# Specification for “Understanding the requirements and barriers for modal shift, away from cars to alternative modes of transport, in the UK”

Tender Reference Number: JJ-1122

# Specification of Requirements

Invitation to Tender for “Understanding the requirements and barriers for modal shift, away from cars to alternative modes of transport, in the UK.”

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Deadline for Tender Responses: 3rd January 2023

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# Preamble

The Climate Change Committee (CCC) is an independent, statutory body established under the Climate Change Act 2008. Our purpose is to advise the UK and devolved governments on emissions targets and to report to Parliament on progress made in reducing greenhouse gas emissions and preparing for and adapting to the impacts of climate change.

# Background

#### Demand reduction and modal shift

The Government has recently recognised the need to reduce traffic growth in their Transport Decarbonisation Plan and Net Zero Strategy. The Transport Decarbonisation Plan also set out a goal for half of all journeys in towns and cities to be walked or cycled by 2030 and a separate target to double cycling (relative to 2013 levels) and increase levels of walking per person by 2025. Our Sixth Carbon Budget advice identified four factors that could contribute to a reduction in private car travel: societal and technological changes, increase in car occupancy, modal shift to active travel and modal shift to public transport. This research focuses primarily on the latter two modal shift elements.

Under the CCC’s Balanced Net Zero Pathway scenario for the Sixth Carbon Budget we assume that 5-7% of car journeys could be shifted to walking and cycling (including e-bikes) by 2030, rising to 9-14% by 2050. We also assume that between 9-12% of car trips can be switched to public transport by 2030, increasing to 17-24% by 2050. These assumptions translate to lower percentages of distance, given that the shortest trips are most likely to switch.

#### Current progress

Road transport demand rose markedly, up to 2019. The falling real cost of driving and a large increase in van travel (due in part to growth in online shopping) are key contributors. RAC Foundation data[[1]](#footnote-2) shows that over the past decade, the average cost of driving has risen by less than average wages and the cost of living, whereas rail and bus fares have increased more steeply. A study by Begg and Haigh (2018)[[2]](#footnote-3) linked the freeze in fuel duty since 2011 to a 4% increase in traffic levels, 60 million fewer rail journeys, 200 million fewer bus journeys and 4.5 MtCO2 of emissions in 2017.

Reductions in travel demand were seen in 2020 but were due to the impacts of the COVID-19 pandemic and travel restrictions imposed, and not reflective of the underlying trends observed over recent years. Following the lifting of lockdown restrictions, car travel rebounded much more quickly and completely than public transport did. Therefore, action is needed to embed a reduction in the need to travel or grow the availability, affordability, and attractiveness of alternative lower-carbon modes to maintain the reductions seen during the pandemic. It is important to identify what the barriers and solutions to modal shift are, what public attitudes to potential solutions are and what intervention packages would be effective in prompting real-world behaviour change to reduce traffic, that is beneficial to wider society.

#### Previous analysis of demand reduction and modal shift requirements

Previous CCC analysis

In the CCC’s Sixth Carbon Budget report demand scenarios were based on modelling done by the UK Centre for Research into Energy Demand Solutions (CREDS), along with other literature and evidence across UK cities and in other countries. Compared to baseline growth, it was assumed in our central scenario that approximately 9% of car miles can be reduced (e.g. through increased home-working) or shifted to lower-carbon modes (such as walking, cycling and public transport) by 2035, increasing to 17% by 2050. Our exploratory scenarios also assessed pathways involving smaller and larger contributions from such demand shifts. The opportunities presented to lock-in positive behaviours seen during the COVID-19 pandemic and societal and technological changes to reduce demand (e.g. shared mobility and focus on broadband rather than road-building) are key enablers for achieving this.

However, since the pandemic we have seen private transport rebound much more quickly and completely than public transport, and with ever-changing public preferences, concerns, and priorities it is important to identify what the barriers and solutions to modal shift are and what interventions would be effective in reducing traffic. How these attitudes translate into actual decision-making and behaviour is a crucial consideration. Is there evidence which identifies the extent to which preference for public transport use has changed, in the UK and globally?

Our demand scenarios addressed the approximate percentage of car miles that could be reduced due to modal shift but did not explicitly consider the differences in levels of uptake in alterative transport modes, that were shifted from the car. The scenarios also didn’t consider the impact of price on modal shift, and cross-elasticities between the different modes.

While we regularly assess Government progress in designing policies to reduce car dependency, our research to date has not directly considered what types of interventions are most successful in delivering traffic reductions, and whether these would vary depending on the city or region. The Local Government Association[[3]](#footnote-4) have started thinking about this on a local level and the DfT Toolkit[[4]](#footnote-5) provides guidance for how local authorities can increase active travel. Furthermore, behaviours and preferences could vary significantly between different groups (e.g. those with young children, or those in densely populated urban areas), and there is a risk that interventions that work for some could have detrimental impacts on others.

This project seeks to address these issues by seeking to better understand what types of intervention have been effective at reducing traffic in the past and what principles are there to learn to inform effective future action.

Other recent work

Various publications have looked at the opportunities for and barriers to modal shift and shared mobility as well as the potential to and benefits of switching to alternative modes of transport. These include studies by CREDS[[5]](#footnote-6),[[6]](#footnote-7),[[7]](#footnote-8), ARUP[[8]](#footnote-9), CoMoUK[[9]](#footnote-10). These studies typically consider ways to reduce car mileage and emissions, and the uptake potential of different modes of transport and shared mobility.

In the early-2000s, one well known study[[10]](#footnote-11) investigated areas where traffic has disappeared and why. This ‘disappearing traffic’ study focused on over 70 case studies from eleven countries and found that behavioural responses people make following a change in road conditions are much more complex than has been previously assumed. Road space reallocations schemes can reduce traffic levels by significant amounts and that however different schemes required are largely dependent upon area context. A recent meta-analysis[[11]](#footnote-12) of the effectiveness of a range of schemes that aimed to reduce car usage across Europe builds on these conclusions, finding that the most effective interventions coupled pushes to restrict car use and pulls to encourage alternatives.

The aim of this research project is to extend the state of this area of research, to understand more about what can be done to reach the levels of traffic reduction required.

# Aims and Objectives

There are three key questions that this research should aim to answer:

1. What types of intervention (or packages of interventions) have been effective at reducing traffic in the past, in the UK and globally, and what principles can we learn from these to inform effective future action?

* This should aim to understand what sorts of interventions could be put in place to build on these principles and effectively reduce traffic/car travel.
  + For example, is there evidence that free or heavily subsidised public transport effects a large mode shift?
  + How extensive do cycle networks need to be to achieve significant bike mode share?
  + How different is the performance of public transport in places with more expensive car-based mobility (e.g. workplace parking levy, road pricing or other restrictive measures)?
* What opportunities are there opening up from emerging technologies e.g. e-scooters and ride-sharing apps and what initiatives might enable greater sharing of cars?

1. What are the barriers to these interventions being implemented or being successful in reducing car dependency, and what solutions could overcome these?

* This should include consideration of public preferences between alternative approaches, including for example a review of what citizen’s assembly say should be done to tackle the climate challenge.
* E.g., how could changes in the cost of each mode, or the availability, service quality, timeliness etc., be expected to address perceived barriers to use of alternative modes?

1. Who is responsible for delivering the solutions required and what actions will they need to take to ensure modal shift occurs at the required rate?

We now discuss the key research questions in turn, setting out the topics that the research should cover along with some illustrative questions that might be useful to guide the approach.

#### Effective past interventions at reducing traffic and principles to be learned

Interventions that have been successful in reducing traffic will be different depending on the area. This research should aim to understand why certain things worked in certain areas and draw out key principles to be abided by for future interventions aimed at reducing traffic.

This research should describe the different interventions that could deliver the required reduction in traffic throughout the 2030s and onwards. This might include consideration of some or all of the following issues:

* What interventions would discourage people from driving?
* Does the effectiveness of interventions vary significantly between different groups?
* Are there general principles that can be learnt from case studies?
* What combination of interventions will be required to deliver the amount of traffic reduction needed?

#### Perceived barriers to interventions being successful and solutions to overcome these

Interventions aimed at reducing traffic are likely to receive public and political opposition, as many struggle with the perception that this may lead to restrictions on their mobility, including a need to give up their car or share vehicles (even where this is not the case). This research should aim to understand how such interventions can be made publicly and politically acceptable and what mix of action is preferred to reach the required levels of traffic reduction, through collecting primary data looking at what is currently hindering use of more sustainable modes and how effectively the different interventions considered can overcome these.

This is the core focus area of this piece of research – aiming to understand what barriers exist and how these can be overcome in order to translate potentially effective intervention packages into the real-world behaviour change that is beneficial to individuals and society at large.

#### Responsibilities and delivery

This part of the research aims to understand which actors or mix of actors would be best placed to deliver the interventions required to deliver traffic reduction.

This should begin by considering each of the interventions in turn, and wider impacts outlined above, to decide how these would be best delivered in practice. This could include a range of considerations, including:

* Which actors would need to contribute to delivering traffic reduction interventions? Are there preconditions (improvements to public transport and cycling infrastructure) that would be needed before interventions could be put in place?
* To what extent would such interventions require public support?

Based on the results of the research and their own expert judgement, the project team should produce a series of conclusions which set out the actions that UK Government, local authorities and industry could take in order to provide traffic reduction and modal shift, away from cars to alternative modes of transport, over the next decade and beyond. These should cover:

* A review of interventions, including:
* The extent to which they are working to reduce traffic.
* Any barriers to modal shift, away from cars to alternative modes of transport, that have been discovered during the research.
* An assessment of how industry and other partners can be supported to deliver effective interventions, including:
* Consideration of who should be responsible for putting in place and overseeing such interventions.
* Consideration of the policies that could help secure private investment in improving alternative transport modes.
* Any wider issues that are important in ensuring success in reducing traffic and the shift away from cars.

# Methodology

This research should be conducted through a combination of reviewing existing literature and research as well as a survey or focus group, as bidders deem most appropriate, sourcing and analysing information relevant to addressing the questions outlined in the previous section.

The starting point of the research will be to consider case-studies of areas that have reduced traffic and how the interventions that were used succeeded. These principles should be used to develop an understanding of potentially effective packages of interventions that could remove barriers to modal shift and thereby drive meaningful reductions in car use, to inform development of insightful survey or focus group questions.

A survey or focus group, depending on what is deemed most appropriate, to understand public perceptions of the barriers to effective modal shift and how effective the types of intervention, identified in the literature review, are likely to be. This should aim to understand the issues that prevent individuals from considering alternative modes at present and the extent to which different alternative intervention approaches that could surmount these and enable them to reduce their car usage.

Experts in the field advise that questions should try to be direct rather than hypothetical – testing individuals’ relative preferences between different means of realising a required level of car use reduction. This can then be used to get into questions on what barriers prevent them from adopting these alternatives at present, and how packages of interventions could overcome these barriers to make each alternative more appealing.

Conclusions and recommendations should be drawn based on the findings of the research. The potential topics listed are examples of the types of questions that the CCC would find valuable to answer, but there may be others that appear of relevance during the course of the research. These conclusions and recommendations should be determined using the project team’s expert judgement based on the findings of the research. Hypothetical and uncertain recommendations for possible approaches that could deliver success would be helpful, even if their efficacy cannot as yet be well evidenced.

# Outputs Required

The outputs required from the project include:

* Presentation of the interim and final results from the project to members of the CCC Secretariat and other interested parties.
* Analytical outputs, including:
* A summary document explaining the case studies and interventions that have been considered (including a range of interventions and varying geographical areas e.g. urban vs rural).
* A summary document outlining the questions that will be asked in the survey or focus group (prior to running the survey or focus group) and subsequent responses, alongside an excel document summarising the responses.
* A technical report summarising the research methodology, the outputs and findings, and the key conclusions and recommendations for actions required to deliver effective interventions and solutions to overcome barriers to drive modal shift away from cars to alternative modes of transport.

# Ownership and Publication

The CCC will publish the report to provide an evidenced view of the actions that Government and industry should be taking to provide what is required to enable modal shift away from cars to alternative modes of transport. The CCC intends to use these findings as the basis for monitoring progress towards delivering this transition in an effective and fair manner, including through our annual Progress Reports to Parliament.

# Quality Assurance

All research tasks and analysis must be quality assured and documented. Contractors should:

* Include a quality assurance (QA) plan that they will apply to any analysis to be undertaken.
* Specify who will take lead responsibility for ensuring quality assurance. This responsibility should rest with an individual not directly involved in the research or analysis.
* Provide a QA log to demonstrate the QA undertaken, which must identify who undertook the QA and the scope, type, and level of QA that has been undertaken.

Sign-off for the quality assurance must be done by someone of sufficient seniority within the contractor organisation to be able to take responsibility for the work done. Acceptance of the work by the CCC will take this into consideration. The CCC reserves the right to refuse to sign off outputs which do not meet the required standard specified in this invitation to tender.

The successful tenderer will be responsible for any work supplied by sub-contractors and should therefore provide assurance that all work in the contact is undertaken in accordance with the quality assurance expectation agreed at the beginning of the project.

The CCC expects that:

* Economic analysis must be delivered in a simple, transparent Excel spreadsheet, where key assumptions (agreed with the CCC) are clearly stated. All assumptions and figures should be adequately referenced, and include any supporting workings. Any such spreadsheets will be the property of the CCC.
* Existing analysis and published research should be reviewed and considered in developing the scenarios and approaches to be analysed within this assignment.

# Timetable

The proposed timetable for the project is set out in the following table:

|  |  |
| --- | --- |
| Date | **Action/deliverable** |
| w/c 21st November | Advertise tender |
| 3rd January | Deadline for responses to tender |
| w/c 9th January | Interviews (if required) |
| w/c 16th February | Kick-off meeting |
| w/c 20th February | Interim meeting |
| w/c 27th February | Summary document explaining the scenarios that have been considered |
| w/c 27th March | Interim report |
| w/c 24th April | Final report agreed with CCC, ready for publication |

The CCC is willing to be flexible with timelines and will consider alternative timetable proposals.

# Challenges

Tenderers should highlight any challenges or risks that they envisage in delivering all the outputs of the project, whether in terms of scope of the work, resources, or timelines. Alternative suggestions will be considered if the risks are such that the project is unlikely to be able to be delivered in its current form.

# Working Arrangements

The successful contractor will be expected to identify one named point of contract through whom all enquiries can be filtered. A CCC project manager will be assigned to the project and will be the central point of contact.

# Skills and Experience

The CCC would like you to demonstrate that you have the experience and capabilities to undertake the project. Your tender response should include a summary of each proposed team member’s experience and capabilities.

Contractors should propose named members of the project team, and include the tasks and responsibilities of each team member. This should be clearly linked to the work programme, indicating the grade/seniority of staff and number of days allocated to specific tasks.

Contractors should identify the individual(s) who will be responsible for managing the project.

# Consortium Bids

In the case of a consortium tender, only one submission covering all of the partners is required, but consortia are advised to make clear the proposed role that each partner will play in performing the contract as per the requirements of the technical specification. We expect the bidder to indicate who in the consortium will be the lead contact for this project, and the organisation and governance associated with the consortium.

Contractors must provide details as to how they will manage any sub-contractors and what percentage of the tendered activity (in terms of monetary value) will be sub-contracted.

If a consortium is not proposing to form a corporate entity, full details of alternative proposed arrangements should be provided. However, please note that the CCC reserves the right to require a successful consortium to form a single legal entity in accordance with Regulation 28 of the Public Contracts Regulations 2006.

The CCC recognises that arrangements in relation to consortia may (within limits) be subject to future change. Potential providers should therefore respond in the light of the arrangements as currently envisaged. Potential providers are reminded that any future proposed change in relation to consortia must be notified to the CCC so that it can make a further assessment by applying the selection criteria to the new information provided.

# Budget

**The budget for this project is £40,000 excluding VAT.**

Contractors should provide a full and detailed breakdown of costs (including options where appropriate). This should include staff (and day rate) allocated to specific tasks.

Cost will be a criterion against which bids which will be assessed.

Payments will be linked to delivery of key milestones. The indicative milestones and phasing of payments can be adjusted and agreed with the contractor and project manager. Please advise in your tender response how this breakdown reflects your usual payment processes.

In submitting full tenders, contractors confirm in writing that the price offered will be held for a minimum of 60 calendar days from the date of submission. Any payment conditions applicable to the prime contractor must also be replicated with sub-contractors.

The CCC aims to pay all correctly submitted invoices as soon as possible, with a target of 10 days from the date of receipt and within 30 days at the latest in line with standard terms and conditions of contract.

# Evaluation of Tenders

Contractors are invited to submit full tenders of no more than 35 pages, excluding declarations and CVs. Tenders will be evaluated by at least two CCC staff.

The CCC will select the bidder that scores highest against the criteria and weighting listed below – see the ITT for further information.

#### Evaluation criteria and scoring methodology

|  |  |  |
| --- | --- | --- |
| Criterion | **Description** | **Weighting** |
| 1 | RELEVANT EXPERIENCE / DEMONSTRATION OF CABABILITY | 20% |
| 2 | MANAGING YOUR RELATIONSHIP WITH THE CCC | 10% |
| 3 | QUALITY ASSURING THE SERVICES YOU PROVIDE | 10% |
| 4 | MANAGEMENT STRUCTURE | 10% |
| 5 | PROJECT TEAM – SKILLS AND KNOWLEDGE | 20% |
| 6 | METHOD, ABILITY AND TECHNICAL CAPACITY | 10% |
| 7 | UNDERSTANDING OF REQUIREMENTS | 10% |
| 8 | RISK AND CHALLENGES | 10% |

#### Scoring method

Tenders will be scored against each of the criteria above, according to the extent to which they meet the requirements of the tender. The meaning of each score is outlined in the table below.

The total score will be calculated by applying the weighting set against each criterion, outlined above: the maximum number of marks possible will be 100. Should any contractor score 1 in any of the criteria, they will be excluded from the tender competition.

|  |  |
| --- | --- |
| Score | **Description** |
| 1 | Not Satisfactory: Proposal contains significant shortcomings and does not meet the required standard |
| 2 | Partially Satisfactory: Proposal partially meets the required standard, with one or more moderate weaknesses or gaps |
| 3 | Satisfactory: Proposal mostly meets the required standard, with one or more minor weaknesses or gaps |
| 4 | Good: Proposal meets the required standard, with moderate levels of assurance |
| 5 | Excellent: Proposal fully meets the required standard with high levels of assurance |

#### Scoring for pricing evaluation

Price will be marked using proportionate pricing. Please see the example below.

Proportionate pricing scoring example

There will be a maximum of 20 marks. The lowest priced bid will receive the full 20 marks, all other bids will then be marked as set out in the example below.

|  |  |  |
| --- | --- | --- |
| Supplier | **Price** | **Marks** |
| 1 (lowest bid) | £30,000 | 20 |
| 2 | £35,000 | (30/35) \* 20 = 17.1 |
| 3 | £37,500 | (30/37.5) \* 20 = 16 |

#### Structure of tenders

Contractors are strongly advised to structure their tender submissions to cover each of the criteria above and supply a price schedule specifying the daily rates (ex-VAT) you will charge for each level of your staff.

#### Evaluation for interviews, if held

The CCC reserves the right to award the contract based on applicants’ written evaluation only if one candidate emerges from the evaluation stage as significantly stronger than the others.

Should interviews go ahead, the CCC will shortlist the top three suppliers with the highest marks from the written proposals. Interviews are provisionally expected to be held in the week beginning the 9th January 2023. If this date changes, the CCC will notify applicants.

The areas to be covered in the interview, and markings allocated to each topic area, will be sent to the shortlisted suppliers prior to interview.

Further details of interviews will be sent to successful applicants on selection.

#### Feedback

Feedback will be given in the unsuccessful letters or emails.

1. RAC Foundation (2022), <https://www.racfoundation.org/data/cost-of-transport-index> [↑](#footnote-ref-2)
2. Begg and Haigh (2018), <https://greenertransportsolutions.com/wp-content/uploads/2018/06/THE-UNINTENDED-CONSEQUENCES-OF-FREEZING-FUEL-DUTY-JUNE-2018-2.pdf> [↑](#footnote-ref-3)
3. Local Government Association (2022), https://www.local.gov.uk/decarbonising-transport [↑](#footnote-ref-4)
4. Department for Transport (2022), https://www.gov.uk/government/publications/active-travel-local-authority-toolkit/active-travel-local-authority-toolkit [↑](#footnote-ref-5)
5. Philips et al. (2022), /<https://reader.elsevier.com/reader/sd/pii/S0967070X21003401?token=6339D4F7BDC3114D17F6E8E02F5F648DCCC377589218A6604AA657700E2694C60D71AA274C43CDD29FF8D0A42D9BEACD&originRegion=eu-west-1&originCreation=20221114191830> [↑](#footnote-ref-6)
6. Brand, C., (2021), <https://activetravelstudies.org/article/1036/galley/4906/view/> [↑](#footnote-ref-7)
7. Marsden et al. (2019) Shared mobility, where now, where next?, <https://www.creds.ac.uk/wp-content/uploads/CREDS-Shared-mobility-comm-report-WEB.pdf> [↑](#footnote-ref-8)
8. ARUP (2016), <https://www.arup.com/perspectives/publications/research/section/future-potential-for-modal-shift-in-the-uk-rail-freight-market> [↑](#footnote-ref-9)
9. CoMoUK (2021), <https://uploads-ssl.webflow.com/6102564995f71c83fba14d54/623082b095a4567ce1720e27_CoMoUK%20Bike%20Share%20Survey%202021.pdf> [↑](#footnote-ref-10)
10. Cairns et al. (2002), <https://www.icevirtuallibrary.com/doi/epdf/10.1680/muen.2002.151.1.13> [↑](#footnote-ref-11)
11. Kuss and Nicholas (2022), https://www.sciencedirect.com/science/article/pii/S2213624X22000281 [↑](#footnote-ref-12)