Nottingham Trent University

Micromobility in the Midlands: Nottingham's Complex Relationship with E-Bike and E-Scooter Sharing

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Project background

COLLABORATORY
Research Hub

Nottingham
City Council

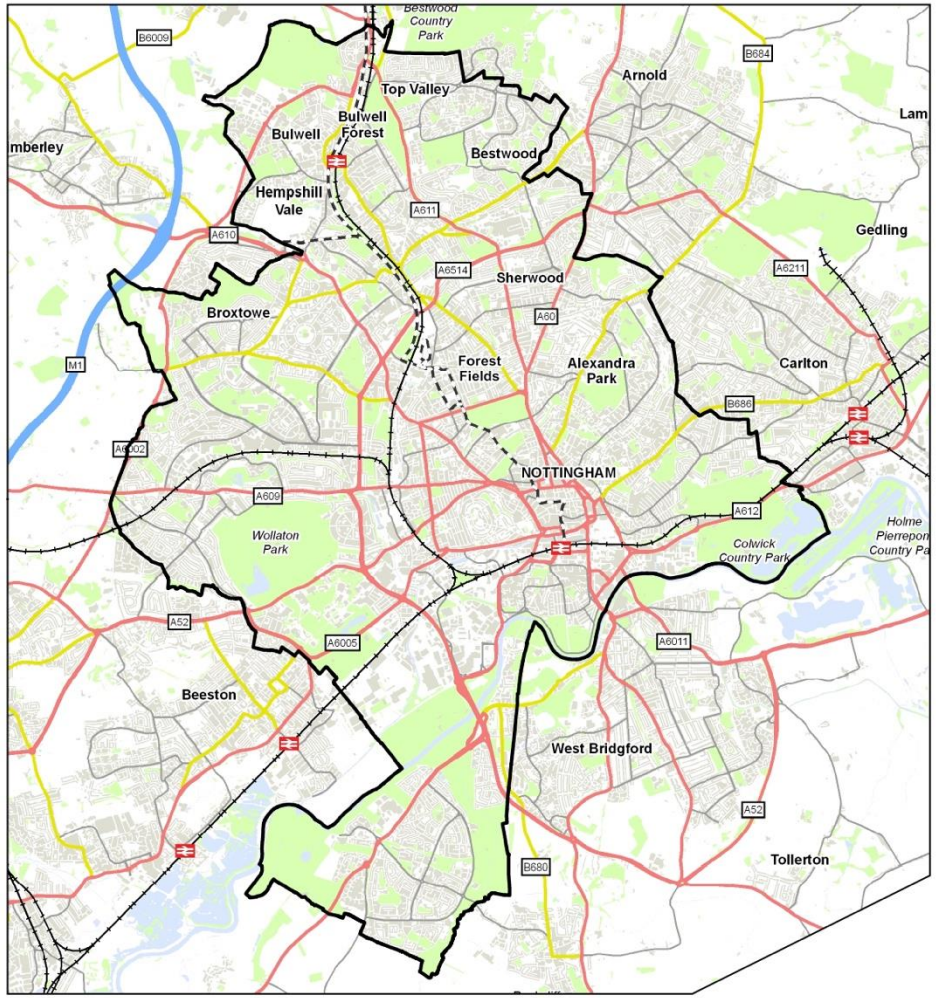
NTU

Nottingham and the present research

Objective: gain a local understanding of perceptions of shared micromobility services and how e-scooter and e-bike schemes **compare**

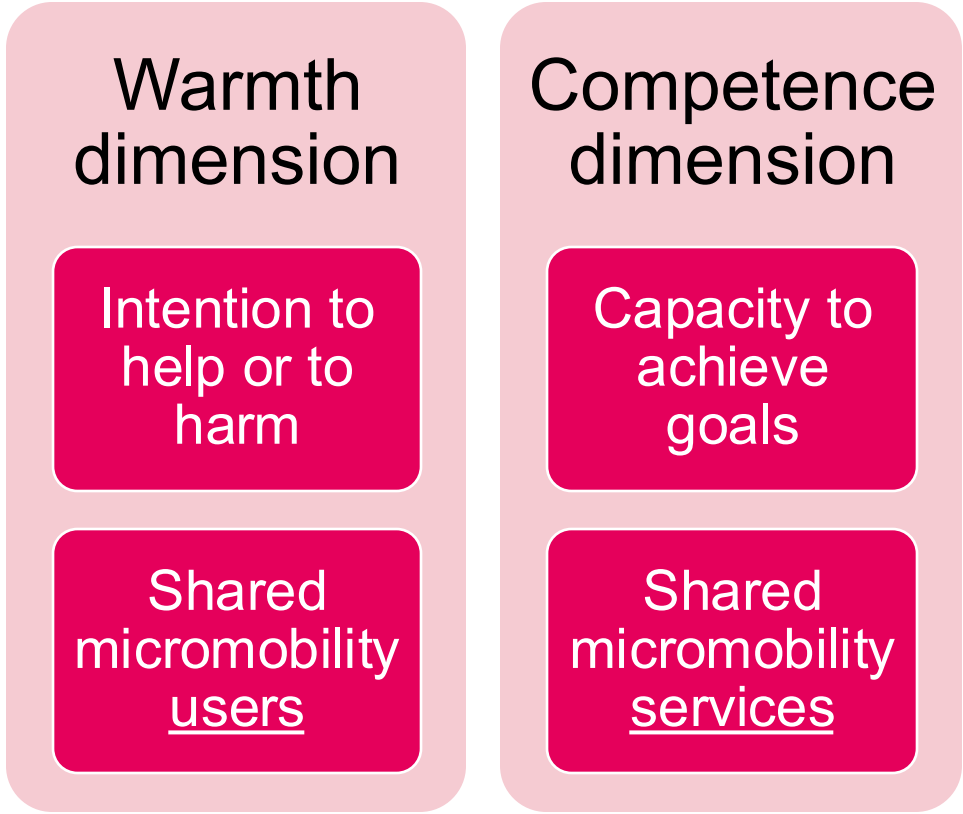
Method: online survey research

- 681 participants
- 23% with some experience of using shared micromobility
- Data collection during a period with shared e-bikes available, immediately prior to a relaunch of shared e-scooters
- 50/50 Nottingham City and wider urban area



Measures: shared micromobility stereotypes scale

- Use of shared micromobility stereotypes scale (An et al., 2023)
- Stereotypes: a set of cognitive generalisations, comprised of beliefs, expectations, attributions
- Can be applied to groups of people, but also to products, brands, modes of transport
- Scale operationalises the Stereotype Content Model (Fiske et al., 2002)
- Stereotypes have two cognitive dimensions…
- Stereotypes can be ambivalent



Warmth: shared e-scooter/e-bike users…

E-scooters

Average score: -9.04

Most negative items:

- ‘Obey traffic regulations’
- ‘Do not take risks on the road’
- ‘Are trustworthy road users’

E-bikes

Average score: -4.73

Most negative items:

- ‘Park shared e-bikes properly’
- ‘Do not take risks on the road’
- ‘Obey traffic regulations’

Scale range:
-16 - +16



Linear mixed effects model confirmed statistical significance of e-scooter/e-bike warmth difference

Competence: shared e-scooter/e-bike services have the potential to…

E-scooters

Average score: 1.57

Most positive items:

- ‘Reduce travel emissions’
- ‘Make travelling more flexible’
- ‘Allow better access to travel destinations’

E-bikes

Average score: 3.48

Most positive items:

- ‘Reduce travel emissions’
- ‘Make travelling more flexible’
- ‘Allow better access to travel destinations’

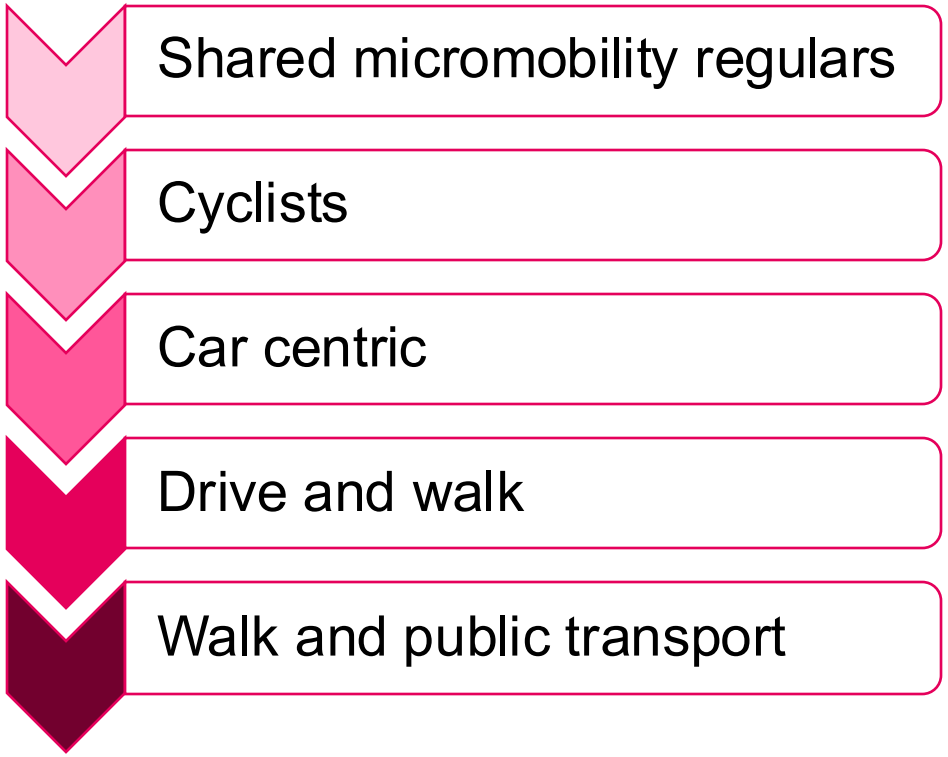
Scale range:
-16 - +16

Linear mixed effects model confirmed statistical significance of e-scooter/e-bike competence difference



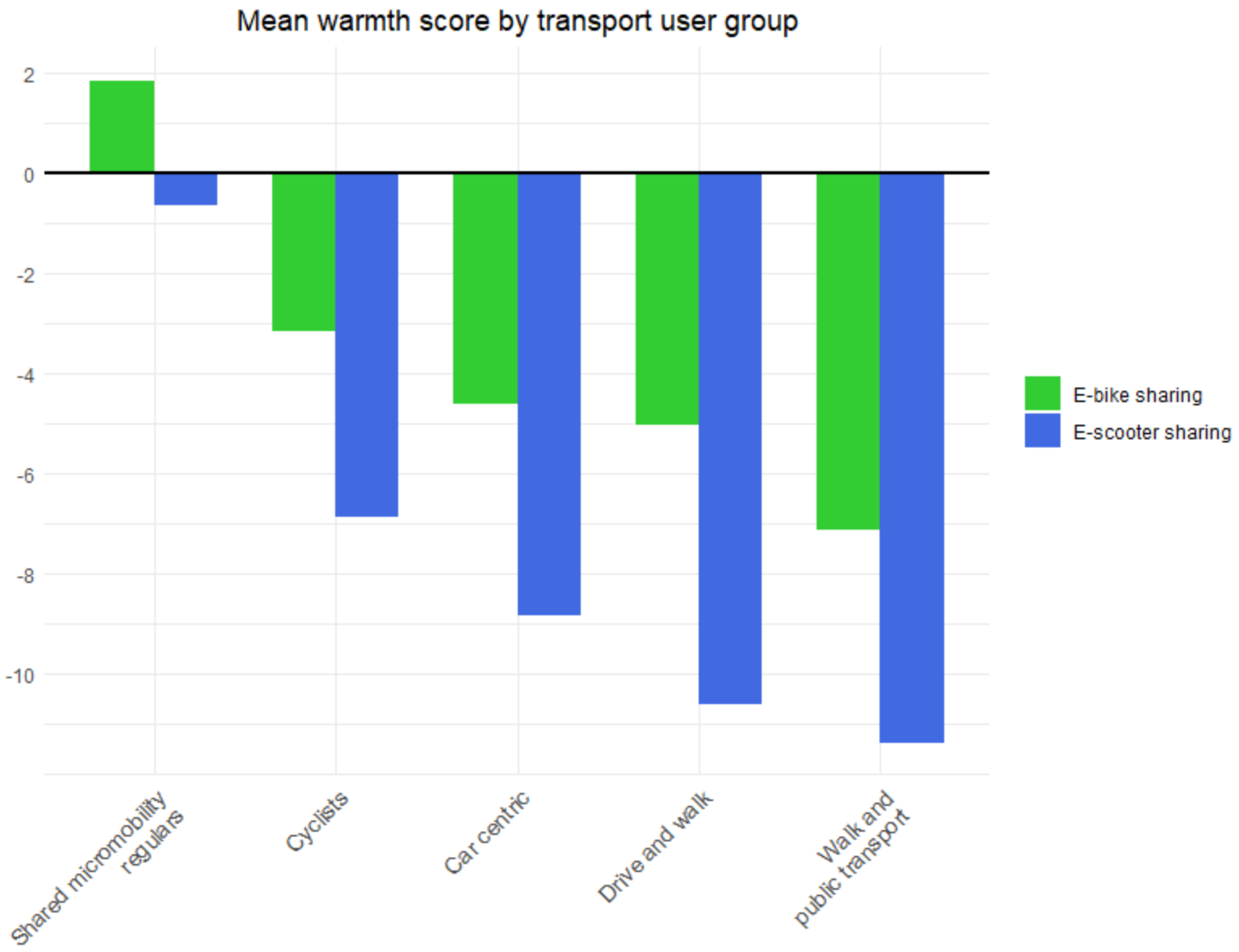
The role of transport use behaviour

Transport user groups

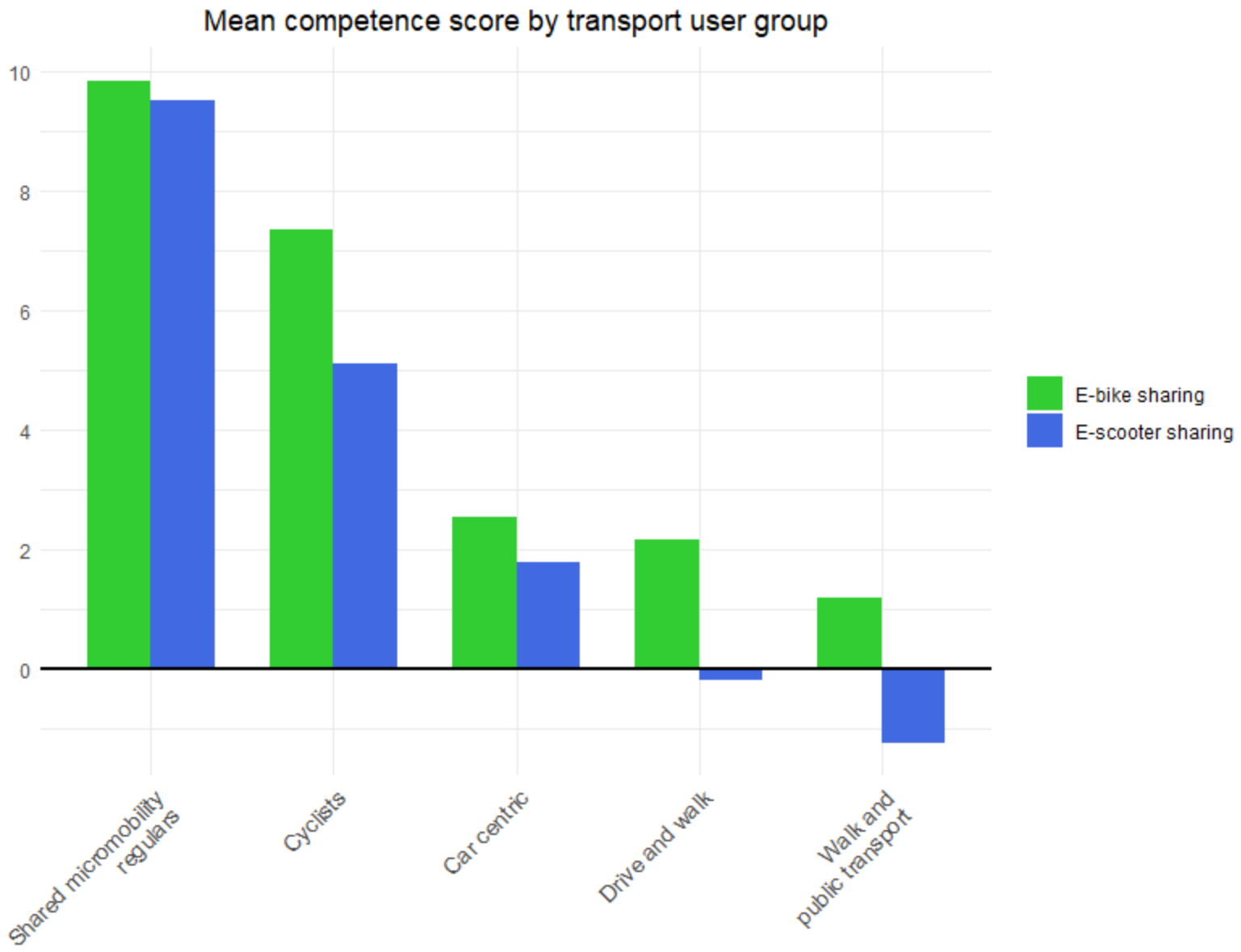


Linear mixed effects models confirmed statistical significance of transport user groups

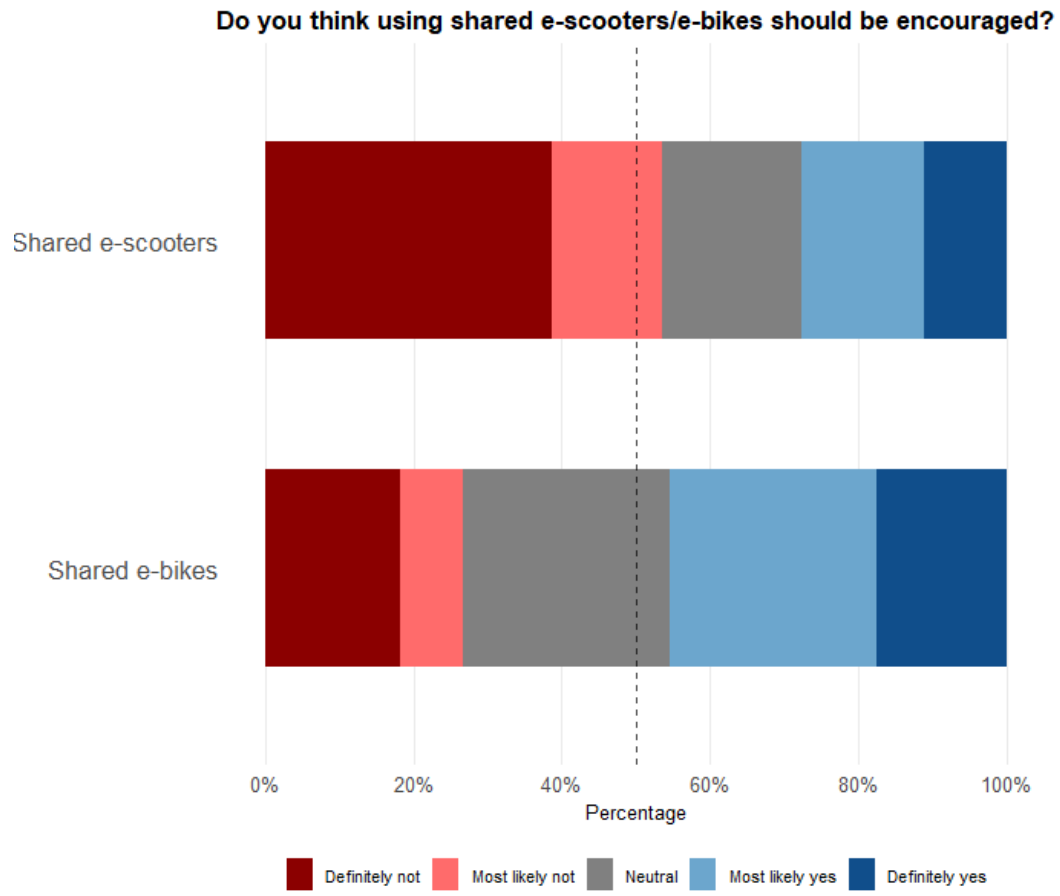
Warmth and transport user groups



Competence and transport user groups



Should the use of shared micromobility be encouraged?



'I'm not in favour of e-scooters but definitely up for more shared e-bikes.'

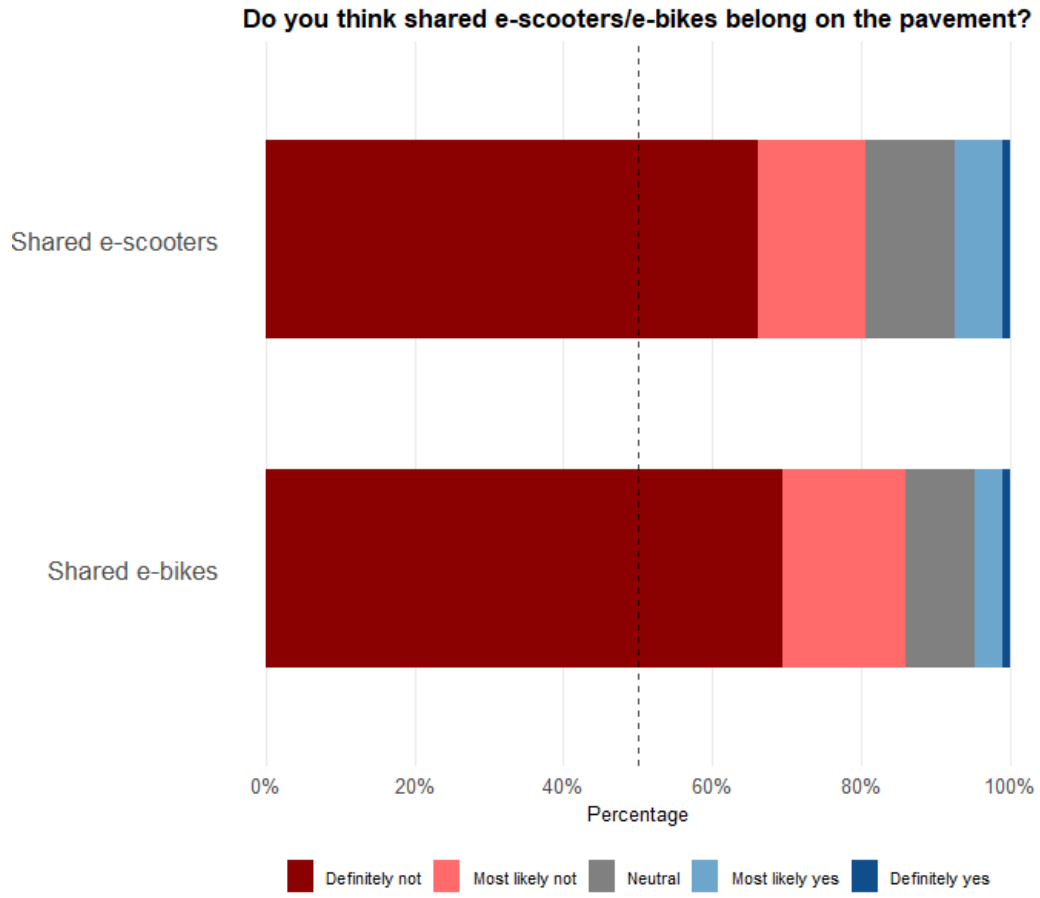
'E-bikes are not a problem, but I am totally against e-scooters.'

'E-scooters and e-bikes are very different propositions. E-scooters are more dangerous and replace active travel like walking. E-bikes are less dangerous and still involve exercise.'

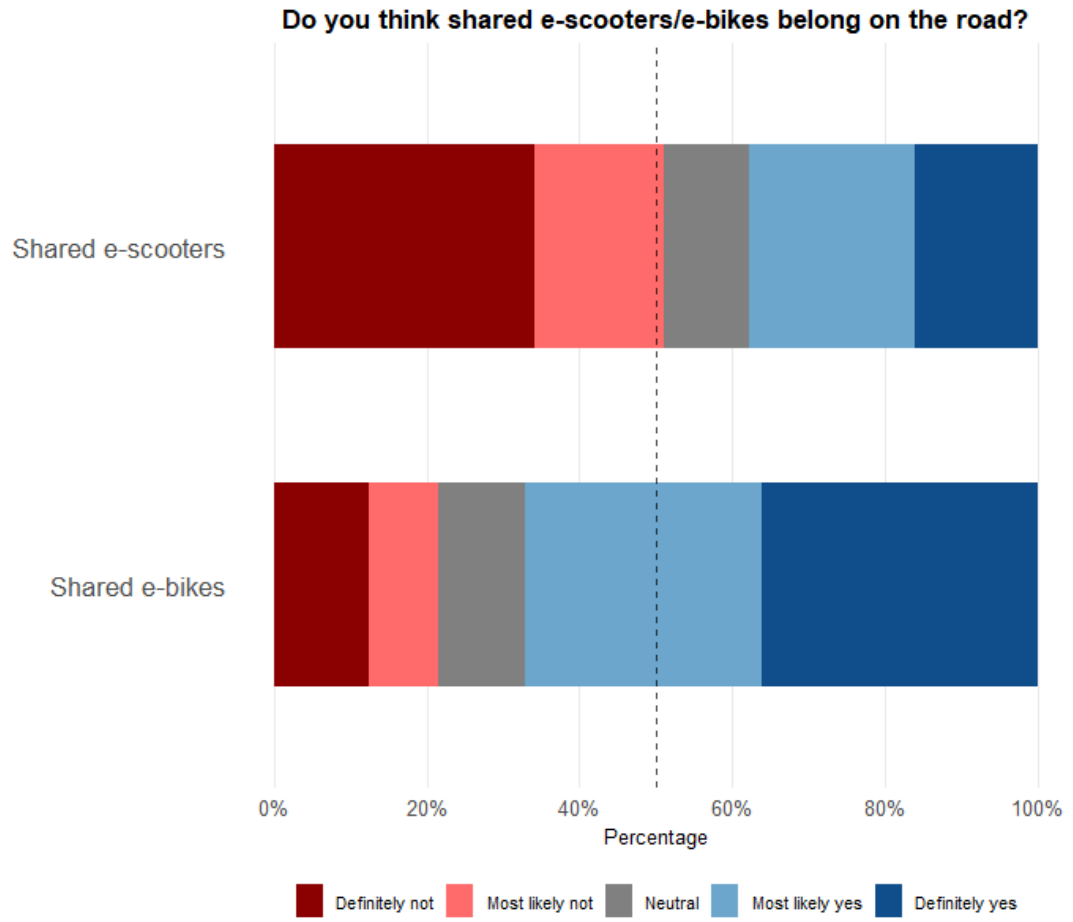
'I'm a fan of properly regulated e-bikes but not sure of the benefits of an e-scooter.'

'E-scooters are dangerous and shouldn't be allowed. Focus should be on bikes which seem to be a little less dangerous and are ridden a little more responsibly.'

Does shared micromobility belong on the pavement?



Does shared micromobility belong on the road?



'E-scooters do not belong on the road even if used responsibly… Equally they do not belong on the pavement terrorising pedestrians.'

'E-scooters don't belong on roads or pavements so where are they safe to use?'

'I don't think e-scooters should be allowed on roads or pavements.'

'They don't fit in as a pedestrian, as a road user, or in cycle lanes.'

Looking forward – potential for a shifting balance?



Lime bikes from Nottingham discarded in Gedling (credit: Trent Valley Councillors)

"Nightmare" for residents as "unlocked" Lime Bikes dumped outside city boundary – "blighting" area where "people pay a lot of money to live", claim councillors

- Lime has described the "criminal abuse of our bikes" in Nottinghamshire as a "recent phenomenon" which the company is "moving at pace to address"

'I live in the county yet still find e-bikes discarded.'

'The bikes are regularly used as normal bikes in the Meadows when not in hire, despite the horrible clicking sound they make.'

'I'm not sure if they are stealing them… I have seen underage. people using these in areas they're not supposed to.'

'In my local area we are sick of having to drag these shared bikes out of the local river.'

'Lime / the city need to get a handle on the level of vandalism to the bikes. They are in a poor state, and you often see bikes maliciously damaged.'

Will issues managing shared e-bikes worsen public perceptions, relative to shared e-scooters?

Thoughts and feedback welcome

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ufncollaboratory.ac.uk/advancing-sustainable-transport/

References:

- An, Z., Mullen, C., Zhao, C., & Heinen, E. (2023). Stereotypes and the public acceptability of shared micromobility
- Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content
- Mallon, R. (2025, July 11). “Nightmare” for residents as “unlocked” Lime Bikes dumped outside city boundary. *road.cc* https://road.cc/content/news/lime-bikes-dumped-outside-city-blighting-area-314931

