

Media framing and political discourse of Barcelona's urban transformations (2016–2024)

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ABSTRACT

Superblocks have become a symbol of climate-oriented urbanism; however, their implementation has generated significant controversy, public protest, and electoral mobilisation. These conflicts reveal the inherently political nature of urban transformations, in which competing visions of the city are negotiated, resisted, and reimagined. As institutions, public discourse, and the media collectively shape public acceptability, this study examines how the press has constructed, amplified, and challenged narratives around superblocks, and how these discourses have influenced political debate and responsive planning. The analysis draws on 896 news articles and headlines concerning Barcelona's superblocks, published between 2016 and 2024. Using a natural language processing (NLP) model, the study traces temporal changes in the press sentiment and emotion. The findings indicate a persistent bias towards a negative tone. Emotions such as anger and fear appear alongside anticipation and joy, reflecting polarisation in public discourse around superblocks. Notably, peaks in negative media coverage coincide with periods of protest, urban lawfare, and electoral cycles. This pattern suggests that the media has both mirrored and reinforced conflictual framings of superblocks. By emphasising risks such as gentrification, participation deficits, and traffic disruption, the media have helped shape the political stakes of superblocks. Yet the analysis also suggests that legitimate criticisms prompted municipal responses to address these concerns. Additionally, the study identifies a dissonance between media framings and other indicators, suggesting a potential gap between journalistic accounts and lived urban realities. These findings highlight the importance of acknowledging the media's political role in shaping public acceptability and urban transformation processes.

1. Introduction

Amid the ongoing climate crisis, cities are increasingly recognised as pivotal sites for transformative change. Urban interventions that address environmental challenges, public health, and social equity are gaining momentum as both policy tools and political symbols. Among these, superblocks are regarded as a model for the future of urbanism, prioritising sustainability and liveability (Zografos et al., 2020). Originating in Barcelona, this spatial strategy reconfigures urban spaces by expanding pedestrian zones, reducing vehicular traffic, and integrating green infrastructure. Its goals include mitigating climate change, reducing air pollution, improving public health, and creating community-oriented spaces (Eggimann, 2022; Mueller et al., 2020).

Yet, the success of these urban interventions cannot be measured

solely by environmental or spatial outcomes; their long-term viability also depends on public perception and experience. Public acceptability is shaped by procedural, social, and individual factors, including the perceived fairness of policies and decision-making processes, political beliefs, institutional trust, and personal attitudes and values (Marquet et al., 2024c). These factors, in turn, are influenced by the communication and framing of these interventions (Whitemore & BenDor, 2021). Given the contentious nature of policies that restrict car use, both traditional and social media have become central arenas for discussing and negotiating climate-oriented urbanisms (Haarstad et al., 2025; Verlinghieri et al., 2024; Kenis & Barratt, 2022). Press coverage, in particular, plays a key role in shaping public narratives around urban interventions, disseminating both supportive and oppositional discourses that influence public reception and understanding (Jung &

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Wentland, 2024; Polat, 2024). Despite increasing recognition of the media's influence, there is a lack of comprehensive, quantitative analysis of how the press frames transformative urbanism and how this framing evolves, particularly in relation to political cycles and the different stages of programme implementation.

This paper addresses this research gap by analysing media discourse on Barcelona's superblocks. The analysis investigates how the press uses sentiment and emotional framing to construct, amplify, and disseminate narratives of acceptance and controversy. It contributes to the literature on transformative urbanism by examining the temporal dynamics of media framing. Specifically, it is hypothesised that the tone and emotional framing of media coverage change over time. Early reporting is expected to reflect scepticism and resistance, with more positive coverage emerging following implementation (Börjesson et al., 2016). Furthermore, given the superblocks' status as a flagship programme of the local government (Anguelovski et al., 2023), increased media attention and narrative polarisation are anticipated during municipal election periods. By tracing the evolution of media narratives across phases of programme implementation, political contestation, and public debate, the study advances understanding of the media as a critical arena through which the legitimacy and meaning of transformative urban interventions are negotiated.

2. Literature review

2.1. Urban planning as a contentious issue: the case of Barcelona's superblocks

Urban interventions that restrict automobility often generate controversy (Haarstad et al., 2025). Agonistic planning theory conceptualises such conflicts as integral to democratic processes (Mouffe, 2005). In contrast, contemporary post-political planning trends often minimise or deliberately silence disagreement and debates in favour of technocratic decision-making (Verlinghieri et al., 2024). Legacy (2017) identifies a crisis in formal participatory planning, contending that participation has been appropriated to manufacture consensus rather than to enable authentic democratic debate. When formal participatory mechanisms fail or are perceived as insincere, groups opposing urban transformation often turn to the media to amplify their dissent, favouring confrontational tactics over collaborative co-creation (Haarstad et al., 2025; Trapenberg Frick, 2021). However, while media engagement can be antagonistic, some groups also use it strategically to exert influence and participate in urban political processes (McAuliffe & Rogers, 2018).

Within this broader planning crisis, Barcelona's Superblocks programme was launched in 2016 under the leadership of Mayor Ada Colau. A Superblock involves closing several road junctions within a grid of blocks, thereby restricting vehicular traffic, prioritising active mobility, and increasing green space. Guided by the principles of new municipalism, Colau's administration sought to embed radical democratic practices within local government institutions (Feenstra & Tormey, 2023). This approach aimed to institutionalise grassroots values such as participatory democracy, spatial justice, and proximity-based governance (Roth et al., 2023; Sareen & Waagsaether, 2023). Rather than representing neutral spatial reforms, superblocks provoked significant local opposition from groups seeking to preserve the status quo (Frago & Graziano, 2021; Polat, 2024). This pushback extended beyond objections to mobility restrictions, reflecting deeper anxieties about power redistribution and the legitimacy of municipal authority (Zografos et al., 2020).

Local media coverage reflected these concerns by emphasising implementation challenges, perceived lack of public consultation, traffic disruption, and alleged threats to the local economy. In contrast, international media outlets highlighted the environmental and public health benefits associated with superblocks (López et al., 2020). Despite local opposition, superblocks were implemented throughout the city, establishing the programme as a flagship initiative for the local government

and as a symbol of its broader objectives of environmental justice, public health, and urban equity (Zografos et al., 2020).

Following the 2019 re-election, the municipality rebranded the programme as 'green axes' to mitigate controversy associated with the 'superblock' label (Marquet et al., 2024b). These axes were designed to traverse significant portions of the orthogonal grid developed by the urbanist Ildefons Cerdà, a defining feature of Barcelona's urban landscape (Gerència de l'Arquitecte/a en Cap et al., 2023). However, the rebranding did not diminish opposition; rather, it reignited public debate and prompted legal actions against the municipal government. Montaner (2023) refers to this as a form of 'urban lawfare', whereby legal mechanisms are strategically used to obstruct progressive urban policies.

Since the launch of the Superblocks programme, concerns raised by opposing groups have received considerable attention in local media. These concerns have encompassed both legitimate issues, such as the risk of gentrification, and symbolic issues, including perceptions that reduced car use infringes upon personal freedom. In some cases, opposition also reflected broader dissatisfaction with the municipal agenda (Marquet et al., 2024b; Zografos et al., 2020). Several criticisms, including claims of increased traffic and parking shortages, have been refuted. Empirical studies indicate that traffic has not increased on the periphery of superblocks and these interventions have improved noise levels and air quality (Nello-Deakin, 2022; Rodríguez-Rey et al., 2022). These environmental improvements have, in turn, produced measurable public health benefits (Cash-Gibson et al., 2024). Nevertheless, research suggests that pedestrianisation projects can contribute to gentrification, although this risk may be mitigated through targeted housing policies (Villar-Abeijón et al., 2025). Irrespective of the legitimacy of specific concerns, attending to media discourse remains crucial for revealing the competing visions of the city's future that shape public perceptions and acceptance of urban interventions.

2.2. Media discourse and the politicisation of urban transformations

Policies restricting automobility can often generate disruption, competing claims, and conflicting visions of urban futures. In such contexts, media outlets can serve as intermediary arenas where controversies are translated, amplified, and negotiated, thereby mediating public acceptability and politicisation of urban transformations. Drawing upon communication studies, four interrelated mechanisms are identified through which media may shape public interpretation of superblocks: agenda-setting, interpretative framing, emotional amplification, and political priming.

First, through the frequency and prominence of coverage, media outlets set the agenda of relevant issues in public discourse, a process known as *agenda-setting* (McCombs & Shaw, 1972). Although media may not dictate what audiences think, they strongly influence what they think *about* by directing attention to specific topics, controversies, and actors (Boykoff, 2012). In the context of urban transformations, where interventions often cause visible disruptions to everyday life, this increased salience can elevate planning issues to matters of broad political concern.

Beyond setting the agenda, news organisations construct *interpretative frames* by selecting and emphasising certain aspects of reality, thereby guiding audience understanding of complex issues. These frames shape how problems are defined, how responsibility is attributed, and which solutions are considered legitimate (Entman, 1993). For instance, superblocks may be interpreted as environmental and public health initiatives aimed at reclaiming public space (solution frame), or as mobility restrictions that undermine accessibility and individual freedom (disruption frame). The repeated circulation of these narratives through media framing contributes to shaping public perceptions of legitimacy, fairness, and desirability (Ford & King, 2015; Nisbet, 2009; Vandenhole, 2025).

In addition to interpretative framing, media discourse can intensify

the emotional aspects of urban controversies. In contentious planning contexts, emotionally charged narratives can shape how interventions are perceived and debated by emphasising particular *emotional frames* (Lecheler et al., 2015). Emotions such as fear and anger may reinforce perceptions of risk, injustice, or institutional failure, while anticipation and trust may contribute to expectations of collective benefit and policy legitimacy (Nabi, 2003). This dynamic is especially pertinent to car-restrictive interventions, which are subject to diverse interpretations—social, economic, environmental or aesthetic—and often alter daily routines, accessibility and public space usage, resulting in visible changes to the urban fabric. In complex and polarised debates, such as those surrounding superblocks (Marquet et al., 2024b; Tiran et al., 2025; Verlinghieri & Schwanen, 2020), people rely on interpretative and emotional shortcuts to form opinions (Iyengar, 1991; Nisbet, 2009).

Finally, the media can also shape *how* people *evaluate* political leaders and policies (Iyengar, 1991). Repeated coverage and strategic framing can increase the cognitive accessibility of specific issues, which then serve as reference points for assessing political candidates, competing visions of the city, and, ultimately, for making voting decisions (Krosnick & Kinder, 1990; Scheufele & Tewksbury, 2007).

Media framing and agenda-setting have received increasing attention in urban research (Cai, 2021; Chen & Wei, 2023; Doshi & Garschagen, 2023). Analysis of media coverage of urban interventions that promote active mobility and public transport demonstrates the significant role of media narratives in shaping public discourse and influencing policy trajectories (Allansson, 2025; Fevryer & Aldred, 2022;

Glachant & Behrendt, 2024; Keliikoa et al., 2022; Rovner & Talen, 2026; Scheffels et al., 2019). Although scholarship on media representation of superblocks is growing, most studies rely on qualitative approaches, either as a primary method (Nello-Deakin, 2023) or a complementary analysis (Frago & Graziano, 2021; Polat, 2024).

These studies contend that the acceptability of urban interventions is not only a technical issue but a socially constructed process shaped by governance structures, media representation, and public discourse (Jung & Wentland, 2024). Support for these programmes is determined not only by measurable outcomes, such as improved air quality, but also the framing and communication of these initiatives. This framing can carry as much influence as, or even more than, empirical evidence in shaping public opinion, which is understood here as a socially constructed and discursively negotiated set of collective evaluations and interpretations, rather than a simple aggregation of individual attitudes (López et al., 2020). These narratives further affect broader political dynamics, including public trust in institutions and electoral outcomes.

Therefore, this study addresses a gap in the literature by providing a longitudinal, quantitative analysis of media discourses concerning superblocks. Through computational text analysis, it examines the media's influence on discourse formation regarding these interventions and investigates how this framing changes in relation to political cycles and different stages of programme implementation.

3. Methods

The methodological framework consists of several steps (see Fig. 1).

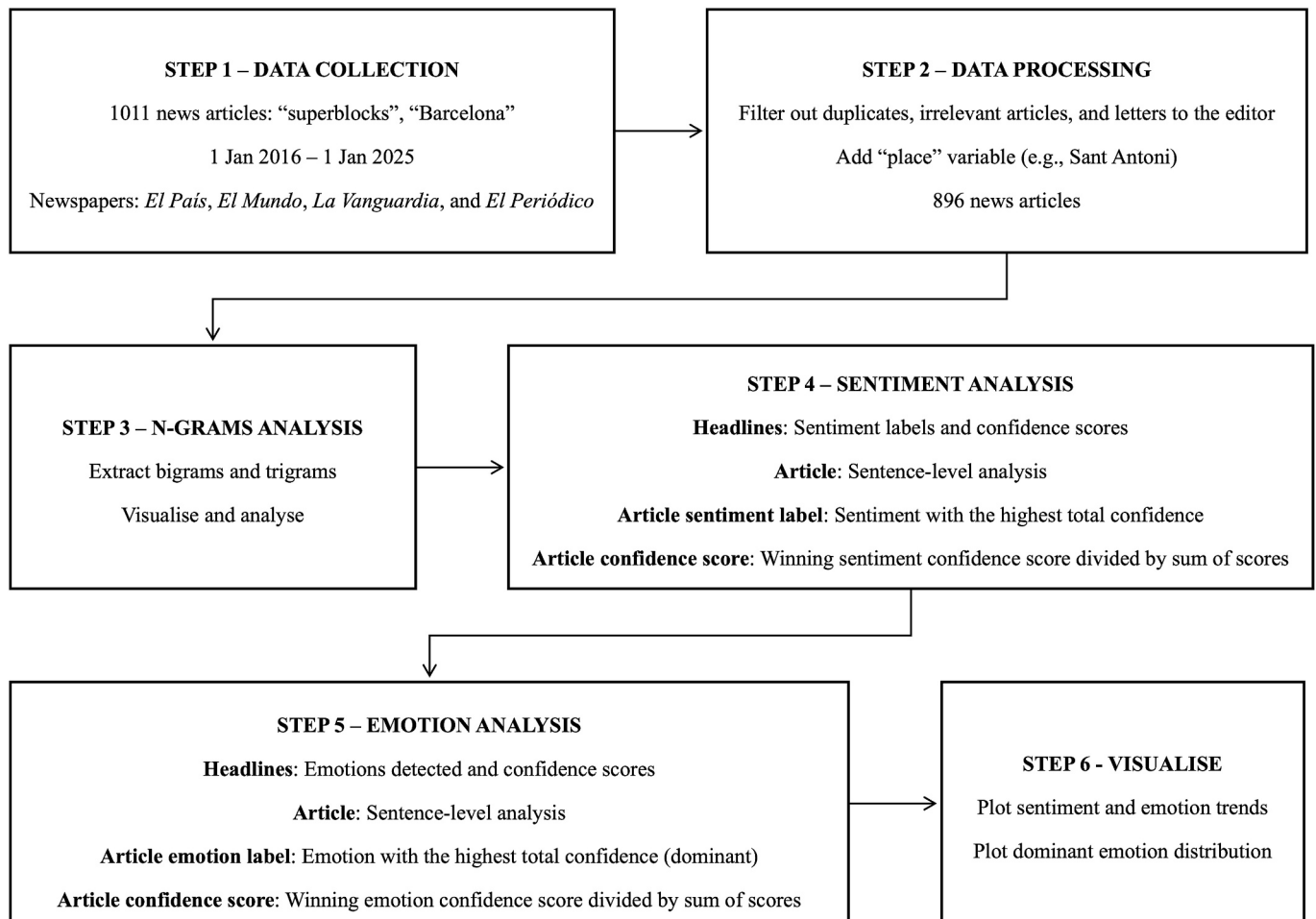


Fig. 1. The methodological framework.
Source: Own elaboration.

First, data sources were collected and prepared (Steps 1 and 2). Next, n-gram, sentiment, and emotion analyses were performed (Steps 3, 4, and 5). Finally, results were visualised (Step 6).

3.1. Data sources

The dataset was compiled by searching for news articles containing the terms ‘superblock’ and ‘Barcelona’, published between 1 January 2016 and 1 January 2025. The search targeted two national publications, *El País* and *El Mundo*, and two regional publications, *La Vanguardia* and *El Periódico* (Step 1). These newspapers were selected for their broad readership and distinct political orientations, which enabled analysis of diverse discourses on Barcelona's superblocks (Lipovsky, 2021). *El País* is centre-left, *El Mundo* is centre-right, *La Vanguardia* is centrist, and *El Periódico* leans left but maintains a more neutral stance on urban planning (Nello-Deakin, 2023).

The resulting dataset comprised 1011 news articles. Letters to the editor were excluded because they represent readers' opinions rather than journalistic reporting. Cosine similarity analysis was applied to identify nearly identical texts, a common occurrence when newspapers publish slightly modified versions of the same article for different editions. In case of duplication ($n = 30$), the extended version was retained. The authors then manually reviewed the articles to confirm their relevance to the research topic. A total of 85 articles were excluded, primarily because they referenced ‘superblocks’ as event locations rather than in the context of urban planning. The data were subsequently cleaned by removing elements such as extra whitespace and stopwords. The final dataset consisted of 896 unique news articles (Step 2).

3.2. Data analysis

The data analysis comprised three natural language processing (NLP) techniques. In Step 3, an n-gram analysis was conducted to identify sequences of consecutive words within the articles and headlines (Tripathy et al., 2016). Bigrams and trigrams were then analysed to uncover overarching themes in the dataset. In Steps 4 and 5, sentiment and emotion analyses were conducted. Sentiment analysis identifies, extracts, and classifies opinions expressed in text as positive, negative, or neutral (Liu, 2012). Emotion analysis extends sentiment analysis by detecting emotional states, such as anger, joy or fear, thereby providing deeper insight into the emotional tone (Mohammad, 2021). This approach is informed by psychological theories, including Ekman and Friesen's (1978) model of the six basic emotions and Plutchik's (1982) wheel of emotions.

There are two main approaches for analysing sentiment and emotion: lexicon-based and machine learning methods (Wankhade et al., 2022). Reviews of NLP applications in urban studies highlight the widespread use of lexicon-based models (Cai, 2021). However, machine learning models demonstrate greater effectiveness in sentiment and emotion analysis (Zhang et al., 2018). As a result, pre-trained RoBERTa-based models were used. These models are developed by Pysentimiento and are available through the open-source platform Hugging Face (Pérez et al., 2024). RoBERTa is a language model specifically designed for user-generated Spanish content and is based on the RoBERTa model. By using these models, the original Spanish content was analysed directly, avoiding potential distortions caused by translations.

The sentiment model was applied to each headline to obtain a sentiment label (positive, neutral or negative) and an associated confidence score. For the articles, each text was divided into sentences, and each sentence was analysed independently. Sentiment labels and confidence scores were aggregated across all the sentences, and the label with the highest cumulative confidence was assigned as the article's overall sentiment. The total confidence score was calculated as the proportion of the selected label's cumulative score to the total confidence score.

Emotion analysis followed a similar procedure. For each headline,

the model produced a ranked list of detected emotions and their corresponding confidence scores. The emotion with the highest score was designated as the dominant emotion. The same sentence-level analysis and aggregation were applied to the articles. To improve interpretability, the detected emotions were mapped onto Plutchik's (1982) psychoevolutionary model, which comprises eight primary emotions: anger, anticipation, disgust, fear, joy, sadness, surprise, and trust, as well as a neutral category. In Step 6, results were visualised.

3.3. Methodological limitations

Several methodological limitations should be taken into account when interpreting the findings of this study.

First, the sentiment and emotion analyses employ pre-trained NLP models developed using Spanish-language social media data, particularly tweets. While these models represent some of the most advanced tools currently available for Spanish-language sentiment and emotion analysis, they were not specifically designed for news content. Consequently, differences between social media and journalistic discourse may influence the detection of context-dependent expressions of sentiment and emotion.

Second, article-level sentiment and emotion classifications were generated by aggregating sentence-level predictions, which established a consistent basis for comparison across the corpus. As a result, sentiments or emotions that occur more frequently within an article exert a greater influence on the final classification. These labels should be interpreted as indicators of the dominant tone, rather than as comprehensive representations of all expressions present in the text.

Finally, the analyses were designed to identify patterns and associations in media representations, rather than to establish causal relationships. Accordingly, the findings should be interpreted as descriptive evidence of sentiment and emotional expression within the corpus.

4. Results

4.1. Superblock's press coverage and emerging topics

Descriptive statistics show the evolution of media coverage of superblocks over time and across the analysed publications (see Fig. 2).

Between 2016 and 2024, the four selected newspapers published a total of 896 articles on superblocks. Coverage began in 2016, primarily led by *El Mundo* and *El Periódico*. *El Mundo* published 37 articles in total, while *El Periódico* maintained consistent coverage with 342 articles. *La Vanguardia* and *El País* started reporting on the topic later. *La Vanguardia* emerged as the most prolific outlet, publishing 433 articles and showing a sharp increase in coverage beginning in 2020. *El País* published 84 articles, with a gradual increase in coverage during the early 2020s. Media attention intensified over time, peaking in 2023 with 258 articles, coinciding with local elections. Although coverage declined in 2024, superblocks remain a significant topic in media discourse.

Spatial analysis shows that media coverage of superblocks is highly concentrated (see Fig. 3). The *Sant Antoni* and *Poblenou* superblocks are especially prominent, appearing in 250 and 209 articles, respectively. In contrast, superblocks in *Hostafrancs* and *El Farró* received limited attention.

Although ‘green axes’ were not included in the original search criteria, more than one-third of the articles reference this term. This pattern highlights the association between green axes and superblocks in public discourse, where both are often portrayed as elements of a broader urban transformation agenda. N-gram analysis supports this connection, revealing that spatial references such as ‘*Consell de Cent*’ are among the most frequent trigrams. Additionally, nearly 20% of news articles do not mention any specific superblock. The n-gram analysis also identifies broader urban planning themes, with frequent references to ‘public transport’, ‘public space’, and ‘low-emission zones’. Political

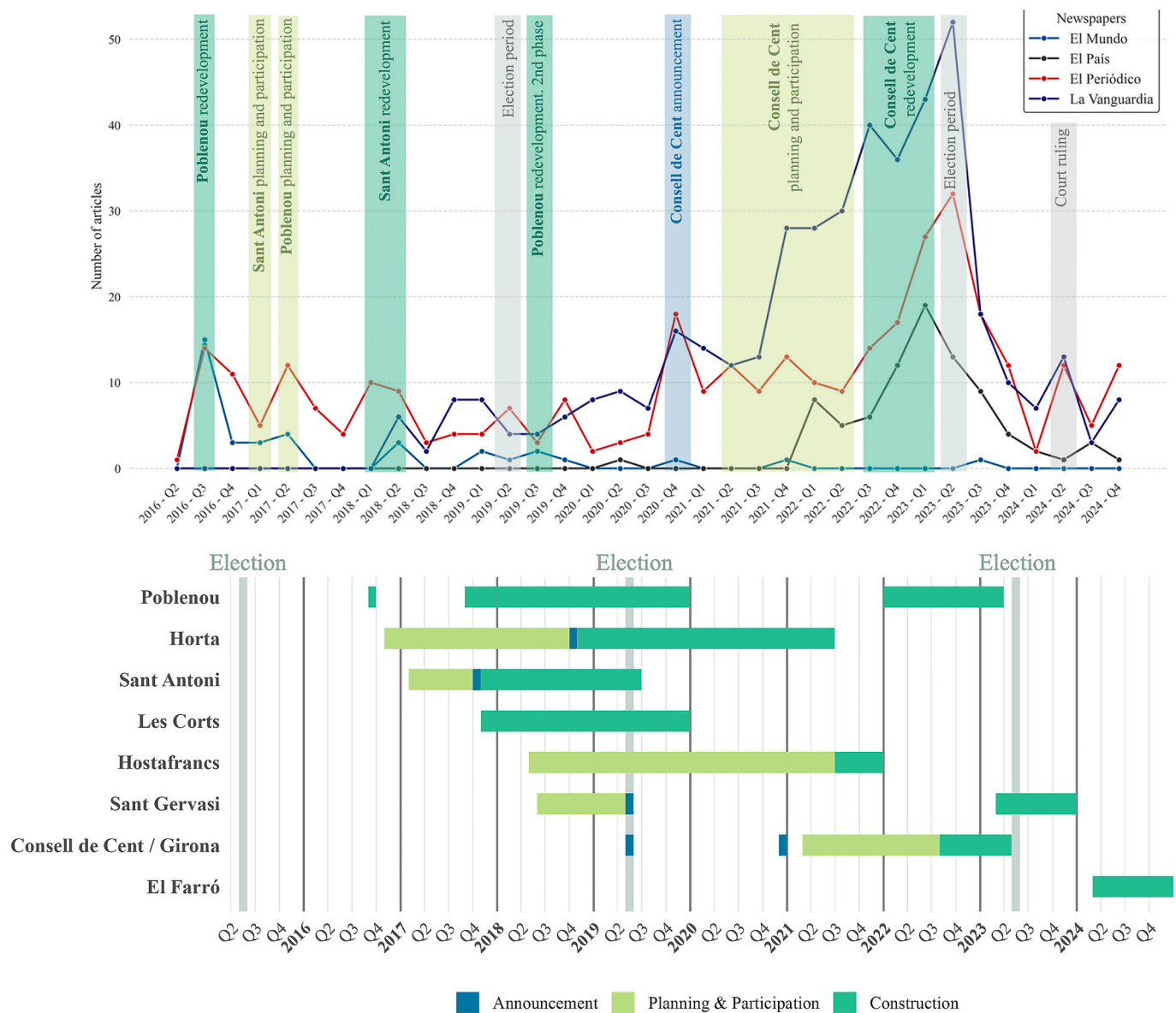


Fig. 2. Press coverage of superblocks from 2016 to 2024 (top) and chronogram of the programme (bottom).
Source: Own elaboration.

figures represent another central theme: Barcelona's mayor from 2015 to 2023, Ada Colau, and her deputy for urban planning, Janet Sanz, are mentioned 784 and 315 times, respectively.

Analysis of authorship patterns reveals a concentration of influence in shaping narratives. Of the 896 articles analysed, 112 (12.5%) were attributed to the newspaper itself. Only ten journalists (eight men and two women) authored half of the signed articles, despite a total of 194 named authors. Similarly, the top 15% of authors accounted for 70% of the coverage, indicating that a small group of individuals dominated the media discourse. This outcome is to some extent expected, given the specialisation of journalists within newspapers.

4.2. Sentiment analysis

The sentiment analysis model was applied to both the headlines and the articles' content. Neutral sentiment predominated, accounting for 54.2% of the total. Negative sentiment comprised 34.6% of headlines and 39.2% of article content. Positive sentiment represented only 11.2% and 6.6% of headlines and news articles, respectively. Analysis of

sentiment trends over time reveals fluctuations in the polarity of both headlines and news articles, which coincide with urban interventions and political events (see Fig. 4).

During the initial phase of the Superblock programme (2016–2018), negative sentiment appeared sporadically. Both article content and headlines showed elevated negativity, peaking at 71% and 50%, respectively, before declining sharply in subsequent quarters. Although overall limited, positive sentiment became more apparent around the announcements of new interventions in late 2017 and mid-2018.

From 2019 onwards, sentiment steadily became polarised, with a sharp rise in negativity during the municipal election campaign in mid-2019. Headline negativity reached 56% during this period, while positivity declined in both headlines and article bodies. Between 2021 and 2023, criticism remained high as the programme transformed into the 'green axes' initiative. Content negativity regularly exceeded 40%, while headline negativity reached 48%. These peaks coincided with election cycles and periods of active construction. Positive sentiment remained minimal, rarely surpassing 10%. By late 2024, negativity in news articles had declined to 24%, while it remained high in headlines.

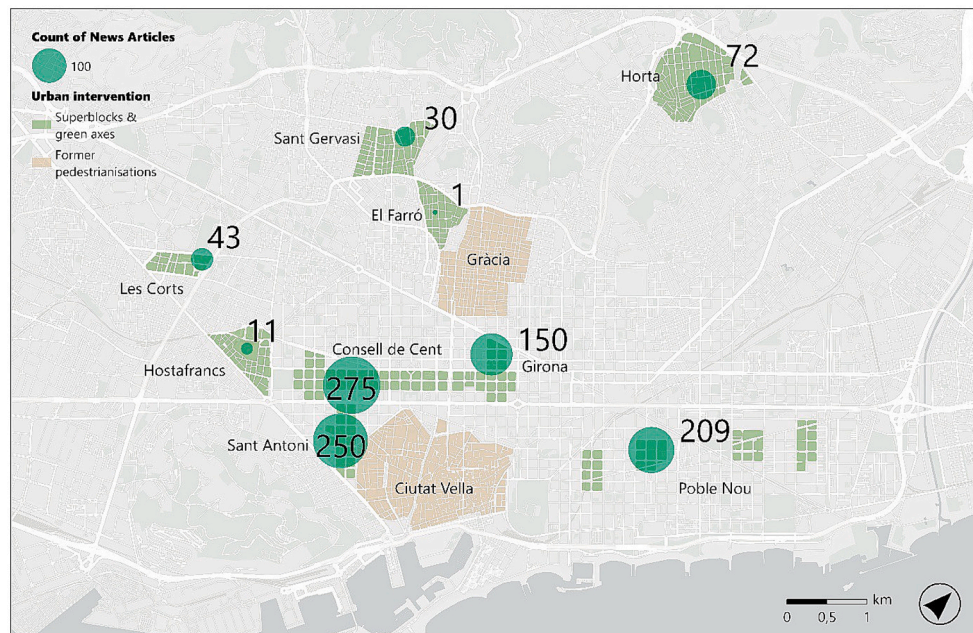


Fig. 3. Spatial media coverage of superblocks.
Source: Own elaboration.

4.3. Emotion analysis

The media's emotional framing of the Superblock programme was examined through an analysis of news headlines and articles (see Table 1). The findings indicate that media coverage is predominantly neutral, with 65.2% of headlines and 69.6% of news articles. This pattern reflects a tendency towards descriptive, non-evaluative reporting, particularly in article bodies. Since neutrality does not constitute an emotion, the dominant emotion in each headline and news article was plotted to provide further insight into the programme's emotional portrayal in media discourse (see Fig. 5).

Anticipation emerged as the dominant emotion, present in 72.0% of headlines and 92.6% of articles. Although anticipation does not inherently indicate positive feelings, it reflects a discourse characterised by expectations and planning. Trust was the most prevalent positive emotion, but it appeared only in a small proportion of headlines (5.1%) and articles (2.8%). Joy was even rarer, appearing in just 2.9% of headlines and 0.3% of news articles. These findings suggest that, while optimistic sentiment occasionally appeared, it was not a defining characteristic of the overall media framing.

Negative emotions were more common in headlines than in news articles, suggesting a greater reliance on emotional appeal in titles. Anger was the most common negative emotion, appearing in 11.2% of headlines and reaching its highest level in 2023. Sadness, fear, and disgust were present at lower frequencies, each occurring in fewer than 5% of headlines and fewer than 1% of news articles. Although less frequent, these emotional tones highlight points of tension and resistance within a discourse otherwise dominated by anticipation.

In addition to identifying the dominant emotion, the distribution of emotions over time was analysed (see Fig. 5). This longitudinal analysis reveals an evolving emotional landscape that can be analysed in relation to urban interventions and political events. The initial emergence of anticipation and trust in 2016 coincided with the introduction of the first superblock. In 2017, there was a rise in negative emotions, particularly anger (6.8% of headlines and 10.3% of news articles) and fear (7.6% and 2.0%, respectively). These emotional responses coincided with the local protests that occurred in Poblenou (Zografos et al., 2020). In contrast, more positive emotional responses, such as joy and anticipation (16.5% and 30.5%, respectively), were registered during the

participatory process for subsequent interventions in early 2017.

This trend persisted in 2018, with anticipation present in 17.3% of headlines and 38.8% of articles. Trust and joy also increased modestly during this period, which coincided with the implementation of ongoing projects. By 2019, emotional polarisation had become more pronounced. The 2019 municipal elections transformed the Superblock programme into a political issue, with spikes in anger (15.6% of headlines) and sadness (3.0% of news articles) indicating increasing controversy.

After a relatively stable period in 2020, an emotional shift occurred in 2021 with the announcement of the 'green axes' programme. Anticipation remained high throughout this period; however, negative emotions, particularly anger, resurfaced in headlines, rising to 8.9% in 2022 and 10% in 2023. This increase coincided with the commencement of major construction projects in central districts and the approach of the 2023 municipal elections. Anticipation continued to dominate in 2024 as new interventions began. However, a rise in negative emotions was observed in mid-2024, coinciding with a judicial decision that questioned the programme's legitimacy. The persistent presence of anger in press coverage highlights the fact that superblocks have become an emotionally charged and politically symbolic urban intervention.

5. Discussion

5.1. The role of the media as a catalyst for responsive planning

The trajectory of sentiment and emotion in media coverage of superblocks can be divided into two distinct phases. Early coverage of the experimental phase of the programme, implemented in 2016, was limited in volume and characterised by a critical, albeit fluctuating, tone. This tone reflected residents' opposition to the initiative, highlighting concerns regarding the lack of participatory processes, disruption to mobility and commerce, and insufficient transparency in decision-making (Frago & Graziano, 2021; Polat, 2024). While some criticism was rooted in broader assumptions, such as the symbolic association of car restrictions with a perceived loss of individual freedom (Marquet et al., 2024a), concerns about participation were grounded in discourses of social exclusion. As noted by Zografos et al. (2020), this early contestation also reflected deeper political struggles over authority

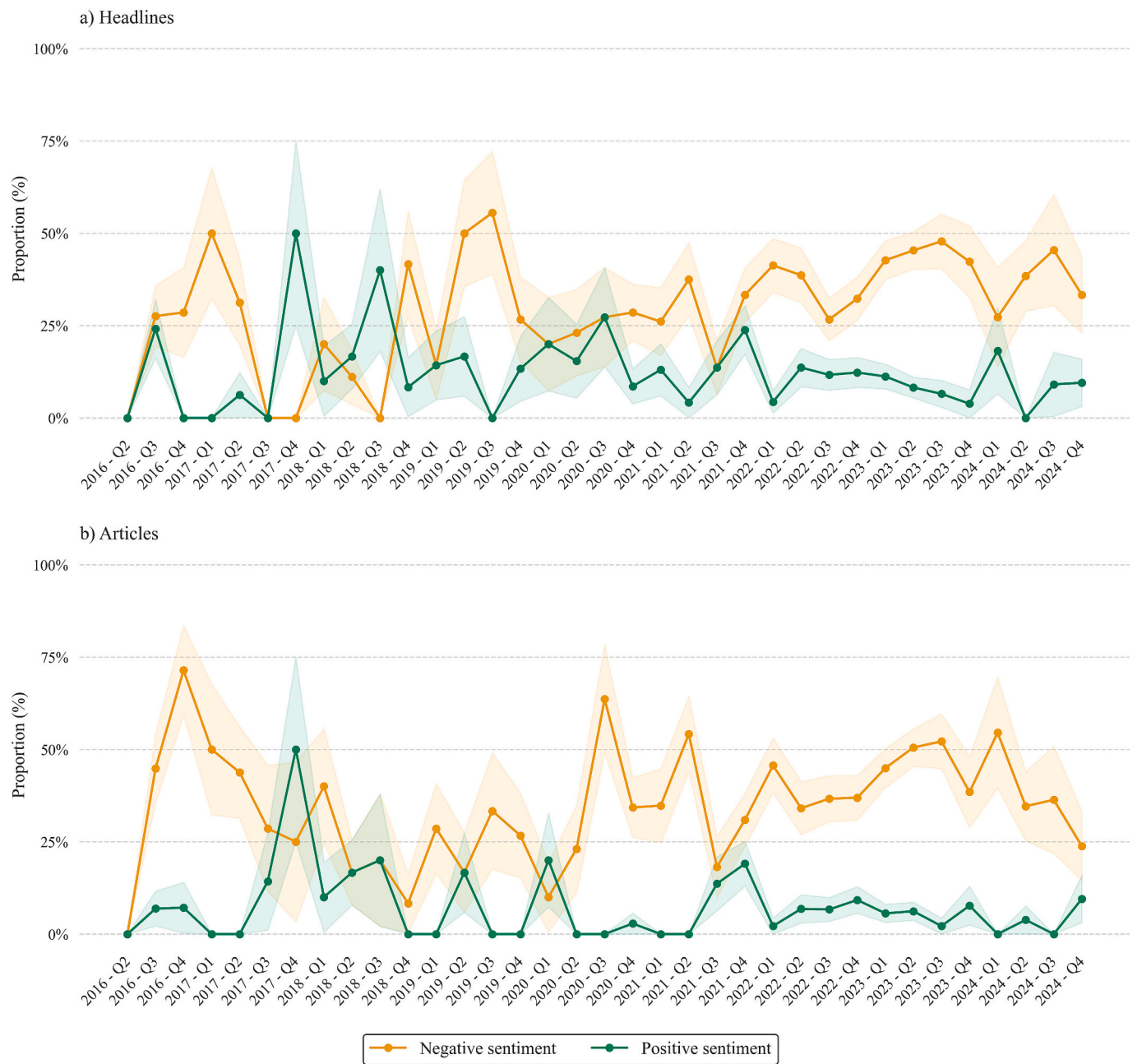


Fig. 4. Quarterly evolution of the proportion of positive and negative sentiment in headlines (a) and articles (b). The proportions do not sum to 100% as neutral sentiment has not been plotted.
Source: Own elaboration.

Table 1
Examples of headlines and their associated emotion.

Emotion	Headline
Anger	"Complaints against the Poblenou superblock continue"
Anticipation	"Barcelona's first 'superblock' set to launch in September"
Disgust	"Sant Antoni and the trash that came with the superblock"
Fear	"Some superblock residents feel anxious about the silence in the area"
Joy	"Comte Borrell: How to enjoy Barcelona's trendiest new street"
Sadness	"Hundreds of local businesses struggle or shut down due to prolonged public works in Barcelona"
Surprise	"Old tram tracks resurface amid superblock construction"
Trust	"Pedestrian and greener streets improve mental health"

Note. The headlines have been translated into English for the examples.

in shaping the city's future.

During the introduction of superblocks, thus, the media seems to have provided a platform for dissatisfied citizens to express concerns about the implementation process and to advocate for formal participation. This strategy has also been observed in other contexts by [Legacy \(2017\)](#) and supports the argument, as suggested by [Verloo and Davis \(2021\)](#) that protest and strategic media engagement can serve as mechanisms for negotiating transformation rather than dismantling interventions. Within the framework of agonistic planning, public debate around urban interventions, facilitated by the media, assumed a democratic function ([Mouffe, 2005](#)). Rather than assuming that such debate is inherently agonistic or an automatic response to depoliticisation, the findings show that its emergence and intensity in the media coincide with specific moments in the policy process, particularly when

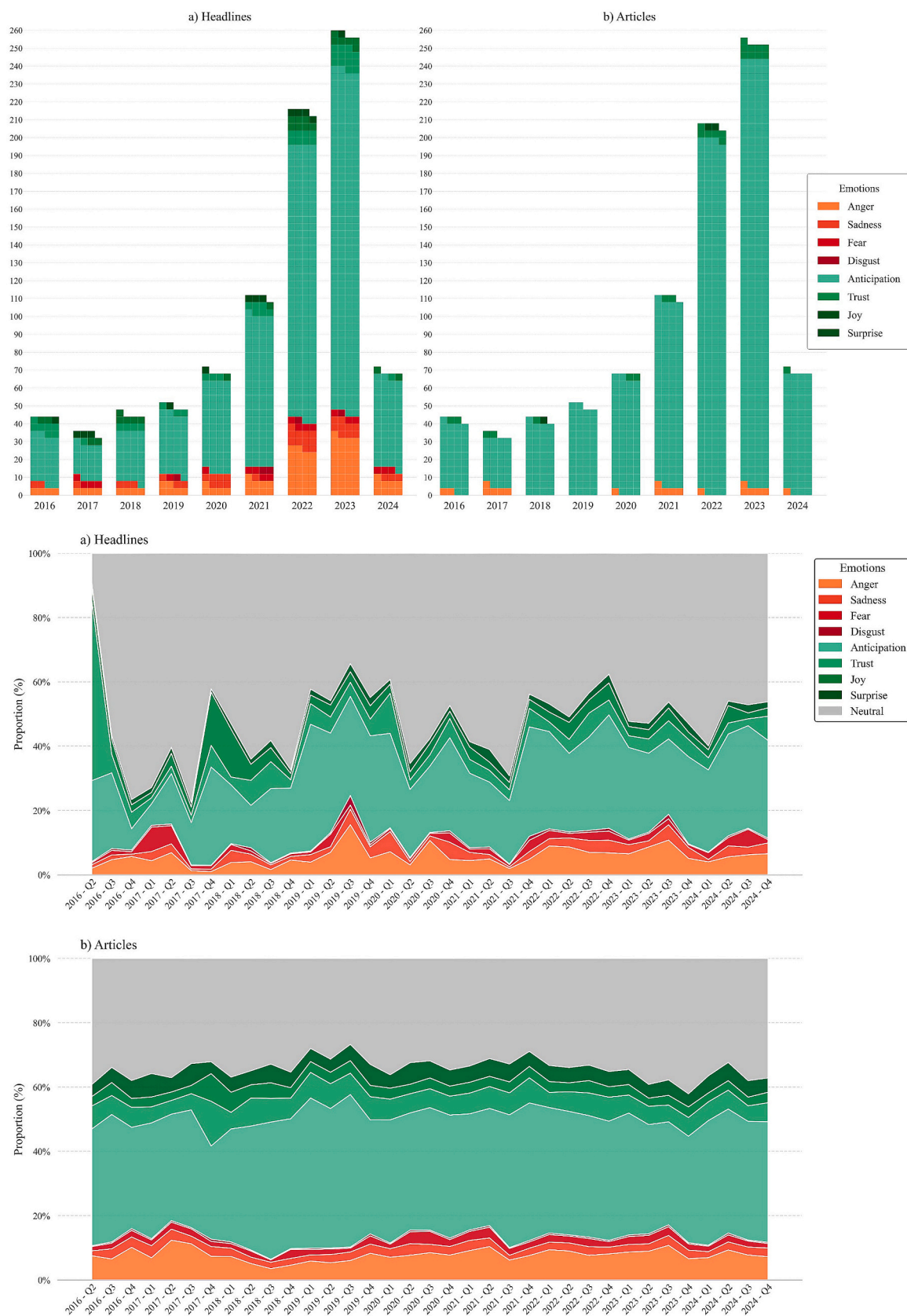


Fig. 5. Distribution of dominant non-neutral emotions in headlines (a) and articles (b) (top) and percentage evolution of emotions in headlines (a) and articles (b) (bottom).

Source: Own elaboration.

participation is perceived as limited or insufficient.

In response, Barcelona's municipal authorities introduced more inclusive and consultative processes, suggesting that public critique can encourage responsive and adaptive urban governance (Gerència de l'Arquitecte/a en Cap et al., 2023; Jung & Wentland, 2024). However, these changes also highlight the need to critically examine procedural equity and the extent to which these processes address earlier concerns. The results show that incorporating democratic engagement in urban transitions may lead to more positive media coverage and a more balanced emotional tone. Failure to engage with those who did not initially support the government agenda would likely have provoked a populist backlash (Haarstad et al., 2025). However, as anticipated by agonistic planning perspectives (Mouffe, 2005) and critiques of post-political consensus (Legacy, 2017), these shifts in formal participation did not eliminate contestation, but rather displaced it, with some actors continuing to challenge outcomes through other arenas, including legal action, as discussed in the following section.

5.2. Press backlash and paradigm shift

The re-election of the municipal government in 2019 consolidated the superblocks initiative and led to its rebranding as green axes. This transition marked the conclusion of the experimental phase and initiated an urban paradigm shift focused on greening the city and transforming mobility. The shift responded to criticisms that superblocks promoted hyper-localism and created unequal conditions across streets, while simultaneously raising new concerns about spatial justice (Anguelovski et al., 2023). This development triggered a new wave of public reaction and media coverage, as evidenced by a substantial increase in the number of articles and heightened negative emotions, particularly anger, leading up to the 2023 elections. During this period, media attention was predominantly focused on green axes, even as other interventions were implemented across the city.

Instead of mitigating controversy, the announcement of the green axes acted as a 'triggering event' that prompted the formation of tactical coalitions among groups with different ideologies (Leino & Laine, 2012; Trapenberg Frick, 2021). At the same time, street protests and legal challenges to the programme's procedures emerged, fuelling intense, largely negative media attention. This pattern aligns with the findings of Haarstad et al. (2025), who observed that groups distant from institutional power often express dissatisfaction through confrontational strategies, including protests, media campaigns, and legal actions (Montaner, 2023). These coalitions engaged in both confrontational and agonistic dialogues outside formal planning processes (Leino & Laine, 2012; Trapenberg Frick, 2021). In this context, opponents' voices were more prominently represented in media coverage than those of supporters, thereby amplifying specific critiques and concerns and potentially influencing public debate through selective framing. This pattern appears to reflect not only the strategic actions of opposition groups but also journalistic selection processes, editorial routines, and the broader politicisation of mobility and climate policies, which tend to render conflict and contestation particularly newsworthy.

Media coverage showed a clear geographic focus, as shown in Fig. 3, which appears to be a deliberate editorial choice. The green axes programme constituted the first major structural intervention in Barcelona aimed at reshaping the iconic grid of the Eixample district. Public outrage can be partly explained by the symbolic and emotional significance of the Eixample in Barcelona's collective identity. The district is frequently regarded as an idealised, almost untouchable urban form. Many interpreted the intervention as a rejection of Ildefons Cerdà's vision, despite substantial differences between the current Eixample and his original proposal. Densification and car-centric design were not features of Cerdà's plan but emerged later due to speculative urban development and political shifts. Nevertheless, the green axes were widely perceived as dismantling a cherished and seemingly immutable structure, intensifying criticism of the perceived loss of identity (Nello-

Deakin, 2023). This response also suggests that the current state of the Eixample, defined by high-speed car arteries, is broadly accepted as the status quo. As a result, changes to mobility, streetscapes, or traffic flows are often perceived as disruptions. The convergence of symbolic significance and functional centrality has therefore generated considerable public contention (Leitner et al., 2008).

As hypothesised, negative media coverage intensified during both municipal election periods and diminished as political tension subsided. This increased scrutiny was primarily driven by the construction phases and the escalating politicisation of superblocks, which contrasts with the depoliticised nature of post-political planning (Verlinghieri et al., 2024). Headlines such as "The car inside the ballot box" (Folch, 2023) or "Barcelona's superblock is one of the major battleground issues in the electoral race" (Miró, 2023) exemplify this transition. Superblocks emerged as the flagship initiative of the incumbent administration and became a central focus for opposition parties critiquing new municipalism (Zografos et al., 2020). N-gram analysis showed that these interventions were closely linked to Mayor Ada Colau and were frequently portrayed by the press as components of a broader political and climate agenda (Anguelovski et al., 2022). By 2023, mobility had become a key issue in a polarised election campaign defined by competing visions for the city (Marquet et al., 2024b).

The hypothesis also posited that early negative reactions would be succeeded by more positive media coverage. However, the progression of media discourse reveals a more nuanced reality. Although a modest increase in positive reporting in 2024 may indicate normalisation or reduced media scrutiny, implementation alone does not appear sufficient to sustain media attention. Instead, political cycles and the establishment of consultation mechanisms in response to public protests have exerted a more substantial influence on both the intensity and tone of media coverage.

A small cohort of journalists accounted for a large share of news articles, many of which adopted a critical or negative tone. These journalists, whose social and demographic backgrounds may diverge from those of the broader population, often work within editorial environments that prioritise dominant viewpoints. As a result, mainstream media outlets may be inclined to uphold the status quo and display scepticism towards transformative planning initiatives, such as those proposed by new municipalism. Conversely, some studies indicate a more favourable reception of superblocks among residents (Nello-Deakin et al., 2024). Furthermore, residents of superblocks are more likely to support the political party responsible for implementing the scheme (Marquet et al., 2024b). Collectively, these findings suggest that opponents and supporters of such interventions may communicate their views through distinct channels, with the press potentially amplifying opposition voices (Haarstad et al., 2025).

6. Conclusions

This paper advances the literature on media framing of transformative urbanism by analysing portrayals of Barcelona's Superblock programme in the press over the past decade. The principal methodological contribution of this study is the longitudinal application of NLP techniques, combining n-gram analysis, sentiment analysis, and emotion analysis on a dataset of 896 news articles and headlines. This integrated computational approach enables systematic tracing of the evolution of thematic structures, sentiment polarity and affective framings in relation to the programme implementation and changing political contexts. The principal theoretical contribution is demonstrating the dual role of the media as both a reflection of public opinion and an arena where urban transformations are legitimised or contested.

In fact, the findings indicate that media framing of superblocks is dynamic, evolving throughout different phases of urban transformation and reflecting broader contestations over urban visions and the politicisation of sustainability transitions. Initial media coverage frequently conveyed scepticism and resistance; however, more favourable

portrayals emerged after implementation, particularly as participatory mechanisms were strengthened. Media polarisation intensified during election periods, notably after the 2019 transition from experimental superblocks to the 'green axes' programme. This shift prompted opposition coalitions and protests, fuelling negative media coverage. The intervention's symbolic and central location further amplified tensions, positioning superblocks as a focal point of political debate and a key electoral issue. While more positive coverage was anticipated after implementation, the findings indicate that political dynamics and public contestation exerted a greater influence on media tone than the outcomes of the implementation itself. The results also reveal a discrepancy between the media's portrayal of urban transformations and residents' experiences (Marquet et al., 2024b; Nello-Deakin et al., 2024).

Overall, the analysis of media discourse is crucial for understanding the framing, contestation, and legitimisation of urban transformations, as well as the negotiation of competing visions for urban futures in the public sphere. The findings show links between media discourse, political contestation, and programme development, underscoring the media's role in sustainability transitions and urban governance. Nevertheless, these relationships should be regarded as associational rather than causal. Although media narratives may influence public debate, this study does not establish causal links between media coverage, public attitudes, and policy outcomes.

Several limitations should be acknowledged. First, this study examines only mainstream newspaper coverage. Although these outlets influence public debate, they constitute just one domain in which narratives about superblocks are formed and contested, thereby excluding perspectives from social media, community organisations, and institutional communications. Second, sentiment and emotion classification may reduce complex discursive dynamics to predefined categories, so the results should be viewed as indicators of dominant patterns rather than comprehensive representations of meaning or framing. Finally, the study does not disaggregate coverage by individual superblock intervention, which limits the ability to assess how acceptance and resistance evolved for specific projects.

Future research should address these limitations by comparing newspaper coverage with social media, institutional communications, and citizen-led platforms to analyse how narratives differ across communicative domains. Integrating natural language processing with qualitative framing analysis may provide a more nuanced understanding of how sentiment, emotion, and meaning are constructed in media discourse. Further studies should also investigate individual superblock interventions in greater detail and apply similar methodologies to other contested urban policies, such as bike lanes or low-emission zones, to assess the transferability of the patterns identified in Barcelona to other contexts.

CRedit authorship contribution statement

Serena Mombelli: Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Jerònia Cubells:** Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Pablo Villar-Abeijón:** Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Project administration, Methodology, Investigation, Data curation, Conceptualization. **Oriol Marquet:** Writing – review & editing, Validation, Supervision, Resources, Project administration, Methodology, Funding acquisition, Conceptualization.

Consent to participate

Not applicable.

Consent for publication

Not applicable.

Ethical considerations

Ethical approval was not required.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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