

Inviting Infrastructure

Do preferences differ by age and gender? Results of a systematic review

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Background #1

- First systematic review to focus on gender and age differences in infrastructure preferences
- Important given policy goals of diversifying cycling



Background #2

- Follows on from Aldred et al 2015 which found failure to diversify cycling where it has increased, 2001-11
- Infrastructure preferences/tolerance is one possible factor...

Department for
Transport

Local Transport Note 2/08
October 2008

**Cycle Infrastructure
Design**



3 possible scenarios

- Preferences are **qualitatively** different
 - E.g. men want to share with motors, women don't
 - Would imply dual networks
- Preferences are **similar**
 - Build for existing preferences/tolerance
- Preferences are in the same direction, but **quantitatively** different
 - E.g. men and women both prefer separation, but women's preferences are stronger
 - Build for the higher bar

Scope

- Limited to the cycle route infrastructure context
- Focuses on stated preference-type evidence
- Only English language sources available electronically
- Thus limited scope but necessarily so
- Can draw tentative conclusions about infrastructure to attract a more diverse cohort

Research Questions

- How do expressed preferences/tolerances for different types of cycle route environments/infrastructure vary by age and by gender?
- In particular, is it true that women and older people tend to have stronger preferences for more segregated/motor traffic free environments than do men and younger people?
 - Also looked at evidence re: children

Search strategy

Search key words devised according to PICO model

P terms: bike\$ OR bicycle\$ OR bicycling OR bicyclist\$ OR cycle OR cyclist\$ OR cycling OR “active travel” OR “active transport” OR “non-motorised modes” OR “non-motorised transport” OR “non-motorized modes” OR “non-motorized transport”

AND

I terms: infrastructure OR track\$ OR lane\$ OR “off-road” OR “off-street” OR “on-road” OR “on-street” OR junction\$ OR box OR ASL OR “traffic calming” OR “traffic reduction” OR “traffic removal” OR boulevard\$ OR filter* OR “road closure” OR greenway\$ OR residential OR segregat* OR protected OR painted OR path\$ OR facility OR facilities

AND

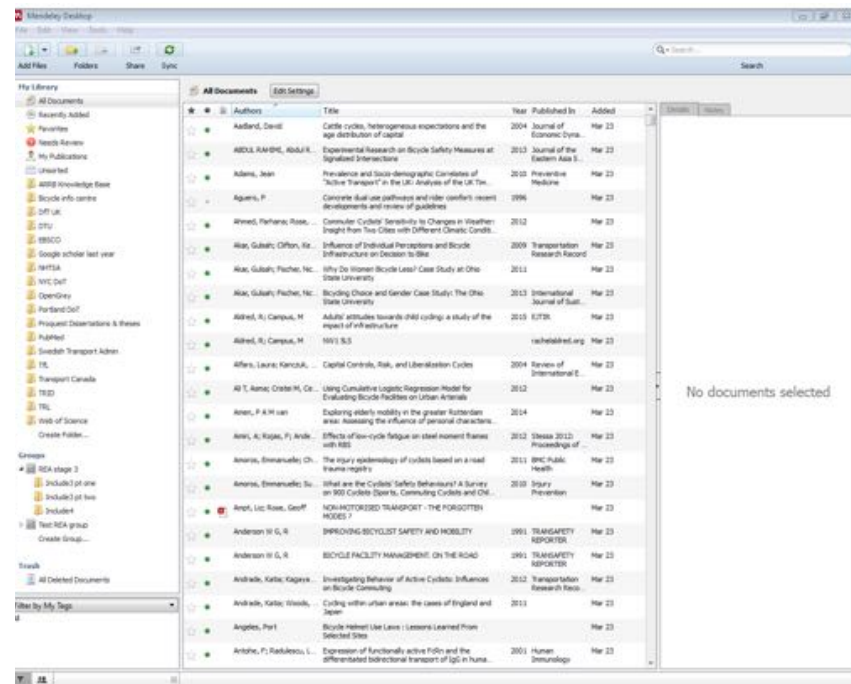
C terms: sex OR gender\$ OR age* OR children OR men OR women OR male\$ OR female\$ OR older OR younger OR elderly

AND

O terms: prefer* OR choice\$ OR choosing OR decision\$ OR attitud* OR view* OR willing*

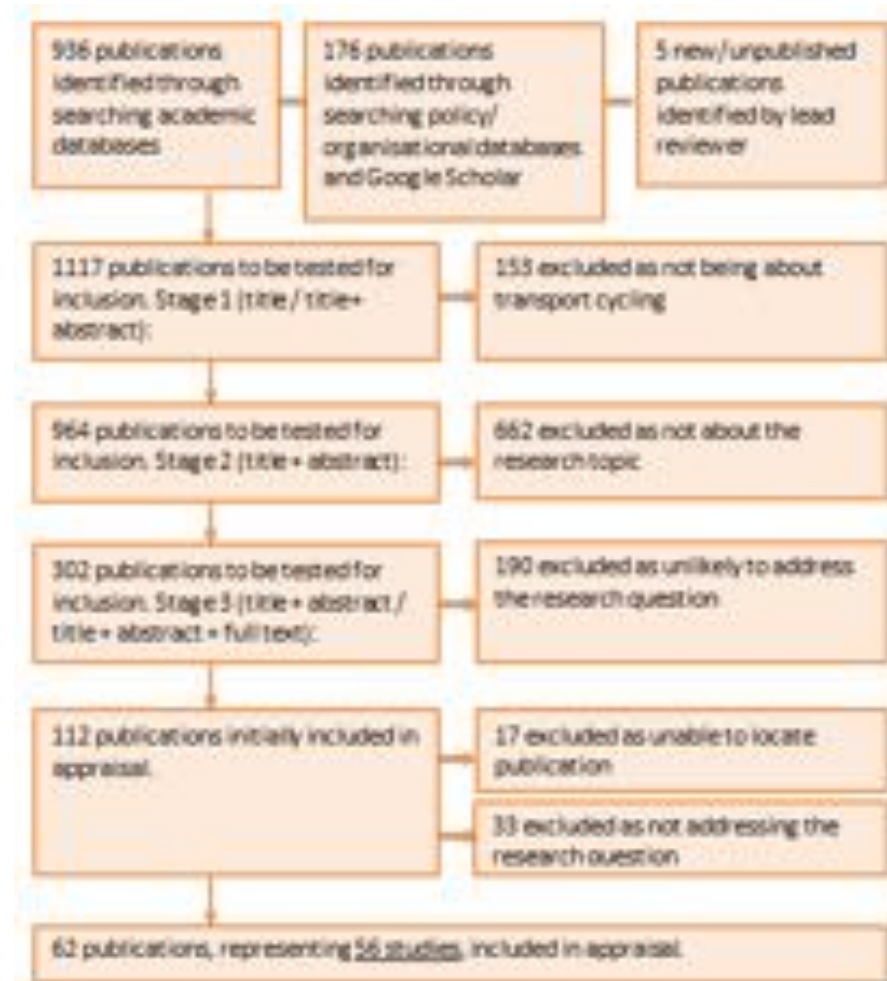
Search strategy

- Academic databases and grey literature sources identified and searched systematically using these keywords
- References imported into reference manager software (Mendeley)- 1117 titles in total



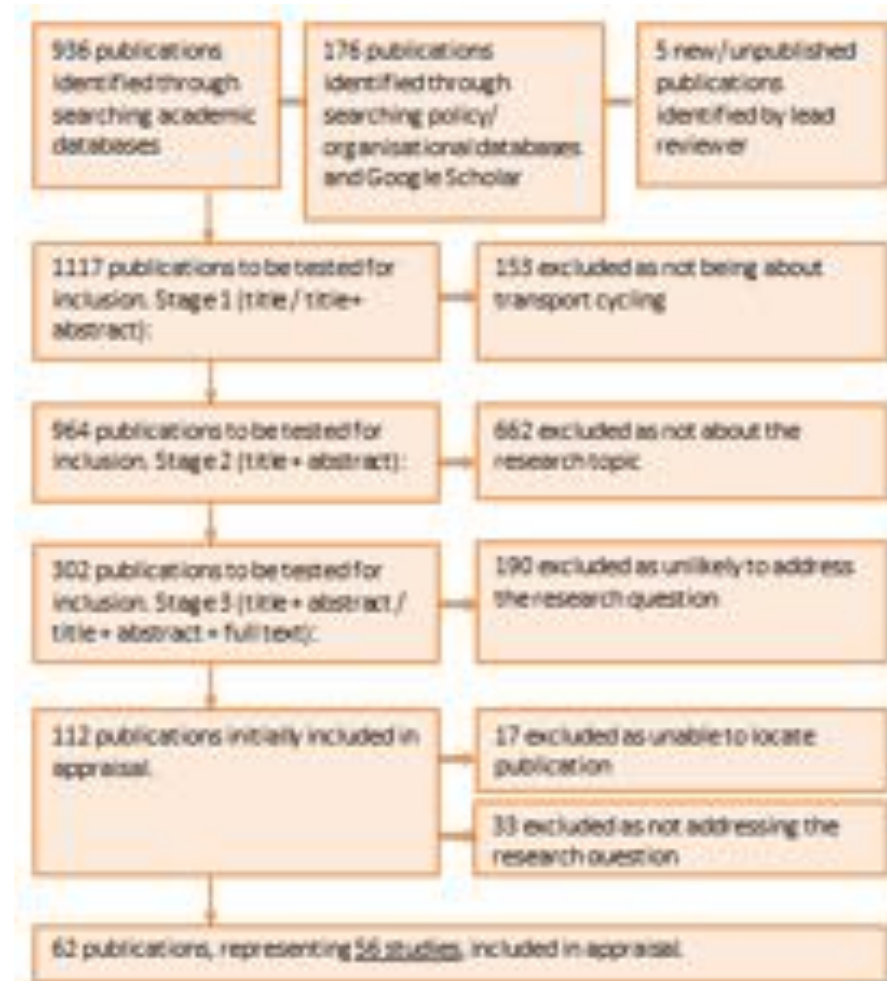
Screening

- Three rounds of screening in order to identify the most relevant sources of evidence
- Appraisal and synthesis of evidence



Synthesis

- Summary table & analysis covering study methods, quality, results
 - Results focused on preferences for separation from motor traffic
- More detailed narrative summary



Key Findings #1

- Men and women **both** prefer cycling environments which keep riders away from motor traffic, but women's preferences are stronger.
 - Evidence from 42 studies reporting on preferences for separation from motor traffic

Key Findings #1

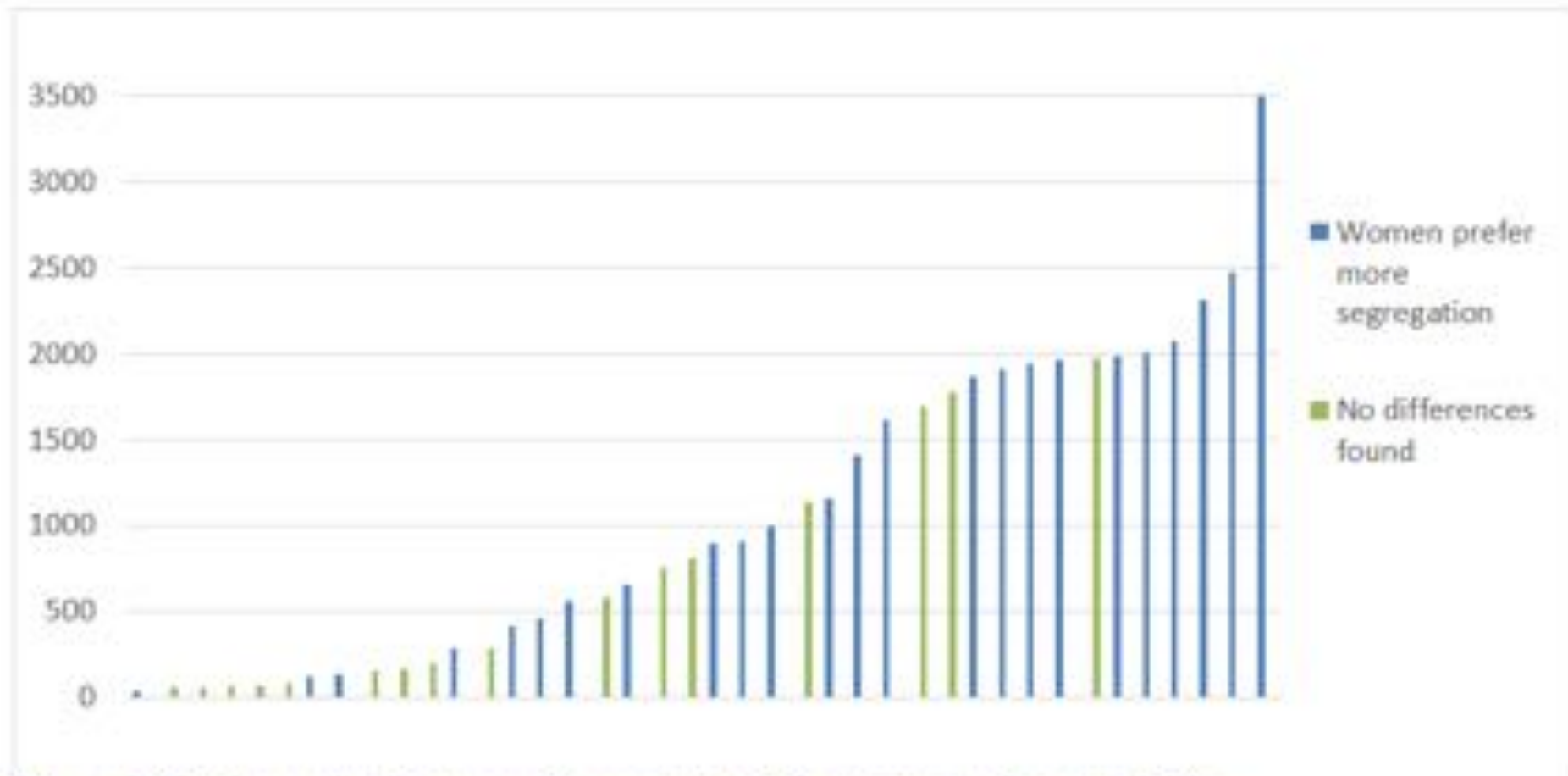


Figure 1 Gender and preferences for separated infrastructure, by sample size

Key Findings #2

- Some studies suggest older people have stronger preferences for riding away from motor traffic, but the evidence is less clear.
 - Evidence from 23 studies
- Potential confounders
- Very disparate definitions of 'older'

Key Findings #2

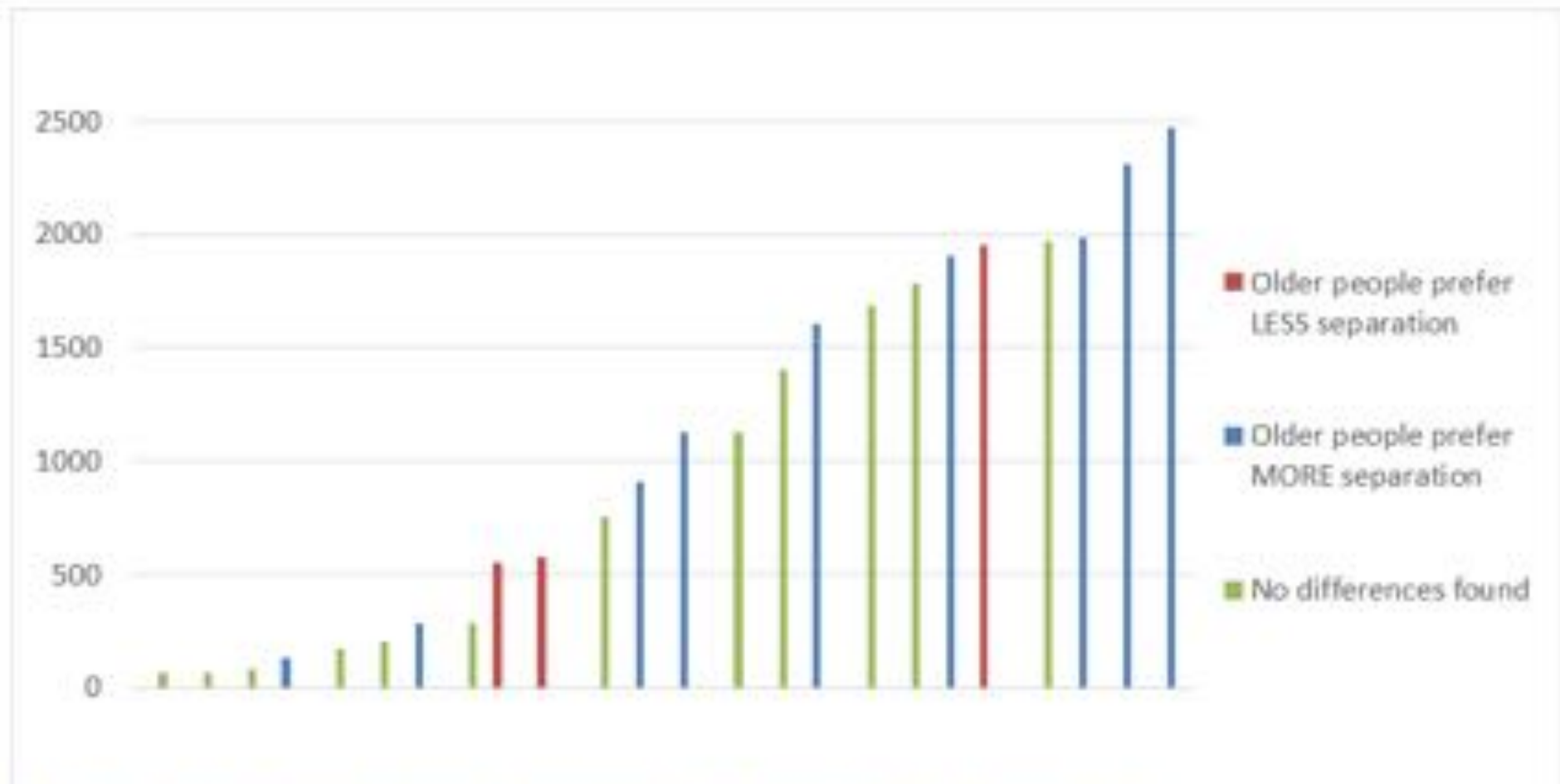


Figure 2 Age and preferences for separated infrastructure, by sample size

Key Findings #3

- Relatively little evidence on how adult preferences change where children are involved (or on children's own preferences).
 - Only 4 studies
- But what exists suggests **strongly** that riding away from motor traffic is more important.

Policy recommendations

- Build for the preferences of under-represented groups
 - infrastructure separated from motor traffic - physical barriers, or route-level separation
- Preferences are not different from those of younger adults and men, but are *stronger*.
- **Therefore, building for under-represented groups represents inclusive design that can cater for a broad range of cyclists.**



Future Research

- Harmonised questionnaire module for future stated preference studies
- Evidence on gender differences is strong and unlikely to need further detailed investigation
- More research on cycling with children and older people's infrastructural preferences/tolerance/needs
- More diversity in transport research methods / participants

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