

ASYA KARAYOLU AĞI

1. Asya Karayolu Ağı: Doğu ve Kuzeydoğu Asya, Güney ve Güneybatı Asya, Güneydoğu Asya ve Kuzey ve Orta Asya gibi birden fazla alt bölgeyi önemli ölçüde kateden karayolu güzergahlarını da kapsayan, alt bölgelerde bulunan ve komşu alt bölgelere bağlanan karayolu güzergahlarından, üye Devletlerde bulunan ve (a) başkentlere; (b) başlıca sanayi ve tarım merkezlerine; (c) başlıca hava, deniz ve nehir limanlarına; (d) başlıca konteynır terminalleri ve antrepolara; ve (e) başlıca turistik merkezlere erişim sağlayan karayolu güzergahlarından, Asya'da bulunan uluslararası öneme haiz karayolu güzergahlarından oluşmaktadır.

2. Güzergah numaraları Asya Karayolu anlamına gelen "AH" ile başlayıp bir veya iki veya üç rakamla devam eder.

3. 1 ila 9 arasındaki tek basamaklı güzergah numaraları birden fazla alt bölgeyi kateden Asya Karayolu güzergahlarına tahsislidir.

4. İki veya üç basamaklı güzergah numaraları alt bölgelerde bulunan ve komşu alt bölgelere güzergahları ve üye Devletlerde bulunan karayolu güzergahlarına bağlanan güzergahları aşağıdaki gibi belirlemek üzere tahsis edilmektedir:

(a) 10-29 ve 100-299 arasındaki güzergah numaraları Brunei Darussalam, Kamboçya, Endonezya, Lao Demokratik Halk Cumhuriyeti, Malezya, Maynamar, Filipinler, Singapur, Tayland ve Vietnam'ı kapsayan güney doğu Asya alt bölgesine tahsislidir.

(b) 30-39 ve 300-399 arasındaki güzergah numaraları Çin, Kore Demokratik Halk Cumhuriyeti, Japonya, Moğolistan, Kore Cumhuriyeti ve Rusya Federasyonu¹ (Uzak Doğu) kapsayan Doğu ve Kuzeydoğu Asya alt bölgelerine tahsislidir.

(c) 40-59 ve 400-599 arasındaki güzergah numaraları Bangladeş, Butan, Hindistan, Nepal, Pakistan ve Sri Lanka'yı kapsayan Güney Asya alt bölgesine tahsislidir.

(d) 60-89 ve 600-899 arasındaki güzergah numaraları Afganistan, Ermenistan, Azerbaycan, Gürcistan, İran İslam Cumhuriyeti, Kazakistan, Kırgızistan, Rusya Federasyonu¹, Tacikistan, Türkiye, Türkmenistan ve Özbekistan'ı kapsayan Kuzey, Orta ve Güneybatı Asya alt bölgesine tahsislidir.

¹Rusya Federasyonu coğrafi büyüklüğünden dolayı güzergahların numaralandırılması amacıyla iki adet alt bölgede yer almaktadır.

ASYA KARAYOLU GÜZERGAHLARI LİSTESİ

Birden fazla alt bölgeyi önemli ölçüde kateden Asya Karayolu Güzergahları

AH route number	Itinerary
AH1	<p>Tokyo -Fukuoka -ferry -Pusan -Kyongju -Taegu -Taejon -Seoul -Munsan -Gaesung -Pyongyang -Sinuiju -Dandong -<u>Shenyang</u> -<u>Beijing</u> -<u>Shijiazhuang</u> -Zhengzhou - Xinyang -Wuhan -Changsha -Xiangtan -<u>Guangzhou</u> (-Shenzhen) -<u>Nanning</u> - Youyiguan -Huu Nghi -Dong Dang -Ha Noi -Vinh -Dong Ha -Hue -Da Nang -Hoi An -Nha Trang -Bien Hoa (- Vung Tau) -Ho Chi Minh City -Moc Bai -Bavet -Phnom Penh -Poipet -Aranyaprathet -Kabin Buri -Hin Kong -Bang Pa-in (- Bangkok) - Nakhon Sawan -Tak -Mae Sot -Myawadi -Payagyi (- Yangon) -Meiktila -Mandalay- Tamu -Moreh -Imphal- Kohima -Dimapur -Nagaon -Jorabat (- Guwahati) -Shillong -Dawki -Tamabil -Sylhet -Katchpur -Dhaka -Jessore -Benapol -Bongaon -Kolkata -Barhi -Kanpur -Agra -New Delhi -Attari -Wahgah -Lahore -Rawalpindi (- Islamabad) -Hassanabdal -Peshawar -Torkham -Kabul -Kandahar -Dilaram -Herat - Islam Qala -Dogharun -Mashhad -Sabzevar -Damghan -Semnan -Tehran -Qazvin - Tabriz -Eyvoghli -Bazargan -Gürbulak -Doğubeyazıt -Aşkale -Refahiye -Sivas - Ankara -Gerede -Istanbul -Kapıkule -Border of Bulgaria</p>
AH2	<p>Denpasar -Surabaya -Surakarta -Semarang -Cikampek (- Bandung) - Jakarta (- Merak) -ferry -Singapore -Senai Utara -Seremban -Kuala Lumpur -Butterworth - Bukit Kayu Hitam -Sa Dao -Hat Yai -Bangkok -Bang Pa-in -Nakhon Sawan -Tak - Chiang Rai -Mae Sai -Tachilek -Kyaing Tong -Meiktila -Mandalay -Tamu -Moreh - Imphal -Kohima -Dimapur -Nagaon -Jorabat (- Guwahati) -Shillong -Dawki - Tamabil -Sylhet -Katchpur -Dhaka -Hatikamrul -Banglabandha -Siliguri -Kakarbhitta -Pathlaiya -Narayanghat -Kohalpur -Mahendranagar -Bramhadev Mandi -Banbasa - Rampur -New Delhi -Attari -Wahgah -Lahore -Multan -Rohri -Quetta -Taftan - Mirjaveh -Zahedan -Kerman -Anar -Yazd -Salafchegan (-Tehran) -Saveh -Hamadan -Khosravi</p>
AH3	<p>Ulan-Ude -Kyahta -Altanbulag -Darkhan -Ulaanbaatar -Nalayh -Choir Saynshand - Zamin-Uud -Erenhot -Beijing -Tanggu</p> <p><u>Shanghai-Hanegzhou-Nanchang-Xiangtan-Guivang- -Kunming</u> -Jinghong (-Daluo- Mongla -Kyaing Tong) -Mohan -Boten -Nateuy -Houayxay - Chiang Khong -Chiang Rai</p>

AH4	Novosibirsk -Barnaul- Tashanta -Ulaanbaishint -Hovd -Yarantai Urumqi -Kashi -Honqiraf -Khunjerab -Hassanabdal -Rawalpindi (- Islamabad) -Lahore -Multan -Rohri -Hyderabad -Karachi
AH5	<u>Shanghai -Nanjing -Xinyang -Xi'an -Lanzhou -Tulfan -Urumqi -Kuitun -Jinghe- Horgos -Almaty -Kaskelen -Kordai -Georgievka -Bishkek -Kara Balta -Chaldivar- Merke -Shymkent -Zhibek Zholy -Chemyavka -Tashkent -Syrdaria -Samarkand - Navoi -Bukhara -Alat -Farap -Turkmenabat -Mary -Tejen -Ashgabat -Serdar -Turkemenbashi -ferry -Baku -Alat -Gazi Mammed -Ganja -Kazakh -Red Bridge - Tbilisi -Mtskheta- Khashuri -Senaki -Poti (- ferry to Bulgaria, Romania, Ukraine) -Batumi (- ferry to Bulgaria, Romania, Ukraine) -Sarpi -Sarp -Trabzon -Samsun - Merzifon -Gerede -Istanbul -Kapıkule -Border of Bulgaria</u>
AH6	Pusan -Kyongju -Kangnung -Kansong -Kosong -Wonsan (- Pyongyang) -Chongjin- Sonbong -Khasan -Hasan -Razdolnoe (- Vladivostok -Nahodka) -Ussuriysk - Pogranichny -Suifenhe -Harbin -Qiqihar -Manzhouli -Zabaykalsk -Chita - Ulan-Ude - Irkutsk -Krasnoyarsk -Novosibirsk -Omsk -Isilkul -Karakuga -Petropavlovsk- Chistoe -Petuhovo -Chelyabinsk -Ufa -Samara -Moscow -Krasnoe -Border of Belarus
AH7	Yekaterinburg -Chelyabinsk -Troisk -Kaerak -Kostanai -Astana -Karaganda - Burubaital- Merke -Chaldivar -Kara Balta -Osh -Andijon -Tashkent -Syrdaria- Khavast -Khujand -Dushanbe -Nizhniy Panj -Shirkhan -Polekhumri -Djbulsarcj - Kabul -Kandahar -Speenboldak -Chaman -Quetta -Kalat -Karachi
AH8	Border of Finland -Torpynovka -Vyborg -St. Petersburg -Moscow -Tambov - Borysoglebsk -Volgograd -Astrakhan -Hasavjurt -Mahachkala -Kazmalyarskiy -Samur -Sumgayit -Baku -Alat -Bilasuvlar -Astara -Rasht -Qazvin -Tehran -Saveh -Ahvaz -Bandar Emam

Komşu alt bölgelere ve üye Devletlerde yer alan Asya Karayolu güzergahlarını bağlayan güzergahları kapsayan alt bölgelerdeki Asya Karayolu güzergahları

Güney Doğu Asya	
AH11	Vientiane -Ban Lao -Thakhek -Seno -Pakse -Veunkham -Tranpeangkreal -Stung Treng Kratie -Phnom Penh -Sihanoukville
AH12	Nateuy -Oudomxai -Pakmong -Louang Phrabang -Vientiane -Thanaleng -Nong Khai -Udon Thani -Khon Kaen -Nakhon Ratchasima -Hin Kong
AH13	Oudomxai -Muang Ngeun -Huai Kon -Uttaradit -Phitsanulok -Nakhon Sawan,
AH14	Hai Phong -Ha Noi -Viet Tri -Lao Cai -Hekou -Kunming -Ruili -Muse -Lashio- Mandalay

AH15	Vinh -Cau Treo -Keoneau -Ban Lao -Thakhek -Nakhon Phanom -Udon Thani
AH16	Dong Ha -Lao Bao -Densavanh -Seno -Savannakhet -Mukdahan -Khon Kaen - Phitsanulok -Tak
AH18	Hat Yai -Sungai Kolok -Rantau Panjang -Kota Bahru -Kuantan -Johor Bahru -Johor Bahru Causeway
AH19	Nakhon Ratchasima -Kabin Buri -Laem Chabang -Chonburi -Bangkok
AH25	Banda Aceh -Medan -Tebingtinggi -Dumai -Pekanbaru -Jambi -Palembang -Tanjung Karang -Bakauheni -ferry -Merak
AH26	Laoag -Manila -Legazpi -Matnog -ferry -Allen -Tacloban (- Ormoc -ferry -Cebu)- Liloan -ferry -Surigao -Davao (- Cagayan de Oro) -General Santos -Zamboanga

Doğu ve Kuzey Doğu Asya	
AH30	Ussuriysk -Khabarovsk -Belogorsk -Chita
AH31	Belogorsk -Blagoveshchensk - <u>Heihe</u> -Harbin -Changchun -Shenyang - <u>Dalian</u>
AH32	Sonhong -Wonjong -Quanhe -Hunchun -Changchun -Arshan -Numrug -Sumber - Choybalsan -Ondorhaan -Nalayh -Ulaan baatar -Uliastay -Hovd
AH33	<u>Harbin</u> -Tongjiang
AH34	<u>Lianyungang</u> -Zhengzhou -Xi'an

Güney Asya	
AH41	Border of Myanmar -Teknaf -Cox's Bazar -Chittagong -Katchpur -Dhaka -Hatikamrul -Jessore -Mongla
AH42	<u>Lanzhou</u> -Xining -Golmud -Lhasa -Zhangmu -Kodari -Kathmandu -Narayanghat- Pathlaiya -Birgunj -Raxaul -Piprakothi -Muzaffarpur -Barauni - Barhi
AH43	Agra -Gwalior -Nagpur -Hyderabad -Bangalore -Krishnagiri -Madurai -Dhanushkodi -ferry -Tallaimannar -Anuradhapura -Dambulla -Kurunegala (- Kandy) -Colombo - Galle -Matara
AH44	Dambulla -Trincommalee
AH45	Kolkata -Kharagpur -Balasore -Bhubaneswar -Visakhapatnam -Vijayawada -Chennai - Krishnagiri -Bangalore
AH46	Kharagpur -Nagpur -Dhule .
AH47	Gwalior -Dhule -Thane (- Mumbai) -Bangalore
AH48	Phuentsholing -Border of India
AH51	Peshawar -Dera Ismail Khan -Quetta

Kuzey, Orta ve Güney Batı Asya	
AH60	Omsk -Cherlak -Pnirtyshskoe -Pavlodar -Semipalatinsk -Georgievka -Taskesken - Ucharal- Almaty -Kaskelen -Burubaital
AH61	Kashi -Turugart -Torougart -Naryn -Bishkek -Georgievka -Kordai -Merke -Shymkent -Kyzylorda -Aralsk -Karabutak -Aktubinsk -Ural'sk -Kamenka -Ozinki -Saratov- Borysoglebsk -Voronezh -Kursk -Krupets -Border of Ukraine
AH62	Petropavlovsk -Arkalyk- Zhezkazgan -Kyzylorda -Shymkent -Zhibek Zholy - Chernyavka -Tashkent -Syrdaria -Samarkand -Guzar -Termez -Hairatan -Mazar-i- Sharif
AH63	Samara -Kurlin -Pogodaev -Ural'sk -Atyrau -Beyneu -Oasis -Nukus -Bukhara- Guzar
AH64	Barnaul- Veseloyarskyj -Krasny Aul- Semipalatinsk -Pavlodar -Shiderty -Astana - Kokshetau -Petropavlovsk
AH65	Kashi -Arkaxtam -Irkeshtam -Sary- Tash (- Osh) -Karamyk -Vakhdat -Dushanbe- Tursunzade -Uzun -Termez
AH66	Border of China -Kulma Pass -Khorugh -Kulob -Vakhdat -Dushanbe
AH67	Kuitun -Baketu -Bakhty -Taskesken -Semipalatinsk -Pavlodar -Shiderty -Karaganda- Zhezkazgan
AH68	Jinghe -Alatawshankou -Dostyk -Ucharal
AH70	Border of Ukraine -Donetsk -Volgograd -Astrakhan -Kotyaevka -Atyrau -Beyneu - Zhetybai (- Aktau) -Bekdash -Turkemenbashi -Serdar -Gudurolum -Inche Boroun- Gorgan -Sari -Semnan -Damghan -Yazd -Anar -Bandar Abbas
AH71	Dilaram -Zarang -Milak -Zabol- Dashtak
AH72	Tehran -Qom -Esfahan -Shiraz -Bushehr
AH75	Tejen -Sarahs -Sarahs -Mashhad -Birjand -Nehbandan -Dashtak -Zahedan -Chabahar
AH76	Polekhumri -Mazar-i-Sharif -Herat
AH77	Djbulsarçj -Bamiyan -Herat -Tourghondi -Serketabat -Mary
AH78	Ashgabat -Chovdan Pass -Bajgiran -Qucham -Sabzevar -Kerman
AH81	Larsi -Mtskheta -Tbilisi -Sadakhlo -Bagratashen -Vanadjor -Ashtarak -Yerevan - Eraskh -Sadarak -Nakhchivan -Julfa (- Jolfa) -Ordubad -Agarak -Meghri Aghband -Goradiz -Gazi Mammed -Alat -Baku -ferry -Aktau
AH82	Border of the Russian Federation -Leselidze -Sukhumi -Senaki -Khashuri -Akhalsikhe (- Vale) -Zdanov - Bavra -Gumri (- Akurik) -Ashtarak -Yerevan -Eraskh -Goris -Kapan -Meghri -Agarak -Nour Douz -Jolfa -Iveoqlu
AH83	Kazakh -Uzungala -Paravakar -Yerevan
AH84	Doğubeyazıt -Diyarbakır -Gaziantep -Toprakkale (-İskenderun) -Adana -İçel
AH85	Refahiye -Amasya -Merzifon
AH86	Aşkale -Bayburt -Trabzon
AH87	Ankara -Afyon -Uşak -İzmir

Not: Parantez içerisindeki güzergahlar parantezden hemen önceki yerlerdeki güzergahları tanımlar.

Altı çizili kesimler olası Asya Karayolu Güzergahlarıdır.

"Feri " kelimesi Taraflar üzerinde herhangi bir dayatma anlamında yorumlanmayacaktır.

ASYA KARAYOLU SINIFLANDIRMASI VE PROJELENDİRME STANDARTLARI

I. GENEL

Asya Karayolu sınıflandırması ve projelendirme standartları Asya Karayollarının yapımı, iyileştirilmesi ve bakımı için gereken minimum standart ve talimatları sağlamaktadır. Taraflar hem yeni güzergahlar inşa ederken hem de mevcut güzergahları modernize ederken ya da iyileştirirken bu hükümlere uyma hususunda olabilecek tüm çabalarını harcayacaklardır. Bu standartlar meskun mahallere uygulanmaz.¹

II. ASYA KARAYOLU GÜZERGAHLARININ SINIFLANDIRILMASI

Asya Karayolları Tablo 1'de görüldüğü şekilde sınıflandırılmaktadır.

Sınıflandırma	Tanım	Kaplama Cinsi
Otoyol	Erişim Kontrollü Karayolları	Asfalt Betonu veya Beton
I. Sınıf Yol	4 veya daha çok şeritli	Asfalt Betonu veya Beton
II. Sınıf Yol	2 şeritli	Asfalt Betonu veya Beton
III. Sınıf Yol	2 şeritli	Çift Katlı Bitüm Kaplama

“Otoyol “ sınıflandırması erişim kontrollü karayollarını belirtmektedir. Erişim kontrollü karayolları sadece otomobiller tarafından kullanılmaktadır. Erişim kontrollü karayollarına erişim sadece seviye ayrımlı kavşaklarla sağlanmaktadır. Otomobillerin yüksek hızla seyretmelerini ve trafik güvenliğinin sağlanması için Mopedlerin (motorlu bisikletler), bisikletlerin ve yayaların erişim kontrollü karayollarına girmelerine izin verilmemelidir. Erişim kontrollü yollarda eşdüzey kavşaklar projelendirilmemeli ve taşıma yolu refüj ile bölünmelidir.

“III. Sınıf” yol standardı sadece yol inşaatı için gereken arazinin ve/veya finansmanın kısıtlı olduğu durumlarda kullanılmalıdır. Kaplama cinsi olabildiğince çabuk bir şekilde ilerideki yıllarda asfalt betonu ya da betona dönüştürülmelidir. Çünkü III. Sınıf standardı arzu edilen en düşük standarttır, III. Sınıf standardı altında olan tüm yol kesimlerinin II. Sınıf standardına dönüştürülmesi teşvik edilmelidir.

¹ Taraflar kendi gereklerine uygun olarak meskun mahalleri belirtecektir.

III. ASYA KARAYOLU GÜZERGAHLARI PROJELENDİRME STANDARTLARI

1. Arazi Sınıflandırması

Arazi sınıflandırması Tablo 2' de gösterilmektedir

Tablo 2. Arazi Sınıflandırması

Arazi Sınıflandırması	Enine Eğim
Düz	Yüzde 0-10
Dalgalı	Yüzde 10-25'den fazla
Dağlık	Yüzde 25-60' dan fazla
Apik	Yüzde 60'dan fazla

2. Proje Hızı

Proje hızı olarak 120, 100, 80, 60, 50, 40 ve 30 km/sa kullanılmalıdır. Proje hızı, karayolu sınıflandırması ve arazi sınıflandırması arasındaki ilişki Tablo 3'de gösterilmektedir. 120 km/sa proje hızı sadece refüj ile bölünmüş ve seviye ayrımlı kavşakları olan otoyollar (erişim kontrollü karayolları) için kullanılmalıdır.

Tablo 3. Proje Hızı, Karayolu Sınıflandırılması ve Arazi Sınıflandırması

Arazi	(Birimi:km/sa)			
	Otoyol	I.Sınıf	II.Sınıf	III.Sınıf
Düz	120	100	80	60
Dalgalı	100	80	60	50
Dağlık	80	50	50	40
Apik	60	50	40	30

3. Enine Kesit

Her bir karayolu sınıfı için kamulaştırma alanı, şerit genişliği, banket genişliği, orta refüj genişliği, kaplama eğimi ve banket eğimi ölçüleri Tablo 4'de gösterilmektedir.

Düzgün trafik akışının yayalar, bisikletler ve hayvanların çektiği arabalar gibi yerel trafiğin varlığı ile engellendiği karayolu kesimlerinde mümkün olduğunca yan yollar ve/veya kaldırımlar ile yerel trafik transit trafikten ayrılmalıdır.

Tablo 4. Asya Karayolu Projelendirme Standartları

Karayolu Sınıflandırması	Otoyollar (4 veya daha çok şeritli)				I. Sınıf (4 veya daha çok şeritli)				II. Sınıf (2 şeritli)				III. Sınıf (2 şeritli)											
	Düz	Dağalı	Dağlık	Apik	Düz	Dağalı	Dağlık	Apik	Düz	Dağalı	Dağlık	Apik	Düz	Dağalı	Dağlık	Apik								
Arazi Sınıfı	120	100	80	60	100	80	50	50	80	60	50	40	60	50	40	30								
Proje hızı (km/sa)																								
Genişlik (m)	(50)				(40)				(40)				(30)											
Şerit	3,5				3,5				3,5				3,00 (3,25)											
Banket	3,00				3,00				2,50				1,5 (2,0)											
Orta Refüj	4,00				3,00				N/A				N/A											
Minimum yatay karp yarıçapı (m)	520		350		210		115		350		210		115		80		50		30					
Kaplama enine eğimi (%)	2				2				2				2-5											
Banket Eğimi (%)	3-6				3-6				3-6				3-6											
Kaplama Cinsi	Beton Asfalt/Beton				Beton Asfalt/Beton				Beton Asfalt/Beton				Çift Katlı Bitüm Kaplama											
Maksimum Dever (%)	10				10				10				10											
Maksimum Boyuna Eğim (%)	4		5		6		7		4		5		6		7		4		5		6		7	
Köprü Proje Yüğü (minimum)	HS20-44				HS20-44				HS20-44				HS20-44											

Notlar: Parantez içerisindeki değerler arzu edilen değerlerdir.

Minimum yatay karp yarıçapı dever ile birlikte belirlenmelidir.

Orta refüjün tavsiye edilen genişliği uygun tip korkuluklarla azaltılabilir

Tarafar Asya Karayolu üzerinde köprü, menfez ve tünel inşa ederken kendi ulusal standartlarını uygulayabilirler.

4. Yatay Eksen

Karayollarının yatay eksenini yolun geçtiği arazinin topoğrafyasına uygun olmalıdır. Minimum yatay kurp yarıçapı sadece gerekli hallerde ve geçiş eğrileri ile birlikte kullanılmalıdır. Bileşik kurplardan mümkün olduğunca kaçınılmalıdır. Tablo 5' de her bir karayolu sınıfı için minimum yatay kurp yarıçapları gösterilmektedir.

Tablo 5. Minimum Yatay Kurp Yarıçapı

(Birim:m)

Arazi	Otoyol	I.Sınıf	II.Sınıf	III.Sınıf
Düz	520 (1000)	350 (600)	210	115
Dalgalı	350 (600)	210 (350)	115	80
Dağlık	210 (350)	80 (110)	80	50
Apik	115 (160)	80 (110)	50	30

Not: Parantez içindeki değerler arzu edilen değerlerdir.

Minimum kurp yarıçapının kaçınılmaz durumlarda uygulanması ve yüzde 50 ile 100 den daha büyük değerlerin uygulanması tavsiye edilmektedir.

Dağlık ve apik arazilerde, çok keskin virajların yarıçap, mesafe ve eğimlerinin kombinasyonlarının kullanılması önerilmektedir.

Geçiş eğrileri Tablo 6 'da gösterilen değerlerden daha küçük yarıçaplı kurpları birleştirmek için kullanılmalıdır. Ayrıca, yarıçapın Tablo 6'daki değerlerin iki misli büyüklükte olduğu yerlerde bile geçiş eğrilerinin kullanılması önerilmektedir.

Tablo 6. Geçiş Eğrileri İçin Kullanılacak Olan Yarıçaplar

(Birim:m)

Arazi	Otoyol	I.Sınıf	II.Sınıf	III.Sınıf
Düz	2100	1500	900	500
Dalgalı	1500	900	500	350
Dağlık	900	500	350	250
Apik	500	500	250	130

Tablo 7'de gösterilen minimum geçiş eğrisi uzunlukları önerilmektedir.

Tablo 7. Minimum Geçiş Eğrisi Uzunluğu

(Birim:m)

Arazi	Otoyol	I.Sınıf	II.Sınıf	III.Sınıf
Düz	100	85	70	50
Dalgalı	85	70	50	40
Dağlık	75	50	40	35
Apik	50	50	35	25

Tüm arazi sınıflandırmaları için maksimum deyer yüzde 10 olmalıdır.

5. Düşey Eksen

Düşey eksen ekonomik olarak yapılabilirliği elverdiğince yatık olmalıdır; şöyle ki, arazinin dalgalı doğasını ortadan kaldırmak için yarma ve dolguların dengelenmesi gerekmektedir. Maksimum düşey eksen kullanımında tasarımcının aklında açıkça şu olmalıdır; belirli düşey eğim eksenini ile bir kez inşa edilen karayolunun daha düşük meyil ile iyileştirilmesi başlangıçtaki tüm karayolu yatırımı gözden çıkarılmadan yapılamaz.

Tablo 8' de gösterilen maksimum düşey eğim değerleri tüm karayolu sınıflandırmaları için kullanılmalıdır.

Tablo 8. Maksimum Düşey Eğim

Arazi Sınıflandırması	Maksimum Düşey Eğim
Düz	Yüzde 4
Dalgalı	Yüzde 5
Dağlık	Yüzde 6
Apik	Yüzde 7

Ağır taşıt trafiğine sahip yukarı eğimli karayolu kesimlerinde Tablo 9'daki eğim uzunluğunun geçildiği hallerde tırmanma şeridi yapılması tavsiye edilmektedir.

Otoyol ve I. Sınıf karayollarında tırmanma şeridi yapımı için tavsiye edilen kritik eğim boyu Tablo 9'da gösterildiği gibidir.

Tablo 9. Tırmanma Şeridi Yapımı Gerektiren Kritik Eğim Uzunluğu

Arazi Sınıflandırması	Otoyol	I.Sınıf
Düz	Yüzde 3 - 800 m	Yüzde 3 - 900 m
	Yüzde 4 - 500 m	Yüzde 4 - 700 m
Dalgalı	Yüzde 4 - 700 m	Yüzde 4 - 800 m
	Yüzde 5 - 500 m	Yüzde 5 - 600 m
Dağlık	Yüzde 5 - 600 m	Yüzde 5 - 700 m
	Yüzde 6 - 500 m	Yüzde 6 - 500 m
Apik	Yüzde 6 - 500 m	Yüzde 6 - 500 m
	Yüzde 7 - 400 m	Yüzde 7 - 400 m

6. Kaplama

Taşıma yollarının kaplanması beton asfalt ya da beton olmalıdır. Bununla birlikte, III. Sınıf karayolu çift katlı bitüm ile kaplanabilir.

Asya Karayolu üyesi ülkelerindeki pek çok karayolu kesiminin kaplaması yetersiz taşıma kapasitesi yüzünden tahrip olmaktadır. Bu nedenle kaplamanın taşıma gücü yol yüzeyi hasarlarını önlemek ve netice itibarıyla bakım masraflarını azaltmak amacıyla dikkatlice belirlenmelidir.

Bununla birlikte karayolu kaplamaları aşağıdakiler dikkate alınarak tasarlanmalıdır.

- (a) Dingil Yüğü
- (b) Trafik Hacmi
- (c) Karayolu inşasında alttemel ve temel için kullanılan malzemenin cinsi (Kullanılan malzemenin kalitesi ülkeden ülkeye deęişim gösterdiği için kaplamanın taşıma özellikleri Asya Karayolu standartlarına dahil edilmemiştir).

7. Köprü Proje Yüğü

Gittikçe artan ağır taşıt trafięi, özellikle de konteynır trafięi uygun şekilde tasarlanmış yük taşıma kapasitesini (maksimum dingil yüğü) gerektirmektedir. Karayolları yapılarına ciddi hasarlar verilmesini önlemek ve de bakım maliyetlerini azaltmak amacıyla uluslararası bir karayolu aęı olan Asya Karayolu Aęı yüksek taşıma kapasitesine sahip olmalıdır.

Bu nedenle karayolu yapılarının tasarımında tam bir treyler yüküne karşılık gelen ve uluslararası bir standart olan HS 20-44'ün minimum taşıma standardı taşıma kapasitesi olarak kullanılmalıdır.

8. Düşey Açıklık

4,5 m açıklık ISO konteynırların güvenli geçişi için gereken minimum düşey açıklık olmalıdır. Bununla birlikte emniyetli geçiş açıklığının sağlanamadığı hallerde, köprüler gibi mevcut sanat yapılarının yeniden inşa edilmesinin yüksek maliyeti nedeniyle (deveboynu) treylerlerin düşük yataklı geçiş açıklığı kullanılabilir.

9. Çevre

Yeni yol projeleri hazırlandığında ulusal standartlara göre bir çevresel etki deęerlendirmesi yapılmalıdır. Bu hükmün mevcut yolların yeniden yapım ve iyileştirme projelerini de dahil edilecek şekilde genişletilmesi arzu edilmektedir.

10. Karayolu Güvenlięi

Asya Karayolu Aęını geliştirirken, Taraflar karayolu güvenlięi konularına tam olarak önem vereceklerdir.

ASYA KARAYOLU AĞININ BELİRLENMESİ
VE İŞARETLENMESİ

1. Asya Karayolu güzergahını belirten ve gösteren işaret dikdörtgen şeklinde olacaktır.
2. İşaret AH harflerini içermekte olup genellikle güzergahı gösteren Arapça sayılar tarafından takip edilmektedir.
3. İşaretin yazıları siyah veya beyaz olup diğer trafik levhalarına eklenebilir ve birlikte kullanılabilir.
4. Seyir halindeki taşıtların sürücüleri tarafından kolaylıkla tanımlanabilecek ve anlaşılacak büyüklükte olmalıdır.
5. Asya Karayolu güzergahlarının belirlenmesi ve gösterilmesi için kullanılan işaret ulusal düzeydeki karayollarında trafik işaretlerinin kullanılmasını engellemez.
6. Prensip olarak Asya Karayolu güzergahı numaraları üye Devletlerdeki yön levhaları sistemine entegre olacak ya da birleşik olarak kullanılacaktır. Bu numaralama sistemi her bir yol veya kavşağa erişimden önce veya sonra yerleştirilebilir.
7. Devletlerin hem Asya Karayolu Ağı Hükümetlerarası Anlaşmasına hem de Uluslararası Ana Trafik Arterleri Avrupa Anlaşmasına Taraf olması halinde karayolu güzergahlarını Asya Karayolu güzergah işareti ya da E-yolu işareti ile ya da her ikisi ile de işaretlenecek olması hususu Tarafların yetkisindedir.
8. Asya Karayolu güzergahının değişmesi başka bir güzergaha geçmesi veya bir başka Asya Karayolu güzergahı ile kesişmesi halinde, Asya Karayolu güzergahı numaraları kavşaktan ya da erişimden önce belirtilmelidir.

Ben, bu vesile ile işbu metnin 18 Kasım 2003 tarihinde Bangkok'da kabul edilen Asya Karayolu Ağı Hükümetlerarası Anlaşmasının Çince, İngilizce ve Rusça dillerinde gerçek metni olduğunu doğruluyorum.

Genel Sekreter Adına
Hukuk Danışmanı
(Hukuki İşleri Genel Sekreteri)

İmza

Hans Corell
Birleşmiş Milletler, New York
13 Ocak 2004

INTERGOVERNMENTAL AGREEMENT ON THE
ASIAN HIGHWAY NETWORK
UNITED NATIONS

2003

INTERGOVERNMENTAL AGREEMENT ON THE
ASIAN HIGHWAY NETWORK

THE CONTRACTING PARTIES,

CONSCIOUS of the need to promote and develop international road transport in Asia and with neighbouring regions,

RECALLING the cooperation among members of the United Nations Economic and Social Commission for Asia and the Pacific in the formulation and operationalization of the Asian Highway network,

CONSIDERING that in order to strengthen relations and promote international trade and tourism among members of the United Nations Economic and Social Commission for Asia and the Pacific it is essential to develop the Asian Highway network to the requirements of international transport and the environment, keeping also in view the introduction of efficient international intermodal transport,

CONTINUING the cooperative efforts for planning, development and improvement of international road transport within Asia and between Asia and neighbouring regions,

HAVE AGREED as follows:

Article 1

Adoption of the Asian Highway network

The Contracting Parties, hereinafter referred to as the Parties, adopt the proposed highway network hereinafter referred to as the "Asian Highway network" and described in annex I to this Agreement, as a coordinated plan for the development of highway routes of international importance which they intend to undertake within the framework of their national programmes.

Article 2

Definition of the Asian Highway network

The Asian Highway network as described in annex I consists of highway routes of international importance within Asia, including highway routes substantially crossing more than one subregion, highway routes within subregions, including those connecting to neighbouring subregions, and highway routes located within member States.

Article 3

Development of the Asian Highway network

The routes of the Asian Highway network should be brought into conformity with the classification and design standards described in annex II to this Agreement.

Article 4

Signage of the Asian Highway network

1. The Asian Highway network routes should be indicated by means of the route sign described in annex III to this Agreement.
2. Route signs conforming to that described in annex III to this Agreement should be placed on all routes of the Asian Highway network within five (5) years from the date of entry into force of this Agreement for the State concerned, in accordance with article 6.

Article 5

Procedure for signing and becoming a Party to this Agreement

1. This Agreement shall be open for signature by States which are members of the United Nations Economic and Social Commission for Asia and the Pacific at Shanghai, China, from 26 to 28 April 2004 and thereafter at United Nations Headquarters in New York from 1 May 2004 to 31 December 2005.
2. Those States may become Parties to this Agreement by:
 - (a) Definitive signature;
 - (b) Signature subject to ratification, acceptance or approval, followed by ratification, acceptance or approval; or
 - (c) Accession.
3. Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument in good and due form with the Secretary-General of the United Nations.

Article 6

Entry into force of this Agreement

1. This Agreement shall enter into force on the ninetieth day following the date on which the Governments of at least eight (8) States have consented to be bound by the Agreement pursuant to article 5, paragraph 2.
2. For each State which definitively signs or deposits its instrument of ratification, acceptance, approval or accession after the date upon which the conditions for the entry into force of the Agreement have been met, the Agreement shall enter into force for that State ninety (90) days after the date of its definitive signature or of its deposit of the said instrument.

Article 7

Working Group on the Asian Highway

1. A Working Group on the Asian Highway shall be established by the United Nations Economic and Social Commission for Asia and the Pacific to consider the implementation of this Agreement and to consider any amendments proposed. All States which are members of the United Nations Economic and Social Commission for Asia and the Pacific shall be members of the Working Group.
2. The Working Group shall meet biennially. Any Party may also, by a notification addressed to the secretariat, request that a special meeting of the Working Group be convened. The secretariat shall notify all members of the Working Group of the request and shall convene a special meeting of the Working Group if not less than one third of the Parties signify their assent to the request within a period of four (4) months from the date of the notification by the secretariat.

Article 8

Procedures for amending the main text of this Agreement

1. The main text of this Agreement may be amended by the procedures specified in this article.
2. Amendments to this Agreement may be proposed by any Party.
3. The text of any proposed amendment shall be circulated to all members of the Working Group on the Asian Highway by the secretariat at least forty-five (45) days before the Working Group meeting at which it is proposed for adoption.
4. An amendment shall be adopted by the Working Group on the Asian Highway by a two-thirds majority of the Parties present and voting. The amendment as adopted shall be communicated by the secretariat to the Secretary-General of the United Nations, who shall circulate it to all Parties for acceptance.
5. An amendment adopted in accordance with paragraph 4 of the present article shall enter into force twelve (12) months after it has been accepted by two thirds of the Parties. The amendment shall enter into force with respect to all Parties except those which, before it enters into force, declare that they do not accept the amendment. Any Party that has declared that it does not accept an amendment adopted in accordance with this paragraph may at any time thereafter deposit an instrument of acceptance of such amendment with the Secretary-General of the United Nations. The amendment shall enter into force for that State twelve (12) months after the date of deposit of the said instrument.

Article 9

Procedure for amending annex I to this Agreement

1. Annex I to this Agreement may be amended by the procedure specified in this article.

2. Amendments may be proposed by any Party after consultation and obtaining consensus with directly concerned neighbouring States except for an amendment relating to domestic alignment that does not change an international border crossing.

3. The text of any proposed amendment shall be circulated to all members of the Working Group by the secretariat at least forty-five (45) days before the Working Group meeting at which it is proposed for adoption.

4. An amendment shall be adopted by the Working Group on the Asian Highway by a majority of the Parties present and voting. The amendment as adopted shall be communicated by the secretariat to the Secretary-General of the United Nations, who shall circulate it to all Parties.

5. An amendment adopted in accordance with paragraph 4 of the present article shall be deemed accepted if during a period of six (6) months from the date of the notification, none of the Parties directly concerned notify the Secretary-General of the United Nations of their objection to the amendment.

6. An amendment accepted in accordance with paragraph 5 of the present article shall enter into force for all the Parties three (3) months after the expiry of the period of six (6) months referred to in paragraph 5 of the present article.

7. The following shall be considered Parties directly concerned:

(a) In the case of a new, or the modification of an existing, Asian Highway route substantially crossing more than one subregion, any Party whose territory is crossed by that route; and

(b) In the case of a new, or the modification of an existing, Asian Highway route within subregions including those connecting to neighbouring subregions, and routes located within member States, any Party contiguous to the requesting State whose territory is crossed by that route or the Asian Highway route substantially crossing more than one subregion with which that route, whether new or to be modified, is connected. Two Parties having in their respective territories the terminal points of a sea link on the Asian Highway route substantially crossing more than one subregion or routes specified above shall also be considered contiguous for the purposes of this paragraph.

8. For the purpose of objections under paragraph 5 of this article, the secretariat shall communicate to the Secretary-General of the United Nations, together with the text of the amendment, a list of Parties which are directly concerned by the amendment.

Article 10

Procedure for amending annexes II and III to this Agreement

1. Annexes II and III to this Agreement may be amended by the procedure specified in this article.

2. Amendments may be proposed by any Party.

3. The text of any proposed amendment shall be circulated to all members of the Working Group by the secretariat at least forty-five (45) days before the Working Group meeting at which it is proposed for adoption.

4. An amendment adopted by the Working Group on the Asian Highway by a majority of the Parties present and voting. The amendment as adopted shall be communicated by the secretariat to the Secretary-General of the United Nations, who shall circulate it to all Parties.

5. An amendment adopted in accordance with paragraph 4 of the present article shall be deemed accepted if during a period of six (6) months from the date of the notification, less than one third of the Parties notify the Secretary-General of the United Nations of their objection to the amendment.

6. An amendment accepted in accordance with paragraph 5 of the present article shall enter into force for all Parties three (3) months after the expiry of the period of six (6) months referred to in paragraph 5 of the present article.

Article 11

Reservations

Reservations may not be made with respect to any of the provisions of this Agreement, except as provided in article 14, paragraph 5.

Article 12

Withdrawal from this Agreement

Any Party may withdraw from this Agreement by written notification addressed to the Secretary-General of the United Nations. The withdrawal shall take effect one (1) year after the date of receipt by the Secretary-General of such notification.

Article 13

Cessation of validity of this Agreement

This Agreement shall cease to be in force if the number of Parties is less than eight (8) for any period of twelve (12) consecutive months.

Article 14

Settlement of disputes

1. Any dispute between two or more Parties which relates to the interpretation or application of this Agreement and which the Parties to the dispute are unable to settle by negotiation or consultation shall be referred to conciliation if any of the Parties to the dispute so requests and shall, to that end, be submitted to one or more conciliators selected by mutual agreement between the Parties to the dispute. If the Parties to the dispute fail to agree on the choice of a conciliator or conciliators within three (3) months after the request for conciliation, any of those Parties may request the Secretary-General of the United Nations to appoint a single conciliator to whom the dispute shall be submitted.

2. The recommendation of the conciliator or conciliators appointed in accordance with paragraph 1 of this article, while not binding in character, shall become the basis of renewed consideration by the Parties to the dispute.

3. By mutual agreement, the Parties to the dispute may agree in advance to accept the recommendation of the conciliator or conciliators as binding.

4. Paragraphs 1, 2 and 3 of the present article shall not be construed to exclude other measures for the settlement of disputes mutually agreed between the Parties to the dispute.

5. Any State may, at the time of definitive signature or of depositing its instrument of ratification, acceptance, approval or accession, deposit a reservation stating that it does not consider itself bound by the provisions of the present article relating to conciliation. Other Parties shall not be bound by the provisions of the present article relating to conciliation with respect to any Party which has deposited such a reservation.

Article 15

Limits to the application of this Agreement

1. Nothing in this Agreement shall be construed as preventing a Party from taking such action, compatible with the provisions of the Charter of the United Nations and limited to the exigencies of the situation, as it considers necessary to its external or internal security.
2. A Party shall make every possible effort, subject to the availability of budget and other forms of funding of that Party and in accordance with its laws and regulations, to develop the Asian Highway network consistent with this Agreement.
3. Nothing in this Agreement shall be construed as acceptance of an obligation by any Party to permit the movement of goods and passenger traffic across its territory.

Article 16

Notifications to Parties

In addition to communications provided for in articles 7, 8, 9 and 10 and the reservation provided for in article 14 of this Agreement, the Secretary-General of the United Nations shall notify the Parties and the other States referred to in article 5 of the following:

- (a) Definitive signatures, ratifications, acceptances, approvals and accessions under article 5;
- (b) The dates of entry into force of this Agreement in accordance with article 6;
- (c) The date of entry into force of amendments to this Agreement in accordance with article 8, paragraph 5, article 9, paragraph 6 and article 10, paragraph 6;
- (d) Withdrawal under article 12;
- (e) The termination of this Agreement under article 13.

Article 17

Annexes to the Agreement

Annexes I, II and III to the Agreement shall form an integral part of this Agreement.

Article 18

Secretariat of the Agreement

The United Nations Economic and Social Commission for Asia and the Pacific shall act as the secretariat of this Agreement.

Article 19

Deposit of the present Agreement with the Secretary-General

The original of this Agreement shall be deposited with the Secretary-General of the United Nations, who shall send certified true copies to all the States referred to in article 5 of this Agreement.

IN WITNESS WHEREOF, the undersigned, being duly authorized thereto, have signed this Agreement,

OPENED for signature on the twenty-sixth day of April two thousand and four at Shanghai, China, in a single copy in the Chinese, English and Russian languages, the three texts being equally authentic.

ASIAN HIGHWAY NETWORK

1. The Asian Highway network consists of highway routes of international importance within Asia, including highway routes substantially crossing more than one subregion such as: East and North-East Asia, South and South-West Asia, South-East Asia and North and Central Asia; highway routes within subregions including those connecting to neighbouring subregions; and highway routes located within member States which provide access to: (a) capitals; (b) main industrial and agricultural centres; (c) major air, sea and river ports; (d) major container terminals and depots; and (e) major tourist attractions.
2. Route numbers begin with "AH", which stands for "Asian Highway", followed by one or two or three digits.
3. Single-digit route numbers from 1 to 9 are assigned to Asian Highway routes, which substantially cross more than one subregion.
4. Sets of two- and three-digit route numbers are assigned to indicate the routes within subregions, including those connecting to a neighbouring subregion, and highway routes within member States as indicated below:
 - (a) Route numbers 10-29 and 100-299 are allocated to the South-East Asia subregion including Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam;
 - (b) Route numbers 30-39 and 300-399 are allocated to the East and North-East Asia subregion including China, the Democratic People's Republic of Korea, Japan, Mongolia, the Republic of Korea and the Russian Federation¹ (Far East);
 - (c) Route numbers 40-59 and 400-599 are allocated to the South Asia subregion including Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka;
 - (d) Route numbers 60-89 and 600-899 are allocated to the North, Central and South-West Asia subregion including Afghanistan, Armenia, Azerbaijan, Georgia, the Islamic Republic of Iran, Kazakhstan, Kyrgyzstan, the Russian Federation,¹ Tajikistan, Turkey, Turkmenistan and Uzbekistan.

¹ The Russian Federation is included in two subregions for the purpose of assigning route numbers because of its geographic extent.

LIST OF THE ASIAN HIGHWAY ROUTES

Asian Highway routes substantially crossing more than one subregion

AH route number	Itinerary
AH1	<p>Tokyo – Fukuoka – ferry – Pusan – Kyongju – Taegu – Taejon – Seoul – Munsan – Gaesung – Pyongyang – Sinuiju – Dandong – <u>Shenyang</u> – <u>Beijing</u> – Shijiazhuang – Zhengzhou – Xinyang – Wuhan – Changsha – Xiangtan – <u>Guangzhou</u> (– Shenzhen) – <u>Nanning</u> – Youyiguan – Huu Nghi – Dong Dang – Ha Noi – Vinh – Dong Ha – Hue – Da Nang – Hoi An – Nha Trang – Bien Hoa (– Vung Tau) – Ho Chi Minh City – Moc Bai – Bavet – Phnom Penh – Poipet – Aranyaprathet – Kabin Buri – Hin Kong – Bang Pa-in (– Bangkok) – Nakhon Sawan – Tak – Mae Sot – Myawadi – Payagyi (– Yangon) – Meiktila – Mandalay – Tamu – Moreh – Imphal – Kohima – Dimapur – Nagaon – Jorabat (– Guwahati) – Shillong – Dawki – Tamabil – Sylhet – Katchpur – Dhaka – Jessore – Benapol – Bongaon – Kolkata – Barhi – Kanpur – Agra – New Delhi – Attari – Wahgah – Lahore – Rawalpindi (– Islamabad) – Hassanabdal – Peshawar – Torkham – Kabul – Kandahar – Dilaram – Herat – Islam Qala – Dogharun – Mashhad – Sabzevar – Damghan – Semnan – Tehran – Qazvin – Tabriz – Eyvoghli – Bazargan – Gurbulak – Dogubayazit – Askale – Refahiye – Sivas – Ankara – Gerede – Istanbul – Kapikule – Border of Bulgaria</p>
AH2	<p>Denpasar – Surabaya – Surakarta – Semarang – Cikampek (– Bandung) – Jakarta (– Merak) – ferry – Singapore – Senai Utara – Seremban – Kuala Lumpur – Butterworth – Bukit Kayu Hitam – Sa Dao – Hat Yai – Bangkok – Bang Pa-in – Nakhon Sawan – Tak – Chiang Rai – Mae Sai – Tachilek – Kyaing Tong – Meiktila – Mandalay – Tamu – Moreh – Imphal – Kohima – Dimapur – Nagaon – Jorabat (– Guwahati) – Shillong – Dawki – Tamabil – Sylhet – Katchpur – Dhaka – Hatikamrul – Banglabandha – Siliguri – Kakarbhitta – Pathlaiya – Narayanghat – Kohalpur – Mahendranagar – Bramhadev Mandi – Banbasa – Rampur – New Delhi – Attari – Wahgah – Lahore – Multan – Rohri – Quetta – Taftan – Mirjaveh – Zahedan – Kerman – Anar – Yazd – Salafchegan (– Tehran) – Saveh – Hamadan – Khosravi</p>
AH3	<p>Ulan-Ude – Kyahta – Altanbulag – Darkhan – Ulaanbaatar – Nalayh – Choir – Saynshand – Zamin-Uud – Erenhot – Beijing – Tanggu</p> <p><u>Shanghai</u> – Hangzhou – Nanchang – Xiangtan – Guiyang – Kunming – Jinghong (– Daluo – Mongla – Kyaing Tong) – Mohan – Boten – Nateuy – Houayxay – Chiang Khong – Chiang Rai</p>

AH4	Novosibirsk – Barnaul – Tashanta – Ulaanbaishint – Hovd – Yarantai Urumqi – Kashi – Honqiraf – Khunjerab – Hassanabdal – Rawalpindi (– Islamabad) – Lahore – Multan – Rohri – Hyderabad – Karachi
AH5	<u>Shanghai – Nanjing – Xinyang – Xi’an – Lanzhou – Tulfan – Urumqi</u> – Kuitun – Jinghe – Horgos – Almaty – Kaskelen – Kordai – Georgievka – Bishkek – Kara Balta – Chaldovar – Merke – Shymkent – Zhibek Zholy – Chernyavka – Tashkent – Syrdaria – Samarkand – Navoi – Bukhara – Alat – Farap – Turkmenabat – Mary – Tejen – Ashgabat – Serdar – Turkemenbashi – ferry – Baku – Alat – Gazi Mammed – Ganja – Kazakh – Red Bridge – Tbilisi – Mtskheta – Khashuri – Senaki – Poti (– ferry to Bulgaria, Romania, Ukraine) – Batumi (– ferry to Bulgaria, Romania, Ukraine) – Sarpi – Sarp – Trabzon – Samsun – Merzifon – Gerede – Istanbul – Kapikule – Border of Bulgaria
AH6	Pusan – Kyongju – Kangnung – Kansong – Kosong – Wonsan (– Pyongyang) – Chongjin – Sonbong – Khasan – Hasan – Razdolnoe (– Vladivostok – Nahodka) – Ussuriysk – Pogranichny – Suifenhe – <u>Harbin – Qiqihar – Manzhouli</u> – Zabaykalsk – Chita – Ulan-Ude – Irkutsk – Krasnoyarsk – Novosibirsk – Omsk – Isilkul – Karakuga – Petropavlovsk – Chistoe – Petuhovo – Chelyabinsk – Ufa – Samara – Moscow – Krasnoe – Border of Belarus
AH7	Yekaterinburg – Chelyabinsk – Troisk – Kaerak – Kostanai – Astana – Karaganda – Burubaital – Merke – Chaldovar – Kara Balta – Osh – Andijon – Tashkent – Syrdaria – Khavast – Khujand – Dushanbe – Nizhniy Panj – Shirkhan – Polekhumri – Djibulsarcj – Kabul – Kandahar – Speenboldak – Chaman – Quetta – Kalat – Karachi
AH8	Border of Finland – Torpynovka – Vyborg – St. Petersburg – Moscow – Tambov – Borysoglebsk – Volgograd – Astrakhan – Hasavjurt – Mahachkala – Kazmalyarskiy – Samur – Sumgayit – Baku – Alat – Bilasuvar – Astara – Rasht – Qazvin – Tehran – Saveh – Ahvaz – Bandar Emam

Asian Highway routes within subregions, including those connecting to neighbouring subregions, and Asian Highway routes located within member States

South-East Asia	
AH11	Vientiane – Ban Lao – Thakhek – Seno – Pakse – Veunkham – Tranpeangkreal – Stung Treng Kratie – Phnom Penh – Sihanoukville
AH12	Nateuy – Oudomxai – Pakmong – Louang Phrabang – Vientiane – Thanaleng – Nong Khai – Udon Thani – Khon Kaen – Nakhon Ratchasima – Hin Kong
AH13	Oudomxai – Muang Ngeun – Huai Kon – Uttaradit – Phitsanulok – Nakhon Sawan
AH14	Hai Phong – Ha Noi – Viet Tri – Lao Cai – Hekou – Kunming – Ruili – Muse – Lashio – Mandalay

AH15	Vinh – Cau Treo – Keoneau – Ban Lao – Thakhek – Nakhon Phanom – Udon Thani
AH16	Dong Ha – Lao Bao – Densavanh – Seno – Savannakhet – Mukdahan – Khon Kaen – Phitsanulok – Tak
AH18	Hat Yai – Sungai Kolok – Rantau Panjang – Kota Bharu – Kuantan – Johor Bahru – Johor Bahru Causeway
AH19	Nakhon Ratchasima – Kabin Buri – Laem Chabang – Chonburi – Bangkok
AH25	Banda Aceh – Medan – Tebingtinggi – Dumai – Pekanbaru – Jambi – Palembang – Tanjung Karang – Bakauheni – ferry – Merak
AH26	Laoag – Manila – Legazpi – Matnog – ferry – Allen – Tacloban (– Ormoc – ferry – Cebu) – Liloan – ferry – Surigao – Davao (– Cagayan de Oro) – General Santos – Zamboanga

East and North-East Asia	
AH30	Ussuriysk – Khabarovsk – Belogorsk – Chita
AH31	Belogorsk – Blagoveshchensk – <u>Heihe</u> – Harbin – Changchun – Shenyang – Dalian
AH32	Sonbong – Wonjong – Quanhe – Hunchun – <u>Changchun</u> – Arshan – Numrug – Sumber – Choybalsan – Ondorhaan – Nalayh – Ulaanbaatar – Uliastay – Hovd
AH33	<u>Harbin</u> – <u>Tongjiang</u>
AH34	<u>Lianyungang</u> – <u>Zhengzhou</u> – <u>Xi'an</u>

South Asia	
AH41	Border of Myanmar – Teknaf – Cox's Bazar – Chittagong – Katchpur – Dhaka – Hatikamrul – Jessore – Mongla
AH42	<u>Lanzhou</u> – <u>Xining</u> – <u>Golmud</u> – <u>Lhasa</u> – Zhangmu – Kodari – Kathmandu – Narayanghat – Pathlaiya – Birgunj – Raxaul – Piprakothi – Muzaffarpur – Barauni – Barhi
AH43	Agra – Gwalior – Nagpur – Hyderabad – Bangalore – Krishnagiri – Madurai – Dhanushkodi – ferry – Tallaimannar – Anuradhapura – Dambulla – Kurunegala (– Kandy) – Colombo – Galle – Matara
AH44	Dambulla – Trincommalee
AH45	Kolkata – Kharagpur – Balasore – Bhubaneswar – Visakhapatnam – Vijayawada – Chennai – Krishnagiri – Bangalore
AH46	Kharagpur – Nagpur – Dhule
AH47	Gwalior – Dhule – Thane (– Mumbai) – Bangalore
AH48	Phuentsholing – Border of India
AH51	Peshawar – Dera Ismail Khan – Quetta

North, Central and South-West Asia

AH60	Omsk – Cherlak – Pnirtyshskoe – Pavlodar – Semipalatinsk – Georgievka – Taskesken – Ucharal – Almaty – Kaskelen – Burubaital
AH61	Kashi – Turugart – Torougart – Naryn – Bishkek – Georgievka – Kordai – Merke – Shymkent – Kyzylorda – Aralsk – Karabutak – Aktyubinsk – Ural'sk – Kamenka – Ozinki – Saratov – Borysoglebsk – Voronezh – Kursk – Krupets – Border of Ukraine
AH62	Petropavlovsk – Arkalyk – Zhezkazgan – Kyzylorda – Shymkent – Zhibek Zhoiy – Chernyavka – Tashkent – Syrdaria – Samarkand – Guzar – Termez – Hairatan – Mazar-i-Sharif
AH63	Samara – Kurlin – Pogodaevo – Ural'sk – Atyrau – Beyneu – Oazis – Nukus – Bukhara – Guzar
AH64	Barnaul – Veseloyarskyj – Krasny Aul – Semipalatinsk – Pavlodar – Shiderty – Astana – Kokshetau – Petropavlovsk
AH65	Kashi – Arkaxtam – Irkeshtam – Sary-Tash (– Osh) – Karamyk – Vakhdat – Dushanbe – Tursunzade – Uzun – Termez
AH66	Border of China – Kulma Pass – Khorugh – Kulob – Vakhdat – Dushanbe
AH67	Kuitun – Baketu – Bakhty – Taskesken – Semipalatinsk – Pavlodar – Shiderty – Karaganda – Zhezkazgan
AH68	Jinghe – Alatawshankou – Dostyk – Ucharal
AH70	Border of Ukraine – Donetsk – Volgograd – Astrakhan – Kotyaevka – Atyrau – Beyneu – Zhetybai (– Aktau) – Bekdash – Turkemenbashi – Serdar – Guduroium – Inche Boroun – Gorgan – Sari – Semnan – Damghan – Yazd – Anar – Bandar Abbas
AH71	Dilaram – Zarang – Milak – Zabol – Dashtak
AH72	Tehran – Qom – Esfahan – Shiraz – Bushehr
AH75	Tejen – Sarahs – Sarakhs – Mashhad – Birjand – Nehbandan – Dashtak – Zahedan – Chabahar
AH76	Polekhumri – Mazar-i-Sharif – Herat
AH77	Djbul sarcj – Bamiyan – Herat – Tourghondi – Serkhetabat – Mary
AH78	Ashgabat – Chovdan Pass – Bajgiran – Qucham – Sabzevar – Kerman
AH81	Larsi – Mtskheta – Tbilisi – Sadakhlo – Bagratashen – Vanadjor – Ashtarak – Yerevan – Eraskh – Sadarak – Nakhchivan – Julfa (– Jolfa) – Orudbad – Agarak – Meghri Aghband – Goradiz – Gazi Mammed – Alat – Baku – ferry – Aktau
AH82	Border of the Russian Federation – Leselidze – Sukhumi – Senaki – Khashuri – Akhaltsikhe (– Vale) – Zdanov – Bavra – Gumri (– Akurik) – Ashtarak – Yerevan – Eraskh – Goris – Kapan – Meghri – Agarak – Nour Douz – Jolfa – Iveoqlu
AH83	Kazakh – Uzungala – Paravakar – Yerevan
AH84	Dogubayazit – Diyarbakir – Gaziantep – Toprakkale (– Iskenderun) – Adana – Icel
AH85	Refahiye – Amasya – Merzifon
AH86	Askale – Bayburt – Trabzon
AH87	Ankara – Afyon – Usak – Izmir

Notes: Routes in parentheses identify branches from the place indicated immediately before the parentheses.

Underlined sections indicate potential Asian Highway routes.

The word “ferry” shall not be construed so as to impose any obligation on the Parties.

ASIAN HIGHWAY CLASSIFICATION AND DESIGN STANDARDS

I. GENERAL

The Asian Highway classification and design standards provide the minimum standards and guidelines for the construction, improvement and maintenance of Asian Highway routes. Parties shall make every possible effort to conform to these provisions both in constructing new routes and in upgrading and modernizing existing ones. These standards do not apply to built-up areas.¹

II. CLASSIFICATION OF ASIAN HIGHWAY ROUTES

Asian Highways are classified as shown in table 1.

Table 1. Asian Highway classification

Classification	Description	Pavement type
Primary	Access-controlled highways	Asphalt or cement concrete
Class I	4 or more lanes	Asphalt or cement concrete
Class II	2 lanes	Asphalt or cement concrete
Class III	2 lanes	Double bituminous treatment

“Primary” class in the classification refers to access-controlled highways. Access-controlled highways are used exclusively by automobiles. Access to the access-controlled highways is at grade-separated interchanges only. Mopeds, bicycles and pedestrians should not be allowed to enter the access-controlled highway in order to ensure traffic safety and the high running speed of automobiles. At-grade intersections should not be designed on the access-controlled highways and the carriageway should be divided by a median strip.

“Class III” should be used only when the funding for the construction and/or land for the road is limited. The type of pavement should be upgraded to asphalt concrete or cement concrete as soon as possible in the future. Since Class III is also regarded as the minimum desirable standard, the upgrading of

¹ The Party should indicate built-up areas in accordance with its requirements.

any road sections below Class III to comply with the Class III standard should be encouraged.

III. DESIGN STANDARDS OF ASIAN HIGHWAY ROUTES

1. *Terrain classification*

Terrain classification is shown in table 2.

Table 2. Terrain classification

Terrain classification	Cross slope
Level (L)	0 to 10 per cent
Rolling (R)	More than 10 to 25 per cent
Mountainous (M)	More than 25 to 60 per cent
Steep (S)	More than 60 per cent

2. *Design speed*

Design speeds of 120, 100, 80, 60, 50, 40 and 30 kilometres per hour are to be used. The relation between design speed, highway classification and terrain classification is shown in table 3. A design speed of 120 km/h should be used only for Primary class (access-controlled highways), which has median strips and grade-separated interchanges.

Table 3. Design speed, highway classification and terrain classification

Terrain	(Unit: km/h)			
	Primary	Class I	Class II	Class III
Level (L)	120	100	80	60
Rolling (R)	100	80	60	50
Mountainous (M)	80	50	50	40
Steep (S)	60	50	40	30

3. *Cross-section*

The dimensions, such as right-of-way width, lane width, shoulder width, median strip width, pavement slope and shoulder slope for each highway classification, are shown in table 4.

Pedestrians, bicycles and animal-drawn carts should be separated from through traffic by the provision, where practical, of frontage roads and/or sidewalks for the sections where smooth traffic is impeded by the existence of such local traffic.

Table 4. Asian Highway design standards

Highway classification	Primary (4 or more lanes)						Class I (4 or more lanes)						Class II (2 lanes)						Class III (2 lanes)							
	L	R	M	S	L	S	L	R	M	S	L	S	L	R	M	S	L	R	M	S	L	R	M	S		
Terrain classification																										
Design speed (km/h)	120	100	80	60	100	80	80	80	50	50	80	60	60	60	50	40	60	50	40	30	(30)					
Width (m)																										
Right of way	(50)																									
Lane	3.50						3.50						3.50						3.00 (3.25)							
Shoulder	3.00						3.00						2.50						1.5 (2.0)							
Median strip	4.00						3.00						N/A						N/A							
Min. radii of horizontal curve (m)	520	350	210	115	350	210	80	80	80	80	210	115	80	50	50	50	115	80	50	30	2-5					
Pavement slope (%)	2																									
Shoulder slope (%)	3-6																									
Type of pavement	Asphalt/cement concrete						Asphalt/cement concrete						Asphalt/cement concrete						Dbl. bituminous treatment							
Max. superelevation (%)	10																									
Max. vertical grade (%)	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	10					
Structure loading (minimum)	HS20-44						HS20-44						HS20-44						HS20-44							

Notes: Figures in parentheses are desirable values.

Minimum radii of horizontal curve should be determined in conjunction with superelevation.

The recommended width of the median can be reduced with the proper type of guard fence.

The Parties should apply their national standards when constructing structures such as bridges, culverts and tunnels along the Asian Highway.

4. Horizontal alignment

The horizontal alignment of the road should be consistent with the topography of the terrain through which it passes. Minimum curve radii should be applied only when necessary and should be used in conjunction with transition curves. Compound curves should be avoided whenever possible. The minimum radii of horizontal curves are shown in table 5 for each highway class.

Table 5. Minimum radii of horizontal curve

(Unit: m)

Terrain	Primary	Class I	Class II	Class III
Level (L)	520 (1 000)	350 (600)	210	115
Rolling (R)	350 (600)	210 (350)	115	80
Mountainous (M)	210 (350)	80 (110)	80	50
Steep (S)	115 (160)	80 (110)	50	30

Note: Figures in parentheses are desirable values.

It is recommended that the application of the minimum curve radii be limited to unavoidable cases and values larger by 50 to 100 per cent be applied.

It is recommended that the combination of distance, radius and gradient of hairpin bends in the mountainous and steep terrain be considered.

Transition curves should be applied to connect curves with radii smaller than the values shown in table 6. It is also recommended that transition curves be applied even in cases where the radii are as large as twice the values in table 6.

Table 6. Radii for which transition curves should be applied

(Unit: m)

Terrain	Primary	Class I	Class II	Class III
Level (L)	2 100	1 500	900	500
Rolling (R)	1 500	900	500	350
Mountainous (M)	900	500	350	250
Steep (S)	500	500	250	130

The minimum transition curve length shown in table 7 is recommended.

Table 7. Minimum transition curve length

(Unit: m)

Terrain	Primary	Class I	Class II	Class III
Level (L)	100	85	70	50
Rolling (R)	85	70	50	40
Mountainous (M)	70	50	40	35
Steep (S)	50	50	35	25

The maximum superelevation should be 10 per cent for all terrain classifications.

5. Vertical alignment

The vertical alignment of any highway should be as smooth as economically feasible, that is, there should be a balance of cutting and filling to eliminate the rolling nature of land. In the use of the maximum vertical gradient, it should be kept clear in the mind of the designer that, once constructed to a given vertical grade, the highway cannot be upgraded to a lesser gradient without the loss of the entire initial investment.

The maximum vertical grade shown in table 8 should be used for all highway classes.

Table 8. Maximum vertical grade

Terrain classification	Maximum vertical grade
Level (L)	4 per cent
Rolling (R)	5 per cent
Mountainous (M)	6 per cent
Steep (S)	7 per cent

It is desirable to provide a climbing lane to up-gradient highways with heavy truck traffic where the length of the gradient exceeds the values in table 9.

The critical length of gradient section for the provision of a climbing lane is recommended for highway classifications Primary and Class I, as shown in table 9.

Table 9. Critical length of gradient section for the provision of a climbing lane

Terrain classification	Primary	Class I
Level (L)	3 per cent – 800 m	3 per cent – 900 m
	4 per cent – 500 m	4 per cent – 700 m
Rolling (R)	4 per cent – 700 m	4 per cent – 800 m
	5 per cent – 500 m	5 per cent – 600 m
Mountainous (M)	5 per cent – 600 m	5 per cent – 700 m
	6 per cent – 500 m	6 per cent – 500 m
Steep (S)	6 per cent – 500 m	6 per cent – 500 m
	7 per cent – 400 m	7 per cent – 400 m

6. *Pavement*

Carriageways should be paved with cement concrete or asphalt concrete. However, Class III may be paved with double bituminous treatment.

The pavement of many road sections in the Asian Highway member countries is damaged owing to insufficient load capacity. The design load for pavements should therefore be determined carefully to prevent damage to the road surface and consequently to reduce maintenance costs.

However, road pavements should be designed taking into account:

- (a) Axle load;
- (b) Traffic volume;
- (c) Quality of materials to be used for basecourse and subgrade (as the quality of road construction materials varies from country to country, the pavement load specification was not included in the Asian Highway standards).

7. *Structure loading*

Increasingly heavy traffic, particularly container traffic, requires properly designed load capacity (maximum axle load). In order to prevent serious damage to road structures, and also to reduce maintenance costs, the Asian Highway network, as an international road network, should have a high design load capacity.

The minimum design loading of HS 20-44, which is the international standard corresponding to full-size trailer loading, should therefore be used for the design of structures.

8. *Vertical clearance*

Minimum vertical clearance should be 4.5 metres, which is the requirement for safe passage of standard ISO containers. However, in cases where sufficient clearance cannot be secured because of the high cost of rebuilding existing structures such as bridges, gooseneck trailers with low vehicle bed clearance may be used.

9. *Environment*

An environmental impact assessment, following national standards, should be carried out when new road projects are prepared. It is also desirable to extend this provision to include reconstruction or major improvements of existing roads.

10. *Road safety*

While developing the Asian Highway network, Parties shall give full consideration to issues of road safety.

IDENTIFICATION AND SIGNAGE OF THE
ASIAN HIGHWAY NETWORK

1. The sign to be used to identify and indicate Asian Highway routes is rectangular in shape.
2. This sign consists of the letters AH, generally followed by the number in Arabic numerals assigned to the route.
3. It has a white or black inscription; it may be affixed to or combined with other signs.
4. Its size should be such that it can be easily identified and understood by drivers of vehicles travelling at speed.
5. The sign to be used to identify and indicate Asian Highway routes does not preclude the use of a sign to identify roads on a national basis.
6. In principle, Asian Highway route numbers will be integrated into (or combined with) the system of directional signs of the member States in question. The numbering can be inserted before as well as after each access road or interchange.
7. In case States are Parties to both the Intergovernmental Agreement on the Asian Highway Network and the European Agreement on Main International Traffic Arteries, the routes will be indicated by means of either the Asian Highway route sign or the E-road sign, or both at the discretion of the Parties.
8. In case the Asian Highway route changes over to another route or crosses another Asian Highway route, it is recommended that the relative Asian Highway route numbers be indicated before the access or the interchange.

I hereby certify that the foregoing text is a true copy in the Chinese, English and Russian languages of the Intergovernmental Agreement on the Asian Highway Network, adopted at Bangkok on 18 November 2003.

Je certifie que le texte qui précède est la copie conforme en langues chinoise, anglaise et russe de l'Accord intergouvernemental sur le réseau routier asiatique, adopté à Bangkok, le 18 novembre 2003.

For the Secretary-General,
The Legal Counsel
(Under-Secretary-General
for Legal Affairs)

Pour le Secrétaire général,
Le Conseiller juridique
Secrétaire général adjoint aux
affaires juridiques)

Hans Corell