

HMIS News

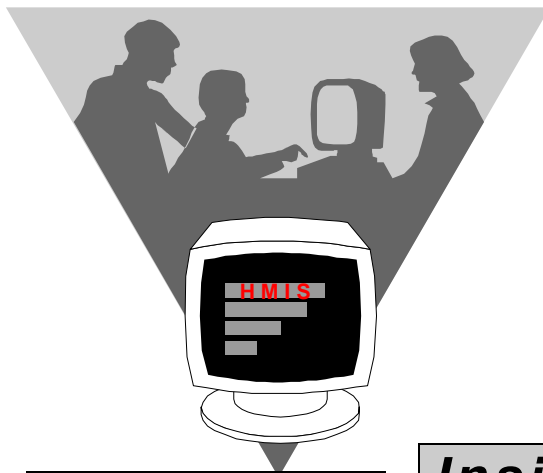
A NEWSLETTER FROM THE PLANNING BRANCH

TESU

Road Safety Audit prevents accidents

It is the Department's policy that a safety audit be carried out on all major new road projects. In simple terms safety audit is "a systematic method of checking the safety aspects of road schemes in order to detect potential safety hazards before the road is open to traffic". The principle behind it is that "prevention is better than cure". Road user error is the major cause of road accidents, but defects in the road environment (poor alignment, inadequate signing, dangerous obstacles, etc) are a contributory factor in many cases. Remedying these defects at the design stage is a very cheap and effective way of reducing road accidents - and is much easier than trying to train all road users to the level where they no longer make errors. It is estimated that up to one-third of future accidents at road improvements could be prevented by road safety audit

... (cont'd in page 4)



The Highway Management Information System (HMIS) is located in the Planning Branch of the DOR.

The HMIS Manager is Dr. Nabin Kazi Pradhan.

You can reach us by phone or by fax at number 221.771 or you can visit us in our office on the first floor of Babar Mahal.

Mail can be send to:

DOR-HMIS
POBox 2623
Kathmandu.

PIP

Priority Investment Plan(PIP) Project

Priority Investment Plan study, which was being conducted for the Department of Roads, was concerned with the preparation of a 10 years plan for the roads sector to include both the strategic road network (National Highways and Feeder Roads) and rural transport components(district roads, main trails, suspension bridges and domestic aviation). The study also addressed the optional balance of expenditures between new construction, improvement and maintenance activities, as well as determining the balance between national and rural components.

The study was being undertaken by a joint venture of two international engineering firms Wilbur Smith Associates of the USA and Snowy Mountains Engineering Corporation International Ltd. of Australia in association with TAEC Consult P Ltd, MULTI Disciplinary Consultants P Ltd, and GEMAT Consultants P Ltd.

The overall study duration was 15 months and the Final Report was submitted in February 1997 Close liaison was maintained throughout the study period between the consultants and the concerned government agencies to ensure that the PIP was prepared in accordance with government policies and objectives.

The objectives of the study were as follows:

- The definition of a 10 year development plan and programme for the both the main strategic road network and the rural transport network, together with the optimal phasing of new construction and maintenance;
- The determination of the optimal balance between construction and maintenance activities;
- The establishment of an optimal balance between the competing needs of new strategic roads the improvement and upgrading of existing strategic roads, the development and extension of the rural transport network, and the improvement of the existing rural transport network;

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RMRP

Rehabilitation Component

Under this component approximately 300 km of National Highway and 130 km of the Strategic feeder roads will be rehabilitated. Rehabilitation works will be procured in two phases through ICB and LCB contracts.

Phase I

There are six ICB contracts contained in the Rehabilitation sector Phase I. The consultancy work has been carried out by N.D.Lee International. The original Project schedule was based on the assumption that all six contracts would be awarded virtually simultaneously. Owing to circumstances beyond the control of DoR this could not take place and a staggered implementation schedule had to be followed.

	Road Section (Contractor)	Length km	Initial Estimate (Revised Estimate) in \$ 000	Likely Start	Likely Finished (Original completion date)
PHASE I					
H02	Thankot - Naubise (IRCON International Ltd, India)	16.4	1,883.5 (3,565)	Running	Jul. 1997 (May 1997)
H01	Chaudhar - Gaddachowki (CRBC-BJL (Consort) Joint Venture)	12.3	829.2 (1,225)	Running	May 1997 (Sep 1996)
H04	Marshyangdi - Khairenitar (Sachal Engineering Works (Private) Ltd - Pakistan)	44.1	3,604.0 (4,645)	Running	Jun. 1998 (17 Oct. 1997)
H10	Butwal - Tansen (China Civil Engineering Construction Corporation)	41.0	2,999.1 (4,763)	Running	Jun. 1998 (22 Jun 1997)
H02	Naubise - Simbhanjyang (SIETCO - Jaya Buddha Nirman Sewa/ Y.P. Construction JV)	55.0	5,330.3 (2,411)	Running	Sep 1998 (3 Sep 1998)
H02	Simbhanjyang - Bhainse (CRBC - JBNI (Consort) Joint Venture)	42.0	(1,818)	Running	Sep 1998 (Sep 1998)
PHASE II					
H10	Tansen - Syangja	84.4 (42)	1,954.6 (6,000)	Jan 1998	Jun 1999
H05	Narayanghat - Mungling	36.2	1,389.8 (1,500)	Jan 1998	Jun 1999
F18	Birgunj - Kalaiya	15	2,863.5 (2,500)	Mar 1998	Jun 1999
F43	Harthok - Tamghas	68	1,143.1 (3,000)	Mar 1998	Jun 1999
	Nepalgunj - Baghauda	50	630.0 (4,500)	Mar 1998	Jun 1999

Phase II

Feasibility studies have been completed for Bangari and Dudhaura bridges on the Birgunj - Kalaiya road.

Procurement of Phase II Consultancy Services has been completed and contracts were signed on 18 December 1996 between HMG Nepal, Department of Roads and:

1. Group of Engineers Consortium in Joint Venture with ITECO Nepal (P) Ltd for the design and construction supervision of strategic highway rehabilitation
2. ITECO Nepal (P) Ltd in Joint Venture with CEMAT Consultant (P) Ltd for the design and construction supervision of strategic feeder roads and bridges.

Both these consultants have commenced their services. Inception report, draft review report on the structural design and cost estimate for Bangari river and Dudhaura river bridges on Birgunj - Kalaiya road has been submitted by the concerned consultant.

According to SAR Phase II, contracts include; one contract for asphalt overlay, one contract for surface dressing, one contract for surface dressing and bridge reconstruction and two contracts for road rehabilitation to gravel standard. All ICB and LCB works will be bid on the slice and package basis with the contractor bidding for individual/combined contracts up to their pre-qualified limit of award. Loan credit agreement are limited to totals of US\$ 20,102,000 and US\$ 1,609,000 for ICB and LCB respectively.

It is anticipated that only a maximum of 18 calendar months will be available for road construction works and 21 calendar months for bridge construction works within the credit effect period. Hence it will be necessary to plan in such a way that at least construction of the rehabilitation works excluding defects liability period could be completed within the period i.e. June 1999.

RMRP

Periodic Maintenance Programme

The initial scope of the programme included 660 km of roads in Far Western, Mid Western, Western and Central Regions of Nepal. A review of the project found that the full scope of work was not achievable within the cost and time constraints of the project and a number of road sections were transferred to the ODA, Cyclic Maintenance and Training Component of the RMRP.

GEOCE Consultants(P) Ltd. in association with SILT Consultancy(P) Ltd. and Group of Engineers Consortium (P) Ltd. is the consultant for the first year periodic maintenance works. Total length of 108.72 km of road is planned to be resealed/regavelled under this package. The design phase has been completed and the construction phase is being implemented. Contracts has already been awarded.

TAEC Consult (P) Ltd. and CEMAT Consultants(P) Ltd. Joint Venture has started to work since 13 June 1996 on Second Year Periodic Maintenance(Package A). Total length of 158 km of road is going to be resealed under this package. Some delay in implementation of the package due to delay in presenting the design report of the project. Contracts are yet to be awarded.

The consultancy services for the Package B of the Second Year Maintenance program is provided by ITECO Nepal (P) Ltd and Scott Wilson Kirkpatrick and Co. Ltd. The consultant commenced work from 1 September 1996. About 112 km of road will be resealed under this package. Consultancy work for the Third and fourth year Periodic Maintenance works under this project has yet to be awarded.

Road	Road Sector	Length km	Fund for Construction, US\$	Year	Type of Bid
Package 1		108.72	2,344,300		
H01	Hetauda - Lothar (Gaura Const. (P) Ltd & Nepal Singa Constr.(P) Ltd JV)	41.0	900,200	1	NCB
H01	Lothar - Narayanghat (Puspanjali Nirman Sewa)	33.7	706,700	1	NCB
F43	Tansen - Harthok (S. Const. Co. Ltd., Prithvi Nirman Sewa, Sapana Nirman Sewa JV)	10.8	220,200	1	NCB
H01	Ataria - Chaudhar (Sharma & Co. (P) Ltd. and M.K. Nirman Sewa (p) Ltd JV)	23.2	517,200	1	ICB
Package A		158.0	3,298,700		
F07	Chandranigahpur - Gaur	43.9	574,700	2	
F06	Nawalpur - Malangwa	26.5	515,300	2	
H06	Bhittamod - Dhalkebar	42.7	1,025,500	2	
F21	Kakani - Trishuli (part)	44.8	582,500	2	
F21	Kakani - Trishuli (Remaining part)		600,700	3	
Package B		112.2	3,604,500		
F46	Nepalgunj - Jethnakhola	14.2		3	
F46	Jethnakhola - Gularia	20.5	1,194,900	3	
H12	Chisapani - Harre	33.5	945,900	3	
H12	Harre - Birendranagar	43.9	1,463,700	4	
Package C		123.7	1,805,800		
H10	Syangja - Pokhara	36.9	456,000	3	
F45	Lumbini - Taulihawa	22.8	440,300	3	
H01	Karnali - Balia		440,300	3	
H01	Balia - Ataria	63.9	440,300	4	

Total length of about 123.7 km will be resealed under this programme. The contract with the estimated amount of NRs. 17,898,000 including Engineers facilities of Nrs. 5,508,000/- on consultancy service will be effective by the end of April 1997.

Priority Investment Plan... (cont'd from page 1)

- The determination of the appropriate, affordable and sustainable levels of investment in all sectors of the road, network in the context of both local resources and potential foreign assistance;
- the preparation of a Priority Investment Plan (PIP) within the policy guidelines of the 8th Five Year Plan for both the strategic and rural transport network; and
- the provision of training to staff in the National Planning Commission, Ministry of Works & Transport (DoR) and Ministry of Local Development.

A total of 56 expatriate man months were utilized comprising of 7 professional experts engaged in the fields of transport planning, highway and bridge engineering, transport economics, transport systems analysis and environmental aspects. An additional 44 man-months of 7 domestic professional staff were utilized.

The contract to undertake the study was signed on 30th August, 1995 between the Department of Roads, Ministry of Works & Transport, HMG/Nepal and the Joint Venture Consultants.

Now the project has been completed and it is hoped that the PIP study will be incorporated into ninth and tenth plan.

Extensions to the existing network and the consideration of potential new links have been addressed in the study. A full listing of all planned extensions to the network has been assembled: this includes the 90 km of route proposed to "Complete" the Strategic Road Network of 5,340 km - as defined by DoR - and other new construction projects identified in the 8th Plan. The 90 km includes links to 11 of the presently 21 non-road-connected District Headquarters, as well as the proposed Dhulikhel-Sindhuli Road.

Each of these proposed extensions has been examined and evaluated, together with other potential additional new links that have been identified- including tunnel road options, and alternatives, for a new link between Kathmandu and the Terai.

An overall network development strategy has been prepared. The importance of a network-wise approach- rather other a project based approach- is recognised, with overall preservation and maintenance of the existing network as the prime concern. The network has been further divided for the purpose of the analysis and development of maintenance options into a Core Network and Secondary Network, the latter comprising both paved and unpaved sections. Priorities for maintenance and new construction has been developed on the basis of the relative importance of links within the overall hierarchy, so as to achieve an appropriate balance of investment across the road sector.

ACTIVITIES IN PLANNING BRANCH

1. Annual Road Roughness and Pavement Distress Survey is being conducted throughout the National Road Network on Black topped and Gravel Road with the assistance of NEPECON.
2. Input on finalising the budget proposal for fiscal year 1997 is being given to NPC.
3. Computer and Management Information System Commission (CMISC) has been formed and the first meeting of CMISC was held in 16 May 1997 which has come with the recommended specification for computer software and hardware for general office use

Road Safety..... (cont'd from page 1)

The Traffic Engineering and Safety Unit (TESU) in Design Branch has been given the responsibility for carrying out road safety audits on the Department's road schemes. The process is illustrated in the accompanying diagram. The Unit checks the designs and tries to foresee how the road will work once it is open to traffic, focusing on the safety of users - including pedestrians, cyclists, motorcyclists, truck and bus drivers, car drivers, and others. A Road Safety Audit Report is produced which identifies any road safety deficiencies and recommends ways in which these can be overcome. The Report is submitted to the Director General, who, after discussing the recommendations with the project manager, will decide what changes are to be made to the project.

The first scheme to be audited by TESU was the new Bagmati Bridge at Thapathali. Since then audit reports have been produced for the following schemes:

- Rehabilitation of Tribhuvan Highway, Thankot - Naubise
- EROM1, Belbari - Damak
- Arniko Highway Maintenance Project, Dhulikhel - Dolalghat
- Bridges Reconstruction Project, Prithvi Highway
- Rehabilitation of Siddhartha Highway, Butwal - Tansen
- EROM2, Damak - Kakarbhitta
- Resealing of Feeder Road 35, Anbukhareni - Gorkha

Some very worthwhile improvements have been made to many of these schemes as a result of the audit, although inevitably not all of TESU's recommendations have been adopted. The most common safety problems that have been identified so far, include:

Too many hazardous elements - including deep, open side drains, very steep side slopes, and unsafe bridge and culvert parapets

Schemes ignore roadside communities - some schemes make little or no provision for pedestrians, buses, and parked vehicles, and the resulting conflicts and chaos can lead to accidents

The standard of signing and marking is very poor - better signing and road marking is probably one of the most cost-effective ways of reducing accidents

Not enough use made of proper safety barrier - safety barrier should be more widely used, especially on the busier national highways.

The main problems which TESU faces in trying to make the safety audit system work are:

- the audit often comes too late to be able to change things
- some scheme designs are so lacking in detail that it is difficult to tell what the finished scheme will look like
- TESU is sometimes not consulted on changes that are made to the scheme after the audit is over

If you would like to know more about safety auditing contact the Traffic Engineering and Safety Unit (tel. 231 843). A Road Safety Audit Manual has been produced which gives a full explanation of the process together with detailed checklists of safety concerns.

Other Road Safety News

The first draft of the **Traffic Signs Manual** has been submitted by Roughton International and the second draft will be ready soon. Anyone involved in signing and road marking work should contact TESU to get the latest advice.

The **Road Users Guide** - a simple but comprehensive guide to safe use of the road will shortly be printed. It is planned to sell this in bookshops throughout Nepal.

Two new Road Safety Notes, on **Safety Barrier** and **Safety at Bridges**, are nearing completion and will be circulated for comment in the next few weeks.

Did you know ?

Road accidents cost the nation at least Rs 764 million each year. The average cost of an injury accident is Rs 66,000 (Source: Road Safety Note 3). Cost-benefit analysis of low-cost accident remedial measures (such as those being implemented by TESU) indicates that they often have first year rates of return of several thousand percent.

The Steps in a Road Safety Audit

<i>The Steps</i>	<i>Responsibility of</i>
Project referred to TESU for audit	Concerned DDG or Project Manager in consultation with the DG
Project reports and plans sent to TESU	Project Manager
Study plans and inspect site	TESU
Hold commencement meeting with the designers	TESU
Undertake the audit	TESU
Write the audit report Submit to DG and Project Manager	TESU
Discuss and agree changes with DG and Project Manager	TESU & Project Manager together with DG
Hold completion meeting with Project Manager and designers Report on action to be taken is then sent to design team, and to the DG for final approval	Project Manager
Follow-up	TESU & Project Manager & project implementation team

Letter to the Editor

This newsletter is being produced for the benefit and interest of DoR staff, as well as informing you of news and development relating to Highway Management Information System. It is also a way for you to express your views or aspect about the proper management of the relevant data.

Write to us about anything you wish related with HMIS.

Try to keep your letters short (less than 300 words) and to the point. In every issue of HMIS news we will publish the most interesting and relevant letters we receive at editor's discretion.

Address your letters to :

The HMIS manager
Planning Branch
Department of Roads
G.P.O. Box: 2623
Babarmahal KATHMANDU

GEU LATEST PUBLICATION

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