEP Clearing House
  - addressing the specific issues of south eastern and EECCA countries

[www.thepep.org](http://www.thepep.org)

<http://www.thepep.org/CHWebSite/>



# A European Parliament Resolution

2001/2067(INI) Final A5-0014/2002, 22 January 2002,  
adopted on 28 February 2002



- ◆ Drawing from the WHO and UNECE policy analysis, the European Parliament adopted a resolution calling for:

*"Stronger integration of health considerations into transport policies, including by carrying out health impact assessment of major transport projects."*



**What is your best buy?**



# 30 minutes of Physical Activity from transport per day for Icelanders would help address the following:

## Obesity:

- ◆ 24% of 9 year olds in Iceland are overweight or obese
- ◆ 56% of people aged 20 are overweight or obese

## Time for Physical Activity:

- ◆ Workplace physical activity has only focused on the gym – that takes time out of people's lives

## Mental Health:

- ◆ Physical activity increases self-esteem, promoting overall psychological well-being.



# European travel patterns fit nicely with the recommended “daily dose” of activity:

- ◆ More than 30% of trips made in car in Europe cover distances of less than 3 km and 50% of less than 5 km
- ◆ These distances can be covered within:
  - 15 – 20 minutes by bicycle
  - 30 - 50 minutes by brisk walking
- ◆ This corresponds to the recommended daily dose of at least 30 minutes of regular, moderate-intensity physical activity



# Active transport can help integrating physical activity in daily life

- ◆ Avoids dependence on facilities for sports
- ◆ Does not require making a time slot available for that
  - “I have no time for physical activity”
- ◆ Equitable and easily accessible options
- ◆ Most people can do it
- ◆ Highly cost-effective
  - Minimal investment of household income
- ◆ Can be enjoyable



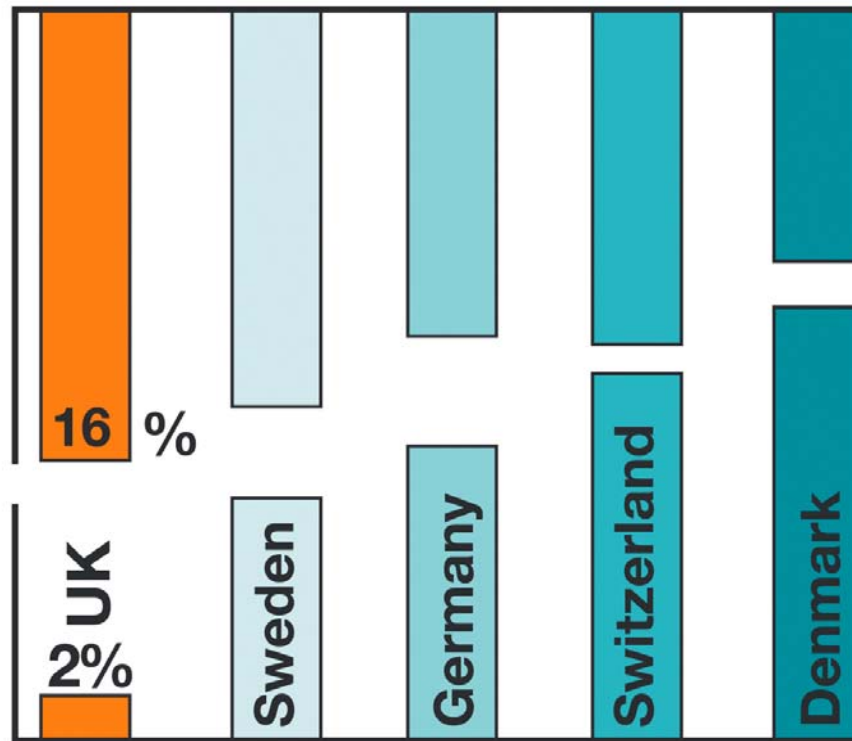
Photo courtesy of BASPO



# Where there is more cycling, there seem to be fewer overweight children

## Overweight children aged around 10 years

Source: International Obesity Taskforce, 2002



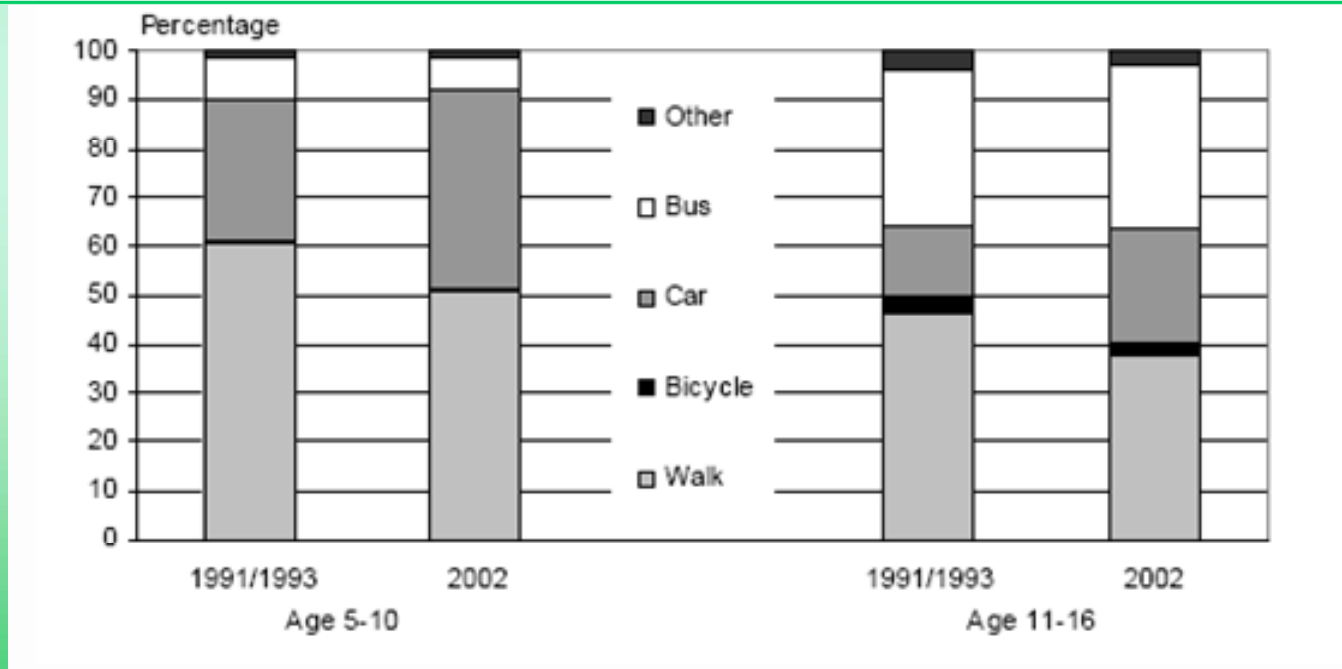
## Levels of cycling in selected countries

Source: DfT, 1996



# Fewer children walk and cycle to school

**UK: Trips to school by main mode and age: 1991/1993 and 2002**



Source: National Travel Survey; 2002 Update. UK Department for Transport, revised 2004



# Road safety is a major concern

In the European Region, road traffic injuries are the leading cause of death for children (5-14 years) and young people (15-29 years)

<i>Rank</i>	<i>0-4 years</i>	<i>5-14 years</i>	<i>15-29 years</i>
1	Perinatal conditions 65675	Road traffic injuries 4691	Road traffic injuries 37994
2	Lower respiratory infections 31971	Lower respiratory infections 3793	Self-inflicted injuries 32327
3	Congenital anomalies 28660	Drownings 2863	Violence 15679

Number and rank of leading 3 causes of death for children and young people aged 0-29 years in the European Region (2002): Source: GBD 2002 estimates, WHO 2005



**Helmets help to reduce injury severity but they do not prevent accidents. Other measures are needed to avoid accidents.**



# The fear of traffic creates barriers to physical activity



A "Pedestrian" entrance to Villa Borghese Park, Rome



- ◆ Children
  - 89% parents worry about traffic
  - 50% of parents believe a child will be hit
  - 25% of parents believe their child will be hit
- ◆ Adults
  - Fear of traffic is the most commonly given reason for not cycling
- ◆ Elderly
  - Traffic most common concern
  - People living with heavy traffic have triple functional loss in lower extremities



The world is changing: from Margaret Thatcher to David Cameron (circa 1980s).

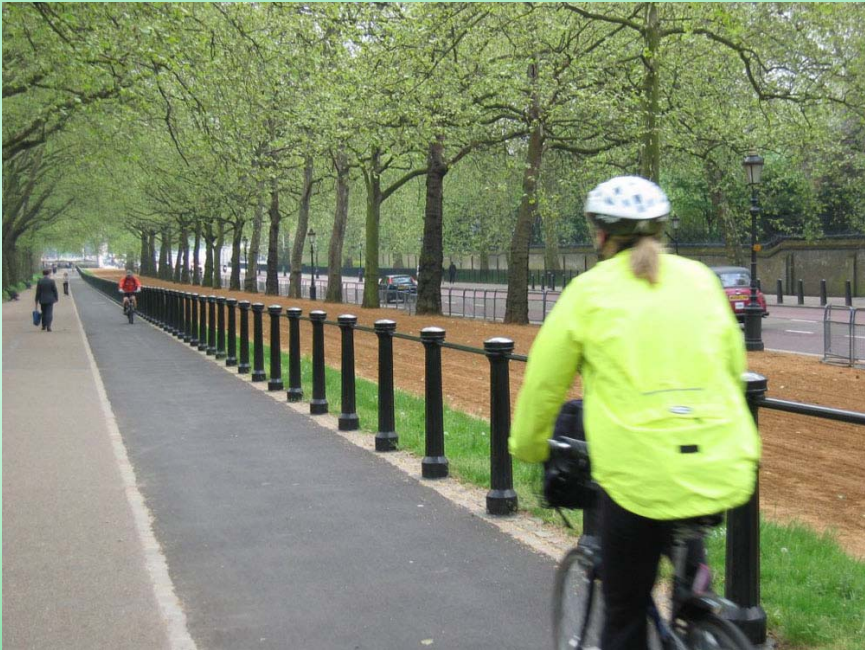
Cameron, now conservative party leader, advocates for cycling.



**“A man who, beyond the age of 26, finds himself on a bus can count himself as a failure”**



# Win-win approaches could help to achieve transport goals:



- ◆ Lower emissions of:
  - air pollutants;
  - greenhouse gases;
  - noise
- ◆ Less congestion;
- ◆ Fewer road traffic injuries;
- ◆ Less investments in costly infrastructure to cater for more cars;
- ◆ Improved accessibility and quality of urban life;
- ◆ Complement technological improvements to vehicles and fuels



**How can the health sector help  
building this new partnership?**



# Provide stronger arguments for the transport sector to support physical activity

- ◆ Document effective interventions;
- ◆ Research and evaluation;
- ◆ Develop tools that can help demonstrating the soundness of investing in physical activity
  - Cost/benefit analysis tools
  - Inclusion of health effects in the assessment of transport interventions
- ◆ Identify synergy with other policy frameworks;
- ◆ Advocacy and exchange of information;



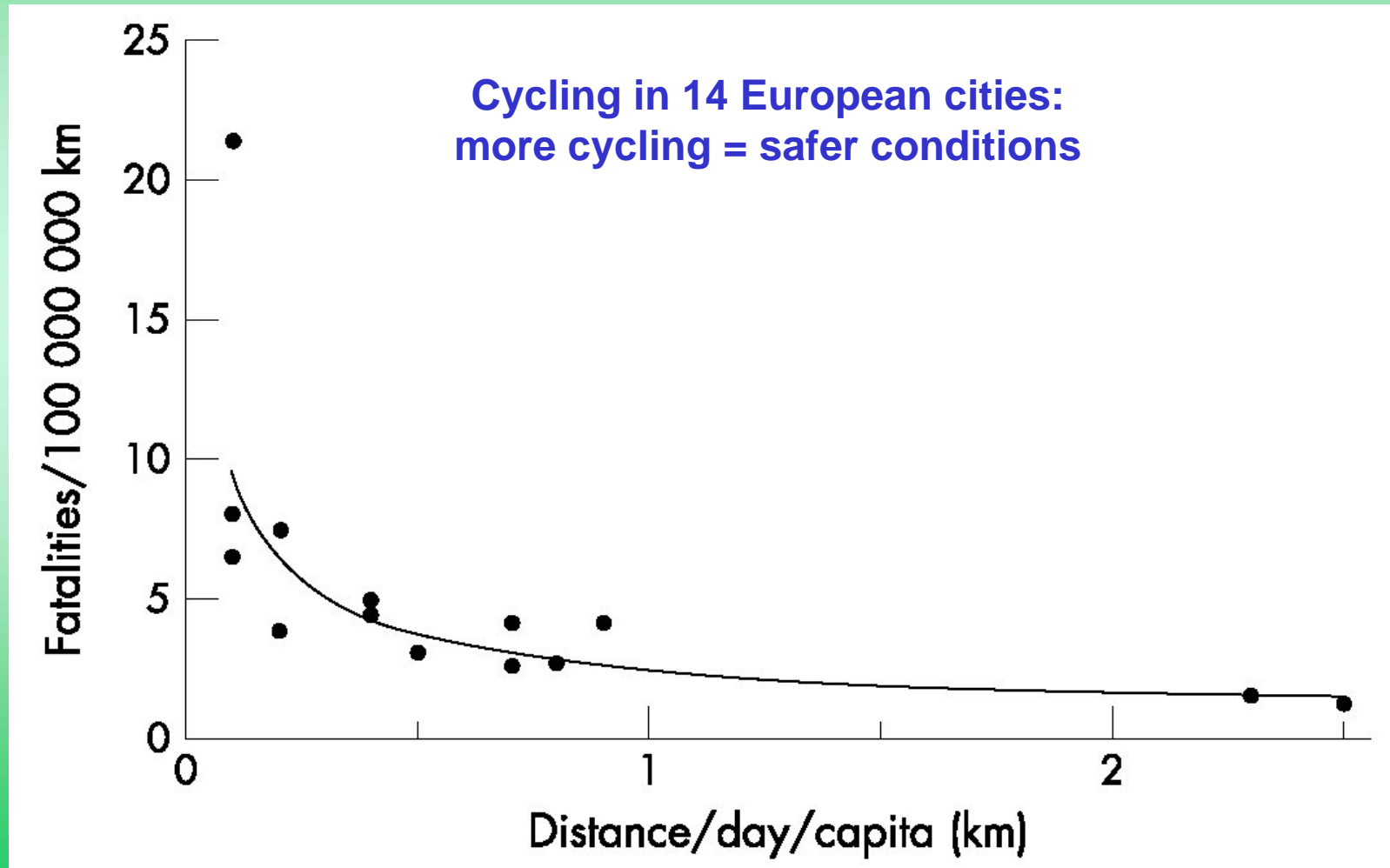
# Document effective interventions



- ◆ Traffic calming increases walking and bicycling
  - The benefits of area-wide speed and traffic management can exceed costs by a factor of 9.7
- ◆ Germany, The Netherlands, and Finland have increased bicycling
  - In Finland, the net benefits of doubling cycling was estimated to exceed the costs by €100-200 million/year through reductions in injuries and others health effects
- ◆ Installing bike lanes increases bicycling and decreases injuries
  - 35% reduction in deaths among cyclists in Denmark following segregated bicycle lanes alongside urban roads



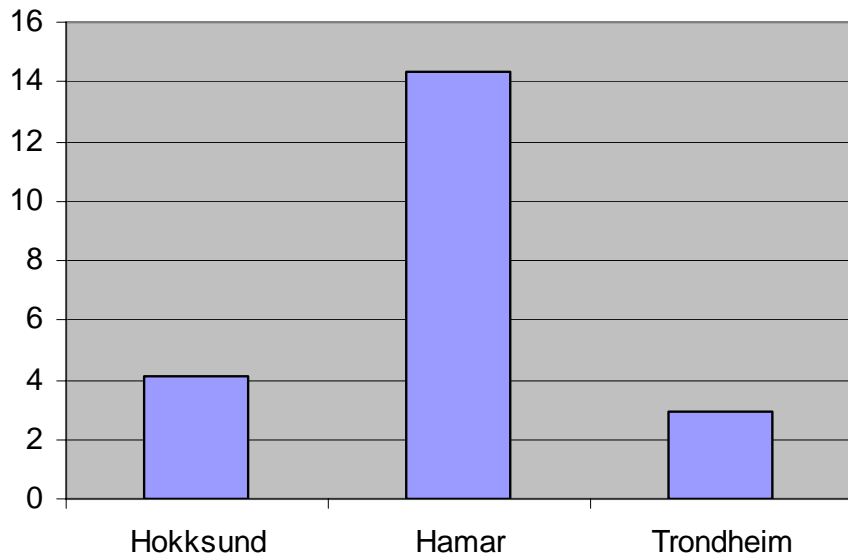
# Disseminate research results: e.g. “*safety in numbers*”



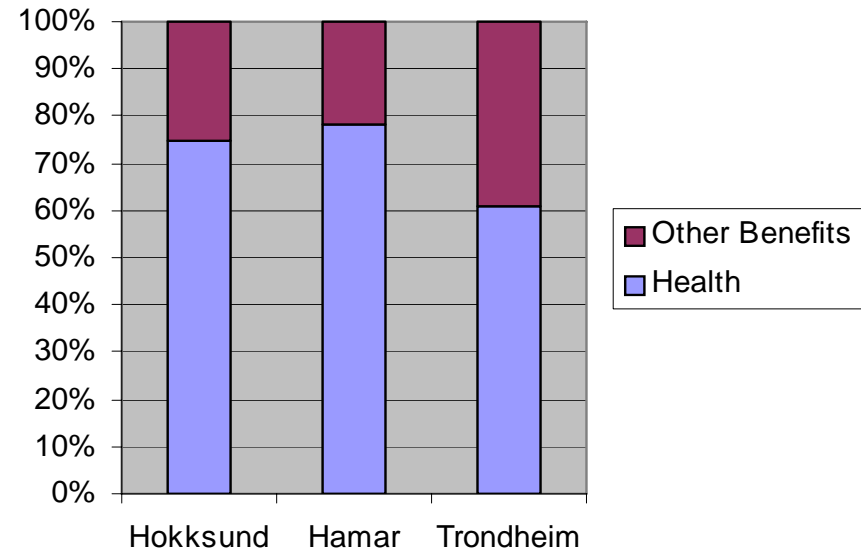
# Develop tools that help economists to include health in their analyses.

Example: benefits from investing in cycling infrastructure in three Norwegian cities.

## Benefit-cost ratio (BCA)



## Health component of BCA



# Factors included in the BCA of walking and cycling infrastructure in Norway

<b>Benefit- and cost components</b>	<b>Hokksund</b>	<b>Hamar</b>	<b>Trondheim</b>
<b>Benefits of walking- and cycle tracks (present value)</b>			
Accidents (assumed no change)	0	0	0
Travel time (assumed no change)	0	0	0
Reduced insecurity for today's pedestrians	4 191 324	2 711 764	107 638 228
Reduced insecurity for today's cyclists	9 464 281	6 123 338	398 225 323
Reduced insecurity for new future pedestrians	542 116	350 746	13 662 470
Reduced insecurity for new future cyclists	3 529 085	2 283 299	100 694 117
Reduced costs for school children transport	2 572 427	1 104 824	3 611 291
Reduced costs related to less severe diseases and short time absence	16 730 962	35 374 034	269 247 101
Reduced costs related to severe diseases	97 708 819	206 584 360	1 572 403 071
Reduced external costs of motorised road transport	9 445 569	19 970 631	124 449 172
Reduced parking costs for employers	9 484 654	34 553 324	433 356 016
<b>TOTAL BENEFIT</b>	<b>153 669 236</b>	<b>309 056 320</b>	<b>3 023 286 790</b>
<b>Costs of walking- and cycle tracks (present value)</b>			
Capital costs	23 625 000	15 750 000	600 000 000
Maintenance costs	1 553 857	1 035 905	39 463 045
Tax-cost factor, 20% of budget costs	5 035 771	3 357 181	127 892 609
<b>TOTAL COSTS</b>	<b>30 214 629</b>	<b>20 143 086</b>	<b>767 355 654</b>
<b>Net benefit- cost ratio</b>	<b>4,09</b>	<b>14,34</b>	<b>2,94</b>

Source: TOI-report 567/2002

