(ACE Paper 27/2003)
For information

The Hong Kong – Zhuhai – Macao Bridge ("the Bridge")

Purpose

This paper briefs Members on the latest progress of the Bridge project, and in particular the arrangement for studying the environmental impact of the Bridge and its connecting infrastructure within the territory of HKSAR.

Study on the Transport Linkage between Hong Kong and Pearl River West

2. In January 2003, the National Development and Reform Commission (NDRC) and the Hong Kong Special Administrative Region Government (HKSARG) commissioned the Institute of Comprehensive Transportation (ICT) to conduct a study on the transport linkage between Hong Kong and Pearl River West (PRW). The report was completed in July 2003 and was endorsed by NDRC and HKSARG.

3. The study analyses the current situation of the transport linkage between Hong Kong and PRW. It concludes that the current transport linkage is weak, relying mainly on water transport, and the land transport linkage involves a detour via Humen Bridge resulting in an increase in transport time and cost.

4. The study points out that a direct land transport link between Hong Kong and PRW will alter the present passive condition of the transport linkage. It will shorten the distance from Hong Kong to Macao and Zhuhai to 30 km, and reduce the journey time to within half an hour. As a result, PRW will lie within the 3-hour transport network that radiates from Hong Kong as its centre. According to the forecasts in the study report, taking into account induced demand, in 2010, the passenger flow of the Bridge will be 33 - 41 million, and will rise to 45 – 65 million in 2020. The containerized cargo demand and breakbulk cargo demand will be 1.7 – 2.6 million TEUs and 1.1 – 1.9 million tonnes respectively in 2010, and rising to 2.6 – 4.4 million TEUs and 1.6 – 2.9 million tonnes respectively in 2020.

5. The report points out that the Bridge will yield the following macro

socio-economic benefits:

(a) promoting the socio-economic development of the PRW;

(b) reinforcing Hong Kong's status as an international shipping and aviation centre;

(c) promoting the development of regional tourism industries; and

(d) perfecting the regional transport network.

6. The report recommends that the construction of the Bridge should start as soon as possible in order to meet the growing demand for passenger and freight transport between Hong Kong and PRW.

Feasibility Studies for the Bridge

7. The Governments of Hong Kong, Macao and Guangdong have set up a Hong Kong – Zhuhai - Macao Bridge Advance Work Coordination Group (Coordination Group) to take forward the advance planning for the Bridge. The first meeting held on 29 August 2003 agreed to proceed with the project as quickly as possible, and to commission feasibility studies on various subjects, including economic benefits, alignment, environmental impact and hydrology. On completion, these studies will be submitted to the NDRC for approval by the State Council to create a project item for the construction of the Bridge. The Coordination Group will meet again shortly to discuss the landing points of the Bridge and the detailed arrangement for commissioning the feasibility studies. An indicative map of a possible alignment for the Bridge is at Annex A for Members' reference. In parallel, each respective jurisdiction will also carry out all necessary statutory procedures and feasibility studies for the connecting infrastructure for the Bridge.

Landing Point and Connecting Infrastructure in Hong Kong

8. We completed a Preliminary Environmental Review (PER) in October 2002 for the possible landing points of the Bridge and the alignments of the connecting infrastructure in Hong Kong. We examined a large number of areas along the west coast of Hong Kong (including Black Point in Tuen Mun, San Shek Wan in Northwest Lantau, Yi O and Peaked Hill in Southwest Lantau etc.) based on environmental criteria such as ecology, water quality, air quality, landscape and visual impact. The landing points at Southwest Lantau would result in the shortest distance from Zhuhai and Macao, but they were not acceptable and were discarded as there is a

potential site for designation as a Marine Park in that area. Black Point was also considered but there were concerns on ecological grounds as it is the major feeding ground for comparatively denser population of dolphins. We propose that the landing point of the Bridge should be best at Northwest Lantau while Black Point is less favourable.

9. On Northwest Lantau, we have now identified two possible sites near San Shek Wan Headland as suitable locations to provide the landing point for the Bridge, and two possible alignments for the connecting infrastructure to link the Bridge with the existing road network and strategic facilities. The first option is indicated as Alignment 1 in Annex B. The connecting road will take the form of a short tunnel underneath the area south of Sha Lo Wan Village, exit as a trestle bridge near Hau Hok Wan to cross over to the Airport Island, run along Chun Wan Road, and then cross the waters east of the Airport Island to link with the North Lantau Highway.

10. The alternative landing point is further north and the alignment is indicated as Alignment 2 in Annex B. The connecting link will start from the landing point of the Bridge, cross the Airport Channel, run along the south coast of the Airport Island and join the local road network at the southeast tip of Airport Island. This link will also be further extended and linked up with the North Lantau Highway at Tai Ho as traffic builds up in the longer term. As compared to Alignment 1, this alternative will lessen the environmental impact arising from the project, obviate the need for tunneling and likely reduce the cost and construction programme.

11. A decision on the landing point for the Bridge in Hong Kong and the alignment of the connecting link will be made after we have completed the necessary environmental and engineering studies.

Boundary Crossing Facilities

12. Studies with the experts of Guangdong and Macao sides will be required on the arrangements for the boundary crossing facilities for the Bridge. We will look into the option of adopting an arrangement similar to the co-location arrangement adopted for the Hong Kong-Shenzhen Western Corridor, but this can only be ascertained after the agreements of the parties concerned have been obtained.

Investigation and Preliminary Design

13. We need to conduct an investigation and preliminary design study for the section of the Bridge within Hong Kong territory as well as the connecting link for

connection to our local transport network. The Environmental Impact Assessment (EIA) process and initial engineering design work will also need to commence. For the Hong Kong section of the Bridge, we will include in the EIA the possible alignments identified. Our findings and decision on the final alignment will be reported to the Advance Works Co-ordination Group to facilitate overall planning for the Bridge.

14. The boundary of the study area is shown at Annex B. The scope of the study will include a review of the findings of previous studies, and an examination of alignments and design options; miscellaneous impact assessments (environmental, traffic, marine and aviation, etc.); engineering study, conceptual design for the Hong Kong section of the Bridge and preliminary design for the connecting infrastructure; supervision of site investigation; and site investigation.

15. We have submitted a project profile for the EIA study, a copy of which is attached at Annex C. We have separately commenced an Ecological Baseline Survey in September 2003 for the timely collection of key ecological information for the EIA study. The survey period begins from mid-September, with a flexible end date to allow us to take into account the requirements to be imposed by the Study Brief to be issued by the Environmental Protection Department.

Programme

16. A programme for the Bridge and the connecting link will have to be coordinated and discussed with Guangdong and Macao Governments.

Advice Sought

17. Members are invited to note the content of this paper and give comments on the environmental aspect of the project.

Environment, Transport and Works Bureau
October 2003