

# Challenges in the Implementation of Smart City Projects in Bhopal

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**Abstract** – This research project gives the study of the factors that are responsible for the delaying of the implementation of the smart city projects in Bhopal.

The research project encompasses all the stakeholders involved in the smart city mission projects in Bhopal and tries to find out the risk factors that will majorly affect the delay in the implementation of the projects through the perspective of all the stakeholders.

The research was carried out in Bhopal the respondents included government employees, private parties (builders and contractors).

The questionnaire was based on the success and risk factors in the implementation of the projects and then the co-relation was done on these factors, which gave the relationships among success, and risk factors, which are significantly related.

## 1. INTRODUCTION

India is trying to emulate the world’s trend in urbanization with the rapid growth in its economy and its growing population and increased the flux of people toward cities require services to enhance its cities.

In this backdrop, the Government of India started contemplating to introduce a program, which may help them initiate this process. In this concept, the Honorable Prime Minister of India launched the national flagship missions, the Smart City mission (SCM) on 25th June 2015. The objective of the mission was to provide core infrastructure and a decent quality of life to residents and provide smart solutions, which are clean and sustainable.

Bhopal was selected in Phase-1 selection criteria in which first 20 cities were selected under SCM plan. After which the Government of Madhya Pradesh formed the BHOPAL SMART CITY CORPORATION.

SCM Bhopal has achieved the targets such as successfully implementing public bicycle sharing and development of Bhopal plus app but on many aspects and it is lagging behind (especially when providing core infrastructure) in many other project implementation.

The implementation of demonetization and GST have also played a significant role in which largely affected the private partners and created hindrance in the implementation process.

The projects related to road construction was pushed behind fifteen to twenty percent due to the removal of encroachment in order to acquire the land.

## 2. METHODOLOGY

The questionnaire we prepared contains qualitative as well as for quantitating questions that will give data that will be analyzed to interpret the results. Through the questionnaire and surveys, we will aim to gain our responses from three stakeholders involved in smart city project – government employees, private builders and citizens of the Bhopal. There is three sets of the questionnaire with respect to three stakeholders, which will help us gain the data to gauge the magnitude of various challenges. The questionnaire is sent to the stakeholders using Google forms.

**2.1 Aim:** A Study on Challenges in the Implementation of Smart City Projects in Bhopal

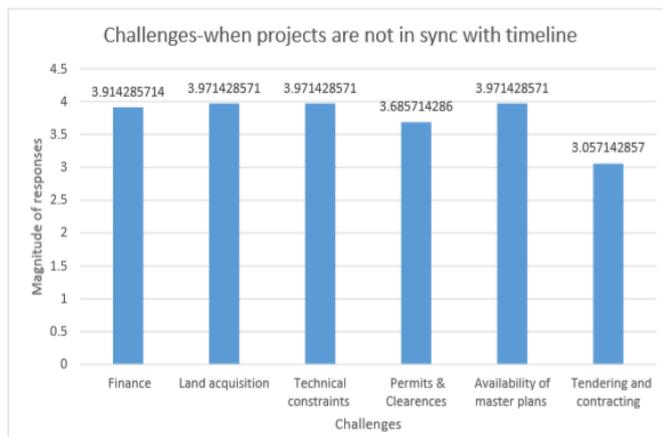
**2.2 Objectives:** The purpose of the study is to identify the challenges that are impeding the implementation of Smart City projects in Bhopal. This study focuses on finding out the risk factors in the project from the stakeholder perspective, which results in delaying of the projects. The study aims to establish the relationship between various risk factors and how these risk factors can be mitigated at various levels to keep the projects on a scheduled timeline.

## 3. ANALYSIS AND RESULTS

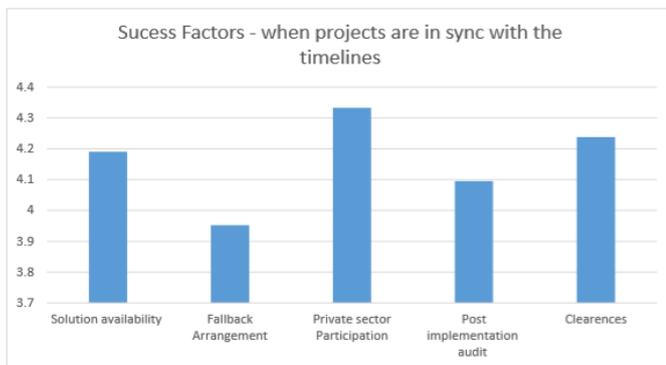
### Co-relation of risk factors

	Finance	Land Acquisition	Technical Constraints	Permits &Clearances	Availability of Master Plan	Tendering &Contracting
Finance	1					
Land Acquisition	0.47376614	1				
Technical Constraints	-0.0358433	0.075964	1			
Permits &Clearances	0.58942403	0.445214	0.304318	1		
Availability of Master Plan	0.23460899	0.241207	0.070889	0.23770	1	
Tendering &Contracting	-0.0041979	-0.1016	0.295345	0.084334	-0.13489	1

Challenges-when projects are not in sync with 6-timeline



Success Factors - when projects are in sync with the timelines



#### 4. RECOMMENDATIONS

Recommendations Smart City Mission projects shall have a definite policy structure with respect to tendering process, solution availability, and post-implementation audit there should be a paradigm shift in the policymaking process by the government in order to have an efficient implementation of the projects

- 1- There should be strict timelines given to the states by the central government in order to complete the projects
- 2- State level smart city corporations shall not absorb employees from other departments of state government related to BMC, city planning, and urban development department, fresh employees shall be hired through tendering process with the optimum technical knowledge with respect to projects and shall be given implementation powers
- 3- Solution availability shall not be a tender driven process rather it should be a clearance driven process
- 4- Models shall be defined for the construction along with a 10% overlay of financial overlay or budget shall be fixed and then call for the tender.
- 5- The fallback arrangement is a policy-driven matter a contingency plan shall be a part of the policy.

The government should try to minimize the risks of the private parties, which will influence more private parties to join the projects hence more funds.

- 7- The post-implementation audit has to be the third party, which is independent of the government. Ex- NHAI quality control consultant is a third party in their every project who is independent of the implementing body.

#### CONCLUSIONS

##### Major Findings

1. Clear cut lack of a precise master plan and lack of technical know-how, the government staff of BMC (Bhopal Municipal Corporation) and of the city planning department have been absorbed by the Bhopal smart city corporation ltd there is hardly any input from outside.

2. Without a precise master plan, planning and execution are taking a toll, with right master plan proper budgets can be formed and on the basis of that funds can be transferred at the right time without any frequent changes in it.

3. Lack of awareness among the citizens and lack of awareness among their representatives to support the area of their constituency for the redevelopment. Sivaji Nagar was selected first for Area Based Development (ABD) but due to lack of support from people of the area, T.T Nagar was selected for ABD plan, which delayed the process.

4. The major projects that need to be implemented first are delayed due to change of area because even if the land acquisition is permitted by the government-achieving Right of way (ROW) especially the removal of encroachment takes a lot of time and at times it escalates political pressures.

5. There are no set guidelines by the GOI for the completion of the projects even when the money will be allocated to the states for the coming 5 years.

6. In many projects, the consultants are hired from outside to enhance the planning process but the implementation power is exercised by the BMC with the same staff that lacks technical expertise.

7. The post-implementation audit of the government shall be in such a way that it ensures the end-user, unlike the audits that have been made in Swach Bharat Abhiyaan where toilets were made in the tune of thousands without ensuring any proper end - use.

8 The risk factors according to the private parties are

- a. Financial and partnership
- b. Governance
- c. Clearances
- d. Building permits

Out of these risk factors, financial and partnership risks were found to be on the higher side. While the clearances and building permits posted a little risk.

9 Success factors

- a. Timely execution
- b. Significant occupancy

The success of timely execution of the project is found out be very low whereas the success of significant occupancy is very high

10 Considering the ratings received for risks and success factors the Availability of funds is greatly affected and more than 50 % of the surveyors rated the availability of funds on the lower side.

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