



Global Infrastructure: Trend Monitor

Southeast Asian Transport Edition:
Outlook 2010–2014

ADVISORY

The Global Infrastructure: Trend Monitor is a series of publications allowing infrastructure expenditure to be compared across geographies. In this fourth edition, we look at the medium-term expenditure on transport infrastructure across Southeast Asia. Our aim is to improve the quality of debate on the size and geographic location of transport infrastructure investment opportunities in the region.



Foreword

The ten Southeast Asian nations we have analyzed represent over 550 million people, with Indonesia alone having a population over 225 million¹. The region's significance is undeniable given its manufacturing capacity and cost-effective labor markets. The countries that make up the region have matured considerably since the financial crisis of the late 1990s, and today in 2009 enjoy a reputation as attractive destinations for commerce.

Given their island geographies, topographical features, and population distributions, the Southeast Asian countries face a diverse mix of transport infrastructure challenges. No nation is easily comparable to another in light of these and other socio-political factors. Each nation requires its own unique transport infrastructure solutions, and consequently, this region may prove to offer a diverse portfolio of transport infrastructure investment opportunities.

This fourth edition of the *Global Infrastructure: Trend Monitor* presents forecasts for future transport infrastructure expenditure across Southeast Asia. Through its publication, we aim to improve the quality of debate on the size and geographic location of transport infrastructure investment opportunities in Southeast Asia. We hope you enjoy this publication and find our commentary on this exciting market informative.

Julian Vella
ASPAC Regional Leader
for Global Infrastructure
KPMG in Australia

Kai Rintala
Head of Infrastructure Intelligence
for Global Infrastructure
KPMG in the United Kingdom

Lieven Jacquemyn
ASPAC Regional Director
for Global Infrastructure
KPMG in Singapore

¹ ASEAN Secretariat. 2009. *Table 1, Selected key basic ASEAN indicators*. [Online] Available at: <http://www.asean.org/19226.htm> – Accessible from home page through Resources/Statistics/Selected Key Indicators. [Accessed 20 October 2009].



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Key Findings



Insights

- There is an emerging deficit between the needs for transport infrastructure investment in Southeast Asia and the presently available funds from public sources. Private sector investment is becoming an increasing vital solution.
- The countries of Southeast Asia have been implementing stimulus packages but at varying speeds. Their impact on the longer term may be limited given the preference for increasing economic output in the short term. However, the medium-term opportunity to prepare for the inevitable upturn is there and should not be missed.
- Nations such as Vietnam, the Philippines, and Indonesia have usually drawn on international financing institutions and official development assistance to improve their transport infrastructure. However, in recent years, they have been exploring potential for Public Private Partnerships (PPPs).
- Land acquisition for transport infrastructure is a challenge. This is a consequence of the rapid economic growth in the past decade, which has also made the region attractive.
- Multimodal connectivity will be fundamental to getting the most out of transport infrastructure investments. Singapore has been successful in this regard and stands as an example for the rest of the region.

Model Outputs

- Based on the outputs of our econometric model, expenditure on transport infrastructure in Southeast Asia is projected to grow by an average rate of 3.5 percent per annum from 2010 to 2014, taking the total expenditure in 2014 to just over US\$32 billion.
- Of the 10 nations included in our research, Indonesia, Malaysia, Singapore, and Thailand are forecast to represent over 80 percent of the total cumulative expenditure for the 2010 to 2014 period.
- The countries projected to witness the highest average annual expenditure growth rates through the medium term are Laos, Myanmar, and Cambodia.
- The Philippines and Singapore are projected to witness positive but modest transport expenditure growth at rates below 2 percent, while Brunei's expenditure is estimated to contract through the medium term.



Important Notes

Notes

- 1) This publication distinguishes between “model outputs” – oriented commentary, which is based on the data collated from stated sources, and “insight” – oriented commentary, which is based on the views among KPMG member firms' professionals. The limitation of the former is that it does not attempt to capture new initiatives or shifts in policy.
- 2) The 2010–2014 data are modeled using the latest actual figures available at the time of writing.
- 3) All figures in this publication are in 2007 U.S. dollars to facilitate direct comparisons and they represent all transport infrastructure investment, by both public and private sector, in airport, port, roads, ports, and rail infrastructure. The model outputs were produced using source data in U.S. dollars.
- 4) Annual growth rates over the period 2010–2014 are in real terms, i.e., they exclude the impact of inflation.

Objective

The aim of the Trend Monitor is to stimulate an informed debate on global infrastructure markets by providing observations and on-the-ground market insight underpinned by econometric modeling. The model does not attempt to accurately forecast future transport

infrastructure expenditure. Model outputs are produced by an extension of the line of best fit from historic levels of spending, which we do not assume to be necessarily determinants of future spending.

Existing publications tend to focus on the short term, identifying opportunities that are about to come to market, or the long term, estimating the size of the required investment over decades to come. The Trend Monitor is purposefully positioned between the two in order to present a medium-term (2010–2014) view of market potential.

Our analysis builds on what we believe to be the most consistent data sources, and relies on only a small number of explicit assumptions. The publication also leverages the local specialization of professionals in KPMG's Southeast Asian member firms to present a better informed view of the future. Due to unavailability of data on each nation's specific transport infrastructure expenditure, as further explained in the method section, we have applied an average of the U.K. ratio to the Gross Fixed Capital Formation (GFCF) of all the nations in the study. The use of the single U.K. ratio may lead to model outputs that may not accurately represent the actual transport infrastructure expenditure of individual nations.

Definitions and classifications

Size and prospects of individual states:

- “Large and growing fast” – states where 2007 investment is greater than US\$2.5 billion, which are projected to expand relatively rapidly at over 5 percent per annum through the period 2010–2014
- “Large and growing slowly” – states where 2007 investment is greater than \$2.5 billion, which are projected to expand relatively slowly at under 5 percent per annum through the period 2010–2014
- “Small and growing fast” – states where 2007 investment is less than \$2.5 billion, which are projected to expand relatively rapidly at over 5 percent per annum through the period 2010–2014
- “Small and growing slowly” – states where 2007 investment is less than \$2.5 billion, which are projected to expand relatively slowly (or contract in one case), at under 5 percent per annum through the period 2010–2014

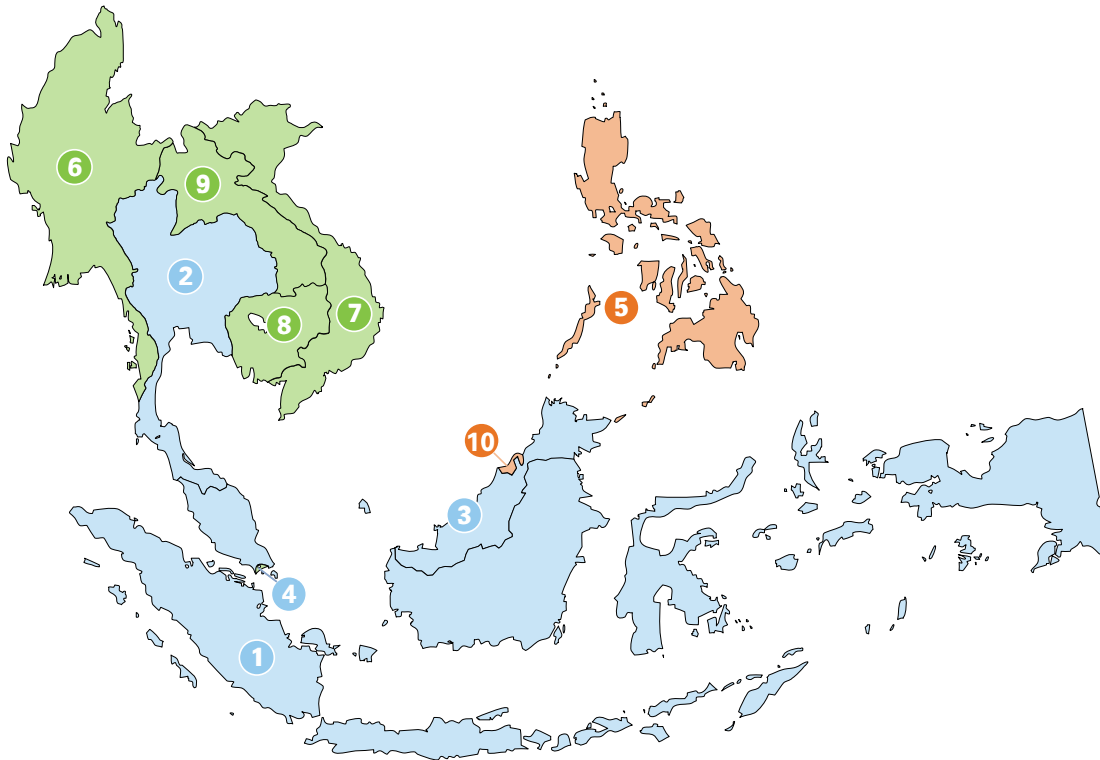
The ten countries covered in this publication are those that are members of the Association of Southeast Asian Nations.

Method

A detailed overview of the analysis and modeling method applied can be found in the “method” section of this report.



Southeast Asia: expenditure on transport infrastructure in 2007 by nation (percentage of total)

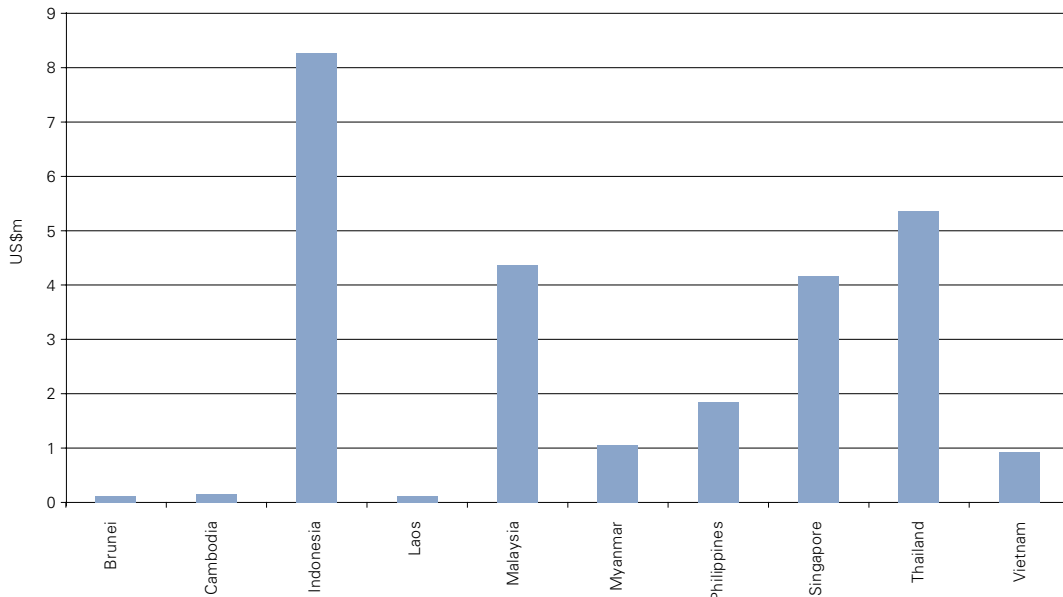


1.	Indonesia	31%
2.	Thailand	20%
3.	Malaysia	17%
4.	Singapore	16%
5.	Phillippines	7%
6.	Myanmar	4%
7.	Vietnam	3%
8.	Cambodia	1%
9.	Laos	0.5%
10.	Brunei	0.5%

Key:	
■	Large and growing fast
■	Large and growing slowly
■	Small and growing fast
■	Small and growing slowly

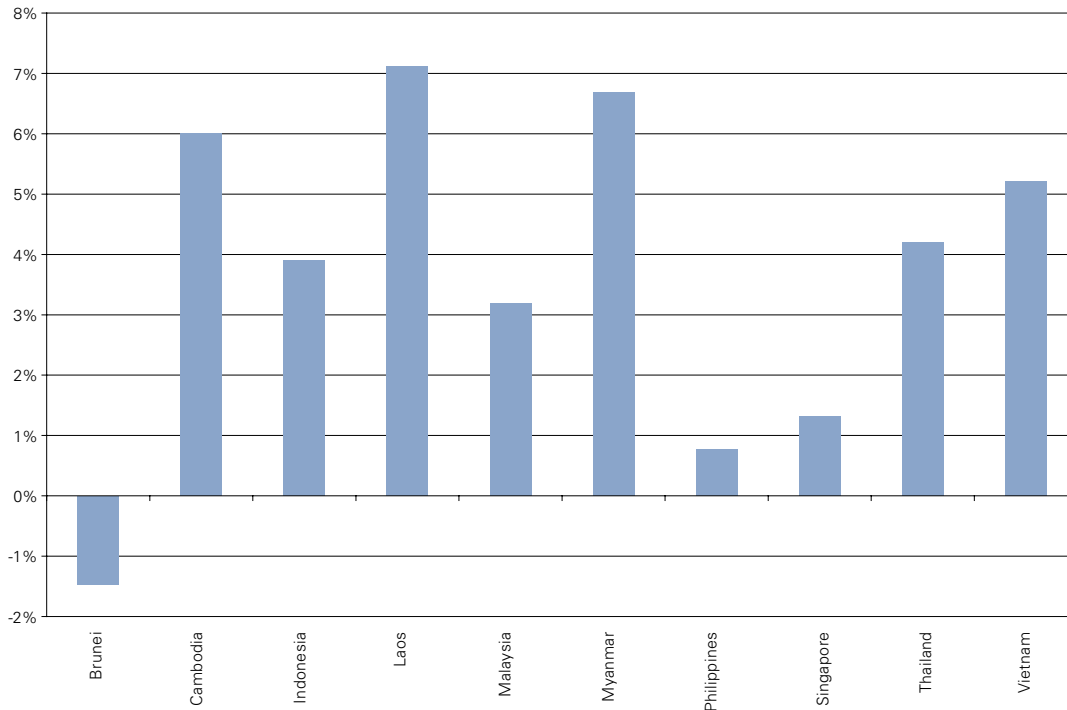
Analysis: KPMG International, refer to "Method" section of this report

Southeast Asia: expenditure on transport infrastructure in 2007 (US\$ billion)



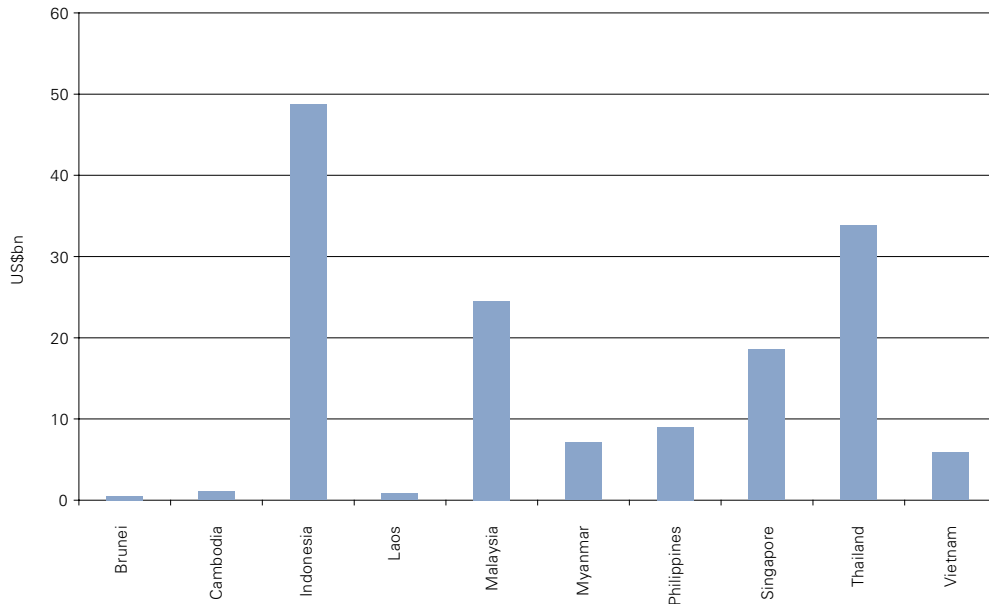
Analysis: KPMG International, refer to "Method" section of this report

Southeast Asia: forecast average annual growth rate in transport infrastructure expenditure 2010–2014 (percent)



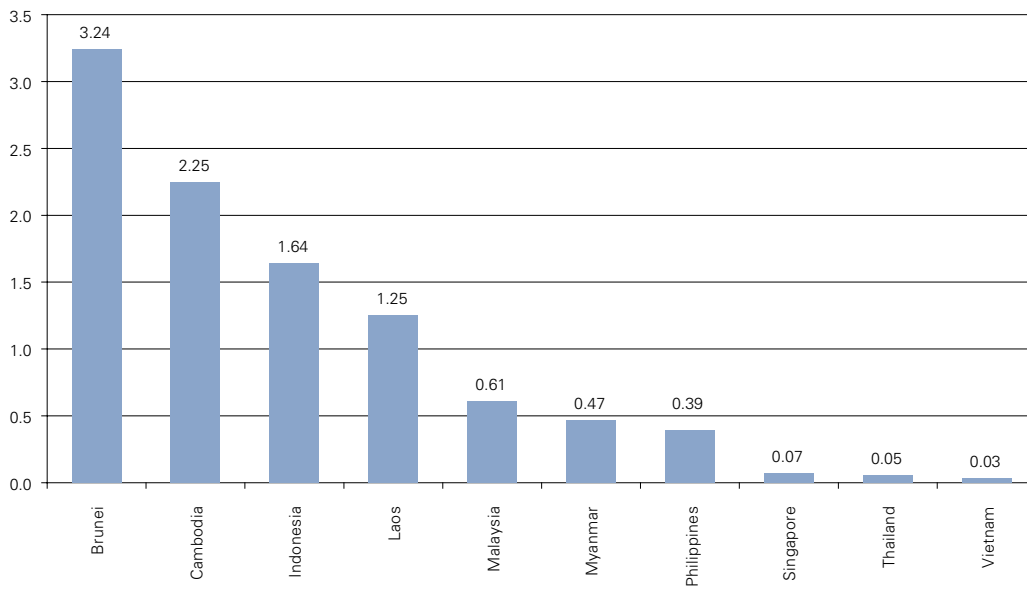
Analysis: KPMG International, refer to "Method" section of this report

Southeast Asia: forecast cumulative expenditure on transport infrastructure for 2010–2014 (US\$ billion)



Analysis: KPMG International, refer to "Method" section of this report

Southeast Asia: ratio of forecast cumulative expenditure on transport 2010–2014 to the forecast average for all nations



Analysis: KPMG International, refer to "Method" section of this report



Model Output

Total annual transport infrastructure expenditure for 2014 is expected to reach over US\$32 billion, a near 15 percent increase from the 2010 level.

The four countries of Indonesia, Malaysia, Singapore, and Thailand represent over 80 percent of the total Southeast Asian transport investment. Indonesia alone is projected to spend over \$48 billion between 2010 and 2014, amounting to over 32 percent of the Southeast Asian total.

Brunei, Cambodia, and Laos are projected to have combined investment over the 2010 to 2014 period of around \$2.4 billion, little over 1.6 percent of the Southeast Asian total, despite representing over 3.5 percent of the population.

Laos is projected to have the highest average annual growth rate at 7.1 percent over the medium term, followed by Myanmar and Cambodia at 6.7 and 6.0 percent, respectively.

Brunei's level of investment is expected to contract at an average annual rate of 1.5 percent, while the Philippines is projected to have the smallest positive growth rate at 0.8 percent per annum.

Despite Singapore being relatively small in terms of land area and population in 2008, at approximately 0.02 and 1 percent, respectively, of the Southeast Asian totals², it is forecast to represent over 11 percent of the Southeast Asian transport expenditure in 2014.

Our modeling indicates that Southeast Asia does not have a country which, by our definitions, can be considered large as well as growing rapidly throughout the medium term. The Southeast Asian transport infrastructure market could be characterized by:

- Four established markets with presently high expenditures and medium level forecast growth rates:

Indonesia, Thailand, Malaysia, and Singapore

- Four emerging markets with presently low expenditures and high-level forecast growth rates: Laos, Myanmar, Cambodia, and Vietnam
- One market with relatively low growth rates but which is close to being an established market in terms of expenditure: Philippines
- One market with relatively low expenditure and the only market with negative growth rates: Brunei

It should be noted that all of the four emerging markets are in close geographical proximity, with each sharing at least one border with another.

² ASEAN Secretariat. 2009. *Table 1, Selected key basic ASEAN indicators*. [Online] Available at: <http://www.asean.org/19226.htm> – Accessible from home page through Resources/Statistics/Selected Key Indicators. [Accessed 20 October 2009].



Insight

The Asian Development Bank and some national planning units have estimated future needs for transport infrastructure investment. The ability of governments to deliver on these relatively high numbers is treated with some skepticism among many infrastructure providers. When compared to the funds available to governments, it is clear there is a substantial difference between the two. The general consensus is that private sector investment is one of the few feasible alternatives to make up the shortfall.

Our research has highlighted the following trends in the marketplace

- Stimulus money has been forthcoming. However, countries are at different stages in the implementation of their packages. These investment programs are more aimed at generating economic activity in the downturn. This means that new build projects with long-term impacts are understandably given a lower priority than upgrade and refurbishment projects. However, it is widely recognized in the industry that the next few years is an ideal time to build transport infrastructure in anticipation of the eventual upturn.
- Historically, developing countries like Vietnam, the Philippines, and Indonesia have relied heavily on foreign aid and international financing institutions to

fund transport infrastructure. In recent years, they have been developing frameworks for applying PPP to encourage private sector investment. There is however no consensus on the way forward. The Malaysian Economic Planning Unit continues to debate the merits of developing a PPP framework and is reportedly considering the buy-back of its road concessions.

- A number of the countries in Southeast Asia have experienced extraordinary rates of economic growth in the past decades. This has contributed to land acquisition becoming a significant barrier to some transport infrastructure developments. One potentially significant solution that we have seen is the Land Acquisition Fund in Indonesia.
- The success of any new infrastructure in the region will be in part defined by its integration within existing infrastructures. Multimodal connectivity is a crucial concept, and there are many examples of leading practice in Southeast Asia, especially in Singapore, which is ranked 4th in the world in terms of transport infrastructure competitiveness³.



³ World Economic Forum, 2009, 30th edition of The Global Competitiveness Report 2009 – 2010 [Online] Available at: <http://gcr.weforum.org> – Accessible from home page through Publications/Competitiveness Reports. [Accessed 23 September 2009].



Method

This publication draws on data from named external sources and insights from professionals in KPMG's Southeast Asian member firms, in order to present both facts and commentary on the region's transport infrastructure market.

Information on market size has not been readily available, and as such, it is produced using an econometric model, utilizing data sourced externally and a limited number of explicit assumptions. The output dataset⁴ is presented as an appendix.

Our forecasts of the future size of the transport infrastructure markets across Southeast Asia encompasses expenditure at all levels of government as well as the private sector on building, repairing, and maintaining of transport infrastructure.

Our modeling relies on past trends to project the future and does not attempt to capture sudden fluctuations in infrastructure activity.

The process of data gathering and presentation was as follows:

- GFCF data from 1998 to 2007 for the 10 Southeast Asian countries was obtained from the United Nations⁵ in constant 1990 U.S. dollar prices.
- The GFCF data was rebased to 2007 prices using a price index from the U.S. Bureau of Economic Analysis.
- The GFCF data for each country was multiplied by 0.12 to arrive at total transport infrastructure expenditure. This includes new build as well as repair and maintenance spending on transport infrastructure. The ratio is based on the United Kingdom average between 1998 and 2007. It is derived from U.K. Construction Statistics Annual (U.K. Department of Business Enterprise and Regulatory Reform) and U.K. National Accounts (U.K. Office of National Statistics). We believe these to be the most appropriate sources for creating ratios of this type.

- Future infrastructure expenditures were estimated by projecting the historical data by linear extension of the line of best fit to 2014.

It should be noted that the numbers for Southeast Asia are not directly comparable with those presented in other editions of *Global Infrastructure: Trend Monitor* as different sources and methods have been used in producing them.

⁴ The datasets have been produced in collaboration with Dr. Stephen Gruneberg.

⁵ United Nations Statistics Division. 2009. 'All countries for all years – sorted alphabetically' spreadsheet under heading 'GDP and its breakdown at constant 1990 prices in US Dollars', National Accounts Main Aggregates Database. [Online] Available at: <http://unstats.un.org/unsd/snaama/dnlist.asp> – Accessible from homepage through Statistical Databases/National Accounts Main Aggregates Database/Downloads. [Accessed 30 March 2009].

Appendix



Appendix – Historical and forecast future transport infrastructure expenditure in Southeast Asia (in US\$ millions at 2007 prices)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Brunei	155	124	88	96	137	108	111	112	114	119	108	107	105	104	102	101	99
Cambodia	43	58	72	69	88	94	104	125	146	160	164	177	189	202	214	226	239
Indonesia	5,427	4,539	5,183	5,519	5,778	5,813	6,666	7,392	7,574	8,267	8,260	8,632	9,003	9,375	9,747	10,119	10,490
Laos	19	20	21	44	43	60	80	86	90	125	122	133	145	156	168	179	191
Malaysia	2,857	2,670	3,357	3,288	3,307	3,401	3,521	3,697	3,989	4,371	4,291	4,445	4,598	4,752	4,906	5,059	5,213
Myanmar	252	297	330	360	383	492	594	747	1,001	1,056	1,054	1,145	1,236	1,328	1,419	1,510	1,602
Philippines	1,577	1,541	1,848	1,607	1,642	1,703	1,726	1,612	1,634	1,845	1,750	1,764	1,778	1,792	1,806	1,820	1,834
Singapore	3,265	3,106	3,410	3,279	2,897	2,783	3,048	3,050	3,463	4,164	3,512	3,561	3,609	3,658	3,706	3,754	3,803
Thailand	3,300	3,193	3,368	3,406	3,630	4,067	4,602	5,092	5,284	5,355	5,656	5,933	6,211	6,488	6,765	7,043	7,320
Vietnam	399	405	446	494	558	624	690	765	822	920	941	1,001	1,060	1,120	1,180	1,239	1,299

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- Procurement and financing support
- Improvement and monitoring of construction and operations
- Restructuring of distressed projects
- Investment due diligence assistance
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