JTG

PROFESSIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国行业标准

JTG B01-2003

Technical Standard of Highway Engineering

公路工程技术标准

Issued on January 29, 2004 **Implemented on March 01, 2004**

Issued by the Ministry of Communications of the People's Republic of China

ANNOUCEMENT ON THE ISSUANCE OF "TECHNICAL STANDARD OF HIGHWAY ENGINEERING" (JTG B01–2003)

NO. 1 DECREE

The newly issued "Technical Standard of Highway Engineering" (JTG B01-2003) will be implemented on 01 March 2004, and the old "Technical Standard of Highway Engineering" (JTJ 001-97) will be terminated at the same time.

"*Technical Standard of Highway Engineering*" (JTG B01-2003) is compiled by Highway Dept. of the Ministry of Communications of the People's Republic of China and Highway Engineering Committee of China Engineering Construction Standard Association together. The management and explanation rights on "*Technical Standard of Highway Engineering*" (JTG B01-2003) belong to the Ministry of Communications of the People's Republic of China, the daily management & explanation works will be responsible by Highway Dept. of the Ministry of Communications of the People's Republic of China.

All departments & authorities concerned should summarize their practical experiences and collect all related materials & information to provide their findings and comments to Highway Dept. of the Ministry of Communications of the People's Republic of China (mail address: No. 11, Neida St., Jianguomen District, Beijing City, P.R. China, postal code: 100736; Tel. No. 010-65292718) for reference.

Ministry of Communications of the People's Republic of China

Jan. 29, 2004

INTRODUCTION

In order to make the sustainable development on highway construction, the Ministry of Communications of the People's Republic of China issued No. 36 Decree (2002) to conduct the revision works on "Technical Standard of Highway Engineering" (JTJ 001-97) that was implemented on Jan. 01, 1998. The revision works will be responsible by Highway Dept. of the Ministry of Communications of the People's Republic of China and Highway Engineering Committee of China Engineering Construction Standard Association together, and supported & coordinated by Communications Departments at all provincial levels.

Based on the practical highway construction experiences since 1997 and research results of 12 key technical projects, combined with the related foreign standards & advanced technology, in the revised "Technical Standard of Highway Engineering", there are clear and suitable technical standards on highway construction at the different levels, and there are also very important guidelines on construction safety & environment protection for highway projects in order to speed up the development on highway construction and make the healthy & sustainable development on highway & transportation industries. There are 9 chapters in the revised "Technical Standard of Highway Engineering", there are as follows: 1. General Rules; 2. Control Elements; 3. Route; 4. Roadbed and Road Surface; 5. Bridges & Culverts; 6. Vehicles and Loads Capacity; 7. Tunnels; 8. Route and Intersection; 9. Transportation Project and Its Facilities. In this revised "Technical Standard of Highway Engineering", highways are classified into five classes as follows: (i) Expressway; (ii) Class I Highway; (iii) Class II Highway; (iv) Class III Highway; (v) Class IV Highway, and road functions, passing capacity, and services are also included. The small-size passenger bus is considered as standard vehicle size in order to conduct conversion on transportation volumes of highway at the different levels and make passing capacity analysis. We also adjust the design speed of highways at the different levels, the actual pressure value of roadbed, the classification of special large-size & large-size bridges, the classification of long & short-distance tunnels, and conduct the revisions on main technical standards for road intersection, classify transport project and its facilities, and introduce new concepts on moving speed & safety assessment for designs and management.

All departments & authorities concerned should summarize their practical experiences and collect all related materials & information to provide their findings and comments to Highway Dept. of the Ministry of Communications of the People's Republic of China (mail address: No. 11, Neida St., Jianguomen District, Beijing City, P.R. China, postal code: 100736; Tel. No. 010-65292718, E-mail: shc@rioh.ac.cn) for reference.

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HIGHWAY ENGINEERING COMMITTEE OF CHINA ENGINEERING CONSTRUCTION STANDARD ASSOCIATION

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1. General Rules

1.0.1 In order to unify technical standard of highway engineering, we formulate these rules.

1.0.2 These rules are suitable to the newly-established and on-going expanded highway construction.

1.0.3 Based on road functions and suitable transportation capacity, highway can be classified into the following five classes:

1. Expressway is multi-lanes highway that is specially used for the totally control of entry & exit of vehicles in the different lanes & directions.

Based on consideration of converting all kinds of vehicles into small-size passenger bus as standard vehicle size, average daily transportation volumes for a whole year on four-lanes expressway are 25,000 – 55,000 vehicles;

Based on consideration of converting all kinds of vehicles into small-size passenger bus as standard vehicle size, average daily transportation volumes for a whole year on six-lanes expressway are 45,000 – 80,000 vehicles;

Based on consideration of converting all kinds of vehicles into small-size passenger bus as standard vehicle size, average daily transportation volumes for a whole year on eight-lanes expressway are 60,000 – 100,000 vehicles;

2. Class I highway is multi-lanes highway that is specially used for the control of entry & exit of vehicles in the different lanes & directions based on the needs.

Based on consideration of converting all kinds of vehicles into small-size passenger bus as standard vehicle size, average daily transportation volumes for a whole year on four-lanes Class I highway are 15,000 – 30,000 vehicles;

Based on consideration of converting all kinds of vehicles into small-size passenger bus as standard vehicle size, average daily transportation volumes for a whole year on six-lanes Class I highway are 25,000 – 55,000 vehicles;

3. Class II highway is double-lanes highway that is specially used for the passing of vehicles.

Based on consideration of converting all kinds of vehicles into small-size passenger bus as standard vehicle size, average daily transportation volumes for a whole year on double-lanes Class II highway are 5,000 – 15,000 vehicles;

4. Class III highway is double-lanes highway that is mainly used for the passing of vehicles.

Based on consideration of converting all kinds of vehicles into small-size passenger bus as standard vehicle size, average daily transportation volumes for a whole year on double-lanes Class III highway are 2,000 – 6,000 vehicles;

5. Class IV highway is double-lanes or single-lane highway that is mainly used for the passing of vehicles

Based on consideration of converting all kinds of vehicles into small-size passenger bus as standard vehicle size, average daily transportation volumes for a whole year on double-lanes Class IV highway are 2,000 vehicles;

Based on consideration of converting all kinds of vehicles into small-size passenger bus as standard vehicle size, average daily transportation volumes for a whole year on single-lane Class IV highway are 400 vehicles;

1.0.4 Forecasting on the designed transportation volumes of highways at the different levels

should follow the following rules.

1 Forecasting on the designed transportation volumes of expressway and Class I highway with main branches should be calculated based on 20 years; Forecasting on the designed transportation volumes of Class I highway with the separated branches, Class II and Class III highways should be calculated based on 15 years; Forecasting on the designed transportation volumes of Class IV highway should be calculated based on the actual situations.

2 The starting year on forecasting for the designed transportation volumes should be the operating year stated in feasibility study of this project.

3 Forecasting on the designed transportation volumes should consider the long-term impacts on integrated transportation system and social & economic development.

1.0.5 Basic principles are used for classifications of highways

1 Classifications of highways are defined in accordance with road functions, designed road network, transportation volumes, integrated transportation system and long-term development in project areas.

2 In one highway, we can select the different designed speeds and roadbed widths for its different portions, but there should be smooth connections among the different classified roads with the different speeds & roadbed widths.

3 When the forecasted design transportation volumes are between Class I highway and expressway, if the planned highway project is belonging to highway with main branches, we suggest that this highway project should be expressway; if the planned highway project is belonging to highway with the separated branches, we suggest that this highway project should be Class I highway.

4 Main highways are usually used for Class II highway and its above levels.

1.0.6 Based on principles for protecting the farmland and saving land, we should consider the following rules on the planned highway project.

1 Highway land occupancy usually include road, its embankment, and the area that is more than 1 meter distance from water escape canals of two side embankments (or from its embankment if there are no water escape canals of two side embankment), or the area that is more than 1 meter distance from water drainage of the top of the cutting of road, if it is allowed by natural environment conditions, we can adjust more than 1 meter distance into more than 3 meters distance for expressway and Class I highway, and more than 2 meters for Class II highway.

2 In a special area such as sand storm and snow storm that always happen, we should establish the protection facilities and define road land occupancy area based on the actual needs.

3 For road land involved in bridges, tunnels, integrated grade separation, branched grade separation, grade crossing, traffic safety facilities, service facilities, management facilities, green land, and tree nursery bank, we should define road land occupancy area based on the actual situations.

1.0.7 We should implement national environment protection policies on highway construction and conduct the following rules:

1 Environment protection on highway construction should be based on the principles of "Prevention as main, Treatment as subsidiary".

2 Based on the natural conditions, we should conduct beautification program on highway construction in order to protect environment.

3 We should conduct environment impact assessment on expressway, Class I highway and other special highways projects.

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