



REVIEW

Analysis of Urban Road Construction and Related Problems and Countermeasures

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ABSTRACT

With the rapid development of China's economy, China's urbanization process is also accelerating, the municipal road as an important supporting force to accelerate the construction of urbanization is becoming more and more important, corresponding, the city's requirements on the road is also gradually improving, the quality of the city road affects the daily travel of urban residents. If the road design is not reasonable or the construction quality is not up to standard, it will bring great changes to the urban residents. Therefore, urban road construction will face greater challenges in the future. This paper emphasizes the importance of road construction quality, analyzes some common problems in urban road construction, and puts forward some solutions to the problems in urban road construction.

1. Introduction

Road is the foundation of regional economic development, and it is of far-reaching significance to social and economic development. The quality of road construction in China has always been the focus of attention from all walks of life at all levels, especially in recent years; China to accelerate the pace of road infrastructure construction, road construction quality problems and control countermeasures to study has important practical significance. Road construction is a complex project affected by geological factors, hydrological factors and macro-environmental factors. Due to the strong safety and durability requirements of road construction, in the construction process, the construction subject should carefully

consider the influence of the overall environmental factors such as geology, hydrology and climate, strictly control the quality, and practically carry out the construction work according to the actual environment and actual requirements of the road project. We need to improving the quality of road construction project, the most important thing is that the construction main body to set up the concept of "quality is the soul of engineering", through effective construction management in the process of concrete construction to ensure construction quality, to establish a scientific and effective construction plan, strictly control the construction quality supervision link, for the construction of damaged parts with specific quality control.

As one of the most basic urban facilities, roads bear the important responsibility of urban residents' travel. Just

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like the saying “if you want to be rich, build roads first”, urban roads greatly promote the rapid development of China’s economy and accelerate the process of urbanization, which is of great value. Urban roads are very important for a city. The quality and operation of urban roads are determined by the quality of urban road construction, which will have a corresponding impact on the development of the whole city. Therefore, urban road construction must be paid attention to.

2. Construction Characteristics of Urban Roads

2.1 The Space Is Relatively Small

The urban road construction site is relatively small, with large vehicle and pedestrian flow, which is easy to cause traffic jams. It is very inconvenient to control the traffic within the limited construction scope. And, all sorts of heat, underground electric power, communication, conduit and gas pipeline are in underground cross laid, bring bigger difficulty to the construction, cause construction spot to manage difficulty.

2.2 The Construction Time Is Tight

Urban road construction has the characteristics of quick start and short time, which makes the construction unit unable to screen the construction team seriously. Sometimes in order to shorten the construction period, some construction units unified different construction section teams to carry out construction, resulting in the lack of communication and cooperation between different construction teams, resulting in the decline of construction efficiency. At the same time, the technical management level and quality awareness of different teams are different, it is likely to appear project quality problems. Some even use the method of design while construction on one side, cause many mistakes, cannot ensure the qualified standard of construction working procedure and project quality.

2.3 Difficult Management

Urban road engineering involves many different units and departments, and the relationship between the units and departments is not close enough, which leads to the increase in the difficulty of construction management and cooperation, and affects the accuracy of design and the rationality of construction plan to a certain extent. At the same time, different construction conditions and construction environment will also have an impact on the construction process.

3. Existing Problems in Urban Road Construction

3.1 The Quality of Construction Personnel Is Not High

The construction of roads is inseparable from People’s daily life. Good road construction can improve people’s quality of life to a certain extent. Therefore, the construction of roads is of great significance. However, if we do not pay attention to road construction process management and neglect the quality of road construction, once the road construction is completed and put into use, there will be a traffic accident, which will bring great threat to people’s property and life. From the subjective aspect, the causes of road construction quality problems, mainly some construction personnel overall quality is not high, in the process of construction without quality consciousness, lack of sense of responsibility to ensure the quality of the road, and some construction personnel technical level is not high also, cause the construction of roads and expected a certain gap.^[1] There are many problems in the comprehensive quality of urban road construction technicians, such as their skills, abilities and quality consciousness. Especially today, with the rapid development of urban roads, the demand for technical talents is increasing, the talent reserve is insufficient, and the construction technology, quality management and cost control are lacking. In particular, a large number of migrant workers with low knowledge level joined in, although to a certain extent saved the cost of urban road construction investment, but the lack of construction safety control and management of comprehensive talent, resulting in the overall construction team level decline.

3.2 Problems in Groove Backfilling

The backfilling compactness of the groove is not up to the standard. Different pipelines are laid in the underground space of urban roads, so the compactness of groove backfilling has a great influence on the roadbed. The strength and stability of subgrade are the basic conditions to ensure the pavement strength and stability. In the process of road construction, the core to ensure the quality of subgrade construction is the embankment filling and the backfilling of pipeline groove. In the process of backfill compaction, the compactness of backfill will be affected by the super-thick backfill, rolling inclination or the type of filling soil that does not meet the construction requirements.^[2] When the road trench is backfilled, the construction operation is not carried out in accordance with the relevant construction regulations and requirements seriously, or even the operation is violated. As a result, there will be

relatively large subsidence at the part of the road trench once the new road is completed. This kind of phenomenon is quite common in the current road construction process. Therefore, great attention should be paid in the construction process. In practice, we will find that, in the process of road construction, construction personnel are not road grooves clean water exclusion in fill again, this will lead to road trench backfilling for sand will contain relatively high moisture content, this will make cars when building roads cause a settlement of the road groove parts, the traffic accident to happen.

3.3 Problems in the Management of Urban Road Construction

Construction site management is a key link in project construction and an important factor to determine the quality of road construction. Municipal road construction, field management work is particularly important, the scene of construction as the main venue of urban road construction, raw materials and equipment, and many other factors must be implemented in the field management, therefore, the standardization of the construction site management system construction work is very important, most engineering decision makers did not attach importance to the importance of the construction site management work, even the phenomenon of chaos. In the construction, there is often the phenomenon of lax site management, such as improper stacking of raw materials and low construction efficiency.^[3]

4. The Solutions to Urban Road Construction Problems

4.1 Improve the Overall Quality of Road Construction Personnel

The main body of municipal road engineering construction is the construction personnel, construction personnel's comprehensive quality and professional technical level will directly affect the construction quality and safety of municipal road engineering, must attach great importance to the training of construction personnel, construction personnel to continuously improve the technical level, at the time of construction of the key link to must want to do a good job of compulsory education road construction personnel, continuously improve the accuracy of mechanical operation and security, can fundamentally guarantee the efficiency and safety of municipal road engineering construction.^[4]

4.2 Strictly Control the Backfilling Quality

In the process of backfilling the trench, it is necessary to

ensure that there is no water in the trench; and the water content of the backfilled soil should not be too high; finally, hierarchical backfilling management should be carried out, in which backfilling thickness should be less than 30 cm and compaction must be ensured. At present, in the construction, not only need to carry out manual compaction, but also need to properly use roller compaction operations.^[5]

4.3 Strengthen the On-site Management of Urban Road Construction

Establish and improve the urban road construction site management rules and regulations, formulate a scientific operation process and strictly comply with the implementation, and do a good job in urban road construction site management. The specific measures are as follows:

(1) Strengthen the monitoring and assessment of construction quality on site. By the owners, supervision, quality inspection stations and other joint, the use of regular inspection and on-site random inspection and other methods, the overall operation of the construction quality and the quality of key parts of the supervision and control. The content of monitoring and assessment must be based on different project content and requirements.

(2) Strengthen the supervision and inspection of on-site construction. Develop operable on-site supervision and inspection measures, because the standard is too high or too low cannot solve practical problems. The current headquarters of the project manager, the project management department of the construction team have the site quality management objectives accountability, but only these big goals are not enough, also need to carry out specific details of the objectives, determine the quality management of the construction site small objectives, at the same time the site quality supervision and inspection and management measures must be strong.

(3) Strengthen on-site material inspection. The performance of materials used in urban road engineering largely determines the usage and service life of urban road engineering. In the construction process, the source channels of road engineering materials are usually complex and vary greatly; especially the sources of sand and stone change frequently, so it is necessary to strengthen the on-site material inspection. Concrete measures are: ① All materials prior to the acceptance of the project supervision engineers need to be inspection, sampling test and retest, the construction unit to procurement of engineering materials, "three certificates" and must be provided in accordance with relevant standard sampling inspection, implement the system of witness sampling, unqualified material is allowed to enter the construction site, the response to

repel it. ② In the engineering material inspection and acceptance work, supervision engineer to strictly control the supply of materials, strengthen the sampling inspection of materials, to ensure that the quality of materials must be qualified.^[6]

5. Conclusion

In recent years, the national economy is developing at a sustained high speed, and the urbanization process is also accelerating. Road engineering is a very important infrastructure for cities, and plays a particularly important role in promoting economic development. Therefore, it is necessary to master more advanced road construction technology, in the actual process of construction in strict accordance with national standards, only in this way can effectively improve the quality of the road, provide convenience for people's travel, and promote the national economic development.^[7] in the process of road construction everywhere have security issues, and in the each link in the process of engineering construction are likely to exist hidden danger, cause serious threat to construction personnel life, so the road construction personnel should improve the quality of their own safety and the construction unit should implement the responsibility system for safety to each person, in order to supervise and urge and alert to every employee to the attention of the safety construction management. Moreover, safe construction management can be used for road construction site safety management to improve the safety index. According to different construction parts, different predictions and precautions can be made to meet the different needs of road construction

site safety. The goal of safe construction management is to provide scientific basis for road construction safety management and reduce and avoid road safety accidents.^[8]

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