



CERTIFICATION COURSE FOR ROAD SAFETY AUDITORS

New Delhi, India



INDIA CHAPTER

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global Transport
Knowledge Partnership



International Road Federation
(India Chapter)



Australian Road
Research Board



International Road
Assessment Program

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Road Infrastructure and Road Deaths in LMICs

- Rise in number of road deaths linked to rapid development of road infrastructure



- Lack of attention to road safety right from planning to operational aspects of road infrastructure
- Five actions (through five pillars) sought from the nations during Decade of Action is to (Pillar 1 and 2)
“influence road design and network management”



Expertise in RS Auditing

- Till 2010 India had less than 25 trained and experienced auditors in the country
- The National Highway network of 72,000 km, which is being upgraded, alone will require 250 man-years of audit-expertise (India has 4.2 million km of roads)



IRF Recommends

- Institutionalization of road safety in LMICs
 - identify a lead agency which can take up several tasks
 - multi-pronged approach to tackle the problem
 - Up to 49% of KSIs can be saved by designing roads with Safe System Approach





IRF India Chapter in Association with Australian Road Research Board (ARRB) conducts the Certification Courses for “Road Safety Auditors” with aim to,

Build capacity for road safety audit works in India by creating trained experts for road safety audit works and to certify them for proficiency and international level recognition



Need and Scope of RSA Certification Course

- There is enormous spending in road infrastructure in developing countries.
- National/state highway agencies including road developers and consultants lack expertise in conducting quality road safety auditing.
- Road safety auditing is not mandatory in the highway development process in India.
- Countries like India need a few thousand auditors just to conduct audit for the primary road network of national highways in a year's time.
- Auditor's Course in New Delhi is required to be replicated in different countries in a sustainable manner.



Course Structure

- 5-day course
- Covers basic concepts of,
 - safety in planning and design of road networks,
 - safety provisions for VRUs,
 - speed management,
 - road side hazard management,
 - crash diagnosis,
- Detailed audit process covering three project phases

Project Phase	Project Stage
Pre-Construction (Planning)	Feasibility Study
	Preliminary Design
	Detailed design
Construction	Construction
	Pre-Opening
Post-Construction/ Existing Road	Post-Opening
	Existing Roads



Course Content

Day-1

- Road Accident Scenario & Characteristics
- Network planning, road link and junction design for safety
- Road Safety Engineering
- Crash investigation, Analysis & Problem Diagnosing
- Accident costing & Economic appraisal

Day-2

- Road Safety Audit:- Introduction and Basics
- Road Safety Auditing at
 - Design stage
 - Land use development
 - Work zone and Pre opening Auditing
- Practical Session:
 - Design stage audit for actual designs



Course Content

Day-3

- Introduction to iRAP (International Road Assessment Program)
- Traffic Control Devices
- Provisions for NMT & VRU
- Traffic Signs & Markings
- Safe System approach
- Speed Management and Roadside Hazard Management

Day-4

- Filed Visit & Audit for
 - Existing Road link
 - Interchange
 - Work sites
 - Nighttime auditing

Day-5

- Risk assessment & Correction Action Report
- Preparation and Presentation of Audit Report (in group)
- Closing & Dispersal



Course Material

- The course material has been designed based on international literature, such as
 - VickRoads RSA Course
 - Austroad RSA Manual
 - FHWA RSA Manual
 - ADB Guidelines on RSA
 - EU Guidelines for RSA
 - IRC RSA Manual
 - QU (Australia) RSA Course
- Course material was made suitable to Indian conditions
- Lots of practical sessions were added, situation photographs and drawings from real road safety audits used for lectures and practical works



Course Material





Course Materials

Certification Course
for
Road Safety Auditors

1st to 5th February 2010

Conducted by:

 International Road Federation (India)
&
 Australian Road Research Board

Organised at:
Central Road Research Institute
New Delhi



Classroom & Field Exercise





Status of the Course

- 250 participants were trained in 10 batches conducted since 2010
- Participants from following organizations attended the course,
 - Government Organizations
 - Road Authorities like, NHAI, MoRT&H, State PWDs
 - Research and Educational Institutes like, CRRI, IITs/NITs, IISc Bangalore, University
 - Private Organizations
 - Engineering Consultants
 - Concessionaires
 - Construction Companies



How to Institutionalize RSA?

- Lessons from other countries (which have been successful in managing road safety in a big way),
 - Political commitment at highest level
 - Road safety policy at national level
 - Dedicated fund
 - Legal framework (with mandatory audit requirement)
 - Lead agency with responsibility of inter-departmental coordination
 - Domain expertise (used extensively in every action)
- Adopt RSA as part of the road safety policy
- Accreditation system for auditors



Estimate of Benefit-Cost Ratio

- Only from audits of the designs

BENEFIT STREAM	GDP (2011)	Accident Social Cost (1.5% of GDP)	1% Reduction, if the design is audited before implementation	BENEFIT-COST RATIO (BCR) = 64 : 1
	<i>US\$ 1,461,398 million</i>	<i>US\$ 21,921million</i>	<i>US\$ 219 million (Benefit)</i>	
COST STREAM	Road Sector Spending for 2011	Design Cost (2% of project cost)	Additional cost, if audit is incorporated (4% of design fee)	
	<i>US\$ 4,300 million</i>	<i>US\$ 86 million</i>	<i>US\$ 3.4 million (cost)</i>	



Feedback

- Proved to be highly beneficial for trainees of all categories
- Engineers from road authorities could realize the necessity of adopting RSA and demand for it
- Design consultants realized to what extent their designs were deficient for safety of all road users
- Majority of the trained auditors expressed confidence and about gaining of a special skill to assess the risk and potential hazard at a road location of an existing road or new a design



Funding Issues

- Higher course fees, due to involvement of international faculty, found to be NOT affordable by road industries.
- IRF initially supported the initiative by subsidizing the course fees
- gTKP, iRAP and MoRT&H initially supported nominally for a few courses
- **IRF suggests,**
 - all multilateral Bank funded infrastructure projects in LMICs may include a capacity building component to subsidize the course fee
 - to provide training to as many auditors in those countries, leveraging the funded infrastructure projects, and
 - to serve the long term interest of sustainable and safe infrastructure development in LMICs.



Challenges

- Safety Audit is not mandatory in road projects at planning and designing stages
- No mandatory requirement for qualification of Auditors, so far
- Poor response from consultants and concessionaires (lack of understanding of the worth/value of RSA)
- Need of refreshers and or advanced courses
- No apex body to mastermind this idea of mandatory audit for road development (therefore, no government recognized certification agency)

All these issues need to be tackled through a Lead Agency



thank you

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