

## THE FUTURE OF URBANIZATION: A JOURNEY OF AIZAWL SMART CITY MISSION

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### Abstract

This study examines the implementation of the Smart City Mission (SCM) in Aizawl, Mizoram within the context of India's rapid urbanization and economic expansion. As one of the 100 cities selected under the SCM, Aizawl seeks to enhance its liveability by addressing critical urban challenges such as infrastructure, sanitation and public safety while simultaneously promoting economic development and sustainability. The research emphasizes the city strategic location, demographic significance and potential for tourism which highlighted the necessity of a comprehensive approach to urban planning. Key objectives of the mission include enhancing cultural identity, fostering inclusivity and ensuring economic sustainability through skill development and innovative governance. The study analyzes the allocation of funds across various projects aimed at improving urban infrastructure, digital governance and environmental resilience. Despite the promising initiatives, the findings indicate that Aizawl has yet to fully realize its potential as a smart city as it continues to grapple with socio-economic disparities and governance inefficiencies. This paper underscores the importance of continuous engagement and reform to achieve the desired outcomes of the Smart Cities Mission in Northeast India.

**Keywords:** *Smart City Mission, Urbanization, Ministry of Housing & Urban Affairs (MoHUA), Aizawl City, etc*

### Introduction:

Contemporary urban centres are experiencing significant pressure owing to the burgeoning population. Challenges related to land, infrastructure, and the environment are substantial, with civic agencies contending with issues such as air quality, transportation, sanitation, water supply, and public safety. Consequently, there is a pressing need for sustainable solutions (Bahadur, 2009). In response, the Government of India initiated the establishment of 100 Smart Cities nationwide under the Smart Cities Mission (SCM). Aizawl City, located within the Aizawl District and serving as the capital of Mizoram State was selected as a smart city under the SCM. Aizawl is a picturesque city situated along the ridges of the steep hills. According to the 2011 census, approximately 30 percent of the state's population resides in Aizawl. It is the largest town in the state in terms of both area and population. Mizoram ranks as the seventh most urbanized state in India, with Aizawl accounting for 53 percent of the urban population, and one-third of the state's population residing in the Aizawl district. The city is well -connected to other parts of the country via roadways and airways, with rail connectivity to Sairang which is located only 20 km from Aizawl and is currently under construction. Aizawl is in close proximity to Myanmar and Bangladesh. The Kaladan Multimodal Project, which connects Kolkata (India) to Sittwe Port in Myanmar via Mizoram, will further enhance its strategic position. Given its hilly terrain, pleasant climate and scenic green landscape, Aizawl possesses significant tourism potential. Based on its strategic location, administrative importance and robust connectivity Aizawl has considerable potential as a regional economic hub. In this context, it is pertinent to examine SCM implementation in Aizawl. (Summarised Projects of Aizawl Smart City, 2020).

### Smart City Mission in Northeast India:

Within the North-Eastern States of India, ten cities have been designated under the Smart City Mission (SCM) by the Ministry of Housing and Urban Affairs (MoHUA).

According to the Smart City Report 2024, 360 projects have been initiated across these ten Smart Cities in the North-East Region with a financial allocation of 7,737 crores to date. In Arunachal Pradesh, the cities of Itanagar and Pasighat collectively encompass 75 projects, receiving 1,033 crores of rupees. Assam's city of Guwahati has allocated Rupees 945 crores for its 22 projects. Imphal, the capital of Manipur, has undertaken 97 projects with funding from Rupees 513 crores. In Meghalaya, Shillong has received 765 crores for 17 projects. Mizoram's Aizawl, with 43 projects has been allocated Rupees 513 crores whereas Kohima in Nagaland with 40 projects has received Rupees 689 crores. Sikkim's cities, Gangtok and Namchi collectively received 2,539 crores for 63 projects. Tripura's Agartala with 75 projects has been allocated 88 crores (Nezine Bureau, 2024). The selection of 100 smart cities under India's SCM as detailed in the Smart City Report 2024 which aims to enhance the core infrastructure thereby promoting a clean and sustainable environment and improve the quality of life for residents through the implementation of smart solutions.

<b>Table I: City Wise Physical Progress: Smart City Mission in Northeast India</b>			
<b>Name of the City</b>	<b>Rank</b>	<b>No. of Projects</b>	<b>Amount (crores)</b>
Agartala	89	75	808
Aizawl	94	43	513
Gangtok	95	38	1,216
Guwahati	96	22	945
Imphal	97	23	513
Itanagar	92	32	521
Kohima	59	40	689
Namchi	72	25	1,255
Pasighat	86	43	512
Shillong	93	17	765
<b>Total</b>		<b>360</b>	<b>7737</b>

Source: **Nizine Bureau: Smart Cities Mission: 8 Smart Cities in North East are bottom 15.** <https://www.nezine.com/info/VmJyMkZRL1FaU0lWakZWL05LY1V4QT09/smart-cities-mission:-8-smart-cities-in-north-east-are-in-bottom-15.html> accessed on 20<sup>th</sup> July 2025

#### **Vision of Aizawl Smart City Mission**

- The vision articulated in the Aizawl Smart City proposal is that "Aizawl will be an inclusive, sustainable, and resilient city by leveraging its human capital through technology and celebrating its culture and nature." This vision statement is closely aligned with the city's profile in several respects (Aizawl Smart City Report, 2024).
- This vision capitalizes on the unique opportunity for Aizawl to enhance its status as a healthy and environmentally sustainable city by utilizing its topography, favorable climate, and distinctive cultural and historical heritage.
- The city faces significant challenges in providing essential services, such as water supply, power supply, street lighting, storm drainage systems, traffic and transportation, motor parking, housing, market centre development, waste disposal, and various other amenities. Consequently, this vision aims to transform Aizawl into a liveable city.

- The vision also takes into account existing human capital, noting that while the population is highly literate, there is a lack of diversity and skills necessary for contributing to tertiary economic activities. The establishment of numerous skill-development initiatives and employment opportunities through the development of various assets and amenities is anticipated to facilitate economic sustainability..

### **Targets of the Aizawl Smart City Mission:**

The objectives of the Aizawl Smart City Mission (Summarised Projects of Aizawl Smart City, 2024) are as follows:

1. ***To promote the identity, culture and natural environment of Aizawl:*** As the capital city of Mizoram, Aizawl has significant administrative importance. The city is accessible year-round through multimodal transportation, including rail, road, and air transportation, connecting it with other regions of the country. Aizawl serves as a crucial trade gateway in this region. The city possesses considerable tourism potential, attributed to its cultural heritage and unspoiled natural surroundings, attracting over five lakh domestic tourists annually. Aizawl a rich cultural legacy is evident in its festivals and fairs, which are major tourist attractions. Additionally, the city features historical monuments and varied terrains intended for tourism purposes.

2. ***An Inclusive Society:*** Aizawl is distinguished by a rich amalgamation of diverse tribal communities, prominently featuring both tangible and intangible cultural elements. The development of smart cities should aim to promote indigenous culture as a focal point for tourism. To achieve this objective, various restaurants, cafes, shops, and stalls will be established to showcase the heritage items of the structures. Social inclusion necessitates the development of all social groups, which encompass:

(a) ***Access for All:*** This objective is realized through the following interventions:. The challenges posed by the terrain will be addressed through innovative and considerate solutions to make smart cities accessible to disabled individuals. The implementation of universal design principles in city infrastructure facilitates accessibility. The use of tactile variations in materials and signage systems ensures independent mobility for individuals with disabilities. The establishment of non-motorized transport zones at the city level promotes sustainable mobility. In addition, there will be seamless and unobstructed movements within historic city areas. The implementation of signage, street numbering, and housing- addressing systems will further enhance accessibility.

(b) ***Institutional Strengthening and Reform:*** The efficiency and effectiveness of city administration will be enhanced through on-going reforms and the devolution of powers as outlined in the 12th Schedule of the Constitution (74th Constitutional Amendment Act, 1994). The National Informatics Centre (NIC) has developed an accrual-based accounting system, and the e-governance system of the Aizawl Municipal Corporation (AMC) is operational and will be utilized to improve service delivery and ensure greater accountability. Emphasis should be placed on the development of e-portals as platforms for bidirectional communication with all users and beneficiaries, to ensure that benefits are disseminated to all. Government-to-Citizen (G2C) centres should be established and equipped with e-connectivity, an efficient central data backup and secure accessibility to facilitate the expedited resolution of citizen issues. The safety of residents and tourists is ensured through a citywide network of public surveillance and an initiative that integrates community policing with technology, including the installation of CCTV at strategic locations and the development of e-portals for immediate incident reporting and emergency helplines.

(c) ***Affordable Housing:*** Provisions are made to supply affordable housing to citizens, including those classified under the Economically Weaker Section (EWS). This initiative aimed to address the housing needs of the population.

(d) *Economic Sustainability:*

(i) The primary objective is to establish a sustainable economic framework for a city's human resources. This can be achieved by leveraging human capital through the establishment of skill development centres, the organization of building programs, and the provision of multi-utility facility centres (MUFC), command and control centres, start-up centres, business facilitation centres, trade facilities and exhibition centres. These initiatives aimed to create substantial employment opportunities for the population.

(ii) Financial sustainability is ensured by enhancing revenue streams, including fees and user charges, public-private partnership models, land monetization, public infrastructure betterment charges, transfer of development rights, premiums on the relaxation of rules or additional Floor Space Index (FSI) / Floor Area Ratio (FAR), vacant land tax, land pooling systems, and the regularization of structures permissible under municipal rules/acts. In addition, the issuance of municipal bonds, credit ratings and grant-in-aid will be pursued. Capacity building to manage an extensive portfolio of smart city projects and the value capture generated by these projects will also be prioritized.

(e) *Promoting Resilience:* The primary objective of the Aizawl Smart City Mission is to enhance the city's resilience in terms of service delivery, urban environmental sustainability, and disaster management. This can be achieved through the increased utilization of solar energy, expansion of green spaces, effective management of solid and liquid waste, promotion of rainwater harvesting, construction of retaining walls, development of smart infrastructure, and establishment of disaster management facilities. These measures collectively strengthen Aizawl capacity to withstand and adapt to vulnerable situations.

**Key Components of Aizawl Smart City:**

The principal elements of the Aizawl Smart City initiative include the following (Summarised Projects of Aizawl Smart City, 2020):

1. Enhancing the vibrancy, safety and connectivity of the city through urban design, landscape and mobility enhancements. Those are:

a) Facade enhancements in the Bara Bazaar market area and streetscape improvements, including landscape, hardscape, signage, light poles, bollards for a shared street concept and pedestrian right-of-way.

b) Augmenting overall walkability and mobility in the area through pedestrian walkways, carriageway improvements, foot over-bridges, road junction enhancements and smart parking solutions.

c) Establishing multi-utility facilitation centres at five locations, incorporating skill development centres and facilities for citizen grievances and public amenities.

d) Developing a city cultural centre, sports complex, trade facility, exhibition area, skill development cum incubation centre and the Aizawl tourism corridor.

e) Ensuring safety and security through e-surveillance, CCTV and trauma and emergency services.

f) Renovating the Mizoram State Museum, establishing a digital library and implementing smart school initiatives with digital classrooms on a pilot basis in 29 schools.

2. Enhancing urban infrastructure involves several key components:

(i) Potable water and wastewater collection systems, including the provision of a continuous  $24 \times 7$  water supply for the entire area, the implementation of smart meters, and electronic billing systems. Additionally, a water quality monitoring system is essential, alongside the development of uncovered underground (UG) drainage in the Area-Based Development area and the establishment of large-scale rainwater harvesting ponds and canals.

(ii) The reconstruction and upgrading of storm water drains are also critical.

(iii) Integrated Solid Waste Management should incorporate ICT-enabled components, such as collection bins, community bins equipped with RFID tags and reverse vending machines as part of a pilot project.

(iv) In terms of energy and environment, the development of an underground distribution network and the elimination of overhead networks through underground ducting are necessary.

(v) The installation of solar-based LED street lighting is also a significant component of this infrastructure enhancement.

**Table II: No of Projects under Aizawl Smart City Mission**

<i>Sl.No</i>	<i>Project Name</i>	<i>Cost as per agreement</i>
1	New Age Learning Centre	3,13,94,700
2	Smart Classroom	7,54,11,339
3	Solar Mini Mast/Semi High Mast	3,43,43,500
4	Solid Waste Management Instead of Multi Utility Facility Centre	26,41,00,000
5	Construction of Outdoor Youth Recreation Gym	1,09,87,364
6	Sustainable Landfill	4,06,06,100
7	Entrepreneurship Development Centre, Incubation Centre and Start up Hub	4,06,08,100
8	Multi Utility Sports Centre (Brigade Field, Aizawl)	2,00,00,000
9	5G/Smart Ambulance	6,98,60,000
10	Renovation of Mizoram Secretariat Building at MINECO	2,00,00,000
11	Fire Fighting Vehicle & Equipment	4,46,73,000
12	Pelican Crossing System	58,00,000
13	Traffic Bollards Flexible Fixed	23,83,861
14	Steps Stair Improvement	4,43,49,080
15	On-Road Smart Parking including CCTV, Boom	13,38,04,858
16	Multi-Utility Pole and Urban Services including cabling, etc	14,64,99,664
17	Urban Landscape- Avenue Plantation to increase green cover and Bio Remediation plants pollution absorbing plants	9,72,75,900
18	Energy Efficiency - LED Street lighting with digital hoarding	7,49,67,017
19	Improved Energy Efficiency Solar LED Street Lighting	8,72,20,000
20	Refurbishing of Mizoram State Museum	1,72,55,800
21	Setting up of Digital E-Library	1,44,88,040
22	Procurement of Sanitary Napkin Vending Machine and Incinerator	1,97,75,400
23	Road Side Drinking Water Kiosks	1,17,35,360
24	Tourist Guidance Centres	19,46,601
25	Street Vending Zone – Creating vending Zones with Basic Facilities modular kiosks	43,57,632
26	Reverse Vending Machines Pilot Projects	83,79,419
27	Integrated Command Control Centre	1,19,20,96,894
28	Energy Efficiency for Solar LED lighting with digital hoarding	2,70,02,016
29	Construction of Smart Street at Upper Khatla	3,28,21,300
30	Upgradation of Tourist Lodge, Chaltlang, Aizawl	18,11,98,427
31	Common Bio-Medical Waste Treatment Facility	7,65,49,035
32	Construction of playground at Zemabawk	24,94,72,960
33	Construction of playground at Edenthar	7,91,58,468

34	Construction of playground at Zuangtui	14,60,14,377
35	Construction of playground at Chite	8,65,73,160
36	Construction of playground at Tuivamit	6,74,74,543
37	Construction of playground at hlimen	6,59,23,380
38	Construction of futsal ground at Zemabawk Mitla Mual	5,95,08,334
39	Construction of Multipurpose Ground at High Field, Zarkawt	15,08,52,082
40	Construction of Plaground at Durtlang	17,87,84,000
41	Construction of City Centre Bara Bazar, Aizawl	40,35,46,870
42	Construction of Chaltlang Sports Multipurpose Hall	13,52,10,000
43	Procurement of Medical Equipments of Civil Hospital, Aizawl	4,08,36,000
44	Pavement of Approach Road to Edenthar Playground	86,90,639

**Source: RTI Application answered by State Public Information Officer Aizawl Smart City Pvt Limited**

#### **Projects under the Aizawl Smart City Mission:**

As we have seen from the above table, the Aizawl Smart City Mission encompasses a comprehensive array of 44 projects, with budget allocations ranging from Rupees 58 lakhs for the Pelican Crossing System to an impressive Rupees 119.21 crores designated for the Integrated Command and Control Centre (ICCC). This allocation underscores a significant focus on digital governance and real-time city management. Infrastructure development is a predominant aspect of the mission, exemplified by eight dedicated playground projects, including those in Zemabawk, Durtlang and Chite which has collectively exceeding 100 crores. These projects emphasize a commitment to youth engagement, sports and community spaces. High-impact urban transformation is evident in initiatives such as the City Centre Bara Bazar (Rupees 40.35 crores) and the Multi-Utility Sports Centre (Rupees 2 crores), which aim to enhance commercial and recreational hubs. Technology and sustainability are critical pillars of the mission with smart solutions such as 5G-enabled ambulances (Rupees 6.98 crores), on-road smart parking (Rupees 13.38 crores) and digital e-libraries (Rupees 1.44 crores) designed to improve efficiency and accessibility. Concurrently, green initiatives including solar LED Street lighting (Rupees 8.72 crores), sustainable landfill management (Rupees 4.06 crores) and urban landscaping (Rupees 9.72 crores) highlight Aizawl commitment to eco-friendly urbanization. Public health and safety are addressed through projects such as fire-fighting vehicles (Rupees 4.46 crores), biomedical waste treatment (Rupees 7.65 crores) and sanitary napkin vending machines (Rupees 1.97 crores), ensuring holistic urban development. Lower-cost interventions such as traffic bollards (Rupees 23.83 lakhs) and street vending zones (Rupees 43.57 lakhs), demonstrate attention to micro-level urban challenges thereby balancing a grand vision with grassroots needs. The inclusion of tourist guidance centres (Rupees 19.46 lakhs) and the renovation of the Mizoram Secretariat (Rupees 2 crores) further reflects a blend of tourism promotion and administrative modernization. Overall, the mission's project distribution reveals a strategic allocation, prioritizing digital infrastructure, environmental resilience and inclusive public amenities while ensuring equitable regional development across Aizawl neighborhoods.

<b>Table III: Completed Projects under Aizawl Smart City Mission</b>	
<b>SL.No</b>	<b>Completed Projects</b>
1.	Pelican Crossing System
2.	Traffic Bollard Flexible Fixed
3	Tourist Guidance Centre
4	Community Toilets- Public Urinals Bio-Toilets (Sanitary Napkin Vending

	Machine)
5	Reverse Vending Machines Pilot Project
6	Outdoor Youth Recreation Gym
7	Digital Library, e-Library
8	Road Side Drinking Water Kiosks
9	Street Vending Zone – Creating Vending Zones with Basic Facilities Modular Kiosks
10	Energy Efficiency for Solar LED Lighting with Digital Hoarding
11	Construction of Smart Street at Upper Khatla
12	Procurement of 5G/Smart Ambulance
13	Entrepreneurship Development Centre, Incubation Centre and Start-up-Hub
14.	Procurement of Fire Fighting Vehicle & Equipment
15	Energy Efficiency for Solar LED Lighting with Digital Hoarding
16.	Integrated Command Control Centre

**Source: RTI Application answered by State Public Information Officer Aizawl Smart City Pvt Limited**

#### **Completed projects under Aizawl Smart City Project:**

The completed projects under the Aizawl Smart City Mission demonstrate a comprehensive strategy aimed at enhancing urban infrastructure, sustainability, citizen welfare, and digital innovation. The implementation of Pelican Crossing Systems and Flexible Traffic Bollards underscores a commitment to improving pedestrian safety and traffic management, which is crucial for a city with challenging terrain such as Aizawl. The Smart Street at Upper Khatla likely incorporates intelligent traffic a system has improved walkability and aesthetic enhancements which has contributed to a more organized urban environment.

Sustainability emerges as a key theme, as evidenced by projects such as Solar LED Lighting with Digital Hoarding (notably listed twice, indicating potential duplication) and Reverse Vending Machines, which promote the adoption of renewable energy and waste recycling. The installation of Bio-Toilets with Sanitary Napkin Vending Machines and Roadside Drinking Water Kiosks addresses public health and hygiene, ensuring improved sanitation access for both residents and tourists. The establishment of Street Vending Zones with Modular Kiosks formalizes informal trade thereby reducing congestion while supporting local livelihoods.

Digital transformation is evident through the Integrated Command & Control Centre (ICCC) which likely integrates traffic monitoring, emergency response and municipal services for efficient governance. The 5G/Smart Ambulance project enhances emergency healthcare with real-time connectivity while the Digital Library and e-Library initiatives promote digital literacy and education. The Entrepreneurship Development Centre and Start-up Hub aim to stimulate local innovation and economic growth, aligning with national smart city objectives of fostering entrepreneurship.

However, challenges such as project duplication in reporting (e.g repeated solar lighting entries) and the necessity for long-term maintenance of these initiatives must be addressed. Additionally, ensuring equitable access to these facilities across all city areas will be crucial for inclusive development. Overall, Aizawl Smart City projects demonstrate a balanced approach is integrating smart technology, sustainability and citizen-centric services but sustained efforts in implementation, transparency and public engagement will determine their lasting impact.

#### **Conclusion:**

At present, the cities selected in the Northeast including Aizawl City under the Smart Cities Mission have not yet reached the expectation of attaining the position of Smart Cities. The issues of socio-economic development and inefficient governance had a significant impact on the problems faced by these towns and cities. The Smart Cities Mission has brought a huge opportunity to the Northeast region to transform the picture of its cities for sustainable growth and development to take it to the next level. However, the mission may only amplify economic, social and spatial polarizations within cities which are an important issue that needs to be addressed in the near future.

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