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Engineering and Science
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Future of Transport: The role of active modes

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Active modes

- Cycling
- Walking

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The Bike - the greatest invention ever

The bicycle is the most civilised conveyance known to man. Other forms of transport grow daily more nightmarish. Only the bicycle remains pure in heart

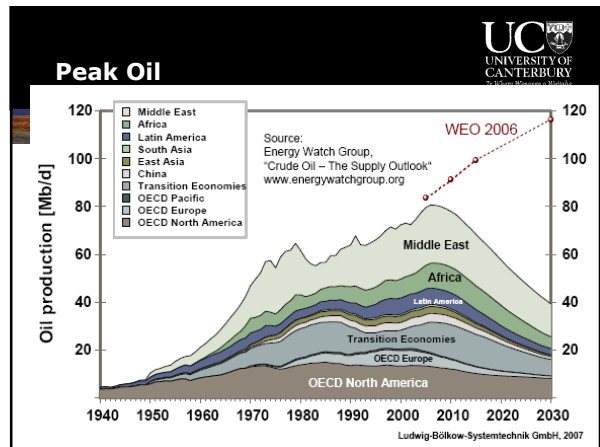
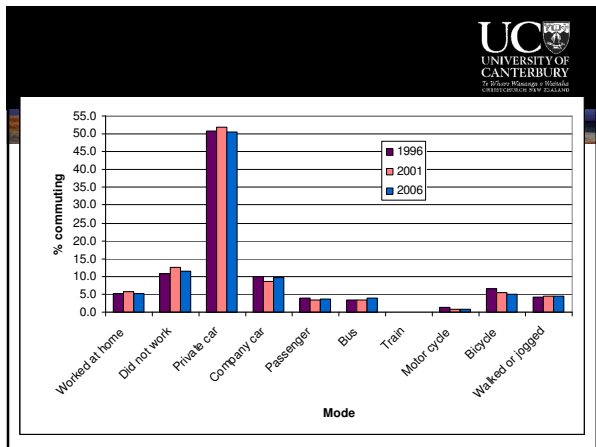
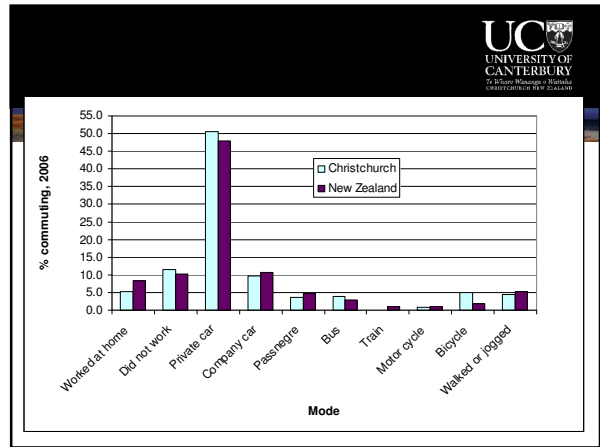
- Iris Murdoch

When man invented the bicycle he reached the peak of his attainments. Here was a machine of precision and balance for the convenience of man. And (unlike subsequent inventions for man's convenience) the more he used it, the fitter his body became... Progress should have stopped when man invented the bicycle.

- Elizabeth West

When I see an adult on a bicycle, I do not despair for the future of the human race

- HG Wells



The benefits of active travel - health



Activity levels



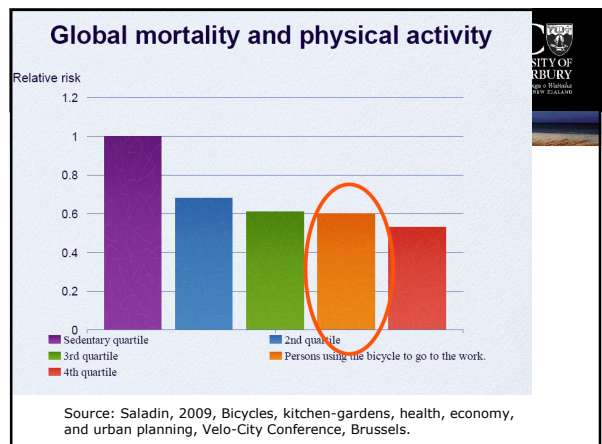
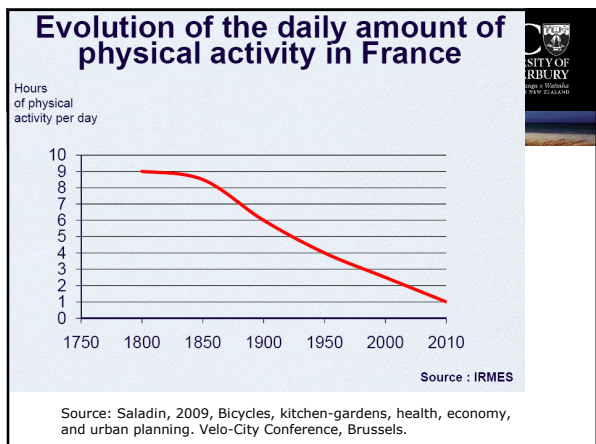

Other health impacts




Other health impacts



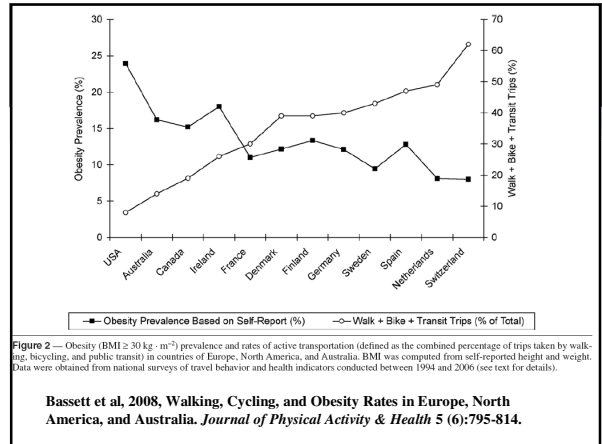
Some ways of travelling can be stressful and have bad consequences!

The benefits of active travel - health

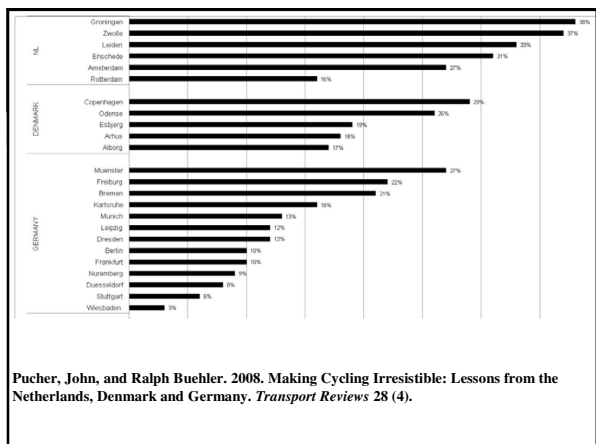
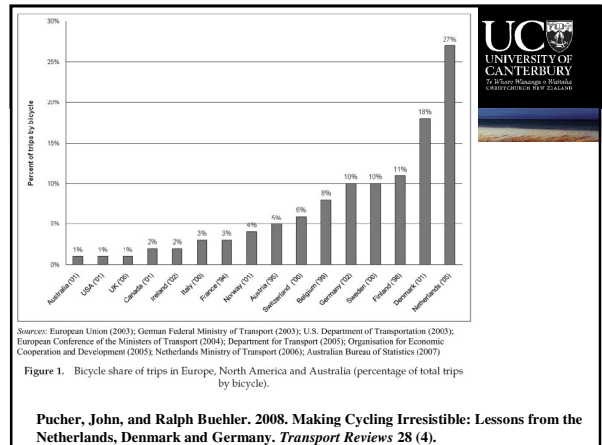
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- Are transport-active countries healthier?



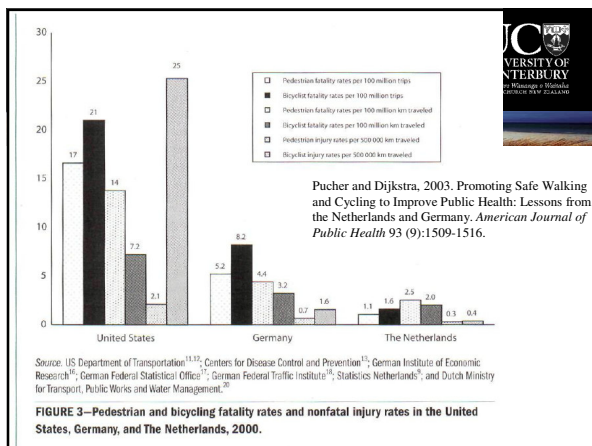
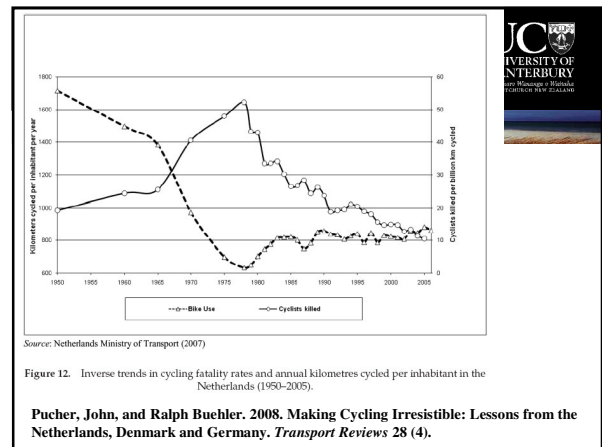
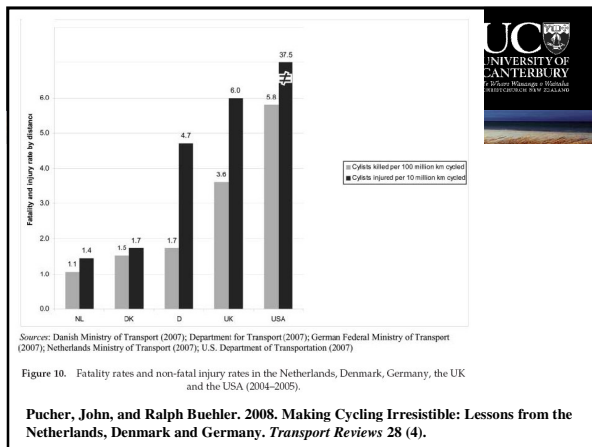
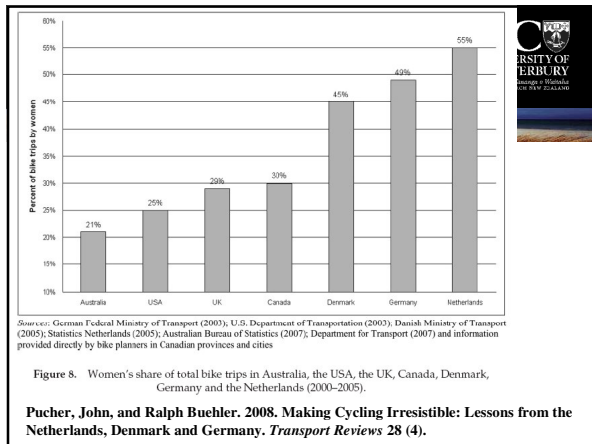
Who cycles most?

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Only for blokes?

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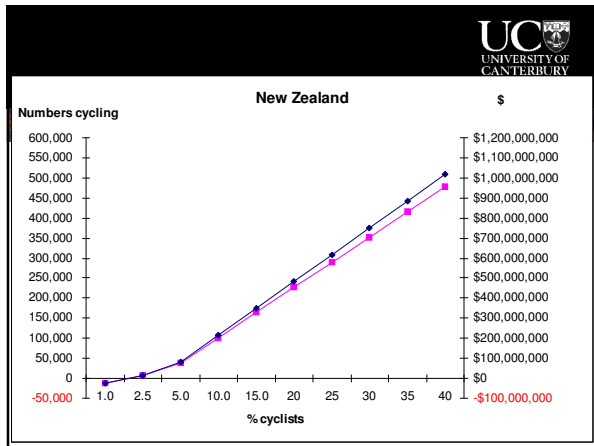


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Quantifying benefits of cycling

- Health, productivity, pollution, congestion etc
- 3 times per week for 30 yrs
- As a rule of thumb, every £10,000 invested would need to generate at least one extra cyclist, each year, over a 30 year period in order to break even

> Source: Cycling England, 2007, Valuing the Benefits of Cycling



What do we need to do?

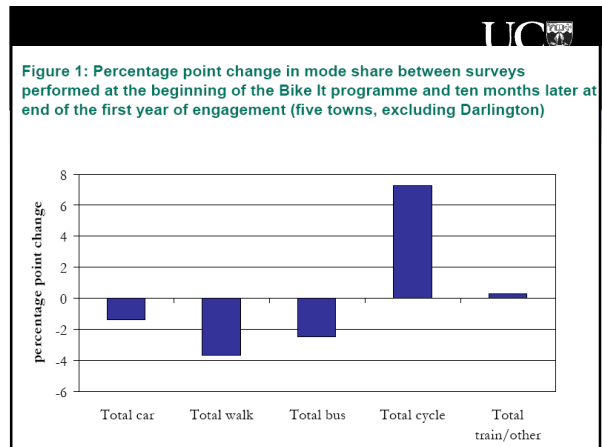
- "Substantial increases in bicycling require an integrated package of many different, complementary interventions, including infrastructure provision and pro-bicycle programs, supportive land use planning, and restrictions on car use"

- Pucher et al, 2010. Infrastructure, programs, and policies to increase bicycling: An international review. *Preventive Medicine* 50 (Supplement 1):S106-S125.


- ### Demonstration schemes
- Cycle Demonstration Towns
 - Aylesbury
 - Brighton & Hove
 - Darlington
 - Derby
 - Exeter
 - Lancaster with Morecambe
 - Sustainable Travel Towns
 - Darlington
 - Peterborough
 - Worcester



- ### Cycle Demonstration Towns
- Cycling England
Investment in 6 towns
- Aylesbury
 - Brighton & Hove
 - Darlington
 - Derby
 - Exeter
 - Lancaster with Morecambe
- £500,000 (£5 per head) matched by TLA




Cycle Demonstration Towns – 3 yr results



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- average increase in cycling across all six towns of 27%
 - result of more people starting to cycle, or returning to cycling again, not just the result of cyclists using their bikes for more trips
- Cycling to school has more than doubled where towns invested most in children
- Cycling investment generates town-wide increases in physical activity
- These results were not found in comparable towns, & growth matches the cycling growth rates in London
- Investment in cycling pays back at least 3:1
 - each £1 invested, value of decreased mortality is £2.59

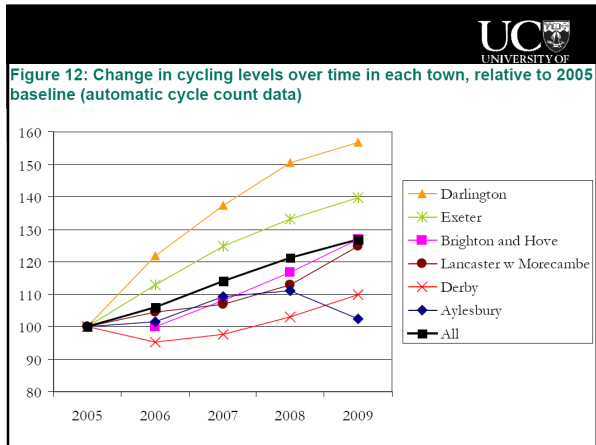
Cycle Demonstration Towns – 3 yr results




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- The programmes ...can in no way be considered to have transformed conditions for cycling to the point where they are as good as in the most 'cycle friendly' European towns and cities ...But the evidence ...suggests that a start has been made – in brief, that the six towns have achieved 'lift-off' for cycling.

▶ Sloman L et al, 2009, *Analysis and synthesis of evidence on the effects of investment in six Cycling Demonstration Towns*
 Report for Department for Transport and Cycling England



Sustainable Travel Towns



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Department for Transport
Total £ 15m

- Darlington (£4.4 million)
- Peterborough (£6.8 million)
- Worcester (£4.4 million)

Results for 2004-08 (to avoid recession)

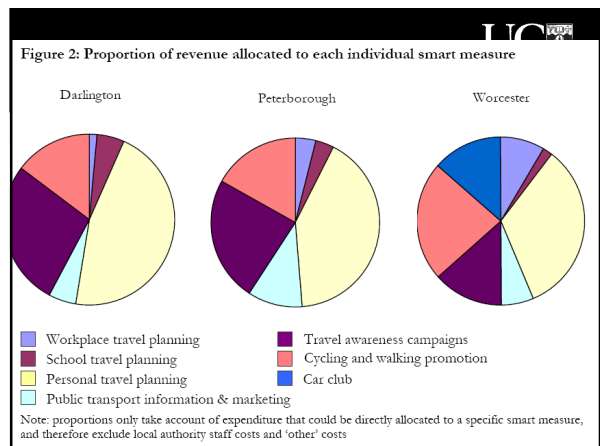
Sustainable Travel Towns

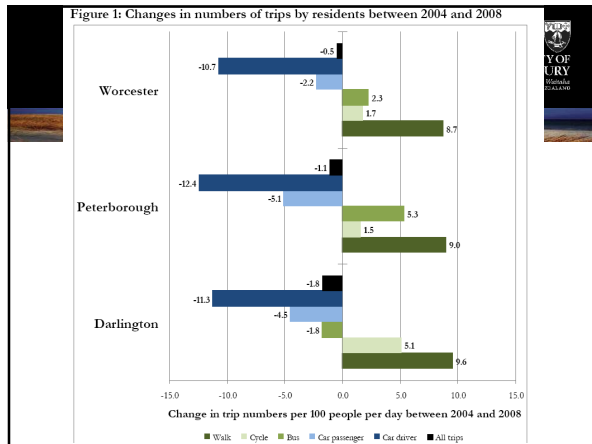


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Strategies:

- development of a strong brand identity;
- a large-scale personal travel planning programme;
- travel awareness campaigns;
- cycling and walking promotion;
- public transport information and marketing;
- school travel planning;
- workplace travel planning.





Sustainable Travel Towns

- A reduction in car trips 9 per cent (there was an estimated fall of about 1 per cent in other medium-sized towns over the same period)
- Bus trips per person increased by 10-22 per cent (there was an estimated national fall of 0.5 per cent in medium sized towns).
- Cycle trips per person increased by 26-30 per cent (against other comparable towns seeing estimated cycling trips fall by 9 per cent).
- Walking trips per person increased by 10-13 per cent (there was an estimated national decline in trips in similar towns of 9 per cent).

Sustainable Travel Towns

- We conclude that the Sustainable Travel Towns programme was successful in reducing travel by car, and increasing the use of other modes, and that the programme offered very high value for money.
- We judge that the experience in the three Sustainable Travel Towns (and elsewhere) is now sufficient to justify widespread development and delivery of town-based Smarter Choice Programmes.

➢ Sloman L et al, 2010, The Effects of Smarter Choice Programmes in the Sustainable Travel Towns: Summary Report. Report to the Department for Transport February 2010

Key messages

- \$\$ affect change
- Make it attractive and people will cycle and walk*
- Significant CBRs

What can't cycling do?

- Carry all our freight
- Carry all our people
- Solve climate change
- Solve sedentary-related health problems

What can cycling do?

- Carry a lot more people
- Reduce congestion
 - Free roads up for freight
 - Free roads up for non-cyclable journeys
- Help reduce CO₂ emissions
- Reduce pollution emissions (PM, CO, NO₂, UFP etc.)
- Improve physical activity and reduce sedentary-related health problems