# REPORT OF CERTIFICATION COURSES FOR ROAD SAFETY AUDITORS NEW DELHI, INDIA

**APRIL** 2012

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# Report of Certification Courses for Road Safety Auditors in April 2012, New Delhi, India

#### REPORT OF CERTIFICATION COURSE FOR ROAD SAFETY AUDITORS IN APRIL 2012 NEW DELHI, INDIA

IRF India Chapter in Association with Australian Road Research Board (ARRB) and Central Road Research Institute (CRRI) has taken initiative for delivering Certification Courses for "Road Safety Auditors". With the aim of building capacity for road safety audit works in the country (i.e. India) by creating trained experts for road safety audit works and to certify them for international level recognition, two courses were organized successfully back to back in last two weeks of April 2012. These training courses were organized in two consecutive weeks during 16<sup>th</sup> to 20<sup>th</sup> April and 23<sup>rd</sup> to 27<sup>th</sup> April 2012. The training has been imparted by both ARRB and Indian experts. The training courses had special requirements for entry qualifications, and then 90% attendance, passing of an evaluation test of the auditing knowledge and skills developed by the trainees, including preparation of report and making presentation of the practical audits. A Certificate has been issued to each trained auditor, who fulfilled all the requirements, by the ARRB, IRF (India Chapter) and CRRI jointly. These auditors will be carrying out the RSA in the country in coming time.

The trainees were selected based on educational background, past training and the experience. Those who have a degree in Civil Engineering or post-graduate degree or diploma in Traffic Engineering/Highway Engineering/Transportation Engineering etc or at least 10 years of experience in related work were eligible for the certification course. The **Annexure I** shows the application format filled by the candidates, which was used for selection of the candidates for the Certification Courses. Educational Institutions, Consultancy Organizations, Government Departments and Road/Highway Authorities in Centre and States, having staff with the requisite qualifications and experience, nominated officers for the training courses.

The course material was designed jointly by ARRB, IRF (India Chapter) and CRRI, and the course was structured for appropriate development of RSA skills in the participants. The course contents and the faculty who delivered the two courses are given in **Annexure II**. The two courses are attended by a total of 52 participants (21 participants in the first course and 31 participants in the second), and their list and contact details are given in **Annexure III**. These lists also include the names and contact details of faculty who have contributed in delivery of the two courses. The faculty / experts were:

Mr. John Hughes, ARRB Group Ltd.

Prof. P. K. Sikdar, IRF (India Chapter)

Mr. R. K. Bajpai, ICT Pvt. Ltd.

Mr. Jacob George, ICT Pvt. Ltd.

Dr. Nishi Mittal, CRRI

Dr. S. Velmurugan, CRRI

Dr. K. Ravinder, CRRI

The courses had exclusive components of practical audit works in groups guided by mentors, which provided real world audit experience to the participants. Through strict attendance and evaluation test 48 participants have been certified as auditors, while 3 participants have received certificate of participation as they did not meet the qualification and experience criteria for selection to the Auditors' Course, but wanted to attend anyway. The fee charged for the course was a subsidized by IRF (India Chapter).

The course was conducted with strict requirement of the attendance as 90% minimum and a pass in the final evaluation test. All the participants for the certification courses fulfilled the requirements at a level much above the requirements. The samples of the certificates issued to the participants of the two courses as certified auditors is shown in **Annexure IV**. The course material is given to the participants at the beginning of the course as a bound volume. In addition, they have been given a CD also with complete set of course materials, along with the Austroad RSA Checklists and the Checklist

of IRC Manual for Road Safety Audit. The get up of these course materials are shown in  $\mathbf{Annexure}$   $\mathbf{V}$ .

At the end, the courses were also evaluated by the participants, and the report of evaluation is given separately for each course in **Annexure VI**, while the format used for evaluation is given in **Annexure VII**.

The group photographs of the participants and the faculty for the two training courses are given in Annexure VIII.

The conduct of the courses in class room lectures as well as site visits for actual audit works were captured in photographs as shown in **Annexure IX**.

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# Annexures

# APPLICATION FORMAT (RSA CERTIFICATION COURSE: APRIL 2012) (Enclose a brief 2 page CV with details of experiences)

SI. No.	Particulars	To be Filled by Applicant	
1.	Name in CAPITAL LETTERS		
2.	Sponsoring Organization		
3.	Designation		
4.	Address & Telephone/ Email etc. for correspondence		
5.	Mobile No.		
6.	Course Applied for (please tick one)	Course I (16th - 20th April)	Course II (23rd - 27th April)

#### 7. Educational Qualification(s) (from graduation onwards)

SI. No.	Degree/Examination Passed	University/ Institution	Year of Passing	Class/ Grade

#### 8. Employment Record

SI. No.	Position Held	Period (From_To_)	Organization/ Department/Ministry

Signature of the Applicant

## Certification Course for Road Safety Auditors IRF (India Chapter) – ARRB - CRRI

Venue: Council Hall, Central Road Research Institute, New Delhi

## Day - 1 (16<sup>th</sup>/23<sup>rd</sup> April 2012)

Time	Details of Topics	Venue/Speakers	Presentation Materials
08.30 Hrs	Registration	CRRI	
09.30-10.00	Welcome and Inauguration of the Course	CRRI Council Hall	
10.00-10.15	Tea/Coffee		
10.15-11.00	Road Safety in India – An Overview	Prof. P. K. Sikdar	1.1
11.00-11.30	Characteristics of Road Accidents in India	Dr. Nishi Mittal	1.2
11.30-11.45	Tea/Coffee		
11.45-12.15	Planning for Road Network, Land Use and Road Environment for Safety	Dr. K. Ravinder	1.3
12.15-12.45	Designing for Safety: Road Link Design	Prof. P. K. Sikdar	1.4
12.45-13.30	Designing for Road Safety: Junctions	Mr. Jacob George	1.5
13.30-14.15	Lunch		
14.15-14.45	Introduction to Road Safety Engineering	Mr. John Hughes	1.6
14.45-15.15	Human Factors Relating to Crashes	Mr. John Hughes	1.7
15.15-15.45	The Steps in Treatment of Crash Locations	Mr. John Hughes	1.8 A
15.45-16.00	Tea/Coffee		
16.00- 16.30	Diagnosing the Crash Problem	Mr. John Hughes	1.8 B
16.30-17.15	Crash Problems into Solutions & Accident Costing / Economic Appraisal	Mr. John Hughes	1.9 A
17.15-17.45	Writing the Crash Location Report	Mr. John Hughes	1.9B
17.45-18.00	Summary of Day-1 & Briefing for Day-2	Prof. P. K. Sikdar	
18.00 Hrs	Close of Day-1		

# Day-2 (17<sup>th</sup>/24<sup>th</sup> April 2012)

Time	Details of Topics	Speakers	Presentation Materials
09.00-10.00	Road Safety Audit - An Introduction	Mr. John Hughes	2.1
10.00-10.30	How to Conduct Road Safety Audit	Mr. John Hughes	2.2
10.30-11.15	Design Stage Road Safety Audit	Mr. Jacob George	2.3
11.15-11.30	Tea/Coffee		
11.30-12.00	Road Safety Audits of Land Use Developments	Mr. John Hughes	2.4
12.00-12.30	Traffic Control Devices & Safety Needs of Different Road Users	Dr. Nishi Mittal	2.5
12.30-13.00	Construction Zone Safety and Pre Opening Audit	Mr. Jacob George	2.6
13.00-13.30	Road Safety Toolkit	Mr. John Hughes	2.7
13.30-14.15	Lunch		
14.15-15.30	Detailed Design Audit – In-office Audit – Audit of an Example Design	Mr. Hughes/Bajpai/George/ Ms. Mittal/Dr. Sikdar	DPR Drawings of a project
15.30-15.45	Tea/Coffee		
15.45-16.30	Detailed Design Audit – In-office Audit & Preparation of Report	Mr. Hughes/Bajpai/George/ Ms. Mittal/Dr. Sikdar	
16.30-17.45	Group Presentations on RSA of Design, 10 Minutes per Group	Mr. Hughes/Bajpai/George/ Ms. Mittal/Dr. Sikdar	
17.45-18.00	Summary of Day-2 & Briefing for Day-3	Prof. P. K. Sikdar	
18.00 Hrs	Close of Day-2		

# Day - 3 (18<sup>th</sup>/25<sup>th</sup> April 2012)

Time	Details of Topics	Speakers	Presentation Materials
09.00-09.30	Street Lighting & Traffic Signals	Mr. R. K. Bajpai	3.1 A & 3.1B
09.30-10.00	Safety Issues for VRUs in India	Dr. Nishi Mittal	3.2 A
10.00-11.15	Pedestrians and people with disabilities & Road Safety Audit – Cyclists	Mr. John Hughes	3.2 B & 3.2C
11.15-11.30	Tea/Coffee		
11.30-12.15	Road Signs and Pavement Markings	Mr. Jacob George	3.3
12.15-12.45	iRAP Introduction	Mr. John Hughes	3.4
12.45-13.15	Safe System Approach	Mr. John Hughes	3.5
13.15-14.00	Lunch		
14.00-14.30	Speed Management & safety	Dr. S. Velmurugan	3.6
14.30-15.00	Utilizing Speed Limits & Speed Zone Signing	Mr. John Hughes	3.7A & 3.7B
15.00-15.30	Infrastructure required to support speed feedback and enforcement	Dr. K. Ravinder	3.8
15.30-15.45	Tea/Coffee		
15.45-16.30	Hazard Management with Respect to Safety	Dr. S. Velmurugan	3.9
16.30-17.00	Organizational Commitment Towards Road Safety Audit	Dr. S. Velmurugan	3.10
17.00-17.45	Road Safety Audit Checklist	Prof. P. K. Sikdar	3.11
17.45-18.00	Summary of Day-3 & Briefing for Day-4	Prof. P. K. Sikdar	
18.00 Hrs	Close of Day-3		

# Day - 4 (19<sup>th</sup>/26<sup>th</sup> April 2012)

Time	Details of Topics	Coordinators	Site Visits
09.00-11.30	09.00-11.30 Existing Roads Audit –Site Visit (An Example Stretch of Road)		Site: Ashram-Badarpur (NH-2)
11.30-11.45	Tea/Coffee		
11.45-13.15	Construction Zone Audit – Site Visit	All faculty	Site to be selected
13.15-14.00 Lunch			
<b>Cont. 4<sup>th</sup> day</b> 14.00-14.45	Audit of Grade Separated Intersection (Site Visit)	All faculty	Site: Okhala Interchange

Time	Details of Topics	Coordinators	Site Visits
14.45-15.30	Preparation of the Audit Reports	All faculty	
15.30-15.45	Tea/Coffee		
15.45-17.45	Preparation of the Audit Reports	All faculty	
17.45-18.00	Summary of Day-4 & Briefing for Day-5	Prof. P. K. Sikdar	
18.00-20.00	Night-time Audit (Site Visits)	All faculty	Site: Ashram-Badarpur (NH-2)
20.00 Hrs	Close of Day-4		

## Day - 5 (20<sup>th</sup>/27<sup>th</sup> April 2012)

Time	Details of Topics	Speakers/Venue	Presentation Materials
09.00-09.30	Risk Assessment & Ranking audit recommendations	Mr. John Hughes	5.1
09.30-10.00	Solutions and Percentage Effectiveness & Corrective Action Reports	Mr. John Hughes	5.2 A & 5.2 B
10.00-10.30	Preparation of the Audit Reports	All faculty	
10.30-11.30	Evaluation Test	Mr. John Hughes / Prof. P.K.Sikdar	
11.30-11.45	Tea/Coffee		
11.45-13.15	Presentation & Discussion of RSA Report by Groups: 30 Minutes for Each Group	All faculty	
13.15-14.00	Lunch		
14.00-15.00	Presentation & Discussion of RSA Report by Groups; 30 Minutes for Each Group	All faculty	
15.00-15.30	Course Evaluation	Mr. John Hughes / Prof. P.K.Sikdar	
15.30-15.45	Tea/Coffee		
15.45-16.00	Group Photograph		
16.00-16.45	Closing Function & Certificate Distribution	CRRI Council Hall	
16.45- 17.00	Closing Remarks & Dispersal		

**Note:** All Example Audits and Preparation of Report shall be in Groups of 4-5 participants of the Course and there shall be five Groups out of 30 participants. There will be one mentor assigned to each Group to guide and assist throughout the Course.

#### **CERTIFICATION COURSE FOR ROAD SAFETY AUDITORS**

#### IRF (INDIA), ARRB & CRRI (16- 20 April 2012)

#### **LIST OF PARTICIPANTS & FACULTYS**

Sl. No.	Name	Organization	Mobile	E-mail
1.	Mr. Mujibur Rehman	ERA Infra Engineering Ltd.	+91 7520334197 +91 9286585838	m.rehman25@yahoo.com
2.	Mr. Sumit Kumar Verma	ERA Infra Engineering Ltd.	+91 7428828930	sumit.v@eragroup.in
3.	Mr. K. Hari Krishna Kondamuru	Intercontinental Consultants and Technocrats Pvt. Ltd	+91 9717180210	harikrishna@ictonline.com
4.	Mr. Atul Kumar Sharma	IL&FS Transportation Networks Ltd.	+91 7830020929 +91 9889803800	atulvats2007@rediffmail.com atulvats2007@yahoo.com
5.	Mr. Naresh Kumar	IL&FS Transportation Networks Ltd.	+91 7830020946	naresh.kumar@ilfsindia.com
6.	Mr. Shankar Anil Lokapure	IL&FS Transportation Networks Ltd.	+91 9769264283	shankarlokapure09@gmail.com shankarlokapure@yahoo.com
7.	Mr. H.S. Prakash Kumar	Karnataka State Highways Improvement Project (KSHIP), Bangalore	+91 9449039016	pdkship@gmail.com, hsp162@yahoo.co.in
8.	Mr. M.D. Nadaf	Karnataka State Highways Improvement Project (KSHIP), Bangalore	+91 9886633602	mdnadaf_1@yahoo.co.in
9.	Mr. Purnachandra Rao Vangapandu	Meenakshi Infrastructures Pvt. Ltd.	+91 9437007093	pcrao2007@yahoo.com
10.	Mr. B. T. Sridhara	Ministry of Road Transport & Highways	91 9845725578	sridarbt@yahoo.co.in
11.	Mr. K.C. Joshi	Ministry of Road Transport & Highways	+91 9411341999	Joshikc8@gmail.com
12.	Mr. S.K. Razzak	Ministry of Road Transport & Highways	+91 9177974301	srkces@gmail.com
13.	Mr. Tushar Vyas	Ministry of Road Transport & Highways	+91 9826131411	tusharvyasaee@gmail.com

Sl. No.	Name	Organization	Mobile	E-mail
14.	Mr. Dinesh Kumar Chaturvedi	National Highways Authority of India	+91 9868126926	dineshc@nhai.org
15.	Mr. Hasan Mehdi Naqvi	National Highways Authority of India	+91 8800702288	naqvishm@gmail.com
16.	Mr. Suresh Kumar	National Highways Authority of India	+91 9910070699	sarita@gmail.com, sarita@nhai.org
17.	Mr. Dileep R.	PWD, Govt. of Kerala	+91 9447059257	dileeprnair@gmail.com
18.	Mr. Sajeev S.	PWD, Govt. of Kerala	+91 9847993096	sajeevmt@gmail.com
19.	Mr. Sankar Kumar S.	PWD, Govt. of Kerala	+91 9342853820	sankarkumars2002@yahoo.co.in
20.	Smt. Binu U.	PWD, Govt. of Kerala	+91 9446439783	binuunnikrishnan@gmail.com
21.	Smt. Suji S.	PWD, Govt. of Kerala	+91 9447553789	sujikrish1973@gmail.com
LIST	OF FACULTIES			
22.	Prof. P. K. Sikdar	Intercontinental Consultants and Technocrats Pvt. Ltd.	+91-9810914051	pksikdar@ictonline.com
23.	Mr. John Hughes	ARRB Group Ltd.	+61 404010584	john.hughes@arrb.com.au
24.	Dr. Nishi Mittal	CSIR - Central Road Research Institute	+91-9811639727	nishimittal4@gmail.com
25.	Dr. S. Velmurugan	CSIR - Central Road Research Institute	+91-9868856522	vms_04@yahoo.co.in
26.	Dr. K. Ravinder	CSIR - Central Road Research Institute	+91-9868852959	krrcrri@gmail.com
27.	Mr. Jacob George	Intercontinental Consultants and Technocrats Pvt. Ltd.	+91-9971622441	jacobgeorge@ictonline.com
28.	Mr. R. K. Bajpai	Intercontinental Consultants and Technocrats Pvt. Ltd.	+91-9811652941	rkbajpai@ictonline.com

# IRF, ARRB & CRRI CERTIFICATION COURSE FOR ROAD SAFETY AUDITORS (23 - 27 April 2012)

## LIST OF PARTICIPANTS & FACULTYS

Sl. No.	Name	Organization	Phone	E-mail
1.	Mr. Umesh Kumar Handa	Ashoka Buildcon Ltd.	+91 08308819131	umesh.handa@ashokabuildcon.com
2.	Mr. Bhavesh Kumar Roy	BSC-C&C-'JV'	+91 9570999603	bhavesh.roy2009@gamil.com
3.	Mr. Samrat Rahul	BSC-C&C-'JV'	+91 9263630379	samrat_rahul@sity.com
4.	Ms. Preethi P.	College of Engineering, Trivandrum	+91 9447957372	preethi_november@yahoo.co.in
5.	Mr. Satish N.L.	Feedback Infrastructure Pvt. Ltd.	+91 9902071026	satishnl2002@yahoo.com
6.	Mr. Arvind Tingloo	Gammon India Ltd.	+91 9868100975	arvindtingloo@gmail.com
7.	Mr. Mirza Fahim Ahmad Baig	Gammon India Ltd.	+91 8757575097	mirzafahim25@hotmail.com
8.	Mr. Manoranjan Misra	Govt. of Orissa, Works Deptt.	+91 9437186512	manoranjanmisra@gmail.com
9.	Mr. Rakshith P.	Indian Institute of Technology, Madras	+91 8939802208	rakshu51087@gmail.com
10.	Mr. Sivasubramaniam J.	Indian Institute of Technology, Madras	+91 9487081865	jsiva.urban@gmail.com
11.	Mr. Sharad Gupta	IL&FS Transportation Networks Ltd.	+91 9799795367	sharadgupta_2007@rediffmail.com
12.	Mr. Ashif Hussain	Intercontinental Consultants and Technocrats Pvt. Ltd.	+91 9871889161	ashif.hussain@ictonline.com
13.	Mr. Ajo Abraham	KNR Constructions Ltd.	+91 8951340210	ajoabraham11@gmail.com
14.	Mr. Anil Kumar Kushwaha	Ministry of Road Transport & Highways	+91 9444026584	akkushwaha@rediffmail.com
15.	Mr. Pradipta Kr. Barik	Ministry of Road Transport & Highways	+91 9937464192	pradip_most@rediffmail.com
16.	Mr. Chandan Sen	National Highways Authority of India	+91 9466858645	chandansg99@gmail.com
17.	Mr. K.V. Nagaraja Kumar	National Highways Authority of India	+91 9910071904	nagarajakumar2001@yahoo.co.in
18.	Mr. P. K. Kaushik	National Highways Authority of India	+91 9810836768	pk_a23@yahoo.in
19.	Mr. Ram Narayana Choudhary	National Highways Authority of India	+91 9413311711	rnc1957@yahoo.com

Sl. No.	Name	Organization	Phone	E-mail			
20.	Mr. Anil Kumar Chaubey	Patel Engineering Ltd.	+91 9771420376	pateleng.hyd@gmail.com			
21.	Mr. Amit Kumar Gupta	Pink City Expressway Pvt. Ltd.	+91 9001090066	its.amitgupta@gmail.com			
22.	Mr. Bijender Singh	Pink City Expressway Pvt. Ltd.	+91 9001090074	bijenders.saini@gmail.com			
23.	Mr. Anil Bapurao Joshi	PWD, Govt. of Maharashtra	+91 9423069020	anilbapuraojoshi@yahoo.co.in			
24.	Dr. Dattatraya Tukaram Thube	PWD, Govt. of Maharashtra	+91 7588322377	dattadce@rediffmail.com			
25.	Mr. Rajesh Sahni	Reflexite Safety India Pvt. Ltd.	+91 9717748833	rajesh@modimeasurement.com			
26.	Mr. Dinesh Narayan Parab	Reliance Infrastructure Ltd.	+91 9987065114	dineshnp2007@yahoo.com			
27.	Mr. Vijay Kumar Minchala	Reliance Infrastructure Ltd.	+91 9773301446	vijay.minchala@relianceada.com			
28.	Mr. Bipin Bihari Padhy	S. M Consultants	+91 7381040340	bipinpadhy@smcindia.com			
29.	Mr. Nirav Shah	SAI Consulting Engineers Pvt. Ltd.	+91 9898194425	nshah@saiindia.com			
30.	Mr. Suresh Babu Bodasingu	Samsung - Saif Bin Darwish JV	+971 508982774	sureshbabu.TE@gmail.com			
31.	Mr. Rajesh Kr. Mishra	Soma Enterprise Ltd.	+91 8400300130	mishra1005@gmail.com			
LIST OF FACULTIES							
1.	Prof. P. K. Sikdar	Intercontinental Consultants and Technocrats Pvt. Ltd.	+91-9810914051	pksikdar@ictonline.com			
2.	Mr. John Hughes	ARRB Group Ltd.	+61 404010584	john.hughes@arrb.com.au			
3.	Dr. Nishi Mittal	CSIR - Central Road Research Institute	+91-9811639727	nishimittal4@gmail.com			
4.	Dr. S. Velmurugan	CSIR - Central Road Research Institute	+91-9868856522	vms_04@yahoo.co.in			
5.	Dr. K. Ravinder	CSIR - Central Road Research Institute	+91-9868852959	krrcrri@gmail.com			
6.	Mr. Jacob George	Intercontinental Consultants and Technocrats Pvt. Ltd.	+91-9971622441	jacobgeorge@ictonline.com			
7.	Mr. R. K. Bajpai	Intercontinental Consultants and Technocrats Pvt. Ltd.	+91-9811652941	rkbajpai@ictonline.com			

Course I- Certificate Annexure IV







International Road Federation (India),
Australian Road Research Board
and
Central Road Research Institute
Certify that

Mr. Tushar Vyas

Assistant Executive Engineer, Ministry of Road Transport & Highways, Bhopal

Has successfully participated in the Certification Course for

Road Safety Auditors

16th to 20th April 2012, held at New Delhi

N.K. Sinha Chairman, IRF (India) S. Gangopadhyay Director, CRRI

John Hughes Road Safety Expert, ARRB

#### Course II- Certificate





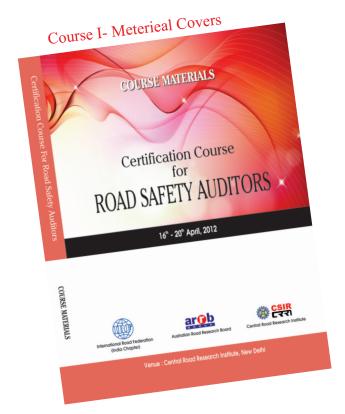


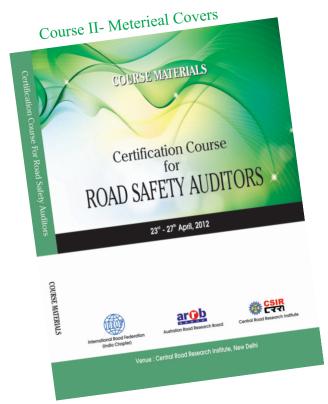
International Road Federation (India),
Australian Road Research Board
and
Central Road Research Institute
Certify that

Mr. Umesh Kumar Handa Management Representative, Ashoka Buildcon Ltd., Nasik, Maharashtra

> Has successfully participated in the Certification Course for Road Safety Auditors
>
> 23<sup>rd</sup> to 27<sup>th</sup> April 2012, held at New Delhi

N.K, Sinha Chairman, IRF (India) S. Gangopadhyay Director, CRRI John Hughes Road Safety Expert, ARRB













#### **RSA Course Evaluation**

The training course was evaluated at the end of program. All the trainees were requested to fill in the Course Evaluation form given in **Annexure VII**. The responses given by all the trainees were evaluated in quantitative and qualitative terms and these are presented below.

#### RSA Course Evaluation - Course I

#### PART - I: Quantitative Evaluation

1. The course provided useful information/knowledge

80% strongly agree, 20% agree

2. The content of course was relevant and useful

70% strongly agree, 25% agree, 5% neutral

3. The course structure was apt

25% strongly agree, 65% agree, 10% neutral

4. The course responded to the expectations

50% strongly agree, 40% agree, 10% neutral

5. The quality of the presentations was high

45% strongly agree, 55% agree

6. The design audit exercise was helpful

45% strongly agree, 50% agree, 5% neutral

7. The audit site visits and the report preparation exercise was useful

65% strongly agree, 35% agree

8. Gained confidence to undertake road safety design audit independently

75% strongly agree, 25% agree

9. Gained confidence to undertake construction zone safety audit independently

65% strongly agree, 30% agree, 5% neutral

10. Gained confidence to undertake existing road safety audit independently

60% strongly agree, 25% agree, 15% neutral

11. Time for interaction was adequate

35% agree/strongly agree, 45% disagree and 20% were neutral

#### PART - II: Qualitative Evaluation

# Comments regarding the program of the course (subjects that have been discussed or should have been, presenters, etc...)

- The Course was very rigorous. It could have had field visits for 2 days comprising exhaustive primary/secondary analyses.
- The whole five day program was so knowledgeable that it has changed our vision and approach towards Road Safety.
- Number of presentations could be more. The duration of few presentations like technical detailing of signage could have been reduced.
- The program was meticulously designed. Presenters have been carefully selected and they explained the topics in depth.
- Subjects were discussed well. More site visits are required.
- Very suitable for Indian conditions where huge improvement of infrastructure in road sector is being done.

#### Comments regarding the organization of the course

- Night time audit is a novel idea; it could be enhanced more for fruitful results.
- Course was organized systematically.
- Such program should be conducted more often to provide nation with better qualified road auditors.
- Excellent organization clubbed with adjoining site visits availed maximum time efficiency and interest.
- Organized well, but the schedule was very hectic.

#### What do you consider as the greatest benefit you gained in attending this course?

- Enhanced perception of the safety concern in road safety audits.
- Will be able to do road safety audit independently.
- Gained confidence for introducing all road safety aspects more precisely in projects under jurisdiction

#### Suggestions for improvement in the RSA courses to be conducted in future

- More time can be devoted for site visit.
- Time may be extended for incorporating more comprehensive interactive sessions and site visits
- Length of the course may be increased and some more classes may be included.

#### **RSA Course Evaluation – Course II**

#### PART – I: Quantitative Evaluation

1. The course provided useful information / knowledge

87% strongly agree, 13% agree

2. The content of course was relevant and useful

67% strongly agree, 33% agree

3. The course structure was apt

47% strongly agree, 37% agree, 16% neutral

4. The course responded to the expectations

53% strongly agree, 40% agree and 7% neutral

5. The quality of the presentations was high

53% strongly agree, 37% agree and 10% neutral

6. The design audit exercise was helpful

54% strongly agree, 43% agree and 3% neutral

7. The audit site visits and the report preparation exercise was useful

73% strongly agree, 23% agree and 4% neutral

8. Gained confidence to undertake road safety design audit independently

64% strongly agree, 33% agree and 3% neutral

9. Gained confidence to undertake construction zone safety audit independently

54% strongly agree, 43% agree and 3% neutral

10. Gained confidence to undertake existing safety audit independently

47% strongly agree, 47% agree and 6% neutral

11. Time for interaction was adequate

47% strongly agree, 50% agree and 3% were disagree

#### PART – II: Qualitative Evaluation

# Comments regarding the program of the course (subjects that have been discussed or should have been, presenters, etc...)

- The Program of this course is prepared very carefully so that it gives maximum output to the aspirants.
- Course duration needs to be extended by one day atleast with same course contents
- This program gives me the right idea about safety and the importance of life of the people using roads.
- Content of the course still have room to cover more exercise towards crash investigation by keeping this course 7 days instead of 5 days.
- This program should make compulsory for all organization of Road & Infrastructure.

#### Comments regarding the organization of the course

- Well organized & structured course. Course material is also updated.
- The faculty members chosen by the organization are experts in their field

#### What do you consider as the greatest benefit you gained in attending this course?

- Gained confidence to conduct Road Safety audits.
- Benefitted by fundamental understanding of the Road Safety and its implementation in the field

#### Suggestions for improvement in the RSA courses to be conducted in future

- The RSA course should be at least one week or more so that more practical coverage should be there.
- Subjects regarding traffic signals and lane marking techniques could be added in future.
- Such course should be conducted in state capitals. "Human Factor" may be dealt bit extensively.

## **RSA CERTIFICATION COURSE- COURSE EVALUATION FORM**

Please indicate the level of agreement and most accurately reflects your opinion of the course:

(Scale. 5= Sti	oligiy agree	, 4= Agree,	3= Neutra	, z=Disagree	, 1=3	uong	iy ui	Sayı	<del>;e</del> )
The course	provided use	ful informati	on/knowled	ge.	5	4	3	2	1
The content	of the course	e was releva	ant and usef	ūl.	5	4	3	2	1
The course	structure was	s apt.			5	4	3	2	1
The course	responded to	my expecta	ations		5	4	3	2	1
The quality of	of the presen	tations was	high.		5	4	3	2	1
The quality of	of the design	audit exerci	ise was help	oful	5	4	3	2	1
The audit sit useful	e visits and t	he report pr	eparation e	xercise was	5	4	3	2	1
Gained con independent	fidence to ui	ndertake ro	ad safety d	esign audit	5	4	3	2	1
Gained con audit indepe	fidence to un indently	ndertake co	nstruction 2	zone safety	5	4	3	2	1
Gained cor independent	nfidence to	undertake	existing s	afety audit	5	4	3	2	1
Time for inte	eraction was	adequate.			5	4	3	2	1
What are your o				of this course	(sub	jects	that	have ——	been
What are your co	omments reg	arding the o	rganization	of this course	?				
What do you cor	nsider as the	greatest ber	nefit you gai	ned in attendi	ng th	is cou	rse?		
Any suggestion y	ou wish to m	nake regardi	ng RSA cou	urses for impro	ovem	ent of	futur	e eve	ents?
Thank you for yo	our feedback.	Your comm	nents and si	uggestions wil	l help	o us to	imp	rove f	uture
Name: Contact no.:	Address:								





## Photographs from the Course I



Course Inauguration: Course I - Inaugurated by Director, CRRI



Speaking at the Inauguration Mr. N. K. Sinha, IRF Chairman (India Chapter)



Mr. John Hughes, ARRB is Speaking at the Inauguration



Course Participants



Course Participants



Lecture in Progress



Design Audit being Done by Participants



Design Audit being Supervised





Existing Road Audit in Progress





Construction Zone Audit in Progress



Night time Audit in Progress



Preparation of Group Report



Audit Report Being Presented



Tea / Coffee Break



Certificate being Presented

## Photographs from the Course II



Course II Inauguration by Mr. N. K. Sinha, IRF Chairman (India Chapter)



Prof. P. K. Sikdar Speaking is Inauguration



Mr. John Hughes, ARRB is Speaking at the Inauguration



Course II Participants



Lecture in Progress





Road Audit in Progress Starting





Preparation of Audit Report





Presentation of Audit Report





Tea / Coffee Break





Lunch During Course Days

**Evaluation Test in Progress** 





Concluding Session





Concluding Session









Distribution of Certificates