STATUS PAPER ON ASIAN HIGHWAY, NEPAL, 2011

The fourth meeting of the Working Group on the Asian Highway and Export Group Meeting on Progress on Road Safety Improvement in Asia and the Pacific
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Acronyms

ADB   Asian Development Bank
AH   Asian Highway
ARM   Araniko Rajmarga
DFID/UK  Department for International Development of the United Kingdom
DoR   Department of Roads
DoTM   Department of Transport Management
DoLIDAR  Department of Local Infrastructure and Agricultural Roads
E-W Highway  East- West Highway
GDP   Gross Domestic Product
GoN   Government of Nepal
JICA   Japan International Cooperation Agency
HMIS   Highway Management Information System
HMIU   Highway Management Information Unit
LRN   Local Road Network
LSGA   Local Self-Governance Act
MoLD   Ministry of Local Development
MoLT   Ministry of Labor and Transport
MoPPW   Ministry of Physical Planning and Works
MRM   Mahendra Rajmarga
NGO   Non-Governmental Organization
NMRM   Narayanghat Mugling Rajmarga
NRB   Nepal Road Board
NRSP   National Road Safety Plan
NTSC   National Transportation Safety Committee
PIP   Priority Investment Plan
PRA   Public Road Act
PRM   Prithvi Rajmarga
RBA   Road Board Act
TA   Technical Assistance
TESU   Traffic Engineering and Safety Unit
TPO   Traffic Police Office
TRP   Tribhuvan Rajpath
SBST   Single Bituminous Surface Treatment
SRN   Strategic Road Network
SSRN   Statistics of Strategic Road Network
UK   The United Kingdom
USA   The United States of America
VTMA   Vehicle and Transportation Management Act
VTMR   Vehicle and Transportation Management Regulation
WB   World Bank
ZTMO   Zonal Transport Management Office
1. Introduction

Nepal is a landlocked country surrounded by China at north and India at remaining three sides. The transport sector in Nepal is dominated by the road transport which accounts for almost all domestic passenger and freight movements. Air services contribute to passenger movements to key commercial and tourist destinations and are responsible to transport of passengers and goods into remote areas of Nepal. Waterways and ropeways transport are practically nonexistent in Nepal.

Nepal comprises three major areas: forests and cultivatable land in the south; the towering Himalayas, including Mount Everest, in the north; and moderately high mountains in the central region, which contains the Kathmandu valley and most of the population. Nepal features the world's eight highest peaks, tropical jungles, rushing rivers and peaceful valleys.

The Asian Highway routes link Nepal to China and India. Nepal is implementing plans to connect all the district headquarters of the country by road. 72 district head quarters out of 75 has been connected by roads till 2010. Efforts are under way to improve and maintain the strategic road network. The extreme difficult terrain with vulnerable geology makes road construction difficult and expensive. Multilateral and bilateral agencies are assisting the development of the highway network.

Road network in Nepal is divided into Central Road System and Local Road System as per the National Transport Policy of the country. The Strategic Road Network (SRN) as per Department of Roads (DoR) classification is a part of the Central Road System which also includes the Asian Highway. This System is administered by the DoR and the implementing agency is the Ministry of Physical Planning and Works (MPPW). Local Road System includes urban roads and local roads that are administered by the Local Bodies, Department of Local Infrastructure Development and Agriculture Roads (DoLIDAR) and the Ministry of Local Development (MOLD).

a. Brief description of the AH network

Nepal is connected by two Asian Highways. They are Asian Highway 2 (AH2) and Asian Highway 42 (AH42). The total length of these two sector within the country is 1324 km. AH2 originates from Dhaka in Bangladesh and ends in New Delhi in India. It can be further linked with other Asian Highway Network. Similarly, AH42 originates from Barhi in India and ends in Lhasa in China. It is further linked to India by AH1 and China by AH5.
Asian Highway 2 (AH2)

AH2 covers a length of 1027 km within Nepal. The portion of AH2 in Nepal is known as Mahendra Raj Marga. The section of the road from Kakarvitta to Mahendra Nagar is 6-7m wide and the condition is generally good.

AH2 connects the eastern portion of Nepal at Kakarvitta and passes through Itahari, Dhalkebar, Pathlaiya, Hetauda, Nayanghat, Butwal, Kohalpur, Attaria and Mahendranagar. There is a missing link between Mahendranagar (Nepal) and Brahmadevmandi (India). Access through Tanakpur and Banbasa need to be provided to complete AH2 for uninterrupted link with India. The Government of India has now taken initiatives to support Nepal to complete the missing link between Mahendranagar to Brahmadevmandi. The detailed design works for this section of the road is complete and the land compensation has also been distributed. The other side of Brahmadevmandi and across the border is Tanakpur in India. The route through Tanakpur and Banbasa need to be defined as Asian Highway Network so that AH2 connection is complete.

Traffic volume is also going increasing in Asian highways in Nepal as the total number of vehicles is rapidly increasing in the country.

Asian Highway 42 (AH42)

This section in Nepal starts from Birgunj, a south border town connecting India at Raxaul, passes through Pathlaiya, Hetauda, Narayanghat, Mugling, Naubise, Kathmandu, Bhaktapur, Dhulikhel, Panchkhal, Lamosangu, Barabise to Kodari (a north border connecting to China). This road is further linked to AH1 at Barhi (India) in south and connects AH5 in China. The total length of this section of road is 297 km. AH42 traces along the major four Highways known as ‘Tribhuvan Rajpath’, ‘Mahendra Rajmarg’ (which is also a part of AH2), ‘Prithivi Rajmarg’, and ‘Arniko Rajmarg’ in Nepal. The pavement width of Asian Highway 42 is generally 6-7m and the road condition is good.
Traffic volume is also going increasing in Asian highways in Nepal as the total number of vehicles is rapidly increasing in the country.

Pavement Condition of Asian Highways

Based on condition rating, 95% of Asian Highway section in Nepal falls under good/fair category. Only 5 % of network is in poor condition. 62 % of Asian Highway section has recorded traffic level more than 1000 vehicles per day (vpd), where as 35 % of section has traffic level between 465 to 1000 vdp and 3 % has traffic level less than 465 vpd.

Some sections of the Asian Highway sections are being maintained with normal annual contracting system and some sections are being rehabilitated and widened with donor assisted projects. Although 95% of Asian highway sections are in fair/good condition, but the condition of overall highways and feeder roads is decreasing in recent years.
b. Government policy on development, operation and maintenance of AH routes

The principal aim of Government of Nepal in the Transport Sector is to achieve a better balanced and coordinated system of the different modes that exists at present. To this end, the Government is examining the possibility of multi-modal (rail/road) containerized traffic between Kathmandu, the Terai and Indian ports, involving the construction of Inland Container Depots and improvement of the road. The Government is also considering possibility of rail link between Kathmandu and Birgunj. To achieve such, the Government has promulgated an Act towards this effect to attract and encourage the private sector for the transport infrastructure development in the form of BOT (Built Operate Transfer), OT (Own transfer), BOOT (Built Own Operate Transfer) etc.

To meet the larger demand of road maintenance the Government has also promulgated the Roads Board Act with a view to levy toll charges on the road user for effective maintenance of some sections of AH2 and AH42.

2. Country status of the AH network

The total length of two Asian Highway sections AH2 and AH42 within the country is 1324 km.

<table>
<thead>
<tr>
<th>Route no.</th>
<th>Itinerary</th>
<th>Length km</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH2</td>
<td>Kakarvitta – Itahari – Pathlaiya- Hetauda- Nayanghat- Butwal- Kohalpur- Attaria - Mahendranagar</td>
<td>1027</td>
<td>1027 -</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1324</td>
<td>1307 17</td>
</tr>
</tbody>
</table>
3. **Major on-going projects on AH routes**

Mentioned below is the status of Asian Highway in terms of upgrading.

<table>
<thead>
<tr>
<th>Route</th>
<th>Itinerary</th>
<th>Length of the section km</th>
<th>Upgradation that are being undertaken</th>
<th>Cost US$ (million)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH2</td>
<td>Belbari- Chauharwa</td>
<td>80</td>
<td>Improvement AC Overlay</td>
<td>$13 mil</td>
<td>ADB loan, completed on 2009</td>
</tr>
<tr>
<td>AH2</td>
<td>Koshi Barrage-Chauharwa</td>
<td>84</td>
<td>Improvement AC Overlay</td>
<td>$10 mil</td>
<td>ADB loan, to be completed within 2013</td>
</tr>
<tr>
<td>AH2</td>
<td>Chauharwa-Pathlaiya-Hetauda</td>
<td>278</td>
<td>SBST (PBMC)</td>
<td></td>
<td>WB and GoN completed in 2010</td>
</tr>
<tr>
<td>AH2</td>
<td>Kohalpur - Banabasa</td>
<td>203</td>
<td>SBST (PBMC)</td>
<td></td>
<td>ADB and GoN completed in 2010</td>
</tr>
<tr>
<td>AH42</td>
<td>Birganj (ICD)- Jitpur</td>
<td>12</td>
<td>Widening to 4 lane</td>
<td>$ 5 mil</td>
<td>ADB completed in 2010</td>
</tr>
<tr>
<td>AH42</td>
<td>Tinkune(Kathmandu)- Surya Binayak (Bhaktapur)</td>
<td>9</td>
<td>Widening to 4 lanes plus service track</td>
<td>$ 17 mil</td>
<td>JICA grant completed in 2011</td>
</tr>
</tbody>
</table>

4. **Future priority projects on AH routes**

The Asian Highway AH2 and AH42 are in general 6 to 7 m wide. The width varies at different sections. There are however, some critical sections that need to be addressed but in general the traffic movement is unrestricted within the country.

<table>
<thead>
<tr>
<th>Route</th>
<th>Itinerary</th>
<th>Length of the section km</th>
<th>Upgradation that are being undertaken</th>
<th>Cost US$ (million)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH2</td>
<td>Hetauda-Pathlaiya</td>
<td>30</td>
<td>Widening to 4 lane from 2 lane at present</td>
<td></td>
<td>Feasibility study in progress, GoN</td>
</tr>
<tr>
<td>AH42</td>
<td>Narayanghat- Muglin</td>
<td>36</td>
<td>Widening to double lane from intermediate</td>
<td></td>
<td>Feasibility study in progress, WB</td>
</tr>
</tbody>
</table>
AH2  | Hetauda- Narayanghat  | 77  | Improvement  | WB  
AH42  | Muglin- Kathmandu  | 110  | Improvement  | ADB  
AH42  | Bahrabise- Kodari  | 17  | Upgrading to Blacktop, slope stabilization  | On going, GoN  

5. **Progress in the installation of Asian highway route signs**

However the government and DoR has made commitments to take initiation to install the Asian Highway route signs along the AH sections but the commitments have yet to come into reality. Assistance from the international road safety agencies is expected in this regard.

6. **Road safety situation on AH routes**

Road accidents are increasing in Nepal due to increased vehicle fleet and speed. This has become a serious problem which killed more than 1734 people and injured more than 11000 people in the year 2009/10. Number of accidents, fatalities and injuries in the country are mentioned in table below. More than half of these accidents and losses are happening in AH sections.

| AH2  | Hetauda- Narayanghat  | 77  | Improvement  | WB  
| AH42  | Muglin- Kathmandu  | 110  | Improvement  | ADB  
| AH42  | Bahrabise- Kodari  | 17  | Upgrading to Blacktop, slope stabilization  | On going, GoN  

There is no exact division of geographical coverage for accident rescue activity. Generally the local traffic police and highway police provides rescue service to the event of accident. But local people and army man also carry out the rescue service.

Average response time for the accidents in Nepal depends upon the proximity of police post from the accident site. Generally it is 15 to 30 minutes in plane sections of highways and feeder roads and 30 minutes to one hour for hill and district roads. Urban accidents could be responded immediately.

**Ongoing initiatives to improve road safety situation**

- Planned Maintenance by DOR
- Road Safety measures by DOR
- Road Safety Audit
- Standardization of Traffic Signs and Road Markings
- Traffic Legislation and Enforcement
- Road Safety Education