

# The Study of the Problems and Strategies in Bridge Management of Third and Fourth-Tier Cities

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**ABSTRACT.** To solve the problems that exist in the bridge management of third and fourth-tier cities and make the bridges more useful and safer, this article summarizes the problems in bridge management of third and fourth-tier cities, analyzes the causes and comes up with some strategies.

**KEYWORDS:** Third and fourth-tier cities, Bridge management, Problems, Strategies

## 1. Introduction

As the important infrastructure for the urban transportation system, the usefulness and safety of bridge really matters to people. In recent years, a lot of bridge accidents occurred in China. According to statistics, more than hundreds of accidents happened from 2000 to 2013. Compared with first and second-tier cities, there are problems like undeveloped economy, small scale, technical shortage, insufficient bridge management resources and large population in the third and fourth-tier cities. So it is very important to make bridge management of third and fourth-tier city more mature.

## 2. Bridge Management Problems

According to bridge management including acquiring the real condition of every part of the bridge/making the right decision and countermeasures/taking action. The final purpose that is assuring the bridge serviceable will be achieved better bridge management can make the use of fund/time/human resources and facility which is used in bridge management optimal. but, according the recent survey, the bridge management in third and fourth-tier City still have some problems that should be investigated and solved.

### 2.1 Standardization Shortage of Bridge Management

Though the process and specifications of bridge management is sufficient in china, but in third and fourth-tier City, the work process was not executed strictly, a part of the process is simplified, the requirement and supervision is weakened, the normative bridge management documents is not put in order.

### 2.2 Refinement Shortage of Bridge Management

Organization and planning is not refined enough. the check of bridge statement is done carelessly.in every stage of the bridge management process. sometimes, human factors can induce a great error in bride statement checking.

### 2.3 Inefficiency in Bridge Management

In the actual process of bridge management, the bridge manager can not acquire the real statement of every part of the bridge accurately and quickly. the inspector can not analysis and summarize the results and transmit the results to the upper manager in time.

## 3. Reason Analysis to the Problems

According the data analysis, the reason is summarized as follows.

Firstly, part work is not done in standard for the shortage of human resources and less education.

Secondly, part of checking can not done accurately, for shortage of fund and proper technological facility.

Thirdly, The information in every process of bridge management may lose for inefficient information summary and exchange.

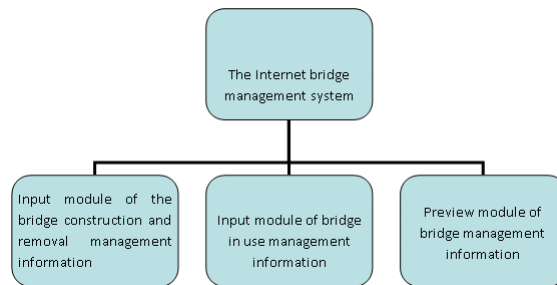
Fourthly, The quality of bridge checking is lowered for less supervision on the bridge management process standardization and the stabilization of technology.

**4. The Countermeasures of Bridge Management**

Firstly, a advise is to make a system that collects all the experts that expertise the bride management as soon as possible. This system can be established by the bridge management ministry, the experts in these systems have the authority to supervise the every stage of new bridge construction and every Stage of bridge in use checking, they can put forward views and proposal, for example, modification/revocation/and agreement. According the countermeasure, we can make the work quality better.

Secondly, establishing a bridge management system on internet

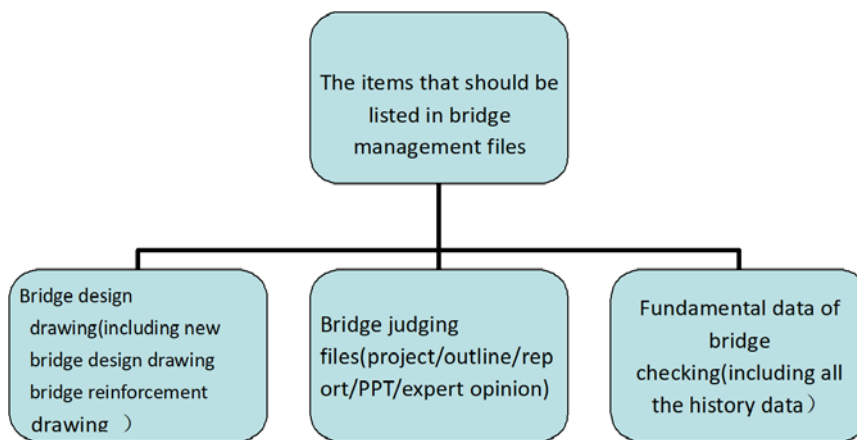
We can refer to the actual statement, history checking information, history bridge management countermeasures of every part of the bridges accurately and quickly in the internet bridge management system.



*Fig.1 The Internet Bridge Management System*

Thirdly, reinforcing the bridge file management

The bridge management ministry is responsible for the strength of the bridge management files. some items should be specified. for example, making the bridge management files supervisions clear, refining the bridge management files working process. making the bridge management files specification clear making the request that the paper file and informative file must be put in order simultaneous clear. If the supervisor find the bridge management file standard, this stage of bridge management process should be seem to be unfinished.



*Fig.2 The Items That Should Be Listed in Bridge Management Files*

Fourthly, operating bridge education regularly

The bridge management ministry can introduce the industry expert and the university professors to unfold this education. according to the regular education, the manager can acknowledge the newest policy/law/norm/provision/regulations and so on. thus they can unfold their bridge management smoothly.

## **5. Conclusion**

The bridge management is vita to the usefulness and safety of the bridges, scientific organization/planning/accurate technical application/scientific supervision/informative application can be helpful to make the final purpose of bridge management achieved. the implement of the countermeasures and other countermeasures should be study and summarized onwards in future.

## **References**

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