

A photograph of a woman with blonde hair, smiling broadly while riding a bicycle. She is wearing a black tank top and blue jeans. The background is a lush green field with tall grass and some trees in the distance. The text 'Active travel: why and how' is overlaid on the left side of the image in white.

Active travel: why and how

Dr Jenna Panter

School of Clinical Medicine, University of Cambridge



Building the
health case

Evaluating
infrastructure

Learning from
experience



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15 January 2015 Last updated at 02:41



Inactivity 'kills more than obesity'

COMMENTS (864)

By James Gallagher

Health editor, BBC News website



15 January 2015 Last updated at 02:41



Inactivity 'kills more than obesity'

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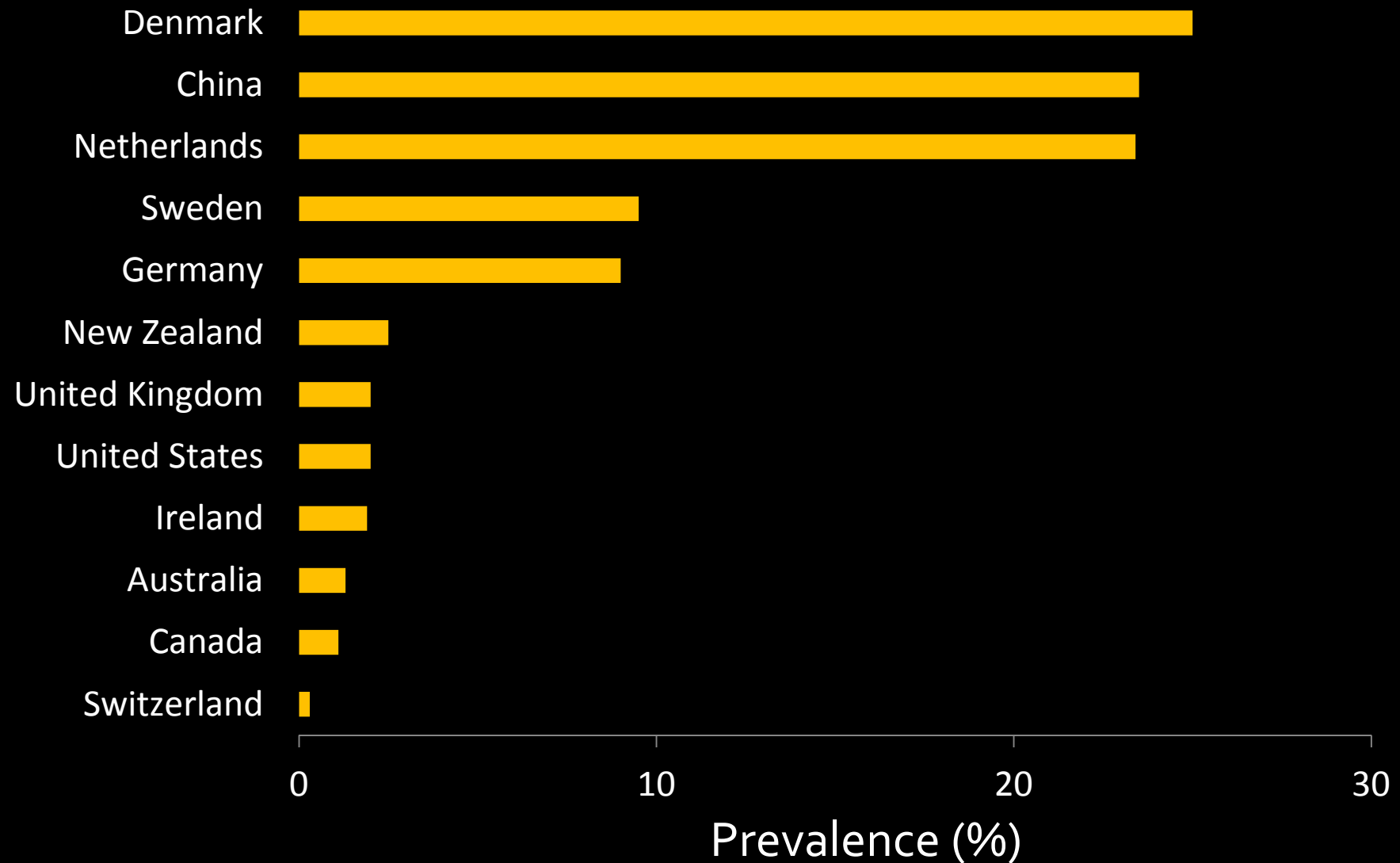
Health editor, BBC News website

A lack of exercise could be killing twice as many people as obesity in Europe, a 12-year study of more than 300,000 people suggests.

University of Cambridge researchers said about 676,000 deaths each year were down to inactivity, compared with 337,000 from carrying too much weight.

They concluded that getting everyone to do at least 20 minutes of brisk walking a day would have substantial benefits.

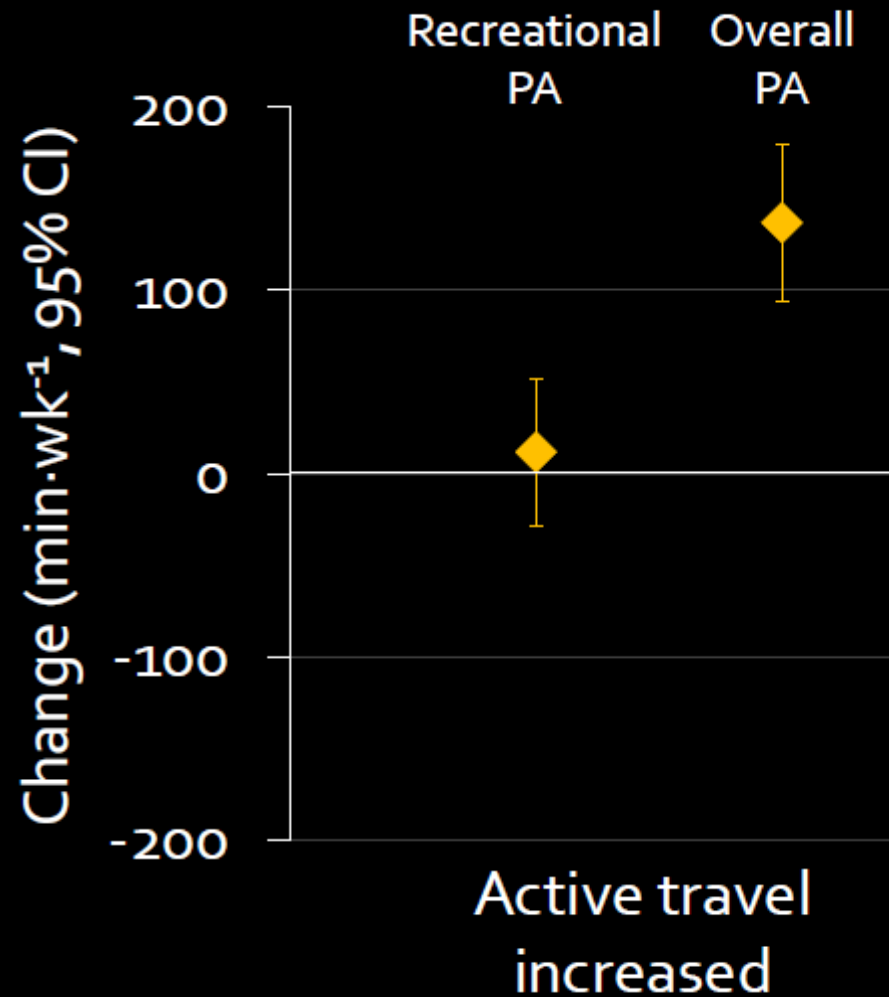
Cycling to work



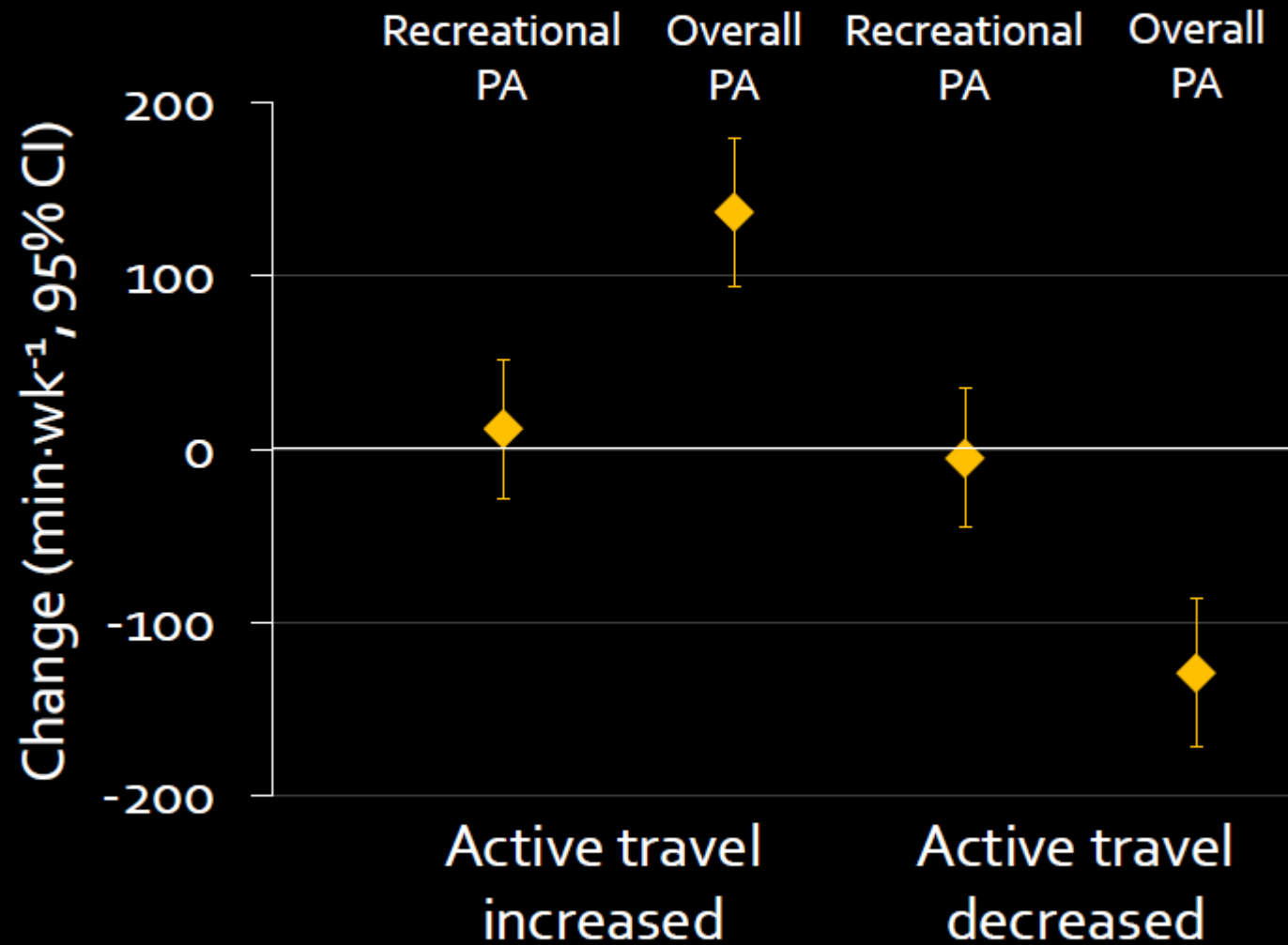
Adapted from Hallal et al., *Lancet* 2012b

Active travel and physical activity

Active travel and physical activity

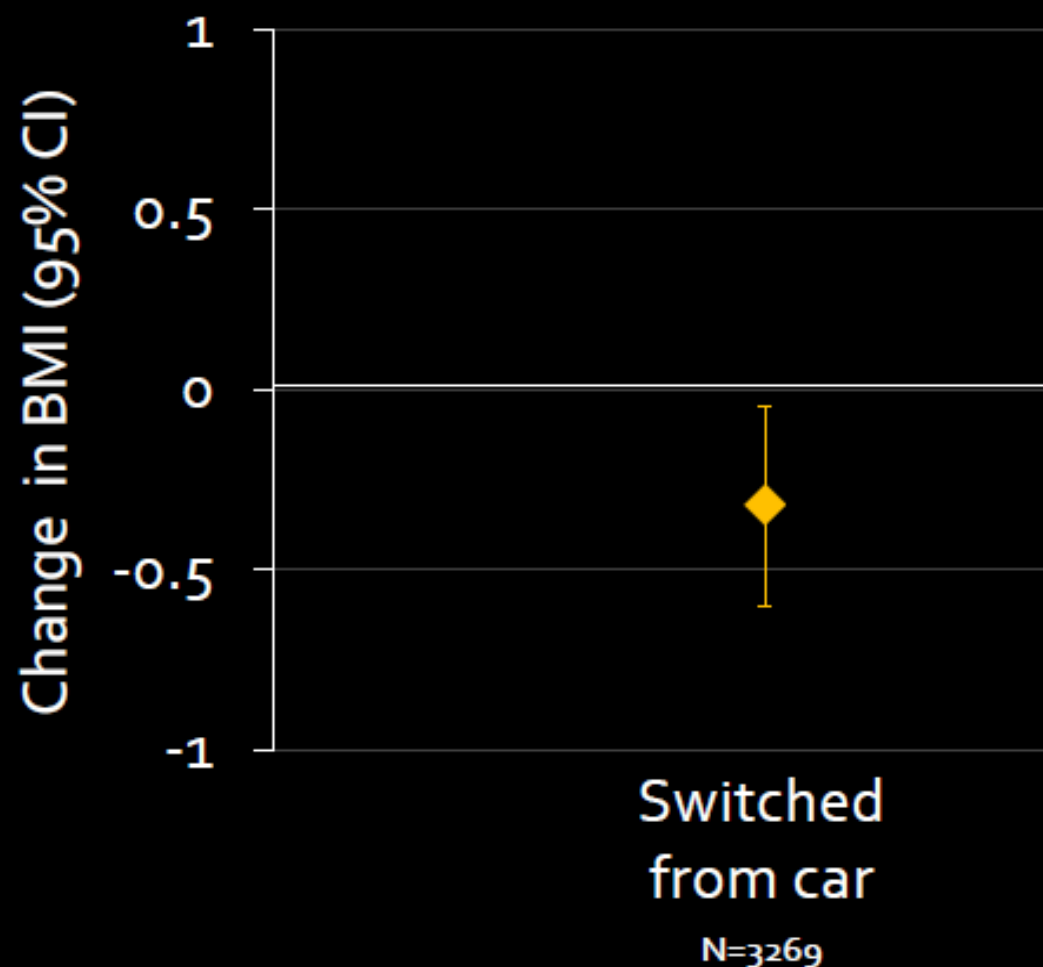


Active travel and physical activity



Commuting and body mass index

Commuting and body mass index



Commuting and body mass index







Physical activity on the multimodal commute

Physical activity on the multimodal commute

On average:

20% of the duration of each trip

Over half the weekly target

Commuting and wellbeing

Commuting and wellbeing

	Sickness absence	Mental wellbeing
Maintained cycling	0.46 (0.14, 0.80)	1.50 (0.1, 2.10)

Odds ratios adjusting for sociodemographic variables, physical activity and physical limitation

Mytton et al., *Prev Med* 2016

“For physical activity, a strong case can be made that the science of how to understand individual behaviour change has overshadowed the efforts to understand true population-level change”

Physical activity in the workplace

Public health guideline

Published: 28 May 2008

[nice.org.uk/guidance/ph13](https://www.nice.org.uk/guidance/ph13)

Physical activity and the environment

Public health guideline

Published: 23 January 2008

[nice.org.uk/guidance/ph8](https://www.nice.org.uk/guidance/ph8)



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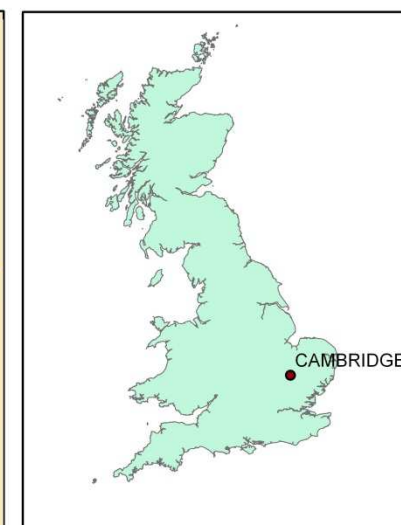
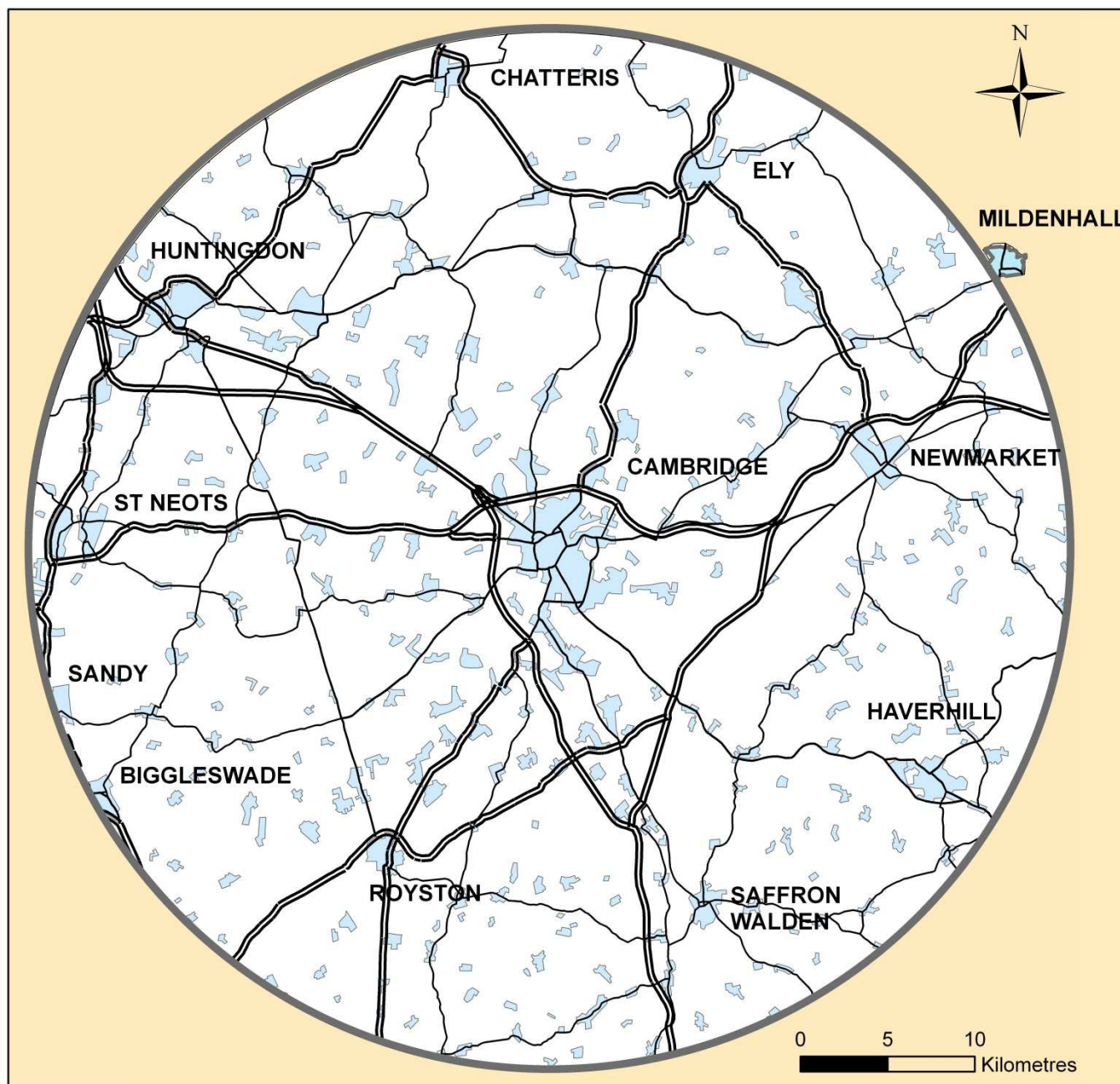
Learning from
experience

Health impacts of the Cambridgeshire Guided Busway: the *Commuting and Health in Cambridge* study

A green and blue guided bus is shown on a dedicated busway. The bus has 'Cambridgeshire Guided Busway' written on its side and 'Cambridge Trumpington A' on its destination display. The background shows trees and a clear sky.

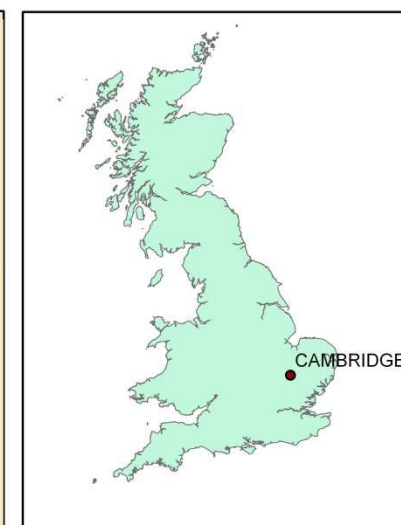
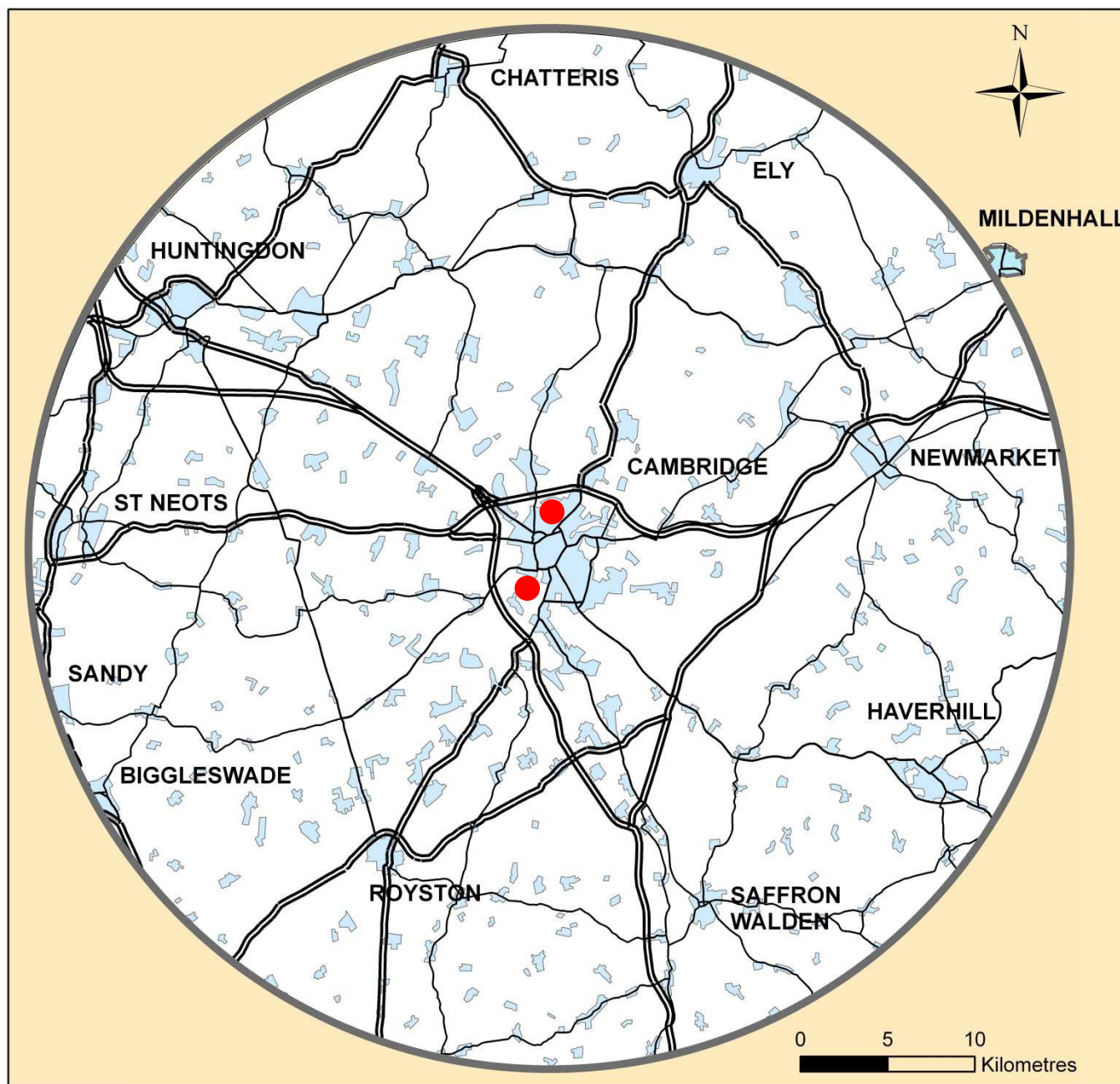
Ogilvie et al., *BMC Public Health* 2010
Panter et al., *IJBNPA* 2011
Goodman et al., *Soc Sci Med* 2012
Guell et al., *Soc Sci Med* 2012
Jones & Ogilvie, *IJBNPA* 2012
Panter et al., *PLoS ONE* 2012
Yang et al., *Prev Med* 2012
Yang et al., *BMC Public Health* 2012
Carse et al., *J Transport Geogr* 2013
Panter et al., *Prev Med* 2013a
Guell et al., *BMC Public Health* 2013

Dalton et al., *PLoS ONE* 2013
Humphreys et al., *Prev Med* 2013
Jones et al., *PLoS ONE* 2013
Panter et al., *Prev Med* 2013b
Guell & Ogilvie, *Qual Res* 2013
Kesten et al., *BMC Public Health* 2014
Tully et al., *PLoS ONE* 2014
Panter et al., *Prev Med* 2014
Panter et al., *IJBNPA* 2014
Dalton et al., *J Transport Health* in press
Heinen et al., *J Transport Health* in press



Legend

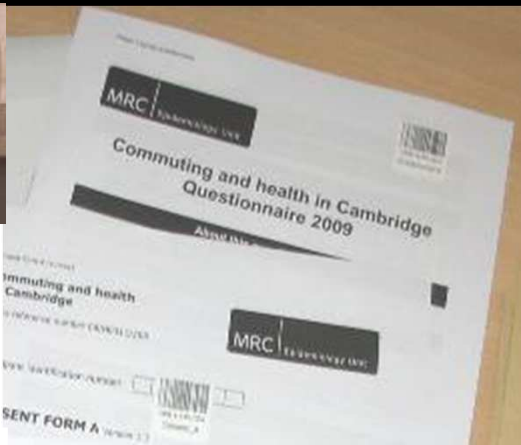
- Motorways & Primary Roads
- Secondary Roads
- Study Area
- Settlements



Legend

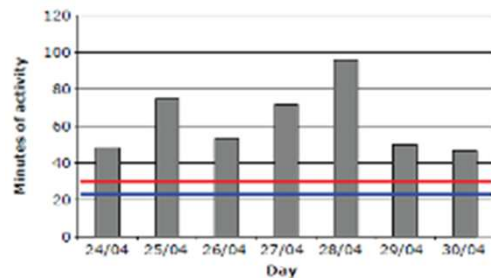
- Motorways & Primary Roads
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"I hurt myself quite badly and now my wife won't let me cycle in town, she says it's too dangerous"

"[Cycling] is probably the most dangerous thing I do but well I read the statistics and it's more dangerous not to cycle from the health point of view!"



Trends in active commuting

	Median duration (min·wk ⁻¹)	
	2009	2012
Active commuting	120	100

Trends in active commuting

	Median duration (min·wk ⁻¹)	
	2009	2012
Active commuting	120	100
Cycling	70	40



Effects on commute
mode share

Effects on commute mode share

Car only

Any active

Effects on commute mode share

Car only

Any active

Large decrease

2.09

(1.35, 3.21)

Adjusted relative risk ratios (95% confidence intervals) for >30% increase in proportion of commute trips per unit of proximity (square root of distance) to busway. N=469

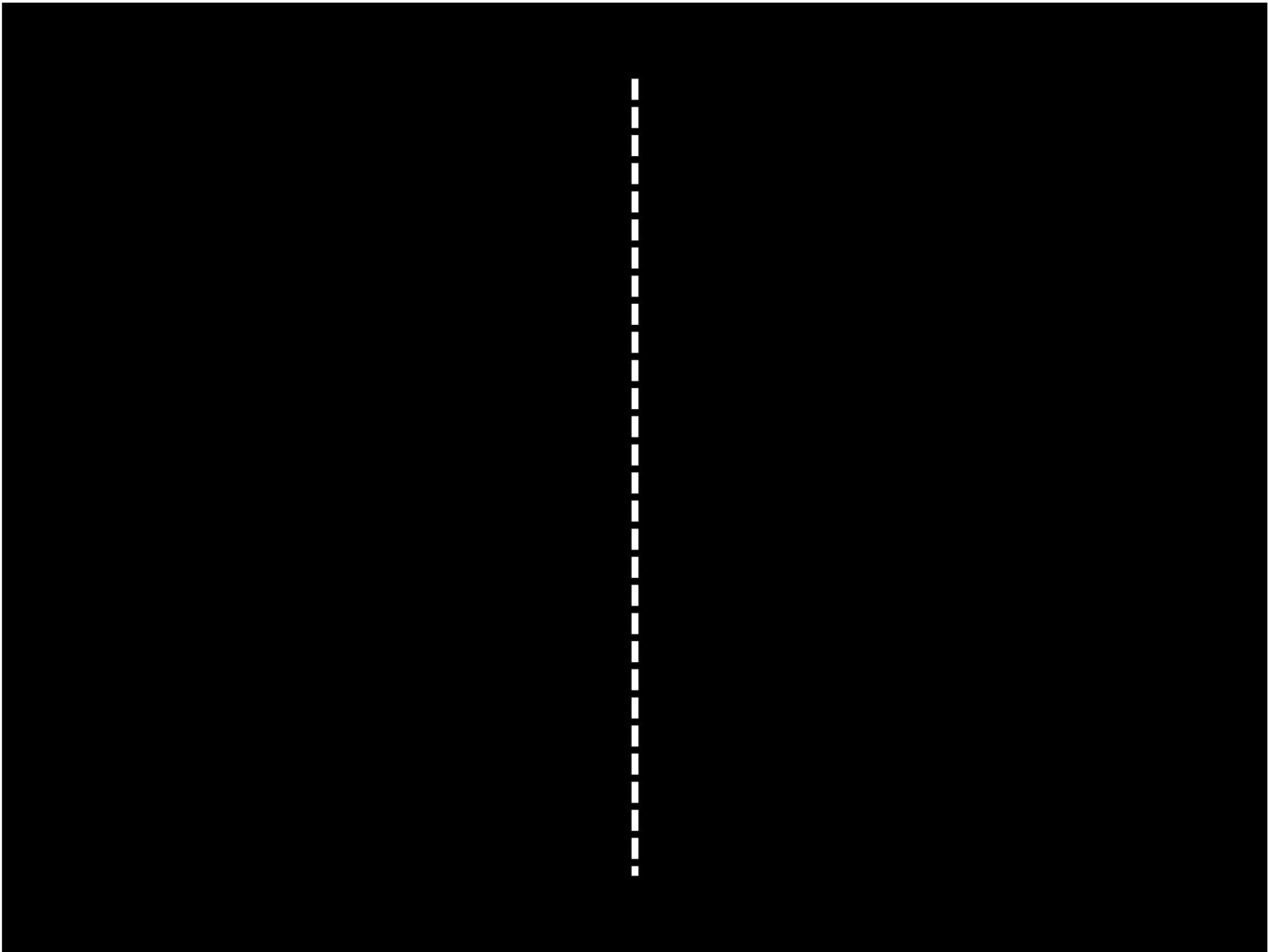
Heinen et al., IJBNPA 2015

Effects on commute mode share

	Car only	Any active
Large decrease	2.09 (1.35, 3.21)	
Large increase		1.80 (1.27, 2.55)

Adjusted relative risk ratios (95% confidence intervals) for >30% increase in proportion of commute trips per unit of proximity (square root of distance) to busway. N=469

Heinen et al., IJBNPA 2015





4 km



1 km



4 km



1 km

80% more likely



4 km



1 km

80% more likely



9 km



4 km

80% more likely

Effects on cycling and walking time

Effects on cycling and walking time

Cycling

Walking

Commuting

Adjusted relative risk ratios (95% confidence intervals) for an increase in weekly duration of the given behaviour per unit of proximity (square root of distance) to busway. N=469 Panter et al., *Am J Prev Med* 2016

Effects on cycling and walking time

	Cycling	Walking
Commuting	1.34 (1.03, 1.76)	0.90 (0.69, 1.18)

Adjusted relative risk ratios (95% confidence intervals) for an increase in weekly duration of the given behaviour per unit of proximity (square root of distance) to busway. N=469

Panter et al., *Am J Prev Med* 2016

4 km 1 km 34% more likely

9 km 4 km 34% more likely

Effects on cycling and walking time

	RRR (95% CI)	
	Cycling	Walking
Commuting	1.34 (1.03, 1.76)	0.90 (0.69, 1.18)
Mean increase	+86 min·wk ⁻¹	

Adjusted for age, sex, education, car ownership, home ownership, children, health condition, body mass index, urban-rural classification, distance to work, car parking provision at work, baseline level of active commuting and home or work relocation

Effects on cycling and walking time

	Cycling	Walking
Commuting	1.34 (1.03, 1.76)	0.90 (0.69, 1.18)
Mean increase	+86 min·wk ⁻¹	
Commuting plus recreation	1.32 (1.04, 1.68)	

Adjusted for age, sex, education, car ownership, home ownership, children, health condition, body mass index, urban-rural classification, distance to work, car parking provision at work, baseline level of active commuting and home or work relocation



Impact of **CO**nstructing **N**on-motorised **N**etworks and **E**valuating **C**hanges in Travel



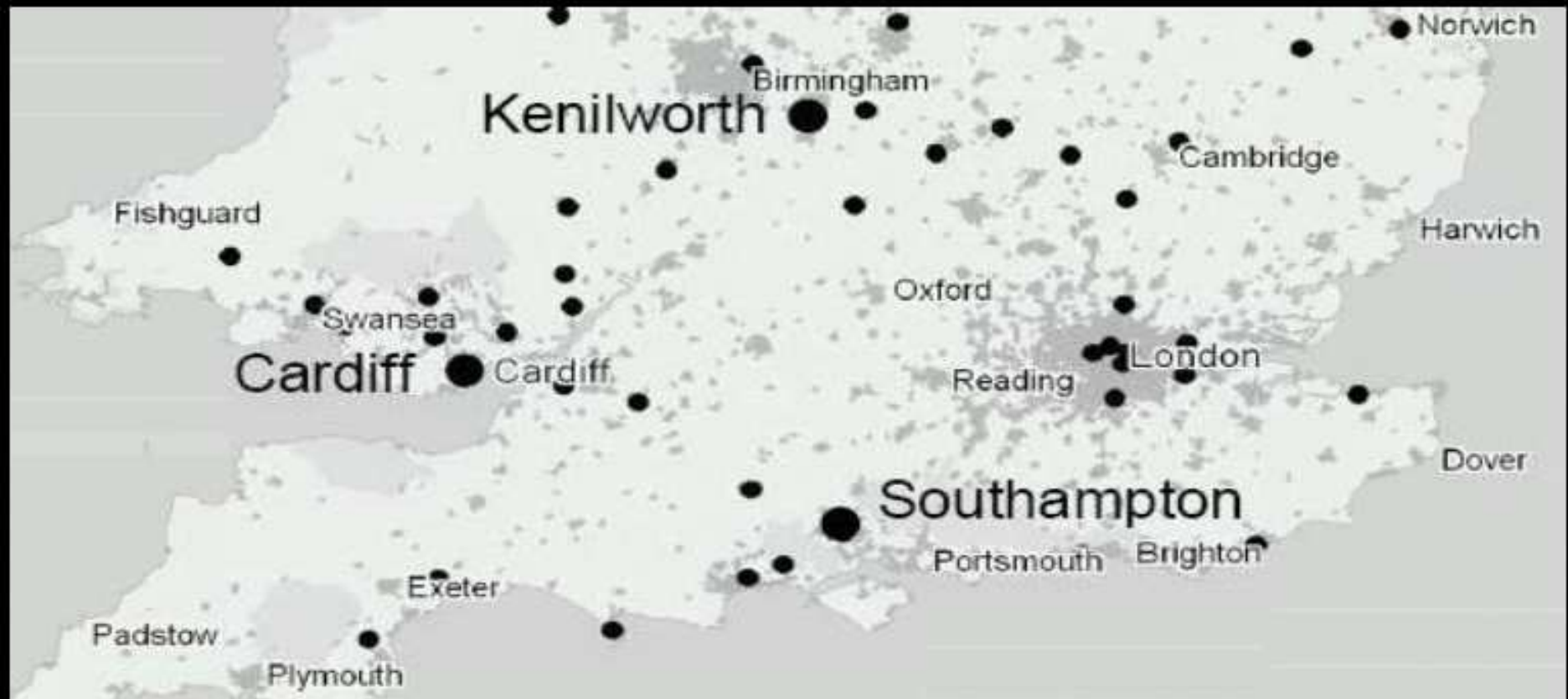
Ogilvie et al., *Am J Public Health* 2011
Sahlqvist et al., *BMC Med Res Methodol* 2011
Powell et al., *Built Environ* 2011
Ogilvie et al., *BMJ Open* 2012
Sahlqvist et al., *Prev Med* 2012
Goodman et al., *Environ Health* 2012
Brand et al., *Appl Energy* in press
Bird et al., *Health Psychol* in press

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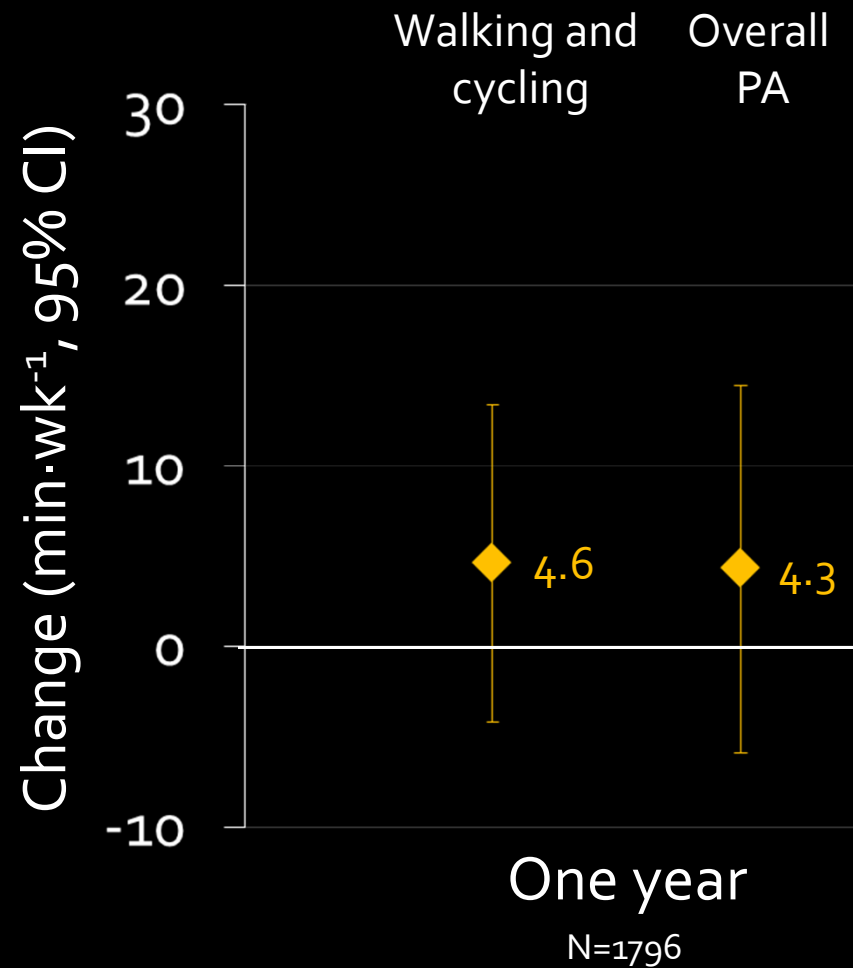
Connect2 case study sites



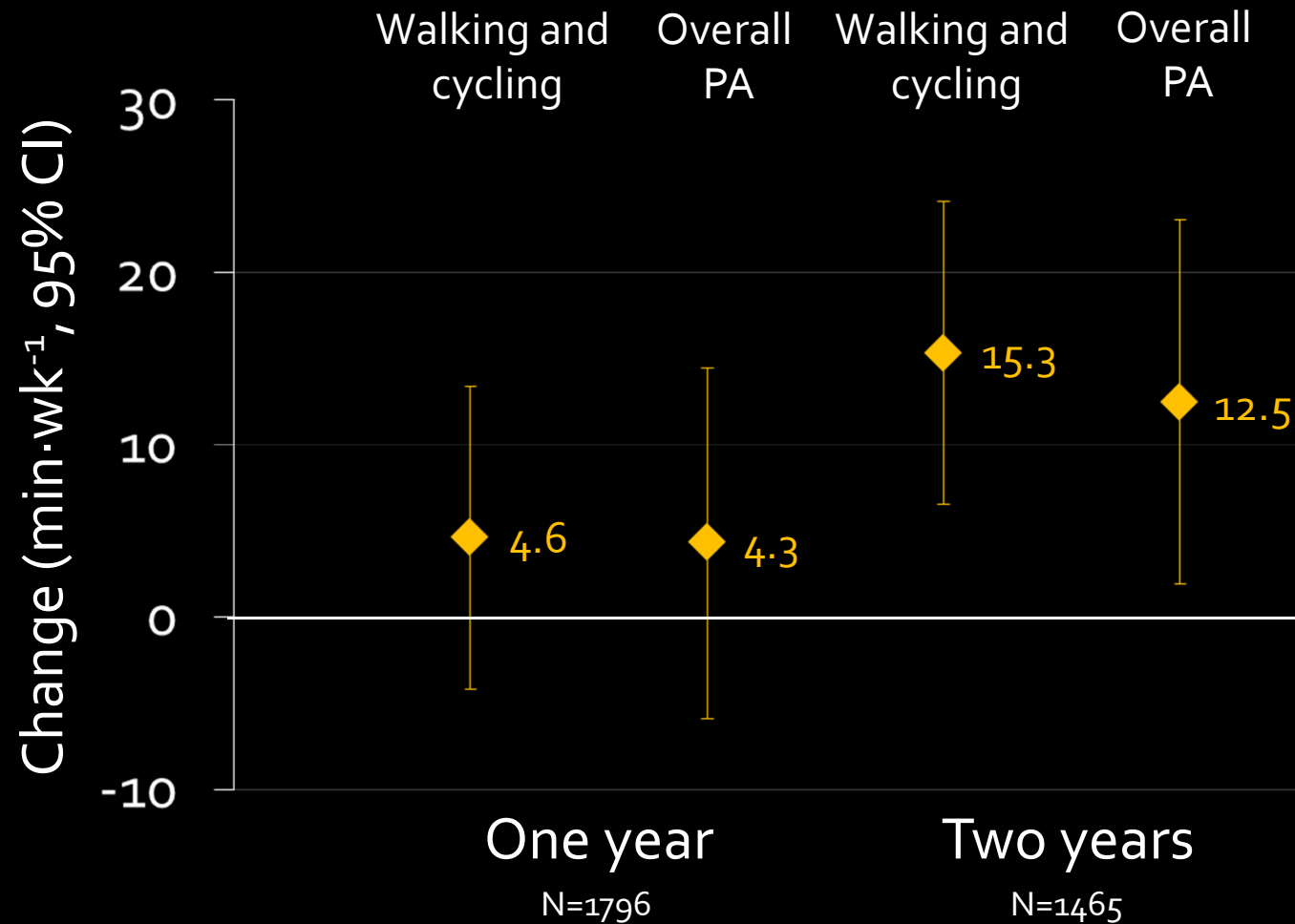
Ogilvie et al., *BMJ Open* 2012

Effects of Connect2

Effects of Connect2



Effects of Connect2





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He said 'I wanted to hate it'
because of all the bad publicity...
But then when he tried it he really
liked it... He wouldn't use other
public transport – it's unreliable.
He's told his friends how good it is.

For people like me, who used to have
a good bus service, it's frustrating that now
it's slower and you can't always get a seat.

I could almost be in the Netherlands... lovely wide cycle path alongside the Cambridgeshire guided busway.

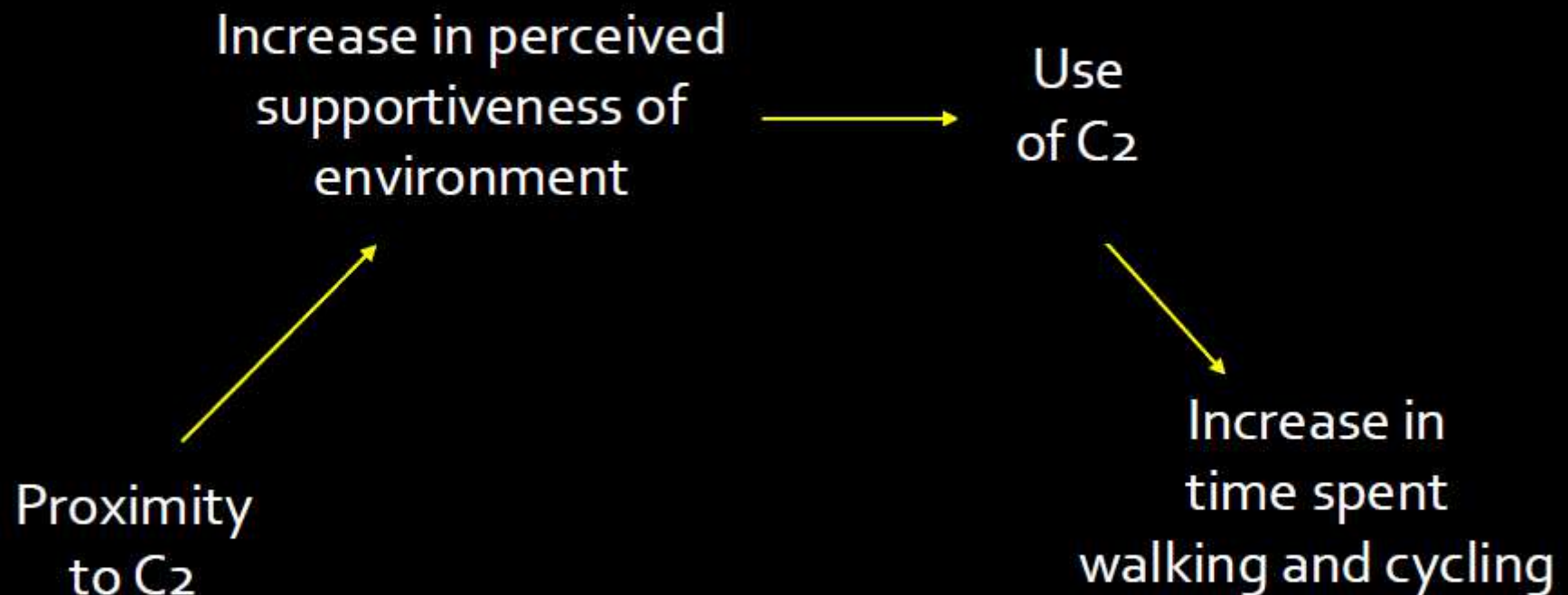


Cambridge
Evening News

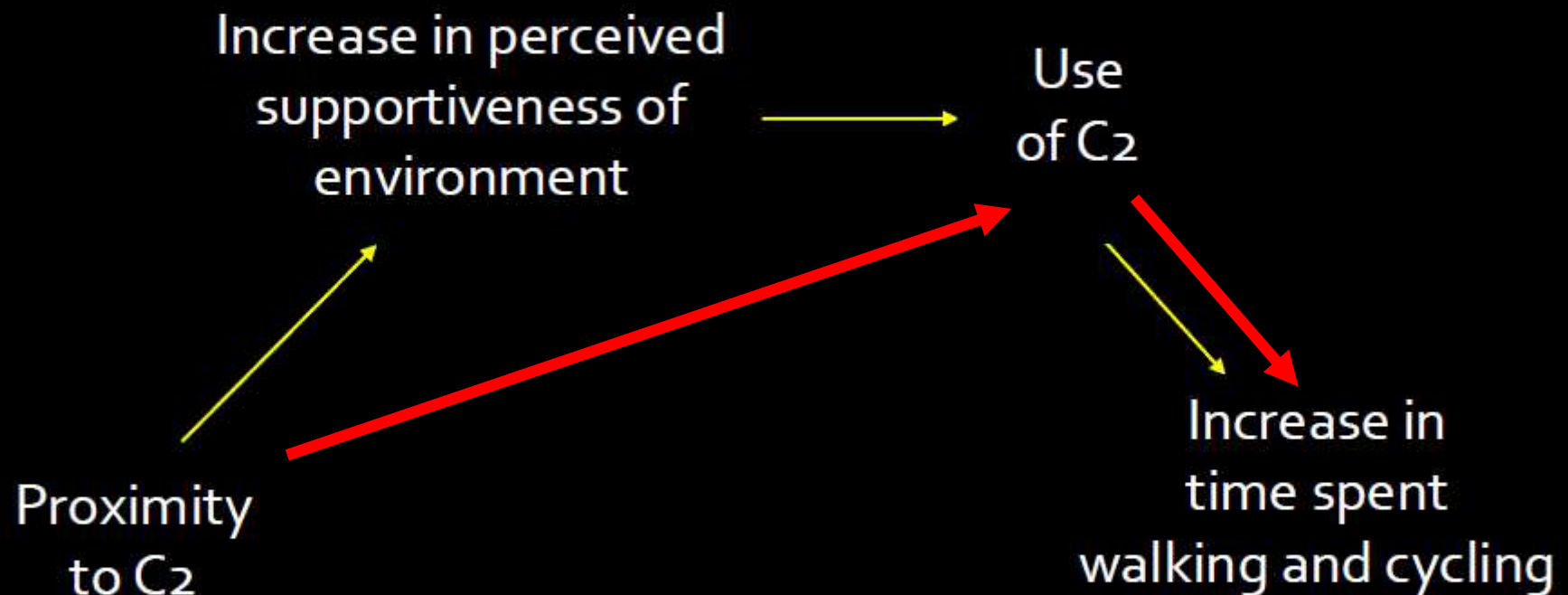
Cyclists have been injured in accidents caused by a lack of lighting on the track next to the guided busway, it is claimed.

Kesten et al., BMC Public Health 2014

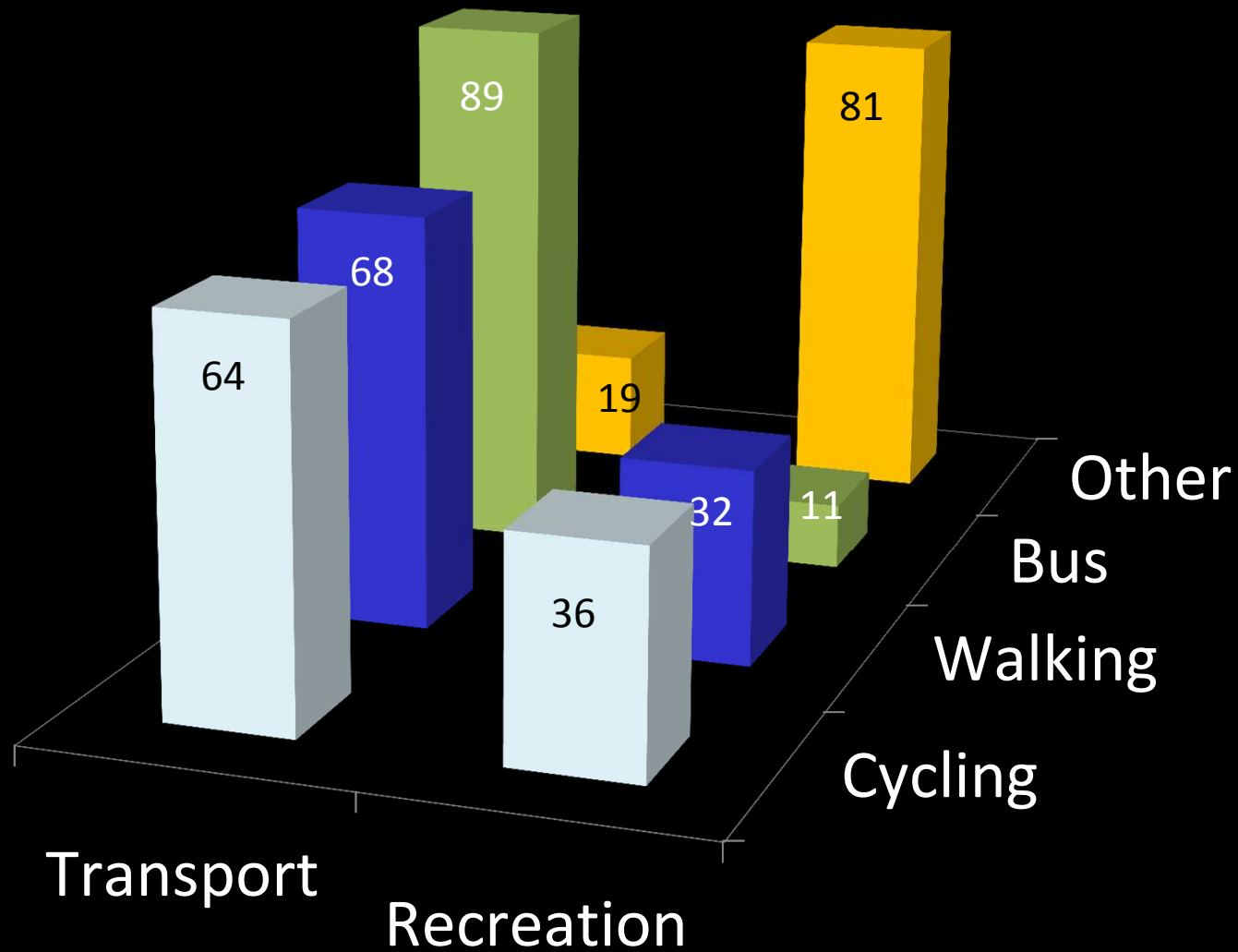
Effects of Connect2



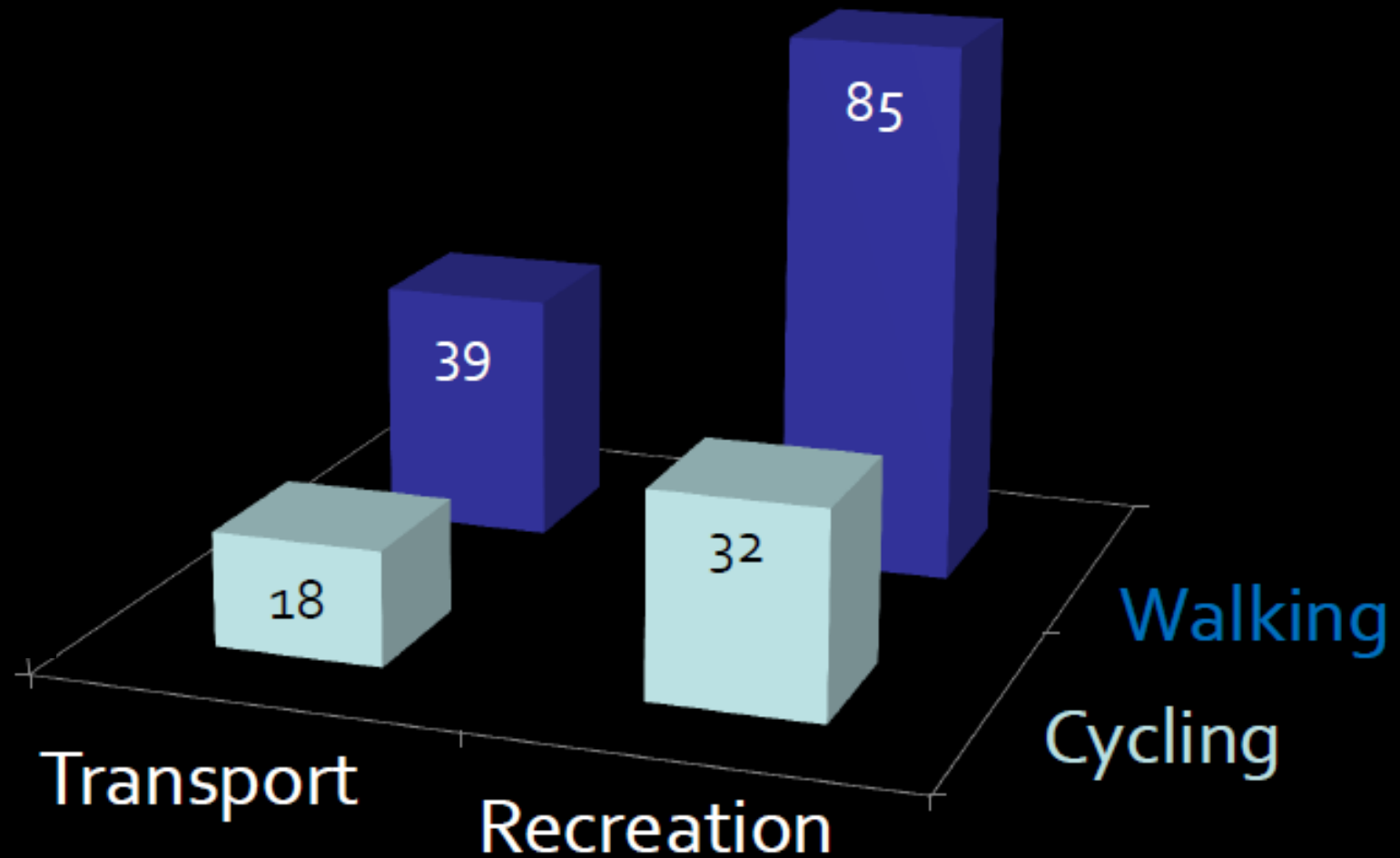
Effects of Connect2



Use of the busway



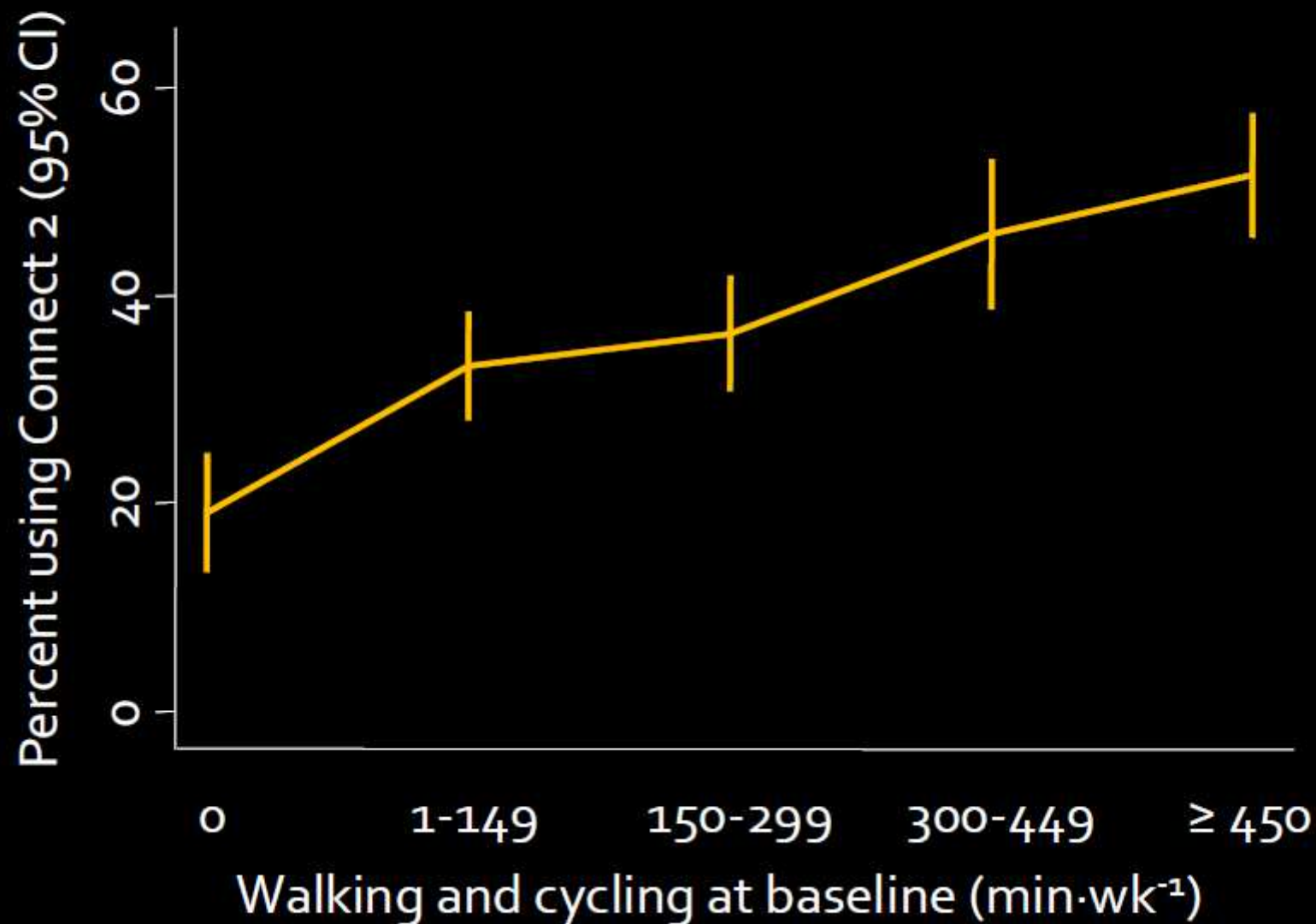
Use of Connect2



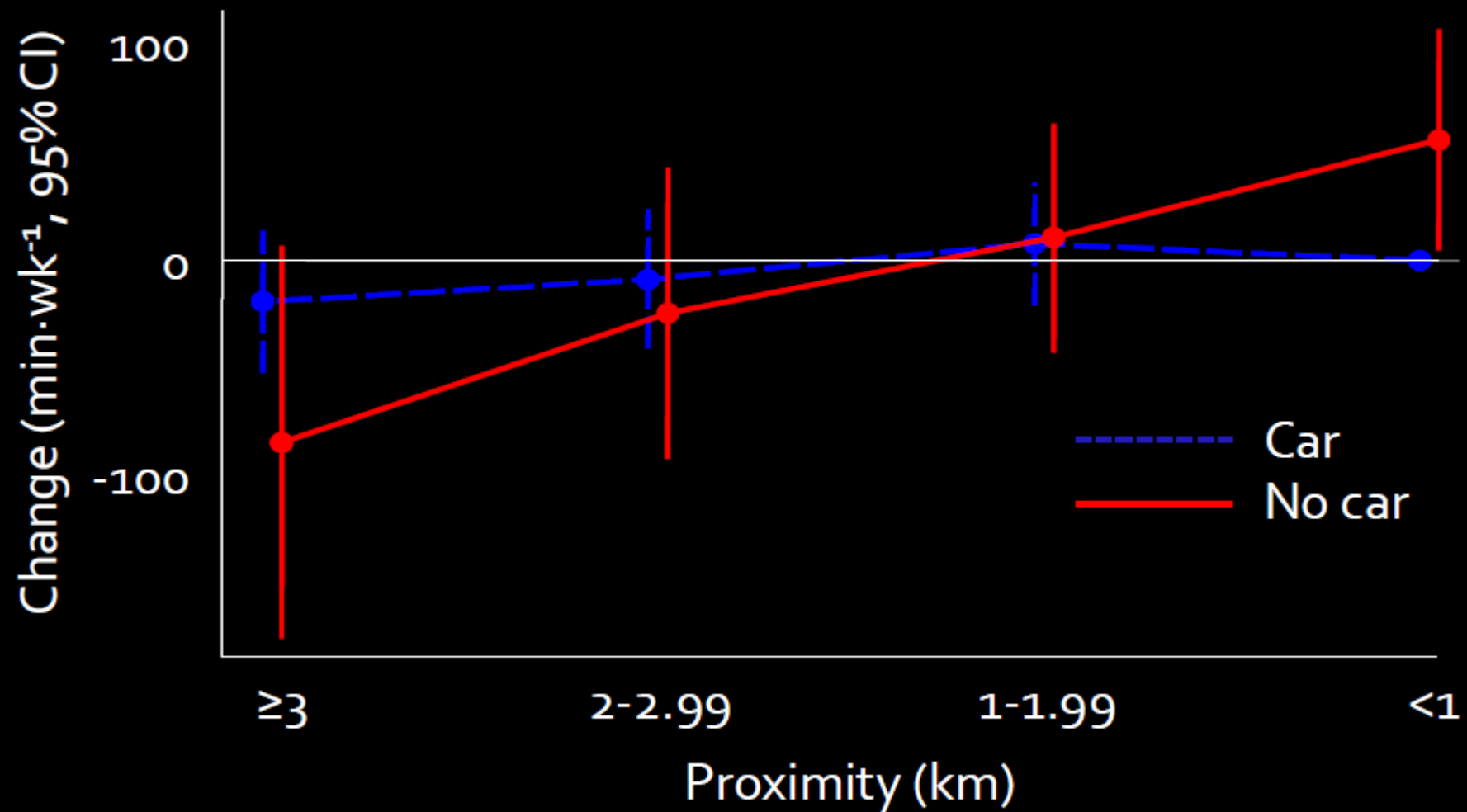
Percentage of users who reported each type of use at two-year follow-up

Goodman et al., *Prev Med*

Effects of Connect2



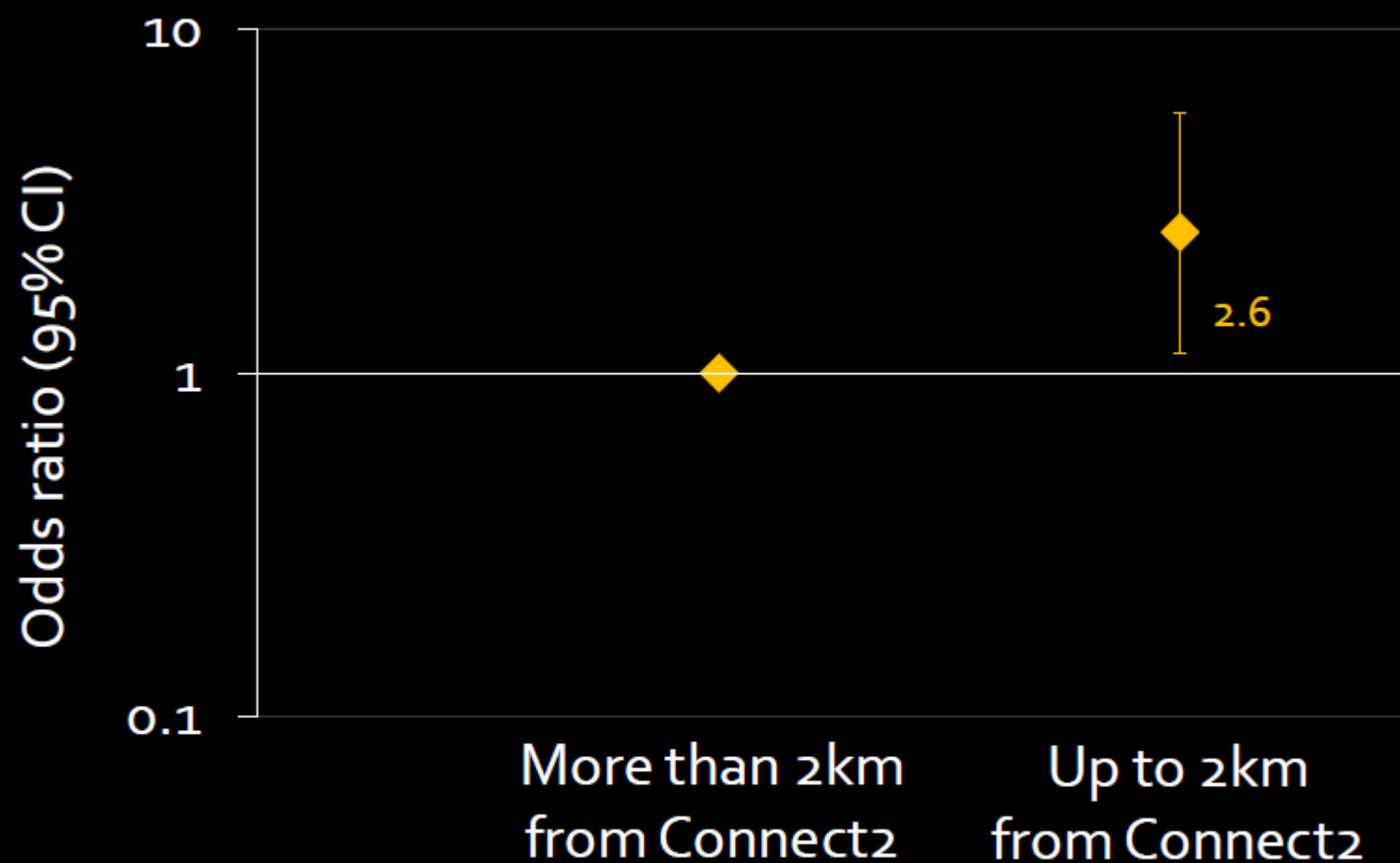
Effects of Connect2



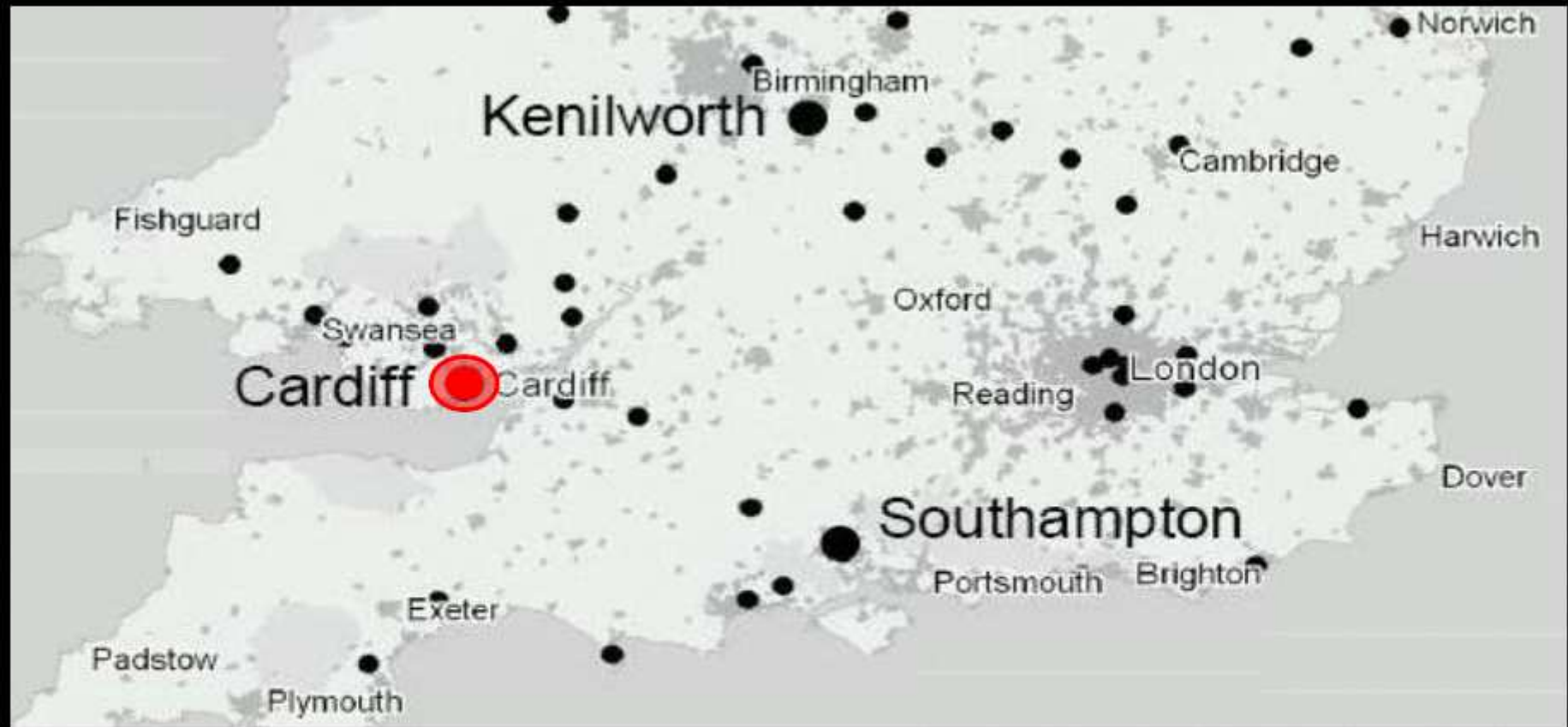
Effects of the busway

	Least active	Most active
Active commuting	1.76 (1.16, 2.67)	2.18 (0.69, 7.02)

Uptake of walking



Connect2 case study sites



Sahlqvist et al., *IJBNPA* 2015

“For physical activity, a strong case can be made that the science of how to understand individual behaviour change has overshadowed the efforts to understand true population-level change”

“... The job for government and its partners at a national and local level is to transform the environment so that it is less inhibiting of healthy lifestyles.”

The Physical Activity and Public Health research programme is supported by the Medical Research Council, and the research described in this talk was carried out as part of the Centre for Diet and Activity Research (CEDAR), a UKCRC Public Health Research Centre of Excellence funded by the British Heart Foundation, Economic and Social Research Council, Medical Research Council, National Institute for Health Research (NIHR) and Wellcome Trust under the auspices of the UK Clinical Research Collaboration.

The Commuting and Health in Cambridge study was funded by the NIHR Public Health Research programme. The iConnect study was funded by the Engineering and Physical Sciences Research Council. Anna Goodman and Jenna Panter are supported by NIHR Postdoctoral Fellowships.

The views expressed are those of the author and not necessarily those of the NHS, the NIHR or the Department of Health.

For further information please visit:



www.cambridgecommutingstudy.org.uk

www.iconnect.ac.uk

www.cedar.iph.cam.ac.uk



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