

NATIONAL URBAN DEVELOPMENT PROGRAM
DEVELOPMENT OF ROADS IN BAHRUCH

Bharuch is a historic town on the bank of perennial river Narmada. The town is head quarter of an agriculturally dry and relatively backward district of Gujarat.

Bharuch has a strategic location of being on one of the busiest main railway and national highway (NH 8) grid with a industrial sea port facility at Dahej which is @ 50 km away. A number of small to large industries have been established within 20 km vicinity at Ankleshwar, Panoli, Zagadia, Vilayat, Palej and Dahej in addition to Bharuch in the past 30 years.

In spite of the industrialization in the surrounding the town of Bharuch could not develop proportionately because of the developed cities like Vadodara, Surat and Ahmedabad with 70 to 180 km distance. Though the town developed of its own due to the residential housing demands of old town and migration of the people from outside.

The old town is located on and around a hillock on the riverbank with an area of @ 6 square km. The town developed of its own due to the residential housing demands after an earthquake in 1972 and drainage problems of old town and migration of the people from outside. The development was on the north, northwest and east side of the old town. And now the town is over @ 180 sq. km. with population of @ 1.75 lacs.

There is a main Mahatma Gandhi Road from railway station (east) to Mohmedpura on west side up to Jambusar crossing at Dahej road with entries on both sides. The third entry has developed from Panchbatti (center of the town) to Dahej bye pass road at Sharvan School, which is called Link road.

The infrastructure could not develop in proportion to the expansion of the town specially sewerage, storm water drainage and roads. The sewage was collected in bins about 40 years back and then soak pits were built. Due to congestion the soak pits saturated and later septic tanks were included in new housing colonies in plain areas. Due to the black cotton soil these also saturated and local common drains discharging into the nearby natural nala (ravine) have developed. Thus, the town has no sewage system and the sewage is being indirectly thrown into the river.

The natural drains (nala / ravine along the river bank) passing through the town have also been filled up in the development process and now the problem of storm water drainage and sewage disposal is aggravating. There are possibilities of mosquito / flies in permanently wet nallas due to domestic sewage water.

And during the rains the water is not being drained effectively due to choking or inadequate drain sections which floods the roads and sometimes houses locally.

With the above situation and conditions the Bharuch Municipality is trying to cope up the situation in as and where and piecemeal bases as per its resources, which are very scarce. And the demand to supply increases year to year.

With the above facts a brief report of the development on the following is prepared for taking up the infrastructure development with a futuristic approach.

- Roads
- Storm water drainage (With a view of harvesting)
- Sewerage system and treatment plants (With a view of use of treated water)
- Development of water bodies in the city.

ROADS:

The road development is not lacking behind the requirements as the other factors mainly due to the simpler layout and more stress on roads in towns planning.

The present problem on roads side is inadequate road connections, improper road drainage, unorganized traffic and shortage of parking. The town is not so big that the traffic is not segregated, varied (mixed), areas are mixed commercial, residential etc.

Thus, the vehicle traffic need to channelised, segregated and surface drainage is to be developed to keep the roads clear. The roads are dusty / muddy due to lack of pathways and drains.

Proposal:

In order to boost up the existing town planning roads it is proposed to strengthen the main roads structurally, maneuvering and user friendly and aesthetically with road surface, drains, dividers, circles, arboriculture, parking, lighting, signage, signals etc. The major considerations and points are;

- A ROAD sections, surface,, drainage etc.
- B TRAFFICE CIRCLES/ cut outs.
- C PARKING LOTS.

A – Roads: The main roads proposed to be developed are –

Road R1- Main road from railway station to Mohmedpura up to Hahej bye pass road at Jambusar crossing is 4.34 km. The road has the bus station (depot), Panchbatti (Centre of the town), Bombay Hospital, Maketing yard, branches of majority of banks, all cinema theatres, major commercial complexes, petrol pumps, mills, schools, municiple and Jilla panchayat head quarters and private hospitals, hotels etc.

Road R2- Road from Panchbatti towards north Dahejbye pass road and is known as Link road. The third main entry to town is through this road and is 1.70 km. The major features are famous sevashram hospital, schools, commercial complexes, and road is connecting to all the government offices, shaktinath and residential colonies, Matariya Lake etc.

Road R3- Road from Mohmedpura junction to civil lines via Vejalpur where there are police lines, government officers bungalows, old RTO office, schools, ice factory, residential area of old town. Length proposed is 1.20 km.

Road R4- Panchbatti – the center of town is a congested junction. The traffic of old town, traffic crossing the town, traffic connecting the new areas, traffic to railway station and bus depot passes this junction. In order to channelise the traffic from old town and get a parking place about 100 m road is proposed up to millennium market.

Road R5- New road on west side of bus depot connecting the TP road at north about 300m length is proposed in the ash in filled developed ravine to close the entry/exit of buses on the main road (R1) and provide entry on west face on new road which will connect to the main road at a circle. This road connected to TP road will lead directly to the road (R2) to government offices, Shaktinath and link road.

Thus, the loading on main road will be cut at bus depot and the buses will divert to new road instead of disturbing the main road traffic at two points at present.

B – TRAFFIC CIRCLES: The following traffic circles are proposed or to be developed;

As such the main road should have minimum obstructions so as to streamline the traffic and to achieve this traffic circles at cross-junctions or proper signals at important T-junctions are required.

Circle – J1 The main junction is at the railway station from the start of the road. This needs to be developed. The estimated expenditure is Rs. 2.00 lac.

Circle – J2 The junction of new road (R5) on west of bus depot and Rotary Club is proposed to be made. This will cut the load to further on road R1 and regulate the traffic near bus depot. The estimated expenditure is Rs. 10.00 lac.

Junction – J3 The junction of TP road to civil hospital, municipal offices at Shalimar complex need be provided with proper traffic management devices like road markings, signage, signals and if required bumps. The estimated expenditure is Rs. 5.00 lac.

Circle – J4 The circle at Panchbatti need be developed as stated above. The estimated expenditure is Rs. 5.00 lac.

Junction – J5 The junction at Fata talav need be developed as stated above. The estimated expenditure is Rs. 2.00 lac.

Circle – J6 The circle at Mohmedpura can be developed as stated above with estimated expenditure is Rs. 2.00 lac.

Circle – J7 The circle at Shaktinath on road R2 can be developed as stated above with estimated expenditure is Rs. 2.00 lac.

C – PARKING LOTS: The public parking facilities reduce the traffic problems of main roads very effectively. With the growth of vehicular traffic the parking systems have become mandatory in urban planning. The town has no city buses and taxis. Public transport is by 3wheeler auto rickshaws. The majority of private traffic is 2wheeler and some 4wheeler light. The heavy traffic is ST buses only.

The following places are identified and require parking to facilitate the public for commercial stations / visits, shopping, autos for passengers etc for a time of 15 minutes to a day.

Parking – P1 At the railway station near musafir khana on the east of water tank and east of Dadbhai gardens for about 10 4wheelers, 30 3wheelers and 200 2wheelers. The estimated expenditure is Rs. 4.00 lac.

Parking – P2 At the west side of bus stand on new new road R5 at circle J2 for about 20 4wheelers, 20 3wheelers and 50 2wheelers. The estimated expenditure is Rs. 3.00 lac. This will cater the Rotary and Lions clubs and hospitals in the vicinity.

Parking – P3 At the Patel Super Market and Ghee Kudiya for about 30 4wheelers, 2 3wheelers and 50 2wheelers. The estimated expenditure is Rs. 3.50 lac.

Parking – P4 At the Ambadker shopping near Panam Plaza for about 5 4wheelers, 2 3wheelers and 50 2wheelers. The estimated expenditure is Rs. 1.00 lac.

Parking – P5 At the Jawahar Shopping near BMC for about 20 4wheelers, 20 3wheelers and 100 2wheelers. The estimated expenditure is Rs. 3.60 lac.

Parking – P6 At the Panchbatti for about 5 4wheelers, 50 3wheelers and 20 2wheelers. The estimated expenditure is Rs. 1.70 lac.

Parking – P7 Near the Sevashram Hospital opposite Mayuri for about 10 4wheelers, 10 3wheelers and 50 2wheelers. The estimated expenditure is Rs. 1.80 lac.

Parking – P8 At the Neelkanth market opposite BMC Primary School for about 5 4wheelers, 5 3wheelers and 30 2wheelers. The estimated expenditure is Rs. 0.95 lac.

Parking – P9 At the Narmada Channel market for about 5 4wheelers, 5 3wheelers and 20 2wheelers. The estimated expenditure is Rs. 0.85 lac.

Parking – P10 Shaktinath circles J7 for about 20 4wheelers, 50 3wheelers and 50 2wheelers. The estimated expenditure is Rs. 4.00 lac.

Parking – P11 At approach to Mataria Lake on road R2, for about 5 4wheelers, 5 3wheelers and 20 2wheelers. The estimated expenditure is Rs. 0.85 lac.

Parking – P12 At HDFC bank on road R2 for about 5 4wheelers, 5 3wheelers and 20 2wheelers. The estimated expenditure is Rs. 0.85 lac.

Parking – P13 At Shravan school near Dahej road for about 2 4wheelers, 10 3wheelers and 20 2wheelers. The estimated expenditure is Rs. 0.80 lac.

Parking – P14 At Hotel madina on road R1 for about 10 3wheelers. The estimated expenditure is Rs. 0.30 lac.

Parking – P15 At Mohmedpura circle for about 5 4wheelers, 50 3wheelers and 20 2wheelers. The estimated expenditure is Rs. 2.20 lac.

Consideration in road sections:

The existing section is developed, strengthened and graded for easy traffic movement, surface drainage, aesthetics, safety, under ground services etc.

- 1) Provide @ 600 mm high 1000 mm wide road divider so as to restrict road crossing, provide electric cable for lighting and signals, grow good hardy flowering plants/shrubs (instead of railing which becomes monotonous over years and require maintenance). A segmental pre-cast construction is proposed for quality and less on site work on divider.
- 2) Light poles are suggested at every 15 m. Thus, about 500 poles are required in total.
- 3) A road lane width of 6 m is proposed on each side as fast lane, which is to be overlaid with dense bitumen carpet, seal coat and bitumen painting. This fast lane will cater automobiles for speeding.
- 4) The existing road width is different at all the points but no additional width is proposed except removing the encroachments.
- 5) Beyond the 6 m width from the center service/pedestrian/emergency pavement in balance available width is proposed to cater local stoppage, pedestrian, roadside drain, service lines below etc. This is to be laid in heavy-duty pre-cast paver blocks on compacted sand cushion layer.
- 6) The side drains are to be made of RCC pre-cast channels, which will act as border of road as well as will be open except some stretch near Panchbatti where a regular drain is required to carry surface water. Otherwise a nala is available for draining surface water at about each 100 to 300 m on the road length.

Typical road sections, road layout and parking places, circles, junctions etc are shown in the enclosed sketches.

Summary of the estimated amount:

1. Roads:				
a. Road R1	4.34 km	Rs. 73.30 lac per km		Rs. 318.12 lac.
b. Road R2	1.70 km.	Rs. 81.30 lac per km.		Rs. 138.21 lac.
c. Road R3	1.20 km.	Rs. 64.80 lac per km.		Rs. 077.76 lac.
d. Road R4	0.10 km.	Rs. 56.30 lac per km.		Rs. 005.63 lac.
e. Road R5	0.30 km.	Rs. 81.30 lac Per km.		Rs. 024.39 lac.
			Total	Rs. 564.11 lac.
2. Circles/junctions:				Rs. 28.00 lac.
3. Parking plots:				Rs. 29.40 lac.
4. Street lights, traffic signals, signage etc:				Rs. 100.00 lac.
			GRAND TOTAL :	Rs. 721.51 lac.