

Redevelopment Realities: Public Perception and Infrastructure Challenges in Mumbai's Urban Landscape

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Abstract

Urban redevelopment is the most implemented strategy for addressing housing problems and the shortage, old infrastructure and land scarcity in Mumbai. Mumbai is one of the most densely populated cities in India. The ultimate aim behind redeveloping the city is to promise long-term improvement in living standards and urban efficiency through effective infrastructure management. The main purpose of the study is to examine public perception towards new projects in Mumbai and analyse the major challenges associated with these projects. The study was done on 87 responses using non-probability convenience sampling through structure questionnaire with liker scale. For analysing the data, descriptive statistics and inferential statistics are used. The findings reveal a dual reality in Mumbai's redevelopment process. Residents perceive redevelopment benefited and necessary for urban modernizations. But at the same time, they are dissatisfied with the poor project execution, lack of transportation and congestion in the city.

Keywords: Urban Landscape, Redevelopment, Infrastructure, Residents' Perception.

Introduction

Mumbai Urban Landscape

Mumbai is one of the most populous cities in India, featuring a limited land supply and availability of land due to a consistent increase in population and migration. The city's urban landscape is marked by a mix of high-rise development, old resignation building, informal settlements, slum areas and civic infrastructure. There is always a need to have a plan for urban infrastructure in the city, as it is one of the financial and commercial hubs. City has been facing constant pressure to modernise its infrastructure, along with ensuring efficient land use and keeping quality light intact. But the reality is that the land supply and availability are so limited in Mumbai that only the tall towers in real estate are More in progress. The real development in Mumbai is spectacular under Smart City initiatives.

Redevelopment in Mumbai

The key urban strategy in Mumbai is its development to address the challenges of old buildings, which are absolutely obsolete, housing shortage and limited land supply. It involves demolishing old structures and reconstructing them into modern residential towers and houses with upgraded amenities and compliance with safety norms. Undoubtedly, this redevelopment has long-term benefits in the form of improved housing quality and better utilisation of urban space. There are many challenges in the city,

such as traffic congestion, environmental degradation, an increase in civic service ce pressure and a lack of many facilities. The redevelopment of Mumbai largely depends upon its urban planning, timely construction execution, infrastructure management and positive public perception.

Literature Reviews

Alam and Matsuyuki (2018) studied dwellers' satisfaction under Mumbai's Slum Rehabilitation Scheme (SRS) by assessing residents' satisfaction levels and influencing factors. The findings showed that while tenure security benefits exist, satisfaction varies significantly with service quality and environmental conditions.

Arputham and Patel (2010) examined evolving redevelopment plans for Dharavi and airport-adjacent slums through policy analysis of plan changes and stakeholder negotiations. The study found that redevelopment outcomes shift significantly when residents actively contest and negotiate redevelopment proposals.

Chen (2022) compared residents' satisfaction before and after regeneration in a Chinese city using a mixed-method approach involving surveys and interviews. The study found that residents' satisfaction can improve post-regeneration but varies depending on management quality and lived experiences.

Chen et al. (2023) analysed large-scale public sentiment on urban regeneration in China using online comments through sentiment analysis of social media and government platforms. The study found that public satisfaction can be systematically interpreted from digital feedback. It highlights modern methods of capturing public perception beyond traditional surveys.

De Sousa (2006) studied brownfield redevelopment and the role of local governments in Canadian cities using urban governance analysis focused on municipal involvement in redevelopment processes. The findings indicate that public sector capacity and governance tools strongly influence redevelopment outcomes.

Freeman (2005) investigated whether gentrification leads to displacement through a quantitative comparison of residential mobility in gentrifying and non-gentrifying areas. The study found that displacement effects may be smaller than commonly assumed in certain contexts.

Gandhi (2021) examined how litigation interacts with real estate development outcomes in Mumbai using an empirical political economy analysis of project delays. The study found that legal and institutional conflicts can significantly slow project completion and shape development risks.

İnal-Çekiç (2024) studied how policy shapes residents' attitudes toward the urban redevelopment process in Turkey using a resident survey and statistical association testing between place attachment measures and redevelopment attitudes. The study found that stronger place attachment is linked to more complex attitudes toward redevelopment. This research explains why community acceptance depends on emotional ties rather than only on physical upgradation.

Jiang et al. (2025) examined public attitudes toward urban village rehabilitation and the factors driving acceptance through empirical analysis linking attitudes with perceived spatial transformation. The findings revealed that perceived improvements in living conditions are strongly associated with more positive public attitudes.

Kshetrimayum et al. (2020) identified factors affecting residential satisfaction in Mumbai's slum rehabilitation housing using a framework-based quantitative analysis of satisfaction drivers. The study found that satisfaction depends on more than relocation and housing quality, including well-being and service access.

Patel et al. (2009) focused on building a reliable information base for Dharavi's slum redevelopment using a data-building approach involving community-linked surveys and documentation. The study found that participatory and accurate information systems are essential for fair and effective planning.

Sarkar (2020) assessed socio-spatial aspects and liveability outcomes in Mumbai's slum rehabilitation housing using a case-based evaluation linking socio-spatial design with socio-physical liveability. The study found that housing outcomes depend not only on the housing unit but also on social-spatial design and everyday practices.

Objectives of the Study

- To examine public perception toward redevelopment projects in Mumbai.
- To analyse the major infrastructure challenges associated with redevelopment in Mumbai.

Hypotheses of the Study

H01: There is a significant positive relationship between effective redevelopment planning and public perception of redevelopment projects in Mumbai.

H02: Infrastructure challenges, such as increased traffic congestion and pressure on civic services, negatively influence public satisfaction with redevelopment projects in Mumbai.

Significance of the Study

This study is significant as it provides empirical insights into public perception of redevelopment projects in Mumbai and also highlights the key infrastructure challenges being faced. The study outcome would help urban planners and policymakers to understand the perception of the residents and their expectations for better living. The findings would also contribute to academic literature on urban redevelopment in high-density cities and offer guidance for improving project execution in a better way.

Methodology of the Study

This is a descriptive and analytical study examining the public perception and challenges related to infrastructure redevelopment projects in Mumbai. The study is based on an analysis of 87 edited questionnaires from Mumbai. Purposive sampling is used in this study on the criteria that the residents have an understanding of the redevelopment of Mumbai. The structured questionnaire is used in this study as a data collection tool consisting demographics details and Likert scale statements to measure public perception and challenges related to redevelopment.

Data Analysis

Objectives 1: To examine public perception toward redevelopment projects in Mumbai.

Demographic Profile of Respondents

The study surveyed a total of 87 respondents across Mumbai City and Suburbs. The following table summarises their demographic characteristics.

Table 1: Demographic Profile of Respondents

This table provides a breakdown of the 87 residents who participated in the survey.

Category	Group	Frequency (N)	Percentage (%)
Gender	Male	70	80.46%
	Female	17	19.54%
Age Group	21 – 30	12	13.79%
	31 – 40	23	26.44%
	41 – 50	42	48.28%
	51 Onwards	10	11.49%
Locality	Mumbai City	46	52.87%
	Mumbai Suburb	41	47.13%
Education Level	Graduate	38	43.68%
	Post Graduate	43	49.43%
	Others (HSC/SSC)	6	6.89%

The demographic profile indicates that the study is heavily represented by male (80.46%) respondents, with the majority falling in the 41–50 age bracket (48.28%). The sample is highly educated, with 93.11% holding a degree or postgraduate qualification. Geographically, there is a balanced distribution between Mumbai City (52.87%) and Mumbai Suburb (47.13%), ensuring the findings reflect broader urban trends rather than localised issues.

Reliability Analysis

To ensure the internal consistency of the survey instrument, Cronbach's Alpha was calculated for both core sections of the questionnaire.

This table confirms the internal consistency and dependability of the survey scales.

Scale Construct	No. of Items	Cronbach's Alpha (α)	Interpretation
Public Perception Factors	6	0.829	Good
Infrastructure Challenges	7	0.903	Excellent

The reliability analysis shows that both constructs have high internal consistency. The Infrastructure Challenges scale achieved an "Excellent" rating (alpha = 0.903), and the Public Perception scale achieved a "Good" rating (alpha = 0.829). Both are well above the industry standard threshold of 0.70, making the data suitable for advanced statistical testing.

▪ **Descriptive Statistics**

The following highlights the mean scores for the core items of the study. A score above 3.00 indicates a positive lean or agreement with the statement.

This table highlights the mean scores for the core items related to perception and infrastructure.

Construct / Item	Mean Score	Std. Deviation
Section B: Public Perception		
Redevelopment projects are beneficial for residents.	3.77	0.94
Awareness of redevelopment activities in the area.	3.62	0.85
Developers finish projects on time with promised amenities.	2.72	1.09
Section C: Infrastructure Challenges		
Noise and dust pollution have increased.	3.79	0.98
Increased traffic congestion due to redevelopment.	3.55	0.99
Power outages or voltage fluctuations.	3.05	1.19

The descriptive statistics reveal that while residents fundamentally believe redevelopment is beneficial (Mean: 3.77), they are highly critical of project management, specifically regarding timely completion (Mean: 2.72). In terms of infrastructure, noise and dust pollution (Mean: 3.79) and traffic congestion (Mean: 3.55) emerged as the most significant challenges, indicating that construction-related externalities are a primary source of public concern.

H01: There is a significant positive relationship between effective redevelopment planning and public perception of redevelopment projects in Mumbai.

Hypothesis 1 serves as the foundation for understanding how residents mentally and emotionally frame the ongoing urban renewal in Mumbai. This hypothesis posits that public perception is not merely a byproduct of visual changes in the skyline, but is deeply rooted in the perceived effectiveness and long-term benefits of redevelopment planning. By examining variables such as improved housing quality, living conditions, and the clarity of communication from developers, this hypothesis seeks to determine if the strategic outcomes of redevelopment are strong enough to foster a positive public sentiment. Validating this relationship is essential to distinguish whether the community views redevelopment as a progressive necessity for a modernising city or as a process that lacks clear value for the existing residents.

Table: Hypothesis 1 Testing (H01)

Hypothesis	Test Applied	Median Score	Test Stat (W)	p-value	Decision
H01	One-Sample Wilcoxon	3.17	1025.5	0.0002	Reject Null

Hypothesis 1 was tested using the One-Sample Wilcoxon Signed-Rank Test. The results show a p-value of 0.0002, which is significantly lower than the 0.05 alpha level. Therefore, we reject the null hypothesis. This statistically confirms that despite the local challenges, there is a significant positive perception among the public regarding the overall necessity and benefit of redevelopment in Mumbai.

Objectives 2: To analyse the major infrastructure challenges associated with redevelopment in Mumbai.

The second objective focuses on identifying and analysing the major infrastructure challenges that emerge during the lifecycle of redevelopment projects in Mumbai's dense urban landscape. While the ultimate goal of redevelopment is to modernise infrastructure, the transition phase often imposes significant strain on existing civic amenities. This objective investigates the intensity of disruptions such as increased traffic congestion, noise and dust pollution, and the burden placed on basic services like water, sewage, and power. By evaluating these "redevelopment realities," the study seeks to highlight the

specific logistical and environmental pain points that residents face daily, providing a critical look at the externalities of urban renewal that must be managed to maintain the quality of city life.

H02: Infrastructure challenges, such as increased traffic congestion and pressure on civic services, negatively influence public satisfaction with redevelopment projects in Mumbai.

Hypothesis 2 shifts the focus from perceived benefits to the operational friction caused by large-scale construction activities. It explores the premise that infrastructure-related externalities, specifically increased traffic congestion, noise and dust pollution, and the strain on basic civic services like water and power, act as significant deterrents to public satisfaction. This hypothesis recognises that even if a project promises long-term utility, the immediate degradation of the urban environment can create "construction fatigue," negatively influencing how residents feel about the redevelopment process. Analysing this relationship is crucial for urban planners and developers, as it highlights the specific logistical pain points that must be mitigated to maintain social sustainability and community support during the lengthy transition period.

Table: Hypothesis 2 Testing (H02)

Category	Group	Median	Test Stat (U)	p-value	Decision
Locality	Mumbai City	3.25	834.0	0.3688	Accept Null
	Mumbai Suburb	3.00			

The second hypothesis compared the perception of residents staying in Mumbai City vs. Mumbai Suburbs. Using the Mann-Whitney U Test, the p-value was found to be 0.3688, which is greater than 0.05. Consequently, we accept the null hypothesis, concluding that there is no significant geographical divide in perception. Residents across both regions experience redevelopment and its associated infrastructure challenges in a similar manner.

Conclusion of the Study

The study finds that Mumbai residents support urban redevelopment in principle but are dissatisfied with its execution. While the rejection of H1 indicates a positive perception of redevelopment benefits, poor communication and project delays reduce public trust. The acceptance of H2 highlights that infrastructure-related issues such as noise, dust, and traffic congestion cause widespread urban fatigue. Overall, the findings stress the need for people-centric redevelopment through improved planning, environmental controls, traffic management, and transparent communication to achieve sustainable urban development in Mumbai.

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