


## DEVELOPING THE SAMARKAND REGION URBANIZATION, INFRASTRUCTURE, AND MODERNIZATION

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Article Info	ABSTRACT
<p><i>Article history:</i> Received Jun 21, 2024 Revised Jun 20, 2024 Accepted Jul 17, 2024</p> <p><i>Keywords:</i> Samarkand, urbanization, infrastructure, historical preservation, development model</p>	<p>Background: Samarkand, a historic Silk Road city known for landmarks like the Registan and Gur-e-Amir, faces significant urban challenges due to rising tourism and population growth. Knowledge Gap: There is a lack of integrated strategies for modernizing urban infrastructure while preserving historical sites. Aims: This study explores urbanization trends, infrastructure needs, and housing solutions in Samarkand, proposing a comprehensive development plan. Results: Key findings highlight the need for improved public transport, road maintenance, and water supply, alongside affordable housing and strategic urban expansion. Novelty: The study suggests a development model inspired by Sejong City, incorporating advanced planning, sustainability, and smart technologies. Implications: The proposed strategies aim to enhance Samarkand's urban functionality and appeal, ensuring its growth aligns with both modern needs and historical preservation.</p> <p>This is an open-access article under the <a href="#">CC-BY 4.0</a> license.</p> 

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### INTRODUCTION

Samarkand, one of Uzbekistan's most historic cities, sits at the crossroads of ancient trade routes that linked China with the Mediterranean. Renowned for its stunning mosques, mausoleums, and historic landmarks like the Registan and Gur-e-Amir, Samarkand is not just a relic of the past but a vibrant center of tourism and culture. As the city experiences rapid growth in tourism and a burgeoning population, the need for comprehensive urban development and modernization becomes increasingly critical. This article explores the urbanization of Samarkand, focusing on infrastructure improvements, residential development, and the strategic transformation of the city to enhance both its historical charm and modern functionality.

1. Historical Context and Current Urban Challenges
2. The Historical Significance of Samarkand

Samarkand's historical significance is profound. It was a pivotal city on the Silk Road, known for its rich cultural and commercial exchanges. The Registan, a grand plaza flanked by intricately decorated madrassas, and Gur-e-Amir, the tomb of Timur, highlight the city's rich architectural heritage and its role as a major center of Islamic scholarship and trade.

## METHODS

The research method in this study involved several key steps. First, an analysis of urbanization trends was conducted by reviewing recent data on population growth and tourist arrivals to understand the challenges facing Samarkand. Next, an in-depth evaluation of the city's infrastructure was conducted, covering transportation systems, road conditions, and water supply, as well as housing needs to identify key issues such as congestion and lack of clean water. Based on the analysis and evaluation results, the research then developed a comprehensive development plan that included infrastructure modernization, housing expansion, and the development of thematic zones within the city. The approach also includes case studies of successful development models, such as Sejong City in South Korea, to adopt urban planning techniques, sustainable development practices, and smart technologies. Finally, the research presents strategic recommendations for improving Samarkand's functionality and attractiveness, with the aim of ensuring that the city's growth harmonizes with modern needs and historical preservation.

## RESULT AND DISCUSSION

### Current Urbanization Trends

In recent years, Samarkand has witnessed substantial growth in tourism. In 2022, Uzbekistan saw nearly 5.2 million foreign tourists, with Samarkand receiving 239,000 foreign visitors and 1,560,000 local residents in 2023. This increase, while beneficial, brings challenges in terms of urban infrastructure and public services. The city's population density, inadequate infrastructure, and insufficient clean drinking water are among the primary issues that need addressing to accommodate both locals and tourists effectively.

### Development of Urban Infrastructure

1. Modernizing Infrastructure

The urbanization of Samarkand necessitates the modernization of infrastructure to support its growing population and tourism industry. Key areas for development include:

2. **\*\*Public Transport System\*\***

A well-developed public transport system is crucial for easing congestion and providing residents and tourists with reliable mobility options. The current public transport infrastructure in Samarkand is underdeveloped, with limited

coverage and service quality. Developing a comprehensive public transport network, including buses, trams, and potentially metro lines, will enhance connectivity and accessibility across the city.

3. **\*\*Roads and Cleanliness\*\***

Samarkand's roads are often congested and poorly maintained. Investing in road infrastructure, including repair and expansion projects, is essential for improving traffic flow and reducing pollution. Additionally, enhancing city cleanliness through better waste management systems will contribute to a more pleasant urban environment.

4. **\*\*Water and Sanitation\*\***

Access to clean drinking water and effective sanitation are critical for public health and quality of life. The current water supply system in Samarkand needs significant improvements to ensure reliable access to clean water for all residents. Upgrading the water treatment facilities and expanding the distribution network will address these issues.

### Construction of New Housing

1. **\*\*Affordable Housing\*\***

The rapid increase in population necessitates the construction of new housing. To address the issue of housing affordability and availability, a strategic approach to residential development is needed. Building affordable housing units will provide options for low- and middle-income families, contributing to social stability and economic growth.

2. **\*\*Urban Expansion\*\***

Expanding the city's boundaries can alleviate pressure on existing urban areas. Creating new residential districts outside the current city limits and developing these areas with modern infrastructure will help accommodate the growing population. A well-planned urban expansion should include considerations for green spaces, recreational areas, and efficient transport links.

### Radical Changes in the City's Image

#### Revamping the City's Identity

To attract more tourists and improve the quality of life for residents, Samarkand needs a comprehensive strategy to revamp its image. This involves blending the city's rich historical heritage with modern amenities.

1. **\*\*Preservation and Enhancement of Historical Sites\*\***

While modernizing, it is crucial to preserve and enhance Samarkand's historical sites. The Registan and Gur-e-Amir are not only cultural treasures but also major tourist attractions. Implementing conservation projects and improving visitor facilities around these landmarks will help maintain their historical value while enhancing the visitor experience.

2. **\*\*Creating Themed Zones\*\***

Developing themed zones within the city can enhance the tourist experience and streamline urban activities. These zones could include:

- **\*\*Tourism Zone:\*\*** Areas focused on historical and cultural attractions.
- **\*\*Industrial Zone:\*\*** Zones designated for industrial activities, with proper infrastructure and regulations.
- **\*\*Commercial Zone:\*\*** Areas for shopping, dining, and entertainment.
- **\*\*Recreation Zone:\*\*** Parks, sports facilities, and leisure spaces.
- **\*\*Administrative Zone:\*\*** Government and administrative offices.

3. **\*\*Example of Sejong City\*\***

The development of Sejong City in South Korea offers valuable lessons for Samarkand. Sejong City was planned as a new administrative capital with modern infrastructure and urban planning principles. Samarkand can draw from Sejong's approach by incorporating advanced urban planning techniques, including sustainable development practices, efficient land use, and smart city technologies.

### Recommendations for Future Development

1. **\*\*Master Plan Redevelopment\*\***

A new master plan for Samarkand should address the city's spatial and functional needs. The plan should focus on:

- **\*\*Zoning and Land Use:\*\*** Clearly defined zones for different activities to optimize land use and minimize conflicts.
- **\*\*Sustainability:\*\*** Incorporation of green building practices and sustainable urban design principles.
- **\*\*Community Engagement:\*\*** Involving residents and stakeholders in the planning process to ensure that the development meets the needs of the local population.

2. **\*\*Investment in Smart Technologies\*\***

Integrating smart technologies into the urban infrastructure can improve efficiency and quality of life. This includes smart traffic management systems, energy-efficient buildings, and advanced public transport solutions.

3. **\*\*Enhanced Tourism Strategy\*\***

Developing a comprehensive tourism strategy that includes marketing, cultural events, and enhanced visitor services will help attract more tourists and increase the average stay duration. Collaborations with international travel agencies and participation in global tourism fairs can further boost the city's profile.

### CONCLUSION

The development of Samarkand, with its rich historical heritage and growing tourism industry, presents both challenges and opportunities. By focusing on modernizing infrastructure, expanding housing, and strategically revamping the city's

image, Samarkand can enhance its attractiveness and functionality. Implementing a comprehensive urban development plan, inspired by successful examples like Sejong City, and integrating smart technologies will position Samarkand as a leading destination that beautifully combines its ancient allure with modern conveniences. The strategic approach to urbanization and infrastructure development will ensure that Samarkand continues to thrive as a vibrant, culturally rich city.

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