



**REVISED PARKING POLICY
2023
AHMEDABAD CITY**

ABBREVIATIONS

AMC	Ahmedabad Municipal Corporation
AMTS	Ahmedabad Municipal Transit System
AUDA	Ahmedabad Urban Development Authority
BRTS	Bus Rapid Transit System
CBD	Central Business District.
CGDCR	Comprehensive General Development Control Regulation
FSI	Floor Space Index
GICEA	The Gujarat Institute Of Civil Engineers and Architects
GDP	Gross Domestic Product
IMP	Integrated Mobility Plan
IPTS	Intermediate Public Transport System
IRC	Indian Road Congress
NMV	Non Motorized Vehicles
NUTP	National Urban Transport Policy
PPP	Public Private Partnership
SCADL	Smart City Ahmedabad Development Limited
SRFDCL	Sabarmati Riverfront Development Corporation Ltd.
T&PC	Traffic and Parking Cell
ITDP	The Institute for Transportation and Development Policy

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1. ABOUT AHMEDABAD

1.1 Introduction to Ahmedabad

The city of Ahmadabad is a historic city established in 1411 A.D on the eastern banks of the river Sabarmati. Since the times of its inception, it has been a centre for trade and commerce. It is well known for its cotton-textile industry and was called the “Manchester of the East”.¹ Today, the city limits cover 480.45 sq.kms with a population of 5.6 million and density within the municipal limits as high as 11,800 persons/ sq km. The city is growing at a decadal growth rate of 22.31% according to the provisional Census 2011 figures and is currently the seventh largest metropolis in India. (Census 2011)

Ahmedabad has a long planning history, wherein encouraging mixed land-use, developing road network and infrastructure precede urban development. The Urban Local Body ie. Ahmedabad Municipal Corporation (AMC) of the city follows the mechanism of Development Plan-Town Planning Scheme (DP-TPS). This mechanism enables for the provision of serviced land for housing of “Socially and Economically Weaker Sections” (SEWS), public amenities and recreational facilities. The city’s town planning mechanism ensures mixed-use development, compact structure of the city and a complete hierarchical road network of the city, along with a transport network that is aligned strategically in order to cover the entire city.

Ahmedabad offers visitors an adventurous destination packed with pleasant surprises. The city has the distinction of having probably the largest range of architectural monuments, from ancient examples of Hindu, Jain and Islamic architecture to some of the finest examples of the modern movement, designed by architects like Le Corbusier and Louis Kahn. The Sabarmati Ashram is another historically important place of interest in the city. In July 2017, Ahmedabad was declared as India’s first UNESCO World Heritage City.

Large investments in ports, particularly private ports, in Gujarat have come up during the last decade. As a consequence the state has become the trade gateways for the entire north and central India. The city of Ahmedabad is centrally connected to all ports in Gujarat and is a main conduit for this trade. The city is being positioned as a key witness to the state’s development under “Vibrant Gujarat” program and the proposed Delhi-Mumbai industrial corridor (DMIC) is also aligned close to Ahmedabad.

1.2 Urban Structure

Ahmedabad has a poly-centric structure. It has retained a ‘relatively compact structure’ with mixed use development owing to effective town planning practices, although it has shown ‘gradual tendencies of dispersal’ especially in the peripheral areas of the city.

The early development of Ahmedabad was on the eastern banks of the river Sabarmati. The development on the western banks began only after the construction of Swami Vivekananda Bridge (Ellis Bridge) in 1882. In the early 20th Century, the textile mills continued to be established in the eastern parts of the city. As a result, many of the poor migrants to the city, who worked in these mills, settled around them. The growth of the city has been in a ring-

¹ Ahmedabad was in the pre-independent era & till the late 1980s dotted with numerous textile mills, competing globally, thus earning the sobriquet, “Manchester of the East”.

radial structure, owing to a planned road network of ring roads and well-defined radials in the Development Plan of the city. The development of the road network has preceded urban development and has been instrumental to the growth of the city.

The city has dispersed activity distribution. The industrial areas are all in the eastern parts of the city; trade is concentrated mostly in the central parts while institutions are in the western parts of the city. The city has a fair distribution of public amenities, and housing for Socially and Economically Weaker Sections (SEWS) is within accessible distances of the transport network and other amenities.

Ahmedabad being the commercial capital, the general environment of safety and the entrepreneurial people of Gujarat contribute to city's attractiveness. It has a strong industrial base of traditional manufacturing, especially textiles, chemicals, plastics, machinery and basic metals and alloys.

The cities located on the proposed Delhi-Mumbai industrial corridor, thus the city region continues to be attractive destination for investments. In the region, several Special Investment Regions (SIR) and Special Economic Zones (SEZ) are proposed. Given these trends the city will experience rapid growth in population and travel demand.

1.3 Traffic Issues and Analysis

1.3.1 Traffic Generating Activities

The nature and location of economic activities in relation to houses determines the travel demand in a city. Ahmedabad is a polycentric city where activities are dispersed. However it is interesting to note that the residential areas in the city are spread all over. The main industrial areas such as Vatva, Narol, Naroda, Odhav and Kathwada are located towards the east of the city where as the main commercial activities are prevailing in the core city area, Ashram road, CG Road, 120 feet road and Sarkhej Gandhinagar highway. Apart from this, commercial developments are allowed on all roads having width 18 meter and above which encourages a mix development pattern and dispersed trips.

1.3.2 Traffic Volume

Traffic congestion on the city roads of Ahmedabad is quite moderate when compared to many other Indian cities of similar size. However with the rapid rate of motorization, the congestion levels in major road stretches such as the 120 Feet Road, Ashram Road, S.G Highway, Gandhi road, Relief Road, CG Road etc are reaching alarming levels. The western part of the city has trade and commerce markets, service sector offices, corporate offices and residential area while the eastern part has many industrial estates. Due to this reason, the traffic flow is heavy from west to east in the mornings and vice versa in the evening which leads to traffic congestion and frequent traffic jams on the city roads at peak hours. Similarly state capital Gandhinagar being close to Ahmedabad city, a substantial number of commuter trips are generated from Ahmedabad to Gandhinagar and back to the city. Thus heavy traffic volume is seen on North-South road stretches connecting both the cities.

1.3.3 Population Growth Forecast for Ahmedabad:

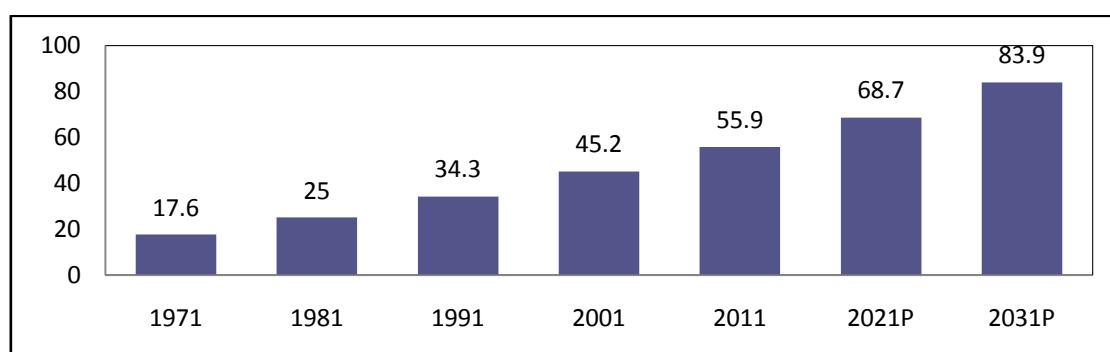


Figure-1.1 Population Growth Forecast for Ahmedabad

(Source: Comprehensive Development Plan 2021)

1.3.4 Activity Status

In AMC, about 10.96% of total population is involved in activities related to business. The main purpose of travel is work and education which contributes to about one fourth of all trips in the city.

Table-1.1 Activity Status in percentage of total population

Area	Govt. Service	Pvt. Service	Business	Labourer	Un-employed	Student	Retired	Others	House-wife	Total
Central	0.07%	2.39%	1.57%	0.21%	0.31%	3.10%	0.56%	0.04%	3.90%	12.15%
East	0.14%	4.19%	1.98%	0.40%	0.72%	5.27%	0.77%	0.02%	5.62%	19.10%
New West	0.33%	4.66%	2.41%	0.18%	0.42%	6.10%	1.05%	0.01%	6.72%	21.88%
North	0.20%	3.17%	1.55%	0.43%	0.55%	4.29%	0.63%	0.06%	4.82%	15.69%
South	0.22%	3.09%	1.51%	0.27%	0.40%	3.82%	0.61%	0.02%	4.19%	14.13%
West	0.22%	3.45%	1.94%	0.25%	0.46%	4.34%	1.09%	0.05%	5.24%	17.04%
Total	1.18%	20.95%	10.96%	1.74%	2.86%	26.92%	4.71%	0.20%	30.49%	100.0%

(Source: Integrated Mobility Plan for Greater Ahmedabad region, Horizon year 2031)

1.3.5 Trip Characteristic

A sample survey was carried out in past on trip Characteristics in AMC area (2012). Following data shows mode choice and purpose of trip

Table-1.2 Trip Characteristics

Year of Survey	2012
Households Surveyed	12000
% TRIPS BY MODE	
Walk	37.23%
Bicycle	9.00%
Two Wheeler	25.95%
Car	3.94%
Auto Rickshaw	6.11%
Bus	10.29%
BRTS	1.14%
Others(School bus, Staff bus, St bus, Rail	6.34%
Total	100 %
% TRIPS BY PURPOSE	
Work	47.16%
Education	32.82%
Shopping/Social/Recreation	6.68%
Other	13.34%
Total	100 %

(Source: Integrated Mobility Plan for Greater Ahmedabad region, Horizon year 2031)

1.3.6 Transport and Warehousing Activity Concentrations

The city has approximately over 38 thousand properties occupied under transport and warehousing activities. The transport activities are largely concentrated in the outskirts of the city. Aslali and Sarkhej are the major hubs of transport activities. Some transport activity concentrations exist in Narol, Isanpur and Kalupur. Sabarmati and Kankaria are rail based concentrations.

1.3.7 Growth of Vehicles in Ahmedabad

At the time of formation of the state of Gujarat, in 1961, there were only 43,000 vehicles registered in Ahmedabad. This figure has risen to over 3.9 million vehicles now, recording more than 90 fold rise in five decades. In the year 2020-21, Ahmedabad city had a total number of 0.14 million motor vehicles registered. Of this 67% are two wheelers. Car ownership is also on the rise at around 10% per year, resulting in increased congestion on the city roads. Commuter Vehicles from rural areas of Ahmedabad city and Gandhinagar district also result in increased traffic congestion of the city.

The composition of vehicles registered indicates that more than 90 percent of vehicles are two wheelers and four wheelers in Ahmedabad.

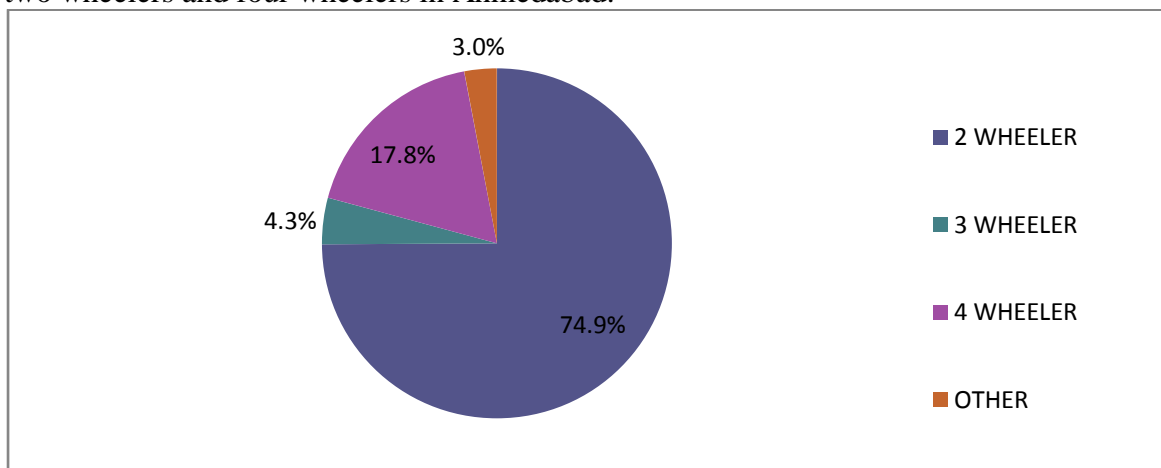


Table below shows the growth trend of various types of vehicles in Ahmedabad in the last four decades.

Table-1.3: Composition of Vehicles in Ahmedabad (1981-2021)

YEAR	ALL VEHICLE		TWO WHEELER		THREE WHEELER		FOUR WHEELER	
	TOTAL	% change per year	TOTAL	% change per year	TOTAL	% change per year	TOTAL	% change per year
1981	165620	-	86550	-	16741	-	21605	-
1991	538182	13%	361372	15%	38359	9%	36602	5%
2001	899346	5%	693421	7%	40944	1%	116909	12%
2011	1967949	8%	1510241	8%	112515	11%	263205	8%
2021	3989369	7%	2988789	7%	171614	4%	709274	10%

(Source: Integrated Mobility Plan for Greater Ahmedabad region, Horizon year 2031 and Vehicle TAX data of AMC)

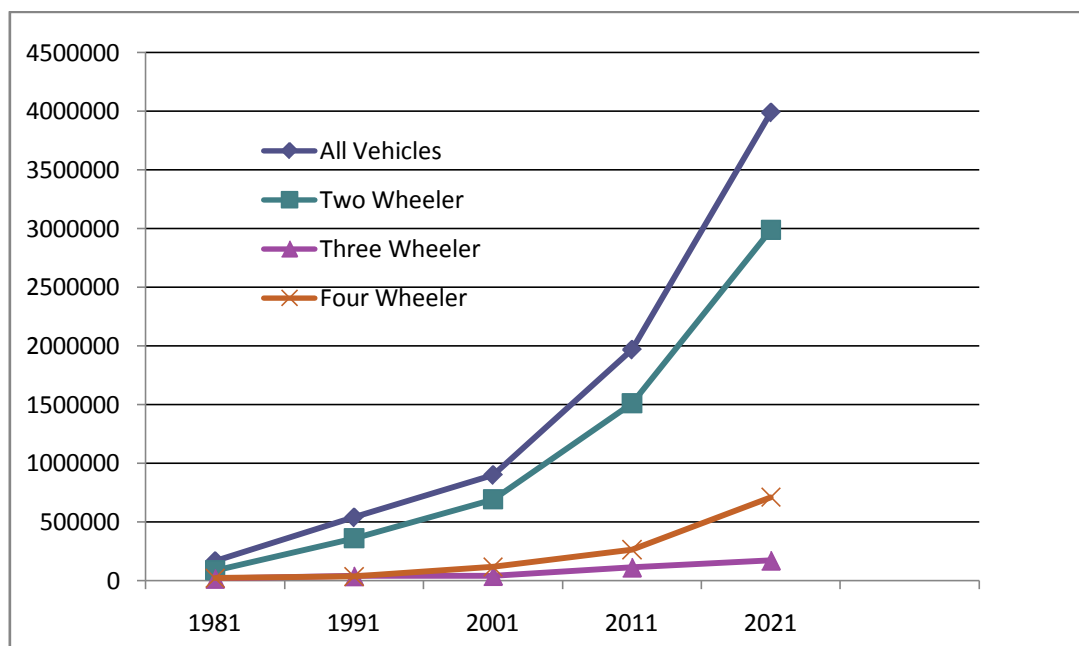


Figure-1.2 Decadal Growth in the number of vehicles in Ahmedabad city.

(Source: Integrated Mobility Plan for Greater Ahmedabad region, Horizon year 2031 and Vehicle TAX data of AMC)

The current trend of increasing personal motor vehicle ownership is unlikely to slowdown or decrease in the future, if timely action is not taken. This enormous trend of rising numbers of private vehicles needs to be moderated. It puts immense pressure on parking spaces and streets. Vehicles are parked at roadsides, footpaths and similar space in a very haphazard manner. It needs to be understood that even if we keep on creating more and more number of parking spaces, looking at the current rate of growth of vehicles, there is always going to be a huge deficit. Instead, focused measures need to be taken to reduce the number of private vehicles.

1.3.8 Vehicle towing data

As per data received from Traffic Police Department, Ahmedabad City in 2019 total 2.55 lakh vehicles were towed for parking violation and ₹8.5 Crore was collected as a fine. In the year 2020 (covid-19 period) total 0.36 lakh vehicles were towed for parking violation and ₹2.8 Crore was collected as a fine.

Figure-1.3: No. of vehicles towed.

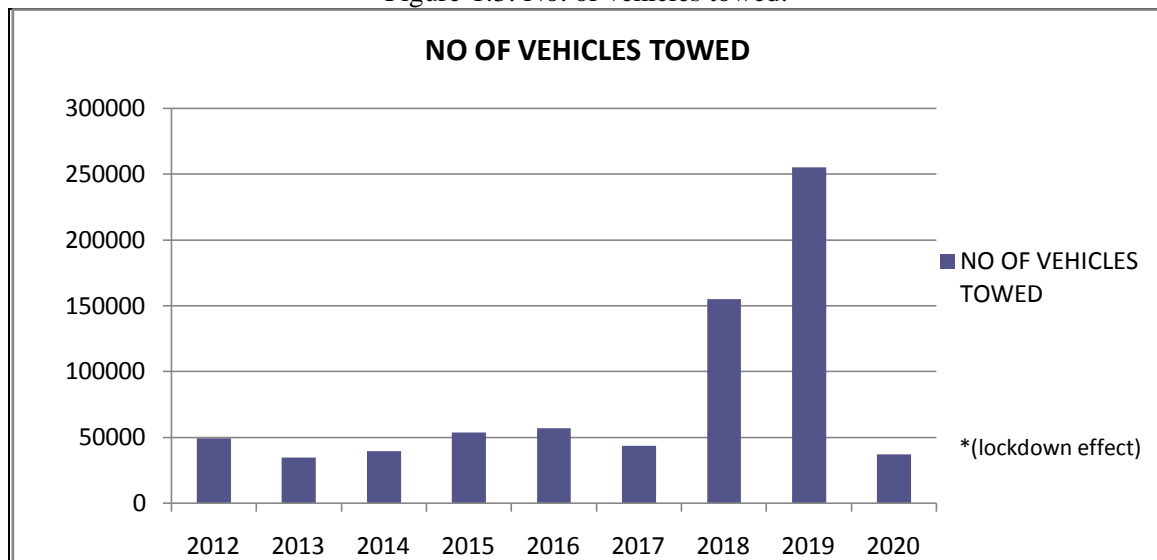
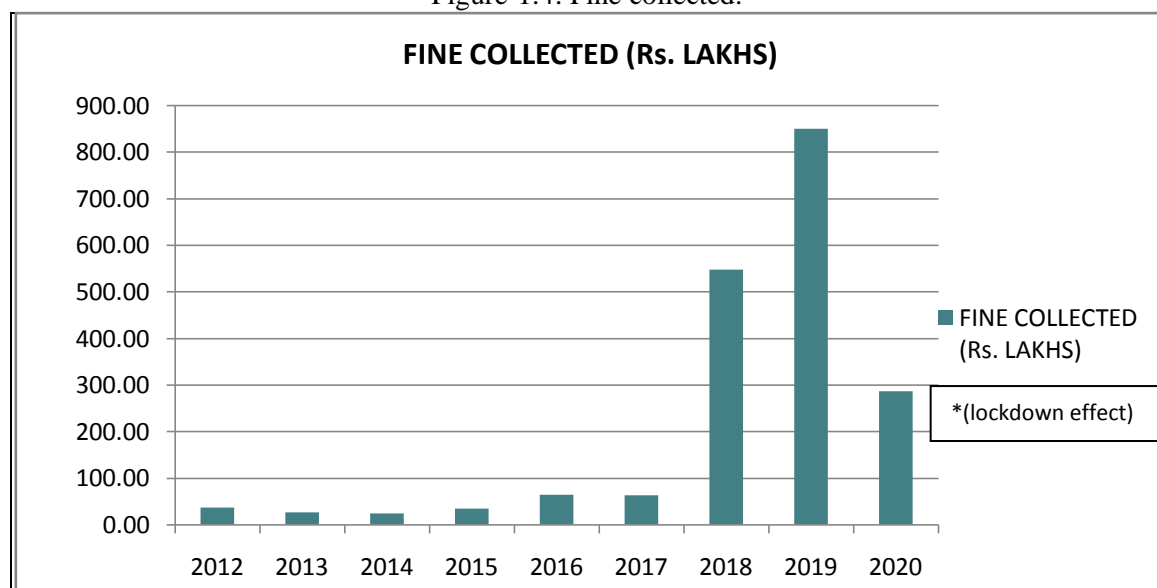


Figure-1.4: Fine collected.



(Source: Traffic Police, Ahmedabad)

1.3.9 Major observations and issues

Increase in vehicular volume/ congestion on road

- There is a constant increase in the number of four wheelers and two wheelers ownership in the city. (Figure 1.2)
- Growth of vehicles leads to traffic congestion and further increases the vehicle density on the road.

Inadequate on-street and off-street public parking facilities

- Presently public parking is a major issue in the city. Even though AMC has a number of off-street parking facilities, there exists an issue of haphazard on-street parking on major streets due to inadequate availability of on-street parking facilities.
- Need of on-street public parking provision to be addressed near public transit corridors and commercial centers.
- Unauthorized rickshaw parking on the road carriage way, service road and footpath needs to be organized.
- The existing public parking spaces are quite inadequate in order to meet the parking demands.

Under utilization of available parking spaces

- Existing public parking facilities especially the off-street parking plots and multilevel parking complexes are not utilized to their full potential.

Unorganized parking for private buses

- The buses park, pick up and drop off the passengers from busy intersections.
- The bus stop activities at GeetaMandir, Paldi, Shahibagh, Iskon Cross road, CTM Junction, Sarkhej Circle, Ujala Circle, Delhi gate, Kankaria, Maninagar, Jodhpur cross road and Bapunagar leads to congestion of roads and critical intersections.

Inadequate logistic facilities in and around the city

- The city of Ahmedabad serves as a major transportation node for exchange of goods within Gujarat and to other parts of India.
- Currently, there are a few private logistics centre for urban domestic goods and industrial goods separately.
- Maninagar and Kalupur station areas remain congested due to the goods movement by rail as well as the movement of goods by road.

1.4 Public Transport

The existing public transport services in Ahmedabad consist of buses and Bus Rapid Transit System (BRTS). The bus services are provided by Ahmedabad Municipal Transport Service (AMTS) while BRTS services are operated by Ahmedabad Janmarg Limited (AJL).

1.4.1 Ahmedabad Municipal Transport Service (AMTS)

AMTS is a major public transit mode with 1680 km network and carrying highest number of commuters. Ahmedabad Municipal Transport Service (AMTS) came in to being on 1st April, 1947 with a fleet of 112 buses. Today, AMTS caters to areas within AMC and to developed areas at peripheries Today, AMTS operates a fleet size of approximately 600 buses along 149 routes of about 3730 km length in the city. It carries on an average about 5.5 Lacs passengers every day. (Pre COVID).

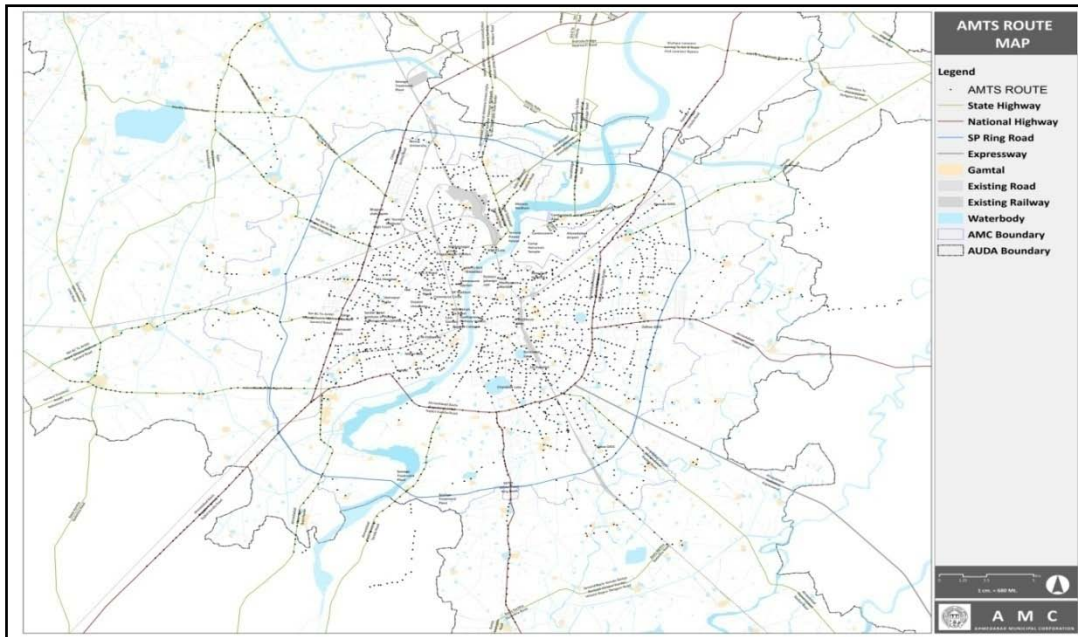


Figure-1.5 AMTS Network Coverage Map

1.4.2 Janmarg Bus Rapid Transit System (BRTS)

BRTS was introduced in 2009 in the city of Ahmedabad. The Ahmedabad BRTS was officially named as “Janmarg”, which means “people's way”. The current BRT network connects the important origins and destination plus the transit interchanges such as railway stations, regional bus terminals, and university areas, industrial areas; residential and commercial hubs and recreational public spaces such as Kankaria Lake. Today, BRTS operates in 103 km route having 163 stations. There are 255(A.C. buses) carrying about 1.5 Lac passengers every day.

Janmarg has introduced 50 Electric A.C. buses in its fleet and is planning to increase 150 Electric A.C. buses by 2020.

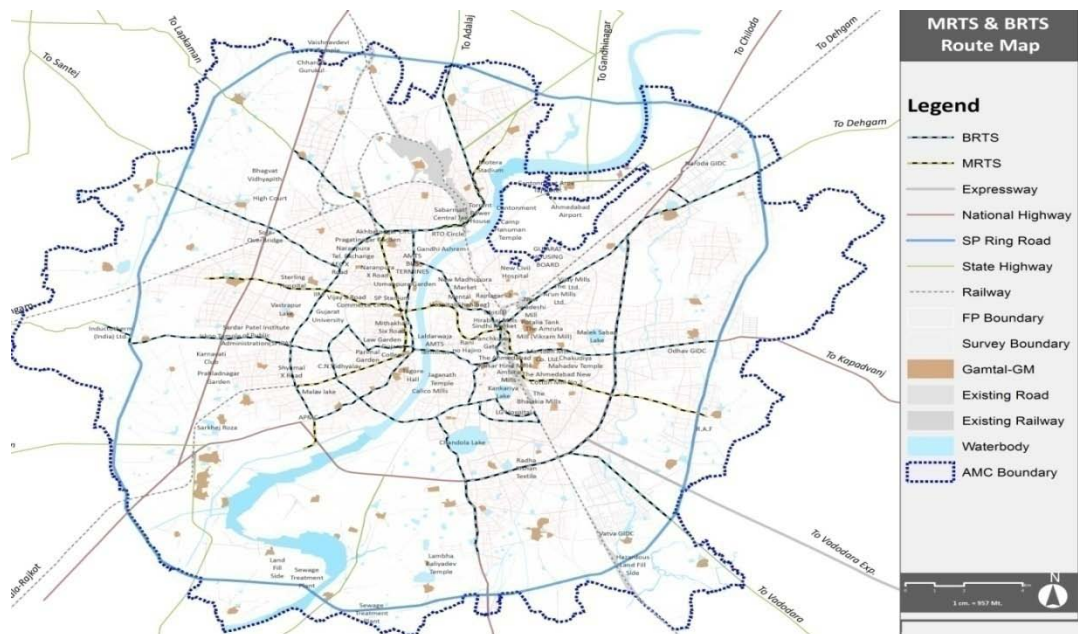


Figure-1.6: BRTS Network Coverage Map

1.4.3 Metro Rail

To improve traffic and transportation and solve pollution related issues and also considering future growth and development of city, Government of Gujarat started a Metro Rail Project to meet the local transport requirement of Ahmedabad. Gujarat Metro Rail Corporation (GMRC) Limited is special purpose vehicle (SPV) formed by Government of Gujarat for the faster execution of the metro rail project. The Project shall contribute in reduction of road traffic, fuel consumption, air pollution, travel time, Vehicle operating cost, accidents and road maintenance. This project shall increase mobility, better accessibility to facilities the influence area, increase economic stimulation in the micro region of infrastructure, increase business opportunities, and improve aesthetics and image of the city.

There are two corridor in Ahmedabad Metro Project phase-I known as East-West corridor and North-South corridor having length of about 14.4 km and 18.5 km respectively. Part route from Vastrapur to Apparel park of Phase-I is already functional. This route covers 6 stations.



Figure- 1.7 (Source: Gujarat Metro Rail Corporation- GMRC Ltd.)

1.4.4 Non-motorized Transport

Non-motorized transport (NMT) is often a key element of successfully encouraging clean urban transport. It is regarded as the most efficient mode of transport for relatively short distances, which make up the largest share of trips in cities. Cycling is the second most efficient, healthy and sustainable mode to travel for short to moderate distances. Currently, this mode is being used by a very limited user group within the city. The only user group using this mode on daily basis are primarily school going children and industrial workers.

‘Amdabike’ is a SCADL’s (Smart City Ahmedabad Development Ltd.) flagship project of

public bike share system for Ahmedabad city. This public transport system gives an opportunity to the citizens of Ahmedabad to high quality bike-based Intermediate Public Transport (IPT) service. In this system, bikes are stored in a closely spaced network of stations, are made available for short-term shared use.

1.4.5 Intermediate Public Transport (IPT)

Intermediate Public Transport (IPT) is normally expected to fulfill a need that neither public transport nor are personal vehicles able to fulfill. They normally cater to a category of small trips, gap left with the public transport, or emergency trips that have to be undertaken immediately and it is not possible to wait for public transport. IPT services are usually provided by private operators.

There were only 40,944 auto rickshaws registered in 2001. This figure has risen to 1,71,614 in Ahmedabad by 2021. In Ahmedabad city, two types of Auto rickshaw are found plying on roads to provide public transportation to the residents:

- (1) Regular service - This service is based on passenger's requirement.
- (2) Sharing Based Service – This service carries multiple passengers at a time.

Generally in Auto rickshaw, the routes are decided by the passenger but at the same time some Auto rickshaw drivers operate only on popular routes where the demand is high. Auto rickshaws also provide Intermediate Public Transport (IPT) with point to point services. Apart from informal taxis, On-demand taxi aggregators (Private cabs) connect commuters to the nearest driver via an app is also another mode of ITP.

1.5 Parking Supply In Ahmedabad

Ahmedabad presently has 74 authorized parking sites. Of these, 40 are off-street parking, 4 are multi-level parking facilities, 9 are on-street parking and the remaining 21 are below flyovers. Existing total vehicle parking capacity is 32,031, which includes 5453 four wheeler and 26,578 two wheeler.

AMC is also constructing 4 multilevel parking shown in below table for parking requirement of the city. Sabarmati River Front Development Corporation Ltd (SRFDCL), a wholly owned company of AMC is also constructing one multilevel parking on riverfront.

Table-1.4 Multilevel Parking projects being undertaken by A.M.C and SRFDCL

Location	Cost (₹ in crore)	Parking Capacity	
		4 Wheeler	2 Wheeler
Sindhu Bhavan	121.52	599	450
Prahaladnagar	160.83	404	474
Danapith	70.20	303	222
Chandlodia	60.85	163	111
Riverfront, SRFDCL	59.87	1000	152

(Source : Engineering & SRFDCL Department, AMC)



Figure-1.8 (Proposed multilevel parking project at Riverfront, Ahmedabad)



Figure-1.9 (Existing parking facilities in Ahmedabad)

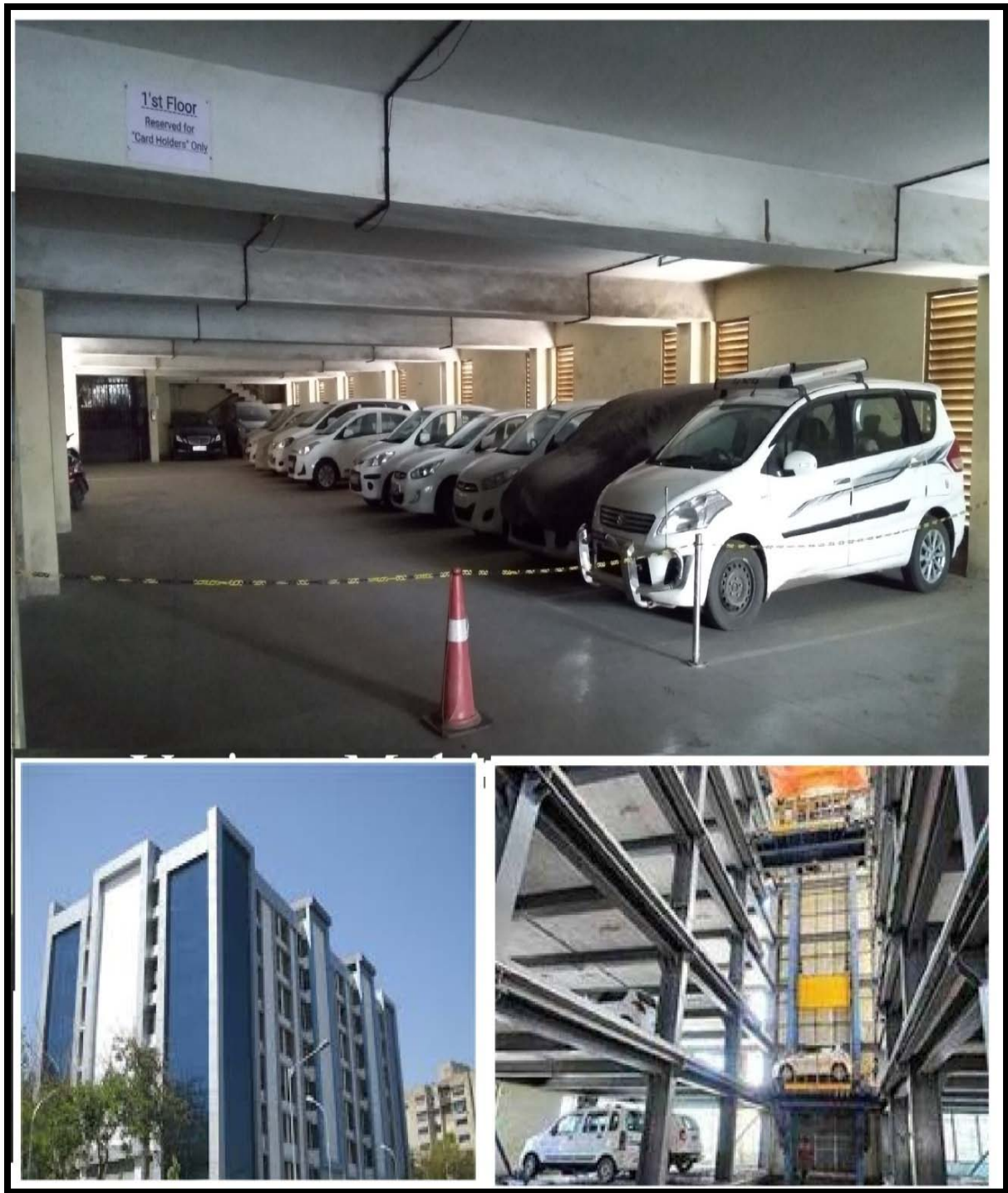


Figure-1.10 (Existing Multilevel parking facilities in Ahmedabad)

2. LEGAL PROVISION

The following different Acts, Rules, Policies and guidelines contain provisions pertaining to parking enforcement and useful for formulation of parking policy.

- The Gujarat Provincial Municipal Corporations Act, 1949
- The Motor Vehicle Act, 1988
- Comprehensive General Development Control Regulations, 2019
- Gujarat Motor Vehicle Rules, 1989
- The National Urban Transport Policy-2014.
- Guidelines for Parking facilities in urban areas – IRC:SP:12-2015

2.1 The National Urban Transport Policy -2014

Ministry of Urban development, government of India (MoUD) issued the national urban Transport Policy (NUTP), to bring about comprehensive improvements in Urban Transport services and infrastructure. The objective of this policy is to ensure, safe, affordable, quick, comfortable, reliable and sustainable access for the growing number of city resident to jobs, education, recreation and such other needs within our cities. The policy focus is on “moving people rather than vehicle by providing sustainable mobility and accessibility to all citizen to jobs, education, social service and recreation at affordable cost and within reasonable time.”

This will involve:

- Land is valuable in all urban areas.
- Parking places occupy large portions of such land. This fact should be recognized in determining the principles for allocation of parking space.
- Levy of a high parking fee, that truly represents the value of the land occupied, should be used as a means to make the use of public transport more attractive.
- Preference in the allocation of parking space for public transport vehicles and non-motorized modes would go a long way in encouraging the use of sustainable transport system.
- Proposals for parking complexes would also be given priority under the National Urban Renewal Mission.
- Provision would also be made in the appropriate legislation to prevent the use of the right way on road systems for parking purposes.

3. URBAN FREIGHT MOVEMENT IN AHMEDABAD

3.1 Urban Freight Generators

The urban freight generators are the consolidated or individual end points that generate or receive freight flows. Their distribution over space determines the freight vehicle movement within the urban areas. These are essentially the non-residential activities located within the city. The freight generators are the key points of production, consumption, or distribution of goods. Accordingly activities are grouped as manufacturing, trade and transport and warehousing.

3.2 Manufacturing activity clusters

There are about thousands of properties assessed as manufacturing units. The properties are regulated through land use zoning under the Development Plan and are concentrated in fewer numbers of clusters. These clusters are at Naroda, Odhav, Vatva, Rakhial, Behrampura etc.

The industrial estates such as Naroda GIDC estate, Odhav GIDC estate and Vatva industrial estate are occupying total 992 hectares and consisting of numerous small scale industrial units specializing in light and heavy engineering, manufacturing dyes & chemicals, plastic, machinery & components, pharmaceuticals, textile and chemical industries etc. In addition to the above, there are many small and medium size units spread over the eastern part of the city. Some are organized as small estates developed by the private sector, while others are large independent unit. These attract huge number of freight vehicles trucks every day and are a major contributor to the movement of freight vehicles.

3.3 Wholesale Trade Activity Concentrations

There are over 247 thousand shops and establishments in the city. Of these, it is the wholesale and semi wholesale markets that generate large vehicular movement and impact overall mobility. Hence, the focus is on major concentrations of wholesale/ distributive trades.

The area in and around walled city is a vibrant market area where both wholesale and retail activities happen on a large-scale. The five major wholesale markets are Sardar Patel Vegetable Market (APMC) at Jamalpur, New Cloth market at Kalupur, wholesale grocery market located in Madhupura within the old city near Kalupur, Food grain market/ Chokha bazaar located near Kalupur Railway station, Laati-bazaar/ wood market at Geeta Mandir. There are small localized markets dealing with vegetables, construction material etc.

The above major markets located in and around the old city attract over 1500 trucks every day. Besides the regional railway station and regional bus station, urban bus terminals are also located in the Kalupur Sarangpur, Gita Mandir area. Further, the markets have attracted ancillary activities such as warehousing and transport agencies. Over and above these, hand carts also ply in the area carrying textile products, grain etc and are major players in distributive trades.

Accumulation of all of these has turned this zone into a traffic hot spot. This zone is

congested because of substantial vehicles, passenger and goods, motorized and non-motorized, ply in this area. The problem is compounded due to haphazard parking (absence of parking/ restrictions), narrow width of roads, bus parking, auto-rickshaw parking adds significantly to this conflict. Besides loss of comfort to the road users, the impact is also high on the air quality.

3.4 Industrial Areas and Parking Management

Manufacturing areas attracts significant trucking activity to bring/send inputs/outputs. The critical aspect is the access. All the industrial areas are well connected through Narol - Naroda Highway, Sardar Patel Ring road and the connecting radials. All the industrial estates/areas except large units are devoid of any freight facilities such as loading/unloading areas, parking, warehouses, transporters' offices, rest rooms, canteen etc.

Loading and unloading happens on the road side and is dependent on availability of labour as well as parking. As a result the loading activities spill over to neighboring areas. Parking happens on the entire Naroda-Narol highway, ring road and the inner streets disturbing the residential environment. Area around Kalupur Railway station and Sarangpur possesses a large amount of transport offices and warehouses.

Urban freight mobility in Ahmedabad is large. About thousands of vehicles enter / exit Ahmedabad daily.

The important impacts due to freight movement of **concerned truckers, ware house operators and manufacturers** to be addressed are:

- Congestion on Aslali-Naroda-Narol highway and in the city centre.
- Intrusion of trucks into neighboring areas to markets and industries.
- Delays in unloading/loading.
- Entry restrictions leading to long waiting times.

4. INTEGRATED MOBILITY PLAN

Integrated mobility plan for Greater Ahmedabad region, Horizon year 2031 has been prepared in 2012, for 4,708 sq km of the area which includes 17 urban areas and 464 villages, including Ahmedabad Municipal Corporation, Ahmedabad Urban Development Authority and Gandhinagar Development Authority, including four growth centers.

The Integrated Mobility Plan is a comprehensive plan being prepared alongside the Development Plan, for management and development of transport system in the city, supporting long range land use objectives of the Development Plan. A compact development is envisaged for the city which will aim at promoting transit oriented development in the future. The urban growth and urban structure of the twin cities Ahmedabad and Gandhinagar will be governed by public transport corridors. Development of mass rapid transit corridor along with transit nodes will facilitate the growth in a compact manner, which will be advantageous for both transit facilities and land uses. High densities would be catered more effectively through combining both elements together. This plan recommends the development of a three tier planning approach - Regional level, City level and Node level.

4.1 Parking policy suggested under IMP

4.1.1 Planning and design

- Locate business destinations, mixed land use, high intensity land use around public transportation hubs. These hubs should be identified in the Development Plan and additional FSI be proposed. Planning for public transit (Janmarg, AMTS, MEGA and suburban rail) should serve areas with high densities (residential, commercial, industrial and institutional).
- Provide ‘park and ride’ facilities near important transit hubs that would encourage more people to use public transit.
- Modify parking standards to reflect specific situations. It is not logical to have same standards for different geographical locations. AMC and AUDA need to identify different ‘zones’ in the city based on a matrix of indicators (location, accessibility by public transit, walkability, density etc.)
- Identify spaces for truck terminals in the Development Plan close to existing industrial estates and develop them within the plan period.
- Move away from the concept of using road space for parking. Road space is scarce and parking demands must compete with other uses.
- Develop and strengthen Ahmedabad’s ring and radial road network. The parking policy, in line with recommendations in the IMP, advocates further development of an efficient road network with a clear pattern, hierarchy and completeness.
- Prohibit movement of heavy vehicles in the city. Identify roads where heavy vehicles (trucks, GSRTC and private intercity buses) may be allowed to ply. All HCV movement should be prohibited during the day time.

4.1.2 Finance

- Consider parking fees as ‘disincentives’ and not as ‘revenue source’. 50% of the parking fees collected should be handed back to the neighborhood/ locality for management of facilities and general upkeep of the area.
- Encourage sharing of facilities. Land uses that have different parking peaks (eg. office building and malls) should allow their parking facilities to be shared to encourage higher usage and to reduce parking spillover. The encouragement may be in form higher FSI, TDR etc. as may be decided by AMC/ AUDA.
- Adopt differential pricing for different ‘zones’ in the city. Zones with higher demand for parking should have a higher charge. The pricing should be fixed in a manner that some vacant spaces are always available.
- Incentivize use of public transit. Government and private offices, educational institutes should offer incentives to employees for utilizing public transit system.

4.1.3 Institutional

- Transfer enforcement and management of parking to AMC. This can be done by having a traffic department within AMC that is responsible for managing all aspects of traffic.
- Enforce and manage strictly. Before enforcement, the traffic department should clearly demarcate on-street parking spaces with proper lane marking and signages.
- Fines in case of breaking rules should be clearly visible for all drivers.

4.1.4 Recommendations

AMC will implement the parking policy. It should carry out detailed studies for detailing and arriving at a consistent framework for different areas. It would propose parking charges for different areas as per these studies. It will also be responsible for implementing basic parking infrastructure. Enforcement and management would be done through the traffic department within AMC, where a special parking cell would be set up.

AMC will also coordinate with AUDA to ensure that recommendations in parking policy reflect in the Development Plan through appropriate public transit proposals, road network planning, land use strategies and zoning proposals. Janmarg, AMTS and proposed MEGA should design a comprehensive operations plan, which makes public transit usage easy and convenient and offers superior service to private vehicle use. Land for ‘park and ride’ facilities, especially in the newly developing areas should be a priority.

5. AHMEDABAD PARKING POLICY

5.1 Need For Parking Policy

Ahmedabad has been experiencing an exponential growth in vehicles. The city has 39 lakh vehicles out of which 7 lakh are four wheelers.² Except for a few key locations, parking in Ahmedabad is not charged. On-street parking is not clearly demarcated on most roads leading to haphazard parking, which narrows down the carriageway. On many roads, footpaths are used for parking. Building by-laws stipulate minimum standards for parking; however, many building flout standards.

Some areas of Ahmedabad also see trucks parked along major roads. This is due to absence of truck terminals near industrial estates. Such parking has led to supporting land uses (garages, spares, eateries etc.) to be established in and around, which lead to further degradation in environment and safety standards.

Planned parking provision plays a pivotal role in transportation, building design, quality of life and environmental issues. The provision of off-street or separated on-street parking spaces in urban areas benefits a city by way of removal of obstacles from the carriageways, thus improving the steady flow of traffic and the carriageway capacity. This contributes to a city's economic activities by ensuring a turnaround of different vehicles rather than long stay of the vehicles in commercial areas.

Ahmedabad now needs to relook at its parking strategies in order to cope with the ever increasing demand for parking spaces. Ahmedabad needs a parking policy that has a holistic vision, with strategic objectives and is in sync with Ahmedabad's statutory Development Plan.

5.2 Paradigm Shift

The old paradigm of parking regarded provision of parking as a social good. Transport planners focused on increasing supply to provide for peak demand. Research shows that provision of 'free' or 'cheap' parking actually stimulates vehicle trips. Free parking also means that more drivers cruise to find a free parking area.

The new paradigm strives to provide optimum parking supply and price. It sees too much supply to be as much a problem as too little. Free on-street parking is compared to the 'urban commons' problem – space which nobody owns, but everyone uses. The new paradigm states that parking should be treated like any other 'commodity' (electricity, gas, telephone) and should compete in the market with other uses. Looking at it from a social point of view, free

² Source: Vehicle tax Data, AMC

parking is actually a case of the poor (non-vehicle owner) subsidizing the rich (vehicle owner). The new paradigm, thus, favors charging parking facility directly to users, and providing financial rewards to people who reduce parking demand.

5.3 Vision

A vision statement provides a direction for city's growth. Without an overall vision, collecting information and formulating strategies would not be meaningful. Thus, visioning provides a rationale and framework for developing future growth scenarios. It also facilitates identifying current issues and prioritizing the core problems.

The vision for the Ahmedabad Parking Policy for the year 2031 and beyond is to:

“To develop and manage parking based on functional quality, operational excellence, citizen satisfaction and sustainable financial performance in line with city planning policies”

This vision has been based on the Integrated Mobility Plan for Greater Ahmedabad Region. This is in line with the vision of Revised Draft Development Plan 2021 being developed by Ahmedabad Urban Development Authority (AUDA):

“Liveable environmentally sustainable and efficient city for all its citizens; a city with robust social and physical infrastructure and a distinct identity, a globally preferred investment decision.”

5.4 Key Principles

The parking policy is based on some key principles and follows the overall vision for Ahmedabad - **“Integrate city structure and transport system towards greater accessibility, efficient mobility and lower carbon future.”**

- To provide parking with a view to not to increase more parking demand but manage and restrain its provision to discourage people from using personal vehicles.
- Public transport vehicles and non-motorized modes of transport shall be given preference in the parking space allocation. Easier access of work places to and from such parking spaces can encourage the use of sustainable transport system.
- To achieve optimum utilization of available parking spaces. Already designated parking spaces must be utilized to highest efficiency and financial viability.
- The parking charges should reflect the value of the land that is occupied.
- Short term on street parking shall be encouraged in order to have high turnover. Long term parking shall be accommodated on off street lots.
- Effective management of parking space through use of smart technologies.

5.5 Objectives

- To manage parking demand and supply effectively such that parking spaces are available for people where & when needed.
- To move from haphazard parking to well planned parking.
- To promote public transport for comprehensive mobility.
- To reduce parking demand through increased parking charges and to shift free parking to paid parking.

5.6 Directives of Ahmedabad Parking Policy

In order to achieve the above stated objectives, the policy identifies below mentioned focus areas.

5.6.1 Establishment of separate Cell within AMC for parking policy implementation.

“Traffic and Parking Cell (T&PC)” shall be created and established by Ahmedabad Municipal Corporation for effective implementation of parking policy. Municipal Commissioner shall decide the structure, Members/Officers/Staff and power delegation of T&PC. A team of officers of various departments such as City Traffic Police, Estate/TDO, Traffic engineering, City planning, Regional Transport Office etc. may be appointed in the Cell. The cell may associate any expert or eminent person in the field of traffic engineering and urban planning for taking their views. Various authorities shall provide adequate staff at their cost as requested by the Traffic and Parking Cell.

Authority shall allocate necessary budget for the implementation of parking policy and take aid from other Government agency/ies.

5.6.2. General Parking Control (management) and bye-laws

For the purpose of effective management and implementation of Parking Policy, bye-laws shall be made by Municipal Commissioner. Such bye-laws shall include jurisdiction, duties and responsibilities of officers, standards, procedures, charges etc. T&PC shall implement such bye-laws after approval from Municipal Corporation.

5.6.3 Enforcement:

T&PC shall be empowered to manage all public parking facilities within the city. It shall also be empowered to take decisions regarding all aspects of parking with approval of Municipal Commissioner. “Traffic and Parking Cell (T&PC)” may review the city parking policy considering future development and growth of the city from time to time. T&PC shall issue guidelines and give directions to various government agencies and stake holders for enforcing the policy directives. “Traffic and Parking Cell” may appoint private agency for preparation of parking plan of the city.

All recommendations and measures will amount to naught without strict enforcement. This is especially important for on street parking, particularly on bus routes and main roads, to minimize the impact of motorized parking on other road users. While one can expect public dissatisfaction at strict imposition of parking rules in the beginning, once it is made clear through public education campaigns that parking is not a right and is strictly enforced by authority. Leaving a motor vehicle at rest in any public place in such a way as to cause or likely to cause danger, obstruction or undue inconvenience to other road users will be considered an offence. Such vehicles shall be towed away or clamped by the City traffic police or Ahmedabad Municipal Corporation (AMC).

5.6.4 Preparation of Area level Parking Plan for Whole City

Need for area level parking plan:

The parking plan in addition to freeing the right of way for the public and non-motorized transport would also act as elements that can impact a community in a positive manner.

Parking matters to the community because good parking management mitigates congestion, frustration, sprawl and pollution from vehicles. These real quality of life issues affect everyone. Resources are in high demand and quality-parking management helps the community build, grow and thrive. Parking helps to build more sustainable systems for motorists. Building smart transportation solutions simply make life easier for motorists, cycling, commuters, and environmentalist alike.

In keeping with this ideology, the Ahmedabad Municipal Corporation shall develop a Methodology for Parking Plan for a city in line with the vision of Ahmedabad Parking Policy.

AMC through “Traffic and Parking Cell” may appoint private agency for preparation of area level parking plan of the city in accordance with the prevailing city development plan.

Process of preparation of parking plan:

The planning process will involve various steps as listed below.

Task-1: Identifying Parking strategies used around the world.

Generally the nature of strategies adopted by different cities is similar. They include: land use transport integration, network pattern, NMV and public transit promotion, public transit mode selection, travel and Parking demand management measures etc. However, the mix of strategies in terms of extent and type would vary from city to city. As a result outcomes would also vary. No doubt socioeconomic context also influences the outcome.

Task-2: Define Desirable Outcomes through Stake-Holder Participation.

The indicators for desirable outcomes would include level of accessibility, affordability, efficiency, safety and security, and environmental status. These operational terms would include parking demand, parking supply, trip lengths, travel times, costs, air quality, road fatality and feeling of security. Various outcomes shall be decided after consultation with local stake holders.

Task-3: Identify Sets of Strategy-Mix to Achieve the Desirable Outcomes of Parking Plan.



Parking Demand Management

- Incremental increase in Vehicle Taxes
- Congestion fee



Promoting Mass Transit

- Multimodal systems
- Interchange facilities
- Mode integration



Promoting Non Motorized Vehicles

- Pedestrianisation
- Walkable Streets
- Safe bikeways



Enforcement

- Strict and efficient enforcement.
- Citizen's awareness campaigns.
- Fair and considerate.

No single strategy would be sufficient for preparing the parking plan. A mix of strategies introduced in different measure over plan period would enable AMC to reach desirable outcomes.

Task-4: Conduct traffic and parking surveys.

The first step toward survey is to understand the supply of and demand for existing parking resources. Thus, a comprehensive audit of all parking facilities within the city is required. Such an audit typically includes the following steps:

- Conduct a complete inventory of the municipal parking supply for each zone. All on-street parking (paid, unpaid, unregulated and illegal) and off-street parking should be accounted for. The survey should cover all areas of the carriageway, footpath, cycle tracks and other public space where people park in the public right of way.
- For observing parking demand, conduct a 16-hour parking count, recording the number of parked vehicles on each street segment at each hour, classified by vehicle type. Complete a parking duration survey to determine the length of time vehicles stay at each location and estimate overall turnover rates.

Task-5: Analysis of data and inferences.

- According to traffic and parking survey data, the type of parking facility like on street, off street or other type should be developed.
- Creation of GIS database and mapping of parking spaces.

Task-6: Identify various parking zones across the city.

This policy proposes to delineate parking zones based on the existing street hierarchy of streets in Ahmedabad. This is primarily because the mixed-use nature of Ahmedabad is prevalent along its major roads and tapers off towards mono land uses along inner roads. Hence, there is a higher demand on parking spaces on major roads and a slightly lesser demand on the secondary and collector roads and even much lower on local roads.

All the major/arterial roads of the city shall be considered as ‘high-demand’ roads and a few meters buffer around it to be considered as ‘high-demand’ parking zones. Along these roads the existing land uses have mainly high-intensive commercial, CBDs, Mixed Uses, and important institutional areas. Examples of such roads include CG Road, Ashram Road, 120 Feet Ring Road, Walled City Area etc.

The secondary/sub-arterial roads, collector roads shall be considered as ‘medium-demand’ roads and a few meters buffer around it to be considered as ‘medium-demand’ parking zones. These roads shall be the connections between the major arterial roads and pass through many residential neighborhoods. The existing land uses around such roads are medium-level commercial, majorly residential areas and also many industrial areas are present in the East of Ahmedabad. Examples such roads include Satellite Road, Xavier’s Road, Sandesh Press Road etc.

The ‘local roads’ and ‘highways’ shall be considered as ‘low-demand’ roads and a few meters buffer around it to be considered as ‘low-demand’ parking zones. This is because the local roads pass through residential/inner neighborhoods and the highways are usually conduits for connecting between cities or places with limited parking demand.

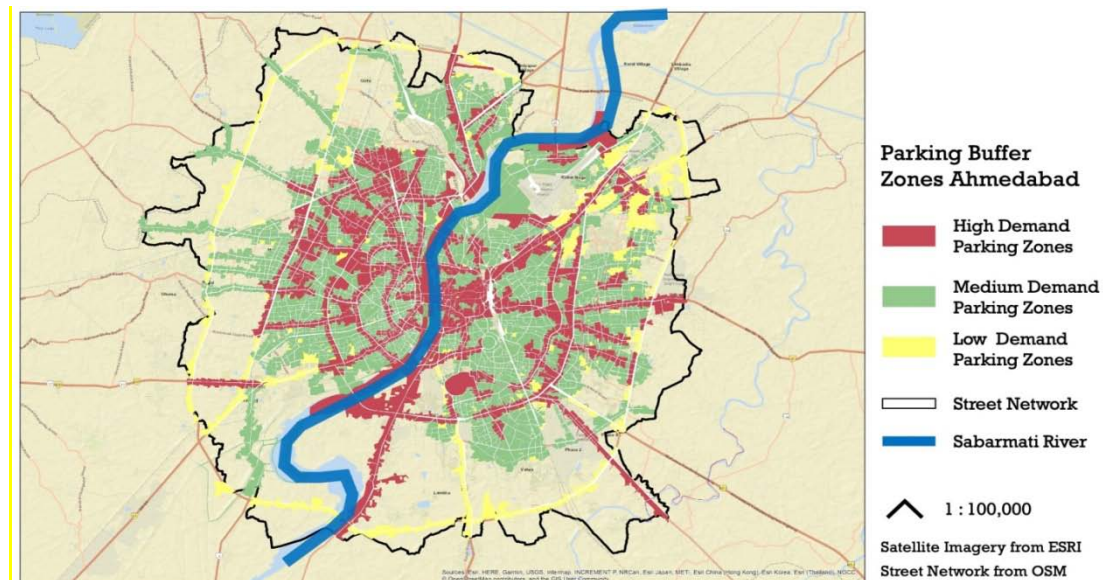


Fig.5.1: Sample Map of Ahmedabad showing the demarcated parking zones along the street network. (map is for indicative purpose by GICEA)

- A parking Zone shall be the main unit for administering parking regulations and management.
- Each parking Zone shall comprise the entire street network including streets with Paid

parking, Restricted parking and No parking, as well as off-street parking in the vicinity.

- Such parking Zones in different parts of the city may have different parking charges.
- A parking Zone may have one or more sub zones in it.

It is desirable to prohibit parking at certain locations and for a specified period to ensure safety & convenience. Such locations are:

- Near Intersections: the capacity of an intersection is greatly reduced if vehicles are allowed to park on the approaches to a major intersection. Visibility is also adversely affected & safety is reduced.
- Narrow streets with heavy traffic flow.
- Near the pedestrian crossings.
- On designated roads during peak hours. etc

Task-7: Parking management.

The urban parking facilities can be divided into two main categories namely:

- On-Street Parking Facility
- Off-Street Parking Facility

On-Street Parking

Allocating space for parking needs to be carefully weighed against many other needs and roles of street space, such as public transport movement, walking, bicycle users, loading/unloading (both goods and passengers), taxi-like modes, public space for people to spend time, vendors, and street trees.

Weak on-street parking management makes parking seem scarce, even when it is not. Chaos in the streets makes people assume there must be a shortage often there is no such shortage. Without effective parking management, the most convenient and easily-found parking spaces tend to fill up and less convenient parking often remains lightly used.

There are very few designated on-street parking facilities in Ahmedabad. Parking shall be allowed only on notified roads with parking charges. AMC shall identify and designate new On-street parking locations across the city area. Roads having width greater than 24m shall be considered first, followed by 12 – 24 m and finally less than 12m.

Convenient on-street parking on commercial streets helps attract customers and boosts commercial viability of businesses. Similarly, on-street parking on residential streets allows convenient additional parking for residents.

- Commercial Streets with retail storefronts and uses:
The commercial streets identified on the parking zone plan can be improved to implement a pay-and-park system.
- Streets with residential frontage and uses:
Residential societies / apartments situated in the parking zone may opt to buy a parking permit as decided by competent authority depending on the site situation and feasibility.

Heavy vehicles such as private buses, trucks, tourist buses, water tankers, containers, etc. can be parked only along specified roads / spaces during specific time period as may be decided by competent authority.

Mechanical parking can be adopted at spaces below bridges / flyovers where sufficient height and space for driveway is available.

Off Street Parking

Various types of Off-street parking commonly considered are Surface parking, Multilevel parking, Mechanical parking, underground parking, Terrace parking etc.

Off street parking can be classified in 2 categories:

- Off street public parking:

Off street public parking includes public parking plots and multilevel parking structures. These must be strategically located near public transit stations to incentivize commuters to park their vehicles and use public transit.

- Off-street private parking

Off street private parking includes parking provided on individually owned plots with commercial, residential, etc. uses. Parking requirements for these plots are identified in CGDCR.

- Incentive scheme for Private plot owners

The policy aims to introduce an incentive scheme to encourage owners of vacant plots (private, govt.etc) to lease their plots to AMC for off street parking for mutually agreed periods and mutually agreed arrangements. The scheme would have exit clauses that facilitate an owner of the plot to opt out of such arrangements as and when he requires the land for construction. Owners of vacant plots may also surrender their plots to AMC for off street parking on incentive basis. Such incentive may be in the form of Higher FSI, TDR etc. or as may be decided by competent authority, subject to approval of State Government.

Task-8: Bring behavioral change in public perception related to parking.

- Increase public participation through interactions.
- Citizen's awareness program and campaigns promoting the use of parking facilities and avoid haphazard parking.

5.6.5 Signage and demarcation of authorized parking lots:

AMC shall ensure that all on- street parking areas, parking lots under bridges and flyovers, parking lots in municipal plots are clearly marked and easily identified with thermoplastic paint and install sign board indicating rates, name of contractor, number, and dimensions of parking with parking capacity in visible area.

To bring clarity to road users, AMC shall begin a process of demarcating on-street parking areas. All roads having width greater than 24m shall be taken up first, followed by 12 – 24 m and finally less than 12m. as per site situation and feasibility. AMC shall upload list of parking lots on website with all details.

5.6.6 Charging for parking

Parking occupies a significant amount of road space in the streets of Ahmedabad and parking spaces are should not be subsidized by the public at large. With the increasing number of vehicles, there is a high demand for parking spaces and the supply of parking zones is

limited. In such a scenario, automobile users respond to this situation by resorting to haphazard on-street parking and illegal parking such as parking on footpaths, sidewalks, service roads etc. thereby appropriating space meant for all other users including pedestrians, cyclists etc.

Free parking comes at a high cost. This high cost is mainly due to the fact that parking occupies prime public ‘real estate’ or serviced urban land. Vehicle users, on the other hand see free parking as a ‘public’ good - in both its ‘economic’ and ‘literal’ sense. They believe parking spaces are unlimited and since they bring a vehicle to the city they are entitled to free parking, and it must be provided by the city government.

Ahmedabad’s motorization curve is on a steep rise, with numbers indicating more vehicles will occupy its streets and more space will be required for their parking. Ahmedabad massively subsidizes parking spaces and takes away prime urban land that could be put to better public use. If clear policy directives and strategies to understand parking demand and supply are not worked upon, the city’s urban space will soon turn into an enormous parking lot.

The policy outlines specific pricing strategies to respond to the parking demand and supply in the city. This policy realizes, reiterates and bases itself on the fact that ‘parking in the city should be treated as real estate and as a private good’.

5.6.6.1 Pricing strategies

Pricing strategies may be proposed as below:

- A. Demand-based Parking Charges (street level)
- B. Review-based Parking Charges (area level)
- C. Fixed Parking Charges (parking lot level)

A short description of each strategy as below is for the indicative purpose.

A. Demand-based Parking Charges (Street level)

This model of parking pricing works on the surge pricing model wherein if there is a high demand for on-the-spot parking in a certain street, the price shall accordingly change depending on the parking demand. At peak business hours, the available parking spaces shall be limited and charged above than the current parking rates. This model of parking shall work at a street located in high commercial areas such as CBDs, institutional areas and mixed-use areas etc.

B. Review-based Parking Charges (Area level)

In this pricing model, pricing for parking is dynamic but subject to review and revision depending on the parking usage and demand. This model applies to areas served by secondary roads and with corresponding land uses such as medium-intensive commercial or residential areas or mix use areas. In this case, since the demand for parking is lower as compared to the busy streets, prices needs to be revised on a yearly basis. This revision occurs after substantial data collection of parking usage, peak and non-peak times etc.

C. Fixed Pricing Charges (Plot level)

In this model, parking prices are fixed from the time of implementing a parking pricing strategy. This model is applicable for areas where the demand is much lower than the other areas, on local collector streets, on inner neighborhoods or spare retail areas.

The pricing strategy as below can be proposed for Ahmedabad City:

Parking Zones	Pricing Strategy	Road Hierarchy
High Demand Zones	Demand Based Pricing	All Major/Arterial Roads
Medium Demand Zones	Review Based Pricing	Sub-Arterial & Collector Roads
Low Demand Zones	Fixed Pricing Charges	Local Roads & Highways

In all of these cases, parking charges, availability of slots etc. in these zones may be facilitated through app based or IoT based interventions. Such information should also be available to all users via app or otherwise.

Parking charges shall also be based on following.

- Duration of parking- Short term parking shall be encouraged in order to have high turnover.
- Time and day of parking.
- Parking charges may vary on peak hours and off-peak hours and on weekdays and weekends (Saturday-Sunday) as weekends draw more vehicles in commercial, entertainment and such other areas.
- Night parking charges may be kept at discounted rates.
- Location and area of parking (for both on street and off street)- On street parking shall have higher parking charges than off street parking.

Such pricing strategies may vary from time to time.

Parking fee exemptions

The following types of vehicles may be exempt from parking charges when parked in designated lots during certain periods.

- Passenger auto rickshaws and such para-transit when parked in designated lots meant for their parking.
- Ambulances
- Vehicles used by differently abled people.
- All types of Government/AMC vehicles.
- Vehicles engaged in essential services as may be decided by competent authority.
- Other vehicles that are exempted from parking fee as may be decided by competent authority from time to time.

Ahmedabad City Traffic Police shall determine the towing and fining charges with consultation of AMC. Private agencies may be appointed through transparent and competitive bidding process for collection of fees, penalties, towing and no parking fines in the city.

5.6.7 Issuing Parking Permits

AMC shall issue parking permits to authorize vehicle owners to park in parking areas. It will

serve as an authorization to occupy the designated parking areas. Residential societies / apartments situated in the parking zone may opt to buy a parking permit as decided by competent authority depending on the site situation and feasibility.

"Parking Permit" shall be given on monthly/ quarterly/ six monthly/yearly basis to any person/society/corporate offices/mall/complex/hospitals/educational institutes etc. in vicinity of public parking space. The minimum duration for giving "Parking Permit" should be one month.

In this context, 40% of parking space shall be kept reserved from entire parking space for issuing "Parking permit" and remaining 60% parking space will be available for common parking. If no such application received for "parking permit" in paid parking, entire parking space shall be used for common parking on "pay and park" basis.

The rates for issuing "Parking Permit" shall be decided by the Municipal Commissioner from time to time subject to demand at place to place.

5.6.8 Park and Ride (P & R)

Park & Ride has proved very popular as a means of tackling traffic congestion, with the P&R sites situated mainly on the routes into city centers and on edge of the city. The idea behind P&R is that they seek to divert traffic which is bound for the city centre off radial routes and into parking spot where designated public transport is available to complete the journey. To achieve the objectives of P&R, city requires the following:

- A frequent, reliable and fast service, since motorists have diverted from their normal route in order to take advantage of the P&R site.
- Access to the P&R site to be relatively easy and convenient. The cost, as perceived by vehicle drivers, to be lower than that of the cost of fuel and parking in the city centre.
- Capacity of parking facility to be such that it provides for the level of demand.
- Provision of real-time parking information and use of CCTV to alleviate concerns over users' personal safety and vehicle security.
- P&R to be part of an overall parking strategy which should include a reduction in city centre parking and an increase in relative price.
- Valet parking facility shall be provided at large parking spaces and Multilevel Parking complex for user's convenience.
- Shuttle services may be provided at the parking lots which are far away from markets.
- Cycling is healthy and sustainable mode to travel for short to moderate distances. AMC shall facilitate transit users especially around the congested core walled city areas and near BRTS / MRTS stations by fulfilling their last and first mile connectivity via public e-bike / bicycle share system for Ahmedabad city.

5.6.9 Parking Technologies-Smart Parking

There is considerable technology available for parking management. This covers, for example:

- Introduction of smart card based automated parking and taking away human factor will improve the quality of parking management.
- Mobile Application shall be developed on which the citizens can send information of illegally parked vehicles/ junked vehicles to concerned authorities for better implementation of Parking Policy in Ahmedabad

- Real time parking guidance systems so that people spend the minimum amount of time searching for a parking space.
- Enforcement machines capable of recording the details of vehicles violating regulations, photographing the vehicle, issuing a ticket and sending the data about the whole operation back to a base station.
- Information Technology for record keeping financial management, monitoring of customer service, fine issuing and management, follow up of non-payment and so on.
- AMDAPARK- Mobile application is already put to use by SCADL - AMC for smart parking management.
- AMDAPARK - won award for “BEST SMART PARKING INITIATIVE OF THE YEAR” in Global Smart Cities Forum 2020 by ET Government on 28-November-2020 out of 100 smart cities projects.
- AMDAPARK application contains following important Features/Modules.
 - SMS Notification
 - Real-Time Parking
 - Google Map Integration which will help the user to navigate to parking
 - Advance Parking Booking Module
 - Online Payments Available
 - Dynamic QR Code integrated for Scan & Pay parking charges
 - Share tickets via different applications (e.g. WhatsApp)
 - Dynamic Pricing and Fare Calculation
 - Live Parking Count and Revenue Statistics
 - Cash Deposit Module for Collection Manager

AMC shall formulate & implement such automation with the help of Smart City Ltd. and private players.

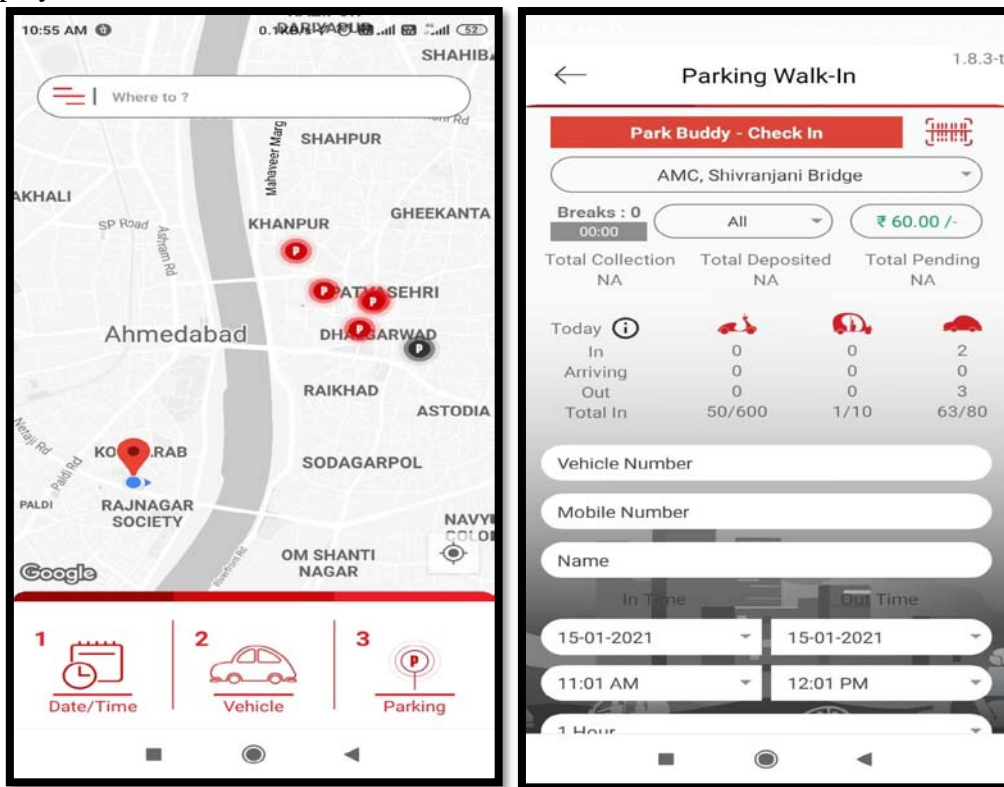




Figure-5.2 : Smart parking solution (AMDAPARK)

5.6.10 Promote Public Transport

Public transport is a vital element in mobility, since an appropriate provision of service will create a wide benefit to the community. Multi modal integration allows hassle-free transfer between different modes of transport (buses, railway, metro rail, rickshaws, cabs etc.) and encourages use of public transport. Different modes, when appropriately combined, offer inclusive and comfortable last mile connectivity options. AMC shall identify parking lots near public transport facilities and facilitate transit users by providing parking spaces.

5.6.11 Sharing of Parking

Due to the scarcity of availability of parking spaces within Ahmedabad and uneven distribution of parking facilities, there arises a need for utilizing the available parking space efficiently. The areas such as C.G road, Ashram road, Paldi and other CBD areas often face a peak rise in parking demand during office hours, whereas the demand reduces on weekends.

The parking spaces of the office buildings, schools, banks and business parks, malls, parks also depict a variable use of their parking spaces during weekdays and weekends. Other vehicles of that area are unable to use that parking due to ownership and jurisdiction issues. This dissimilarity between the supply and demand of parking can be met with sharing of parking spaces.

AMC shall encourage sharing of parking space amongst different buildings and facilities within the proximity of each other. Shared parking in the nearby areas will allow efficiency in terms of parking management and space allocation. The concept of sharing parking shall succeed with the mutual consent of both parties and subject to a “no objection” from the president/ chairman/ secretary of the premises.

5.6.12 Prepare Freight Management Plan for City

In line with the overall vision of Accessible Ahmedabad, the objective of freight management plan is to “Improve freight mobility within the overall transport sector priorities of facilitating urban mobility and public safety”.

The strategies of Freight Management Plan envisaged are:

Short term Strategies

- Redefine freight routes and time zones to minimize the intrusion of external traffic and minimize conflicts with passenger movements.

- Possible use of other terminals for lean time storage/ distribution
- Provision for Parking and transporter facility within GIDC Estates
- Improve directional and information signage

Long term Strategies

- Define priority markets to be located within the city and designate dedicated corridors/ Lens for freight movement.
- Responsive City Centre land use – transport policies.
- Define trades that need to be located within the walled city and incentives relocation by providing additional FSI in the current location for development of alternate facilities.

It is recommended to prepare a ‘**Comprehensive Freight Movement Plan**’ for city to avoid conflict between local and regional freight. This plan shall be prepared by city traffic police. It may include specific routes and timings for allowing freight traffic in the city. It would also identify the regulations for freight parking etc. This plan shall be reviewed at an interval of 5 years and shall be revised at 10 years intervals.

5.6.13 Regulating IPTS Parking

As a rise in use of Intermediate Public Transport is observed, the need for on road parking spaces is also escalating. Traffic Police Department, Ahmedabad City shall designate free on-street spots for parking taxis and auto rickshaws. Vehicles other than IPTS shall be refrained from parking in such designated areas. IPTS parking shall be avoided near road junctions.

Ahmedabad City traffic department has published notification determining 3955 areas for Auto-rickshaw parking stand and A.M.C has demarcated those areas.

Priority parking may be provided for intermediate public transport like taxis, auto-rickshaw, feeder van’s etc. at BRTS/AMTS terminals and metro railway stations and near all important buildings either private or public, within shopping and commercial areas and near entertainment and recreational places etc.

5.6.14 Parking Norms Reconsideration

Parking Norms need to be reconsidered as parking demand does not match with statutory CGDCR-2017. The provision of CGDCR-2017 depends on total built up area irrespective of actual demand. Development control regulations are limited to percentage of parking requirements which is rigid and they don’t change with demand/development. It is also limited to the premises to be developed. Parking demand should be reflected in Parking standards. Such standards should be in accordance with Government’s applicable regulations/directives.

These standards may be modified in the following manner:

- Lowering parking standards progressively, as a long term measure to reduce demand of parking space in future.
- Reducing the parking requirements near mass transit corridor.

Till the ownership is limited to requirement, it may remain a necessity but the ownership of multiple cars is broadly a luxury which needs to be discouraged and the next step for that purpose is to tax progressively upwards for the second, third and fourth car.

In prevailing CGDCR-2017 For Building units abutting on the BRTS/MRT route with Commercial (Mercantile-1) use, the minimum parking requirement have been reduced to 35% of Total Utilized FSI as compared to minimum parking requirement in other land use zones.

5.6.15 Reducing carbon footprint by promoting Electric Vehicles

As per The Gujarat State Electric Vehicle Policy -2021, Gujarat has the highest adoption of battery operated two wheelers in the country. The shift to electric vehicles is being driven by a need to reduce air pollution, reduction in India's oil import bill and to increase energy security of the country. Complementary to the State's E-Vehicle Policy AMC may think of encouraging owners of Electric vehicles by exempting them from paying parking charges at notified parking locations for the period of three years from the date on which a final parking policy comes in to effect.

5.6.16 Revision of Parking Policy

AMC/Traffic and Parking Cell (T&PC) may revise the parking policy as may be required or at least once in ten years from the date on which a final parking policy comes in to effect.

REFERENCES

1. Integrated Mobility Plan for Greater Ahmedabad region, Horizon year 2031.
2. Comprehensive Development Plan 2021 of AUDA.
3. Comprehensive General Development Control Regulations-2017 (UD and UHD Gandhinagar)
4. Guidelines for Parking facilities in urban areas – IRC:SP:12-2015
5. National Urban Transport Policy (NUTP)-2014
6. Surat Parking Policy.
7. Bangalore Parking Policy.
8. Public Parking Policy-2016, PUNE Municipal Corporation
9. The Gujarat Provincial Municipal Corporations Act, 1949
10. Consultation with The Gujarat Institute Of Civil Engineers and Architects. (GICEA)

ANNEXURE.1: PARKING REQUIREMENT AS PER CGDCR-2017

No.	Type of Use	Minimum Parking Required	Visitor's Parking (% of required parking)
(1)	(2)	(3)	(4)
1	Dwelling-1, Dwelling-2	<ul style="list-style-type: none"> • 1 car parking - for more than 100 sq.mts and up to 300 sq.mts of plinth area per unit. Additional 1 car parking for every 100.00 sq.mts or part thereof of plinth area per unit. • This shall be permitted within the marginal space. 	Nil
	Dwelling-3	20% of Total Utilized FSI	10%
2	Mixed Use (Residential + Commercial), Mercantile, Religious, Hospitality, Transport	<ul style="list-style-type: none"> • Dwelling-1,2 or 3, as the case may be. • For other uses % of utilized F.S.I. 30% if building unit up to 750 sq.mts. 40% if building unit above 750 to 2000 sq. mts. 50% if building unit more than 2000 sq.mts. 	Residential 10% and Commercial 20%
3	Assembly-1,2&3	50% of Total Utilized FSI	20% of the required parking
	Assembly-4	50% of Building-unit Area	
	Assembly-Stadium 1	1.25 sq. mts of parking area per person of the Total stadium capacity	
4	Institutional Buildings, Public-Institutional Buildings	<ul style="list-style-type: none"> • 50% of Total Utilized FSI • For Hospitals and nursing homes, additional parking of Ambulance shall be provided at the ground level. 	20%
5	Industrial-1,2,3&4; Storage,	10% of the Total Utilized FSI	Nil
6	Educational	<p>a. Primary & Pre-schools- 25% of the Total Utilized FSI</p> <p>b. Secondary & Higher Secondary Schools - 40% of the Total Utilized FSI</p> <p>c. Colleges and coaching classes -40% of the Total Utilized FSI,</p> <p>d. Facility for drop-off and pick-up shall be provided within the premise.</p>	10%
7	Sports & Leisure	25% of Building-unit Area	10%
8	Recreation	10% of Building-unit Area	10%
Note:-50% of the visitor parking shall be provided at ground level.			

ANNEXURE.2: SAMPLE TRAFFIC SURVEY

Table contains data of Traffic volume count survey conducted by AMC in October 2018 showing “DAILY TRAFFIC COMPOSITION AT JUNCTIONS PER HOUR” of 50 intersection of city.

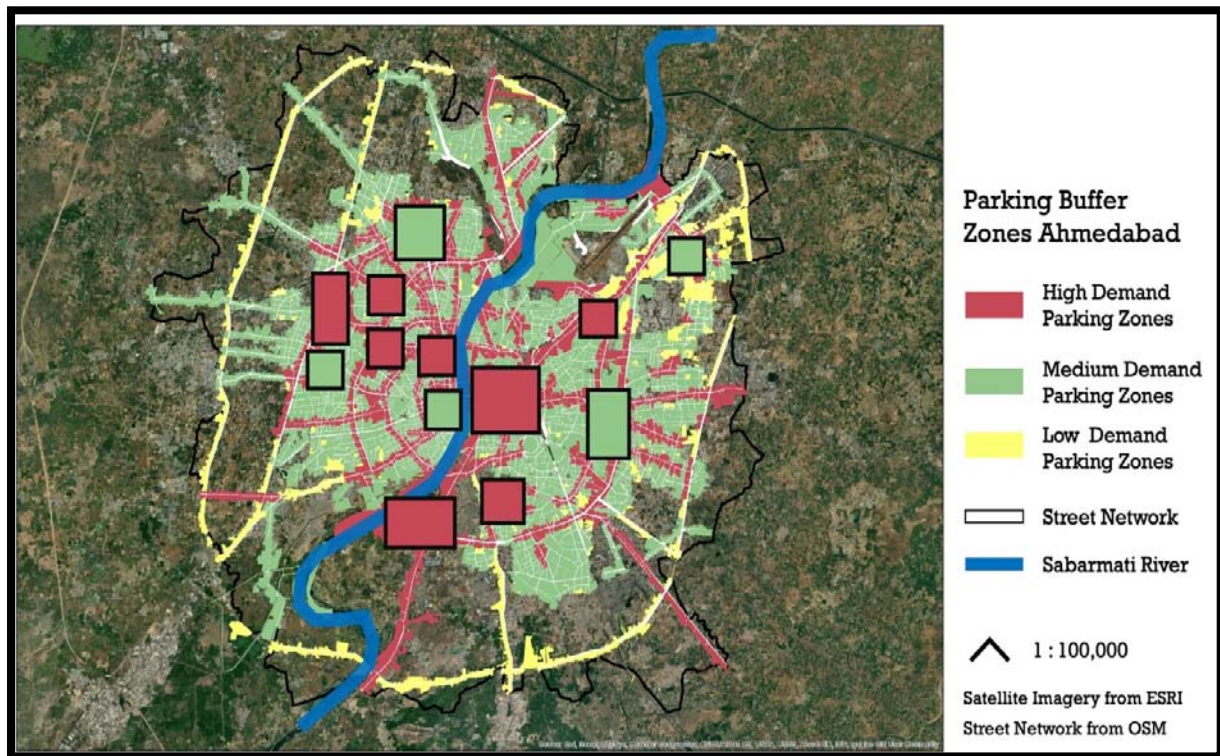
SN	Intersection	Fast Passenger			IPT / Bus			Pass Fast total	Goods Fast	Slow
		Car	2-WH	Total	Auto	Bus	Total			
1	Wadej	28.69	41.04	69.73	18.73	3.69	22.42	92.15	4.12	3.73
2	Delite	20.95	53.36	74.31	17.39	3.06	20.44	94.75	3.09	2.16
3	Town Hall	20.30	40.31	60.61	30.48	2.81	33.28	93.89	3.94	2.17
4	Mahalaxmi Char Rasta	15.77	52.53	68.29	24.72	2.78	27.50	95.80	2.48	1.73
5	Kamavati Club	48.51	33.33	81.84	10.42	1.68	12.10	93.95	5.48	0.58
6	Iscon	38.02	45.78	83.80	10.38	2.42	12.80	96.60	1.86	1.54
7	Pakwan	38.59	44.96	83.55	10.16	0.70	10.86	94.41	3.94	1.65
8	Galaxy	25.58	42.71	68.29	20.78	1.56	22.34	90.63	6.34	3.03
9	Naroda Patiya	17.09	43.93	61.01	28.23	2.14	30.37	91.39	5.90	2.72
10	Soni ni Chali	18.88	45.44	64.32	22.62	0.86	23.48	87.80	10.73	1.48
11	Express Highway	40.16	28.96	69.12	18.48	3.19	21.67	90.79	7.23	1.98
12	Jasoda Chowk	24.97	40.87	65.84	20.74	2.14	22.88	88.72	8.02	3.26
13	Ghodasar	19.56	50.41	69.97	20.48	1.44	21.91	91.88	5.71	2.41
14	Isanpur	17.55	45.65	63.21	26.90	1.45	28.35	91.55	5.63	2.82
15	Victoria	13.38	57.89	71.27	23.30	0.88	24.17	95.44	2.66	1.89
16	Railkhad	11.16	52.90	64.06	27.94	0.91	28.85	92.91	3.64	3.45
17	Khamasa	12.72	51.03	63.75	28.36	1.10	29.46	93.21	2.92	3.87
18	Gollimda	12.59	50.14	62.73	29.38	1.08	30.46	93.19	2.86	3.95
19	Astodiya Darwaja	11.97	51.81	63.78	28.70	3.38	32.08	95.87	2.08	2.05
20	Bhoot Ni Ambli	11.77	52.91	64.68	24.11	4.92	29.03	93.71	3.07	3.22
21	Raipur Darwaja	10.65	58.51	69.16	22.10	2.44	24.53	93.69	3.05	3.25
22	Kagdapith Chowk	15.26	49.33	64.59	24.26	2.47	26.73	91.32	6.20	2.48
23	Sarangpur	13.31	49.36	62.67	23.73	4.76	28.49	91.16	4.65	4.19
24	Kalupur Railway Station	22.75	35.17	57.92	25.74	3.50	29.25	87.17	7.59	5.24
25	Kalupur Circle	19.89	43.78	63.67	26.85	3.84	30.68	94.36	3.63	2.01
26	Chamunda Bridge	11.72	48.61	60.33	24.48	1.93	26.41	86.74	9.54	3.73
27	Memco	16.97	43.41	60.38	25.55	1.53	27.08	87.46	7.87	4.67
28	Sattadhar Char Rasta	20.58	58.92	79.50	13.28	1.08	14.36	93.86	3.18	2.96
29	Usmanpura	22.19	50.70	72.89	20.36	2.17	22.53	95.42	2.41	2.16
30	Nehru Bridge	16.25	56.42	72.68	20.07	2.25	22.33	95.00	3.17	1.82
31	Paldi Chowk	16.45	47.72	64.18	27.08	3.99	31.07	95.24	2.62	2.13
32	Krishna Nagar	16.04	48.67	64.71	24.98	1.37	26.35	91.06	6.42	2.53
33	Vijay Park	18.27	47.61	65.88	22.82	1.67	24.48	90.36	7.58	2.06
34	Bajarang Ashram	17.08	47.51	64.59	22.65	1.61	24.26	88.84	8.03	3.13
35	Thakkamagar	16.87	47.45	64.32	23.56	1.24	24.80	89.12	7.65	3.22
36	Stadium	16.25	64.75	81.00	15.85	0.10	15.95	96.95	1.19	1.86
37	Ramrajya Nagar	13.96	54.44	68.40	16.93	1.40	18.33	86.73	8.85	4.42
38	Jogeshwari	17.78	46.62	64.40	17.29	2.55	19.84	84.24	12.03	3.72
39	Manekbag Char Rasta	25.63	46.17	71.80	17.69	1.70	19.39	91.19	6.52	2.29
40	Dhal ni pole	17.11	47.13	64.24	25.34	1.17	26.51	90.75	3.79	5.46
41	Naroda Fire Station	10.19	51.64	61.83	22.95	1.85	24.80	86.63	10.11	3.26
42	Naroda Urban Health Care Center	10.80	48.11	58.91	24.75	2.11	26.86	85.76	10.37	3.87
43	Ashok Mill	9.36	48.32	57.69	23.75	1.88	25.62	83.31	9.96	6.73
44	Naroda Fruit Market	10.43	50.73	61.15	21.73	1.93	23.65	84.81	12.28	2.92
45	Parimal	22.52	57.94	80.46	15.20	0.96	16.16	96.62	1.76	1.62
46	Panchvati	27.77	53.39	81.16	14.78	0.54	15.32	96.49	2.13	1.39
47	AEC	24.76	53.03	77.79	14.01	2.35	16.36	94.15	4.03	1.82
48	Shivranjani	25.63	51.03	76.66	14.87	2.52	17.40	94.05	4.07	1.88
49	Shyamal	29.63	47.11	76.73	17.13	0.66	17.79	94.52	3.99	1.49
50	Swastik	21.98	56.18	78.15	15.58	1.15	16.74	94.89	3.07	2.04

(Source – Traffic volume count survey conducted by AMC in October 2018)

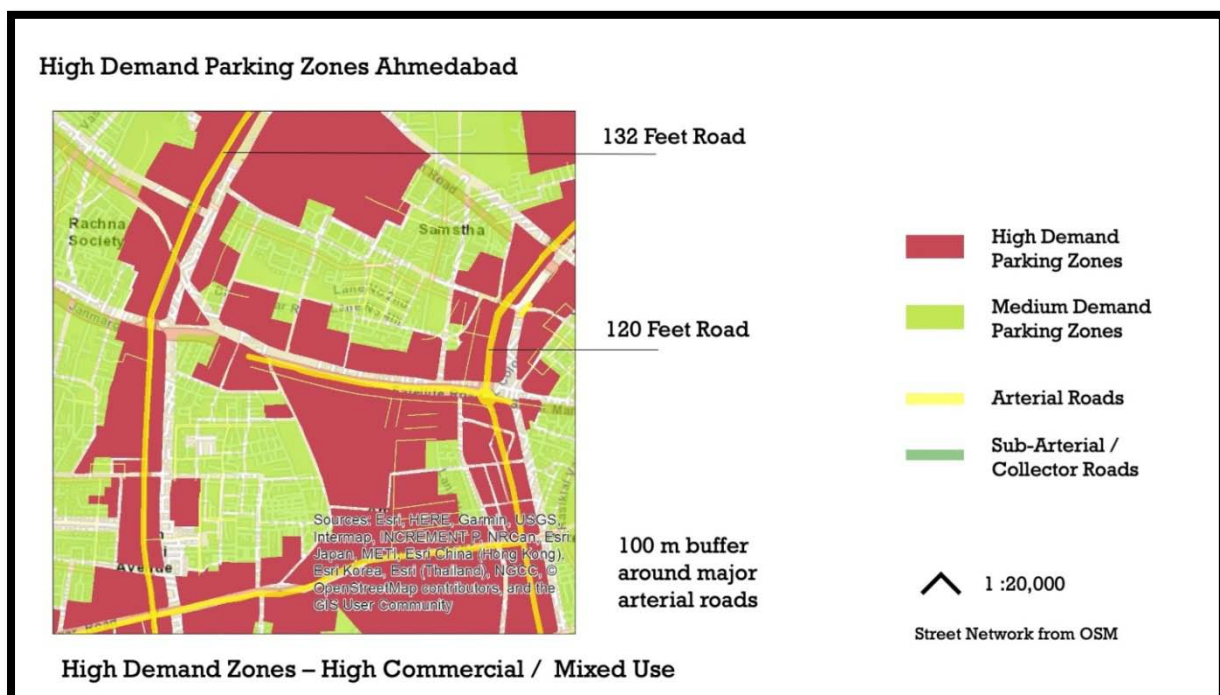
ANNEXURE.3: LIST OF TABLES AND FIGURES

- Table-1.1 Activity Status in percentage of total population
- Table-1.2 Trip Characteristics
- Table-1.3 Composition of Vehicles in Ahmedabad (1981-2021)
- Table-1.4 Multilevel Parking projects being undertaken by A.M.C and SRFDCL
- Figure-1.1 Population Growth Forecast for Ahmedabad.
- Figure-1.2 Decadal Growth in the number of vehicles in Ahmedabad city.
- Figure-1.3 No. of vehicles towed.
- Figure-1.4 Fine collected.
- Figure-1.5 AMTS Network Coverage Map
- Figure-1.6 BRTS Network Coverage Map
- Figure- 1.7 Gujarat Metro Rail Corporation- GMRC Ltd
- Figure-1.8 Proposed multilevel parking project at Riverfront, Ahmedabad
- Figure-1.9 Existing parking facilities in Ahmedabad
- Figure-1.10 Existing Multilevel parking facilities in Ahmedabad
- Figure-5.1 Sample Map of Ahmedabad showing the demarcated parking zones along the street network
- Figure-5.2 Smart parking solution (AMDAPARK)

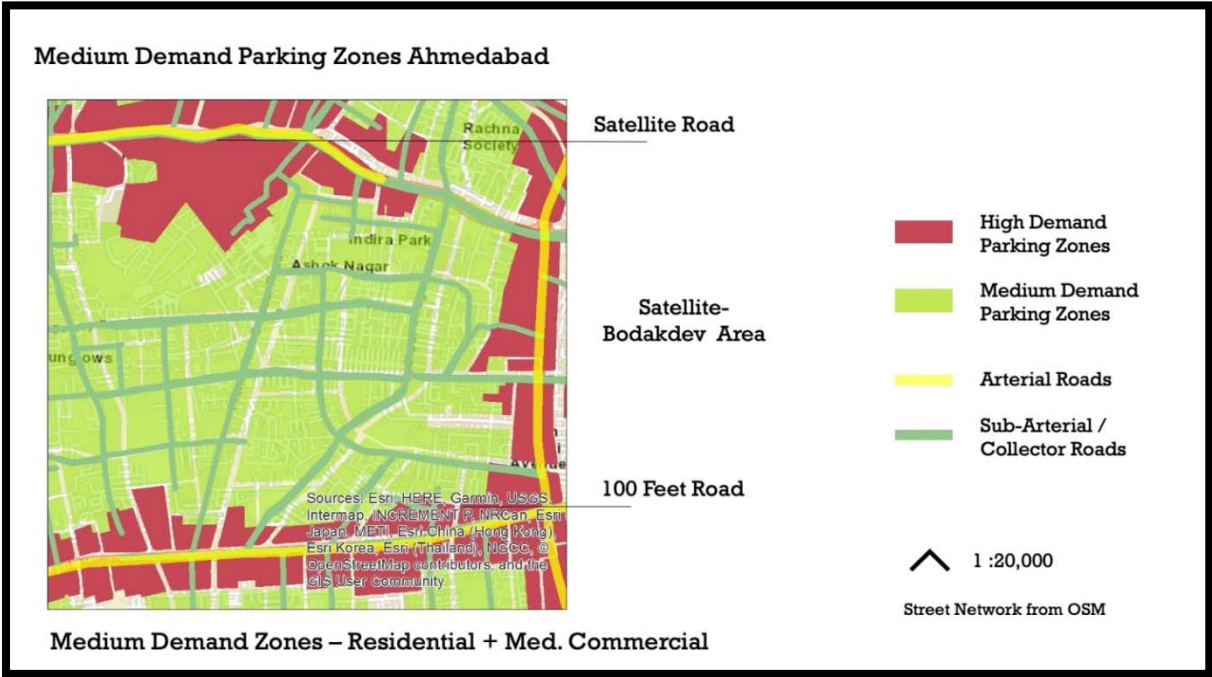
ANNEXURE.4: SAMPLE ZONING MAPS



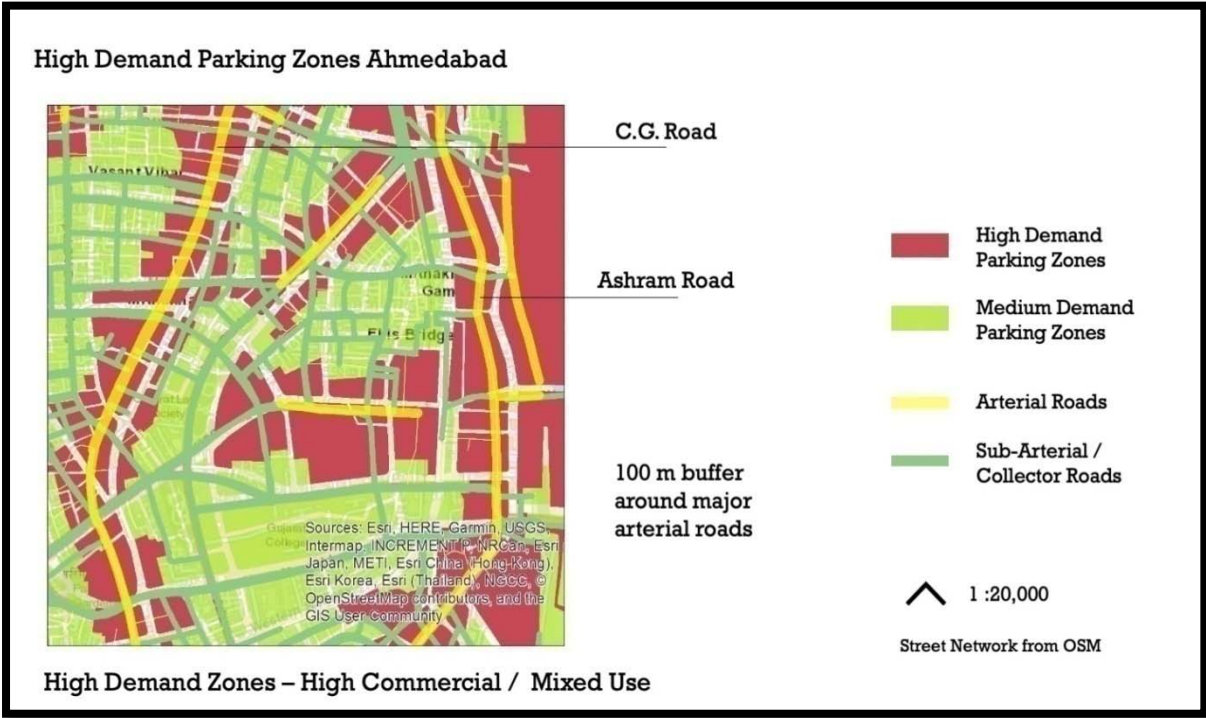
The squares were considered as high and medium demand zones. (Map is indicative³)



Ashram Road and CG Road were considered as high-demand parking zones. (Map is indicative³)



Medium Demand zones between two major arterial roads. The area in consideration here is Satellite-Bodakdev Area, a prime residential and medium commercial zone. (Map is indicative³)



High Demand zones between around major roads. The area in consideration here is C.G Road Area and Ashram Road. (Map is indicative³)

³ Indicative Maps provided by GICEA