

# **Regional Workshop on Upgrading of the Asian Highway Priority Routes**

## **ASIAN HIGHWAY NETWORK IN INDONESIA**

**Bangkok, Thailand 19-21 June 2007**

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### **Asian Highway (AH) Routes**

Based on Intergovernmental Agreement on Asian Highway Network that signed in Bangkok on 18 November 2003, Asian Highway routes in Indonesia consists of two routes, AH-2 and AH-25 :

1. Asian Highway Route Number 2 (AH-2) laid on northern part of Java Island and Western Part of Bali Island. As the main corridor for travelling surround Java and Bali island, it connects all main cities. AH-2, 1.277 km length of non-toll road, 402 km length of toll road and 4,5 mile ferry route which connects Java and Bali island trough Ketapang at the west side and Gilimanuk at the opposite. It is expected that the travellers from Singapore, to reach Indonesia (Jakarta) can use a ferry.
2. Asian Highway Route Number 25 (AH-25), connect eastern side of Sumatera Island start from Banda Aceh to the south and connect Java island at Merak Port. The route connecting all the main cities on eastern coast of Sumatera trough 2.723 km length of non-toll road, 34 km length of toll road in Medan and 14 mile of ferry route between Bakauheni and Merak Port.

## Ferry Connection

1. AH-2 Within Indonesia Region :  
Java to Bali Island = 4.5 mile, serviced by max of 19 RO-RO Ferrys (45 minutes trip time)
2. AH-2 to AH-25 Within Indonesia Region :  
Java to Sumatera Island = 14 mile, serviced by max of 24 Ro-RO Ferrys (3,5 hours trip time).
3. AH-2 from Jakarta – Singapore :  
Proposed Ferry (EFFECIENCY AND COMPETITIVENESS BEING STUDIED)
4. AH-25 form Belawan – Penang (Malaysia).

Ferry Connection Progress :

1. Ferry connection from Belawan (AH-25) to Penang (Malaysia): RO-RO (presently suspended due to Custom problem).
2. Planned to be operated in 2010 Ferry between Dumai (AH25) to Malaka (Malaysia). CONSTRUCTION OF FERRY PORT PLANNED TO START BY 2008.

## Road Classification

The Asian Highway Routes in Indonesia are classified as :

1. Primary system road network, function as *Arterial Road* Network, which are define as the public road to serve main transportation for long trip, high speed and have efficientlly limited entrance.
2. Contonuslly connects provincial capitals which consists of *Urban and Intra-Urban* Road Network.
3. *National Road*, means that is under responsibility of Central Government to develop the network using National-Budget (or + Loan).
4. *Toll Roads*. The toll road in AH-2 distributed in Western Java between Serang and Bandung via Jakarta and Cikampek and also on Cirebon – Kanci separatly, in Central Java on Semarang city, and in Eastern Java between Surabaya and Gempol. While in Sumatera Island, Toll Belawan –Medan is the only toll road in the island.

## Average Pavement width

All links of Asian Highway in Indonesia already meet Asian Highway's road width standart, except link between Sorek I and Batas Indragirihulu, the Link number 014.2 on AH-25 Route, which only has 5.9 m of average road width.

AH - Code	National Road	Length (Km) by Average Pavement Width									
		< 6 m		6 - 7 m		7 - 14 m		> 14 m		Total	
		Km	%	Km	%	Km	%	Km	%	Km	%
AH-2	Non-Toll	0.00	0.00	293.41	22.97	921.43	72.13	62.53	4.90	1,277.38	100.00
	Toll	0.00	0.00	0.00	0.00	0.00	0.00	401.73	100.00	401.73	100.00
Total AH-2		0.00	0.00	293.41	17.47	921.43	54.88	464.26	27.65	1,679.11	100.00
AH-25	Non-Toll	37.30	1.37	2,268.46	83.29	386.83	14.20	30.95	1.14	2,723.54	100.00
	Toll	0.00	0.00	0.00	0.00	0.00	0.00	33.70	100.00	33.70	100.00
Total AH-25		37.30	1.35	2,268.46	82.27	386.83	14.03	64.65	2.34	2,757.24	100.00
Grand Total		37.30	0.84	2,561.87	57.75	1,308.27	29.49	528.91	11.92	4,436.35	100.00

## Asian Highway Present Performance

The Asian Highway performance in Indonesia, is represented by Internatioanl Roughness Index (IRI), and traffic become one of the parameters that used as basic consideration for road treatment. The road condition criteria is shown bellow :

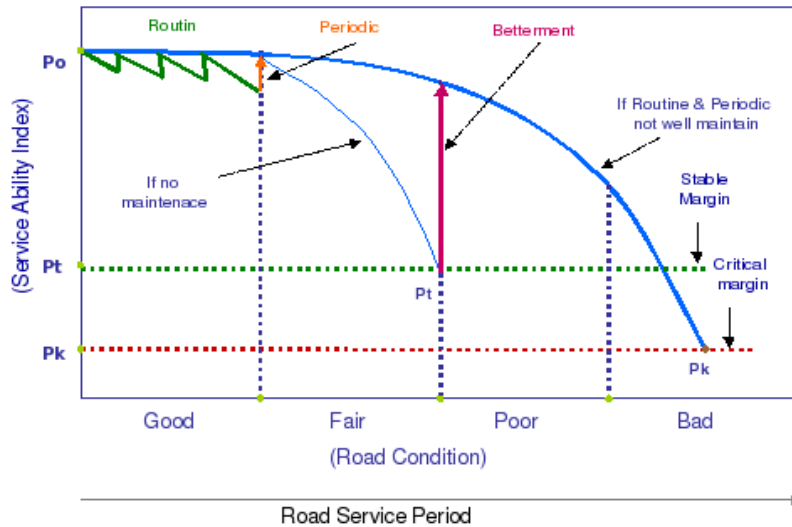
IRI (m/Km)			Condition
	IRI ≤	4	Good
4	< IRI ≤	8	Fair
8	< IRI ≤	12	Poor
	IRI >	12	Bad

Asian Highway Network in Indonesia, mainly in stable (Good or fair) condition (96.55%). Otherwise, some part of poor and bad condition, each part has only 0.36% and 3.09% portion.

AH - Code	National Road	Length (Km) by Condition									
		Good		Fair		Poor		Bad		Total	
		Km	%	Km	%	Km	%	Km	%	Km	%
AH-2	Non-Toll	672.29	52.63	543.79	42.57	61.17	4.79	0.13	0.01	1,277.38	100.00
	Toll	401.73	100.00	0.00	0.00	0.00	0.00	0.00	0.00	401.73	100.00
Total AH-2		1,074.02	63.96	543.79	32.39	61.17	3.64	0.13	0.01	1,679.11	100.00
AH-25	Non-Toll	1,024.11	37.60	1,607.64	59.03	75.91	2.79	15.88	0.58	2,723.54	100.00
	Toll	33.70	100.00	0.00	0.00	0.00	0.00	0.00	0.00	33.70	100.00
Total AH-25		1,057.81	38.36	1,607.64	58.31	75.91	2.75	15.88	0.58	2,757.24	100.00
Grand Total		2,131.82	48.05	2,151.43	48.50	137.08	3.09	16.01	0.36	4,436.35	100.00

# Road Treatment Programme

Road treatment programme is decided by road condition based on consideration of service ability index, as shown in below scheme :



**Notes :**

- Po** : Serviceability Index (Start Point)
- Pt** : Serviceability Index (End Point, equal to Stable Point)
- Pk** : Serviceability Index (Critical Point)

**Po, Pt and Pk** depend on Road Status and AADT

## Project Steps

1. POLICY AND PLANNING, providing strategy and policy of road network development based on road network development masterplan, while on environmental stage prepare EIA screening based on important impact and location/road corridor.
2. PROGRAMMING
  - a. Pre-feasibility Study, include scoping of environmental issues need to be reviewed more detail in the EIA or environmental examination.
  - b. Feasibility study, completed with analysis of magnitude and importance of environmental issues as well as environmental cost in the feasibility study.
3. BUDGETING, allocating project cost based on FS financial and economic estimation.
4. DESIGNING, by preparing detail engineering design and formulation of criteria and specification as well as system of either land acquisition of construction implementation.
5. LAND ACQUISITION, pre-construction stage that include Implementation of land acquisition system, giving compensation, land preparation for construction
6. CONSTRUCTION, while on environmental stage conduct application of material specification, equipment and construction system as well as

supervision included mitigation of environmental impacts during construction stage

7. OPERATION & MAINTENANCE, system of impact mitigation implementation, monitoring and evaluation of environmental impacts as part of post-construction stage.
8. EVALUATION of the project and performance of environmental management, include input to the policy on future performance improvement, and to find outcomes, benefits and impacts of the project.

## Strategic and Policies

Asian Highway Development Programme, conduct based on following strategic policies :

1. The optimization of existing road network and its operation
2. Widening the links to reach the minimum standard
3. Quality improvement of the links to desirable service level
4. The priority will be according to the following order :
  - a. crossing border,
  - b. provision of proper road signs and road marking,
  - c. technical standard adjustment,
  - d. road safety and

## Budget Allocation and Target

- Due to the rapid deteriorating of road performance, especially on AH-25 that known as Sumatera Eastern Highway to support economic development in Sumatera growth area, it's need to allocate and prioritize more budget.
- While on AH-2, the budget specifically expected to support economic area an ports on north coast of Java. The budget allocation for 2007 to 2009 shown on below :

AH-Code	Source Fund	Project	2007		2008		2009	
			GOI	Loan	GOI	Loan	GOI	Loan
AH-2	GOI	APBN	379,00	0,00	652,00	0,00	879,00	0,00
	ADB	RRSP	0,00	8,68	0,00	0,00	0,00	0,00
	JBIC	NJCFP	0,00	114,51	0,00	302,12	0,00	0,00
	World Bank	SRIP	0,00	14,06	0,00	238,64	0,00	354,85
<b>AH-2 Sum</b>			<b>379,00</b>	<b>137,25</b>	<b>652,00</b>	<b>540,75</b>	<b>879,00</b>	<b>354,85</b>
AH-25	GOI	APBN	537,00	0,00	1.141,00	0,00	1.711,00	0,00
	ADB	RR2P	17,53	39,02	79,19	176,25	55,52	122,57
		RRSP	0,00	55,79	0,00	0,00	0,00	0,00
	World Bank	SRIP	0,00	0,00	0,00	138,91	0,00	89,51
<b>AH-25 Sum</b>			<b>554,53</b>	<b>94,81</b>	<b>1.220,19</b>	<b>315,16</b>	<b>1.766,52</b>	<b>212,08</b>
<b>Total Result</b>			<b>933,53</b>	<b>232,06</b>	<b>1.872,19</b>	<b>855,92</b>	<b>2.645,52</b>	<b>566,93</b>

*(Budget in Billion IDR)*

**Total Budget Comparison by Year**  
(Percentage based on budget 2007)

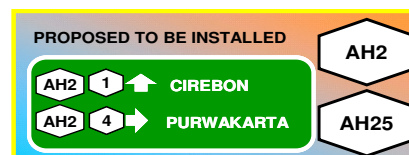
AH-Code	2007		2008		2009	
	IDR	%	IDR	%	IDR	%
AH-2	516,12	100,0	1192,75	231,10	1233,85	239,06
AH-25	649,34	100,0	1535,35	236,45	1978,60	304,71

*(Budget in Billion IDR)*

By the end of 2009, AH-25 targeted to have pavement width at least 7 m, AH-2 on West Java to have pavement width at least 14 m that consists of 4 lane, Central Java and East Java expected to have 7m to 14 m pavement width with 3 or 4 lane, while AH-2 on Bali Island targeted to have 2 lane of 7 m pavement width.

**Programme of Road Signs Installation**

ASIAN HIGHWAY ROUTE	TIME PLANNED	COST ESTIMATION
1. AH-2 (250 UNIT DIRECTIONAL SIGNS AND 300 UNIT SINGLE SIGNS)	2008 - 2009	2.5 BILLION RUPIAH
2. AH-25 (450 UNIT DIRECTIONAL SIGNS AND 550 UNIT SINGLE SIGNS)	2010 -2011	4.25 BILLION RUPIAH
<b>TOTAL COST</b>		6.75 BILLION RUPIAH



**Sample of Installed Directional Signs**

