# Mobility Budgets

## *Design recommendations for Transport for London*

**7 June 2023**

Master of Public Policy – PP405 Public Policy Applications

Candidate Numbers: 41136, 50952, 51918, 55747

# Index

## Acknowledgments

We would like to express our sincere gratitude to Dr. Philip Rode, Alex Gomez, and the Transport for London (TFL) for their invaluable contributions and support throughout the research and writing process of this project. Dr. Rode's guidance, expertise, and insightful feedback have been instrumental in shaping the direction and quality of this work. We are deeply thankful to Alex Gomez for generously providing the necessary data and resources, which were essential for conducting the research and drawing meaningful conclusions. Their commitment to advancing knowledge and their dedication to promoting sustainable transportation solutions have greatly enriched this research.

Additionally, we extend our appreciation to TFL for their cooperation and collaboration, without which this study would not have been possible. Especially to Sophie Achillini for her time, patience and dedication during our interview.

Finally, we would also like to acknowledge the immense contribution of Tom Stephens, along with the entire PP405 team, whose dedication and support have been critical throughout the research and writing process. Their collective efforts and commitment to excellence have significantly enriched this academic paper, and we are truly grateful for their involvement.

# 1. Introduction

Climate change is one of the greatest threats humanity faces today. Reducing carbon emissions is the primary way to address it. In London, the Mayor has set an ambitious target: cutting CO2 emissions by 40% in the transportation sector by 2030.[1] This requires a significant overhaul of citizens' habits.

In order to achieve such behavioural change, Transport for London (TfL) has launched two arms of policies. First, making public transport easier - for example, the massive investment in the new Tube line (Elizabeth), which has proven to be a major success.[2] Secondly, TfL makes travelling by private vehicles (i.e., cars and vans), and in particular by polluting vehicles, more expensive e.g., Ultra Low Emissions Zone (ULEZ) or Congestion charges.[3] These policies are 'cost-based' i.e., they use the cost of mobility as an incentive to move towards more sustainable means of transport.

Yet this package of policies has not been able to achieve all the behavioural change necessary to meet the Mayor's goals.[4] Moreover, they entail a series of fairness issues – despite significant exemptions to disadvantaged groups, there are concerns about the 'regressiveness' of cost-based interventions in the climate crisis: people with low resources end up holding a significant burden of the costs (see below an example of the regressivity of a carbon tax: average carbon tax as a proportion of income decreases as decile increases).

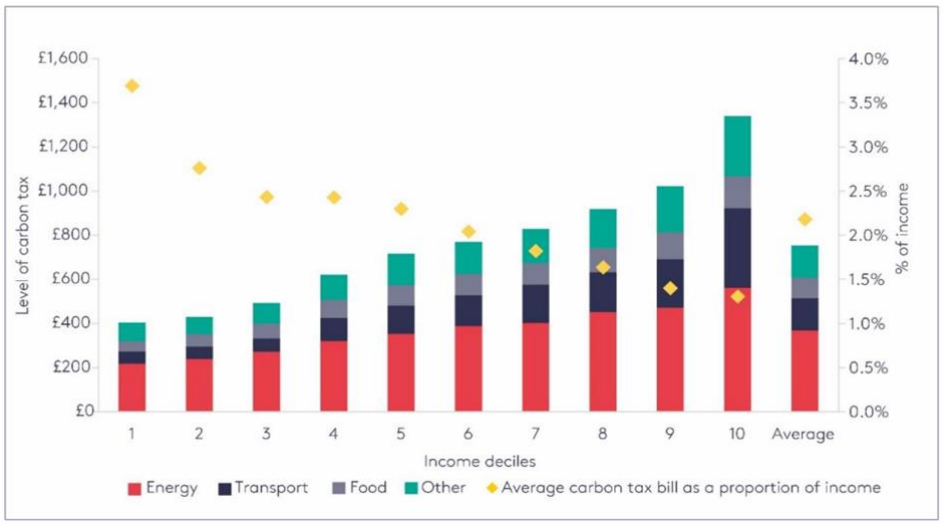


*Figure 1: Total carbon tax per each decile for core scenario in 2050.*[5]

[1] Greater London Authority, (2021). London Net Zero 2030: an updated pathway.
[2] +100 million journeys have been made on the Elizabeth line since it opened in May 2022 - way above forecast levels- and that it is on track to break even by the end of the 2023/24 financial year. Modern Railways, (2023).
[3] TfL even tried to make private vehicles' mobility *harder* e.g., a limited roll-out of Low Traffic Neighbourhoods.
[4] Rode, P. (2022). Enabling sufficiency: towards an actionable concept of fairness in mobility and accessibility. London School of Economics and Political Science.
[5] Burke J, et al. (2020) Distributional impacts of a carbon tax in the UK: Report 2 – Analysis by income decile. London: Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science, and Vivid Economics.

That is why the European project 'MyFairShare' proposes to go one step further: implementing Mobility Budgets (MB). These budgets would shift from a traditional cost-based policy to an accessibility needs one. Mobility Budgets consist of allocating a specific amount of "permits" or polluting transport units per individual/household to comply with climate objectives, e.g., they assign a number of kilometres with a diesel car per individual, depending on the personal situation (geographic, social, etc.) of each individual / household.

This allocation is not meant to be enforced – it does not aim to restrict the liberty of movement nor impose a financial burden i.e., charging fees if citizens do not comply. The objective of this policy is to foster a behavioural change – Mobility Budgets would act as a nudge.[6] Citizens would know when they have "run out" of polluting kilometres and would be nudged to use other means of transport – or even rewarded if they don't use all kilometres. Consequently, this policy would move away from the alleged regressivity of traditional cost-based measures and at the same time achieve the additional behavioural change required to comply with climate objectives.

The objective of this report is to establish the first step of this policy: to assist Transport for London and 'MyFairShare' in launching the Mobility Budgets discussion. This report is not intended to be the last stop in the design of MB nor a guide to its implementation. This policy will require extensive deliberation and additional work on the implementation's particular – which poses significant challenges.

We directed our research according to four research questions:

1. *Where have minimum standards been adopted in the UK context?*
2. *Which groups are differentiated in TfL policies?*
3. *What are the public's concerns about ULEZ policy?*
4. *What recommendations does TfL need to consider when designing mobility budgets?*

To answer these questions, we conducted extensive research through primary sources including an interview with a TfL leader, extraction of Twitter content, or attendance to two protests. We also performed exhaustive secondary research including a review of the academic literature, research on the existing documentation on Minimum Standards and on group differentiation, and a review of traditional media, and existing consultations and surveys.

The structure of this report is as follows. The first section is this introduction - where we set the context of the project and detail the research questions. The second section discusses the design of mobility budgets - starting from an allocation based on minimum standards and then adapting it to the personal / group circumstances of citizens. The third section seeks to understand citizens' concerns in transport policies, based on the ULEZ experience. The last section discusses a set of actionable and specific recommendations for TfL to build Mobility Budgets.

[6] Rode, P. (2022). Enabling sufficiency: towards an actionable concept of fairness in mobility and accessibility. London School of Economics and Political Science.

# 2. Design of Mobility Budgets

This section will address the design of Mobility Budgets, first by building the allocation through Minimum Standards in accessibility i.e., based on the location of the citizens; and secondly by adapting the allocation in terms of personal circumstances e.g., income.

## 2.1. Minimum Standards in accessibility

### 2.1.1. Assessment

This section argues for a paradigm shift from 'cost-based' towards Minimum Standards (MS) approach in transport policymaking. The MS approach aims to create a minimum degree of social protection for all citizens, regardless of their income or social standing. This approach is often used in the design of welfare state policies, which seek to promote social equity and reduce inequality.

Within the realm of mobility, the concept of MS can be understood as a threshold to set a **minimum level of accessibility**,[7] e.g., the distance in time -the time it takes to travel that distance- from where the people live to services, such as General Practitioner (GP) location.

It is important to note that while the Equality Act 2010 (EA) sets fairness considerations in various policy areas regarding non-discrimination on grounds of disability; gender reassignment; maternity; race; religion; sexual orientation, among others, most policies do not set MS related to accessibility in distance in time[8]. Indeed, the only area that sets Minimum Standards in accessibility in the UK is health policy.

According to the National Health Service (NHS), ensuring accessibility to medical services is approached through the consideration of distance from one's home. For instance, guidelines dictate that GP surgeries should be situated in locations that allow patients to reach them within a maximum transit time of 30 minutes, whether by public transportation, on foot or by private vehicle.

Given this lack of data on MS in accessibility, we relied on the findings of the Minimum Acceptable Place Standards (MAPS) Report[9] to build Minimum Standards based on needs, and compared them to current travelling times from home to services according to the Annual Report of the Department of Transportation.[10]

We conducted a comparison in the areas of health, education, employment and groceries. The following chart depicts the results: the green circle indicates a match, the yellow circle a partial mismatch, and the red circle a mismatch. As shown in the graph, there is a significant disparity between MS and current accessibility time.

[7] Rode, P. (2022). Enabling sufficiency: towards an actionable concept of fairness in mobility and accessibility. London School of Economics and Political Science.
[8] For example, Minimum Standards in housing relate to construction material requirements. See Appendix 1.
[9] University of York and Loughborough University. (2013). Minimum Acceptable Place Standards (MAPS) Report.
[10] United Kingdom, Department of Transport. (2021). Transport Statistics Great Britain.

| Policy Area | Place | Minimum Standards based on UK Policies | Minimum Standards based on Needs<br><br>*(Focus Groups - MAPS Report 2013)* | Current times<br><br>*(National Avg Travel Time - Dpt. of transportation)* | Assessment |
|---|---|---|---|---|---|
| **Health** | GP | 30 minutes | 15 minutes | 15 - 30 |  |
| | Hospital | | 30 minutes | 30 - 60 |  |
| **Education** | Primary School | No specific regulation | 10 minutes | 15 - 30 |  |
| | Secondary School | | No consensus | 20 - 30 |  |
| **Groceries** | Convenience store | No specific regulation | 15 minutes | 10 - 30 |  |
| **Employment** | Work | No specific regulation | No consensus, but 90 minutes seen as maximum | 20 - 40 |  |

*Figure 2: Accessibility comparison between policy areas and Minimum Standards. Authors' elaboration.*

### 2.1.2. Policy implications

Allocating transport units within a Mobility Budget's design requires identifying the basic accessibility needs. For this purpose, Minimum Standards should consider distance in time while prioritising the needs of citizens is a relevant shift in transport policies.

From the mismatch presented and to ensure the effectiveness of the MS, a collaborative approach is necessary in order to enhance legitimacy, relevance, and sense of ownership when identifying key services that people need to be accessible from their homes using any means of transport.

In addition, once the MS are established, transport policies should recognize situations where meeting Minimum Standards may be challenging due to contextual factors, providing individuals the flexibility to meet them without compromising accessibility to key services.

Finally, it is vital to avoid burdening individuals and communities struggling to meet the standards. Imposing additional hardships on those facing mobility challenges would worsen existing inequalities.

## 2.2. Group differentiation

### 2.2.1. Assessment

Current transport policies are more conscious of equity concerns among marginalised groups than in modernist transport planning.[11] The operationalization of equity in these policies includes the identification of benefits and burdens, the consideration of social characteristics and the definition of allocation principles.[12]

The above has been reflected in the TfL policy design process, defining priority groups and providing exceptional treatment to them. TfL differentiates mobility-disadvantaged groups according to different criteria and allocates exemptions and reimbursements.

As Sophie Achillini, Head of Diversity and Inclusion at TfL, described in an interview for this report (details in Appendix 2.1), the definition of priority groups at TfL is based on the EA mentioned in the previous section and on the Public Sector Equality Duty Technical Guidance. They consider the effect that specific policies may have on individuals, as well as the cumulative consequences that different policies may bring to people's affordability. They also take into account special considerations for marginalised groups, as well as researching past and other policies to incorporate successful policies done elsewhere.

To understand how these principles are implemented in practice, we analysed the benefits that different priority groups for TfL obtain on London's public transport services of buses, Tube and trains, as well as the Congestion and ULEZ charge. TfL delivers benefits to groups under six criteria; age, disabilities, occupation, relationship, type of vehicle and location (see in Appendix 2.2). In particular, as shown in the chart below, the most significant benefits TfL grants are according to age, disabilities and occupation.

[11] Rode, P. (2022). Enabling sufficiency: towards an actionable concept of fairness in mobility and accessibility. London School of Economics and Political Science.

[12] Martens et al. (2019). Measuring transport equity: Key components, framings and metrics. Measuring transport equity, Elsevier.

| Criteria | Group | Benefits associated with transport policies | | | |
|---|---|---|---|---|---|
| | | Buses and Tube | Train | Car | |
| | | | | Congestion Charge | ULEZ |
| Age | Children 0-10 | Travel free | | | |
| | Children 11-15 | Free bus + discounts Tube | 50% discount | | |
| | Children 16-17 | 50% discount | | | |
| | Adults 60+ | Travel free | | | |
| Occupation | Students and Apprentices | 30% discount | | | |
| | Veterans | Travel free | | | |
| | HM Armed Forces | | 30% discount | 100% discount | |
| | Railway workers | | | | |
| | Unemployed | 50% discount | | | |
| | Emergency services | | | | |
| | Taxis | | | 100% discount | 100% discount |
| | Royal parks and borough staff | | | | |
| | NHS staff | | | Reimbursement | |
| | Local authority, charity or care home employee | | | | |
| | Accredited breakdown organisations | | | 100% discount | |
| | Non-for-profit community transport | | | | 100% discount |
| | Specialist agricultural | | | | |
| | Certain non-road going vehicles and mobile cranes | | | | |
| | Travelling showmans | | | | |
| Disabilities | Disabled people | Travel free | | 100% discount | |

*Figure 3: Benefits associated with TfL policies according to age, occupation and disabilities. Authors' elaboration.*

**Regarding age**, people under 17 and over 60 receive benefits on buses, Tube and trains. Specifically, children up to 10 and adults from 60 travel free on all transport services and children between 11 and 17 years old receive discounts.

**Regarding people with disabilities,** two passes have been designed to exempt them from paying for public transport services as well as Congestion and ULEZ fees: the Freedom Pass and the Blue Badge, assuming they meet TfL's requirements.[13]

**Regarding occupation**, some groups receive benefits on buses, Tube and trains. For example, veterans travel free, the unemployed pay half price and students and apprentices receive a 30% discount. Also, some exemptions and reimbursements on Congestion and ULEZ charges are made for groups requiring a vehicle to work. In the case of Congestion charge, emergency services such as ambulances, fire and NHS, military cars, cabs, royal parks and borough operational staff are exempted. Also, members of the NHS, local authorities, charity employees, volunteers and care homes workers (the last three groups only due to Covid-19) receive reimbursements. Regarding ULEZ charge, London-licensed cabs, military vehicles, non-for-profit community transport, specialist agricultural and other vehicles are exempted from paying.

Additionally, two transport policies specifically target **low-income groups**. One is a 50% discount pass on buses for adults who live in a London borough and demonstrate low income. Another is financial assistance to help certain low-income or disabled people, eligible micro businesses, sole traders and charities to change their cars to meet ULEZ requirements (more details of ULEZ scrappage scheme in Appendix 2.4).

[13] Details in Appendix 2.3.

### 2.2.2. Policy implications

While TfL has made a significant effort to reduce the economic impact of its policies on disadvantaged groups regarding mobility, these differentiations are not fully achieving their policy aims**.** Some prioritised individuals still face unfair situations, i.e. older people are only exempted from public transport fees but must pay the entirety of Congestion charge regardless of their limited mobility. On the other hand, no additional considerations are made for groups exempted from paying public transport services that face particular circumstances that may alter the need for exemption, i.e. older people who have high-paying jobs.

Moreover, parents travelling with children, whose mobility possibilities are also more limited than regular city commuters, do not receive special treatment either. At the same time, people with disabilities, although they can travel for free on all public transport services and are exempted from paying the Congestion charge, must fulfil a series of requirements to be exempt from paying the ULEZ charge, which may imply a considerable administrative and economic costs.

That said, we suggest TfL allocate benefits based on people's actual income (not proxies like occupation, that are currently used), accessibility needs and social value of their activity so that Mobility Budgets better address equity concerns.

# 3. Public views on transport policies

After working on the key elements of the design of Mobility Budgets, we broaden our study to understand social opinion. In particular, we are looking to comprehend the narratives of fairness related to the ULEZ policy in the context of London transport, to have them in consideration when designing Mobility Budgets.

ULEZ is a 2019 policy aimed to help improve air quality, tackle climate change, and reduce traffic congestion in London[14]. It discourages drivers of highly polluting vehicles from entering central London by imposing a daily fee (the ULEZ charge) for driving within the zone unless they are exempt due to disabilities or other personal considerations. As ULEZ is part of London's strategy to reduce emissions, its social reactions could provide some assistance in designing Mobility Budgets.

For this purpose, we conducted a qualitative analysis of public opinion on social and traditional media, and focused on the collective narratives on fairness: What do people care about in ULEZ? What do people consider fair or unfair?

In this section, we will briefly present our Twitter data sample, methodology, and main findings. Then we will confirm these findings by reviewing alternative sources. Lastly, we will end with a set of policy implications.

## 3.1. Social media analysis - Twitter

### 3.1.1. Sample and methodology

Our review of the social sentiment of ULEZ is based primarily on the Twitter platform. To this end, we gathered a sample of 91,022 tweets collected over the course of three years, beginning with the announcement of ULEZ[15].

On this basis, we conducted the following analysis:

First, we analysed high-engagement tweets and reviewed all tweets with more than 100 retweets. We focused on their topic, sentiment and fairness considerations.

To contrast these preliminary results, we next analysed a random sample of tweets (low engagement), hoping to obtain a "regular citizen" perspective on ULEZ. This was key in understanding the concerns of "regular people", as high-engagement tweets (with a large number of retweets or replies) usually come from high-exposure authors that have thousands of followers like TV personalities or politicians.

Lastly, as already mentioned, we compared our observations with public information available from alternative sources such as traditional media, public demonstrations, and consultations/surveys.

[14] London Assembly Report, Inner London Ultra Low Emission Zone -One Year Report (2023).
[15] The description of the tweets included in the data can be found in Appendix 3.1.

### 3.1.2. Findings

We can categorise our findings into three sections[16]:

First, regarding **word analysis**, we have observed that when considering relevant word families, our sample primarily contains economic considerations. For example, most of the relevant repeated words refer to “charge”, “poor”, “money”, “free”, and “pay”, among others.

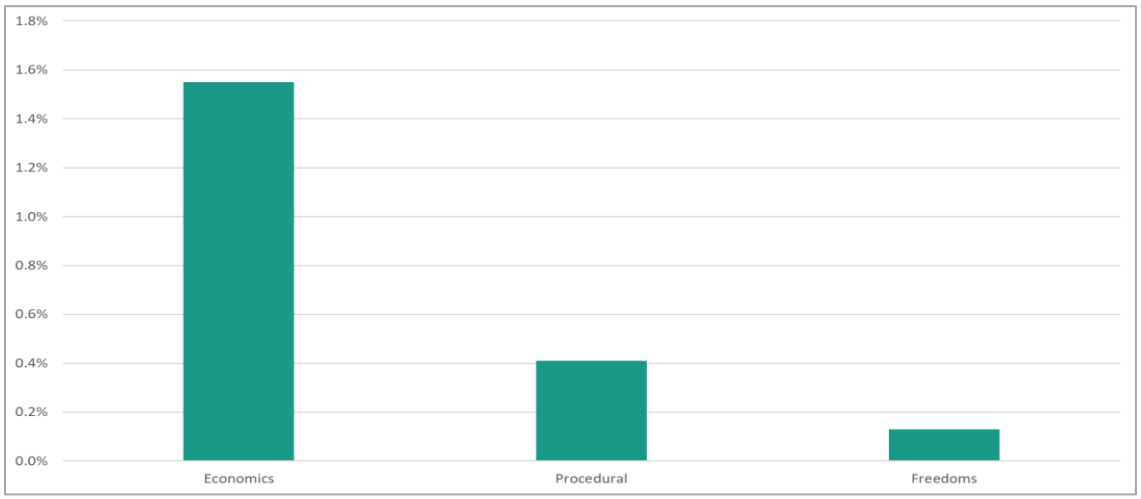


*Figure 4: Percentage of words related to a family concept.*
*For example, for economic topics: “expensive”, “taxpayer”, “rich” and equivalents. Author’s elaboration.*

Second, regarding **author analysis**, we observed that among the original tweets (not considering replies or retweets), there were 4,848 different authors with an average of 1.68 tweets per person.

Thirdly, we conducted a **topic analysis** to determine what Twitter users discuss when discussing ULEZ. Although tweets convey multiple messages, and in most cases they overlap, we were able to identify three major themes:

- **Conspiracy theories, misinformation and scepticism about climate policies**

  This topic includes all conspiracy-related, globalist and anarchist tweets. We discovered a widespread belief that ULEZ is not a policy aimed at combating pollution or toxic air but rather a scam to increase the Mayor’s revenue. The primary argument for this statement is that, apart from ULEZ, no other measures are being taken to combat pollution, so it is not an honest effort.

[16] In this section, we will present the main findings. More detail and disaggregation of the information can be found in Appendix 3.2 – 3.4.

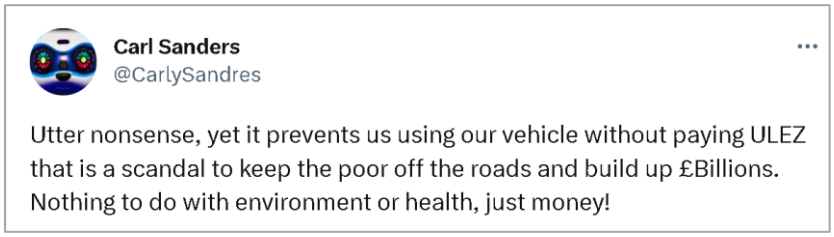


*Figure 5: Tweet from @CarlySandres of 15 July 2022.*

- **Politics**

  ULEZ is a highly politicised issue, usually related to Low-Traffic Neighbourhoods (LTNs) and 15-minute cities. Most of the tweets refer to politics, supporting or opposing the Mayor of London and the Labour Party.

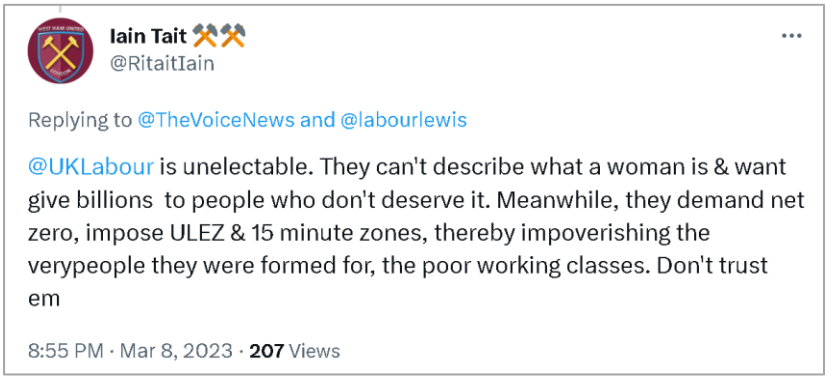


*Figure 6: Tweet from @RitaitIain on 8 March 2023.*

- **Considerations of fairness**

  We found that a significant proportion of tweets include considerations of fairness.

  a) Considerations of fairness related to **restricting freedoms and privacy.** These tweets focus primarily on the impact of ULEZ on the exercise of the right to free movement or the privacy threat imposed by the ULEZ cameras. Numerous references to Low Traffic Neighbourhoods were discovered.

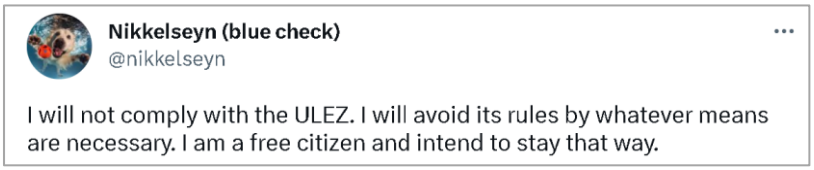


*Figure 7: Tweet from @nikkelseyn of 17 January 2023.*

  b) Considerations of fairness relating to the **economic burden** imposed by the ULEZ charge. These refer to ULEZ as a "tax on the poor" while emphasising its regressive nature, particularly in contexts where public transport is scarce. The context was particularly important for these considerations of fairness: the majority of tweets

referenced the cost-of-living crisis and argued that the policy would exacerbate the plight of the disadvantaged while failing to discourage the wealthy from driving.


*Figure 8: Tweet from @OhBrokenBritain of 1 February 2023.*

c) Considerations of fairness related to the **exempted groups,** emphasising that certain groups of individuals should be exempt from paying the ULEZ fee due to their position in society. Notable mention was made of nonprofits and small businesses.

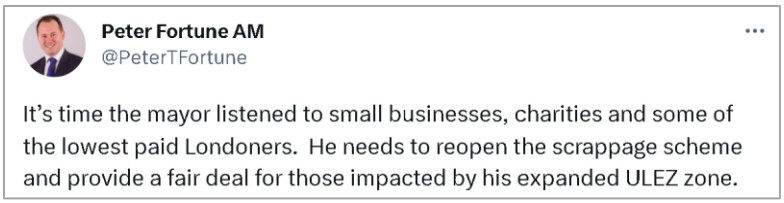


*Figure 9: Tweet from @PeterTFortune on 29 November 2021.*

d) Considerations of fairness pertaining to the **procedure** by which ULEZ was adopted. These tweets relate to the lack of debate, the lack of transparency in the public consultations, and the notion that the policy was "undemocratically imposed".

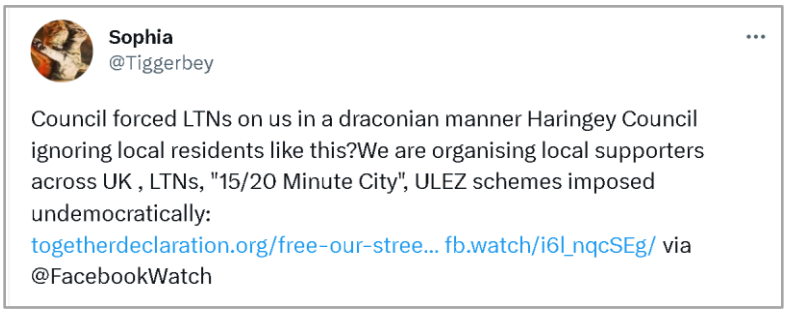


*Figure 10: Tweet from @Tiggebey on 17 January 2023.*

Now, considering both high-engagement and low-engagement tweets, the distribution between these subtopics is as follows:

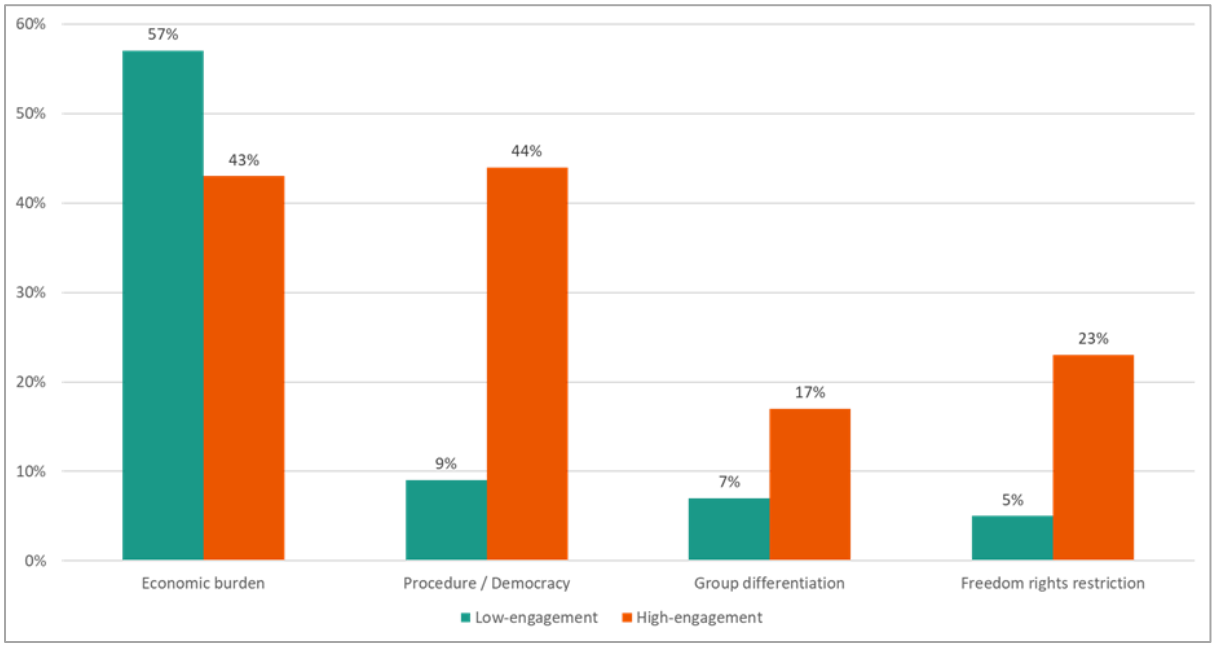


*Figure 11. Percentage of tweets that mention a fairness topic.*[17]
*Note that each tweet can contain references to several topics (or to none). Author's elaboration.*

Accordingly, low-engagement tweets, which usually come from what we call "regular citizens" are mainly about the economic burden placed by the ULEZ charge, outweighing any other concern.

On the other hand, for activists, TV personalities, and politicians (high-engagement tweeters), the economic burden is as relevant as the procedure under which the policy was adopted and implemented, while more importance is attributed to group differentiation and freedom rights restrictions relative to the citizens.

## 3.2. Comparison of social media analysis with alternative sources

When contrasting these findings with traditional media, we observed that similar sentiments were expressed in UK's main printed and digital media. Particularly, we observed that critics about the regressive nature of the ULEZ charge, as well as its procedural mistakes, had received considerable media attention.


*Figure 12: The Spectator, 25 November 2022.*

[17] High-engagement refers to the 101 most engaging tweets (>100 RT*).* Low-engagement refers to the 150 random tweets out of an 8,169 original tweet sample.

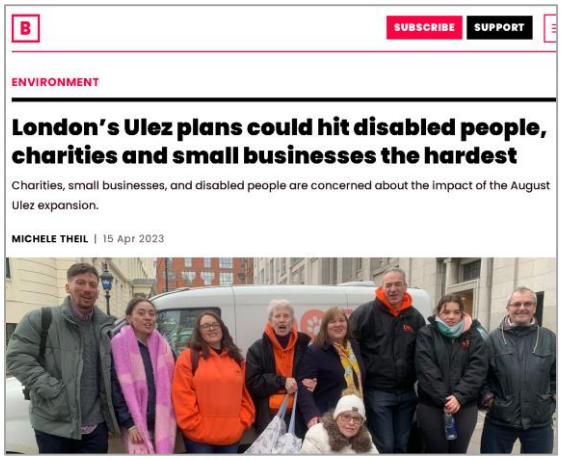


*Figure 13: The Big Issue, 15 April 2023.*


*Figure 14: BBC News, 17 January 2023.*

Additionally, we attended two **protests** on March 28th and April 15th, 2023, in Trafalgar Square, Central London. We obtained valuable insights into social dynamics, turnout, and demands. We found that most concerns were aligned with the public sentiment on Twitter: the economic burden of the ULEZ charge and its effect on families and businesses, additional costs for vehicle owners, and the absence of consultation and democracy. Pictures of the pamphlets that we gathered during the protests can be found in Appendix 3.5.


*Figures 15, 16, 17, 18: Images from the protest of March 28th and April 15th 2023.*

Finally, we analysed the results of three separate **consultations and surveys** conducted to gauge public opinion regarding the extension of ULEZ. The results of the consultations vary significantly depending on who commissioned the survey and what question was posed to the public.

However, we can see that there is an overall reluctance to the extension of ULEZ, according to the following figure:

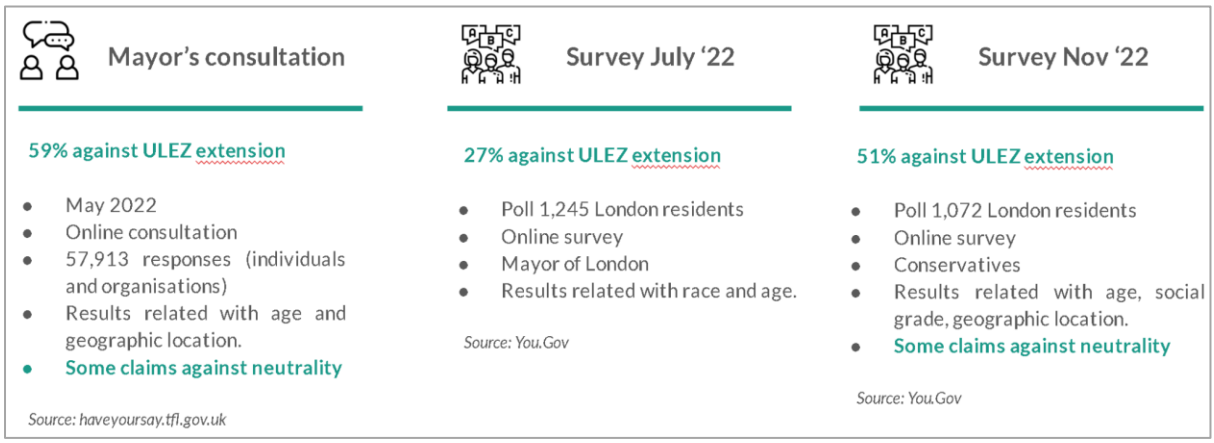


*Figure 19: Authors' elaboration based on public information on the consultations.*

## 3.3. Policy Implications

We can conclude from public opinion about ULEZ's experience that average citizens' main concern is economic, specifically the charge's alleged regressive effect. To protect nonprofits and small businesses, a general claim was made to expand exempted groups.

Although, as explained before, Mobility Budgets rely on MS and not on a cost-based logic, it is important to consider that any potentially associated charge would be regarded by some as regressive, and may trigger a general feeling of unfairness around the policy garnering public support and ensuring an effective policy.

In addition, procedural concerns are widespread, especially among TV personalities, influential people, and politicians. Their tweets can influence thousands of people.

In particular, establishing a mechanism for constant monitoring would help identify these concerns during policy design and gradual implementation. Participatory, public, and transparent mechanisms are essential for public support and effective policy.

## 4. Policy Recommendations to TfL in the design of Mobility Budgets

After extensive research, we present four policy recommendations to TfL for the design of Mobility Budgets.

1) **TfL should run *a priori* participatory exercises**

   TfL should ensure the maximum publicity and transparency of participatory exercises to gather -and maintain- stakeholder ownership and public support throughout the policy cycle.

2) **TfL must allocate Mobility Budgets based on Minimum Standards in accessibility,** following a two-step process:

   i. **Define Minimum Standards in accessibility**

      After an extensive review of the current state of Minimum Standards, we have concluded that there is still a lot of work to be done in building Minimum Standards (only the health sector has a clear MS). Hence, the first step for TfL when designing Mobility Budgets should be to build a Minimum Standard in accessibility (distance in time) for the remaining areas – which should particularly consider population density, availability of public transport services, citizens' opinions (e.g., through focus groups), among others.

   ii. **Allocate Mobility Budgets to allow compliance with Minimum Standards**

      TfL must guarantee that people can meet the Minimum Standards in the most efficient and sustainable way possible. For example, if some citizens can only meet the MS by using private cars, then extra permits should be allocated to those citizens. However, if the Minimum Standards can be met using public transport, then the number of units should be limited to the capacity of public transportation.

      Additionally, acknowledging the existing mismatch between current times and Minimum Standards, TfL must avoid that Mobility Budgets allocations impose a further burden on accessibility. For example, when the distance in time to a particular service cannot be achieved, the allocation of permits should not restrict the already limited alternatives available to citizens, regardless of the means of transport.

3) **TfL should adapt the initial allocation to the personal circumstances of citizens according to three criteria: income, accessibility needs and social value of their activity.**

   We consider that the current differentiation that Tfl does is mostly valid, but is not fully achieving the policy aims. That is why TfL should follow 3 main criteria when adapting Mobility Budgets allocation:

i. **Income**. MB must take income directly into account when building allocation (not through proxies, like age). Those with the lowest income should be given more transport permits given their vulnerability. This may also include two groups that are not currently being considered by TfL: refugees and homeless people.

ii. **Accessibility needs**. As is usually the case for most TfL policies, disabled, elders and children should be given special attention given their accessibility limitations. Additionally, MB should also consider people who are very closely related to these groups, such as parents traveling with children, who should be given a bigger budget than the initial allocation.

iii. **Social value of citizens' activity**. People whose jobs have a recognized social value in providing essential services to the community, such as delivery drivers, mail carriers, charities and others deserve more permits given their aim and the social value their activities provide. In turn, the exceptional mobility permits during lockdowns should serve as guidance.

**4) TfL must incorporate a monitoring mechanism in the implementation of Mobility Budgets.**

As seen in the ULEZ experience, monitoring the policy implementation is key to its success. Mobility Budgets should be flexible and adaptable to respond to changing circumstances and demands. The information gathering is essential: the monitoring mechanism should include social media, public and transparent consultations, and policy KPIs data.

All in all, this report is meant to be the foundation of the long process to build Mobility Budgets. We believe this work has provided key insights and recommendations that will be helpful for Transport for London and the broader mobility community to achieve the climate objectives.

*Word count: 3,976*

## 5. References


Achillini, S. (2023). Interview to Diversity and Inclusion Lead at TfL.

Barr, N. (2020). The Economics of the Welfare State. 6th edition. Oxford.

Burke J, et al. (2020) *Distributional impacts of a carbon tax in the UK: Report 2 – Analysis by income decile*. London: Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science, and Vivid Economics.

London Assembly Report, Inner London Ultra Low Emission Zone -One Year Report. February 2023. Available at Inner London ULEZ Expansion 1 Year Report

Greater London Authority. (2021) Mayor warns that time is running out to act on the climate emergency. [Press release] Retrieved from https://www.london.gov.uk/pressreleases/mayoral/london-faces-threat-of-soaring-temperatures

Greater London Authority, (2021). London Net Zero 2030: an updated pathway. Retrieved from: https://www.london.gov.uk/sites/default/files/london_net_zero_2030_-_an_updated_pathway_-_gla_response_1.pdf

Mayor of London. (2016). The London Plan. London

Mayor of London. (2010) London Housing Design Guide. London.

Martens, K. et al. (2019). Measuring transport equity: Key components, framings and metrics. Measuring transport equity, Elsevier. Retrieved from: https://www.sciencedirect.com/science/article/abs/pii/B9780128148181000020

Modern Railways. Elizabeth Line hits 100 m milestone. Retrieved from: https://www.modernrailways.com/article/elizabeth-line-hits-100m-journey-milestone

NHS England. (2015). The NHS Constitution for England.

NHS England. (2016). Patient Online - Increasing GP online services adoption by patients.

NHS England. (2019). The NHS Long Term Plan.

Rode, P. (2022). Enabling sufficiency: towards an actionable concept of fairness in mobility and accessibility. London School of Economics. Retrieved from: https://www.lse.ac.uk/Cities/publications/working-papers/Enabling-suffiency

United Kingdom, Department of Transport. (2021), Transport Statistics Great Britain. Retrieved from: https://www.gov.uk/government/statistics/transport-statistics-great-britain-2021/transport-statistics-great-britain-2021#:~:text=people%20made%20739%20trips%20on,minutes%20faster%20than%202019%27s%20average

United Kingdom, Department for Education. (Updated 2021). School Admissions Code.

United Kingdom (1996) Education Act 1996.

United Kingdom. (2010) Equality Act 2010.

University of York and Loughborough University. (2013). Minimum Acceptable Place Standards (MAPS) Report. Retrieved from: https://www.york.ac.uk/media/chp/documents/2013/MAPS%20report.pdf