

Transport Practice and Teaching: Does road safety enable walking and cycling?

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Status quo in UK highways

1. Entrenched practices → 'status quo' road design

2. Evidence

1969 study - as traffic increases →

- people socialise less with neighbours
- stress levels rise
- play territory narrows

3. Roads are physical manifestation of choices and attitudes



Harborne Rd, Birmingham.
One-way system designed c.1960?
Courtesy: Mark Strong



Aston Express Way, Birmingham. Constructed 1972
Courtesy: Mark Strong



Crawley. Designed c. 1960s
Courtesy: Mark Strong



Buckinghamshire, Designed c. 2010
Courtesy: John Dales



Daresbury, A558. Constructed 1960



Castle Lane, Bournemouth. Constructed 2008

The default car priority despite User Hierarchy



Wimbledon, London. Designed c.1980.



Bournemouth. 'New' side-road configuration. Designed 2016.

The exception pedestrian priority supporting Highway Code Rule 170



Walthamstow, London. Constructed 2017

Who's more important? Vs: Hierarchy of Users



Tottenham Hale, London. Constructed c. 1990?



Lea Bridge Road, London. Constructed 2018

Default, vernacular road design



Bournemouth, UK. Road re-surfaced in 2017.



Haarlem, Netherlands.
Constructed c.1980/1990

Who's designing for who?

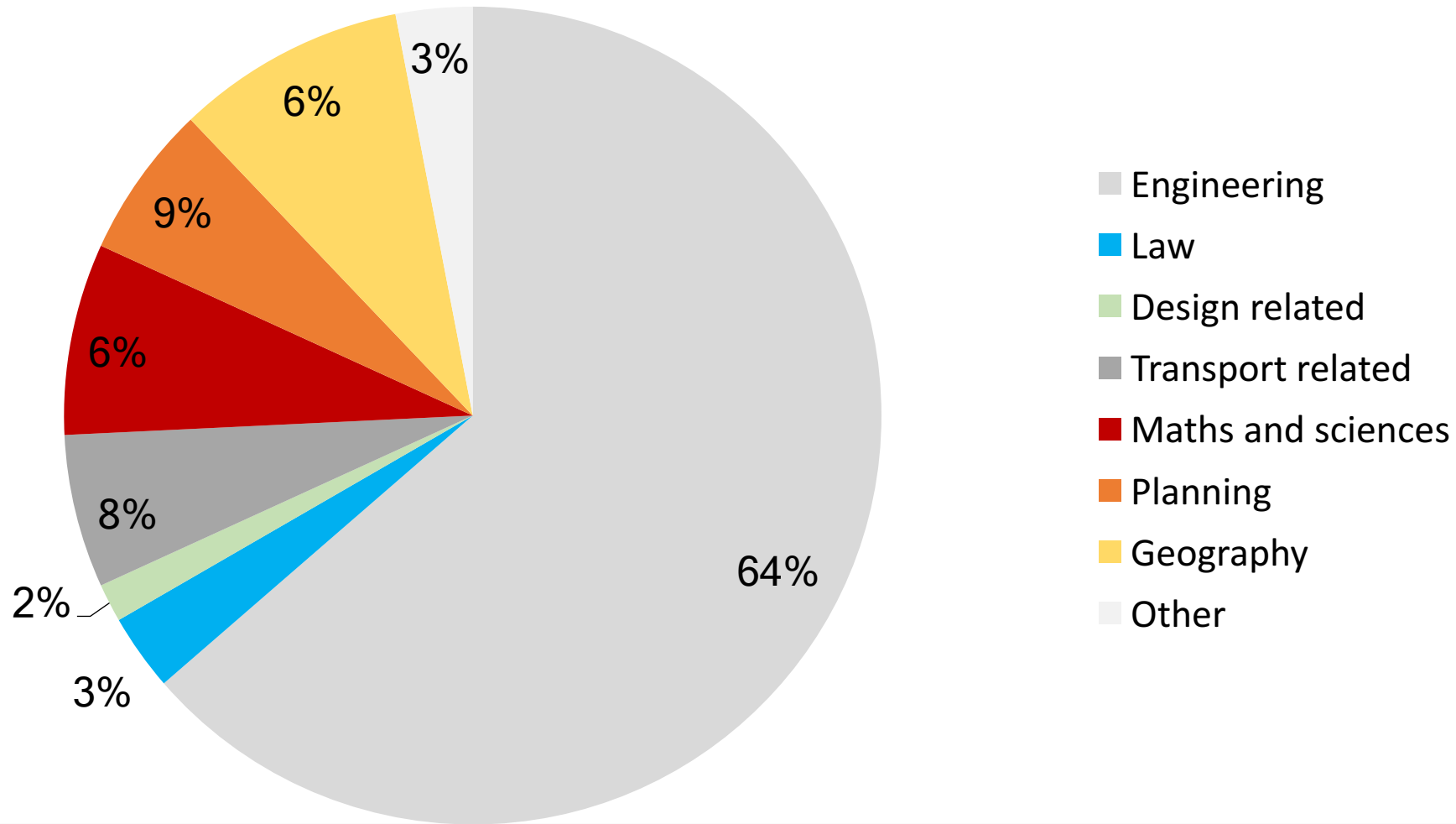


Two types of research

1. Current local authorities practitioners - LinkedIn

2. Training the next generation - Comparison of 9 Transport MSc syllabi

Bachelor's degrees by subject held by Heads of Transport in local authorities. Derived from LinkedIn sample, 2016



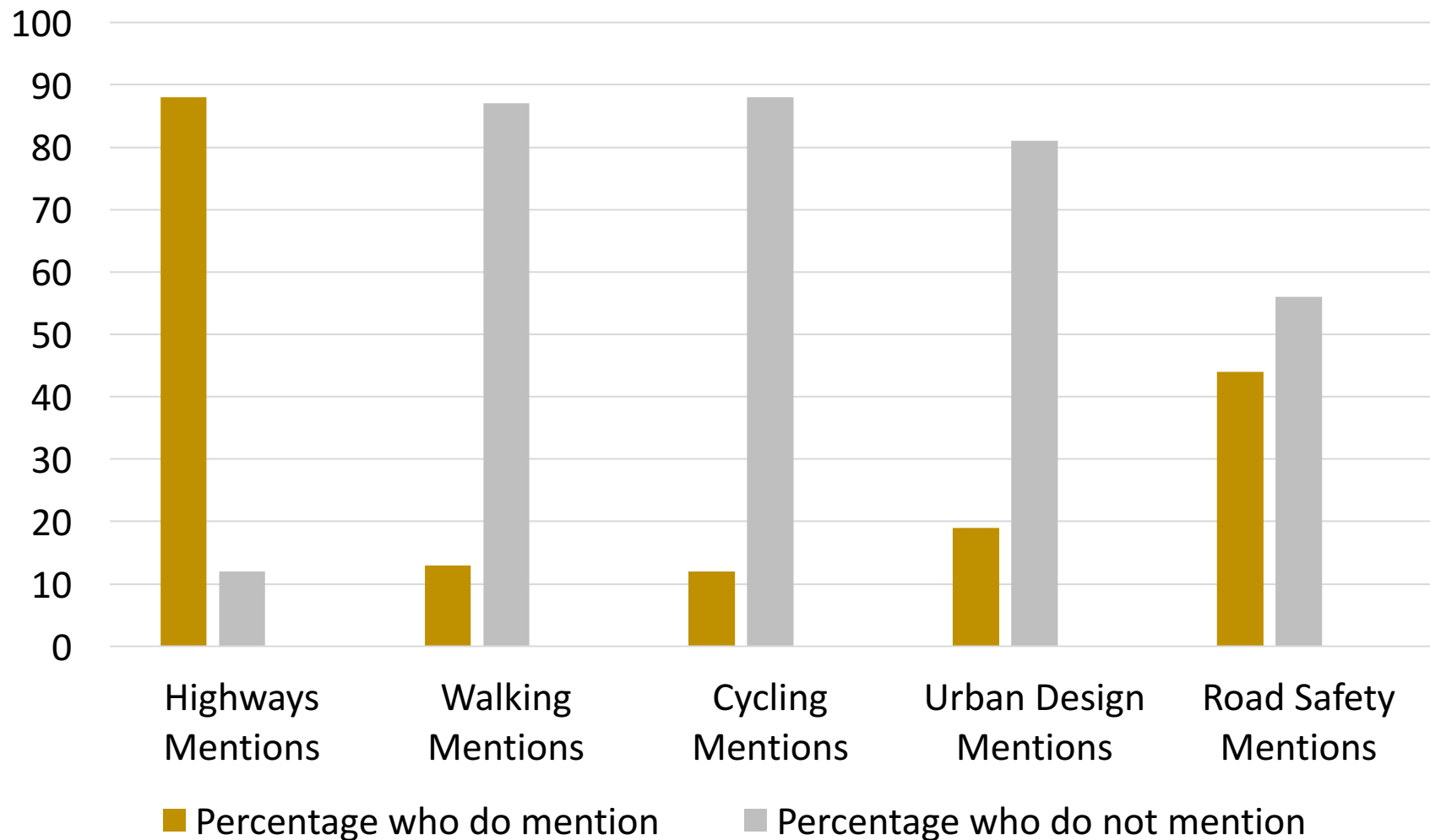
69% had engineering qualification (HNC, HND, Bachelors)

NB: Roads make up three-quarters of all public space

Infrastructure mentions among Heads of Transport in Local Authorities.

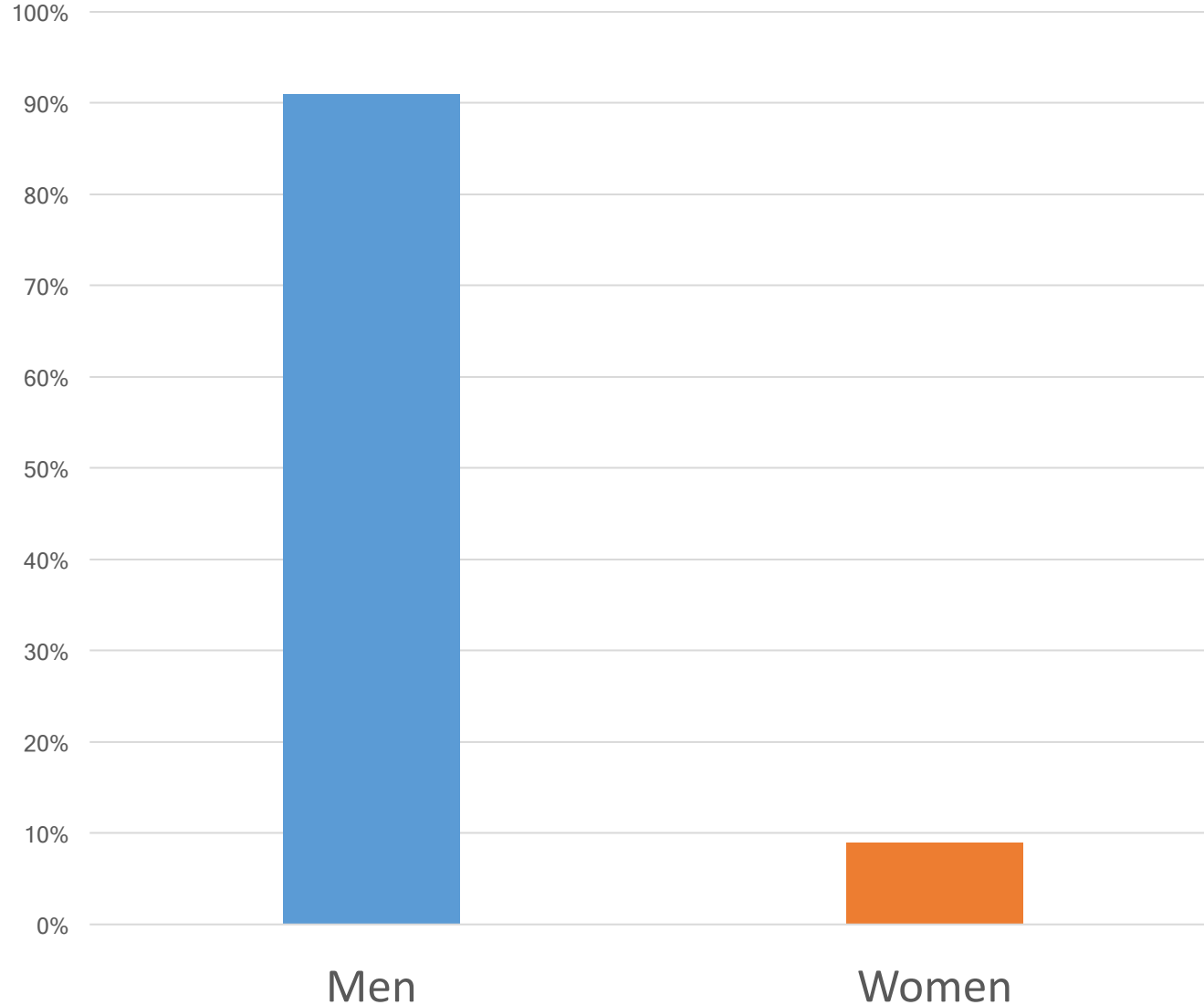
Derived from LinkedIn sample, 2016

Infrastructure mentions on profiles



- Major highways schemes held in very high regard
- Road safety mentioned more than walking/ cycling/ urban design combined

Gender breakdown of 'Heads of Transport' in UK local authorities



Source: Review of LinkedIn profiles. Data derived from MSc research thesis.

More skewed than the gender imbalance among Chief Executives of Local Authorities: 23% women and 77% men (Wilkes, 2013)

Women favour different road layouts to men, e.g.: they place greater importance on being separated from traffic while cycling (Pooley et al., 2013).

Their needs are more likely to be overlooked if they are under-represented, not in positions of influence, or absent from the decision-making process.

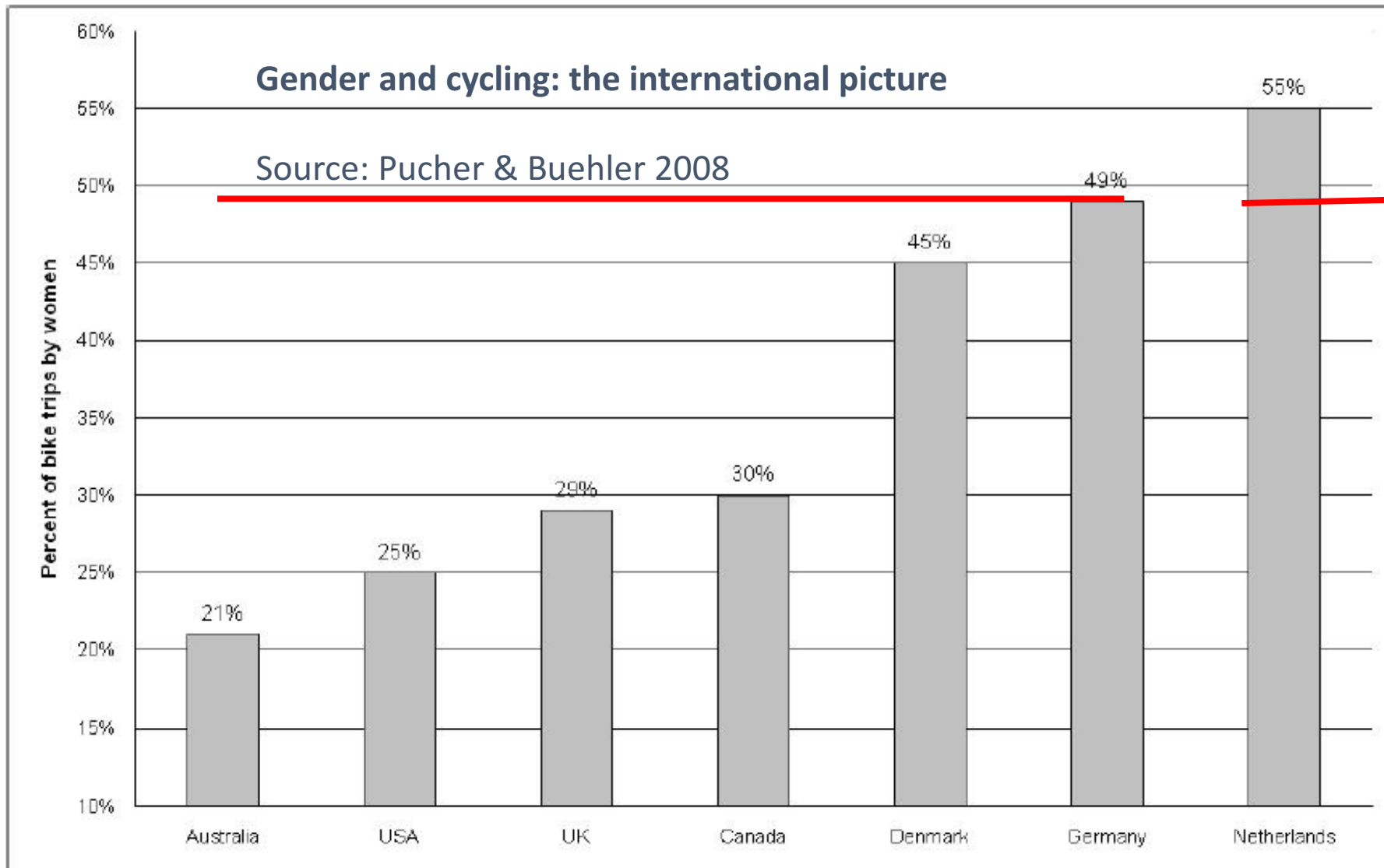
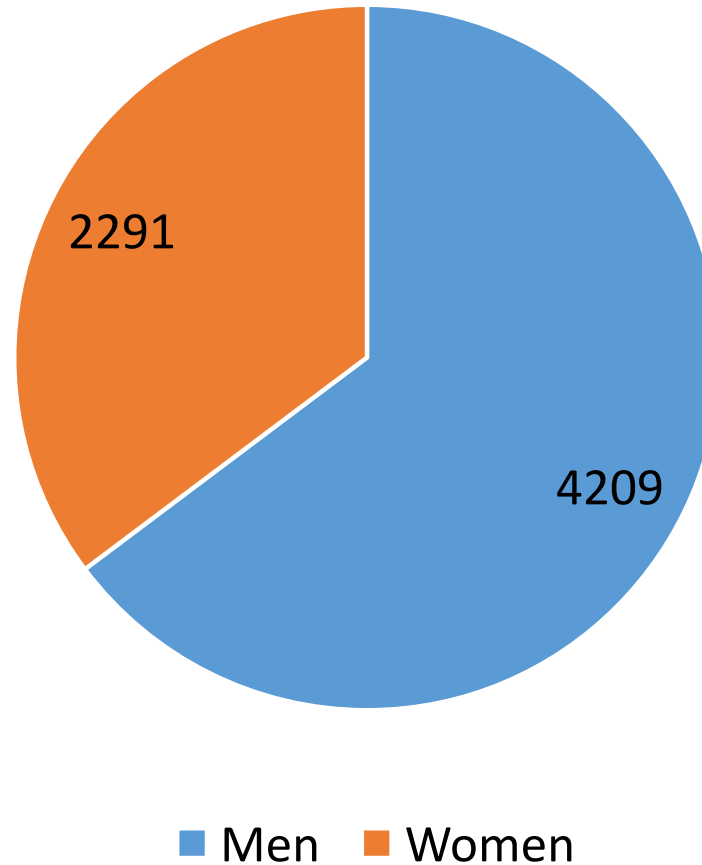


Figure 8. Women's share of total bike trips in the Netherlands, Denmark, Germany, UK, Australia, and North America (2000 - 2005)

Sources: Australian Bureau of Statistics (2007); Department for Transport (2007); Danish Ministry of Transport (2005); Statistics Netherlands (2005); German Federal Ministry of Transport (2003); U.S. Department of Transportation (2003) and information provided directly by bike planners in Canadian provinces and cities

Men drive around twice as many miles per year, on average, than women

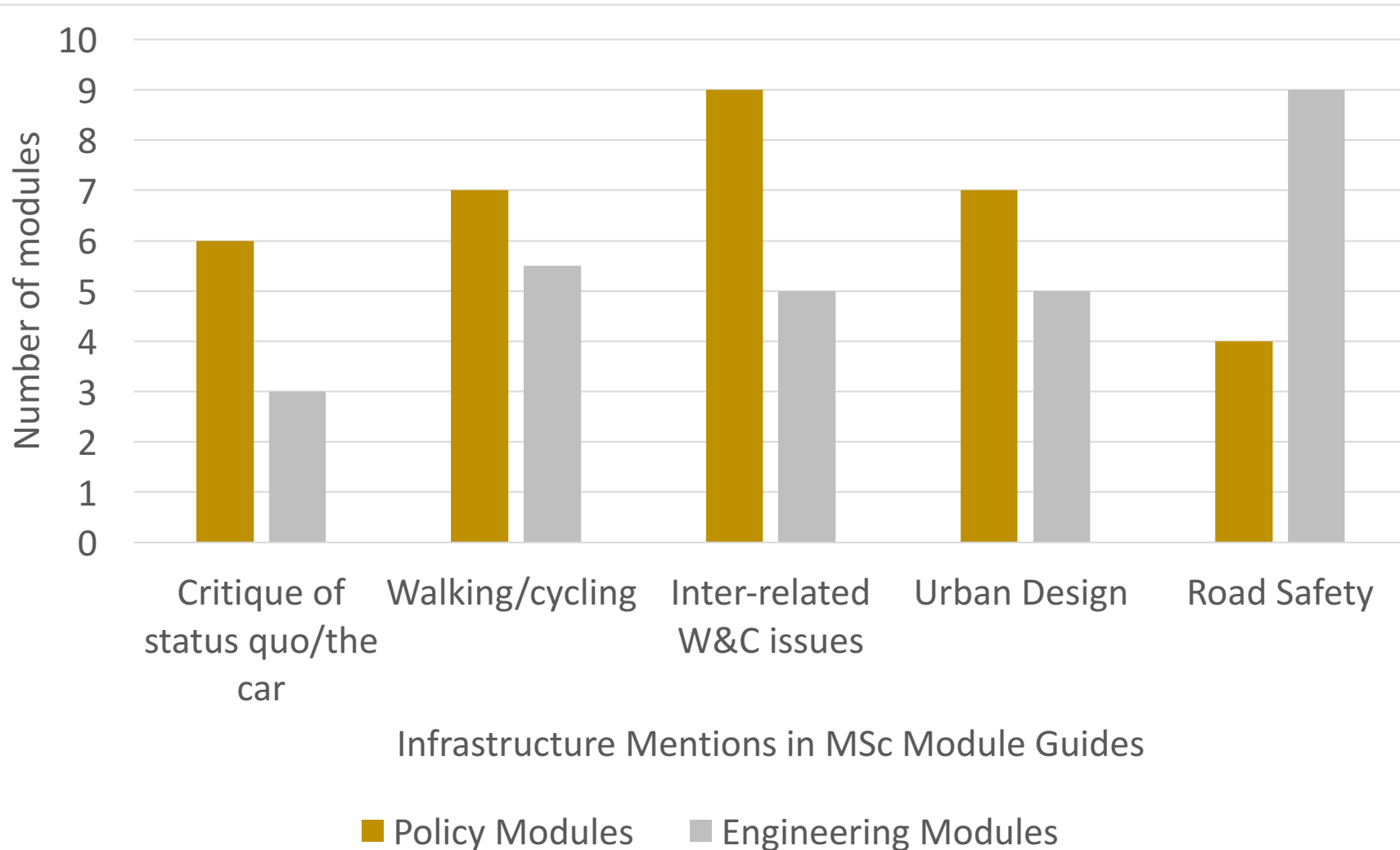
Miles driven by men and women per year



Source: Department for Transport,
[Understanding the drivers of road transport: current trends in and factors behind road use](#), 2015

Policy modules vs Engineering modules, 2013–16

Proportion of module guides which mention (explicitly or implicitly) different types of infrastructure



- Walking & cycling not mainstream

Road Safety = Routine

But taught as a subject in isolation from the more pressing, wider question:

How can practitioners engineer the road environment to encourage more people to walk and cycle safely?

Southampton syllabus 'Transportation Engineering: Analysis and Design Module'

14 elements, 1 directly covered walking and cycling:

- * Traffic Parameters and traffic flow theory on highway links
 - * Traffic data collection, surveys and automatic detection systems
 - * Junction types and layouts
 - * Traffic analysis at road junctions: gap acceptance, capacities, queues and delays.
 - * Design and evaluation of priority junctions
 - * Design and evaluation of roundabouts
 - * Design and evaluation of traffic signals
 - * Urban Traffic Control: Principles and practice
 - * Design and evaluation of grade separated intersections
 - * *Designing facilities for vulnerable road users (pedestrians and cyclists) and buses*
 - * Case Study: Road junction design
 - * Designing for safety
 - * Geometric Design of Highway Links
 - * Human Factors in Transportation Engineering
- Walking and cycling: often 'add-on' topic
 - conventional highways standards covered rigorously

Walking and cycling expressed physically as a secondary afterthought

But all the topics have a major impact on walking and cycling!!



What should be on the engineering syllabus?

14 elements - 1 on walking and cycling, 13 on motor traffic:

- * Traffic Parameters and traffic flow theory on highway links
- * Traffic data, surveys and automatic detection systems
- * Junction types and layouts
- * Traffic capacity, queues and delays at junctions.
- * Design priority junctions
- * Design of roundabouts
- * Design of traffic signals
- * Urban Traffic Control: Principles and practice
- * Design of grade separated intersections
- * *Designing facilities for pedestrians, cyclists and buses*
- * Case Study: Road junction design
- * Designing for safety
- * Geometric Design of Highway Links
- * *Human Factors in Transportation Engineering*

14 elements - 1 on motor traffic, 13 on walking and cycling:

- * Continuous footways
- * Prioritising benign modes at junctions and crossings
- * Protected cycle tracks
- * Modal filters / roads for play and living
- * *Designing for play, physical activity and socialising*
- * *Designing for children and young people*
- * *Designing for women and older people*
- * *Designing for disabled people*
- * *Prioritising people at signal-controlled junctions*
- * *DMRB designing out-of-town roads including IAN 195/16*
- * Case Study: The Netherlands, Denmark, mini-Hollands
- * Reducing road danger
- * Integrating transport in planning and land use
- * Traffic evaporation and restraining the car

Tragic death of Shane, five, inspires mass donation of hi vis vests to schoolchildren

Will Frampton [WFrampton_Echo](#)



13th October 2016

UPDATE: Seven-year-old boy dies after crash in Poole

Katie Clark [KatieDailyEcho](#)



[f](#) [t](#) [G+](#) [e](#) [73 comments](#)

A SEVEN-year-old boy has died following a crash in Poole while on his way to school.

The boy had been walking along Sherborn Crescent in [Canford Heath](#) when he was in a collision with a silver Peugeot 107 just after 8am.



Most popular

Most commented

- 1 Bournemouth Airport re-opens after snow falls across Dorset
- 2 Emergency services rescue teenage girls after rowing boats capsize on River Stour
- 3 Met Office issues snow and ice warnings for Dorset as temperatures plunge
- 4 PICTURES: These three dogs, two cats and Guinea pig need forever homes - can you help?
- 5 Lane closure on the Wessex Way for four days next week



The nature of children won't change. . .



. . . so our roads need to

What sort of place do we want to live in?



Bog-standard road



Bonnington Square, London



Colonizing the street. Delft, The Netherlands



Modal filter. Waltham Forest, UK

'Road' Funding → 'Transport Equality' Funding

1. Re-allocate funding to cater for everyone
2. Roads to comply with Equality Act 2010
3. New focus on playing out (roads, not parks)
4. Roads to have a minimum Level of Service

Thank you

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