

Rapid Transit System in narrow lanes: A case study of Relief Road, Ahmedabad

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Abstract: Relief Road is in the heart of old city of Ahmedabad since the road is situated in Central Business District of the city. It is likely to have more inflow of traffic. Relief Road connects KALUPUR RAILWAY STATION with BHADRA approach, so peak hour traffic congestion is normal. The walled city is the worst traffic-hit area due to narrow roads and congested lanes. On Relief Road, the main issue is on-the-road parking. Lack of traffic signals, traffic personnel and traffic inflow which gives more problems than the narrower roads can offer. The adjacent area of Relief Road consist of traditional “POL Houses”. In Ancient time Relief Road was the only destination for shopping and business work, hence more population settled along this road. This paper throws light on current problems as well as possible solution for better connectivity using some reliable transit system.

IndexTerms – Peak hour, Traffic, Narrow by-lanes, Congestion

I. INTRODUCTION

The road from Teen Darwaja (Three Gates), Pankor Naka upto Panch Kuva Darwaja was known as Reed Road. But it was popularly known as Richie Road among the common people. It was renamed as Gandhi Road during, the freedom movement. The Present Relief Road starting from Electricity House up to Manilal-Mansion was opened as Tilak road in 1921. The walled city area on an average day witness's more than 50,000 vehicles. The commercial development in Ahmedabad is mostly along the major roads and junctions. Such developments have most of the time not accounted for parking facilities.



Fig.1 Relief Road in Past



Fig. 2 Congestion during peak hour

II. PRESENT SCENARIO

With Bhadra square off the limits for the vehicles, the traffic for Teen Darwaja and beyond is now permanently being diverted towards Relief Road. During peak hours, the traffic jams often last for more than 20 minutes and with limited staff and increasing number of vehicles, the issue is bound to get aggravated in time to come. Major public parking lots get full as one multi-storey parking has been proposed near Kalupur railway station.

The excessive vehicles get spilled on the roads. Average Speed on Relief Road is 9.5-10.5 Km/hour at Peak Hours. Issues like Archaeological Survey of India (ASI) regulations and guidelines are necessary while stability of old structures in the walled city are necessary to be examined. Lack of adequate parking facilities has resulted in provision of on-street parking which reduces the effective carriage way of roads affecting the travel speed. Conflict between the slow and the fast traffic is another problem. Owing to the narrow road widths, segregation of traffic is not possible.

Parking places are highly inadequate for the high vehicular population in the city. On street parking is observed along the major corridors, in the old city area and the public parking places near the ST Bus stand, commercial centers. Therefore it is necessary to

study the traffic problems in walled city and suggest new alternatives to ease out traffic congestions. Before suggesting any alternative present conditions are to be considered.

In past mode of transportation was generally by walking, cycling or bullock carts for travel purpose and goods movements. Hence width of road did not matter. But in current scenario due to influx of more vehicles traffic congestion is one of the major issue.

III. INITIATIVES TAKEN SO FAR

The traffic cops have proposed an action plan in coordination with AMC to regularize parking and hawking zones. The need is to identify slow moving traffic such as bicycle carriers, handcarts and bullock carts used in market and fast moving traffic of vehicles and make arrangements for both.

In an attempt to ease Ahmedabad's traffic woes, the state government is planning to introduce monorail in the walled city. The work on the prestigious project will begin soon as the Urban Development Department has inked a MoU worth Rs 5,000 crore with L&T to build the network for the rail project. As the walled city doesn't have space for BRTS, Monorail is the best suited for the area. It is the best solution for traffic congestion Also there were talks of a special hydraulic platform with a small gradient that would gradually take a stationary metro train to the tunnel level on Relief Road-Kalupur stretch is also being proposed for this line.

High commercial activity on Relief road and proximity to Lal Darwaza bus station are the major reasons why planners from the state urban development department have desired this change in the route plans. In fact, in the small stretch from the beginning of Relief road towards Kalupur railway station, the metro rail will go underground.

AMC has also proposed to strengthen public transport system on congested roads in the walled city area to encourage people to utilize the public transport system. The civic body has proposed to start feeder route service for better utilization of public transport system by people. Small vehicles with a seating capacity of 20 to 25 should be used regularly on roads where traffic congestion is high. This will provide efficient transportation facilities for people of the area and reduce the number of vehicles on the road in that area apart from reducing the demand for parking.

IV. ALTERNATIVES & SOLUTIONS

Various alternative solutions which can be proposed are as follows:

A. Trams: A tram is an enclosed carriage intended for public transportation, powered by electricity, and designed to run on rails located in the street. Trams are also known as streetcars, trolley cars, or trolleys.

B. Underground railways: When there is limited space available then underground railways are best option but following points are necessary to be considered.

- They are feasible but requires heavy construction including excessive excavation
- High level maintenance is required and huge amount of costing during initial maintenance.
- Since Relief Road is congested, expansion is not possible, hence it can be proposed. Major obstacle faced is in form of archaeology rules and regulations which cannot be ignored.

C. BRTS: In current scenario it seems to be the only alternative but following are some important points which cannot be ignored.

- Broadening of road is required to provide separate lane for BRTS.
- Easy implementation as it has already been used earlier in different parts of Ahmedabad.
- It is effective and takes short time in construction.
- Some variations are required to improve the system as it has not got favorable response in walled city and other eastern regions of Ahmedabad.

D. Monorails: A monorail is a railway in which the track consists of a single rail, typically elevated. The term is also used to describe the beam of the system, or the vehicles traveling on such a beam or track.

- Only one elevated beam is constructed so space requirement is generally less.
- No expansion or widening of road is required in congested roads like Relief Road.
- Soil bearing capacity and underground conditions needs to be examined before carrying out excavation.
- Initial cost of construction is high.
- Proper maintenance is required.



Fig.3 &4 Mono Rail in Mumbai

V. CONCLUSION

Relief Road is one of the busiest as well as congested road of Ahmedabad. It is important to carry out detailed survey before selecting any alternative.

- Further widening of road is not possible hence either Monorails or Trams prove to be the only available option.
- Various alternatives are available hence it is necessary to examine positive and negative impacts of the proposal on the area overall.
- It is important to maximize the use of existing municipal infrastructure.
- Integrate land use, transportation, environmental and financial planning at all levels of government, particularly at the local level.
- Coordination and planning across all municipalities in the area is necessary.

REFERENCES

- [1] Ahmedabad Traffic Management & Information Control Centre, Ministry of Urban Development, November 2016
- [2] Dinesh Mehta, Meera Mehta, Ahmedabad Slum Free City Action Plan, CEPT, 2014
- [3] Shibu Raman, Communities & spatial culture in communally diverse city: Ahmedabad, Oxford Brookes University, UK, 1997
- [4] Shraddha Sejpal, THEORY AND CITY FORM: The Case of Ahmedabad, 1982