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WHAT SHOULD MY CITY HAVE?

A DREAM CITY OF METROPOLITANS

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Abstract:

Metropolitan city of India grown up at satisfactory level also we call more than satisfactory level. These cities are catering money-work requirements of India's more than 10 cr people. More than 2.5 cr families are living happy life in these cities due to higher and faster development of metropolitan city since 3 decades.

These cities are completing dreams of hard working people. Also these people are playing major role in developing cities.

Still there is need to make improvements in these cities to cater their dreams more, to give better life to families living in metropolitan cities.

Still people have planning issues, problems in various cities' spaces and they are feeling very dense, congestive and rush around self. So people feel mental harassment and causes mental health problems in short age.

Also due to congestion the environmental problems effecting in life span of everyone. Health problems also decrease efficiency to work so it will have negative effect on development of metropolitan cities.

I. INTRODUCTION

Growing metropolitan cities are veins of India. Millions of people struggling to make a city best in terms of economy and development but there are some issues those can decrease or affect in development of city. It can be solved by planning in appropriate matter with many smaller changes and some of major change.

A major issue in Indian metropolitan cities is density. All we know that population is one of the major problem of India's every state and city. So density increases with population. Density reduces the quality of life due to lack of facilities or lack of affordability of facilities.

Another issue in metropolitan city is fresh air for breath. This is the biggest problem are facing people of metropolitan city or going to face in nearby future. We can call it as environmental issue or we can say it pollution strongly, these pollution may be water pollution, air pollution, noise pollution or pollution of breathable air.

Density issue also causes traffic that is biggest issue of every city of India. Traffic issue effects on work efficiency of people, environment and life span of people.

Also a good planner should think about mental health of people. It can be improve by solving many smaller issues in a city that affects psychologically more on people.

II. APPROACHES AND METHODOLOGY

Understand nature of cities that are capable to involve transit between its area and population.

Understand the culture, internal interaction and beliefs of city's people.

Analyze the condition before transit and image the condition after transit. Assume difference between two conditions; imagine

How spaces will have difference in their construction and planning. See what will be the effect of spaces on people.

Search about issues in current urban settlement from major roads to streets; create options to make a solution with applicable manner.

Identify best applicable solution for each problem with respect to context and city's identity.

Make SWOT analysis of a city's urban planning and try to strengthen weak points, make opportunities in to real and remove threats by appropriate planning.

III. OBJECTIVES OF THE STUDY

To understand the nature of City and beliefs of people for their need

To study changes surrounding it after movement of transit

To solve the traffic issues in Indian city.

To look up inferences in housing demand and supply, infrastructure demand and supply, effects on green spaces, pedestrian streets, building front margins, transit linkages, public parking (on and off-street), and important transit routes.

IV. ACTIVITIES DURING A DAY IN METROPOLITAN CITIES

4.1 Major Activities in Metropolitan Cities in Morning.

Sports/exercise related activities at early morning on public roads.

Every morning approx. at 07:00 to 10:00 am rail pass on rack.

People use parks & gardens at 6 am to 8 pm for meditation, yoga, and jogging

State level bus service and city bus service or BRTS bus stand so its use throughout the day for inter state and city passengers.

Juice and food market use

Sports club & exercise related activities

Hawker on the street of fruits/juice

It's also one of the major active area vendor is informal market.

4.2 Major Activities in Metropolitan Cities in Office Hours.

Going to work place

Parents keep their children to drop schools via safe ways.

Government work activities, paper/legal work activities surround governments' offices and high court.
Teenage rush for go to school.

There are many retailer shops and offices, lunch time activities in metropolitan cities.

City bus stop / BRTS bus stop and students gathering in it.

State level bus stop and passenger flow.

Auto service rush

River front / park activities for travellers and tourists (if applicable)

Cross roads tea stoles and hawkers.

Shopping activates at show rooms, malls, jewelers shops.

Heavy vehicle movement surrounds bypass roads or roads connecting to manufacturing unit/ industry/ refinery/ factory.

4.3 Major Activities in Metropolitan Cities after Office Hours during Night.

People seating outside their offices/ home/society/living area or in common plot/garden of their living areas for relaxation.

Shopping activates at show rooms, malls, cloth/fashion shops.

Playing in public spaces or in common plot/ sport complexes of their living areas, Talking - gossips.

V. TRAFFIC IN METROPOLITAN CITIES

Traffic is biggest matter in any metropolitan city and so for to make a better city it is very important to identify and understand traffic and road issues in current situation.

Activities cause traffic. More activities more traffic. It is traffic is evidence of metropolitan city.

Here is an example to see hierarchy of roads, traffic and speed of Ahmedabad metropolitan city. The question is why Ahmedabad for example? Here is the reason why Ahmedabad is best to explain.

Ahmedabad is the best megacity to live in, when compared to India's other megacities - as per market research firm "Indian Market Research Bureau" (IMRB) In December 2011.

In 2010, Ahmedabad ranked 3rd in fastest growing cities of the decade as per report of Forbes. In 2012, Ahmedabad's estimated gross domestic product was \$68 billion.

Ahmedabad has grown by 950,155 since 2015, which represents a 2.54% annual change; the urban poverty rate has declined from 28% in 1993–1994 to 10% in 2011–2012.

Ahmedabad has the lowest crime rate of the 35 Indian cities with a population of more than one million due to its urban planning.

Rather than area, a city has huge industrial experience since British era with thousands of employment, high economy, better development, increased density due to higher rate of employment in a city.

Ahmedabad is rapidly growing city of India.

100 cities as smart city include Ahmedabad under flagship Smart Cities Mission, India, India's 1st worlds heritage city is Ahmedabad.

At present Ahmedabad is best city to live in Gujarat due to transportation, medical facilities, living standards, affordable housing and other infrastructure.

Here, traffic categorized in 4 conditions that is high traffic volume, higher medium traffic volume, medium traffic volume & low traffic volume. higher traffic volume seen in major junctions, higher medium traffic volume seen in junctions surroundings major nodes, medium traffic volume seen in internal roads near by major and arbitrary nodes and low traffic volume seen in residential areas or areas that are very far to major junctions.

It is very noticeable management of traffic that is low accident rate seen in metropolitan cities. It is very positive to people of metropolitan city.

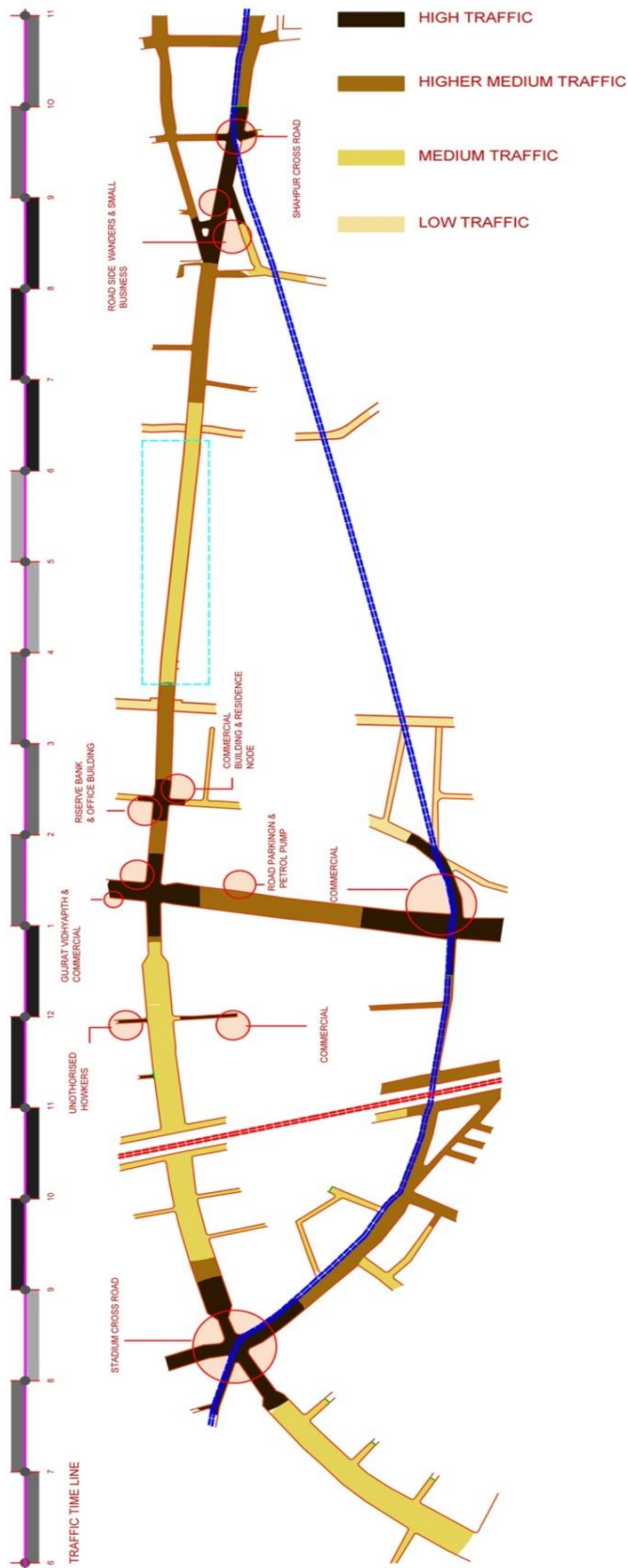


fig-5.1 showing roads and junctions of a metropolitan city and categorized traffic.

It is very important to analyze important roads and speed in peak hours on that

Table: 5.1 important roads of Ahmedabad

Sr. no:	Road	Speed in peak hour (km/hr)
1	Airport road	24
2	Naroda road	20
3	Thaltej road	18
4	Sarkhej road	18
5	University road	16
6	Manav mandir road	16
7	Drive in cinema road	16
8	IIM road	16
9	Vastrapur road	16
10	Odhav road	16
11	Amraivadi road	16
12	Gurukul road	16
13	CG road	16
14	Satellite road	15
15	Ankur road	14
16	Sola road	14
17	Ghatlodia road	14
18	Rakhial road	13
19	Ashram road	12.5
20	Gomtipur road	12
21	Civil road	12
22	Kalupur road	10
23	Gandhi road	10
24	Relief road	9.5

Here we can see that most trafficable road width is wider than other roads. Airport roads are very busy for 24 hours and impression of any city so it is planned as a wider compare to other roads and the beauty of roads are well developed due to VIPs and VVIPs' circulation on it.

Then comes road with maximum traffic of manufacturing/factory/refinery units, Naroda road is like that so width of these types of roads kept lower than main major road.

Then comes road with maximum traffic of offices, Thaltej and sarkhej road is like that. It is a road with maximum vehicle pass on during office hours and food-eateries at night.

Then university road comes. Every metropolitan city have university road or college road that is crowded with student rush during college hours. These type of roads are kept smaller than office rush roads.

Then comes road with maximum residential traffic. These roads are kept similar to university road / College road

CG road is a type of road that is established earlier and developed more than expected with safe environment. So traffic is slightly more comparing to other roads. This road is managing both- commercial and residential traffic.

Satellite road, ankur road, sola road, ghatlodia road and rakhial road were established many years ago when after development started of Ahmedabad after independence of India and developed very well with safe environments like CG road so traffic rests on these roads for both (Residential, small commercial and eateries). So width is smaller compare to these types of other roads but these roads are very busy.

Ashram road is most important road of Ahmedabad since many years. It was the first road established at other side of river after 1892. So width is not so wider but it developed more because of longer time span after establishment. The old famous buildings, bhavans, all India radio centers, RBI office, Income tax office, Old High court are situated here and it is also a notable reason to have a traffic on it.

Gomtipur road, civil road, kalupur road, Gandhi road, relief road are the road that were established when Ahmedabad had only one side development before independence. So as per requirement and due to very low use of car, low population of India, a width kept smaller so traffic is heavy in these roads. Kalupur has most heavily traffic due to residential, commercial, govt. offices, workshop traffic and smaller width also. This road is famous and it is another reason to have very high traffic of Ahmedabad city.

So the conclusion is, hierarchy of road width depends on it importance, traffic passes on it, which type of traffic will pass on it and busyness of road.

In every metropolitan cities main junctions surrounding transit has a higher traffic volume due to mixing of private taxis, rikshaws and other private transportation tools and internal roads just far to the main junctions has low traffic volume due to dividation of vehicles of private transporters, private vehicles and public transports. Arbitraries roads have less traffic compare to other roads.

VI. ROAD ISSUES THAT EVERY METROPOLITAN CITY PEOPLE ARE FACING.



fig-6.1 parking in driving spaces

Almost car user parks their car as they like easy but what about other users of road? This type of parking causes traffic due to parking in driving spaces and by decreasing road spaces.



fig-6.2 high plinth of parking

Poor quality of road design or poor quality of supervision creates space unusable. Cars can't ride higher plinth so people tends to park their cars on a road or footpath space. So people will tend to walk on driving spaces and it will cause safety issues for pedestrians.



fig-6.3 parking in bus stops

Car users parks their car in BRTS bus stop / city bus stops so BRTS / city buses have to park on driving road spaces also creates traffic.



fig-6.4 spill over spaces by shops

This is like national issue. Every shop owners aquires the public or footpath area. This is one type of encroachment . So people will have to walk on road for shopping and other activities.
Barbar shops, garages, cloth shops are creating these type of encroachment .



fig-6.5 vendors acquires space of road

Vendors acquires space of road due to that people of the city lack parking, footpath, and buffer space necessary as primary facilities on the road.
Eateries, street food stalls and tea – snack stalls are creating this type of encroachment.



fig-6.6 stalls uses walking space.

Stalls like cutlery, watch, small electric items uses walking or footpath space so pedestrians are facing disturbance in continuous walking.

VII. SWOT ANALYSIS**7.1 Strength**

Every metropolitan city has central business district in the city that calls heart of a city.

Good central district area is respect to every metropolitan city.

Many activities happens on metropolitan city's major roads like educational, commercial & govt. Offices, entertainment and residential.

Many of areas are acts as mix use like commercial and residential. Wooden cutting, steel work, plastic recycling, clay items like pots, dying and smaller manufacturing units are very important business for labors and also it is important economical part of city.

If a metropolitan city has a riverfront then it is one of the best urban spaces in the city.

Highly residential area in a metropolitan city reflects the safety of an area.

Entertainment, multi - use space and panorama are identity of a metropolitan city. River front includes panorama, entertainment and multi-use space.

7.2 Weakness

Availability of the parking space in many areas

Lack of open space near many transit area and old core city

Slum areas issue in some areas.

Heavy traffic zones

Spill over spaces by shops

Small and old building structures in core areas.

Problem of traffic management

Narrow and incomplete street network

No space for bicycle riders

Eateries on footpath

Illegal vendors on roads increasing traffic congestion

Low FSI limits.

7.3 Opportunities

Higher intensity of infrastructure

Land value increases

Higher FSI limits

Improved connectivity and wider roads

New links and patterns

Panorama [river and city]

Propose central business hub in a smart way.

Quality of life of citizens improve

Opening up the green in urban fabric

Redevelopment of old structure

Space for vendors and hawkers

7.4 Threats

- Floods in riverfront and old core city areas
- Bad management of waste and garbage
- Improper space for medical waste disposal

VIII. WHAT SHOULD MY CITY HAVE...?

8.1. Smart Growth (Density, Design, Diversity)

Compact and fillable development, mixed land use, good sidewalk and road connections, improved walkability, urban village, diversity in transportation, efficient parking management, attractive public space, viewing points near transit, traffic restrictions and speed control.

8.2. Improved Services

Improved transportation options, such as improved walking, cycling and transit service,

It will reduce traffic speeds and volumes, making the area more safe and livable.

Improved street conditions lead to increased property values in the local area.

8.3. Increased Use Of Alternate Modes

Alt-mode is becoming more popular. There are different ways to do things. The benefits of economic development include increased access to education and employment,

It can improve the quality of life for users.

The public has become more physically fit and healthy thanks to initiatives undertaken by the government.

8.4. Reduced Automobile Travel

Reducing traffic and parking congestion will save both- money on road and parking costs.

The consumer is reducing their cash risk to others by doing something that costs them less.

Reducing air and noise pollution could have significant benefits for public health.

Conserving energy is essential for maintaining efficiency and prolonging equipment life and economic development is good for the country as a whole.

8.5. Walking, cycling and public transport tend to be the most sustainable due to their affordability and resource efficiency.

Transportation passengers need much less road space than moving a car a bus lane that carries 24 buses or more during peak hours carries more people than a general traffic lane.

Giving buses a higher priority in traffic can be more efficient and fair, since they are typically less congested than other vehicles.

8.5.1 Services need for various modes

Walking: The quality of the sidewalk/path, the conditions during street crossings, the use of the land, and security are all important factors when choosing a walking route

Cycling: trail quality, parking conditions, street riding conditions, safety

8.6. Ride Sharing And Public Transport

Find matching opportunities, high occupancy vehicle (HOV) priority public transit has a variety of services, frequencies, speeds, and waiting areas, while automobiles have speed and congestion delay.

8.7. Automobile

Ride sharing and automobile both offer user information, price, security, and convenience, but public transit is seen as having a higher prestige.

8.8. Telework

Employers are generally supportive of telecommuting, as long as employees have access to the internet.

8.9. Compact Development

To avoid overloading infrastructure, ensure that incentives are used judiciously and extend their benefits to areas with potential for growth.

Density goes from high (near transit) to low (far to transit).

8.10. Meet Market Demand for residential and commercial compact development and only give required space to all developments because in India, land is more valuable than money.

8.11. Street Design And Access To All Streets:

The city is working to improve the quality of streets and public spaces, as well as strengthen proposals for The safe access proposals

Providing kiosk, signage entertainment activities for both side of channel...

8.12. Area Character

Protect the existing character of the neighborhood.

Ensure a mixed income bracket for housing; reduce conflicts between auto-oriented and pedestrian-friendly uses and activities.

8.13. Number Of People Per LAN Equivalent

Number of people crossing large urban space in a hour. A large space of 35 mt. in an urban area for one hour

8.14. Parking

The idea is to make parking more sensitive to market traffic signals and street life.

Each site requires its own parking lot upon request of development authority. Park standards are only 10% lower than normal for commercial land use.

Free parking must be available within 500mt from the subway station/BRTS/city bus network, around transit. Adjust prices more appropriately according to demand.

Best way is on-street parking in TOD zone otherwise off-street parking.

Park & ride system- park your auto mobiles and transfer to a bus, rail system. Cycle facility should available in park & ride system.

8.14.1 Shared parking

Utilize underground space or residential basement parking space as a paid commercial / transit parking.

Make a single basement as essential parking (bicycles, people with disabilities, loading/unloading)

8.14.2 Minimum essential parking

Residential: 15% of max FSI

Commercial: 30% of max FSI

Institutional: 30% of max FSI

IX. ALSO CITY WILL NEED.

Clean comfort (seat, temperature, quiet).

Convenience (real-time user information, easy payment)

Accessibility (sidewalk, bicycle parking, nearby house, work, nearby store)

Service (refreshment, magazine, etc...)

X. A VISION - HOW WILL BE MY DREAM METROPOLITAN CITY.

My city will have provision of suitable commercial and residential housing types, plus new moral standards with higher densities and mix use. Well integrated with public transport and with a well-designed, compact, and connected socioeconomic vision- the city will must improve its offer and invest more in its people and cultural assets. It will invest in the city's public domain and movement infrastructure in the coming decades.

My city will have all facilities in near to transit to keep it in public approach.

All facilities will be well connected to TOD/ major roads / arbitrary roads / streets to connect public from door to their destination.

All infrastructures will be in walk able distance of 15 minutes. 15 minutes is a distance that a person can easily walk without any rest.

After 15 minutes walking any person will be able to catch private vehicle like rikshow, after that they will be able to catch BRTS/ city bus after that they will be able to catch metro to reach to their destination.

As walkability encourages social interaction and involvement of various layers of society, new sub divisions will be added as an extension, resulting in a walk able mixed-use neighborhood with strong identity and destinations within walking distances.

Higher institutional buildings to increase values of city than present

Hierarchical skyline to create better image of growth of buildings, density & FSI

Buildings near riverfront will be like it welcoming fresh air flow in buildings to get better environment in inner side of each building.

Higher development will be there near transit to limit price of house / shops and to increase affordability to all class of people in a city.

It will support hierarchy.

Lower density will be there far to transit to support hierarchy and to create better skyline.

Proposing a hierarchical development; height gradients from transit station to far. Proposing grid planning, Most of the streets will meet at right angles. Institutional buildings will take view of metro bridge.

The interchange circle will be the point of attraction for the major road travellers, pedestrian bridge walkers, the passengers of transit, people in mixed use buildings & surrounding buildings.

Planning will have Increase of green chunks and green area to increase oxygen level in air of a city, people will have less polluted air.

Greenery in driveways will increase beauty of ways as well as it will divide spaces for users, it will also increase safety of pedestrians, cycle users & shoppers. Greenery in drive ways will distinguish parking space from drive way also.

Maximum solar access will be there for natural presence of light in a day in streets.

Minimum distance will be analyzed and will be kept between towers of streets to maintain natural light.

Buildings and also streets will be oriented to north to allow natural light to all connecting home.

Minimum 12mt distance will be kept for maximum solar access.

Maximum dimension of a tower will be 30mt x 30mt to maintain distance between towers in span.

Round the clock active streets will be there with help of mixed use to make street 18 hours active and minimum 50% frontage as active all time.

Orientation of buildings and chunk will allow air circulation in building and fresh air will be by planting trees around chunks.

Requirement of open spaces and greenery will be full filled by open spaces between buildings and chunks.

Services like electrical cables, fiber/optical cables, internet line, water supply line, drainage line, street light electric light, gas pipeline will be below ground level to maintain image of a city.

XI. URBAN LIFE WILL BE.

Safe to all including children

Environmentally responsive

Sustainable approach

Healthy environment

Attractive places