Urban Management Centre
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Situational Assessment of Ahmedabad
for
Child Friendly Cities Programme

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Child Friendly Cities Programme

Contact details:
Manvita Baradi, Director
Urban Management Centre
manvita@umcasia.org
Tel: +91 79 26400306
www.umcasia.org

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AMC	Ahmedabad Municipal Corporation
ACS	AIDS Control society
AFHS	Adolescent Friendly Health Services
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
ANC	Antenatal Care
ANM's	Auxiliary Nurse Midwife
AQI	Air Quality Index
ARI	Acute Respiratory Infection
ARTCs	Anti-Retroviral Therapy Centres
ASAL	Ahmedabad Sanitation Action Lab
ATIRA	Ahmedabad Textile Industry Research Association
AUDA	Ahmedabad Urban Development Authority
BaLA	Building as Learning Aid
BBBP	Beti Bachao Beti Padhao
BMI	Body Mass Index
CBSE	Central Board of Secondary Education
CEPT	Centre for Environmental Planning and Technology
CFC	Child Friendly Cities
CFCI	Child Friendly Cities Initiative
CHC	Community Health Centres
CISCE	Council for the Indian School Certificate Examination
CRC	Convention on the Rights of the Child
CRDF	CEPT Research and Development Foundation
CSR	Child Sex Ratio
CWAS	Centre for Water and Sanitation
CWC	Child Welfare Committee
D2D	Door to Door
DEIC	District Early Intervention Centres
DL	Digital Learning
DPT	Diphtheria-Pertussis-Tetanus
EMRI	Emergency Management and Research Institute
FGD	Focussed Group Discussions
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GIDC	Gujarat Industrial Development Corporation
GoG	Government of Gujarat
GoI	Government of India
GSCPS	Gujarat State Child Protection Society
GULM	Gujarat Urban Livelihood Mission
HMIS	Health Management Information System
ICDS	Integrated Child Development Services
ICTC	Integrated Counselling and testing centre
IEC	Information and Education Campaign
IF	Infrastructure and Facilities

IHHL	Individual Household Latrines
IIM-A	Indian Institute of Management Ahmedabad
IMR	Infant Mortality Rate
IPC	Indian Penal Code
IYCF	Infant and Young Child Feeding
LGBTQ+	Lesbian, Gay, Bisexual, and Transgender, Queer
LO	Learning Outcomes
MAD	Minimum Acceptable Diet
MCCD	Medical Certification of Cause of Death
MCP	Mother and Child Protection
MCV	Measles-Containing Vaccine
MHHM	Menstrual Health and Hygiene Management
MISAAL	Moving India towards Sanitation for All
MoHFW	Ministry of Health & Family Welfare
NACO	National AIDS Control Organisation
NCBI	National Centre for Biotechnology information
NCD	Non-Communicable Diseases
NCRB	National Crime Records Bureau
NER	Net Enrolment Ratio
NFHS	National Household Family Survey
NGOs	Non-government organisations
NGSY	Nirmal Gujarat Sanitation Yojana
NIPCCD	National Institute of Public Cooperation and Child Development
NPC	National Policy for Children
NPCBVI	National Programme for Control of Blindness & Visual Impairment
NPPCD	National Programme for the Prevention & Control of Deafness
NSSO	National Sample Survey Office
NTEP	National Tuberculosis Elimination Programme
NUHM	National Urban Health Mission
NULM	National Urban Livelihood Mission
O&M	Operation and Maintenance
PDS	Public Distribution System
PGI	Performance Grading Index
PHC	Primary Healthcare Centre
PMJAY	Pradhan Mantri Jan Arogya Yojana
PMSMA	Pradhan Mantri Surakshit Matrutava Abhiyan
PMSSY	PM - Swasthya Surakhsa Yojna
PNC	Postnatal Care
POCSO	Protection of Children from Sexual Offences
PRL	Physical Research Laboratory
PTCT	Public Toilets and Community Toilets
PTR	Pupil Teacher Ratio
RBSK	Rashtriya Bal Swasthya Karyakram
RCM	Regional Commissionerate Office
RMNCH	Reproductive, Maternal, Newborn Child

RMNCH+A	Reproductive, Maternal, Newborn Child and Adolescent
RMSA	Rashtriya Madhyamik Shiksha Abhiyan
RSBY	Rashtriya Swasthya Bima Yojana
RTE	Right to Education
SBM	Swachh Bharat Mission
SC	Scheduled Castes
SECC	Socio Economic Caste Census
SLL	Special and Local Laws
SRS	Sample Registration System
SS & CP	School Safety and Child Protection
SSA	Samagra Shiksha Abhiyan
ST	Scheduled Tribes
STEM	Science, Technology, Engineering and Mathematics
SUH	Shelter for Urban Homeless
SUMAN	Surakshit Matritva Ashwasan
U5MR	Under-Five Mortality Rate
UCVA	Urban Climate Vulnerability Assessment
UD	Urban Development
UDISE	Unified District Information System for Education
UHC	Urban Health Centre
UHD	Urban Housing Department
UIP	Universal Immunization Programme
UMC	Urban Management Centre
UNCRC	United Nations Convention on the Rights of the Children
UNDRR	United Nations Office for Disaster Risk Reduction
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation & Hygiene
WCD	Women & Child Development Department
WHO	World Health Organisation

Preface

United Nations Children's Fund (UNICEF) has partnered with the Urban Development and Urban Housing Department (UD&UHD), Government of Gujarat (GoG) to support urban local bodies in the state for Child Friendly Cities (CFC) Programme. As a part of this initiative, UNICEF in partnership with the Ahmedabad Municipal Corporation (AMC) has engaged the Urban Management Centre (UMC) to prepare the Situational Assessment Report for the Status of Children in Ahmedabad.

UNICEF's CFC programme is based on the United Nations Convention on the Rights of the Child (UNCRC) framework which advocates for the right to civil, political, economic, social and cultural liberty for every child. The CFC programme aims to mainstream the needs of children and bring them at the focus of urban planning and governance framework in the city so that every child thrives, learns, is safe and has the opportunity to grow and participate equally.

This report captures the status of children's health and nutrition, education, access to basic services like water, sanitation and hygiene, safety against crime and access to social law and justice. The objective of this report is to assess challenges and vulnerabilities that children face in the city, which will help bring improvements in their living conditions, health, and overall wellbeing and development. This assessment will help UNICEF to develop an implementable Child Friendly City action plan for Ahmedabad.

The assessment presented in this report is based on the available data published by the city, state and central governments as well as recognised data sets such as the National Family Health Surveys. Multiple data sets exist within the public domain however they remain disparate in terms of timeline and geography. The data presented in this report is a mix of information available at municipal, district and state-department-wise zonal levels and hence, may present a near accurate scenario. UMC has consulted several government and non-government organisations during the preparation of this situational assessment report.

Executive summary

Children are an invaluable asset, an integral part of the future and growth of any society. They deserve to grow and develop in a healthy, equitable environment to their full potential. Being the most vulnerable user group, they are extremely sensitive to various threats and hence it is important to understand their challenges as part of city planning strategies.

With this perspective the United Nations Convention on the Rights of Children (UNCRC) was launched in 1989 which states that Child Rights are minimum entitlements and freedoms that should be afforded to all persons below the age of 18 regardless of race, colour, gender, language, religion, opinions, origins, wealth, birth status or ability and therefore apply to all people everywhere (UNICEF, n.d.). India became a signatory to the UNCRC in 1992. Following this, the country passed several legislations and acts that were child-centric in nature such as the National Commission for the Protection of Child Rights (2005), Juvenile Justice Care and Protection Act (2015), Prohibition of Child Marriage Act (2006), Right to Education Act (2009) and the Act on Protection of Children from Sexual Offences (POCSO) (2012). Further, in 2013, the National Policy for Children (NPC) was introduced by the government to address the various challenges faced by children followed by the National Education Policy in 2020 (Save the Children).

To strengthen the impact of the UNCRC through meaningful interventions, UNICEF launched the CFC programme. The global initiative by UNICEF for CFC derives its principles from the UNCRC and aims to provide a well-rounded and conducive environment for children to live, learn, grow, and develop in a holistic manner. The CFC initiative varies from country to country and is developed according to the local context. The key framework of any CFC programme is based on the following key principles:
1. **Every child and young person is valued, respected and treated fairly within their communities and by local authorities**
2. **Every child and young person has their voice, needs and priorities heard and taken into account in public laws (if applicable), policies, budgets, programmes and decisions that affect them**
3. **Every child and young person has access to quality essential social services[1]**
4. **Every child and young person lives in a safe, secure and clean environment[2]**
5. **Every child and young person has opportunities to enjoy family life, play and leisure[3]** (Child Friendly Cities and Communities Handbook, 2018)

This report captures the status of children's health and nutrition, education, access to basic services like water, sanitation and hygiene, safety against crime, and access to social law and justice in the case of the city of Ahmedabad. The objective of the report is to assess challenges and vulnerabilities that children face in the city, which will help bring improvements in their living conditions, health, and overall wellbeing and development. For this purpose, the principles of the CFC framework were adapted according to the local context and the assessment is presented under the following seven parameters/ thematic areas:

1. Health and Nutrition
2. Water Sanitation and Hygiene (WASH)

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[1] Including healthcare, education, nutrition support, early childhood development and education, justice and family support

[2] Including protection from exploitation, violence and abuse, access to clean water, sanitation and hygiene, safe and child-responsive urban design, mobility and freedom from pollution and waste

[3] Including social and cultural activities, and safe places to meet their friends and play

3. Education
4. Child Safety, Justice and Social Protection
5. Participation
6. City planning
7. Shocks and Special Vulnerabilities

For the purpose of this assessment, data has been referred from several publicly available sources, reports and platforms. The following are the key data sources for each parameter/sector [4]:

1. **Health and Nutrition**: National Family Health Survey (NFHS) reports 4 and 5 have been studied as the primary source of information. Additionally, reports published by UNICEF and WHO have been studied to strengthen the findings.
2. **WASH**: For this, the service level benchmark (SLB) indicators published by the Government of Gujarat (GoG) on the PAS portal are the primary data source. These have been bolstered with findings and learnings from UMC's past projects in the sector—Ahmedabad Sanitation Action Lab (ASAL), Technical audits of public toilets in Ahmedabad and the Moving India Towards Sanitation for All (MISAAL) programmes.
3. **Education**: Data has been primarily studied from the UDISE portal along with publications from the Ministry of Education such as annual Performance Grading Index (PGI).
4. **Child Safety, Justice and Social Protection**: Data has been primarily sourced from the annual reports published by the National Crime Records Bureau (NCRB) from 2018–2021.
5. **Participation**: Information has largely been sourced from scholarly articles published by National Commission for Protection of Child Rights in India and UNICEF.
6. **City Planning**: Information has been sourced from reports of the Ahmedabad Urban Development Authority (AUDA), Ministry of Housing and Urban Affairs (MoHUA), Bernard Van Leer Foundation as well as self-observations.
7. **Shocks and Vulnerabilities**: Data published by independent researchers and research organisations such as CEPT University, Ajeevika Bureau, and Mahila Housing Trust has been used to assess the situation under this parameter.

The findings from the desk research, secondary data studies, and analysis of information shared by concerned departments of the government have been discussed and strengthened with inputs and views from sector experts. The following are the key results observed from the situational assessment conducted:

1. **Health and Nutrition:** An assessment of the health infrastructure in the city highlights that there are health centres in all wards of the city making primary healthcare accessible to all citizens. National Family Health Surveys also indicate that utilisation of complete immunisation for infants and young children has increased by 15% over the course of five years from 2016 to 2020, but it remains at 65% for children, of whom 89% received it through public health services. However,

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[4] It must be noted that due to lack of consolidated data platforms and sources, the information available varies between state, district and city level. Certain information such as health related data is available at district level whereas information for WASH and crimes is available at city level. Education has a mix of district and city level information. Additionally, comparative analysis has been undertaken across 10 major metro cities wherever possible.

when we examine nutrition, we see that stunting and wasting are on the rise, and undernutrition is on the rise as well, with about 5% of children being overweight and more than one-third of them being underweight (National Family Health Survey 5, 2019). There is also a greater need now than ever to address mental health concerns of children. Under the age of 18, the suicide incidence in Ahmedabad is 15% for girls and about 3% for boys (National Crime Records Bureau, 2022).

2. **WASH:** Ahmedabad as a city has seen an increase in coverage of WASH services as per SLB data. However, there is a lack of available, clean and functional public toilets with dedicated child friendly infrastructure. Primary surveys of public and community toilets in 2019-21 showed that only 9% of the city's public and community toilets had child friendly toilet seats and these were not functional. On the other hand, UDISE data and stakeholder discussions revealed that while there was near 100% coverage of gender segregated toilets, schools lacked provision of child friendly toilet infrastructure to cater to students of all ages. In terms of household level coverage of WASH services, the official SLB data points to near 100% coverage of IHHL and water supply. A primary study of these services in urban poor settlements of the city over a three-year span also showed an increase in coverage of IHHL and piped water supply. Coverage of piped water supply had increased from 93% to 98% and coverage of functional IHHL had increased from 62% to 99%.

3. **Education:** Ahmedabad has one school for nearly 900 students. According to the annual Performance Grading Index (PGI) 2020-2021 score, Ahmedabad received a state rank of 18 indicating a fair result. Ahmedabad also has high net enrolment rates of students in the primary (83.8%) and upper primary levels (77.2%). Girls form nearly 47% of all enrolled students. However, despite having infrastructure and enrolment numbers; Ahmedabad faces concerns of continuity of education and poor learning outcomes. According to UDISE data, student dropout rates after grade 8 increased from 11% in 2013 to 14% in 2017. A possible reason may be attributed to the fact that most government schools do not have classes after grade 8 forcing students to seek admission in private schools which may be more expensive. Only 6% of schools in the city provide education across levels till grade 12. Apart from this, Ahmedabad also has a skewed pupil teacher ratio of 34:1 which is much higher than norms. This points to a shortage of teaching staff which in turn impacts the quality of education imparted to students. According to UDISE+ information, there are more than 4500 students with special needs enrolled in schools across the city. While this is a positive step towards inclusive education practices, efforts must be made to inculcate sensitisation and awareness among teachers and pupils, to communicate and interact with children with special needs in a manner that does not view disabilities and special needs as a stigma.

4. **Child Safety, Justice and Social Protection:** As per NCRB, Ahmedabad saw an increase of 43% in reported crimes committed against children from 2016 to 2021. In 2021, the majority of reported crimes committed against children were under the POCSO category. As per NFHS 5, nearly 18% girls were reported to have been married before the age of 18 years (National Family Health Survey 5, 2019). Ahmedabad also saw a 49% increase in reporting of crimes committed by minors from 258 reported cases in 2016 to 386 reported cases in 2021.

5. **Participation:** Ahmedabad has several NGOs working to raise awareness among citizens and youth on several social issues. However, there is a need for further deliberation and probing on the presence of a recognised platform backed by the city authorities that promotes interaction and communication with citizens including children. There is constant scope for improvement and strengthening of any existing

institutional platform and citizen engagement mechanism. Informal discussions with students and sector experts also revealed that there is a need to create *baal sansads* (child cabinet committees) in schools to act as a platform where students can communicate common concerns to the school administration.

6. **City planning:** Ahmedabad fairs poorly in quality and accessibility of open and public spaces. The city has 200 open spaces, parks, gardens and other recreational spaces as per the Ahmedabad Municipal Corporation (AMC). Despite this, the city scored only 7 out of a 100 in the Ease of Living Index. The city requires 400 neighbourhood parks/gardens according to URDPFI guidelines but has only 121. Further, the city has approximately 1.3 sq. m per capita of space under parks and gardens against a norm of 3 sq. m per capita as per URDPFI indicating a gap of nearly 43%. In terms of pedestrian friendly mobility, Ahmedabad has footpaths on 67% streets out of which more than 80% do not have usable footpaths. Data also suggests that nearly 27% of all severe and fatal accidents in the city involve pedestrians out of which nearly 20% comprise of young adults below the age of 20 years. Discussion with parents further corroborated the unsafe nature of streets since nearly 75% parents said they wouldn't allow their children to walk/cross streets without supervision. The streets of the city also fare poorly in terms of being cycling friendly with nearly 42% of road accidents involving cyclists. Even in terms of air quality, several areas of the city report an AQI of up to 300 indicating very poor conditions. All of this points to several gaps and challenges in city planning.

7. **Shocks and vulnerabilities:** Vulnerable populations of the city comprising of migrant workers and homeless persons along with their families are often the worst impacted from unforeseen circumstances. In Ahmedabad more than 50% of children of migrant workers were underweight and suffered from various nutritional deficiencies. 99% of children of migrant workers under the age of 5 were not attending school and 37% of children between 15 and 17 years of age were found to be continuing their education. Low enrolment and literacy rates are prevalent. Further, post COVID-19, it was found that nearly 38% of children from weak financial backgrounds could not continue with their education and 22% children under the age of 14 reported taking up a job to contribute to their household incomes. This points to a need for preparedness of the city, to help the vulnerable sections including children in managing impacts of shocks.

Based on these assessments, the report recommends the following strategies to address the challenges and concerns.

Health:

- Conduct regular capacity building of frontline health workers on latest schemes and interventions. Help them overcome challenges and address their concerns through motivational and team building sessions.
- Implement the nurse practitioner and midwifery (NPM) programmes of the Government of Gujarat across all public healthcare centres.
- Strengthen outreach and awareness on immunisation of children.
- Undertake audit and assessment of healthcare facilities to ensure compliance to standards.
- Develop standard operating procedures (SOP) for operation and maintenance (O&M) of healthcare facilities.
- Design and implement mental health campaigns targeting school going children.
- Develop early identification systems for teachers to identify learning disabilities among children.

Nutrition:

- Conduct public awareness campaigns to combat malnutrition among children and increase exclusive breastfeeding practices among mothers.
- Strengthen implementation of ICDS programmes for wider outreach through ASHA workers and Mahila Arogya Samitis (MAS).
- Undertake actions to address concerns of anaemia through strengthening of existing schemes such as Anaemia Mukt Bharat, and leveraging CSR to increase outreach and awareness activities.

WASH:

- Build child friendly toilets/ retrofit existing toilets with child friendly infrastructure (PTCTs) in both male and female sections.
- Develop and implement mechanisms such as performance based contracts for operating agencies to ensure cleanliness of facilities through increased accountability of actions.
- Conduct awareness and provision of menstrual health and hygiene infrastructure in schools and public toilets for use by adolescents and young women.
- Develop and implement SOPs for promoting safe handwashing practices among children to practice in school and at home.
- Develop institutional level SOPs for schools and *angawadis,* and healthcare centres to ensure that all water supply and sanitation infrastructure is functional at all times.
- Address concerns of WASH in underserved areas through increased citizen outreach. Through NGOs, the civic authorities should conduct regular interaction with residents of urban poor settlements and underserved areas to capture concerns about municipal services of water supply and sanitation, and subsequently undertake redressal measures to prevent the spread of diseases.

Education:

- Ensure continuity in learning.
- Improve pupil teacher ratio (PTR) through experienced teaching staff.
- Introduce counsellors and other student support platforms.
- Encourage systems for child cabinets.
- Creating awareness on de-stigmatisation of children with special needs and disabilities.
- Augment teaching systems and pedagogy.
- Promote digital learning mechanisms.

Child protection and safety:

- Strengthen convergence between statutory, quasi statutory departments and other stakeholders for improved child welfare and protection.
- Involve communities in child safety and protection.
- Strengthen grassroots organisations, child protection committees, child helpline services and overall participation of children and young adults in creating a safe environment for children.
- Strengthen child friendly policing through an approachable police force.

Participation:

- Promote participation of children, including in governance.

- Promote children's participation in schools.
- Create awareness among parents and caregivers.
- Build capacity of stakeholders—parents, teachers, civil society organisations, local leaders and administration—on child rights.
- Undertake advocacy by civic authorities based on short term and long term goals for enforcement of child rights.

City planning:

- Ensure inclusive urban design of public spaces and amenities with a child friendly perspective.
- Enhance and improve usability and safety of public spaces for use by children of all ages.
- Design and construct more pedestrian and child friendly streets in consultation with children and parents' groups.
- Incorporate public bicycle share and mini e-scooter stands at BRTS stations to address affordable last mile connectivity concerns of children and young adults.

Shocks and vulnerabilities:

- Strengthen delivery of social protection schemes and entitlements.
- Develop inclusive disaster relief plans.
- Develop SOPs on emergency preparedness by all citizens including students and disseminate through public awareness activities.

The analysis and findings from the situational assessment of Ahmedabad have been presented in this report and intend to help concerned authorities to take informed decisions to undertake redressal strategies towards becoming a child friendly city.

1 Introduction

1.1 Background

Children are an invaluable asset and form an integral part of any country. India is home to 472 million children (0 –18 years) comprising 39% of the country's total population. Of these, about 128 million children reside in urban areas which makes about 34% of the country's urban population (Census of India, 2011). Cities impact the growth and development of children. Children living in urban areas are faced with plenty of opportunities and challenges. Access to education, sports facilities, healthcare, art and culture provide abundant opportunity to children for their all-round development but at the same time, challenges like pollution, environmental degradation, lack of open spaces and lack of public safety significantly impact their development.

Children deserve to grow and develop in a healthy, equitable environment to their full potential. Being the most vulnerable user group, they are extremely sensitive and often face challenges and threats while growing up as they get exposed to the outer world. They formulate a large part of the demography who are often ignored in planning our cities. Our cities struggle to provide children with their basic needs and equitable opportunities. Thus, children's needs are imperative while planning and designing sustainable cities.

UNICEF and United Nations Convention on the Rights of the Child (UNCRC) launched the Child Friendly Cities Initiative (CFCI) in 1996 to respond to the challenge faced by children in realising their rights in an increasingly urbanised and decentralised world. This initiative brings together local stakeholders including the government, non-government organisations (NGOs) and citizens, to create safe, inclusive and child-friendly cities and communities. India became a signatory to the UNCRC in 1992. Following this, the country passed several legislations and acts that were child-centric in nature such as the National Commission for the Protection of Child Rights, 2005; Juvenile Justice Care and Protection Act, 2015; Prohibition of Child Marriage Act, 2006; Right to Education Act, 2009 and the Act on Protection of Children from Sexual Offences (POCSO), 2012. Further, in 2013, the National Policy for Children (NPC) was introduced by the government to address the various challenges faced by children (Save the Children, 2019). Government of India is presently implementing many programmes focussed around improving the living condition of children including the Swachh Bharat Mission (SBM) for cleaner cities, Samagra Shiksha Abhiyan (SSA) for universal access to education, Poshan Abhiyaan and Integrated Child and Development Services (ICDC) to improve nutritional status of children and women, and Pradhan Mantri Jan Arogya Yojana (PMJAY) to enhance health service delivery and access, among many others.

UNICEF defines a child-friendly city as a community where the voices, needs, priorities and rights of children are an integral part of public policies, programmes and decisions. It is a city where children are safe and protected from exploitation, have access to essential services, experience quality, inclusive and participatory education and skills development, live in a clean, unpolluted and safe environment with access to green spaces, have places to play and enjoy themselves, and have a fair chance at life regardless of their ethnic origin, religion, income, gender or ability. (Child Friendly Cities and Communities Handbook, 2018).

UMC and UNICEF are assessing Ahmedabad's existing situation vis-à-vis the CFC programme in partnership with the AMC. This programme aims to:
1. Improve the physical environment for children, specifically related to education, safety and protection, play and leisure
2. Strengthen awareness and understanding of child rights by community members, including children themselves
3. Enhance children's participation in the decision-making process of local government

4. Strengthen evidence-based planning and policy to respond to the needs of the most disadvantaged.

UNICEF's CFC framework is based on the concept that every child and young person enjoys their childhood and youth and reaches their full potential through equal realisation of their rights within their cities and communities. The key goals of the programme ensure that:
1. Every child and young person is valued, respected and treated fairly within their communities and by local authorities
2. Every child and young person has their voice, needs and priorities heard and taken into account in public laws (if applicable), policies, budgets, programmes and decisions that affect them
3. Every child and young person has access to quality essential social services[5]
4. Every child and young person lives in a safe, secure and clean environment[6]
5. Every child and young person has opportunities to enjoy family life, play and leisure[7] (Child Friendly Cities and Communities Handbook, 2018)

Figure 1 Principles of child friendly city, UNICEF's framework
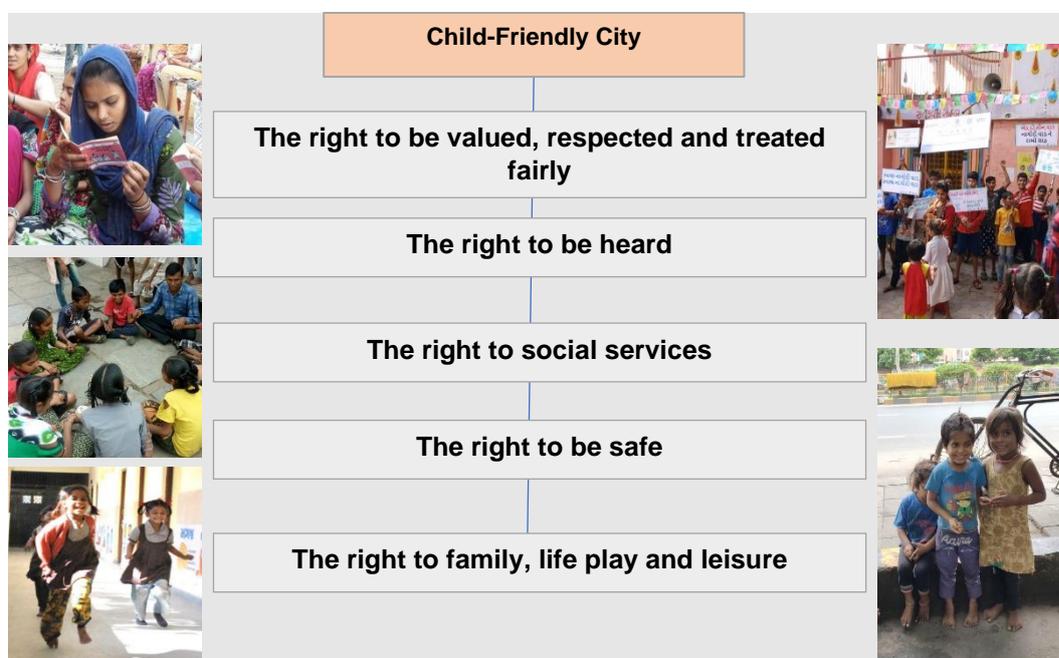
Source: Engagement with children and communities in Ahmedabad, UMC

1.2 Approach and Methodology

Child-friendliness of a city is influenced by various factors including geography, demography and migration, social environment, economic context, city governance, public financial management, climate change and the environment, and the civil society's activities in the city. The study has been approached by defining a framework across sectors applicable to Ahmedabad based on which relevant sectoral parameters were shortlisted and analysed.

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[5] Including healthcare, education, nutrition support, early childhood development and education, justice and family support
[6] Including protection from exploitation, violence and abuse, access to clean water, sanitation and hygiene, safe and child-responsive urban design, mobility and freedom from pollution and waste
[7] Including social and cultural activities, and safe places to meet their friends and play

Post finalisation of the framework, sector wise indicators were mapped. Relevant data was captured through a combination of secondary data collection and primary assessments. Due to the delicate yet vast amounts of information across the sectors, the study relied largely on information and data available in the public domain. Where possible, information through informal discussions with representatives of concerned departments as well as user groups (children and caregivers) have been captured. We have also attempted to strengthen findings with relevant statistical information collected and analysed through primary studies in UMCs past projects.

1.3 Limitations

Based on the requirements of the study, the data collection and subsequent analysis is dependent on the access to and availability of information. All in discussions with concerned officials and key person interviews may be carried out based on willingness, availability of concerned officials as well as issue of requisite letters of support and introduction by UNICEF to UMC to undertake the survey/interview.

Secondary data collection and analysis is reliant on verified and reported data available. The assessment presented in this report is based on the available data published by city, state and central government departments as well as recognised data sets such as the National Family Health Surveys. However, it must be noted that due to the presence of multiple data sets at different geographical levels (state, district and city level), the study has used a mix of data to best represent the existing situation.

2 Framework of Situation Analysis

The UMC has locally contextualised UNICEF's CFC principles that advocate rights of children and derived a CFC situational analysis framework for Ahmedabad. This assessment considers a holistic approach centred around the needs and aspirations of children and their caregivers. This assessment framework will enable city's administration to respond to the requirements for making the city child friendly, through the lens of urban planning and governance. The framework is based on the following principles:

1. Right to Social Services: Every child and young person has access to health, education and clean water, sanitation and hygiene.
2. Right to be Safe: Every child and young person lives in a safe and secure environment which includes protection from exploitation, violence and abuse.
3. Right to be heard: Every child and young person has their voice, needs and priorities heard and taken into account in public laws, policies, budgets, programmes and decisions that affect them.
4. The right to family life, play and leisure: Access to social and cultural activities, and safe places to meet their friends and play.
5. The right to be valued, respected, and treated fairly.

This report presents information and analysis of the following thematic areas. The assessment is based on the following themes:

1. Health and nutrition: This section captures aspects of child nutrition, maternal nutrition and adolescent nutrition, disease burden and illness, vaccination penetration, and maternal health.
2. Water Sanitation and Hygiene: This section focuses on the condition of housing, access to safe drinking water and improved sanitation facilities at home and school.
3. Education: This section presents assessment on access and quality of education and performance grading index[8] which provides broad outlook to education outcomes of the city.
4. Child Safety, Justice and Social Protection: This section assesses safety through the lens of crimes, physio-social safety of children and situations where children and juveniles are found to be in conflict with law; along with insights into rehabilitation and childcare systems.
5. City planning: This section assesses child friendliness of the city's public places including walkability, access to public transport, road safety, access to public conveniences and environmental risks such as air and noise pollution.
6. Participation: This section assesses how children can participate in decision-making processes in their family, school and community so that they are enabled to voice their concerns and have a say in city governance.
7. Shocks and Special Vulnerabilities: This section assesses the impact of unforeseen and inescapable circumstances that impact the lives of children such as homelessness, impact of COVID-19 and the vulnerabilities created through migration.

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[8] The Performance Grading Index (PGI) is a tool developed by Ministry of Education, Government of India, which provide insights on the status of school education in states including key levers that drive their performance and critical areas for improvement.

3   About Ahmedabad

Ahmedabad is the seventh largest city in India and the largest in Gujarat with a population of about 5.6 million (Census of India, 2011). The city of Ahmedabad was founded in the year 1411 CE as a walled city on the eastern banks of the river Sabarmati. Ahmedabad has a rich historical heritage which led it to become the first world heritage city recognised by UNESCO in the year 2016. Presently Ahmedabad is the commercial capital of the state of Gujarat, it is also a major industrial and financial hub contributing about 14% of the total investments in all stock exchanges in India and 60% of the total productivity of the state (Ahmedabad Municipal Corporation, n.d.). Apart from being the commercial capital, the city has evolved as an institutional hub with the establishment of several notable professional and technical institutions such as; Physical Research Laboratory (PRL), Indian Institute of Management Ahmedabad (IIM-A), the National Institute of Design (NID), CEPT University and the Ahmedabad Textile Industry Research Association (ATIRA).

3.1   Location and Climate

The city is located at 23 03' N and 72 58' E, at an average altitude of 49 m above mean sea level, on the banks of the Sabarmati river. The Sabarmati river is bound on the upstream side of Ahmedabad by a dam at Dharoi, which is 120 kilometres away. It enters the city boundaries and flows for 14 kilometres through the city.

Except for the monsoons, Ahmedabad has a tropical climate that is hot and dry. Summer days are extremely hot, with a mean highest temperature of 41.3°C, while summer nights are cool, with a mean lowest temperature of 26.3°C. In the winter, the average highest and lowest temperatures are 30°C and 15.4°C, respectively. The area's average annual rainfall is 782 mm, however, there are significant differences from year to year. Rainfall is most common in the months of June through September. During the rainy season, the average humidity is 60% and reaching up to 90% (Ahmedabad Municipal Corporation, n.d.).

3.1.1   City Governance

The AMC was constituted in July 1950 under the Gujarat Provincial Municipal Corporation (GPMC) Act, 1949. It is headed by an elected mayor, while the executive authority is held by a municipal commissioner— an Indian Administrative Services (IAS) officer appointed by the Government of Gujarat (GoG). As per the section 63 and 66 of the GPMC Act, the AMC is responsible for certain obligatory and discretionary services (Ahmedabad Municipal Corporation).

The main infrastructure services provided by AMC include piped water supply, sewerage and storm water management, the construction and maintenance of roads, street lighting, disease prevention and monitoring, conservancy (solid and liquid waste disposal), public transport, and implementing building byelaws enacted for parks, gardens and education. Under the conformity of the 74th Constitutional Amendment Act, the economic and social planning and poverty alleviation are also included as the obligatory functions of the AMC.

3.1.2   Demographic Profile

AMC's jurisdiction spreads over 519 sq. km (2020-21) divided into 7 administrative zones comprising 48 wards. Ahmedabad had a population of 5.6 million with a decadal growth rate of 2.05 % (Census of India, 2011).

Figure 2 Map of AMC boundary
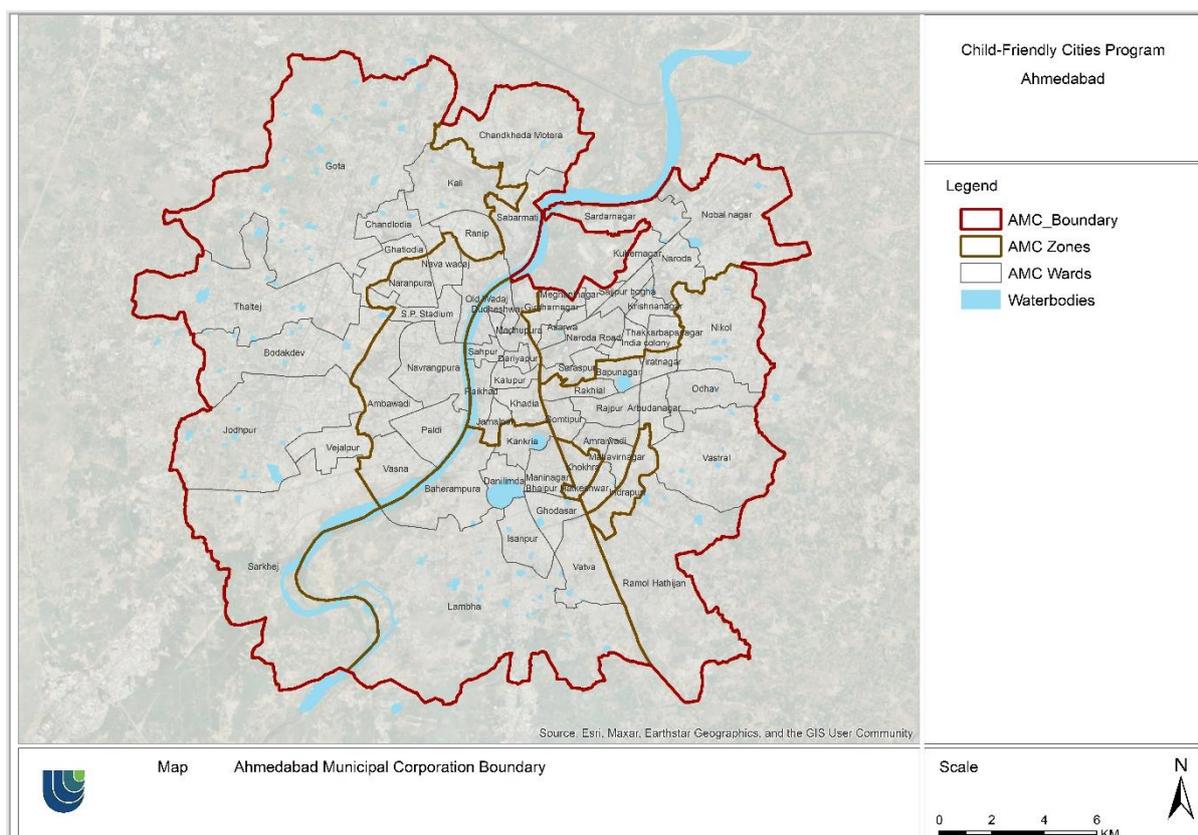
Source: (Ahmedabad Municipal Corporation, 2022)

Table 1 Population growth of Ahmedabad

Year	Population (million)
1981	2.2
1991	2.8
2001	3.5
2011	5.6

Source: (Census of India, 2011)

According to the 2011 Census, the sex ratio was 928 females per 1,000 males with an overall literacy rate of 87.93%. The male literacy rate was 92.16%, and the female literacy rate was 83.27%. In 2011, the child population (0-19 years[9]) was 1.92 million contributing to 29% of the total urban population of Ahmedabad (Census of India, 2011).

Table 2 Age-wise population of Ahmedabad, 2011

Age group	Male	Female	Total
0-4	235,542	204,217	439,759
5-9	258,774	208,417	467,191
10-14	275,955	224,355	500,310
15-19	285,774	234,543	520,317
20-24	293,988	270,649	564,637
25-29	280,818	265,980	546,798

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[9] The Census of India provides the age-wise population breakup in the categories mentioned in Table 2.

Age group	Male	Female	Total
30-34	249,764	234,136	483,900
35-39	221,698	207,221	428,919
40-49	369,452	348,729	718,181
50-59	264,384	235,191	499,575
60-69	142,423	133,997	276,420
70-79	58,994	62,549	121,543
80+	22,435	27,991	50,426
Total Population	**29,60,001**	**26,57,975**	**56,179,76**

Source: (Census of India, 2011)

According to the population pyramid of Ahmedabad, the 20 – 29 age group is stable, followed by a decline in 30 -39 age group, a sudden rise in 40-49[10], and further narrows downs every 5 years (Census of India, 2011).

Figure 3 Age pyramid of population in Ahmedabad
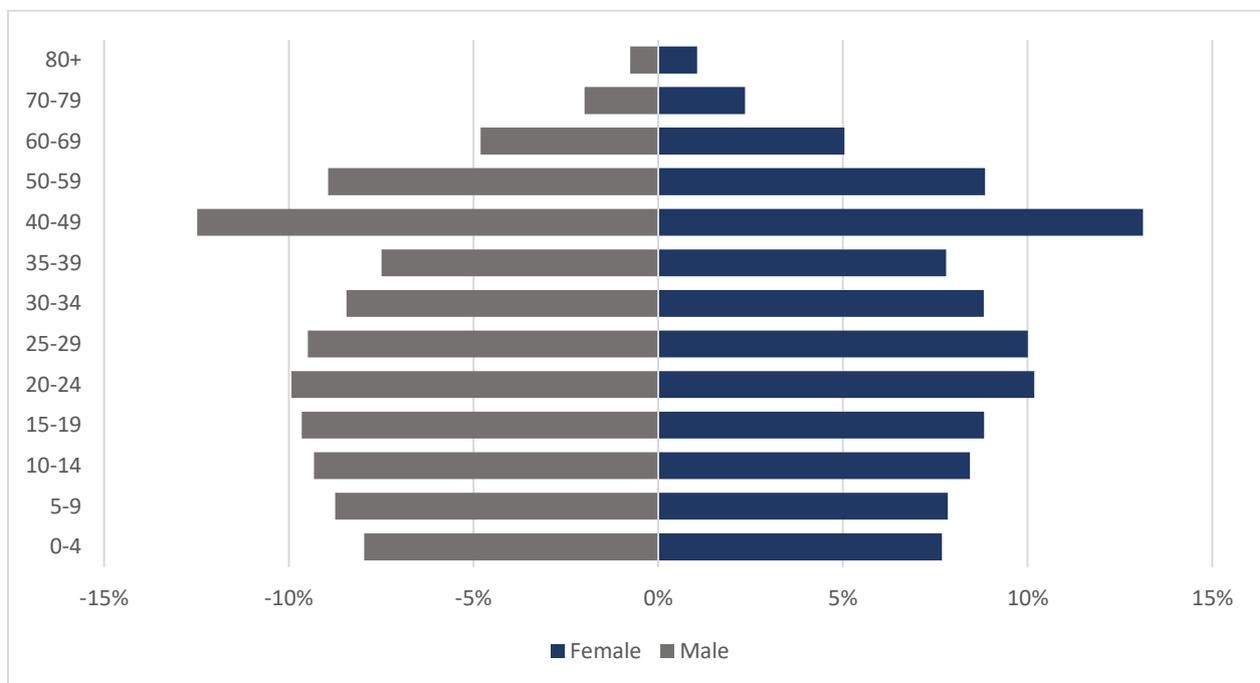
Source: *(Census of India, 2011)*

3.1.3 Economic Profile

As the Manchester of the East, Ahmedabad had the largest share of employment in the cotton textile industry during the 1940s. With changing times and urbanisation, Ahmedabad is now emerging as a diversified business centre with a base in pharmaceutical, automobile, engineering, dairy, agro and food processing, textile and apparel, chemicals and dyes, and IT industries, and in the past five years, a centre for education and health tourism. The majority of these industries have come up in the peripheral regions of the city. These have been steadily growing with a boost from the Gujarat Industrial Development Corporation (GIDC) industrial zones.

Apart from contributing to the economy of the city, the industries also contribute to considerable transformations in the peri-urban areas beyond the city limits. Increased labour

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[10] The sudden spike in the age group is due to the data being collected over 10 year periods in place of every 5 years as in the preceding age groups.

demand for these industries has attracted migrants from rural areas and other states, including Uttar Pradesh, Bihar, and West Bengal (Darshini Mahadevia, 2014).

3.1.4   Poverty

Ahmedabad city had a reported Gross Domestic Product (GDP) of nearly 68 billion USD in 2020 as per the AMC with a growth of nearly 9.5% (Cushman & Wakefield, 2021). One of the drivers for this are the growing opportunities for work including the industrial sector. Driven by the growing opportunities for livelihood, a large number of migrants and urban poor are drawn to the city. As of 2012, nearly 13% (0.17 million households) of the city's population were residing in about 600 slum and slum-like settlements (Centre for Research and Development Foundation, CEPT University, 2014). Apart from this population, migrant workers, both inter and intrastate, often relocate to the city and its peripheries with their families in search of livelihood. Due to the informal nature of the work, the children of migrants are often at a significant disadvantage with highly limited access to services such as water, sanitation, health, education and nutrition due to poor financial conditions (Darshini Mahadevia, 2014). In 2018, it was estimated that there were nearly 0.14 million families in Ahmedabad living under the poverty line (DNA India, 2018).

Figure 4 Location of slums in Ahmedabad
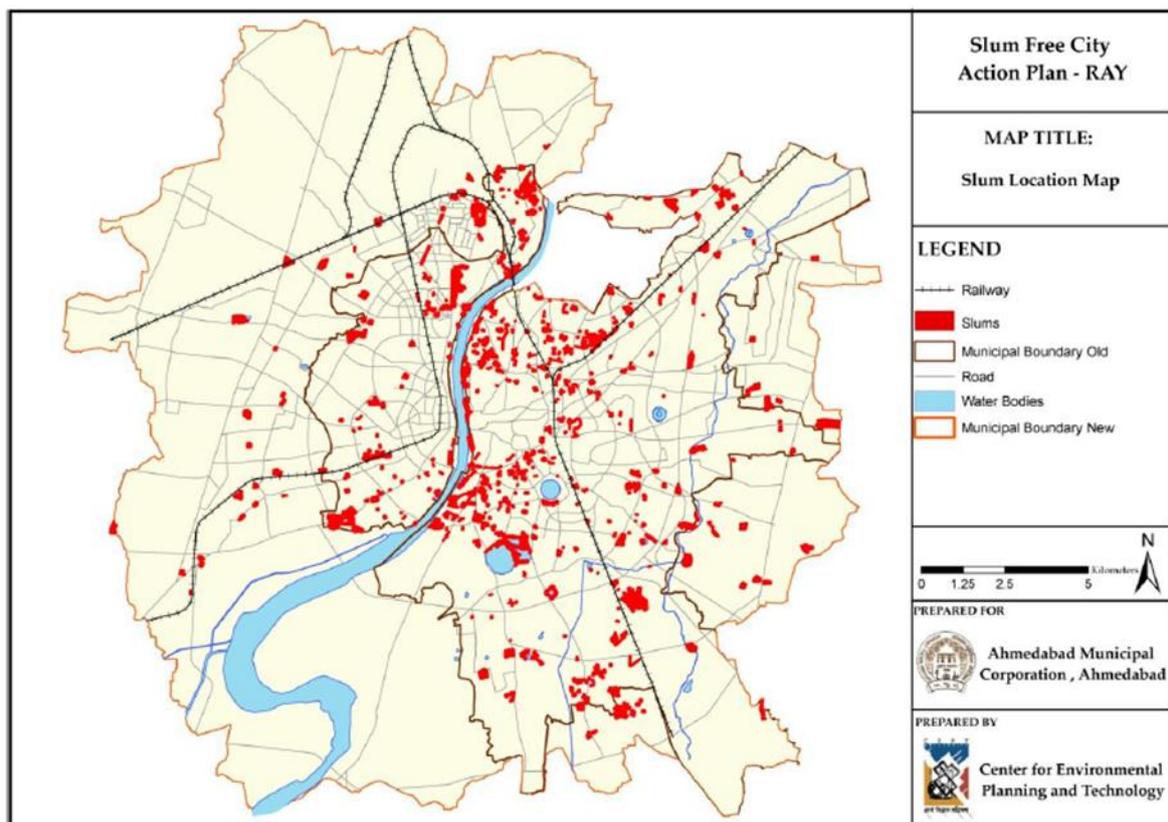
Source: (Centre for Research and Development Foundation, CEPT University, 2014)

Over the years, the civic authorities have been taking steps to improve living conditions in urban poor settlements through various schemes such as 80:20 scheme for toilet construction, Nirmal Gujarat Sanitation Yojana (NGSY) and the 500 NOC scheme. The 500 NOC scheme was launched in 2002, to enable beneficiaries to apply for legal water and sewerage connections by paying a one-time fee of INR 500 to the local tax department to obtain an NOC.

These initiatives have cumulatively helped the city improve coverage of basic infrastructure in urban poor settlements. Data from service level benchmarks over the years shows steady increase in coverage of basic infrastructure services across the city. According to the Slum Atlas of Ahmedabad prepared in 2021 for 40 urban poor settlements in the Central Zone, access to motorable roads, electricity, streetlights, water and sanitation has been fairly improved in more than 85% of these settlements (Urban Management Centre, 2021).

Figure 5 Coverage of services in urban poor settlements
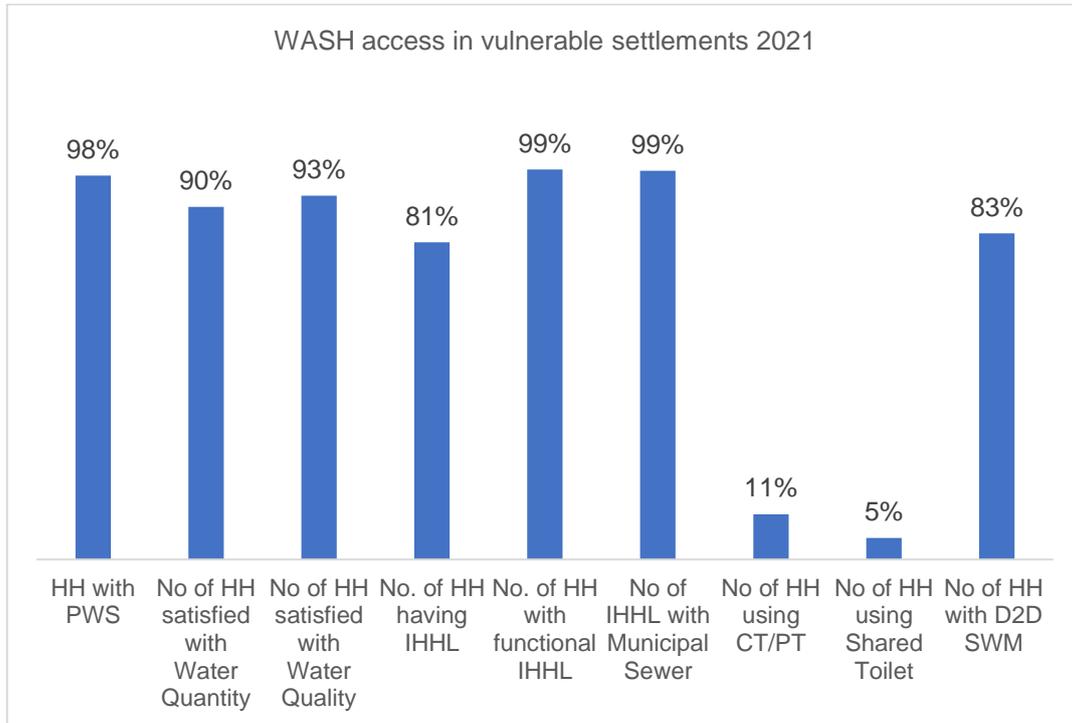
Source: (Urban Management Centre, 2021)

4 Right to Social Service

Every child and young person should have access to quality essential social services which includes healthcare and nutrition, WASH, and education for their physical, mental and cognitive development to be able to utilise their full potential. Every nation must work towards providing these basic social services to every child in an effort towards building a safe and healthy nation. Health and education are interdependent. Education is important to impart valuable life skills, values and attitudes that enable citizens to lead meaningful and fulfilled lives. It enables one to make informed decisions and respond to local and global challenges. This is possible only when people are healthy. This section assesses status of health and education of the children in the city of Ahmedabad.

4.1 Access to Health and Nutrition

WHO defines 'Health' as a state of physical, mental, intellectual, social, and emotional well-being, and not merely the absence of disease or infirmity. The health of children remains an important topic to be addressed, since they are among the most vulnerable and susceptible to infections and illnesses. It is therefore important to ensure children's access to nutrition and appropriate healthcare services. Investing in the health of children is one of the most important things a nation can do to build a better future. In this sub-section, we will examine the status of children's health and nutritional status. In addition, given that the health of children and infants is also impacted by their mothers' health, we also look at the status of maternal health based on available data.

4.1.1 Overview of Health in Ahmedabad

AMC ensures the health of its citizens through various health and sanitation focussed state/national missions. AMC ensures access to healthcare by placing at least one primary healthcare facility in each ward (Urban Management Centre, 2013). Ahmedabad has more than 95% deliveries which were institutional and there has been a steady increase in the proportion of immunised children from 49%(NFHS-4) to 65% (NFHS-5).

However, according to the Ease of Living Index 2020, Ahmedabad was ranked 3rd with a score of 64.87, among the category of cities with a million + population. However, under quality of life, Health was one of the lowest-performing indicators with a score of 45 which was assessed based on the household expenditure on health, availability of public health facilities, healthcare professionals and hospital beds and prevalence of diseases (Ministry of Housing and Urban Affairs, 2021).

The following section will dive into the indicators of health concerning child and maternal health. The key indicators studied are child mortality, disease burden, vaccination coverage, mental health of children and prevalence of disabilities in children. The health factsheet of Gujarat State based on the National Family Health Survey (NFHS-4 &5) is presented below for reference.

Figure 6 Snapshot of NFHS 4, HMIS factsheet, Gujarat

GUJARAT

HEALTH OUTCOMES

	Gujarat	India
Maternal Mortality Ratio[1]	▼ 75	113
Infant Mortality Rate[1]	▼ 28	32
Under five mortality rate[2]	▼ 31	36
Neonatal mortality rate[2]	▼ 19	23
Children under 5 years - severely wasted (weight-for-height) (%)[3]	9.5	7.5
Children under 5 years underweight (weight-for-age) (%)[3]	39.3	35.8
Pregnant women aged 15-49 years who are anaemic (%)[3]	51.3	50.4
Tuberculosis - annualized total case notification rate[*5]	134	100

	F	M	F	M
Hypertension among adults (15-49 years)- Blood pressure slightly above normal (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)[3]	7.4	9.9	6.7	10.4
Blood Sugar Level among Adults (age 15-49 years) - high (>140 mg/dl) (%)[3]	5.8	7.6	5.8	8

SERVICE DELIVERY

	Gujarat	India
Proportion of institutional deliveries out of total reported deliveries (%)[4]	99.5	94.5
Deliveries conducted at Public Institutions out of total Institutional Deliveries (%)[4]	38.3	67.9
Percentage of currently married women (15-49 years) who have their need for family planning satisfied by any modern methods (%)[3]	43.1	47.8
Total unmet need for Family Planning among currently married women (15-49 years) (%)[3]	17	12.9
Children aged 12-23 months fully immunized (BCG, measles, and 3 doses each of polio and DPT) (%)[3]	50.4	62
Children with diarrhoea in the last 2 weeks who received oral rehydration salts (ORS) (%)[3]	46.2	50.6

HEALTH DETERMINANTS

	Gujarat	India
Households with an improved water drinking source (%)[3]	90.9	89.9
Households using improved sanitation (%)[3]	64.3	48.4
Women who consume alcohol - 15-49 years (%)[3]	0.3	1.2
Men who consume alcohol - 15-49 years (%)[3]	11.1	29.2
Women who use any kind of tobacco (%)[3]	7.4	6.8
Men who use any kind of tobacco - 15-49 years (%)[3]	51.4	44.5
Households using clean fuel for cooking (%)[3]	52.6	43.8

EQUITY

Children aged 12-23 months fully immunized (BCG, measles, and 3 doses each of polio and DPT) (%)[3]

Residence
- State average: 50.4
- Rural: 50.4
- Urban: 50.4

Sex
- Female: 52.2
- Male: 48.9

Caste/tribe
- Others: 49.3
- OBC: 51
- ST: 55
- SC: 50.8
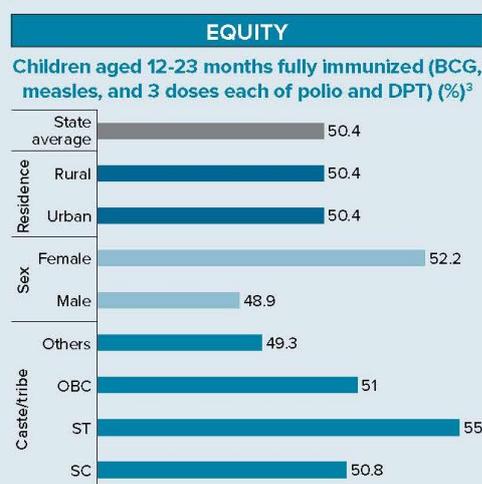
▼ *Arrow indicates state performance better than the national average*
Source: [1]Sample Registration Survey (SRS) 2018, [2]Registrar General of India (RGI) Statistical Report (SRS) 2018, [3]NFHS 4 (State Fact Sheets & State Reports), [4]HMIS 2019-20 (up to March), [5]QPR NHM MIS Reports (As on 30.06.2020)
[*]As per WHO, TB case notification rate is defined as number of new and relapse TB cases notified in a given year, per 100,000 population

Towards Universal Health Coverage: Ayushman Bharat Health and Wellness Centres

Source: (National Family Health Survey 5, 2019)

Figure 7 Health Factsheet of Gujarat, NFHS data

Operationalization of AB-HWCs in the State[6]

Numbers indicate operational AB-HWCs[6]
■ Aspirational Districts

Demography			
Total Population[7]	Crore	6	
	Rural	57.4%	
	Urban	42.6%	
SC/ST Population[7]	SC (Crore)	0.4 (6.7%)	
	ST (Crore)	0.89 (14.7%)	
Literacy Rate[7]	State	Female	69.68%
		Total	78.03%
	India	Female	64.64%
		India	72.99%
Total Fertility Rate (TFR)[2]	State	2.1	
	India	**2.2**	
Crude Birth Rate (CBR)[2]		19.7	
Projection (2021) of Elderly Population[7]		10.2%	

Finance[5]			
Per capita Government Health Expenditure	State	1,429	
	India	1,418	
Out of Pocket expenditure as share of Total Health Expenditure	State	48.1%	
	India	58.7%	

Coverage

Availability of primary health care facilities against population[9]

Disease Burden[8]

- 11.7%
- 31.6%
- 56.7%

■ Communicable, Maternal, Neonatal and Nutritional Diseases
■ Non-Communicable Diseases
■ Injuries

SHC: 8055 / 9166
PHC: 1308 / 1476
UPHC: 640 / 318

■ Required ■ In position

Source: [2]Registrar General of India (RGI) Statistical Report (SRS) 2018, [6]AB-HWC Portal, [7]Census 2011 (for literacy rates-refer country/ state specific census 2011 profile), [8]Disease Burden trends in the State of India (1990 to 2016), [9]Rural Health Statistics 2018-19 [10]National Health Accounts Estimates for India for 2016-17

Towards Universal Health Coverage: Ayushman Bharat Health and Wellness Centres

Source: (National Family Health Survey 5, 2019)

4.1.2   Healthcare Delivery System in Ahmedabad

The Indian health system is a complex mix of public and private health service providers. The health system has a predominance of private healthcare providers both for profit and

non-profit service deliveries along with public healthcare providers (GIDB, 2022). Healthcare services can be further divided into 3 tier structure—primary, secondary, tertiary levels of services.

AMC mainly regulates the public health system and guarantees the health and well-being of its citizens by offering promotive, preventive and curative healthcare services across the 3 tier structure. The primary healthcare delivery largely focuses on these areas:

1. Family planning
2. Maternal health including pre and postnatal care
3. Child immunisations
4. Primary healthcare services for all diseases, OPD basis
5. Health education and counselling.
6. Preventive and curative healthcare through national programmes around communicable diseases (HIV-AIDS, tuberculosis, vector borne diseases) and non-communicable diseases (hypertension, diabetes).

The outreach for these services are largely being carried out under National Health Mission (NHM) through Ministry of Health and Family Welfare (MoHFW) and Integrated Child Development Services (ICDS) under the Women and Child Development (WCD) department. At primary and community level, Ahmedabad has about 2129 *anganwadis* (mother and childcare centre run under ICDS programme), 40 Primary Healthcare Centres (PHCs), 234 Sub Centres (SCs), 81 Urban Health Centres (UHCs). At secondary and tertiary level Ahmedabad has 9 Community Health Centres (CHCs), 12 maternity homes in conjunction with UHCs, 3 referral hospital and 5 AMC run hospitals for tertiary care (AMC, 2022). Some of the CHCs are operated and maintained by the state government of Gujarat while others are being operated by the health department of AMC. AMC along with empanelled NGOs is managing the UHCs. The UHCs are present in every ward making healthcare services available to all (Ahmedabad City Health Plan, 2013).

Apart from this, private healthcare facilities such as clinics, dispensaries, hospitals, nursing homes and medical testing laboratories are available in the city largely run by individuals or group of doctors. More than 60% of the health sector in Gujarat is under the private sector. Studies suggest that out of 2528 allopathic hospitals in the health department, 2025 were under private management (GIDB, 2022). Discussions during the stakeholder consultation also revealed that citizens tend to opt for private healthcare services due to a lack of trust in the capabilities of institutional service delivery in public facilities (National Statistical Office, 2019). Being the commercial capital of the state, Ahmedabad's health infrastructure not only caters to the people of the city but also those coming from other cities and states.
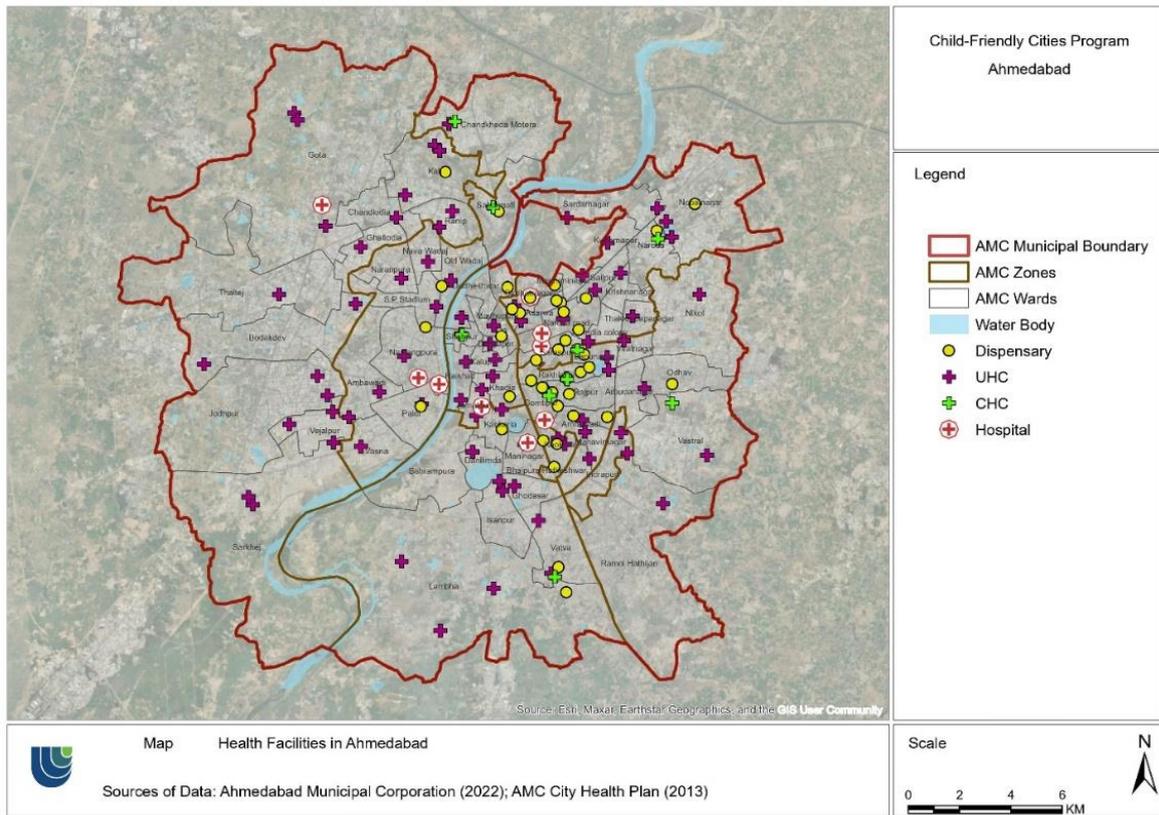
Source: (Ahmedabad Municipal Corporation, 2022)

Despite the availability of extensive public and private healthcare infrastructure, Ahmedabad falls short of adequate coverage as per the National Urban Health Mission (NUHM) standards.

Figure 9 Adequacy of public healthcare facilities according to NUHM standards in Ahmedabad
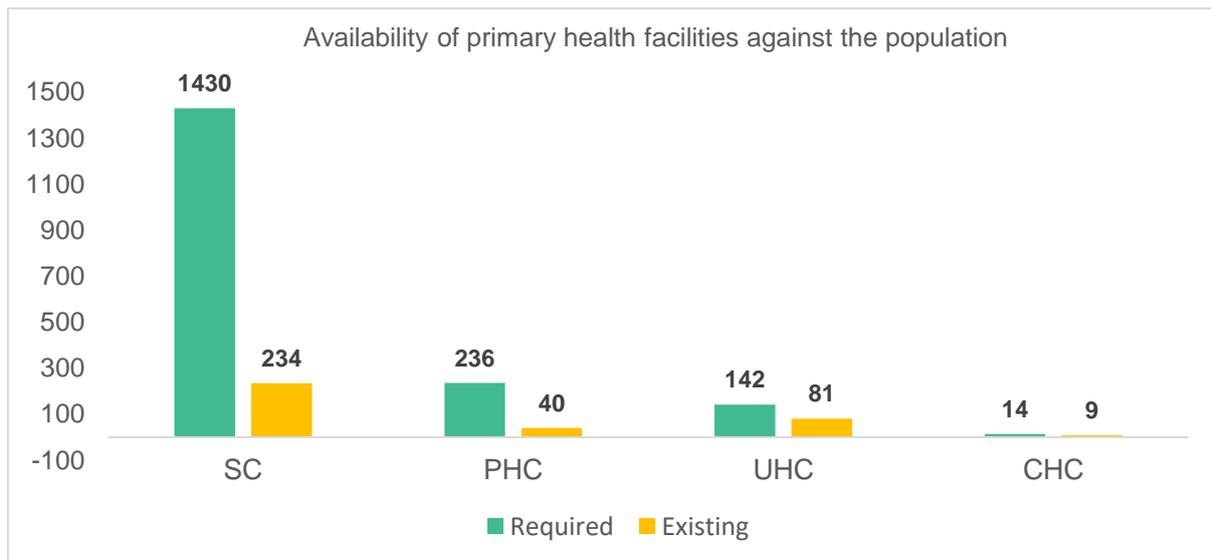
Source: (Ahmedabad Municipal Corporation, 2022)

In the past decade and post COVID-19 pandemic, strengthening the healthcare sector has been on government priority. Efforts are being made to enhance the universal health

coverage by strengthening healthcare infrastructure and accessibility to all especially for the low income group through schemes like Ayushman Bharat, Pradhan Mantri Swasthya Suraksha Yojana (PMSSY), Rashtriya Swasthya Bima Yojana (RSBY), introduction of National Health Mission and many others. However, the utilisation of healthcare facilities remains a concern. In terms of coverage of government healthcare schemes and insurances, it was learnt that by 2019, only about 36% of households in the city were availing/registered with health insurance/financial schemes (National Family Health Survey 5, 2019). This was even lower among the urban poor/vulnerable population (NSO, 2019). The studies indicate that a key reason for this may be a lack of awareness or a preference for private healthcare services. In either case it leads to catastrophic out of pocket expenses on health and fosters a negative cycle of poor health outcomes (Černauskas, 2019).

The impacts of these were significantly observed in the aftermath of the COVID-19 pandemic. Although children were largely spared from direct impact of COVID-19, they have suffered the most due to the overburdened health system compromising lifesaving health services such as immunisation, antenatal care (ANC) and more. During this time, financial constraints faced through loss of work and high health expenditures have pushed families into poverty which indirectly affects children's nutrition, affecting their growth and development (UNICEF, 2022). In the following section we look into the situation of health of children in Ahmedabad.

4.1.3 Status of Children's Health

Though Gujarat has witnessed a significant decline in poverty since 2005 and ranks fourth in economic growth, overall development has been inequitable (Statistics times, 2021). Tribal, coastal and hilly areas still have high poverty levels above the state's average (World Bank Group, 2017). With increasing urbanisation, the urban poverty is also rising which depicts inequitable development in Ahmedabad and other cities across Gujarat.

4.1.3.1 Mortality

While universal primary education, gender equity in primary education and access to safe drinking water have increased, the neonatal mortality and maternal mortality rates have been slow to improve (National Family Health Survey 5, 2019). The high prevalence of malnutrition, poor coverage of full immunisation and child marriage continue to pose a challenge to improving human development outcomes for every child in Gujarat.

Table 3 Shows state Gujarat indicators for child mortality comparing NFHS-4 and NFHS-5

Indicators (per 1000 live births)	NFHS-4	NFHS-5
Neonatal Mortality Rate (NNMR)	26	21.8
Infant mortality rate (IMR)	34	31.2
Under-five mortality rate (U5MR)	43	37.6

Source: (National Family Health Survey 5, 2019)

In Ahmedabad, Neonatal Mortality Rate (NMR) was recorded as 5.9 per 1000 live births for 2021-22 according to AMC, achieving the SDG target way ahead of the state (target for SDG is to reduce NMR to less than 12 per 1000 live births by 2030). Even Infant Mortality Rate (IMR) has reduced overtime to 7.86 in 2021-22 from 13.45 per 1,000 live births in 2009, which is much lower than the state figure of 31 per 1,000 live births (Ahmedabad Municipal Corporation, 2013). According to Medical Certification of Cause of Death (MCCD) data, the leading causes of infant death are dependent on maternal health which may lead to hypoxia, birth asphyxia or due to slow foetal growth, foetal malnutrition or immaturity followed by septicaemia due to infectious and parasitic diseases (Ahmedabad Municipal Corporation, 2013) (ORG- MoHA, 2022). The situation changes as the child outgrows 1 year of age up to 5 years. Here the likely cause of death is due to infections leading to pneumonia or

diarrhoea or fever and injuries. However, the recent mortality data of children under five years of age, was not available at the district level. In addition to infections and prenatal disorders, feeding practices during infancy and growing period as well as the mother's nutritional health during pregnancy have an impact on children's health.

4.1.3.2 Disease Burden in Children

Poor diet and inadequate nutrition in early childhood also leads to deficiencies in essential vitamins and nutrients which weakens children's immunity, increases their risk of morbidity, and can lead to death from common childhood diseases like diarrhoea. Diarrhoea is also largely affected by the unhygienic living condition and poor sanitation practices. It is the third leading cause of death among children under five years of age. It is responsible for nearly 13% of deaths in this age group, killing an estimated 300,000 children in India each year (Million Death Study Collaborators, 2010). 4% of cases in Gujarat were from Ahmedabad district in 2020 (Health Management Information System, 2020). This also points to the importance of having access to safe sanitation services. In comparison to the other top 10 urban districts of the country, Ahmedabad fared well with 1.8% of surveyed children reporting symptoms of diarrhoea (National Family Health Survey 5, 2019).

Figure 10 Comparison of prevalence of diarrhoea in the 2 weeks preceding the survey across 10 districts
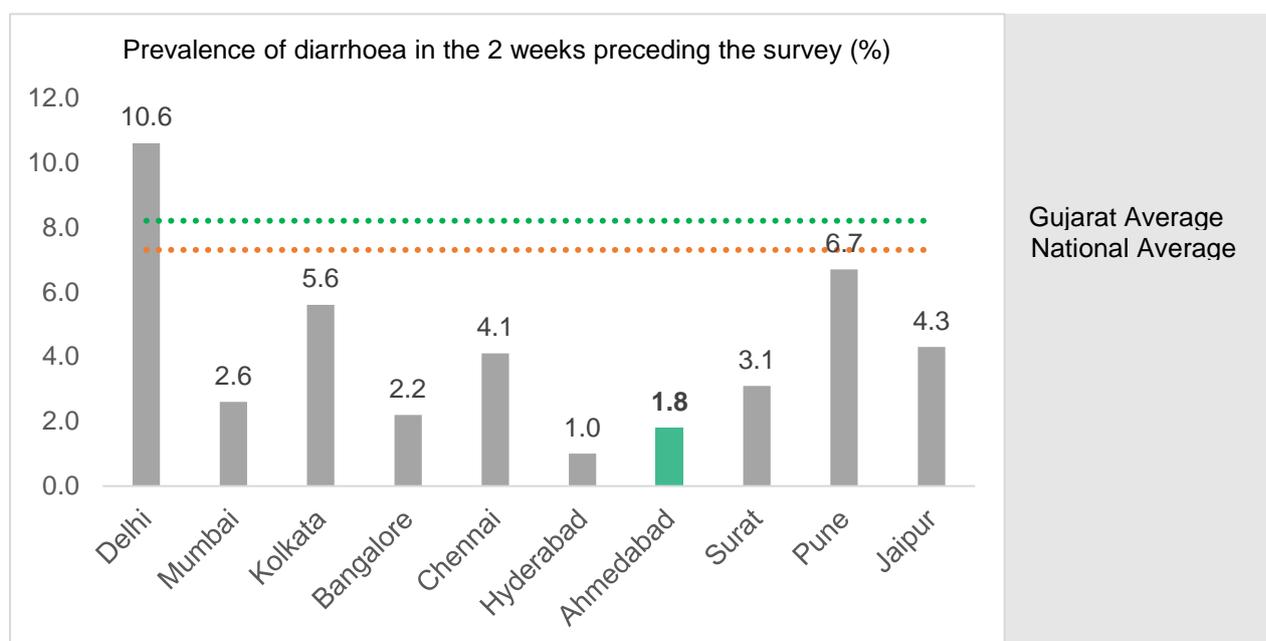
Source: (National Family Health Survey 5, 2019).

This low rate of incidence may in part be attributed to the efforts taken by the city and state to improve access to safe WASH services. Through the steps taken towards improvement of basic infrastructure services and schemes such as Swachh Bharat Mission (SBM), the city has achieved near 100% coverage of WASH services (CRDF,CWAS, CEPT, 2022). This has resulted in a steep downward trend from 9.5% cases of diarrhoea in NFHS 4 to 1.8% in NFHS 5.

Figure 11 Trend and comparison of prevalence of diarrhoea over 5 years in India, Gujarat and Ahmedabad

Prevalence of diarrhoea among children under 5 years (%)

India: NFHS 4 = 9.2, NFHS 5 = 7.3
Gujarat: NFHS 4 = 8.4, NFHS 5 = 8.2
Ahmedabad: NFHS 4 = 9.5, NFHS 5 = 1.8

■ NFHS 4 ■ NFHS 5
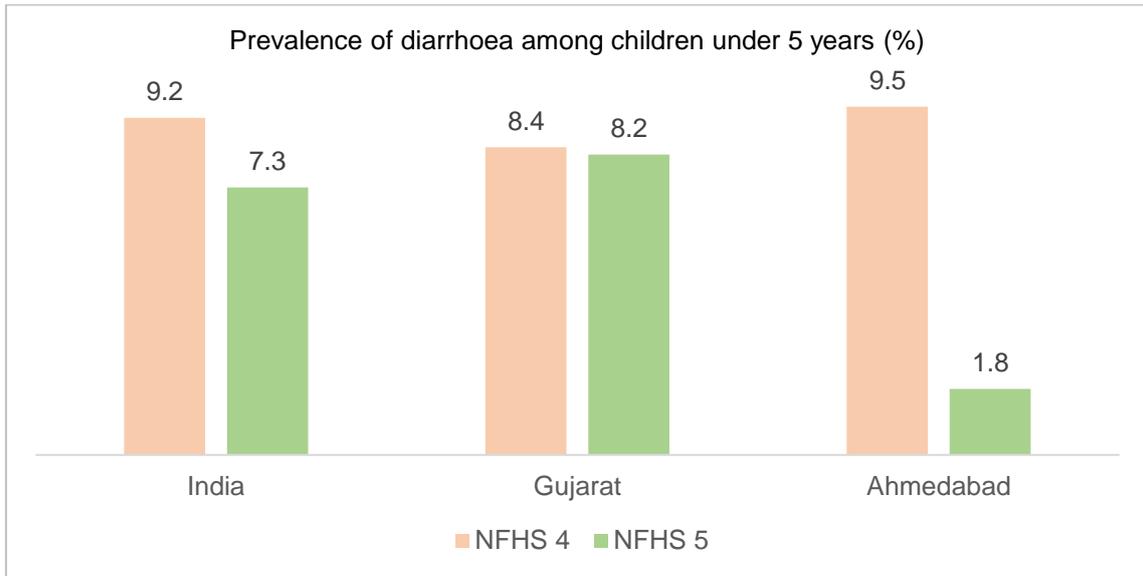
Source: *(NFHS-4, 2014-15)*, (National Family Health Survey 5, 2019).

Figure 12 Coverage of wash facilities in Ahmedabad 2020

Coverage of WASH facilities in Ahmedabad (%)

% coverage of water supply = 98.7
% coverage of toilets = 100
% coverage of sewer connections = 96.4
% coverage of D2D collection = 98.7
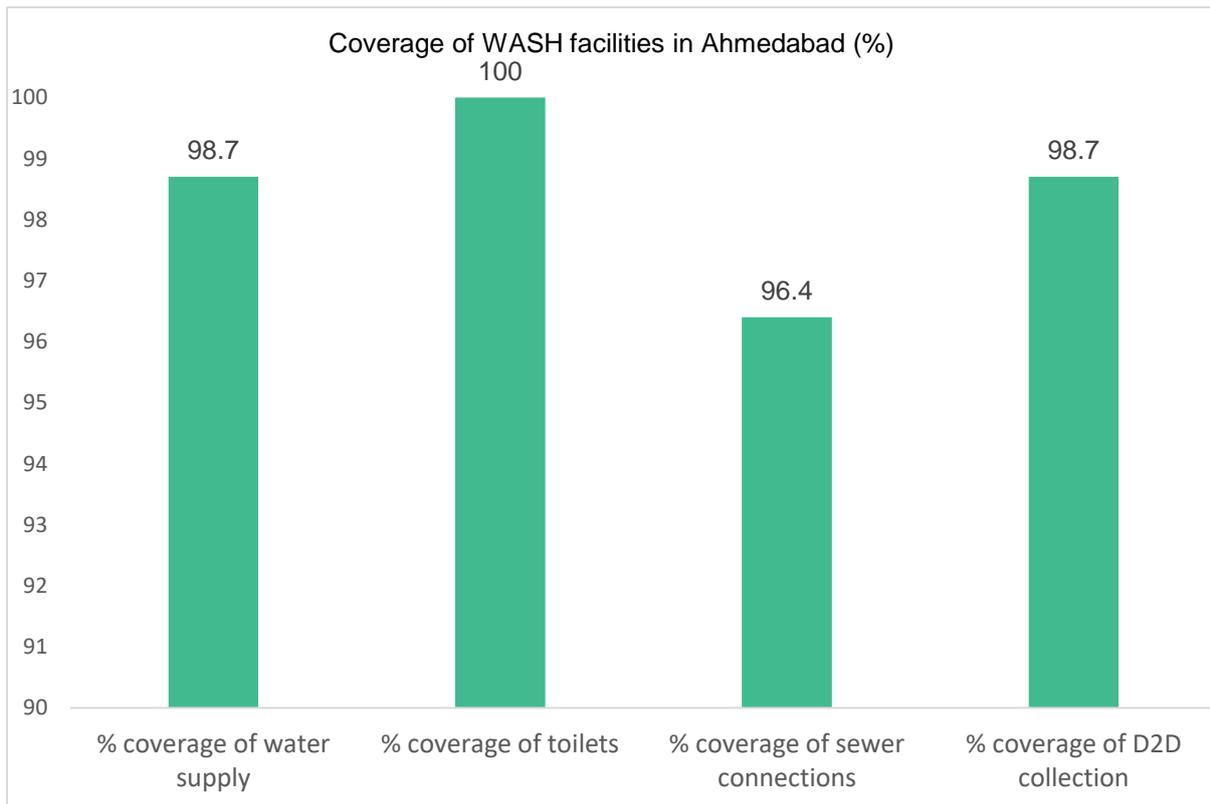
Source: *(CRDF,CWAS, CEPT, 2022)*

Another disease that children are susceptible to is pneumonia. Pneumonia is a form of Acute Respiratory Infection (ARI) that causes death of children worldwide (World Health Organisation, 2022).1% of children under five years of age had symptoms of acute respiratory infection in the 2 weeks preceding the survey (National Family Health Survey 5,

2019). In Gujarat, 15% of pneumonia cases in children under five years of age were from Ahmedabad district (Health Management Information System, 2020).

Figure 13 Prevalence of respiratory infections
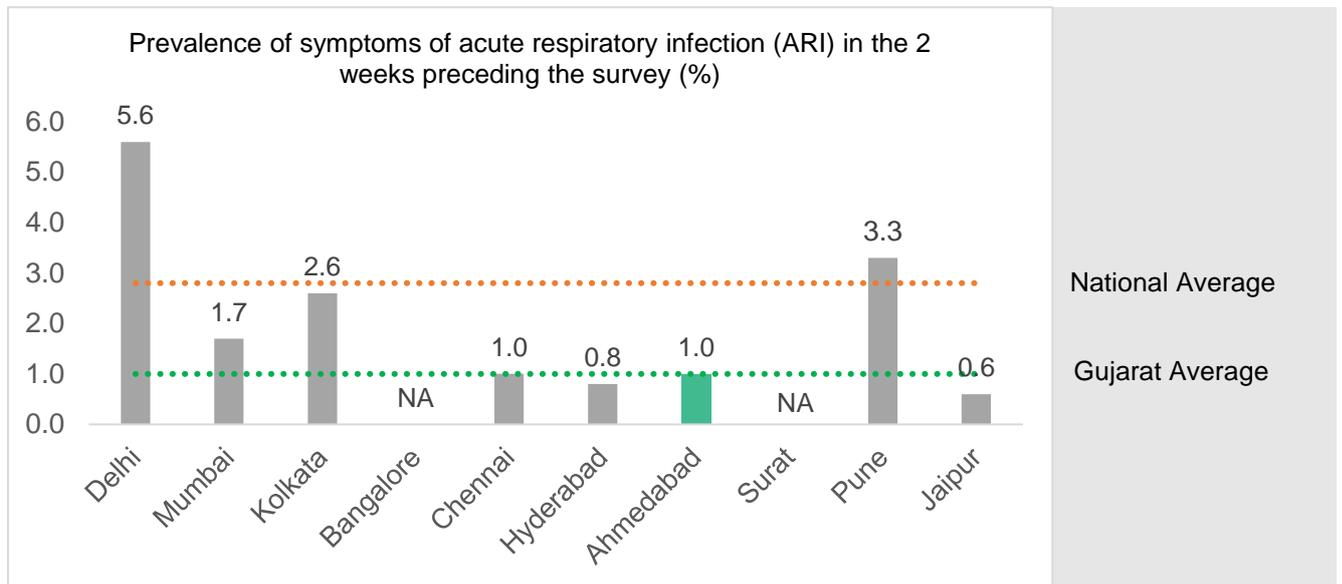
Source: (Health Management Information System, 2020).

In addition to pneumonia, respiratory diseases such as asthma are showing an increasing trend in the city. It was found that among children under five years of age, cases rose from 379 in 2018-19 to 517 2019-20. One of the causes is rising air pollution as Ahmedabad is one of the fastest growing cities in the country (National Family Health Survey 5, 2019). The Air Quality Index of Ahmedabad (AQI) was found to be unhealthy for vulnerable groups (>150 US AQI across the city, November 2022) (SAFAR, 2022). The major contributor here is vehicular pollution followed by surrounding industries and construction activities.

Figure 14 AQI in Ahmedabad, December 2022
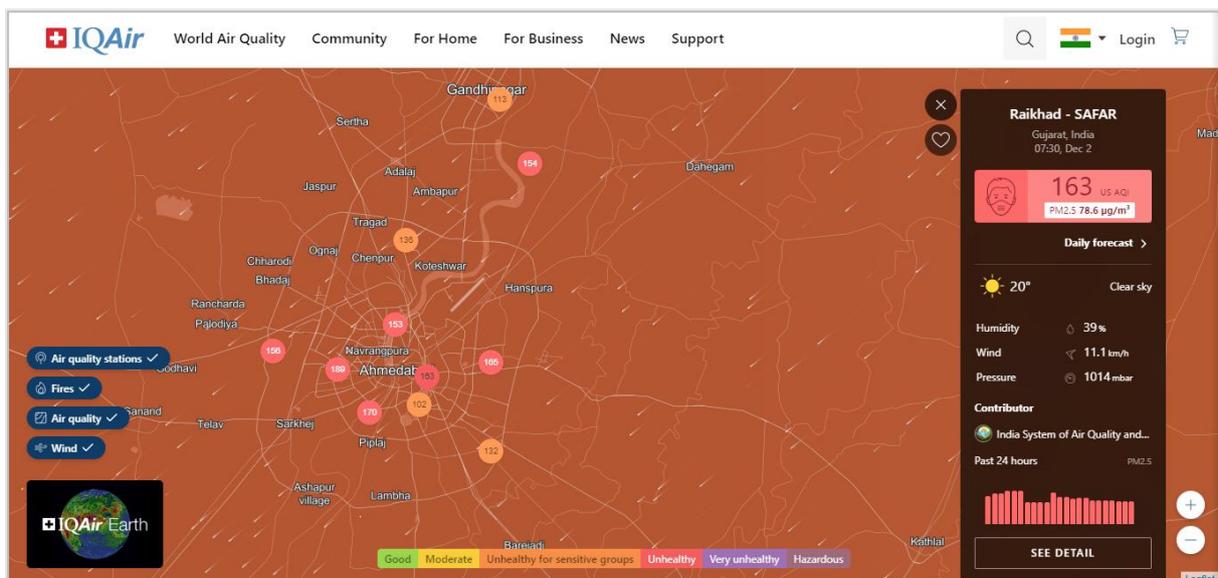
Source: (SAFAR, 2022)

The city also witnessed a rise in cases of measles. It was noted that there were 170 in 2019-20 which has increased from 77 in 2018-19 and 40 in 2017-18. These cases made up 33%

of the total cases from Gujarat and all cases were from Ahmedabad corporation (Health Management Information System, 2020). NFHS data showed that 82.7% of children aged 12-23 months received the first dose of vaccines against measles and 13.2% Children aged 24-35 months received second dose of Measles Containing Vaccine (MCV) (%). The low figures for second dose vaccines can be attributed to low coverage of vaccination services and a lack of awareness on importance of completing vaccine dosage among parents. This can lead to an eventual rise in the spread of Measles.

Cases of vector borne diseases—Malaria, Dengue and Chikungunya—have been on the rise over the last few years due to increase in construction sites, and rainfall. One fourth of the state's malaria cases among children were reported from Ahmedabad in children under 5 years according to HMIS (Health Management Information System, 2020).

Tuberculosis (TB) is the second leading infectious killer after COVID-19 despite being a curable disease (Fact sheet on Tuberculosis, 2021). Risk of getting TB is high in undernourished individuals and likewise TB leads to undernutrition showing a bidirectional relationship between TB and undernutrition (Padmapriyadarsini, 2016). Incidence rate in AMC has declined to 288 per 100,000 in 2022 from 336 of 2019 which is still higher compared to national average of 210 per 100,000 in 2022 (AMC –NTEP programme). Based on discussion with AMC health officials, it was learnt that in the year 2019-20, 391 children under 5 years were diagnosed with TB in AMC comprising nearly 26.5% of the cases reported in Gujarat. The National Tuberculosis Elimination Programme (NTEP) launched by national government works closely with AMC to improve surveillance, active case finding, early diagnosis and treatment initiation in the city with 6 tertiary care units targeting high density areas. Urbanisation and densification are important aspects of higher TB incidence in cities reflecting higher burden in slum areas compared to other parts of the cities (WHO Global TB Report 2022, n.d.).

In terms of HIV, Gujarat is a low prevalence state with estimated prevalence of 0.20%. However, in Ahmedabad the estimated prevalence rate is slightly higher at 0.23% with estimated 14435 people living with HIV (PLHIV) in 2019. It is listed as one of the four high priority districts of Gujarat. Under AMC AIDS Control society (AMC ACS) which is funded by National AIDS Control Organisation (NACO), there are 26 stand-alone Integrated Counselling and Testing Centre (ICTC) located in UHCs and general hospitals which offers testing and counselling services on HIV for all citizens including ANC mothers. Three Anti-Retroviral Therapy Centres (ARTCs) in the district to initiate Anti-Retroviral Therapy (ART) for PLHIV (GUJARAT STATE AIDS CONTROL SOCIETY, 2019).

In 2018-19, 84 out of 159,503 pregnant women in Ahmedabad tested positive for HIV (GUJARAT STATE AIDS CONTROL SOCIETY, 2019). According to an NGO working in Ahmedabad, a total of 5408 children living with HIV (CLHIV) were registered in 2012 in Gujarat. According to them, 95% of CLHIV are from low-income families. 31% of children lost either of their parents to AIDS, and became dependent on their relatives. 40% of children lived with their parents. In 95% of children testing positive for HIV at birth cases, HIV was transmitted through their mothers (GAP-ISRCDE, 2022). Most of them expressed the need for knowledge, social and financial support (Inamdar, S. A., Kosambiya, J. K., & Modi, A., 2021). Discussion with AMC health officials revealed that from April 2022 to November 2022, 26 of the 192 HIV exposed children tested positive for HIV.

4.1.3.3 Vaccination

Immunising children against vaccine-preventable diseases has contributed to reducing childhood morbidity and mortality. Information on vaccination coverage is often recorded in the child's health card along with direct reporting from the mother. All children should ideally receive at least one dose of BCG vaccine, which protects against tuberculosis; three doses of DPT vaccine, which protects against diphtheria, pertussis (whooping cough), and tetanus; three doses of polio vaccine and one dose of measles vaccine.

In Ahmedabad, only 65.2% of children aged 12-23 months received all basic vaccinations. This is an improvement of 16.2% from 2015-16. Of these 89.4% children received majority of their vaccinations in a public health facility. The figure below shows the coverage of status of basic vaccinations among children aged 12-23 months in comparison to other 10 urban districts in the country.

Figure 15 % of children receiving basic vaccinations across urban districts

Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall (%)

National & Gujarat Average overlaps
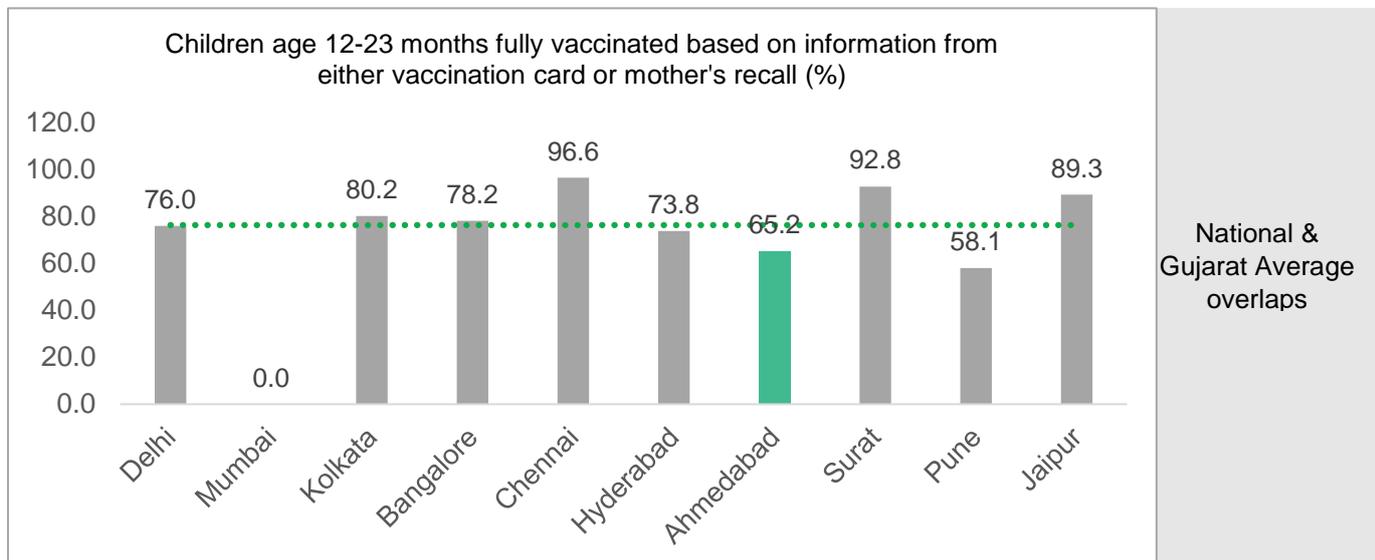
Source: (National Family Health Survey 5, 2019).

Figure 16 Coverage of basic vaccines among children in Ahmedabad

Children age 12-23 months vaccination in Ahmedabad (%)
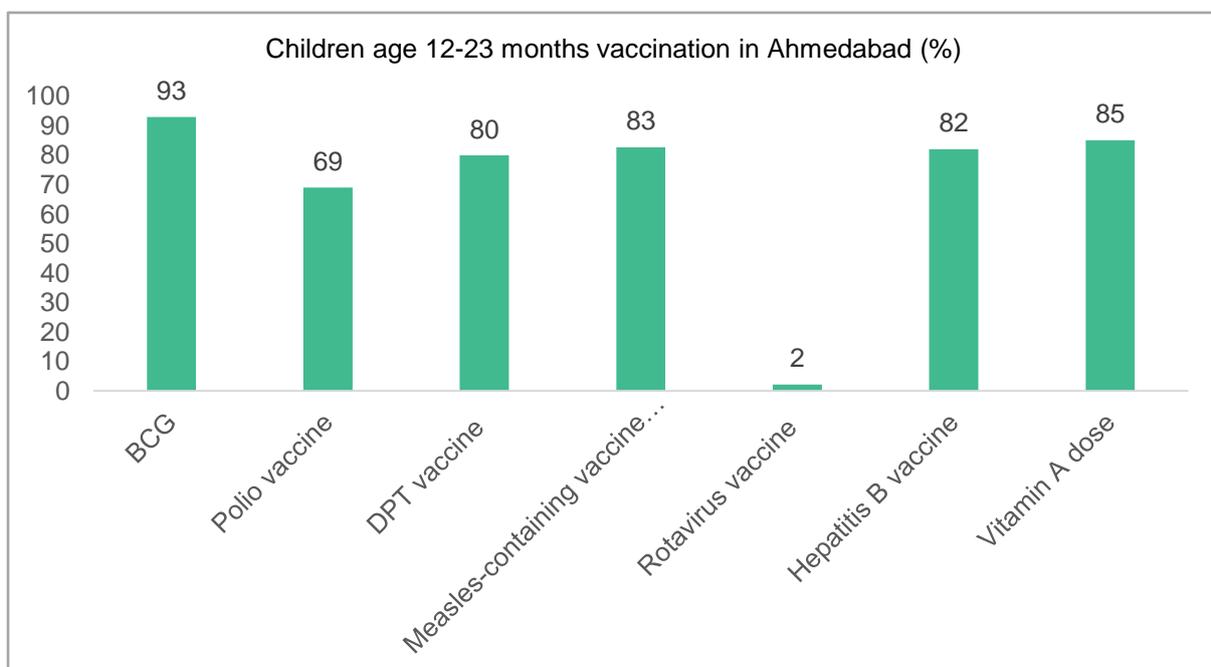
Source: (National Family Health Survey 5, 2019).

Rotavirus vaccine doses are given along with pentavalent or DPT vaccine at 6, 10, 14 weeks after birth of the child according to the universal immunisation programme (UIP). Despite this

the uptake has been 2.2% for 3 doses of rotavirus vaccine compared to 80% for 3 doses of pentavalent or DPT vaccine in the age group of 12-23 months (National Family Health Survey 5, 2019). The reasons for the gap may be attributed to recent introduction of the vaccine in the UIP, and its availability in the public health centres.

85.1% of children aged 9-35 months received vitamin A dose in the last 6 months as per the NFHS data. However, the HMIS data showed that only 57.8% children received the first to ninth dose of vitamin A by the age of 5 years. This indicates a reduction in subsequent follow up visits to the healthcare for vaccination as the child grows beyond 3 years of age. The reasons may be attributed to lack of awareness of follow ups after 1 year of age or lack of interest from parents' end.

The above data reflects pre COVID-19 situation where possible major reasons for low vaccinations were lack of faith in immunisation, fear of side effects, lack of awareness on need of vaccination, lack of information on place and time of immunisation, or lack of availability in the public health facilities. Socio-economic challenges further reduce the immunisation coverage. Low coverage of vaccination is seen in children of daily wage earners or from low-income families. Children of mothers with low educational status were also associated with reduced/low coverage of vaccinations (Gupta, Paridhi & K, Vora & Saiyed, Shahin & Tailor, Parth, 2021). In addition to this, partial immunisation was higher in children getting vaccinated in private healthcare centres compared to public facilities as each dose of vaccination has a user fee along with vaccination cost whereas in public facilities it is free of cost. (Gupta, Paridhi & K, Vora & Saiyed, Shahin & Tailor, Parth, 2021)

4.1.3.4 Mental Health of Children and Adolescents

Mental health for children is a state of well-being that takes into account age-specific and life-course markers, and includes a positive sense of identity, ability to manage thoughts and emotions, capacity to build relationships, and the ability to learn and acquire education (UNICEF, 2021). It is a continuum in which children and young adults will probably go through varying degrees of positive mental health and wellbeing throughout their lives while some may be faced with mental health issues (UNICEF, 2021). In children, mental health is linked to caregivers and parents who play a critical role in their lives.

In India, the prevalence of any mental morbidity was found to be 7.3% among the adolescent age of 13-17 years which was high in urban (13.5%) compared to rural (6.9%) areas. Anxiety and mood disorders were the most frequent mental disorder (Gururaj G, Varghese M, Benegal V, Rao GN, Pathak K, Singh LK, Mehta RY, Ram D, Shibukumar TM, et al, 2016). Children in their growing age need nurturing and support from the family and society. Social structure and immediate environmental conditions around children determines how a child's future will be shaped. The COVID-19 pandemic has pushed everyone's limits, causing a rise in mental disorders. This has become a major topic for discussion highlighting the need for mental health as an important public health issue. It has been shown that due to mental disorders children can have difficulty in transitioning to adult life; sequentially affecting the social, financial, legal and health aspect of the individuals (Copeland WE, Wolke D, Shanahan L, Costello EJ., 2015). Specifically, adolescence is the age of vulnerability and opportunities. To give them all the opportunity to grow and thrive, it is essential to let them have their voices heard, be represented or asked upon to address their needs. It has also been seen that prevalence of mental disorder is highest among the poor urban population.

Adolescent Friendly Health Services (AFHS)

Investing in adolescents aged 10-19 years is essential as they are major contributor to the nation's growth as responsible citizens (UNICEF, 2022). Focus is essential not only on the first decade of life but also the second decade to have a thriving young population. In 2013, India included Adolescent health as part of the Reproductive, Maternal, New-born Child (RMNCH+A). Discussions with concerned functionaries and health officials of the AMC showed that Adolescent Friendly Health Services (AFHS) were initiated across AMC in

2010. Despite an increase in 2010, only 12 UHCs currently have this facility. Services are provided to both girls and boys once a week. These beneficiaries are generally identified by an outreach worker for counselling services. One study assessed adolescents' services in the city and showed that utilisation was limited to girls. Services provided mainly focused on counselling on menstrual health, sexual and reproductive health, nutritional deficiencies such as anaemia, and referral for additional services (Dixit, Grishma & Shikha, Jain & Mansuri, Farzana & Jakasania, Arjunkumar., 2017).

Substance Abuse in Adolescents

Among adolescents, tobacco and alcohol are the most common forms of substance abuse across India (Press Information Bureau, 2015). According to the NFHS survey, 33.4% of males and 6.2% females above the age of 15 were using tobacco in different forms in Ahmedabad district. There are regulations in place which prohibit smoking in public spaces, sale near 100 yards of any educational institute, sale to minors under the age of 18, advertisement for cigarettes or tobacco consumption, and more. In addition to these regulations, there is a ban on the production, advertisement and sale of tobacco since 2011—Cigarettes and Other Tobacco Products, Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution and Gujarat Amendment act 2017. Despite this there is high consumption of tobacco products. One study with 1500 school going adolescents from public schools showed prevalence of smokeless tobacco to be as high as 68.4% of which 57.1% were males and prevalence of smoking tobacco was 9.3% of which 8.5% were males. This can largely be attributed to availability of these substances, poor socio-economic status, poor family structures, parents' addiction, and increased stress due to highly competitive education and employment fields. (Parkar, 2015).

Alcohol consumption is 3.6% in men and 0.3% in women above the age of 15 years in Ahmedabad which is lower compared to other states. Ahmedabad falls under the Gujarat Prohibition Act, 1949 that prohibits and punishes manufacturing, purchase, sale or transportation of liquor (Governement of Gujarat, LEGISLATIVE AND PARLIAMENTARY AFFAIRS Department, 2015).

Suicide in Children

Suicide is the second leading cause in the age group of 15-29 years (Cause of Death 2016-2018, 2022). The rate of suicide among children and adolescents in Gujarat was 11.6 per 0.1 million population which was at par with national rate of 11.3 per 0.1 million population in 2020. (National Crime Records, 2020). 11.2% of the Gujarat suicide deaths in 2021, were from Ahmedabad which has increased from 9.9% in 2019 (Team, 2022). The reasons largely point to an increase in unemployment, uncertainty of education, and financial crisis during the pandemic.

The following figure shows the total number of deaths by suicide under 18 years in Ahmedabad city (2019) prior to the pandemic. Here the number of female suicide deaths were higher than males under 18 years of age. When we compare across all ages, male suicide deaths surpass female deaths, reversing the ratio. Another possible reason for high female suicide rates may be due to the practice of child marriage which was nearly 17.5% according to NFHS 5 (National Family Health Survey 5, 2019).

Figure 17 Rate of suicides by minors (%), 2019

Gender wise % of suicide deaths under 18 years of age to the total number of suicide deaths, 2019

	Delhi	Mumbai	Kolkata	Bangalore	Chennai	Hyderabad	Ahmedabad	Surat	Pune	Jaipur
Male	7%	6%	13%	4%	2%	5%	3%	4%	5%	5%
Female	19%	15%	10%	11%	8%	18%	15%	16%	14%	10%
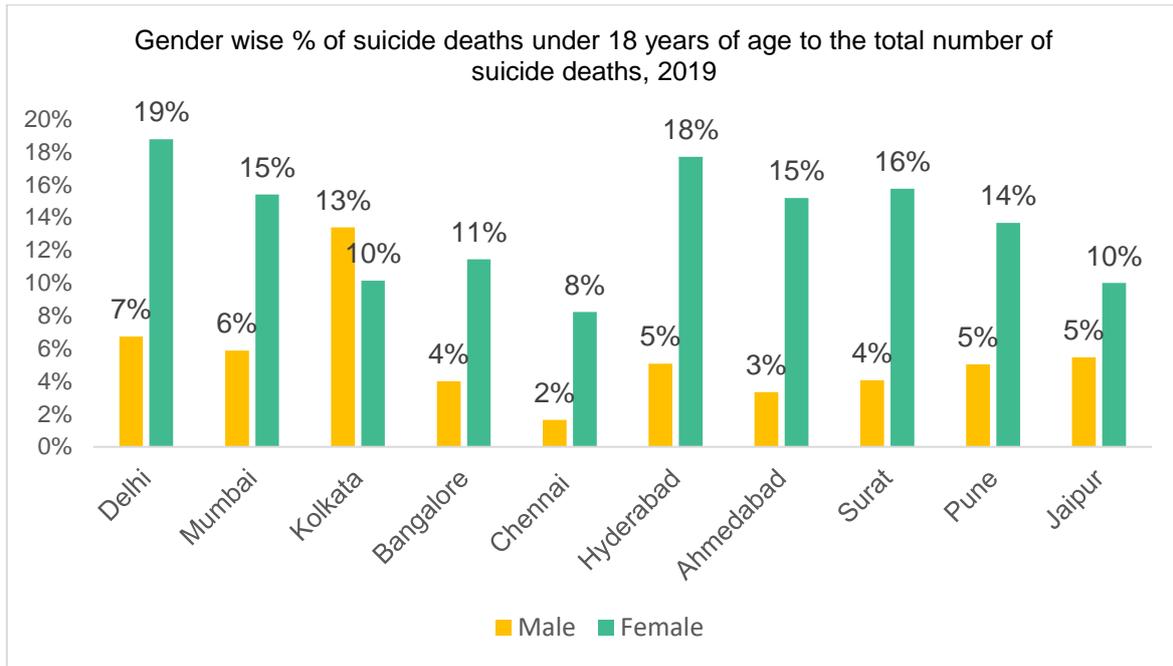
Source: (National Crime Records Bureau, 2022)

Figure 18 Gender wise suicide rates (under 18 years) across urban districts

Gender wise total number of suicide deaths across all ages

	Delhi	Mumbai	Kolkata	Bangalore	Chennai	Hyderabad	Ahmedabad	Surat	Pune	Jaipur
Male	1693	112	276	1424	1827	541	539	536	833	311
Female	730	396	69	655	632	113	224	254	183	130
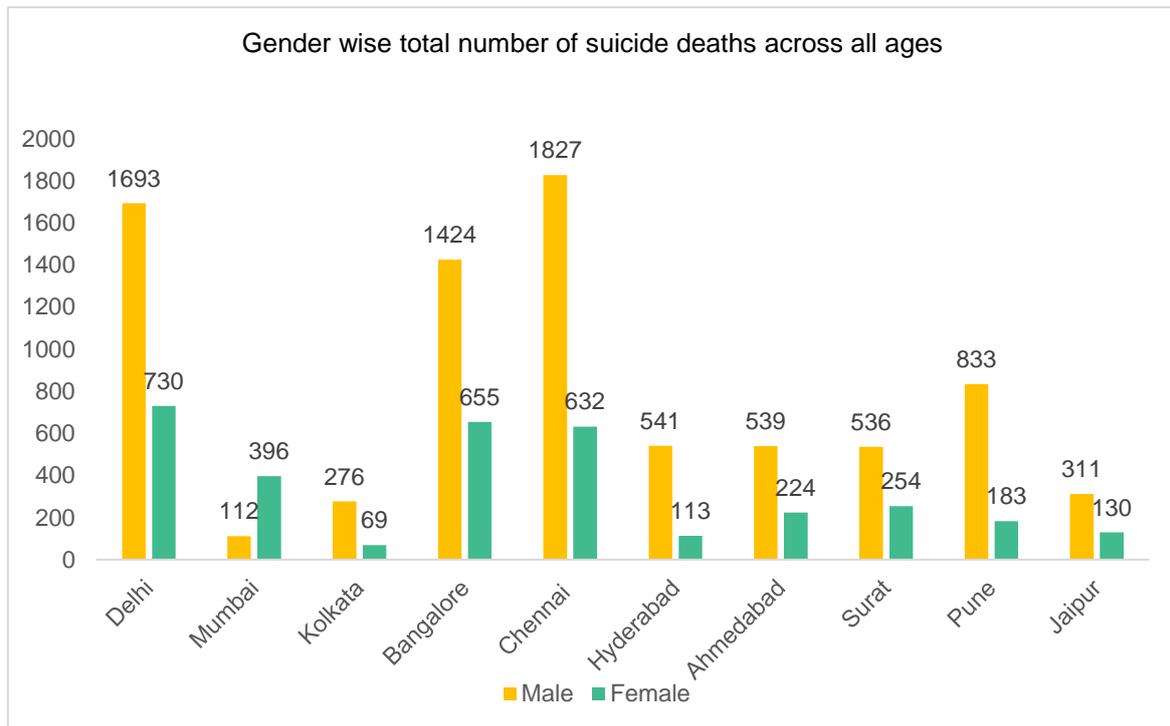
Source: (National Crime Records Bureau, 2022)

4.1.3.5 Disability Among Children

According to the 76th round of the National Sample Survey (NSS) conducted in 2018, percentage of persons with disabilities was 2.2% with a higher prevalence in men as compared to women. The major cause of locomotor, visual or hearing disability was mainly diseases followed by burns and injury across India.

Prevalence of disability in general population across all age groups in Gujarat was about 1.5%. Of those disabled persons, 36.7% were disabled since birth which was higher than the national average of 28.3%. The literacy rate in disabled person was only 60% with 67.5% males and 50.1% in females (above the age of 7) and only 30% of them had a certificate of disability. (Ministry of Statistics and Programme Implementation, 2021)

According to the survey, prevalence of locomotor disabilities was about 0.9% in Gujarat while that of visual, hearing, speech and language disability, mental retardation/intellectual disability, mental illness ranged from 0.1 to 0.2%. Of these about 87% disabled persons had consulted a doctor regarding the disability, about 4% consulted persons other than a doctor and 4% did not take any treatment due to lack of availability and constraints of affordability.

According to the UDISE 2021 report, there are 4591 special needs students enrolled in Ahmedabad city schools. The overall number of children with disabilities is understated and will be higher than this (UDISE + Data Sharing Portal, 2022).

The following figure shows the segregated prevalence across various specially abled conditions according to the census 2011 among children 0-19 years. Here we see the predominance of vision and hearing disability. To reduce this, the government has introduced programmes such as National Programme for Control of Blindness and Visual Impairment (NPCBVI) and National Programme for the Prevention and Control of Deafness (NPPCD). These programmes have preventable measures such as administering antibiotic eye ointment to every new-born along with the supplementation of 9 doses of Vitamin A, immunisation schedule, screening of school going children for refractive errors, hearing issues or deafness, and more (Ministry of Statistics and Programme Implementation, 2021).

Figure 19 Distribution of specially abled conditions in children
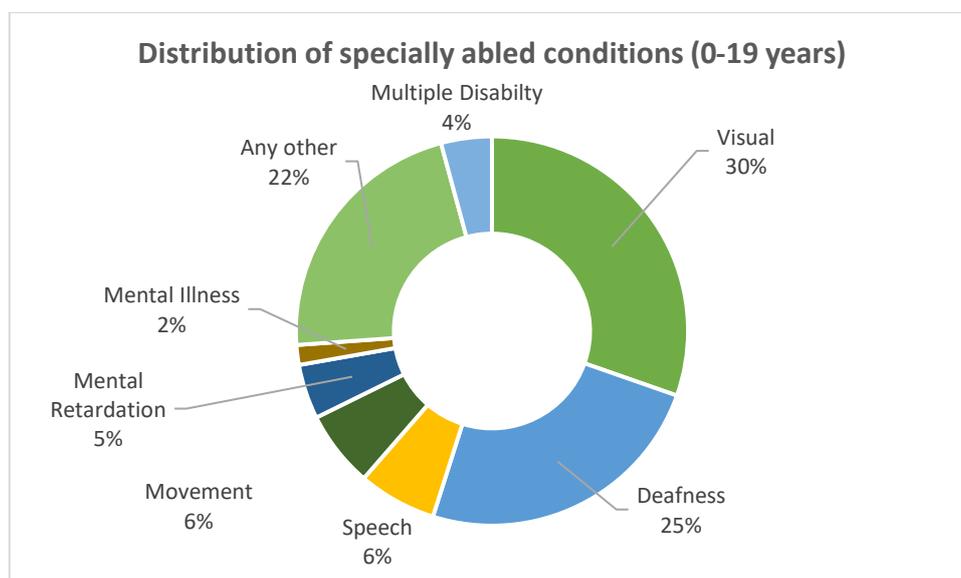
Source: (Census of India, 2011)

Experts from the stakeholder meeting agree that it is crucial to address the problems that children with disability face. Children with special needs require extra infrastructure support (like ramps), and tools as per their requirement like wheelchairs for mobility, hearing devices for the deaf, or walking sticks for the blind. Additionally, they may also require counselling in order to carry on with daily activities or even pursue basic education. Often children with disabilities may experience social isolation, which in turn can raise dropout rates.

Rashtriya Bal Swasthya Karyakram (RBSK)

In an effort to address child health issues from an early stage, the Rashtrya Bal Swasthya Karyakram (RBSK) was launched under the National Health Mission (NHM). The initiative intends to screen children from 0-18 years for the four Ds (Defects at birth, Diseases, Deficiencies and Development delays) covering 32 health conditions. Children diagnosed with health conditions are referred to district hospitals, for management of the condition along with follow up. All services are free of cost which includes cardiac surgeries, cleft lip repair, provision of hearing aids and more. The programme has screening right from when the child is born for any defects, or in school and by outreach teams. According to the AMC functionaries, there are trained mobile health teams in the AMC to screen children under this programme. After the screening, children are referred to 2 District Early Intervention Centres (DEICs) – state owned Civil Hospital Ahmedabad and PPP based Health and Care Foundation. Through this programme AMC works closely with Ministry of Women and Child Development. The programme has identified more than 2000 children in the current year (Jan- Nov 2022) from public schools requiring attention.

4.1.4   Child Nutrition

A healthy, balanced diet is essential for a child's survival, development, and health. Children who are well nourished are healthy and have a productive life as adults (UNICEF, n.d.). The first 1000 days after conception are very crucial for the growth of the child. Infant and young child feeding practices and childhood infectious diseases such as diarrhoea, measles, meningitis all have an effect on the nutritional status of the child which can lead to wasting and stunting (Comprehensive National Nutrition Survey (CNNS), 2019). The following sections will dwell into the indicators reflecting on nutritional status of the children such as- breast feeding practices, diet, anaemia and cases of low birth weight babies.

4.1.4.1   Status of Child Nutrition

In terms of nutrition, the situation of children in Ahmedabad reveals a problem of over and undernutrition presented as the 'double burden' of nutrition (Joint child malnutrition estimates- levels and trends, 2021). Childhood undernutrition contributes to several childhood diseases and is a major cause of child mortality. The fifth national family health survey (NFHS), Ahmedabad 2019-2020 indicated:

1. 3% of children between 6-23 months were reported to have received an adequate diet.
2. 34% children are underweight under age five, which takes into account both chronic and acute undernutrition. This maybe largely attributed to poor maternal health, early age pregnancy, poor breastfeeding practices, and/or inadequate diet especially for children up to 2 years of age.
3. 35.5% children under age five are stunted, or too short for their age, which indicates that they have been undernourished for some time.
4. 17.5% are wasted, or too thin for their height, which may result from inadequate diet or a recent illness causing weight loss with 7.4% severe wasting.
5. About 5% children under 5 years are overweight. The fundamental cause of obesity and overweight is an energy imbalance between calories consumed and calories expended.

Figure 20 Shows Nutritional status of children under 5 years in Ahmedabad compared to State and Nation

Nutritional status of Children under 5 years of age (%)

Indicator	India	Gujarat	Ahmedabad
Underweight (weight-for-age)	35.8	39.7	34
Stunted (height-for-age)	38.4	39	35.5
Wasted (weight-for-height)	21	25.1	17.5
Overweight (weight-for-height)	2.1	3.9	4.6
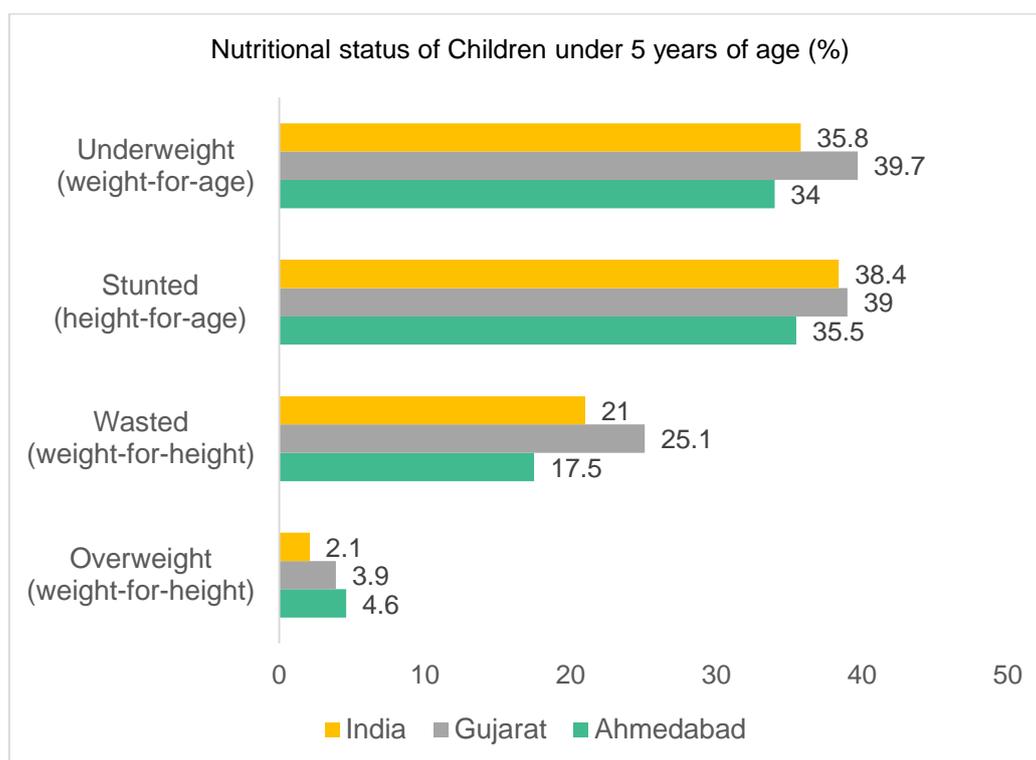
Source: (National Family Health Survey 5, 2019).

Globally, there has been an increased intake of energy-dense foods that are high in fat and sugars; and an increase in physical inactivity due to the increasingly sedentary nature of many forms of work, changing modes of transportation, and increasing urbanisation. In 2019, an estimated 38.2 million children under five years of age were overweight in the world. Once considered a high-income country problem, overweight and obesity are now on the rise in low and middle-income countries, particularly in urban settings (Key Fact on overweight and obesity, 2020). A study conducted on obesity in children in Ahmedabad showed that school going children of age 13-17 showed a prevalence of being overweight (about 8.8%) and obesity (about 2.9%) leading to increase in prevalence of hypertension among the adolescents (Arora, B., & Patel, S.S., 2017).

The nutritional status of children under five years of age were compared based on NFHS survey 4 (2015-16) and 5 (2019-2020) and a rising trend was observed in stunting, wasting and underweight indicators. The stunting in under five year olds' increased from 29.4% to

35% and incidence of underweight has also increased from 31% to 34% while wasting is seen rising from 11% to 17% of children.

Figure 21 Trend of health indicators for children under 5 years of age
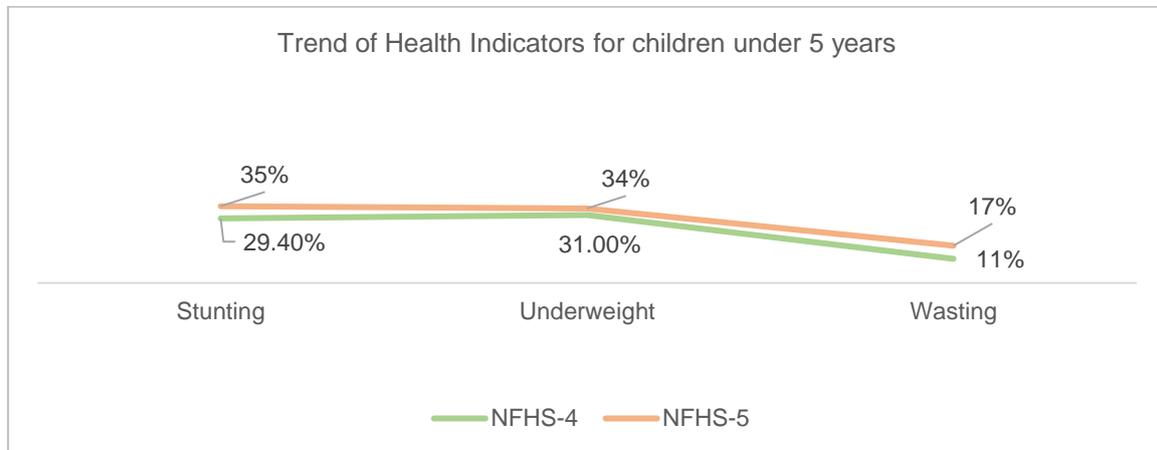
Source: (National Family Health Survey 5, 2019), (NFHS-4, 2014-15)

This is further worsened after the COVID-19 pandemic due to global economic recession and lockdown pushing families into poverty leading to malnutrition (Khandelwal, 2022). Ahmedabad continues to face challenges like high levels of undernutrition among children. When compared across top 10 districts of India, Ahmedabad has the highest number of underweight children under 5 years of age. This is in contrast to the challenge of obesity, which is also rising, as discussed above.

Figure 22 Comparing percentage of underweight among children under 5 years of age across 10 districts
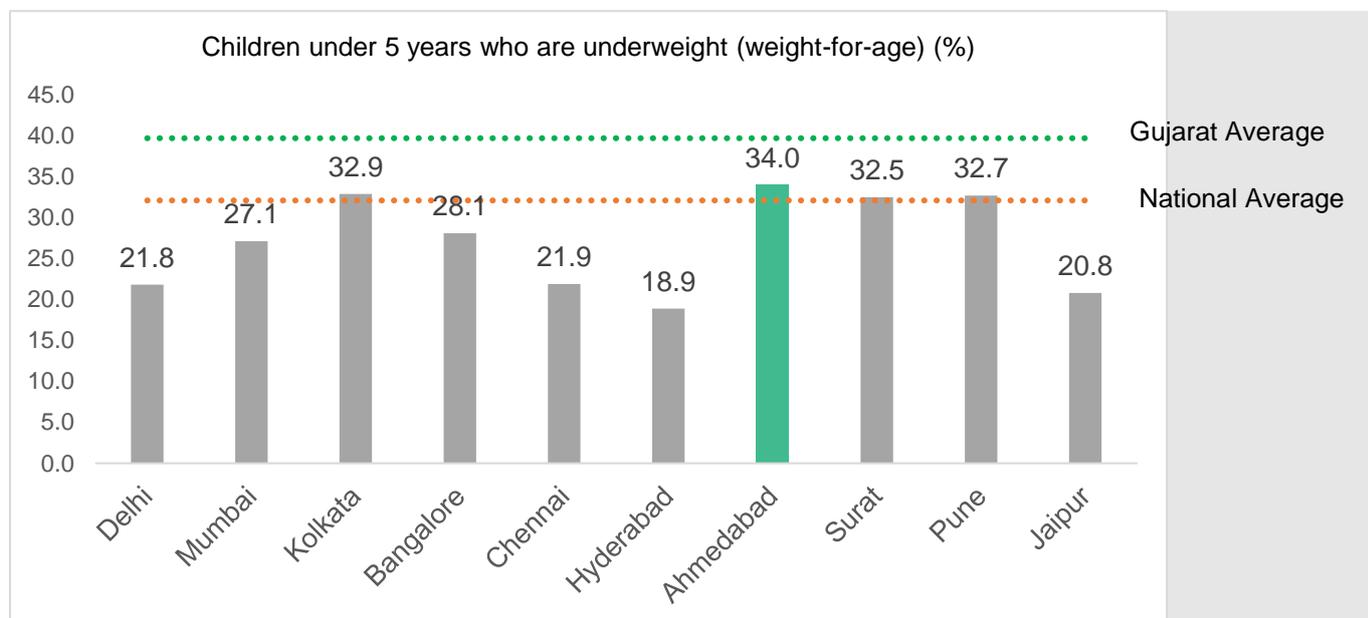
Source: (National Family Health Survey 5, 2019).

This disparity is further widened between the urban rich and urban poor in Ahmedabad. A study conducted among the children of migrant construction workers showed high prevalence of underweight conditions; as high as 50.4% in children under the age of five. The study found that lack of childcare facilities at the worksite, long hours of work along with lack of information among the parents were the main contributing factors affecting nutritional

status of these children. In addition, due to lack of space and privacy at the construction site, breastfeeding was not feasible which affected infant feeding practices (Ravindranath, 2019).

Appropriate practices around breastfeeding, and adequate diet in early age of children, play a vital role in defining their nutrition and overall health as they grow up. Appropriate infant and young child feeding (IYCF) practices include early initiation of breastfeeding within one hour of birth, exclusive breastfeeding in the first six months of life, introduction of solid and semi-solid foods at age six months, continued breastfeeding till age two, and age-appropriate feeding. It is also important for young children to receive a diverse diet from different food groups to take care of the growing micronutrient needs (WHO, World Health Organisation, 2021).

4.1.4.2 Breastfeeding Practices

One of the first steps to be taken to ensure adequate nutrition and immunity building of children is the practice of breastfeeding. Early initiation of breastfeeding is important for both the mother and the child. The first breastmilk contains colostrum, which is highly nutritious and has antibodies that protect the new-born from diseases. Early initiation of breastfeeding also encourages bonding between the mother and her new-born, facilitating the production of regular breastmilk. Thus, it is recommended by experts to exclusively breastfeed infants for the first six months of life, starting within an hour of birth. Continuing to breastfeed exclusively without any other food for the first six months promotes sensory and cognitive development, protects babies against infectious and chronic diseases, and promotes micro and macro-level undernourishment (World Health Organisation, 2021), (UNICEF, 2019).

Despite the crucial nature of the practice, studies show that Ahmedabad performs poorly in breastfeeding practices as compared to the state and national levels. According to the data published by NFHS 5 for Ahmedabad District, only 34% of total children under 3 years of age were breastfed within 1 hour of birth, highlighting the significant gap that is yet to be overcome (National Family Health Survey 5, 2019). The following graph shows the status of breastfeeding among children in Ahmedabad in comparison to other urban districts. It is lowest among other districts and much lower to state and national average as well.

Figure 23 Comparing percentage initiation of breastfeeding within one hour of birth among children under 3 years of age across 10 cities
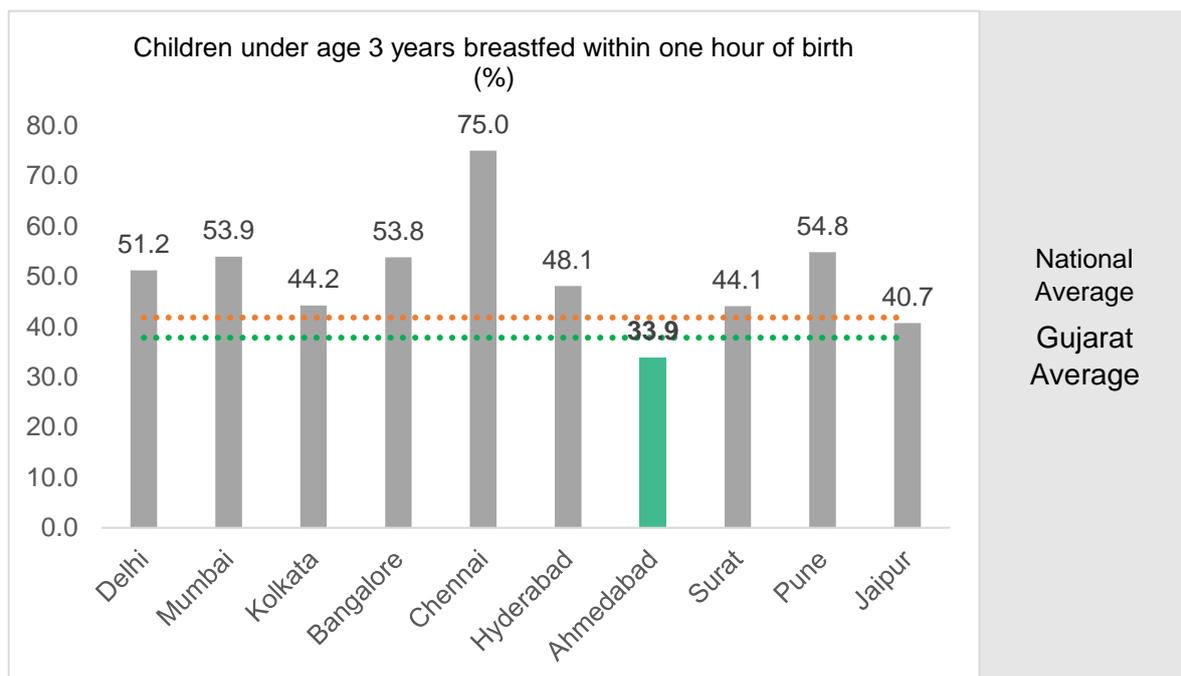
Source: (National Family Health Survey 5, 2019).

While the city has witnessed a rise in institutional deliveries, the alarmingly low statistics on breastfeeding practices point to a concerning situation that has significant potential for negative impact on health of infants. This situation may be attributed to the following:

1. Changing preference of mothers in urban areas for formula feeding over breastfeeding practice.
2. Rise in caesarean-section deliveries which delays breastfeeding within one hour.
3. Lack of awareness in healthcare workers regarding breastfeeding and lack of lactation support which needs to be provided to the new mother in healthcare facility.

4.1.4.3 Adequate Diet (6-23 months)

After the first six months, breastmilk is no longer enough to meet the nutritional needs of the infant. Therefore, complementary foods should be added to the diet of the child. Appropriate complementary feeding must include a variety of foods that ensure the requirements for nutrients are met. Fruits and vegetables rich in vitamin A should be consumed daily. Eating a range of fruits and vegetables, in addition to those rich in vitamin A, is also important (UNICEF, 2019).

Infants and young children should be fed a minimum acceptable diet (MAD) to ensure appropriate growth and development. Without adequate diversity and meal frequency, infants and young children are vulnerable to undernutrition, especially stunting and micronutrient deficiencies, and to increased morbidity and mortality. The WHO minimum acceptable diet recommendation, which is a combination of dietary diversity and minimum meal frequency, is different for breastfed and non-breastfed children (World Health Organisation, 2021), (UNICEF, 2019).

Dietary diversity is a proxy for adequate micronutrient-density of foods. Minimum dietary diversity means feeding the child food from at least four food groups. The cut-off of four food groups is associated with better-quality diets for both breastfed and non-breastfed children. Breastfed children are considered to be consuming a minimum meal frequency if they receive solid, semisolid, or soft foods at least twice a day for infants 6-8 months and at least three times a day for children 9-23 months. Non-breastfed children ages 6-23 months are considered to be fed with a minimum meal frequency if they receive solid, semi-solid, or soft foods at least four times a day (National Family Health Survey 5, 2019), (UNICEF, 2019).

According to the data from NFHS 5 for Ahmedabad District, only 3.6% of total breastfeeding children aged 6-23 months receive an adequate and appropriately nutritious diet (National Family Health Survey 5, 2019). The following graph shows the status of adequate diet among children in Ahmedabad in comparison to Gujarat and India.
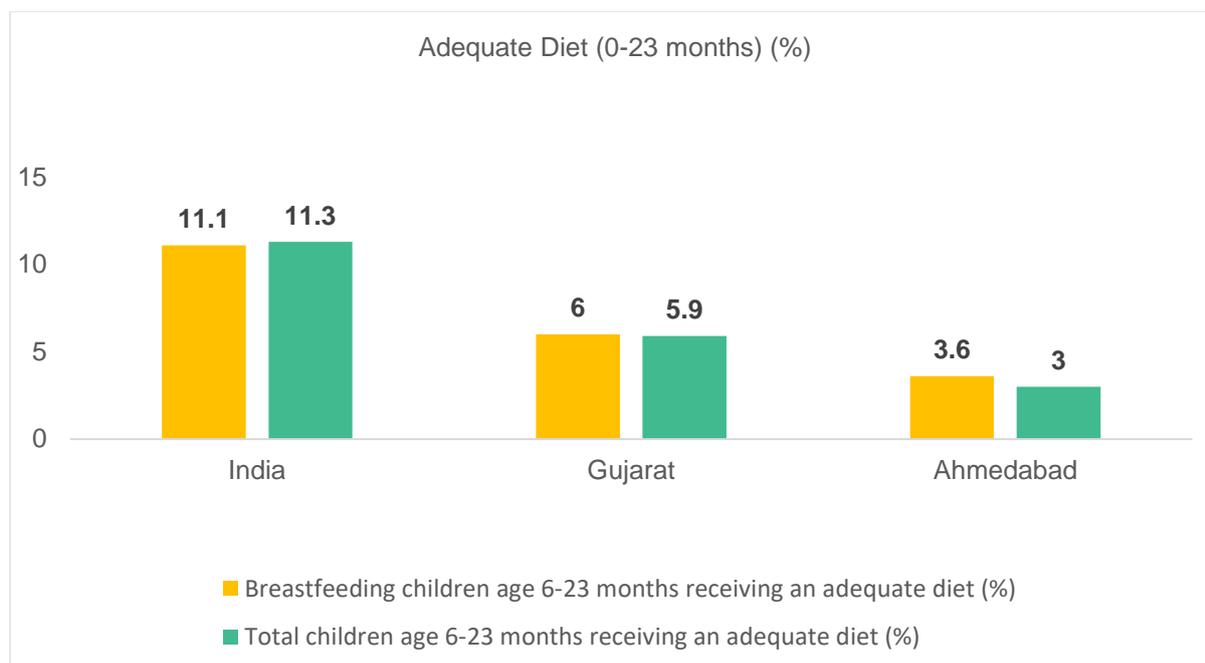
Source: (National Family Health Survey 5, 2019).

A comparison of breastfeeding practices among children aged 6-23 months in the top 10 urban districts in India showed that Ahmedabad and Surat performed poorly to the other cities.

There may be several reasons for this such as, lack of awareness among mothers, inadequate or lack of information sharing by frontline health workers and nurses or even socio-cultural practices (such as practice of discarding colostrum or giving pre-lacteal instead of allowing this nutrition to be given to the infant). Any of these may be a factor for the poor performance based on one of the study understanding breast feeding practices. In addition, poor nutrition in children is also due to infestation of illness or diseases, intergenerational burden of poor nutrition, poor awareness and coverage around immunisation and access to nutritious food (Dave, 2021)

In the long term, the impact of poor nutrition on infants often results in poor physical development of children. The most common among these are stunting, wasting and underweight conditions. Over the last decade, Ahmedabad has seen a rise in incidences of children suffering from such conditions. Stunting in children increased by nearly 6%, wasting and cases of underweight children increased by 3% (National Family Health Survey, 2014-15), (National Family Health Survey 5, 2019).

Source: (National Family Health Survey 5, 2019)

4.1.4.4 Anaemia

Another critical health condition that affects children and mothers alike is anaemia. Anaemia is a condition that is marked by low levels of haemoglobin in the blood. Iron deficiency is estimated to be responsible for about half of all anaemia cases globally, but anaemia can also be caused by malaria, hookworms and other helminths, other nutritional deficiencies, chronic infections, and genetic conditions.

Anaemia in children can result in increased morbidity from infectious diseases and impaired cognitive performance, motor development, and scholastic achievement. Anaemia is a major health problem in Ahmedabad, based on the NFHS 4 in 2015-16, Ahmedabad was one of the 110 hot spot district with highest number of anaemic children between 6-59 months of age. (Bharati, 2020).

The overall prevalence of anaemia in children although has decreased from 76% in NFHS-4 to 72% in NFHS-5 which is still higher than the national average of 67%. Children of mothers who have anaemia are much more likely to be anaemic. Nutritional status of the mother is mentioned in the maternal health section in detail. Although anaemia levels vary according to socio-economic background, diet preference and lifestyle also play an important role. A predominantly vegetarian diet, as seen in Gujarat, tends to fall short on iron content which can be a cause of anaemia. In Gujarat, as opposed to other states, children between the ages of 2 and 4 consume more vegetables and fruits and lower protein rich diet such as lentils and non-vegetarian food (including meat, chicken and eggs) (MoHFW, UNICEF and Population Council, 2019).

4.1.4.5 Low Birth Weight Babies

WHO defines low birth weight (LBW) as weight at birth of < 2500 grams. LBW can be due to prematurity, intrauterine growth retardation or both. It is one of the key indicators that highlights the link between maternal and child health and is also associated with neonatal mortality, developmental delays, and non-communicable diseases (NCDs) in later life (World Health Organisation, 2022). In most cases, anaemic and undernourished women give birth to LBW children. In addition, recent studies show an association of LBW with mothers

exposed to air pollutants. One such study documented increase in premature and LBW babies to mothers exposed to NO2, PM2.5, and PM10 during early pregnancy to mid pregnancy (Niu Z, Habre R, Chavez TA, et al, 2022). Prematurity and LBW are the top reasons of death below the age of one with 36.8% of all causes in this age group (Cause of Death 2016-2018, 2022). According to 2019-20 statistics, Ahmedabad had nearly 13054 LBW babies. They comprised nearly 12% of the total live births in 2019-20 (HMIS data) which was similar to the situation in 2015 (Health Management Information System, 2020). The following figure shows the trend over last 5 years of LBW in Ahmedabad. LBW babies due to their compromised conditions are more vulnerable than other health children. With their immunity still developing, children are susceptible to infections as compared to adults. LBW babies are at a higher risk than other children in their growing period. In the following section we look into the diseases and deficiency among children.

Figure 26 Trend of Low birth weight over 5 years in Ahmedabad city
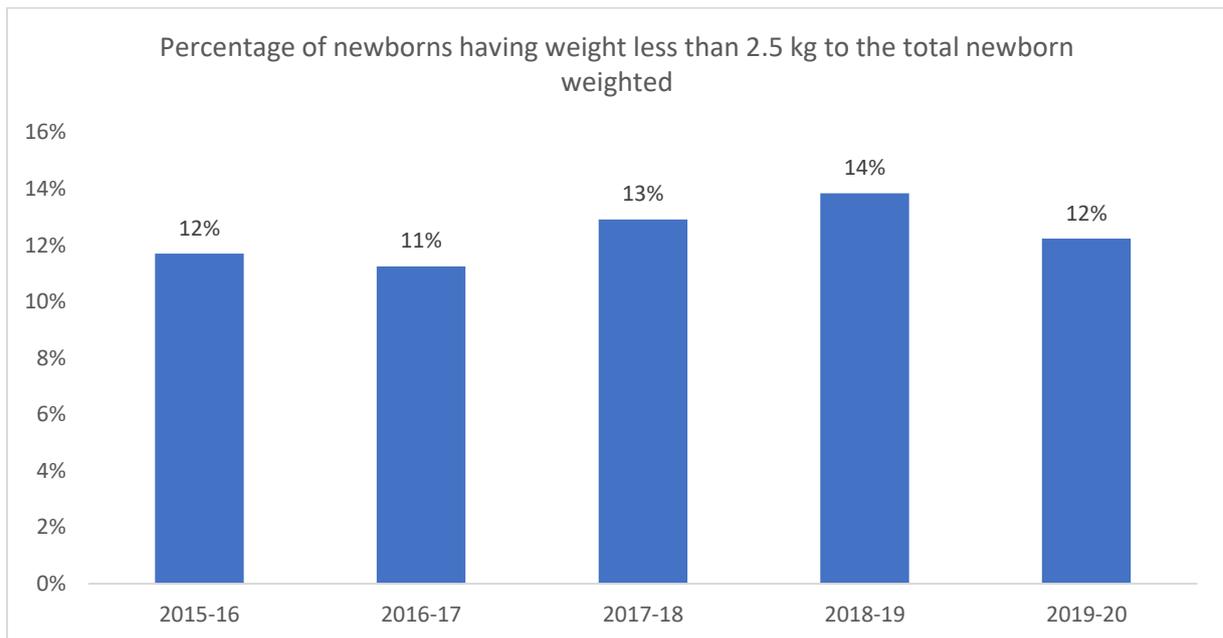
Source: (Health Management Information System, 2020)

4.1.5 Maternal Health

Maternal healthcare services are the key indicators of the functionality of healthcare services in the cities. Maternal health plays a significant role in a child's development from pregnancy and even after the child is born. Functional adequacy in healthcare services are essential for ensuring the health and well-being of mothers, as well as their children. This section describes the nutritional status and health of women in addition to the utilisation of ANC, delivery care, and postnatal care.

4.1.5.1 Women's nutrition

It is important to prioritise women's health alongside children's health. Improved health of women not only reduces maternal mortality but reduces complications during child birth and prevents LBW babies. Low maternal nutritional status leads to LBW babies and is also associated with high prevalence of anaemia in children (Bharati, S., Pal, M., & Bharati, P., 2020).

In Ahmedabad, about half of the women are malnourished, that is either they are underweight or overweight. While the percentage of underweight women aged 15-49 declined from 21.5 percent in 2015-16 to 19.4% in 2019-21, overweight or obese women remained stable accounting at 30% (National Family Health Survey 5, 2019). The following figure shows a comparison across 10 urban districts of India, Ahmedabad outnumbers most of the district in number of underweight women.

Figure 27 Nutritional status of women in Ahmedabad
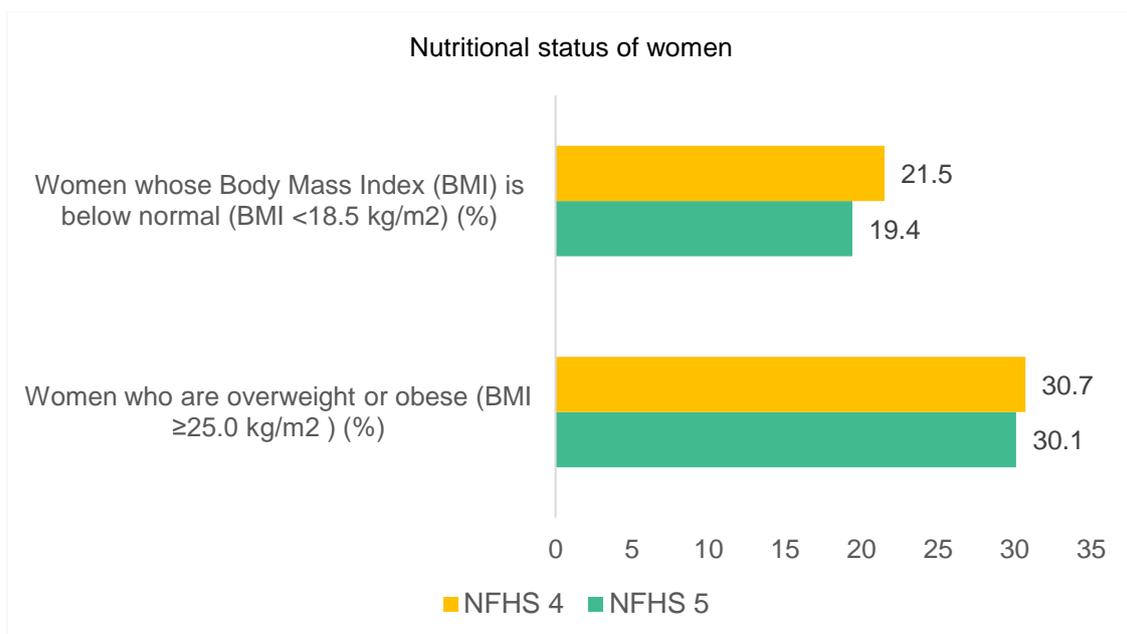
Source: (National Family Health Survey 5, 2019)

Figure 28 Women in Ahmedabad with poor BMI
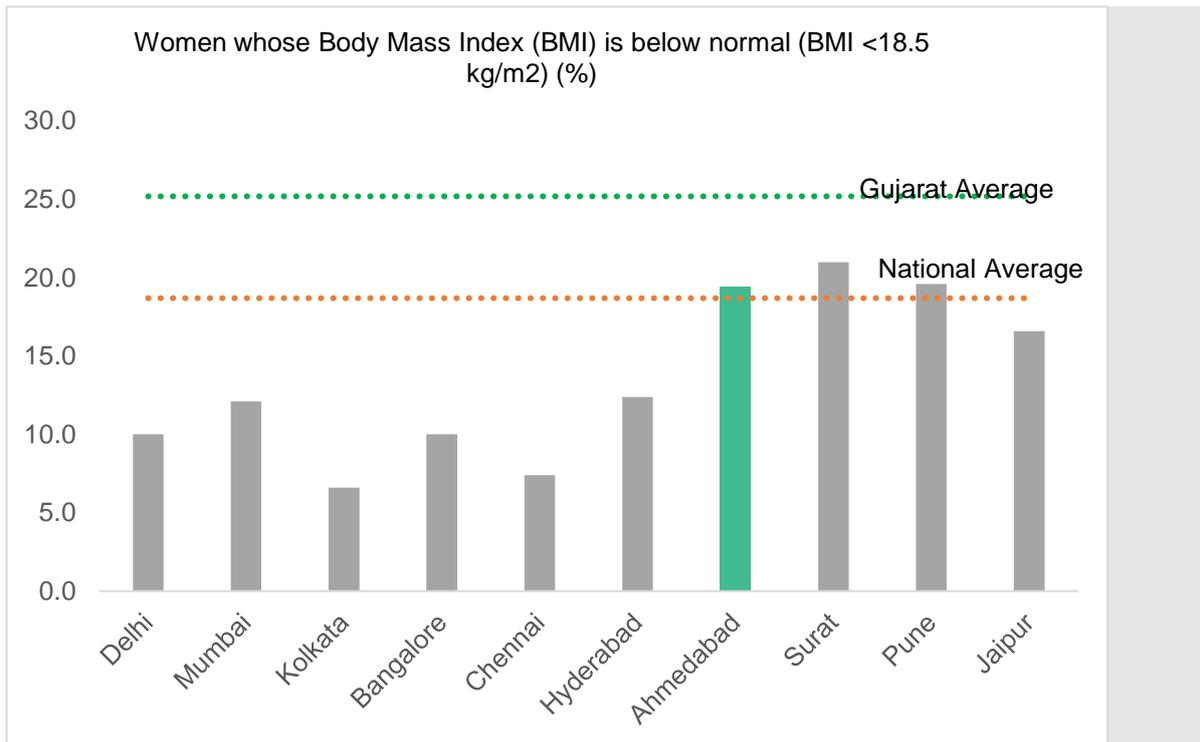
Source: (National Family Health Survey 5, 2019)

4.1.5.2 Anaemia in women

It is well established that healthy women give birth to healthy children. As discussed earlier, one of the major causes of anaemia is iron deficiency. Anaemia is one of the major and important nutritional deficiencies which is a concern for women's health. According to NFHS-5, 63.7% of women in Ahmedabad district between the ages of 15 and 49 were anaemic, and among those who were pregnant, the prevalence of anaemia reached 70%. The situation has worsened since then (National Family Health Survey 5, 2019).

Anaemic level in the adolescent age group (15-19 years) was found to be about 67.3%. Anaemia in adolescent girls or women in reproductive age results in higher risk of preterm delivery or LBW babies and also increases maternal complications and mortality. There are initiatives through state and central schemes to reduce anaemia through provision of iron folic acid supplements to all, specifically to pregnant women. It was found that only 69% and 54.3% pregnant mothers consumed iron folic acid for 100 days and 180 days or more respectively (National Family Health Survey 5, 2019).

Figure 29 (%) women suffering from anaemia across urban districts

All women age 15-19 years who are anaemic (%)
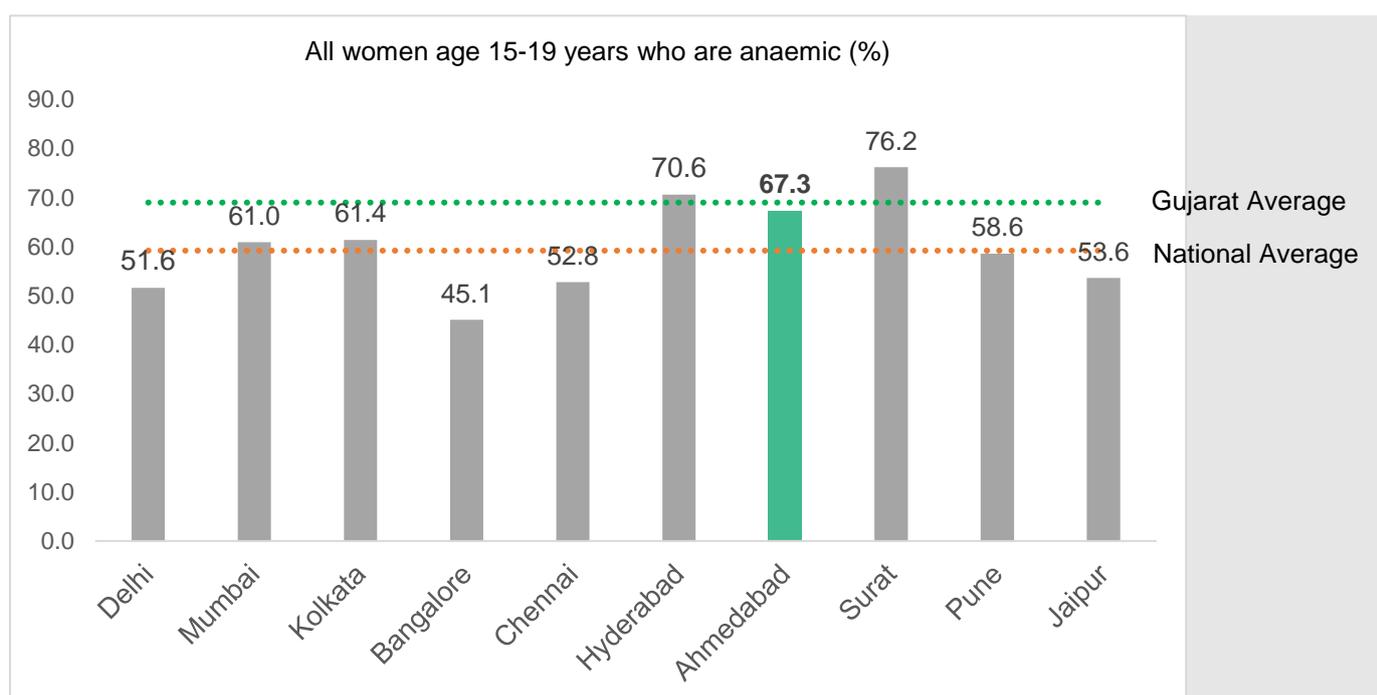
Source: (National Family Health Survey 5, 2019).

4.1.5.3 Pregnancy Care: Antenatal care (ANC), Perinatal care and Postnatal care (PNC)

From the time a pregnancy is conceived to delivery (ANC), process of delivery (perinatal care) and post-delivery up until 42 days after delivery (postnatal care or PNC) consists of pregnancy care which is crucial for both mother and child. 15% of the mothers have complications during pregnancy which can impact the maternal and child health, leading to mortality and morbidity. About 20-30% of the pregnancies are high risk in India. This is attributed to 75% perinatal morbidity and mortality. To reduce complication or to manage all the pregnancies well, it is essential to screen and monitor all ANCs and identify high risk pregnancies during ANC (Maternal Health Division, 2010).

Improved healthcare access and facilities in the public healthcare along with introduction and implementation of schemes such as Janani Suraksha Yojana, Janani Shishu Suraksha Karyakram, Surakshit Matritva Ashwasan (SUMAN), Pradhan Mantri Surakshit Matrutava Abhiyan (PMSMA), Mamta Diwas have improved the maternal mortality ratio, and have reduced out of pocket expenditure for deliveries. This has improved the utilisation of public health facilities from 29.9% to 46.7% over a period of 5 years from 2015-16 to 2019-20 (National Family Health Survey 5, 2019). The average out of pocket expenditure for the family per delivery in public facility in Ahmedabad is the lowest across the 10 urban districts studied in NFHS. It is even lower than the national and state average. This may be attributed to subsidised medicine cost and close proximity of health services and effective implementation of the existing schemes for mother and child services.

Average out-of-pocket expenditure per delivery in a public health facility (INR)

District	Value
Delhi	2,548
Mumbai	5088
Kolkata	1,969
Bangalore	3,633
Chennai	3,951
Hyderabad	2,815
Ahmedabad	1,279
Surat	2,342
Pune	3,677
Jaipur	3,252

National Average

Gujarat Average
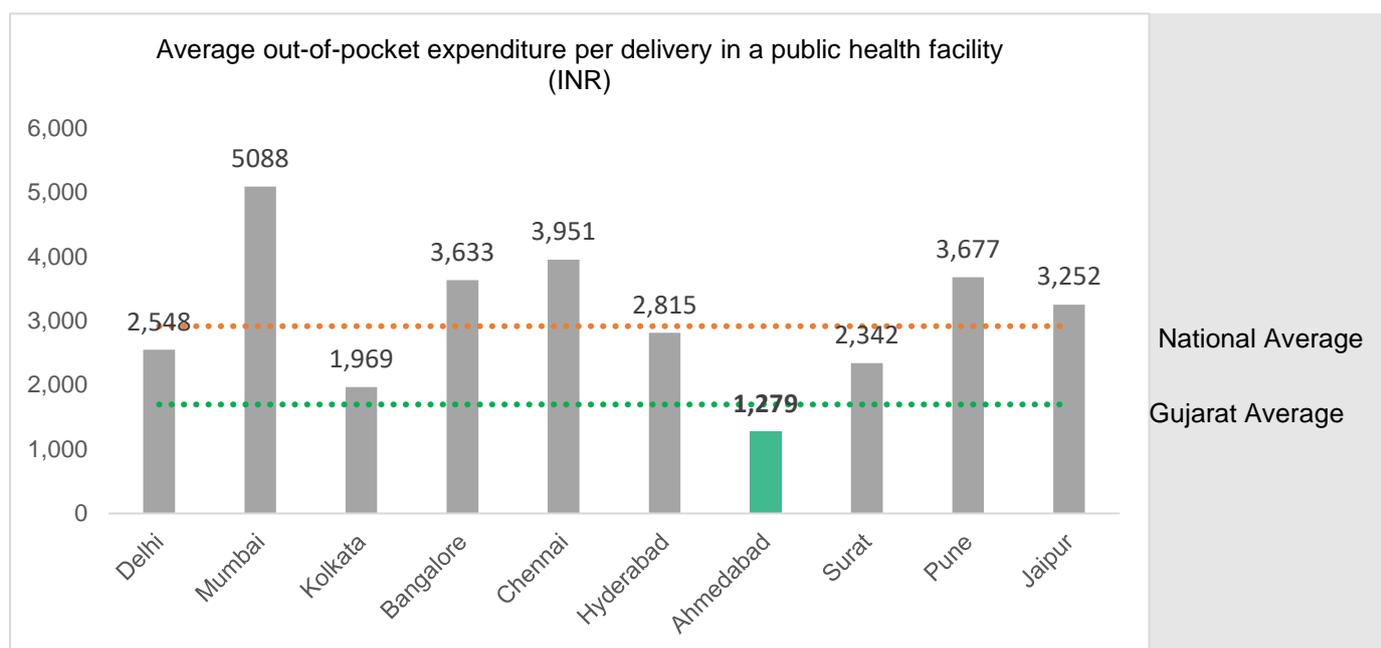
Source: (National Family Health Survey 5, 2019).

However, despite the affordability and accessibility to institutional healthcare services including deliveries, there has been a downward trend in the uptake of ANC services which can be due to delay in the first ANC visit, lack of awareness about free ANC services in public health facilities, lack of time, financial constraints or poor prior experience at the health centre. 98.7% of the registered pregnancies received mother and child protection card (MCP) and 85.9% were given tetanus vaccination to protect their child from neonatal vaccination (National Family Health Survey 5, 2019). Improvement noted in postnatal care received by mother within 2 days of delivery by a trained staff has increased from 67.5% from 2015-16 to 90% in 2019-20.

Figure 31 Comparison of women availing maternal health services over the last decade in Ahmedabad

Status of Maternal Health services in Ahmedabad district

Service	NFHS 4	NFHS 5
Mothers who had at least 4 antenatal care visits (%)	95.9	77.8
Institutional births (%)	94.6	94.5
Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	67.5	90
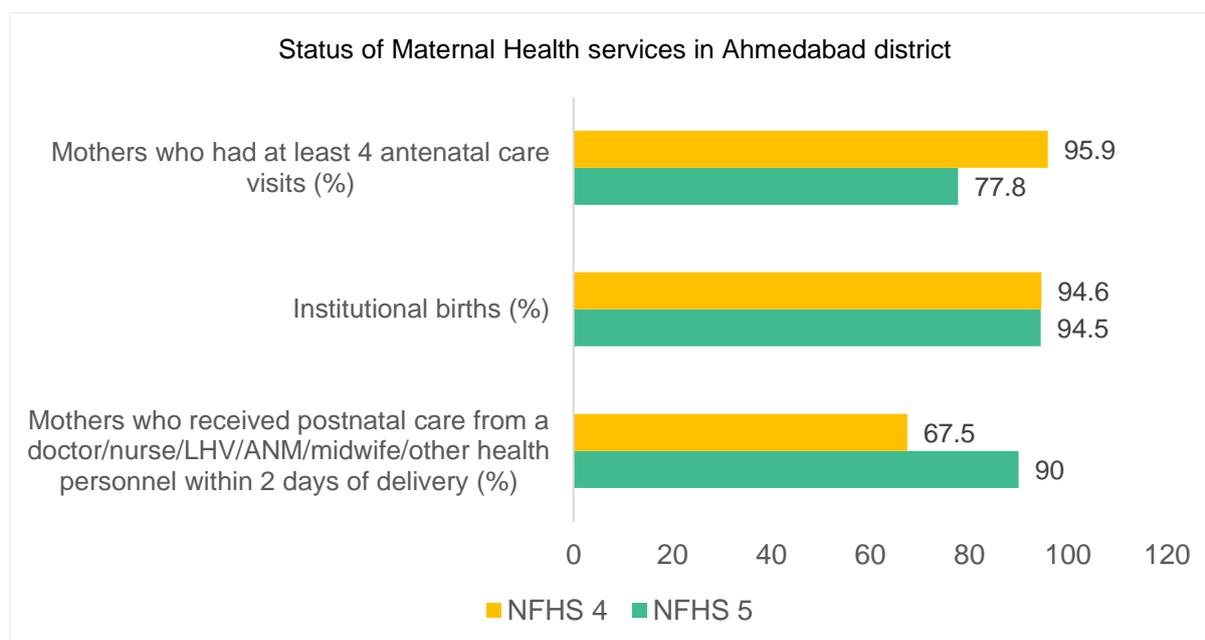
Source: (Ministry of Health and Family Welfare, 2014-15), (National Family Health Survey 5, 2019)

However, the overall institutional services have been steady at about 95% as seen below.

Figure 32 % of institutional deliveries across urban districts, 2019-20
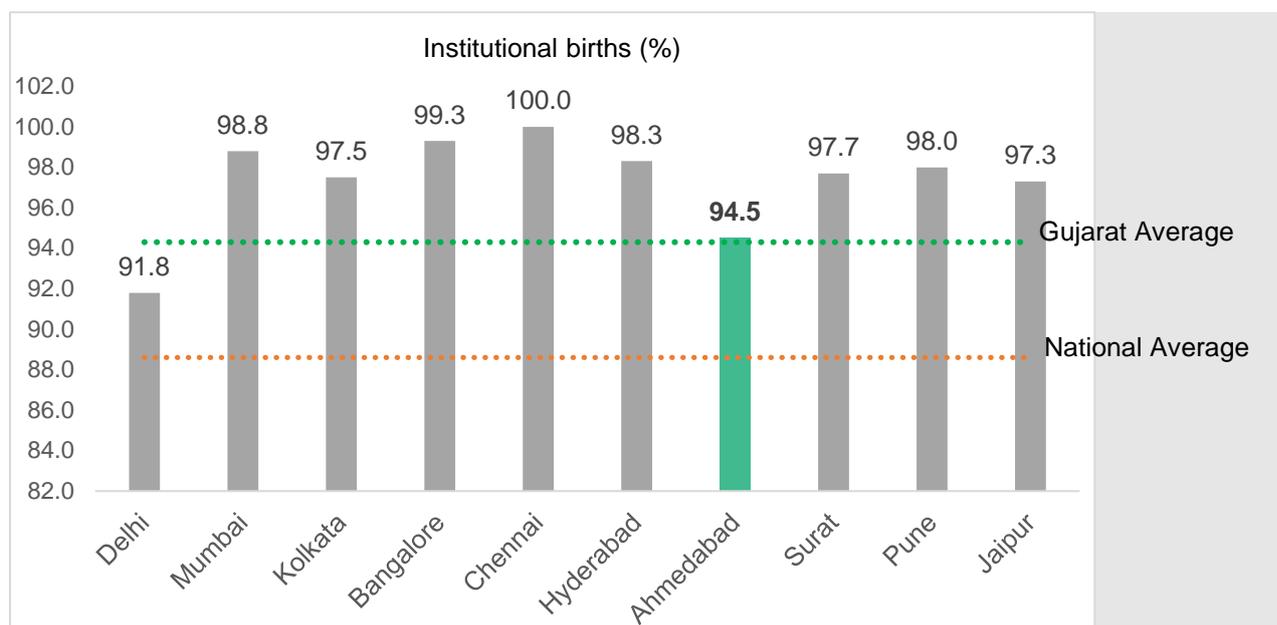
Source: (National Family Health Survey 5, 2019).

To summarise, Ahmedabad has seen a growth in healthcare infrastructure and services over the years. Despite the availability of services there is low utilisation which is reflected in the hindrances to access it, and health seeking behaviour and practices of the caregivers for themselves and their children. The city's poor performance in nutrition, breastfeeding and diet practices of children, attributed to poor level of awareness and education around nutritional requirements of the child, indicate the need to focus on inclusion of awareness building sessions by the outreach teams. There is also a need for programmes like mobile immunisation teams and food incentives to increase the uptake of full immunisation. This has been demonstrated in a randomised trial conducted in Rajasthan (Banerjee A. V., 2010). Along with PNC services this there is a need to enhance the Information and Education Campaign (IEC) for breastfeeding practices and nutrition through hospitals during ANC visits, delivery and later in the community through *anganwadis.*

Special emphasis on mental health specially for the adolescents of the cities by expanding the AFHS to all UHCs. Focus needs to be on both the boys and girls in terms of strengthening early identification of mental issues and providing safe space, counselling services for mental health in addition to sexual and reproductive health, and addressing addictions. This needs a strong two-way referral across various levels and teams be it outreach or UHCs or district hospital. Including follow ups after seeking care at secondary or tertiary level, and a continuation of the services without disruption or dropouts. There is also a need to strengthen the school health programme to support these services.

Beyond the child's environment also influences their health. The existing burden of diseases, be it air borne diseases (such as pneumonia and tuberculosis), vector borne disease (such as malaria), or water borne diseases (such as cholera leading to diarrhoea) cannot be reduced by focusing solely on the nutrition or vaccination or curative measures. The environmental conditions around the child and mother also affect health and its outcomes. As a start, measures such as mosquito control, and provision of clean water are minimum essentials required to secure overall health of the citizens. To understand that we need to comprehend the status of the city's water and sanitation infrastructure and the practices

around sanitation and hygiene. An overview of the WASH sector is presented in the following chapter to understand existing gaps in infrastructure services, if any, which may negatively impact child and maternal health.

4.2   Access to WASH

As observed in the section on health, it is equally important to have appropriate and adequate access to functional WASH services to ensure personal hygiene and safe health. Exposure to infections and illnesses such as diarrhoea and cholera from improper sanitation and hygiene practices is among the leading causes of children's illnesses.

According to a joint monitoring programme report of UNICEF and WHO, majority of the world's population continues to lack access to safe WASH services. The report puts forward that by 2030, nearly 67% persons will still lack access to safe sanitation services. A multi country study covered in the report found that India saw the most significant rise in access to safe sanitation with open defecation dropping by nearly 14% from 2016 to 2020 (WHO, UNICEF, 2021). The data dashboard of the WHO UNICEF JMP study shows 90% of citizens in India had access to basic drinking water and about 85% had access to safe sanitation services (WHO, UNICEF, 2021). This may be attributed in part to the effort by states in the introduction and implementation of national schemes, such as the Swachh Bharat Mission (SBM) and the AMRUT mission.

Increase in adoption of safe sanitation practices also plays a crucial role in mitigating impacts from spread of diseases especially, vector and water borne that predominantly impact the most vulnerable sections of the population comprising of elderly and children.

4.2.1   WASH in Gujarat

Since 2005, Gujarat has been working on strengthening urban infrastructure including water supply and sewerage systems. Various schemes such as the Swarnim Jayanti Mukhyamantri Shaheri Vikas Yojana and the Nirmal Gujarat Shauchalaya Yojana were introduced to help the state achieve this. With the launch of the SBM and AMRUT missions, the ongoing initiatives received a strengthened push. As a result, nearly 95% of slum areas in the state reported a coverage of access to piped water supply (Urban drinking water security in Gujarat, 2021).

A study of the 2021 service level benchmarks of the four major cities—Ahmedabad, Surat, Rajkot and Vadodara—shows that there is a near 100% coverage of water and sanitation services in the four cities except for Vadodara which lacks in coverage of the sewer network. Ahmedabad reported near 100% coverage across water, sanitation and waste management services (GoG, 2008-2021).

Figure 33 Comparison of WASH services in four major cities of Gujarat
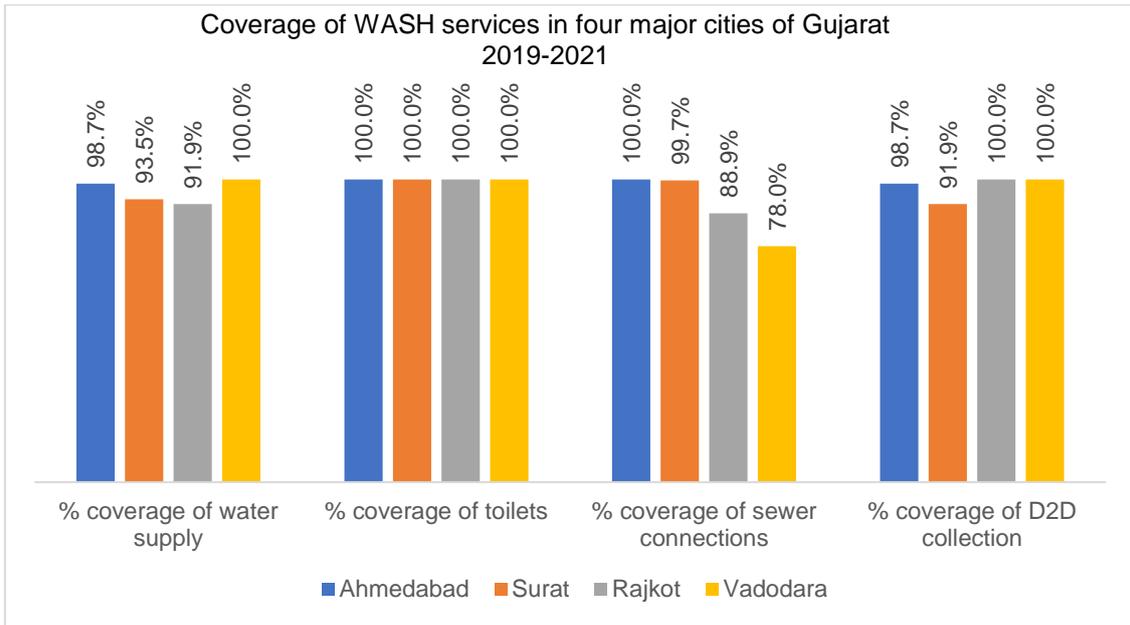
Source: (GoG, 2008-2021)

4.2.2   WASH Services in Ahmedabad

The impact of the various state and central initiatives mentioned above, has taken place over the years resulting in a steady increase in coverage of services in Ahmedabad. From 2008 to 2020, there has been a significant growth in coverage of the sewer network from 62% to 96%. Other services such as water supply, coverage of individual household latrines (IHHL) and door to door (D2D) waste collection services have steadily remained close to 100%. The following figures show the increase in coverage of WASH services from 2008-2020 in Ahmedabad.

Figure 34 Coverage of piped water connections in Ahmedabad
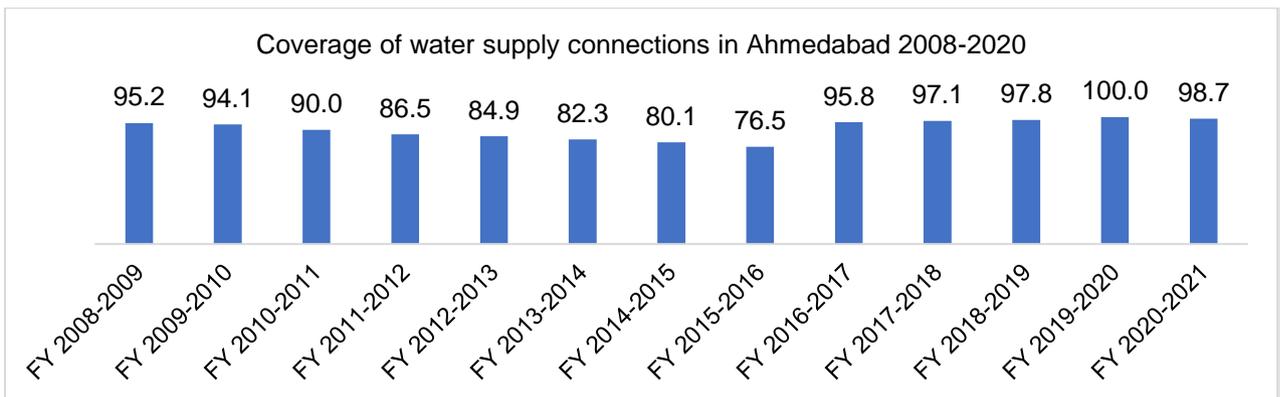
Source: (GoG, 2008-2021)

Figure 35 Increase in coverage of individual toilets in Ahmedabad

Coverage of toilets in Ahmedabad 2008-2020

FY 2008-2009	FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013	FY 2013-2014	FY 2014-2015	FY 2015-2016	FY 2016-2017	FY 2017-2018	FY 2018-2019	FY 2019-2020	FY 2020-2021
4.0	87.8	87.1	88.0	92.9	88.3	88.8	89.0	98.0	100.0	100.0	100.0	100.0
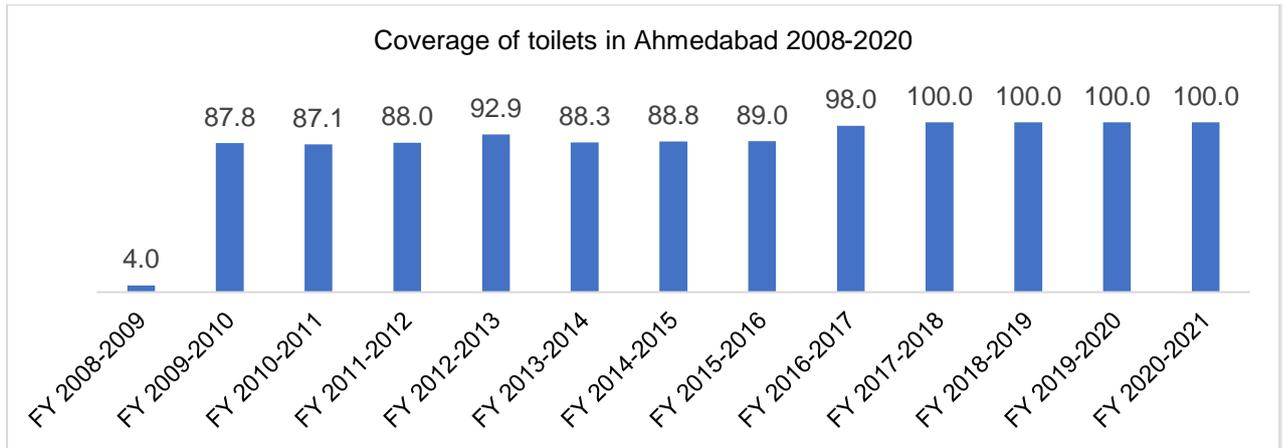
Source: (GoG, 2008-2021)

Figure 36 Increase in coverage of sewer network in Ahmedabad

Coverage of sewer network in Ahmedabad 2008-2020

FY 2008-2009	FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013	FY 2013-2014	FY 2014-2015	FY 2015-2016	FY 2016-2017	FY 2017-2018	FY 2018-2019	FY 2019-2020	FY 2020-2021
62.2	63.8	78.0	81.5	80.1	81.7	81.2	81.3	90.7	93.1	93.6	94.9	96.4
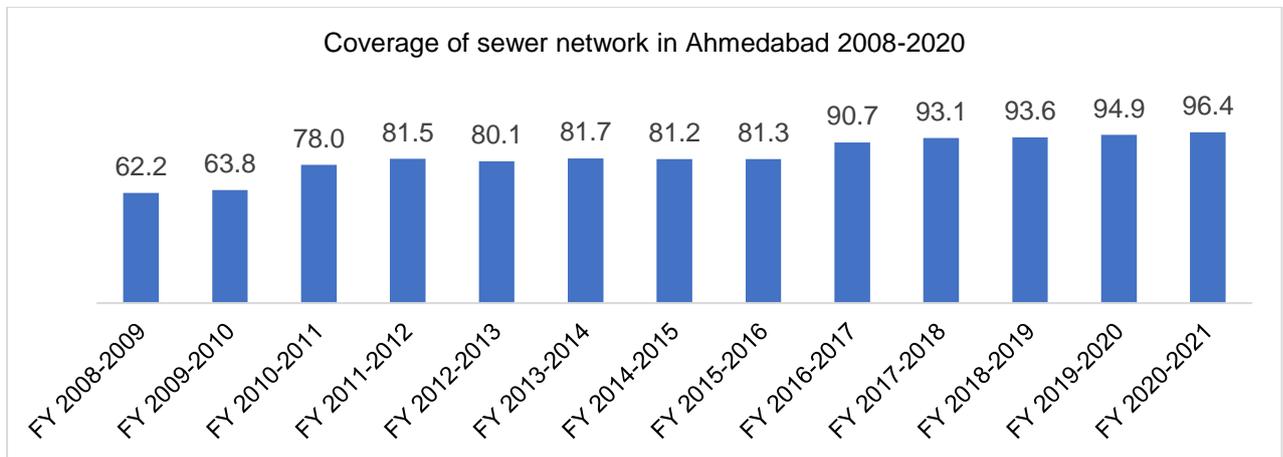
Source: (GoG, 2008-2021)

Figure 37 Increase in coverage of SWM services in Ahmedabad

Coverage of D2D waste collection in Ahmedabad 2008-2020

FY 2008-2009	FY 2009-2010	FY 2010-2011	FY 2011-2012	FY 2012-2013	FY 2013-2014	FY 2014-2015	FY 2015-2016	FY 2016-2017	FY 2017-2018	FY 2018-2019	FY 2019-2020	FY 2020-2021
82.9	95.5	96.1	93.9	91.1	89.0	86.6	88.6	89.3	100.0	100.0	100.0	98.7
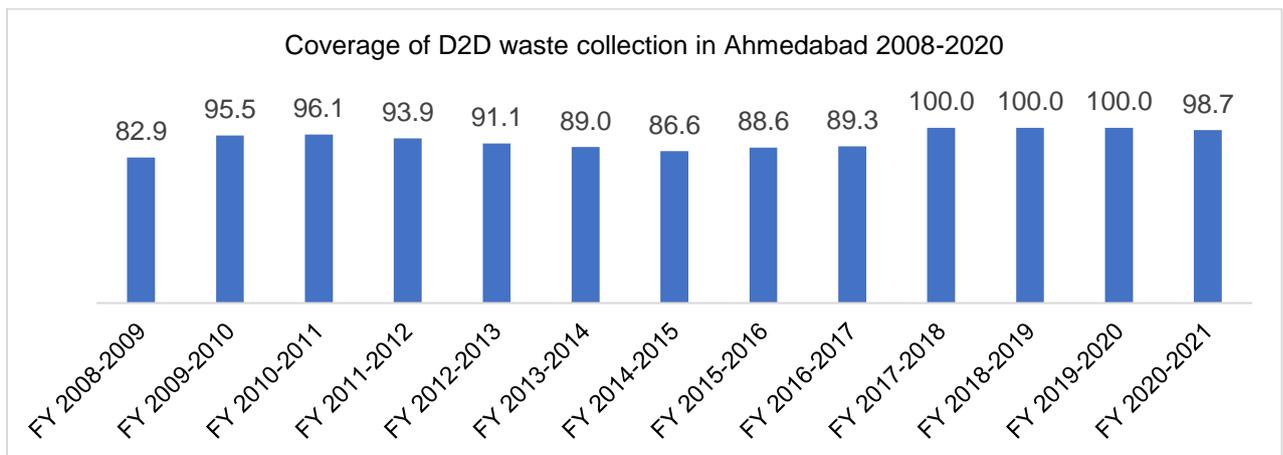
Source: (GoG, 2008-2021)

The above information shows the impact of sustained efforts made by the city to ensure universal access to WASH services. The actual situation of the impact made, is best measured among the areas where the city's vulnerable population resides. A study conducted by UMC in 2019 in 53 urban poor settlements of the city showed that there was only 63% coverage of IHHL against nearly 93% coverage of piped water supply to households. By 2021, this had increased to 89% IHHL coverage with nearly 99% of IHHL being functional (UMC, USAID, 2018-21).

Figure 38 Location of intervention slums under the study
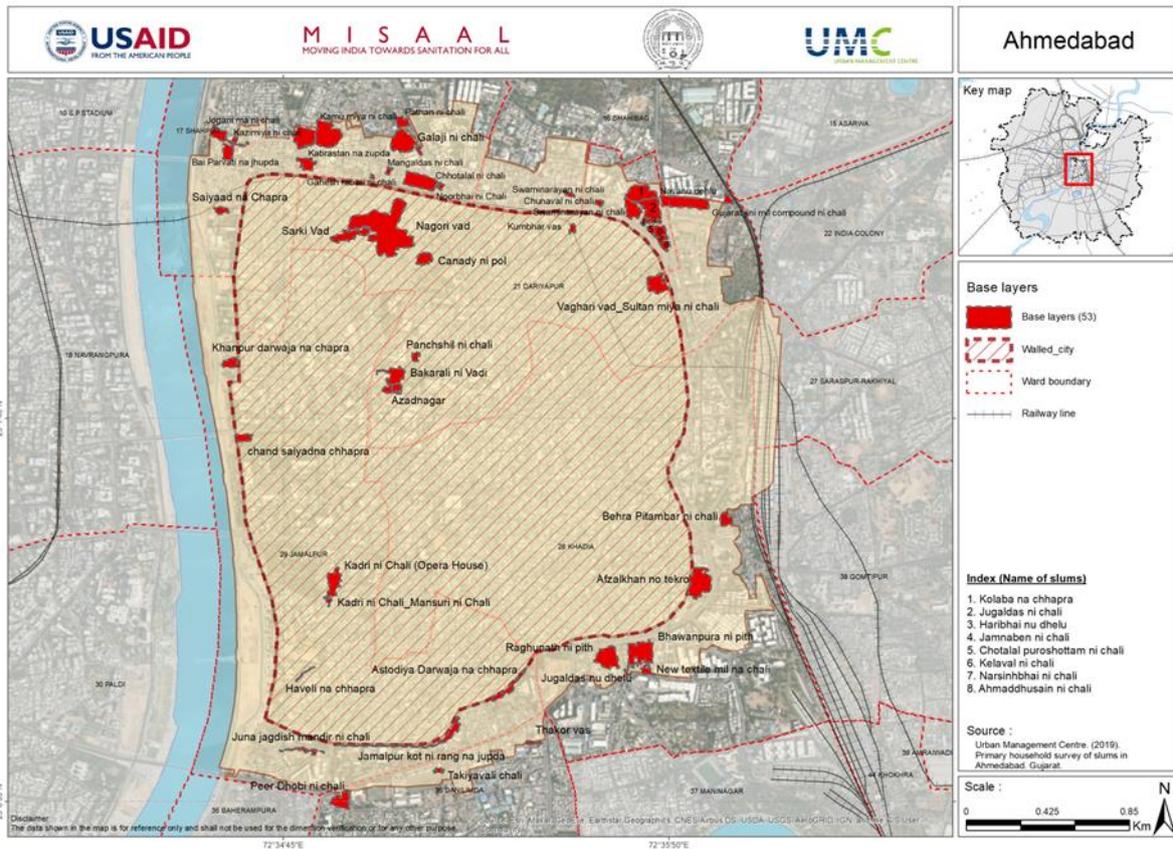
Source: (UMC, USAID, 2018-21)

Figure 39 Location of households with access to IHHL in intervention slums
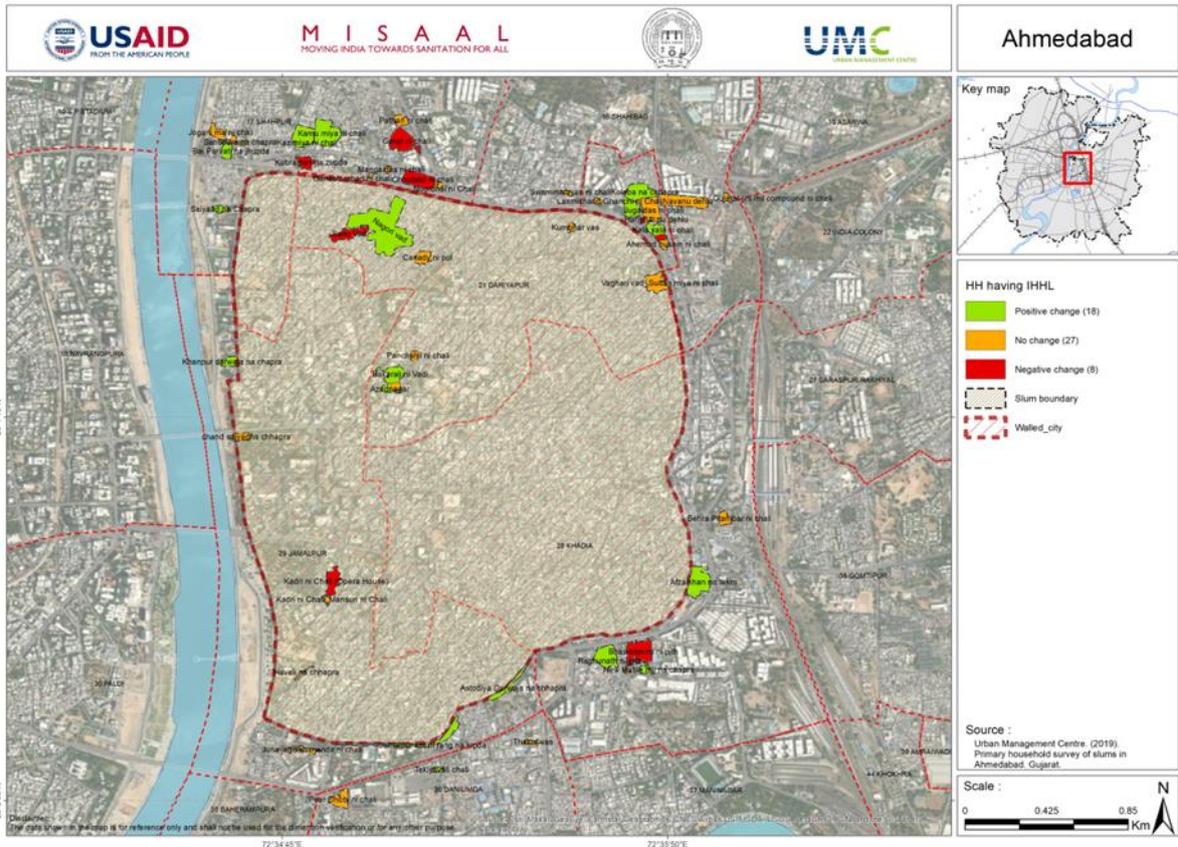
Source: (UMC, USAID, 2018-21)

This indicates a growing awareness among citizens towards adopting safe sanitation practices which in turn results in improved health of citizens including children. A similar situation is observed across other parameters of satisfaction levels of water quality, D2D waste collection and reduced dependency on PTCTs.

Figure 40 Coverage of WASH services in urban poor settlements, Ahmedabad -2019
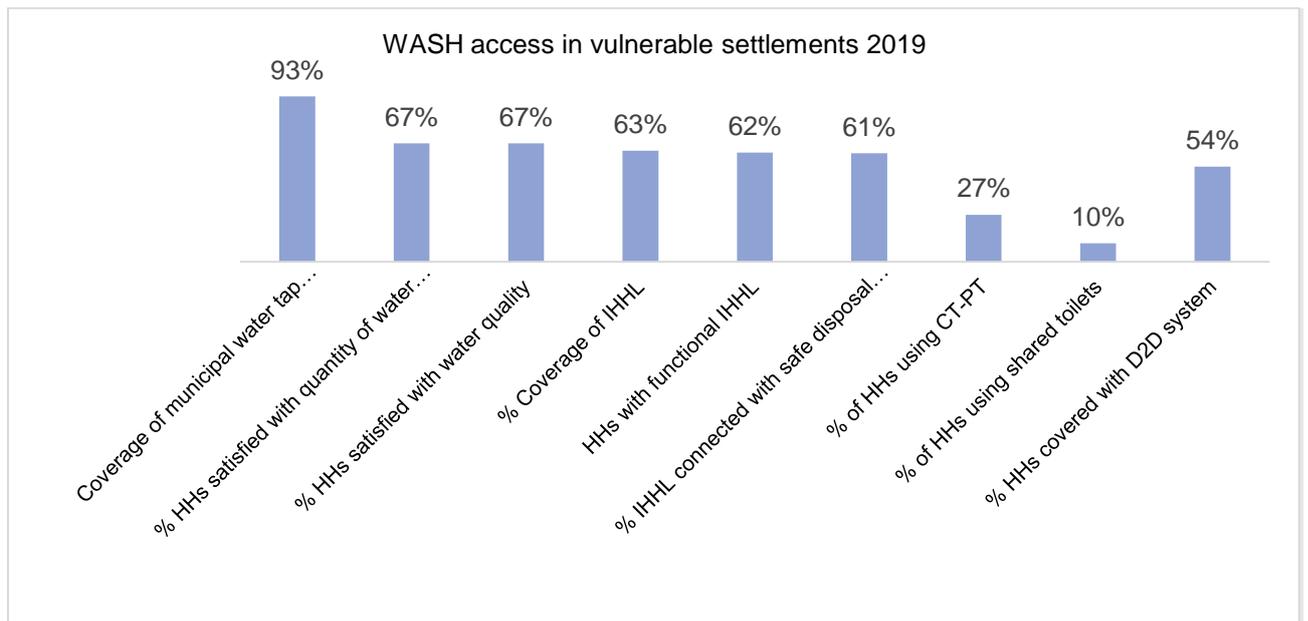
Source: (UMC, USAID, 2018-21)

Figure 41 Increase in coverage of WASH services in urban poor settlements, Ahmedabad-2021
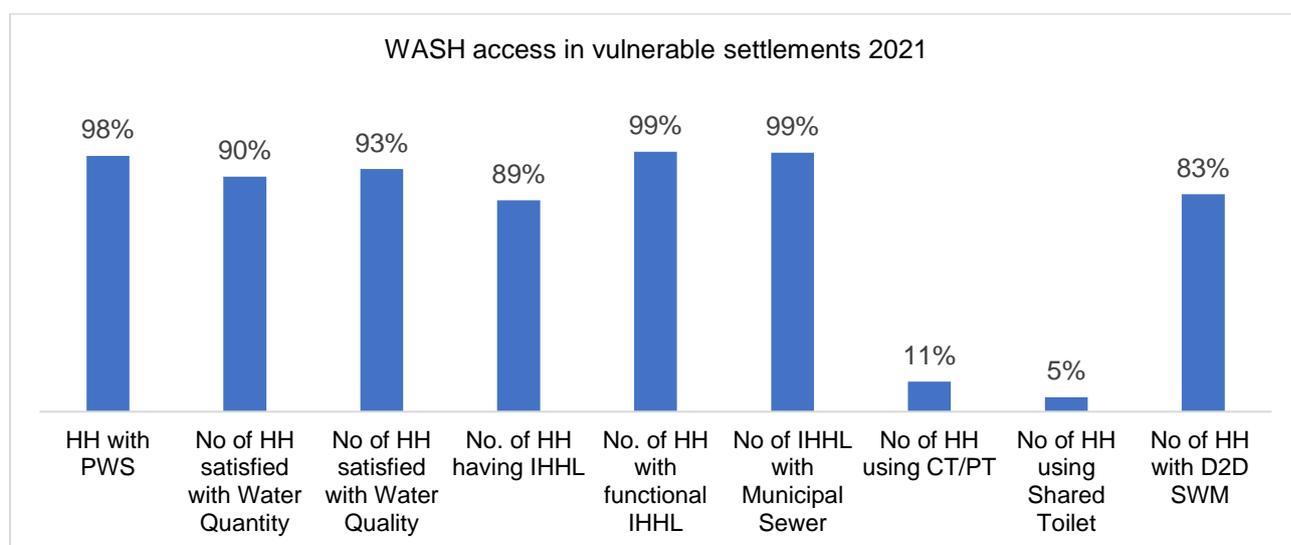
Source: (UMC, USAID, 2018-21)

4.2.3 WASH in Schools

Outside of home, it is essential for children to have access to clean and functional WASH facilities in public areas and schools as well. Based on a study conducted by UMC from 2014-2017 in 80 municipal schools it was found that:

1. On an average, about 70% of all the toilet seats in these schools were found to be functional.
2. Only 15% schools had separate hand-washing facilities in their toilet blocks.
3. The drinking water stations also served as hand-washing stations in remaining schools.
4. None of the schools surveyed had provision of soap.

(USAID, Urban Management Centre, 2017).

This situation showed improvement in 2020 as per school data studied from UDISE. According to the latest information reported by schools through UDISE, all schools had access to safe drinking water while 77% schools had provisioned soaps at hand-wash stations.

Figure 42 Coverage of water and handwash in schools
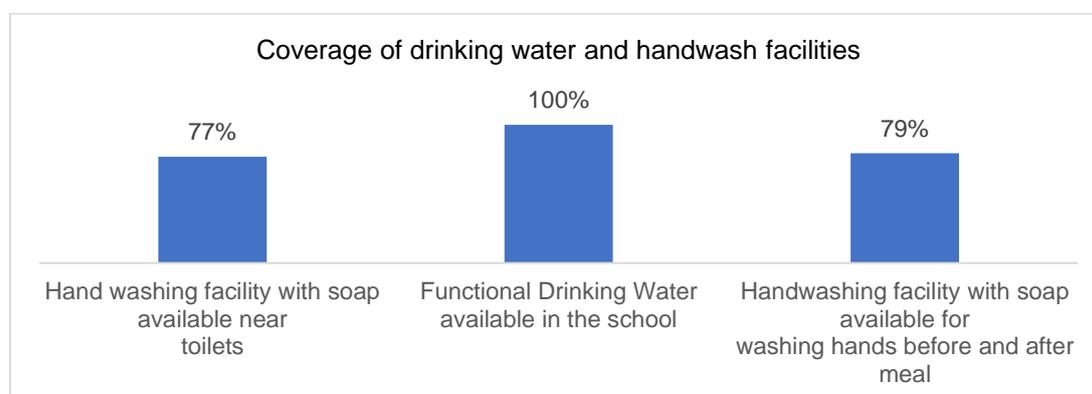
Source: (UDISE + Data Sharing Portal, 2022)

Compared to findings from the 2014-2017 survey, in 2021, availability of functional toilets for both girls and boys had reached nearly 100% coverage (as per data reported by schools on the UDISE portal). This shows a significant push towards improving WASH services for

children over the years. Informal discussions were conducted with students from an urban slum(*Jugaldas ni chali*) in Ahmedabad to understand the reality of access to WASH services in their schools. All students responded that the schools had gender segregated, clean and functional toilets on each floor for their use. Schools also ensured provision of soaps for hand-washing as well as dustbins in the toilets that were cleaned regularly. This information indicates that the data studied from UDISE is largely correct.

Figure 43 Coverage of toilets in schools
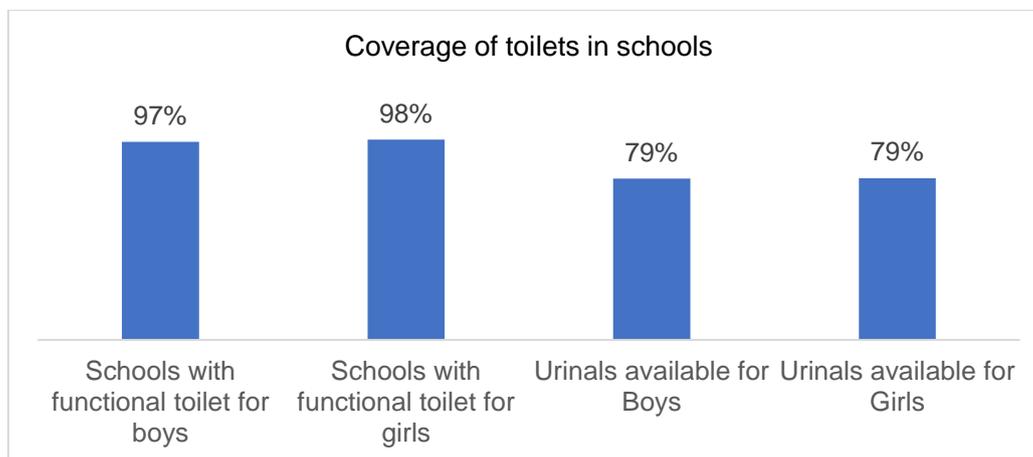
Source: (UDISE + Data Sharing Portal, 2022)

Apart from having access to safe, clean and functional WASH services, an area of WASH awareness that requires further probing is menstrual health and hygiene management (MHHM). There is no data readily available on the topic in the public domain. It is well known that practicing appropriate hygiene management is important for girls and women to prevent infections such as urinary tract infections (UTIs) and other diseases. It is equally important to practice safe and responsible disposal of sanitary waste. However, based on informal discussions with adolescent girls, it was learnt that there are no discussions that happen in schools on the topic. The students believed that it is a taboo subject. When asked about the availability of sanitary napkin vending machines in schools, the students conveyed that no such infrastructure was provided. In case of emergencies, the students could approach a female faculty member and the school would then provide them with sanitary products. This highlights the lack of awareness and willingness by both children and adults to discuss this topic of personal hygiene.

4.2.4 WASH in Public Areas: Public and Community Toilets

While there has been an increase in coverage of WASH services in residential areas, especially urban poor areas, as well as in schools, it is also important to have clean and accessible sanitation facilities in the public areas of the city as well. This is especially important in the case of children. Access to safe sanitation and hygiene infrastructure is critical for maintaining the health of children. One of the most common findings during the study from households dependent on public and community toilets (PTCTs) was the issue of lack of cleanliness and functionality of these toilet facilities (UMC, USAID, 2018-21).

A survey of 645 public and community toilets in Ahmedabad conducted in 2019 under the MISAAL programme of UMC, found that 80% of the toilets were operational. 43% of the operational toilets were found to be functional—always have access to water, intact toilet seats, functional water taps, functional doors with latches, and unchoked drainage lines. Only 9% of the functional toilets had dedicated child friendly seats. From the functional toilets, 89% facilities were found to be underutilised. The analysis of the audit found that only 20% of the toilet facilities were in good condition, 50% were in fair and 30% were in bad condition, in terms of cleanliness (UMC, USAID, 2018-21).

Figure 44 Condition of utilisation of PTCTs in Ahmedabad, 2018-21
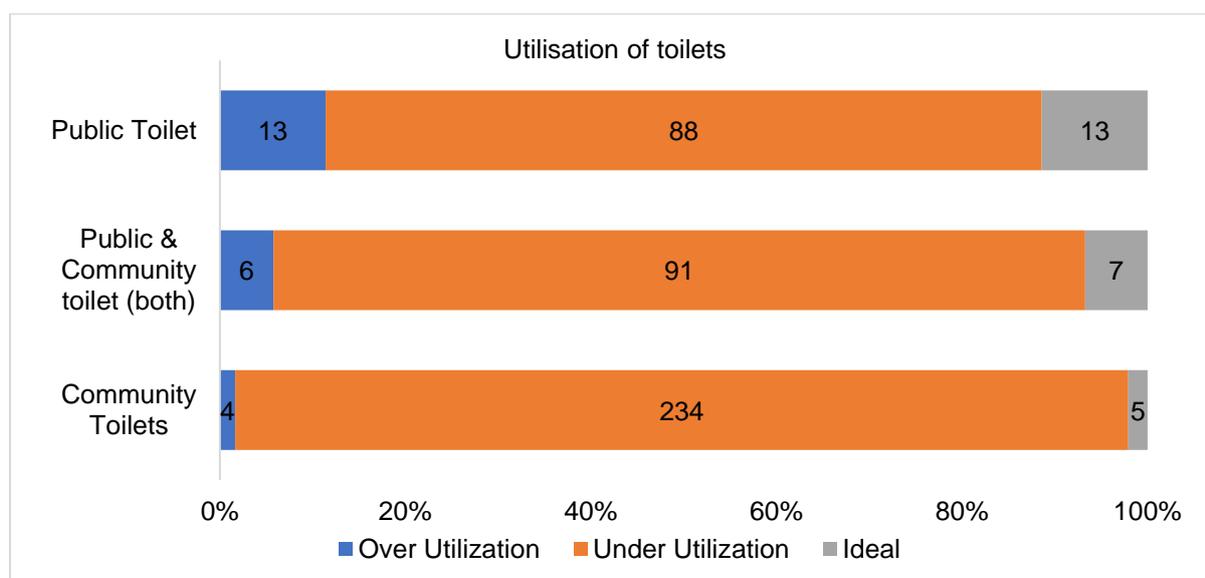
Source: (UMC, USAID, 2018-21)

Figure 45 Example of existing public toilets for children

Source: (UMC, USAID, 2018-21)

Further it was learnt that issues of lack of regimented O&M have led to the toilets being unclean resulting in low footfall. Lack of implementation of an O&M framework was leading to negligence in efficient operations of these facilities. Due to this, the internal infrastructure of these facilities was damaged and in need of repair. From this it is clear that despite having available PTCTs, lack of regular and regimented O&M has resulted in a large number of the facilities to remain unclean and unusable. As a result, they are unusable.

Additionally, it was learnt that the AMC has design prototypes of toilets for public and community toilets but these lack child friendly design interventions. For instance, in most of the public toilets, the cubicle size is not enough for a parent to accompany their child to assist them. Such design failings discourage children to use the facility independently. The

toilets which have dedicated seats for children do not have partitions. Such a design is neither gender inclusive, nor respectful to children. Especially for a female child, partitions in cubicles, availability of dustbins in toilets, continuous running water, and ample lighting is important so that they can use the facility even during menstruation. Further, a lack of adequate number of clean and functional child friendly seats in these facilities also acts as a deterrent for children and creates a situation where they resort to relieving themselves in the open. This further creates unhygienic conditions and promotes spread of diseases and infections.

In conclusion, from the secondary research and primary experience from past projects, it is evident that overall Ahmedabad performs well in terms of provision of WASH infrastructure for use by children and adults alike, at home and in schools. However, there is a continuing need to ensure access to clean and functional WASH facilities in the public realm to achieve holistic access to safe WASH facilities by all including children. Despite the presence of many public and community toilets spread across the city, they remain unusable due to lack of child friendly infrastructure and a poor O&M regime.

4.3   Education

Another important parameter to be critically looked at under the children's Right to Social Services, is access to quality education. For holistic development and growth of children, it is important to ensure that all of them have access to quality education facilities. It is fundamentally important to ensure that the environmental, social and physical aspects around children are enabling for their development. Every child must be provided with access to education irrespective of their age, caste, creed or gender.

Children are a vulnerable group who need guidance during their formative years to be able to lead their lives to their full potential. To this end, education becomes a vital source of knowledge and guidance; to build understanding and rationality in children. Outside of home, access to quality education is provided by institutions such as—*anganwadis*, schools and colleges. The quality of education received by children through these institutions contributes to the nation building capabilities of the citizens in the future.

Early development of children is the most important phase of a child's life to connect with the world. It is significantly influenced by their surroundings and environment. Early education in India begins with *anganwadis* and pre-primary schools where children between the ages of 2- 2.5 years are enrolled. Here they are facilitated with gross motor skills, fine motor skills, early mathematics, language and vocabulary, prewriting skills, listening skills and musical skills. From the age of 5-17, formal education systems such as schools play a key role in imparting important life skills. Schools help children gain knowledge, socialise and promote personal development. Further on, universities become platforms of education helping students prepare for their desired career goals.

4.3.1   Education in India

The Indian education system provides learning platforms to children across multiple stages of their life beginning from their early childhood development. Learning is home based primarily till the ages of 2 to 3 years. After this, children are enrolled in preschools and *anganwadis*. These provide early childhood education and promote holistic development in children on aspects such as gross motor skills and social interaction before entering the formalised school systems.

Anganwadis are childcare centres started by the Government of India in 1975 as a part of the Integrated Child Development Services (ICDS) programme for early childhood care and development. *Anganwadis* provide pre-school non-formal education, along with services to combat malnutrition, morbidity, reduced learning capacity and mortality. Children under the age of 6, pregnant women and lactating mothers can avail these benefits. Preschools are educational establishments or learning spaces offering early childhood education to children between 3-5 years through kindergartens or play schools. They have different levels of classes namely prenursery, nursery, kindergarten (KG), lower kindergarten (LKG) and upper kindergarten (UKG). The preschool education system caters to children of ages 3-5.

The existing school education system has four levels: lower primary (age 6 to 10), upper primary (age 11 and 12), high (age 13 to 15) and higher secondary (age 17 and 18). The lower primary school is divided into five grades, upper primary school into two grades, high school into three grades, and higher secondary into two grades. This system is uniform across cities in India (Ministry of Education, 2022).

Table 4 Description of formal education system

Education level		Classes	Appropriate age
Pre primary		Playgroup, Nursery, Kindergarten	Upto 5
Primary	Lower	1st to 5th	6 to 10
	Upper	6th to 8th	11 & 12
Secondary		9th to 10th	13 & 15

Education level		Classes	Appropriate age
Higher Secondary		11th & 12th	16 to 18

Source: (Ministry of Education, 2022)

In 2020, the Ministry of Education proposed amendments to the existing 10 + 2 education structure, modifying it with a new pedagogical and curricular structure of 5 + 3 + 3 + 4. (National Education Policy 2020)

Table 5 NEP grade structure

Pedagogy	Timeline		Classes	Age group
Foundational	5 years	3 years	*Anganwadi*/ pre-school/ *Balvatika*	3 - 6
		2 years	1st & 2nd	6 - 8
Preparatory	3 years		3rd to 5th	8 - 11
Middle	3 years		6th to 8th	11 - 14
Secondary	4 years		9th to 12th	14- 18

Source: (National Education Policy 2020)

The policy proposes the revision and revamping of all aspects of education structure with strengthening of base till secondary education for students. It aims to achieve 100% Gross Enrolment Ratio (GER) from pre-school to secondary by the end of 2030. The policy has been approved by the government in 2023 and will be implemented soon.

4.3.2 Education in Gujarat

In Gujarat, schools are run by both government and private bodies. Gujarat Secondary and Higher Secondary Education Board are in charge of the schools run by the state government. However, many of the private schools in Gujarat are affiliated to the Central Board of Secondary Education (CBSE) and Council for the Indian School Certificate Examination (CISCE) board. Since 2014, there are a total of 43,175 number of schools and a total of 92,27,747 children enrolled in them. (Ministry of Education, 2022)

There are several initiatives by the Department of Education in Gujarat to constantly improve education such as, migration monitoring system for out of school children, Special Training Programme (STP), seasonal hostels for children from migrating families, Kanya Kelavani Nidhi, Vidyadeep scheme providing insurance for all school children from State budget, Vidya Laxmi Bond scheme and Kasturba Gandhi Balika Vidyalaya to improve access of education. The central government scheme, 'mid-day meal programme' - launched to provide free meals during lunchtime to children, is also being implemented across government schools in the city. The quality of education is ongoing improvement with initiatives like GUNOSTAV, PRAGNA (activity based learning), BaLA (Building as Learning Aid) and smart schools. Further, 'Mission Schools of Excellence' programme has been launched in 2022, that aims to improve the states' educational infrastructure by constructing new classrooms, smart classrooms, computer labs, and access to 5G services. PM-SHRI schools will be constructed which will be model schools for the implementation of the National Education Policy (Press Information Bureau, Government of India, 2022).

4.3.3 Education Profile of Ahmedabad

The situational assessment of the education sector in Ahmedabad looks at the existing systems of formal education in the city along with access to education and quality of education being delivered. This section identifies and presents the existing conditions and gaps to overcome in the sector. This has been presented under two main heads of access to education and quality of education. The following key indicators have been assessed under these heads:

Access to education

1. Management of schools

2. Medium of instruction
3. Enrolment and dropout ratios

Quality of education

1. Pupil teacher ratios
2. Adequacy of infrastructure
3. Comparison of schools in the city with performance grade index (PGI)

4.3.4 Access to Education

As per the UDISE+ database 2019-20, Ahmedabad city has a total 2,870 schools which have nearly 1 million students enrolled across all levels (UDISE + Data Sharing Portal, 2022). 489 of these schools are operated by the AMC.

The city also has approximately 1500 sanctioned and operational *anganwadis* operationalised under 10 ICDS projects. These *anganwadis* provide preschool education to children in slums and other underserved areas (Ministry of Women and Child Development, 2019). Despite the presence of these institutions, sector experts opine that several of these centres suffer from poor infrastructure conditions to remain optimally functional. This however, requires further probing to capture a more realistic picture of the situation. Based on a spatial study of the schools, it is observed that the majority of the schools are centrally situated in the city as highlighted in the following image.

Figure 46 Spatial distribution of schools in Ahmedabad
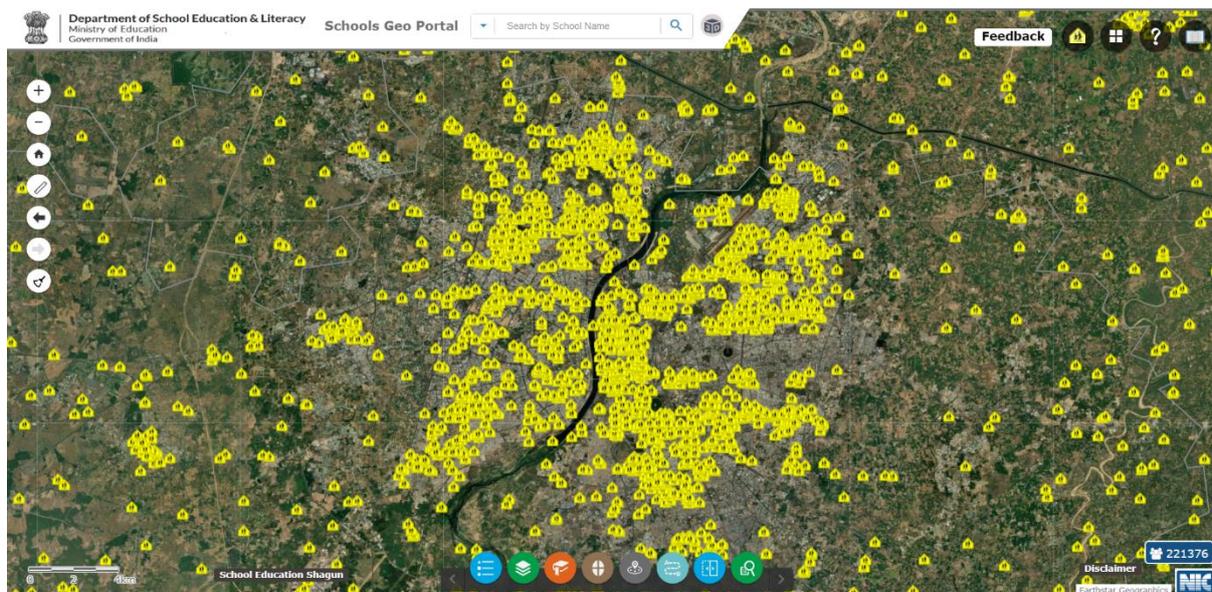
Source: (Ministry of Education, 2022)

Additionally, a comparison of number of children per school across 9 urban districts of the country, shows that Ahmedabad has one school for 2,444 children, highlighting the need for more schools for an equitable ratio of schools available to children.
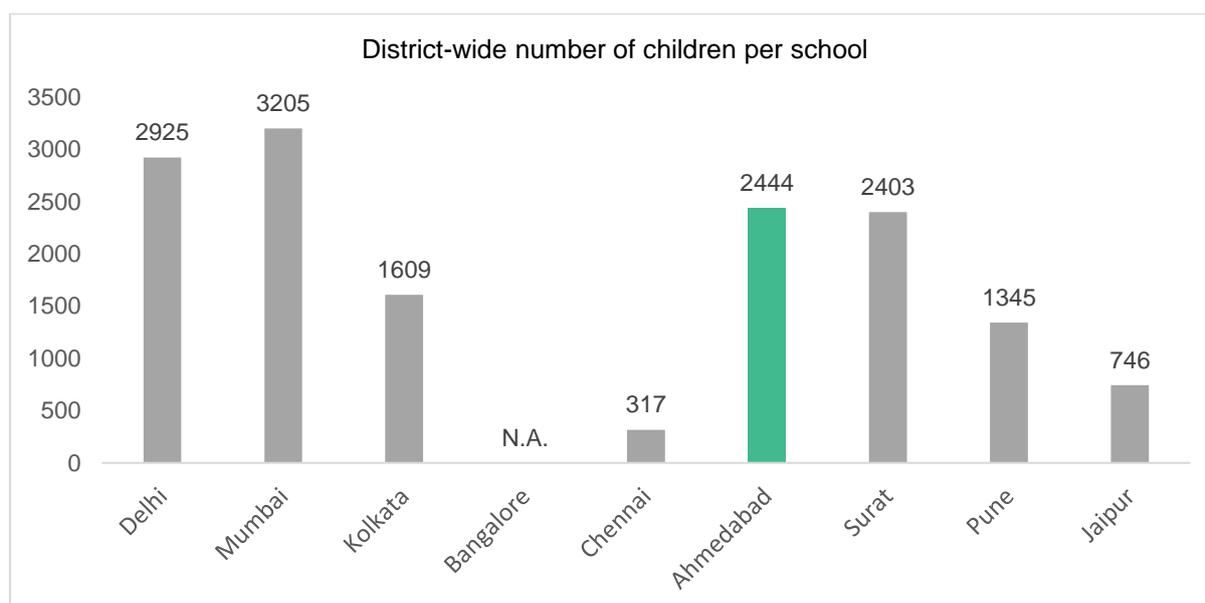
Source: (District Report Cards Volume I, 2017)

About 81 schools in Ahmedabad out of the 489 schools run by local body or through government aid (who have filled up data on availability of preschool level education), have provision for preschool education (UDISE + Data Sharing Portal, 2022). This indicates that for a large part, the need for preschool education is catered to by private management or through the government managed *anganwadis*.

There are various categories of schools in Ahmedabad based on provision of different levels of education namely: Primary only (Class 1- 5), Upper Primary only (Class 6-8), Primary with Upper primary (Class 1-8), Secondary only (Class 9-10), Higher secondary only (Class 11-12), Primary to Secondary (Class 1-10), Primary to Higher secondary (Class 1-12) and Upper primary to Higher secondary (Class 6-12). Data from the UDISE+ portal shows that about 70% of schools in Ahmedabad provide primary education and 30% of schools provide secondary education in Ahmedabad under Right to Education (RTE). About 50% of the total schools provide upper primary education. However, there are less than 25% schools that provide higher secondary education.

Table 6 Number of schools in the city according to levels of education

Education levels	No. of schools	Population of children
Pre-primary	2,800	5,60,577 (age 0-4)
Lower primary (1-5)	1,942	5,95,545 (age 5-9)
Upper primary (6-8)	1,759	6,37,763 (age 10-14)
Secondary (9-10)	909	
Higher secondary (11-12)	710	6,63,267 (age 15-19)

Source: (Ministry of Education, 2022)

Right to Education Act

The Right of Children to Free and Compulsory Education (RTE) Act, 2009, which represents the consequential legislation envisaged under Article 21-A, means that every child has a right to full time elementary education of satisfactory and equitable quality in a formal school which satisfies certain essential norms and standards. Right of Children to Free and Compulsory Education act 2009 and the rules for Right of Children to Free and Compulsory Education-2012 has a provision to admit 25% of

the children from weaker and disadvantaged group. The elementary education is free of cost and adheres to Right to Education Act. This ensures availability of basic education for every child. Government schools offer free education, free textbooks and mid-day meals to increase enrolment of children in schools.

Source: (Ministry of Education, n.d.)

The fewer number of schools for secondary and higher secondary education, may impact enrolments at higher levels. This also suggests that the schools offering higher levels of education may consequently accommodate a higher number of children per class thus increasing the pupil teacher ratio which in turn may lead to poor learning outcomes through compromised quality of education.

Schools for specially-abled children:

Education is a right of every child and must not be restricted to one's abilities. As per Right to Education, all children with disabilities can attend regular schools. Approximately, 4,591 children with special needs are found to be enrolled in all the schools (UDISE + Data Sharing Portal, 2022) . There are also 29 schools in the city exclusively for specially abled children, with 583 children enrolled. These are special schools that focus on needs of children with different abilities. As much as these schools allow children to gain confidence and build communication with others, the children with disabilities could face seclusion.

Co-education in Ahmedabad:

Out of 2,870 schools, 2,765 schools provide co-education (Co-ed) meaning girls and boys can enrol, 36 are boys-only while 69 are girls-only schools. With more than 95% schools being co-ed in Ahmedabad, it promotes interaction between genders from early on, helping create a positive impact in the lives of the children. The most important aspect of a co-ed school is that it provides an opportunity for students both boys and girls from different backgrounds and cultures to interact with one another through school life which enriches their perspective, making them sensitive towards gender and cultural diversity (UDISE + Data Sharing Portal, 2022).

4.3.4.1 Management of schools

As per the AMC Budget 2022 – 2023, the education department in Ahmedabad has been allocated an annual budget of INR 893 crores amounting to nearly 10.1% of the total budget. Of this, 20% is AMC's contribution and 80% is by the State government (Ahmedabad Municipal Corporation, n.d.).

No child must be left behind from the learning opportunities because of socio-economic constraints. To provide education to all sections of the society, there are several government operated and government aided schools in the city. Schools in Ahmedabad are managed by various authorities under the central, state and city government. As per the constitution of India, Education falls under state list and hence many schools in Gujarat are funded through sharing patterns between the state and centre scheme such as Samagra Sikhsa Abhiyan (SSA) (Universal Access to Education). Schools in Ahmedabad are managed by central government, state government, Department of Education, Government of Gujarat Social welfare associations, Tribal Welfare Department, local body (AMC), and private bodies/organisations.

Amongst them there are aided and unaided schools across the city. Aided schools are the ones which receive government aid to operate. To promote education in vulnerable groups belonging to socially backward class and tribal caste several schools are managed by social welfare and tribal welfare. Over the years' education access in these vulnerable groups has also improved.

In Ahmedabad, about 64% of the total schools are private unaided schools, followed by 35% government managed schools. Government schools offer free education till elementary level, that caters to population with low income levels.

Table 7 Number of schools in operation based on management type

Number of schools run by various management boards	
Central board of education	04
Department of Education	13
Government aided schools	475
Schools run by local body (AMC)	543
Private unaided schools	1,829
Social welfare Department	01
Tribal Welfare Department	05

Source: (Ministry of Education, 2022)

Figure 48 Distribution of schools according to management type
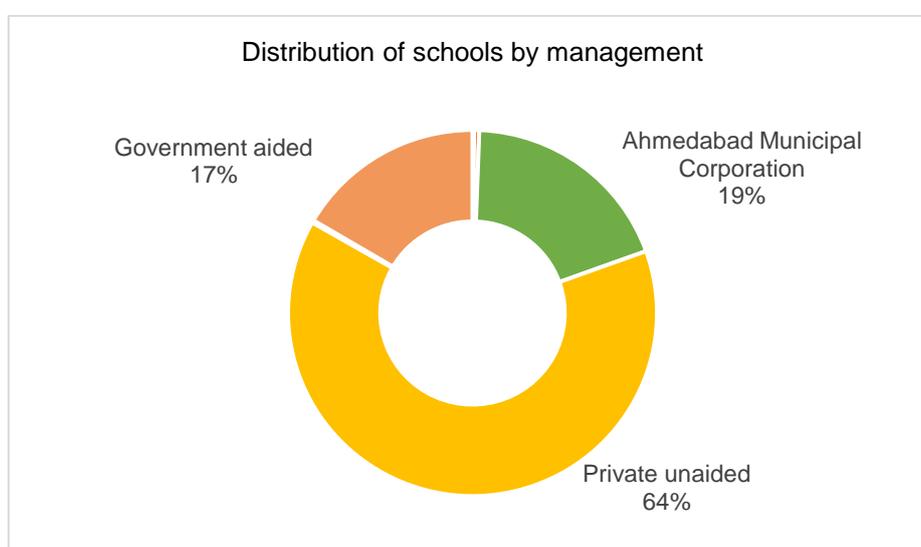
Source: (UDISE + Data Sharing Portal, 2022)

About 67% of the total school going children are enrolled in private unaided schools (as the availability of these schools is also more than government schools). 45,473 children are enrolled in private unaided schools under the reservation of Right to Education act, which is less than 6% of the total children enrolled in private schools (UDISE + Data Sharing Portal, 2022). More children should have access to good quality education without any bias and the government managed schools should be equipped to offer this. Financial constraints often restrict children from lower economic backgrounds to access education in schools offering it. Government schools are accessible for all and therefore must be strengthened and equipped to provide an equally good quality of education.

Interaction with parents and children also pointed to strong preference for private managed schools as they are believed to offer better quality of education compared to government managed schools. This may also be a factor for the high number enrolment numbers in private schools in the city, compared to other schools.

A study carried out by UMC in the urban poor settlements of the city under the MISAAL programme also found a rising preference for private schools among parents and children. A sample survey of children (age 5-13 years) living in urban poor settlements of Ahmedabad revealed that 36% of children were enrolled in private schools and others in government schools (UMC, USAID, 2018-21).

Figure 49 Enrolment of children based on school management type

Children enrolled in schools

Ahmedabad Municipal Corporation
16%

Government aided
17%

Private unaided
67%
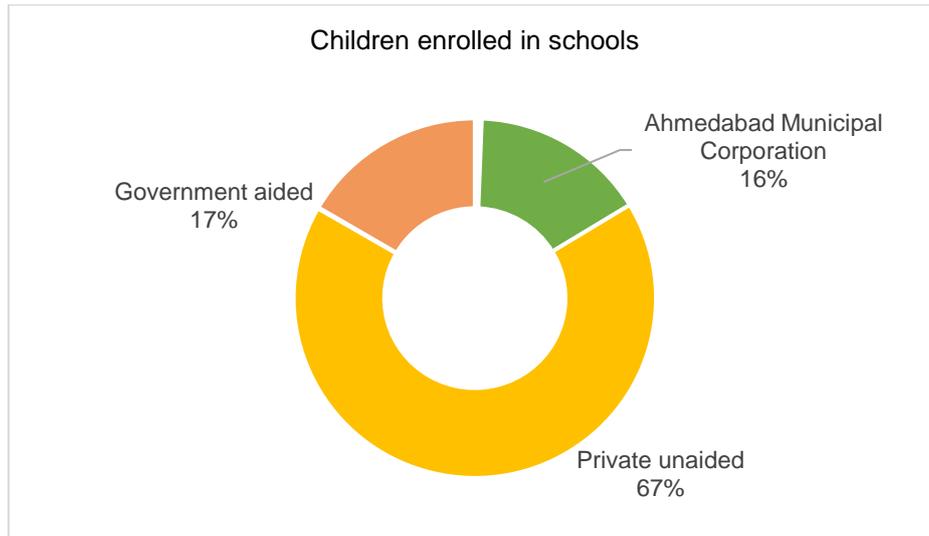
Source: (UDISE + Data Sharing Portal, 2022)

Figure 50 Enrolment in schools by children in urban poor settlements

No. children enrolled in schools from urban poor settlements of Ahmedabad

Private school
36%

Government aided school
64%
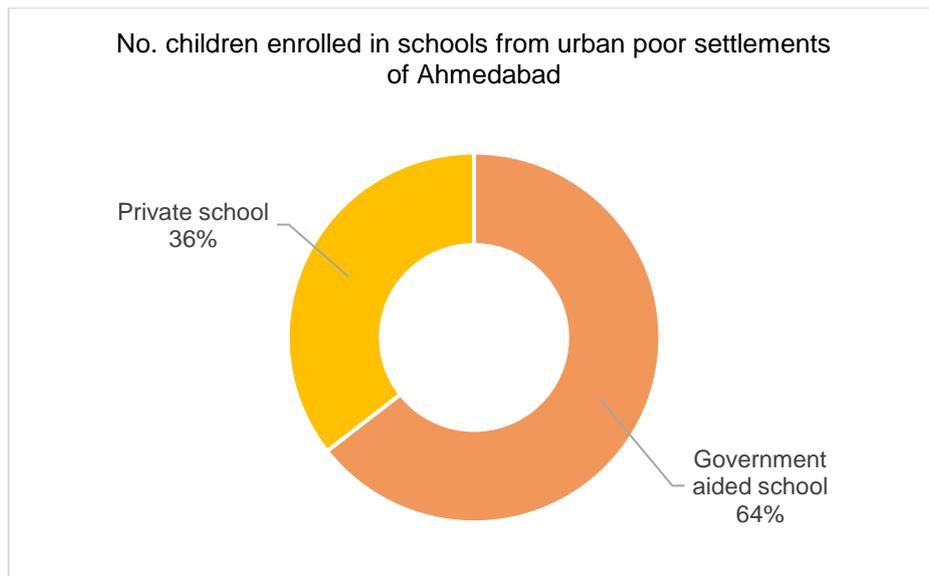
Source: (UMC, USAID, 2018-21)

Another possible reason for parents preferring private schools may be the fact that most of the government schools provide education at primary and upper primary levels only. The number of private unaided schools offering both primary and upper primary education in the city is more than government and government aided schools (Ministry of Education, UDISE + Data Sharing Portal, 2022). This factor can impact the enrolment of children who are dependent on government schools for their higher education. There are less government aided schools providing education for secondary and higher secondary levels. Ensuring continuity of education may be a possible reason for parents to choose private schools.
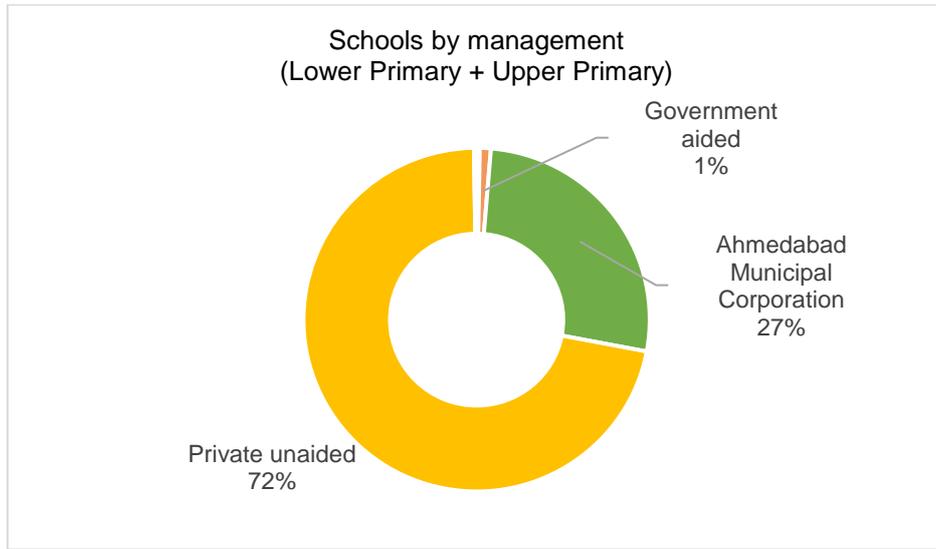
Source: (UDISE + Data Sharing Portal, 2022)

Conversely, in secondary and higher secondary education, the share is evenly distributed between private, and government aided schools. None of the AMC managed schools provide secondary and higher secondary education.

Figure 52 Distribution of schools offering secondary and higher secondary education by management type
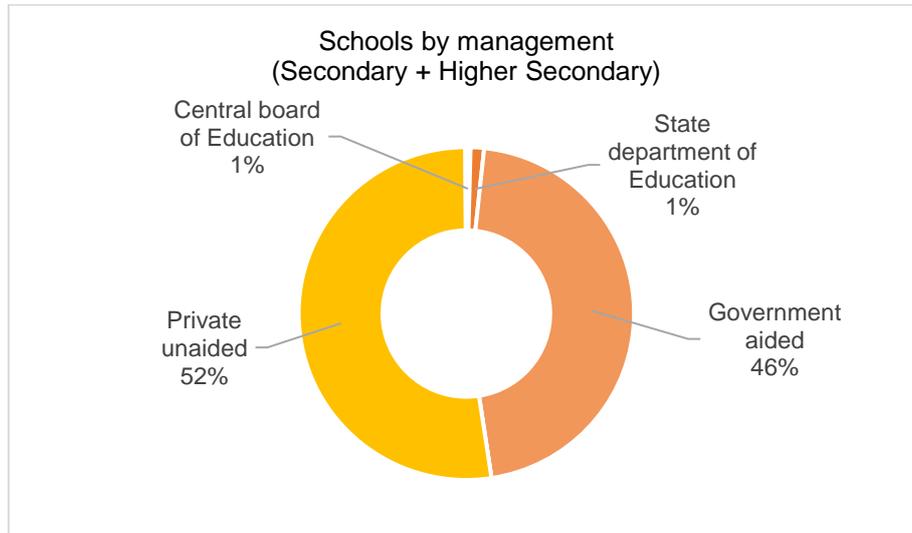
Source: (UDISE + Data Sharing Portal, 2022)

The above data indicates a need for not only increasing the number of government run schools, but also the requirement for AMC and government run schools to offer education beyond the elementary stage (i.e. beyond class 8). As government schools and government aided schools are found to be affordable for weaker sections of the society, an increase in their number in the city would benefit more children coming from vulnerable backgrounds.

4.3.4.2 Medium of instruction

Languages are a medium of instruction to transfer knowledge, and should not become a hindrance in learning. About 1,764 (61%) schools have Gujarati as a medium of instruction, followed with 762 (27%) English medium schools in Ahmedabad. Government abides by regional language based education, to make the foundational learning strong. However, schools must have a second common language to communicate further on for opportunities.

English is a preferred language of communication at higher education levels and career opportunities. All children must get equal access to these opportunities and must not get deprived of it because of language barriers in communication. There is a growing preference in parents to send their children to English medium schools for exposure. However, the misconception to outweigh English as an indicative of being educated must be broken.

The existing situation indicates that the majority of the children (57%) are enrolled in Gujarati medium schools. Due to the rising preference of parents to enrol their children in English medium schools, the preference of private schools is increasing as 90% of the English medium schools are under private management.

Figure 53 Distribution of schools by medium of instruction

Medium of instruction in schools

- Tamil, 2
- Marathi, 8
- Hindi 10%
- Urdu 2%
- English 27%
- Gujarati 61%
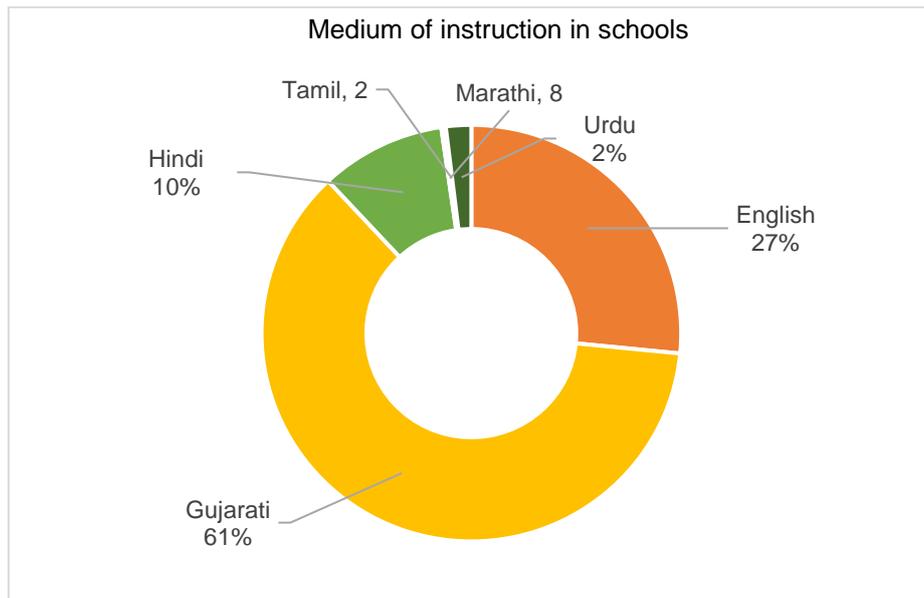
Source: (UDISE + Data Sharing Portal, 2022)

Figure 54 Enrolment of children in schools by medium of instruction

Enrolment of Children in schools by medium of instruction

- Urdu 2%
- Hindi 9%
- English 32%
- Gujarati 57%
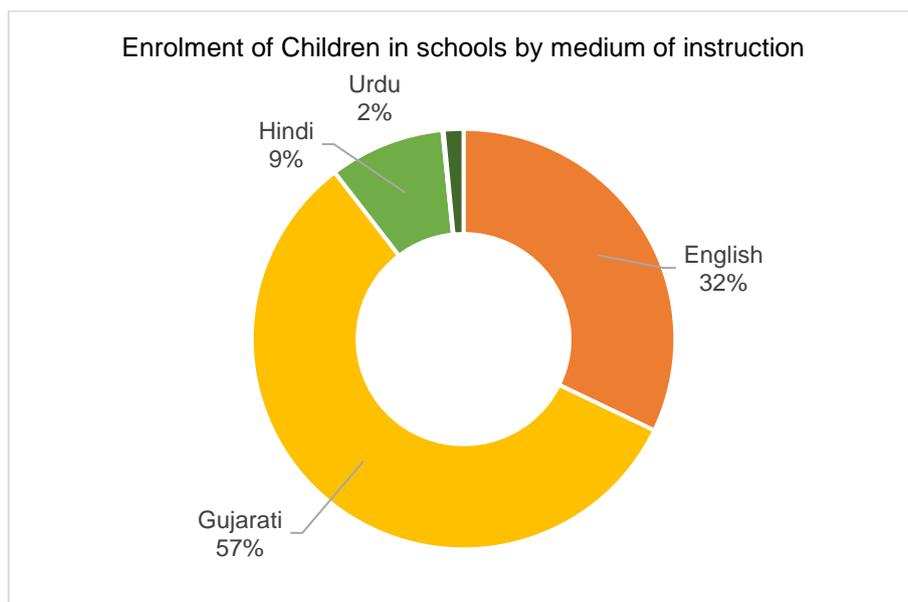
Source: (UDISE + Data Sharing Portal, 2022)

Currently 68% children are pursuing education in languages other than English. Of which 44% children are enrolled in government and government aided schools. Only 28 out of 762 schools run by AMC are English medium schools providing education till primary levels. And 45 government aided schools provided English medium education.

However, schools must emphasise on mother tongue based/ regional language based education and have a common second language for communication.

Figure 55 Distribution of schools as per management and medium of instruction

No. of schools by medium of instruction across management

English: Private unaided 689, Local body 28, Government aided 45
Gujarati: Private unaided 973, Local body 393, Government aided 399
Hindi: Private unaided 164, Local body 66, Government aided 47
Marathi: Private unaided 0, Local body 5, Government aided 3
Tamil: Private unaided 0, Local body 1, Government aided 1
Urdu: Private unaided 3, Local body 50, Government aided 3

Source: (UDISE + Data Sharing Portal, 2022)

Apart from the spoken language of instruction, special means of dialogue/communication by teachers such as sign language should be encouraged. This will promote an inclusive learning environment.

4.3.4.3 Enrolment and Drop Out

An important factor that talks of the quality of education services in a city is the enrolment and drop-out rates. These are critical indicators of quality of education, accessibility and inclusivity in schools. It represents number of children attending schools, attaining knowledge and building future.

Present statistics indicate that a total of 10,69,351 children are enrolled across 2,870 schools. Of the total enrolment around 47% are girls. The ratio of girls to boys is 0.87, which reveals less enrolment of girls in education compared to boys. (UDISE + Data Sharing Portal, 2022)

Table 8 Enrolment of children across levels

Education level	Number of children enrolled	Boys enrolled	Girls enrolled	Ratio of girls to boys
Pre primary	38,404	20,179	17,685	0.88
Class 1 to 5	4,85,668	2,56,635	2,29,033	0.89
Class 6 to 8	2,68,282	1,43,104	1,25,178	0.87
Class 9 to 10	1,63,821	92,059	71,762	0.78
Class 11 to 12	1,13,176	60,900	52,276	0.86
Total	**10,69,351**	**5,72,877**	**4,95,934**	**0.87**

Source: (UDISE + Data Sharing Portal, 2022)

The Government of India has launched a scheme '**Beti Bachao Beti Padhao (BBBP)**', to address the security and wellbeing of women and girls in the society. The objective of the scheme is to address issues from declining Child Sex Ratio (CSR), women empowerment, removal of gender inequality to protecting a girl child. The scheme also tries to ensure education of the girl child and her

participation in the society. The scheme aims to increase enrolment of girls in secondary education level and skilling of girls/ women per year and to reduce dropout rate among girls at secondary and higher secondary levels. Under the scheme, a girl child is eligible for a bank account with zero tax deductions. Money can be saved by parents in the accounts and debited only after the girl child turns 18.

To assess number of children enrolled in formal education, the enrolment ratios have been studied. The net enrolment ratio (NER) of Ahmedabad is the indicator for access to education by children. The NER and the gross enrolment ratios (GER) are representative of the number of children receiving education in the city. The NER is the number of boys and girls of corresponding age of a particular level of education that are enrolled in that level of education, expressed as a percentage of the total population in that age group. GER is the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.

As per the district level data of Ahmedabad of School Report cards by UDISE, the gross enrolment rate has increased from 2013-14 to 2016-17, indicating improved access to schools, services, and awareness on education. The NER in upper primary education levels have increased significantly, showing continuation in education after Class 5. The NER in 2016-17 for primary and upper primary levels are 83.88 and 77.23, which points to a large number of children having access to education in Ahmedabad. (District Report Cards Volume I, 2017)

Figure 56 Distribution of NER and GER across upper primary schools
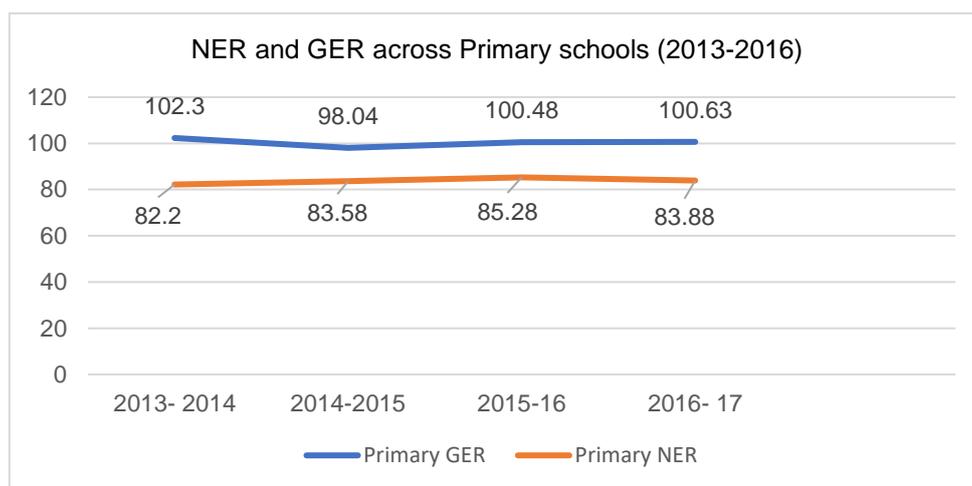
Source: (District Report Cards Volume I, 2017)

Figure 57 Distribution of NER and GER across upper primary schools
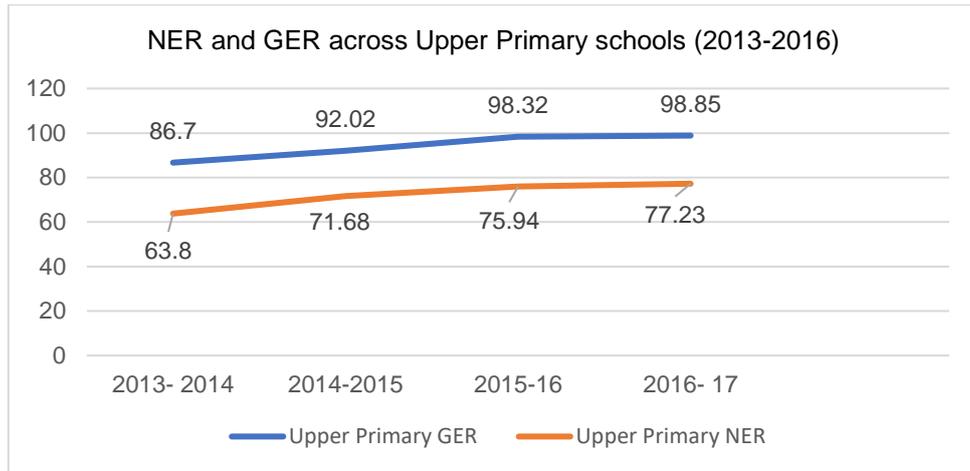
Source: (District Report Cards Volume I, 2017)

As per UDISE 2015-16, the GER of boys and girls at secondary level is 79.16 % and 80.97% respectively and GER of boys and girls at Senior Secondary level is 55.95% and 56.41% respectively (Gross Enrolment Ratio of Boys and Girls, 2017). This reveals that there is a massive drop out at senior secondary levels which could be attributed to factors like unwillingness to study, poverty, poor access to schools in the vicinity or poor learning of environment.

Despite this, the gross enrolment ratio of girls in schools at the secondary level has improved from 77.45 (2014-15) to 81.32 (2018-19) as per the data furnished by UDISE (Palak Agrawal, 2021).

GER in Primary and Upper Primary remains comparatively same for Ahmedabad as several other urban districts.

Figure 58 GER in primary and upper primary schools
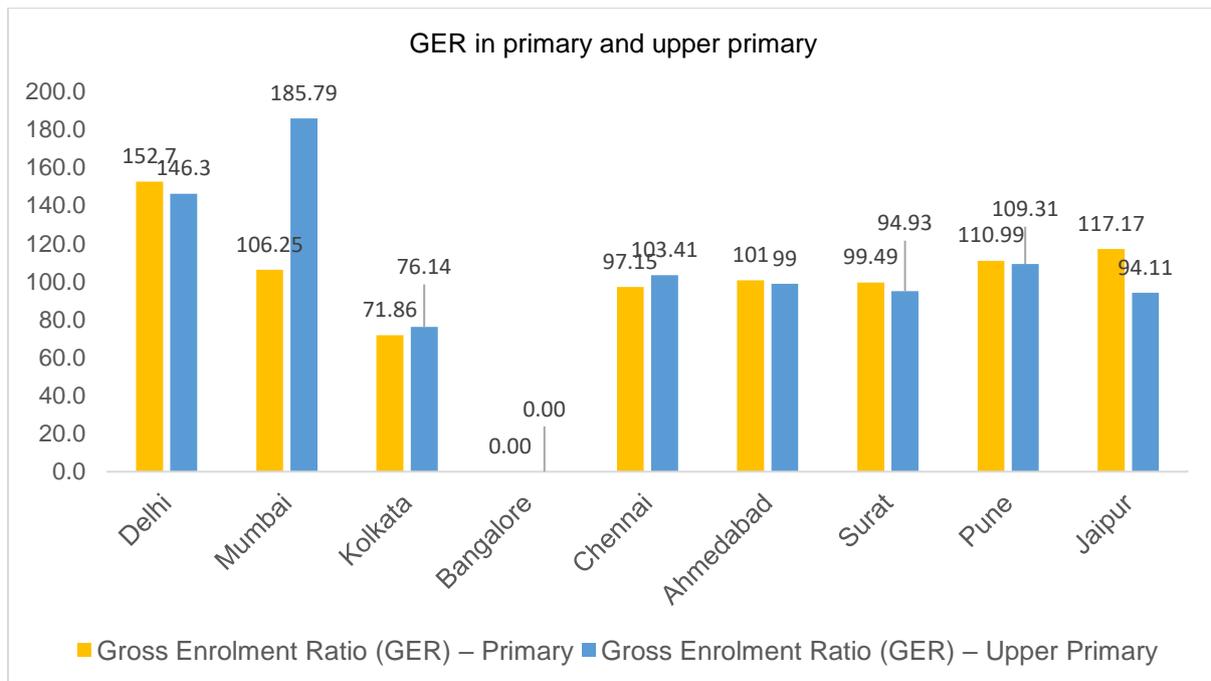
Source: (District Report Cards Volume I, 2017)

Apart from the enrolment ratios, the dropout rates indicate whether children continue to study or not. The rates have impacts of the access to higher education levels and a satisfactory quality of education.

Drop out rates in Ahmedabad district, 2014-17
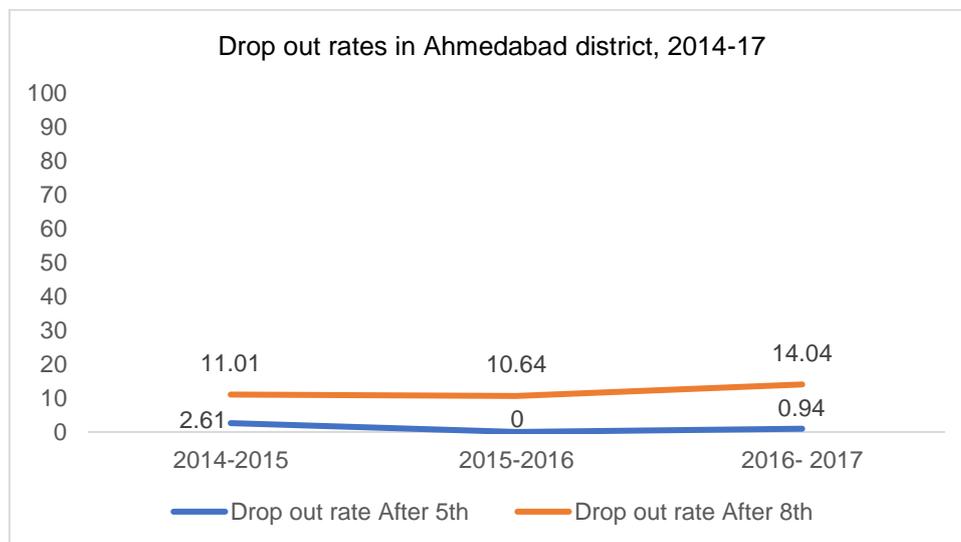
Source: (District Report Cards Volume I, 2017)

As per the district level data of School Report cards by UDISE, the drop rates in elementary schools after primary education have decreased from 2.61% to 0.96% and have increased after secondary education from 11.01% to 14.04% in between academic years 2013-14 to 2016-17, in Ahmedabad (District Report Cards Volume I, 2017).

Overall, this could also be an impact of less accessibility to higher education, decrease in affordability of education and lack in awareness on the importance of higher education. Regardless of the reason for drop outs, this points to the fact that there is a decline in number of children completing their education.

4.3.4.4 Continuity in education

Only 6% (115 schools) provide education across all levels (grades 1-12) and around 95% of these schools are private schools. 4% (167) schools provide education across grades 1-10. Due to the focus on primary education, AMC-run schools (1496 nos.) primarily provide education only until 8th grade. Continuity in secondary education is also a concern. Only 21% of schools provide continuous education between 9-12 grades. This compels children and parents to switch schools for secondary and higher secondary education. Since private unaided schools across the city provide education from grade 1 to grade 12, parents may prefer them over government schools to ensure continuity in education. This may be one possible factor apart from others such as better quality of education, better teacher pupil ratio, etc. The need to switch schools in higher grades may also contribute to dropouts and reduced enrolment in higher grades.

No. of Schools Providing Different Level of Education w.r.t. Types of Management
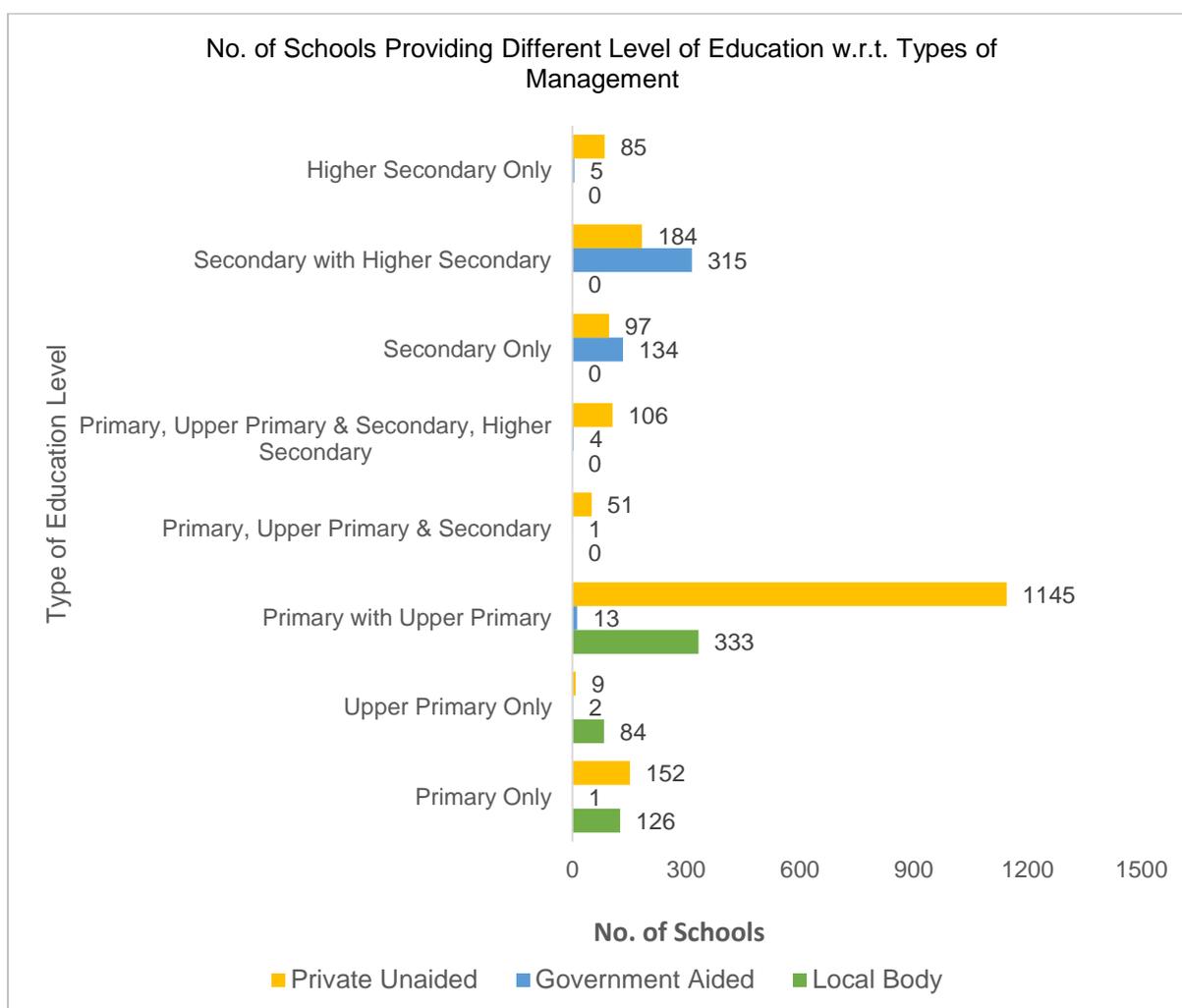
Source: (UDISE + Data Sharing Portal, 2022)

4.3.5 Quality of Education

Apart from ensuring equitable access to educational systems, the other critical parameter to understand the situation of the existing systems is to study the quality of education. A city may have an adequate number of schools for children, however, the quality of education received and the level of enabling environment that the schools offer the children determines their overall mental growth.

The quality of education a child receives also defines the strength of any education system and determines the depth of learning in children. It is also an important determinant for opportunities children receive in the future. It can be measured by parameters that impact the quality or are impacted by:
   a. pupil teacher ratio,
   b. learning outcomes- scores, literacy numeracy rates,
   c. teacher's qualifications and
   d. adequacy of infrastructure

The provision of these ensures a holistic and enabling environment at schools to learn. Assessment of the quality of education in schools in Ahmedabad has been undertaken for the above listed parameters. This will give a glimpse of the quality of education children receive across private and government schools.

4.3.5.1 Pupil teacher ratio (PTR)

PTR is an extremely important indicator to assess the quality of education a child receives as it determines the attention each child receives while learning. It is defined as the average number of students a single teacher teaches and dedicates attention to in one classroom. Furthermore, the ratio indicates if the teachers are overburdened and therefore delivering lower quality teaching.

"The Right of Children to Free and Compulsory Education (RTE) Act, 2009 in its Schedule lays down norms for ideal PTR, for both primary and upper primary schools. At primary level the PTR should be 30:1 and at the upper primary level it should be 35:1. The Rashtriya Madhyamik Shiksha Abhiyan (RMSA) framework stipulates that the PTR at secondary level should be 30:1. As per Unified District Information System for Education (UDISE) the PTR at national level for elementary schools is 24:1 and for secondary schools it is 27:1" (Press Information Bureau, 2017).

Table 9 Pupil teacher ratio for different class levels

Pupil teacher ratio			
Class/level	RTE	RMSA	UDISE
Primary	30:1	-	24:1
Upper primary	35:1	-	24:1
Secondary	-	30:1	27:1

Source: (Press Information Bureau, 2017)

According to the above norms, Ahmedabad has a poor PTR of 34:1 when compared to the 9 major urban districts of India. (Ministry of Education, UDISE + Data Sharing Portal, 2022).

Figure 60 PTR across major urban districts of India
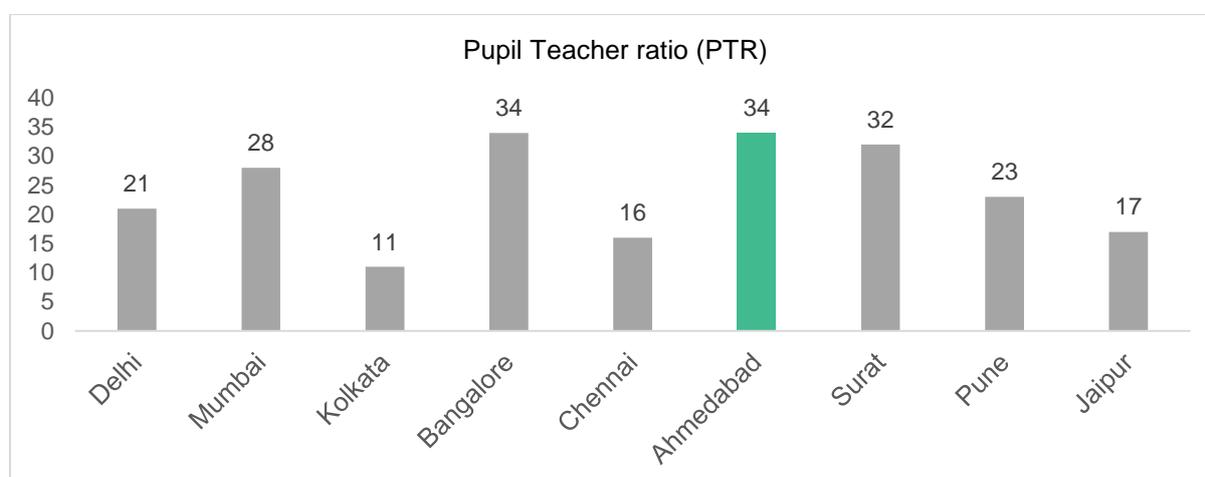
Source: (District Report Cards Volume I, 2017)

As per UDISE+ Data 2019-20, in Ahmedabad, across all schools (elementary and secondary) the average PTR is 36.93. Less than 23% of government elementary schools have PTR below 24. Comparatively, about 34% of private elementary schools had a PTR of less than 24. Overall, across both school management types, the condition of PTR in Ahmedabad is poor indicating that a single teacher has to teach a larger number of students per class (Ministry of Education, UDISE + Data Sharing Portal, 2022). This invariably impacts the quality of attention and monitoring that students receive. The elementary stage is the basic education platform, wherein the quality of education must not be comprised, hence more teachers should be deployed.

Figure 61 PTR distribution in private and government elementary schools
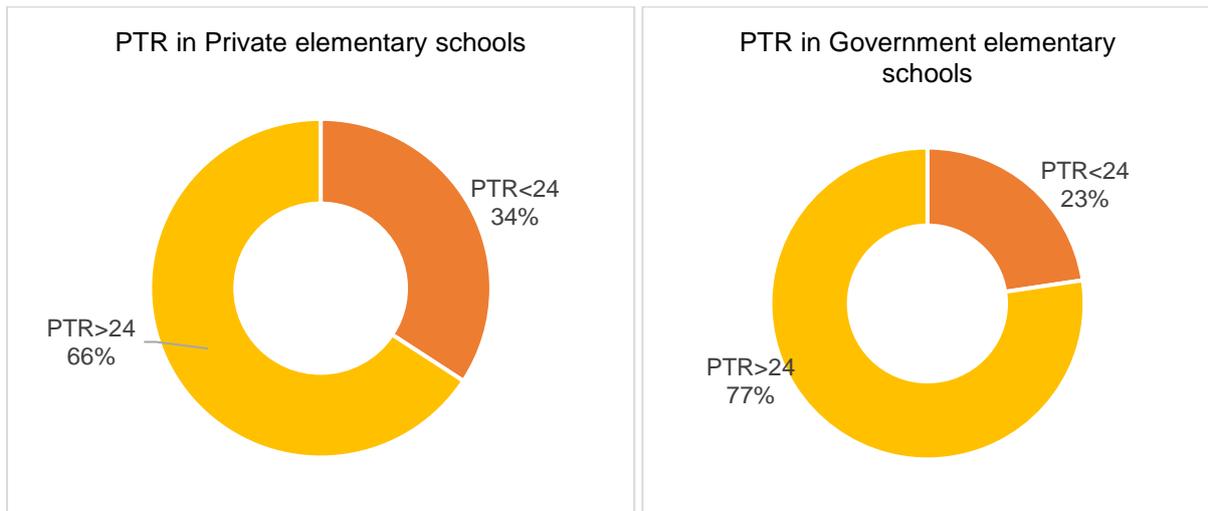
Source: (UDISE + Data Sharing Portal, 2022)

A similar situation is observed in the case of secondary schools. Private schools fare better in terms of PTR compared to government schools. Only 29% of government secondary schools had a PTR of less than 27. Despite the differences, majority of schools of both management types fail to meet the ideal PTR. This impacts the quality of education in both government and private schools.

Figure 62 PTR distribution in private and government secondary schools
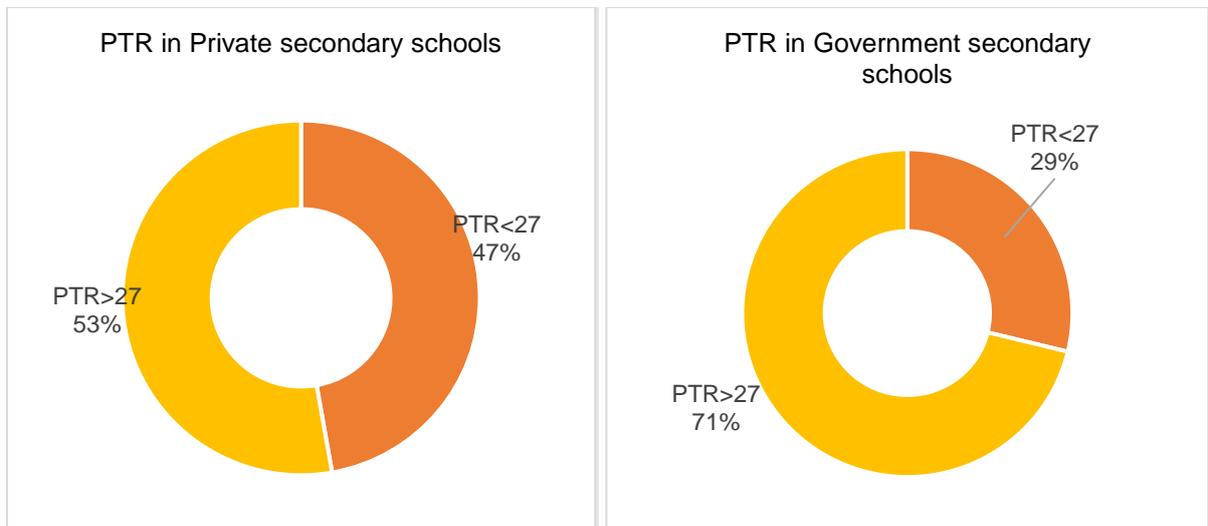
Source: (UDISE + Data Sharing Portal, 2022)

Additionally, along with the skewed ratio of pupil to teacher, data shows that about 23% of all schools are understaffed (Ministry of Education, 2022). (It must be noted that there may be gaps with the information updated on UDISE too).

Further, about 1290 teachers (4%) of the total of 29,750 teachers have qualifications less than under graduation, that impacts the quality of education children receive (Ministry of Education, 2021).

Overall, the situation of PTR fares poorly across most schools in Ahmedabad and points to the need to address this by on boarding additional qualified teaching staff. It should be noted that, the schools with high PTR have high concentration of children. It should not be looked

upon as, a measure to reduce enrolments or number of classes but as an opportunity to increase employment of teachers.

4.3.5.2 Adequacy of infrastructure

The physical infrastructure of schools along with provisions of basic amenities like electricity, clean drinking water, dustbins, clean toilets, hand washing facilities, access to library, playground, sports facilities or recreational amenities, and digital learning impacts the overall wellbeing and growth of a child. Physical and mental wellbeing impacts the learning abilities in children.

As per UDISE Data 2019-2020, the following parameters are assessed across a total of 2,870 schools in Ahmedabad city:

Availability of electricity

All the schools have provision of electricity. No school is left behind in accessibility of light and ventilation.

Access to libraries

Libraries are a vital source of information and learning for children in schools. They inculcate reading and learning in children on their own. Library or reading rooms should be provided in all schools across all educational levels. In Ahmedabad, around 2,655 schools out of 2,870 have libraries, indicating a satisfactory access to knowledge outside course books (Ministry of Education, 2022). During interactions, children from urban poor settlements in the Central Zone of Ahmedabad also conveyed that their schools had libraries or reading rooms for their use. They shared how access to books improved their reading habits and helped them explore more.

Figure 63 Schools with access to library
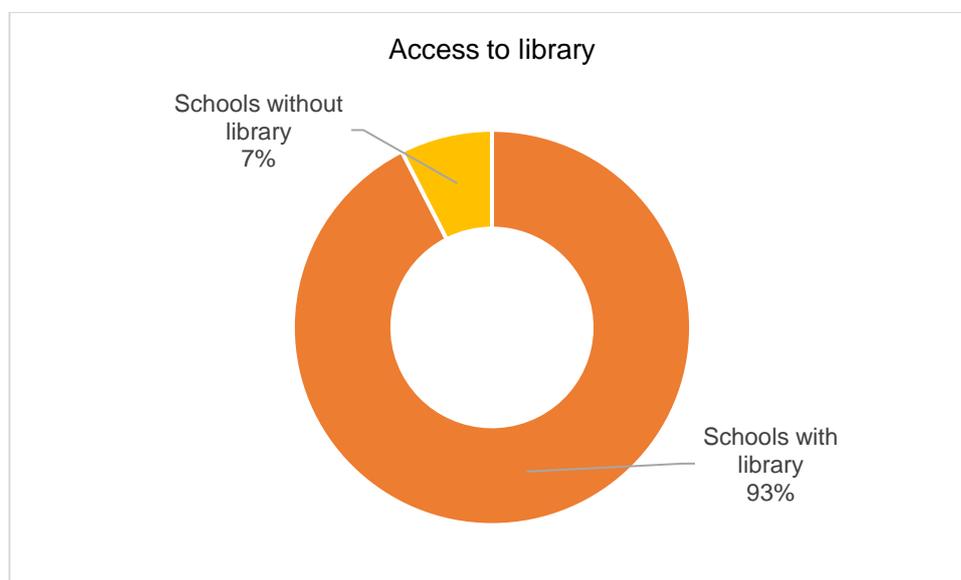
Source: (UDISE + Data Sharing Portal, 2022)

Access to playgrounds

Playgrounds, play areas or sports facilities in schools improve children's fitness and health. It impacts their social, physical, mental, and emotional wellbeing. They are learning platforms as well, where children get refreshed and rejuvenated. Many children often do not have access to such play areas at home. Schools can bridge the gap of open spaces for them.

About 1,931 schools of 2,870 have playgrounds or play areas inside their school campuses. However, the availability of playgrounds should be further assessed with their quality and size (Ministry of Education, 2022).

Access to computer labs

In the age of digitisation, the access to digital learning via computer and internet is equally important to other amenities. To learn ahead and compete healthily, children must be exposed to the outside world to a certain extent. However, only 467 out of 2,870 schools have computer labs in Ahmedabad (Ministry of Education, 2022). This is a significant gap towards accessing digital learning.

4.3.5.3 Performance Grading Index (PGI)

As per a report by Ministry of Education (Performance Grading Index or PGI), schools in Gujarat perform well. PGI is a relatively new index that measures the performance of school education in states. Gujarat along with 6 other states namely Kerala, Punjab, Chandigarh, Maharashtra, Rajasthan, and Andhra Pradesh, has attained Level II (score 901-950 out of 1,000) in 2020-21 as compared to none in 2017-18.

The PGI structure is divided into 5 domains:
1. Learning Outcomes (LO),
2. Access (A),
3. Infrastructure and Facilities (IF),
4. Equity (E)
5. Governance Process (GP)

PGI of Gujarat:

Gujarat has been improving steadily in the education sector across domains.
The access domain is measured through parameters such as enrolment, retention of students, total students transitioning to higher class/levels as well as identifying and mainstreaming out of school children. Access of schools in Gujarat has improved by nearly 5% in comparison with previous year (2019-20) (Performance Grade Index (PGI), 2021).

Provision of adequate and safe infrastructure, including working toilets, clean drinking water, clean and attractive spaces, electricity, computing devices, internet, libraries, and sports and recreational resources is assessed under Infrastructure and Facilities domain. In this, Gujarat has improved the provisions in schools by nearly 15%.

Schools in Gujarat have underperformed in comparison to the previous year in providing inclusive and equitable education under the Equity domain by nearly 2%.

Schools are performing adequately well in governance processes domain with an increase of 5%.

PGI of Ahmedabad District:

Ahmedabad is doing moderately well in education acquiring the 18th rank in the state list. It lags in the learning outcomes category indicating the state of quality of education in the city. It is doing moderately well in providing infrastructure in schools.

Assessment of districts was based on categories of Outcomes, Effective Classroom Transaction (ECT), Infrastructure, Facilities, Student Entitlements (IF & SE), School Safety and Child Protection (SS & CP), Digital Learning (DL) and Governance Processes (GP). As per district level data 2019-20, Ahmedabad stands in the *uttam* (fourth) position with a total score of 413 on 600. It lags behind Surat, Porbandar, and Junagadh in Gujarat indicating a need to increase steps to improve in the education sector.

Table 10 PGI score of Ahmedabad

	Overall (600)	Outcome (290)	ECT (90)	IF & SE (51)	SS & CP (35)	DL (50)	GP(84)
Ahmedabad	413	161	74	38	33	28	79

Source: (Performance Grade Index (PGI), 2021)

Figure 64 PGI scores of mega cities in India
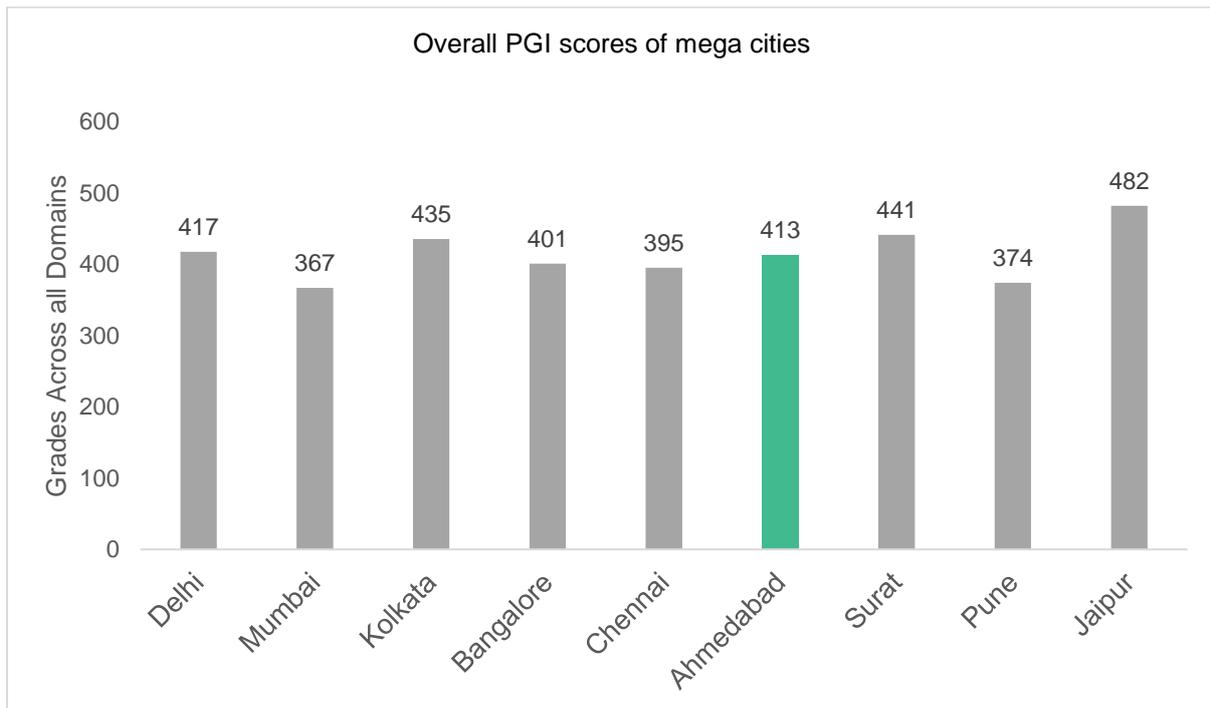
Source: (Performance Grade Index (PGI), 2021)

As per National Achievement Survey, 2021 Ahmedabad district is performing better than the State average and National average. The assessment is conducted for the students of grade 3rd, 5th, 8th and 10th. The findings reveal that about 80% children in grade 3rd have achieved the basic learning levels, with about 50% attaining proficient and advanced levels. Similarly, 30-40% students in grade 5th have acquired most of the learning outcomes and skills required by the curriculum. Learning outcomes in grade 8th students vary quite much with subjects. Similarly, less percentage of student of grade 10th have proficient performance except for English subject.

Overall, this data suggests that the learning outcomes are fair for majority of children. However, the learning outcomes in measures of proficient and advanced level is less in children of higher classes. All the schools must take measures of improving delivery of education, inculcate a better learning environment for children to further minimise the percent of children who have performed below basic level (National Achievement Survey 2021, Ahmedabad).

Table 11 Source: Grade wise performance of children

Grade	Subject	Performance level (% of children)			
		Below basic	Basic	Proficient	Advanced
3rd	Language	22	29	31	19
	Mathematics	18	33	33	16
	EVS	18	27	39	16

Grade	Subject	Performance level (% of children)			
		Below basic	Basic	Proficient	Advanced
5th	Language	21	43	30	6
	Mathematics	30	43	23	4
	EVS	32	38	26	4
8th	Language	10	47	34	9
	Mathematics	23	43	24	10
	Science	30	35	24	11
	Social science	33	46	14	8
10th	Modern Indian language	44	47	9	0
	Mathematics	30	55	13	2
	Science	76	18	6	0
	Social science	51	29	17	2
	English	16	15	49	20

Source: (National Achievement Survey 2021, Ahmedabad)

In conclusion, the overall scenario of education in Ahmedabad seems to be fair. Access to schools is the most important criterion; quality being the second. The schools are fairly accessible to children, with good infrastructure facilities but are lacking a good quality of education as seen in the PGI scores. In Ahmedabad, the access to government schools that offer higher education is not adequate.

The overall access to schools is moderate. Majority of schools provide elementary education. Most of the schools are run by private bodies, not being able to cater the children of the urban poor irrespective of the Right to Education act. Even if tuition fees is waved off, other expenses related to uniforms, curriculum textbooks, stationery, or sports equipment are not affordable for all. Thus, children from weaker financial backgrounds mostly get enrolled in government aided and local body schools. Assessments of UDISE+ data brought forth the need for more government schools that provide better quality of education. A lack of secondary and higher secondary schools has been found in schools run by government and local body which can impact continuity of education especially in higher levels. Hence, government schools should be strengthened to include levels up to 12th grade that provide the expected quality of education.

All the children must be educated to guide their future generations. Dropout rates after 8th grade reveal the need to improve access of secondary and high secondary schools, and awareness on higher level education. The quality of education seems fine as about half of the schools have a good pupil teacher ratio, most of them have access to playgrounds and libraries and toilets. The physical infrastructure of schools is found out to be good.

Overall, there must be equitable learning across all schools. The education system has a few gaps as listed above, but can improve with awareness of improved education systems across the city, and opening up of public schools for secondary and higher secondary education in government schools. There is a need to increase number of teachers in schools and reduce the PTR gap. The quality of education can be enhanced with increased employment of teachers with appropriate qualifications. Experts mentioned in stakeholder meetings that in order to enhance the learning outcomes in schools, schools must integrate science, technology, engineering and mathematics (STEM) based education methods in teaching that focus on hands-on learning with real-world applications, and helps developing a variety of skill sets, including creativity very early on. As per the PGI scores, Ahmedabad needs improvement in its learning outcomes and provisions of digital learning. This could be achieved with improvement of PTR scores, provision of computer labs, internet facilities and provision of digital learning to children.

Ahmedabad is on its way to improvement as mentioned in the stakeholder's consultation. The Ahmedabad municipal corporation has undertaken the Smart School Initiative post COVID-19, that emphasises on upgradation of government schools into smart school which is based on STEM based modules and digital learning. So far, 62 schools have been upgraded, and plans are to transform all and implement the National Education Policy by 2024.

5 Right to be Safe

Violence against children remains a critical and growing problem across the world. It is estimated that nearly half of the children globally face violence and exploitation in one form or another. These problems are estimated to be more significant in societies and communities in developing countries (Children and adolescents in urban India- Scale and nature of deprivation, 2020). Any violence, abuse and exploitation experienced during the formative years, has a significant impact on the overall development—physical and mental—of children.

Apart from ensuring access of social services to children, it is critical to ensure safety and protection of children in the process of creating child friendly cities. Only if children are safe and protected will they be able to grow up safe. The level of child safety and protection is also an indicator of the extent of inclusivity that a city exhibits. India has been taking several measures to protect the rights of children and create a conducive and safe environment for them to grow and develop in. India became a signatory to the UNCRC in 1992. Following this, the country passed several legislations and acts that were child-centric in nature such as the Child Labour (Prohibition and Regulation) Act (1986 amended in 2016) National Commission for the Protection of Child Rights (2005), Juvenile Justice Care and Protection Act (2015), Prohibition of Child Marriage Act (2006), Right to Education Act (2009), and the Act on Protection of Children from Sexual Offences (POCSO) (2012). Further, in 2013, the National Policy for Children (NPC) was introduced by the government to address the various challenges faced by children.

Despite the introduction of such Acts and legislations, concerns with respect to lack of sufficient data continues to be a problem. Misreporting and under reporting of information are often the underlying factors behind this problem. In India, the National Crime Records Bureau (NCRB) publishes annual reports of the status of crimes officially reported in India, including those committed by and against children. The data is sourced from various state and police departments along with other central law enforcement agencies and bodies such as the Department of Social Justice and health departments of cities. Similarly, the NFHS provides insight into child marriage while the Census 2011 provides information on child labour.

According to NCRB, in 2021, a total of 1,49,404 cases of crime were registered across the country out of which 19,055 were crimes against children. Kidnapping and offences against POCSO topped the list with 56.6% and 30.8% respectively (National Crime Records Bureau, 2022).

In this section of the report, we look at crimes committed against children as well as crimes committed by juveniles. These comprise of offences under the Indian Penal Code (IPC) and the Special and Local Laws (SLL). Under the head of crimes against children, data of 11 key offences has been studied. Under juvenile offences, 15 key offences have been studied. The data of Ahmedabad is also compared with 19 other major metro cities of India where possible. The primary source of data used are the annual reports of the NCRB. Comparative figures across 19 cities have been studied for 3 years (2019-2021). Ahmedabad specific data has been sourced for the years 2018-2021. It is pertinent to note that this data is only based on the reported cases of crimes and the actual situation may be significantly different and not necessarily point to a negative picture of the situation at hand.

5.1 Overview of Gujarat

A total of 19,055 cases of crimes of against children in India were reported in 2021 (National Crime Records Bureau, 2022). Gujarat reported 4,515 cases of crimes against children in 2021. This was a decline of nearly 8% from 2018. The majority of these were under the cases of POCSO, hurt and kidnapping. At the national level 5,828 crimes by juveniles were

reported in 2021 and Gujarat reported 1,804 crimes by juveniles in 2021, a decline of nearly 12% from 2018. These are the crimes reported by concerned authorities and indicate the poor situation of a safe environment for children.

5.2 Crimes Against Children in Ahmedabad

As a city, Ahmedabad saw a 43% increase in reported crimes against children from 481 reported crimes in 2016 to 691 in 2021. An average of nearly 8.34 crimes per 0.1 million were reported against children from 2019-2021. This presents a worrying picture of the scenario of overall safety of children. A study of the NCRB data for 19 metro cities shows that Ahmedabad only fared better than Delhi and Mumbai based on the reported cases. The following graph shows the change (in absolute figures reported) over the six years.

Figure 65 Year-wise change in crimes against children in Ahmedabad
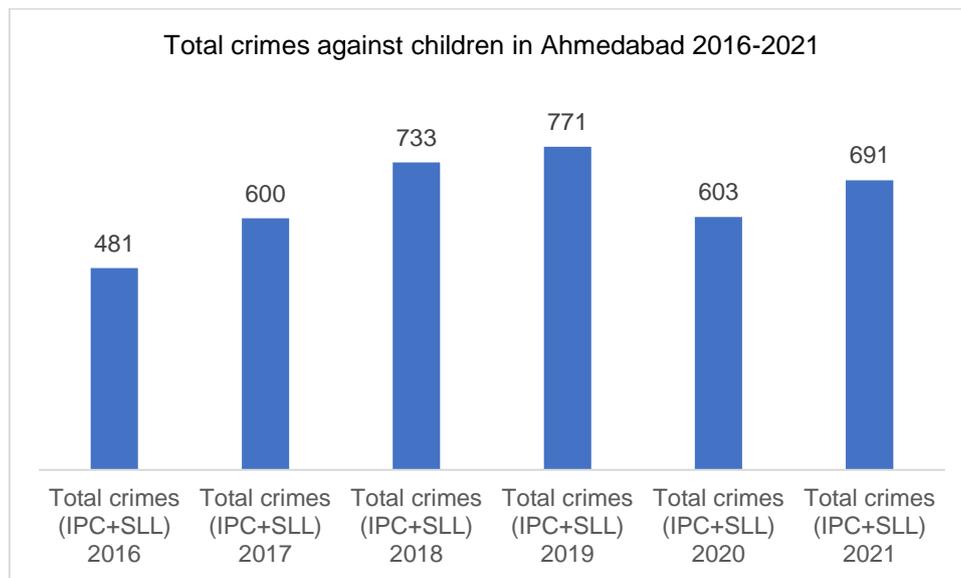
Source: (National Crime Records Bureau, 2022)

Figure 66 Crimes reported against children across major metro cities in India, 2019-21
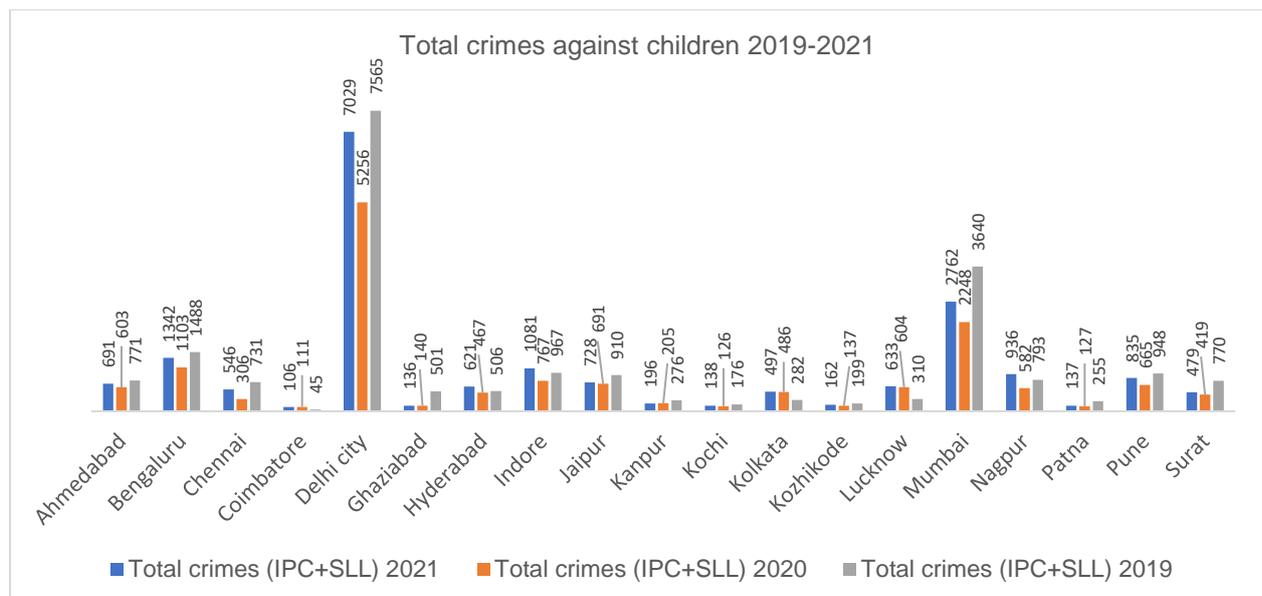
Source: (National Crime Records Bureau, 2022)

In this study, data of the following key offences have been studied.

1. Sexual violence (POCSO)
2. Kidnapping
3. Abandonment
4. Child marriage
5. Child labour
6. Cyber-crimes against children

5.2.1 Sexual Violence (POCSO)

In 2021, Ahmedabad reported maximum offences against children under the Protection of Children from Sexual Offences (POCSO) Act; approximately 381 cases in all. As per NCRB data POCSO offences from total crimes against children in Ahmedabad increased from 50% in 2018 to 68% in 2021 (National Crime Records Bureau, 2022). While it is difficult to ascertain the true causes behind this rise, reports and news articles attribute this to a rise in the number of people reporting such cases. Despite the rise in reporting of such offences by victims and their families, the articles claim that Gujarat has the second lowest conviction rates of POCSO cases in the country. Apart from social stigma, a cause for this may be attributed to the fact that majority of the cases are lodged by parents, of minors who have eloped, and the families eventually reach a mutual compromise and withdraw complaints (Himanshu Kaushik, 2018).

In the cases of sexual violence against children, studies reported by the news agencies showed that in nearly all cases, the minors were known to the offenders beforehand. Some also claimed to have been in a consensual romantic relationship with the offender (Tanushree Bhatia, 2018). A news report from 2021 brought to light that in Gujarat, Ahmedabad city topped the list in terms of sexual violence and rape of children from the Scheduled Castes (SC) and Scheduled Tribes (ST). Further it reported that nearly 60% of all victims of sexual abuse among the SC/ST groups were minors (The Times of India, 2021). In most cases the perpetrators were close family members or persons known to victims.

Across the 19 major metro cities, a total of 5,921 POCSO offences were registered. Ahmedabad reported nearly 4.62 POCSO crimes per 0.1 million children (amounting to 381 incidences comprising nearly 6% of total crimes in the city). It only fared better than Delhi (24%), Mumbai (18%) and Chennai (National Crime Records Bureau, 2022). It may however be speculated that the actual numbers may be significantly higher and not captured due to various reasons such as under-reporting and stigma.

Figure 67 Distribution of crimes reported against children in Ahmedabad

Crimes against children in Ahmedabad 2021

Child labour
1%

Murder
2%

Abandonment
2%

Kidnapping
26%

Kidnapping of
minor girls for
marriage
1%
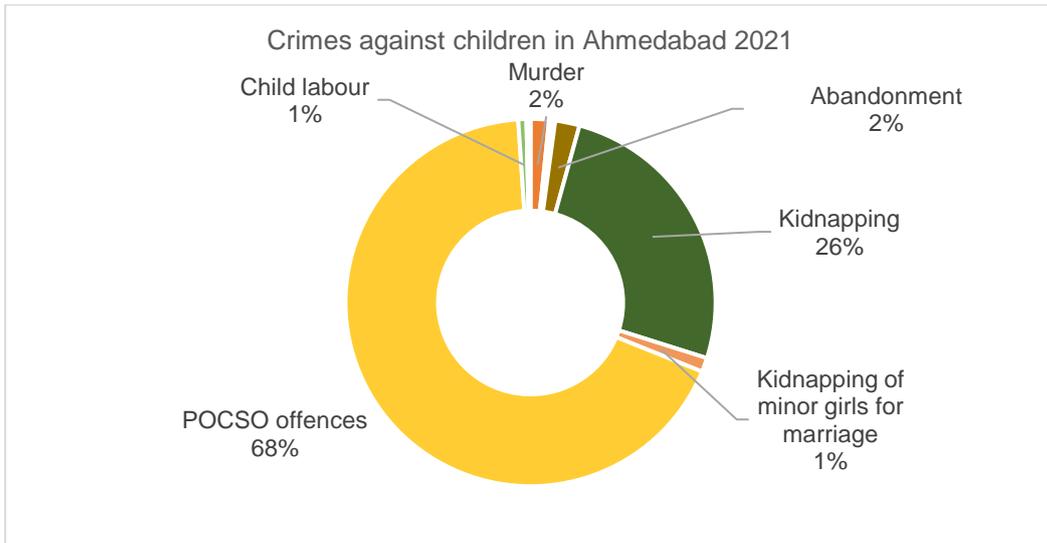
POCSO offences
68%

Source: (National Crime Records Bureau, 2022)

Figure 68 Change in incidences of POCSO offences in Ahmedabad

POCSO offences in Ahmedabad 2018-2021

2018	2019	2020	2021
335	359	328	381
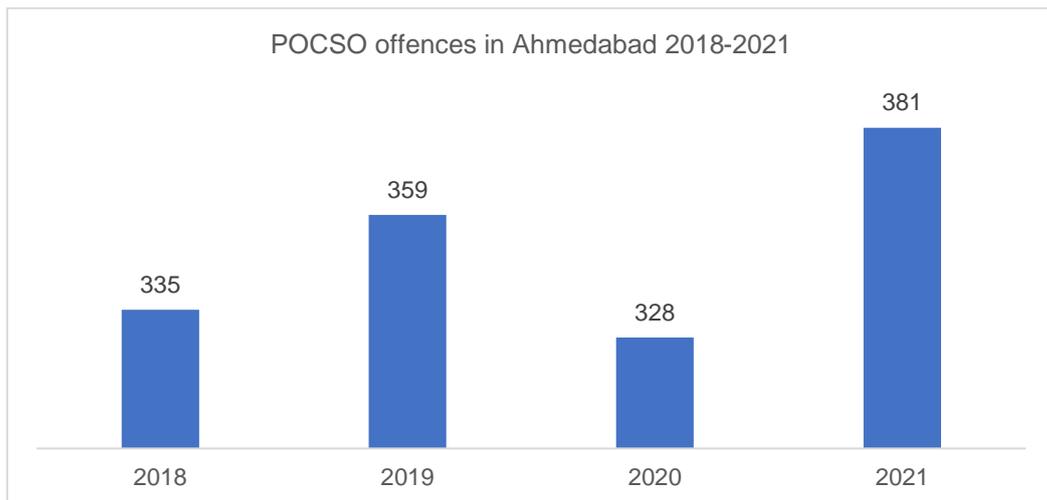
Source: (National Crime Records Bureau, 2022)

Figure 69 Distribution of POCSO crimes across metro cities in India, 2021

POCSO offences- 2021

City	Percentage
Surat	3%
Pune	4%
Patna	1%
Nagpur	4%
Mumbai	18%
Lucknow	4%
Kozhikode	1%
Kolkata	3%
Kochi	1%
Kanpur	2%
Jaipur	1%
Indore	4%
Hyderabad	7%
Ghaziabad	2%
Delhi city	24%
Coimbatore	2%
Chennai	8%
Bengaluru	7%
Ahmedabad	6%
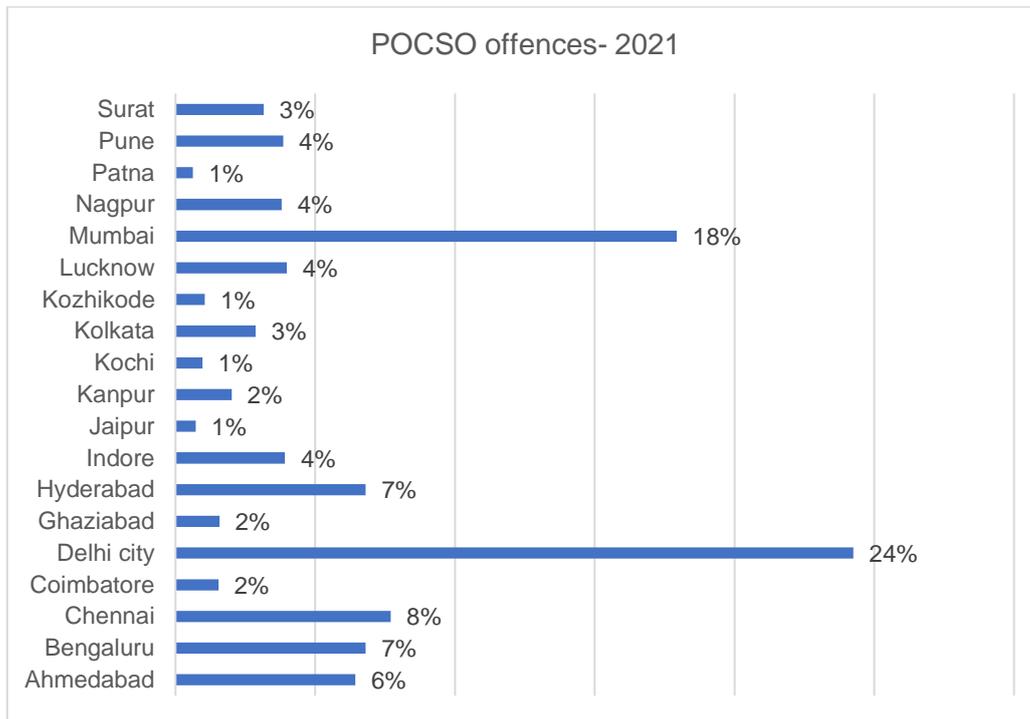
Source: (National Crime Records Bureau, 2022)

5.2.2 Kidnapping

Apart from POCSO related offences, kidnapping of children was the second most pertinent cause of concern in terms of child safety. Ahmedabad registered 144 cases of child kidnapping in 2021 (26% of total crimes against children). While this was a reduction from 221 cases registered in 2018, a drop of nearly 34% (National Crime Records Bureau, 2022), it still presents a worrying picture of safety of children. An article from 2022 reported that the cases of kidnapping were driven largely with the intent to make the young children beggars while infants were often sold to couples and families desiring children (The Times of India, 2022). Alternatively, some articles also suggest that at times parents register cases of kidnapping when their children leave home due to domestic quarrels. However this needs further deliberation (Himanshu Kaushik, 2022).

Figure 70 Changes in cases of kidnapping in Ahmedabad, 2019-21

Kidnapping of children in Ahmedabad 2018-2021

	2018	2019	2020	2021
	221	195	148	144
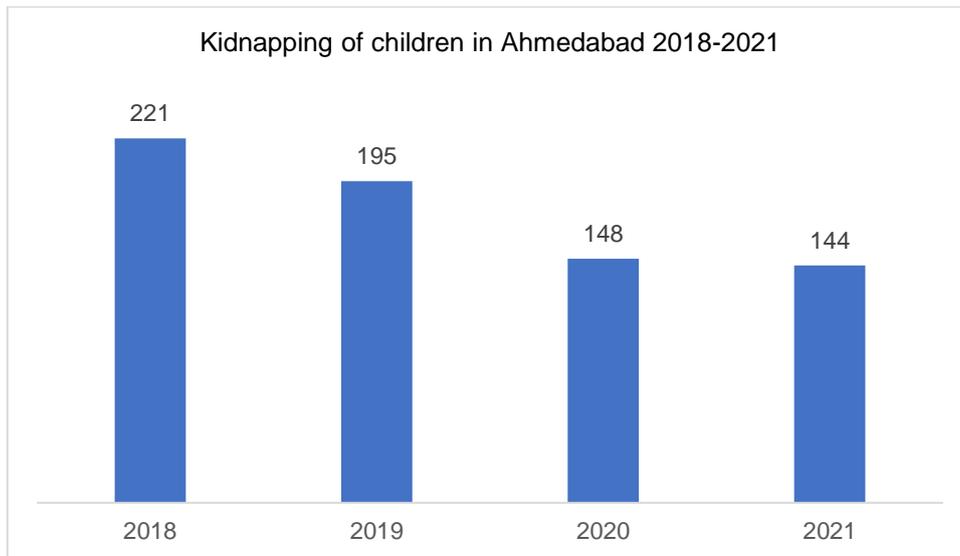
Source: (National Crime Records Bureau, 2022)

Figure 71 Distribution of kidnapping across metro cities

Kidnapping of children across 19 cities (2021)

City	Percent
Surat	2%
Pune	5%
Patna	1%
Nagpur	4%
Mumbai	14%
Lucknow	3%
Kozhikode	0%
Kolkata	3%
Kochi	0%
Kanpur	1%
Jaipur	4%
Indore	6%
Hyderabad	1%
Ghaziabad	0%
Delhi city	47%
Coimbatore	0%
Chennai	0%
Bengaluru	7%
Ahmedabad	1%
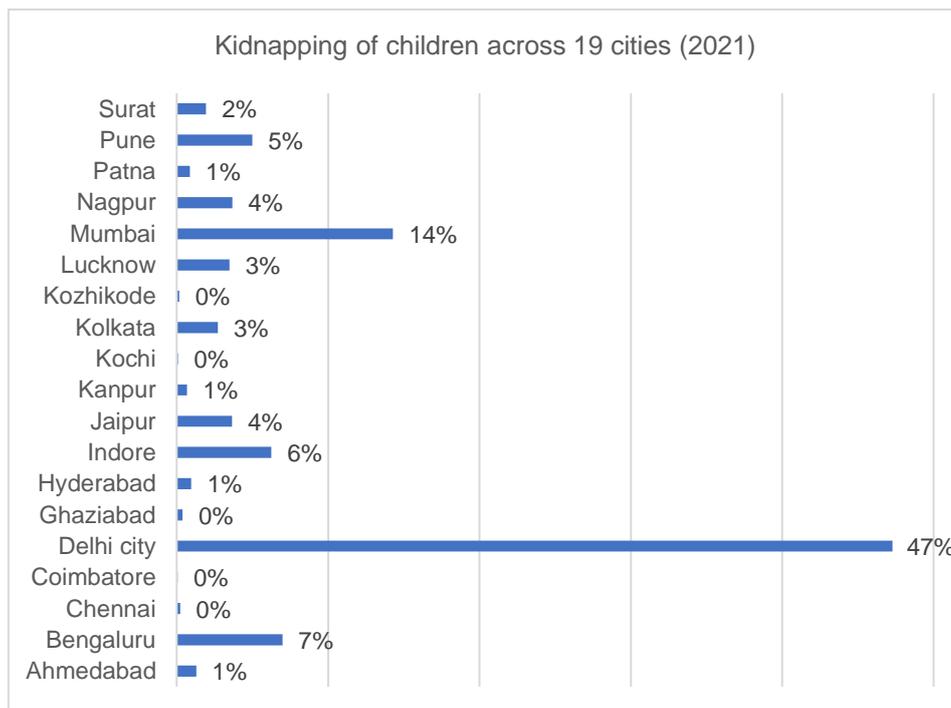
Source: (National Crime Records Bureau, 2022)

5.2.3 Abandonment

Another emerging sector of concern regarding child safety is the rise of abandonment of children. According to NCRB, there was a total of 111 reported cases of child abandonment across the 19 major metro cities. Ahmedabad's share was only 11% to this figure with Delhi being the highest at 32% (National Crime Records Bureau, 2022). There is however the possibility of discrepancy of data since seven cities have not reported any figures regarding child abandonment. With availability of more comprehensive datasets, these figures may present a different scenario. In 2021, abandonment formed 2% of the total crimes against children in Ahmedabad. According to a news article, the 108 EMRI services in Ahmedabad

reported that at least 1 child was reported abandoned every month. Out of every eight abandoned children, five were reported to be girls (Parth Shastri, 2022). Secondary research speculates that the primary causes of abandonment of children is driven by poor socio-economic conditions of families and the desire for a male child or child without any health complications.

Figure 72 Incidences of child abandonment in Ahmedabad
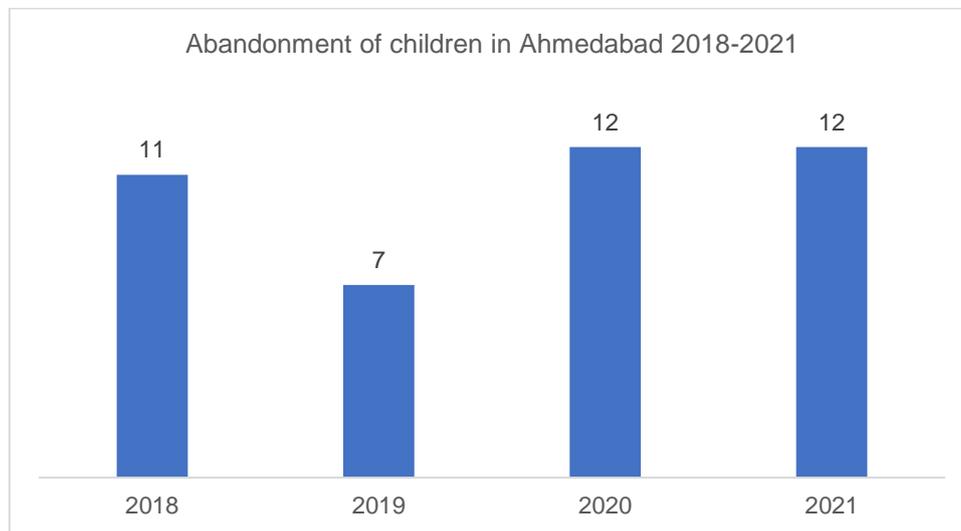
Source: (National Crime Records Bureau, 2022)

Informal discussions with representatives of children's homes revealed that on an average each home receives 2 to 3 children a year. The person in charge conveyed that among infants it is often girls or children with health condition and physical deformities that are abandoned by parents. Among children above the age of 6 years, it is often a parent or guardian that approaches local NGOs to surrender the child from a household where their safety is compromised- abusive parents, parents unable to fend for the children, death of parents and other such circumstances. These children are then brought to the district child welfare committee (CWC) from where they are sent to the respective orphanages and care centres.

5.2.4 Child Marriage

Ahmedabad has no reported cases of child marriages for data studied since 2018. This, however, may not necessarily present the true situation of the matter. According to NFHS 4 and 5, 18.1% and 17.5% of women between the age of 20 and 24 years reported to have been married before turning 18 years old (National Family Health Survey 5, 2019).

Further, a study conducted by Shyam Institute in 2016, found alarming and yet insightful data on child marriages in Ahmedabad. According to the study, 9.9% of girls in Ahmedabad (against state average of 6.6%), were victims of underage marriage while the 4.2% (against state average of 2.9%) of boys were underage when married (Aalok Ranjan, 2016). This puts Ahmedabad in the third position, after Gandhinagar and Kheda to record the highest number of underage marriages. This is prevalent in SC/ST communities residing in the urban areas. Out of all the reported child marriage cases in Gujarat, Ahmedabad had the highest percentage of child marriages (between 10-14 years of age) compared to other locations in the state. 7.2% of girls and 4.1% of boys were found to be between the age of 10-14 years when married.

On the other hand, a look at married minors in the bracket of 15-17 years shows that 18% of the girls were married, higher than the state figure of 13.3% for the same age bracket. 7% of boys were married between the ages of 15-17 years against the state average of 4.8%.

Based on these findings, it can be understood that Ahmedabad has among the highest rates of child marriage even though their incidences may not be officially reported and captured. The key factors behind the continued practice of child marriages are attributed to socio-cultural beliefs and customs, though the study does not point out what these customs are.

It may therefore be assumed that NCRB has not been able to capture adequate data on the topic. The impacts of early childhood marriage can be significant on the mental and physical health of both boys and girls in the future. The most significant being the potential to impact their educational future, and subsequently the negative impact on physical health of young mothers.

5.2.5   Child Labour

According to UNICEF, child labour is when a child between the age of 5 to 11 years works for one hour of economic activity or 21 hours of unpaid domestic work in a week, and for children between 12-14 years of age, the child carries out at least 14 hours of economic activity or 21 hours of unpaid domestic work in a week, or a child between 15-17 years of age carries out 43 hours of economic work in a week.

India is a signatory and founder member of the International Labour Organisation (ILO). Drawing from this, India introduced the National Child Labour (prohibition and regulation) Amendment Act 2016, which clearly states that it is illegal to employ children in any occupation and to prohibit the engagement of young adults/adolescents in hazardous occupations. However, the Census 2011 reveals that there were nearly 35,000 children (5-14 years of age) employed as primary and marginal labourers in urban areas of Ahmedabad district. On the other hand, the NCRB revealed reported cases of child labour in Ahmedabad reducing from 45 in 2019 to 4 in 2021. Such a disparity/gap in the reported data makes it difficult to adequately analyse the situation.

However, a 2015 study of 300 children in Ahmedabad district (150 of which were from the city area) between the ages of 7 and 14 years found that child labour continues to be a problem. The study found that more though more than half the child workers studied in schools and worked to support their families there was an average 40% illiteracy among the sample group (Rajeshwari Shrimali, Dr. Mayuri Farmer, 2015). 88% of the children in the study felt that there was significant need for them to work to improve the economic condition of their families and so even if they were unwilling, they had to continue to work. Due to the stress of long working hours, consumption of tobacco as a coping mechanism was also found to be high among the children. The study found that out of all the children, the concerned child protection agencies and government departments were able to free and counsel only 2% of the children who still went back to work upon release (Rajeshwari Shrimali, Dr. Mayuri Farmer, 2015). This points to the fact that despite having access to education and being counselled, the inherent need to improve their financial conditions is a leading cause for child labour. This situation was further compounded with the financial stresses brought on by COVID-19.

5.2.6   Cyber Crime

Changing times have led to an increased dependency on digital tools, whether it is for work, education or entertainment. This has resulted in greater exposure of children to the cyberspace which in turn increases the risks that follow unsupervised use. According to data reported and captured by NCRB, Ahmedabad saw a total rise in cyber crimes from 212 in 2018 to 421 in 2020. Out of this there were only 4 reported cases of cyber crimes against children in 2019 and 2 reported cases in 2020. While this may appear to showcase a positive situation in the city, it is important to understand that these numbers represent only the registered and reported cases. According to several news articles, in 2022, Ahmedabad saw more than 5,000 cases of cyber crimes against women and young girls (Times of India,

n.d.). A more comprehensive data set of information on the issue will help to adequately assess and analyse the situation further.

5.3 Children in Conflict with the Law

When studying the safety of children in cities, in addition to understanding the crimes committed against them, it is also important to study incidences of juveniles and young adults coming in conflict with the law. From 2016 to 2021, the city saw a 49% increase in offences committed by juveniles, with 258 reported incidences in 2016 rising to 386 in 2021. In 2021, according to NCRB, reported cases of children in conflict with law amounted to nearly 4.68 crimes per 0.1 million child population (National Crime Records Bureau, 2022).

Figure 73 Trend of crimes by juveniles in Ahmedabad
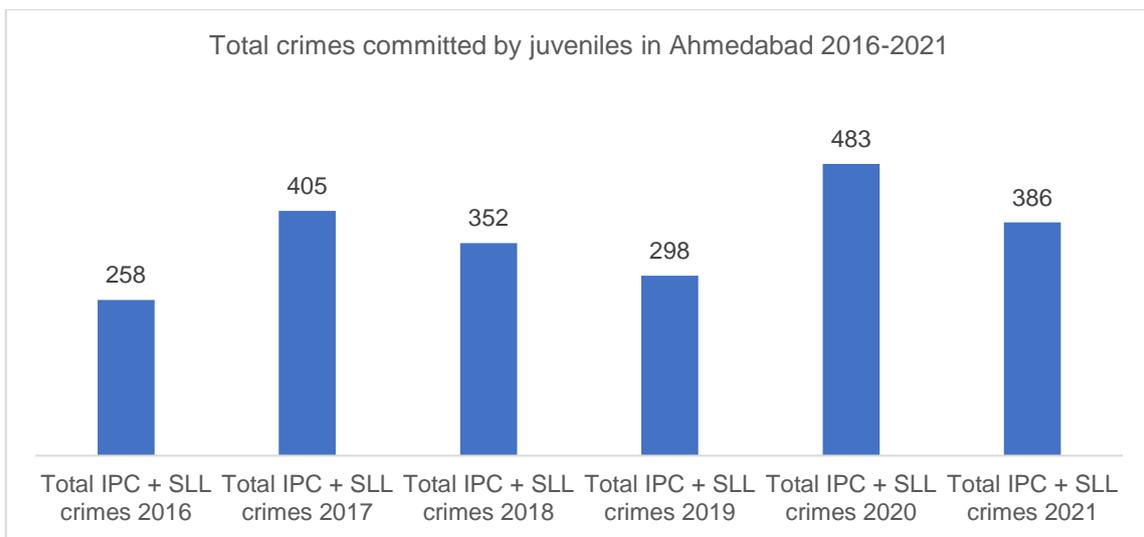
Source: (National Crime Records Bureau, 2022)

Figure 74 Total convictions of juveniles in metro cities, 2021
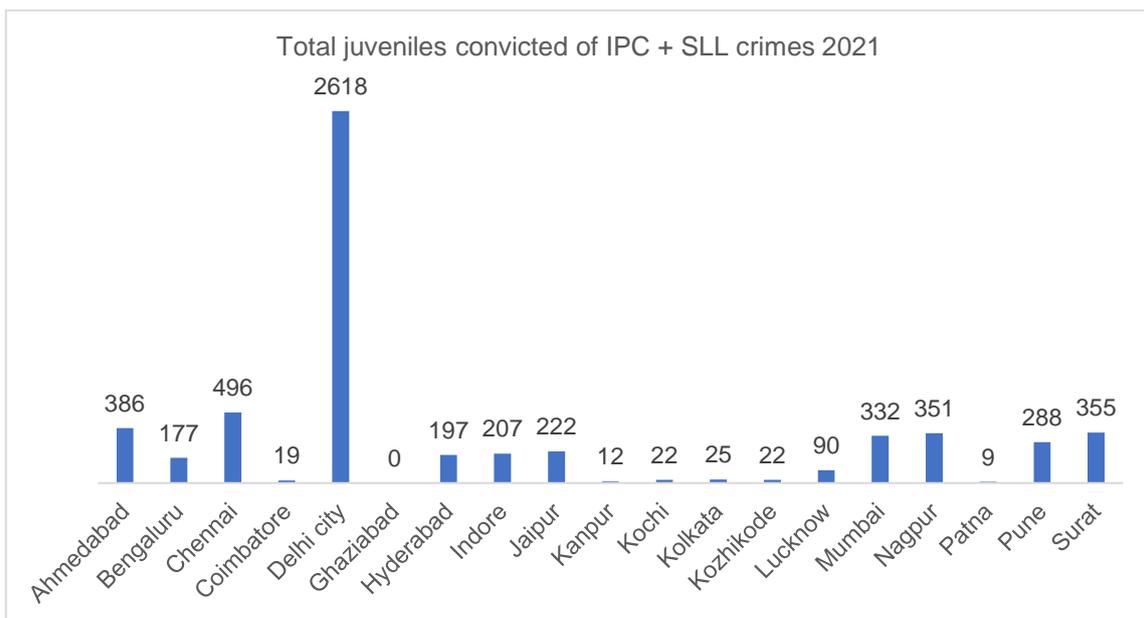
Source: (National Crime Records Bureau, 2022)

The most critical of the reported crimes were causing hurt (29%), theft (34%), criminal intimidation (7%) and POCSO offences (8%).

Crimes by juveniles in Ahmedabad 2021
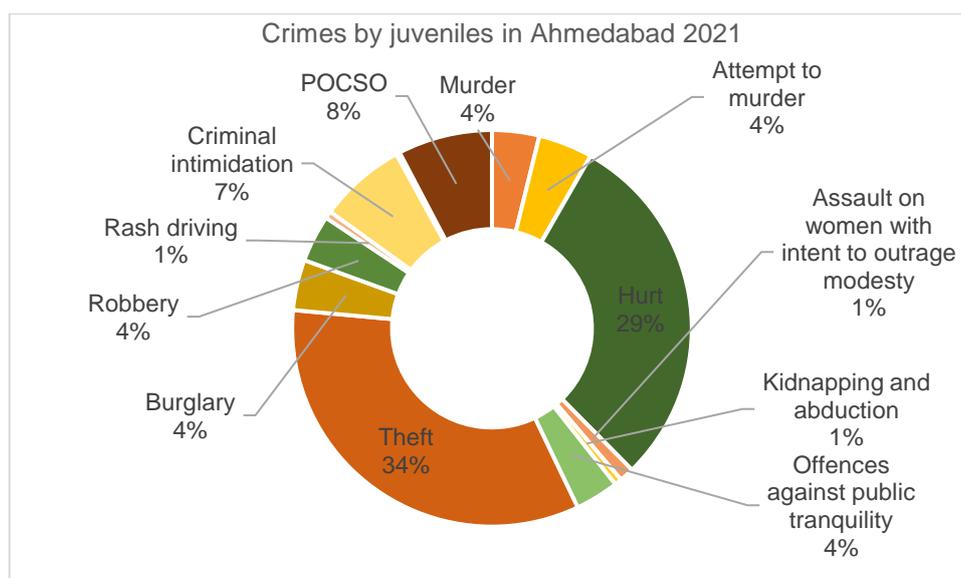
Source: (National Crime Records Bureau, 2022)

According to a 2018 report children in conflict with law across four cities of Gujarat including Ahmedabad were interviewed. The report found that, often the socio-economic conditions at home and the immediate surroundings of the children play a role in forming these habits. This may however require further study and deliberation for validation The respondents were predominantly influenced by their immediate domestic and social surroundings. Some had experienced some form of violence themselves. The report also suggests that poor socio-economic conditions may also be a contributing factor to the criminal behaviour (Dr. Priyanka Kacker, Siddhi Shah, Vishvendu Shastri, 2018). This needs to be studied more deeply, especially in correlation to the impacts of COVID-19.

Based on the existing information from credible sources, it can be said that juvenile crime rates in Ahmedabad are significantly high and reflect the possible lack of adequate child safety measures in the city.

Apart from theft and hurt, substance abuse in minors is a growing concern. Addiction to psychotropic substances, alcohol and tobacco are a leading cause of several health problems not limited to adults, but also children and adolescents. In Ahmedabad, consumption of chewing tobacco is commonplace even among young adults. A 2015 study carried out among 1,500 school students in Ahmedabad revealed alarming information about tobacco consumption among minors. 68% of the male respondents of the study were found to regularly consume smokeless tobacco and 22.3% of the male respondents were in the habit of both smoking and chewing tobacco. 11% of the female respondents reported consumption of smokeless tobacco products while 2.2% of the females reported smoking and chewing tobacco. While all respondents were aware of the health hazards of consuming tobacco, the study found that more than 81% of the respondents claimed to have been influenced by the behaviour of their family and friends (Sujal Parkar, Anand Patel, Shrunjal Trivedi, Abhishek Sharma, 2015).

Apart from school children, a 2018 study on prevalent uses of street drugs among the female population of Ahmedabad showed that nearly 37% of females between the ages of 15 and 24 years claimed to consume some form of tobacco. The study found that early age tobacco consumption among females was significant and was largely observed socio-economically vulnerable and illiterate population (Dr. Mamta Patel, 2018).

5.4 Facilities and Systems to Support Child Welfare and Safety

Government bodies working for child safety and protection

There are several initiatives at the national and state level that work towards safety and protection of children. The Women and Child Development (WCD) department, the Integrated Child Development Services (ICDS), the Gujarat State Child Protection Society (GSCPS) and the Directorate of Social Defence are some of the main organisations working towards safeguarding children and promoting their holistic development. This is in addition to the role played by the education systems in the city working on holistically nurturing children from an early stage in their life, and the police/law enforcement agencies working to keep citizens safe. The GSCPS is an autonomous body of the Social Justice and Empowerment department working across Gujarat to enforce the various child safety and protection acts of the government within the state.

Private NGOs and organisations working on child safety and protection

Several well-known agencies such as CRY and Save the Children are working in the city to help save and rehabilitate children. In addition to the National Institute of Public Cooperation and Child Development (NIPCCD) there are 10 shelter homes, observation homes and after-care homes in Ahmedabad (NIPCCD). Mahipatram Ashram, Missionaries of Charity, Vikasgruh, Shishugruh and Shreyas Foundation are some such organisations. Additionally, there are three observation homes run by the juvenile justice board for minors in conflict with the law.

Emergency helplines

The emergency child helpline called Childline (1098) provides round the clock service to children in need. The helpline is equipped to connect children facing all sorts of problems—physical violence, depression, abuse, etc. Additionally, in partnership with the WCD and GCK EMRI, the city has initiated the 24x7 emergency number (181) providing emergency services to women in distress and in need of care and protection. The helpline intends to make crisis counselling services readily available to women in coordination with NGOs and various government agencies. The city also has in place the 108 emergency ambulance service operated by GVK EMRI to provide critical medical response to persons in need.

Child welfare committees

The state government has also provisioned for the establishment of Child Welfare Committees (CWC) across the districts in the state. Each district has one child welfare committee. "*The Committee shall consist of a Chairperson, and four other members as the State Government may think fit to appoint, of whom at least one shall be a woman and another, an expert on the matters concerning children.*" (Ministry of Law and Justice, 2016). A child in need of safety and protection is produced in front of the CWC to take necessary actions that will ensure the safety of the child. Such a child may be brought to the CWC by any police officer, or Special Juvenile Police Unit (SJPU) or a designated Child Welfare Police Officer (CWPO) or any officer of District Child Protection Unit (DCPU) or inspector appointed under any labour law; a public servant; Childline services or any voluntary or NGO recognised by the state government; Child welfare officer or probation officer; any social worker or public spirited citizen; by the child itself or; any nurse, doctor, management of nursing/maternity home/hospital. Upon due consideration, the child is then shifted to a shelter home in the district. Ahmedabad has several such shelter homes operated largely by private trusts and NGOs (Ministry of Law and Justice, 2016).

In conclusion, it is evident that Ahmedabad has a long way to go in ensuring safety and protection of children in the city. The high crime rates both against children and those committed by children is a cause for concern, especially since these represent only the crimes that were reported by authorities. The actual figures may in fact be much higher.

Child friendly and sensitive policing is also required. It is here that the role of the SJPU, CWPO and DCPU becomes essential. The JJ Act clearly mentions the importance of the role of the SJPU and CWPO in handling cases related to child safety. It mentions the need to have dedicated personnel trained to deal with children, whether victims or perpetrators. Ahmedabad has implemented these units headed by the mandated officers that work alongside the CWC to ensure safety of children. However, in addition to the work being done by these units/officers, there is also a need to understand the condition of childcare homes and juvenile observation centres operating in the city and the kind of support that they provide the children. However, lack of available data sources has proven to be a limitation in this aspect. Despite the efforts being made by the various law enforcement and child protection agencies, it is clear that the city has to build up efforts to improve safety and security of children.

6 Right to be Heard

6.1 Participation of Children

Safety of children and their participation in growth of cities is one of the core principles of the United Nations Convention on the Rights of the Children (UNCRC)[12], which asserts that children and young people must have the right to freely express their opinions and the governments are not just obligated to listen to their views but also facilitate their meaningful participation in the matters affecting them within their families, schools, local communities, public services, institutions, government policies and judicial procedures. Children and youth's meaningful, safe, and appropriate participation ensures sustained child well-being and democratic societies with informed and engaged citizens.

Children and young people can play a significant role as agents of transformation with the capability to engage in decision-making processes, in accordance with their evolving capacities and gradually increasing autonomy. When children and young people learn to communicate opinions, take responsibility and make decisions, they develop a sense of belonging, justice, responsibility and solidarity. In Ahmedabad many voluntary children and youth platforms exists that supports children and youth participation. Many non-government organisations are actively working with communities and citizens to collectivise them, create awareness among them on their rights, entitlements, and means to demand their participation in decision making in governance. But largely these groups remain a faceless entity and do not emerge as strong a representation in governance. There are limited efforts from government to facilitate their engagement and hence participation. As per 74th Constitutional Amended Act, every city is mandated to create ward level committees which will have local representation to invite their participation. However, Ahmedabad does not have any ward level committees and represents a poor state of citizen and youth participation.

Children as important stakeholders are presently absent in Ahmedabad's urban planning and governance process. During the International Youth Day celebration organised by UNICEF, Elixir Foundation and Gujarat Youth Forum on 12th August 2022, the municipal commissioner of Ahmedabad addressed the forum on importance of youth engagement. He emphasised on the role of adolescents and young people in helping duty bearers and other stakeholders build safer, cleaner, more resilient, and child-friendly cities and communities to fulfil children's rights, using the UN Convention on the Rights of the Child as its foundation. He acknowledged the role and impacts of safety challenges, climate change, waste management, and natural disasters on adolescents and young people. He also asserted that every young person has a voice and the power and ability to support rebuilding a better city especially post the COVID-19 pandemic[13].

Social media platforms are important means of information dissemination and communication. These platforms provide space to express their freedom of speech to everyone. City governments in India are also shifting to these platforms to reach out to its people to inform, aware and build consensus. With the digital revolution, we have a large number of children with access to these digital platforms. According to the National Commission for Protection of Child Rights in India, it is estimated that about 134 million children have mobile phones. The number is growing by leaps and bounds. Also, with broadband expansion, these children have faster access to the Internet and hence are

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[12] https://www.unicef.org/child-rights-convention
[13] https://www.unicef.org/india/stories/commemorating-international-youth-day-empowering-enabling-and-elevating-young-voices

present on social media platforms. Local governments can leverage this for children and youths' participation in strengthening urban governance.

7 Right to Family, Life, Play and Leisure

7.1 City Planning for Children

In a city, a child relates with open spaces, education centres/schools and other recreational spaces. A child's right to be safe, heard and social services are elaborated in above chapters highlighting the available built environment for children and its quality. Apart from accessing these amenities, in a daily routine, a child also interacts with open areas of the city. Every child in a city needs access to a clean and safe environment, and safe streets that encourages independent mobility and good quality green spaces to ascertain their well-being and to explore life outside their home and school (United Nations Habitat, 2015). Children's interaction with natural and built environment is essential for their early learning and development. This is necessary to create positive association with places for them. India's Early Childhood Care and Education Policy specifies care, health, nutrition, play, and early learning within a protective and enabling environment are the key elements for early childhood development (National Early Childhood Care and Education Policy, 2013). The right to family, life, play and leisure apprises the necessity of providing spaces for children to play, explore and learn independently in an open environment. This highlights the need of a city to be planned to cater a child's need. Child friendly city planning associates with a coherent and systematic approach of planning and designing cities. A child friendly city ideally holds the infrastructure and appropriately designed urban spaces which help create an environment that can be used for children to meet their needs for growth and development (NIUA, 2016).

Children of different age groups interact differently with the places in the cities. In the early ages, their access to the city, is assisted by their respective caregivers, and as they grow they start interacting with public spaces and its infrastructure of the city independently. Thus, the spaces in the city must recognise their independence, gender inclusivity, safety, participation and access (Cities Alive : Designing for Urban Childhoods, 2017).

In India, cities like Pune, Udaipur and Bhubaneshwar are making child friendly initiatives under Urban95 programme. This programme associates with the themes like provision of child appropriate services, public spaces, transport systems, city planning, land use, and data management systems of the cities (Bernard van Leer Foundation, 2018).They are focussed around improving early childhood development which associates with improving quality interaction between children and their cities. Following are the examples of child friendly initiatives introduced in Urban95 cities of India:

Table 12 Child Friendly Initiatives by India cities

Pune has worked with the open spaces aspect and strengthened the gardens and parks.

PMC has worked on provisions for public infrastructure like drinking water facilities and toilets, inside or near parks for children and their caregivers.

Painted the junctions near parks colourful to ease the road crossing process for children.

Udaipur has worked on two aspects: early childhood learning spaces and child friendly road network.

The city has revamped *anganwadis* to make them more approachable and help children to learn through available spaces.

Worked on junctions and crossings near schools with introduction of tactile provisions and painted the road to highlight presence of a school nearby.

Bhubaneshwar has worked on roads and safety related interventions for children.

Initiatives like painted pedestrian lanes, maintaining hardscapes along the prominent roads of the city are done to make walking easy for children and their caregivers.

Source: (Bernard van Leer Foundation, 2018)

7.2 City Planning in Ahmedabad

Ahmedabad city is radially planned along Sabarmati River with the historic core in the centre and new areas growing in the west. Ahmedabad has had the most efficient mechanism of city planning through the Town Planning Schemes (TPS) under Gujarat Town Planning Urban Development Act 1976 (GTPUDA). This Act empowers cities with a tool of TPS to undertake efficient land pooling for creating development and spaces equitably. Hence this enables city of Ahmedabad to plan roads for better connectivity and mobility, green and open spaces and regulate density in the city through its norms for built environment. Despite such elaborated schemes, gaps have been observed in the built environment such as availability of spaces for children to play. To develop a better understanding of citizen interface with built spaces and the gaps they feel, an event was conducted on the occasion of Children's Day, 2022 by UNICEF to create a safe space for children to enjoy, express, experience, and explore urban spaces. Several NGOs and organisations participated in this event. Based on discussions with children and parents, most children mentioned that they feel the city needs open and recreational spaces and public conveniences. Based on the themes of child friendly cities taken in Urban95 programmes (as mentioned earlier) and the learnings from the interaction with children, this chapter provides an assessment of the following parameters in the urban realm:

1. **Open and recreational spaces**: Availability and access to open spaces such as parks and gardens and their access including recreational spaces such as zoos, museums, libraries and sports complexes.

2. **Mobility**: Accessible and safe streets for walkability, Non-motorised transport- cycling and public transport facility.

3. **Environment**: Ambient air quality, noise quality and clean environment.

7.2.1 Open and Recreational Spaces

Open spaces, parks and gardens provide essential playtime for children's social and emotional development. Play allows children to use their creativity while developing their imagination, dexterity, physical, cognitive, and emotional strength. It is important for cities to provide such places which will create social association in children. Ahmedabad has more than 200 such places planned for children under parks and gardens, sports facility, play grounds, and recreational activities. In this section, open spaces in the city are assessed based on their **availability, accessibility, and quality**. These aspects are evaluated based on the parameters mentioned in URDPFI guidelines and Ease or Living Index. MoHUA released the Ease of Living Index which assesses quality of life in Indian cities. One of the aspects taken for assessment of quality of life is open and recreational spaces which indicated parameters like:

1. Total share of area of city that is under open spaces for public use;

2. Availability of public recreation facilities like music, dance, drama theatres, community halls, restaurants, and number of cinema halls (screens).

Recreation was found to be the poorest performing category across Indian cities with national average score of 11.68. Many cities have fallen short in providing open spaces for public use, and lack entertainment and cultural centres. Ahmedabad only achieved a score of 7 out of 100 indicating a significantly poor availability of open spaces in the city for citizens. The highest score of 56.10, was secured by Coimbatore. Other cities which scored above 30 are Navi Mumbai, Gandhinagar, Warangal, Gangtok, Pune, and Lucknow.
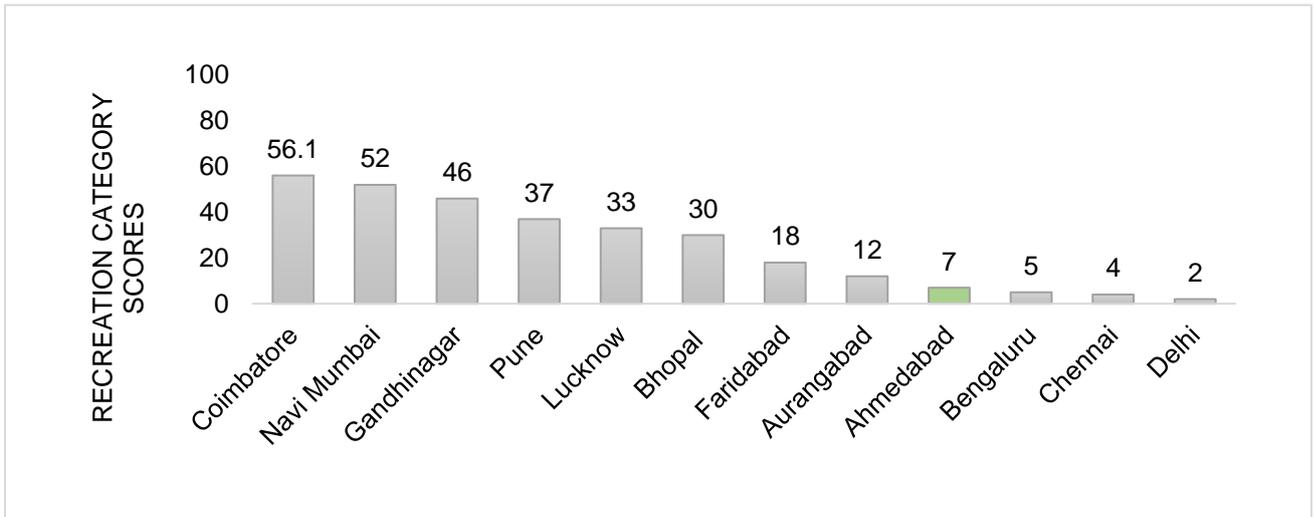
Source: (Ease of Living Index, 2020)

As indicated in the ease of living index, Ahmedabad has scored way below the average score of other cities in recreational pillar. This is further substantiated by comparison of percentage of available open spaces to URDPFI guidelines. According to URDPFI guidelines (2014), open spaces include recreational spaces, organised green spaces as gardens, parks, riverfronts etc., and unmaintained open spaces include vacant land, flood plains etc. The guidelines suggest that an urban area shall have 10-12 sq. m of land available per person for open spaces; out of which 3 sq. m per person shall be provided for maintained open spaces. URDPFI guidelines determine the standards on two levels, one is overall open spaces and second is parks and gardens. Basically, the two levels associates to the open spaces on both scales—city and neighbourhood.

Ahmedabad city has broadly categorised open spaces into maintained parks and gardens and other multifunctional open areas and urban groves. Multifunctional open areas include plaza/*chowk*, public grounds and planned/unplanned green streets. All these formal and informal open spaces of the city sum up to 743.7 Ha which is around 5% of the entire city area. (AUDA, 2021). Out of this 743.7 Ha, only 273.95 Ha of area covers maintained parks and gardens which is about 36% of the total area (AMC Porta, 2020). This indicates that majority of the area is concentrated under city level open spaces whereas more emphasis should be on neighbourhood level parks. Hence, the shortage of available open spaces per person.

Availability

Parks and gardens are broadly categorised in 4 sub-categories which are neighbourhood park, community park, city park and regional level park. The neighbourhood level parks include both- parks in housing societies and neighbourhood level parks. The city has a total of 209 parks, out of which approximately 58 % (121 parks) are housing and neighbourhood level parks. The remaining 42 % comprises of community (61) and city level park (27).

Table 13 Parks and gardens across the city at different levels

Category	Parks and Gardens	
	Number	**Area (Ha)**
Neighbourhood	121	22.32
Community	61	63.99
City	27	187.64
Total	**209**	**273.95**

Source: (Ahmedabad Municipal Corporation, 2020)

In Ahmedabad, parks are spatially distributed across the city and this can be accredited to the TP scheme developments. About 145 TP schemes have been implemented in the city and out of these 108 are in AMC and 37 in AUDA areas. After calculating the total area provided for parks and gardens in both AMC and AUDA areas, Ahmedabad has only 8 sq. km. of area under parks and gardens meaning 1.3 sq. m per capita thus indicating a significant gap of about 1.7 sq. m per person between required and existing areas as compared to URDPFI guidelines. This implies that Ahmedabad only has 43% of the required open spaces.

Figure 77 Location of community and neighbourhood parks in Ahmedabad
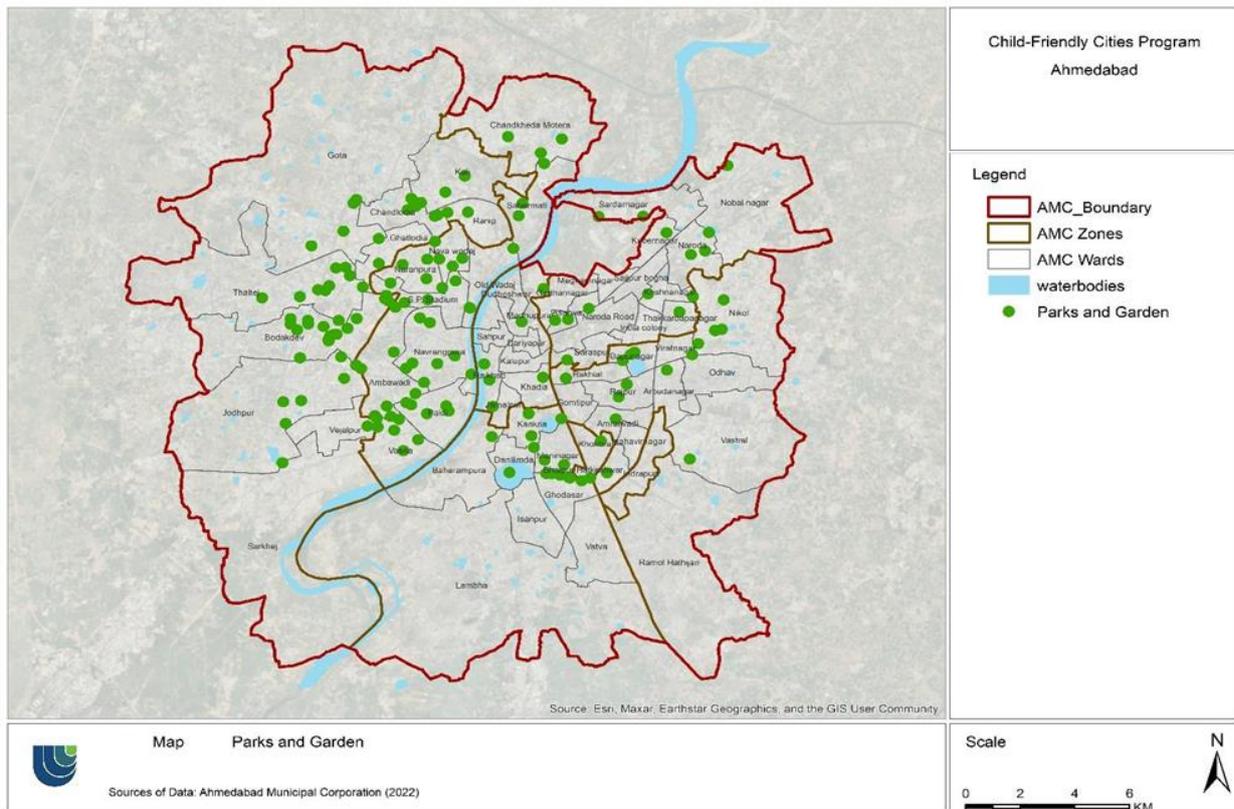
Source: (Ahmedabad Municipal Corporation, 2022)

Accessibility

Accessibility and proximity of the parks for children is another criterion under consideration. The accessibility of parks and gardens at neighbourhood level for children is encouraged

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across cities so that regular and easy access is ensured. Ahmedabad development plan promotes creation of parks based on the following norms to promote accessibility.

Table 14 Pedestrian access and catchment area by park category

Category	Area (Ha)	Pedestrian Access	Catchment
Neighbourhood and Housing Area parks	0-0.4	400 m	Up to 5 min walk
Community parks	0.4-2.0	800 m	Up to 10 min walk
City level parks	2.0-80.0	1500 m	Up to 10 min drive
Regional Park	More than 80.0	-	Up to 1 hr drive

Source: (Comprehensive Development Plan, 2021)

The existing parks and gardens were mapped spatially along with the buffer regions indicating the accessibility and proximity based on the above norms. The below map indicates that large portion of southern region of the city and areas newly merged within the city limits (new west zone) lack in terms of availability as well as accessibility to parks and gardens.

Figure 78 Location of community and neighbourhood parks with catchment area in Ahmedabad
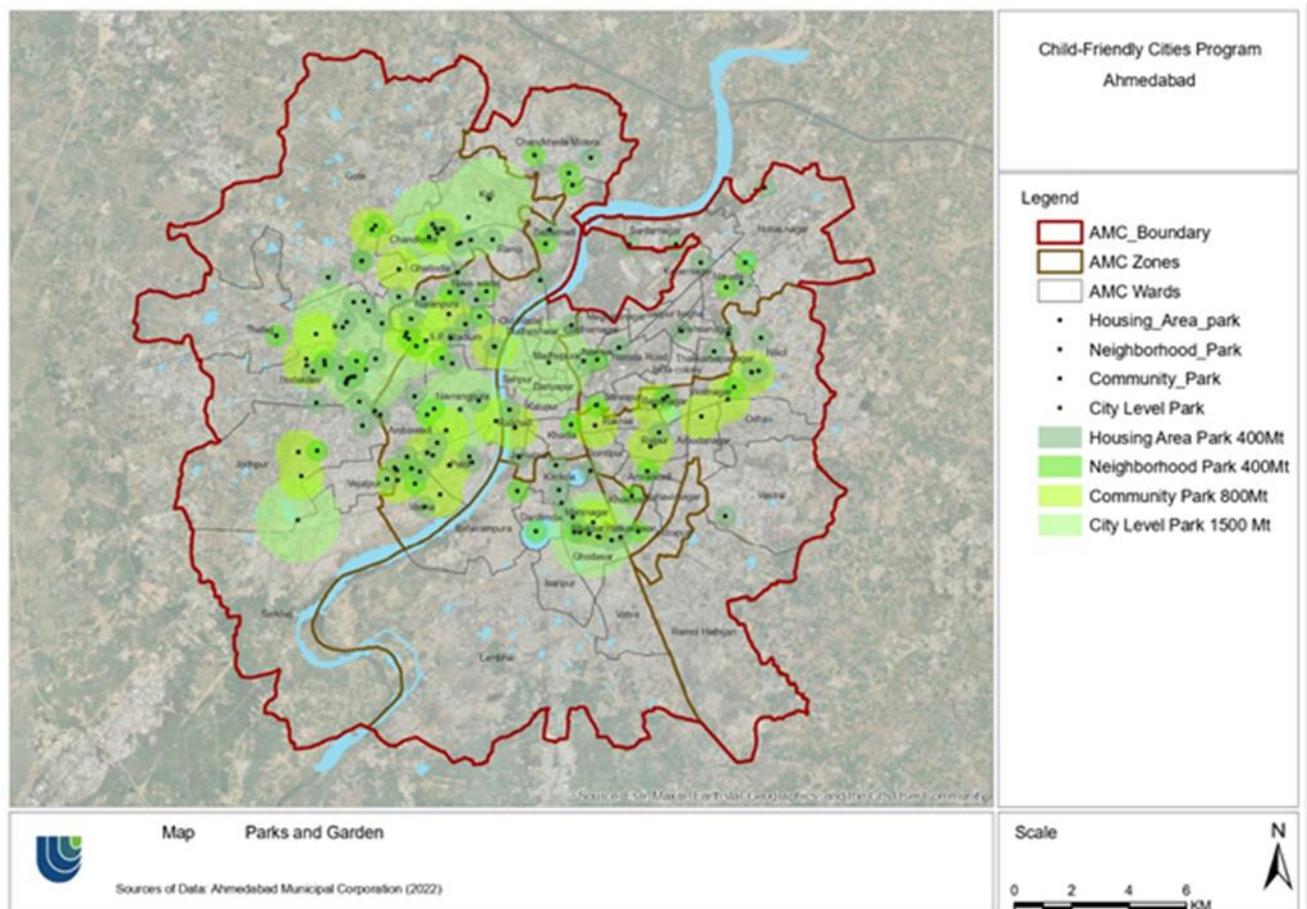
Source: (Ahmedabad Municipal Corporation, 2022)

As Ahmedabad already has a shortage of neighbourhood level parks, especially in the southern and eastern part of the city, it also affects the proximity of these parks. There are only 121 total neighbourhood parks in total, where there should have been about 400

(calculated as per guideline—1 neighbourhood level park per population of 20,000 as mentioned in URDPFI guidelines). Hence, children and caregivers tend to access city level parks and gardens available. Most prominent public open spaces in Ahmedabad are Sabarmati riverfront and Kankaria lake (Ahmedabad Tourism Department, 2020).

Figure 79 Sabarmati riverfront flower park

Maintenance

In addition to accessibility, such recreational spaces can only be properly utilised if they are adequately maintained. Regular maintenance of an open space can assure the quality of the parks and gardens. In Ahmedabad, management of the parks is done either by garden department of AMC, public private partnership, Corporate Social Responsibility (CSR) or the funds by trusts and NGOs. Out of all the managed and maintained parks, 64% of total i.e. 129 parks are maintained by Public Private Partnership between Amul and AMC, 28% i.e. 57 parks are maintained by AMC garden department and rest are maintained by temple trusts and NGOs (Ahmedabad Municipal Corporation, 2020). Though the parks are maintained in terms of cleanliness and management of tree cover, all neighbourhood parks do not have provisions for child friendly equipment like age appropriate swings with safety provisions and public conveniences. Many parks under AMC management also experience anti-social and nuisance causing activities that make them unsafe for use by children. As city level open spaces cannot be accessed by everyone on daily basis, it is important to make local/ neighbourhood level open spaces child friendly.

Figure 80 Spatial distribution of parks based on maintenance agencies
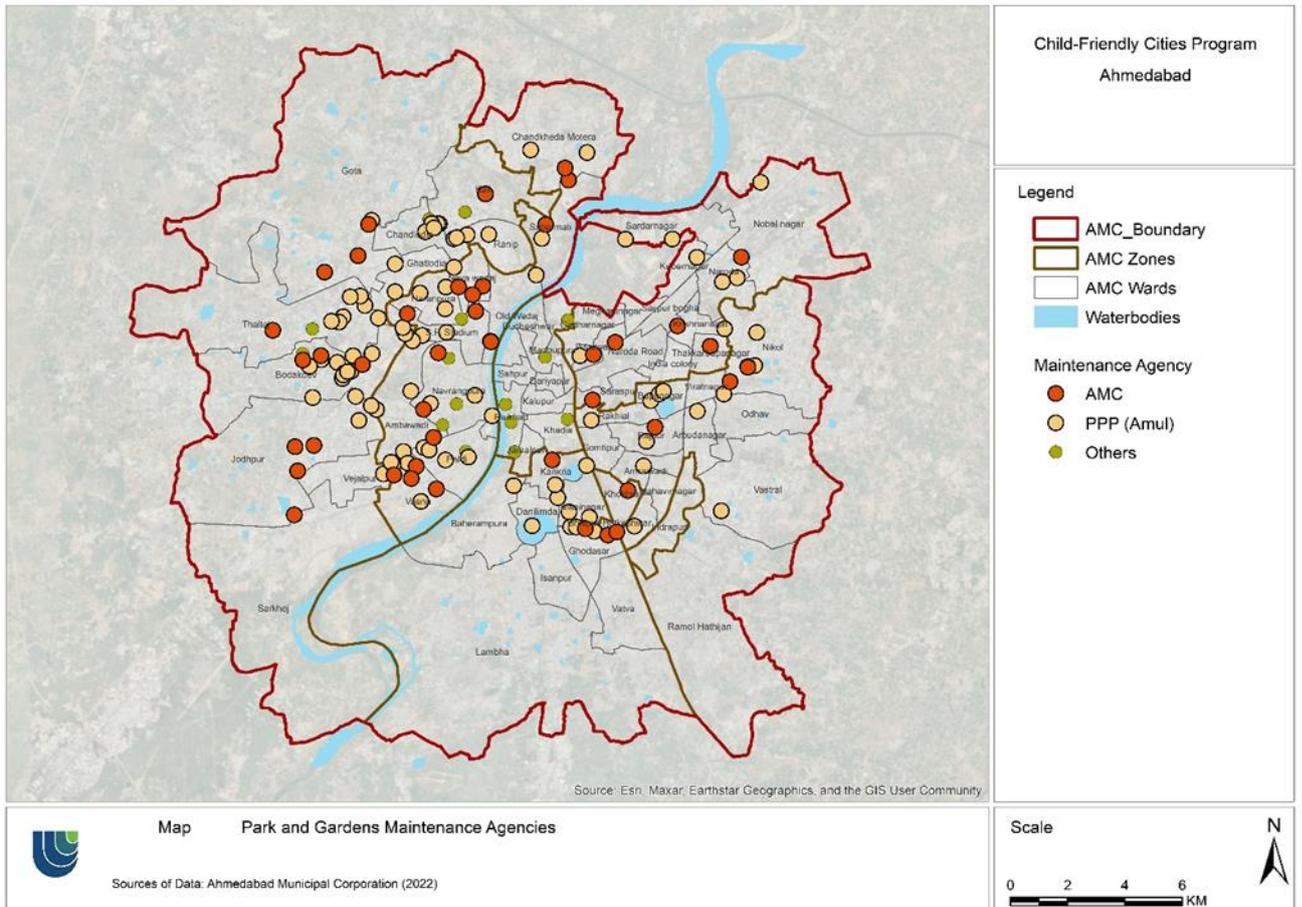
Source: (Ahmedabad Municipal Corporation, 2022)

Quality of Open Spaces

The third aspect to assess open spaces is the quality of the space. To assess the quality of existing open spaces, following framework was adopted (Public space quality evaluation: prerequisite for public space management, 2019). This framework was applied to selected spaces in the city and are presented as case study below.

1. **Access for all**: This indicator defines child friendly accessibility of an open space as independent access to parks, its visibility from a distance, accessible walkways, accessibility via private and public transport and ease of movement in and around the parks.

2. **Safety**: A safe space for children is where they can explore and interact with the space independently. Ample lighting, visibility across the parks, and deployed security guards inside the space are the main factors which can determine the safety of a space.

3. **Amenities and Comfort:** Physical infrastructure within the premises or near parks shall be provided for a comfortable and pleasant access to open spaces. Provision of drinking water facilities and child-friendly toilets are must.

4. **Activity and uses**: Open spaces are to provide an overall experience to children, knowledge of surroundings and interaction with natural elements contributes in mental development of children. For cognitive development of children, a variety of equipment and spaces has to be included in a park. Space for walking, physical fitness, sports

and games, family outings, and sensory connection indirectly contributes towards better and relaxed mental state.

5. **Social Interaction**: There shall be enough maintained spaces to sit for caregivers and children. Play pits, play equipment, swings etc. shall be provided in a park to initiate social indulgence and interactions among children.

6. **Aesthetics and Attractiveness**: An aesthetically maintained and appealing space attracts children to enter and utilise a space. Uncluttered view, quality art, park furniture, landscaping, condition of grass and flowered areas and presence of themed play areas are some measures which can be taken to make a space appealing.

To assess the above qualitative measures of the parks, case of prominent parks and open spaces in the city have been looked at. These case studies are taken to understand the level of provision of different parameters of open spaces. The case studies are selected to highlight the conditions of open spaces present on the city level as they are being accessed by citizens of all zones, sections and ages. Since, neighbourhood parks are not accessible to all and people are not able to access them on a regular basis, they tend to visit city level spaces once a week. Hence, the footfall of these spaces is more. Spatially, two case studies are located in western part of the city and one in south-eastern part. First case is of law garden maintained by PPP model between a private company and AMC. Second is of a city level developed open space, Kankaria lakefront. It is maintained by AMC and the third is CG road which qualifies as city level open space due to its design and usage pattern. It is planned and constructed by joint venture of AMC and a private firm based in Ahmedabad.

Figure 81 Location of case study areas
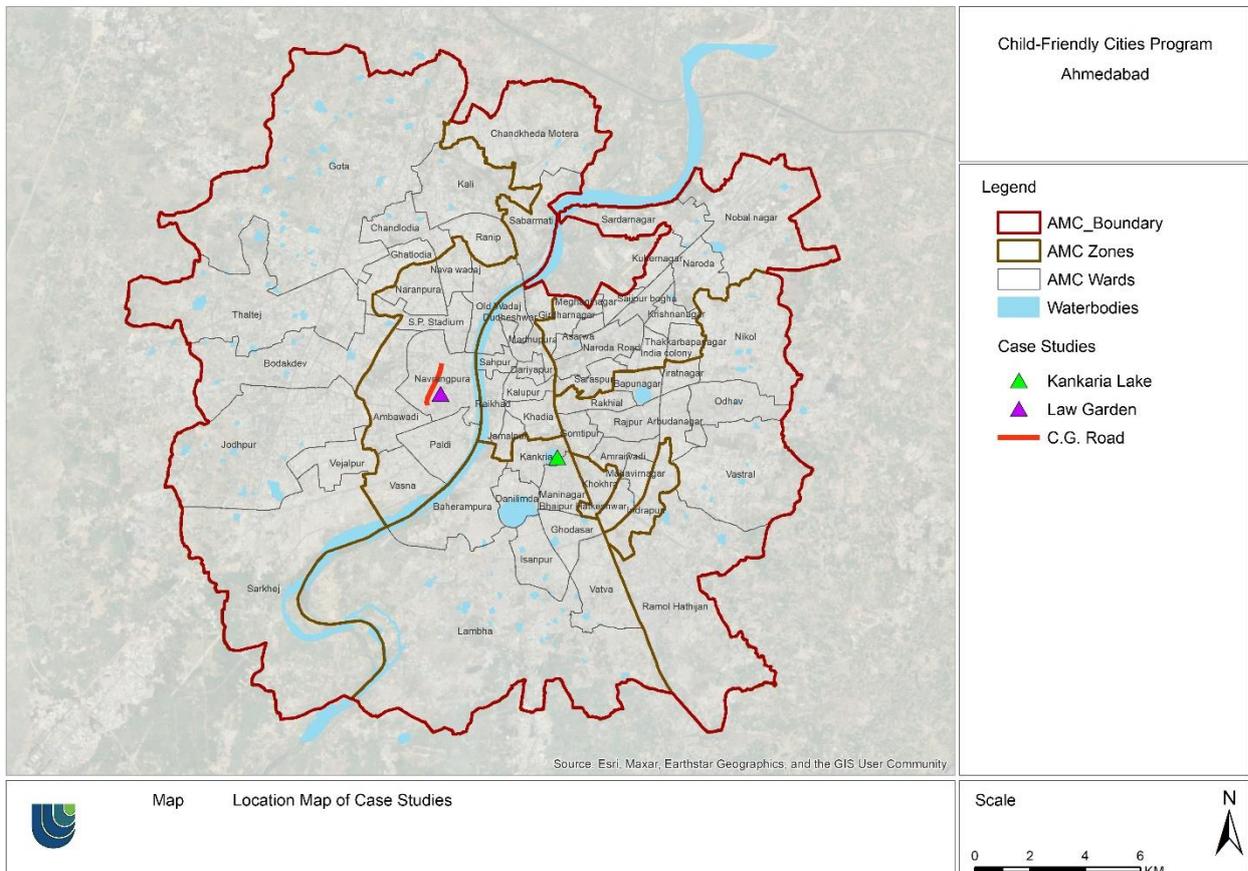
Source: (Ahmedabad Municipal Corporation, 2022)

Case 1: Law Garden

Law garden is a famous public park located centrally in the western part of the city. It is known for its multiple functionality setting such as surrounding street markets, recreational streets, and eateries. It creates a wholesome experience for all.

Figure 82 Green space of Law Garden.

Source: *(Law Garden, 2022)*

This triangular shaped garden has recently undergone renovation where one of its abutting streets has been developed as a pedestrian priority street called, 'Happy Street'. It is an initiative implemented by AMC to provide child friendly safe environment for children. This park is generally accessed on weekends by families for picnics. Also, an initiative for safe play is introduced on happy street and no motorised vehicles are allowed on this street on Sundays. The garden has a lush green cover with seating and play facilities. Children find ample open spaces to roam around freely, play and interact. The garden has a kids play area with provision of children's play equipment. The lawns and shaded trees make it a favourite spot for citizens to relax on weekends. The park provides tranquillity amidst the city noise and a buffer from pollution. The diverse flora, fountains, birds engage children and provide an experience to children different from the hustle and bustle of the city. The walls of the garden are partially porous making the edges visually accessible from the outside. This enhances safety for children as they are in public eye. However, while aspects such as aesthetics, safety, provision of activities, and spaces for social interaction can be found here, the park is found to be lacking accessibility for all. There are no ramps for access by wheelchair, and there is a lack of dedicated walkway with tactile paving for use by persons with visual and other mobility restrictions. Further the space also lacks provision of child friendly public water fountains/stations as well as child friendly toilets.

Figure 83 Children's day event at Happy Street, Law garden

Case 2: Kankaria Lakefront

Kankaria lake is the biggest lake in Ahmedabad. The lakefront development is one of the examples of efficiently functioning urban recreational spaces of the city. Completed in 2008, this project has become a significant symbol of the city. The basic concept of the project was to revamp the space, and conserve the lake. It is a pedestrian friendly promenade with maintained walkways, lined up with parks, gardens, managed vending spaces and food courts. The promenade encompasses a 2km long uninterrupted pedestrian friendly space including street furniture. This lane is well lit, has trees and dustbins. The zone is cycle friendly too with a managed cycle track. For children, there is a train which can commute through the space. Overall, the space is created to cater to leisure activities for children and adults. Public amenities provided in the space are toilets and drinking water facilities but there is no separate block for children or child friendly equipment for children. The lakefront is well connected with public transport systems like BRTS and metro.

Figure 84 Kankaria Lakefront

Source: (Ahmedabad Municipal Corporation)

Case 3: CG Road (Streets as public spaces)

In the old city of Ahmedabad, a culture of using streets as open spaces is observed. Earlier it was out of choice to socially gather on streets and interact, but now with rapid urbanisation open spaces are being developed into built structures and green spaces. The per capita open space has been reducing since the onset of development. In this case, streets become the potential open spaces for everyone. The city road network of Ahmedabad consists of wide streets. The streets have more space for vehicles than pedestrians, with unavailability of wide footpaths in most part of the city. Wide carriageways, flyovers and parking lots consume the open spaces of the city, taking away the usability by pedestrians.

Chimanlal Girdharlal road or CG Road has been renovated recently into a pedestrian friendly street. It is one of the most prominent commercial streets of Ahmedabad designed for pedestrians with wide footpaths, ramps at crossings, seating spaces underneath trees, bollards at crossings, etc. The pedestrian experience has immensely improved after the redevelopment, with people fondly roaming around the street walking and shopping. The street design incorporates pedestrian friendly features such as planters and seating spaces at the edge of the carriageway and footpath, safeguarding children from the fast-moving traffic. The street however requires addition of functional, child friendly public toilets and public water stations when it comes to holistic design. Such streets are a good example of pedestrian friendly city planning. Majority of streets in Ahmedabad are not designed with pedestrian right of way as priority and hence children cannot walk around safely. Currently, Ahmedabad has only a few streets like this but needs many more for children to move around safely and freely.

Figure 85 CG Road pedestrian and street furniture

Source: *(Ahmedabad Municipal Corporation, 2020)*

Other Recreational Spaces

Ahmedabad offers variety of recreational spaces for learning and cultural activities. This includes auditoriums (5 nos.), picnic houses (3 nos.), swimming pool (14 nos.), sports complex (3 nos.), skating rink (3 nos.), libraries (54nos.), *bal bhawan*s (4 nos.), and museums like the Science City, Sanskar Kendra, Patang Kite Museum, and Sardar Vallabhbhai National Memorial Museum. Following map indicates the recreational facility across city where most of it are concentrated within the central, west and east zone (Ahmedabad Municipal Corporation, 2022). As mentioned in Ease of Index earlier, the availability of recreational activities also accounts for the overall score of indices. Though, the city has recreational spaces, due to lack of data, it could not be assessed how they are utilised by children.

Figure 86 Location of other recreational spaces in Ahmedabad
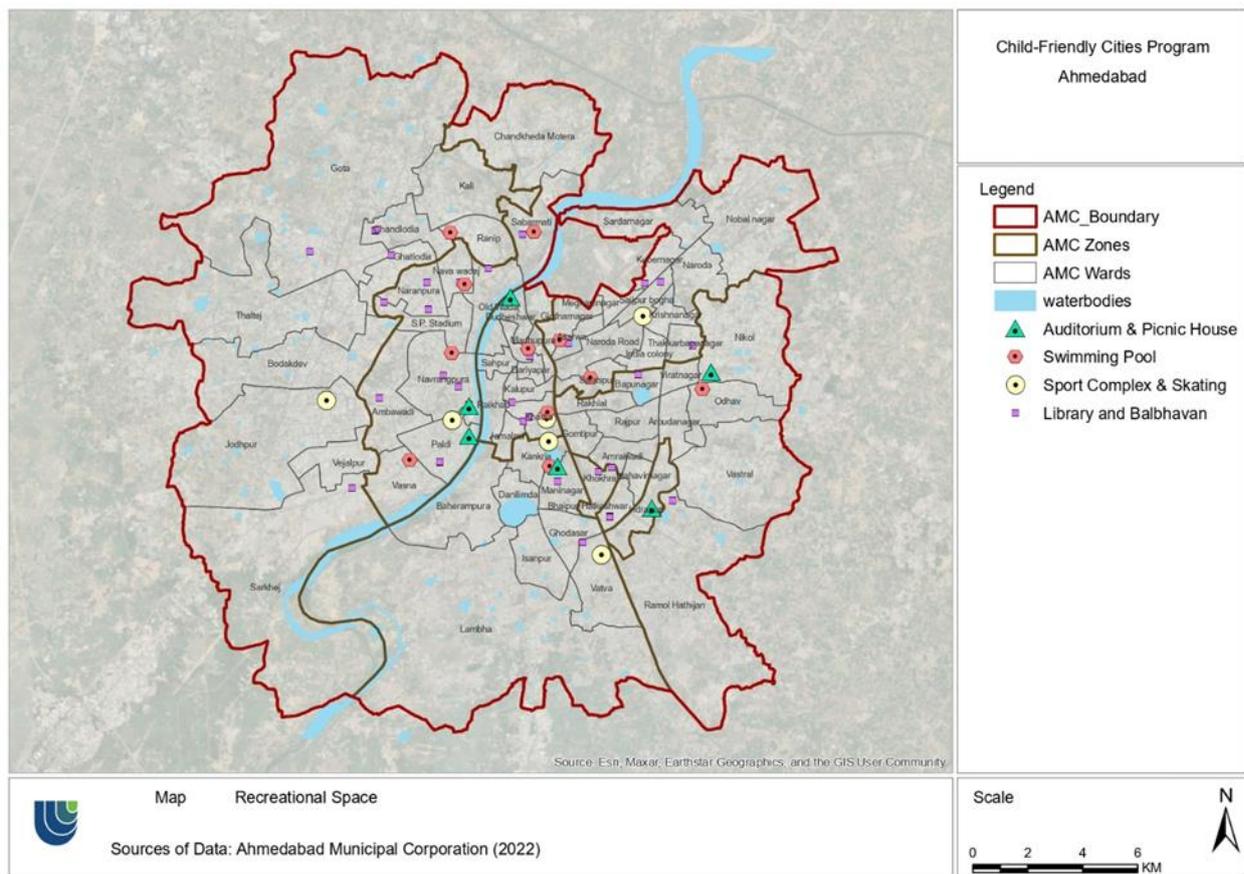
Source: (Ahmedabad Municipal Corporation, 2022)

To conclude, in Ahmedabad city, there are a few city level urban spaces being used as both open and recreational spaces by all. Apart from these neighbourhood parks are neither maintained nor available (as mentioned above). Open spaces are of the aspects being most in demand by children according to the perception survey and this aspect is lagging most at neighbourhood and housing level. The fact that only 1.3 % of open area is available per person in the city is alarming because as per the growing urbanisation and population rate, this figure would only worsen. It is recommended to develop the available open spaces like lakefronts further in such a way that it serves as accessible green spaces to the population.

7.2.2 Safe Mobility: Safe Walkability, Cycling Infrastructure and Inclusive Public Transport

Mobility systems of a city enable citizens to interact with the physical and built environment of the cities. Children are more vulnerable to mobility systems due to their smaller size, underdeveloped ability to judge speeds and movements, and lack of understanding and experience of traffic dangers. A child often accesses health, education and recreational spaces in a city through available means of mobility. The crucial factors which affect mobility of children among these spaces are distance, walkability and safety (Indicators for Children Friendly Local Development: I-CHILD, 2016). Child friendly mobility system accommodates the need of a child to commute independently. Such city level mobility system planning can also act as a catalyst to resolve urban issues such as road safety, ambient pollution and sustainable travel modes. As mentioned earlier, different age groups access facilities in a different manner. Following are the key modes of mobility used by children:

1. Non-motorised mobility modes: walking and cycling
2. Motorised mobility modes: Intermediate public transport (autos, e-rickshaws etc.) and public transport (bus and metro network)

This section focusses on the infrastructure aspects of safe walkability and cycling as these are the most commonly opted for modes of commute adopted by children.

Safe walkability

Till a certain age, parents allow their children to commute within the neighbourhood only, be it to access parks or schools. Walking as an activity by children also promotes the need for physical fitness in daily life. Inactivity and sedentary lifestyles among children represent a global public health issue. WHO suggests a 60-minute moderate to vigorous activity per day is vital for children and adolescents' holistic development. Walking to and from schools and parks can provide children the much-needed daily exercise required for their healthy being. Availability of conducive civic infrastructure becomes a prerequisite for this, highlighting the linkage between health and civic infrastructure. As much as walking is important for children, in the perception survey it was concluded that parents do not feel safe letting their children walk on streets unsupervised. This implies that for required physical activity, children are dependent on their caregivers to take them out.

Figure 87 Children's perception on safe streets
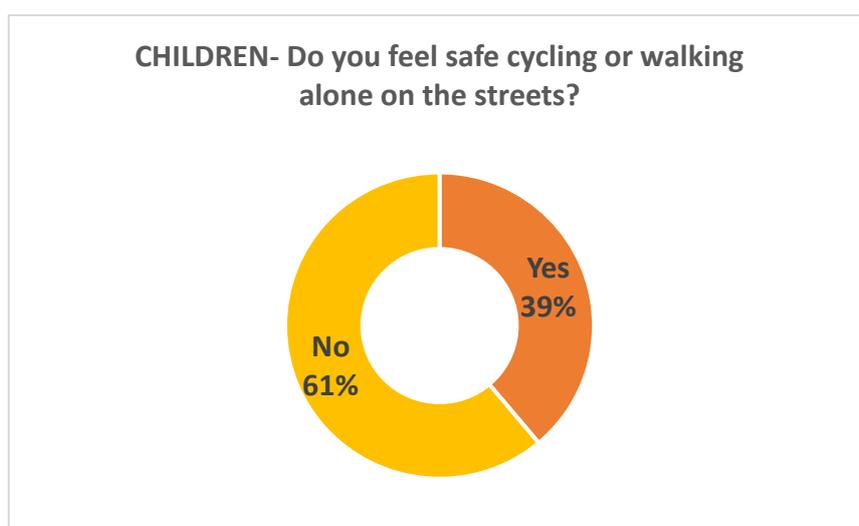
Source: Primary survey

If maintained walkways are provided children would definitely feel encouraged to walk to parks and schools, and simultaneously parents would also feel safe to allow them access

roads and streets independently. Ahmedabad has a road length network of 2,435 kilometres (Service Level Benchmark Portal - Urban Transport, 2011) out of which 67% have footpaths. Out of these around 86 % of the roads do not have a functional footpath due to poor continuity, inappropriate widths, impediment by vendors and parking, and plantation. The main factors which hinder people and children in Ahmedabad from walking, are connectivity, visual incorporation, impediments in pedestrian lanes, crossing inconveniences and traffic flow and lack of thermal due to poor shaded areas. The commute of a resident in a city starts at neighbourhood level. Walkways are the first step of access of this journey, then intermediate and public transport nodes/stations/stops are accessed. If a city does not have pedestrian friendly facilities from neighbourhood level itself, it also directly/indirectly impacts for usage of public transport too.

Figure 88 Conditions of footpath in Ahmedabad

Source: (Times of India, 2022)

Connection amid road hierarchies from a walkability lens includes continuity of walkways and regulated crossings. Encroached footpaths intangibly force pedestrians to walk on

roads, hence stimulating pedestrian–vehicular conflicts. According to the perception survey, parents do not feel safe to let their children cross roads independently.

Figure 89 Parent's perception on safe street crossing

PARENTS- Would you feel safe letting your child walk/cross the street without supervision?

Yes
25%

No
75%
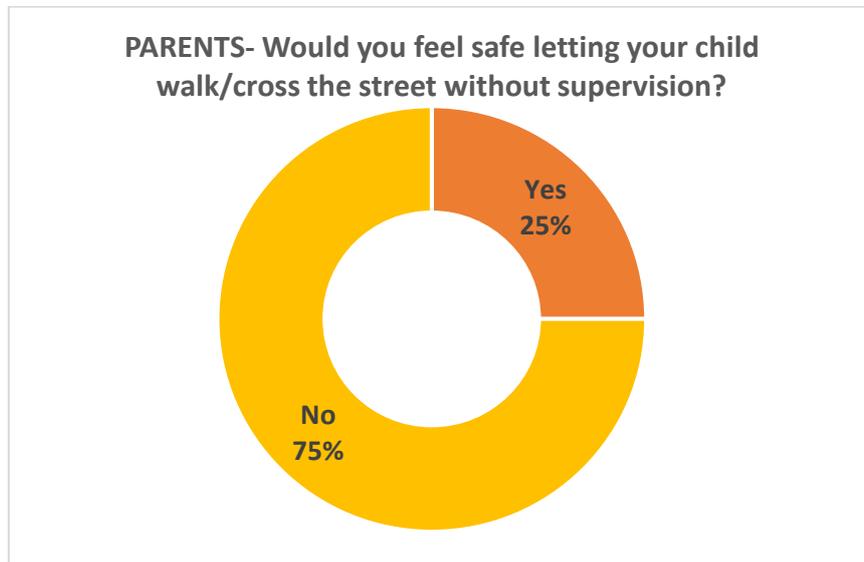
Source: Primary survey

According to Ahmedabad Urban Road Accident Study, 27% of the severe and fatal accidents occurring in the city are pedestrian related (Commissioner of transport, GoG, 2016). This highlights the poor condition of the streets of Ahmedabad when it comes to pedestrian friendly streets and subsequently children's safety as well. This data raises the concern of child safety. Out of total accidents which takes place, 15.5% are from the age group of 20 years and less. Vehicle–pedestrian conflicts on streets can also be attributed to varied street densities. As core area (eastern part of the city) has lesser widths of roads and higher mobility, it often leads to haphazard crossings of vehicles. Studies show that for every lakh population (0.1million) Ahmedabad had 2.9 pedestrian deaths. Chennai had the highest at 6.4 per lakh population (0.1 million) (Ministry of Transport and Highways, 2021).
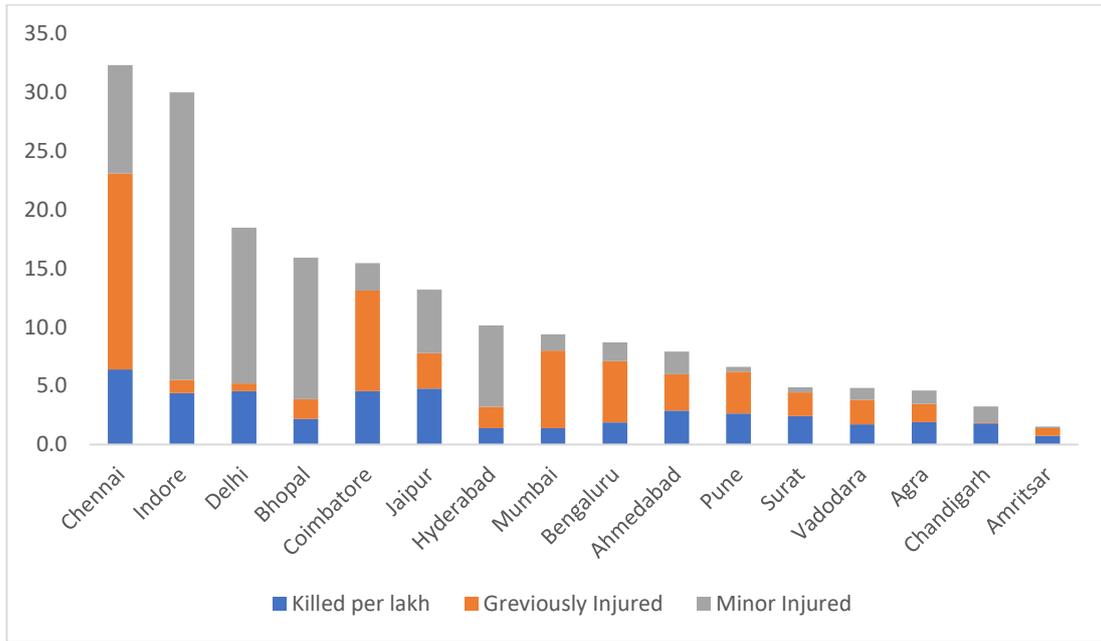
Source: (Ministry of Transport and Highways, 2021).

Figure 91 Raipur Chakla, Jamalpur Chowki Junction

In 2019, 38% of the total trips taken in the city were by walking and the average trip length was 3.6 kilometres. This is followed by two-wheelers (CEPT University, 2022). It is quite evident that in Ahmedabad even though there's a demand for walkability, the infrastructure does not suffice these needs of the city. This has led to omission of independent walking amongst children.

For a 'Walkable' city, the sidewalks shall have three main lanes: building line buffer, walkable and furniture lane (CRRI, 2018). Building line buffer is left adjacent to boundary walls allowing safe entrances/exits to building compounds. A walkable lane allows barrier free pedestrian mobility. Furniture lane includes benches, manholes, trees, and utility boxes.

Furthermore, there are several parameters to be followed while constructing sidewalks, such as:

1. Sidewalks made with stable, slip resistant and consistent materials.
2. Sidewalks should on the same height across driveways and must have a curb of maximum height of 150mm.
3. Sidewalks should have a minimum of 2 meters walking lane.

From earlier studies, it has been observed that pedestrian friendly streets should ideally incorporate the following criteria as a minimum requirement. At present these are found to be lacking in the case of Ahmedabad.

1. **Inclusivity**: Creating streets for all user groups for their diverse needs. This includes continuous footpaths, raised pedestrian crossings and signage.
2. **Multi-functionality**: Creating streets that supports various functions and activities. Provision of multi-utility zones, creating places for social interactions and recreation are the activities which can enhance the user experience of a street.
3. **Safety**: Improving safety of users during all times of the day on street.
4. **Efficient Mobility**: Providing streets with choices of mobility.
5. **Comfort**: Improving comfort of users and overall usability of street.

Cycling infrastructure

Availability of functional cycling infrastructure goes simultaneous with pedestrian friendly streets. Cycling is among the most preferred modes of travel by children. Invariably most children own a cycle. Interconnected walking and cycling systems offer several routes to destinations, making it easier and suitable to walk or cycle for day-to-day commute. Controlled crossings for cyclists, pedestrians, and vehicular traffic also contribute to slower vehicle speeds and improved safety for pedestrians. In Ahmedabad, only 2.12% of the total road length has cycle tracks available i.e. about 20km. These tracks are mostly available along BRTS stretches and are not maintained in a usable condition. It has been observed that most common issues faced are of encroachment which causes discontinuity in use, rendering them non-functional. Still, functioning cycle tracks were found in the eastern part of the city between Odhav, Saijpur and Maninagar, along only one arterial road (CEPT University, 2022).

According to a study conducted by CEPT, even though the infrastructure is not maintained (broken, chipped and discontinuous), citizens still prefer to walk and cycle, this points a desire/need for these modes of commute amid concerns of road safety. The study further noted that bicycles are used to make 8.19% of the total share of trips taken in the city with an average trip length of 5.01 km. Most of the trips taken are work and education related which shares 47% and 34% of total cycle trips, respectively (CEPT University, 2021).

To enable walking and cycling infrastructure within a city, vehicular speed is also a challenge. The road network planned is relatively compact increasing congestion on roads and tampering road safety. Approx. 42% of road fatalities involve people on cycles (CEPT University, 2021). This concern was also raised during the stakeholder consultation and suggestions were made around traffic rules enforcements and promoting low speed traffic. Further, studies published by the Ministry of Transport and Highways reveal that Ahmedabad had 0.3 cyclists' death for every 0.1 million persons and Chennai had the highest with 0.7 deaths for every 0.1 million persons (Ministry of Transport and Highways, 2021).

Figure 92 City wise fatalities of cyclists and severity (per lakh population [0.1 million persons])
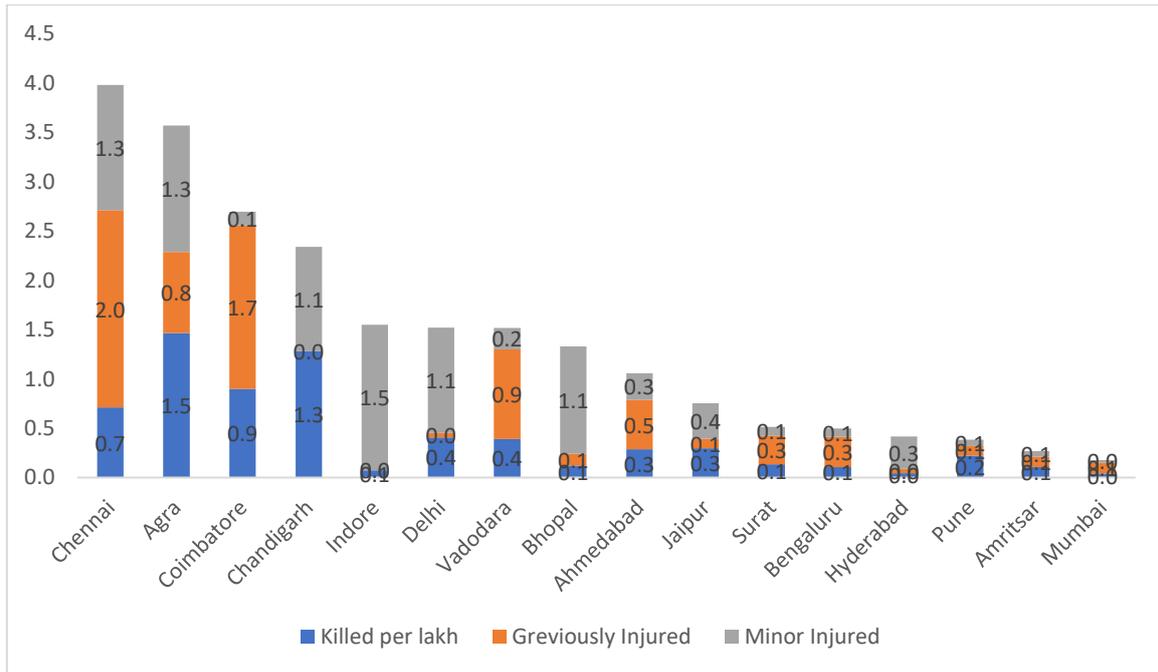
Source: (Ministry of Transport and Highways, 2021)

AMC has already been working on encouraging cycling culture in the city by introducing initiatives offering public bicycle share systems (PBS) like MYBYK. This mobility initiative was founded in 2014 and given a permit by Ahmedabad Development Limited company for operationalising it in the city. The system has over 2,000 bicycles and is operational from 150 PBS stations. User experience of such initiatives will also enhance if provided essential infrastructure.

Figure 93 Kankaria lakefront MYBYK station

According to a study by CEPT, about 4800 people use MYBYK weekly. On weekends, a rise about 10 percent rise is observed. More than 50% of the total users, prefer to cycle for shorter trips of about 0-5kms. Majority of these users, take MYBYK for health and recreational purposes. A few users also stated that they use MYBYK to reach the nearest grocery store or college/office. Mostly, people from ages 16-30 use these cycles. It was also observed that majority of users travel for 20 to 30 mins using MYBYK. Given the circumstances of roads, MYBYK users feel discouraged to travel long distances using cycles (Status of Public Bicycle Sharing Systems in Ahmedabad, 2022). This highlights the public perception on PBS systems and usage habits which is correlated to the availability and maintenance of cycling infrastructure. Even though cycles for kids are present in the stands, as per ridership survey, they are not being used. This relates with perception survey of Happy Street mentioned earlier and emphasises on the poor conditions of road infrastructure in Ahmedabad.

Public transport systems

Public transport is a vital element in mobility. Availability and reliability of a safe public transport is an indicator of good mobility for any city. Adolescents travelling to schools and other public spaces often use public transport in the city, hence require independent access to it. Broadly, quality of public transport is assessed though the indicators of Ease of Living Index, 2020. In mobility pillar of the index, Ahmedabad has scored approximately 30, where the highest score is 79.80 that is of Chennai. Chennai's performance has been largely driven by the large presence of its public transport system. Its figures for the availability of public transport are the highest at 92,017.96 per lakh population, followed by Visakhapatnam at 21,212.92 per lakh population. While Ahmedabad has 638.63 available public transport per lakh population.

Figure 94 Comparison of mobility scores across cities
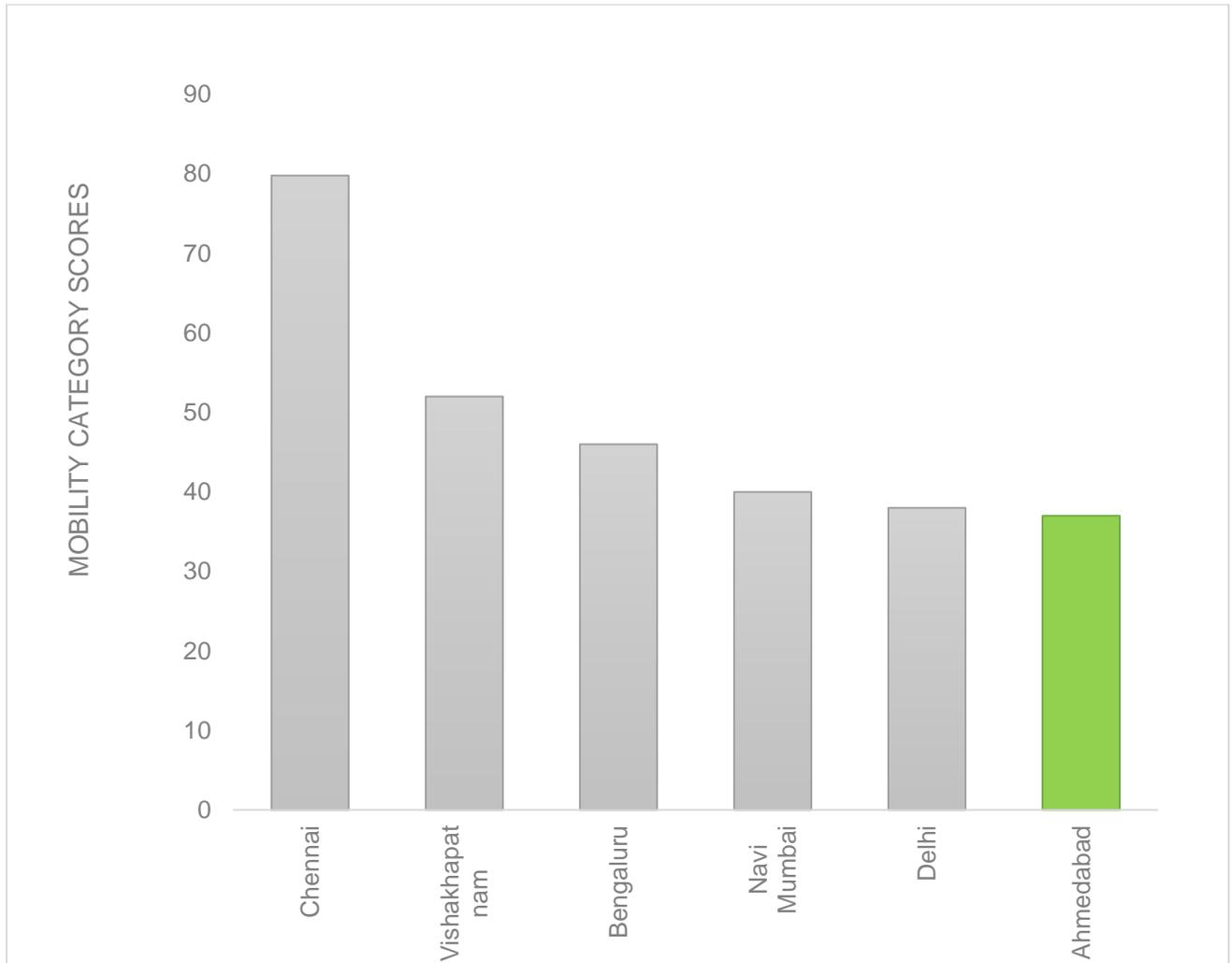
Source: (Ease of Living Index, 2020)

These scores indicate two things: firstly, the public transport system is not efficient enough to support the population of respective cites; and secondly, these cities are "automobile dependent" for increased mobility fostered by rapid economic growth that encourages private vehicle ownership (Ministry of Housing and Urban Affairs, 2020).

There are three modes of motorised public transport available, which are autos/E-rickshaws, bus and metro network. In the case of Ahmedabad, the Ease of Living Index highlights the lack in last mile connectivity, hence there is a need of Intermediate Public Transport (IPT) systems.

Autos generally operate on popular routes where the demand is high. The major origins points of shared rickshaws are Lal Darwaja, Iskon Mandir, S.T. stand, Kalupur, and major activity centres where demand is high. The major routes of shared rickshaws are Lal Darwaja to Income Tax to Naranpura, Narol to Vatva Gam, Kalupur via Bapunagar to Odhav, Narol to Sarkhej, S.G. Highway to Gota and S.G. Highway via Bopal to Ghuma (AUDA, 2021). These are generally on both private and shared basis. The lack of connectivity of IPT in neighbourhood levels also hampers the usage and ridership of public transport. This tends to act as a deterrent for children to use these modes of transport.

On a city level, inter-connectivity amongst public transport systems is also one of the criteria for ease of travel. In Ahmedabad, public transport systems comprise of two public bus

systems and a metro system which has been recently introduced. There are two bus systems, AMTS and BRTS. AMTS system is widely spread across the city as it is one of the oldest transit systems being used by citizens. It was introduced in 1947. BRTS is comparatively a newer concept inculcating pedestrian, cycling and bus infrastructure together and was introduced in 2009.

Figure 95 AMTS bus routes and depots in Ahmedabad
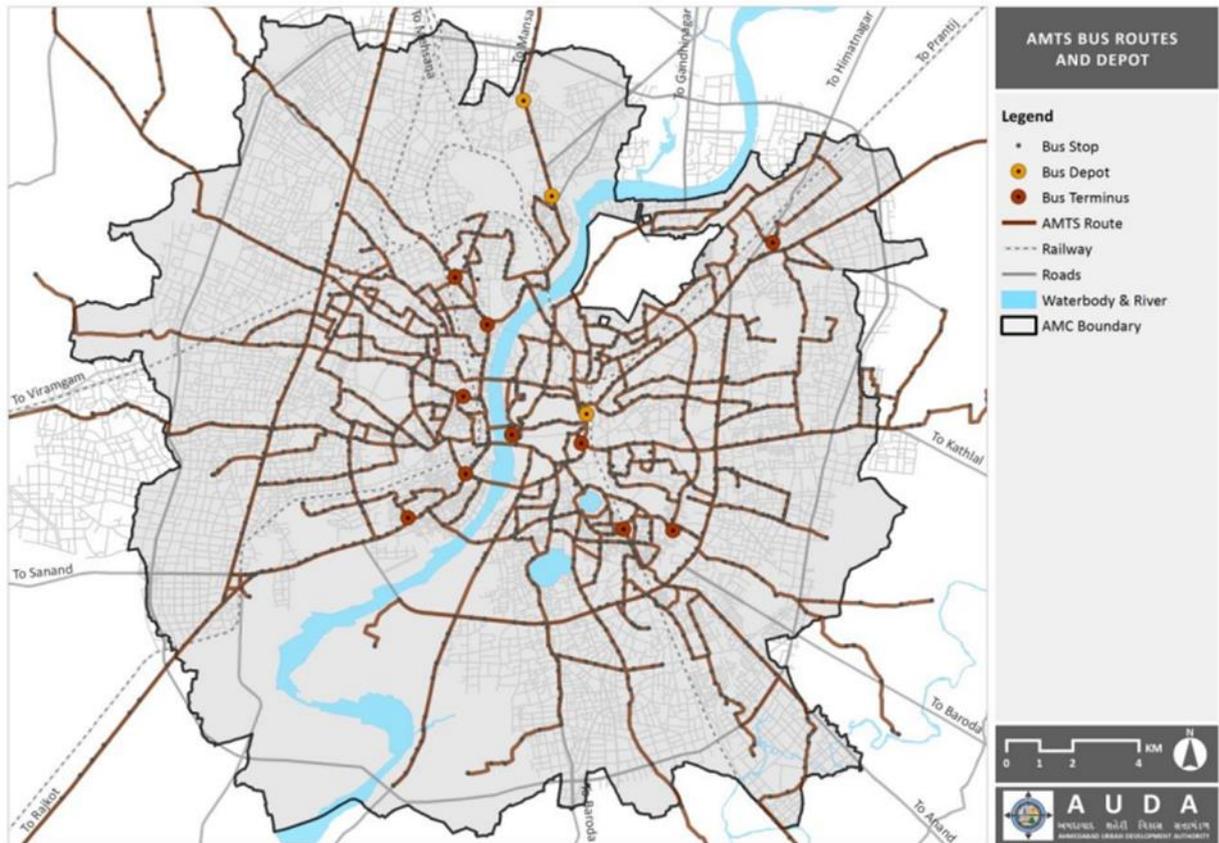
Source: (AUDA, 2013)

AMTS has about 194 routes with almost 1,700 bus stops, which are spatially spread across the road network in AMC boundaries; but the issue lies in the last mile connectivity from neighbourhoods to public spaces. Not all the areas have an immediate access to public transport stations/stops; hence, intermediate public transportation like auto-rickshaws are used. According to the stakeholder meeting held at UMC, Ahmedabad, the number of switches in a journey and ensured safety at each switch point for a child is one of the major concerns and factors that parents do not allow their children to commute independently. The other bus system, BRTS (Janmarg), has a network length of about 101km with 228 buses catering to about 1.6 lakhs passengers per day (AMC Porta, 2020).

Figure 96 BRTS bus route network in Ahmedabad
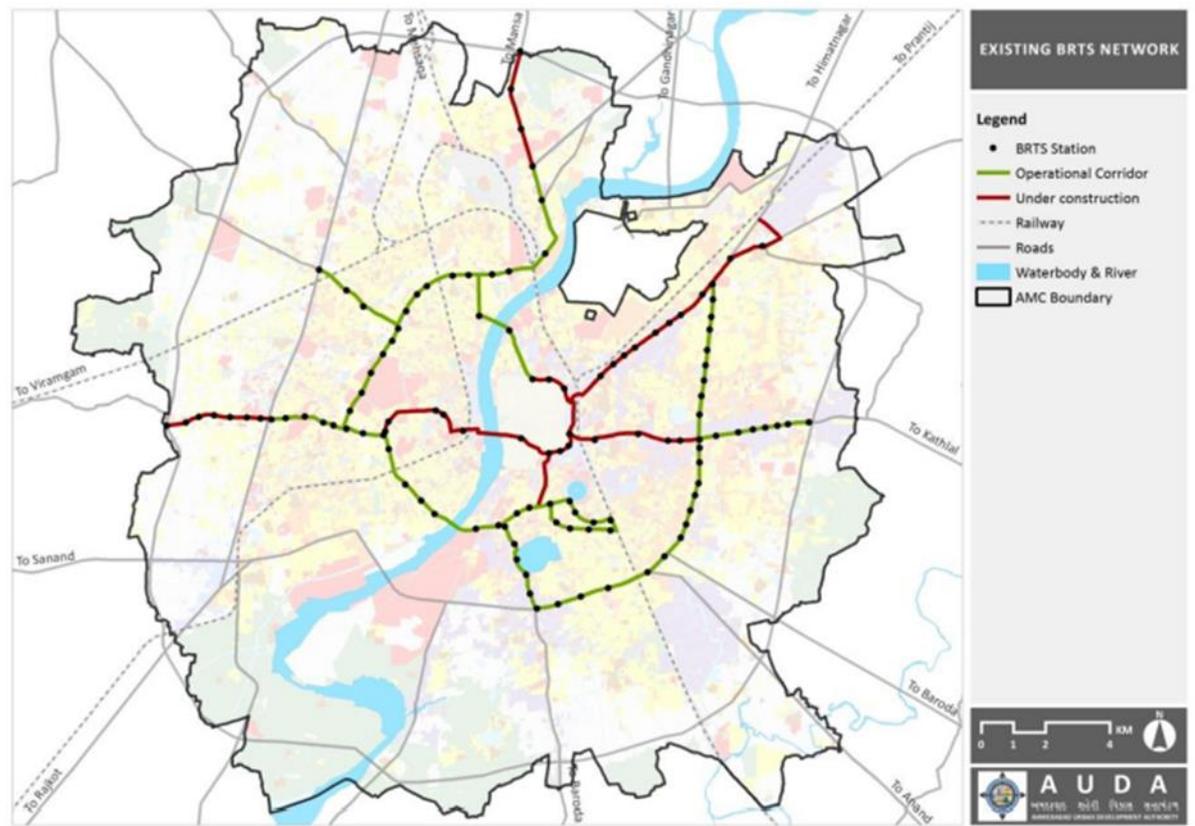
Source: (AUDA, 2013)

While BRTS has eased the commute for people who travel via buses, it also aimed to provide usable and safe infrastructure to pedestrians and cyclists. Due to under maintained infrastructure and lack off regulations, cycle and pedestrian lanes are encroached and do not serve their purpose. Not only this, underutilised infrastructure provides niches anti-social activities too. Lack of lighting and cleanliness are the main reasons to contribute to under-utilisation of spaces. Similar issues lie with AMTS, that under maintained bus stops make it difficult for people to access buses.

Source: (The Times of India, 2021).

Apart from bus network, Ahmedabad has a network of metro rail transit system. The project has recently been inaugurated and made operational in October, 2022 and is still in its first phase. It is being implemented and maintained by Gujarat Metro Rail Corporation (GMRC). The metro networks will cover intra city connectivity in first phase and intercity (with Gandhinagar) in second phase and provide a fast and economical mode of transport for all citizens including children.

Figure 98 Metro rail transit system in Ahmedabad

Source: (GMRC, 2022)

Figure 99 Showing the route of metro in Ahmedabad
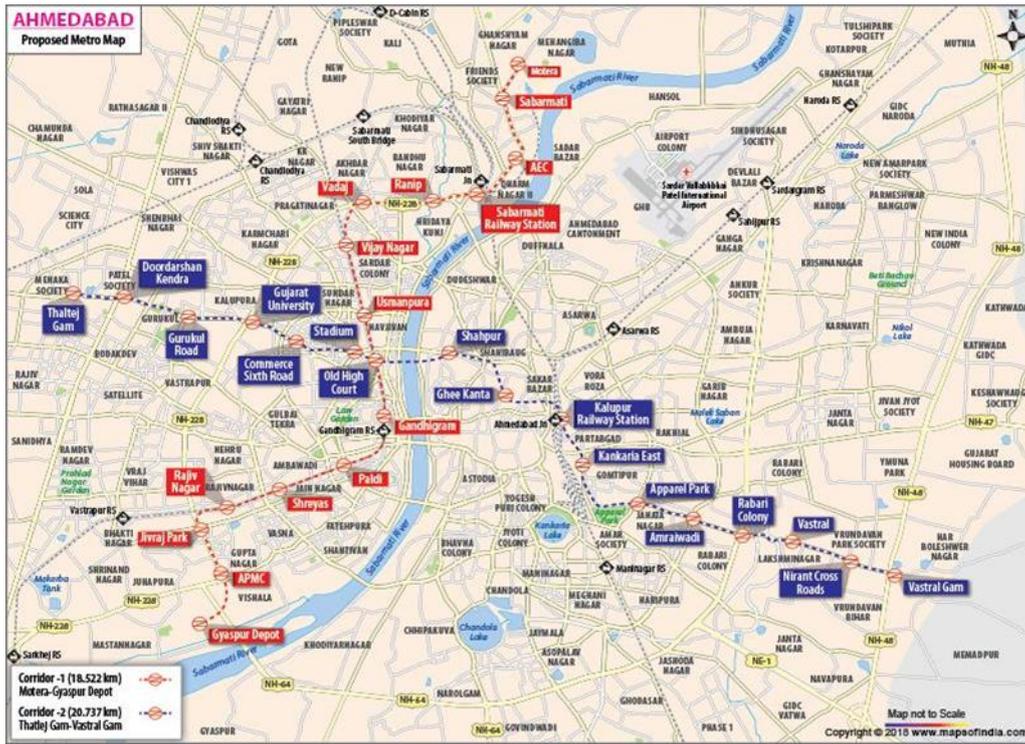
Source: (GMRC, 2022)

Child Friendliness of Public Transport

Following are the parameters considered to evaluate the child friendliness of the public transport systems in Ahmedabad.

a) Availability, frequency and reliability

In an urban area, heaviest traffic of commuters on road and in public transport is during the peak office hours i.e., morning 8 to 10 am and evening 5 to 7 pm. It is observed that availability, reliability in terms of adherence to the timings to the set schedule, and frequency of service is good along the major routes largely in AMTS and BRTS. However, the only challenge understood is the last mile connectivity which creates heavy dependence on IPT system like private autos. Though IPT provides first and last mile connectivity, door to door services, and flexibility, safety for children is a concern (Improving and Upgrading IPT Vehicles and Services : A study, 2014). The city can explore the possibility of improving last mile connectivity by introducing public bicycle sharing systems/electric bikes at the BRTS stations for use by all including children.

b) Accessibility

Independent access to transport facilities also pertains to proximity of the infrastructure. Presence of legible directional signage, waiting area, considerations to bus stop designs for children, elderly and specially abled, and then access to public buses etc. is the infrastructure which encourages accessibility. In Ahmedabad, the average distance between two bus stops of AMTS is about 325 meters but the challenge remains that these stations are not maintained and regulated (AUDA, 2021). For example, the accessibility to the bus stops is not universal and the existing footpaths are also chipped, broken and unclean. Whereas, in case of BRTS, the stations have ramps for easy access at the bus stations but proximity to neighbourhoods is an issue. Firstly, to access a BRTS station, one has to use intermediate transport system to reach the station; secondly, BRTS corridors run in the centre of roads and to reach the station, one has to cross the road which has high vehicular movement with unregulated speeds. Participants from stakeholder meeting highlighted that parents do not feel safe to allow their children to cross the roads on their own. Even if the BRTS corridor is available in their neighbourhood, parents do not allow their children to access the bus facilities on their own. Access to the facility does not mean availability of a station, it pertains to enabling a child to use the public transport. This also includes the development and provision of facilities for people travelling with children such as adequate space on vehicles and within facilities (such as waiting areas) to allow for the storage of prams, bags, and others items ("You might as well just stay at home": young mums and transport in Victoria., 2007). Although, metro stations cater to the needs of children and caregivers within the premises, like BRTS stations, they also require an intermediate transport network working in the distance between neighbourhoods and stations.

Means of assistance while entering a bus station or climbing a bus such as grab bars, tactile strips, anti-skid flooring etc. encourages the usage among children and specially abled. These measures are taken care of in metro stations but not in bus stations/stops.

c) Affordability

Monetary aspect can play an important role for choosing public transport and frequency of its usage. BRTS and GMRC have provision of prepaid smart card issued to all users (GMRC, 2022) (BRTS, 2022). AMTS has schemes like monthly pass, quarterly pass and 'travel as you like' scheme. The 'travel as you like' scheme has four categories and one of them is dedicated to children and ladies. Under this scheme, 3-12 year-old children can travel in any AMTS bus, with a single ticket in any route from 11 am to 11 pm (AMTS, 2022). Average fares in AMTS, BRTS and Metro are in range of INR 10, 15 and 20. Furthermore, by collaboration with ICICI back, AMC has Janmitra card which is prepaid, and can be used for

cashless bus travels (Info - Smart Card, 2022). Issuance of these cards are taken care by respective transport systems authorities. Children do not have an unrestricted access to money, so parents can issue a prepaid card for them to use for commuting in public transport.

d) Amenities and Services

Public infrastructure such as toilets and drinking water facilities near public transport junctions, stops etc. is one of the necessities for travellers and staff operating them. At present only 17 of all AMTS/BRTS bus stops have immediate access to public conveniences. These are located mostly near institutes, and are present in Central and North Western zones (Urban Management Centre, 2013). Another concern raised during the stakeholder meeting, was of AMTS stations lacking space to rest, and use toilets even for drivers and conductors.

Even though, a vast network of public transport is available in the city, all modes are not connected as one. This also buds the issue of efficient last mile connectivity. Regulated transport inter-change nodes within different modes with consideration of ease of children would be a step forward to child friendly city. Additionally, since metro rail is still in first phase of implementation, a Station Access and Mobility Plan (STAMP) is recommended to introduce with later phases. This plan associates with enabling multimodal integration of transportation.

7.2.3 Clean environment

City environment encompasses natural attributes of immediate ambient conditions. Ambient conditions such as air, noise, and cleanliness, tangibly or intangibly affect citizens' physical and mental health. Good quality ambient conditions are free from contaminants like pollutants, mosquitoes spreading diseases (like malaria and dengue), clean water (free from viruses, bacteria and parasites), and solid waste and sewage management. In Ahmedabad, as mentioned in the health section of this report, cases of asthma and chronic bronchitis are increasing. High concentration levels of contaminants in air such as particulate matter is one of the causes for lung damage. Also, children can become more resistant to stress and this increases the probability of getting behavioural disorders and impact their learning capacities (NIUA, 2016). For a city, following are the indicators to assess city environment:

a) **Air Quality**: Child's health is directly proportional to the quality of air they breathe in. According to the Ambient Air Pollution Report, almost 93% of world's children are exposed to polluted air making it a major health risk (World Health Organisation, 2016). Air pollution influences neurodevelopment and cognitive aptitude in children while acting as an activator to asthma, chronic bronchitis, and childhood cancer. Urban susceptibility valuation of air pollution and children includes recognising urgency areas and neighbourhoods. Correspondingly, addressing susceptibility from an air pollution perception requires preparedness based on predictions. Average Air Quality Index (AQI) of Ahmedabad ranges from 120 to 200 (CPCB, 2020-2021). The most polluted areas in Ahmedabad are Paldi and Navrangpura where the AQI in evenings sometimes reach up to 300 (The Times of India, 2022). According to CPCB, ambient air quality index acceptable for breathing shall be less than 100. Ahmedabad is refuting those standards and this issue requires attention. Lower air quality is mainly attributed to the rising vehicular pollution and construction sites in the expanding city apart from the industrial smoke.

b) **Noise Levels:** The major sources of noise exposure affecting children in a city are traffic, loud music, and overlapping of noises of people (NIUA, 2016). Infants and toddlers are particularly affected by the loud noises. Early childhood exposure to high noise levels can cause permanent damage to hearing capacities of children (Burden

of Disease from Noise Pollution, 2011). CPCB suggests ambient noise levels shall range from 65 to 75 Db. According to CPCB annual report, during the peak hours, the noise levels in Ahmedabad goes up to 90-95 Db. These are higher than suggested noise levels but as compared to other metropolitan cities of India, Ahmedabad's average ambient noise levels are considered as satisfactory.

c) **Cleanliness:** City cleanliness can be assessed on the basis of contaminating environs present in the surroundings. Children are more vulnerable to these, at early ages, as their immunity is still developing (America's Children and the Environment, 2003). Garbage disposal, sweeping, sanitation on roads and public spaces etc. are visual indicators to judge cleanliness of a city (Ministry of Housing and Urban Affairs, 2022). Ahmedabad has ranked 18th position with 5,721 score in Swachh Survekshan Assessment (SSA), 2022. Indore as scored the highest rank with 7,146 score. SSA score is based on the following factors:

1. Collection of segregated waste

2. Capacity of wet waste processing facilities

3. Implication of waste management principles—reduce, reuse and recycle

4. Extent of solid waste based air pollution

5. Integration of Safaimitra Suraksha Indicators in the city

Ahmedabad city has earned the title of cleanest mega city of the year 2022. The city excelled in indicators of solid waste management but sanitation and cleanliness of public spaces lagged. Also, according to public perception survey conducted by SSA team, infrequent road sweeping was one of the unanimous complaints (Ministry of Housing and Urban Affairs, 2022).

Figure 100 Jamalpur Chowki Junction

Ambient environment quality of a city is also affected by Land Use and Land Cover (LULC) of a city. Urban Heat Island (UHI) affect is generally observed in metropolitan cities. The affect develops due to disproportion of greenery to infrastructure (AUDA, 2021). Greenery associates with availability of trees and plants throughout the city. According to the National Institute of Environment Sciences (NIES), the tree cover should be at least 15% of total area, for megacities with a million plus population. Ahmedabad has a density of 13.2 trees per

hectare and trees cover approx. 4.66% of the total geographical area of the city. This implies, tree cover per habitant is 3.9 sq. m. which should have been approx. 10 sq. m. Hence, the available trees only suffice 30% of the needs of citizens. The number of trees to meet a minimum standard of 10 sq. m. tree cover per one lakh inhabitant is 15.82. Tree cover impacts the micro-climatic conditions of an area. It takes care of carbon emissions by moderating its storage and sequestration. Also, it moderates temperature and tackles air pollution by intercepting particulate matter (Gujarat Forest Department, 2012). To conclude, tree area within the AMC boundary can be improved by identifying and planting trees in gaps, institutional lands, streets, along Sabarmati River, and lakefronts.

7.2.4 Child Friendly Initiatives in Ahmedabad

A child friendly city is where the city accords safety to the child, where the child has the freedom to explore, derive fun and joy, have ample opportunity, and build happy memories for a lifetime. To fulfil this vison, various initiatives were designed and implemented by a collaboration of AMC with schools, NGOs, and other private agencies. All of these initiatives are based on collaboration and bringing the community together for the betterment of children. It also ensures inclusivity through the participation of children from different communities and sections of society.

Child friendly initiatives in Ahmedabad:

Kankaria Kids City: Built by AMC, it covers 4240 sq. m. for children aged 5 to 14. They have their own tiny town where they may enjoy the best entertainment and education at the same time. It is a miniature version of the city thorough with roads, cars, and numerous foundations such as a bank, a fire station, a science lab, a radio station, a police station, a courtroom, a prison, a dental and medical hospital, a theatre, BRTS, a heritage gallery, the town government, an IT centre, a newsroom, an ice cream factory, etc.

Under the smart cities mission, AMC launched '**Smart kids for Smart city'** an initiative under the CSR fund. The buildings and set-up cost has been funded by the corporates while the O&M are done by the AMC. The initiative evolved around the concept of i-SEE *anganwadis* focusing on "learning through play" for *anganwadi* children in a colourful, children-friendly environment which will allow a child to develop cognitively. This project benefited 75 children from two *anganwadi* centres.

Street Smart (Happy Streets): A, initiative in Law Garden held once a month on the streets. The traffic is shut down and a set up games, activities, and stalls are lined up for children. Children come together from all demographics of the city to become a community. The Happy Street becomes a playground and a canvas for children where they can own the city for a while and leave their mark on the landscape of the city.

City on Cycles: This initiative aimed to promote cycling culture in the city and reclaim spaces for children.

Parents of the Park: This event was held last in the year 2015, where children from all demographics were invited to the parks. The children were engaged in understanding the ownership of nurturing and caring for childhood by providing varied avenues to explore, engage in creativity and community and experience the joys of childhood.

Vikram Sarabhai Children Innovation Centre (VSCIC): Initiated in 2020 by UNICEF and Gujarat University, this centre serves as a platform for identifying, nurturing and encouraging innovations by children. Presently, the centre is working on nurturing start-ups and innovations by children across 15 sectors, ranging from agriculture to space tech.

World Children's Day Event under Child Friendly Cities Programme: UNICEF along with organisations such as aProCh, Riverside School and others conducts Children's day celebrations at the Happy Street. The events not only intend to provide a safe and inclusive space for children and parents to come and enjoy, but also to capture their views and impressions on what the city can do to make it better for children to grow in.

In the last event, topics of discussion with children and parents broadly included aspects like open spaces, safety, mobility etc. A unanimous vote for improved quality and access to neighbourhood level parks is registered. In city, children like to visit riverfront often. They usually play in their nearby neighbourhood parks and want them to be improved. This highlights the need of child friendly equipment in neighbourhood parks. It was also observed that some families did not have access to parks nearby. Another aspect discussed was roads, crossings, and pedestrians. This came out to be the most problematic for both children and parents. Majority children do not feel safe to be on road and parents do not feel

comfortable to let their children be on their own while walking and crossings roads. The overall city feels safe to majority of the parents for their children, apart from mobility aspect. Sanitation was another major concern from parent's point of view. Due to lack of access to public toilets, they are not able to utilise this facility and even if they find a pubic amenity, they cannot let children use it due for unhygienic conditions. This issue was shared by teenage girls also; they did not feel public toilets are female children inclusive.

Figure 101 Children's Day Event under Child Friendly Cities Programme.

In conclusion, the above mentioned initiatives are great to impact the socio-cultural dynamics of the city but till the gaps in built environment are taken care of, the city is not child friendly. As observed in above sections, when it comes to parks, NMT infrastructure, and city environment, all aspects do not stand fit or suffice the needs of citizens. Ahmedabad has to go a long way to become children inclusive. It is undergoing transformation and has a lot of potential public space projects. The idea is to bring in needs of children across scales of planning, from design of footpaths to allocation of land use for the benefits of children. The children friendly lens will break barriers in development of children across socio-economic groups. Better designed cities will nurture children, help them explore and learn from their surroundings. This will benefit children of all ages and help them become healthy, fit, and responsible citizens. The inter-relation of all aspects such as built environment and open spaces and their appropriate proportion in still missing in the city.

8 Right to be Valued, Respected and Treated Fairly

Strong communities respect human rights, and every individual, irrespective of their background, location, looks or opinions or belief systems, feels included and has their own contribution. Human rights are founded on universal principles of dignity, equality, and mutual respect that cut across civilisations, belief systems, and ideologies. They are concerned with being treated fairly, treating others fairly, and to have genuine choices in our daily lives.

Children can flourish in a strong community where they are protected from exploitation, violence and abuse and also have a fair chance in life regardless of their ethnic origin, religion, income, gender, or ability (UNICEF, n.d.). It is therefore extremely important to ensure that children are also treated fairly regardless of their ethnicity, caste, race, economic status, sex, and disability.

India has not only declared for Convention on the Rights of the Child (CRC) in 1992 but is also a state party on Convention on the Rights of Persons with Disabilities (2007) (United Nations, n.d.). Under the CRC Indian government has passed and amended acts for the protection and safety of children in the country. In India the core child protection legislation for children is enshrined in four main laws: The Juvenile Justice (Care and Protection) Act (2000, amended in 2015); The Prohibition of Child Marriage Act (2006); The Protection of Children from Sexual Offences Act (2012), and The Child Labour (Prohibition and Regulation) Act (1986, amended in 2016). Despite several laws, acts and policies in place for the protection and safety of child rights in the country, they are often demonstrated to be inept causing children to be subjected to many shocks and vulnerabilities.

8.1 Shocks and Vulnerabilities

The concept of vulnerability is often challenging to comprehend since it tends to mean different things to different people and it is often described using a variety of terms including 'predisposition', 'fragility', 'weakness', 'deficiency' or 'lack of capacity'. United Nations Office for Disaster Risk Reduction (UNDRR) defines vulnerability as the characteristics determined by physical, social, economic, and environmental factors or processes which increase the susceptibility of an individual, a community, assets, or systems to the impacts of hazards (UNDRR, 2017). With vulnerability many households around the world face various shocks. Shocks are random, unpredictable events that have a widespread impact including climatic, economic, environmental, and conflict-related stresses. Such shocks impact households and their livelihoods in numerous domains including physical, human, and social capital (International Security and Development Center).

People who come from economically weaker groups in society are more susceptible to a variety of shocks and vulnerability. This is because this segment of the society mostly belongs to economically weaker sections of society, who face many prejudices and challenges in owning assets, are denied access to education, and condemned to menial occupations. The children, disabled, women, and the aged, are mostly dependent on others to fulfil their basic and financial needs. They are incapable of augmenting their incomes above a bare subsistence level and thus form one of the most vulnerable populations of the society (Raghav Gaiha, 2000).

As discussed earlier there is no doubt that the economically weaker section of the society is the most vulnerable. But the question arises why migrant workers and homelessness is a vulnerability. Being poor has adverse effect on a person's well-being and as a result they are incapable of mitigating the shocks which come with vulnerability. The most marginalised people are vulnerable to trafficking and forced labour as a result, this includes other members of their families including children as well.

Due to poverty, the poorest of the households adopt behaviour-based strategies like reducing food consumption, migration for improved livelihoods, employ child labour, work more hours, live on streets etc. The result of these vulnerabilities is that the urban poor are also most impacted by shocks such as climate change, impact of diseases and infections, impact of severe weather conditions, and other such situations. These shocks and vulnerabilities affect not only their health and wealth but also affect their future generations.

Daily wagers, migrant workers, labourers and the urban poor make up a sizeable portion of our society, thus it is crucial to comprehend the problems they confront in order to create a better and more harmonious living conditions and environment. Hence, to have a better understanding of the shocks and vulnerabilities we will be looking at plight of:

1. Migrant workers (vulnerability),
2. Homelessness (vulnerability),
3. Impact of COVID-19 (shock) and
4. Climate and disaster shock in Ahmedabad.

8.2 Shocks and Vulnerabilities in Ahmedabad

8.2.1 Vulnerability: Migrants

Migrant workers form a section of society that is permanently impoverished. They travel in search of work, live in deplorable conditions, and are barely able to meet their basic needs (Raghav Gaiha, 2000). Due to the poor living and economic conditions, it is often noticed that their children drop out of school, face health issues, and are often employed as child labourers in informal sectors making them one of the most vulnerable parts of the society.

Ahmedabad has experienced rapid industrial and economic growth in the last two decades. During the 1990s, Ahmedabad witnessed an increase in interstate and intrastate migration that included migrant workers migrating with their children as well as child migrants. Previously, migration was particularly intrastate with a substantial percentage comprising of seasonal workers who migrated for short durations. Migrant workers can be classified into two categories. The first category of workers is skilled or unskilled. The second category of migrants may be classified, into circular migrants or permanent migrants, on the basis of their duration of stay. Circular migrants are the ones who temporarily move for purpose of employment from their native place, followed by a return to their normal place of residence (Raghav Gaiha, 2000). Permanent migration is when someone moves from one place to another and has no plans to return to their original home (Migration, n.d.).

According to informal estimates there are 1.3 million circular migrants in Ahmedabad city which is one-sixth of its population. They are engaged in various sectors like construction, manufacturing factories, domestic help, and restaurants and as hotel workers (Aajeevika Bureau, 2020). In 2019, Census Commissioner released a finding on the pattern of migration in various municipal corporations of Gujarat.

Table 15 Migrants Workers in Cities of Ahmedabad (2011)

	Ahmedabad	Rajkot	Vadodara	Surat
Total Migrants	25,64,000	7,40,000	9,00,000	28,87,000
Migrants from other States	6,90,000	56215	2,26,000	14,39,000
Migrants from Gujarat only	18,74,000	6,83,785	6,74,000	14,48,000

Source: (Census of India, 2011)

The cities in Gujarat with significant migration populations were Surat and Ahmedabad. According to reports published by the Census Commissionerate of India, there were 2.56 million migrants living within city limits of the AMC, of which 0.7 million came from other states and the remaining 1.87 million (73%) were residents of the same state. Ahmedabad offers a variety of employment prospects in industrial and manufacturing sectors, therefore

majority of the migrants who arrived in Ahmedabad came with the explicit intention of obtaining employment. This group of people mostly comprise of economically weaker section of the society. Business, marriage, and education are other motives for which people migrate to Ahmedabad city (The Times of India, 2019).

Out of the total population of child migrants in Ahmedabad district 50-75% of them were interstate migrants between 2001 to 2010. These children work in industries such as brick kilns, textile manufacturing and at construction industries. Most of these children are from Rajasthan, Uttar Pradesh, and Bihar. They either accompany their parents or migrate alone. Contractors employ them to work in many cities of Gujarat (UNICEF, 2021).

It was also noted that 77% of the migrants migrated with their families while 23% of them travelled alone. The total percentage of female migrants was reported to be 39% and all of them accompanied their families. 39% of the migrants were female and 61% were male (Aajeevika Bureau, 2020).

Figure 102 Family vs individual migrants
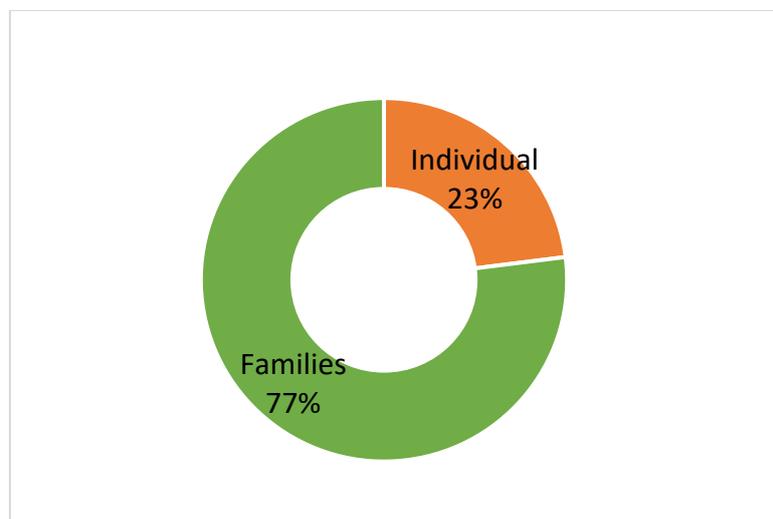
Source: (Aajeevika Bureau, 2020)

Table 16 Gender wise breakup of migrants
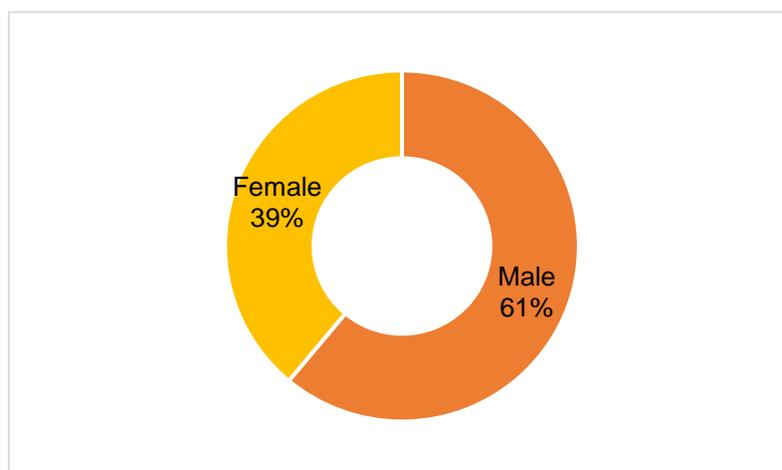
Source: (Aajeevika Bureau, 2020)

Migrants irrespective of their category, origin and destination of their stay face various problems. People migrating for work face key challenges including:

i)   lack of social security and health benefits, and poor implementation of minimum safety standards law.
ii) lack of portability of state-provided benefits especially food provided through the public distribution system (PDS).
iii) lack of access to affordable housing, and basic amenities in urban areas (Madhunika Iyer, 2020).

The difficulties and obstacles migrants confront cause them to become stranded, often living as homeless people or in horrible conditions, which causes health problems, and has a significant negative influence on the development and education of their children. To have a better grasp of their current predicament, the living circumstances of migrant workers and the impact on their children are elaborated further.

Living conditions of migrant workers

Due to the accessibility and financial issues, migrant workers dwell in distinct kinds of housings. These housing typologies are informal and unregulated and provide inadequate services. 28% of the migrant workers in Ahmedabad reside at their worksite in temporary structures or shed, 13% live in open space settlements and 53% reside at rental room (Aajeevika Bureau, 2020).

Circular migrants are invisible and exploited in Indian cities. The increase of rents for accommodation and high labour demand in urban contexts has led to unaffordable housing costs for labour migrants, who are then forced to live in slums in a perpetuating situation of vulnerability. They do not avail any employment contracts, thus facing poor or non-existent health services, accidents in the worksites, and even non-payment issues. Besides, their condition of legal non-existence also nullifies every attempt to open bank accounts or to access economic financing, with enormous implications on their savings, and consequently on their long-term stability perspectives and income generation (Anna Corrente, 2021).

Circular migrants are present in cities for a sizable portion of every year yet are unable to claim permanent residence there or have access to PDS (public distribution system), water and sanitation services, affordable housing schemes by National Urban Livelihood Mission (NULM) programmes due the restrictions, migration laws and one-city domicile document. Thus, they are forced to accept the alternate options of temporary housing typologies or living on the street without any proper water and sanitation facilities often subjecting them to issues such as open defecation, water clogging and various health related issues.

Due to the poor conditions of their surroundings migrants are faced with challenges especially with safe water and sanitation. The type and state of the sanitation facilities at various locations of dwelling of migrant workers also vary depending on the workers' relationships with their landlords and contractors. However, in general, the sanitation and hygiene conditions are dismal. Some rented rooms and worksite housing inhabiting mostly domestic workers have access to individual toilets provided or arranged by the landlords. Rented rooms predominantly comprising of male workers only have access to shared toilets, where one toilet is shared by 10-15 workers. Worksite housings and open spaces either use pay and use toilets or resolve to open defecations (Aajeevika Bureau, 2020). In another study conducted by Centre for Urban Equity (CUE) on the housing condition of migrant workers in Ahmedabad it was reported that 38% of the respondents reported using shared toilets provided for them, 34% reported practicing open defecation, and 16% reported using pay and use toilets. 11% of the respondents had access to private toilets and rarely any of the respondent used public toilets. Children as a common practice relieved themselves in the open. The reason for dependency on pay and use toilets and open defecation is inadequate toilets in the housing or poor maintenance of the already existing toilets (Renu Desai & Shachi Sanghvi, 2019).

The lack of provision of basic services like water and sanitation has several consequences and impact on the migrant population, especially on their children. They are subjected to harassment and treated as nuisances. According to Government of India's Report of the Working Group on Migration (2017), migrants are exposed to health risks including communicable diseases like malaria and tuberculosis. They are also exposed to sexually transmitted diseases like HIV, and occupational health hazards such as respiratory problems, lung diseases, allergies, kidney and bladder infections, back problems, and malnutrition. Migrant workers are frequently found to be residing in overcrowded conditions and thus have an increased chances of transmission of infectious diseases. The migrant children spend half of their life on a worksite with their family, often being excluded from all basic entitlements and services like food and nutrition, health and education. These children are exposed to elevated health risks such as malnutrition and anaemia (John, Jacob; Thomas, Naveen Joseph; Jacob, Megha Jacob and Neha, 2020).

Figure 103 Housing typologies of migrant workers
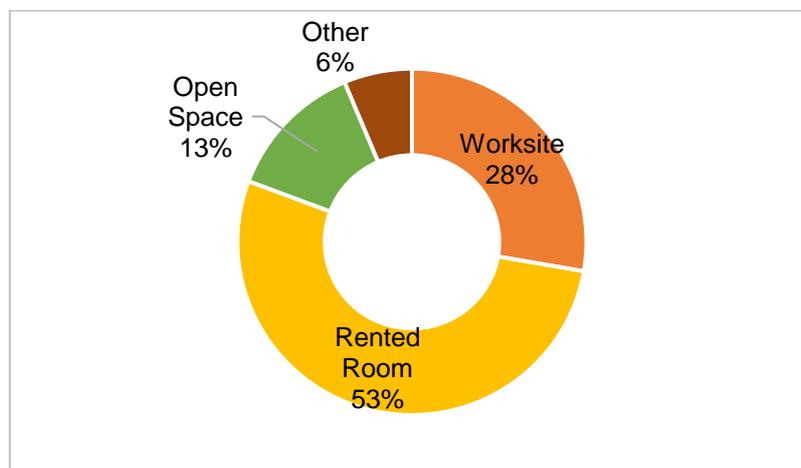
Source: (Aajeevika Bureau, 2020)

Impact on children of migrant workers

Children are more vulnerable to health and safety risks emerging out of poor housing conditions with no maintenance, and dysfunctional water and sanitation facilities. They are not only prone to health hazards but are also engaged in child labour and lose out on education. In Right to Social Service, we have already seen that, in Ahmedabad as the child outgrows 1 year of age up to 5 years, the likely causes of death are due to infections such as pneumonia or diarrhoea or fever and injuries. The increase in risk is also due to the fact that children of migrant workers often accompany their parents to work, and play and grow in uninhabitable conditions.

Children of migrant workers were found to be significantly underweight (50.4%) compared to the national average. Common factors responsible for underweight and malnutrition among children were misperceptions of malnutrition, long hours of work, and lack of childcare provision at the worksite which resulted in disrupted quality of care (Ravindranath, 2019). 4% of the state's cases of diarrhoea in children below the age of 5 as stated previously in disease burden and deficiency in children assessment, were found in Ahmedabad district. This can be accounted to the poor sanitation conditions of the dwellings of migrant workers as well as poor feeding and nutritional practices as seen in the health sector (Health Management Information System, 2020).

Since children of migrant workers accompany their parents to work they do not attend school. Studies have shown that 99% of the children of migrant workers between the age of 0 to 5 do not avail any primary education despite the availability of *anganwadis* offering pre-

primary and primary education (Children of Migrant Construction Workers, 2018). The parents stated that due to the unavailability of caregivers they brought their children to worksite, thus debarring their children's early years of education. It was also observed that the status of education improves between the age of 6 to 9 where 75% of children are enrolled in schools but as the age increases the enrolment rate declines and frequent dropouts are reported. The major reasons for dropouts among children of migrant workers are to help sustain the family, and ease of access. Furthermore only 37% of children between the age of 10-17 were found to be attending school (Don Bosco Research Centre, 2018).

Low enrolment and literacy rates among children of migrant workers hinders their future employment prospects thus promoting the vicious cycle of child migration. Various initiatives have been taken by several NGOs and all the three tiers of government to educate children of the urban poor. Children can avail free education at all government schools under the Right to Education Act (2009) anywhere in India. Yet many of them discontinue their education due to inaccessibility, prominence of poverty, income inequality, lack of credits, parental ignorance, and the lack of willingness to study. To address the issues of accessibility, AMC has taken an initiative called the Signal School. Under this initiative 12 buses have been converted into mobile school vans and they travel across the city at various traffic signals, areas of residence of urban poor households and to various construction sites to impart education to underprivileged children in Ahmedabad.

Figure 104 Children of migrant workers enrolled in school (2017)
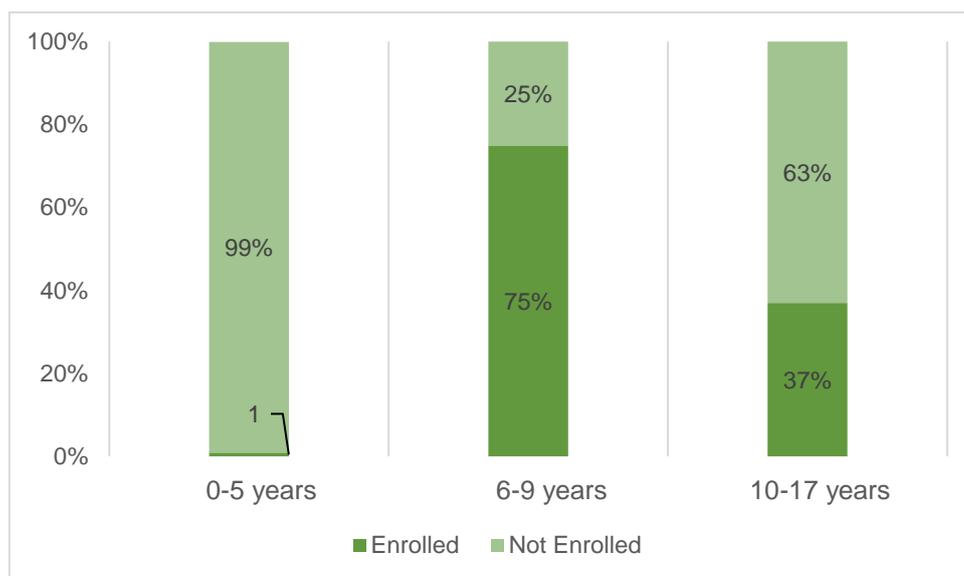
Source: (Children of Migrant Construction Workers, 2018)

8.2.2 Vulnerability: Homelessness in Ahmedabad

Homelessness is a state of being unhoused and unsheltered. It is the condition of lacking stable, safe, and adequate housing (Homelessness and human rights, n.d.). Many reasons factor to the state of homelessness; predominant ones being unemployment, migration, and poverty.

Status of homelessness in Ahmedabad

As per Census 2011, a population of 12,318 from 3,606 households were recorded to be homeless in Ahmedabad district (urban). Over the decade from 2001 to 2011 there was a rise in the number of homeless persons in the city by 27% (Census of India, 2011). Several news articles have cited that the percentage of homeless persons in the city has increased primarily due to the pandemic which rendered many people jobless or with relatively low

income, inability to afford housing and thus homeless. According to an official study of the homeless conducted under the SUH scheme in 2018–19 by Citizens for Shelter and Housing Alliance Ahmedabad (CISHAA), a network of several civil-society organisations and researchers there are about 8,000 homeless people in Ahmedabad. The capacity of the shelters is not even one-fourth of what is needed, according to the homeless survey, therefore it is to be assumed that this is an underestimation (Renu Desai, 2020).

Living on the streets is a permanent way of life for many homeless people across Ahmedabad. It is not uncommon to see footpaths with temporary shelters or empty plots with sheds as one walks through several parts of the city. These locations are abode to homeless people throughout the city. 80% of the homeless are living along the footpaths in Ahmedabad. Walled city and core city in the eastern part of Ahmedabad house the majority of homeless persons who live without shelter and in an open space. When possible, they construct temporary self-built structures or live in available semi-enclosed spaces and open to sky spaces (Mahila Housing Trust, State of Homelessness: Ahmedabad, 2020).

Figure 105 Number of recorded homeless persons in Ahmedabad
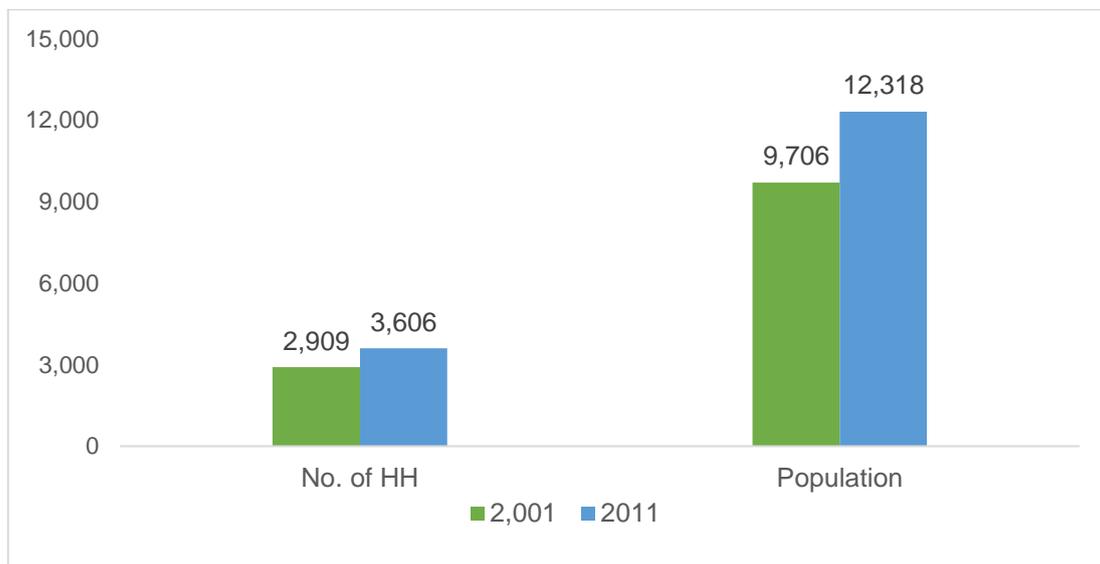
Source: (Census of India, 2011)

Figure 106 Hotspot locations of homeless persons in Ahmedabad
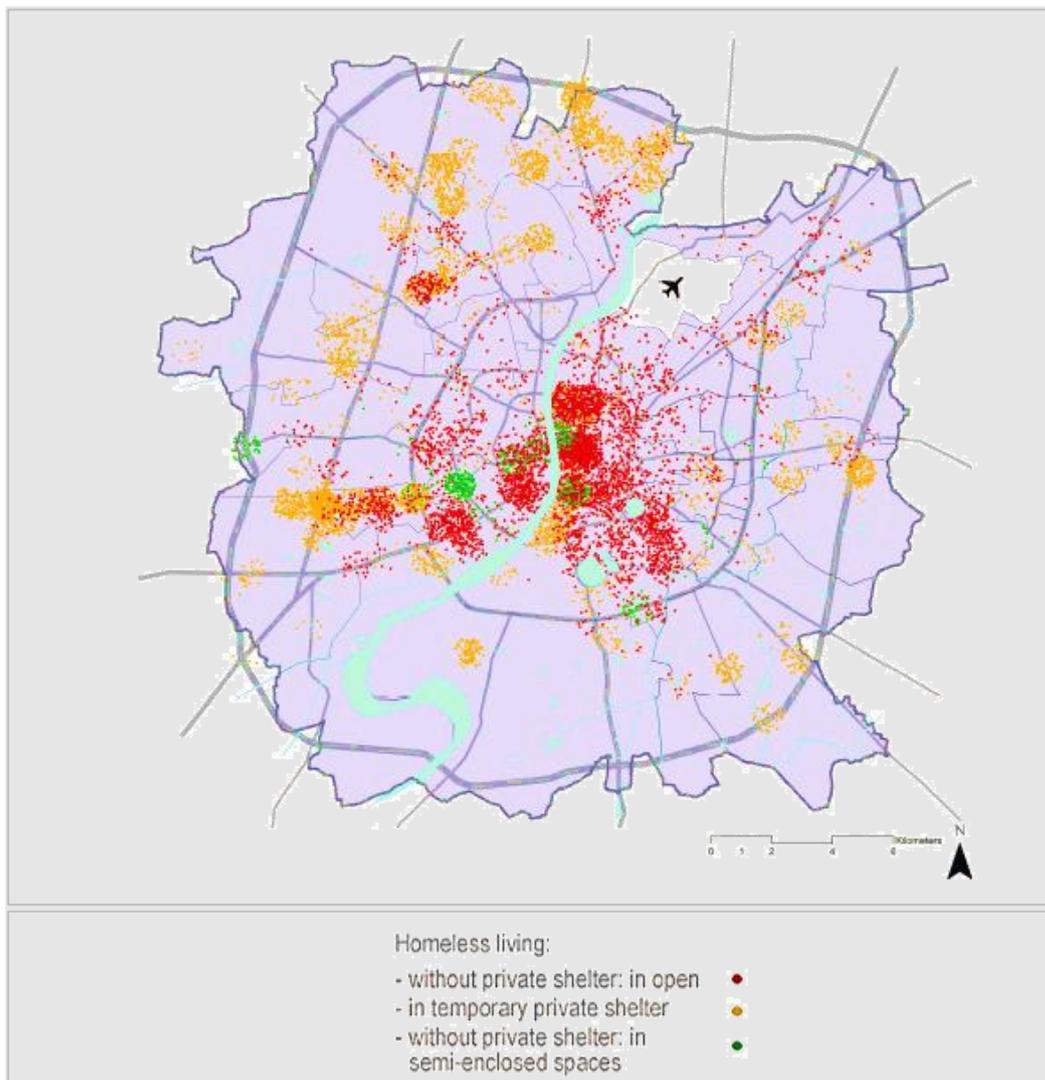
Source: (Mahila Housing Trust, State of Homelessness: Ahmedabad, 2020)

Homelessness affects all portions of the society, be it people with families or individuals. Findings from the study show that homeless people encompass both individuals and families. Out of the total homeless people accounted, 11% had come alone, 60% with families which also included children, and 29% of homeless comprised of both families and families with individuals. Though these individuals travelled and lived with their families, they were responsible for their own survival and did not contribute financially to the family. Homelessness as a vulnerability, affects children the most. They are deprived of a nurturing environment and often have to start fending for themselves at an early stage. 43% of the homeless were children below 18 years of age (Mahila Housing Trust, State of Homelessness: Ahmedabad, 2020).

Figure 107 Distribution of homeless persons-family/ individuals
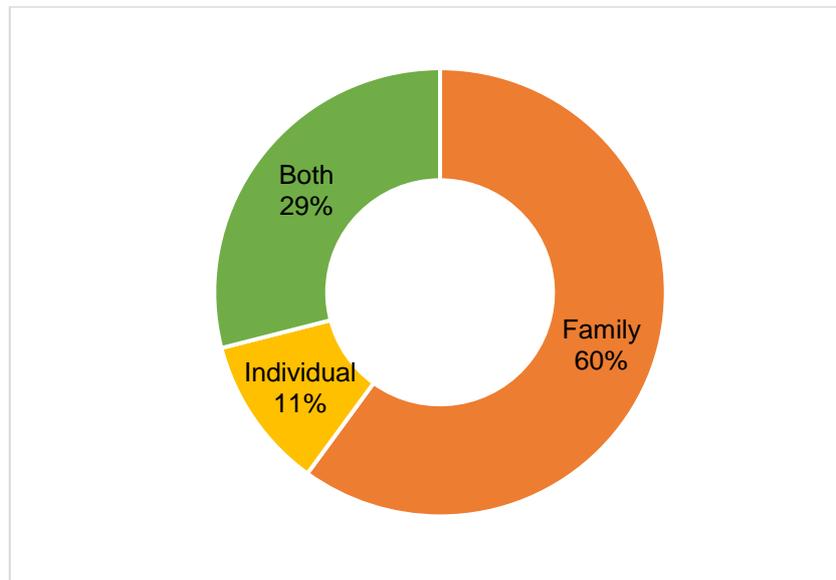
Source: (Mahila Housing Trust, State of Homelessness: Ahmedabad, 2020)

Figure 108 Percentage of homeless children
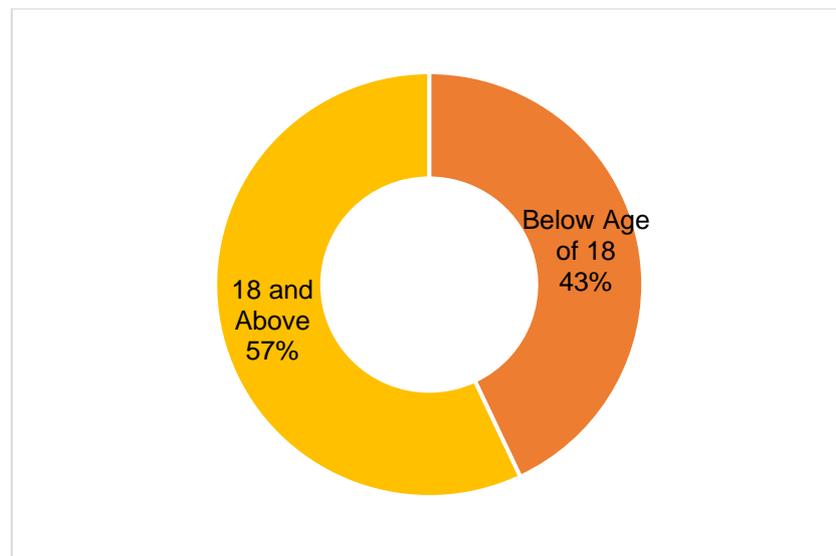
Source: (Mahila Housing Trust, State of Homelessness: Ahmedabad, 2020)

Reasons for homelessness

A study on homelessness in Ahmedabad in 2020 noted that the search of better livelihood opportunities is the primary driver for migration; hence a majority of homeless persons found to be migrants often engaged in the informal sector (Mahila Housing Trust, State of Homelessness: Ahmedabad, 2020).

It was reported that more than 50% of the homeless families migrated from rural areas in search of work and employment. In addition to migration, factors of relatively low or no income, and inherited homelessness were other primary reasons for homelessness of families. Other reasons for homelessness include domestic violence, domestic feuds, and physical health problems. Most of these families barely earn enough to sustain themselves, and it was noted that only 45% of the families could earn enough to afford rental housing (Mahila Housing Trust, State of Homelessness: Ahmedabad, 2020).

Figure 109 Reason for homelessness of families
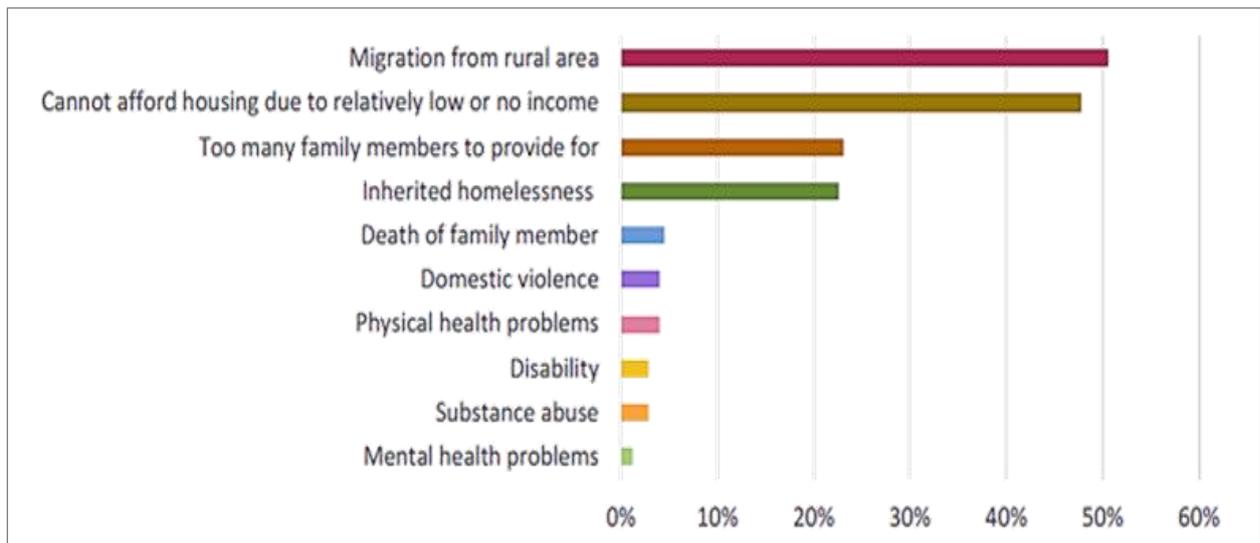
Source: (Mahila Housing Trust, State of Homelessness: Ahmedabad, 2020)

Out of the total homeless individuals in the study, 35% said that they were unable to afford housing due to low or no income, and therefore stayed homeless, while only 8% could manage to pay for rental housing. Other reasons for which individuals remained homeless includes migration, large family, and inherited homelessness (Mahila Housing Trust, State of Homelessness: Ahmedabad, 2020).

Figure 110 Reasons of homelessness for individuals
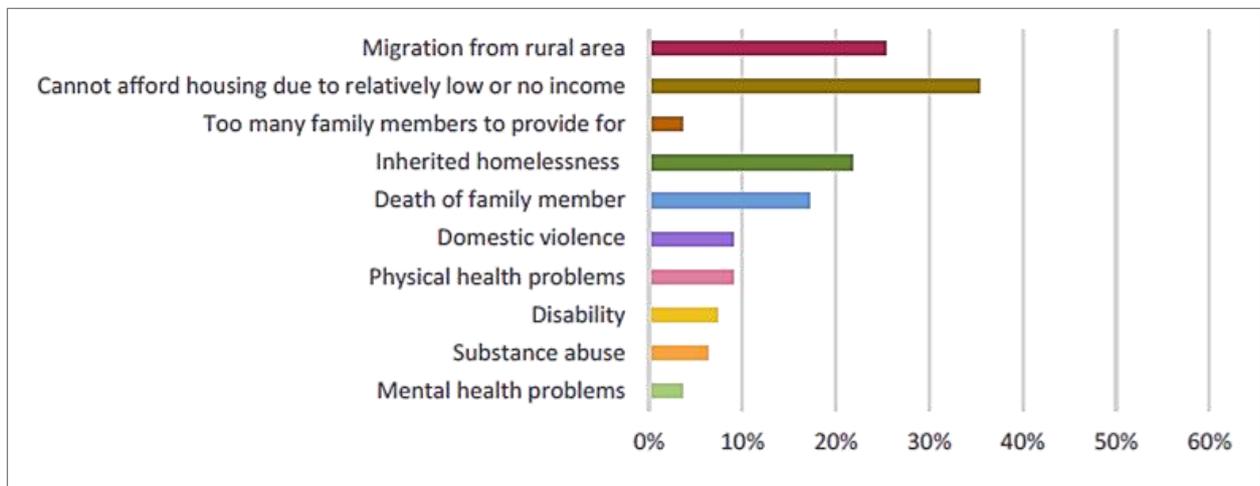
Source: (Mahila Housing Trust, State of Homelessness: Ahmedabad, 2020)

Impact of homelessness

Homeless individuals including children are more disposed to problems including health issues such as malnutrition, and lowered immunity against infectious diseases due to lack of public hygiene, inadequate waste disposal, weather extremes, contamination, increased prevalence of infections, and substance abuse with overall poorer quality of physical and mental health (Banerjee, Debanjan; Bhattacharya, Prama, 2020).

Ahmedabad's urban authorities pose a constant threat to many households especially living on streets and vacant plots. The police put a lot of pressure on many families and people living on the streets to leave and frequently change locations. Due to this the life of children

is disrupted and they need to drop-out from school. Issues of gender and perceived female safety are other constraints in availing education. For many homeless families schooling is a luxury they cannot afford due to the loss of potential earnings from the child's labour. Many homeless children are being found employed in the informal sector as rag pickers. Sometimes children also resort to begging to fulfil the basic necessity of food (Amber Morley, 2017).

Homelessness is stigmatised and often addressed with criminalisation, violence, and aggressive policies that violate, rather than safeguard the rights of the persons involved. It is often noticed that homeless people are pilloried as criminals and nuisances in the society, and they are subjected to various atrocities in the world (Human Rights Office of the High Commissioner, n.d.).

Living in shelter homes

Homelessness is a condition that has an impact on both the present and future generations' potential for growth. There are various areas where assistance is required for homeless families and individuals. 90% of people who are homeless are eager to receive housing aid, and steps can be taken to improve their housing condition and encourage more people to reach this threshold by raising salaries (Mahila Housing Trust, State of Homelessness: Ahmedabad, 2020).

As of 2018, Ahmedabad city had 42 shelter houses run by AMC with a capacity of 15-20 people each. Under the Shelter for Urban Homeless (SUH) scheme AMC has proposed 34 shelter homes within the municipal limits. These shelter homes will house 100 beds and will also aid in getting homeless person aadhaar cards, ration cards, election cards at the same time enlighten them with the entitlement and schemes to avail better employment options (Raval, Gargi, 2018). Shelter homes under SUH will be charged depending on the income levels of the urban homeless at rates ranging from 1/10 to 1/20 of their income. For those with no payment capacities, total exemption should be granted (Ministry of Housing and Urban Affairs, India, 2018).

As per the Regional Commissionerate Office (RCM) under the Gujarat Urban Livelihood Mission (GULM) average occupancy in shelter homes was recorded from January to April in 2022. It was found that shelter homes had an average occupancy of 45.3% during the four months (Gujarat Urban Livelihood Mission, 2022).However, it has also been reported that nearly 3,000 urban homeless including migrant labourers who were shifted to AMC provided shelters moved out due to lack of amenities (The Times of India, 2020). Most of the shelters have bad living conditions, poor sanitation, and a lack of social protection, particularly for women and children hence the urban poor choose to live on the streets.

As per the Supreme Court's order, shelters should be open 24 hours, on the contrary urban local bodies have built shelters only for the night. Most of the shelters built by the AMC are under the flyovers. However, inspections to the city's night shelters in 2014 by the Human Development Research Centre (HDRC) revealed that many of them lacked the essential services outlined in the Supreme Court judgement. Furthermore, according to the National Report, these shelters might hold 1960 people overall, as compared to 4,500 people according to the Supreme Court's recommendation of 100 people each shelter (Renu Desai, 2017).

Building shelters for urban poor and homeless, is one of the key step in solving the issue of homelessness in the city. Homeless people are regarded as nuisances in a city and are not provided with the basic needs and amenities like water, food, and shelter. Apart from being homeless, they are regarded as non-citizens in the city because of lack of identity and residential proofs in a city. They do not have a stable source of income and thus are trapped in the vicious cycle of inter-generational homelessness (Amber Morley, 2017).

8.2.3 Shock: Impact of COVID-19 on Slum Population

COVID-19 set a brake to lives in towns and cities around the globe. Additionally, it has highlighted the poverty and inequality that already exists in our society. While everyone was at risk from the pandemic, those who were poor, vulnerable, employed in the unorganised sector, living in slums, and lacking in savings and safety nets experienced the consequences of the lockdowns most intensely.

Although COVID-19 had a detrimental effect on India's public health infrastructure, there is little information available about how it has affected social, economic, and educational aspects of life. Under the MISAAL programme, UMC studied the dynamic consequences of the several pandemic episodes, between March 2020 and May 2021, on children's education and livelihoods of persons based on surveys conducted across nearly 4,600 households (HH) in the urban poor settlements of the city located in the central zone.

Socio-economic impact of COVID-19

Socio-economic activities across the world came to a halt during the COIVD-19 pandemic, and the case was no different for Ahmedabad. Of the total households surveyed in Ahmedabad, 72% households responded that they had faced income/wage loss or pay cut, and delay in income. Most of these respondents were daily wagers such as rickshaw drivers, construction workers, porters, etc. 8% household responded that they had to borrow money on credit during the lockdown. Ability to afford children's education was the prime concern for the people interviewed (UMC, USAID, 2018-21) .

Figure 111 Ahmedabad: Socio-Economic Impact (March 20-May 21)
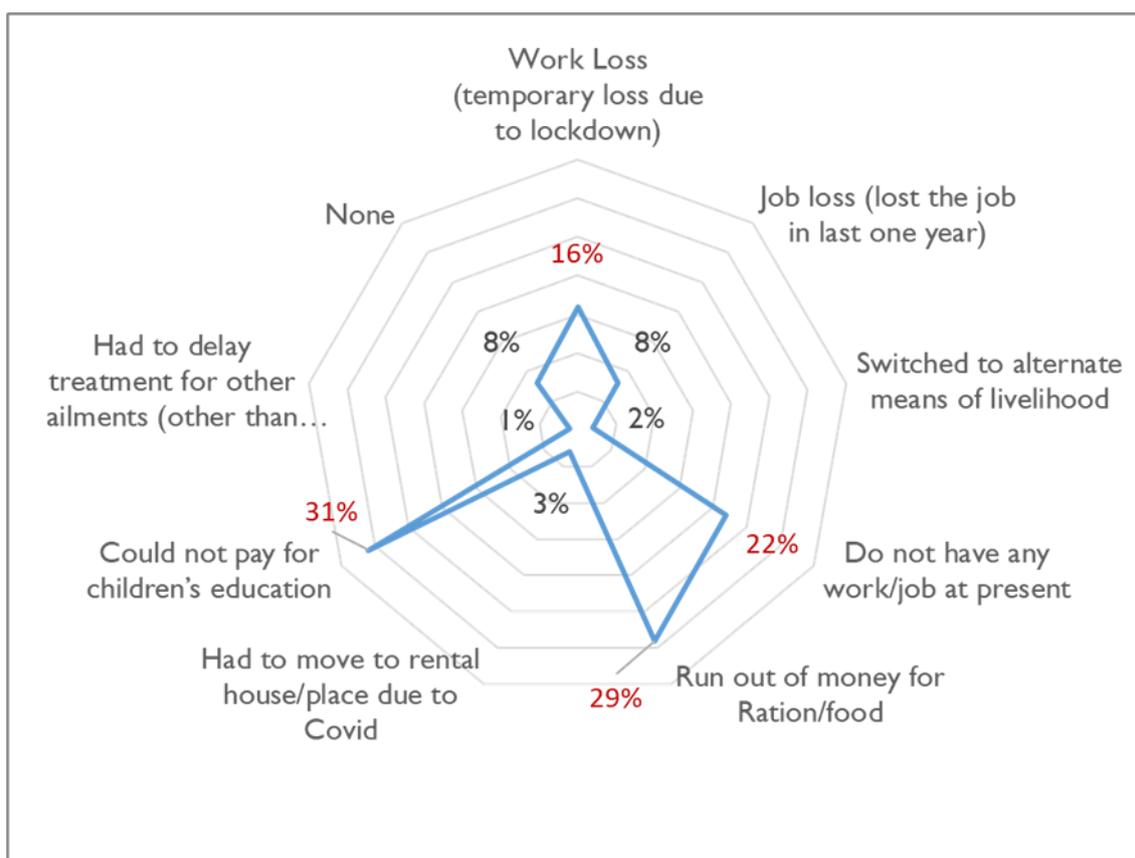
Source: (UMC, USAID, 2018-21)

Impact on education of children due to COVID-19

Due to the inability to afford school fees, online education, and stationery, education was disrupted as a result many children dropped out, and started working to support their families. It was informed that 22% of children below the age of 14 began working during the lockdown to provide for their families (UMC, USAID, 2018-21). The current status of their re-enrolment to schools and return to education is unknown. Education shifted to online mode and mostly relied on it especially during the lockdown. In Ahmedabad 38% children did not have any means to continue learning. Since government schools did not adopt digital learning immediately there was a halt in education. And while some schools did provide study material to children, there was a learning gap due to the absence of pupil teacher interaction. 90% of families had only 1 smart phone in a family which could not suffice for everyone; hence learning and understanding paused, affecting education of children (UMC, USAID, 2018-21).

Figure 112 Mode of education during COVID-19 in Ahmedabad
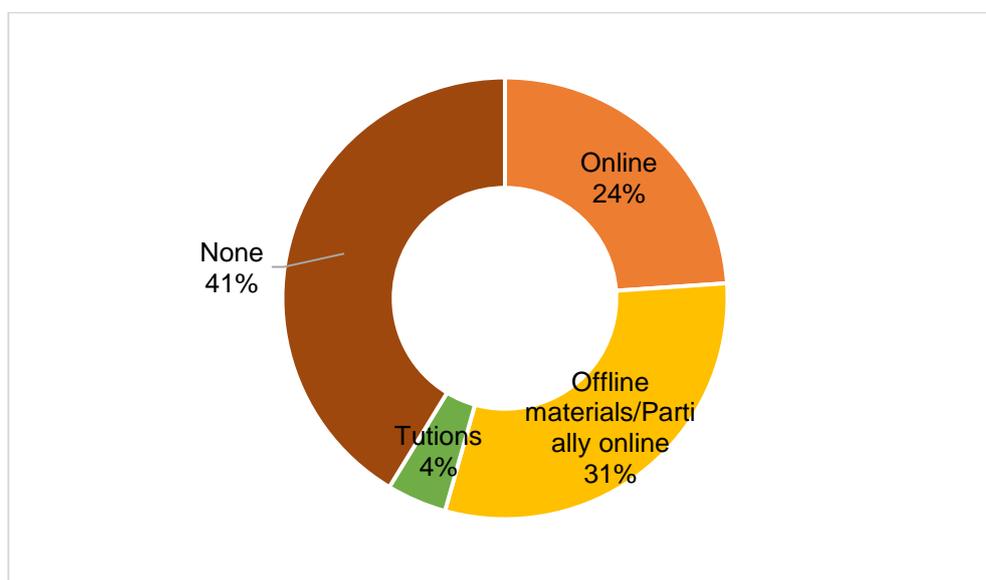
Source: (Urban Management Centre, 2021)

It is well known that education sector has been one of the most impacted sectors during the pandemic. There has been a loss of knowledge and education overall, but children of slum population and urban poor have faced its burden more than anyone else. The findings about the impact of a family's socioeconomic conditions on children's education gives slum upgrading initiatives more stimulus. By raising awareness of entitlements, government initiatives on public health and education, and improved access to infrastructure, there can be an improvement in living conditions and offer more secure livelihoods.

Other losses incurred by children due to COVID-19

In 2022, Quest Alliance conducted a study to map the impact of COVID-19 second wave on the lives of children and their families. In this study, it was found that apart from educational loss, children also incurred emotional and personal losses due to pandemic. One of the key finding of the study was that 49% of the children in Gujarat lost at least one immediate family member during the second wave of COVID-19. Due to the loss of an earning member of the family, children reported financial distress and shrinkage in their family income. They also reported that they sustained losses in livelihood in their families. The loss of an earning member of the family had detrimental effect on children's health conditions. As a result, 29% of children in Gujarat reduced their intake of nutritious food due to unaffordability. Apart from health issues, anxiety, stress, depression, and other mental health issues have also been

reported by children (Alliance, 2022). This can be corroborated with previous finding for Ahmedabad in 2021, where suicide rate has increased from 9.9% to 11.2% in a span of two years (Team, 2022).

Overall children being one of the most vulnerable sections of the society were one of worst affected in the pandemic. Nevertheless, things have changed after the pandemic and efforts are being made to fill in the learning gap, unemployment gap, and mould children to be agile in this fast-changing world. To build in the learning gap, institutions are focussing more on skill training and adapting changes in their curriculum. Research and technology led interventions in learning and training modules are being adopted in vocational and technical training institutes to make students more agile. Apart from this job fairs are also held in the city to offer employment to students (Alliance, 2022).

8.2.4 Shock: Climate and Disasters

Gujarat lies in the western part of India which is an arid region. Ahmedabad is located in a dry, arid location and has frequent harsh summers, temperature changes, and heat shocks. Ministry of Environment, Forest and Climate Change in 2021 prepared Urban Climate Vulnerability Assessment index (UCVA) to assess the various climatic and hazardous disasters across numerous cities of the country. According to this assessment, Ahmedabad is the most vulnerable of the seven cities taken into consideration in three ways: 'physical factor,' where residents are directly or indirectly exposed to sudden weather effects, 'hazard factor,' where a city's geographical location makes it vulnerable to more frequent calamities, and 'demographic factor,' which is a vulnerability factor based on population density. The impact of each of the factors/shocks on the city are mentioned are explained below:

I. **Physical factor:** When residents of a city are directly exposed to sudden weather effects it leads to various physical and mental health related issues. Physical illness includes fatigue, dehydration, as well as cardiovascular, respiratory, and cerebrovascular diseases. Psychological (mental) affects due to climate shocks are described in terms of distress symptoms, suicide rates, and clinical disorders (depression, anxiety, sleep disturbances, PTSD, etc.) (Paolo Cianconi, 2020).

II. **Demographic factor:** Population growth may be driven by multiple factors—need for improved livelihoods, desire for improved quality of life leading to influx of migrants, natural/climatic disasters in other parts of the state, and the expected natural growth rates. The continuous rise in the city's population puts a strain on available resources, infrastructure and the level of service delivery. The increased burden on resources and civic infrastructure—municipal, health, education, etc.; may also subsequently lead to instances of food shortages and outbreak of diseases which in turn may over-burden institutions such as health and other physical infrastructure of the city (Paolo Cianconi, 2020).

III. **Climatic factors:** Summer in Ahmedabad is harsh with average high temperatures in the months of March to June was recorded to be 43°C (109°F). (India Meteorological Department, 2015) In 2010, the city faced a climate shock in the form of a heat wave with maximum temperatures soaring as high as 46.8°C and claiming many lives. During the heat waves, a spike was reported in heat-related illness and death. Nearly 4,500 lives were lost due to heat waves in 2010. With 1,344 more deaths than 2009 in the month of May, a spike of 43.1% overall cause death was reported (Ahmedabad Municipal Corporation, 2015). To combat such scenarios and events in the future, the city authorities undertook the preparation and implementation of a Heat Action Plan (HAP) in 2010. The impact of HAP has had fruitful results for Ahmedabad. When the entire country suffered extreme heat waves in 2015, and reported more than 2,500 deaths, Ahmedabad reported in fewer than 20 heat-related deaths in the city. This was possible because of the mitigation steps adopted from the HAP (C40 Knowledge, 2019).

Figure 113 Deaths due to heat wave in Ahmedabad (2010)
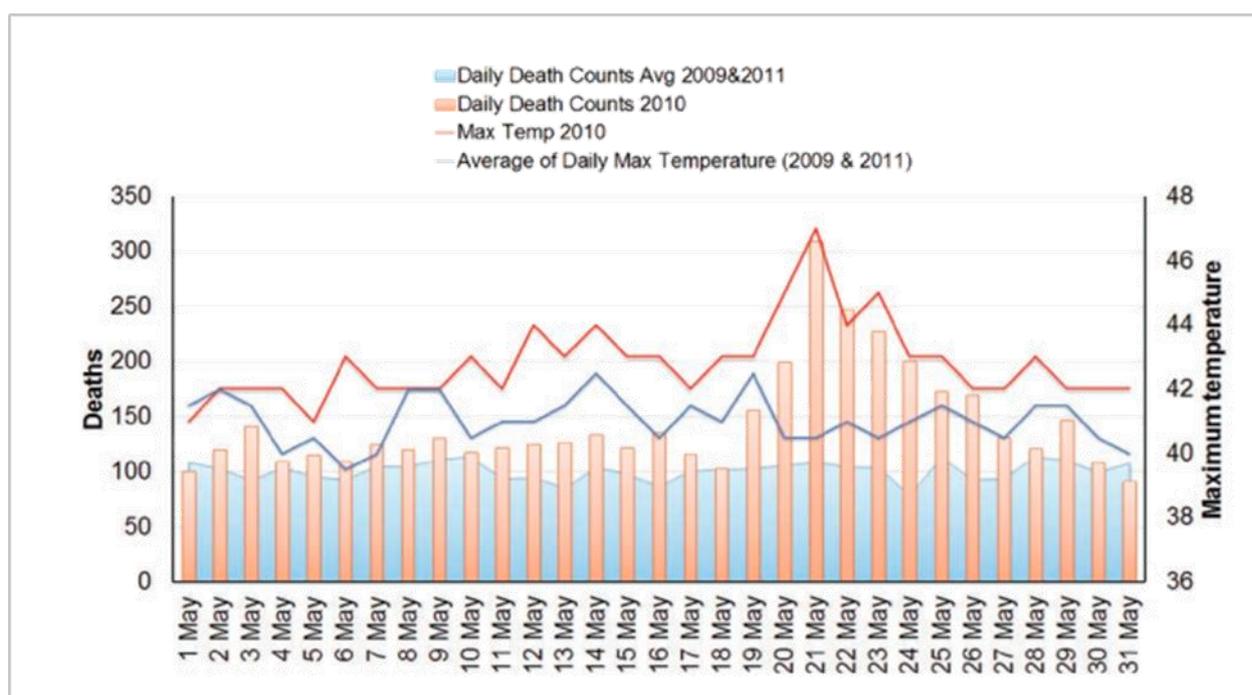
Source: (Ahmedabad Municipal Corporation, 2015)

Ahmedabad Heat Action Plan: The AMC created the Ahmedabad HAP in 2013 in response to the climate shock it faced in the form of extensive heat wave in 2010. They did this in collaboration with an international coalition of health and academic organisations and with funding from the Climate and Development Knowledge Network. The action plan is the first extensive plan in Asia to address the danger of adverse heat on health and is aimed at raising awareness, sharing information, and coordinating measures to mitigate the health consequences of heat on vulnerable people. It also emphasises community involvement, raising public awareness of the dangers of extreme heat, preparing medical professionals and community volunteers to deal with and prevent cases of heat-related illnesses, and planning an interagency emergency response effort in the event of heat waves.

The key findings from the HAP included identifying the groups vulnerable to extreme weather conditions. It was noted that children, especially infants, pregnant women, and those with heart or chronic diseases are also more susceptible to the effects of extreme heat. Outdoor workers, such as construction workers, street vendors, waste pickers, rickshaw drivers, and traffic police officers are other vulnerable groups in terms of excessive heat exposure. Even indoor workers, who work in poorly ventilated buildings or are engaged in the manufacturing or sewing industries, are vulnerable for the same reasons—heat stress, occupational injuries, or decreased labour productivity—resulting in economic loss (Maryam Nastar, 2020).

The HAP also identified the issue of unavailability and lack of access of clean drinking water especially to the vulnerable groups. It advises the AMC to ensure staff presence during heatwave periods to distribute fresh drinking water across the city and to communicate with various sectors, advising them to suspend all non-essential uses of water. It also discovered that the city has inadequate green cover as established in the City Planning in Ahmedabad section. Therefore, the HAP started an initiative to plant thousands of trees not only in order to provide cooling shade, but also to enhance the city's green cover in general (Maryam Nastar, 2020).

Children are vulnerable and are easily susceptible to the various heat related health issues such as heat rash, heat cramps, heat exhaustion, heat syncope and heat stroke. Thus, it becomes extremely important to have action plans to combat such issues.

The HAP in Ahmedabad is without a doubt one of the most innovative adaptation and mitigation measures to safeguard public health and lives during India's heatwaves that are expected to become more frequent and extreme in the future. The climate shocks, on the other hand, are abrupt shocks with severe and immediate repercussions (Schmidt, n.d.). Efforts should be made to have a comprehensive early warning strategy presenting immediate and long-term actions to increase preparedness, information-sharing, and response coordination to reduce the hazardous impact of extreme heat especially on vulnerable populations to create more resilient communities.

IV. **Hazard factor:** As mentioned earlier the geographical location of the city impacts the prevalence of climatic hazards in a city. Ahmedabad lying in a dry and arid region is prone to floods and droughts. Floods and droughts like conditions often lead to loss of livelihood and forced migration which in turn create income and heath shocks (Bank for International Settlements, 2021). Ahmedabad lies in seismic zone III in the country and is vulnerable to the aftermath of natural disaster such as earthquakes. National Disaster Management Authority (NDMA) prepared an Earthquake Disaster Risk Index (EDRI) report in 2019 for 50 cities in seismic zone III, IV and V in the country. Due to its flat terrain the exposure to earthquake is low in the city and the hazard status is reported to be medium. The built environment of the city is prone to medium vulnerability. Overall, the EDRI for the city is medium and a disaster event like an earthquake will create a series of income and health shocks (NDMA, 2019). To be prepared to adequately address the needs and emergency responses during any such calamities and disasters, a district disaster management plan was developed and implemented in 2003.

District Disaster Management Plan: The 2001 Gujarat earthquake with a magnitude of 7.7 caused over 13,800 deaths and massive destruction to properties in the state. The incident was a learning lesson for everyone to prepare themselves for a natural disaster and its after affects (Actionaid Association, 2001). Post the unfortunate event in 2001, the first Ahmedabad District Disaster Management Plan (DDMP) was prepared in 2003 by the District Emergency Operation Centre, Collector Office, Ahmedabad. The Gujarat State Disaster Management Act, 2003 authorises the District Emergency Operation Centre, Collector Office of the district to prepare, regulate and regularly update the disaster management plan for the district (DDMP, 2021).

Under the DDMP, Hazard Vulnerability and Risk Assessment (HVRA) is prepared based on the past disasters which have occurred in the district. The HVRA is conducted to assess the possible impact (vulnerability) and the risk it possesses. This helps to formulate a preparedness programme in an unexpected event of natural disaster (DDMP, 2021).

Table 17 Disasters and Ratings in Ahmedabad based on the Hazard Vulnerability and Risk Assessment

Hazards	Probability Rating	Impact Rating	Vulnerability Ranking	Vulnerable Areas/Taluka
Earthquake	3	5	15 (High)	Zone- III: Entire District
Flood	3	3	9 (Moderate)	Ahmedabad city, Daskroi, Dholka, Dhandhuka, Dholera.
Fire	3	3	9 (Moderate)	Ahmedabad City, Bavla,Daskroi
Industrial Accidents	3	2	6 (Moderate)	Ahmedabad city, Bavla, Daskroi
Drought	2	3	6 (Moderate)	Viramgam, Detroj, Mandal
Food Poisoning	2	2	4 (Low)	Any Where in District

Hazards	Probability Rating	Impact Rating	Vulnerability Ranking	Vulnerable Areas/Taluka
Epidemics	2	2	4 (Low)	Any Where in District
Building Collapse	2	1	2 (Moderate)	Any Where in District, mainly in city area

Source: (DDMP, 2021)

The major task of the DDMP is to ready the city in case of any event such as a natural or manmade disaster. Under the DDMP, a District Crisis Management Group (DCMG) is formed which is the task force for assuring the implementations of operations according to the DDMP to address the immediate impacts of a disaster. Further, a high-powered committee is formed at the district level known as the District Disaster Management Committee (DDMC) to look after disaster management and emergency response. The DDMP also list downs mitigation methods, preparedness measures, recovery measures to ensure the city is prepared to battle against an unfortunate event (DDMP, 2021). Mitigation and preparedness methods are explained below.

Mitigation methods

Ahmedabad District's Disaster Management Plan provides an elaborative detail on the prevention and mitigation measures for any calamity. The mitigation measures include structural and non-structural mitigation measures. Structural measures refer to the physical and built environment, engineering and construction measures, and compliance with the building byelaws of the city/district. Non-structural measures refer to the sensitisation of the population in the district. It also includes public awareness, education, policies, legal systems, practises, and capacity building (DDMP, 2021).

Apart from this there are various government sponsored programmes and schemes, and special projects under the National Cyclone Risk Mitigation Project (NCRMP) providing shelter and basic amenities especially to the vulnerable section of the society (DDMP, 2021).

Preparedness Measures

The reduction of vulnerability and quick professional reaction to disasters go hand in hand with preparedness measures. Preparedness methods include identification of stakeholders involved in disaster response and formation of groups for training such as search and rescue, early warning, evacuation, and damage and loss assessment. Coordination between various NGOs and other stakeholders is also an essential part of preparedness measures. Other preparedness measures include community awareness, education and preparedness, community warning systems, and resource mobilisation (DDMP, 2021).

Since the earthquake in 2001, Ahmedabad has prepared itself for natural disasters by adopting the mitigation and preparedness measures as stated in the DDMP. The district crisis management group is creating community awareness, educating the mass, and preparing them through street play, mock drills, media, and retrofitting weak structures in the city (DDMP, 2021). Overall, the Ahmedabad DDMP is a comprehensive disaster preparedness and response plan. It equips the city with the tools necessary to mitigate the impact of a disaster while still saving lives, protecting property, providing humanitarian relief and assistance.

8.2.5 Conclusion

In conclusion, the development and economy of the nation are greatly influenced by the urban poor, particularly migrant labourers, and inhabitants of slum areas. They work in both formal and informal occupations, along with their families and children. Children of the urban poor frequently experience difficulty due to poverty, which leads to lack of access to basic fundamentals such as proper nutrition, education, healthcare, safety, and protection. They

are also vulnerable to changing cities and migrate with their parents, who further face issues in their work due to immigration laws, legal status, and linguistic or cultural challenges. Overall, this has a long-lasting effect on their development and livelihood. They are more receptive to shocks and vulnerabilities which raises a big concern for their general wellbeing.

Following is a broad set of recommendations for the aforementioned shocks and vulnerabilities in the city, which can be considered in order to provide a better and cohesive living environment.

Migrants: Migrant workers face many issues and due to the issue of one city domicile they are unable to attain the benefit of entitlements for food and shelter. Thus, to remove the severe restrictions that characterise this population's access to various entitlements in the city, state policies must be able to put aside their blind spots and recognise them as equal citizens. At the same time urban planning, urban design and policy must acknowledge migrants as an equal constituency entitled to public services and provisioning within the broader category of urban citizens (Aajeevika Bureau, 2020).

Homelessness in Ahmedabad: One of the major causes of homelessness is low or relatively low income. In order to alleviate homelessness, it is important to have an increase in household income. This can be done through advocacy and partnerships with employers and stakeholders to provide housing to their employees which may benefit and create incentives to work amongst the homeless population. Apart from this implementation of state level policies should be made more stringent to provide and accommodate homeless people in shelter homes in the city.

Impact of COVID-19 on slum population: The COVID-19 pandemic has had a serious impact on the slum population. To stop future crises like this, policy involvement must be swift and ongoing in order to ease suffering. Residents in slums who have used up their meagre savings, sold off their sparse assets, and taken out loans should receive immediate and continued help to prevent them from falling into even deeper poverty once their payments are due. People should be informed of their entitlements to labour protections, health insurance, and old-age assistance. In addition to these types of social support, investments must be made to enable people to help themselves through business, skill development, and education (Downs-Tepper, Harlan; Rains, Anirudh Krishna and Emily, 2021).

Climate and disasters: Many laws and plans of action are in place to address heat and climate shocks, but they fall short of protecting all segments of society from their severe impacts. Therefore, it is important to ensure that the solutions for reducing heat include increased political participation of citizens in the debates about, how they can reduce the impact of climatic changes, who will be safeguarded by the actions taken, and how much will it cost for communities to compete to become 'smarter'. Together, NGOs and civil society organisations should work to increase public awareness on climate change, and take initiatives to educate the vulnerable population on effective passive cooling techniques to face heat waves in the city.

Climate resiliency and adaptation is an essential topic that is incorporated by some schools into their curriculums in Ahmedabad. Efforts should be made to ensure that it is adopted by all schools and educational societies. Climate resiliency and adaptation educates and sensitises students about the importance of sustainability and the actions they can take to mitigate the effects of climate change. Students are informed about dos and don'ts during a heat wave and are involved in awareness and training workshops to warn and raise attention in advance of a heat wave (Natural Resources Defense Council (NRDC), 2010).

The National School Safety Guidelines regarding disaster management, has been formed by the National Disaster Management Authority for schools to create a safe and secure learning environment for students and staff. Under the National School Safety Guidelines schools are

required to develop an emergency response plan that outlines procedures to be followed during different types of emergencies. It also suggests the schools to incorporate disaster management and preparedness programmes in school curriculum (National Disaster Management Authority, 2016). Since the Ahmedabad Action Agenda for School Safety was formulated in 2005, schools in the city have incorporated the disaster risk reduction in their curriculum (INEE, 2007). To ensure all sections of the society are prepared to face any calamity, school authorities and students, in partnership with local bodies and NGOs should be provided with regular training and education on topics such as first aid, fire safety, search and rescue operations. In addition to this, schools should conduct regular drills to ensure that staff and students are familiar with emergency procedures for calamities and events such as earthquakes, floods, etc. This will help them remain safe and respond quickly and effectively during emergencies (National Disaster Management Authority, 2016).

9 Making Ahmedabad a Child Friendly City

Gaining a holistic understanding of existing information and systems in place across sectors is critical to taking informed decisions towards achieving the goal of child friendly cities. For this it is important to maintain and have access to a detailed database of cross-sectoral information. This report has attempted to analyse and present the existing situation of Ahmedabad across parameters and indicators of the CFC framework based on available primary and secondary information.

The way forward suggested in this report intend to provide the preliminary recommendations that can be adopted by the city towards becoming a child friendly city.

Right to Social Service

Access to Health Services

Ahmedabad has seen a growth in healthcare infrastructure and services over the years. However, even with the availability of services there is low utilisation which is reflected in the hindrances to access it and health seeking behaviour and practices of the caregivers for themselves and their children. To address this, the city should:

1. **Build capacities of healthcare workers**: Regular trainings and capacity building activities should be undertaken for grassroots level healthcare workforce such as ASHA workers and ANMs. They should be aware of new schemes and practices suggested by the government and health departments. We have seen that lack of awareness and willingness acts an obstacle to avail various institutional services. There should be training to motivate the front line employees, a forum to discuss and address their challenges on field. The workers should be capacitated on educating citizens on overcoming hesitations of socio-cultural stigmas while promoting the importance of mandated safe health practices.

2. **Implementing midwifery systems in the public healthcare mechanism:** Guidelines have been developed at the national level. Gujarat has nurse practitioner in midwifery (NPM) programmes at a few institutions, but these programmes need to grow, and NPMs should be positioned at public health facilities to pursue their career. The primary goals of this are to improve maternal and child health, encourage positive birthing experiences, and provide respectful maternity care during pregnancy and childbirth while taking into account the city's cultural context (Guidelines of Midwifery service in India, 2018).

3. **Strengthen outreach and awareness on immunisation procedures:** Authorities should invest in leveraging the large grass root level workforce to ensure uptake of full immunisation processes of children by parents. Mechanisms should be developed that provide an incentive to parents/caregivers of children to ensure that all children are administered the full set of mandated vaccinations.

4. **Audit healthcare facilities for ensuring compliance to standards:** Regular audits of healthcare facilities should be undertaken to assess areas such as staff availability, knowledge and awareness of staff (especially field workers), infrastructure assessment to ensure functionality and cleanliness of facility and other relevant assessments as may be deemed necessary.

5. **Develop standard operating procedures (SOP) for O&M of healthcare facilities**: SOPs should be developed and implemented across healthcare facilities for ensuring cleanliness, climate resilience, disaster preparedness, and maintenance of infrastructure and supplies to ensure operational uniformity across health centres.

6. **Design and implement mental health campaigns targeting school going children:** There is an institutional need to work on safeguarding mental health of children specially for the adolescents of the cities by expanding the AFHS to all UHCs. Focus needs to be on both the boys and girls in terms of strengthening early identification of mental issues, and providing safe spaces, counselling services for mental health in addition to sexual and reproductive health, and addressing addictions. This needs a strong two-way referral across various levels and teams be it outreach or UHCs or district hospital. Where are followed up with, after seeking care at secondary or tertiary level for continuation of the services without disruption or dropouts. Systems should also be developed at school level to provide counselling to children and parents alike.

7. **Develop early identification systems for teachers to identify learning disabilities among children:** Teachers should be trained on methods and procedures to identify children facing problems in grasping concepts and understand the concerns which may then be addressed through appropriate means along with parents.

Access to Nutritional Services

1. **Conduct public awareness campaigns to combat malnutrition among children and increase exclusive breastfeeding practices among mothers:** The studies have shown that only 3.6% of children were receiving adequate nutrition along with breast milk. Several factors including socio-cultural aspects and work environment of female workers especially in the informal and construction sectors may be reasons for this. The authorities should work towards addressing these challenges in accordance with national guidelines which state that working mothers are allowed to nurse their children at work locations. Workplaces should have provision of nursing areas and crèche for children younger than six years of age. This should be implemented in Ahmedabad. This is crucial for female daily wage labourers in particular (Ministry of Women and Child Development, 2018).

2. **Strengthen implementation of ICDS programmes:** To improve the nutritional level of the children in the city we need to strengthen the ICDS programme in the city. Ensure the implementation and strengthening of existing monitoring system of *anganwadis.* Also, to develop mothers' support groups to counsel caregivers mainly mothers, family elders and husband of infants and young children for feeding practises and make sure colostrum feeding occurs within an hour (National Institute of Public Cooperation and Child Development, 2018). This should be initiated at *anganwadis* and through MAS within the community.

3. **Undertake actions to address concerns of anaemia:** Strong campaigns and IEC materials promoting home food and diets rich in iron. This should be undertaken in addition to strengthening the existing iron and folic acid supplements that are provided through the Anaemia Mukt Bharat by frontline works that is ASHAs, ANM and *anganwadi* workers developed to address the issue of anaemia especially for children, adolescent girls, and women. This activity may leverage CSR resources as well, in the cities for promoting and running an anaemia awareness programme focusing on *anganwadis* and schools. Additionally, topics and factors that contribute to anaemia, like parasitic infestation, by encouraging good sanitation, hygiene, and biannual deworming should also be addressed through the same platforms (Institute of economic growth, nutrition India, UNICEF, n.d.).

WASH Services

There is a significant improvement in access to WASH services across the city including schools. However, there is a need to address the critical gap of child friendly infrastructure in

public toilets. Parents and urban sector experts have voiced the need for and importance of providing child friendly infrastructure services to ensure safe hygiene practices and curb the spread of diseases to which children are vulnerable.

1. **Ensure provision of child friendly toilets in public and community toilets**: AMC should ensure construction of clean and functional child friendly seats in public and community toilets (in both, male and female sections).

2. **Increase accountability of operating and maintenance agencies:** To always ensure functionality and cleanliness of public toilets, authorities should adopt and enforce contractual mechanisms that link payment of O&M agencies to their performance. Model contracts should be developed for this purpose that can be suitably modified to ensure maintenance of other public amenities as well.

3. **Ensure provision of menstrual health and hygiene infrastructure:** Concerned authorities should also ensure provision of menstrual health and hygiene infrastructure in schools and public toilets for use by adolescents and young women.

4. **Create awareness on safe hand washing:** Civic authorities should develop SOPs and IEC material to promote safe handwashing practices among children and caregivers. NGOs and other voluntary organisations may be engaged to conduct IEC and other dissemination activities.

5. **Ensure monitoring of WASH services in institutional systems (schools, *anganwadis* and healthcare centres):** Develop institutional level SOPs for schools and *angawadis,* and healthcare centres to ensure that all water supply and sanitation infrastructure is functional at all times.

6. **Address concerns of WASH in underserved areas through increased citizen outreach:** Through NGOs the civic authorities should conduct regular interaction with residents of urban poor settlements and underserved areas to capture concerns with respect to supply of municipal services of water supply and sanitation and subsequently undertake redressal measures to prevent the spread of diseases.

Education

1. **Ensure continuity in learning:** To address issues of student dropouts, authorities should work to increase the provision of secondary and higher secondary education in government schools. This will help children from weaker sections of society to continue their education instead of transferring to more expensive private schools.

2. **Improve pupil teacher ratio(PTR) through experienced teaching staff:** To address the skewed PTR authorities should work to increase the strength of teaching staff by bringing on board more qualified persons. This will improve the overall quality of education received by students.

3. **Introduce counsellors and other student support platforms:** To help students with their mental and physical wellbeing, schools should develop and introduce systems for bringing on board trained mental health professionals for children.

4. **Encourage systems for child cabinets:** School authorities must work to enforce child cabinet like platforms (*bal sansads*) for students to learn and take responsibilities of their surroundings and also act as a communication bridge between their fellow students and teachers. This will help to not only improve communication but promote inclusivity in the school governance process and allow children to collectively have their voices heard.

5. **Creating awareness on de-stigmatization of disabilities:** Civic authorities along with schools should create platforms to allow children with disabilities and special needs to discuss their concerns with teachers and their peers. Sensitisation activities should be carried out among school children on studying and growing up with their peers who may have disabilities by involving school faculty and parents of children.

6. **Augment teaching systems and pedagogy:** To enhance the learning outcomes in schools, sector experts recommend an integration of science, technology, engineering and mathematics (STEM) based education techniques. These will help students to learn real-world applications and helps developing a variety of skill sets, including creativity very early on.

7. **Promote digital learning mechanisms:** To help children keep abreast of times, government schools should improve infrastructure that promotes digital learning through smart classrooms and equipped computer labs.

Right to be Safe

Child Protection and Safety

Based on available data, Ahmedabad fares poorly when it comes to ensuring safety and protection of children. The city has seen a rise in crimes against children and those committed by children. The authorities should:

1. **Strengthen convergence between statutory, quasi statutory departments and other stakeholders for improved child welfare and protection**: In the present situation, most data pertaining to child safety as well as services provided to children, is not available in the public domain. Incomplete comprehensive data and information due to lack of inter-departmental communication is one of the factors hindering child safety. Authorities should set up a system for inter-departmental sharing of information and data that is regularly updated.

2. **Involve communities in child safety and protection:** Interventions and strategies should be developed to engage community members and young adults to ensure safety of children in their neighbourhoods and act as communication channel to the concerned child protection authorities in times of need. These persons should also be engaged to conduct various awareness generation and outreach activities among children and parents on issues such as substance abuse, child labour and child marriages.

3. **Create awareness on cyber safety and protection:** The city cyber crime cell along with departments and personnel such as AMC, police, SJPUs and CPWO should conduct regular awareness campaigns for citizens to educate them on evolving practices on cyber crimes and safety. Audio/visual messaging should be employed to reach out to the masses. Special events may be conducted at ward, neighbourhood and school levels to educate parents and children. NGOs, sector experts, and technical experts may be engaged to demonstrate the impacts of both poor, and safe steps with regard to cyber safety to citizens. The enforcement agencies may also conduct routine drives in schools and residential neighbourhoods to reach out to children to understand their concerns and complaints which they may have not been able to report for any reasons.

4. **Strengthen grass root organisations and child helpline services:** Concerned authorities should strengthen existing systems such as child welfare helplines and set up dedicated grievance cells operated by trained personnel which children of all ages can

approach in times of need. The authorities should actively work with NGOs and other organisations working with children to ensure their safety and wellbeing.

5. **Strengthen child friendly policing through and approachable police force:** Presently, for most children, approaching the police is a scary thought. The police should work towards setting up a dedicated department to interface and listen to children. Specific and targeted staff sensitisation trainings should be conducted for all police personnel to communicate with children so that the police system becomes approachable to them.

Right to be Heard

Participation

1. **Promote participation of children and young adults in governance:** The civic authorities should develop and introduce participatory tools and activities to engage with children and young adults from across the city. The tools should help children from all backgrounds (including special events for at risk and juvenile delinquents) take part. The activities should be interactive and help children voice their concerns and appreciations for due note of authorities. As part of the process, they should also be made aware of their rights as stated in the UNCRC.

2. **Promote children's participation in schools:** As mentioned earlier, authorities must ensure the introduction and functioning of child cabinets and other student body councils. Civic along with school authorities should regularly conduct interactive activities and discussions to let children voice their views and take subsequent redressal measures.

3. **Create awareness among parents and caregivers:** Efforts should be made to make parents aware of the child rights and the need to listen to and involve children in decision making processes at home.

4. **Build capacity of stakeholders on child rights:** Capacity building campaigns should be carried out for children, young adults, school administration and parents in convergence with NGOs, civil society organisations, local leaders and administrators as well as eminent media houses. The campaigns and activities should focus on the role and importance of child rights, how children and young adults can help shape a holistic and liveable city and the role of children and young adults as responsible citizens of the society who contribute to its growth.

5. **Advocacy by civic authorities:** The local authorities should develop their short term and long term goals and strategies for enforcement of child rights. Regular public advocacy campaigns targeting dedicated audiences may be undertaken for this purpose on specific topics and pre-identified priorities. Apart from physical interactions, use of audio/video and print media should also be leveraged.

Right to Family, Life, Play and Leisure

City Planning

1. **Ensure inclusive urban design of public spaces and amenities with a child friendly perspective:** A critical aspect under this is to enable children to have safe and equitable access to their city spaces. Authorities must therefore work towards improving and enhancing the quality of public spaces keeping in mind safety, security and usability by children and caregivers.

2. **Enhance and improve usability and safety of public spaces and infrastructure for use by children of all ages:** Roads, footpaths, parks and gardens need to be made usable and safe. Strict efforts must be initiated to ensure that parents and children alike feel safe to walk, cycle and play in their neighbourhoods.

3. **Improve last mile connectivity:** Civic authorities should also work to address last mile connectivity concerns by strategies such as introducing public bicycle sharing stations at all BRTS stops. An exercise should be conducted to identify and map potential spots/locations to set up such stations and the activity may then be promoted through advertisements and targeted campaigns.

4. **Redevelopment:** Similar to pedestrian and cycle friendly and inclusive streets, cities should invest in urban design and redevelopment projects to make public spaces more child friendly and inclusive.

Right to be valued, respected and treated fairly

Shocks and vulnerabilities

Following recommendations provide the steppingstones to address shocks and vulnerabilities among the impacted population.

1. **Strengthen delivery of social protection schemes and entitlements:** Migrant workers face many issues and due to the issue of one city domicile they are unable to attain the benefit of entitlements for food and shelter. Thus, state policies should address the existing gaps and work to recognise all migrants as beneficiaries of services provided by the state regardless of their place of origin. These policies should also help cover the condition of homeless persons in the city and help to improve their conditions by providing and facilitating access to government welfare schemes.

2. **Developing inclusive disaster relief plans**: Most disaster mitigation and relief plans of the city such as HAPs, are prepared without acutely studying the impact and responses of some of the most vulnerable sectors of society, including children. Civic authorities and concerned sector experts should prepare such plans and interventions keeping in view the vulnerable and children of the city as well.

3. **Develop SOPs and conduct public awareness:** The civic authorities along with city/district/state disaster response agencies should develop SOPs for emergency preparedness and critical actions for implementation across the city and various institutions. Special awareness campaigns should be conducted in schools to educate children as well to make them adequately ready in face of emergencies.

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Annexures

Minutes of the Meeting

Round Table Consultation: Child Friendly City Programme, Ahmedabad

Venue: Urban Management Centre office, Ahmedabad
Date: 17.12.2022
Time: 1030-1330 Hrs.
List of Attendees:

S.No.	Name	Organisation	Designation
1.	Abhijit Lokre	The Urban Lab	Partner
2.	Akhil Paul	Sense international	Founder Director
3.	Alpa Solanki	Department of Women and Child Development, Gujarat (DWCD)	Assistant Director
4.	Anurag Anthony	Urban Management Centre (UMC)	Chief Technical Officer
5.	Archana Bhatnagar	Centre for Environment Education (CEE)	Senior Programme Coordinator
6.	Dinesh Patil	UNICEF	Social Policy Specialist
7.	Eilaaf Fatima	UMC	Programme Coordinator
8.	Keshav Chatterjee	Prabhat NGO	Director
9.	Kewal Rana	UNICEF	Social Policy Officer
10.	Kirti Zaga	aProCH	Director
11.	Mansi Sureka	UMC	Project Coordinator
12.	Manvita Baradi	UMC	Director
13.	Nikita Popat	UMC	Senior Programme Coordinator
14.	Pallavi Patel	Chetna NGO	Director
15.	Parimal A.Patel	School Board, AMC	Deputy Assistant Director
16.	Rajul Bhati	Samerth Charitable Trust	CEO
17.	Raju Desai	School Board, AMC	Deputy AD
18.	Renu Seth	Pratham NGO	Co-Lead, Girls and Women
19.	Riddhi Patel	UMC	Programme Coordinator
20.	Shelly Kulshreshtha	The Urban Lab	Partner
21.	Dr. Smita Ghosh	CSR Box	Psychological Consultant
22.	Yashika Sachdeva	UMC	Programme Associate

Agenda:

To discuss about the situational assessment of Ahmedabad with sector experts on themes like children's health and nutrition, education, access to water, sanitation and Hygiene (WASH), social justice and security, participation and vulnerabilities and shocks.

The Meeting was commenced by Ms. Manvita Baradi with a welcome note and an introductory session of all the participants. This was followed by a brief presentation from UNICEF on child friendly cities framework. UNICEF presented the child friendly city framework which was in alignment with United Nations Convention on the Rights of the Child (UNCRC). They emphasized upon the basic rights of children (health, education, WASH, participation, social protection and justice). They also presented case studies from neighbouring countries of Sri Lanka, Mongolia and Vietnam and their efforts toward making cities child friendly. This helped in setting context for the participants present at the workshop. UMC then presented the existing situation assessment of Ahmedabad city. This covered around 7 themes such as:

- Health and Nutrition
- Education
- Water, Sanitation and Hygiene
- Social protection and justice

- Participation
- City Planning
- Shocks and Vulnerabilities

After the presentation, the discussion was made open among the participants to deliberate and share qualitative insights on the presentation. **Key points of discussion shared by participants during the workshop is as below:**

1. **Ms. Archana, Centre for Environment Education (CEE)**
   Ms. Archana shared her experiences from their ongoing support to 25 AMC run schools in Ahmedabad. She highlighted the need to strengthen the school WASH infrastructure using appropriate design standards which are lacking in many schools of Ahmedabad. She emphasized on design considerations such as height of children and age appropriate amenity interventions.
   She mentioned about the importance of WASH related behavior change in schools through creation of *Bal Sansad* (Children committee) which has been extremely helpful post COVID-19 when schools reopened. These committees were empowered with daily monitoring tools on school WASH and cleanliness which has been a sole reason for driving WASH improvements in school. With *Bal Sansad* like of institution in school, behavior change was reaching homes ensuring appropriate WASH in schools and at homes. She emphasized on the need of appropriate WASH infrastructure in *anganwadis* (preprimary centers) of Ahmedabad which are in a bad state at present. Talking about her challenges on working with school education, she highlighted that child marriage was prevalent amongst few communities of Ahmedabad and this remains a major social concern.

2. **Mr. Keshav, Prabhat Foundation**
   Mr. Keshav shared his experience on engaging with children with special needs (CWSN) from urban poor community in *Vatva*, east region of Ahmedabad city. He highlighted how these children and discriminated in the society and thus they are left out of education. He highlighted upon involving community to end this through awareness creation in the community so that CWSN are accepted and included in the society. Mr. Keshav highlighted that most of the girls (with special needs) were dropping out from the school due unavailability of universally accessible public transport in the city.

3. **Mr. Abhijit Lokre, The Urban Lab**
   Mr. Abhijit shared his views by highlighting that Ahmedabad has three modes of public transport (AMTS, BRTS and Metro) but none of them are safe for children to travel by themselves. The major reason being no last mile connectivity. The city does not have adequate pedestrian and cycling infrastructure and roads due to its design encouraged high speed mobility in the city. Thus making mobility for children risky and unsafe. Abhijit also highlighted how streets in Ahmedabad were not safe for girls and women as they face harassment and parents feel insecure in sending out their children alone. Other participants present shared similar concerns and highlighted poor law and order around street safety in the city.

4. **Ms. Renu, Pratham**
   Ms. Renu shared her experiences about the poor situation of education in the children of Ahmedabad living in urban poor settlements. Due to COVID-19, this has even worsened as children had no means to continue learning for almost 1.5 years as schools remained closed. To overcome this issue, Renu suggested on strengthening role of community who can participate in imparting learning where creating community level learning facilitators can help overcome the learning loss. She also highlighted that the condition of girls in these settlement was more vulnerable as they become victims of child marriage when they reach adolescent age and hence dropout from the schools.

5. **Dr. Smita Ghosh, CSRBox**
   Dr. Smita highlighted the issue of discrimination with CWSN in the schools by other children and teachers. She put across the need to develop habits in children that will condition them to become empathetic towards other children. Building positive emotional habits in children can lead to building affection and acceptance in them. She suggested that including sign language as a third language in schools will ensure improved outcomes which will help CWSN thrive in schools.

6. **Ms. Kirti, aProCH**

Ms. Kirti highlighted on the need of involving children into the process of making Ahmedabad, Child friendly city as they are one of the important stakeholder and not mere beneficiary. She emphasized on the importance of integrating STEM-based education methods in teaching that focuses on hands-on learning with real-world applications and helps developing a variety of skill sets, including creativity very early on.

Ms. Kirti highlighted that play time was equally important for children and hence along with better access to education, city must also focus on planning parks and play areas that are accessible to all at neighborhood level.

7. **Ms. Rajul, Samerth Charitable Trust**

Ms. Rajul shared her experience on working with school education of children in association with Ahmedabad Municipal Corporation (AMC), where she highlighted that *Lambha* ward (Southern region of Ahmedabad) do not have any access to government school. This was worse than *Juhapura* ward (new west zone of Ahmedabad) which has 10 government school. However, these schools were only 2 room school running in multiple shifts but were inadequate. Hence she suggested that access to school should be look at a micro level zonal approach indicating inequity in its access.

8. **Ms. Pallavi, Chetna**

Ms. Pallavi shared her experience on working with child health and nutrition across Gujarat. She confirmed that the nutrition levels have not been improving in children as well as mothers since a 2 decades. She indicated that sedentary lifestyle and preference for processed and packaged food has been an issue even in urban poor slums of Ahmedabad leading to malnutrition. Creating IEC around consumption of non-vegetarian diet over just vegetarian food (greens) in children has helped them achieve zero malnutrition in one of the projects that was implemented in Ahmedabad.

Ms. Pallavi also indicated that tobacco consumption in children below 18 was the other major issue in urban slums of Ahmedabad. With parents being away from home for work, these children are mostly on the streets and thus indulge in substance abuse. To control this, she suggested that a regulatory control on selling tobacco within the 500 meter of vicinity of schools and slums will be helpful. With this she also highlighted the need of day care centers involving elderly in the slums. This will provide healthy engagement for children and elderly and this can be housed under ICDS centers available in every slum.

9. **Mr. Parimal Patel, Ahmedabad School Board**

Mr. Parimal shared out the smart school initiative taken by AMC school board post COVID-19. AMC has so far upgraded 62 government schools into smart school which is based on STEM based modules and digital learning. These schools, which are present at least in every ward of Ahmedabad, has improved PTR, learning laboratories, play grounds and sports facilities. Mr. Parimal shared that AMC plans to transform all government schools (200+) and implement National Education Policy 2020 in all aspects by 2024.

Mr. Parimal acknowledged about the learning gaps in children due to COVID-19 and to bridge that AMC has initiated school wise monitoring of learning outcomes through Google store based dashboard which does real-time monitoring of schools.

10. **Ms. Alpa, Women and Child Development Department, Gujarat**

Ms. Alpa talked about the public amenities, transport systems and *anganwadis*. She highlighted that about 1400 *anganwadis* are rented in the city. Most of these *anganwadis* are not being accessed by people due to lack of clear indicative signage and poor infrastructure of buildings. She also highlighted the lack of accessibility to local public transport for children. Another issue she highlighted is that public toilets does not have child friendly designs. She quoted an example that good habits like frequent hand wash is encouraged in *anganwadis* but since toilets are not designed according to a child's height, it is difficult to implement their teachings. According to her, child helpline and strengthening of *anganwadis* are must in a child friendly city. She also suggested that children understand better when they see pictorial representations, so there shall be painted walls and cartoons in and around *anganwadis* to make them feel comfortable and welcome in that space.

11. Mr. Akhil Paul, Sense International

Mr. Akhil has been closely working with disabled children and persons in Ahmedabad. He indicated that AMC needs to smoothen the processes for certification around disability. He indicated that affordability around medication for Epilepsy was also an issue and government needs to work around availing medicines at affordable rates.

The other issue highlighted by him was around the problem faced by CWSN in the schools was around absence of braille infrastructure (learning material, aids, etc.) along with accessible sports which are low cost.

He also talked about introduction of sensory corners in parks. He said there shall be spaces which can be enjoyed and felt by differently abled children.

Other important aspect that needs to be included in education was around sex education in schools which must focus on the CWSN.

12. Ms. Shelly, the Urban Lab

Ms. Shelly talked about conditions of ambient environment for children. She conveyed that the two important aspects for children are recreation and education. Unavailability and inaccessibility of parks for children affect their health. She also emphasized on the relation of open spaces and pollution in the city. She shared her concerns about child safety due to lack of maintenance of walkways near schools, parks and within neighbourhoods. The other issue highlighted by her was regarding the infrastructure provided in BRTS corridor is not being utilized by pedestrians due to high speed and mismanaged traffic issues. She suggested that there shall be awareness campaigns for people and 'no cost, low cost activities' shall be initiated. Also, there shall be a public participation platform including children.