



# Vertical Urbanism in Ahmedabad: An Analysis of Evolving Apartment Typologies

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## ABSTRACT:-

Ahmedabad is undergoing a major urban metamorphosis, transitioning from a predominantly horizontal sprawl to a vertically dense, high-rise metropolis. This study investigates the key drivers behind the boom in high-rise apartments—defined as structures exceeding 70 meters—post-2021. Utilizing a mixed-methods approach, including GIS mapping and professional interviews, the research identifies three key catalysts: relaxed FSI regulations in TOD zones, soaring land costs in Western Ahmedabad (notably SG Highway/Science City), and a consumer pivot toward amenity-heavy gated communities. The analysis suggests that while policies encourage vertical growth, critical infrastructure—specifically water pressure and fire safety—needs to keep pace. The findings offer a guide for urban planners to reconcile densification with livability.

**Key words:-** FSI, Gated communities, TOD, Urban Evolution, Urban Metamorphosis, Vertical growth, etc.

## 1.0 Introduction-

Situated along the Sabarmati River, Ahmedabad is India's fifth-largest metropolis, with a 2011 population exceeding 5.6 million. The stability of British administration in the 19th century facilitated a robust environment for commercial expansion. The turn of the 20th century saw a pivotal shift as the burgeoning textile industry drove mass migration and regional employment. To manage this influx, the state introduced "chawls"—high-density, planned housing clusters that served as early affordable residential models. The 1960s were defined by westward expansion and the establishment of the Gujarat Housing Board (founded in 1961), alongside the rise of major academic institutions. Residential design progressed from planned communities with shared amenities to the first high-rise apartments, like the G+10 Firdaus and Royal units, in the early 1970s. Today, the residential sector is primarily led by private developers, integrating modern amenities into a city defined by six centuries of historical layers.

Government mandates from 2021 permit an FSI of up to 5.4, incentivizing the construction of taller landmarks. The expansion of the Metro, BRTS, and GIFT City has spiked land valuations, making high-density transit-oriented development essential. Accelerated and transparent approval workflows for skyscrapers are actively fueling vertical growth. With dwindling land availability, verticality has emerged as the primary viable model for developers. The booming IT and pharma sectors, alongside GIFT City's evolution, attract a high-earning demographic seeking sophisticated vertical spaces. Identified as a leading investment hub, the city's luxury high-rises promise superior returns on investment. Fast-paced population growth necessitates high-density residential solutions. There is a rising appetite for amenitized vertical living, with a strong lean toward secure, gated high-rise communities.

### **Aim**

To critically examine the evolution of residential apartment types in Gujarat's major urban centers—Ahmedabad, Surat, and Vadodara—and assess the impacts of vertical densification on urban fabric, lifestyle, and the built environment. A critical analysis of changing apartment typologies in Ahmedabad, Surat, and Vadodara, evaluating how vertical growth influences urban density, lifestyle, and built-environment quality.

### **Objectives**

- 1, To analyze the historical transformation of residential built forms over two decades, emphasizing the transition from traditional low-rise structures to vertical developments.
- 2, To identify the primary catalysts for vertical urban expansion, including land scarcity, regulatory changes in FAR/FSI, Transit-Oriented Development (TOD), and the "vertical village" trend."
- 3, To examine the changing nature of community life and social cohesion in response to the shift from low-rise to gated high-rise, vertical developments.
- 4, To investigate the environmental and infrastructural consequences of high-density vertical living on resource demand and urban heat retention.
- 5, To develop sustainable design recommendations for future vertical developments, focusing on vertical greening, mixed-use layouts, and enhanced community spaces.

### **Key Areas of Investigation**

Typology Shift: From independent homes/low-rise to high-rise, mixed-use complexes, and integrated townships.

Context: Rapid urbanization in Gujarat (Surat, Ahmedabad) and industrial growth.

The "Vertical Village" Concept: How high-rises are incorporating community, retail, and recreational spaces.

Sustainability: Energy-efficient materials, vertical greenery, and climate-responsive design

### **2.0 Literature review**

As Asian and African cities face a massive population influx, vertical growth is emerging as a necessary, space-efficient alternative to unsustainable urban sprawl. Driven by the scarcity of central land, developers are creating high-rise, multi-story structures. Furthermore, foreign investment and speculative real estate activity in cities like

Lagos, Mumbai, and Jakarta are fueling the demand for skyscrapers and exclusive vertical communities, which are frequently marketed as symbols of global, modern status.

The urban landscapes of Mumbai and Ahmedabad highlight contrasting developmental paths: the former is defined by verticality necessitated by extreme land scarcity, while the latter is transitioning from horizontal expansion to controlled, vertical growth. In short, Mumbai is a fully saturated, high-rise environment pursuing sustainable densification, whereas Ahmedabad is an ambitious, emerging commercial hub rapidly building upwards. Ahmedabad frequently serves as a safer, more affordable' alternative to Mumbai's, 'never-sleeps' high-speed lifestyle.

Increasing the allowable Floor Space Index (FSI) boosts urban density by promoting vertical, compact growth over horizontal expansion. This strategy addresses housing shortages and stimulates economic activity in expanding cities by maximizing land use. It facilitates higher, more efficient building development, moving away from sprawl.

### **3.0 Research Methodology**

#### **3.1 Key Growth Areas of Ahmedabad**

- 1, The SG Highway (Sarkhej-Gandhinagar), a crucial transport and business corridor between Ahmedabad and Gandhinagar, is a major hotbed for real estate activity.
- 2, Located on the western periphery of Ahmedabad, the area of Shela is now a sought-after residential locality, known for its affordable properties and excellent transport links to the city.
- 3, Motera's desirability has been significantly boosted by two key factors: the addition of the world's largest cricket stadium and improved metro connectivity.
- 4, A prime real estate hub in Ahmedabad, Gujarat, Bopal Ambli Road has seen substantial recent development, driven by excellent road networks, public transport access, and its nearness to key commercial areas.
- 5, The Vaishnodevi housing market is witnessing an upswing in demand due to strategic developments, including new amenities and infrastructure, which has spurred an influx of new residents from Ahmedabad and other regions.
- 6, Zundal, a burgeoning residential area near Chandkheda, has fostered a strong real estate market through recent infrastructure development and the addition of new communities and retail spaces.
- 7, Significant development is underway in GIFT City, encompassing a number of infrastructure initiatives and commercial construction projects.

#### **3.2 Residential Overview of Ahmedabad.**

Ahmedabad's housing sector saw a substantial upswing in Q1 2025, with 9,600 new homes hitting the market. This represents solid growth, climbing 7% from the previous quarter and a robust 15% from the previous year, securing the city's place as a leading performer in India's residential market, alongside Kolkata. The expansion was largely concentrated in West Ahmedabad, which drove the market by providing 39% of the total new inventory and seeing a significant 31% jump in quarterly activity. North Ahmedabad was the second most active

area, accounting for 30% of new projects, showing specific areas are highly popular with developers and buyers. In terms of price range, the mid-end housing category led the charge, making up 52% of all new units launched, while high-end properties followed at 27%. Apartments are becoming increasingly popular due to several key factors, including their alignment with modern urban planning. Many prime locations in city master plans are now allocated for high-rise developments, offering residents the advantage of living close to their jobs at a relatively lower cost compared to houses. This practicality, combined with a desire for a low-maintenance home and opportunities for a more social, group-oriented living style, makes apartment living an attractive option for a diverse range of people.

### 3.3 Livability score of different areas of Ahmedabad.

#### 1, Nava Naroda-

Nava Naroda in northeast Ahmedabad offers exceptional value, boasting a strong livability score of 8.1 at a modest average capital value of just Rs 1,700 per square foot, ensuring quality living at one of the city's most affordable locations.

#### 2, Nana Chiloda-

"Nana Chiloda has a high comfort of living index, scoring an 8/10, providing residents with well-developed amenities and residential properties averaging Rs 2,091 per sqft.

#### 3, Chandkheda-

Highly Desirable Location scoring 9.9/10: Chandkheda is a highly desirable location, featuring a high-end realty market, robust commercial activity, and ongoing infrastructural development, with an average property value of approximately ₹3,150 per sq. ft. for affordable housing.

#### 4, Gota-

Gota scores highly on livability (9.2) and strategically benefits from seamless access to major transport links; this makes it an exceptionally popular, affordable area with an average property price of Rs 2,866 per sq ft.

#### 5, Motera-

Situated 8.8 kilometres from the international airport, motera has fine connectivity via bus and rail network and also provides essential social amenities, resulting in a high livability index of 9.6.

[Livability Score (Scale of 1-10): This metric represents the expected standard of living in a given area, calculated by assessing critical factors like location quality, price point, amenities, physical and social infrastructure, and the activity of local developers and projects.]

### 3.4 Rise in redevelopment projects.

In Ahmedabad, a surge in the redevelopment of older apartments over the last two years—particularly in central areas such as Navrangpura, Naranpura, Paldi, Vasna, and Memnagar—has likely reduced the need for new construction on the city's outskirts. These projects replace old societies with modern ones, increasing the number of housing units within the same footprint, sometimes doubling the previous count, which consequently meets the demand that might otherwise drive peripheral expansion.

Figure-1: Old images of Keshav Park Cooperative Housing Society.



[Source: Shivalik Platinum, REDEVELOPMENT TO REFORM By- Shivalik Institute of Real Estate]

Figure-2: New images of shivalik platinum.



[Source:- Shivalik Platinum, REDEVELOPMENT TO REFORM By- Shivalik Institute of Real Estate]

The newly proposed Shivalik Platinum was festooned with new amenities and basement parking which did not exist in the previously dilapidated Keshav Park. It was a cooperative and profitable agreement that served the interests of both the developer (Shivalik) and the unit holders. It took a two of them years of dedicated negotiations and endurance for successful redevelopment with convincing powers (soft skills), leveraging a good brand name (shivalik), PR with key society committee members and deal with the demeanor of maintaining new amenities with increased charges.

→ What is redevelopment?

Redevelopment involves the demolition of an existing, aged society building and its reconstruction by a selected developer. The developer provides new flats to the original members free of charge, potentially with added benefits, and generates profit by constructing and selling additional units using the remaining plot potential and necessary official approvals.

We consider HUMAN has life of 100 years, the same way building has life of 50 years, and after 25 years building needs more and more repairing as new plaster, new pipelines for water, waste & drainage systems, water proofing in terrace etc. In some countries, builder gives demolition date in advance at the time of possession of new building. So in this time you have to think over this concept.

→ Needs of redevelopment old apartment in Ahmedabad.

There is huge potential for redevelopment, in Ahmedabad, due to the constraints on land availability with the mismatch between demand and supply of housing stock. At the same time, many thousands of buildings have aged to the point where structural repairs would be uneconomic and impracticable. The only solution is to pull them down and reconstruct them. The problem of dilapidated buildings within the limits of Ahmedabad is becoming more acute, with each passing year. Consequently, for a majority of the cities in India, redevelopment of old buildings becomes crucial. With the mid-income segment today becoming a huge purchasing market, developers are moving towards redeveloping older structures into modern luxurious buildings with facilities like

sufficient parking, open areas. In the ultimate analysis, complete and timely delivery seems to be the most crucial factor, when it comes to redevelopment.

#### **4.0 The "Drivers" of Vertical Growth (The Core)**

Aiming to combat urban sprawl and attract foreign investment, the 2021 amendment to Ahmedabad's CGDCR-2017 enables skyscrapers over 100 meters (30+ floors). Supported by 5.4 FSI, this policy promotes vertical growth along TOD corridors, concentrating development in Western Ahmedabad and enhancing city revenue. Situated at the intersection of the 132-foot Ring Road and Metro Line 1 (Vastral-Thaltej), this location offers prime connectivity to major commercial, residential, and industrial hubs like Satellite, Navrangpura, and Thaltej. It ensures rapid transit access across Ahmedabad, linking key areas efficiently.

Modern construction technology has transformed the industry, enabling high-rises to be built in record time compared to traditional methods. By prioritizing precision off-site manufacturing and smart on-site assembly over labor-intensive, on-site construction, this approach is driven by key advancements like prefabrication, digital modeling (BIM), robotics, and enhanced materials.

The functionalist perspective posits that traditional housing structures fostered social stability and interdependence by enabling families to provide mutual economic, social, and emotional support. While the shift toward individual housing units may destabilize these historic functions, it simultaneously facilitates adaptation to modern urban life.

Conversely, the conflict perspective emphasizes how urban housing patterns directly reflect economic stratification. The existence of affluent-catering structures like gated communities and modern apartments alongside informal settlements or poorly maintained public housing for low-income groups serves to reinforce social and economic divisions within cities.

Finally, symbolic interactionism analyzes how evolving housing designs signify changes in social identity and aspiration. Features such as high-rise apartments and gated communities act as symbols of status and upward mobility, marking a transition from traditional communal living to more private, modern identities.

#### **5.0 Challenges and Constraints**

The UHI effect occurs when densely built urban environments, characterized by low-albedo materials and minimal vegetation, experience higher ambient temperatures than rural peripheries. This trapped anthropogenic heat results in diminished cooling efficiency, heightened air conditioning demand, and substantial, health-related morbidity and mortality.

The concept of vertical isolation dualistically represents a structural defense against earthquakes and a psycho-social outcome of vertical urbanization; concurrently, the stewardship of high-end amenities presents a significant, escalating, and enduring financial commitment for residents.

In India, fire safety for high-rise buildings exceeding 70 meters—roughly 25+ stories—is a critical, high-stakes domain governed by NBC 2016 and stringent local municipal bylaws in cities like Mumbai, Delhi, and Gujarat.

Given the extreme difficulty of external firefighting at this altitude, the reliance on robust internal automatic suppression and passive protection systems is imperative.

Specific challenges:

- 1, High cost of housing- Rapid urbanization and limited land supply are exaggerate property prices in Ahmedabad, making apartments increasingly unaffordable for many residents, especially in prime locations.
- 2, Construction quality concerns- Some developers are criticized for bargaining on building quality to cut costs, leading to concerns about structural integrity and long-term durability of apartments.
- 3, Lack of transparency in development- Buyers often face issues with developers not clearly outlining amenities and specifications, leading to disputes and disappointed after purchase.
- 4, Project delays- Incomplete or delayed projects are common, causing annoyance and financial stress for buyers who have already invested in the property.
- 5, Inadequate parking space- Many apartment complexes lack reasonable parking facilities for residents, leading to parking congestion and conflicts.
- 6, Poor society management- ineffectual management practices within resident societies can lead to issues like inadequate maintenance, poor waste disposal, and lack of security.
- 7, Urban sprawl- The city's expanding urban area can result in poorly planned housing developments with limited access to necessary amenities like healthcare and education.
- 8, Regulatory loopholes- Sometimes, loopholes in building regulations allow developers to circumvent quality standards, further impacting resident safety.

## 6.0 Conclusion & Recommendations

India's embrace of globalization following the pivotal 1991 economic reforms is responsible for profound changes in the populace's lifestyles and social patterns. Within the Ahmedabad real estate landscape, apartment housing projects maintain competitive pricing relative to premium residential segments. This value proposition, enhanced by flexible payment options and attractive financing schemes, makes homeownership attainable for a broad demographic of energetic households.

Sustainable Verticality refers to the concept of building upwards (high-rise, skyscrapers, vertical cities) while minimizing environmental footprint, optimizing energy efficiency, and enhancing user well-being. It is a strategic response to urban sprawl, land scarcity, and climate change, emphasizing a "compact city" mode.

The future outlook for the 2030 Ahmedabad Master Plan is heavily defined by a rapid, high-stakes transformation designed to establish the city as a global sports and business hub. The overarching theme is to leverage the hosting of the 2030 Commonwealth Games (CWG) as a catalyst for long-term urban infrastructure, real estate development, and economic growth, with a strong focus on "Olympic-ready" (2036) standards.

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