Department for Transport

Second national evaluation of the rental e-scooter trials – research protocol

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Department for Transport
Great Minster House
33 Horseferry Road
London
SW1P 4DR

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Purpose

1.1 DfT have committed to comply with the Concordat to Support Research Integrity (the Concordat), the academic standard and national framework for good research and governance. The Concordat provides a national framework for best practice research conduct and its governance.[1] Research integrity means upholding the highest standards in research and having the right environment and processes in place to support this.

1.2 In line with the Concordat, DfT have committed to publishing protocols for higher value research studies, where possible. Research protocols help to demonstrate the transparency of Government research, setting out the objectives, design, methodology, analysis, reporting and governance intentions.

1.3 Publishing the research protocol will enable the second national evaluation of the e-scooter trials to comply with the highest standards of research integrity and will lead to better quality research, knowledge growth and ultimately a stronger evidence base to support decision-making and serve the wider public good. Intended for a technical audience of research experts, publication of the research protocol will also help safeguard public trust and confidence in research and in researchers as well as protecting research participants.

[1] The Concordat to Support Research Integrity – UKCORI

Introduction

1. The Department for Transport (DfT) made regulations allowing trials of rental e-scooters in July 2020, to assess their benefits and impacts to inform whether and how to legislate for e-scooter use in the future. These regulations exempted rental e-scooters authorised for use in the Government-run trials from certain legal requirements, thereby enabling their use on public roads. Use of private e-scooters on public roads remains illegal.

2. Local authorities were invited to apply to the DfT to take part in the trials. The trials were originally due to run for around 1 year until November 2021, but they have since been extended five times and are currently due to conclude in May 2028.

3. Whilst all trial areas must adhere to the minimum standards for operation set out in Government published guidance, there is scope for trials to be tailored according to local need.[2] This has led to variation across the trials, for example, in approaches to training and helmet provision, parking models implemented (e.g. floating, GPS bay, physical bay), and operational hours.

4. There are currently 18 live trials across England, though this may increase or decrease in future.

5. The early trials were accompanied by an independent national evaluation to assess the safety of e-scooters and wider impacts. The national evaluation of these trials (conducted between July 2020 and December 2021) explored 32 separate trials being delivered by 12 operators across 55 local areas.[3]

6. There is need for a more detailed understanding on a number of areas compared to the first evaluation, particularly mode shift and safety. Alongside this, travel patterns have changed post-pandemic, in turn changing the context in which e-scooters are used.

7. In recognition of these factors, DfT is carrying out a second national evaluation of the rental e-scooter trials, which aims to build on findings from the first evaluation and to update and expand DfT's understanding of the delivery and impact of e-scooters.

[2] E-scooter trials: guidance for local authorities and rental operators - GOV.UK (www.gov.uk)
[3] National evaluation of e-scooter trials report - GOV.UK

Evaluation aims and objectives

8. The broad objectives of the evaluation are to understand what can be learned from how the e-scooter trials were delivered. Specifically we want to understand:

    8.1 What worked well and less well, and why?

    8.2 What could be improved?

    8.3 How has the context influenced delivery?

9. We also want to understand the impact of the rental e-scooter trials, specifically:

    9.1 Who is using e-scooters?

    9.2 How are the trials affecting wider transportation patterns?

    9.3 What are the safety considerations of the trials and e-scooters?

    9.4 What aspects of trial characteristics help drive uptake of e-scooters and ensure they are being used safely and responsibly (e.g. parked appropriately)?

Evaluation questions

10. In line with the aims and objectives set out above, the evaluation will aim to gather evidence and formulate findings against the following research questions. The list below includes a mix of impact and process questions.

Context

10.1 Who uses rental e-scooters, why are they using them, and how?

Mode shift and multi-modal journeys

10.2 To what extent are e-scooter journeys additional, and to what extent do they replace existing journeys by other modes?

10.3 What are the drivers of mode-shift?

Safety

10.4 How have safety impacts changed since the start of the trials?

10.5 Where do collisions most commonly occur, when, who gets injured (including non-users), how, and what are the types/severity of injury?

Policy interventions and local contexts

10.6 What are the impacts of e-scooters on non-users?

10.7 What are effective parking interventions in different street environments?

10.8 How have the e-scooter trials been implemented and what is the impact of policy interventions?

10.9 What are the common contextual factors (e.g. demographics, geography, industry) among trial areas that demonstrate higher levels of uptake, user experience, safety and mode shift?

Guidance / Process evaluation

10.10 What works at a local government level for running the trials with regards to: safety, demand/uptake, quality of user and non-user experience (including those with a visual or mobility impairment) and local democratic support, commercial viability, and working with other bodies (e.g. DfT, police, highways authorities)?

Evaluation design

11. The evaluation is expected to be structured by tiers to ensure that outputs reflect the need for national and more granular levels of detail. The impact evaluation will be addressed by tiers 1 to 3, which focus on national, selected trial area, and case study-level findings respectively. Tier 4 will address the process evaluation.

Tier 1

12. Tier 1 will focus on the national impacts in key areas of interest, focusing on the following research questions:

    12.1 Who uses rental e-scooters, why are they using them, and how?

    12.2 To what extent are e-scooter journeys additional, and to what extent do they replace existing journeys by other modes?

    12.3 What are the drivers of mode-shift?

    12.4 How have safety impacts changed since the start of the trials?

Tier 2

13. Tier 2 will explore how the outcomes and impacts identified in tier 1 vary according to trial and local area characteristics.

14. E-scooter trial areas will be selected for this analysis in collaboration with the Supplier. Tier 2 will focus on the following research questions:

    14.1 What are the drivers of mode-shift?

    14.2 Where do collisions most commonly occur, when, who gets injured (including non-users), how, and what are the types/severity of injury?

    14.3 What are the impacts of e-scooters on non-users?

14.4 What are effective parking interventions in different street environments?

14.5 How have the e-scooter trials been implemented and what is the impact of policy interventions?

Tier 3

15. Tier 3 will consist of up to 3 case studies on specific trials or topics.

16. This tier is intended to provide flexibility to the evaluation, enabling an agile approach for the research to address contemporary policy questions and generate richer evidence in specific areas. Tier 3 will focus on the following research questions:

16.1 To what extent are e-scooter journeys additional, and to what extent do they replace existing journeys by other modes?

16.2 What are the drivers of mode-shift?

16.3 How have safety impacts changed since the start of the trials?

16.4 Where do collisions most commonly occur, when, who gets injured (including non-users), how, and what are the types/severity of injury?

16.5 What are the common contextual factors (for example, demographics, geography, industry) among trial areas that demonstrate higher levels of uptake, user experience, safety and mode shift?

Tier 4 - process evaluation

17. Tier 4 will seek to understand how local government can successfully manage rental e-scooter trials and will address the following research question:

17.1 What works at a local government level for running the trials with regards to: safety, demand/uptake, quality of user and non-user experience (including those with a visual or mobility impairment) and local democratic support, commercial viability, and working with other bodies (e.g. DfT, police, highways authorities)?

Methodology and data collection

18. Overall, the evaluation will follow an integrative approach, bringing together several evaluation methods, including the following.

19. Theory based, realist evaluation, using the programme Theory of Change to set out the intervention logics and causal mechanisms to be tested during the evaluation. A realist evaluation 'Context, Mechanism, Outcome' approach is expected to help structure and assess evidence across trial areas that offer different contexts.

20. If feasible, quasi-experimental approaches may be used to robustly analyse the counterfactual, for example to assess the impact of e-scooters on journey times.

21. Process evaluation, assessing what worked well and less well, and the role of context in the delivery of the rental e-scooter trials.

22. Data sources for the evaluation are expected to include:

    22.1 operator data, including details of trips such as trip duration, distance and vehicles

    22.2 monthly situation reports including trial information, vehicle information (for example fleet size by model), trip information at an overall level (for example, total number of trips, total distance travelled, total ride time), collision data

    22.3 post-ride survey, asked to each e-scooter user after every ride to collect immediate information from riders who have just completed an e-scooter journey

    22.4 demographic survey –an in-app survey asked to each e-scooter user to collect demographic information including age and long-term health condition

    22.5 surveys with e-scooter users and residents, carried out in selected trial areas

    22.6 in-depth interviews with e-scooter users, residents of trial areas, operators and local authorities

22.7 analysis of secondary data, including STATS19 data

23. The methodology will be reviewed periodically throughout the evaluation, including when it is clear what secondary data is available.

Evidence synthesis and reporting

24. Building on the integrative evaluation design, a structured analytical approach will ensure a logical, theory-driven evaluation that incorporates different data analysis methods, including descriptive and trend analysis.

25. We expect the evaluation to report in 2026.

Research governance

26. An evaluation steering group consisting of DfT staff has been established to provide evaluation expertise. This brings together subject matter experts, and researchers within DfT. The group will provide expert advice and input on key evaluation products and outputs, as well as assessing risks and mitigations which may impact the evaluation.

27. A separate, internal data governance board has also been established to advise on the handling of e-scooter data both as part of, and beyond the evaluation.