

Summary of Proceedings of the Workshop on “Road Asset Management – Needs and Imperatives”, held at CRRI on 24th August, 2005

The workshop was attended by more than 100 delegates representing senior officers and engineers from government departments and public sectors like MOSRT&H, NHAI, NRRDA, state PWDs, urban development authorities; private sectors; consultants; equipment manufacturers; materials suppliers; researchers and academicians, and eminent highway professionals in their individual capacity. It was organised in four different Sessions, as follow :

Session-1 : Inaugural Session

Session-2 : Technical Session on “Experiences on Road Asset Management”

Session-3: Technical Session on “Technical Tools and Implementation Modalities

Session-4 : Valedictory Session

The workshop was inaugurated by Shri L. K. Joshi, Secretary, Ministry of Shipping, Road Transport and Highways (MOSRT&H) who was the Chief guest. The welcome address was made by Dr. P. K. Nanda, Director, who highlighted the need for developing operational assets management system and named various studies such as Road User Cost Study, Pavement Performance Study, Inventorisation of National Highways, Axle Load Studies etc. which were conducted by CRRI in the last 3 decades and are essential component of road asset management. It was also informed that recently, a study on pavement condition particularly the roughness measurements/data for various road sections completed under Golden Quadrilateral (GQ) of NHDP has been completed by CRRI. The various important issues raised by him as follows :

- Do we have a reliable and accurate road data base and information management system?
- Do we really know and have clear cut Idea about the condition of our network?
- How much is actually the replacement cost of our road network?
- How much funds are actually required to maintain our network to a particular level of service?
- What will be the expenditure for need based maintenance of road network.

Dr. Nanda asserted the need and importance of creating a separate National Road Data Centre. Benefits which can be gained out of the various R&D studies planned to be conducted through Accelerated Pavement Testing facilities, being procured by CRRI, in the next 15-18 months were also highlighted by Dr. Nanda.

In his inaugural address, Shri L. K. Joshi, Secretary, MOSRT&H, stated that huge amount has been invested in construction of roads and that there is

no scientific policy currently existing in our country for road maintenance which is primarily done based on adhoc decisions and lead to poor maintenance practices. He emphasised that it is the right time to develop appropriate road asset management system for the country. He was of the view that new concepts like OMT, BOOT, BOT etc. will provide better service to the road users. Shri Joshi supported the views of Dr. Nanda on establishment of a separate National Road Data Centre in India. He stated that all the data should be available for better planning, budgeting and management of road asset. The informations/data should be stored in a manner that it will have practical use.

The Session-II on the theme “Experiences on Road Asset Management” was chaired by Shri Indu Prakash (DGRD-MOSRTH). The following three presentations were made by the key note speakers

Measurable Benefits from Road Asset Management by Shri S. C. Sharma, Ex-DGRD, MOSRT&H

Road Asset Management–Australian Experience by Prof. (Dr.) Arun Kumar, Royal Melbourne Institute of Technology, Australia

Highway Operation and Safety Management by Dr. A. N. Bansal, Sr. Transport Economist, The World Bank

Shri Indu Prakash stated that roads, bridges and traffic are all part of the road asset management System. He defined road asset management system as a comprehensive system which should cover all related aspects. There is a need to develop systematic approach for management of road asset. Future plans for development and maintenance of road asset have to be scientific. He gave a brief of the recently launched study, to be conducted by CRRRI, on GIS based road information management system for national highways network which also include long term maintenance strategic analysis through application of HDM-4. Dr. P. K. Nanda also chaired the session for some time since Sh. Indu Prakash had to leave due to some pressing assignment .

- Sh. S. C. Sharma, stated that asset management is a very effective tool. He highlighted the need for positive approach to the art of management of road infrastructure and the expectations of the users for rich dividends. The wealth created in the country at heavy cost to the society should be maintained and preserved adequately. Engineering principles, economic rationale and business practices are the key to any asset management system.

Asset management oriented approach already exists in the country for a long time and programme like IRQP is one of the best

example. He stated that structured asset inventory and structured research base are important aspects which must be duly considered.

Prof. (Dr.) Arun kumar spoke about Australian experiences on road asset management. He brought out that pavements, structures, drainage, traffic, road furniture, kerbs, footpath etc. are all important components of road asset. It was emphasised that asset management requires sustainable business principles, which must be combined with economic, engineering and scientific tools. It was stated that road asset data, decision support tools, reporting tools and investment studies are the four important parts of a road asset management system. He highlighted the road asset management programmes of Deptts of Roads of Queensland and Victoria and stated that asset management programme in Australia is worth A \$ 140 billion which also includes risk management.

It was brought out by the speaker that the challenges ahead on road asset management are :

- Network deficiencies correction
- Reduced user cost
- Whole life cycle cost study
- Safety and operations
- Funding constraints
- Environmental constraints
- Community expectations/satisfaction
- Social equity etc.

Dr. Alok Nath Bansal informed that accident cost in India is about 2-3% of GDP which is less than the total expenditure on road sector. He stated that highway operations and safety management is a new subject and highlighted its need and present scenario. During his presentation, Dr. Bansal discussed the effects of various parameters such as signalised junction, pavement marking, speed limit enforcement, kerb side parking and stepped up police enforcement on road accidents and safety. He emphasised that highway patrolling system must be established urgently enhancing safety and for smooth operation of traffic on our highways.

After the presentations, these were interesting interventions from the floor. Delegates raised various issues of concern which were duly responded by the speakers.

The Session-3 on “Technical Tools and Implementation Modalities” which was chaired by Sh. Nirmal Jeet Singh (Member-Technical) NHAI. Sh. Atul Kumar (CGM-IT&P, NHAI) and Sh. D. P. Gupta (Ex-DGRD, MOSRT&H) were the keynote speakers made presentations on “Road Information System” and “Financial Sustainability and Valuation of Road Assets” respectively.

Sh. Nirmal Jeet Singh in his opening remarks gave a brief of the highway development programmes currently in progress in the country. He opined that creating and managing the road network is the need of the country and that this is the right time to conduct such a workshop which should take us to development of a road asset management system so that funds are optimally utilised. He mentioned that 7-8 years defect liability for maintenance of newly constructed roads in an OMT has already been launched in the country in order to sustain and manage the huge road network effectively. He stressed that priority shall be given to develop suitable PMS and BMS and that the road data base should use GIS techniques suitably, to make these tools more useful and powerful. He highlighted the following issues which need to be given due attention in a road asset management system. :

- Prevention of encroachment/ribbon development
- Incident management system
- Enforcement of overloading
- State Govt. land use plans
- Speed of traffic
- Prevention of parking of vehicles at roadside
- Highway patrolling for relief in case of accidents
- Help phone for every 2 km
- Highway administration
- Prevention of theft of road furniture
- Creation of tribunals for redressal of problems

Shri Atul Kumar made a presentation on Road Information System (RIS) being developed for completed GQ network by NHAI which is dynamic and user friendly. He described the various sub-systems and the architecture of RIS under development. He mentioned that the important outputs from RIS include prioritisation, need for widening & strengthening, maintenance strategies and the economic analysis.

He also expressed that CRRI with its strong research background and knowledge base can help in development of suitable road asset management system for Indian conditions.

- Shri D. P. Gupta in his presentation stated the need for calling roads as asset and expressed that some depreciation amount shall be

provided for maintenance of roads. He mentioned of the two road funds available in the country e.f. CRF and State Road Fund. Various modes of maintenance contracts were deliberated upon with more details on OMT (operate, maintain and transfer) type of contract. Sh. Gupta also stressed upon the need for evaluation of assets and to make the database sustainable.

He highlighted the following areas of concern which need to be duly addressed.

- Capacity augmentation
- Enforcement (overloading, ribbon development, encroachment etc.)
- Scope of work changes

There were interesting discussions and interventions from the floor on the various aspects.

The Session-4 of the workshop was Valedictory Session, chaired by Shri J. K. Mohapatra, Director General, NRRDA and Joint Secretary, Ministry of Rural Development (MORD). Dr. V. K. Sood, Sr. Scientist presented the summary of workshop proceedings. Sh. Mohapatra in his address highlighted following key issues of concern.

- Lack of funds is a myth. Effective and efficient use of available funds is more important.
- Poor asset management practices in India
- Why create good asset if not able to maintain it
- Credit shall given for good maintenance works done by road authorities
- Motivation to all dealing with road maintenance is essential
- Need for an improved work culture
- Enhanced funds allocation requirement
- Funds to be spent actually on maintenance works and not on wages and salaries
- Good maintenance practices required
- Good value for money is needed.

The workshop ended with vote of thanks by Shri T. S. Reddy, Sr. Scientist. Dr. Reddy expressed his sincere thanks to all the session chairman, speakers, delegates sponsors and organising team for their valuable contributions.

RECOMMENDATIONS FROM THE WORKSHOP

The following major recommendations have emerged based on the deliberations taken place during the workshop :

- Need for development of an user-friendly and need based operational maintenance management system which should have in built application of HDM-4 tools for evolving optimal strategies
- Creation of a separate National Road Data Centre, preferably at CRRRI.
- Need to develop a systematic and structured approach for asset management with in-built use of GIS applications
- Development of cost effective and automated data acquisition system
- Develop guidelines for enforcing overloading, removal of encroachment and/or ribbon development, unauthorised parking, and theft of road furnitures etc.
- Develop proper guidelines for highway patrolling and highway administration for smooth functioning of road network.
- Develop guidelines for evaluation of huge road network in India with details of parameters to be covered
- Need to develop an appropriate accident reporting system
- Need for providing appropriate drainage measures
- Need to introduce performance based criteria for assessment of maintenance quality/standards
- Need for providing appropriate training to maintenance crews and to bring in the aspect of accountability
- Updation of data base every 3-4 years and sampling of data, randomly, every year
- Creation of some tribunals for redressal of problems.

