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Elucidating Tehran's urban planners and city managers' perceptions of transit-oriented development (TOD)

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Abstract

TOD, as an urban planning paradigm, has become central to Tehran's management. This approach, based on principles such as increased density, mixed land use, and pedestrian orientation, promises to reduce automobile dependency and improve urban quality of life. However, expert perspectives reveal significant challenges in interpreting TOD's objectives within its implementation frameworks. This research aims to understand how Tehran's decision-makers interpret this concept and how this interpretation diverges from its theoretical foundations. Using a thematic analysis methodology, this study explores the subject through in-depth interviews with eight experts. The findings indicate that while experts understand TOD's core principles—creating a compact, pedestrian-focused city with a high quality of life—this ideal is overshadowed by misinterpretations that reduce the concept of "development" to simple "revenue generation from density." Such distortions stem from a profit-driven approach and managerial policies that view TOD not as an urban planning strategy but as a revenue-generating tool to fund other projects. This instrumentalist approach faces structural challenges and implementation barriers, including legal issues, infrastructure saturation, and conflicts with higher-level planning documents. Rather than achieving its intended goals, this misguided path is likely to produce negative social and economic consequences, such as exacerbating inequality and eroding neighborhood identity. Ultimately, these factors contribute to a pessimistic outlook, foreshadowing the plan's failure to meet its objectives. Consequently, its legacy is anticipated to be not a functional, efficient city, but a collection of fragmented, disconnected construction projects.

Keywords

Density-Derived Revenues
Thematic Analysis
Transit-Oriented Development
Urban Management

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1. Introduction

Transit-Oriented Development (TOD) has been placed on the agenda as the largest mega-project of Tehran's urban management in the current era. According to this paradigm, densification is expected to occur within an 800-meter radius of Tehran's public transportation stations. Before discussing the specifics of the plan, it is important to address the theoretical foundations of this approach. According to the definition by Peter Calthorpe, TOD is understood as an urban model where a dense, vibrant center is formed through diverse land uses such as residential, commercial, administrative, public services, and open spaces. In this model, retail shops and services are located in the commercial heart of the development, within an accessible distance for residents—about 600 meters or a 10-minute walk. A public transportation station is also situated at the core of this hub, serving as a connecting point. Typically, office spaces are planned for the upper floors of buildings, and lower-density areas extend in a radius of about 1,600 meters from the core, creating a balanced spatial structure (Calthorpe, 1993, as cited in Rafieian et al., 2010). The fundamental principles of this approach include walkability, cyclability, permeability, public transit, mixed land use, density, compactness, and street function transformation (Institute for Transportation and Development Policy, 2017).

Accordingly, Tehran Municipality also intends to redesign a significant part of Tehran and potentially revise its Detailed Plan based on TOD. Although a detailed implementation report has yet to be published, the stated objectives include regenerating Tehran, unlocking construction potential, enhancing urban safety, promoting Islamic-Iranian urbanism, and increasing municipal management revenues. Accordingly, the TOD plan for the Quddusi-Shahid Beheshti corridor has been placed on the agenda, and general plans have also been prepared for other metro stations. Additionally, plans for approximately thirty metro stations across Tehran's twenty-two districts are on the agenda. The TOD approach involves increased density around stations and will significantly influence housing, transportation, shopping, and other patterns. Given this complex discourse and conflicting viewpoints, it is crucial to understand the essence of TOD in practice and how responsible institutions interpret it. Instead of focusing on a single case study, this research aims to qualitatively analyze the perspectives of planners and urban managers to reveal Tehran's prevailing perception of TOD. Therefore, having reviewed the theoretical foundations, this article will explore how TOD ideas are interpreted in Tehran urban management, what fundamental challenges they face, what are their predicted impact on the city, how Tehran's planners and managers perceive and interpret Transit-Oriented Development (TOD), and what socio-economic challenges, obstacles, and consequences this primarily density-driven and profit-oriented interpretation is likely to create for the future of Tehran?

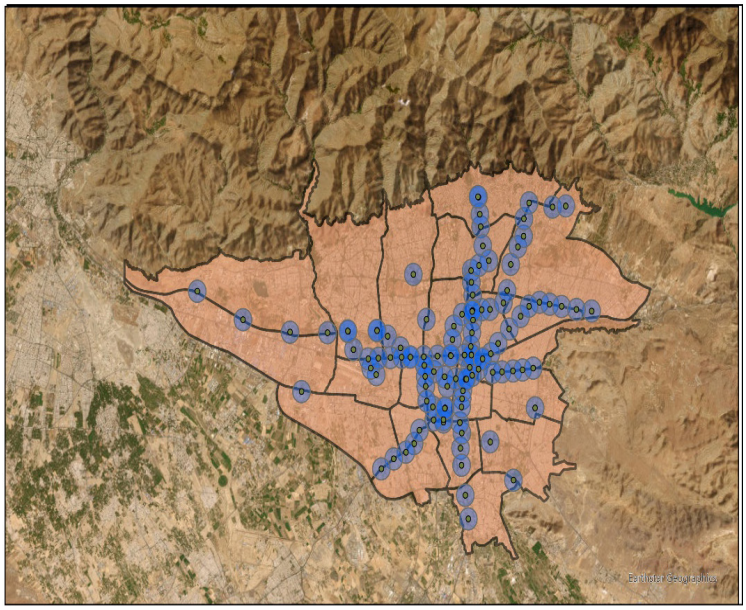

Figure 1. TOD zones in Tehran with an 800-meter radius based on metro stations, lines 1 to 7

2. Theoretical foundations

2.1. Transit-oriented development

Transit-Oriented Development (TOD) is an integrated approach that aims to enhance urban sustainability, reduce car dependency, promote social equity, and facilitate access to urban services and opportunities (Calthorpe, 1993). TOD emphasizes the integration of land use and public transportation, increased density, spatial diversity, design suitable for walking/cycling, and easy access to destinations (Cervero & Kockelman, 1997; Ewing & Cervero, 2001). The 5D model—namely Density, Diversity, Design, Destination Accessibility, and Distance to Transit—constitutes the primary framework for evaluating TOD (Sun et al., 2024; Uddin et al., 2023).

In a general definition, TOD is a form of dense, mixed-use development centered on walkability and proximity to fixed public transport stations, typically within a distance of less than a 10-minute walk (Ren & Listokin, 2019). This model creates an environment that, within a radius of about 2000 feet from a station, encompasses a mix of residential, commercial, administrative, and open space uses in a pedestrian-oriented setting, offering citizens a variety of travel options, including public transport, cycling, walking, or private vehicles (Behzadfar & Zabihi, 2011).

The core structure of transit-oriented development is based on three pillars:

1. Density: Concentration of population and activities within a radius of approximately 400 to 600 meters from a public transport station.
2. Diversity: Integration of various land uses and a variety of housing types and transportation modes.
3. Design: Creating humane, pedestrian-oriented, livable, and interconnected environments (Al-Harami & Furlan, 2019).

Overall, the four fundamental principles of Transit-Oriented Development and their respective indicators are as follows:

1. Compact Development: Includes appropriate block sizes, high density, and a desirable intensity of construction.
2. Mixed-Use: Defines permitted, prohibited, and conditional uses within a flexible planning framework.
3. Pedestrian-Orientation: Controls building orientation, designs street-facing entrances, and provides connected networks with standard sidewalk widths.
4. Transit and Mobility Facilities: Ensures adequate parking and enhances access to public transportation networks (Shahabian et al., 2014).

This model collectively aims to create cities where compactness, diversity, and high-quality spatial design form livability, sustainable mobility, and active social interaction.

In the 1980s, as urban planners and researchers observed the shortcomings of suburban cities and car-oriented developments, they sought alternatives inspired by the design of traditional neighborhoods. This led to New Urbanism (a planning and development approach based on walkable, high-density blocks). This desire led to the introduction of a model known as Transit-Oriented Development (TOD), where, according to its principles, streets, housing, and shopping are in proximity to each other and to public transport stations and accessible public spaces. Other primary objectives were also on the research agenda at that time, including reducing motorized trips, especially single-occupancy driving, decreasing the length of motorized trips, and increasing non-motorized trips such as cycling and walking (Cervero & Kockelman, 1997).

TOD stands in opposition to car-dependent development. Car-dependent development became the dominant development model in cities and regions of the United States after World War II, largely due to the growing dominance of the automobile, lack of investment in transit, expansion of highways, and suburbanization. Decades of car-dependent development led to negative social outcomes, including traffic congestion, air pollution, and energy shortages, as well as urban sprawl, sedentary lifestyles, and a weak social life (Cervero, 2008; Curtis & Scheurer, 2017). In these circumstances, cities and regions in the United States began promoting TOD along with concepts like smart growth and New Urbanism to encourage alternative development patterns and improve the vitality and life of urban and suburban communities (De Vos et al., 2014).

2.2. Explaining the fundamental principles of transit-oriented development

Neighborhoods should be diverse in terms of land use and population. Communities should be designed for pedestrians and public transit alongside cars. Cities and towns should be shaped by public spaces and community institutions, ensuring they are accessible to everyone. Settlements should be designed to enhance social life and foster relationships between

people and green and open spaces. Environmental protection, urban neighborhood revitalization, and preservation of their identity were issues addressed in the new plan titled "Transit-Oriented Development". Calthorpe also noted that one of the failures of pedestrian-oriented clusters was the plan's focus on small areas, which in turn reinforced suburbanization. Therefore, in Transit-Oriented Development, the emphasis is on implementing the plan in a city-scale environment (Calthorpe, 1993). They then defined the principles of TOD as follows (Calthorpe, 1993):

Figure 2. Principles of transit-oriented development (Calthorpe and Poticha, 1997)

Broadly, the concept of TOD can be defined as the precise coordination of urban structure around a public transportation network (Hickman & Hall, 2008). Other definitions for TOD also exist: TOD can be described as land use and transportation planning that makes cycling, walking, and transit convenient and desirable. By concentrating development around public transit stations, it maximizes the efficiency of existing public transport services (Thomas & Bertolini, 2017).

This approach goes beyond single-site locations, aiming to refocus entire urban regions around public transit stations and limit the use of private automobiles (Bertolini et al., 2012). Others argue that dense and compact developments, if not properly implemented within a wider regional transit network, will have only marginal effects on travel behavior. Behind these theoretical considerations lies the assumption that with careful planning and consideration of the impact of land use and spatial organization on people's behavior and choices, travel demand can be guided (Ewing & Cervero, 2001). Various authors have attempted to classify TOD based on the different characteristics of stations and their surrounding areas. Typically, the evaluation criteria for a station area include density, diversity, and design—the three dimensions identified as the core features of TOD (Cervero & Kockelman, 1997). In Calthorpe's plan, a TOD unit consists of four main parts: a commercial area as the economic heart, a residential area to accommodate the population, public spaces for social interaction, and peripheral zones that serve complementary and supporting functions (Rafieian et al., 2010).

Different researchers and institutions have defined and examined TOD as a dynamic and multidimensional concept from various perspectives.

Table 1. Definitions of transit-oriented development (TOD)

Year	Perspective	Source
1997	A community comprised of diverse and concentrated land uses around transit stations, designed in a way that encourages residents, employees, and visitors to reduce car use and utilize public transportation more.	Bernick & Cervero, 1997
1999	The development of residential and other land uses along transit corridors, such as rail lines, main bus routes, and highways.	Lefaver, 1999
1999	An effort to control the negative environmental impacts resulting from sprawling, low-density development patterns in American cities.	Porter, 1997
1999	Organizing and concentrating urban land uses at specific points, such as public transport stations (especially metro and light rail), in proportion to population distribution and land use diversity.	Niles & Nelson, 1999
2000	An area with relatively high density and a mix of residential, commercial, administrative, and service uses within a short walking distance of a public transport station, where priority is given to pedestrians and cyclists.	Maryland Dept. of Transportation, 2000
2002	A pattern with medium to high density within a walking radius of major transit stations, designed for non-car users, which can include new construction or the redevelopment of existing buildings to facilitate access to public transport.	California Dept. of Transportation, 2002

TOD is an urban planning technique that aims to reduce car use and promote the use of public transport, high-density, mixed-use (diversity), and urban design compatible with the environment and close to transit centers (design). These factors are known as the three planning components (density, diversity, and design) of TOD. The concept of TOD can contribute to changing the quality and form of urban growth by improving accessibility, mobility, pedestrian-orientedness, and sustainability. TOD is one of the key planning methods for the smart management of urban growth in the 21st century (Nasri & Zhang, 2014).

2.3. Global Experiences

This section presents a summary of the comparative analysis of 12 global experiences as a fundamental analytical tool. The goal is to establish a practical and successful framework for TOD implementation, allowing for a direct comparison of the approach taken in Tehran with the best international examples in the discussion section. This comparison highlights the difference between the current interpretation of TOD in Tehran and successful global experiences. Therefore, this comparative analysis provides the necessary foundation for a well-documented critique in the final part of the research.

Table 2. Comparative analysis of global experiences in transit-oriented development (TOD)

Experience	Main Goal	Land Use	Transportation	Implementation Mechanism	Key Outcomes and Challenges
North America					
Arlington, VA	Combat urban sprawl and car-oriented development	Dense, mixed-use development (commercial, office, residential) around stations	Concentration of development along two main Metrorail corridors	Strategic and smart land-use planning by a public entity	Success: Creation of vibrant urban centers; 26% of the population resided in 8% of the city's area.
Denver, CO	Promote equitable development and affordable housing	Acquisition and holding of land along existing and future rail and bus corridors for affordable housing construction	Development around existing and future rail and bus corridors	Creation of a $15 million loan investment fund with public and private sector participation	Success: Construction of 626 affordable housing units and social amenities like libraries and kindergartens

Experience	Main Goal	Land Use	Transportation	Implementation Mechanism	Key Outcomes and Challenges
North America					
Oakland, CA	Community-driven development and prevention of car-centric designs (e.g., multi-story parking)	Creation of a mix of affordable housing, senior housing, and market-rate units	Integration of housing and community services with public transport	Project leadership by a local non-profit organization (Unity Council) with community participation	Success: Community empowerment; Challenge: Commercial difficulties arising from the station's origin-point nature and the timing of the 2008 housing crisis
Portland, OR	Create communities with mixed income and age levels	Residential development, including affordable housing, senior housing, family housing, and a kindergarten	Emphasis on pedestrian access to the adjacent transit station	Land acquisition by the Portland Development Commission and provision of tax incentives to the developer	Success: Creation of mixed-income housing; Challenge: Failure to achieve full social integration due to the segregation of groups into separate buildings
South America					
Curitiba, Brazil	Create a sustainable urban structure since the 1960s	Mandated high-rise, mixed-use construction in major corridors; Stepped-down density with distance from the central axis	Innovative and comprehensive Bus Rapid Transit (BRT) system as the city's backbone	Policy of selling development rights for 2 additional floors in exchange for contributions to an affordable housing fund	Success: Over 75% of the population uses public transport; Successful housing for 20,000 low-income families near public transit
Asia					
Hong Kong & Chinese Model	Manage intense density and achieve financial sustainability for the transit system	Extremely dense, mixed-use development vertically integrated with stations	An extensive metro network as the backbone of urban development	"Rail + Property" financial model, where the transit company profits from land value capture	Success: One of the few profitable public transport systems in the world
Singapore	Manage urban growth under severe land constraints	Creation of new, dense towns around transit stations with diverse activities	Strict car control policies (electronic pricing, quotas, and expensive parking)	Highly centralized, top-down planning by the government	Success: Effective control of private car use; Challenge: Initial imbalance between jobs and housing led to long commutes.
Europe					
Turin & Milan, Italy	Large-scale urban regeneration of industrial and derelict lands	Milan: High-rise residential towers and extensive open spaces; Turin: Mix of residential, commercial, and office uses	Integration of projects with new metro lines; Milan: No widening of surrounding streets; emphasis on pedestrian space	Milan: Holding design competitions; Turin: Revising inefficient national standards like parking requirements	Success: Successful transformation of derelict land into vibrant urban centers; Significant reduction in parking needs (from 4,000 to 1,000 spaces in Milan)
Australia					
Queensland	Shift travel patterns at the state level and reduce car dependency	Planning for six types of TOD, from city center scale to neighborhood scale	Quantitative targets for increasing the share of walking, cycling, and public transport by 2031	Centralized, top-down planning by the state government	Success: Creation of a clear strategic framework with measurable goals for the future

2.4. Densification methods in transit-oriented development

Achieving density, a key pillar of Transit-Oriented Development (TOD), cannot be accomplished through a single solution. It requires the application of a diverse set of tools and strategies. Global literature identifies approximately twelve key methods for densification within the TOD framework, each focusing on a different aspect of development, from regenerating existing fabrics to utilizing vacant lands. This is notable, as solutions like "selling density," often viewed as a financial tool, are merely one of the options in this comprehensive toolbox and should not be mistakenly reduced to the entire concept of densification in TOD.

Table 3. Key densification methods in TOD

Key Densification Method in TOD	Conceptual Description and Implementation Details	Source(s)
Increased Building Density and Development Intensity	Increasing density by adjusting regulations such as Floor Area Ratio (FAR) and Building Coverage Ratio (BCR), and encouraging vertical construction	Pratama et al. (2023)
Mixed-Use Development	Combining various land uses (residential, commercial, and office) to reduce travel needs and increase dynamism	Pratama et al. (2023)
Transit-Based Tall Building TOD (TB-TOD)	Constructing tall, multi-functional buildings at key transit points, especially in cities with land scarcity	Al-Kodmany, Xue, & Sun (2022)
Infill Development	Utilizing vacant or underutilized land within the city to prevent sprawl and leverage existing infrastructure	Pratama et al. (2023)
Redevelopment	Renovating and changing the land use of deteriorated and inefficient urban fabrics by consolidating parcels and aligning with TOD principles	Pratama et al. (2023)
Organized Densification through Land Readjustment	Reorganizing private land parcels to create integration in development and provide land for infrastructure	Pratama et al. (2023)
Land Value Capture (LVC)	Leveraging the increased land value resulting from transit development to finance projects (e.g., joint development)	Hariyanto, Murtejo, & Alimuddin (2023)
Flexible Zoning and TOD Regulations	Creating special urban planning regulations, such as mixed-use, minimum density, and affordable housing, to support TOD	Kidokoro, 2020
Creative Parking Management	Reducing car demand through parking restrictions and pricing, and promoting shared parking	Mei, Kong, & Zheng (2020)
Pedestrian and Bicycle Infrastructure Design	Creating a safe and integrated network for walking and cycling to connect to public transport	Gaputra, Widiastuti, & Estika (2020)
Node-Place Model for Density Evaluation	A tool for analyzing and balancing transit performance (Node) and land use quality (Place) at stations	Yang, Yan, & Gan, 2023
Compact City and 15-Minute City Principles	Creating neighborhoods with easy access (15-minute walk/bike ride) to essential services, based on density and mixed land use	Garcia de Soto et al. (2023)

3. Literature Review

In the international literature on TOD, the focus has shifted from purely physical metrics towards newer dimensions, such as procedural and consequential justice, network governance, and the role of actors in interpretation and implementation (Yip et al., 2024). In contrast, the literature in Iran has been predominantly normative or design-oriented, paying less attention to the perceptions of policymakers, institutional logic, and financial incentives in implementation (Abdi, 2021). This research aims to fill this gap by focusing on the analysis of Tehran's urban planners' perceptions of TOD and the discrepancy between its normative definition and its practical interpretation. The novelty of this study lies in adding a layer of perceptual governance and justice to the existing literature, which is achieved by combining qualitative thematic analysis with a quantitative measurement of code frequencies in MAXQDA software. This approach, while prioritizing overlooked consequences like local identity and the institution of the family, localizes the gaps identified in the global literature on justice and governance in TOD—particularly regarding financial incentives and institutional misalignments—within the policy-making context of Tehran and represents them in a practical manner (Asian Development Bank, 2022; Yip et al., 2024).

Table 4. Literature review

Study	Context	Method	Key Theme(s)	Key Findings	Relevance to Current Research
Calthorpe (1993)	International Conceptual Framework	Theoretical/ Design Guide	Classic definition of TOD and the compact city	Integrates land use, transit, walkability, density, and mix as core principles.	Provides the conceptual basis for comparing normative and practical interpretations in Tehran.
Dittmar & Ohland (2003)	U.S. Case Studies	Review of best practices	Criteria and examples of successful TOD	Emphasizes design quality, accessibility, and integrated planning as conditions for success.	Offers practical criteria for assessing the gap between definition and implementation in Tehran's policy.
Thomas et al. (2018)	International Policy Transfer	Comparative/ Analytical Study	Policy transferability of TOD	Stresses the need for institutional and cultural localization and avoiding cookie-cutter replication.	Confirms the paper's focus on the institutional context of Tehran and critiques reductionist approaches.
Yip et al. (2024)	Justice Theory in TOD	Analytical framework for justice	Procedural/ consequential justice in TOD	Argues for meaningful participation, avoiding inequality, and framing justice in TOD evaluation.	Reinforces the justice-oriented dimension in analyzing managers' perceptions and social outcomes in Tehran.
Hrelja et al. (2022)	Sweden (Low-Density Context)	Qualitative case study (interviews)	Barriers and drivers of TOD in low-density contexts	Highlights the importance of a shared vision and conflict management among stakeholders beyond market conditions.	Aligns with the paper's findings on managerial misalignments and the need for a unified strategy.
Sung & Oh (2011)	Seoul (High-Density Metropolis)	Regression modeling (station-based)	Relationship between TOD factors and transit demand	Shows the positive impact of transit network, land use mix, and pedestrian-oriented design on ridership.	Emphasizes the precedence of network quality, mix, and design over a sole focus on density.
Nasri & Zhang (2014)	Washington & Baltimore, U.S.	Multi-level behavioral analysis	Impact of TOD on VMT and travel patterns	TOD reduces residents' VMT by 21-38% compared to non-TOD areas.	Documents the behavioral benefits of TOD against the purely density-driven approach in Tehran.
Asian Development Bank (2022)	India (Finance and Policy)	Qualitative/ quantitative policy approach	TOD and Land Value Capture (LVC)	Links financing tools with regulatory reforms and land use-transit integration.	Relates to the discussion on revenue from density and the institutional/economic requirements for sound implementation in Tehran.
Abdi (2021)	Iran (Strategic Framework)	Dissertation/ Contextual analysis	Transition to TOD in Iran	Emphasizes localization, scaling, and contextual sensitivity in design and implementation.	Supports the study's claim for the need for localization and critiques island-like approaches in Tehran.
Khaksari Rafsanjani & Piri (2024)	International Systematic Review	Meta-analysis of TOD research trends	Knowledge mapping and trends in TOD	Highlights performance assessment, accessibility, and qualitative/quantitative indicators.	Justifies combining thematic analysis with code frequency measurement in this research.
Qiang et al. (2022)	Shanghai (Multi-source data)	Quantitative performance evaluation	Performance measurement based on multi-source data	Enables performance evaluation of TOD at the metropolitan scale with diverse data.	Inspires the design of a qualitative-quantitative evaluation system for policymaking in Tehran.
Wey & Chiu (2013)	Walkability assessment in TOD	Pedestrian environment indexing	The role of walkability in TOD success	Stresses the need for human-centered design and a continuous street network to achieve TOD goals.	Reinforces the paper's critique of prioritizing quantity (density) over human quality.

4. Research methodology

This research employs a qualitative approach, using Thematic Analysis to conduct an in-depth exploration of the perceptions of Tehran's urban managers and planners regarding the concept of Transit-Oriented Development (TOD). This method was chosen due to the exploratory nature of the research question and the need to deeply understand the perspectives, interpretations, and underlying concerns within the expert discourse. The research was conducted in three main stages, as described below.

Stage one: data collection through in-depth interviews

1. Participant Selection: Interviewees were selected using Purposive and Judgmental Sampling. The primary criteria for selection were individuals with deep knowledge, direct practical or research experience with the TOD plan in Tehran Municipality, and a decision-making or advisory role. Accordingly, eight key managers, senior experts, and influential figures—representing a mix of managerial (Municipality, City Council), research (Urban Planning and Research Center), and academic institutions—were chosen for interviews (details in Table 5).

Table 5. List of interviewees

Role and Affiliation	Field and Education	Expertise Qualification
Director of Policy Studies, Tehran Urban Planning and Research Center (TUPRC)	PhD in Urban Planning, University Professor	Expertise in Tehran's municipal policymaking and academic knowledge on urban planning
Expert, Deputy of Urban Planning and Architecture, active in the TOD domain	Master's in Urban Planning, University of Tehran	Practical knowledge and direct implementation experience with the challenges of the TOD plan
Former Secretary, TOD Committee, Tehran City Council	Master's in Urban Planning, University of Tehran	Familiarity with the decision-making processes, debates, and policies related to TOD in the City Council
Head, Urban Planning Commission, Islamic City Council of Tehran	PhD Candidate in Architecture, Iran University of Science and Technology	High-level macro and supervisory perspective on Tehran's urban plans
Deputy for Development, Tehran City Council	Master's in Urban Planning, University of Tehran	Technical and implementation expertise in urban development and infrastructure projects
Head, Social Theorizing Desk, Academy of Sciences	University Lecturer	Expertise in analyzing the social and cultural impacts of urban plans and a theorist in the field
Deputy Minister of Roads and Urban Development	Master's in Architecture	National-level perspective and familiarity with master plans and macro urban policies
Former Head, Tehran Urban Planning and Research Center (TUPRC)	Master's in Urban Planning, University of Tehran; PhD in Architecture, IUST	A combination of high-level managerial experience in a municipal research body and comprehensive specialized knowledge

2. Conducting the interviews: The interviews were conducted in a semi-structured and in-depth manner. This method allowed the researcher to follow a general framework while asking supplementary and exploratory questions to deepen the discussion. To make the conversation more concrete, examples such as the Navvab project (for discussing density) or cycling infrastructure plans were used as points of discussion. The data collection process continued until Theoretical Saturation was reached. This was achieved through an Iterative process where data analysis occurred concurrently with data collection. After transcribing and coding each interview, emerging concepts and themes were compared with findings from previous interviews. In this study, signs of saturation appeared around the sixth interview, where core themes such as the "gap between normative definition and practical interpretation," "dominance of financial motives over qualitative goals," and "socio-cultural consequences" were consistently repeated in the interviewees' discourse. The final two interviews (seventh and eighth), despite providing rich and detailed examples, did not lead to the formation of new core themes and primarily served to confirm and reinforce existing conceptual categories. At this point, we concluded that the data were sufficiently rich to answer the research questions and halted the sampling process.

3. Transcription and data preparation: all interviews were recorded with the participants' consent and then transcribed verbatim. The final text was reviewed for accuracy and prepared for analysis.

Stage two: Data analysis using the six-phase thematic analysis (Braun & Clarke)

For analyzing the qualitative data, the six-phase model of thematic analysis was systematically implemented, as follows:

1. Familiarization and immersion in the data: The researcher read the full transcripts of the interviews multiple times to gain a deep and comprehensive understanding of the data and to identify initial key points.
2. Generating initial codes (open coding): The interview texts were analyzed line-by-line, and descriptive initial codes were assigned to meaningful segments of the text that were relevant to the research objectives. These codes were recorded in the qualitative analysis software MAXQDA.
3. Searching for themes (axial coding): In this phase, the initial codes were categorized into larger groups based on similarities and semantic connections. These groups formed the potential and initial themes (axial codes in Table 5).
4. Reviewing and refining themes: The initial themes were carefully reviewed to ensure internal coherence (relevance of codes to theme) and external distinctiveness (difference between themes). At this stage, some themes were combined, split, or eliminated.
5. Defining and naming final themes (selective coding): A precise and comprehensive name and definition were chosen for each refined theme, capturing its essence. These themes constituted the six final core categories of the research (final codes in Table 5).
6. Producing the final report: In the final stage, the analysis was written up, accompanied by illustrative quotes from the interviews to document the findings, in the format of the present research report.

Stage three: validation and enhancing the reliability of findings

To ensure the validity and reliability of the analysis, two complementary approaches were used:

1. Inter-Coder reliability: To reduce researcher bias and ensure reliability of the coding process, a random sample of 25% of the data was independently coded by another researcher. Cohen's Kappa coefficient was then calculated to measure the level of agreement. The obtained Kappa value (0.86) indicated a "very good" level of agreement and high reliability of the coding framework.
2. Code frequency analysis (a quantitative complementary approach): In addition to the qualitative analysis, code frequency analysis was used in MAXQDA software to add a layer of quantitative validity to the results. In this method, the number of occurrences of codes related to each theme was counted to identify the weight and relative importance of each theme in the expert discourse. This helped to gain a more precise understanding of the main concerns and focal points from the participants' perspectives.

The interviewees did not represent a statistical sample of the entire community of Tehran's planners and managers; rather, they were regarded as key and influential representatives involved in strategic and policy-making roles. This research employed purposive and judgmental sampling, prioritizing in-depth, specialized insights over statistical representativeness. The criteria for selecting these individuals included their direct knowledge and experience with the TOD plan, membership in relevant committees, managerial positions within decision-making bodies (such as former directors and heads of the research center and urban planning deputies), or prominent academic expertise.

Although the research explicitly states that the findings are not statistically generalizable to all managers, the findings offer a deep and credible picture of the primary challenges and concerns at the strategic level. Therefore, the perspectives gathered reflect the dominant discourses and essential debates among a select group of influential experts and managers.

5. Findings

This section presents the research findings that emerged from a thorough thematic analysis of the key experts' perspectives collected through semi-structured interviews. For data analysis, a thematic analysis methodology with a three-stage coding process was used.

First, initial concepts were extracted from the interview texts (open coding), and then they were categorized into related clusters (axial coding). Finally, these core clusters were integrated into six main themes or final codes, which form the primary analysis framework.

Each of the following sections (5.1 to 5.6) details one of these codes, providing a comprehensive picture of the various dimensions of the phenomenon under study, from the normative essence of TOD to its predicted outcomes in the context of Tehran. As a complementary step to the qualitative analysis, a quantitative approach measured the frequency and weight of the experts' views. The basis of this analysis

was counting the frequency of extracted codes in the MAXQDA software to identify the main concerns, focal points, and the relative importance of different dimensions in the expert discourse. To provide a visual and comprehensive overview of these findings, outputs such as a Word Cloud were used. These tools illustrate the conceptual map and the central concerns prevailing in the interviewees' perspectives, based on the codes' frequency and significance.

Table 6. Open, axial, and selective coding table based on thematic analysis of interviews

Quotation	Selective Coding	Axial Coding	Open Coding
"In fact, TOD's goal is to organize development within cities... and principles have been defined for it, one of which is density around public transport stations, mixed-use, pedestrian-orientation, and general principles that allow for the organization of different modes of transport around transit stations."	Normative TOD: Essence, Principles, and Goals	Fundamental Principles	• TOD as an approach • Connecting transit and land use • New development at transit nodes • Compact city framework • TOD as a response to sprawl • General principles: density, mix, and walkability • Aligning land use and transit • High-density city with infill development • Organizing development within the city
"By reducing the distance between home and work, or by shortening travel distance and time, more time will be spent with family and on social interactions. Also, the open spaces created in each neighborhood will lead to a greater presence of people in public areas to meet their needs and receive services... and will prevent the 'night-death' of neighborhoods and increase their security."		Anticipated Goals and Benefits	• Minimized private transport • Reduced desire for private cars • Reduced traffic and pollution • Reduced vehicle-kilometers traveled • Reduced travel distance • Increased social interactions • Pedestrian paths as facilitators of social relations • More time for family and interactions • Increased public presence in neighborhoods • Prevention of 'night-death' • Increased neighborhood security • Enhanced local economy • Improved livability • Better environmental quality • Solving the home-work distance problem • Revitalization of deteriorated areas • Increased neighborhood vitality with mixed-use • Positive outcomes of proper TOD • TOD's main benefits are in the physical system • Reduced car dependency • Outcome of a flourishing approach
"What I understand from global TOD theories is a kind of return to the fundamentals of urbanism and urbanity, relying on public transport... pedestrian paths can, in fact, resolve social relations within neighborhoods."		Theoretical and Cultural Foundations	• Affinity with traditional Iranian cities • An Iranian concept of TOD • Return to the fundamentals of urbanism • TND theoretical model • Reference to Cervero's theory • Reference to Calthorpe's book • Comparison of American and European development models
"Contrary to what was evident in the interviews with some urban managers and also some of those involved in TOD, who consider it merely as increasing density and development, TOD is a set of actions where density is only a part of it. The most important part of planning based on TOD is creating mixed land use... in this story, density is the least important part."	Misinterpretations and Conceptual Critiques	Critique of the Density-Centric Approach	• Critique of the density-centric view • Density as the least important component • The false notion of increasing population around the metro • The fallacy of building high-rises next to the metro

Quotation	Selective Coding	Axial Coding	Open Coding
"What we did... was to classify the existing stations... the work was almost in its final stages of progress, but with the change in the deputy of urban planning, the work was halted, and they told the districts that each district should introduce three plots of land around a station to prepare a plan for increasing density on them."	Misinterpretations and Conceptual Critiques	Critique of the Piecemeal and Reductionist View	• Critique of the station-focused view • Forgetting the rest of the city • Station failure without a holistic view • Not distinguishing TOD from a station complex • The mistake of a piecemeal view
"A critique that might arise is regarding the last word, 'Development'... When you want to develop, you have to see whether a metropolis like Tehran has the capacity for redevelopment or not, whether horizontally or vertically."		Importance of Key Concepts	• Mixed-use as the most important component • Importance of interpreting the word 'develop' • Development as flourishing • Critique of the word 'development'
"In academic circles, there are other interpretations of TOD... many social researchers view TOD as a domain with the potential to create community, meaning a form of planning that can lead to the formation of a community centered around a station."		Other Interpretations	• Social interpretation: creating community • Micro-level interpretation: responding to localized needs • Lack of a unified view in other interpretations
"In the previous term, the Tehran City Council was very insistent that the municipality must bring forward a bill to organize the development and increase density around stations, so that the revenue from selling density could fund the metro's expansion."	Profit-Driven Approach and Managerial Policies	Financial and Economic Motivations	• The municipality's motivation: managing an expensive city • Financial appeal of TOD • Misuse of TOD for revenue generation • Creating substantial sustainable income • Goal of generating revenue from density to fund metro development • Prioritizing financial gains over human benefits • Desire due to crisis, not humanistic concerns
"In each district, they signed a contract with a consultant... who was supposed to define a corridor around the metro station in each district based on the TOD model and define excess development beyond the city's detailed plan in this corridor."		Policies and Actions	• Dominance of a quantitative approach • Focus on increasing density • A developmental view instead of quality improvement • Hiring 22 consultants for 22 districts and similar actions • New approach: introducing land for density increase • Defining an excess development corridor • Precedence of districts 7 and 18 • Outsourcing development to the private sector • The idea of outsourcing • Downsizing the government (TOD central core) • Creating an evaluation system • Revising the detailed plan
"In the previous term of urban management, this issue was under the transportation committee and was progressing, but in this term, it has been transferred from the City Council to the municipality and from the transportation domain to the urban planning domain. Therefore, the TOD in the first term is a management based on transport and traffic, while in the second term, it is based on urban planning."		Managerial Changes and Misalignments	• Difference between municipal and city management • Two different TOD periods: transport-focused and urban planning-focused • Comparison of Hashemi's and Saremi's views • Transfer of leadership from transport to urban planning • The qualitative approach of the previous term: station typology • A consultant from the University of Tehran • Work halted with a change in management • Initial grand ambitions of Zakani, followed by a downturn and revision of the idea • Expert reaction and resistance • Impact of the expert body • Resistance in the technical committee • Study of social consequences as a brake

Quotation	Selective Coding	Axial Coding	Open Coding
"When we want to evaluate TOD concerning Tehran or Iran, we face a serious infrastructure challenge. Our infrastructure is generally very weak, and our budgeting for infrastructure development has always been very low... According to master plans, Tehran's ecological carrying capacity is full, and its livability capacity has no more room."	Structural Challenges and Implementation Barriers	Infrastructural and Capacity Constraints	• Dysfunctional municipality • Lack of precise current information • Weak infrastructure challenge • Insufficient budget for infrastructure development • Tehran's current high density • Living beyond capacity in Tehran • Imbalance in service distribution • Full Tehran's ecological carrying capacity • Lack of quality of life • Lack of multi-functional spaces • Lack of municipal budget for public services • Example: non-implementation of the Iranian Garden project
"In the comprehensive plan, it was predicted that by the 2025 horizon, Tehran's population should be around ten million... When the municipality implements this development, a significant number will be added to the city's population in 22 districts. The national land use plan has mandated that metropolises, especially Tehran, move towards decentralization, while TOD proposes densification in the city, which is not aligned with master plans."		Legal, Property, and Planning Barriers	• Obstacle of fine-grained plots • Need for consolidation and acquisition, which is far-fetched • Need for a long time for acquisition and development • Numerous legal issues • Problems with using existing tools (detailed plan) • Mismatch of common zoning with pedestrian scale • Mistake of defining a new 'T' zone • Lack of connection between regulations • Conflict with master plans (comprehensive plan) • Conflict with the national land use plan (decentralization) • Mismatch of policy with science and logic • Parallel actions (strategic plan and local plans) • Lack of connection between macro and micro scales • Ambiguity of the national plans' status
"...For a while, it was stuck in the technical committee due to the resistances that were happening, that this is not a good thing at all, and various developmental aspects and per capita standards are not well considered."		Knowledge and Implementation Barriers	• Lack of supporting studies • Lack of simulation among implementers • Municipality's lack of awareness of how to implement • Challenge of implementation timing after city formation
"If TOD requirements are not well considered, what will happen is a redistribution of rent... it is planned to give landowners more density than the detailed plan allows."	Negative Socio-Economic Consequences	Economic and Class-based Harms	• Risk of rent redistribution • Intensifying rent by granting excess density • Fueling poverty and class divides • Increased property prices • High cost of vertical and dense living
"...Social crises, erosion of the social identity of Tehran's neighborhoods, and numerous legal issues"		Social and Cultural Harms	• Social crises • Erosion of neighborhood identity • Reduced neighborly interactions in apartments • Reduced social relations • Increased crime in apartments and its relation to building height • Significant relationship between density and social harms • Proven in scientific research • Increased divorce and crime • Suppression of Iranian social life • Lack of a neighborhood heart (mosque, cultural center) • Shifting of bonds towards work

Quotation	Selective Coding	Axial Coding	Open Coding
"The more the space becomes smaller, the more it resembles cellular, prison-like, and parking-like spaces... the metaphor of the house becomes the metaphor of a parking lot, the metaphor of a prison... these are metaphors that a person cannot easily endure for, say, 7, 8, 10 years."	Negative Socio-Economic Consequences	Harm to the Institution of the Family	• Reduced interactions and breakdown of internal bonds • Physical and semantic crisis of the home • Functional and emotional collapse of the family • House turning into a dormitory • Weakening of the family's social status • The metaphor of the house turning into a prison • Violation of the constitution (family as the basic unit of society)
"In a city that no longer has the capacity for redevelopment, any form of development is doomed to fail, regardless of whether it is in the scientific format of TOD or any other format."	Future Outlook and Predicted Outcomes	Prediction of Non-Realization and Failure	• Gap between ideal and reality • Prediction of TOD not being implemented • Remaining in the study phase • Non-realization of TOD in this term • Non-realization prevents discussion of consequences • Any development is doomed to fail • Current approach as anti-TOD • Harmful nature of the current approach
"We might enter one or two stations and some actions might happen merely in the form of high-rise construction... only small, localized projects will be implemented, otherwise it will remain in the study phase."		Nature of Implemented Projects	• Implementation of small and localized actions • Limitation to residential projects • The end of TOD in the form of complex construction • Prediction of 100 to 200 residential projects
"It depends on the approach of the urban management. If it's what was intended for the typology of Tehran's stations,... it has consequences for the city, but if we go wherever there is vacant land... give density, increase work and activity... the quality of life in Tehran will be damaged."		Dependency of Outcomes and Other Consequences	• Consequences depend on the approach • Consequences of the density-increase approach are damage to quality of life and reduced per capita services • Risk of disaster in an earthquake • Harms from construction errors • Concern of experts • Limited impact of the built environment on the social system • Role of other factors (media) • Not much change in social issues

5.1. Normative TOD: essence, principles, and goals

In its ideal and academic view, Transit-Oriented Development (TOD) is a comprehensive and qualitative paradigm for organizing urban growth, rooted in specific theoretical foundations. Its core principle involves creating a compact, integrated city that addresses the challenge of urban sprawl by connecting land use and transportation. This model extends beyond traffic management, embodying a complete vision for urban living where a combination of density, diverse land uses, and pedestrian-oriented design forms the central core. The anticipated goals and benefits of such an approach extend far beyond physical issues; the ultimate goal is to enhance the quality of life and livability by reducing dependency on private cars, thereby decreasing traffic and pollution, significantly increasing social interactions in lively public spaces, preventing the "night-death" of neighborhoods, strengthening local and micro-economies, and ultimately, dedicating more time to family and social activities by reducing commute times. Theoretically and culturally, this approach draws on classic theories, for instance, Calthorpe's and Cervero's, and aligns with Iranian city traditions that emphasize neighborhood-based accessibility, potentially paving the way for a successful indigenous model. In summary, experts view TOD as an opportunity for urban flourishing that, if implemented properly, can address environmental, social, and economic problems simultaneously.

In this theme, the primary focus of the expert discourse is prominently on the anticipated goals and benefits (13%). This high frequency indicates that experts have a clear vision of positive and desired outcomes of TOD, and their discussions are more focused on practical results, such as reduced traffic and increased social interactions, rather than purely theoretical debates. Next in importance are fundamental principles (6%) and theoretical and cultural foundations (4%). This distribution of frequency suggests that while the

theoretical underpinnings are well understood, experts are mainly concerned with the potentials and achievements of this approach in practice, which makes their later critiques of the implementation method more meaningful.

5.2. Misinterpretations and conceptual critiques

Despite a clear academic definition, the findings indicate a significant gap between this normative definition and common managerial interpretations. The main conceptual critique is the dominance of a density-centric approach that reduces TOD to a mere tool for increasing population and construction. Experts consider this view a fallacy, emphasizing that density is only one of several tools of TOD and perhaps the least important, with mixed land use being a core element often ignored. Another fundamental critique is the piecemeal and reductionist view that concentrates only on the immediate vicinity of the transit station, neglecting the broader city's interconnected impacts and the necessity of integration at the metropolitan scale. This piecemeal approach, which in practice manifests as not distinguishing TOD from "complex-building," can risk the failure of the station's function and exacerbate problems in the surrounding fabric. These misinterpretations stem from disregarding key concepts, especially that the word "development" in this paradigm refers to the qualitative growth of a place, not just construction.

In this section, the frequencies are close to each other, highlighting a multifaceted critique. The highest critique (3%) belongs to the piecemeal and reductionist view, indicating that from the experts' perspective, the greatest conceptual error is the failure to grasp the comprehensive and integrated scale of TOD. Following that, the critique of the density-centric approach and the importance of key concepts, each at 3%, show an equal importance, indicating that reducing TOD to revenue generation and ignoring key concepts, such as mixed-use and flourishing, are two sides of the same coin and fundamental errors in the managers' understanding. The lowest frequency pertains to other interpretations (2%), highlighting that the main critiques are centered around these specific axes.

5.3. Profit-driven approach and managerial policies

The analysis of perspectives clearly reveals that the misinterpretations above are rooted in financial and economic motivations within urban management. The challenge of managing an expensive city and the pressure to generate substantial sustainable income have turned TOD from an urban strategy into a financial tool. According to experts, the financial appeal of this plan and its potential to generate revenue for financing other projects (like metro expansion) have been the main reasons for the tendency towards it. This profit-driven view has prioritized financial logic over humanistic benefits, evident in specific policies and implementation actions. The dominance of a quantitative approach and the sole focus on increasing density, employing 22 consultants for 22 districts (symbolizing a piecemeal view), as well as shifting responsibilities to the private sector, are among these policies. Managerial misalignments further complicate this process. Differing perspectives across management periods, the expert body's resistance to hasty decisions (sometimes acting as a brake), and the overall confusion of the municipality about implementation indicate the lack of a unified and coherent strategy.

This theme is one of the most frequently discussed parts of the discourse, and the numbers are very telling. The highest frequency, at 9%, pertains to managerial changes and misalignments, highlighting that from the experts' perspective, the greatest problem in the municipality is disorder, instability, and lack of coherence in administrative processes, rather than the intentions. Following that are policies and actions (8%), which represent direct criticism of practical decisions (such as employing 22 consultants). Interestingly, financial and economic motivations (4%) have a lower frequency despite their significance, indicating experts recognize financial motives as the root cause but mainly critique their disastrous consequences in management and implementation.

5.4. Structural challenges and implementation barriers

Even with an ideal plan, the successful implementation of TOD in Tehran encounters structural and deep-seated obstacles that experts find very difficult to overcome. Infrastructural and capacity constraints are perhaps the most tangible challenge. Tehran currently faces high population density, aging infrastructure, and an uneven distribution of services. More importantly, the city's ecological carrying capacity, in terms of water resources, air pollution, and land subsidence, is exhausted, leaving little room for further population growth. Alongside this, there are legal, property, and planning barriers. Fine-grained nature of

plots in many urban areas makes implementing large-scale, integrated projects that require land consolidation and acquisition almost impossible. Furthermore, the municipality's current approach conflicts with master plans like the Comprehensive Plan and the National Land Use Plan (which emphasizes decentralization). Finally, knowledge and implementation barriers, such as the lack of strong supporting studies and insufficient awareness of the complexities of this plan within the implementation body, severely increase the risk of improper and harmful execution.

Among the barriers to implementing TOD, legal, property, and planning barriers, with 9%, are the most frequently cited concerns of the experts, emphasizing that the issue of fine-grained plots and legal obstacles to consolidation is a structural deadlock and perhaps the biggest barrier to realizing TOD in Tehran. Then, infrastructural and capacity constraints (6%) stand, reflecting a deep concern about the city's infrastructure's inability to support new development. In contrast, knowledge and implementation barriers (3%) indicate a lower frequency, suggesting that from the experts' perspective, the main problem is not merely a knowledge gap, but hardware, legal, and infrastructural deadlocks that can frustrate even the best plans.

5.5. Negative socio-economic consequences

In explaining the perspectives of Tehran's planners and managers regarding the concept of Transit-Oriented Development (TOD), the socio-economic consequences of a partial or distorted implementation of this approach, particularly with an over-focus on using density capacities as a financial tool, are of particular importance. Economically, prioritizing density capacities as a financial tool and exploiting the resulting financial resources carries the risk of rent redistribution and deepening class divides. Such a process, by increasing land and housing prices, sharply raises living costs in dense environments and practically hinders the possibility of achieving spatial and social justice.

In the social and cultural dimension, the one-sided implementation of TOD can cause social and cultural crises. The erosion of historical and local identity, a decrease in neighborly interactions within dense apartment complexes, a weakening of social bonds, and an increase in crime rates are among the consequences confirmed by scientific research. The lack of identity-forming elements, such as mosques and cultural centers in new developments, along with the shift of social connections from the local community to economic and professional spheres, poses a serious threat to the continuity of the Iranian-Islamic way of life in Tehran.

The frequency analysis in this category reveals one of the key findings of the research: a special focus on social consequences. Social and cultural harms, which account for 7%, are the most frequently reported concerns in this section, indicating a deep concern about the erosion of neighborhood identity and the rise in issues, such as crime and social isolation. After that, harm to the institution of family (5%) has a very high frequency, followed by economic and class-based harms (3%).

5.6. Future outlook and predicted outcomes

Considering all the mentioned dimensions, the experts' view on the future of TOD in Tehran is predominantly pessimistic, with the prediction of non-realization and failure of the comprehensive model. Due to a deep gap between the ideal and reality, many believe that this major plan will either remain in the study and bureaucratic phases or its implementation will be limited to a few small and localized actions. In this likely scenario, the TOD model will in practice be reduced to "complex-building" on large plots without considering connectivity with the urban fabric, and its original spirit will be lost. Ultimately, experts emphasize the dependency of outcomes on the current approach and warn that this harmful approach not only reduces the quality of life but also, by promoting dense and unprincipled construction, will make the city more vulnerable to future crises, such as earthquakes, leaving a legacy of inefficiency and danger.

The two core codes, prediction of non-realization and failure, and dependency of outcomes and other consequences, demonstrate equal weight, with a frequency of 5%. This shows that experts either generally believe in the complete failure of the plan to achieve its normative goals or make its success conditional on many variables and associated with negative predictions (like the risk of earthquakes). The nature of implemented projects (3%), with a lower frequency, suggests that there is less discussion about the form of potential projects, with the main focus placed on the outcome, which means the non-realization of the comprehensive TOD model.

Table 7. Quantitative analysis of expert views on transit-oriented development (TOD) in Tehran

Main Title	Sub-category	Frequency (%)
Normative TOD: Essence, Principles, and Goals	Fundamental Principles	6%
	Anticipated Goals and Benefits	13%
	Theoretical and Cultural Foundations	4%
Misinterpretations and Conceptual Critiques	Critique of the Density-Centric Approach	3%
	Critique of the Piecemeal and Reductionist View	3%
	Importance of Key Concepts	3%
	Other Interpretations	2%
Profit-Driven Approach and Managerial Policies	Financial and Economic Motivations	4%
	Policies and Actions	8%
	Managerial Changes and Misalignments	9%
Structural Challenges and Implementation Barriers	Infrastructural and Capacity Constraints	6%
	Legal, Property, and Planning Barriers	9%
	Knowledge and Implementation Barriers	3%
Negative Socio-Economic Consequences	Economic and Class-based Harms	3%
	Social and Cultural Harms	7%
	Harm to the Institution of Family	5%
Future Outlook and Predicted Outcomes	Prediction of Non-Realization and Failure	5%
	Nature of Implemented Projects	3%
	Dependency of Outcomes and Other Consequences	5%

Figure 3: Word cloud of selected codes extracted from the interviews

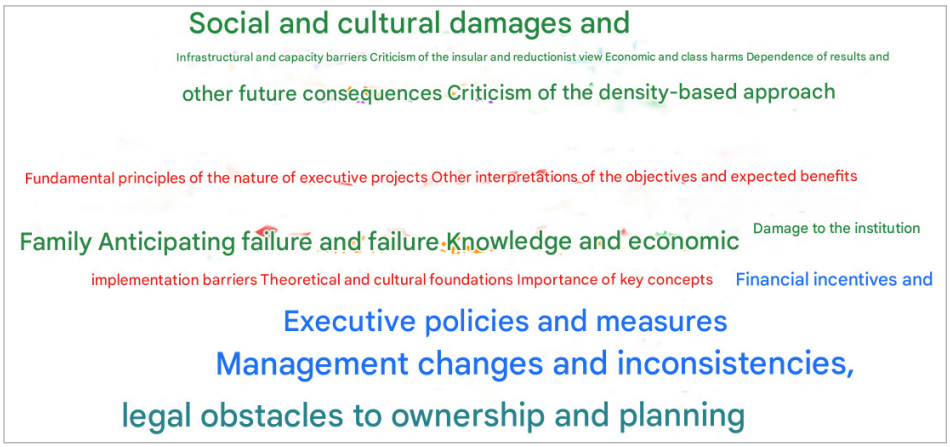

Figure 4: Bar chart of open codes extracted from the interviews based on the frequency of each code

Figure 5: Sunburst chart of axial coding extracted from the interviews

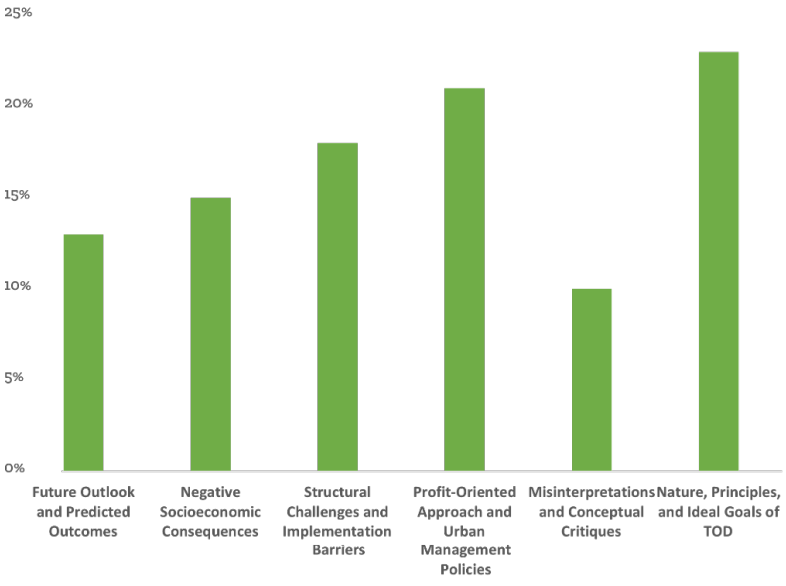

Figure 6: Bar chart of selective coding extracted from the interviews

6. Discussion

Analyzing the research's findings, in light of successful global experiences, reveals a deep and multifaceted gap. Tehran's current approach to Transit-Oriented Development (TOD) is not a creative localization but a reductionist and distorted interpretation of a global paradigm. This deviation can be traced through six key axes extracted from the interviews:

6.1. Normative essence, principles, and goals: a lost ideal in implementation

Tehran's experts have a thorough understanding of the normative goals of TOD, which include creating vibrant neighborhoods, reducing car dependency, and enhancing the quality of life. This understanding is consistent with the goals of cities like Arlington, Virginia, which used TOD as a long-term strategy to confront urban sprawl. However, the fundamental difference is that in Arlington, this ideal was translated into a practical roadmap that guided all land use and transportation decisions for decades. In Tehran, however, this ideal has remained a theoretical concept, giving way to other objectives in the implementation process. The ideal of TOD in Tehran is known but not acted upon; it is a lost ideal.

6.2. Misinterpretations and conceptual critiques: a dangerous reductionism

The primary critique of the experts is the reduction of TOD to "increasing density near stations" and interpreting "development" as "construction." This piecemeal and purely physical view destroys the spirit of TOD. This approach is in full contrast to experiences like Milan and Turin, where TOD meant the integrated regeneration of vast industrial areas and their transformation into complete urban districts with mixed uses, extensive public spaces, and human-centered design. Even in Hong Kong, renowned for its high density, development is characterized by vertical and multifunctional (commercial, office, residential) integration with the station, rather than just construction of residential towers around it. The misinterpretation in Tehran reduces TOD from an urban strategy to a construction project.

6.3. Profit-driven approach and managerial policies: the dominance of financial logic over urban logic

The findings clearly demonstrate that the main motivation in Tehran is to generate revenue from density. This profit-driven approach has turned TOD into a financial tool. While financial instruments also play a role in global TOD, their purpose and mechanism are different. In the Hong Kong model, the profit from the "Rail + Property" mechanism is directly reinvested for the financial sustainability and development of the transit system itself. In Curitiba and Denver, financial tools are used to achieve a social goal (providing affordable housing). In Tehran, however, it seems this revenue is intended to become a general source of income for the municipality, which disrupts the primary goal of TOD, which is to create synergy between transport and land use.

6.4. Structural challenges and implementation barriers: institutional deadlocks

Challenges such as fine-grained plots, inter-sectoral misalignments, and legal barriers raised in the interviews exist in many cities. However, the difference lies in how they are addressed. Singapore overcame these obstacles with highly centralized and powerful government planning. Oakland found a solution through empowering a local non-profit organization and community participation. Tehran, however, remains at the stage of identifying these barriers and lacks an efficient and integrated institutional structure to steer TOD. The absence of a supra-departmental body, such as a special TOD task force, that could coordinate between different municipal departments and other agencies has led to piecemeal approaches and inconclusive actions.

6.5. Negative socio-economic consequences: overlooking the most important concern

The deep concern of Tehran's experts about social consequences, such as gentrification, erosion of local identity, and weakening of the family institution, is the greatest point of divergence from successful global experiences. In cities like Denver, Portland, and Oakland, preventing these very negative impacts was the starting point and main focus of TOD planning. They addressed these challenges with proactive, affordable housing policies and community participation. In Tehran, these consequences are regarded as a side effect to be dealt with later. This neglect of the social dimension drastically increases the risk of turning TOD from an urban solution into a new social problem.

6.6. Future outlook and predicted outcomes: the path to failure

The pessimism of experts regarding the future of TOD in Tehran stems from a deep gap between the ideal and reality. They predict that the plan will either remain in the study phase or be reduced to a few localized and disconnected construction projects that do not reflect the spirit of TOD. The success stories of TOD across the world, as in Arlington and Curitiba, are the result of decades of consistent vision and political will. This stability and long-term perspective are precisely the missing links in Tehran's short-sighted and profit-driven approach. As long as this dominant paradigm prevails, the experts' prediction of the plan's failure to achieve its normative goals seems highly likely.

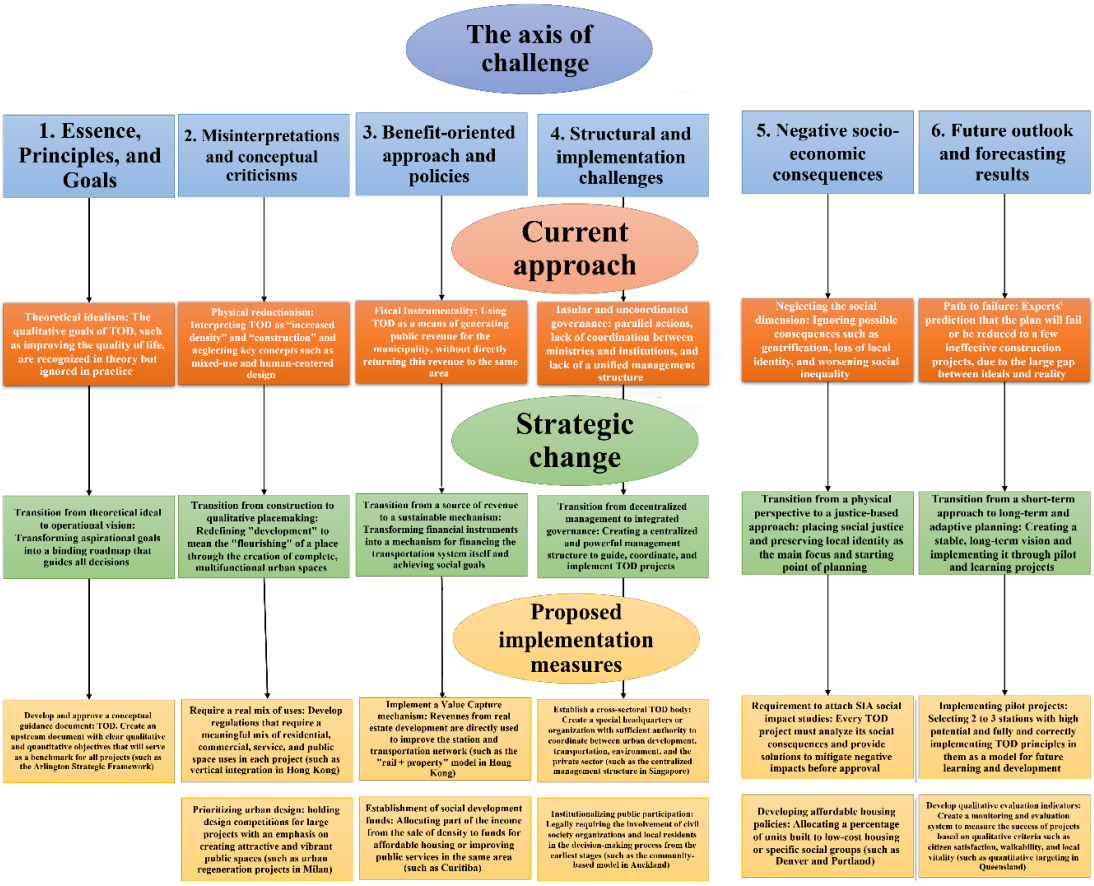

Figure 8. The axis of challenge

7. Conclusion

This research aimed to explore how urban planners and managers in Tehran perceive the concept of Transit-Oriented Development (TOD). It revealed that TOD, as a global paradigm, faces practical challenges and significant conceptual distortion in the localization and implementation process. The analysis indicated that in the context of Tehran's urban management, TOD has been shifted from a comprehensive vision for enhancing quality of life to a reductionist financial tool for generating revenue through the sale of density. This "path dependency," rooted in financial incentives for funding infrastructure projects like the metro, has shaped a managerial paradigm where economic considerations take precedence over all other human, social, and environmental goals of the plan.

As highlighted in the discussion section of the article, this instrumental approach starkly contrasts with successful global experiences. For instance, in cities like Arlington, the qualitative ideal has been translated into a practical roadmap. However, in Tehran, it has become a "lost ideal" in implementation. In contrast to the Hong Kong model, where the "Rail + Property" financial mechanism contributes to the sustainability of the transit system, or the Denver model, which uses financial tools in service of social justice (providing housing), in Tehran, the revenue from density has lost its organic connection with the urban planning goals of TOD, becoming merely a general source of income for the municipality.

The structural and institutional barriers intensify this conceptual deviation. The absence of an integrated and efficient managerial structure to guide TOD, alongside challenges such as fine-grained plots and conflicts with master plans, renders its integrated implementation practically impossible. Most importantly, this research highlighted that the greatest oversight in the current approach is the neglect of social consequences. The experts' deep concern about the erosion of local identity and the intensification of inequality is the most significant differentiating factor of Tehran's approach compared to global models, where social justice serves as the starting point and central focus of planning.

Ultimately, the outlook for TOD in Tehran under the existing paradigm is a path to failure. Experts predict that the plan may either stall at the study phase or be reduced to a series of disconnected construction projects devoid of the spirit of TOD. Therefore, the challenge confronting Tehran is not merely technical or planning-related but requires a fundamental shift in the managerial paradigm. To realize the potential of this urban opportunity necessitates transitioning from a short-sighted, profit-driven view to a long-term, integrated, and human-centered vision. Without such a thoughtful revision, TOD is unlikely to lead to urban flourishing; it will rather leave a legacy of inefficiency, inequality, and danger, becoming a cautionary tale of a great opportunity lost.

Authors' Contributions

The authors contributed equally to this study.

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Conflict of Interest

The authors declare that there is no conflict of interest.

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