

Executive Summary

Thailand and Cambodia are neighboring countries sharing a substantial long border. Currently, a lot of activities are carried out along the border of the two countries. Most transportation facilities have been heavily damaged and lack of sufficient maintenance due to budget shortfall, thus this cannot respond to the increasing traffic and are major constraints to economic growth and social development. However, with foreign assistance including Thailand, some strategic roads have been improved. The development of Road Number 67 (Sa Ngam – Anlong Veng – Siem Reap) linking Cambodia and Thailand is a project among many projects that needs to be improved at the first priority. The Royal Thai Cabinet, on 10 June 2003, approved the assistance to Cambodia to develop the Road No. 67 in Cambodia as follows: i) construction of road from Thailand border at Sa Ngam pass to Anlong Veng about 20 kms. ii) Emergency maintenance from Anlong Veng to Siem Reap about 131 kms. iii) Conduct the feasibility study and detailed design from Anlong Veng to Siem Reap.

The Feasibility Study on Economic, Engineering and Environmental Impact of the National Highway Number 67 (Sa Ngam – Anlong Veng – Siem Reap) is essential for the evaluation process and help decide whether the investment for the project is viable or not. In addition, the preliminary environmental considerations for the project area are needed in order to propose mitigation measures to minimize the impacts, which will occur during construction and operation phases. The study covered 5 major areas, including (i) socio-economic study, (ii) traffic study, (iii) engineering study, (iv) environmental study, and (v) economic evaluation. Since the section of the road in Cambodia from Sa Ngam Pass to Anlong Veng is under construction by the grant aid from Thailand, therefore the section is omitted from the feasibility study.

The socio-economic study covers two northwest provinces of Siem Reap and Odor Meanchey. The influence area covers the four provinces in Thailand near the project area namely; Si Sa Ket, Surin, Buri Ram, and Ubon Ratchathani of the Northeastern

region. The study shows that Siem Reap has a potential for economic development. It is prioritized in a certain sectoral development in terms of rural development, agriculture, health, education, water and sanitation, rural infrastructure, and cultural and environmental tourism. As a tourism province, culture and fine arts is also a key sector to develop in order to promote Khmer entities through traditional performances, sculptures and handicraft. Tourism would bring so much benefits for Thai and Cambodian especially people living in influence areas. It creates the jobs in services as well as absorbs products from the Cambodia's agriculture and handicraft as well as Thailand's One Tambon One Product (OTOP), generating income and employment. In addition, the economy would be benefit from inflowing of foreign currencies. Consequently, the implementation of this project would surely help contribute to the improvement of people's living condition and accelerate the economic growth in both Thailand and Cambodia.

The traffic study aims to analyze the road network and road traffic in study area, which cover the whole project alignment and the influence areas that may be affected by the improvement of Road Number 67. The traffic forecast (i.e., traffic growth rate) is mostly relied on the Cambodia Transport Rehabilitation Study,1995 and the Provincial and Rural Infrastructure Project (PRIP) July, 2003. The traffic volume in the design year comprises of 2009, 2013, 2018, 2023, and 2028 which are based on the base year trip matrix (DOH traffic count on 2004) and projected according to the projection of socioeconomic planning parameters. It was found that traffic growth rate for all vehicle types ranges 8-10%. Motorcycle has the highest proportion of traffic volumes in terms of vehicle per day while cars and pickup occupy mostly in terms of PCU per day.

The engineering study focuses on description of existing highway condition and constrains at Apsara Reservation Zone, soil and material investigation, road cross section, criteria and concept for engineering design, and cost estimation. The design standard of this route reflected from the travel demand of the project and international standard, ASEAN Highway, thus the improved road condition would be the paved road carriageway 7 meter width, shoulder 1.5 meter width on each side, and total 10 meter

width. The design surface is double bituminous surface treatment fully paved 10 meters. The estimated project cost is 1,169 Million Baht (29.2 Million USD).

The environmental study examines the potential environmental effects from the construction of the proposed project. The study finds that the development along this route has no significant impact to the environment as well as the social condition; however, the study team has provided the information for the developer awareness and monitoring in the sensitive area. The environmental effect mitigation and monitoring during the project life still be the issue to consider.

The economic evaluation proposes to identify the quantifiable cost and benefit to show the viable of the project, by using the three economic evaluation indicators, Economic Internal Rate of Return (EIRR), Net Present Value (NPV), Benefit-Cost Ratio (B/C). Several assumptions were made for the evaluation which are: discount rate is 12 percent, project life is 20 years, base year of calculation is 2006, salvage value is 50 percent of the project cost, and so forth. Consequently, the project comes up with the EIRR 15.88%, the NPV 8.06 million USD, B/C Ratio 1.40. Moreover, the study also provides the sensitivity analysis of the project under the case of 10-20 percent increase in cost and 10-20 percent decrease in benefit. Results from the economic analysis revealed that the project is viable for immediate implementation.