Connection Road of National Road Project III in Hubei Province

Statement of Environmental Impact Assessment

Research Institute of Highways, Ministry of Communications September 1996
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CHAPTER 1 INTRODUCTION

Beijing-Zhuhai national trunk road is part of the "Two Longitudinal and Two Lateral" national trunk roads, which shall be built by the year of 2000 planned by the State Council. The national road project III in Hubei province (project III hereinafter) is composed of: Dawu-Shenshan Section of Beijing-Zhuhai national trunk road; Shenshan-Baoxie Section of Shanghai-Chengdu national trunk road in Wuhan; Zhushan-Yongan Section of Shanghai-Chengdu national trunk road in Wuhan; and the auxiliary engineering work of three connection roads of Dawu, Huayuan and Xiaogan connection road.

The national road project III in Hubei province is a major road construction program decided by the Hubei Provincial Communications Department in consultation with the local governments for the purpose of to bring into full play the trunk road function in social economic development, to materialized the transport development program of the major large and medium cities along the proposed road area. To speed up the preparation of this project, the Hubei Provincial Communications Planning and Design Institute (HPCPDI) accomplished the survey and design of the connection roads for this project in July 1996.

The Research Institute of Highway (RIOH) of the Ministry of Communications (MOC), who undertakes the environmental assessment study for this project, conducted survey and investigation on all of the connection road sections together with HPCPDI with assistance from the local communications department and environmental protection department, and collected necessary information for EIA work for the project, on the base of which this EIA report for the project has been completed.
CHAPTER 2  GENERAL PRINCIPLES OF ASSESSMENT

2.1 Assessment purpose
(1) To provide reasonable basis for alignment selection of the road through the assessment of various environmental impact caused by the proposed road project;
(2) To set forth correspondent environmental protection and control measures based on the negative impact caused by the road project in the construction period and the operation period, so as to reduce the impact and to protect the environment;
(3) To provide guidance for environmental management during construction period and operation period, and also to provide scientific basis for the economic development strategy along the road area.

2.2 Basic Materials and Documents for the EIA Report
(1) "Measures Concerning with the Environmental Protection and Management of Capital Construction Project" issued by NEPA
(2) "Measures Concerning with the Environmental Protection and Management for Communications Construction Project" issued by the Ministry of Communications
(3) "Environment Protection Law of the People's Republic of China" and other regulations and standards concerned with environmental protection;
(4) "Specifications for Highway Construction Environmental Impact Assessment (Draft)"
(5) "Feasibility Study Report on the National Road Project III Hubei Province", HPCPDI, August, 1996;

2.3 Assessment Scope and Standards
2.3.1 Assessment scope
The assessment scope of the project is within the area of 200 meters from both sides along the central line of the proposed road. The assessment scope of the social economic development, living standard, ecology environment and the pollutant source shall be in a properly extended areas.

The following standards will be used in EIA for the connection road.
(1) Air: GB3095-82 "Air Quality Standard", class 2 standard;
(2) Noise: GB3096-93 "Urban Area Ambient Noise Standard", class 4 noise standard,
and class 2 standard for culture and education areas;
(3) Water: GB3838-88 "Surface Water Quality Standard", class II will be used based on the function of the water; for drinking water sources the standard of GB5749-89 "Daily Life Drinking Water Sanitation Standard" will be used.

2.4 Assessment Method
The road construction project is a kind of linear development project. According
to the forecast and assessment of the environmental impact on the sensitive points or sections, correspondent mitigation measures are proposed to reduce and control the negative impact. Theoretical models shall be used to calculate the traffic noise, air pollution, vibration impact in the assessment. Socio-economic and aquatic ecological assessment shall be made mainly through investigations and analyses.

2.5 Assessment Time Period

The assessment time period will include: construction period; short term, mid term and long term operation period of years of 2000, 2010 and 2020 respectively.
CHAPTER 3  ENGINEERING BRIEF

3.1 Traffic Forecast

To bring into full play of the function of the national trunk road project III in Hubei province and to improve the local and provincial road network system, three connection road of Dawu, Huayuan and Xiaogan will be built under the project III, connecting the existing national road 107 with Beijing-Zhuhai national road, and will be built together with the Beijing-Zhuhai national road. The traffic forecast for the three connection road is shown in Table 3-1.

<table>
<thead>
<tr>
<th>Connection road name</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dawu link</td>
<td>13185</td>
<td>6790</td>
<td>10937</td>
</tr>
<tr>
<td>Huayuan link</td>
<td>2697</td>
<td>4184</td>
<td>8826</td>
</tr>
<tr>
<td>Xiaogan link</td>
<td>6275</td>
<td>9528</td>
<td>14450</td>
</tr>
</tbody>
</table>

3.2 Construction Scale

According to the traffic forecast and the specifications specified in the “Road Engineering Technical Standard” (JTJ012-88), the connection road will be built in accordance with the class II standard in heavy hilly areas.

(1) Dawu link
The Dawu link starts from the Dawu interchange and ends at national road 107, with total length of 9.1 km, and will be built by class II standard in heavy hilly areas, with road subgrade of 12 m, and pavement width of 9 m, bitumen pavement structure, and the bridge deck width of 9 m.

(2) Huayuan link
The Huayuan link starts from Huayuan interchange and ends at the town of Xiaochang county close to national road 107, with total length of about 11.5 km, and will be built by class II standard in slight hilly areas, with subgrade width of 12 m, pavement width of 9 m, bitumen pavement structure and bridge deck width of 9 m.

(3) Xiaogan link
The Xiaogan link starts from Sancha interchange along the Xiaogan-Tianhe road and ends at the town of Xiaogan city close to national road 107, with total length of 12.2 km, and will be reconstructed by class II standard in slight hilly areas, with subgrade width of 15 m, and the existing bitumen pavement will be changed into cement concrete pavement with width of 12 m, and the bridge deck width of 12 m.

3.3 Alignment and Major Control Point

(1) Dawu link
The Dawu link connects the Dawu interchange near the town with the national road 107. The original local road is Songbu-Yingshan road, which is class III road
with bitumen surface treated pavement, width of 7 ~ 8.5 m, subgrade width of 8 ~ 10 m, passing through Hongan, Dawu, Guangshui town, Guangshui city. The proposed connection link will be of class II road, with bitumen concrete pavement, with pavement width of 9 m, subgrade width of 12 m. Starting from national road 107 the first 5 km road section of the Dawu link will be built by making use of and reconstructing the existing Songbu-Yingshan road, then eastward to build a new road section of 4.1 km, via Lijiawan, Songjiacheng, intersected with the county road Dawu-Jieling road in the form of grade crossing, across over Huanshui river at Xujiawan with a newly built bridge and ends at Dawu interchange with total length of 9.1 km. It will be constructed at the same time with the project III.

This link connects not only Songbu-Yingshan road and national road 107, but also Beijing-Guangzhou railway at Guangshui station, and the local roads of Huangmailing phosphorous mineral - Xuanhua, Dawu - Jieling, Anlu - Guangshui, Guangshui - Mapingzhen, forming a network with Dawu interchange as the radiation center, mainly providing service for Dawu county, Guangshui and the west areas of Guangshui city, playing an important role in promotion of local economic development.

(2) Huayuan link

The Huayuan link connects the Huayuan interchange with national 107. The original local road is the county road Wangjiawan-Yangdian road, a class IV road, with bitumen treated pavement, width of 6 m, subgrade of 6.5 ~ 7 m, via Liudian, Tonggang, Fengshanzhen, then westward connecting with Huayuan - Anlu road. The new connection link will be constructed by class II standard, with bitumen concrete pavement, with width of 9 m, subgrade of 12 m. The link starts from national road 107, running along with the direction of the existing Huayuan - Zhougang road, via Luojiazhai, Wangjiawan, Sunjiazhai, across Yanjiahe river at 1.2 km up stream of Yanjiahe, then via Yangchenwan, Liudianzhen, Xujiawan, Hujiawan, and ends at Zhoujiatangjiao connecting with Huayuan interchange, with total length of 11.5 km, and will be built at the same period with that of the Project III. This connection link will be built in the same period as the project III, mainly provide service for Huayuan, Xiaochang, Liudian, Zhougang, Fengshan, etc., and linking with Anlu city, the Beijing-Guangzhou railway Huayuan station, as well as the vicinity areas.

(3) Xiaogan link

The Xiaogan link connects Sancha interchange with national road 107. The original road is provincial road Xiaogan - Tianhe airport road of class II standard, with bitumen treated pavement, width of 9 m, subgrade width of 12 m. The proposed connection link is based on the original Xiaogan - Sancha road section, by taking advantage of the original horizontal alignment, and reconstructing the original road with 12 m wide cement concrete pavement, subgrade width 15 m, so that the road conditions will be improved and capacity increased. The Xiaogan link starts from the intersection of national road 107 and Huang-Xiao road at east side of Xiaogan city,