

Preface

Modern tram is a new public transport mode formed by comprehensive transformation and upgrading on the basis of traditional tram. It is especially suitable for the needs of urban transport development with medium and low passenger transport intensity and environmental sensitivity. Its main characteristics are large passenger transport capacity, high speed, flexibility, comfort and novelty. In recent years, the rapid development of modern tram has attracted the attention of all parties. Modern tram belongs to urban rail transit mode, most of which are ground lines. Therefore, the tramway track system should be suitable for the surrounding environment, and easy to maintain.

In order to alleviate the worsening urban traffic problems, dozens of cities in China have built or are building urban tram transport systems, and serious track structure diseases have occurred in cities that have opened trams, such as Shanghai, Guangzhou, Nanjing, etc. With the increase of operation time, the problem of rail structure diseases has become increasingly serious, and the cost of vehicle maintenance and operation has increased. In serious cases, it may directly affect the running stability and safety of the vehicle. Therefore, it is urgent to comprehensively study and reduce wheel/rail wear, track structure diseases, track laying construction, and stability of lines in small radius curve sections. Considering the characteristics of engineering design and construction in China, foreign track structures are not fully applicable in China. Therefore, it is necessary to study the structural parameters of modern tramway track structures to provide a theoretical basis for the design of modern tramway track structures and realize the adaptability and safety of track structures in the operation cycle.

In view of this, this book has conducted extensive research on the theoretical research and design of tramway track projects outside China. Taking Chengdu Tram Rong Line 2 as the project background, it has summarized and analyzed the problems existing in the design and construction of China's

current small radius curve tramway track project, such as the wear of groove rail, the slow construction progress of embedded track, and the stability of continuous welded rail on bridge, which has important scientific research and engineering application value. During the preparation of this book, the important theoretical achievements of the National Engineering Research Center for High speed Railway Construction Technology and the MOE Key Laboratory of Engineering Structures of Heavy Haul Railway of Central South University were referred to and applied, which are gratefully acknowledged.

Due to the limited level of the author, it is inevitable that there are omissions in the book. The author sincerely invites readers to criticize and correct them. The author is very grateful for this and will continue to improve in the follow-up research.

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