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Changes to local transport infrastructure (like cycle tracks or greenways) and the effects on health and wellbeing in three English regions outside London

Submission date
01/04/2025

Recruitment status
Recruiting

Registration date
01/04/2025

Overall study status
Ongoing

Last Edited
17/09/2025

Condition category
Other

[X] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[_] Record updated in last year

Plain English summary of protocol

Background and study aims

This research will study how new cycling infrastructure affects people's travel behaviours, health and wellbeing. For instance, if it means that people cycle more, they will tend to get healthier, because doing more exercise is good for most of us. By cycling infrastructure, we mean schemes like cycle tracks, where part of a road is given to cycling, separate from walking or driving. Or a 'greenway' where a footpath is upgraded to also serve people using cycles or wheelchairs. These routes will be separated from motor traffic, as evidence suggests we need this for more people to cycle.

Most evidence about cycling infrastructure in England comes from London, which is quite different from the rest of the country. This study will establish whether the positive results in London, such as a £1 billion health economic benefit from a £100 million investment, can be replicated in other English regions (Greater Manchester, West Midlands, West Yorkshire). These regions plan to build extensive new cycle routes following updated national design guidance, more ambitious than previous standards.

Who can participate?

People will be invited directly through the study to participate, based on where they live. For the survey, we will write to people in 2025 when the study has started. For the interviews and community research, we will invite people through working with our local community partners or from those who have been involved in the study.

What does the study involve?

Every year, we will send an online survey (with phone, post and different language options) to people in the three regions who live near planned cycle routes. This will collect information from 15,000 people each year for several years, so we can look at how people travel, and if and how their travel changes. Some planned cycle routes will be built in this period and some won't, so we can compare people living near new routes with people who don't. Personal data will be safeguarded and no one will be identifiable in the results.

Each survey will take up to 15 minutes to complete and will ask people about their travel over the past week. It will include questions about how safe they feel cycling in their area, their overall well-being, and any recent near misses they experienced while traveling locally. This information will help us gain a comprehensive understanding of how cycling infrastructure affects health and wellbeing. For example, we can look at whether new cycle tracks increase or decrease near misses between cyclists and pedestrians. We'll also look at issues around equality, for instance whether more ethnically diverse areas have worse access to cycle infrastructure than mostly white areas.
Doing interviews will give us a deeper understanding of how people feel about new cycling infrastructure. We'll interview 75 new cyclists about how taking up cycling has affected them, and working with community partners, we'll focus on how infrastructure is affecting 60 residents (cyclists and non-cyclists) from specific local ethnic minority communities and/or who are disabled. These groups are chosen because they cycle less than others, are often less involved in consultations, and may have different experiences to other people.

What are the possible risks and benefits of participating?
Those participating will help improve knowledge about the impacts of new cycle infrastructure and will be compensated for their time. There are not considered to be risks beyond those incurred in everyday life, and the study will be monitored by the University of Westminster's Research Ethics Committee to ensure ethical conduct.

Where is the study run from?
The project is led by the University of Westminster with input from the London School of Hygiene and Tropical Medicine and Birmingham University, and the charities Wheels for Wellbeing and JoyRiders. It has been developed with input from local authorities and community groups.

When is the study starting and how long is it expected to run for?
March 2025 to March 3030

Who is funding the study?
The National Institute of Health and Social Care Research (NIHR) (UK)

Who is the main contact?
Prof. Rachel Aldred and Dr. Ersilia Verlinghieri, transportresearch@westminster.ac.uk

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National Institute for Health and Care Research (NIHR)
167654

Study information

Scientific Title
Health, wellbeing and new cycle infrastructure: a mixed methods study of health, wellbeing, and health economic impacts of large-scale new cycling infrastructure in three English regions outside London

Acronym
TRAVEL-WELL

Study objectives
New cycling infrastructure is planned across English regions, to ambitious standards laid out in the 2020 guidance. Our study takes advantage of this imminent step-change and builds on related NIHR and TfL-funded work in London. Over 5 years, we will analyse the roll-out of high-quality cycling infrastructure across Greater Manchester, West Midlands, and West Yorkshire. We will measure health impacts primarily through changes in physical activity and road injury, producing both cost-benefit and cost-effectiveness analyses. Given key evidence gaps around new cyclists' experiences and disabled and ethnic minority communities, we will conduct in-depth qualitative research, co-designed with Patient and Public Involvement (PPI) partners.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 08/05/2025, University of Westminster Research and Knowledge Exchange Ethics Committee (309 Regent Street, London, W1B 2HW, United Kingdom; +44 (0)20 7911 5000; research-ethics@westminster.ac.uk), ref: ETH2425-1312

Primary study design
Observational

Study design
Mixed-methods study incorporating a large controlled before-after longitudinal study alongside qualitative research

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Public health study exploring impacts of changes to the built environment on active travel and hence health outcomes such as via increased physical activity

Interventions
The project's quantitative component comprises a large controlled before-after longitudinal study, assessing how new cycling infrastructure affects travel behaviour (predominantly via a past-week travel diary) and hence health and wellbeing, health inequalities, and health economic impacts. The design addresses a major problem for active travel infrastructure evaluation: any one scheme has a non-trivial chance of delay, major changes, or cancellation. We mitigate this through four annual data collection waves based on a sample of households selected at baseline to live within varying proximity to planned new cycle infrastructure. This design is based on knowing that some planned routes will be built earlier and some later during the study period, and some not at all. However, when we sample, we will not know confidently which planned routes are in which group. Our approach to sampling means that some of our sample will be in a 'control' group throughout (never living close to new infrastructure), while others will 'flip' earlier or later to an intervention group as routes are built. This approach allows us to control for likely uncertainty over the implementation of any individual route (e.g., a change in ward councillors along a route may affect its political viability, or unrelated planning issues cause unexpected delays).

The quantitative component costs include making postal contact with 300,000 households for the baseline survey. This quantitative component will be accompanied by targeted qualitative work in two parts. Strand 1 will use mixed methods (interviews, photo-elicitation, mapping) to study a diverse group of new cyclists and how taking up cycling has affected their lives and wellbeing. Strand 2 is co-led with PPI partners expert in working with ethnic minority and disabled communities. Selecting specific communities to study in each region (for instance, a Somali community located near a new route), we will conduct co-designed participatory action research to explore how new cycle infrastructure affects those groups. This may include, for instance, community-appropriate events enabling members to try out cycling on new infrastructure, with follow-up interviews and workshops to explore further experiences, perceptions, and reflections.

Intervention Type
Other

Primary outcome(s)
Minutes spent cycling, walking, and in all active travel measured via a past-week travel diary, included within the annual longitudinal survey questionnaire. We will also capture change in past-week nonactive travel physical activity (PA) to check that (as evidence suggests) active travel does not displace other sources of PA (and adjust accordingly if it does).

Key secondary outcome(s)
1. Change in car driving, car use and car ownership: the past-week travel diary will measure changes in minutes driving or passengering in a car and will ask annually about car ownership. Driving data will be used to estimate emissions of local air pollutants and greenhouse gases.
2. Individual subjective well-being measured annually using the EuroQol short Health and Wellbeing Questionnaire (EQ-HWB-S, https://euroqol.org/research-at-euroqol/eq-hwb/), developed for use in economic evaluation of the effects of interventions on subjective wellbeing. Outcomes will be change in EuroQoL scores at each timepoint and change in QALYs and hence health economic impact derived from this.
3. Experiences of road injuries and near-misses: the researchers will ask annually about near misses in the survey and measure road injuries through DfT injury data (Stats19). Outcomes will be changes in all severity casualties and in KSI (killed or seriously injured) casualties, and the number of near misses experienced in the past week.
4. Quality and perceived quality of the local cycling environment. Outcomes will be changes in 'cyclability' scores (a small-area built environment measure) and changes in combined answers to 'cycling environment' survey questions.

Completion date
31/03/3030

Eligibility

Key inclusion criteria
Adults aged 18+ years living in the three study regions (Greater Manchester, West Midlands, West Yorkshire) and living within varying distances of planned new cycle routes, around half of which we expect to be built during the study period.

Participant type(s)
Population

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 Years

Sex
All

Key exclusion criteria
Children aged under 18 years

Date of first enrolment
01/09/2025

Date of final enrolment
31/10/2028

Locations

Countries of recruitment
United Kingdom

England

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Sponsor information

Organisation
University of Westminster

ROR
https://ror.org/04ycpbx82

Funder(s)

Funder type
Government

Funder Name
National Institute for Health and Care Research

Alternative Name(s)
National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type

Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan
Most datasets generated during and/or analysed during the current study will be stored in a publicly available repository, planned to be https://www.data-archive.ac.uk/

IPD sharing plan summary
Stored in publicly available repository, Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol file			01/04/2025	No	No