How Media Framing Shapes Opinion of Environmental Policy: The Case of ULEZ

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KEYWORDS

media framing, ULEZ, public opinion of policy

ABSTRACT

This article examines how British media outlets frame the ULEZ expansion policy in London and how that framing impacts public perception. Using content analysis, I examined 50 online news articles on the expansion from 19 British media outlets and analysed 508 comments. My findings reveal a strong polarisation, with opposition being the loudest. Framing varied by publication, showing clear policy bias. Some articles were neutral, whilst others were overtly supportive or opposed. Comments also reflected the polarisation: 58% opposed the expansion, 33% supported it, and 9% were neutral. This contrasts with a YouGov poll from August 2023, where 47% of Londoners supported the expansion and 42% opposed it, suggesting online commentary is not reflective of overall public opinion. Negatively framed articles attracted opponents, neutrally framed articles had balanced opinions, and positively framed articles attracted more support but still triggered notable opposition. Patterns emerged based on the overall sentiment of the comments. The most frequently mentioned subject was Sadiq Khan, followed by conspiracy / cash grab, policy criticism and affordability. Subjects were associated with the opinion of the commenter, with references to Sadiq Khan, conspiracy / cash grab and affordability coming from detractors, and policy criticism coming from both supporters and detractors.

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I. Introduction

Environmental issues, including climate change, pose serious threats to society, yet political agendas often prioritise other concerns. With rising costs of living, inflation, and other pressing matters, there are questions about whether the public and governments still prioritise environmental challenges.[1] Since Brexit, UK politicians have increasingly undermined environmental standards, such as reversing toxic chemical bans, lowering greenhouse gas reduction targets, and worsening water pollution.[2] The challenge is how to make environmental issues more pressing to both citizens and policymakers to drive political, economic, and

[1] United Nations. "Press Conference by Secretary-General António Guterres at United Nations Headquarters." 15 June 2023.

[2] Horton, Helena. "The UK Environmental Protections Dropped Since Brexit." *The Guardian*, 19 Jan. 2024.

social change. There is a compelling dynamic in how media framing and bias shape public opinion and, in turn, influence policy. Whilst much research explores the media's agenda-setting role and its impact on public opinion, little has been done in the UK environmental policy context.

In political science literature, there is empirical evidence of a correlation between public opinion and public policy output.[3] Mainstream media plays a critical agenda-setting role by determining newsworthiness, shaping values, and manipulating political discourse.[4] According to Entman, "public opinion grows out of an interaction between media messages and what audiences make of them."[5] However, media coverage frequently exhibits bias, which can stem from the ownership or financial sources of the media outlet, or the political or ideological stance of the outlet and its audience.[6] Techniques like framing, which emphasise or downplay certain aspects, shape how the public perceives issues.[7] Consequently, public opinion strongly influences policy.[8] If people do not see environmental problems as urgent, policymakers may avoid ambitious actions due to political risks. This has major implications for environmental policy. If people do not believe environmental problems require the drastic action scientists say it does, then policymakers are not likely to pursue ambitious environmental policies as they may be politically unpopular.

This study brings together the literature on policy drivers, media framing, and public opinion to explore how media outlets frame environmental policy and its impact on public perception. Specifically, I will examine how online news media has shaped public views on the ultra-low emission zone (ULEZ) expansion in London, a key yet controversial policy aimed at improving urban air quality. I will use content analysis of news articles and online comments to address this question, focusing on several objectives: examining how ULEZ articles are framed, identifying any policy bias in their framing, and comparing how different types of online news media present the ULEZ expansion. Additionally, I aim to explore the themes and subjects in online comments, analyse the frequency distribution of comments across various views and framings, and compare these findings to public survey data. My work is unique in its focus on media framing of the ULEZ, an area previously unexplored.

II. **Literature Review**

A. *The Media*

Mainstream media, including radio, television, and print, historically served as dominant platforms for agenda-setting, framing, and political influence.[9] Online media, such as BBC's news site, blends editorial content with participatory elements, mirroring traditional journalism but introducing interactive dynamics.[10] Both media types serve crucial roles: surveillance, interpretation, socialisation, and

[3] Monroe, Alan. "Consistency Between Public Preferences and National Policy Decisions." *American Politics Quarterly*, vol. 7, no. 1, 1979, pp. 3-19; Page, Benjamin, and Robert Shapiro. "Effects of Public Opinion on Policy." *American Political Science Review*, vol. 77, no. 1, 1983, pp. 175-190.

[4] Lasswell, Harold. "The Structure and Function of Communication in Society." *The Communication of Ideas*, vol. 37, no. 1, 1960, pp. 136-139; Dunaway, Johanna, and Doris Graber. *Mass Media and American Politics*. CQ Press, 2022.

[5] Entman, Robert. *Democracy Without Citizens: Media and the Decay of American Politics*. Oxford University Press, 1990.

[6] Hamborg, Felix, et al. "Automated Identification of Media Bias in News Articles: An Interdisciplinary Literature Review." *International Journal on Digital Libraries*, vol. 20, no. 4, 2019, pp. 391-415.

[7] Druckman, James. "The Implications of Framing Effects for Citizen Competence." *Political Behavior*, vol. 23, 2001, pp. 225-256; Iyengar, Shanto. *Is Anyone Responsible?: How Television Frames Political Issues*. University of Chicago Press, 1991.

[8] Entman, Robert. "Framing: Toward Clarification of a Fractured Paradigm." *Journal of Communication*, vol. 43, no. 4, 1993, pp. 51-58.

[9] Spitulnik, Debra. "Anthropology and Mass Media." *Annual Review of Anthropology*, vol. 22, 1993, pp. 293-315.

[10] Deuze, Mark. "The Web and Its Journalisms: Considering the Consequences of Different Types of Newsmedia Online." *New Media & Society*, vol. 5, no. 2, 2003, pp. 203-230.

manipulation.[11] However, scholars like Curran debate whether online platforms truly democratise media or reinforce power structures through corporate ownership.[12] In Britain, the distinction between broadsheets (analysis) and tabloids (sensationalism) complicates media's role in shaping public opinion and policy.[13] The media strongly influences public opinion[14] and policymaking by setting the agenda and attracting policymakers' attention, as it affects their constituents.[15]

B. *Media Framing, Online Media and Social Media*

The rise of social media, driven by algorithms, has fundamentally transformed media framing, creating a hybrid space where traditional media and social platforms interact.[16] This hybrid environment complicates framing, as actors use social media to rapidly disseminate and reframe narratives. Both Ausat and Nee et al. argue that social media serves as a crucial platform for shaping public perceptions, especially in competitive spaces where multiple narratives compete for attention.[17] The visual and interactive nature of platforms amplifies this effect, allowing users to modify and circulate content in ways that suit their interests and biases.[18]

Importantly, frames are no longer static, as interactions on social media enable constant reframing. Social media algorithms play a decisive role by prioritising certain frames and marginalising others, thus shaping public discourse in real-time. These dynamics challenge traditional media theories like agenda-setting and framing, suggesting a more complex, decentralised process. Antony and Thomas point out that this new landscape calls for a reassessment of these theories, as social media has introduced new actors into the framing process.[19] Meraz and Papacharissi emphasise the democratisation of framing in networked environments, where non-elite actors gain greater influence over narratives traditionally controlled by elite media.[20] However, the role of algorithms complicates this potential democratisation, as they often serve to amplify dominant voices and commercial interests. This has led to concerns over the power of social media companies in shaping public opinion by deciding what content is prioritised or suppressed.[21]

C. *Media Bias*

The internet has expanded access to information, but media bias remains a critical issue, influencing public opinion and political engagement. Access to unbiased information is crucial for forming a balanced understanding of current events, and for many, news articles are the primary source of such information.[22] News articles play a role in shaping public opinion; however, media coverage frequently exhibits bias. Scholars like McChesney argue that ownership concentration and profit motives skew

[11] Dunaway and Graber (n 4) *supra*.
[12] Curran, James. *Media and Democracy*. Routledge, 2011.
[13] Hallin, Daniel, and Paolo Mancini. "The North Atlantic or Liberal Model." *Comparing Media Systems: Three Models of Media and Politics*, Cambridge University Press, 2004, pp. 198–248.
[14] Cairney, Paul. *Understanding Public Policy: Theories and Issues*. 2nd ed., Macmillan Education UK, 2019.
[15] Kingdon, John. *Agendas, Alternatives, and Public Policies*. 2nd ed., Longman, 2002.
[16] López-Rabadán, Pablo. "Framing Studies Evolution in the Social Media Era: Digital Advancement and Reorientation of the Research Agenda." *Social Sciences,* vol. 11, no. 1, 2021, p. 9.
[17] Ausat, Abu Muna Almaududi. "The Role of Social Media in Shaping Public Opinion and Its Influence on Economic Decisions." *Technology and Society Perspectives (TACIT)*, vol. 1, no. 1, Aug. 2023, pp. 35-44; Nee, Rebecca Coates, et al. "Double Vision: Testing Audience Effects of Competing Social Media and Institutional Media Political Framing." *Electronic News*, vol. 11, no. 4, 2017, pp. 211-228.
[18] Pöyhtäri, Reeta, et al. "Refugee Debate and Networked Framing in the Hybrid Media Environment." *International Communication Gazette*, vol. 83, no. 1, 2021, pp. 81-102.
[19] Antony, Mary Grace, and Ryan Thomas. "'This Is Citizen Journalism at Its Finest': YouTube and the Public Sphere in the Oscar Grant Shooting Incident." *New Media & Society*, vol. 12, no. 8, 2010, pp. 1280-1296.
[20] Meraz, Sharon, and Zizi Papacharissi. "Networked Gatekeeping and Networked Framing on #Egypt." *The International Journal of Press / Politics*, vol. 18, no. 2, 2013, pp. 138-166.
[21] Van Dijck, José, and Thomas Poell. "Understanding Social Media Logic." *Media and Communication*, vol. 1, no. 1, 2013, pp. 2-14.
[22] Hamborg et al. (n 6) *supra*.

reporting, prioritising sensationalism over objectivity.[23] Others, such as Herman and Chomsky, suggest that media serves elite interests through agenda-setting.[24] Whilst news articles are perceived as more trustworthy than social media, bias manifests through selective reporting and ideological framing, as seen in partisan media ecosystems.[25] This raises questions about media's role in shaping democratic discourse.

Bias manifests in many forms, including unbalanced reporting, ideological or partisan slants, and even fabricating information.[26] Media bias can undermine objective reporting, highlighting the interplay between media profits and agenda-setting, journalist incentives and consumer demand in shaping news coverage.[27]

D. *Media Framing*

Framing involves presenting information in a way that emphasises certain aspects whilst downplaying others, shaping how audiences perceive issues.[28] Whilst deductive and inductive approaches guide framing analysis,[29] critics like Gitlin argue that dominant frames reflect power structures, perpetuating societal inequalities.[30] This study uses deductive framing analysis, drawing from five common news frames:[31]

- The responsibility frame "presents an issue or problem in such a way as to attribute responsibility for its cause or solution to either the government or to an individual or group."[32]
- The human interest frame provides a human face or an emotional angle when describing an event, issue, or problem and articulates how individuals and groups are likely to be affected by that issue. Research has demonstrated that the human interest frame can trigger emotional arousal in readers, evoking feelings of concern and compassion for others and increasing engagement with the news.[33]
- The conflict frame highlights conflict between individuals, groups or institutions to attract attention and readership.[34] The conflict frame is frequently used in news coverage of politics and public affairs, in part done to uphold the journalistic best-practice of balanced coverage.[35]
- The morality frame puts an issue within the context of values, moral prescriptions or normative messages. Because overt references to morality oppose the traditional journalistic norm of objectivity, the media will make references to such a moral frame

[23] McChesney, Robert. *The Problem of the Media: US Communication Politics in the Twenty-First Century*. NYU Press, 2004.
[24] Herman, Edward, and Noam Chomsky. *Manufacturing Consent: the Political Economy of the Mass Media*. Pantheon, 1988, pp. 198-206.
[25] Iyengar, Shanto, and Kyu Hahn. "Red Media, Blue Media: Evidence of Ideological Selectivity in Media Use." *Journal of Communication*, vol. 59, no. 1, 2009, pp. 19-39.
[26] Entman (n 5) *supra*.
[27] Baron, David. "Persistent Media Bias." *Journal of Public Economics,* vol. 90, no. 1-2, 2006, pp. 1-36.
[28] Druckman, James. "The Implications of Framing Effects for Citizen Competence." *Political Behavior*, vol. 23, 2001, pp. 225-256.
[29] D'Angelo, Paul. "Framing: Media Frames." *The International Encyclopedia of Media Effects*, 2017, pp. 1-10.
[30] Gitlin, Todd. *The Whole World is Watching: Mass Media in the Making and Unmaking of the New Left*. University of California Press, 2003.
[31] Semetko, Holli, and Patti Valkenburg. "Framing European Politics: A Content Analysis of Press and Television News." *Journal of Communication*, vol. 50, no. 2, 2000, pp. 93-109.
[32] ibid.
[33] Valenzuela, Sebastián, et al. "Behavioral Effects of Framing on Social Media Users: How Conflict, Economic, Human Interest, and Morality Frames Drive News Sharing." *Journal of Communication*, vol. 67, no. 5, 2017, pp. 803-826; Jebril, Nael, et al. "The Effects of Human Interest and Conflict News Frames on the Dynamics of Political Knowledge Gains: Evidence from a Cross-National Study." *Scandinavian Political Studies*, vol. 36, no. 3, 2013, pp. 201-226.
[34] Neuman, W Russell, et al. *Common Knowledge: News and the Construction of Political Meaning*. University of Chicago Press, 1992.
[35] Bartholomé, Guus, et al. "Manufacturing Conflict? How Journalists Intervene in the Conflict Frame Building Process." *The International Journal of Press / Politics*, vol. 20, no. 4, 2015, pp. 438-457.

indirectly through quotation or inference.[36]

- The economic consequences frame reports an issue in terms of the economic consequences it will have. It is generally used by mainstream news outlets like elite newspapers to signal high newsworthiness and authority.[37]

Scholars debate whether frames like "responsibility" deflect systemic critiques,[38] or whether the conflict frame fuels polarisation,[39] complicating journalism's role in democratic deliberation.

E. *Public Opinion*

Media framing is particularly relevant to public opinion, as it can shape the public's perception of the importance and priority of issues and how they should be understood.[40] Framing leads individuals to focus on the issues emphasised by the media when forming opinions.[41] However, both Zaller and Bolsen et al. argue that media influence is mediated by individual partisan identities and confirmation biases, which filter information through pre-existing beliefs.[42] This feedback loop complicates democratic responsiveness, as public opinion shapes policy mostly when issues are highly salient.[43] When policy levels diverge from public preferences, the public's demand for policy adjustments ensures that policymakers remain attuned to public desires.[44] The interaction between media, public opinion, and policy outcomes thus remains an area of contested scholarship, particularly in polarised environments.[45]

F. *Policy Drivers*

Public policy is shaped by various actors, including the media, which plays both passive and active roles.[46] Traditional institutional theories emphasise political organisations' structural power,[47] but recent scholarship critiques the media's dual role. Some scholars argue that the media is a channel for the policy beliefs of political actors, reflecting these beliefs to the public.[48] However, others posit that the media is not just a passive channel, but rather an active participant in advocacy coalitions.[49] The media thus plays a dual role in shaping policy: it both reflects the beliefs of political actors and actively participates in shaping and promoting these beliefs.[50] This dual role complicates straightforward analyses of policy formation, making the media an influential yet contested actor in the policy process.

G. *Low Emission Zone Schemes*

European cities continue to experience unsafe air quality as per WHO guidelines, despite efforts over past decades to improve air quality.[51] To improve air quality, many

[36] Semetko and Valkenburg (n 31) *supra*.
[37] ibid.
[38] Iyengar (n 7) *supra*.
[39] Cappella, Joseph, and Kathleen Hall Jamieson. *Spiral of Cynicism: The Press and the Public Good*. Oxford University Press, 1997.
[40] Delli Carpini, Michael. "News from Somewhere: Journalistic Frames and the Debate over 'Public Journalism'." *Framing American Politics*, edited by Karen Callaghan and Frauke Schnell, 2005, pp. 21-53.
[41] Chong, Dennis. "How People Think, Reason, and Feel about Rights and Liberties." *American Journal of Political Science*, vol. 37, no. 3, 1993, pp. 867-899.
[42] Zaller, John. *The Nature and Origins of Mass Opinion*. Cambridge University Press, 1992; Bolsen, Toby, et al. "The Influence of Partisan Motivated Reasoning on Public Opinion." *Political Behavior*, vol. 36, 2014, pp. 235–262.
[43] Burstein, Paul. "The Impact of Public Opinion on Public Policy: A Review and an Agenda." *Political Research Quarterly*, vol. 56, no. 1, 2003, pp. 29-40.
[44] Soroka, Stuart, and Christopher Wlezien. "Opinion–Policy Dynamics: Public Preferences and Public Expenditure in the United Kingdom." *British Journal of Political Science*, vol. 35, no. 4, 2005, pp. 665-689.
[45] Nickerson, Raymond. "Confirmation Bias: A Ubiquitous Phenomenon in Many Guises." *Review of General Psychology*, vol. 2, no. 2, 1998, pp. 175-220.
[46] Weible, Christopher, and Paul Sabatier. *Theories of the Policy Process*. 4th ed., University of Colorado Press, 2018.
[47] John, Peter. *Analyzing Public Policy*. Taylor & Francis Group, 2012.
[48] *see*, for instance, Baumgartner, Frank, and Bryan Jones. *Agendas and Instability in American Politics*. 2nd ed., University of Chicago Press, 2010; Kingdon, John. *Agendas, Alternatives, and Public Policies*. 2nd ed., Longman, 2002.
[49] Sabatier, Paul, and Hank Jenkins-Smith. *Policy Change and Learning: An Advocacy Coalition Approach*. Westview Press, 1993.
[50] Shanahan, Elizabeth, et al. "Narrative Policy Framework: The Influence of Media Policy Narratives on Public Opinion." *Politics & Policy*, vol. 39, no. 3, 2011, pp. 373-400.
[51] "Air Pollution." *European Environment Agency*, 2024.

European cities have introduced low emission zones (LEZs) since the 1990s, with over 300 currently in place across Europe.[52] LEZs restrict road access based on vehicle emissions, accelerating the shift to cleaner vehicles. However, over time, emissions plateau, requiring stricter standards to continue reducing pollution.[53]

London's ultra-low emission zone (ULEZ), introduced in 2019 and expanded in 2023 to cover all 32 boroughs,[54] charges drivers of non-compliant vehicles £12.50 daily.[55] The expansion has been highly controversial, with media coverage reflecting political divides, making it a useful subject for research.

In summary, the interplay between media framing, public opinion and policy output highlights the influential role the media plays in shaping policy discourse and direction. The role of media framing on public opinion has been studied in a variety of different environmental context, including addressing climate change,[56] responses to natural disasters,[57] and support for different energy sources.[58] My study will fill a gap in the literature by looking at a policy aimed at improving air quality.

III. **Method**

To explore how media framing is used when reporting on ULEZ and how the public responds to that messaging, I take a two-pronged approach using content analysis.

A. *Content Analysis of News Media Articles*

Content analysis is used to study unstructured data, such as opinion change, media effects, and agenda setting.[59] I use content analysis to understand how different media outlets frame the same policy issue and to get a general view of the media landscape in Britain. I examined fifty online news media articles on the ULEZ expansion from the run up to the expansion to several months after the expansion was implemented, covering a period from June to November 2023. In addition to the broad research question articulated in the introduction, I explore a few specific questions through content analysis of articles:

- How are articles on the ULEZ expansion framed? Do they exhibit bias in their policy preference? (e.g. are they supportive, opposed or neutral about the expansion).
- Do different types of online news media (i.e. tabloids vs. broadsheets) and those with varying political agendas differ in how they use news frames?

News outlets in Britain are typically categorised as broadsheets (more in-depth) or tabloids (more sensational).[60] Because readership is high across both,[61] I have included a variety of outlets (e.g., BBC, The Guardian, Daily Mail), including articles of varying stances from a variety of publications ('left-leaning' and 'right-leaning' publications). To select articles for analysis, I first identified the largest online UK news outlets by viewership (audience size) and reach. I selected articles from the BBC, Daily

[52] "The Development Trends of Low- and Zero-Emission Zones in Europe." *Clean Cities Campaign*, 20 Jul. 2022.
[53] Holman, Claire, et al. "Review of the Efficacy of Low Emission Zones to Improve Urban Air Quality in European Cities." *Atmospheric Environment*, vol. 111, 2015, pp. 161-169.
[54] Ward, Bob. "The Truth About London's Ultra Low Emission Zone." *LSE Grantham Institute News*, Aug. 2023.
[55] "ULEZ Expansion 2023." *Transport for London*, 2023.
[56] *see*, for example, Bromley-Trujillo, Rebecca, et al. "Analyzing Variation in State Newspaper Coverage of Climate Change." *Climatic Change*, vol. 176, no. 12, 2023, p. 174.
[57] Crow, Deserai, et al. "Local Media Coverage of Wildfire Disasters: An Analysis of Problems and Solutions in Policy Narratives." *Environment and Planning C: Politics and Space*, vol. 35, no. 5, 2017, pp. 849-871.
[58] Zanocco, Chad, et al. "Fracking Bad Guys: The Role of Narrative Character Affect in Shaping Hydraulic Fracturing Policy Preferences." *Policy Studies Journal*, vol. 46, no. 4, 2018, pp. 978–99.
[59] Krippendorff, Klaus. "Uses and Inferences." *Content Analysis: An Introduction to Its Methodology*. 4th ed., SAGE, 2019.
[60] Hird, Ella. "UK Media, Explained." *A News Education*, 2020.
[61] Watson, Amy. "News Brands Reach in the United Kingdom 2020-2022, by Category." *Statista*, 2023.

Express, Daily Mail, Mirror, Evening Standard, Financial Times, GB News, The Guardian, The Independent, ITV, Metro, Sky, The Sun, The Telegraph and The Times.[62] I excluded non-Britain-based publications like the New York Times, as well as regional newspapers that are headquartered outside of London (for instance, Birmingham Live). I also excluded outlets that are not considered broadsheets or tabloids, including subject-specific publications like Money Saving Expert.

After identifying which outlets I would source articles from, I compiled a dataset of three articles on the ULEZ expansion from each outlet in June 2024. News outlets generally had more than three articles on the expansion, so I filtered articles by my defined time range and the degree of relevance to my study, selecting what I perceived to be three of the most topical articles. I assigned each article an ID for coding and classification purposes. As I only selected fifteen news outlets, I needed five more articles to reach my target sample size of fifty articles. Therefore, I selected five additional articles on the ULEZ expansion from the following outlets: one from Politico, one from Reuters, one from Channel 4 and two from LBC. To measure the extent to which certain frames appear in stories on the ULEZ expansion, I used media framing measures from Semetko and Valkenburg.[63] Binary coding was used to establish whether different elements were present (1) or not (0). Each question was meant to measure one of five news frames: human interest, conflict, morality, attribution of responsibility, and economic consequences. Following the analysis, I conducted simple frequencies to summarise the findings and commented qualitatively on the results.

One major limitation of this method is the likelihood of selection bias. When the sample selected for a study is not representative of the population of interest, this introduces the risk of selection bias.[64] In my case, I have tried to examine news articles from a wide variety of British publishers; however, despite my best efforts, it is likely my selected sample reflects a media landscape that is incorrect or not generalisable beyond this study. Additionally, by manually selecting articles from each outlet, I have likely unintentionally introduced bias by pulling articles I perceive to be interesting, which may also not reflect a representative media landscape.

B. *Content Analysis of Online Comments*

To supplement the articles analysis, I examined public opinion in online comments. Internet-based opinions significantly influence public and political support for environmental policies, with politicians highly sensitive to this feedback.[65] I analysed online reader comments to the fifty news articles on ULEZ analysed in the previous section. Based on language and tone, comments were assigned to one of three general opinion categories: supportive, opposed, or neutral about the ULEZ expansion. My specific objectives were:

- to determine the frequency distribution of online reader comments over the different views (i.e. supportive, opposed or neutral), compared to results from surveys of the general public;
- to explore whether this frequency distribution was affected by the framing of the article to which the readers responded; and
- to uncover themes and subjects used by the public when discussing the ULEZ expansion, and examine whether the nature of those themes corresponds to the opinion of the reader.

[62] Majid, Aisha. "Top 50 UK News Websites in April: Independent Drops Back Out of Top Five but Strong Growth for Metro." *Press Gazette*, 31 May 2024.
[63] Semetko and Valkenburg (n 31) *supra*.
[64] Ellenberg, Jonas. "Selection Bias in Observational and Experimental Studies." *Statistics in Medicine*, vol. 13, no. 5-7, 1994, pp. 557-567.
[65] De Kraker, Joop, et al. "Internet Public Opinion on Climate Change: A World Views Analysis of Online Reader Comments." *International Journal of Climate Change Strategies and Management*, vol. 6, no. 1, 2014, pp. 19-33.

Upon completing the articles analysis, I revisited each article to extract comments. My goal was to collect approximately ten comments per article; however, the number of comments varied widely, with some articles having fewer than ten and others having hundreds. Out of the fifty articles analysed, twenty-seven contained comments, whilst twenty-three did not. In cases where comments were disabled, I sourced comments from discussion of the article on the r/unitedkingdom and r/ukpolitics subreddits where available, as well as the news outlet's Twitter post. In total, I downloaded 520 comments. I sorted comments by the number of likes and dislikes where possible to ensure high quality and relevant data**.** After filtering out twelve irrelevant comments, 508 comments remained for analysis.

I uploaded the comments to NVivo, a qualitative software designed to assist researchers in collecting, organising, analysing, visualising, and reporting their data.[66] First, I coded the dataset to categorise sections of the data. Each comment was coded based on its source/publisher and whether the article had a pro-ULEZ, anti-ULEZ, or neutral stance. I also categorised each comment's opinion on the ULEZ expansion as supportive, opposed, or neutral. Additionally, I identified recurring themes in the comments and created corresponding codes for the most prevalent ones. Comments could contain multiple codes. After completing the coding, I tabulated the frequencies of the data for further analysis.

As with the articles' selection, my selection of comments is likely to be a source of selection bias. Because I have filtered comments to source high quality data and took a limited number of comments from each article, I have potentially created a dataset that is not representative of the population. Additionally, sourcing comments from the articles themselves and also from other social platforms like Reddit and Twitter likely further exacerbates this selection bias.

IV. **Results**

A. *Articles Analysis*

I looked first at the number of articles by general frame (Table 1, below). Half of articles studied (twenty-five) were neutral, seventeen were negative (opposed to the ULEZ expansion) and eight were positive (supportive of the expansion).

Looking at the presence of five news frames in each article, I found the conflict frame was the most widely used, followed by the economic, attribution of responsibility, human interest, and morality frames (Table 2, below).

1. Conflict Frame

The conflict frame was nearly universal, reflecting the polarised nature of the ULEZ expansion debate. Of the articles analysed, thirty-six highlighted disagreements between parties, thirty-five featured one party reproaching another, and twenty-eight referred to multiple sides of the issue.

Typically, the conflict is portrayed as a battle between Sadiq Khan and TfL (Transport for London) versus various opponents. Most articles would quote Khan or TfL advocating for ULEZ as necessary for improving air quality and bringing health and environmental benefits. Conversely, opponents criticised the scheme for reasons such as its unaffordability and conflicting scientific evidence on its efficacy. For example, a BBC article illustrated conflict: "[a] business owner in Kent has said that the expansion of [ULEZ] to the whole of outer London will have a 'massive impact' on her livelihood. But a clean air campaigner labelled ULEZ 'the most effective solution' to pollution and poor respiratory health. London Mayor Sadiq Khan said it would bring 'cleaner, healthier air.'"

Many articles used direct quotations to convey conflict. In the Standard, Hillingdon councillor Steve Tuckwell criticised the expansion and Khan directly, stating that "[o]ur local community, and countless others across London getting roped into this shambolic

[66] Dhakal, Kerry. "NVivo." *Journal of the Medical Library Association*, vol. 110, no. 2, 2022, pp. 270-272.

scheme, are dead against it. Not because we don't want clean air, as Sadiq keeps trying to spin. But we don't accept that taxing the lowest earners is the right way to go about it." Conflict was frequently depicted along political lines, with articles reflecting opposing views between the Conservatives and Labour and / or Sadiq Khan. For example, GB News reported, "London Mayor Sadiq Khan has been branded a 'modern day highwayman' in a scathing rant by the Deputy Leader of the Conservative Party, Lee Anderson."

Sixteen articles discussed winners and losers of the ULEZ expansion, often depicting small businesses, low-income families, and the elderly as losers, whilst City Hall, TfL, and Sadiq Khan were portrayed as winners. For example, an article in the Independent depicts Khan and City Hall as financially benefiting at the public's expense: "John Taylor, 81, said, 'I've had to sell my car and buy a new one, which cost me a lot of money unfortunately. We've never had a bad air pollution problem, and I think ULEZ is just a way of taking money away from us.'" Tabloids and broadsheets both used the conflict frame when reporting on the expansion.

2. Economic Frame

Media coverage often highlighted the economic implications of the ULEZ expansion on various segments of the population, including small business owners, tradesmen, the elderly, and low-income households. Of the thirty-seven articles employing an economic frame, all discussed the costs associated with the ULEZ expansion. Commonly cited figures included the £12.50 daily charge for non-compliant vehicles and the penalty for non-payment.

Several articles discussed immediate financial losses or gains (twenty) and references to wider economic consequences of pursuing the ULEZ expansion (sixteen). For instance, discussions often centred on the revenue generated by the scheme for the government and the cost to taxpayers. Metro emphasises the amount of money being generated by the scheme for TfL, writing that ULEZ "expansion raked in £23,000,000 in first month with 57,000 facing daily charge. ... That means TfL is receiving approximately £715,000 a day in ULEZ charges on average." The Sun emphasised the taxpayer burden, reporting "the scheme is expected to cost £140 million of taxpayers' money." Some reports also touched on broader economic repercussions, such as increased service charges for deliveries and goods transport, which critics argue could harm the London economy. LBC featured a perspective deeming the mayor's policy as "anti-business," predicting dire economic outcomes. Articles also explored financial relief measures, such as tax deductions for self-employed drivers using non-compliant vehicles for business purposes. The Financial Times reports: "'self-employed workers would be able to claim back the fee as part of their tax return if the journey was 'an exceptional trip solely for business'. The loophole will come as a relief to thousands of traders who fear they will have to replace their vehicles at great expense, despite there being support available from a scrappage scheme."

The framing varied between tabloids and broadsheets. Broadsheets, like Reuters, often used technical economic terminology and provided extensive context, framing the issue within the larger economy-versus-environment debate. Reuters notes that "opponents argue the £12.50 daily charge on older, more polluting vehicles is unfair and economically damaging." In contrast, tabloids tended to sensationalise the costs and focus on individual impacts. The Sun, for instance, employed emotive language to depict public outrage, stating that "[d]rivers have reacted with fury at paying an extra £12.50 a day to drive to collect their kids from school, go to the shops or see elderly relatives."

Overall, articles using the economic frame frequently adopted a negative tone, emphasising both direct expenses and broader economic consequences.

3. Attribution of Responsibility frame

The government is predominantly blamed in articles utilising the responsibility frame. Many articles (twenty-nine) suggested that some level of government can alleviate the problem, whilst twenty-eight articles indicated that the government is responsible for the problem. Often, the media attributed responsibility indirectly, quoting individuals who criticised the government over the scheme. Mayor Sadiq Khan was frequently singled out, though City Hall, Labour, and TfL were also held accountable. For example, Sky quoted then Prime Minister Rishi Sunak attributing responsibility to his political opponents: "I think people and families are struggling with the cost of living, that is obvious to everyone. And at that time, the Labour Party, the Labour Mayor Sadiq Khan and [Labour leader Sir] Keir Starmer are introducing the ULEZ charge which is going to hit working families."

Some positively framed articles also implicated Boris Johnson, noting that he introduced the ULEZ scheme as mayor of London in 2014.

Other articles implied that the government could alleviate the problem, whether it be the UK Government or City Hall, and suggested various solutions (fifteen). Proposed solutions include reversing the expansion, providing more funding for the scrappage scheme, and allowing more time between the announcement and implementation of the expansion.

Every negatively framed article (seventeen) used the responsibility frame, most often to attribute responsibility for ULEZ to the government, particularly to the mayor. Neutral and positive articles were less likely to blame the government outright but suggested that the government has the ability to alleviate the problem. Tabloids and broadsheets alike used the attribution of responsibility frame.

4. Human Interest Frame

The media's use of the human interest frame focused on highlighting those likely to be affected by the ULEZ expansion, aiming to generate an emotive response from audiences. Whilst the articles did not explicitly frame stories in empathetic or compassionate terms, they employed adjectives, personal vignettes, and visuals designed to evoke feelings of outrage, empathy, sympathy, or compassion. Specifically, thirty-two articles used emotive language, twenty-nine emphasised the personal impact of the ULEZ expansion, and twenty-one included visual elements designed to elicit an emotional reaction.

For example, a BBC article detailed the impact on a family living south of London, where their child is receiving cancer treatment:

> "Arin Ghosh has to drive his daughter from Kent to the Royal Marsden Hospital in Sutton every day for chemotherapy. He must pay the £12.50 daily [ULEZ] charge and … claim the cost back afterwards. Mr. Ghosh told the BBC the [ULEZ] fee was 'the last thing you should have to think about when attending critical appointments and caring for an unwell child.' He also said the process to claim back the charge was 'unclear, confusing and lengthy.' He added he believed he and others in his position should be fully exempt from the charge, as it would save time and allow him 'to spend as much time as possible with my daughter.'"

This story included an image of the father and daughter, likely intended to invoke compassion from audiences.

Reporters avoided direct expressions of compassion, instead putting a "human face" on stories by providing human examples (twenty-eight articles) and detailing the personal lives of those impacted by the expansion (twenty-one articles). Many negatively framed articles quoted individuals

for whom the ULEZ expansion represented a prohibitive expense, using these human interest tales to illustrate the severity of the situation. The media generally refrained from direct expressions of emotion or evaluative statements, with direct feelings of compassion appearing primarily in interviews or quotations.

All seventeen negatively framed articles used the human interest frame. Most articles utilising this frame combined multiple techniques from the coding list, suggesting that these methods are most effective when used together (e.g., photographs, emotive adjectives, and personal anecdotes). Tabloids and broadsheets alike used the attribution of human interest frame.

5. Morality Frame

This frame was the least utilised among those studied (nineteen articles). As with other frames, the media referenced moral perspectives indirectly through quotations or inferences rather than direct commentary. Reporters typically relied on others to "raise the issue," as they are not positioned to speak on morality themselves.[67] Articles using the moral frame often conveyed a stance, positive or negative.

Positively framed articles often highlighted the perceived immorality of allowing people to suffer from air pollution. For instance, The Guardian quoted London Mayor Sadiq Khan to introduce a moral perspective: "[Khan] told BBC Breakfast, 'We now have a really effective policy to reduce air pollution. It's shown to be effective in central London and inner London, but I think clean air is a right, not a privilege. What about outer London? Why shouldn't they breathe clean air? Why should they carry on dying prematurely in numbers that could be reversed?'"

Conversely, negatively framed articles focused on the perceived immorality of imposing financial burdens on those unable to afford them. Most neutral articles did not refer to morality. Tabloids and broadsheets both raised moral perspectives indirectly through quotations, with no significant differences in their approach.

B. *Online Comments*

This section presents a qualitative content analysis of readers' comments on the fifty news articles about the ULEZ expansion discussed in Section IV.A. A total of 508 readers' comments were coded and categorised into frames, opinions, and themes. The coding process was inductive, examining the comments within their contextual use to align with the research objective. The contextual meaning of words was derived from the readers' comments, which served as the units of analysis.

Table 3, below, presents a breakdown of the origin of each comment based on article framing: 188 comments are from negatively framed articles, 243 from neutral articles, and 77 from positively framed articles. This distribution roughly reflects the proportion of framed articles analysed in Section IV.A, with about half of the comments coming from neutral articles. Most comments originate from neutral or negatively framed articles. There are significantly fewer comments on pro-ULEZ articles for two main reasons: many of these news websites do not have comments enabled, limiting access to public discourse, and there are generally fewer pro-ULEZ articles available.

The overall sentiment of the comments is shown in Table 4, below. Nearly three out of five comments (58%) opposed the ULEZ expansion, while a third (33%) expressed support. Less than 10% were neutral about the expansion. The ULEZ expansion is clearly a polarising issue, with opposition voices being the most prominent.

Breaking down the opinions of comments by their origin reveals significant trends (Table 5, below). Most commenters on anti-ULEZ framed articles also expressed opposition to the ULEZ expansion. Specifically, 148 commenters on these articles were opposed

[67] Neuman et al. (n 34) *supra*.

(79%), 5 were neutral (14%), and 35 were supportive (19%). Neutrally framed articles exhibited a more balanced distribution of opinions: 116 opposed the expansion (48%), 95 supported it (39%), and 32 remained neutral (13%). In the case of positively framed articles, supportive comments outnumbered opposing ones, yet opposition voices were still notable: 36 commenters supported the expansion (47%), 30 opposed it (39%), and 11 were neutral (14%).

In exploring themes that emerged from comments, several trends became apparent. Common subjects or themes were identified and categorised. The most significant themes are shown in Table 6, below.

The most frequently mentioned subject was Sadiq Khan, referenced in 138 comments (27%). Comments falling under this category explicitly mentioned the mayor, often including praise or criticism as the face of ULEZ. The second most mentioned theme was conspiracy or cash grab, with 92 comments (18%). Many commenters expressed suspicion about the ULEZ expansion, perceiving it as a government scheme to generate revenue. Comments in this category often suggested that the expansion was a pretext for restricting freedoms, predicted its wider implementation, or asserted that the proceeds would benefit Sadiq Khan and the government. Policy criticism was the third most prevalent theme, appearing in 71 comments (14%). This category included critiques of the ULEZ policy and suggestions for improvement, and recommendations for other policy measures the government should prioritise. Additionally, 54 comments (11%) addressed the affordability of the ULEZ expansion and its impact on marginalised groups, such as low-income families. These comments often highlighted the financial burden of the scheme, its implications during the cost of living crisis, and its effects on small businesses and tradespeople.

Other themes appeared in smaller numbers: the health benefits of ULEZ (38 comments), the Conservative Party (30), criticisms of reporting and the media (29), the environmental benefits of the ULEZ expansion (20), the Labour Party (20), wider economic impacts of the expansion (11), and anti-environment / climate denial rhetoric (9). Descriptions of each theme are as follows:

- Health benefits of ULEZ: emphasised the health advantages of cleaner air, particularly for individuals with asthma, children, and the elderly.
- Conservative Party: mentioned the Conservative Party, typically blaming them for perceived harmful rhetoric or political manoeuvring.
- Criticism of journalism / reporting / media: criticised the quality of reporting, pointing out perceived errors, misrepresentations, or political bias.
- Environmental benefits of ULEZ: highlighted the improvements in air quality due to ULEZ.
- Labour Party: mentioned the Labour Party, either positively or negatively, often attributing responsibility for the policy to them.
- Wider economic impacts: suggested that ULEZ would raise the costs of goods and services, negatively affecting the economy.
- Anti-environment / climate denial: argued against the necessity of measures like ULEZ, often denying the reality of climate change.

Patterns emerged based on the overall sentiment of the comments, highlighting themes / subjects that were associated with specific opinions (Figure 1, below).

With comments supporting ULEZ, a prevalent theme was the emphasis on its health benefits, cited in 38 instances. One commenter on the Telegraph wrote: “I can’t stand Khan, but as someone who lives in Central London, the current ULEZ zone has reduced pollution / noxious fumes / CO2 substantially. Figures easily available online. Why should other’s choices affect my kids’ lungs?”

Supporters also underscored the environmental advantages of cleaner air, often mentioned alongside its health benefits.

One Financial Times reader explained:

> "I cycled along a busy road in Bromley on Thursday evening and my airways still feel raw from the car exhaust pollution. I absolutely support the expansion of ULEZ because this will make the outer boroughs air cleaner, reduce motor traffic and therefore help to increase more environmentally friendly means of transport."

References to the Conservative Party varied among supportive comments, with some attributing the scheme's introduction to Boris Johnson, while others criticised the then Tory government's stance against ULEZ.

Amongst neutral commenters, a recurring theme involved criticism of the article or publication itself rather than addressing the ULEZ expansion directly. For instance, similar sentiments were expressed in comments on the Financial Times, where criticism of the journalist's framing of a tax deduction for ULEZ charges incurred for business as a loophole was voiced.

In contrast, the opposition camp expressed a wide array of themes. The predominant subject among those opposing ULEZ centred on personal criticism of Sadiq Khan. Many comments blamed the mayor, questioning his competence and ethics, alleging personal gain from the scheme, and questioning his commitment to the welfare of Londoners. One reader of the Daily Mail writes "Sadiq is a thief and a conman, attacking the poor as usual, he is bringing London to a standstill! His lies about death is [sic] also wrong, one recorded death from air pollution since 2015!" Some remarks even resorted to derogatory labels like 'Genghis Khan', reflecting a tone of name-calling and personal insults.

Conspiracy theories and accusations of a 'cash grab' were significant among opponents of the ULEZ expansion. Many expressed strong suspicions regarding its true intentions. For instance, some commenters feared that the ULEZ expansion could be a precursor to a pay-per-mile scheme. Concerns about government surveillance were also expressed.

Others questioned the allocation of funds, suggesting it could be a bailout for TfL or a financial gain for Sadiq Khan. One Daily Express reader speculates: "how much of a person's £12.50 will go towards cleaning up the air and how much will go towards bailing out TFL?" Many critics asserted that the government's primary concern was profit rather than addressing air pollution, viewing drivers as easy targets for revenue generation.

Many critics of the expansion justified their opposition by highlighting its potential financial burden on various groups. A common concern raised was the affordability issue, particularly amidst the broader cost of living crisis. Commenters noted that those driving older vehicles often belong to low-income brackets, questioning the fairness of imposing additional fees on individuals who struggle to afford vehicle upgrades. One Mirror reader writes: "So who are the people who need the scrappage trade in-? Those with very old cars! In the main who are those with very old cars? People who could not afford a new one either second hand or off the production line!" Moreover, there was recognition of the impact on small businesses and tradesmen who rely on vehicles to transport essential equipment, making alternative transport options impractical. One reader on the Standard made a sarcastic reply about the impact of ULEZ on tradesmen: "that's why I will in future use my cycle to carry all my tools and equipment to jobs. Shouldn't be a problem to fit a few 3metre lengths of copper tube over my shoulder, balance a boiler and a few radiators on my handle bars". Additionally, discussions extended to vulnerable groups such as the sick and elderly, underscoring concerns about how ULEZ could disproportionately affect their mobility and daily lives.

Although less frequently mentioned, criticism of the Labour Party was notable among opponents, with some blaming the party for prioritising other interests over those of working people. A subset of critics also expressed concerns about the broader economic impacts of ULEZ, fearing potential inflation and detrimental effects on London's economy. A Standard reader expressed fears for the economy: "zero proof a single life would be saved. However, many livelihoods will be destroyed slowly due to increased costs, possibly leading to unemployment, business closures, bankruptcies, and even suicides? Doesn't sound like a win to me." Additionally, a few individuals asserted that the ULEZ expansion was unnecessary, disputing claims of environmental necessity.

Interestingly, policy criticism emerged prominently across both opponents and supporters of the ULEZ expansion. Many voiced scepticism about its effectiveness, citing mixed scientific evidence and proposing alternative methods to tackle air pollution. Others argued that the government's scrappage scheme fails to provide adequate financial support for purchasing new vehicles. Moreover, critics and supporters alike highlighted areas where ULEZ policy could be strengthened and offered additional policy recommendations for consideration.

V. **Discussion**

In this study, I examined how the British media framed the ultra-low emission zone (ULEZ) expansion in London and how online public discourse reacted to these articles.

A. *News Media Articles*

My first objective was to examine the framing of ULEZ expansion across fifty articles from British news outlets, assessing five common frames and whether they were supportive, neutral, or opposed. Overall, my findings from the articles analysis reveals there is a strong polarisation on the ULEZ expansion, with opposition being the loudest. Framing varies depending on the publication, with clear evidence of policy bias. Some articles were neutral and expressed no policy preference, while others were overtly supportive or opposed. The use of interviews and quotations was a key mechanism employed by those articles with a policy preference, using interviewees as a proxy to convey an overall stance. This finding confirms a well-established theory that suggests media outlets frame issues in different ways, reflecting a range of policy biases.[68]

The analysis revealed a few articles which were supportive of the ULEZ expansion, mostly from centrist or left-of-centre publications like The Guardian. Neutral coverage was found in broadsheets like The Times, Financial Times, BBC, Sky News and ITV, confirming the literature which suggests broadsheets tend to offer more balanced reporting.[69] Negative framing was found in many tabloid publications like The Daily Mail, The Express and The Sun, as well as some right-leaning broadsheets like The Telegraph. Articles with a stance were twice as likely to be negative as positive. Political alignment shaped coverage; left-leaning outlets were neutral or supportive, while right-leaning ones were more often opposed, reflecting party loyalties.[70]

The most common frames, in order of predominance, were conflict, economic consequences, attribution of responsibility, human interest and morality. The conflict frame, the most widely used, was typically presented as a battle between proponents of the expansion like Sadiq Khan and TfL against various detractors. The economic frame, often used negatively, highlighted the economic impacts of the expansion on different populations. Responsibility attribution largely blamed the government, usually Sadiq Khan

[68] Strömberg, David. "Mass Media Competition, Political Competition, and Public Policy." *Review of Economic Studies*, vol. 71, no. 1, 2004, pp. 265-284; Baron (n 27) *supra*.

[69] De Vreese, Claes, et al. "The News Coverage of the 2004 European Parliamentary Election Campaign in 25 Countries." *European Union Politics*, vol. 7, no. 4, 2006, pp. 477-504.

[70] Baron (n 27) *supra*.

himself, and was usually used in negative articles. The human interest frame focused on the personal impact of the ULEZ expansion, while the morality frame, the least used, appeared mostly in positively framed articles discussing environmental benefits and in negative articles highlighting financial burdens. The use of news frames depended on the overall stance of the article. Articles that were negatively framed (that is, opposed to the ULEZ expansion) tended to use the responsibility attribution, human interest and economic frames. Neutral frames tended to avoid overt blame and emotional manipulation, focusing instead on factual reporting. Positively framed articles rarely used responsibility or economic frames, but occasionally took a moral frame to argue against environmental degradation and threats to human health.

1. Tabloids vs Broadsheets

Comparing tabloids and broadsheets' coverage, I found that broadsheets, as expected, generally held a neutral stance, giving factual accounts of the expansion, often showing two or more sides of the story and allowing readers to come to their own conclusion. Notable exceptions included publications that tend to be more overtly political like The Telegraph and The Guardian. Half of articles took a definitive stance, with twice as many taking a negative stance than a positive stance, suggesting a general media bias against the ULEZ expansion. As is often the case, the negative voices seem to be the loudest.[71]

Tabloids and broadsheets used similar frames, though tabloids sensationalised costs in the economic frame, while broadsheets provided more context and technical language. This approach by tabloids, although potentially oversimplified, likely sought to make content more accessible to appeal to a broader audience. Tabloids also frequently combined multiple frames to enhance the impact of their articles. Thus, my findings somewhat support the literature as tabloids tended to sensationalise while broadsheets were usually more technical when it came to economics,[72] but in my study broadsheets also employed techniques that would traditionally be used by tabloids like human interest stories.

Neutral broadsheets used the conflict frame to show both sides of the story, whilst tabloids often sensationalised conflict through direct quotations. With the economic frame, the literature suggests this frame occurs more often in serious newspapers.[73] My results were not consistent with this finding. Rather, I found tabloids and broadsheets alike used this frame. However, as mentioned, the way in which they used it differed.

Semetko and Valkenberg found that serious publications used attribution of responsibility most frequently, while sensationalist news programmes used it less often.[74] My results do not support this finding, as I found that both tabloids and broadsheets used this frame. The only difference in the use of the responsibility frame was in the overall stance of the article itself, where negative articles were more likely to use it than neutral or positive articles, which also contradicts Semetko and Valkenburg's findings. However, Iyengar posited that by covering an issue or problem episodically (an isolated event or individual instance), the media leads readers to attribute social problems to individual actions:[75] a phenomenon my findings do support. In the ULEZ expansion case, the responsibility attribution frame was largely used to blame City Hall and Sadiq Khan. Furthermore, the literature suggests the human interest frame is used more by sensationalist newspapers.[76] This is consistent with my findings. I found neutral and more serious articles used this

[71] Ha, Taehyun, and Sangwon Lee. "Why Majorities Are Silent but Minorities Are Loud: An Empirical Approach to Opinion Interactions in Online Communities." *International Journal of Human–Computer Interaction*, 2023, pp. 1-10; Baumeister, Roy, et al. "Bad Is Stronger than Good." *Review of General Psychology*, vol. 5, no. 4, 2001, pp. 323-370.

[72] De Vreese et al. (n 69) *supra*.
[73] ibid.
[74] Semetko and Valkenburg (n 31) *supra*.
[75] Iyengar (n 7) *supra*.
[76] Valenzuela et al. (n 33) *supra*.

frame less than those with a stance (usually a negative stance). Finally, my findings are consistent with the literature on the morality frame which is seldom used.[77]

Interestingly, most articles used direct quotations to indirectly present policy bias. Quotations were used to attribute responsibility, portray conflict, suggest moral perspectives, and evoke emotions. This strategy allows media outlets to appear policy neutral while subtly influencing public opinion through selected quotations. I speculate that the media's general opposition to the ULEZ expansion is due to several factors. Like many current issues, the ULEZ expansion has become highly politicised, with publications aligning their content with the stance of the political parties they support. There is a growing boding of literature on the pervasiveness of negative media, which could explain the media's coverage of the expansion. Scholars point out that negativity in news is a way to compete for audiences' attention, as it is entertaining, interesting, eye-catching, and understandable. Media outlets therefore overemphasise negative news to get high ratings.[78] Additionally, because the topic is so emotional and controversial, this likely drives readership and ensures continued coverage. The emotional elements of the ULEZ debate, such as its impact on small businesses and individual livelihoods, likely adds to media interest and public engagement.

B. *Online Comments*

Additionally, I analysed 508 comments from the fifty news articles. Most comments came from neutral and negatively framed articles, with fewer from positively framed articles. I suspect there were fewer comments on pro-ULEZ articles because many of these articles had disabled comment sections and there were simply fewer pro-ULEZ articles overall. Additionally, most readers who support the expansion of ULEZ (47% of Londoners)[79] likely feel less compelled to comment than those who oppose the expansion, as the literature suggests that people are more inclined to voice their dissatisfaction publicly than to comment when they are satisfied or unaffected.[80]

There is a clear polarisation of opinions amongst the comments, with detractors being most vocal: 58% were opposed to the expansion, 33% supported it, and less than 10% were neutral. My results contradict a YouGov poll conducted just before the expansion in August 2023, where just under half of Londoners said they support the ULEZ expansion (47%) whilst 42% were opposed.[81] It seems like online commentary is not reflective of overall public opinion in this matter. This supports a growing body of literature which finds differences in outcomes between studies of online reader comments and public opinion surveys, confirming that online comments are not always representative of the population at large.[82] However, one potential explanation for this divergence is the political leanings of the publication from which the comments were sourced. Reader comments often reflected the ideological stance of the outlet, which potentially shaped how the audience engaged with the content. For instance, readers of right-leaning outlets like The Daily Mail and The Telegraph may be more inclined to express opposition to the ULEZ expansion, whilst commenters on left-leaning platforms such as The Guardian may be more supportive.

This dynamic points to an interesting interaction between media framing and public engagement, where the framing of an article not only shapes the narrative but also influences the nature and volume of

[77] Semetko and Valkenburg (n 31) *supra*.
[78] Van der Meer, Toni, et al. "Crafting Our Own Biased Media Diets: The Effects of Confirmation, Source, and Negativity Bias on Selective Attendance to Online News." *Mass Communication and Society*, vol. 23, no. 6, 2020, pp. 937-967.
[79] Smith, Matthew. "Londoners Split on ULEZ Expansion." *YouGov*, 30 Aug. 2023.
[80] Baumeister et al. (n 71) *supra*; Pfeffer, Jürgen, et al. "Understanding Online Firestorms: Negative Word-of-Mouth Dynamics in Social Media Networks." *Journal of Marketing Communications*, vol. 20, no. 1-2, 2013, pp. 117-128.
[81] Smith (n 79) *supra*.
[82] De Kraker et al. (n 65) *supra*.

comments. Negatively framed articles attracted more opposition, whilst neutral articles garnered more balanced views, highlighting confirmation bias, where readers engage more actively with content that aligns with their pre-existing beliefs.[83] This finding suggests that the political leanings of a publication may amplify certain voices within the comment sections, contributing to an echo chamber effect in which dissenting or minority opinions are less visible. Whilst the objective of this paper was not to establish causality, future research could work to establish causality between article framing and political bias on reader opinion on the ULEZ expansion.

Many themes emerged from the comments, and the nature of these themes appears to correspond with the political orientation of both the reader and the publication. Top themes include references to Sadiq Khan, conspiracy theories (e.g., cash grab), policy criticism, and affordability. Critics often mentioned Sadiq Khan negatively, particularly in publications known for their conservative stance, and viewed ULEZ as a revenue-generating scheme. Affordability was another key theme raised by detractors, who expressed concerns about the financial impacts of the expansion on low-income families and small businesses. This suggests that the readership of right-leaning tabloids, where affordability concerns were most prominent, may engage more with articles highlighting the economic costs of the ULEZ expansion. On the other hand, supporters of ULEZ, often commenting on left-leaning outlets, frequently mentioned the health and environmental benefits of the policy. This division in themes reflects the broader ideological divide between readers of different publications, reinforcing the idea that public discourse in comment sections is shaped by both media framing and the political bias of the outlet. My findings seem to indicate more harsh rhetoric comes from detractors, which is not a surprise. Studies on online reader comments have found commenters to be "blindly opinionated,"[84] "often challenging institutions,"[85] and "using comments to vent and bloviate."[86]

Policy criticism was used by both supporters and detractors, where readers offered critiques and suggestions for the ULEZ policy and offered alternative measures. The policy criticism finding supports John's ideas-based approach concept, where ideas about solutions to policy problems circulate and gain influence independently of the policy process.[87] Criticism of reporting also emerged, most often among readers of neutral articles, suggesting readers expect a high level of quality from neutrally framed publications, typically broadsheets. In summary, the dichotomy of themes tells us that the two sides are coming with very different points of view. The question then is how can we reconcile both sides? Is there a way to frame these issues so that the public is more receptive?

C. *Policy Implications*

Clearly, it is impossible to get everyone onboard with any policy. However, the media and commenters have pointed out some flawed elements of the expansion policy's design, like its perception as a cash grab and affordability issues. The ULEZ expansion can thus provide a valuable lesson to policymakers in understanding how policy gets translated by the media**.** Even though the expansion is designed to improve air quality, the financial penalties have led many in the media and the public to view it as a tax, with some assuming the scheme is merely a revenue-raising

[83] Nickerson (n 45) *supra*; Knobloch-Westerwick, Silvia, et al. "Confirmation Bias, Ingroup Bias, and Negativity Bias in Selective Exposure to Political Information." *Communication Research*, vol. 47, no. 1, 2020, pp. 104-124.

[84] Richardson, John, and James Stanyer. "Reader Opinion in the Digital Age: Tabloid and Broadsheet Newspaper Websites and the Exercise of Political Voice." *Journalism*, vol. 12, no. 8, 2011, pp. 983-1003.

[85] McCluskey, Michael, and Jay Hmielowski. "Opinion Expression During Social Conflict: Comparing Online Reader Comments and Letters to the Editor." *Journalism*, vol. 13, no. 3, 2012, pp. 303-319.

[86] Eisinger, Robert. "Incivility on the Internet: Dilemmas for Democratic Discourse." APSA 2011 Annual Meeting Paper, 2011.

[87] John (n 47) *supra*.

strategy. This perception is worsened by the unpopularity of penalising those who cannot afford extra expenses, especially since poor air quality disproportionately affects low-income communities.[88] For policymakers looking to implement similar schemes in future, it is important to ensure that the design has been well thought out and includes supports for those who need it. In the case of ULEZ, supports were made available, but funding was limited and only those living within Greater London were eligible to apply. If these factors are overlooked, the policy will likely be heavily criticised by the media and the public, as with the ULEZ expansion. It is also evident that this a highly polarised issue, with many people expressing valid concerns. For policymakers looking to implement similar policies, creating a forum for dialogue to allow people to voice their concerns could be helpful. In the case of ULEZ, the media and readers were quick to cite conflicting evidence and policy contradictions related to the expansion. Therefore, policymakers need to be prepared to listen to the public's concerns and provide strong, evidence-based justification for policy decisions if those decisions go against a subset of the population's interests.

Policymakers cannot control media framing or content. However, there are strategies for effectively (and ineffectively) framing policy, as demonstrated by the ULEZ expansion case. Policymakers should engage with a variety of media outlets to provide clear, factual and consistent messaging through well-prepared spokespersons. With the ULEZ expansion, spokespersons seemed to deliver a uniform message regardless of the outlet. Rather, communication messages should be tailored to specific media types. For example, tabloids often sensationalised the costs associated with the ULEZ expansion, so proponents could instead emphasise the cost estimates of air pollution-related illnesses on taxpayers through the NHS. 'Us vs. them' rhetoric is also used frequently in ULEZ policy debates, which further alienates some constituents and contributes to polarisation. Policymakers can try to bridge the gap by framing issues to emphasise common ground, doing so using simple language and addressing the concerns of stakeholders.

In addition, the ULEZ expansion shows how complex implementing ambitious environmental policies can be, particularly those with direct economic impacts on the public. Climate policies often face significant political and media scrutiny, and as seen with ULEZ, perceptions of fairness and affordability are crucial to securing public buy-in. Policymakers should recognise that whilst environmental initiatives like ULEZ aim to address urgent issues like air pollution, public opposition can arise when policies are perceived as being a financial burden, especially for low-income populations. This has broader implications for climate policy. Future policies targeting emissions reduction—whether through congestion charges, clean air zones, or carbon taxes—must prioritise equity in their design. Providing adequate financial support to those disproportionately affected is essential to avoid the backlash observed with the ULEZ expansion. Furthermore, the polarisation in media coverage suggests that climate policies will continue to be contested in public discourse, which can affect their implementation and viability. To mitigate these risks, policymakers need to foster more transparent, inclusive dialogue around climate policy. Creating forums for public input and addressing concerns through evidence-based communication could help bridge divides. Ultimately, climate policies must strike a balance between environmental goals and economic realities, ensuring they are both effective and socially equitable to withstand political and public scrutiny.

D. *Limitations and Future Research Directions*

A significant limitation of my work was the small sample size of articles and comments. Additionally, selection effects with my article

[88] Rentschler, Jun, and Natalia Leonova. "Global Air Pollution Exposure and Poverty." *Nature Communications*, vol. 14, no. 1, 2023, p. 4432.

selection and comment sourcing are a significant drawback. Because my sampling was not randomised, it is likely to not be representative of the population which I seek to study, introducing selection bias. Comments themselves also present a self-selection bias, as some subsets of the population are more likely to publicly comment on news articles than others. Furthermore, these comments are not representative of the population because the media itself is not representative of the population. These factors and others likely introduced bias into my findings. Future research could address these limitations by looking at more articles over a greater time period from a larger range of publications. Analysing additional comments from various sources beyond the articles in question (for instance, Reddit, Twitter and other social media sites) could provide a wealth of data. Another important direction for future research would be to establish causality. Using experimental design, future researchers could establish whether media framing actually changes the opinion of its readers on the ULEZ expansion or other environmental policies. Moreover, a more longitudinal study could be done, looking at how opinion has changed over time on ULEZ since it was first introduced in 2014, to its first and second iteration, and see how the media and public opinion have correspondingly evolved over that period.

VI. **Conclusion**

This study explored the media framing of the ULEZ expansion in London and its impact on public discourse, revealing significant polarisation in both article coverage and online commentary. Media outlets with varying political orientations framed the expansion differently, with left-leaning outlets offering neutral or supportive stances, whilst right-leaning outlets largely opposed it. The analysis of reader comments demonstrated a similar polarisation, with opponents being more vocal. These findings highlight the influential role of media framing in shaping public opinion on environmental policies and the potential disconnect between online discourse and broader public sentiment. The implications for climate policy are clear: future initiatives must consider equity, affordability, and transparent communication to ensure public support.

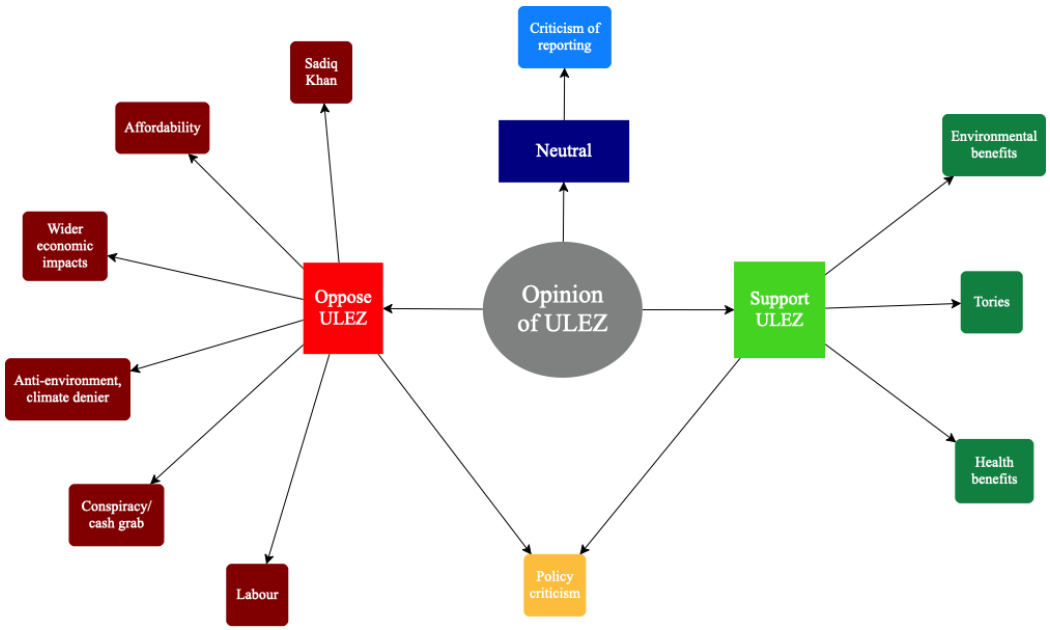

Figure 1: Map of Themes by Opinion of ULEZ Expansion

Article framing	**# of articles examined**
Anti-ULEZ frame	17
Neutral frame	25
Pro-ULEZ frame	8
TOTAL	50

Table 1: Number of Articles by Frame

Frame	**Used**	**Did not use**
Conflict frame	42	8
Economic frame	37	13
Attribution of responsibility frame	36	14
Human interest frame	36	14
Morality frame	19	31

Table 2: Article Breakdown by Frame

Article framing	**# of comments examined**	**Percentage of total comments**
Anti-ULEZ frame	188	37%
Neutral frame	243	48%
Pro-ULEZ frame	77	15%
TOTAL	508	

Table 3: Origin of Comments Based on Article Frame

Article framing	# of comments	Percentage of total comments
Oppose ULEZ	294	58%
Neutral about ULEZ	48	9%
Support ULEZ	166	33%

Table 4: Overall Opinion of Comments

Article framing	Oppose ULEZ	Neutral about ULEZ	Support ULEZ
Anti-ULEZ frame	148	5	35
Neutral frame	116	32	95
Pro-ULEZ frame	30	11	36

Table 5: Opinion of Expansion by Origin of Comment

Theme/Subjects	# of comments
Sadiq Khan	138
Conspiracy/ cash grab	92
Policy criticism	71
Affordability/ poor	54
Health benefits of ULEZ	38
Tories	30
Criticism of reporting/media	29
Environmental benefits of ULEZ	20
Labour	17
Wider economic impacts	11
Anti-environment, climate denier	9

Table 6: Theme Breakdown