REVIEW OF PROJECT PLANNING PROCESS OF URBAN LOCAL BODY – CASE STUDY: CONSTRUCTION OF BRIDGE ACROSS RIVER TAPI, SURAT

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Abstract: In this paper, the Project Planning Process adopted by the local government is studied with the case study of – Construction of Bridge across river *Tapi* joining *Rander* area and *Katargam* area, by *Surat* Municipal Corporation (SMC), *Surat*, Gujarat (India). The study is based on information given by SMC officials viz. City engineers, Project Architect and Chief Accountant. The experience of *Surat* shows that urban local governments in the developing countries have the capacity to face the challenges of rapid urbanization and improved quality of life. The DPR is followed absolute contents given in guiding Toolkit by JnNURM. Planning process of the project is studied from the DPR only.

Keywords: Detailed Project Report, Privet Sector Participation, Urban Local Body.

Introduction: Paper aimed to review the process of project planning and the execution followed by Urban Local Body for the proposal of the development plan after being sanctioned by the state government. *Surat* Municipal Corporation (SMC) is known for its performance ranking in the country. For the review the project of construction of Bridge across river *Tapi* joining *Rander* area and *Katargam* area, by SMC, *Surat*, Gujarat (India) has been identified. In the selected project, the fund will be allotted under scheme JnNURM. For any JnNURM project, Detailed Project Report (DPR) is prepared by the SMC or any private consultant according to given guiding toolkit for the infrastructure and governance projects by JnNURM. The study is based on information given by SMC officials viz. City engineers, Project Architect and Chief Accountant. DPR for selected project is prepared by private consultant "Technocom Consultants PVT. LTD, Thane" The DPR is followed absolute contents given in guiding toolkit by JnNURM. Planning process of the project is studied from the DPR only.

General Procedure Followed for the Projects in SMC: After proposal is made in Development Plan for the project, area/ site is suggested by SMC for given project. Design Proposal is made by the privet organizations or any other private consultants. After that, Budget is allotted for the proposed project. Detailed tender for the technical design and drawings is invited with the approval of divisional head in the advertisement in Gujarati and English newspapers. After tender scrutiny analysis by SMC, Rate Analysis Committee (RAC) will approve the tender. Price bill opening is done of technical bid of the qualified tender only. Tender Scrutiny Committee (TSC) will again approve the tender (Commissioner Clearance). Then, Tender moves to Standing Committee and after passing from Standing Committee, execution procedure will start.

Project Rationale: Due to distributed economic growth and lake of efficient and adequate public transport, the number of vehicles has gone up from 2.94 lakhs in 1991 to 9.83 lakhs in 2005 and to 22 lakhs in 2015. SMC is doing better management of road network in the city have resulted in effective widening of main corridors of the city. 80 percent of the area of city has been connected through a total length of 2170 km of road network. Ring Road is one of the major roads in the city and it is connected with traffic congested roads from the walled city to the other part of city. The outer Ring Road lacks continuity.

Figure 1: Location Map For The Project Proposal

Traffic Analysis: To establish and decide on the various long terms and short terms Transportation solutions for *Surat* City the following two studies have been carried out. First, Study on "Integrated Public Transit System (IPTS) for City of *Surat*" by Consulting Engineering services Ltd. in associate with Ernst & Young May-2006. Second, "Traffic and Transportation study of *Surat* City" by Central Road Research Institute (CRRI) to assess the traffic characteristics in the study area, classified traffic volume counts have been carried out at a number of locations identified as per the above studies. Passenger Car Unit (PCU) factors have counted and assessment of average daily traffic provides on insight into two aspects. First, intensity of traffic on various corridors in the study area and second, temporal and spatial characteristics of traffic movement in and out of city, which is important for planning.

Traffic at Proposed Bridge at *Jilani* Complex: The proposed bridge will connect the residential area *Rander* and *Adajan* on western bank of the river and an industrial area *Katargam* on eastern bank of the *Tapi* River. According to traffic survey data revealed that maximum two wheelers traffic is on *Rander* Cause Way (72.48%) which is on u/s side of proposed bridge location. Also, the Nehru Bridge (900 m) on d/s side of the proposed bridge carries highest traffic amongst various bridges across River *Tapi*. The traffic from *Rander* area going towards station area has to use *Nehru* Bridge and has to travel congested city roads. Also, the traffic from *Amroli Katargam* area going towards *Hazira* road has to travel congested city road to cross the river *Tapi* and join *Hazira* road. All the roads in walled city are congested due to high volume of traffic and constrained width varying from 12 m to 18 m. Looking to development in the area, it is considered necessary to provide bridges at intervals of at least 1 to 1.5 km so as to facilitate the smooth flow of traffic and prevent contestant at one particular bridge or junction. No other capital expenditure for this project is required. This road being a link road, passing through developed areas of the city, no tolling is planned on this road. Question of existing areas of private sector will not arise in this area.

Project Planning Process:

Project Definition, Concept and Scope: The proposed project is of "Construction of bridge across River *Tapi* joining *Rander* Area (Nr. *Jilani Cimplex* and *Katargam* area (Nr. *Palia Kotar* No. 7) in *Surat*." The bridge is proposed across River *Tapi* and its approaches on *Katargam* side are taken in proposed Development Plan width of 45 m. The flyover portion and its approaches on *Jilani* Complex side are taken on existing road width a provision of slip roads on either side. The land required for this project is available and it is the property of SMC.

Physical Infrastructure Components: A four lane river bridge along with a footpath of 2.50 m wide on one side is proposed across River *Tapi* with three separate arms of Jilani side to minimize the traffic conflicts. Alignment within river portion: A straight four lane bridge with footpath of 2.50 m width on u/s side is proposed. The length of main bridge in river gorge is 1050 m. Alignment on *Jilani* Complex side: Three separate arms are provided on this side to minimize the traffic conflicts having carriageway width of 7.50 m from *Rander* to *Katargam* side and *Katargam* to *Rander* road. Third arm is form *Adajan* Circle side going towards *Katargam* side and vice versa having carriageway width of 11 m. Street lights over bridge / flyover have been provided.

Environmental Compliance / Protection Measures / Improvement Measures: As per National Air Quality Monitoring Program (NAMP) , National Ambient Air Quality Standards are maintained and pollution due to Sulphur Dioxide (SO_2) , Nitrogen Oxides (Nox), Suspended Particulate Matter (SPM), Respirable Particulate Matter (RPM) , Lead (Pb) , Ammonia-1 and Caron Monoxide (CO) has been taken care in proposed project. Ambient Noises Standards were established as per the MoEF Gazette Notification are taken care in proposed project.

Environmental Impact Assessment: Environmental parameters like Land/Soil, Water (surface water & ground water), Human Settlements, Ecology (Flora & Fauna) and Environmentally Sensitive zones (natural habitats, cultural or religious sites, structures, monuments, etc.) are not impacted by the proposed project. However, environmental parameters like air quality and noise level will be impacted due to traffic congestion in adjoin road due diversion in traffic during construction period may have impact on air quality and due to vehicular density during operation is directly proportional to increase noise level.

Environmental Management Plan: Design stage and Operation stage management plans have been prepared for the project. In which, decreasing ground water recharge due to surfacing will be ensured by alternative arrangement for ground water recharge, traffic congestion will be checked through proper projections by SMC as per the IRC guidelines, accidents can be mitigated by providing adequate warning signs saying bridge is under construction by SMC and traffic police as per the safety guidelines, mitigation of pollution will be done by ensuring proper maintenance of bridge during operation phase by SMC as per Gujarat Pollution Control Board (GPCB) standards.

Rehabilitation and Resettlement: Project is located on the existing road, river & proposed Development Plan road; as such the Rehabilitation and Resettlement will not affect the project.

Specialized Procured Services For Design, Independent Supervision And Quality Assurance: Design of the project will be carried out by the design consultant selected by SMC. All designs and drawings will be got proof checked from Proof Consultant appointed by SMC. The project management consultant will be appointed by SMC for day to day supervision of work, execute quality checks, project management etc and report in this regard will be submitted within 90 days of the start of construction. Details of surveys and soil investigation have been carried out for the proposed project. Assessment of requirements related to utility shifting if any will be carried out by SMC

The Construction Cost of Project:	
Total Estimated Cost of Bridge including Street Lights	- Rs. 186, 88, 19,625.29
Environmental Compliance Cost	- Nil
Rehabilitation & Resettlement Cost	- Nil
Cost of Survey & Investigations	- Nil
Cost Shifting Utilities	- Nil
Cost of Consulting Services:	
• Design (1.70 %)	- Rs. 3, 17, 69,933.62
• Supervision (3.0 %)	- Rs. 5, 60, 64,588.75
• Proof Checking (0.3 %)	- Rs. 56, 06,458.87
Total	- Rs. 9, 34, 40,981.24
Contingency (3 %)	- Rs. 9, 34, 40,981.24
Land acquisition and site development	- Nil
Total Project Cost	**- Rs. 201, 83, 25,195.00**

Role of Different Institutes Involved in the Construction Phase of The Project:
SMC will invite tenders for the bridge and it will provide finance for the work and overall management of the work. Design Consultant of the project will be design the components of the bridge project and prepare working drawings and submit to SMC. The SMC will get the designs and drawings proof checked from proof consultant and then the approved drawings will be issued to contractor for implementing in actual construction work. Proof Consultant of Project will check the design calculations and working drawings prepared by Design Consultant of the project and approve. Project Management Consultant will supervise the contractor's day to day work as per specifications and standards and as per the approved drawings. He checks the quality of works by caring out various tests on construction materials as well as finished item works. He will guide the contractor, approve and recommend the work program, work methodology, etc. He will take joint measurements of the work certify the contractor bills and forward the same to SMC for payment. He will act as SMC's representative and sort out the day to day problems on site. He will conduct the periodic inspections of the work during defect liability period. After completion of the project SMC will undertake the subsequent O & M activities whenever required.

Area of Involvement of Private Sector in the Construction Area:
Project Feasibility Study, Specialized Survey, Project Engineering Design, Design Consultant, Proof checking Consultant, Construction Works, Supervision Construction are the areas where private sector is involved.

Project Financial Structuring:

Table 1: Overall Structure of the Project

Sr. No.	Government	Project Construction Source	Amount (Rs.InLakhs)	% Share by Specification	%Share by Govt. entity	Remarks
1	Central	ACA Grant	10091.625	50%	50%	
2	State	Grant towards its share in Project	4036.65	20%	20%	During Const. state Govt. will arrange for funds
3	SMC/ Parastatal	Devolved Funds	6054.975	30%	30%	During Const. SUDA. will arrange from the budget
	Total Amount		**20183.25**	100%	100%	

Project Phasing:
Planned Schedules of the Project Are Prepared for the Various Activities- Schedule for Tendering/ Selection for Procurement of Services:
The detail of contact implementation template in specific will be given within 30 days of SMC approval. Consultant will submit the detailed schedule for preparation of design and drawings of the components of the bridge projects. Consultants/ Firms for any other specialized activities will be carried out to fine – tune DPR undertake SMC directed inclusion based on in principal project approval. Schedule for bringing State level and SMC level contribution to the project will be given within 30days of CSMC approval. Schedule of shifting utilities during construction will be done by SMC.

Project Operation and Maintenance (O & M) Planning-Institution framework (Organizing and Operation) Strategy:
The operation, Maintenance and planning of the project will be carried out by SMC from budget of SMC. The periodic paintings of the Bridge project component will be done by SMC from own surplus resource. Newly constructed bridge project will require minimum operation and maintenance cost. SMC will provide 2% operation and maintenance from internal accrual fund.

Project Financial Viability and Sustainability:
Overall Project Perspective:
The DPR is provided financial analysis for (Net Present Value) NPV and (Internal Rate of Return) IRR to examine overall project viability, including finance cost and asset replacement cost. NPV and IRR (O & M) used to examine only O & m Viability. The complete supporting project cash flow projection along with underlying assumptions is prepared.

SMC's Perspective and Financial Situation Assessment:
The complete cash flow covering the last five years on an annual basis and projections for the next 20 years is prepared on Revenue Receipt, Revenue Expenditure, Capital Receipt and Capital Expenditure by taken the last completed financial year. Debt situation assessment is done according to debt schedules and terms for all debt taken to the DPR.

Project Benefits Assessment:

Proposed Bridge completes the missing link of the ring road from *Rander* road to *Katargam*. It will provide faster access to *Katargam, Adajan/ Rander*, Station & visa versa and ultimately reduces the congestion on city roads. The bridge will provide faster access to NH- 8 as the traffic shall not use congested city roads. The traffic from *Amroli*, *Varacha* going towards *Hazira* shall not travel to city roads and will get direct access to *Hazira* road. Also, the area of both ends is flood prone and needs more connectivity. Growth of the textile and other industries in the city and large scale industries at the *Hazira* have resulted increase in the trade and commerce activities and uplift the socio-economic status of the people in *Surat* city. Bridge will provide a great relief to ease traffic congestion on both upstream and downstream bridges and junctions and reduce the accidents and reduce time of travel and saving in fuel cost and considering overall improvement in the performance of the road network. Approximately 5 to 7 lakh population will be benefited by this bridge.

Observation and Lesson Learned:

The Detailed Project Report (DPR) is an important document for creating infrastructure projects with sustainable quality of service delivery. Carefully prepared DPR with appropriate details ensuring the planning process of appraisal, approval and implementation in appropriate time and efficient manner is becomes the base of the project planning. In selected project the DPR is made as per the JnNURM guiding toolkit. It is following all the contents and detailed information of the project planning process of appraisal, approval and implementation and time duration. In this DPR the project is defined properly with the aim to serve about 5 to 7 lakhs population of the city with the need of current time, with set of objectives of connectivity and reducing traffic congestion on the existing bridges across River *Tapi* and other city roads. Public Private Partnership is present in this project at various stages of the project. Risk Management plan is not given in the project planning process. DPR is prepared with sufficient data so that it minimizes the risk factors and there is no risk of failures. Critical success factors of the project are taken care while preparation of DPR as Project Design, Management Team, Support of management of SMC and SUDA, Sufficient resources are also allocated for the project. Logical Framework Approach for the project is done in DPR by proper scheduling of the key activities, Management of resources and clearly mentioned responsibility for each stage of the project.

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