

Rewiring the urban landscape for people and planetary health

3rd Healthy City Design 2019 International Congress,
London

Audrey de Nazelle, Centre for Environmental Policy, Imperial College London





Sign in

BNFC CKS Journals and databases

Conditions > Obesity

overweight or

< Next >

NATIONAL Physical Activity Plan



- Summary of the members used to develop this guidance
- 9 The evidence
- 10 Gaps in the evidence
- 11 Membership of the Programme Development Group (PDG) and the NICE project team
- 12 About this guidance

- [Recommendation 5 Encouraging adherence to lifestyle weight management programmes](#)
- [Recommendation 6 Raising awareness of lifestyle weight management programmes: commissioners and programme providers](#)
- [Recommendation 7 Raising awareness of lifestyle weight management programmes: health professionals, other professionals and voluntary organisations](#)
- [Recommendation 8 Formal referrals to lifestyle weight management programmes](#)
- [Recommendation 9 Providing ongoing support: health professionals](#)
- [Recommendation 10 Providing ongoing support: lifestyle weight management programmes](#)
- [Recommendation 11 Lifestyle weight management programme staff: training](#)
- [Recommendation 12 Lifestyle weight management programme staff: knowledge and skills](#)
- [Recommendation 13 Training in how to make referrals to a lifestyle weight management programme](#)
- [Recommendation 14 Supporting lifestyle weight management programme staff and those making programme referrals](#)
- [Recommendation 15 Monitoring and evaluating programmes](#)

S

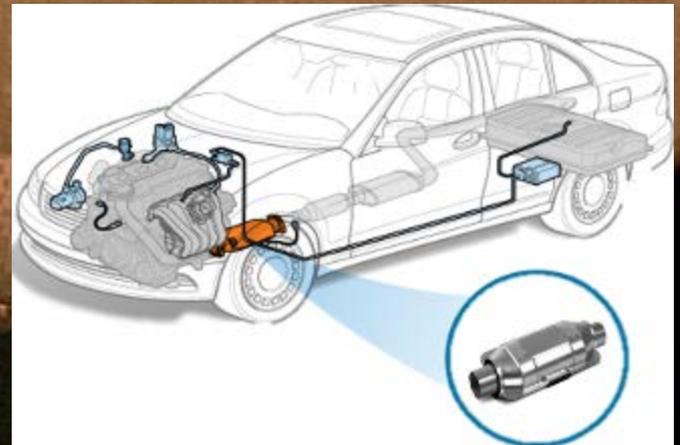
[Children and young people](#)

[Weight management services for children and young people](#)
[Lifestyle weight management programmes for children and young people](#)
[Weight management programmes: core components](#)
[Weight management programmes: core components and plan to meet individual needs](#)



JOURNEY TO A HEALTHIER YOU

Pollution from exhausts... you cannot see, feel, touch or smell it. However it can damage or even kill you. Only airbubbl cleans ALL the deadly gases and particles that enter your vehicle.

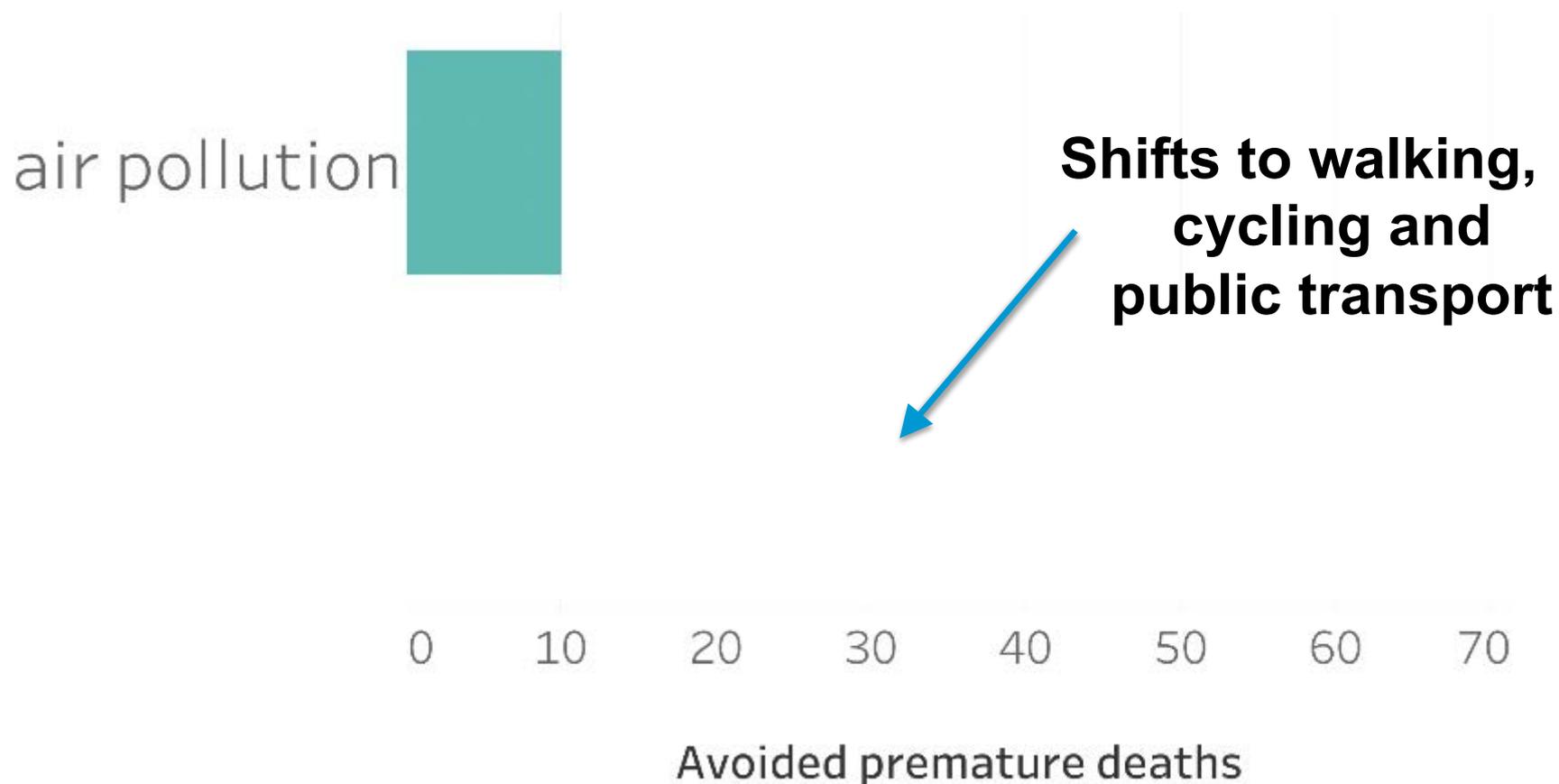
A close-up photograph of a car's interior air filter, showing its cylindrical shape and perforated surface. The filter is mounted in the car's dashboard area.



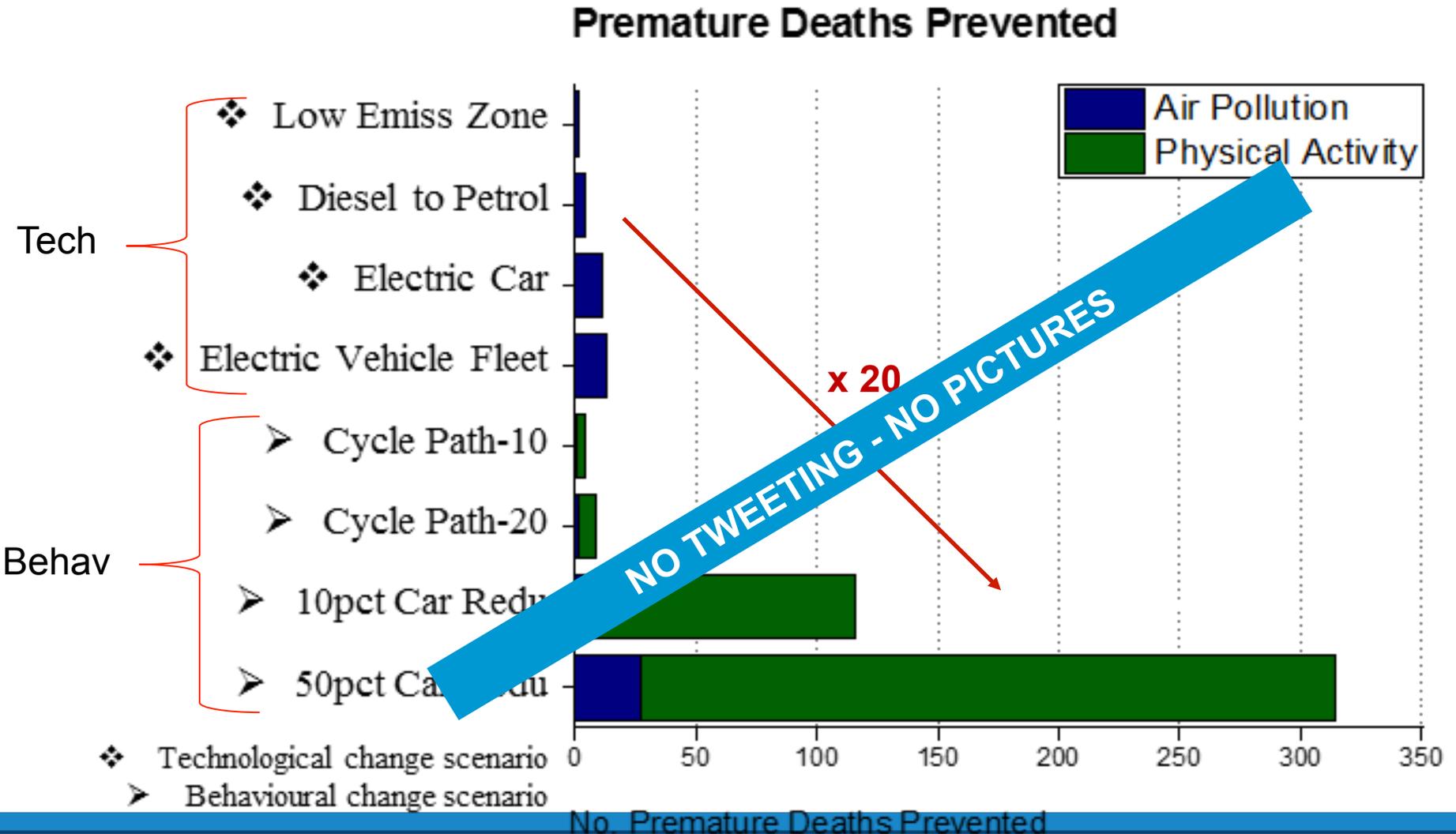


Evidence base: making the case for holistic thinking

Benefits of reducing 40% of car travel, Barcelona, Spain, health impact modeling



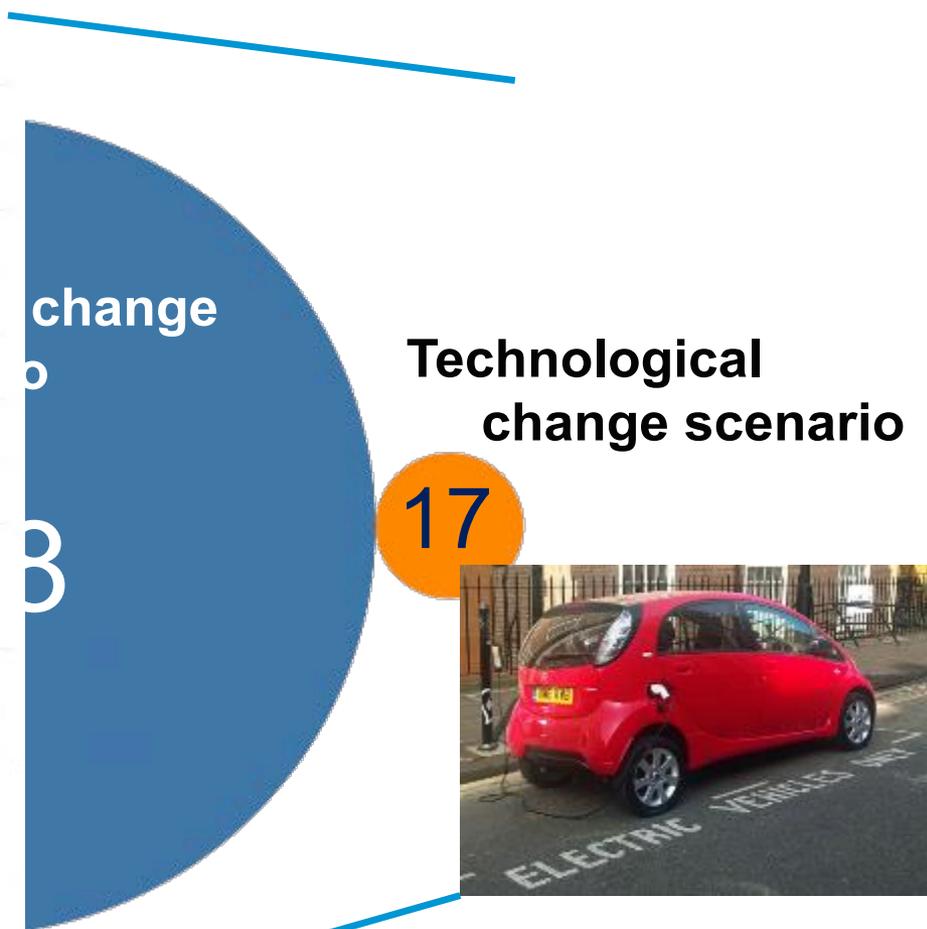
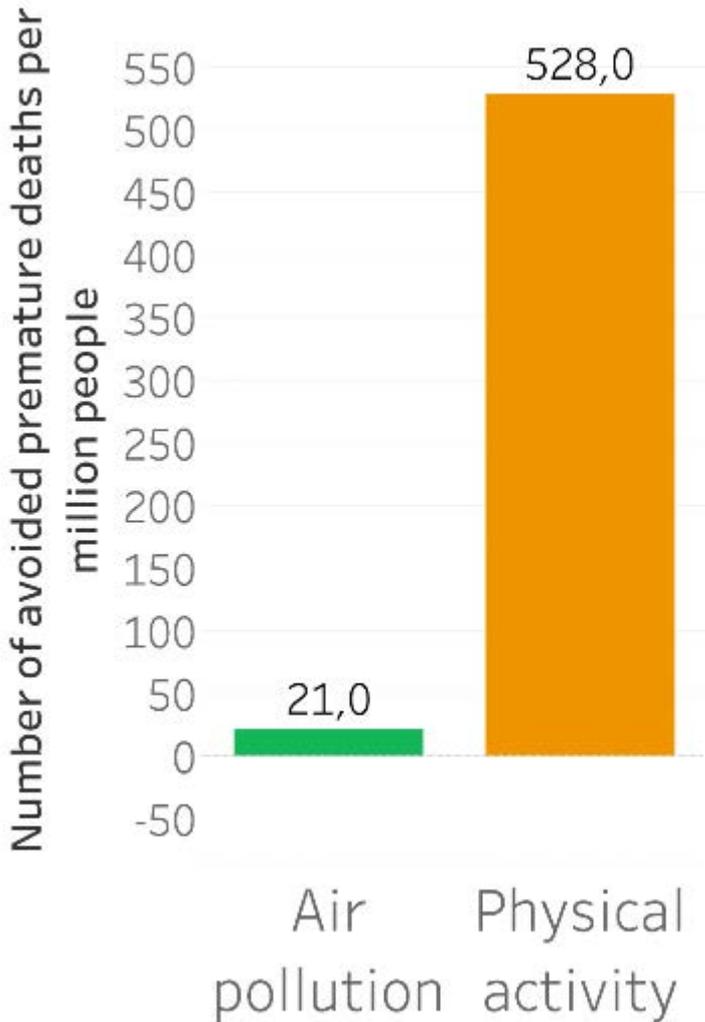
Policy scenarios in London: comparing avoided deaths

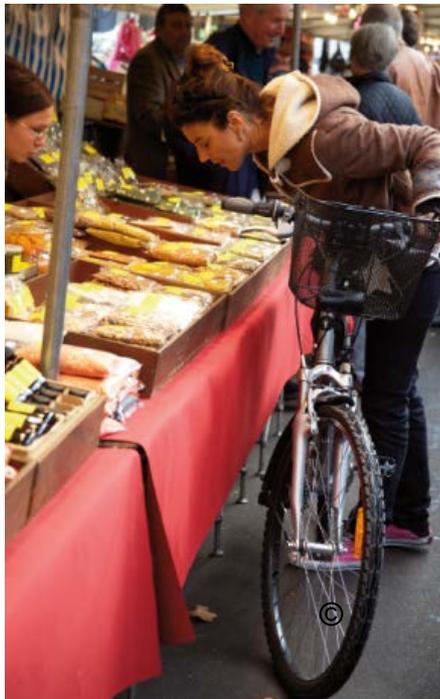
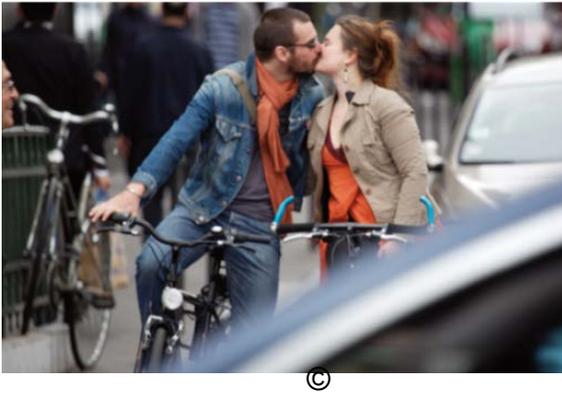


Behavioural vs Technological approaches in London



Behavioural vs Technological approaches in London







Transport mode use (days/month)	Self-perceived health ^a OR (CI 95%)	Perceived stress ^b coef (CI 95%)
Car 	1.00 (0.99, 1.02)	-0.003 (-0.019, 0.013)
Motorbike	1.02 (0.99, 1.04)	0.006 (-0.018, 0.031)
Public transport	0.99 (0.98, 1.01)	-0.002 (-0.016, 0.011)
E-bike	0.99 (0.96, 1.02)	-0.025 (-0.052, 0.003)
Bicycle 	1.07 (1.05, 1.08)**	-0.016 (-0.028, -0.004)*
Walking 	1.02 (1.00, 1.03)*	-0.005 (-0.019, 0.010)

Avila-Palencia et al. (2018) The effects of transport mode use on self-perceived health, mental health, and social contact measures: A cross-sectional and longitudinal study. Environment International 120

Regression models assessing associations between the different transport modes and the health outcomes, adjusted for all the potential confounders. ^aMixed-effects logistic regression models. ^bLinear regression models. ^cLogistic regression models. All models were adjusted by age, sex, education, nationality, employment status, and city. Sample sizes: Self-perceived health (n=8218); Perceived stress (n=3241); Mental Health (n=3243); Vitality (n=3243); Loneliness (n=3247); Contact with friends/family (n=3247). *p-values<0.05, **p-value<0.001.



Avila-Palencia et al. (2018) The effects of transport mode use on self-perceived health, mental health, and social contact measures: A cross-sectional and longitudinal study. Environment International 120

Transport mode use (days/month)	Mental Health ^b coef (CI 95%)	Vitality ^b coef (CI 95%)
Car 	0·03 (-0·05, 0·12)	-0·02 (-0·12, 0·07)
Motorbike	-0·06 (-0·19, 0·07)	-0·09 (-0·24, 0·06)
Bicycle 	0·11 (0·05, 0·18)**	0·14 (0·07, 0·22)**
Walking 	0·05 (-0·03, 0·13)	0·14 (0·05, 0·23)*

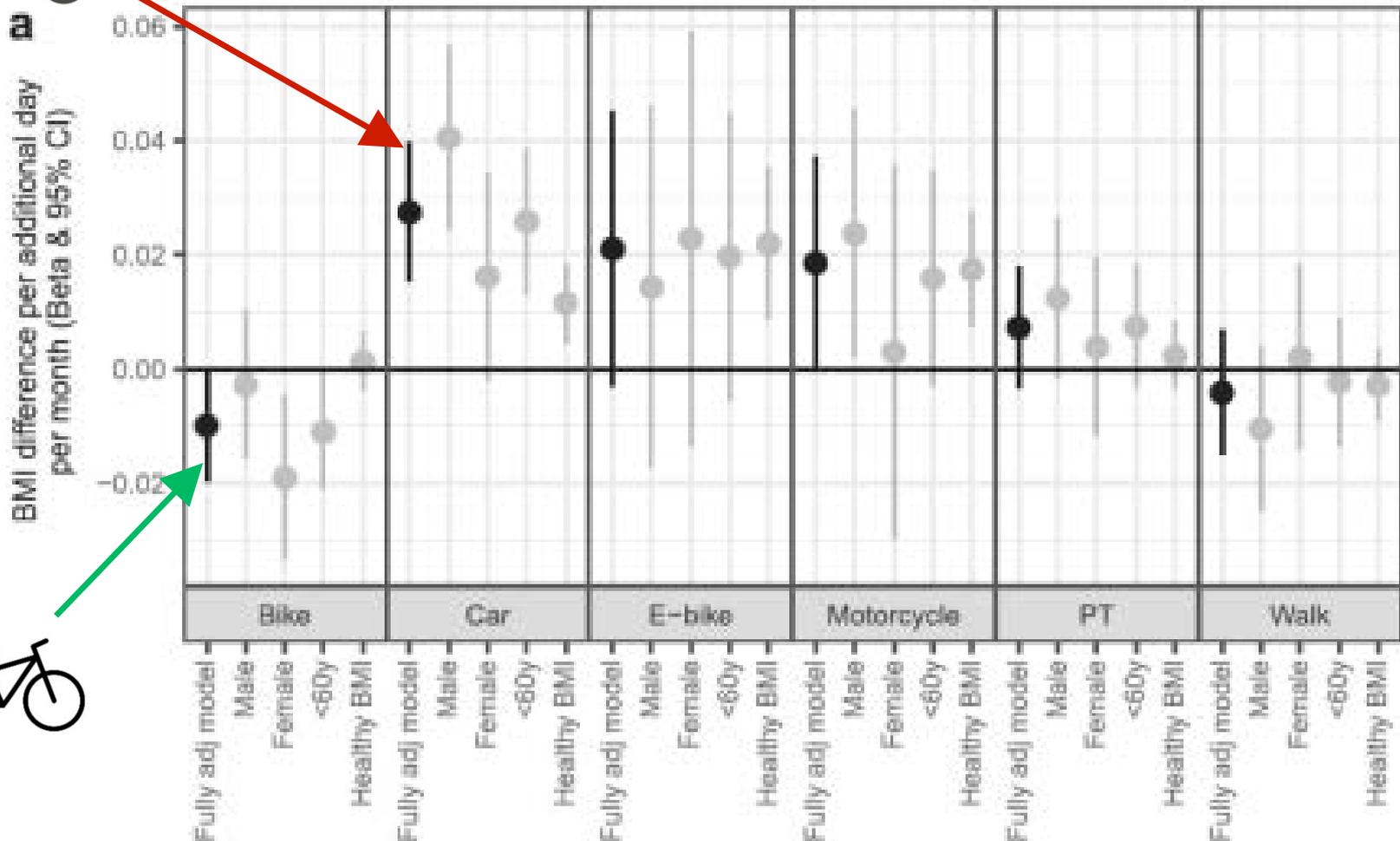
Table 3. Regression models assessing associations between the different transport modes and the health outcomes, adjusted for all the potential confounders

^aMixed-effects logistic regression models. ^bLinear regression models. ^cLogistic regression models. All models were adjusted by age, sex, education, nationality, employment status, and city. Sample sizes: Self-perceived health (n=8218); Perceived stress (n=3241); Mental Health (n=3243); Vitality (n=3243); Loneliness (n=3247); Contact with friends/family (n=3247). *p-values<0·05, **p-value<0·001.



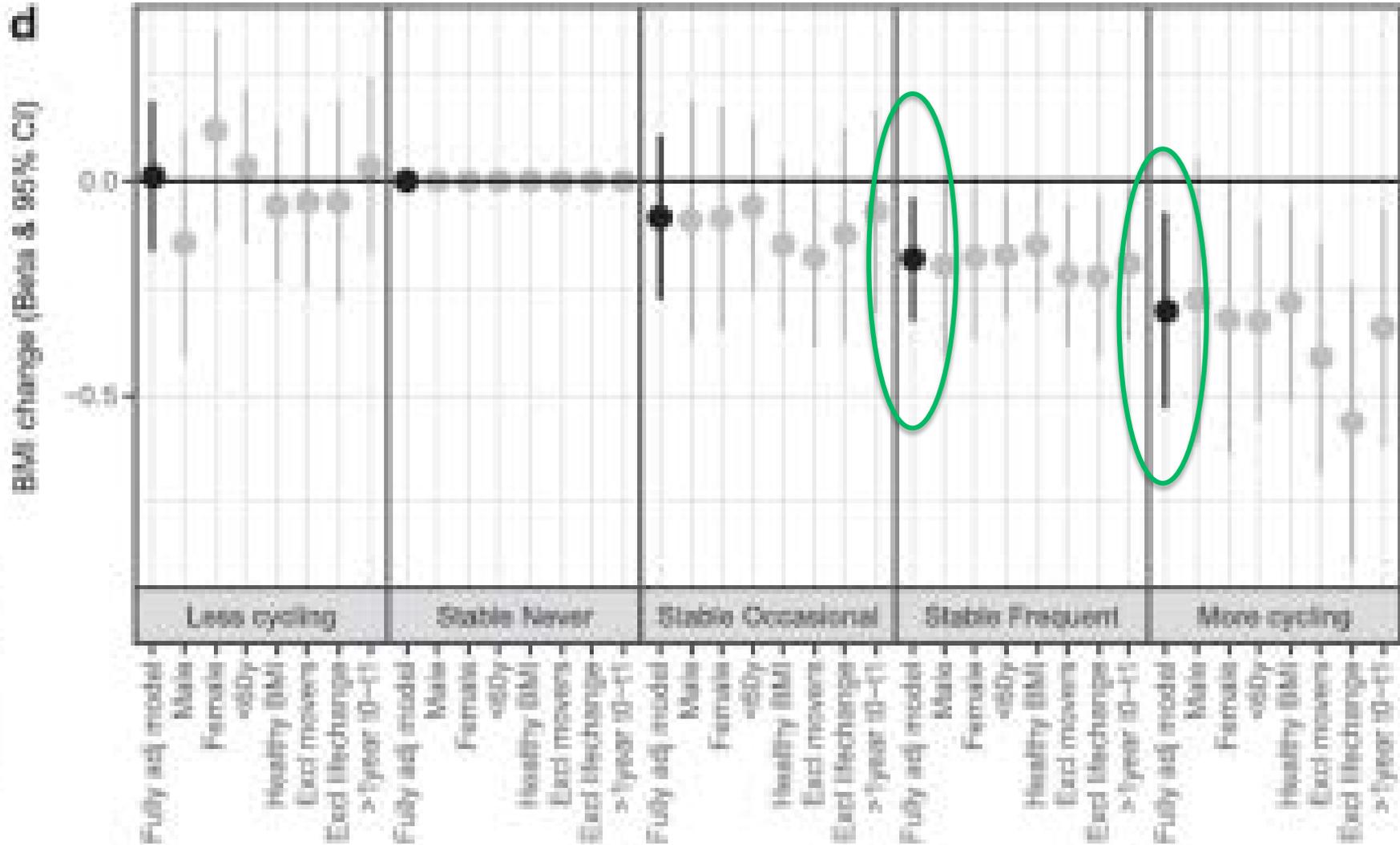
Dons et al. (2018) Transport mode choice and body mass index: Cross-sectional and longitudinal evidence from a European-wide study. *Environment International* 119

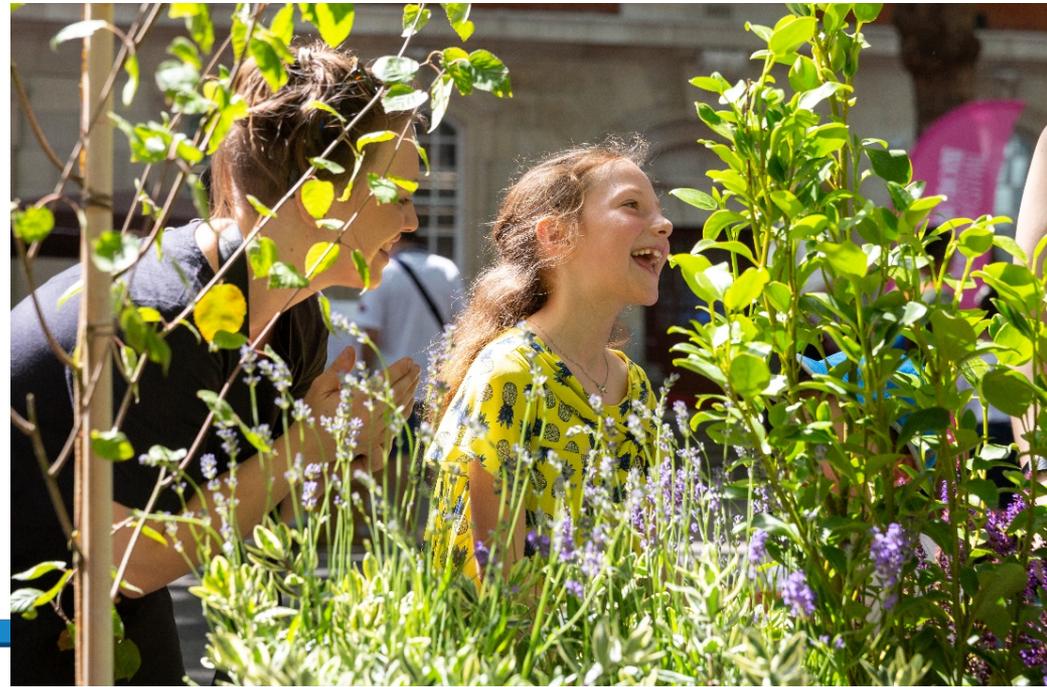
BMI difference per additional day of travel per month by mode



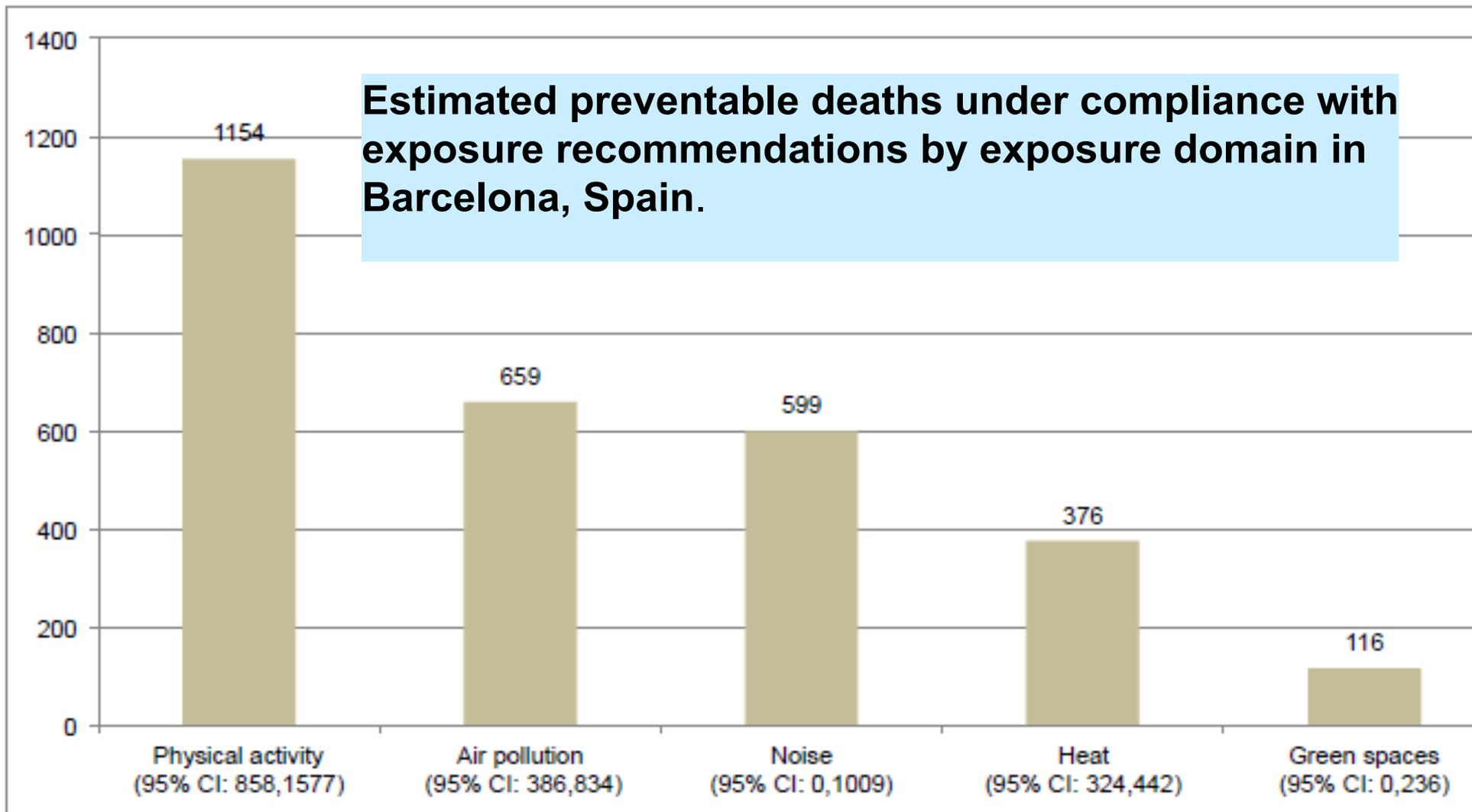


BMI and travel mode longitudinal analysis: Impact of change in cycling





Quantifying potential co-benefits of planning strategies...



Mueller et al. 2016 Urban and Transport Planning Related Exposures and Mortality: A Health Impact Assessment for Cities. EHP

In Summary: With holistic thinking we identify that urban design strategies can provide additional benefits compared to single-purpose strategies such as air pollution technological solution.

Impacts can be modelled to help make the case.

Co-benefits?

- Air pollution
- Climate change
- Greenspace
- Biodiversity
- Noise
- Physical activity
- Traffic injuries
- Diet
- Air flows
- Inequalities
- Etc

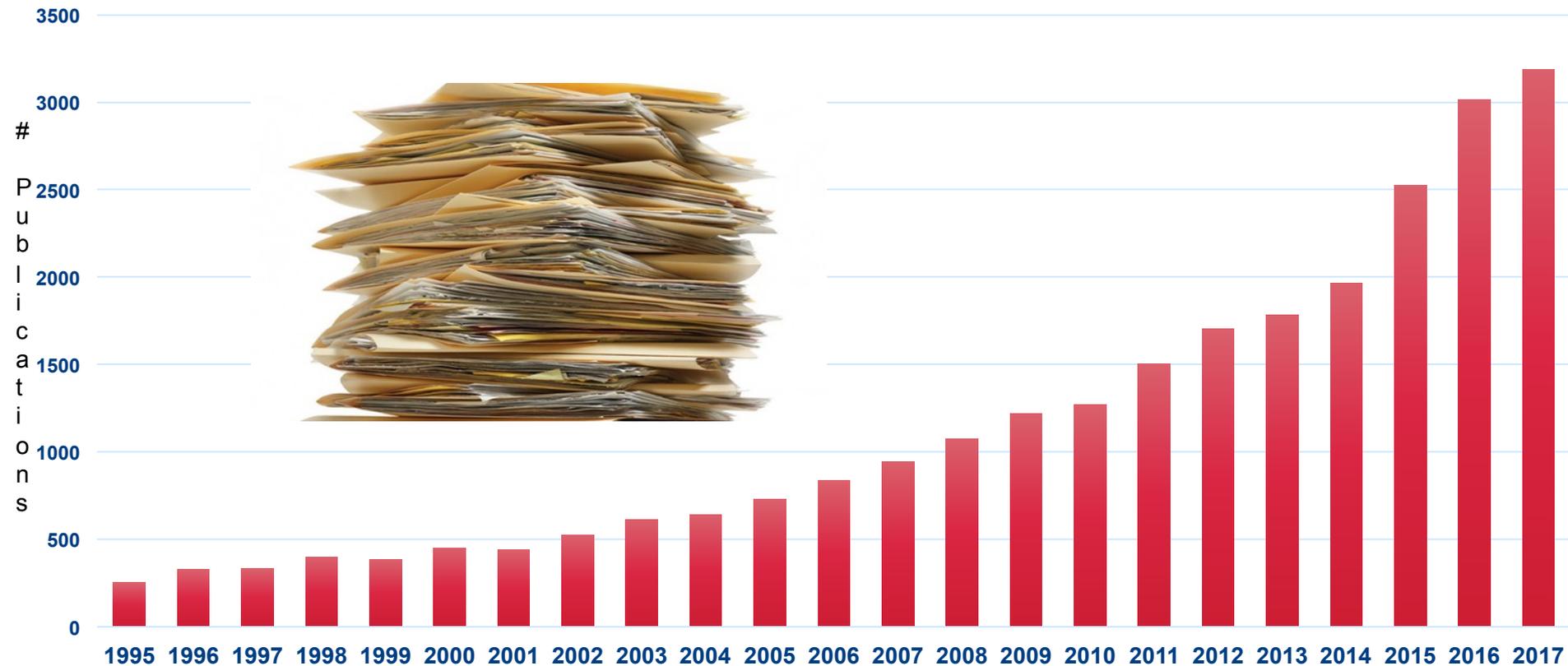
Trade-offs?

- Cooling agents
- Air pollution inhalation
- Traffic injuries
- Pollen
- Air flows
- Inequalities
- Etc.

City Planning and Health Publication Trends

Numbers of publications per year 1995-2017

Web of Science search terms: (City OR Urban) AND (Planning OR transport OR design OR built environment) AND Health



© 2019

Integrating Human Health into Urban and Transport Planning

A Framework

Editors: Nieuwenhuijsen, Mark, Khries, Haneen (Eds.)

Mark Nieuwenhuijsen
Haneen Khries, Editors

Integrating Human
Health into Urban
and Transport
Planning

Free
Preview

Springer

Chapter 31 Barriers and Enablers of Integrating Health Evidence into Transport and Urban Planning and Decision Making



Rosie Riley and Audrey de Nazelle

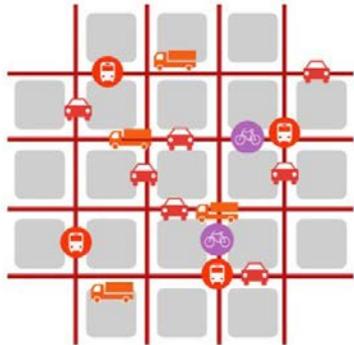
- Evidence → holistic and co-created
- Institutional and legislative changes → collaborative and holistic thinking
- Political will → public and stakeholder engagement



© WATG Architects



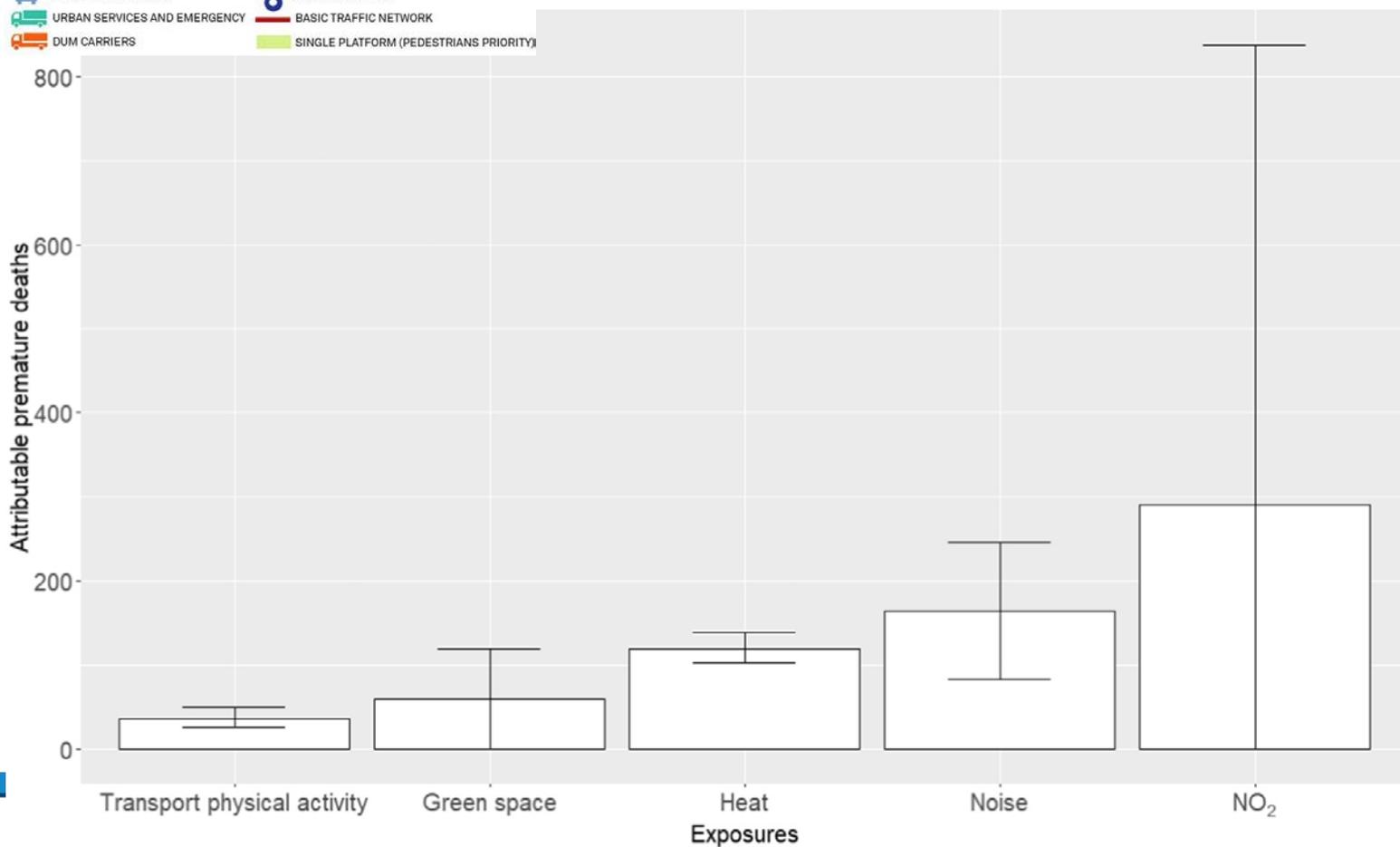
Current Model



Superblocks Model



-  PUBLIC TRANSPORT NETWORK
-  BICYCLES MAIN NETWORK (BIKE LANE)
-  BICYCLES SIGNPOSTS (REVERSE DIRECTION)
-  FREE PASSAGE OF BICYCLES
-  PRIVATE VEHICLE PASSING
-  RESIDENTS VEHICLES
-  URBAN SERVICES AND EMERGENCY
-  DUM CARRIERS
-  DUM PROXIMITY AREA
-  ACCESS CONTROL
-  BASIC TRAFFIC NETWORK
-  SINGLE PLATFORM (PEDESTRIANS PRIORITY)



Imperial College
London

Audrey de Nazelle
anazelle@imperial.ac.uk

