

Asian Development Bank

**T.A. No. 6195-REG:
GMS Transport Sector Strategy Study**

**Recommendations on Strategic Objectives and
Directions for the Sector**



**9th Meeting of Subregional Transport Forum, Beijing, 1 June
2005**

ADB TA 6915 REG – GMS Transport Sector Strategy Study - Recommendations on Strategic Objectives and Directions for the Sector

I INTRODUCTION

1. The objective of the GMS Transport Sector Study is to prepare: “a vision and strategy to develop a comprehensive Greater Mekong Subregion (GMS) transport network, which will link the GMS countries in an efficient and sustainable manner. The transport network will help realize GMS objectives, particularly to become competitive. The transport network will be established chiefly by developing GMS-wide multimodal transport systems encompassing all current and possible future modes in the GMS: road, rail, inland water, sea, and air.”¹ The purpose of this paper is to report on the emerging strategic objectives and directions for the GMS transport sector following the Consultant’s first two months of field work in all GMS countries, and recommend a prioritization mechanism to guide the rest of the study.

2. The execution of a new Transport Sector Strategy Study was proposed at the 8th meeting of the Subregional Transport Forum in Phnom Penh in August 2004, and endorsed by the 13th Ministerial Conference in Vientiane in December 2004. Clearly, this is an excellent time to be developing a transport strategy for the GMS. There has been a transformation in attitudes towards cooperative economic development, not only in the GMS, but in the Subcontinent and beyond. Governments increasingly realize the synergies obtainable from pooled endeavors and from cooperation between the private and public sectors in fields such as transport. The GMS economies are dynamic, rapidly evolving and characterized by increasing liberalization and transparency, equal opportunity and the acceptance of a level playing field for all participants. The enhancement of economic development potential is a general objective and seen as the primary means of escaping from poverty and of achieving social as well as economic objectives. Economic efficiency is now essential to capture market share in a highly competitive world economy.

3. The GMS transport system is far from efficient in world terms, penalizing users with extra time and transport costs and reducing the competitiveness of GMS traders. Improving the system will be widely beneficial, directly to users and indirectly through its stimulus to trade and economic growth. During the factfinding mission, several issues became apparent: (i) the provision of access remains an important factor with several missing links being identified for future construction or rehabilitation; (ii) sustainable maintenance of improved facilities is a concern in several countries, both from HRD and funding perspectives; (iii) all countries recognize the importance of a logistics orientation to better serve current and potential shippers; and, (iv) future interventions must address “software” issues as well as infrastructure renewal and expansion. The situation of the GMS transport system and its competitive setting calls for a more explicit

¹ TA Terms of Reference, ADB, December, 2004.

economic efficiency dimension to future development of the network and the operations over it than was previously the case.

4. Within the transport sector, work commenced with the preparation of a *GMS Transport Master Plan* in 1993/94.² ADB has to date approved 11 GMS transport loan projects with the bank financing \$0.99 billion, co-financing of \$0.66 billion, and member countries financing \$1.03 billion. The first decade of the GMS transport program was focused on creating access in a subregion suffering from decades of economic stagnation and an attendant neglect of infrastructure maintenance and renewal.

5. The structure of the study reflects developments over the last decade. There are three principal outputs for the first part of the study which will culminate in the submission of a draft final report in mid-July, 2005: (i) the development of a draft strategy to strengthen GMS-wide transport efficiency and accessibility; (ii) the preparation of an associated long list of interventions, both specific projects and policy initiatives, to implement the strategy; and (iii) the development and agreement of prioritization criteria for the selection of a short list of projects and policy initiatives for subsequent detailed study. This paper is concerned with objective (iii), the setting out of a draft prioritization methodology for discussion at the Subregional Transport Forum in Beijing on 1-2 June 2005.

6. The strategic objectives proposed for the study are: (i) the completion of basic access through the construction or rehabilitation of missing network links; (ii) the achievement in the medium term of sustainable maintenance over the GMS network so as to preserve the asset value that has been created or renewed through the considerable investments undertaken by GMS countries and their development partners; and (iii) a significantly more efficient level of operations over the network that facilitates the competitiveness of GMS shippers and enables the free passage of GMS residents and tourists along GMS transport links.

7. All of these objectives it is argued are best evaluated through a three step process: (i) a qualitative test confirming that the project or policy initiative is formulated in line with GMS objectives and promotes the strategic framework; (ii) an economic efficiency test confirming that the initiative has a positive economic net present value (ENPV) at the applied discount rate; and, (iii) a balance test that ensures that the strategy is characterized by an acceptable relationship among countries, corridors and modes.

8. The outcomes of the interventions to be proposed under the strategy arising from a globally competitive GMS transport system would include: (i) lower costs to consumers and producers arising from reduced import costs; (ii) more competitive exports which cost less to transport to local and regional markets or to global market transfer locations; (iii) reduced travel times on the part of GMS residents and tourists alike; (iv) a more attractive environment for inbound investment featuring high-quality transport links. All outcomes would contribute substantially to an enhanced standard of living throughout the GMS.

² *Subregional Transport Sector Study for the Greater Mekong Subregion*. ADB, October, 1995.

II GMS STRATEGIC FRAMEWORK OBJECTIVES

9. The general objectives of the GMS strategic framework are to:

10. **Strengthen infrastructure linkages through a multisectoral approach.** Initiatives include: (i) integration of GMS programs with national development plans; (ii) building physical infrastructure including transport; and (iii) linkage to agricultural development projects at the national level.

11. **Facilitate cross-border trade and investment.** In addition to the ongoing work on the Agreement for the Facilitation of the Cross-Border Movement of Goods and People, other objectives include trade financing, investment promotion and tourism promotion. The transport aspects of tourism promotion projects are being considered in an ongoing TA.

12. **Enhance private sector participation in development and improve competitiveness.** The private sector currently furnishes the vast majority of services for road transport and for coastal and inland/waterways. Government involvement remains significant in the provision of civil aviation and rail services. Infrastructure provision and maintenance is also the preserve of most governments, with in the case of the PRC and Thailand a number of privately financed toll roads have been implemented. The provision and operation of airports has also been privatized in some instances in Cambodia, Lao PDR and Thailand, and private airlines are operating in Thailand and Cambodia.

13. **Develop human resources and skill competencies.** Subregional cooperation in this area includes: (i) capacity building to address cross-border human resource development and labor market issues; (ii) addressing health and social problems associated with mobile populations; and (iii) networking higher education and training institutions. The GMS transport sector, like other GMS service sectors, is characterized by skills deficiencies. Some smaller countries as well have capacity issues as far as long term sustainable maintenance of renovated transport links is concerned.

14. **Protect the environment and promote sustainable use of shared national resources.** This strategic thrust includes: (i) subregional monitoring of the cumulative environmental impact of development; (ii) sound practices for sustainable use of shared resources, and (iii) participation in international environmental initiatives.

15. All of these objectives are consistent with and will be promoted by an economically efficient transport sector. None is in conflict with the proposed prioritization methodology.

III TRANSPORT SECTOR DEVELOPMENT AND FLAGSHIP PROGRAM OBJECTIVES

16. The development matrix for the transport sector is based on the premise that road, rail, water and air transport systems, together with telecommunications systems, must be strengthened to set up better GMS networks and to strengthen linkages with other networks in Asia and elsewhere.

17. The objectives of the **North-South Economic Corridor** flagship initiative are: (i) to facilitate trade, investment and development between and among Cambodia, Lao PDR, Myanmar, PRC, Thailand and Viet Nam; (ii) to reduce transport costs in the corridor area and make the movement of goods and passengers more efficient; and, (iii) to reduce poverty, support development of rural and border areas, increase the earnings of low income groups, provide employment opportunities for women and promote tourism.

18. The objectives of the **East – West Economic Corridor** flagship initiative are: (i) to further strengthen economic cooperation and facilitate trade, investment and development between and among Lao PDR, Myanmar, Thailand and Viet Nam; (ii) to reduce transport costs in the corridor area and make the movement of goods and passengers more efficient; and (iii) to reduce poverty, support development of rural and border areas, increase the earnings of low income groups, provide employment opportunities for women and promote tourism.

19. The objectives of the **Southern Economic Corridor** focusing on Cambodia, Thailand and Viet Nam are consistent with the vision of the GMS of a prosperous, equitable and integrated subregion. Strategies for achieving these objectives include: (i) improving infrastructure connecting major cities; (ii) facilitating cross-border trade and private investment; (iii) developing tourism and agriculture; (iv) protecting the environment and managing water resources; and (v) enhancing productivity and competitiveness.

20. The reduction in transport costs is addressed directly in the objectives of the North – South and East-West Economic Corridors and strongly implied by objective (i) of the Southern Economic Corridor.

21. Closely related flagship programs include: (i) facilitation, cross-border trade and investment; (ii) telecommunications backbone and information and communications technology (ICT); and (iii) GMS tourism development.

IV SELECTION METHODOLOGY

22. To be generally acceptable, a selection methodology must be transparent, equitable and appropriate to best achieve the study objectives. The latter can be formulated as: **maximizing GMS transport efficiency to minimize GMS transport costs**. These are strict economic objectives and their relative achievement can be tested in project and policy cost benefit analyses. Provided that such analyses are undertaken on a consistent basis and set out all key assumptions, the results will also satisfy the transparency test. The equitability criterion is far more difficult to satisfy, but it is in a sense satisfied by the economic test. If a project or policy initiative contributes to increased efficiency in the transport sector, by reducing transport costs and increasing modal and route choice (and thereby also competition), it can reduce the cost of distribution which has a direct and beneficial impact on cost of living. It also lowers the barrier for new and expanded economic activities which, in turn, increase incomes and employment.

23. The GMS encompasses a wide range of income levels, likely economic growth rates and income distributions. Potential initiatives cover a range from primarily GMS-oriented to primarily domestic-oriented, relate to specific modes and to inter-modal transport, range from minor to major projects and address from primarily short-term to long-term objectives. It is impossible in such circumstances to be equitable to all interests: any selection methodology will be biased in one respect or another. Acknowledgement of this fact is the starting point in achieving a consensus.

24. If all countries can accept the primacy of economic efficiency as the objective, then not only can a relatively simple prioritization be achieved, but the results should readily gain general acceptance, whereas with alternative methodologies this is seldom achievable. The proposed methodology focuses on three key issues: (i) ensuring that the projects and policies are adequately scrutinized, and where necessary refined, before further evaluation; (ii) confirming their contribution to economic efficiency through cost benefit analysis; and (iii) carefully reviewing the results of steps (i) and (ii) to ensure that the transport strategy, investment program and set of policies is not only economically efficient, but offers the best possible mix of initiatives for the GMS. A three-step selection procedure is recommended.

Step 1: Qualitative Test

25. The qualitative test will consider whether the project/policy initiative is properly defined for GMS purposes (with particular attention to scope of work, the addressing of risk factors, other necessary measures to fulfill the objectives); whether it promotes the GMS strategic framework and transport sector objectives; whether it is the best solution for the particular problem it addresses; which objectives does it further and how does it further them. This step is frequently omitted, resulting in sub-optimal definition, with projects/policies based on outdated agendas or assumptions. It is necessary to be critical at this stage and to be sure that projects/policies address current and future circumstances and focus on the international aspects of transport development within and without the GMS.

Step 2: Economic Test

26. The economic test will address the economic efficiency of the project/policy initiative, as to whether it produces an acceptable time flow of benefits. The economic indicator to be calculated will be the economic net present value (ENPV) of the cost and benefit streams, discounted at the test discount rate. A strong test of economic efficiency is to maximize ENPV for a given amount of investment.

27. As was the case in the first decade of the GMS Program, the main quantifiable benefits from the road construction and maintenance capacity-building projects are operating cost and time savings attributable to freight and passenger traffic. Expected benefits from induced trade are also estimated. Employment benefits during construction or upgrading of roads is yet another consideration. Long-run benefits can be enhanced by removal of barriers to trade, and completion of the transition to more market-based economic systems.

28. The main quantifiable economic benefit from railway projects is savings in transport costs relative to road transport costs. A high volume of freight traffic is necessary to justify the heavy investment involved. Water transport projects will improve navigation and navigation safety, thereby facilitating the development of trade and tourism and poverty reduction. Benefits from port projects would include ship time and cargo handling savings, reduced insurance premiums, and savings in inland transport costs. Benefits from air transport improvements include the development of international trade and tourism, increased economic activity in export-oriented high value and perishable manufactured and agricultural goods, time savings for flight passengers, increased over flight revenues, aircraft operating cost savings, and increased safety, efficiency, and convenience.

29. Costs and cost-savings are generally expressed in the following terms for non-tradable goods:

$$\text{Economic Costs} = \text{Financial Costs less taxes plus subsidies}$$

30. Economic costs are also referred to as “resource” costs because they represent the costs incurred in providing transport infrastructure or services net of transfer payments to governments (taxes) and from government (subsidies). For traded goods, such as petroleum products and transport equipment including vehicles, a border or world price is recommended.

31. The analysis of the economic benefits of initiatives concerned with institutional strengthening and further involvement of the private sector; capacity building and human resource development; policy and regulatory framework changes; and harmonization are somewhat more complicated because the links between expenditure (cost) and outcome (benefit) are less evident than they are in the case of infrastructure renewal and maintenance capacity building projects. Nevertheless, they are real and measurable and can similarly be submitted to an economic analysis, although it will be incumbent on the Consultant to spell out assumptions very clearly. Such benefits are likely to arise as: (i) reduced transaction costs leading to improved competitiveness and lower costs of living; (ii) more attractive environments for inbound investment; and, (iii) enhanced ability to exploit the comparative advantage offered by the region. Expanded sensitivity and stochastic risk analyses will assist in illuminating the veracity and robustness of the analysis.

Step 3: Balance Test

32. The balance test will consider the overall result of the prioritization, whether it results in a transport plan that has an acceptable mix of initiatives, considering issues such as social and poverty impact,³ country, region and corridor balance, distribution of initiatives between modes and consistency of spending over the 10-year period. This step is analogous to the political process of reconciling the budget claims of competing departments. It requires complete objectivity and a commitment to the overarching goal

³ This will be based on national poverty alleviation strategies wherever possible.

of the study – to achieve the best practical program of measures to carry out the agreed strategy.

33. To choose is to exclude and it must be recognized that the above procedure may sideline highly regarded projects and policies. It would however do so in the general best interests of GMS economic development. The methodology is commended to the senior officials meeting for discussion and refinement.

V RELATIONSHIP TO GMS STRATEGIC FRAMEWORK, TRANSPORT FLAGSHIP PROGRAMME OBJECTIVES AND POVERTY ALLEVIATION

GMS Strategic Framework

34. The prioritization based on ENPV is directly congruent with the first three Strategic Framework Thrusts; namely, Strengthen infrastructure linkages through a multisectoral approach, facilitate cross-border trade and investment, and, enhance private sector participation and improve competitiveness. The fourth thrust of developing human resources and skills competencies will be an enabling one for transport sector strategy development in that the further development of the logistics industry will be critically dependent on significant HRD programs as will the ability of subregional transport organizations to maintain newly constructed or rehabilitated infrastructure. The protection of the environment has long been incorporated into transport project analysis.

GMS Flagship Programs

35. It was earlier argued that the use of the ENPV is aligned with transport cost reduction goals implicit in economic corridor projects. The development of the telecommunications backbone is critical to the formulation of the transport sector strategy because further development of the logistics orientation of increasing importance in all GMS member countries is crucially dependent on information flows that take place in real time thus enabling shippers to know where their cargoes are at all times. Similarly, passenger transport companies increasingly depend on close monitoring of the position of their passenger conveyances. Lastly, the development of human resources and skills competencies is critical for the future development of the transport sector.

36. The ENPV is directly aligned with the facilitation of cross-border trade and investment, the enhancement of private sector participation and competitiveness, and tourism development in the GMS.

Poverty Alleviation

37. Poverty alleviation, along with good governance, and regional cooperation were motivating factors in the early formulation of GMS programs. They remain important today, in that all GMS countries have strong commitments to poverty alleviation. It is now recognized however, that in many cases, economic growth in and of itself can have a powerful impact on poverty alleviation. In the past twenty years, the PRC has managed to lift 400 million people above the generally recognized poverty threshold of

US\$ 1/day. The PRC has consistently been among the leaders in economic growth in Asia over the last few years as Table 1 demonstrates.

Table 1: GDP Growth Rates of GMS Member Countries

Country	GDP Growth (% per annum) by Year			
	2001	2002	2003	2004
Cambodia	5.7	5.5	5.2	4.5
Lao PDR	5.8	5.9	5.8	6.5
Myanmar	11.3	10.0	10.6	Na
PRC	7.3	8.0	9.1	8.8
Thailand	2.1	5.4	6.8	6.4
Viet Nam	5.8	6.4	7.1	7.5
East Asia Average	4.6	6.7	6.5	7.3
Southeast Asia Average	1.9	4.4	4.8	6.2

Source: *Asian Development Outlook Update 2004*, ADB.

38. A recent World Bank publication confirms that the sort of economic growth policies favored by China over the past 20 years can have significant impacts on poverty alleviation.⁴ A more efficient transport system can enable GMS countries to maintain higher growth rates than their near neighbors as they have been doing over the years since the millennium.

39. In framing the transport sector strategy, poverty alleviation can also be addressed more explicitly through the formulation of country road programs that connect rural areas to the infrastructure improved under GMS initiatives. This point was made forcefully at the Mekong Development Forum held in Paris in June, 2004. The Consultant has discussed this issue with several GMS transport ministries. It is also important to note that the development and renewal of the inland waterway system has also been found to be effective in reducing poverty.

VI CONCLUSION

40. The proposed prioritization methodology has been shown to be dependent on some GMS strategic framework thrusts and supportive of others. The same applies as regards the GMS flagship programs. Finally, the prioritization criteria proposed is congruent with the procedures of most development partners. It is also applicable to programs mounted by the PRC through bilateral assistance being provided to other GMS members on various crucial corridor connection schemes and by Thailand through ACMECS. It is thus recommended for consideration by the Senior Officials Meeting.

⁴ *Measuring Empowerment: Cross-Disciplinary Perspectives*, edited by Deepa Narayan, World Bank, 2005, quoted in "The Economist" May 14, 2005.