

Based on the Research on The Construction Management and Existing Problems of Municipal Road and Bridge Engineering

Pingyu Huang

Beijing University of Civil Engineering and Architecture, Beijing, China

Abstract: This paper analyzes the role of municipal road and bridge engineering construction management and the problems existing in engineering construction management, and puts forward ways to optimize the construction management of municipal road and bridge engineering in view of these problems, hoping to bring valuable reference to the construction of municipal road and bridge engineering and further promote the construction and development of the city.

Keywords: Road and bridge engineering, construction management, mechanical management, improvement measures and countermeasures.

1. Introduction

With the continuous development of China's economy and society and the continuous progress of science and technology, various urban construction projects are also increasing, laying a good foundation for the realization of modern urban construction, and road and bridge engineering is an extremely important part of it. Road and bridge engineering can not only realize the effectiveness of China's transportation, but also have a very important impact on improving people's quality of life, and bring more economic benefits to the society. Judging from the current development status of road and bridge construction in our country, there are still some problems in the process of engineering construction, we can see or participate in some concrete pouring operations in bridge construction, such as concealed engineering (bored pile), tie beam between piles (bearing cap), pier column, cap beam and beam concrete operation, which usually chooses cast-in-place construction, in construction, no matter which kind of pouring process is adopted, the workability of concrete must be guaranteed. However, we often find some problems, such as the problem of large or small flow of concrete when concrete. It is still slightly deficient in terms of management methods and construction technology. Therefore, in view of these problems that affect the quality of construction, the builders of municipal road and bridge projects also need to conduct more in-depth research, so as to ensure the role of municipal road and bridge engineering construction.

2. The Role of Construction Management of Municipal Roads and Bridges

In recent years, with the continuous development of China's urbanization process, the construction of various municipal-related infrastructure has been further improved, and the number of municipal-related projects has been increasing. The municipal road and bridge project is one of the main projects of urbanization construction, which plays a vital role in the development and construction of the city. At the same time, the requirements for the construction quality

of road and bridge projects are getting higher and higher, and strengthening the construction management of municipal roads and bridges is an important part of urban construction in the future. The main role of municipal road and bridge engineering construction management is twofold: 1. It helps to establish a good corporate image. The development level of the city and the construction of municipal roads and bridges are closely linked, and the construction of roads and bridges is completed at a high level, which can reflect the advanced nature of urban construction. 2) It helps to improve the overall quality of municipal road and bridge engineering construction. The construction unit manages the construction site, which helps to ensure the smooth completion of all stages of the project, and also meets the actual needs of the development of the project, and can also improve people's production and living standards.

3. Problems Existing in The Construction Management of Municipal Roads and Bridges

There are mainly the following problems in the construction process of municipal roads and bridges: (1) The early survey and design of the project is unreasonable. Before the construction of municipal roads and bridges, the construction unit will survey the construction site of the project and conduct a comprehensive design demonstration. At present, in the construction of roads and bridges in China, many construction units do not go to the construction site for on-site investigation and analysis, resulting in the actual design plan and the actual situation, which affects the subsequent construction process, and some construction work is difficult to carry out and delays the construction period [1]. (2) The construction efficiency is low. Generally speaking, the construction efficiency directly affects the construction of the project and the economic benefits that can be obtained by the construction unit in the later stage. In the actual municipal road and bridge construction management, there will be many provisions related to the construction efficiency, but in the actual construction, many departments or construction personnel are not very good. The implementation of these regulations also lacks effective communication between

various units, resulting in low construction efficiency [2]. (3) The supervision and management of the construction process is not in place. The quality of construction is also very related to the supervision and management work, the internal supervision and management of the construction unit is not enough, and the supervision and management work is not in place, which is a common problem in the construction of roads and bridges in China at this stage.

4. Ways to Optimize the Construction Management of Municipal Roads and Bridges

4.1. Management of engineering construction quality

As an important project of urban construction, the construction quality of municipal road and bridge engineering is directly related to the overall development of the city, therefore, the construction quality management of municipal road and bridge engineering is quite important. The construction quality management of municipal road and bridge engineering mainly includes the following aspects: 1) quality management in the survey and design stage. In the early stage of engineering construction, the quality management of the survey design is very important, and the survey work is mainly to effectively manage the geology, water temperature and measurement of the construction site, ensure the validity and authenticity of the survey results, and provide accurate data for the later construction design [3] At the same time, the design stage should be carried out in accordance with the design standards stipulated by the state, and the service life of the project should be indicated, and the construction materials and construction facilities and equipment should also be indicated in the design document. 2) Control of construction materials. Construction materials are an important indicator to ensure the construction of municipal roads and bridges, and the quality of materials directly affects the construction of the overall project. In recent years, with the scale of engineering projects getting larger and larger, the number of engineering projects is increasing, and the application of mechanization technology is becoming more and more common. At the same time, machinery management can ensure the efficient completion of equipment procurement, storage and use, and shorten the time required for manual management. Therefore, according to the actual situation of engineering management, the management of engineering construction machinery should be scientifically and effectively managed to ensure the quality and efficiency of management

4.2. Management of construction progress

Municipal road and bridge construction will be specified before the construction of the required time, in order to ensure that the project is completed within the specified time, the construction unit should be based on the actual situation and construction requirements, the construction content is reasonably arranged, to ensure the progress of each construction stage, but also to enhance the credibility of the construction unit has laid a good foundation. In order to complete the road and bridge project on time, the construction unit should create a realistic construction and resource allocation plan before the start of construction, ensure that the construction resources are provided to the relevant personnel

on time, and avoid delaying the construction process at the end of each month and the end of the quarter, the construction unit should summarize the progress of the construction, and carefully analyze the main reasons for delaying the construction progress, only in this way can the construction progress problem be fundamentally solved. The construction should have a perfect technical plan to ensure the progress of each project, in addition to carefully reviewing the project and adjusting the work plan in time to prevent the construction period from being delayed.

4.3. Management of construction safety

Safety has always been the content that construction units and construction personnel should pay special attention to in the construction process, so it is of great practical significance to strengthen the management of engineering construction safety. This paper mainly analyzes the following aspects: firstly, the construction unit should vigorously cultivate the safety awareness of construction personnel and management personnel in the early stage of construction, and must repeatedly emphasize the importance of construction operations in accordance with the safety system, and prohibit potential safety hazards caused by incorrect construction such as personal cutting corners and illegal operations [5], and the construction unit should arrange professional supervision and management personnel to do a good job in supervision and management. In addition, in order to ensure the safety of construction, it is necessary to reasonably arrange rest days, ensure that the construction personnel get sufficient rest after working for a long time, through the shift system, etc., so that they can relax and reduce the fatigue in the work, and can also carry out some cultural and sports activities in an appropriate amount to promote the physical and mental health development of the construction personnel, in addition, the necessary training should be carried out for the construction personnel, and the proficiency of their work and the self-confidence of the work should be enhanced, so as to reduce potential safety hazards and improve construction efficiency.

5. Epilogue

Through the discussion of this paper, the role of construction management of municipal road and bridge engineering is briefly summarized, and the problems affecting the construction quality in the construction of the project are analyzed, and some problems affecting the construction quality are pointed out, including the unreasonable early investigation and design, the low construction efficiency and the supervision and management of the construction process are not in place, and some reference opinions are put forward to improve the level of construction management, hoping that the construction of municipal road and bridge engineering can be strongly guaranteed in the future and further promote the construction and development of urbanization in China.

References

- [1] Xu Jian discusses the problems and optimization countermeasures in the construction management of road and bridge projects [J] Theoretical Research on Urban Construction (Electronic Edition), 20xx21015): 211
- [2] Zhu Xiaojuan road and bridge engineering site construction management difficulties and coping strategies[J] Green Building Materials, 20xx16(4): 05

- [3] Zhang Yun discusses the problems and optimization countermeasures in the construction management of road and bridge engineering[J] Engineering Construction and Design, 20xx28(4): 186-187
- [4] Jiang Yan: Analysis of common problems and solutions of municipal road construction management [J] Building Materials and Decoration, 35(3):266-20xx):267
- [5] Shao Zhiwei's research on problems and optimization countermeasures in the construction management of road and bridge engineering[J] Building Materials and Decoration, 20xx13 (3): 25-26.