

The background of the cover is a blurred photograph of high-speed train tracks, showing multiple parallel tracks receding into the distance. The tracks are illuminated by bright light, creating a sense of motion and speed. The colors are primarily warm, with yellows, oranges, and browns, and the overall effect is a dynamic, forward-looking perspective.

# INITIAL REVIEW OF THE GREATER MEKONG SUBREGION TRANSPORT SECTOR STRATEGY 2006–2015



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THE GREATER MEKONG  
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# Abbreviations

ADB	-	Asian Development Bank
ASEAN	-	Association of Southeast Asian Nations
CBTA	-	Cross-Border Transport Agreement
GMS	-	Greater Mekong Subregion
IED	-	Independent Evaluation Department
km	-	kilometer
Lao PDR	-	Lao Peoples' Democratic Republic
RIF	-	Regional Investment Framework
STF	-	Subregional Transport Forum
TA	-	technical assistance
TSS	-	Transport Sector Strategy Study
VPOA	-	Vientiane Plan of Action

## NOTES

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# Executive Summary

## A. INTRODUCTION

The Greater Mekong Subregion (GMS) Economic Cooperation Program started in 1992. A key transport sector initiative was the 2006 GMS Transport Sector Strategy (TSS), 2006–2015.\* The TSS, 2006–2015 has evolved through the years. First, its pipeline of projects was prioritized in the Vientiane Plan of Action (VPOA), with the overall subregional pipeline of projects endorsed by the Third GMS Leaders' Summit in 2008. More recently, the GMS countries have formulated a GMS Regional Investment Framework (RIF), which is a pipeline of new generation projects to implement the GMS Strategic Framework, 2012–2022, which was published in 2013. The RIF includes a new pipeline of transport and transport-related projects that are aligned with the new Strategic Framework.

Recently, the GMS countries saw the need to conduct a review of the TSS, 2006–2015 to assess its achievements and effectiveness. This initial review of the GMS Transport Sector Strategy, 2006–2015 is the first step in that review process, which will include a second deliverable: the suggested scope, approaches, and requirements for the full and final review of the TSS, 2006–2015 that will be carried out after the program's completion. The preparation of the final review and evaluation of the TSS, 2006–2015 will be comprehensive and

rigorous, and can be considered the second step in the process. This final evaluation, likely to be carried out by a consultant team, is expected to include site investigations and field data and information gathering. The preparation of the TSS, 2016–2022, if commissioned, would be considered the third step in the review process.

## B. EVOLUTION OF GMS TRANSPORT SECTOR PROGRAM

In 1995, the ADB formulated a Transport Master Plan that identified priority transport infrastructure investments. Subsequently, in 1998, this Transport Master Plan was updated to incorporate the corridor concept and identify three main corridors: North–South, East–West, and Southern. In 2003, the Transport Master Plan was upgraded to include the GMS Cross-Border Transport Agreement initiative.\*\* In May 2006, the TSS, 2006–2015 was published as the first comprehensive GMS transport infrastructure assessment. The TSS, 2006–2015 prioritized 36 transport investment projects. In 2008, the VPOA for GMS Development, 2008–2012 formalized a pipeline that included 44 transport projects. Some initial observations of the VPOA included the following: (i) selected projects were primarily based on a consultative methodology; (ii) projects were well-distributed among GMS

\* ADB. 2006. *GMS Transport Sector Strategy Study Final Report*. Manila.

\*\* A multilateral legal instrument among Greater Mekong Subregion (GMS) countries to allow easier (seamless) movement of people, goods, and vehicles across borders of member GMS countries.

countries; (iii) a number of projects were included before carrying out detailed scoping exercises and/or pre-feasibility studies; and (iv) although many of the projects considered traffic and demand as part of a formal project preparation or feasibility phase, the selection of other projects was primarily based on other considerations.

The most recent selection and prioritizing of GMS investment projects, the RIF, the pipeline of new generation projects to be implemented under the new GMS Strategic Framework, 2012–2022. The initial observations of the RIF are somewhat similar to those that applied to the VPOA: (i) although indicative guidelines for project selection were provided, some of the selected projects did not adequately reflect these guidelines; and (ii) projects were not well-distributed among GMS countries, but rather were skewed toward the Lao People’s Democratic Republic (Lao PDR).

### C. ASSESSMENT OF RATIONALE: DYNAMIC CHANGES VS. EVOLUTION OF GMS PROGRAM

From a global perspective, all transport subsectors are subject to continuing change. The ability to adapt transport programs and projects to the dynamics of change are important, particularly with regard to project sustainability. Supporting projects that develop transport services and meet the needs of the market economy is a key challenge across the GMS region. Often, this means attempting to optimize transport networks with the overarching objective being to reduce the transportation costs of goods and people in order to raise the competitiveness of the region. Adjusting to the dynamics of a particular transport sector often means supporting

privatization of commercial transport services and the corporatization of state transport operators, or providing technical assistance (TA) for streamlining transport operations.

### D. EVALUATION OF PERFORMANCE OF THE TSS, 2006–2015

The TSS, 2006–2015 cited five overarching goals: (i) exploit synergies in the GMS transport system, (ii) move toward an open market for transport services, (iii) facilitate economic efficiency to reduce transport costs, (iv) complete the GMS transport network and improve links with South Asia, and (v) encourage multi-modalism. The evaluation of these goals will form the primary basis for this study, which will utilize an abbreviated form of the bottom-up assessment that is used by ADB’s Independent Evaluation Department (IED) and based on the five accepted evaluation factors: (i) relevance, (ii) effectiveness, (iii) efficiency, (iv) sustainability, and (v) development impact.<sup>\*\*\*</sup>

### E. LOGIC AND CONTINUITY BETWEEN THE TSS, 2006–2015 AND RIF, 2013–2022 AND ITS IMPLEMENTATION PLAN

The TSS, 2006–2015 consultant based its assessment on comprehensive transport planning guidelines and criteria. The assessment was systematic in its approach and methodologies. The RIF process was carried out in a more consultative manner between ADB and the GMS countries, both individually and as a group. However, there did not seem to be any uniform guidelines to classify or rank potential projects

<sup>\*\*\*</sup> IED is an independent arm of the Asian Development Bank (ADB) that reports to the ADB Board of Directors through the Board’s Development Effectiveness Committee, which evaluates ADB policies, strategies, operations, and special concerns that relate to organizational and operational effectiveness.

based on (i) regional and/or subregional factors such as development impact, connectivity, and strategic value; (ii) socio-economic aspects such as financial and/or economic viability, traffic, trade, and social and/or environmental aspects; or (iii) implementation readiness such as feasibility and/or design of ongoing or completed implementation scheduling, and the availability of financing. National priorities appeared to be the major consideration.\*\*\*\*

## F. SUMMARY

Overall, this assessment indicated a mixed performance for the TSS, 2006–2015 based on an assessment of the overarching goals upon which the study was based. One goal was highly successful, two goals were successful, and two goals were partly successful. If an equally weighted assessment of all goals were calculated, it would indicate a successful overall rating. A summary of these results is shown in Table 1.

**Table 1** Summary of Assessment of Overarching Goals

Overarching Goals	Assessment Factor					Overall Rating (WAS)
	Relevance	Efficiency	Effectiveness	Sustainability	Development Impacts	
Weight	0.111	0.222	0.222	0.222	0.222	1.000
Exploit Synergies in the GMS Transport System	<b>Highly Relevant</b> 3 x 0.111 = 0.333	<b>Efficient</b> 2 x 0.222 = 0.444	<b>Less Effective</b> 1 x 0.222 = 0.222	<b>Most Likely</b> 3 x 0.222 = 0.666	<b>Satisfactory</b> 2 x 0.222 = 0.444	<b>Successful</b> Total = 2.1
Move Toward an Open Market for Transport Services	<b>Highly Relevant</b> 3 x 0.111 = 0.333	<b>Less Efficient</b> 1 x 0.222 = 0.222	<b>Less Effective</b> 1 x 0.222 = 0.222	<b>Likely</b> 2 x 0.222 = 0.444	<b>Partly Satisfactory</b> 1 x 0.222 = 0.222	<b>Partly Successful</b> Total = 1.4
Facilitate Economic Efficiency to Reduce Transport Costs	<b>Highly Relevant</b> 3 x 0.111 = 0.333	<b>Highly Efficient</b> 2 x 0.222 = 0.666	<b>Less Effective</b> 1 x 0.222 = 0.222	<b>Less Likely</b> 1 x 0.222 = 0.222	<b>Satisfactory</b> 2 x 0.222 = 0.444	<b>Successful</b> Total = 1.9
Complete the GMS Transport Network and Improve Links with South Asia	<b>Highly Relevant</b> 3 x 0.111 = 0.333	<b>Efficient</b> 2 x 0.222 = 0.444	<b>Highly Effective</b> 3 x 0.222 = 0.666	<b>Most Likely</b> 3 x 0.222 = 0.666	<b>Highly Satisfactory</b> 3 x 0.222 = 0.666	<b>Highly Successful</b> Total = 2.8
Encourage Multi-Modalism	<b>Relevant</b> 2 x 0.111 = 0.222	<b>Less Efficient</b> 1 x 0.222 = 0.222	<b>Less Effective</b> 1 x 0.222 = 0.222	<b>Most Likely</b> 3 x 0.222 = 0.666	<b>Partly Satisfactory</b> 1 x 0.222 = 0.222	<b>Partly Successful</b> Total = 1.5

WAS = weighted-average score.

Notes: Rating scales (criteria weights) with scores for each rating:

- (i) Relevance (1/9): highly relevant (3), relevant (2), less relevant (1), irrelevant (0).
- (ii) Efficiency (2/9): highly efficient (3), efficient (2), less efficient (1), inefficient (0).
- (iii) Effectiveness (2/9): highly effective (3), effective (2), less effective (1), ineffective (0).
- (iv) Sustainability (2/9): most likely (3), likely (2), less likely (1), unlikely (0).
- (v) Development Impacts (2/9): highly satisfactory (3), satisfactory (2), partly satisfactory (1), unsatisfactory (0).
- (vi) Overall ratings: highly successful (2.7–3.0), successful (1.6–2.6), partly successful (0.8–1.5), unsuccessful (0.0–0.7).

Source: Author's calculations.

\*\*\*\* ADB, as part of its preparation of a Regional Investment Framework (RIF) Implementation Plan and in order to transform the RIF into a more realistic and implementable program, took many of these criteria into consideration in selecting the highest-priority flagship projects of the RIF.



# I. Introduction

Since the start of the Greater Mekong Subregion (GMS) Economic Cooperation Program in 1992, GMS countries have joined together in strengthening the underlying program of investments in all related sectors. A key initiative in this respect is the Transport Sector Study (TSS), 2006–2015,<sup>1</sup> which was agreed upon by all GMS countries at the 10th Meeting of the GMS Subregional Transport Forum (STF-10) held 21–23 March 2006 in Vientiane, the Lao People’s Democratic Republic (Lao PDR). Since then, the GMS countries have been implementing various transport interventions based on the TSS, 2006–2015.

The TSS, 2006–2015 has undergone an evolution since its adoption in 2006 by the GMS countries. First, its pipeline of projects has been further prioritized to become part of the Vientiane Plan of Action (VPOA). The overall subregional pipeline of projects for 2008–2012 was endorsed by the Third GMS Leaders’ Summit in Vientiane in March 2008 and covered the second half of the GMS 10-Year Strategic Framework, 2002–2012. Moreover, the pipeline has been further vetted, prioritized, and refined in subsequent meetings of the STF, and includes other planned transport interventions agreed upon either bilaterally or multilaterally by GMS countries.

More recently, the GMS countries have formulated the Regional Investment Framework

(RIF), the pipeline of new generation projects to implement the GMS Strategic Framework, 2012–2022 (sometimes referred to as the new Strategic Framework), which was adopted at the Fourth GMS Leaders’ Summit in Nay Pyi Taw, Myanmar in December 2011. The RIF includes a new pipeline of transport and transport-related projects that are aligned with the strategic directions in the new Strategic Framework, which includes initiatives to widen and deepen the GMS corridors, the adoption of multi-sector approaches, and further promotion of multi-modalism.

In consideration of these recent developments in the GMS transport sector, the GMS countries saw the need to conduct a review of the TSS, 2006–2015 to assess its achievements and effectiveness, as well as lessons learned, in particular, those that may be useful for the preparation and execution of the RIF Implementation Plan. This initial review of the TSS, 2006–2015 is the first step in the review process, and will include two deliverables: (i) this report; and (ii) the suggested scope, approaches, and requirements for the full and final review and evaluation of the TSS, 2006–2015, which is tentatively programmed for 2015. The impetus behind the preparation of this initial short assessment is to have a vehicle for discussion that can be tabled and discussed at the 18th Meeting of the Subregional Transport Forum (STF-18) held last 23–24 July 2014 in Ho Chi Minh City, Viet Nam,

<sup>1</sup> ADB. 2006. *GMS Transport Sector Strategy Study Final Report*. Manila.

with theme Implementing the New Generation of GMS Transport Projects. Two of the objectives of STF-18 are relevant to this report: (i) to finalize and endorse an Implementation Plan for the RIF pipeline of transport projects, including ways of mobilizing and/or finalizing the financing for the included projects; and (ii) to discuss the progress of work on the review of the TSS, 2006–2015.

The 2015 final review and evaluation of the TSS, 2006–2015 will be comprehensive and rigorous, covering the period from 2006 through the end of 2015, and can be considered the second step in the

review process. This final review and evaluation, likely to be carried out by a consultant team, is expected to include site investigations and field data and information gathering; the completion of detailed assessments based on both top-down ratings and bottom-up evaluations; and a comprehensive summary of lessons learned, conclusions, and recommendations.<sup>2</sup> If so required, it could also include an outline scope of work for carrying out a new sector strategy study: the TSS, 2016–2022. The preparation of the TSS, 2016–2022, if commissioned, would be considered the third and final step in the process.

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<sup>2</sup> To collect data from primary sources in accordance with ADB. 2010. *Revised Guidelines for the Preparation of Country Assistance Program Evaluations*. Manila.

# II. Evolution of GMS Transport Sector Program

## A. THE EARLY YEARS OF GMS TRANSPORT PLANNING

The concept of a GMS Economic Cooperation Program was initially formulated in 1992. Over the intervening 22 years, investments in the transport sector have primarily promoted regional integration, improved connectivity, and (to a lesser extent) directly facilitated trade among GMS members. In 1995, the Asian Development Bank (ADB), for the first time under the GMS program, formulated a Transport Master Plan that identified priority transport infrastructure investments. Subsequently, in 1998, the Transport Master Plan was updated to incorporate the corridor concept and identify three main corridors: North–South, East–West, and Southern. (The three corridors are often referred to as flagship corridors.) In 2003, the Transport Master Plan was further upgraded when the GMS countries agreed to include the Cross-Border Transport Agreement (CBTA) initiative in the plan.

By 2003, it became clear to GMS political leaders and transport ministers, as well as to ADB, that stronger transport systems and logistics were necessary to enhance GMS cooperation, and to improve economic linkages within the GMS and

with other counties and regions. In 2004, ADB provided technical assistance (TA), and in May 2006, ADB published the TSS, 2006–2015. The report was the first comprehensive GMS transport infrastructure assessment. From the three original corridors identified in 1998, the TSS, 2006–2015 expanded the concept to nine corridors (Figure 1).<sup>3</sup> Some of the key components included in the study were (i) an assessment of existing (2005–2006) transport demand throughout the GMS transport network; (ii) the identification of major constraints to transport flows; (iii) the preparation of an initial GMS-wide transport model sufficient to determine transport demand in the target year 2015; (iv) a proposed GMS transport strategy; and (v) the identification and prioritization of investment and technical assistance projects.<sup>4</sup>

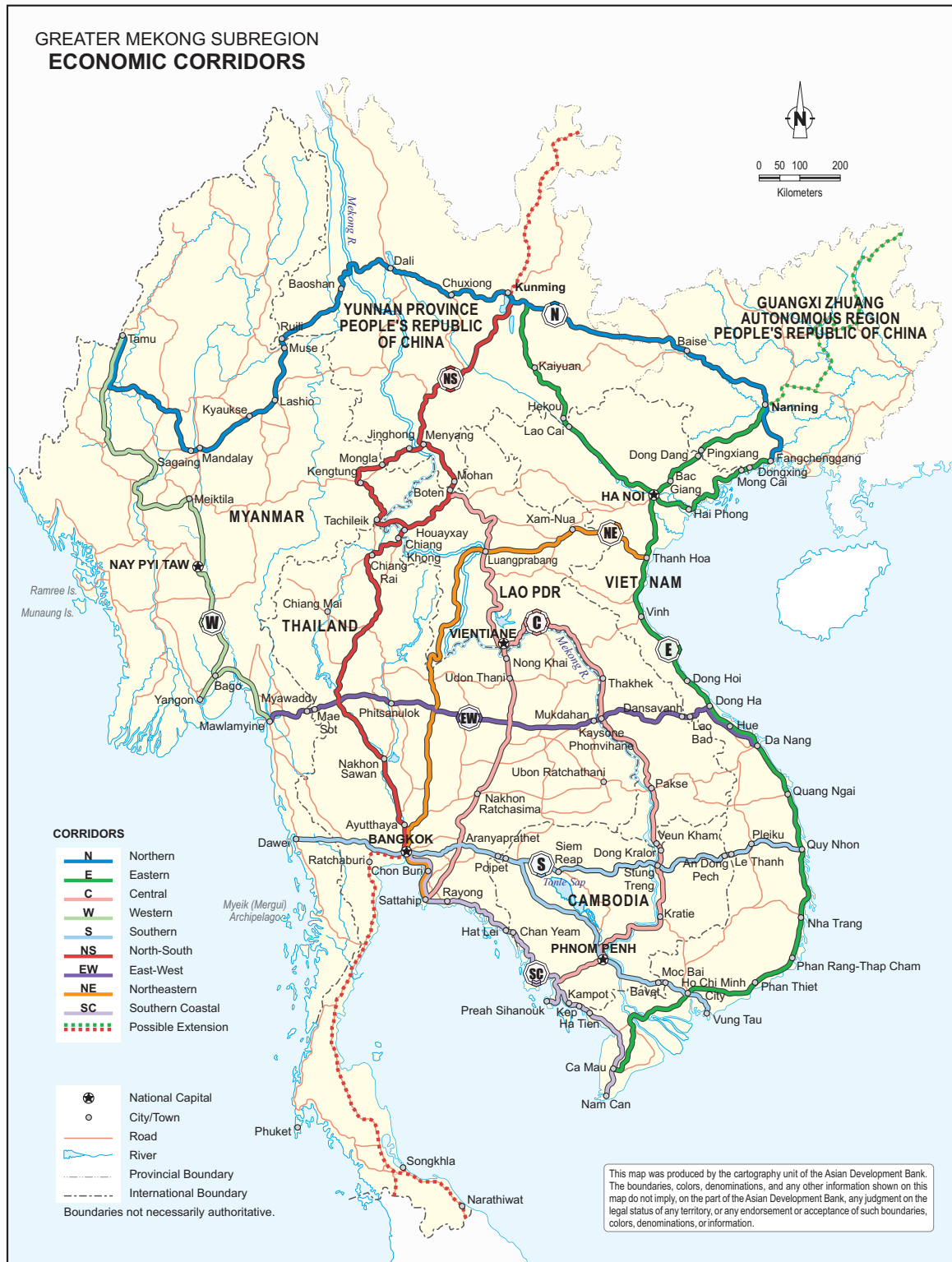
## B. CHANGES IN AND EVOLUTION OF THE TSS, 2006–2015

Due to the limited scope of the initial assessment, this section primarily focuses on the evolution of the process of prioritizing investment projects, beginning with the TSS, 2006–2015, then the VPOA, 2008–2012, and up to the present RIF, 2013–2022.

<sup>3</sup> (i) North–South Corridor: Kunming to Bangkok, (ii) Eastern Corridor: Kunming to Ca Mau, (iii) East–West Corridor: Mawlamyine to Da Nang, (iv) Southern Corridor: Dawei to Quy Nhon and Vung Tau, (v) Southern Coastal Corridor: Bangkok to Nam Can, (vi) Central Corridor: Kunming to Sihanoukville and Sattahip, (vii) Northern Corridor: Fangcheng to Tamu, (viii) Western Corridor: Tamu to Mawlamyine, and (ix) Northeastern Corridor: Thanh Hoa to Bangkok and Laem Chabang.

<sup>4</sup> The initial study report was not able to finalize the model with sufficient accuracy to use in individual project analysis and scheduling detail, but was able to adequately address project prioritization on a multimodal basis. The model was subsequently finalized by the TA consultant.

**Figure 1** GMS Economic Corridors in the TSS, 2006–2015



Source: Asian Development Bank.

The final assessment study to be tentatively carried out in 2015 will describe these changes in greater detail.

The TSS, 2006–2015 examined a long list of more than 150 projects for possible inclusion as prioritized investment projects. A comprehensive categorization of possible projects was undertaken, dividing projects into four categories: (i) projects sufficiently committed that further evaluation was not required (highest-ranked category); (ii) uncommitted projects, but prima facie of high priority (second-highest ranked category); (iii) uncommitted projects, but prima facie of moderate priority (third-highest ranked category); and (iv) projects unlikely to start by 2015 and/or prima facie of low priority (lowest-ranked category).

Of the 36 investment projects that were prioritized under the TSS, 2006–2015, 31 were subsequently evaluated, and the remaining five were directly designated as top priority based on results of other ranking studies. These 36 projects represented the various transport subsectors: 25 road projects, two railway projects, four airport projects, and five water transport projects. Implementation of these projects has essentially been completed; in a few cases, work is still ongoing. It is clear that both the methodology and thoroughness of the assessments and/or analyses of the TSS, 2006–2015 were not only appropriate, but also very comprehensive. Some of the initial observations of the methodology and quality of the TSS, 2006–2015 were (i) selected projects were clearly based on a deliberate and systematic methodology; (ii) the absolute number of prioritized projects (36) was a manageable number and well-distributed among GMS countries; and (iii) the ranking of projects appropriately

considered traffic and demand in the analysis, rather than primarily based on geopolitical or political considerations.

The next prioritization exercise took place in 2008 as a result of the 12th Meeting of the GMS Subregional Transport Forum in Da Nang, Viet Nam. The resulting project list is referred to as the VPOA, which was adopted by the Third GMS Summit. The VPOA resulted from consultations by and between GMS countries, with the assistance of ADB acting as the Secretariat. The VPOA included 44 transport projects, 40 of which were investment projects. By transport subsector, 27 were road, four were rail, five were air, and four were water transport and/or maritime projects. The remaining four were policy or capacity and institutional development projects. Eleven of the 40 investment projects were carried over from the TSS, 2006–2015 priority project listing, which, in terms of continuity between the two exercises, is considered a positive. A status report of the VPOA was presented at the 16th Meeting of the GMS STF in Nay Pyi Taw, Myanmar in October 2012, based on data from mid-2011, which was about the 3-year milestone of the 4-year program.<sup>5</sup> It was noted that (i) 16 projects, or 40% of the selected investment projects, showed little if any progress and were still using original budget cost data; (ii) 8 projects, or 20% of the selected investment projects, still used the term “to be determined” with regard to the estimated cost of the project; and (iii) 9 projects, or nearly 25%, were still being planned or implemented. There were significant estimated price increases indicated in the status report. The median amount being a 43% increase; whereas two projects in Thailand indicated estimated cost decreases of 18% and 24%. Some initial observations of the

<sup>5</sup> ADB. 2011. *Status Report on the Vientiane Plan of Action for the GMS Development, 2008–2012*. Manila.

VPOA are that (i) selected projects were primarily based on a consultative methodology; (ii) the absolute number of prioritized projects (40) was a manageable number and well-distributed among GMS countries; (iii) a number of projects included detailed scoping exercises and/or pre-feasibility studies prior to implementation; and (iv) many of the selected projects appropriately considered traffic and demand as part of a formal project preparation or feasibility phase, though it appeared that the selection of other projects were primarily based on other considerations.

The most recent selection and prioritizing of GMS investment projects took place during the preparation of the RIF, the pipeline of new generation projects to implement the GMS Strategic Framework, 2012–2022. The Fifth Economic Corridors Forum (ECF-5) held in Bangkok, Thailand in August 2013 established the following strategic principles for pipeline preparation:

- fill the remaining gaps in GMS transport corridors, especially connections with Myanmar;
- prioritize projects that strengthen GMS connectivity, increase trade, and promote inclusive growth;
- help transform GMS transport corridors into true economic corridors;
- maximize multimodal transport linkages via roads, and modal transport linkages via roads, railways, ports, and inland water transport; and
- expand the horizon of connectivity, including linkages with South and Central Asia.

A list of indicative guidelines for identifying projects for inclusion in the RIF pipeline was provided to all GMS countries. As was the case with VPOA, there was no overall study (or assessment) conducted to rank RIF projects in terms of these guidelines and/or traffic and demand, although some of the projects were the results of individual project preparatory TAs and feasibility studies. The RIF selected 84 investment projects, 52 in the road subsector, 18 in rail, 11 road and rail bridges, seven water transport and/or maritime, and seven other projects (primarily infrastructure projects at border crossings). This selection, differing from the VPOA, also gave ranking to each project: high (83%), medium (10%), and low (7%). What was most unusual about the project listing was that it was greatly skewed toward the Lao PDR projects. The Lao PDR, the smallest GMS country with a population of about 6.5 million, accounted for almost 40% of the projects and about 30% of the cost of the entire program. In terms of investment cost per capita, the skew was even more severe. Focusing on the four poorest countries in the GMS, the approximate investment costs per person were \$39 per capita for Myanmar, \$56 per capita for Viet Nam, \$158 per capita for Cambodia, and \$2,032 per capita for the Lao PDR.<sup>6</sup> The initial observations of the RIF are somewhat similar to those that were applied to the VPOA: (i) although indicative guidelines for project selection were provided, some of the projects selected did not adequately reflect these guidelines; (ii) the number of prioritized projects (84) was a manageable number for this 10-year program, but projects were not well-distributed among GMS countries and were heavily skewed toward the Lao PDR.

<sup>6</sup> It was noted that two of the Lao PDR projects, the Vientiane–Boten Railway Project (\$7.2 billion) and the Savannakhet–Lao Bao Railway Project (\$4.2 billion) accounted for \$11.4 billion, or about 85% of the total investment plan of the Lao PDR, but even without these two projects, the cost of the remaining 31 Lao PDR projects would still result in an investment cost of \$273 per capita, or about 73% more per capita than Cambodia and about triple the investment cost per capita of Viet Nam.

### III. Assessment of Rationale: Dynamic Changes vs. Evolution of GMS Program

This section briefly addresses the rationale of dynamic changes vs. developments in the transport sector and related subsectors as it affects GMS project programming. From a worldwide viewpoint, all transport subsectors are subject to continuing dynamic changes. Some subsectors, such as aviation and maritime, are more dynamic than others, probably because they are strongly aligned with the more dynamic elements in the private sector (e.g., international container shipping lines, new aviation technology) than other modes. But change and the ability to adapt transport programs and projects to the dynamics of change are important, particularly with regard to project sustainability.

Supporting projects that develop transport services which meet the needs of the market economy are a key challenge across the GMS region. Often this means attempting to optimize transport networks, with the overarching objective of reducing the costs of transporting goods and people in order to

raise the competitiveness of the region. Optimizing transport networks means that projects should not be viewed in isolation from the overall network, which unfortunately has often been the case in the selection of individual transport investment projects that were proposed for inclusion in the VPOA or RIF.

Adjusting to the dynamics of a particular transport sector often means supporting privatization of commercial transport services and the corporatization of state transport operators, or providing TA for streamlining transport operations. In the rail subsector, it can mean giving TA to support the separation of infrastructure from freight and passenger operations, and often the separation of operations along business lines. In the road subsector, it means increased support for private sector participation in contract maintenance, possibly through build, operate, and transfer concessions; management or service contracts; or other types of public-private partnerships.

# IV. Evaluation of Performance of the TSS, 2006–2015

## **Toward seamless transport services on a fully connected and integrated GMS network.**

This oft-quoted theme of the TSS, 2006–2015 attempted to build upon the theme of the Kunming Declaration—a stronger GMS partnership for common prosperity—while focusing the transport sector.<sup>7</sup> This vision of transport services operating seamlessly along the fully connected and integrated multimodal transport networks of the six GMS members is as relevant today as it was in 2006. In conjunction with this theme, the TSS, 2006–2015 cited five overarching goals with which to align the proposed strategy:

- (i) **Exploit synergies in the GMS transport system.** Although exploiting synergies may seem to be esoteric terminology, the goal can easily be conceptualized in terms of GMS transport agencies, with officials and civil society working together and sharing the same resources, addressing common issues, coordinating efforts to avoid duplication, exploring new ideas, managing and optimizing limited resources more efficiently, and building strong lobbies and regional partnerships.
- (ii) **Move toward an open market for transport services.** This is a basic goal of all regional transport associations worldwide, as well as a core principle of the Master Plan on

ASEAN Connectivity.<sup>8</sup> The worldwide trend is toward more open cross-border movement, exemplified by the European Union, where borders have effectively been scrapped, and the North American Free Trade Agreement, where trade between Canada, the United States, and Mexico has more than tripled in the first 20 years of its existence—from \$290 billion in 1993 to more than \$1.1 trillion in 2012—and cross-border investment and travel between the three countries have surged.<sup>9</sup>

- (iii) **Facilitate economic efficiency to reduce transport costs.** Improving economic efficiency in the context of a regional transport strategy can take many forms: from more effective transport network maintenance, which in terms of the GMS would primarily focus on more effective road maintenance, to more efficient cross-border movement of freight and passenger traffic, and could encompass increased efficiency in policy and project decision-making, all of which would lead directly to reduced transport costs. It is a logical pillar upon which to build a transport strategy.
- (iv) **Complete the GMS transport network and improve links with South Asia.** To many observers the first part of this visible goal, completing the GMS transport network,

<sup>7</sup> GMS. 2005. *Second Greater Mekong Subregion Summit*. Kunming, Yunnan, People's Republic of China.

<sup>8</sup> ASEAN. *Master Plan on ASEAN Connectivity*. As endorsed by ASEAN leaders in October 2009 in Cha-am Hua Hin, Thailand.

<sup>9</sup> Council on Foreign Relations. *NAFTA's Economic Impact*. Mohammed Aly Sergie. February 2014. New York.



was the basic objective of the 2006–2015 strategy, with much of the output being readily measurable through implementation of transport infrastructure in roads, bridges, railways, airports, ports, and border crossing infrastructure. As early as 2006, the need to improve the links to South Asia was also recognized as a forward-reaching goal, an initiative that has taken on increased interest in recent years, primarily as a result of the re-engagement of Myanmar.<sup>10</sup>

- (v) **Encourage multi-modalism.** The ability to implement the last of the overarching goals of the TSS, 2006–2015 has been much more the result of market forces and the influence of private transport sector businesses, the types of goods (and their origin and destination) to be transported, and client demands, rather than being influenced by GMS decision-makers. But the operative word in the goal is encourage (as opposed to implement), with the TSS, 2006–2012 rationale being to draw “attention to eliminating constraints and on ensuring that all modal options are considered in investment decisions” (Footnote 10).

## A. EVALUATION METHODOLOGY FOR INITIAL ASSESSMENT

This initial (desktop) assessment of the TSS, 2006–2015, prepared for the 18th GMS Subregional Transport Forum, was intended to pave the way

for a comprehensive assessment to be tentatively undertaken in 2015.<sup>11</sup> The 2015 assessment is likely to include site investigations and field data and information gathering, as well as assessments based on both detailed top-down ratings and bottom-up evaluations, and to include a comprehensive summary of lessons learned and conclusions and recommendations.<sup>12</sup> This initial assessment will utilize a somewhat abbreviated form of the bottom-up type assessment that is used by ADB’s IED, with the assessments for the most part based on analyses of the five overarching goals of the TSS, 2006–2015 based on the five accepted evaluation factors: relevance, effectiveness, efficiency, sustainability and development impact.<sup>13</sup>

Since this is only an initial assessment for the basic purpose of stimulating discussion during the 18th GMS Subregional Transport Forum, no attempt will be made to include lessons learned, conclusions, and recommendations at this stage.

## B. ASSESSMENT: EXPLOIT SYNERGIES IN THE GMS TRANSPORT SYSTEM

**Overview.** Until 2006, there had been some limited bilateral cooperation among GMS neighbors in transport planning, but there was no integrated concept for the region as a whole. It was clear during the preparation of the TSS, 2006–2015 that many of the basic tools required for such cooperative planning (e.g., detailed and accurate

<sup>10</sup> ADB. *ADB Moves Toward Re-engagement in Myanmar*. Press release on 26 October 2012: *ADB and the Government of Myanmar Have Agreed on a New Interim Country Partnership Strategy*. Manila.

<sup>11</sup> Held 23–24 July 2014 in Ho Chi Minh City, Viet Nam.

<sup>12</sup> Primarily to collect data from primary sources in accordance with ADB. 2010. *Revised Guidelines for the Preparation of Country Assistance Program Evaluations*. Manila.

<sup>13</sup> IED is an independent arm of ADB that reports to ADB’s Board of Directors through the Board’s Development Effectiveness Committee, which evaluates ADB policies, strategies, operations, and special concerns that relate to organizational and operational effectiveness. Scoring follows IED guidelines, except evaluation criteria does not include “strategic positioning.” Weights for the other criteria are relevance 1/9 = 0.111, while efficiency, effectiveness, sustainability, and development impacts are all given weights of 2/9 = 0.222 since based on IED guidelines these latter four criteria should all be weighted as twice that of relevance.

maps, a transport model, wide use of modern transport technology) were, for the most part, lacking among member countries. Nevertheless, it was recognized that there were inherent potential synergies for cooperation between and among the various GMS transport ministries and departments that if exploited could bring the countries to the point where they viewed potential transport infrastructure projects in terms of both local and regional impacts. Hence, the TSS, 2006–2015 established as its initial overarching goal to fully exploit synergies in the GMS transport system.

**Relevance.** Even during the early years of the GMS (1992–2004), it was apparent that strong working relationships were developing between transport officials of the various GMS ministerial and department entities. Because of the nature of transport, as opposed to other GMS sectors like energy or tourism, transport entities addressed common (and often overlapping) issues that directly affected their neighbors. These strong working relationships are readily apparent during the regular GMS Transport Ministerial meetings, the annual STF, and the meetings of the Economic Corridors Forum, and are a major reason for the continuing success of and outputs from these gatherings. As it was in 2006, and continues to be today, exploiting synergies to coordinate efforts and resolve transport issues across borders and between GMS countries, is a significant factor that has been developed throughout the transport sector in the GMS. This overarching goal is assessed as being highly relevant.

**Efficiency.** It is not possible to assess with any measure of accuracy the efficiency of exploiting synergies, except in a very broad socioeconomic context. What is known is that most project completion reports for GMS transport projects in

the three countries (Cambodia, the Lao PDR, and Viet Nam) had updated economic internal rates of return around the efficiency-indicating threshold of 12%, implying marginal benefits mainly due to slow growth in regional traffic.<sup>14</sup> Therefore, this overarching goal is assessed as being efficient.

**Effectiveness.** Effectiveness refers to the extent to which cumulative interventions have made sufficient progress. An initial qualitative review indicates that although the potential (and expectations) for exploiting synergies in order to accelerate progress on GMS regional transport projects and other GMS initiatives, such as the CBTA, were high, too often actual progress fell well below these expectations; this was particularly apparent with regard to the halting implementation of the CBTA. Since issuance of the TSS, 2006–2015 in 2006 most progress has been in the road subsector, with little evidence of exploiting synergies in the rail or inland waterway subsectors. (However, there has been some significant recent progress in the formation of the Greater Mekong Railway Association in 2013 as a railway coordination body to develop institutional capacity in GMS countries.) This overarching goal is assessed as being less effective.

**Sustainability.** At the time the TSS, 2006–2015 was undertaken, the concept of an overall and integrated GMS transport system was in its infancy. There was little day-to-day exchange of ideas between GMS transport officials in terms of subregional planning or coordination of transport systems between member countries. This is not the case today. Often GMS transport planning becomes an important component of national project planning and the prioritization of transport projects by member countries. Additionally, there has been a surprisingly high level of continuity within the leadership of GMS

<sup>14</sup> ADB. 2008. *Sector Assistance Program Evaluation, Transport and Trade Facilitation Sector in the Greater Mekong Subregion—Time to Shift Gears*. Manila.

transport ministries and departments over the past decade or so. This has fostered the building of long-term professional and personal relationships among GMS transport officials. Based on these positive conceptual planning transformations and member experiences working closely together over the past 8 years, it is very likely that the ability to continue to exploit synergies will be realized. This overarching goal is assessed as being most likely sustainable.

**Development impacts.** Development impacts in this context is assessed based on the degree of contribution to long-term changes in the development of the GMS transport sector. Impact is considered at both the level of strategic priorities and objectives, as well as on a project-by-project basis. A recent ADB assessment of impact on certain GMS road projects suggests that impacts have so far been modest,<sup>15</sup> observing that a possible reason for the modest impacts is that important aspects of the CBTA were not yet in place and that infrastructure connectivity must be supported by necessary software to be able to reap the full benefits. It is also clear that there has been a general lack of applying the same synergies of coordinating, marshaling resources, and building strong lobbies for improving connectivity of rail networks between GMS countries. Nevertheless, even reaching a modest level of impact is due to the ability to exploit synergies between GMS member countries, both on a bilateral basis as well as through regional forums. This overarching goal is assessed as being satisfactory.

**Overall.** The GMS, as represented by the GMS Economic Cooperation Program, an activity-based subregional economic cooperation program, has prospered as a flexible, results-oriented, and project-delivering regional association. It is apparent to many

that the success of the GMS in terms of regional cooperation, particularly in the transport sector, is the envy of other similar Asian regional transport associations. The ability to exploit synergies in the GMS transport sector by sharing resources, experiences, and ideas is viewed as a best practices example. This overarching goal of the TSS, 2006–2015—to exploit synergies in the GMS Transport System—is assessed as being successful.

## C. ASSESSMENT: MOVE TOWARD AN OPEN MARKET FOR TRANSPORT SERVICES

**Overview.** The 2006 study reasoned that in moving toward open GMS markets and borders there were always going to be winners and losers, and there were even going to be convincing short-term arguments to protect certain infant industries and commodities, particularly in the lesser-developed GMS countries. Nevertheless, in the long-term, market opening can and should be pursued if only as a basically sound economic concept. This clear rationale was behind the inclusion of this overarching goal, and the TSS, 2006–2015 suggested that GMS policy should be strongly directed toward furthering the open market concept.

**Relevance.** It was pointed out in the TSS, 2006–2015 that there were no apparent reasons why the GMS countries could not follow the lead of the European Union and move toward more open cross-border movements, even if only pursued as an economic concept. In terms of policy, the GMS has embraced an open-border policy and aligned itself with the lead of the Association of Southeast Asian Nations (ASEAN),<sup>16</sup> which strongly supports a single market

<sup>15</sup> ADB. 2014. *Assessing Impact in the Greater Mekong Subregion: An Analysis of Regional Cooperation Projects*. Manila.

<sup>16</sup> ASEAN, Secretariat. 2008. *ASEAN Economic Community Blueprint*. Jakarta; adopted by ASEAN Leaders at the 13th ASEAN Summit, 20 November 2007 in Singapore.

and production base.<sup>17</sup> The continued relevance of this GMS goal is all the more evident as the region moves steadily forward with its objective of regional economic integration by 2015 under the banner of the ASEAN Economic Community (AEC). As part of an open-border concept, the AEC envisages the following: (i) a single market and production base, (ii) a highly competitive economic region, (iii) a region of equitable economic development, and (iv) a region fully integrated into the global economy. This overarching goal is assessed as being highly relevant.

**Efficiency.** As mentioned in the assessment of the previous goal of exploiting synergies, the efficiency of moving toward open borders is also difficult to assess with any measure of accuracy, except in a very broad socioeconomic context. The overriding element that would directly affect such movement toward open cross-border movements is the implementation, at least to a substantial degree, of the CBTA. The far-ranging CBTA—originally signed in 1999 by the Lao PDR, Thailand, and Viet Nam; and followed by Cambodia in 2001, the People’s Republic of China (PRC) in 2002, and Myanmar in 2003—is an accord consolidating key non-physical measures for efficient cross-border land transport into a single legal instrument. It consists of three tiers: (i) a main agreement containing the principles of the system, (ii) a supplemental set of annexes containing technical details and protocols, and (iii) bilateral and trilateral memoranda of understanding providing detailed implementation arrangements.

The design of the CBTA includes mechanisms (i) to enable vehicles, drivers, and goods to cross national borders through a GMS road transport permit

system; (ii) to avoid costly trans-shipment through a customs transit and temporary importation system; and (iii) to reduce time spent at borders, through single-window inspection, single-stop inspection, information and communication equipment and systems for information exchange, risk management, and advance information for clearance. Unfortunately, the implementation of the CBTA in the GMS region has been significantly slower and more difficult to realize than originally expected. In most instances where agreements have been achieved it has been done on a bilateral rather than multilateral basis.

A recent midterm review assessed the TA provided for the implementation of the action plan for GMS transport and trade facilitation.<sup>18</sup> This review noted that evaluating the efficiency of the TA is problematic due to a lack of consolidated technical and financial reporting. Additionally, the midterm review noted significant delays in implementation of the TA program, and also the need on the part of ADB to adopt a more rational, integrated approach in the management of the TA program, and in particular to “recruit an experienced management team, with the tools and disciplines required to oversee the project, with regular technical and financial reporting... to facilitate the assessment of project efficiency...” This midterm review gave an overall score of “D” for efficiency of resource use regarding this transport and trade facilitation TA.<sup>19</sup> Taking all of these factors and observations into account, the overarching goal of moving toward an open market for transport services is assessed as being less efficient.

**Effectiveness.** The degree to which this goal has been achieved is directly proportional to the

<sup>17</sup> An ASEAN single market and production base shall comprise five core elements: (i) free flow of goods, (ii) free flow of services, (iii) free flow of investment, (iv) free flow of capital, and (v) free flow of skilled labor. ASEAN Economic Community Blueprint.

<sup>18</sup> ADB. 2014. *Midterm Review of Support for Implementing the Action Plan for Transport and Trade Facilitation in the GMS (TA-7851 REG)*. Manila.

<sup>19</sup> Ibid. A = very good, B = good, C = satisfactory, D = problems, and E = serious deficiencies.

degree of opening of GMS markets and borders for transport services due to GMS-related interventions, or the extent to which cumulative ongoing interventions have achieved progress in moving toward an open market for transport services. The previously mentioned midterm review, which measured the effectiveness of achieving the outcomes of the TA, gave an overall score of “D” for effectiveness (Footnote 19). It cited the following problems: (i) GMS institutions are weak, with no central secretariat to monitor the transport and trade facilitation components of the TSS, 2006–2015; (ii) project planning, management, and reporting have not taken place as anticipated; (iii) the design and monitoring frameworks have not served as a reference for implementation monitoring, and lack verifiable indicators and baseline data; and (iv) the planned implementing arrangements were not followed. Taking these observations into account, the overarching goal of an open market for transport services is assessed as being less effective.

**Sustainability.** The rationale for moving toward open borders for transport services is as valid today, if not more so, than it was in 2006. But progress in the GMS has been slow and halting. The free flow of goods is a principal means by which the aims of a single market and production base can be achieved. Even when some small level of progress is made toward an open market or an open border, often the step forward (the momentum) is not able to be maintained or built upon. One of the reasons for the difficulty in sustaining momentum lies with high- and low-level decision-makers, whether they be with customs departments, transport agencies, or ministries of finance. If the individual decision-maker does not see any direct benefit to his agency or area of responsibilities of a specific move toward opening borders, then sustainability suffers. This is because the actual direct benefactor is the transport operator and/or his customers and any benefits to the overall economics of a country are not often readily apparent to the responsible government

officials. Nevertheless, progress is being made in integrating customs procedures, establishing an ASEAN Single Window, and reducing tariffs (albeit at a relatively slow pace). Although GMS transport ministers continue to see the CBTA as a central pillar for trade and trade facilitation, it is not clear if the GMS customs agencies (and ministries of finance) are similarly committed. This overarching goal of moving toward an open market for transport services will take many more years to achieve, but the sustainability (of the effort) is still assessed as being likely.

**Development impacts.** The assessment of the development impacts of an open market for transport services needs to account for the contribution of long-term development changes in the transport sector. The relatively small overall impacts of the CBTA to date have a direct negative affect on the development impacts of this overarching goal. The CBTA was designed to be one of the main drivers for facilitating an open market, but progress has been less than satisfactory. After more than a decade, the full set of protocols and annexes is yet to be ratified by all participating countries. This overarching goal is assessed as being partly satisfactory.

**Overall.** The overall performance of the goal has been disappointing. Although the concept of an open market for transport services is highly relevant, actual performance with regard to efficiency and effectiveness was assessed to be very low. Hence, this overarching goal of the TSS, 2006–2015 is assessed as being only partly successful.

#### D. ASSESSMENT: FACILITATE ECONOMIC EFFICIENCY TO REDUCE TRANSPORT COSTS

**Overview.** In 2006, regional transport as it was operating across the GMS was judged to be

significantly inefficient compared to international standards. While quoted transport rates and fares were often low, so was the quality and dependability of the services offered. The TSS, 2006–2015 study suggested that the efficiency dimension of transport needed to be given greater weight in both policy and project decision-making to encompass not only expansion of the transport network, but also maintenance of existing facilities.<sup>20</sup> The TSS, 2006–2015 viewed this issue from both a hard and soft perspective: (i) from the standpoint of major infrastructure constraints for road and rail transport, and for other lesser modes, in each of the member GMS countries; and (ii) from the viewpoint of major constraints on the operation of border crossings for the road, rail, and water transport subsectors.

**Relevance.** The basic rationale in the justification of a transport project typically focuses on the need and methodology to reduce transport costs. There are other justifications, but the reduction in transport costs is usually the most important in terms of economic justification. In a far-ranging and multi-faceted regional transport study like the TSS, 2006–2015, it is clear that reduction of transport costs needed to be one of the central goals. This overarching goal is assessed to be highly relevant.

**Efficiency.** The greater the efficiency of a project the greater the reduction in transport costs; or reversing the parameters, the more that transport costs can be reduced the greater the economic return is for any given transport investment. Selection of economic efficiency as a pillar of the TSS, 2006–2015 is highly efficient.

**Effectiveness.** Has the goal of economic efficiency to reduce transport costs been achieved or has sufficient progress been made? Is the GMS program operating effectively with respect to economic efficiency to reduce transport costs? It can be argued that since a large cross-section of completed projects have marginal internal rates of return, and that the implementation of the CBTA has been less than effective, that the goal of reducing transport costs has also only been marginally effective. Hence, an initial assessment is that this overarching goal is less effective.

**Sustainability.** The sustainability of the goal to reduce transport costs refers to the likelihood that anticipated reductions in transport costs will continue in the future; that is, after the completion of the interventions. To a large extent this will depend on the ability of the GMS countries to mobilize sufficient financial, technical, and institutional resources for adequate maintenance. In terms of the GMS transport subsector profiles, this would primarily refer to road maintenance. It would also depend on the policy of GMS transport agencies to give more emphasis to maintaining existing projects. An initial assessment is that the sustainability of this goal is less likely, primarily due to the general lack of road maintenance funding throughout GMS.

**Development impacts.** The evidence suggests that the GMS transport projects have made progress in facilitating economic efficiency to reduce transport goals, but that often the progress has been marginal, rather than significant. Nevertheless, project completion reports indicate that due to interventions, transport costs have been reduced,

<sup>20</sup> According to the TSS, 2006–2015, “[in] the road subsector, the unavailability of funds for road maintenance is the most common problem. In the area of road maintenance planning, typical issues included inadequate maintenance, overloading, poor road design, road asset management system, untimely maintenance, and limited construction materials. In the area of road maintenance capacities, the main issues are typically the limited capacity and number of qualified staff, lack of institutional capacity, need for strong private sector participation, weak governance, poor transparency and risk of corruption, lack of quality contractors, and lack of advanced technology.”

but a much more detailed assessment would have to be made to definitively assess actual progress. The initial assessment is that the development impacts of this goal were satisfactory.

**Overall.** The performance of this goal has been mixed, with high performance in terms of relevance and efficiency, average performance with regard to development impacts, and below average performance for effectiveness and sustainability. The overall rating for this overarching goal of facilitating economic efficiency to reduce transport costs is successful.

## E. ASSESSMENT: COMPLETE THE GMS TRANSPORT NETWORK AND IMPROVE LINKS WITH SOUTH ASIA

**Overview.** To many observers, this goal, or at least the first part of it—to complete the GMS transport network—was the central objective of the 2006 strategy.<sup>21</sup> In terms of the overall physical impact related to the strategy, that was definitely the case. The conceptual idea that this nine-corridor GMS network, much of it traversing mountainous and isolated terrain, could be completed in 9 years was overly optimistic in terms of the technical, physical, financial, and administrative resources that needed to be mobilized and efficiently managed.

Implementation of all 36 transport investment projects that were prioritized under the TSS, 2006–2015 have essentially been completed or work is presently ongoing.<sup>22</sup> Additionally, a number of other projects not included in the original list of 36 have

been (or are being) implemented along the GMS transport corridors, primarily in the PRC, Viet Nam, and Thailand.

Any assessment of the GMS transport network in the road subsector by necessity needs to focus on corridor development, as well as the appropriateness of the nine originally identified corridors. From the beginning of the GMS corridor concept, corridors were selected based more on a common or community-based framework, which were primarily a combination of national and geopolitical interests, rather than economic or demand aspects. Often the generalized term connectivity was used to describe the rationale of the process. Over the last 5 years, looking beyond connectivity there has been increasing discussion regarding two inter-related aspects of GMS corridors:

- Are the corridors correctly aligned or is there now a need for realignment and/or refinement?
- What is the potential and/or likelihood for these corridors to evolve from transport to economic corridors? What can be done to hasten the transition?

Taking these questions into account, there seems to be a more appropriate way of assessing the degree of completeness of the GMS transport network. This entails making an assessment of the alignment of all nine corridors and suggesting certain changes in alignment to connect centers of supply and demand, eliminate duplication, and simplify the network in order to ensure a clearer development focus. A recent ADB study of GMS corridor alignments carried out this analysis and

<sup>21</sup> Some issue can be taken with use of the word *network* in this goal when reference is actually being made to the GMS corridors. Clearly the Asian Highway (AH) network is the accepted regional international network for GMS countries, and the GMS corridors were never intended to develop into a network that either overlaps or supplants the AH network.

<sup>22</sup> The most significant project still under implementation is the Mekong River Bridge at Xiengkok (Lao PDR)–Kainglap (Myanmar), which is expected to be completed by the end of 2015.

the highlights are summarized in the Appendix.<sup>23</sup> In parallel with the corridor alignment assessment, there should be an assessment along GMS corridors of existing and proposed industrial, agricultural, and urban developments. Together with information from previous studies and discussions with transporters, the assessment would identify the busiest corridor links from a trade perspective. Such an exercise was also recently carried out, resulting in the identification of eight primary trade routes as listed below and depicted in Figure 2:<sup>24</sup>

- (i) **Trade Route 1:** North–South Corridor via Asian Highway 2 (AH2) and AH3, especially close toward the southern end near Bangkok and Laem Chabang
- (ii) **Trade Route 2:** Southern Corridor between Bangkok and Ho Chi Minh City via AH1, especially the Thai and Vietnamese sections
- (iii) **Trade Route 3:** Central Corridor between Bangkok and Vientiane via AH2
- (iv) **Trade Route 4:** Yangon–Mandalay route (AH1), incorporating the Payagyi–Meiktila section of the Western Corridor
- (v) **Trade Route 5:** Bangkok–Payagyi via Mae Sot–Myawaddy, using a combination of North–South and East–West Corridors (AH1)
- (vi) **Trade Route 6:** Northern Corridor between Kunming and Nanning, and between Kunming and Mandalay
- (vii) **Trade Route 7:** Eastern Corridor between Kunming and Hai Phong via AH14
- (viii) **Trade Route 8:** Central Corridor between Phnom Penh and Sihanoukville via AH11

The proposal herein is to focus the TSS, 2006–2015 assessment on the completeness of these trade

routes as a more relevant measure of the overall success of the goal, rather than to complete (the entire) GMS network. The viewing of GMS corridors from this trade route perspective will allow GMS transport planners to easily focus on the more critical constraints and gaps along corridors, and to more effectively identify the (most relevant) high-priority investment projects.

The second part of the goal—to improve links with South Asia—seems somewhat out of place being tied together with “completing the GMS transport networks” as one overarching goal. The linkage of the GMS region with the countries of South Asia has long been envisioned and discussed, but does not seem to be as central a goal (or have the same priority level) as completing the GMS transport network.

The India–Myanmar–Thailand Trilateral Highway Project, which was conceived and agreed to at a trilateral ministerial meeting in Yangon in 2002, has been an integral part of improving GMS links with South Asia.<sup>25</sup> This approximately 1,400 kilometer (km) international highway link through Myanmar has been under planning by a task force representing the three countries for most of the intervening years. Along the GMS Northern Corridor connecting Kunming with northern Myanmar, there is an appreciable amount of bilateral trade, but the connection to India through Muse is unlikely to become an important trade route between the PRC and India, mainly because Kunming is not a major export generator or import consumer, and the Northeast states of India are still over 2,000 km from any significant center of demand (Kolkata). A westerly extension of the GMS

<sup>23</sup> ADB. 2012. *Support for Implementing Action Plan for Transport and Trade Facilitation in the GMS (Subproject 1) Transport and Logistics Assessment Follow-up Study*. Manila.

<sup>24</sup> ADB. 2012. *Initial Assessments of Road Transport Infrastructure and Transport and Logistic Services for Trade Facilitation in the GMS Countries*. Manila.

<sup>25</sup> The Trilateral Highway Project through Myanmar would connect the India (Moreh) and Myanmar (Tamu) border crossing with the Thailand (Mat Sot) and Myanmar (Myawaddy) border crossing.





Northern Corridor linking to South Asia, although considered an important strategic and geopolitical link, is unlikely to develop into an important trade or economic corridor in the foreseeable future. Similarly, improvement of the Western Corridor between Meiktila and the Indian border at Tamu, although an integral part of the Trilateral Highway Project, is unlikely to be a major trade corridor for the same reasons limiting further development of the Northern Corridor.

**Relevance.** The completion of the GMS transport network is central to the success of the TSS, 2006–2015, and in many ways central to the overall relevancy of GMS as an organization. The GMS corridor concept is a major building block on which GMS was founded, and on which it continues to unite the six GMS countries. Although the second element in this goal—improving links with South Asia—is of lesser priority, by any measure the overarching goal is assessed to be highly relevant.

**Efficiency.** Based on most project completion reports for GMS transport projects in which an updated economic analysis is carried out, the majority of transport investment projects have economic internal rates of return in excess of 12%, which is the threshold indicating efficiency. It can be inferred that this level of efficiency would also apply to the overarching goal of completing the GMS transport network. Therefore, this goal is assessed to be efficient.

**Effectiveness.** Looking at ongoing interventions, including the implementation of all prioritized transport investment projects, it is apparent that they have achieved sufficient progress toward reaching outcome targets. In other words, the GMS program is operating effectively with respect to physical and institutional outputs. Even taking into

account the less-than-effective CBTA, this goal is still seen as being very effective. There has likewise been some level of cumulative interventions in Myanmar that will directly affect the long-term improvement of the following links with South Asia: (i) the Kawkaik to Myawaddy–Mae Sot Road Project, which is being implemented with the assistance of Thailand; (ii) the new Mae Sot–Myawaddy Border Crossing and Infrastructure Improvement Project, also being implemented with assistance from Thailand; (iii) the ADB-assisted project preparatory TA study of the Eindu–Kawkaik Road; (iv) the completed Kalay–Kalewa–Tamu Road Improvement Project implemented with the assistance of India; and (v) the planned Kalewa–Tamu Bridge Replacement and Road Repair Project, also being implemented with the assistance of India. Taking these ongoing interventions as a whole, it is assessed that this overarching goal has been highly effective.

**Sustainability.** The sustainability of the goal of completing the GMS transport network refers to the likelihood that actual and anticipated outputs and outcomes achieved from cumulative project and program interventions will be resilient to future risks (after the completion of the interventions). A primary indicator that outputs and outcomes will continue to be achieved in the future is the continuing cooperation and outputs from the annual GMS STFs and Ministerial Conferences, as well as regular meetings of the Economic Corridors Forum.<sup>26</sup> Additionally, continued inputs from ADB, acting as the GMS Secretariat, are an indicator of the likelihood of resilience to risks and future continuity. Following in the footsteps of the TSS, 2006–2015—with respect to cost, speed and time, and reliability—was first the VPOA and now the RIF as further evidence of sustainability in fulfilling the overarching goal of completing the GMS transport network.

<sup>26</sup> The 18th Annual Meeting of the STF is being held in Ho Chi Minh City in 2014.

Therefore, it is assessed that the sustainability of this goal is most likely.

**Development impacts.** Development impacts in this context refer to the extent to which the GMS has achieved or made sufficient progress toward the goal of completing the GMS transport network and improving links with South Asia. There has been clear and very significant progress in the implementation of the 36 transport investment projects originally identified in the TSS, 2006–2015, as well as numerous other subsequent GMS projects that have been implemented along GMS corridors. Likewise, there has been progress in the overall improvement of the Trilateral Highway Project, with the cooperation of Myanmar and the financial and technical assistance of Thailand and India. It is assessed that this goal of completing the GMS network has been highly satisfactory.

**Overall.** The overall performance of this goal has been very good. In terms of relevance, effectiveness, sustainability, and development impacts, the goal is given high marks. Only in efficiency is it given an average grade. Hence, the overall rating of the goal to complete the GMS transport network and improve links to South Asia is assessed as being highly successful.

## F. ASSESSMENT: ENCOURAGE MULTI-MODALISM

**Overview.** The TSS, 2006–2015 considered two differing elements of multi-modalism in relation to this overarching goal: (i) to encourage the provision of and competition between different modes on a given route or corridor, and (ii) to facilitate

inter-modal transport.<sup>27</sup> The rationale in 2006 for including the encouragement of multi-modalism as a key part of the GMS strategy was twofold: (i) to draw attention to eliminating constraints and (ii) to ensure that all modal options are considered in investment decisions.

The provision of both international and domestic transportation services are typically based on providing clients with an optimum service standard, consisting of a balance between cost, speed and time, and reliability. This balance tends to dictate the optimal mode of transport to be used for any particular product or commodity, assuming alternative modes are available, with containerized transport by far the most important multimodal type of consignment.

At the premium end of the market is the air transport mode, which is fast and reliable, but expensive. It is best suited for moving goods having a relatively high value capable of offsetting the high cost parameters. Air transport is important in the GMS region given its import–export profile, especially for the movement of fresh produce and higher value manufactures to distant markets in the United States, Europe, and Australasia. Generally, air transport handles only about 1%–2% or less of GMS imports and exports by tonnage, though a slightly higher percentage by value.

Road transport, the most common mode used in trade logistics within the GMS, is considered to be fast and relatively reliable, but is costly compared to either rail or maritime modes. However, it is much more flexible as it does not require fixed facilities (other than use of public roads) and can provide door-to-door services using its speed and reliability

<sup>27</sup> International multimodal transport is defined as “the carriage of goods by at least two different modes of transport on the basis of a multimodal transport contract from a place in one country at which the goods are taken in charge by the multimodal transport operator to a place designated for delivery situated in a different country.” United Nations. 1980. *Article 1.1 of the United Nations Multimodal Convention*. Geneva.

elements to offset the higher costs. Both rail and maritime movements usually incur road transport costs at least at one end of the journey.

Inland waterway transport is the lowest cost mode of transport, but is slower and typically less reliable than other modes. These parameters mean it is particularly suitable for the movement of low-value bulk cargoes such as aggregates, fuel, rice, and construction materials. Inland waterway transport is generally competing with the land transport market and is normally an alternative to rail. However, due to the lack of a comprehensive rail network in the GMS, inland waterways in the region are mainly competing with more expensive roads, though their penetration of the international trade sector is relatively minimal and limited to a relatively narrow range of commodities, other than shipping services using the Mekong River.

Regarding the two aspects identified in the TSS, 2006–2015—to encourage the provision of and competition between modes on a given route or corridor, and to facilitate intermodal transport—the reality is that modal competition generally is still quite limited, and will likely remain limited over the next 10 years. This is because the type of good and its origin, destination, and client (cost, speed and time, and reliability) usually indicate an optimal mode of transport. In the majority of cases the modes tend to complement each other rather than compete with one another, such as when a road serves as the means of collection and distribution for maritime traffic. While there is potential modal overlap in the cost, speed and time, and reliability balance, the proportion of trade movements where there is a real option to use one mode of transport in lieu of another mode is small. Assessing transport competitiveness in the GMS tends to be mainly within a particular mode rather than between modes,

and the primary effect of transport infrastructure development is most likely to be the enhancement of competition within a particular mode rather than one mode relative to another.<sup>28</sup>

**Relevance.** It is clear that the goal to encourage multi-modalism was relevant even in the early stages of development of a GMS transport strategy, and continues to be relevant today. But what is also just as clear is that there are many economic and physical constraints in moving forward from encouragement to significant progress in the actual development of multimodal operations across the GMS transport sector. The 8-year period from 2006 to 2014 was not sufficient time for the GMS transport network to mature to a degree that competition between transport modes has become common place. It is assessed that the primary outcome, in terms of the competitiveness of GMS transport infrastructure development, is most likely to be increased competition within a particular mode rather than between modes. Nevertheless, the relevancy of such encouragement is clear and this overarching goal is assessed to be relevant.

**Efficiency.** It is not possible to assess, with any measure of accuracy, the efficiency of encouraging multi-modalism, even in a very broad and/or long-term, socioeconomic context. The encouragement to think in terms of multimodal has been consistent from 2006 up the present in GMS forums and meetings, and in TA studies, but there is very little history in terms of economic internal rates of return on the implementation of multimodal transport investment projects. In terms of efficiency of encouraging multi-modalism, it is assessed as being less efficient.

**Effectiveness.** As discussed earlier in the overview of this section, there has been a minimal

<sup>28</sup> ADB. 2012. *Initial Assessments of Road Transport Infrastructure and Transport and Logistic Services for Trade Facilitation in the GMS Countries*. Manila.

level of successful interventions over the past 8 years in the encouragement of multi-modalism transport along GMS corridors, and among and between GMS countries. This has been to a large extent due to the relative lack of achievements in either the GMS rail or inland waterway subsectors. One significant exception has been the implementation of the container rail shuttle service between the Port of Laem Chabang and the Lat Krabang ICD (85 km) on the outskirts of Bangkok that has recently been double-tracked to enable it to handle 1 million twenty-foot equivalent units per annum. It is assessed that the goal of encouraging multi-modalism in order to increase competition between modes on GMS routes and/or corridors, and to facilitate intermodal transport has been less effective.

**Sustainability.** Promoting multi-modalism has been a constant theme throughout the period of the TSS, 2006–2015. Although progress on the issue has been limited, it is clear that the GMS countries, and the ADB acting as the GMS Secretariat, continue to give importance to and encourage the incorporation of multimodal projects and systems into GMS planning. The VPOA adopted at the Third GMS Summit in 2008 highlighted the need to develop other transport modes, particularly the rail subsector. The RIF, a pipeline of potential projects to be undertaken in 2013–2022, also takes notice of the need to invest in a number of multimodal projects.<sup>29</sup> It is clear that the sustainability of promoting multi-modalism in the GMS is strong, and the sustainability of this goal is assessed as being most likely.

**Development impacts.** Development impacts in this context refer to the extent to which the GMS has achieved or made sufficient progress toward the goal of encouraging multi-modalism along GMS routes and corridors. The development impacts of this goal during 2006–2014 have been minimal at best, as the encouragement mainly resulted in workshops and studies on the issue of multi-modalism, but negligible progress in the field. As noted earlier, the main players with regard to this issue are the private sector transporters providing clients with a service. Governments and regional organizations can assist and be facilitators, but it is the private sector that will lead. The GMS Strategic Framework, 2012–2022 takes note of the need to broaden participation and support, and reiterates that genuine participation by all stakeholders—not just government, but also civil society, nongovernmental organizations, the private sector, academia, and the donor community—is needed. It can be argued that not just for multi-modalism, but for the transport sector as a whole, the most critical of these nongovernmental entities is the genuine participation of the private sector. It is assessed that this goal was only partly satisfactory in producing progress resulting in development impacts.

**Overall.** The overall performance of the goal has been relatively poor. Although the concept of encouraging multi-modalism is relevant and sustainability is likely, the other indicators of efficiency, effectiveness, and development impacts were all assessed to have underperformed. The overall rating for this overarching goal of the TSS, 2006–2015—to encourage multi-modalism—is assessed as being only partly successful.

<sup>29</sup> Relevant multimodal projects included in the RIF, 2013–2022 are the (i) Study to Construct a Priority Railway Access to New Phnom Penh Port, Cambodia; (ii) Study on Dry Port Development Plan along International Railway Lines Connecting Thailand with Cambodia, the Lao PDR, and Myanmar; (iii) Improvement of Inland Ports on the Ayeyarwaddy and Chindwin Rivers, Myanmar; (iv) Single Rail Transfer Operator Development Project, Laem Chabang Port, Thailand; and (v) Feasibility Study for the Rail Link between Laem Chabang Port, Thailand and Dawei Deep Sea Port Project in Myanmar.

# V. Logic and Continuity between the TSS, 2006–2015 and RIF, 2013–2022 and Its Implementation Plan

The TSS, 2006–2015 study consultant based its assessment on comprehensive transport planning guidelines and criteria. It was systematic in its approach and methodologies. This resulted in uniform, balanced, and consistent assessments between countries and modes, which in turn resulted in the identification of appropriate projects and priorities. Potential projects were initially divided into categories relative to the timing of implementation—such as immediate implementation, not requiring further study; top priority based on rankings of other studies; currently undergoing a feasibility study; new corridor strategic project, implementation timing primarily policy-dependent; and capacity enhancement project, implementation primarily demand-dependent. Potential projects were also initially categorized based on commitment—such as project in progress or sufficiently committed, further evaluation not required; project uncommitted, but prima facie of high priority; project uncommitted, but prima facie of moderate priority; and project unlikely to start until 2015, and/or prima facie of low priority. All projects were subject to these initial classification and screening exercises. This was done even before detailed economic evaluations were undertaken. Evaluations for each category followed to finalize priorities and economic viabilities.

It is accepted that with respect to the RIF, time and resources were limited, and that no outside

consultant team was involved in project selection or prioritization. The process was evidently carried out more in a consultative manner between the GMS countries, both individually and as a group. Although a list of indicative guidelines were provided, they were not followed uniformly, and did not classify or rank potential projects based on (i) regional or subregional factors such as development impact, connectivity, strategic value; (ii) socioeconomic aspects such as financial and economic viability, traffic, trade, and social and environmental aspects; or (iii) implementation readiness (e.g., feasibility and/or design ongoing or completed), implementation scheduling, the availability of financing. The national priority of a project appeared to be the major consideration.

In retrospect it would have been more efficient and effective to prepare a short project information and data form to be distributed to all countries to be completed for each project proposed for inclusion in the RIF. The form would have addressed the various classification and project variables outlined in the previous paragraph. These completed forms would be the basis for the consultations, with more information and clarifications added as necessary. Then these forms could have been used for a shorthand (desktop) prioritization exercise to produce a shortlist of RIF projects that were based on a uniform and systematic approach.

## VI. Summary

Overall, this report highlights the mixed performance of the TSS, 2006–2015 based on an assessment of the overarching goals upon which the study was based. One goal was highly successful, two goals were assessed as being successful, and two goals were assessed as being partly successful. If an equally weighted assessment of all goals were calculated, it would indicate a successful overall rating for the TSS, 2006–2015.<sup>30</sup>

The goal rated as highly successful was the completion of the GMS transport network and improved links with South Asia. Of the five goals originally put forward by the TSS, 2006–2015, this is the goal that, by far, got the most attention over the last 8 years, particularly among the GMS transport agencies, and was considered central to implementation of the strategy. Hence, its high rating should not have been unexpected.

The two goals with successful ratings were (i) exploit synergies in the GMS transport system, and (ii) facilitate economic efficiency to reduce transport costs. In 2006, the view that synergies within the GMS transport agencies and among their leadership could be exploited was very insightful, and all signs are that such synergies will continue to be successful as the GMS moves into the next phase of its transport strategy. The second successful rating for reducing transport costs was, in many respects, at least partially linked with the success of the goal

of completing the GMS network, and therefore its success is also logical. Table 2 summarizes these results.

The two goals that did not fare well in the assessment did not receive the same level of attention as the other three goals. More importantly, both were by far the most difficult to achieve and were often beyond the reach of GMS countries to have much direct influence. It is not surprising that the move toward an open market for transport services and encouragement of multi-modalism scored so low. It does not necessarily mean that they were incorrectly included as goals in the TSS, 2006–2015, but rather that the strategy should have more effectively considered interventions, mainly in terms of TA to support these goals.

The results indicate that the private sector needs to be more involved in both the preparation and implementation of GMS transport strategies and programs. The involvement of all facets of the private transport sector should have a much higher priority, and its involvement should be participatory not just as an outside contributor or observer.

The assessment indicates that as the implementation of the GMS transport strategy moves into the next phase more emphasis will need to be placed (and resources allocated) on the maintenance of transport systems, primarily road maintenance.

<sup>30</sup>  $(2.1 + 1.4 + 1.9 + 2.8 + 1.5) / 5 = 1.9$ , which is a successful rating.

**Table 2** Summary of Assessment of Overarching Goals

Overarching Goals	Assessment Factor					Overall Rating (WAS)
	Relevance	Efficiency	Effectiveness	Sustainability	Development Impacts	
Weight	0.111	0.222	0.222	0.222	0.222	1.000
Exploit Synergies in the GMS Transport System	<b>Highly Relevant</b> 3 x 0.111 = 0.333	<b>Efficient</b> 2 x 0.222 = 0.444	<b>Less Effective</b> 1 x 0.222 = 0.222	<b>Most Likely</b> 3 x 0.222 = 0.666	<b>Satisfactory</b> 2 x 0.222 = 0.444	<b>Successful</b> Total = 2.1
Move Toward an Open Market for Transport Services	<b>Highly Relevant</b> 3 x 0.111 = 0.333	<b>Less Efficient</b> 1 x 0.222 = 0.222	<b>Less Effective</b> 1 x 0.222 = 0.222	<b>Likely</b> 2 x 0.222 = 0.444	<b>Partly Satisfactory</b> 1 x 0.222 = 0.222	<b>Partly Successful</b> Total = 1.4
Facilitate Economic Efficiency to Reduce Transport Costs	<b>Highly Relevant</b> 3 x 0.111 = 0.333	<b>Highly Efficient</b> 2 x 0.222 = 0.666	<b>Less Effective</b> 1 x 0.222 = 0.222	<b>Less Likely</b> 1 x 0.222 = 0.222	<b>Satisfactory</b> 2 x 0.222 = 0.444	<b>Successful</b> Total = 1.9
Complete the GMS Transport Network and Improve Links with South Asia	<b>Highly Relevant</b> 3 x 0.111 = 0.333	<b>Efficient</b> 2 x 0.222 = 0.444	<b>Highly Effective</b> 3 x 0.222 = 0.666	<b>Most Likely</b> 3 x 0.222 = 0.666	<b>Highly Satisfactory</b> 3 x 0.222 = 0.666	<b>Highly Successful</b> Total = 2.8
Encourage Multi-Modalism	<b>Relevant</b> 2 x 0.111 = 0.222	<b>Less Efficient</b> 1 x 0.222 = 0.222	<b>Less Effective</b> 1 x 0.222 = 0.222	<b>Most Likely</b> 3 x 0.222 = 0.666	<b>Partly Satisfactory</b> 1 x 0.222 = 0.222	<b>Partly Successful</b> Total = 1.5

WAS = weighted-average score.

Notes: Rating scales (criteria weights) with scores for each rating:

- (i) Relevance (1/9): highly relevant (3), relevant (2), less relevant (1), irrelevant (0).
- (ii) Efficiency (2/9): highly efficient (3), efficient (2), less efficient (1), inefficient (0).
- (iii) Effectiveness (2/9): highly effective (3), effective (2), less effective (1), ineffective (0).
- (iv) Sustainability (2/9): most likely (3), likely (2), less likely (1), unlikely (0).
- (v) Development Impacts (2/9): highly satisfactory (3), satisfactory (2), partly satisfactory (1), unsatisfactory (0).
- (vi) Overall ratings: highly successful (2.7–3.0), successful (1.6–2.6), partly successful (0.8–1.5), unsuccessful (0.0–0.7).

Source: Author's calculations.

The assessment also indicates that, in general, increasing the economic efficiency (and reducing transport costs) of an existing service is more effective than providing a new service or a new highway. In many ways, it is not so much the lack of connectivity within the GMS transport network that needs to be addressed, but rather increasing the efficiency of the existing connections.

In order to build up the long-term viability of multi-modalism, interventions should be specifically targeted. Interventions should be made in conjunction with the private sector in order to accurately assess cost, speed and time, and reliability for any potential project.



## APPENDIX

# Proposals to Refine the Greater Mekong Subregion Corridors

The Strategic Framework, 2012–2022 recognizes the changing economic environment in the Greater Mekong Subregion (GMS) as the Great Recession accentuated the shift in economic activity toward Asia.† In the last decade, there has been increased emphasis on globalization and the development of export economies within the GMS. The current economic setbacks in Europe and the United States suggest this accent on external trade may need to be tempered by promotion of higher trade growth within the subregion to offset the anticipated downturn in trade growth with developed countries. Indeed, intra-GMS trade, while still small compared to GMS trade with the rest of the world, has been growing faster in recent years than external trade. This places increased pressure on effective internal regional connectivity to ensure that the subregion’s export goods remain competitive in both global and fast-expanding subregional markets.

The importance of port connectivity in particular is cited, with not only approximately 90% of overall trade-by-weight passing through the subregion’s ports, but also up to three-quarters of intra-GMS trade. This clearly suggests from a trade facilitation perspective that effective connectivity with the major ports is a key issue when reviewing corridor alignments, followed by connectivity between the major centers of production in each country with centers of demand in the other GMS countries.

It is recognized that the GMS corridors have historically been predominantly planned using a community-based framework. Under this concept, each country submits their own proposals for routes to be included, almost in isolation of the collective needs. This common type of approach to corridor development with its resultant emphasis on geopolitical aspects sometimes tends to make it difficult to make changes in corridor alignments, due to the inherent bureaucratic consultation and confirmation process. Experience in other regions suggests there are risks that corridor alignments based on this approach tend to become static and sometimes fail to reflect changes in their environment, especially those related to changes in demand routing. Fortunately, the GMS corridors, while initially using similar development concepts, have a history of evolution that suggests changes in alignment should be possible.

The Fourth Economic Corridors Forum proposed that refinement or promotion of the GMS corridors should be based on “linking their re-alignment and/or expansion to GMS trade flows and promoting the economic viability of corridor development through strengthening links with maritime gateways and trade.” These guidelines suggest trade volumes and port connectivity are the critical parameters in re-examination of the GMS corridors. The trade routes indicated in the main text of this report represent

† This appendix is an abbreviated summary of a section of ADB. 2012. *Support for Implementing Action Plan for Transport and Trade Facilitation in the GMS (Subproject 1), Transport and Logistics Assessment Follow-up Study (TA-7851 REG)*. Manila. The consultant on this initial review of the TSS, 2016–2015 was also the Team Leader on the TA-7851 study.

the sections of corridor carrying (or expected to be carrying) the majority of intra-subregional trade and/or connecting with the ports handling external trade.

Examination of the GMS corridors clearly indicates that not all corridors have the potential to undertake the transition from transport corridors to economic corridors. The existing maps visually suggest, as does the Asian Development Bank (ADB) and GMS nomenclature used, that all GMS corridors are equal whereas the reality is they all differ significantly in terms of importance and traffic volumes. This adversely impacts the credibility of the overall initiative from a private sector perspective. As importantly, it makes it much more difficult to identify priorities and to focus investment on subregional as opposed to purely domestic needs. In ADB initiatives involving the development of regional infrastructure, these are classified as national projects with regional implications, thus recognizing the intrinsic duality of many infrastructure projects, specifically transport corridors, as both a national entity as well as a regional one.

One possible approach to acceptance of the differences in corridor importance and functionalities could be to introduce a form of grading or a classification system. This would provide a measure of differentiation between the key and non-key corridors based on existing or projected trade and traffic and demand. The GMS Strategic Framework, 2012–2022 was based on a three-economic-corridor flagship program, rather than nine corridors. This tends to already suggest recognition of a degree of grading between corridors of importance and the need to focus on relatively fewer high-profile initiatives.

At this stage, the GMS Economic Corridors represent more of a goal than a reality, and this the study is designed to assist in facilitating the transition process from the current situation of transport corridors

to actual economic corridors, where applicable. It should be noted none of the corridors has the ability to become an economic corridor in totality, given the topography and profile of the economic resources along the routes. The reality is that almost all corridors have sections that already are economic sections and these could potentially be widened and deepened by enhancing the access to adjacent areas through the improvements in lateral connectivity. However, along large sections of many corridors the potential to develop further economic sections is small. Thus, the economic corridor concept in GMS is more one of linking centers of production with concentrations of demand over longer distances through international borders. This suggests a more holistic approach to considering the potential of the economic corridor. Nonetheless, it is clear that some corridors have greater potential (or more critical mass) to become economic corridors than others.

While there is an underlying need to simplify the corridors to provide a clearer focus, it is equally recognized the community development approach used to establish the existing nine corridors and their alignment means that elimination of corridors (or sections of corridors) could potentially meet opposition at a national level. Despite GMS being a subregional program, the reality is that each country will always tend to regard its interest primarily on a national dimension, rather than at a subregional level viewing them as national projects with regional implications but with most emphasis on the national aspect. This is understandable as they are the most likely funders of the infrastructure developments through budget support or sovereign loans. This situation makes it even more important to have a clear logic to support selling any changes in the existing corridors.

One option could be to move toward a more realistic approach of having two types of corridor. The first group would be economic corridors. These would represent the core arteries of the GMS

mini-network carrying the highest volumes of GMS trade and containing the major concentrations of demand and/or resources, thus having the capability of being able to generate additional concentrations of economic activity, either along the corridor or through its immediate catchment area. All other

corridors should then be reclassified as transport corridors focused on enhancing connectivity, until there are clear signs as to their ability to make the economic transition within a given time period. The objective is to develop a concept that reflects reality and conforms to user perceptions.

**Table A1 Possible Changes to GMS Economic Corridor Alignments**

Economic Corridors	Possible Alignment	Proposed Changes
North-South	Laem Chabang–Bangkok–Tak–Chang Rai–Chiang Kong–Houayxay–Boten–Mohan–Kunming	(i) Extension to Laem Chabang (ii) Western link through Myanmar to transport corridor link (iii) No alternative routing through Phitsanulok
Southern	Dawai–Kanchanaburi–Bangkok–Aranyaprathet–Poipet–Phnom Penh–Bavet–Moc Bia–Ho Chi Minh City–Vung Tau	(i) Northern arm through Cambodia becomes transport corridor link
Eastern	Ho Chi Minh City–Da Nang–Vinh–Ha Noi–Lao Cai–Hekou–Kunming	(i) Extension south of HCMC added to Southern Coastal Corridor
Eastern Extension A	Ha Noi–Lang Son–Pingxiang–Nanning	No change
Eastern Extension B	Ha Noi–Hai Phong	No change but with no coastal alignment
Central	Boten–Louang Phrabang–Vientiane–Nong Khai–Nakon Ratchasima–Hin Kong Junction (Bangkok)	(i) Southern link with Northern Corridor at ring road to avoid duplication (ii) Eastern arm reclassified
Northern	Fangcheng–Nanning–Kunming–Ruili–Muse–Mandalay	(i) No extension east of Mandalay
Western	Thilawa–Yangon–Payangyi–Meiktila–Mandalay	(i) New alignment to incorporate Yangon and its port (ii) Connection with Mandalay where meets Northern (iii) No India connection
Transport Corridors	Alignment	Proposed Changes
East-West	Payagyi–Myawaddy–Mae Sot–Tak–Phitsanulok–Mukdahan–Savannakhet–Dansavanh–Lao Bao–Dong Ha	(i) Reclassified as a transport corridor (ii) Western end extended to Payagyi (iii) Eastern end moved to Dong Ha from Da Nang
Southeast	Poipet–Siem Reap–Kompong Thom–Skun	(i) New corridor covering realigned northern arm of existing southern corridor
Central Eastern	Vientiane–Pakse–Stung Treng–Phnom Penh–Kaaong–Preah Sihanouk	(i) Reclassified as a transport corridor, but no alignment change
Southern Coastal	Ho Chi Minh City–Rach Gia–Ha Tien–Kampot–Koh Kong–Hat Lek–Rayong–Sattahip–Laem Chabang	(i) Western terminus changes to Laem Chabang to avoid duplication (ii) Eastern terminus changes to HCMC to align with trade and economic activity

Source: ADB. 2012. *Support for Implementing Action Plan for Transport and Trade Facilitation in the GMS (Subproject 1): Transport and Logistics Assessment Follow-up Study*. Manila.

## **Initial Review of the Greater Mekong Subregion Transport Sector Strategy 2006–2015**

In May 2006, the Asian Development Bank published the Greater Mekong Subregion (GMS) Transport Sector Strategy Study 2006–2015 (TSS), which proposed broad goals and strategies for GMS transport development as well as a pipeline of transport investment projects. Recently, the GMS countries saw the need to conduct a review of the TSS to assess its achievements and effectiveness. This initial review of the TSS involves the assessment of its strategic thrusts vis-à-vis the general criteria of relevance, effectiveness, efficiency, sustainability, and development impact. The initial review also includes suggested scope, approach, and requirements for a fuller review of the TSS in the near future.

### **About the Greater Mekong Subregion Economic Cooperation Program**

The Greater Mekong Subregion (GMS) is made up of Cambodia, the People's Republic of China (PRC, specifically Yunnan Province and Guaxi Zhuang Autonomous Region), the Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand, and Viet Nam. In 1992, with the assistance from the Asian Development Bank (ADB) and building on their shared histories and culture, the six countries of the GMS launched a program of subregional cooperation—the GMS Program—to enhance their economic relations, initially covering the nine priority sectors: agriculture, energy, environment, human resource development, investment, telecommunications, tourism, transport infrastructure, and transport and trade facilitation.



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