

# Overview on Transport Infrastructure Sectors in the Kingdom of Cambodia



**January 2008**

**Infrastructure and Regional Integration  
Technical Working Group  
(IRITWG)**

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## Preface

The Infrastructure and Regional Integration Technical Working Group (IRITWG) is proud to publish the "Overview on Transport Infrastructure Sectors in the Kingdom of Cambodia".

This document has been made with the following purpose:

- (1) To prepare a strong basis for the future planning in the transport infrastructure sectors.
- (2) To share the basic information and the overall picture concerning the transport infrastructure sectors among the related organizations, development partners, etc.

This is a huge step forward since the document had been disclosed to the public in the name of the IRITWG, the joint meeting between the Cambodian organization and the development partners. Not by a particular development partner as it was in the past.

IRITWG is thankful to all stakeholders for their effort in helping realize this document, and we hope that the planning and implementation of the transport infrastructure will go on smoothly from now on and the sustainable development of Cambodia would be achieved.

< Chair of the IRITWG >

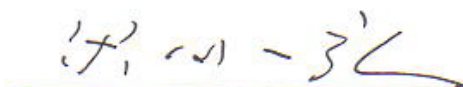


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## **Instruction**

The information on each sectors are based primarily on the below documents. We also added the situation of the authorization process in the Cambodian government for each plan that was made by the input of the development partners.

### **1. Roads**

The “Study on the Road Network Development in the Kingdom of Cambodia, Final Report Volume II Main Text, October 2006, JICA.” Hereinafter referred to as “JICA study”.

Ministry of Public Works and Transport (MPWT) is preparing the final presentation document of this road master plan that will be sent to the Council of Ministers soon for approval.

### **2. Railway**

The project on “Restructuring of the Railway in Cambodia, Strategy Report and Action Plan, ADB,” “Restructuring of the Railway in Cambodia, Traffic Forecast and Financial Analysis Report, April 2006, ADB,” and “GMS Rehabilitation of the Railway in Cambodia, Final Report, November 2006, ADB.”

There is no master plan for railway at this moment.

### **3. Maritime and Ports**

The “Study on the Master Plan for Maritime and Port Sectors in Cambodia (Interim Report), March 2007, JICA.

MPWT is now preparing the final presentation document of this master plan on maritime and ports that will be sent to the Council of Ministers soon for approval.

### **4. Inland Waterway**

The “Master Plan for Waterborne Transport on the Mekong River System in Cambodia, Final Report, September 2006, Belgian Technical Cooperation.

MPWT is now preparing the final presentation document of this master plan on inland waterway that will be sent to the Council of Ministers soon for approval.

### **5. Air Transportation**

The “Project Profiles and Progress (Civil Aviation)”, Prepared by SSCA.

There is no master plan for air transportation at this moment.

### **6. Tourism**

The “Statistical Yearbook 2005 and Tourism Statistical Report”, December 2005.

IRITWG is not responsible for making a master plan for tourism. We place the information on tourism since it has a lot of effect to transport infrastructure.

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## 1. Roads

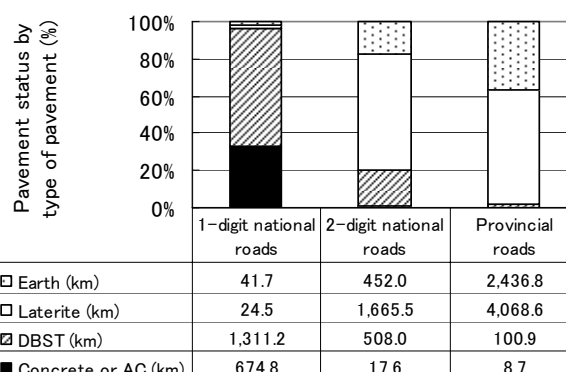
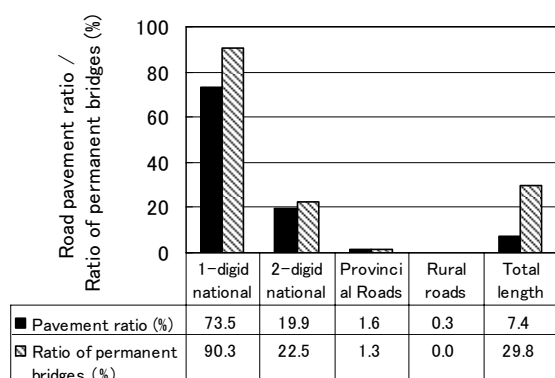
### (A) Present State of Roads in Cambodia

The road network in Cambodia is composed of arterial roads that are managed by the Ministry of Public Works and Transport (MPWT) and rural roads managed by the Ministry of Rural Development (MRD). Pavement and Bridge status are as below.

Table 1-1 Road network length (as of 2006)

Road Classification	Length (rate)	No. of Bridges (Length)	Management Authority
1-digit national roads	2,097.280.km (5.31%)	589 (17,643m)	MPWT
2-digit national roads	2,704.737km (6.85%)	698 (15,710m)	
Provincial roads	6,692.440km (16.95%)	904 (16,309m)	
Rural roads	28,000 km (70.89%)	N/A	MRD
<b>Total length</b>	<b>39,494.457 km (100.0%)</b>	<b>2,121 (51,917m)</b>	

Source: LRCS Inventory, 2006 and MRD Inventory 2006



Source: Fig. 1-1 and 1-2 both based on JICA study, LRCS Inventory, 2004 and MRD Inventory

Fig. 1-1 Road pavement ratio and ratio of permanent bridges (as of 2004)

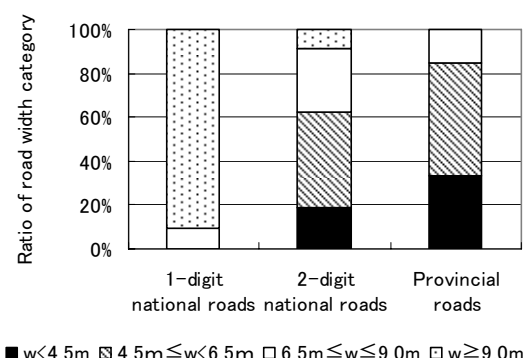
Fig. 1-2 Pavement status by road classification (as of 2004)

Table 1-2 Pavement status of 1-digit national roads (unit: km)

No	AC	DBST	DBST (fair)	Laterite	Earth	Total	Remarks
NR.1	79.1	87.1	0.0	0.0	0.0	166.2	Includes 56 km Section (On-going)
NR.2	57.8	14.3	47.9	0.0	0.0	120.0	Includes 51.7 km Section (Completed)
NR.3	12.8	54.3	135.2	0.0	0.0	202.3	Includes 32.8 km Section (Completed)
NR.4	214.2	0.0	0.0	0.0	0.0	214.2	
NR.5	59.8	346.7	0.0	0.0	0.0	406.5	Includes 47.3 km Section (On-going)
NR.6	190.0	223.4	0.0	0.0	0.0	415.5	Includes 98.2 km Section (On-going)
NR.7	61.1	402.4	0.0	0.0	0.0	463.5	Includes 192.8 km (On-going ; New alignment shorter than existing)
NR.8	0.0	0.0	0.0	22.4	41.7	109.08	New 1-digit national road (On-going)
Total	674.8	1128.2	183.0	24.5	41.7	2,097.280	
	32.9%	55.0%	8.9%	1.2%	2.0%	100%	

Source: As-built Drawings, Design Drawings and Tender Drawings Collected by JICA Study Team

Road widths: All 1-digit national roads have at least two lanes, while only 37.8% of 2-digit national roads and 15% of provincial roads have two or more lanes.



Source: JICA study, LRCS Inventory, 2004 and MRD Inventory

Note: For 1-digit national roads, data for  $w \geq 9.0m$  is actually that for  $w \geq 10.0m$ , and  $6.5m \leq w \leq 9.0m$ , that for  $6.5m \leq w \leq 10.0m$

Fig. 1-3 Road lengths according to road widths (as of 2004)

International roads: A portion of national roads No. 1 and No. 5 make up a part of Asian Highway 1; national roads No. 4, 6 and 7 make up a part of Asian Highway 11; national roads No. 48, 3 and 33 make up a part of Asian Highway 123; and national roads No. 66 and 78 make up a part of the arterial highway of the Greater Mekong Sub-region (GMS).

Table 1-3 International roads in Cambodia

Name of international road			Transit Cities	Length (km)	International Road Classification					Missing Links	Remarks
GMS roads	Asian Highway	ASEAN Highway			Primary	Class I	Class II	Class III	Below Class III		
Central Subcorridor	AH1	AH1	Poipet-Sisophon - Phnom Penh - Svay Rieng - Bavet (NR.1, NR5)	572.4	-	-	11.2	561.2*	-	-	*103km upgraded to Class II (Japan [56km] and ADB [47km])
Inter-Corridor Link	AH1 1	AH11	Sihanouk Ville - Phnom Penh - Kampong Cham - Stung Treng - Trapengkreal (NR4, NR6, NR7)	755.0	-	-	364	391.0**	-	-	**Includes 193km on-going Road Rehabilitation of NR.7 (China Fund)
Southern Coastal Subcorridor	-	AH123	Cham Yeam - Koh Kong - Viel Rinh - Sre Ambel - Kampot - Lork (NR48, NR3, NR33)	163.3	-	-	2.4	8.7	152.2	-	NR.48 funded by Thailand NR 33 funded by ADB
Northern Subcorridor	-	-	Siem Reap - Preah Vihear - Stung Treng - Rattanak Kiri - O Yadav Border (NR66, NR78)	464.9	-	-	-	-	464.9	-	NR.78 funded by Vietnam.
Total Length (km)				1,955.6	-	-	377.6	960.9	617.1	-	

Source: JICA Study & MPWT Updated

Note; International road classifications are as follows (ASEAN STANDARD):

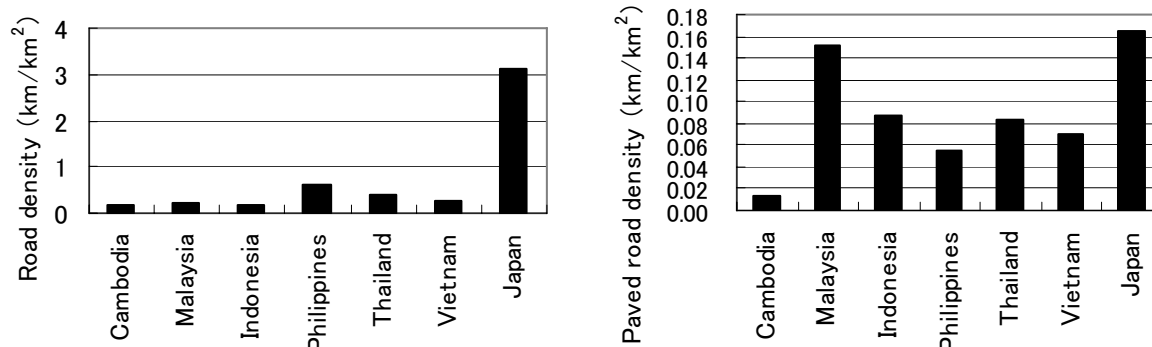
[Primary] Roads used exclusively by automobiles / AC or concrete pavement

[Class I] Highways with 4 or more lanes / AC or concrete pavement

[Class II] Roads with 2 or more lanes / AC or concrete pavement

[Class III] Narrow 2-lane roads / DBST pavement

Comparison with neighboring countries: Roads in Cambodia differ little compared to roads in neighboring countries in terms of road length per area, but the delay of Cambodia's road development is evident in the length of paved roads in Cambodia.



Source: Figs. 1-4 and 1-5 both prepared based on JICA study

Fig. 1-4 International comparison of road density

Fig. 1-5 International comparison of paved road density

Figure 1-6 illustrates the total population compared to the total road length and people living in rural area to the rural road length.

<b>Road</b>			
1-digit NR	2,097.28 km		
2-digit NR	2,704.37 km		
Prov. Road	6,692.44 km		
	Rural Road (L1)	28,000.00 km	
	NR and PR (L2)	11,494.09 km	
	Total length (L3)	39,494.09 km	
Land areas (A)	181,035 sqkm		
<b>Population, P (x1000)</b>			
	(in 2005)	PxA	(PxA) <sup>0.5</sup>
Total population	13,800.00 mill.	2498283000	49982.83
Rural	11,592.00 mill.		
Urban	2,208.00 mill.		
<b>Road density and Road density index</b>			
Road density, RD=L/A (km/sqkm)	0.218	(all roads)	
	0.063	(National & Provincial roads)	
	0.155	(Rural roads)	
Road density Index, RDI	0.790	(all roads)	
RDI=L/(PxA) <sup>0.5</sup>	0.230	(National & Provincial roads)	
	0.560	(Rural roads)	
Total population/Total road length	350.00 Person/km		
Rural population/Rural road length	414.00 Person/km		

Fig 1-6 Population by Road Density

Source: World Bank



**(B) Road Development Project**

Figs. 1-7 shows the national network in Cambodia and Fig.1-8 shows the status of assistance by Development Partners

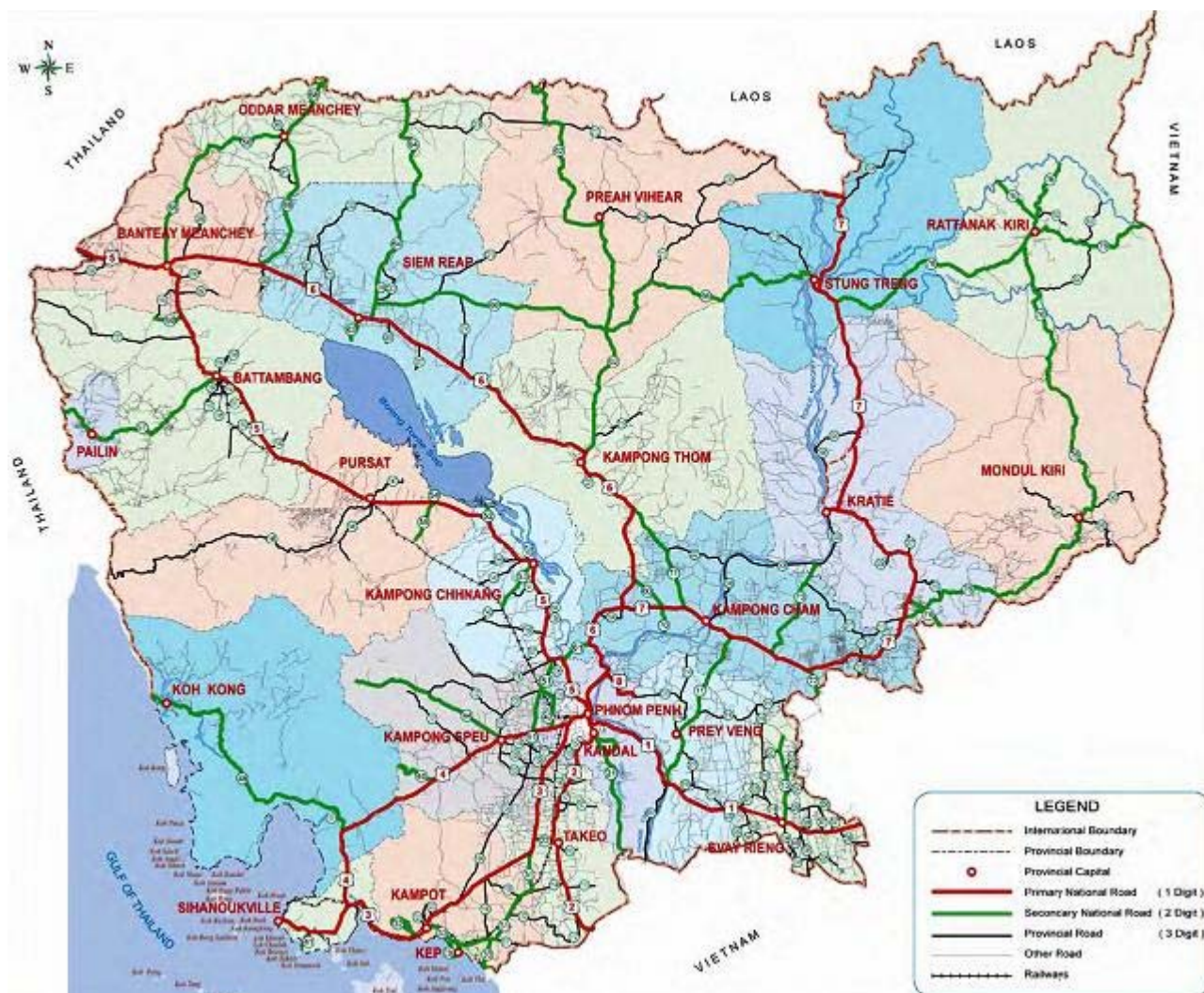


Fig. 1-7 National Road Network in Cambodia

Source: JICA study, MPWT materials

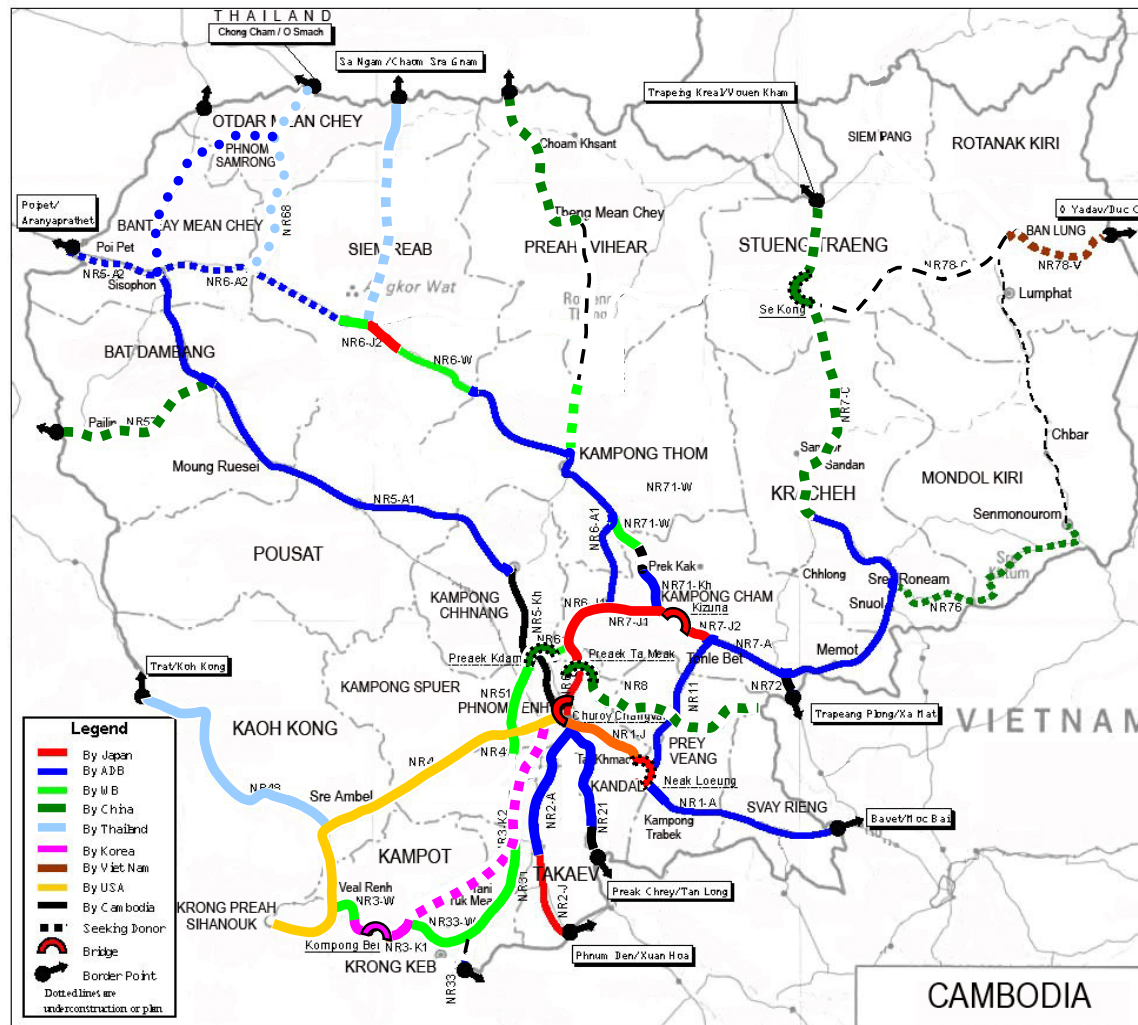


Fig. 1-8 Status of Assistance by Development Partners

Table. Major Road Improvement Projects in Cambodia

No.	Road	Org.	Cost (Millis)	length (km)	Section	Start	End	Status
1	NR1-J	Japan	80.0	56.0	Phnom Penh - Neak Loeung	2005	2010	AC
	NR1-A	ADB	26.7	107.0	Neak Loeung - Bavet	1999	2004	DBST
2	NR2-A	ADB	1.1	63.0	Takhmau - Takeo (flood restoration)	1994	1996	DBST
	NR2-J	Japan	12.0	51.6	Takeo - Phnum Den	2003	2006	AC
3	NR3-A	Korea	50.0	147.0	Phnom Penh - Kampot	2007	2010	DBST
	NR3-K	Korea	21.3	32.7	Kampot - Trapang Ropau	2004	2007	DBST
	NR3-W	WB	6.5	21.5	Trapang Ropau - Veal Renh	2002	2004	DBST
4	NR4	USA	24.0	224.0	Chaom Chao - Sihanouk Ville	1994	1996	AC
	NR5-Kh	Cambodia	9.0	92.0	Phnom Penh - Kampong Chhnang	2001	2003	DBST
	NR5-A2	ADB	28.0	261.0	Kampong Chhnang - Sisophon	2001	2004	DBST
	NR5-A2	ADB	12.7	48.0	Sisophon - Poipet	2006	2009	AC
	NR6A	Japan	28.0	44.0	Phnom Penh - Thnal Kaeng	1993	1995	AC
	NR6-J1	Japan			Thnal Kaeng-Skun	1996	1999	AC
	NR6-A1	ADB	6.0	92.0	Skun-Kampong Thom	2002	2004	DBST
	NR6-W	WB	16.0	65.0	Kampong Thom - Prey Romeas	2002	2006	DBST
	NR6-J2	Japan	12.0	17.5	Siem Reup - Rolous	2000	2001	AC
	NR6-A2	ADB	30.0	100.0	Sisophon - Siem Reap	2006	2009	AC
	NR7-J1	Japan			Skun - Kompong Cham	1996	1999	AC
	NR7-J2	Japan	19.0	10.2	Kompong Cham - Chob	2001	2003	AC
	NR7-A	ADB	17.0	128.0	Chob - Kratie	2003	2005	DBST
	NR7-C	China	62.8	187.0	Kratie - Trapeang Kriel	2004	2008	DBST
8	NR8	China	71.5	109.0	Preak Ta Mak - Anlong Chrey	2007	2010	AC
11	NR11	ADB	9.5	90.4	Neak Loeung - Tnal Kheng	2001	2004	DBST
	NR21-A	ADB	2.2	57.5	Saang-Kaoh Thum	2002	2004	DBST
21	NR21-Kh	Cambodia		17.4	Kaoh Thum-Chrey Thum			
31	NR31	WB		51.7		2003	2005	DBST
	NR33-W	WB		39.8		2002	2005	DBST
33	NR33	-		17.0	Kompong Trach - Kompot			
48	NR48	Thai	21.7	151.3	Koh Kong - Sre Ambel	2004	2007	DBST
51	NR51	WB	5.8	38.0	Tnal Toteung-Vang Chas	2003	2004	DBST
56	NR51	ADB			Bantay Meanchey-Samraong			
57	NR57	China	45.0	103.0	Batambang - Thai Border	2007	2009	DBST
	NR62	WB			K.P Thom - Preahvihear Border			
62	NR62	-			K.P Thom Border - Tbaeng Mean Chy			
	NR62	China	57.8	116.0	Tbaeng Mean Chy - Prasat Preahvihear	2008	2011	DBST
64	NR64-T1	Thai	3.1	18.0	Choam Sa Ngam - Anlong Veng	2004	2006	DBST
	NR64-T2	Thai	32.5	131.0	Anlong Veng - Siem Reup	2006	2009	DBST
68	NR68	Thai	35.0	113.0	O Smach - Kralagn	2008	2010	
71	NR71-A	ADB	1.0	33.0	Troeng-Chamkleu	2001	2004	DBST
	NR71-Kh	Cambodia						
	NR71-W	WB						
72	NR72	Cambodia		13.5	Ponhea Kreak- Smach	2005	2006	
76	NR76	China	51.9	127.0	Snuol - Sen Monorom	2007	2010	
	NR78-V	VN	25.0	69.6	Bang Lung - O Yadav	2007	2009	DBST
78	NR78	-			O Pong Moan - Bang Lung			
	PP Ring Road	-						

Table. Major Bridge Constructions in Cambodia

Name of Bridge	Cost (Millis)	length (km)	Location	Start	End
Kizuna	60.0	1.3	Kompong Cham, NR7	1996	2001
Churoy Changvar	27.0		Phnom Penh, NR6A	1992	1993
Neak Loeung	74.0		Kandal, Svay Rieng, NR1	2009	2014
Preaek Ta Meak	43.5	1.1	Prey Veng, NR8 & NR6A	2007	2009
Preaek Kdam	28.9	1.0	Phnom Penh, NR5 & NR61	2007	2009
Kompong Bei			Kampot, NR3	2004	2007
Se Kong			Stoeng Treng, NR7	2004	2008

Source: JICA Cambodia Office

**(C) Present State of Road Traffic**

Number of registered automobiles: The number of registered automobiles has been increasing at a rate of about 10% each year, and has exceeded 480,000 automobiles in 2004. Approximately 70% of all registered automobiles are motorcycles.

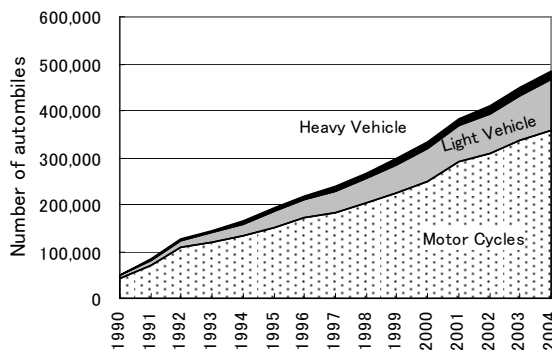


Fig. 1-9 Trends in number of registered automobiles

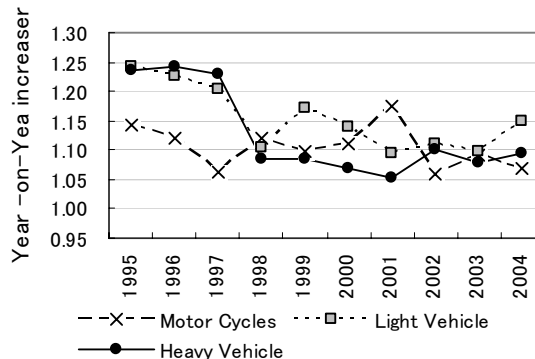


Fig. 1-10 Year-on-year increase in number of registered automobiles

Source: Figs. 1-9 and 1-10 both prepared based on Statistical Yearbook 2006. National Institute of Statistics

**(D) Road Maintenance**

Property management: The Ministry of Public Works and Transport manages 1-digit national roads, 2-digit national roads, and provincial roads, which equal a total length of 11,494.457 km, combined, and exceed US\$700 million in net asset value.

Budget: The road maintenance and management budget for 2007 is more than double that of 2006, indicating an increasing awareness in the significance of road maintenance.

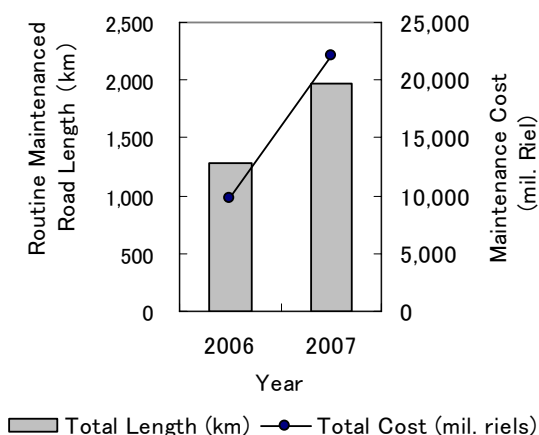


Fig. 1-11 Trends in routine maintenance programs

Table 1-4 2007 Routine Maintenance Program

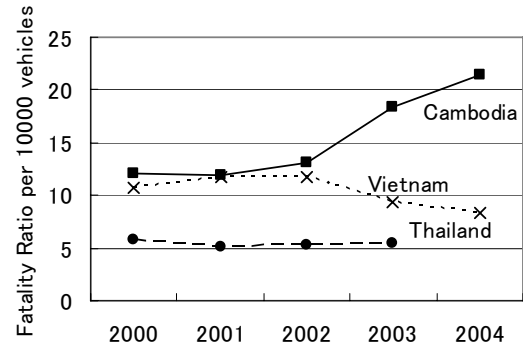
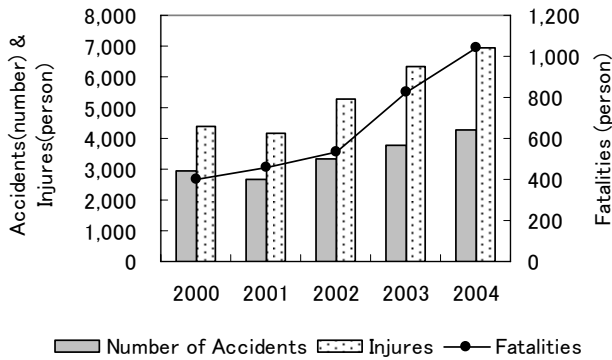
Item	Maintenance Road Length	Maintenance Cost		Unit Cost (US\$/km)
		(10 <sup>3</sup> Riels)	(US\$)	
National Road	1,730.59 km	19,730,359	4,812,283	2,780
Urban Road	238.46 km	2,330,902	568,513	2,384
Total	1,969.05 km	22,061,261	5,380,796	2,732

Source: 2006 and 2007 Routine Maintenance Program

**(E) Road Safety**

Number of automobiles owned: There has been an increasing number of people owning an automobile in the past few years.

Traffic accident fatalities per 10,000 automobiles: There are 21.5 fatalities per 10,000 automobiles in Cambodia. This figure is extremely large compared to 8.34 in Vietnam, 5.41 in Thailand (2003 value) and 0.95 in Japan.

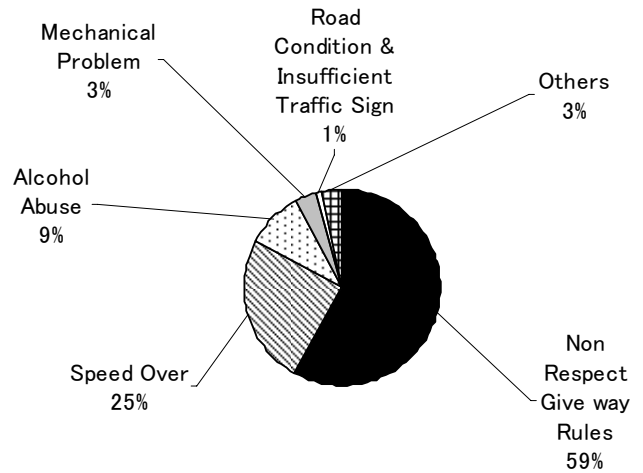
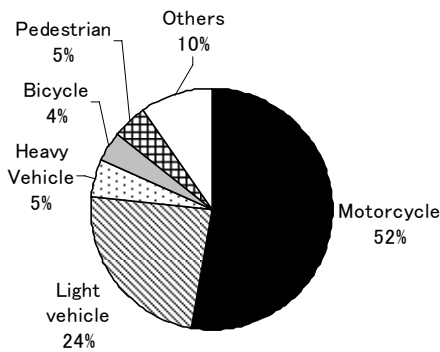


Source: JICA study, Land Transport Department and Road Safety Committee, MPWT

Fig. 1-12 Trends in traffic accidents in Cambodia

Fig. 1-13 Comparison of traffic accident fatalities

Occurrence of road accidents by type of road user



Source: JICA study, Land transport Department, MPWT

Fig. 1-14 Number of accidents by type of road user (2004)

Fig. 1-15 Causes of road accidents (2004)

## 2. Railway

### (A) Present State of Railways in Cambodia

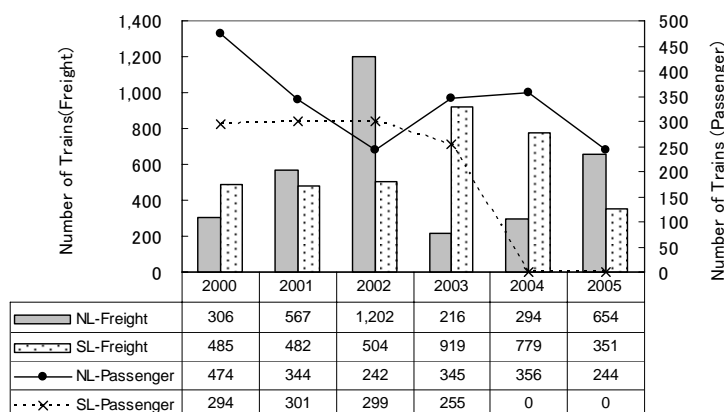
Table 2-1 Situation of Railway Facilities

Item	Northern Line (NL)	Southern Line (SL)
Length (km)	385 (including 48km missing link)	264km
Section	Phnom Penh - Pursat - Battambang - Mongkol Borey - Poipet	Phnom Penh - Takeo - Kampot - Sihanoukville
Station (number)	49 (Current Operation 7)	27 (Current operation 5)
Construction Year	1929 - 1942	1960 - 1969

Source: RRC, Restructuring of the Railway in Cambodia, Strategy Report and Action Plan, ADB, GMS Rehabilitation of the Railway in Cambodia, Final Report (Volume ), November 2006, ADB.

### (B) Present State of Railway Use

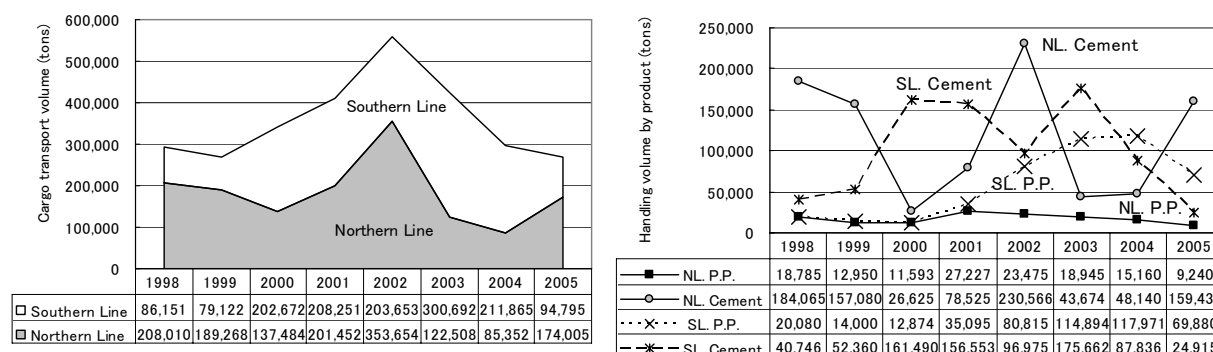
Train service has begun to decrease in 2002. In 2005, a maximum of 3 trains per day were operated on the Northern Line (NL) and only 1 train per day on the Southern Line (SL).



Source: GMS Rehabilitation of the Railway in Cambodia, Final Report (volume 1), November 2006, ADB TA6251-REG (Source: RRC)

Fig. 2-1 Number of trains operated in a year by Cambodia National Railway

The volume of rail cargo transport began to decrease after reaching 557,000 tons in 2002. The NL mainly carries cement, and while the SL mainly carries cement and petroleum products.



Source: Prepared based on Restructuring of the Railway in Cambodia, Strategy Report and Action Plan, ADB and GMS Rehabilitation of the Railway in Cambodia, Final Report (Volume II), November 2006, ADB.

Fig. 2-2 Trends in rail cargo transport volume

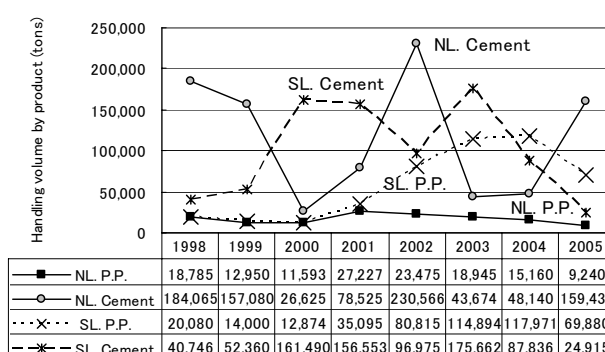


Fig. 2-3 Trends in transport volume by product



The number of railway passengers has drastically decreased after 2000. In 2005, it was around one-tenth the number of the peak period in 1998.

The Southern Line has even terminated the operation of passenger trains in 2004.

On the Northern Line, the number of round-trip services has been reduced from once a day to once a week, due to the decrease in the number of passengers. Today, a train composed of both cargo and passenger cars operates between Phnom Penh and Battambang.

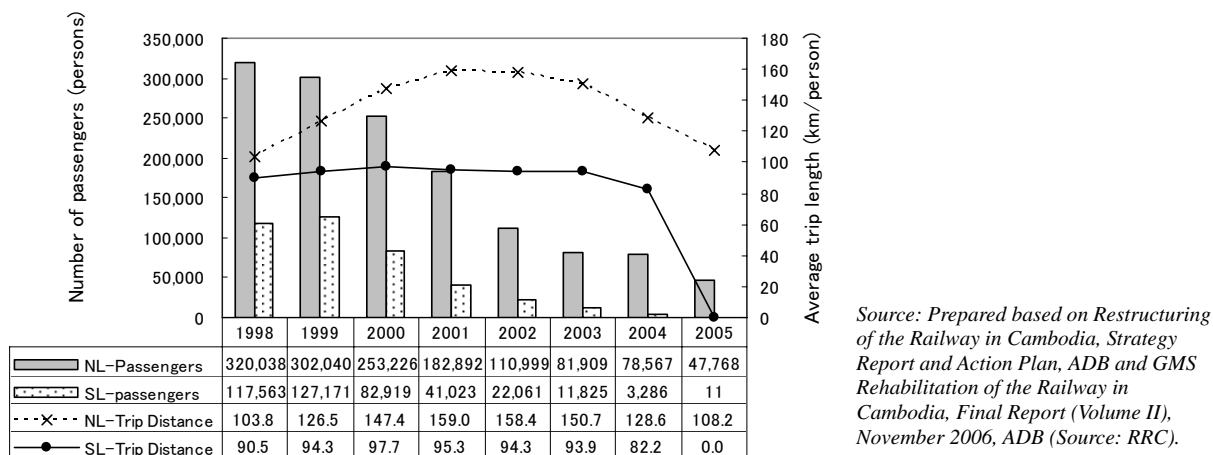
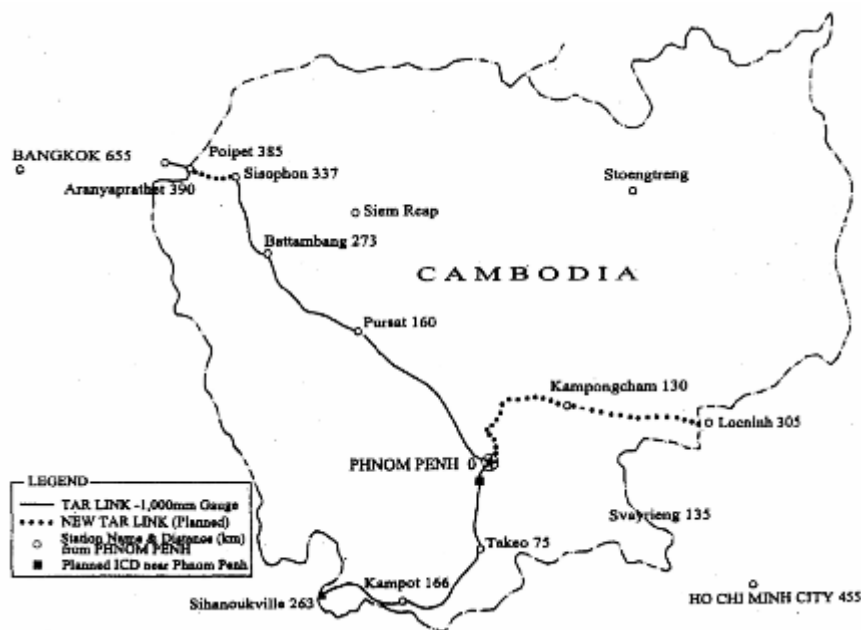


Fig. 2-4 Trends in the number of railway passengers and the average length of their trips

(Reference) Pan-Asian Railway framework



Source: Report of the Overseas Information Gathering Survey by the Asia-Pacific Region H Group (Cambodia), March 2004, Japan Transport Cooperation Association

Fig. 2-5 Route of the Pan-Asian Railway Concept in Cambodia

### 3. Maritime and Ports

#### (A) Present State of Ports

Among the ports in Cambodia, only Sihanoukville Port and Phnom Penh Port handle international containers. These two ports are controlled by the central government, but are financially independent, autonomously-managed ports. Sihanoukville Port was constructed in 1961 with French assistance. Today, Japan is aiding the development of a 400m-long and 11m-deep container terminal along the quay, slated for completion in 2008. Phnom Penh Port has a 300m-long pier where container cargo is handled. It also handles cargo using a passenger pontoon and a private petroleum jetty. Other ports besides the two autonomous ports are extremely small ports, with the exclusion of the petroleum jetty in Sihanoukville city and Oknha Mong Port (private).

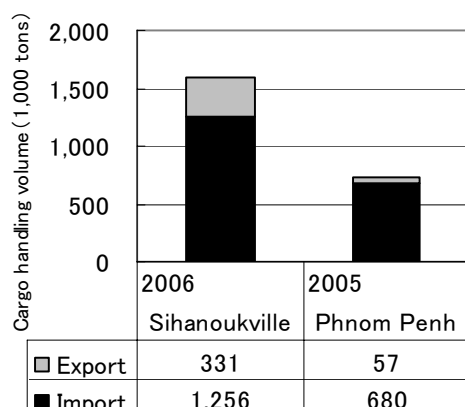
Table 3-1 Status of facilities at Sihanoukville Port and Phnom Penh Port

Port Name	Channel	Berth					Other Facilities & Remarks
		Name	Structure	Length	Depth	Year	
Sihanoukville Port	[South Channel ] Length 5.5km Depth: 8.4m Width: 80-100m	No. 1-2	Jetty	290m	9.0m	1960	[Warehouses] 5 buildings, 36,600m <sup>2</sup> [Container yard] 3 yards, 110,000m <sup>2</sup>
		No. 3-4	Jetty	290m	9.0m	1960	
		No. 5-7	-	350m	7.5m	1969	
		No. 8-9	-	400m	9.0m	2006	
	[North Channel] Length 1km Depth: 10m Width: 150-200m	(Private Facilities)					-
		Sokmex	Jetty	200m	9.2m	-	
		-	Pontoon	110m	6.5m	-	
Phnom Penh Port	Maintenance dredging (at Chaktmok) Depth: 7m Width: 60m Length: 1,290m Volume: 159,648m <sup>3</sup>	Port No.1					[Container Yards] 2 yards for laden containers, 1 yards for empty containers
		No.1	Jetty, apron width 20m	Total 300m	-	-	
		No.2			-	-	
		No.3			-	-	
		Port No.2 (for passengers)					1km downstream from Port No.1
		No.5b	Pontoon	-	-	-	
		No.5c	Pontoon	-	-	-	
		(Private Facilities)					Between 4 and 13km upstream from Phnom Penh
-	8 facilities for oil berges	Ship size from 600-1,000DWT		-			

Source: Prepared based on the Study on the Master Plan for Maritime and Port Sectors in Cambodia, March 2007, Japan International Cooperation Agency (JICA).

#### (B) Status of Port Usage

Sihanoukville Port has a cargo handling volume of approximately 1.6 million tons, and Phnom Penh Port, approximately 740,000 tons. Both ports have been steadily expanding their handling volume, and have shown particularly remarkable increase in the handling volume of containers. Sihanoukville Port accommodated approximately 700 vessels in 2005, and Phnom Penh Port 1,070 vessels (mostly small barges). Container vessels account for 60% of vessels entering Sihanoukville Port. On the other hand, tanker barges account for 65% of vessels in Phnom Penh Port. At Sihanoukville Port, the development of a special economic development zone of 70ha that is integral with the port is underway with Japanese aid, in conjunction with the development of a container terminal. Six offshore oil fields are being developed off the coast of Sihanoukville Port. As a supply base for their development, materials and equipment for trial exploration and drilling are stored and supplied at Sihanoukville Port.



Source: Created based on the Study on the Master Plan for maritime and Port Sectors in Cambodia, March 2007, JICA (Source: SPA & PPAP).

Fig. 3-1 Annual cargo handling volume at international trade ports in Cambodia (2005)

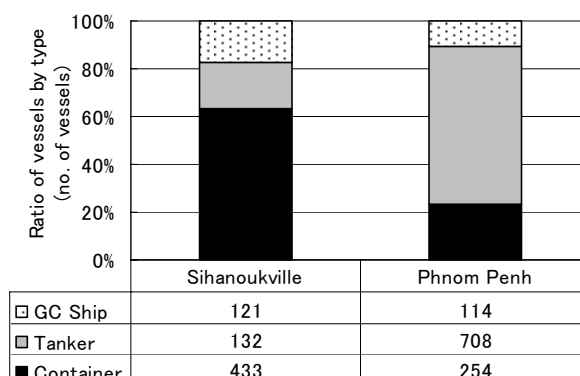
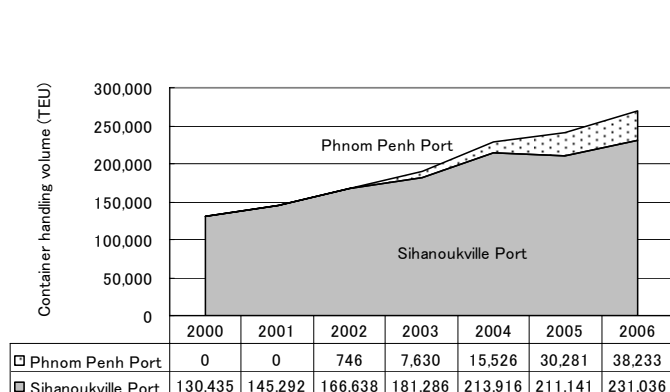


Fig. 3-2 Number of vessels entering the two international trade ports in Cambodia per year (by type of vessel, 2005)



Source: Figs. 3-3 and 3-4 prepared based on the Study on the Master Plan for Maritime and Port Sectors in Cambodia, March 2007, JICA (Source: SPA & PPAP).

Fig. 3-3 Trends in container cargo volume at international trade ports in Cambodia

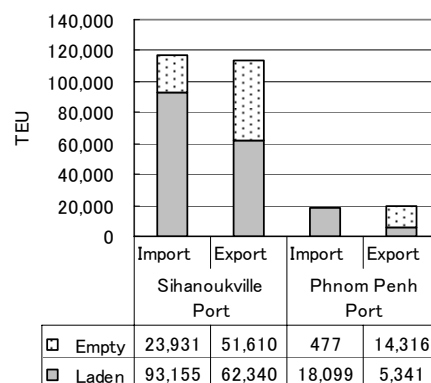
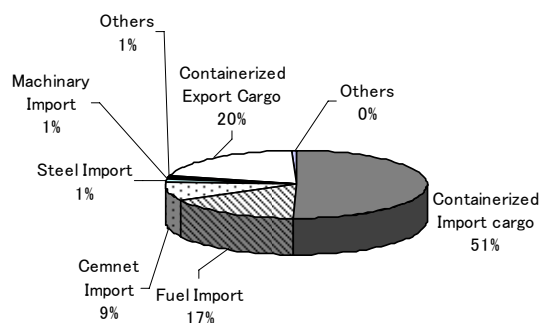


Fig. 3-4 Ratio of empty and laden containers (2006)



Source: Fig. 3-5 and 3-6 prepared based on the Study on the Master Plan for Maritime and Port Sectors in Cambodia, March 2007, JICA (Source: SPA & PPAP).

Fig. 3-5 Composition of items handled at Sihanoukville Port (2006)

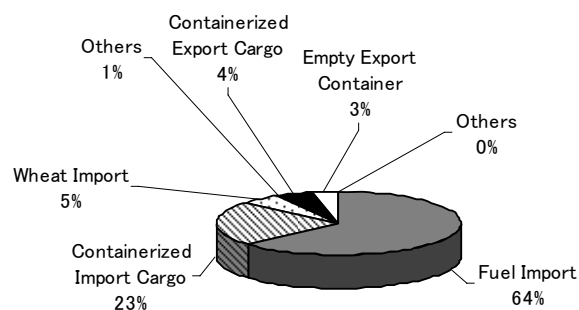


Fig. 3-6 Composition of items handled at Phnom Penh Port (2005)



## 4. Inland Waterway

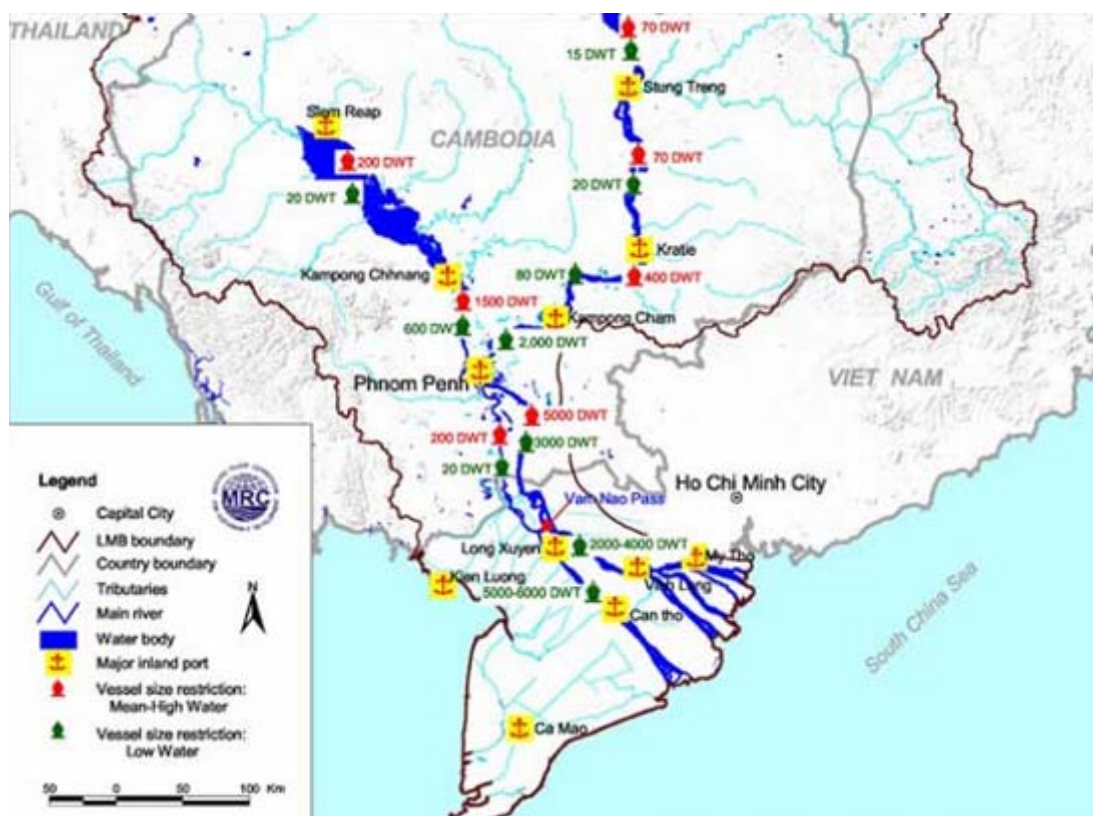
### (A) Present State of River Navigation

Cambodia's navigable inland waterways measure a total length of 1,750km. The Mekong mainstream accounts for 30% of the total, the Tonle Sap River 15%, the Bassac River 5%, and other tributaries 50%. Year-round navigation is possible through 580km.

Table 4-1 Maximum navigable vessel size in the Mekong River basin by section

	River Section	Length (km)	Year-round navigation possible?	Vessel Size Restriction (DWT)	
				Low Water	Mean-high water
Mekong Mainstream	Golden Triangle - Luang Prabang	362	Yes - but is limited by rocky passages and strong currents		60
	Luang Prabang - Vientiane	425	Yes - but requires small boats and skilled pilots during dry season	15	60
	Vientiane - Savannakhet	459	Yes	200	500
	Savannakhet - Pakse	261	No "high water" only navigation possible	Less than 10	50
	Pakse - Khinak	151	Yes	50	
	Khinak - Veune Kham	14	No - navigation not possible at any time due Khone Falls		
	Veune Kham - Stung Treng	30	Yes - with size limitations at low water	15	50
	Stung Treng - Kratie	128	Yes - with size limitations at low water	20	50
	Kratie - Kampong Cham	121	Yes	80	400
	Kampong Cham - Phnom Penh	100	Yes - navigable by sea-going ships	2,000	
	Phnom Penh - Junction of Vam Nao Pass	154	Yes - navigable by sea-going ships	3,000-4,000	5,000
Vam Nao pass - South China Sea	194	Yes - navigable by sea-going ships	3,000-4,000	3,000- 4,000	
Bassac River	Phnom Penh - Junction of Vam Nao Pass		Yes - but not possible by sea-going ships	20	50
	Vam Nao Pass - South China Sea	188	Yes - navigable sea-going ships	5,000	5,000- 6,000
Tonle Sap (Cambodia)	Phnom Penh - 5km South of Kampong Chhnang	94	Yes - navigable by sea-going ships	1,000	2,000
	Kampong Chhnang - Chhnoc Trou	46	Yes - with size limitations at low water	20	150
	Chhnoc Trou - Chong Kneas109	109	Yes - with size limitations at low water	20	150
Mekong Delta Waterways	Dense network of man-made canals, natural creeks and Mekong tributaries, with a total navigable length of 4785 km	4,785	Yes - Vessel size restrictions within this network vary from 10-300DWT		
	Se-kong - Mekong tributary (Lao PDR and Cambodia)		Yes - this waterway is navigable between the Lao PDR and Cambodia, providing an alternative international transit corridor to the Mekong which is non-navigable through the Khone Falls		

Source: Master Plan for Waterborne Transport on the Mekong River System in Cambodia, Final report (Volume 1 Main Report, Draft), September 2006, Belgian Technical Cooperation



Source: Master Plan for Waterborne Transport on the Mekong River System in Cambodia, Final report (Volume 1 Main Report, Draft), September 2006, Belgian Technical Cooperation

Fig. 4-1 Maximum navigable vessel size in the Mekong River basin

Table 4-2 Maximum navigable vessel size in the Mekong River basin

	Mekong Mainstream up to Phnom Penh	Mekong River, Phnom Penh to Kampon Cham	Tonle Sap, Phnom Penh to Siem Reap
Petroleum	Tanker barges 1,000 DWT / 4.0m draught	-	-
Container	Barges 1,900 DWT (120TEU) / Draught 3.8m	-	-
Generak Cargo	Barges 1,500 DWT / Draught 4.0m	-	-
Tourist Cruise Vessels	50-65 passengers Draught 1.5m	-	50-65 passengers Draught 1.5m
Speedboats	25 passengers shallow draught	-	25 passapens shallow draught

Source: Master Plan for Waterborne Transport on the Mekong River System in Cambodia, Final report (Volume 1 Main Report, Draft), September 2006, Belgian Technical Cooperation

## (B) Present State of Inland Water Transportation

A speedboat carries passengers between Phnom Penh and Siem Reap one round trip per day, during the seven months from August to February. The number of passengers using inland water transportation decreased from 129,000 in 2002 to 37,000 in 2005. 100-120DWT small ships are used for domestic cargo transportation in Phnom Penh Port, and carry mainly food items, such as fresh produce, and packed cement. Cargo handling volume has been greatly decreasing yearly, and has dropped to an estimated 5,700 tons in 2005.

## 5. Air Transportation

### (A) Present State of Airports

There are 11 airports in Cambodia, but regular flights are only available at four airports: the Phnom Penh and Siem Reap International Airports and the Sihanoukville and Rattanakiri Airports. The Société Concessionnaire de l'Aéroport (SCA) has been undertaking operational management of PHNOM PENH International Airport since 1995, SIEM REAP International Airport since 2001, and SIHANOUKVILLE Airport since 2006. These are under BOT Agreements between the Royal of Cambodia and SCA. All other airports are managed by the State Secretariat of Civil Aviation (SSCA) of the Kingdom of Cambodia.

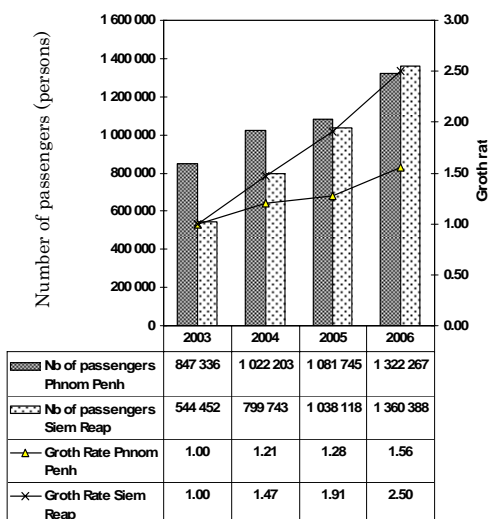
Table 5-1 Present status of airports in Cambodia

Airport Name	Runway (LxW, m)	ILS	Area (ha)	Owner/Managing Entity	Open/Close	Remarks
<b>International Airport</b>						
Phnom Penh	3000x45/Asphalt/4D	☆	387.00	RGC/SCA	Open	ILS for RWY23 only
Siem Reap	2550x45/Asphalt/4C	-	197.00	RGC/SCA	Open	ILS will come into service early 2008
<b>Domestic Airport</b>						
Sihanoukville	1795x34 /Asphalt/3C	-	123.84	RGC/SCA	Open	Reopened January 15, 2007
Kampong Chhnang	2400x45/Concrete/4C	-	2011.00	RGC (Army)	Close	The area includes military use land
Battambang	1600x34/Bitumen/3C	-	128.68	RGC	Open	Open Regular and Charter
Stung Treng	1300x20-29/Bitumen /3C	-	112.50	RGC	Open	
Rattanakiri	1300x30/Laterite/3C	-	54.57	RGC	Open	Under ABD Project
Koh Kong	1300x30/Laterite/3C	-	125.31	RGC	Open	Open Regular and Charter
Mondulkiri	1500x30/Laterite/3C	-	46.27	RGC	Close	Temporary close July 20, 2007
Preah Vihear	1400x30/Laterite/3C	-	165.24	RGC	Close	
Krache	1200x30/Laterite/3C	-	112.50	RGC	Close	

Source: Prepared based on Project Profiles and Progress (Civil Aviation). (replaced with the latest data)

### (B) Present State of Airport Usage

The usage of international airports has been increasing yearly owing to the increase of tourist demand.



Source: Prepared based on SSCA materials.

Fig. 5-1 Trends and growth in the **number of passengers** using Cambodia's international airports

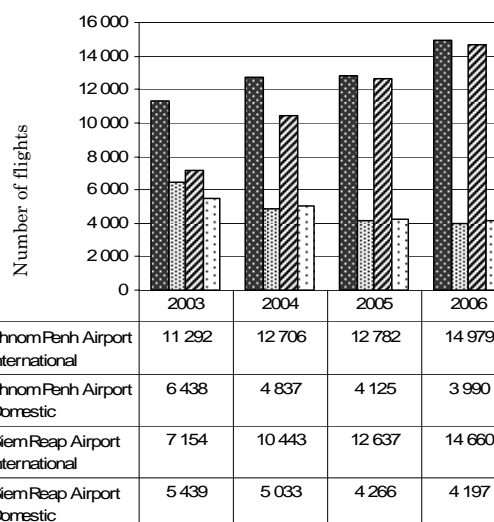
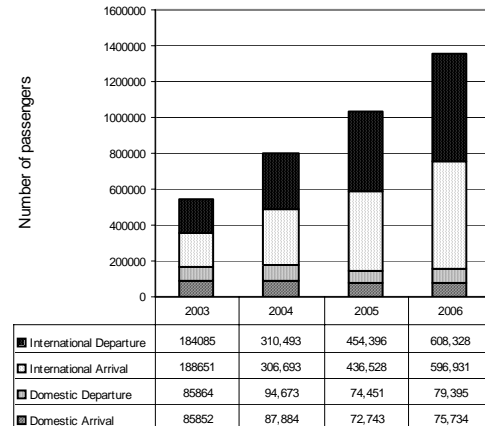
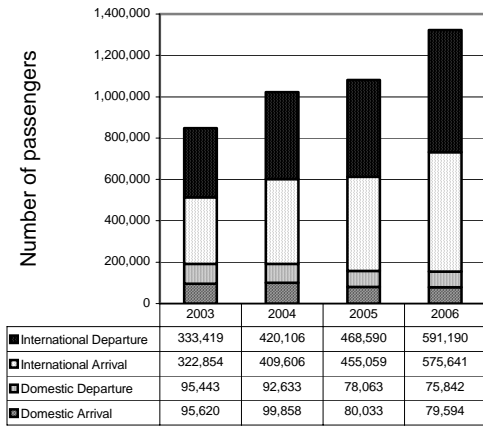


Fig. 5-2 Trends in the **number of flights** arriving and departing from Cambodia's international airports

The number of flights per year varies slightly from year to year, but between 2003 and 2006, it has increased approximately 1.4-fold at Phnom Penh International Airport and approximately 2.1-fold at Siem Reap International Airport. The number of domestic flights, on the other hand, has been decreasing on the whole.

The number of international flight passengers has been increasing yearly at Phnom Penh International Airport, and has marked 1.17 million in 2006. When combined with the number of domestic flight passengers, the airport is used by a total of some 1.3 million passengers a year. Domestic flight passengers have been significantly decreasing since 2005, and have remained level in 2006.



Source: Prepared based on SSCA materials. (Project Profile and Progress (Civil Aviation), SSCA)

Fig. 5-3 Trends in the number of passengers using Phnom Penh International Airport.

Fig. 5-4 Trends in the number of passengers using Siem Reap International Airport.

At Siem Reap International Airport, the number of international flight passengers has been rapidly increasing in the past few years. In 2006, it accommodated the largest number of passengers of all airports in Cambodia, exceeding even Phnom Penh International Airport. However, like Phnom Penh International Airport, the number of domestic flight passengers has been decreasing.

Other than the two international airports, regular domestic flights are available only at Sihanoukville Airport (bound for Siem Reap) and Rattanakiri Airport (bound for Phnom Penh).

## 6. Tourism

### (A) Number of Tourists

The number of foreign tourists to Cambodia fluctuates somewhat depending on the international situation, but it has been steadily increasing since 1995. In 2005, more than 1.4 million, or 1.35 times more tourists over the previous year, visited Cambodia.

In terms of foreign tourists' purpose of visit to Cambodia (2005), 89% visit for sightseeing, 7% for business, and 4% for other purposes.

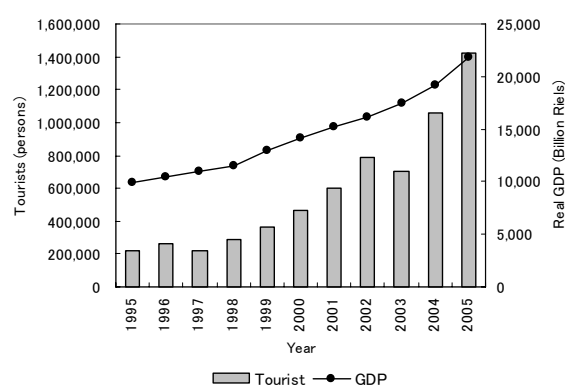


Fig. 6-1 Trends in foreign tourists and GDP

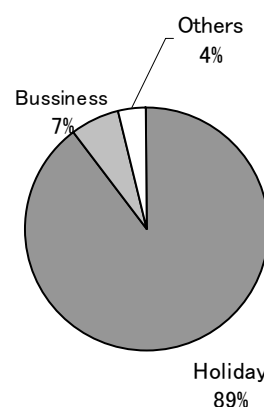


Fig. 6-2 Foreign tourists' purpose of visit to Cambodia (2005)

In terms of the mode of transportation used by foreign tourists to arrive in Cambodia, an increasing number of tourists are using air, land and water transportation. There has been a particularly large increase in the percentage of tourists using large buses, owing to the development of national roads during the past few years.

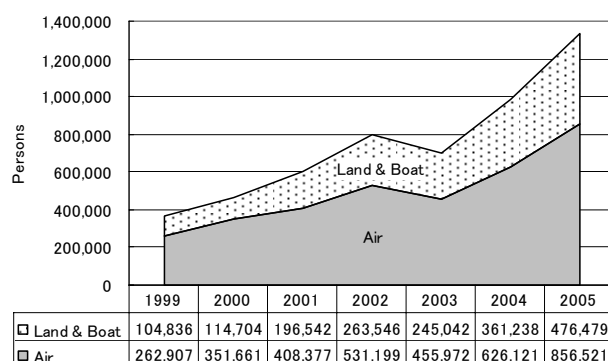


Fig. 6-3 Trends in foreign tourists' mode of transportation to Cambodia

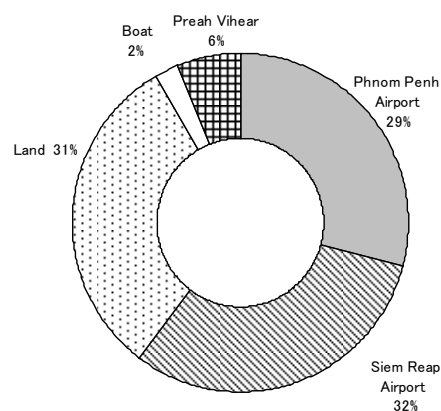
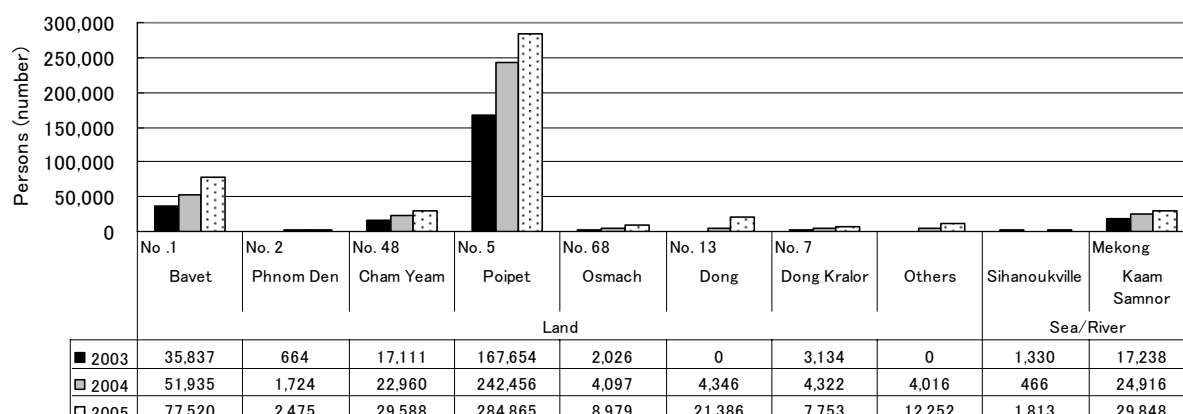


Fig. 6-4 Details concerning foreign tourists' means of arriving in Cambodia (2005)

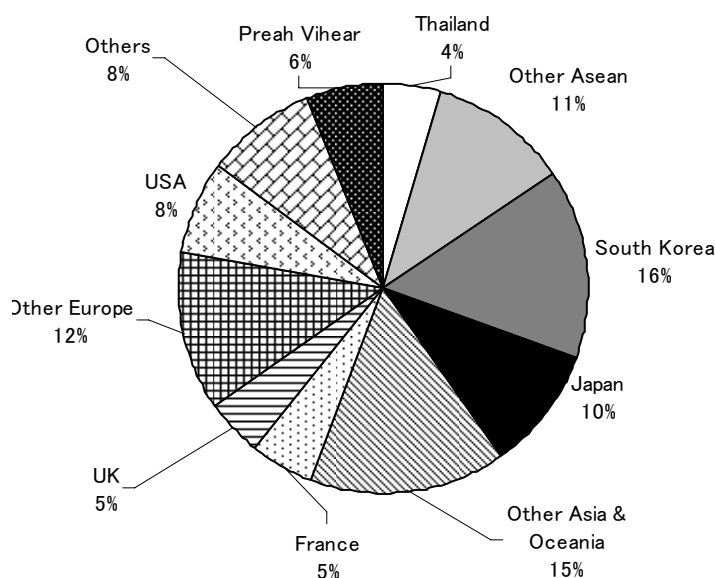
With respect to tourists entering Cambodia by land or water, the majority enter the country from Thailand using National Road No. 5, followed by from Vietnam using National Road No. 1, from the Mekong River by boat, and from Thailand by National Road No. 48.



Source: Created based on Statistical Yearbook 2005 and Tourism Statistical Report Dec. 2005.

Fig. 6-5 Trends in the number of foreign tourists at national border cities who have entered Cambodia by land or water

In terms of the number of foreign tourists by country, there has been a rapid increase in Korean tourists during the past few years, accompanying the commencement of direct flights from Korea.



Source: Created based on Statistical Yearbook 2005 and Tourism Statistical Report Dec. 2005.

Fig. 6-6 Nationalities of foreign tourists to Cambodia (2005)

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