



Why Essential Evidence is needed (and on more than just road transport)

Dr Adrian Davis FFPH

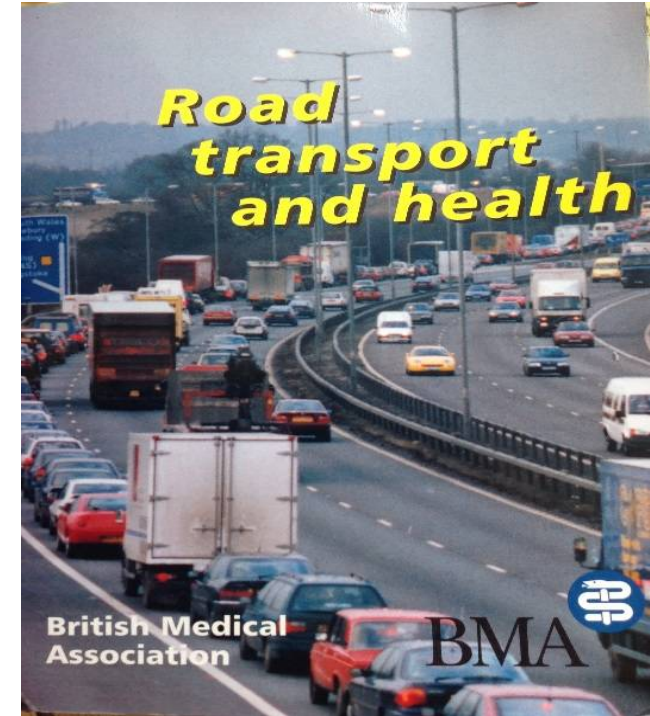
Professor of Transport & Health & FPH Bazalgette Professor (Champion of Evidence 2025-27)

Transport Research Institute



THSG established Manchester Town Hall June 1988

**British Medical Association
Board of Science and
Education, 1997**



Official recognition of wider health impacts – 1998 Transport White Paper – first time health gets a significant mention

- ▶ The way we travel is making us a less healthy nation
- ▶ Coronary heart disease is the biggest killer of adults in the country. Part of the blame is that we drive too much when we could walk or cycle.

DETR, 1998 A New Deal for Transport: Better for Everyone. London: TSO.





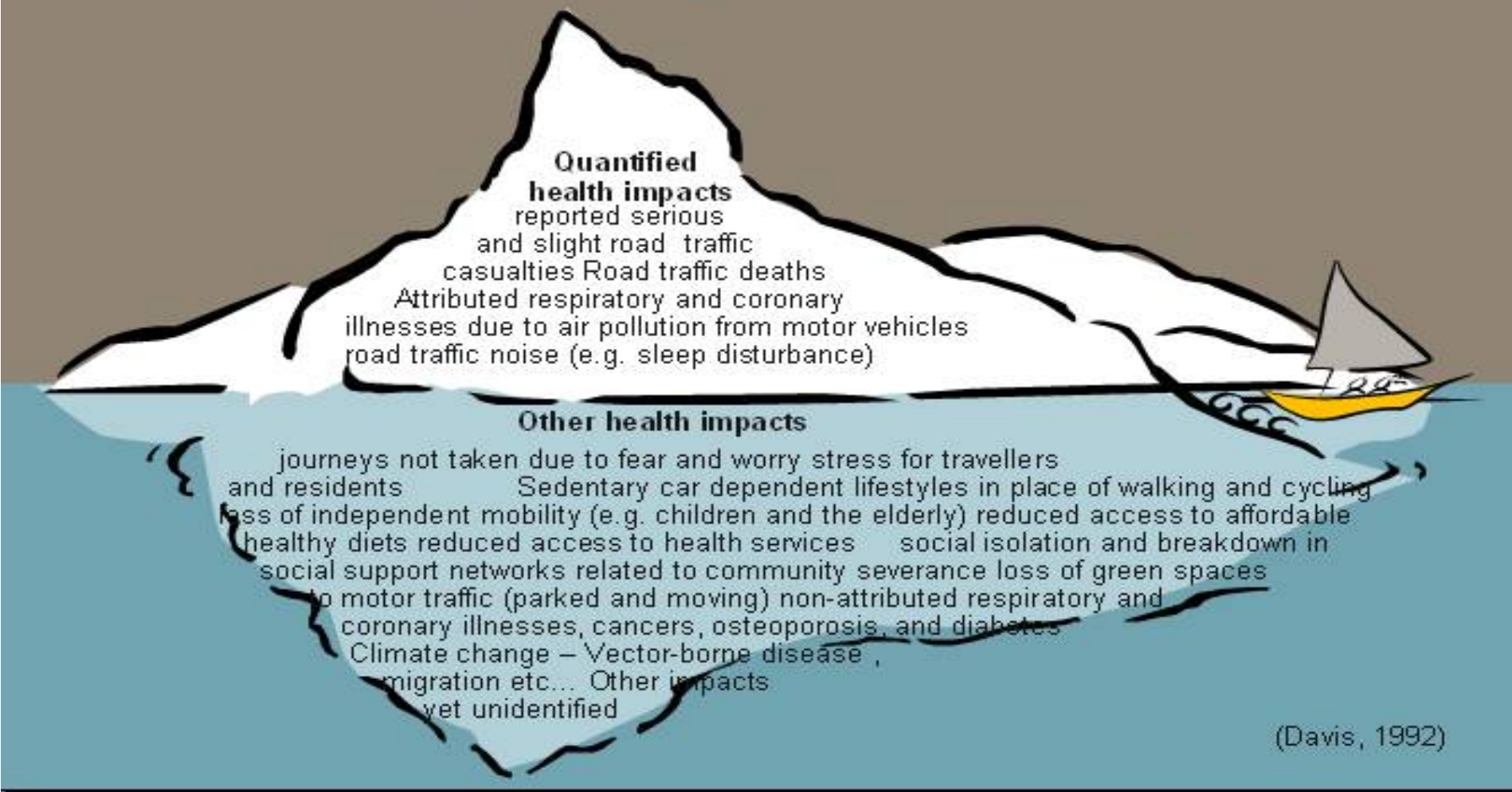
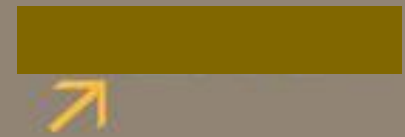
Physical activity and the environment

Public health guideline | PH8 | Published: 23 January 2008

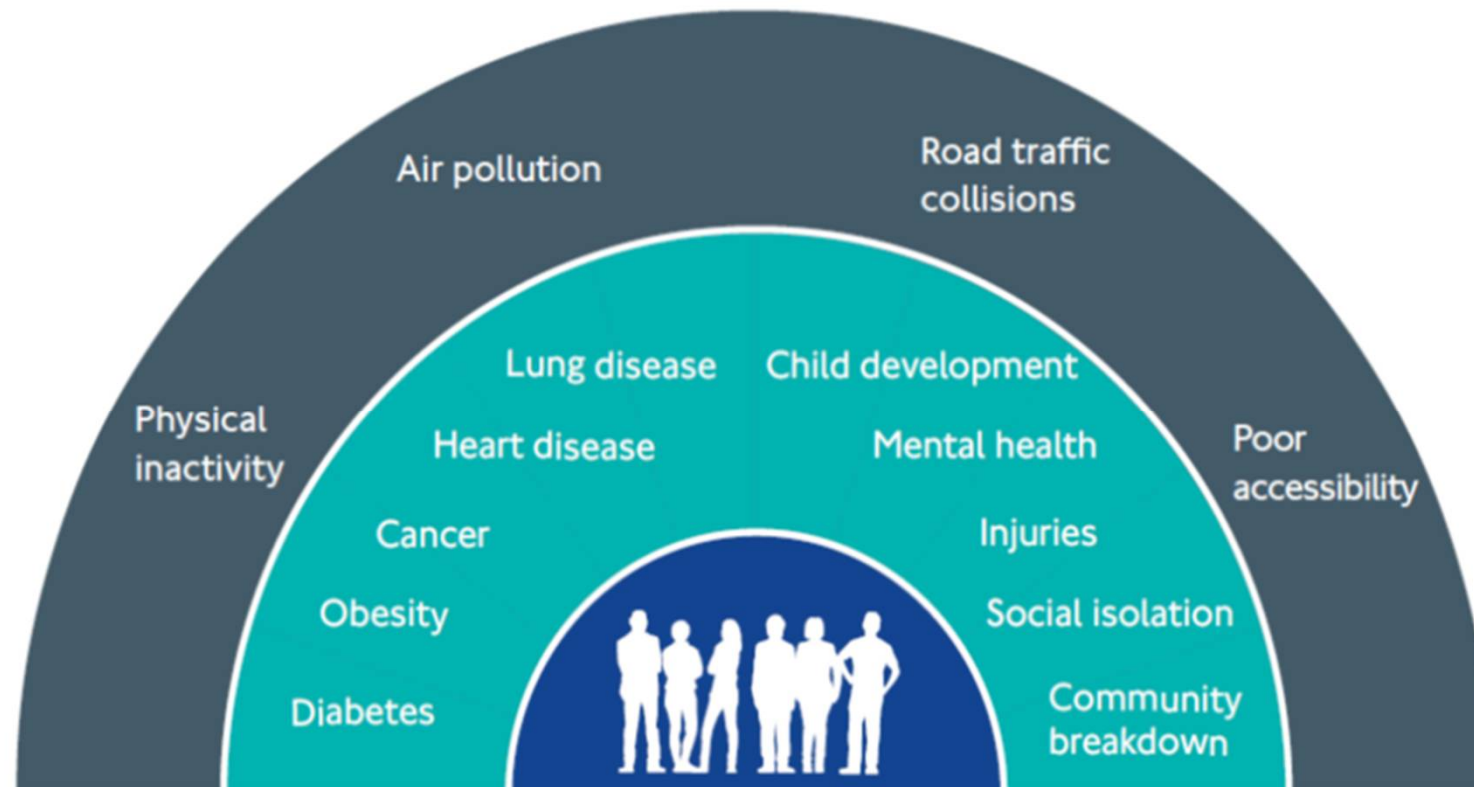
This guideline has been updated and replaced by [NICE guideline NG90](#).

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The Road Transport Morbidity and Mortality Iceberg



Road transport & health



Essential Evidence

Filter by:

Any year



Categories:

- Adults and Cycling
- Adults and Walking
- Air and Noise
- Children
- Demand Management & Behaviour Change
- Health Effects
- Public Policies
- Public Transport Use

Essential Evidence

Key evidence from peer-reviewed literature is being used to strengthen the case for current transport policies and practice.

All of the summaries found below are published on a single page in order to better disseminate academic research to practitioners for implementation within planning and policy.

Dr Adrian Davis has been key to providing evidence to influence the work of many projects in Bristol including Cycling City and the Local Sustainable Transport Fund.

Please note that as of August 2019 Dr Adrian Davis is no longer producing Essential Evidence summaries for Bristol City Council, so no new ones will be uploaded to Travelwest. Dr Adrian continues to produce these for the [Transport Research Institute at Edinburgh Napier University](#), where you can access his latest Essential Evidence.



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Adults and Cycling



Adults and Walking



Air and Noise



Children



Demand Management & Behaviour Change



Health Effects



Public Policies



Public Transport Use

No 187: Examining the politics of transport planning

Top line: Politics is a key determinant of transport policy. Attempts at evidence-based transport policy are often thwarted by ideological...

[Read more →](#)

4 June 2019

No 186 Active Travel & Physical Activity. Evidence Review.

Top line: The evidence for positive impacts in increasing physical activity is greatest for town and city-wide interventions. All studies...

[Read more →](#)

12 April 2019

No 185: The effectiveness of a 20mph speed limit intervention on vehicle speeds in Bristol

Top line: The findings indicated that the sign-only 20mph intervention was successful in lowering vehicle speeds. Policy makers are encouraged...

[Read more →](#)



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Essential Evidence 4 Scotland

One-page, plain-English summaries on aspects of transport planning from robust peer reviewed studies, released fortnightly by Prof Adrian Davis of Edinburgh Napier University's Transport Research Institute.

Our aim is to improve public policy making and practice by making robust academic evidence freely accessible to local government transport authorities, advocacy groups, and public health practitioners working across Scotland and beyond. Our concise, de-jargonised summaries address a range of sustainable and health promoting aspects of transport, from behaviour change to infrastructure interventions.

Explore the series below, or for more information, contact Prof Davis directly at a.davis@napier.ac.uk.



Smarter Choices, Smarter Places

Supporting Sustainable Travel

SCHOOL OF COMPUTING, ENGINEERING & THE BUILT ENVIRONMENT (SCEBE) WEBPAGE

Visit our School's webpage here: School of Computing, Engineering & The Built Environment (napier.ac.uk)

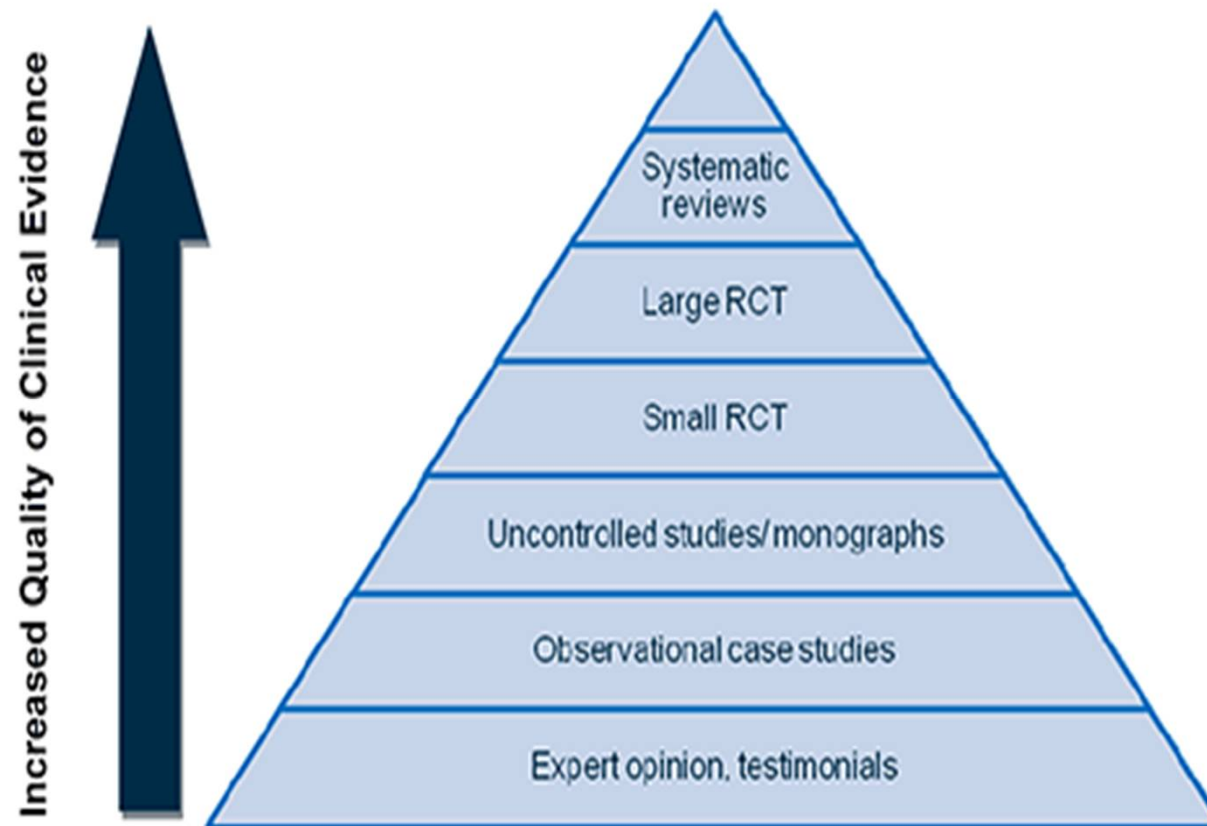
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Edinburgh Napier
UNIVERSITY



Evidence hierarchy



Policy-makers' hierarchy of evidence



(adapted from Davies 2005 with acknowledged from developments by Hunter, D. 2017, Health in All Policies: Making it Work in Practice - Winter School, Durham University)

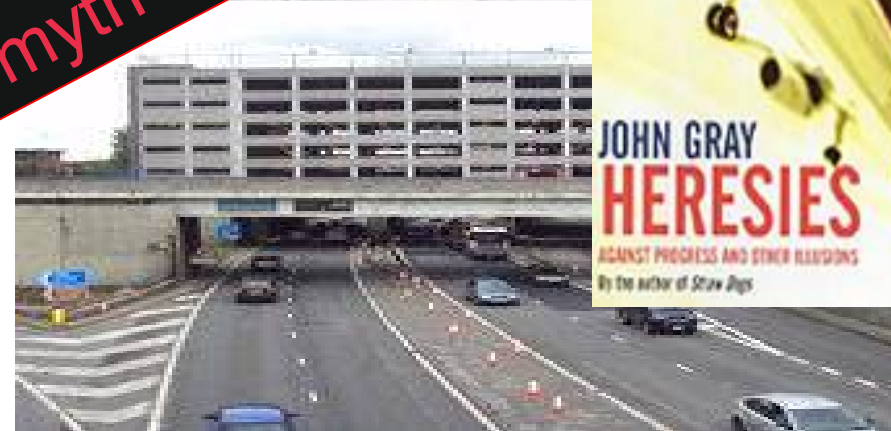


More space for motor vehicles = less for other modes

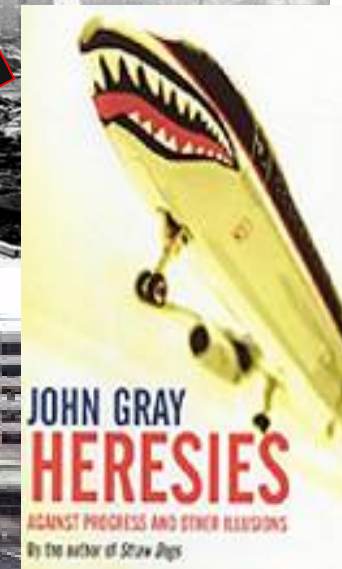
Inner Leeds 1963

In total 365 homes and 174 commercial buildings were raised to the ground. People who were living in the demolished houses were moved to new estates such as Little London.

The myth of progress



1990s



Who are the intended audiences?

- Local authorities highways staff – transport planners, civil engineers, urban designers, land-use planners and membership bodies e.g. CIHT, ICE, RTPI, SCOTS
- Councillors (especially Transport Convenors) and politicians generally, local authority rep bodies e.g. COSLA,
- Advocates and sustainable transport activists
- Academics

What gets covered

- All health impacts from road transport
- Sustainable transport studies
- Aspects of Safe Systems Road Safety e.g. speed limits, GDL, policing
- Politics and decision making biases
- Car-dependency, induced traffic, financing car consumption
- Physical activity across the life-course

All report on at least 1 peer reviewed study, ideally a systematic review (more robust), list sources and *'do no violence'* to what the authors wrote

Try to make sure UK relevant – could we apply an NZ intervention in the UK? (external validity)

And try to dejargonise.

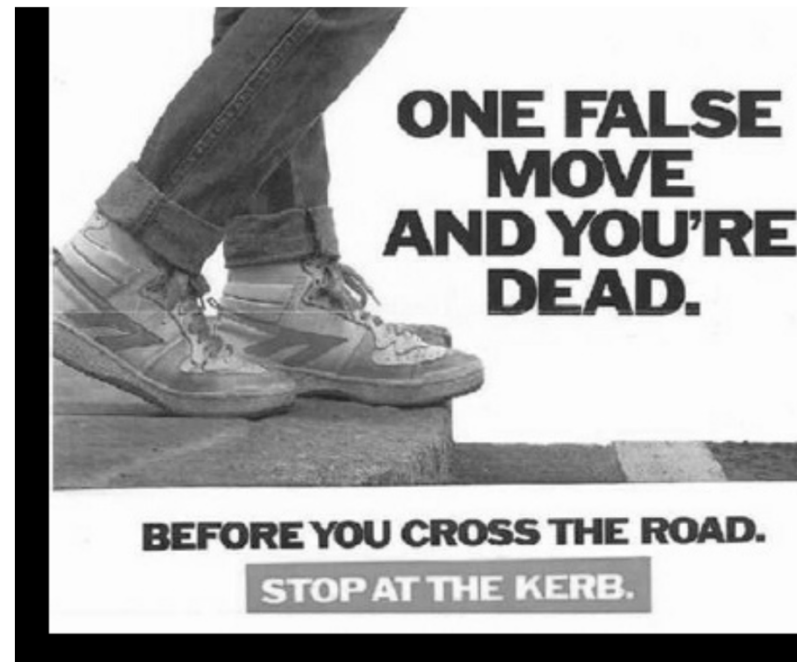
Who dies or gets injured in Bristol - by LSOAs?

2017 to 2019

Type	25 Most Deprived LSOAs	25 Least Deprived LSOAs
All casualties	10%	4%
KSI casualties	14%	3%
Pedestrian casualties	13%	4%
Child casualties	26%	4%
Elderly casualties	11%	8%

*EE No 38

Health impact distributions



Bus Use - through the experience of Ending of South Yorkshire Fairs Freeze

- ▶ Bus use rising from 1975 – against trends
- ▶ Intervention – 1985 Transport Act - 250% fare rise
- ▶ 62% and 60% reductions in bus use among unemployed and retired, 37% reduction for employed and 48% among children
- ▶ Steep rise in requests for formal home help



Global Burden of Disease

- 90% of road traffic deaths occur in low- and middle-income countries, and while these countries also account for 82% of the world's population, they nevertheless bear a disproportionate number of deaths relative to their level of motorization, as they account for only 54% of the world's registered vehicles. (WHO, 2021) [A/RES/74/299 - E - A/RES/74/299 -Desktop \(undocs.org\)](#)
- More than 80% of people living in urban areas that monitor air pollution are exposed to air quality levels that exceed the World Health Organization (WHO) limits. 97% of cities in low- and middle income countries with more than 100 000 inhabitants do not meet WHO air quality guidelines. However, in high-income countries, that percentage decreases to 49%. (WHO, 2018)

<http://www.who.int/airpollution/data/cities/en/>




**The impact of reallocating road
space to increase provision for
walking, wheeling and cycling
on health-related outcomes
A rapid review**

Publication date: 28 March 2022

**Joanna Teuton, Public Health Scotland,
Margaret Douglas, University of Edinburgh,
Adrian Davis, Edinburgh Napier University,
and Grant Donaghy, Public Health Scotland,
on behalf of the Public Health and Sustainable**

Overall, in the three towns, there was a reduction in total traffic levels in the order of 2%, together with a reduction of 7-10% in the number of car driver trips per resident. Cycling estimated as being a 26-30% increase in cycle trips per head across the three towns taken together - were broadly sustained as was walking at 13-18% increase.

Creating the future of transport

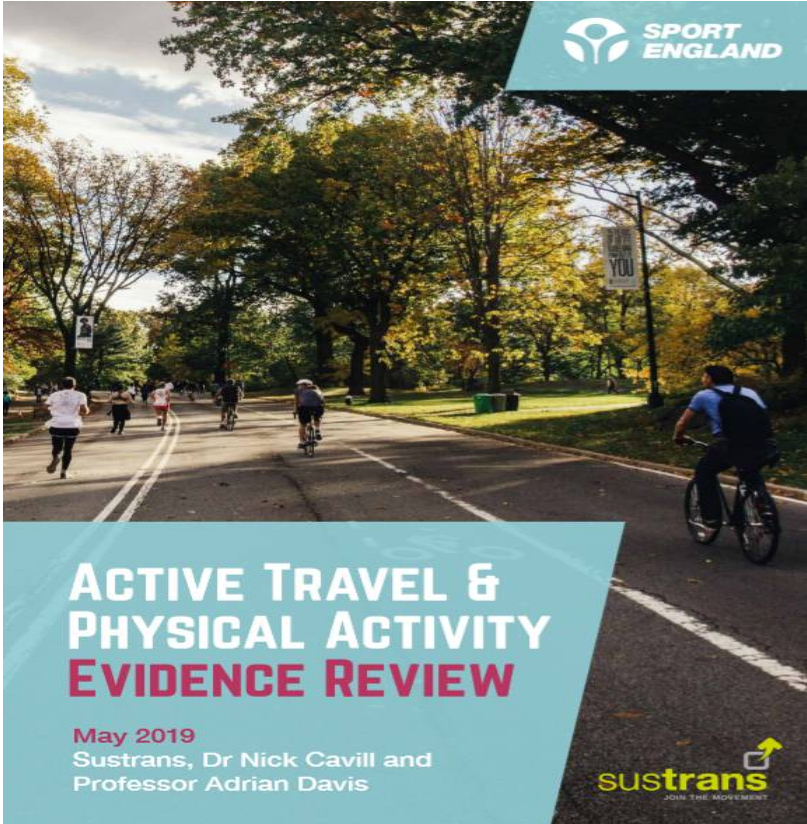


PUBLISHED PROJECT REPORT PPR776

Sustainable travel towns: An evaluation of the longer term impacts

Main report

S Cairns and M Jones



SPORT ENGLAND

ACTIVE TRAVEL & PHYSICAL ACTIVITY EVIDENCE REVIEW

May 2019
Sustrans, Dr Nick Cavill and Professor Adrian Davis

sustrans
JOIN THE MOVEMENT

Barriers to progressive road transport



Fossil fuel companies have over 500 people at COP26, more than any single country, report says



By [Angela Dewan](#), CNN

🕒 Updated 1436 GMT (2236 HKT) November 8, 2021



Commercial determinants of health

The private sector activities that affect people's health, directly or indirectly, positively or negatively. (WHO, 2023)



Daniel Kahneman and Amos Tversky



- Getting decision-makers to pay attention to, to understand, and act on robust evidence, is very hard
- ‘Gut feelings’ and systematic cognitive biases – and recourse to the availability heuristic, poor judgement in uncertainty and misunderstandings of probabilities

Motonormativity



Transport
Research
Institute

Part of Edinburgh Napier University

To: Transport & Health Policy Makers, & Practitioners
From: Professor Adrian Davis
Date: 19th August 2024
Subject: Essential Evidence 4 Scotland No.89 Motonormativity

Top Line: Just as it was only through recognising shared unconscious prejudices that UK's Metropolitan Police began to address its problem with 'Institutional Racism', national-level institutions need to address the motonormativity or 'Institutional Car-ism' underpinning their own thinking.

A society's ability to tackle any public health or sustainability issue appropriately depends on people at all levels – from policy makers to medical practitioners to the general public – being able to judge the situation rationally and objectively. Overestimating or underestimating the seriousness of an issue can lead to panic or complacency respectively. In the context of individual motor transport, there is a cultural inability to think objectively and dispassionately about car use. This arises because of shared, largely unconscious assumptions about how travel is, and must continue to be, primarily a car-based activity. Researchers termed this phenomenon motonormativity.¹ The term is chosen to draw parallels with other problematic cultural expectations such as heteronormativity. In heteronormativity, majority heterosexual people automatically, but inappropriately, assume all other people fit their own categories and thereby fail to accommodate the needs of minority groups. In extreme cases, such normalities can lead to minority groups being obliged to live according to practices of the majority even when this is against their will.

Motonormativity, in a similar way, leads to such issues as town planning predicated on the assumption that access will be by car, and to the minority who choose not to use cars being forced to accept the harms arising from other people's motoring (e.g. deaths, injuries, physical inactivity) whether they like it or not. Critically, at the individual level, motonormativity leads people who are thinking about driving to systematically suspend the ethical and moral judgements that they would apply in other contexts. This sort of double-standard is at the core of the public health challenge raised in the researcher's study.

A YouGov survey asked whether respondents agreed or disagreed with six statements and then each with another which was the same bar a change of subject. For example, "It's okay for a delivery driver to bend a few health and safety rules in order to keep their business profitable" and "It's okay for a chef to bend a few health and safety rules in order to keep their business profitable" and similarly, "People shouldn't drive in highly populated areas where other people have to breathe in the car fumes", "People shouldn't smoke in highly populated areas where other people have to breathe in the cigarette fumes".

The survey showed that people can go from agreeing with a health or risk-related proposition to disagreeing with it simply depending on whether it is couched as a driving or non-driving issue. In the most dramatic case, survey respondents felt that obliging people to breathe toxic fumes went from being unacceptable to acceptable depending on whether the fumes came from cigarettes (17%) or motor vehicles (75%). It is, objectively, nonsensical that the ethical and public health issues involved in forcing non-consenting people to inhale air-borne toxins should be judged differently depending on their source.² The authors argue that their results arose because individuals have their views about motoring shaped over their whole lifespan by a multi-level series of external influences ranging from observing their parents' driving while growing up to mass-media discourses about how it is not only normal but even desirable to drive short distances in antisocial styles. The researchers called on government and medical professionals to A) begin auditing all decisions from the viewpoint of a person who does not drive B) incorporating the

Barriers to joint working

DsPH identified a number of barriers to further joint working, including:



Lack of funding



Perceived cultural
dominance of the car



Differing standards
of evidence

Thank you!

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