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Cityscapes in Sound: Tracing Urban Perceptions in Pop Music' Lyrics and Sentiments Across Decades

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Abstract: This study examines the representation of urban environments in popular music, analyzing how songs within similar eras depict particular perceptions of cities. The methodology consists of two main stages: systematic song selection from the mid-20th century to the present based on explicit urban references, followed by detailed song analysis using Python-based Natural Language Processing to measure urban theme strength, Pearson correlation analyses, and thematic assessments with TF-IDF and NMF techniques. Findings reveal a shift from mid-20th century idealistic views of urban life to more complex and nuanced representations reflecting contemporary social and economic realities. This evolution underscores pop music's role as a mirror of urban experiences, capturing the vibrancy, challenges, and contradictions of city life. Limitation of the study includes the reliance on popularity metrics, as these may not fully capture a song's cultural significance due to demographic biases and the influence of streaming algorithms. Nonetheless, this research contributes to urban studies and musicology by highlighting the intricate relationship between cultural expressions and urban perceptions. It suggests that utilizing pop songs as a methodological tool offers a novel way of understanding urban perception, providing an alternative to traditional studies that primarily focus on individual experiences.

Keywords: urban perceptions; cultural dynamics; thematic analysis; music sociology

Abstrak: Persepsi Kota dalam Suara: Menelusuri Persepsi Urban dalam Lirik dan Sentimen Musik Pop Sepanjang Dekade. Penelitian ini mengkaji representasi lingkungan perkotaan dalam musik populer, menganalisis bagaimana lagu-lagu dalam era yang serupa menggambarkan persepsi tertentu tentang kota. Metodologi yang digunakan terdiri dari dua tahap: pemilihan lagu sistematis dari pertengahan abad ke-20 hingga saat ini berdasarkan referensi perkotaan yang eksplisit, diikuti dengan analisis lagu terperinci menggunakan Pemrosesan Bahasa Alami berbasis Python untuk mengukur kekuatan tema perkotaan, analisis korelasi Pearson, dan penilaian tematik dengan teknik TF-IDF dan NMF. Temuan mengungkapkan pergeseran dari pandangan idealistik kehidupan perkotaan di pertengahan abad ke-20 menjadi representasi yang lebih kompleks, mencerminkan realitas sosial dan ekonomi kontemporer. Evolusi ini menegaskan peran musik pop sebagai cermin pengalaman perkotaan, menangkap kehidupan kota yang penuh semangat, tantangan, dan kontradiksi. Keterbatasan studi ini termasuk ketergantungan pada metrik popularitas, karena ini mungkin tidak sepenuhnya menangkap signifikansi budaya sebuah lagu karena bias demografis dan pengaruh algoritma streaming. Namun demikian, penelitian ini memberikan kontribusi kepada studi perkotaan dan musikologi dengan menyoroti hubungan rumit antara ekspresi budaya dan persepsi perkotaan, membentuk bagaimana kehidupan kota dialami dan dipahami. Makalah ini menyarankan bahwa menggunakan lagu pop sebagai alat metodologis menawarkan cara baru untuk memahami persepsi perkotaan, menyediakan alternatif untuk studi tradisional yang kebanyakan berfokus pada pengalaman individu.

Kata kunci: persepsi perkotaan; dinamika budaya; analisis tematik; sosiologi musik



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1. Introduction

The concept of urban representation in pop culture occupies a role in shaping and reflecting societal perceptions of cities, weaving the complex fabric of urban life into the narratives of films, literature, art, and music. Within this cultural landscape, pop music stands out as a particularly potent medium, offering both a mirror and a mold for the collective urban experience (Huang, 2019). Through its melodies, lyrics, and rhythms, pop music captures the essence of city life—its vibrancies, challenges, aspirations, and contradictions—translating the urban landscape into a universally accessible language (Baker, 2019).

This unique position allows pop music not only to reflect the current societal perceptions of cities but also to influence and shape these views over time. As cities evolve, so do the stories told about them in pop songs, creating a dynamic dialogue between the urban environment and its musical expressions (Mager et al, 2019). This interplay ensures that pop music remains a vital lens through which the social, cultural, and emotional dimensions of city life are explored and understood, marking it as an essential medium for examining urban perceptions across different eras of pop culture.

This research aims to examine the representation of cities in pop songs across various periods and genres, examining how these portrayals correlate with public perceptions as evidenced by their popularity metrics, such as chart rankings and media coverage (Huang, 2019; Baker, 2019). By exploring these musical narratives, the study seeks to uncover the shifts in portrayal of urban environments. Additionally, the objectives of this research extend to analyzing the impact of these songs on the collective urban experience and identity.

Through a detailed examination of lyrical content and its popularity, this study aims to identify trends in the depiction of urban life and assess their implications for cultural and social dynamics in cities that might affect its planning and design. The interplay between the urban landscape and its musical representations ensures that pop music remains a vital medium through which the complexities of city life are explored, understood, and felt, making it an essential tool for examining urban perceptions across different eras (Huang, 2019; Baker, 2019; Mager et al., 2019).

2. Literature Review

2.1 Urban Perceptions Through Various Methods and Mediums

Urban perceptions are profoundly influenced by a multitude of factors, ranging from sensory experiences to social interactions. These perceptions are essential for understanding city dynamics and urban planning. Exploring the role of urban signs, the research by Gouveia, Farias, and Gatto (2009) highlights how letters, numbers, and symbols contribute to spatial guidance and place identity. This study applies perception theories from environmental psychology to understand how these urban signs impact the way cities are navigated and perceived.

The ecological approaches to social perception are the focus of McArthur and Baron's 1983 study. It examines how individuals perceive each other and their surroundings in urban contexts, influencing social interactions and potentially leading to perceptual errors. Incorporating the rate-distortion theory into urban perception, Sims (2016) provides a model for optimizing human perception under constraints, such as those found in complex urban settings. This framework helps explain the balance between the need for detailed information and cognitive limitations.

The study of urban environments encompasses a broad range of disciplinary approaches and perspectives, each contributing unique insights into the ways urban spaces are experienced and represented. Mohammad Naghizade and Ostadi (2014) highlight the critical, yet often overlooked, role of tactile senses in urban spaces, emphasizing how direct tactile experiences enhance our understanding and interaction with these environments. Similarly, the research by Y. Li (2003) delves into the psychology of urban commuting by proposing a model that integrates factors influencing commuter satisfaction

and decision-making in urban transport planning, thereby offering a comprehensive view of how time perceptions impact urban commuting experiences.

Building on the theme of urban perception, Moreno-Vera et al., (2021) introduce an innovative methodology that uses large-scale image data to quantify safety perceptions in urban environments. This approach not only provides new perspectives on urban safety but also underscores the significance of visual data in urban studies. Complementing this, Helen E. Hoyle (2020) explores the interplay between urban nature and human perceptions, specifically focusing on the role of urban green spaces in enhancing wellbeing and influencing environmental aesthetics.

Not only through lab experiments and investigation of personal stories and experiences, the representation of cities in academic, classical, and modern literature also provides a fertile ground for exploring urban themes. Daniel Alves and Queiroz (2013) use a combination of literary criticism and geographic information systems to trace how urban changes in Lisbon are mirrored in its literary depictions, thereby revealing the gradual integration of urbanized areas into literary settings. Extending this exploration, C. Rotella (2017) discusses how urban literature captures the essence of city life, offering narrative opportunities inspired by urban processes and city features.

Furthermore, the study by A. Roberts and Eleanore Widger (2020) contrasts urban and rural representations in romantic and modernist literature, focusing on how walking and visual perception are depicted differently across these settings, from the affirmative depictions in romantic poetry to the oppressive experiences in modernist urban literature. This contrast illuminates how urban settings can influence and fragment identity, enhancing our understanding of the complex dynamics within various mediums. This comprehensive examination of sensory and cognitive responses, as discussed by Nasar (1989), deepens our appreciation of how urban environments can evoke specific emotional and evaluative reactions, setting the stage for their representation in cultural mediums like pop music.

2.2 Pop Music as a Reflection of Urban Culture

Pop music serves as a dynamic reflection of urban culture, intricately intertwined with the social, economic, and spatial dynamics of cities. The studies examined, such as Ballico and Watson's (2020) exploration of "Music Cities," highlight how urban planning, heritage, and tourism influence music policies, which in turn shape cultural experiences and the identity of cities worldwide. This narrative is further enriched by Watson, Hoyle, and Mager's (2009) analysis in "Spaces and Networks of Musical Creativity in the City," which emphasizes the role of urban spaces and networks in fostering musical creativity. Similarly, the perceptions of urban projects through digital media are also dynamic, not static but fluent and constantly updated, usually turning positive as projects are completed and experienced (Ioannou et al., 2021). This reflects a broader trend where both pop music and digital platforms serve as catalysts for evolving urban perceptions, each shaping the collective understanding and sentiment towards urban environments over time.

Andrea Baker's (2017) innovative work using algorithms to assess the role of cities as music capitals, exemplified by Melbourne, further demonstrates how music intertwines with broader urban cultural and economic trends, showcasing the city as a vibrant hub of cultural activity. The social and historical significance of music in urban settings is explored through Huang's (2019) study on the "Inheritance Value of Urban Music Culture" and Baker's research on "Music Cities and the Discourse of Urban Sociability." Huang's work positions urban music as a historical archive that preserves and transmits the evolving cultural and social landscapes of cities, illustrating music's role in maintaining cultural heritage. On the other hand, Baker's findings reveal how music scenes enhance urban sociability and cohesion, with music venues and events fostering community life and social interactions within cities. These studies collectively underscore the pivotal role of music in shaping the social fabric and communal bonds in urban settings.

Further delving into the cultural impacts of music, the research by Viriri et al. (2011) on the influence of urban grooves music on Zimbabwean youth, and Hoeven and Hitters' (2019) study on the "Social and Cultural Values of Live Music," provide deep insights into the sociocultural dynamics fostered by music. Viriri et al. 's work offers a critical view of how music reflects and influences youth culture and social norms, while Hoeven and Hitters outline how live music contributes to social capital, public engagement, and cultural vibrancy. These dimensions underscore the significant role that music plays in urban ecosystems, not only as entertainment but also as a fundamental component of cultural identity and urban life, supporting a vibrant cultural ecology that enriches the lives of urban dwellers.

2.3 Identification of Gaps in Literature

Despite the extensive research on urban perceptions through various methods and mediums, there remains a significant gap in comprehensively understanding how these perceptions are specifically articulated and evolved in pop music lyrics and their popularity over time. This gap highlights the need for a detailed temporal analysis that not only examines the lyrical content of pop music but also correlates these findings with changes in urban planning, societal attitudes, and their reflection in popularity trends. Studying urban perceptions in pop music is important because of its widespread reach and repetitive nature, which ensures that the themes related to city life and urban experiences embedded in the lyrics are more likely to be remembered and internalized by listeners (Nunes et al., 2015).

Both qualities position pop music to both influence and reflect evolving urban identities and societal trends in real-time. Furthermore, there is limited research on the direct impact of these lyrical representations and their popularity on public perceptions and urban experiences, an area that this study aims to address. By filling these gaps, the research provides a more holistic understanding of the interplay between urban development and cultural expressions in pop music, offering insights into how urban narratives are both shaped by and shape the lived experiences of city dwellers through both content and popular reception.

3. Methods

The methodology section of this study outlines a comprehensive approach to analyzing urban perceptions in pop music, beginning with the selection of songs that encapsulate varied urban themes across different time periods and genres. This initial selection is crucial as it sets the foundation for the deep analysis that follows. The analytical phase is divided into three main parts: Analysis of Urban Theme Strength and Popularity Metrics, Correlation Analysis between Urban Theme and Popularity Metrics, and Temporal Dynamics of Urban Themes in Pop Music. Each of these components examines different aspects of how urban themes are represented in the music and their resonance with the audience, as reflected through popularity metrics like chart performances and media coverage. The findings from these analyses feed into a broader discussion and conclusion section, where the patterns observed in the songs are interpreted to elucidate their implications for theories of urban perceptions and urban identity.

3.1 Songs Selection Process

The song selection process for this study was structured to ensure a comprehensive analysis of urban themes in pop music. The initial data collection, constituting the first step, involved using Spotify, a prominent audio streaming and media service provider. Searches were conducted using keywords such as "city," "urban," and "streets," along with specific city names like New York, London, and Paris which are known for their cultural impact. From this, the first 200 songs appearing in the search results for each keyword were collected. For the second step, a preliminary screening was conducted where the lyrics of the collected songs were listed and reviewed to identify explicit mentions of cities, urban elements (such

as landmarks, feelings toward certain aspects of cities, and urban lifestyle), and any direct engagement with urban themes. Songs lacking clear urban references in their lyrics were excluded at this stage. This screening process was undertaken by the author along with two assistants, who are proficient in handling a global pop music playlist at a local radio station.

The third step entailed a popularity and relevance filtering, where the historical chart performances of the remaining songs were examined using Billboard Hot 100 archives and Spotify's streaming numbers. Songs that had never appeared on the Billboard Hot 100 or had accumulated less than 1 million streams on Spotify were excluded, narrowing the list to 104 songs. In the fourth step, a further selection was made from the thematically analyzed pool to ensure a diverse representation of decades, genres, cities, and emotional perspectives, aiming to cover a broad spectrum of urban experiences and perceptions.

Sixty one songs were selected at this stage, a process again facilitated by the author and the two assistants mentioned previously. The final step, or the final curation, involved refining the list to 25 songs to ensure that each decade from the 1960s to recent years was equally represented. This selection was based on achieving a balance in historical span—covering a range of time periods to track changes in urban perceptions over time—and emotional range, including both positive and negative portrayals to capture the complex emotional landscape of urban experiences. This methodical approach, facilitated by the author and the assistants, ensured that the selected songs could effectively reflect and reveal the evolution of urban narratives and their impacts on cultural and societal contexts over the decades.

3.2 Data Analysis

The data analysis methodology of this study is systematically divided into three phases, each designed to comprehensively assess the various dimensions of urban perceptions in pop music. In the first phase, chart performance metrics are utilized, drawing on available historical data from the Billboard Hot 100 and Official Charts to measure the commercial success and staying power of each song. The key metrics considered include peak chart positions and weeks on the chart. Concurrently, a cultural impact analysis is conducted to analyze media mentions, coverage in critical reviews from outlets such as Rolling Stone, The San Francisco Chronicle, The New York Times, The Guardian, National Public Radio (NPR), and the BBC. This analysis aims to assess the broader cultural impact and recognition of each song.

Additionally, the urban theme strength of each song is measured using a Natural Language Processing method conducted through Python-based assessment. First, a function called 'score_urban_theme', was defined to compute the number of times urban-related keywords such as "city", "subway", "streets", "New York", "San Francisco", "Chicago", "buildings", "traffic", and "lights", appear in the lyrics and assigns a score based on their frequency. Next, overlay line charts are employed to examine the visual relationship between Urban Theme Strength and Emotional Tone Over Time, as well as the correlation between the Peak of Billboard Chart and Official Chart Peak for Each Song.

Moving on to the next analysis, correlation analyses were performed using the Pearson correlation, to examine the relationship between the popularity metrics—chart positions and media coverage—and the presence of urban themes in the lyrics. This statistical approach is pivotal in identifying whether songs that incorporate specific urban portrayals tend to achieve greater commercial success. Similar methodologies have been employed in previous studies, which have explored the influence of thematic content on music popularity, demonstrating that certain themes may resonate more deeply with audiences, thereby affecting their chart performance and streaming statistics (North et al., 2020). This step was used to ascertain the extent to which urban-themed songs not only reflect but potentially capitalize on the cultural and social dynamics of their times, offering insights into how urban narratives contribute to or enhance the commercial viability of pop music tracks.

The second phase of the analysis involves a contextual review, where the historical and cultural context during the time of each song's release is considered. This review encompasses socio-economic,

political, and urban development factors that might have influenced the song’s creation and reception. Additionally, thematic assessments were conducted to evaluate the emotional tone conveyed by each song. To identify and categorize recurring themes in song lyrics, sklearn, a Python library, was employed for machine learning tasks. The process begins with preprocessing the lyrics—converting them to lowercase, removing newline characters, and stripping extra spaces. Subsequently, a TF-IDF (Term Frequency-Inverse Document Frequency) vectorization is applied to convert the lyrics into a matrix that reflects the importance of each word within the document collection.

Following this, NMF (Non-negative Matrix Factorization) is utilized for topic modeling, decomposing the TF-IDF matrix into topics and their significant words. The top words associated with each theme are then extracted, enabling a detailed interpretation of the themes. The findings from the lyric, musical, and contextual analyses were then synthesized to form a cohesive understanding of how each song represents urban life, identifying overarching themes such as transformation, decay, nostalgia, or celebration of urban spaces.

4. Results

4.1 Final Song Selection

The final selection of songs offers a diverse and clear exploration of urban experiences and perceptions across decades, reflecting significant shifts in societal attitudes toward city life through the lens of popular music. Starting with classics like “I Left My Heart in San Francisco” by Tony Bennett from 1962, which portrays a poignant love letter to the city of San Francisco, the collection moves through different eras, each marked by distinct urban narratives.

Table 1: List of the songs chosen for this study

Songs	Singer	Year	Era
“I Left My Heart in San Francisco”	Tony Bennett	1962	1960s-1970s
“New York Mining Disaster 1941”	Bee Gees	1967	
“Chicago”	Graham Nash	1971	
“Big Yellow Taxi”	Joni Mitchell	1970	
“Penny Lane”	The Beatles	1967	
“Dock of the Bay”	Otis Redding	1968	
“Baker Street”	Gerry Rafferty	1978	
“Living for the City”	Stevie Wonder	1973	1980s-1990s
“Sweet Child o’ Mine”	Guns N’ Roses	1987	
“West End Girls”	Pet Shop Boys	1984	
“Under the Bridge”	Red Hot Chili Peppers	1992	
“Fast Car”	Tracy Chapman	1988	
“London Bridge”	Fergie	2006	2000s-2010s
“Paris”	The Chainsmokers	2017	
“Empire State of Mind”	Jay-Z featuring Alicia Keys	2009	
“Empire State of Mind (Part II)”	Alicia Keys	2009	
“Viva La Vida”	Coldplay	2008	
“Welcome to New York”	Taylor Swift	2014	
“Cornelia Street”	Taylor Swift	2019	
“City of Stars”	Ryan Gosling, Emma Stone	2016	Recent Years
“In My Feelings”	Drake	2018	
“Shotgun”	George Ezra	2018	
“Delicate”	Taylor Swift	2017	
“Eyes on You”	Chase Rice	2017	
“Blinding Lights”	The Weeknd	2020	

For instance, “Empire State of Mind” by Jay-Z featuring Alicia Keys, released in 2009, offers a modern hymn to New York City, encapsulating the aspirational and resilient spirit of its people. The diversity in the selection is further emphasized by including songs from various genres and geographical focuses, such as “London Bridge” by Fergie from 2006, which mixes pop sensibilities with urban storytelling. Each song in the dataset is accompanied by a description that highlights its relevance to urban themes, whether it’s celebrating the vibrancy of city life, critiquing urban challenges, or exploring the complex identities shaped by urban environments.

As can be seen from Table 3, the overall perception of urban spaces in popular music has shifted over time. Songs from the 1960s-1970s reflect a period of significant social and architectural changes, where urban optimism began to confront realities of urban decay. Moving into the 1980s-1990s, tracks reflect a more nuanced understanding of urban life, influenced by rising globalization and technological advances. This evolution continues into the contemporary era, where songs increasingly address themes of urban isolation alongside celebration, reflecting the dualities of modern city life.

Each song’s description not only elaborates on the narrative within the lyrics but also ties these narratives to broader urban themes, such as migration, economic disparities, and the quest for identity, making them relevant not only as cultural artifacts but also as analytical tools for understanding urban dynamics. The lyrics, background, and its media and charts dynamic provide a foundational basis for examining the interplay between music, urban identity, and cultural expression over more than half a century.

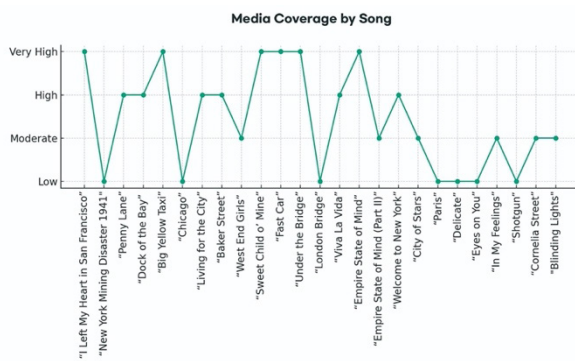


Figure 1: Media coverage by song

Figure 1, a visual quantification of media engagement, showcases that certain tracks have captured significant attention, with “Empire State of Mind” and “I Left My Heart in San Francisco” standing out as urban representation in music based on media coverage surrounding the songs’ release. This high level of coverage can be attributed to the city life these songs weave—their melodies and lyrics echo the vibrancy and spirit of their respective cities, resonating with listeners’ experiences and perceptions. Conversely, songs such as “Fast Car” and “Under the Bridge” represent a more moderate media presence, possibly reflecting the nuanced and sometimes challenging urban stories they tell.

These patterns of coverage are reflective of the songs’ ability to tap into the collective urban experience, capturing the essence of city life with all its aspirations and contradictions. Songs from earlier decades that continue to receive substantial media attention may be viewed as benchmarks of urban representation, their narratives and melodies reflecting the enduring qualities of city life that resonate over time. In contrast, the relatively lower media coverage of recent songs might suggest a more transient engagement with urban themes or a broader diffusion of media attention across a wider array of contemporary works.

4.2 Analysis of Urban Theme Strength and Popularity Metrics

Understanding the emotional tone of urban-themed songs as indicative of either positive or negative vibes offers an additional layer to the analysis of the evolution of cityscapes in music. Figure 2 shows that earlier songs such as “I Left My Heart in San Francisco” and “New York Mining Disaster 1941” possess

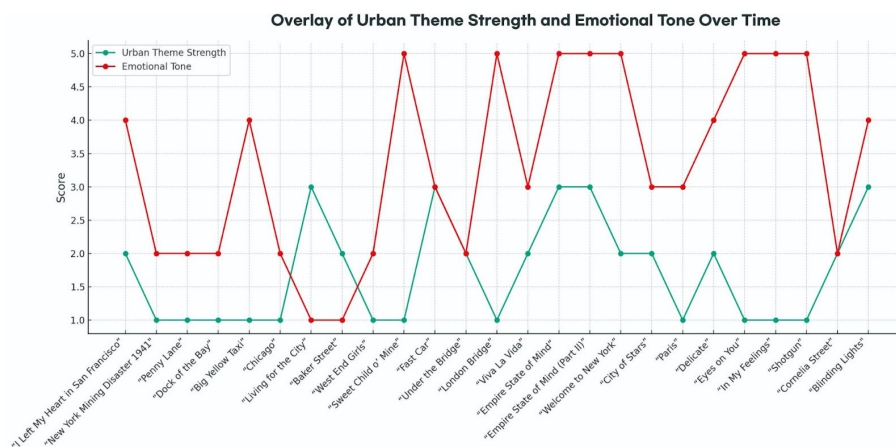


Figure 2: Overlay of urban theme strength and emotional tone over time

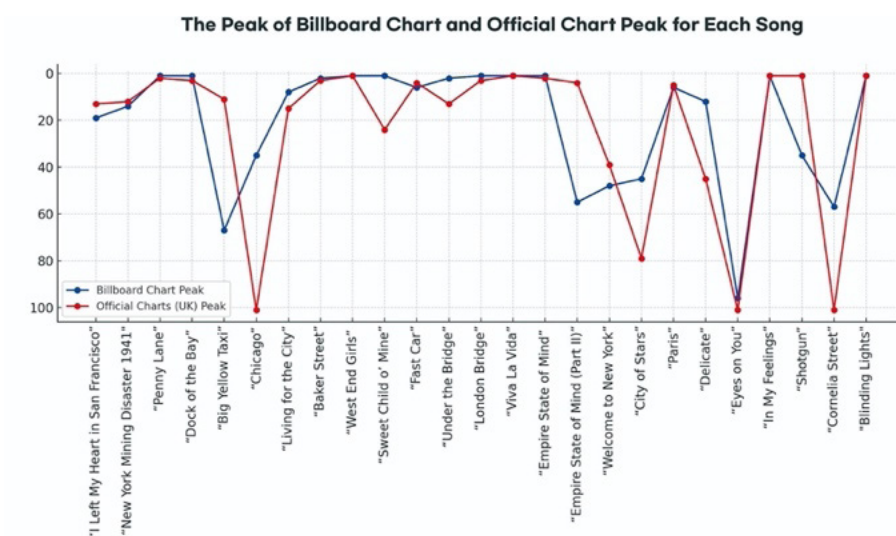


Figure 3: The peak of Billboard chart and Official Chart peak for each song

a robust urban theme yet exhibit a lower emotional tone, suggesting a portrayal of urban environments with a more negative or melancholic emotional undertone. Moving on to the 1980s and 1990s, songs like “Fast Car” and “Under the Bridge” retain this trend of a lower emotional tone, although with a reduced emphasis on urban imagery, implying a period where personal hardship and struggles within the urban context might have been more prominently explored.

This pattern evolves in the 2000s, particularly evident in “Empire State of Mind (Part II)” where there is a strong urban theme paired with a high emotional tone, suggesting a positive and celebratory attitude towards the city. This could reflect a cultural shift to a more optimistic view of urban life and its possibilities. In the most recent years, songs like “Shotgun” and “Blinding Lights” demonstrate a return to stronger urban themes, yet with varying emotional tones. “Shotgun” exhibits a higher emotional tone, indicating a positive, perhaps more carefree perspective of urban living, while “Blinding Lights,” despite its strong urban theme, suggests a lower emotional tone, possibly echoing the complexity and often challenging nature of contemporary urban experiences.

The charting success of urban-themed songs across different eras exhibits a notable pattern when comparing their peaks in the Billboard Chart with the Official Charts (UK). In the older and more recent eras, there is a visible fluctuation in chart positions, with songs reaching varying levels of peak positions, indicative of the changing tastes and perhaps the experimental nature of urban narratives in music during these times. This variation might also reflect the evolving musical landscape and the competition within the genres that typically discuss urban themes. In contrast, during the middle eras—particularly noticeable in songs like “Under the Bridge,” “Fast Car,” and “Empire State of Mind (Part II)” —there is a remarkable consistency in maintaining top chart positions in both the Billboard and Official Charts.

This steadiness could suggest a period where urban-centric music resonated strongly with audiences on both sides of the Atlantic, possibly due to a universal appeal of the themes or the strong connection listeners had with the urban narratives presented. The congruence between the charts during these times hints at a broader, cross-cultural reception to the urban experiences depicted in these songs, underlining their widespread impact and the success of the artists in capturing the image of the urban setting.

4.3 Correlation Analysis between Urban Theme and Popularity Metrics

Table 2: The correlation matrix showing the Pearson correlation coefficients

Songs	Urban Theme Strength (NLP Results)
Billboard Chart Peak	0.0057
Official Charts (UK) Peak	0.0792
Weeks on Charts (Peak charts or top 50)	0.3055
All Music Ratings (The Album)	0.0566
Media Coverage Encoded	0.4455

The correlation analysis conducted between “Urban Theme Strength” and various popularity metrics offers insightful revelations into how urban themes influence a song’s reception and persistence in public and critical domains. Among the evaluated metrics, the “Weeks on Charts (Peak charts or top 50)” demonstrated a moderate positive correlation with “Urban Theme Strength,” showing a correlation coefficient of 0.3055. This suggests that songs with more pronounced urban themes tend to maintain their presence on the charts for longer durations. Such a trend may imply that listeners resonate more enduringly with songs that articulate urban experiences and settings, potentially due to the relatable or vivid portrayals of city life that engage ongoing interest and relevance.

Furthermore, the “Media Coverage Encoded” displayed a stronger positive correlation with “Urban Theme Strength,” with a revised correlation coefficient of 0.445. This finding indicates that songs rich in urban thematic content are likely to receive more media attention, highlighting the appeal of urban narratives to cultural and music journalists who may find ample material for discussion and analysis in such themes. In contrast, the “Billboard Chart Peak” and “All Music Ratings (The Album)” showed very weak correlations with “Urban Theme Strength,” with coefficients of 0.0057 and 0.0566, respectively.

These results emphasize the nuanced relationship between thematic depth and commercial success, suggesting that while urban themes significantly enhance engagement and media coverage, they do not straightforwardly correlate with peak chart positions or critical ratings, potentially overshadowed by other musical or marketing elements. This complex interplay underscores the need to explore additional factors that may influence a song’s market performance and critical reception.

4.4 Temporal Dynamics of Urban Themes in Pop Music

Analyzing the progression of urban-themed pop music from the 1960s to the recent years provides a layered understanding of how urban perceptions are deeply embedded and reflected through historical and cultural contexts. Figure 4 shows the results of the TF-IDF and NMF analysis which categorizes the most prominent words from the lyrics of the songs into five distinct topics, revealing key trends in how urban experiences are articulated in music. The terms “city,” “streets,” and “lights” are significant in discussions about Urban Lifestyle and Environment, illustrating a focus on the physical and dynamic aspects of urban life. Conversely, words like “love,” “reminds,” and “new” feature heavily in Personal and Emotional Reflections, indicating a strong emotional and nostalgic connection to urban settings.

During the 1960s and 1970s, songs captured a dual perspective on cities. For instance, Tony Bennett’s “I Left My Heart in San Francisco” (1962) and Joni Mitchell’s “Big Yellow Taxi” (1970) offer contrasting sentiments; Bennett’s song reflects a deep sentimental attachment and personal identity linked to the

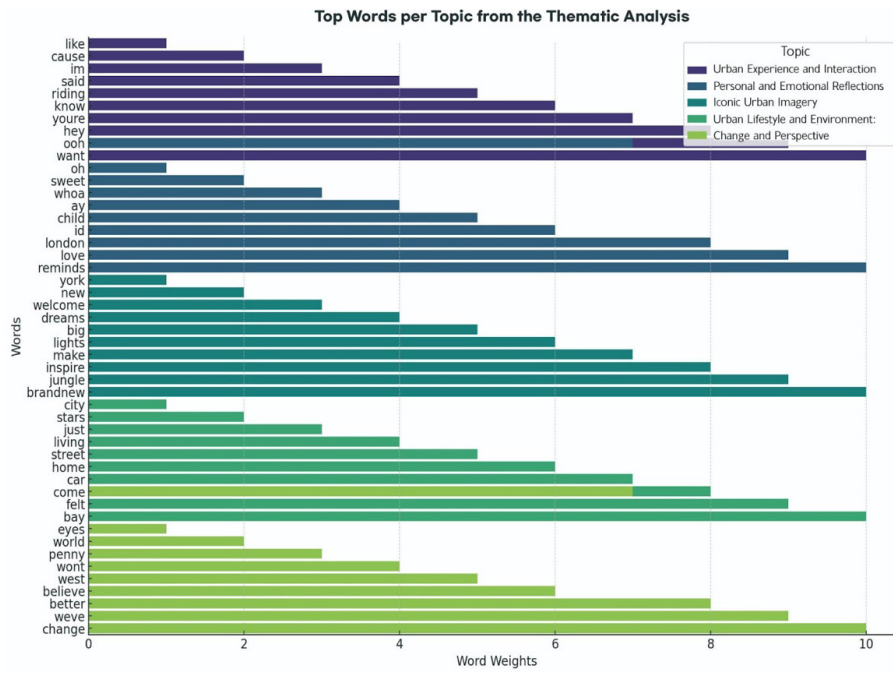


Figure 4: Top words per topic from the thematic analysis using the TF-IDF and NMF method

city, while Mitchell's track voices concerns over urban expansion and environmental degradation. This era's music often juxtaposed an idealized urban vision against emerging challenges, revealing the complex emotions tied to rapidly changing cityscapes amidst civil rights movements and socio-political upheavals.

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Transitioning into the 1980s and 1990s, urban perceptions in pop music started reflecting more pronounced social and economic divisions. Songs from these decades delve deeper into the gritty realities of urban life, influenced by the rise of genres like hip-hop, which directly addressed themes of racial and economic strife within urban environments. This period marked a shift from idealized portrayals to a more critical emphasis that the city as a landscape of vast opportunities yet plagued by significant challenges. Moving to the 2000s and 2010s, the narrative complexity of city life in pop music continued to evolve, incorporating more diverse perspectives and reflecting globalization's impact on urban spaces.

Songs from these decades often explored the multicultural and interconnected nature of modern cities, along with continuing themes of social disparity and cultural identity. The music of this era not only captured the vibrancy and dynamism of urban life but also highlighted ongoing struggles with gentrification, displacement, and the quest for belonging in increasingly heterogeneous urban populations. In the most recent years, from 2011 to the 2020s, urban-themed pop music has increasingly focused on

Table 3: The number of themes emerged during each era

Era	Iconinc Urban Imagery	Personal and Emotional Reflection	Everyday Urban Experience	Urban Lifestyle and Environment	Change and Perspective
1960s-1970s	2	0	2	2	3
1980s-1990s	0	2	0	2	1
2000s-2010s	2	1	0	1	2
2011-2020s	1	0	4	1	1

personal narratives within the urban framework, reflecting both contemporary issues like gentrification and the personal impacts of global crises such as the COVID-19 pandemic. This era's music often illustrates how personal experiences in cities are shaped by broader social and economic forces, highlighting a more introspective yet critically engaged perspective on urban life.

Continuing the exploration of urban perceptions through the decades, it is discernible that each era favored a specific theme that aligned with its time. In the 1960s-1970s, the prevailing theme was 'Change and Perspective,' with songs reflecting societal transformations and shifting viewpoints. The prevalence of words like "change," "eyes," and "world" in the lyrics of this period illustrates a collective introspection and a reevaluation of urban life amid significant historical events, such as civil rights movements and urban renewal initiatives. The 1980s-1990s saw 'Personal and Emotional Reflections' and "Urban Lifestyle and Environment" emerge as the dominant theme. Emotionally charged words such as "sweet," "child," and "love" indicate a turn inward, signifying a time when the music began to focus more intensely on individual stories and intimate experiences against the urban backdrop.

In the 2000s-2010s, the thematic focus shifted back to 'Iconic Urban Imagery,' with terms like "New York," "welcome," "dreams," and "lights" highlighting the aspirational and emblematic aspects of cities. The most recent era, the 2011-2020s, centers around 'Everyday Urban Experience and Interaction.' The frequency of words like "riding," "know," and "want" suggests a lyrical preoccupation with the quotidian aspects of urban living. The emphasis here is on the day-to-day dynamics of city life, the personal interactions that define the urban experience, and the navigation of the physical spaces that make up the urban environment.

5. Discussions

In this study, the observed shifts in urban themes and emotional tones within pop music notably reflect broader urban dynamics. For instance, the rise of positive urban themes in recent pop songs coincides with intensified globalization and urban redevelopment efforts trends that have reshaped cities into vibrant, albeit contested, cultural and economic hubs. This correlation not only supports the findings of Mohammad, Naghizade, and Ostadi (2014), who discuss the sensory experiences of urban environments, but also offers a contrasting narrative to Sims (2016), who posits a framework of perception under constraints, indicating that while urban redevelopment often aims to beautify and modernize, it may also lead to sensory and social exclusions.

The idealistic portrayals of urban life during the economic booms of the post-war era gradually shifted towards more critical narratives during periods of social unrest and economic downturns in the 1970s and 1980s, echoing the dynamics described by Alves and Queiroz (2013) in their analysis of urban changes in Lisbon's literary depictions. Concurrently, shifts in the music industry itself, marked by transitions from vinyl records (up to the early 1980s) to digital streaming (from mid-2000's onwards), have influenced how urban themes are both consumed and portrayed.

This aligns with Ballico and Watson's (2020) observations on how urban planning and music policies have evolved with technological advancements. The ease of distribution through streaming platforms, as discussed by Martin (2017), has not only democratized music consumption but also allowed a more

immediate and diverse portrayal of urban experiences, facilitating a broader, more resonant engagement with global audiences, which might explain the increased prevalence and popularity of urban themes in contemporary music.

The correlation analysis results show a nuanced relationship between music and urban legibility. While the “Urban Theme Strength” did not universally correlate with all metrics such as peak chart positions, it showed significant correlations with specific aspects like media coverage. This suggests that songs with pronounced urban themes tend to attract more media attention, highlighting how well these narratives resonate with cultural commentators and the public. Therefore, while music serves as a vital cultural interpreter that enhances navigability and fosters unique urban identities, its impact is most pronounced in areas directly linked to cultural discourse and sustained audience engagement.

The findings from this study contribute to both urban studies and musicology by highlighting the dynamic interaction between urban spaces and cultural production. This research provides new insights into how the physical and social transformations of urban environments are mirrored and critiqued through pop music. Notably, the positive correlations found between the strength of urban themes and their longevity on music charts suggest that urban-centered narratives resonate deeply with listeners, echoing the findings of Nasar (1989) on the emotional and evaluative responses evoked by urban environments.

This finding proposes a modification to current theoretical frameworks in urban studies, suggesting that cultural productions like music not only mirror urban transformations but also actively participate in shaping urban dwellers’ perceptions and experiences. In musicology, this research enriches the understanding of how changes in music consumption technologies influence the thematic and emotional scope of musical content, emphasizing the need for a more integrated approach that considers both technological and socio-economic factors in the study of music’s role in urban culture.

The psychological impact of urban-themed music on listeners extends beyond mere entertainment, playing a significant role in shaping both individual and collective urban identities—a phenomenon that can be described as “musical urbanism.” This study’s results illustrate how music not only reflects but also constructs the landscapes of the cities it portrays, creating an imagined cityscape that listeners engage with and internalize. For example, songs with positive emotional tones and strong urban themes, which have shown to perform well on music charts, could contribute to a more optimistic perception of urban life, enhancing civic pride and community cohesion. Conversely, songs that portray the challenges of urban life may foster a critical awareness and empathy among urban dwellers, encouraging a more nuanced understanding of the complexities of urban societies.

6. Conclusion

This study has methodically explored how urban environments are represented in popular music, unveiling shifts in the portrayal of cities from the 1960s to the recent years. The concept of “musical urbanism,” as previously discussed by scholars like Shain Shapiro, underscores music’s dual role not only as a reflection but also as a constructor of urban landscapes. While Shapiro’s works, such as “Music can improve our cities. So why isn’t music urbanism a thing?” (2017) and “Time To Define Music Urbanism,” (2018) initially framed the term, this research contributes to the narrative by highlighting how songs with strong urban themes resonate longer with audiences, thereby profoundly shaping urban identities and experiences. This study extends the dialogue on musical urbanism by demonstrating how it encapsulates the integration of music into urban policy and cultural discourse, advocating for its recognition as a significant influence on collective urban identities.

Understanding how cities are portrayed in pop music offers valuable insights into public sentiments and priorities. This evolving public sentiment, which values cultural inclusivity and adaptability, provides

a critical lens for policymakers. By supporting cultural initiatives and allocating funding that aligns with these changing perceptions, policymakers can enhance cultural heritage and promote contemporary cultural expressions, fostering urban environments that resonate with current public sentiments and priorities. Furthermore, the methodological approach of this study offers a novel perspective on the dynamic interaction between urban life and pop music by systematically mapping out the thematic evolution of city portrayals in music.

The limitation of this study relies on its reliance on chart performances and streaming numbers to gauge the popularity and cultural impact of songs, potentially overlooking less commercially successful music that also significantly reflects urban perceptions. Factors such as demographic biases and the technological impact of streaming algorithms, which influence which songs are more likely to be recommended to listeners, can skew streaming numbers towards those more frequently included in playlists. It is also important to note that the selection of songs analyzed in this study primarily reflects the urban experiences and cultural narratives of the global north/western countries, which may not fully capture the diverse urban realities and musical expressions of the global south/eastern countries.

7. References

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