Road Safety Audit & Inspection Training Course

Introduction

The Ministry of Communications is pleased to announce its first Road Safety Audit & Inspection Training Course to be conducted at the National University of Sciences & Technology in Islamabad during 19th-27th February 2018.

The course aims to support Federal, Provincial, territory and city road agencies to deliver safer roads throughout Pakistan as part of the National Road Safety Strategy 2018-2030. The MOC is being supported by NTU International to deliver this course which will be led by Mr Edoardo Mazzia, a senior Road Safety Auditor accredited to the Dir. 2008/96/EC. The course is based around the requirements and procedures associated with EU Road Safety Audit certification. The NUST logo will be included on Training Course Certificate.

By the end of this course, participants will be fully aware of all aspects of road safety audit and inspection at the planning, design, construction, and post-construction stages.

The course will also provide a pathway for those seeking further study abroad to gain international road safety audit certification.

What are the benefits for your agency?

A well-managed road safety audit and inspection program can have many positive effects:

- Enhances the safety standard of all road classes in Pakistan.
- Allows more effective use of road construction and asset management resources.
- Promotes consistency of engineering safety treatments and traffic control devices throughout Pakistan.
• Enhances public confidence in a thoroughly studied road system based on international safety standards.

Who should attend?

• Senior managers in roads agencies responsible for annual road design and construction and RAM programs.

• Senior road design engineers in roads agencies responsible for the planning and design of new roads.

• Engineers at Director and Deputy Director level responsible for managing contractors undertaking road construction and upgrade projects.

• Engineering firms undertaking road design and construction projects for the GOP.

• Engineers wanting to undertake road safety audits and/or road safety inspections and develop infrastructure treatment programs.

• University professors and academics teaching post graduate engineering courses.

Course pre-requisites:

• Degree in Civil Engineering or relevant related degree.

• Minimum of 5 years professional experience in road safety and/or road design.

• Administrative level position which can implement change and willingness to adopt new ways of working.

• High level of fluency in English, including in engineering technical terms.

• Personal laptop with excel software.
Applicants must submit a letter of support from their line manager approving leave for the full period of the Training Course, together with the application form.

Course Objective:
- To support Federal, Provincial and Territory road agencies to deliver safer roads throughout Pakistan;

Course outline:
- To understand the scale and nature of the road traffic crash problem in Pakistan and how it compares internationally; road safety responsibilities; key road safety definitions; the principles of the globally endorsed Safe System Approach and accident causation.
- The importance of road safety within Pakistan 2025, National Transport Policy, the National Road Safety Strategy 2018-30, and global road safety targets.
- How to ensure safety standards in road design and develop and manage safer road infrastructure programs for highways and motorways, urban and rural roads, which are based on research and recent road safety engineering developments.

Casualty Crash Prevention and Reduction
- How road crashes happen and are recorded.
- Crash data, storing and use of crash data, and interpreting crash data. Data interpretation from crash analysis and crash investigation and treatment of high casualty crash cluster locations.
- Using the Safe System Approach to select and prioritise locations for investigation, statistical analysis of accidents, in depth analysis of individual locations, defining the road crash problem, difference between site and route analysis, area wide road safety schemes, options for treating casualty crash
problems, monitoring the effectiveness of measures and estimating crash savings and economic benefits.

Road Safety Audits

- What is the Road Safety Audit procedure, and what are aims and objectives, roles and responsibility; history of road safety audit, road safety audit and design standards, road safety audit tasks, various stages of safety audits; common identifiable problems.

- What is the road safety inspection procedure, how does it differ from an Audit, use of international road assessment program, and the development of effective countermeasure programs.

- How to structure a road safety audit report, identify common problems.

- Case studies and site visit; what to look for on-site visits.

Assessment:
Assessment will be based on project work and a final examination. Successful participants will receive a training certificate jointly endorsed by MOC, NUST and NTU.

Course Requirement Note:
This is an intensive theory and field based practical course which will be conducted over seven days. To ensure a high academic standard, any participant who fails to attend a day will be automatically deemed to have withdrawn from the course and should not attend the following day.

Participants must attend at least 90% of the theory course and all site inspections to be admitted to the final examination. NO exceptions can be made to this academic requirement.

Participant numbers:
A maximum of 30 participants will be accepted in the Training Course.

Course timing and location:
The course will be conducted over seven days from 09.00 on 19th until 16.00 on 27th February 2018 at NUST Campus in H12, Islamabad. Please note that Saturday and Sunday will be free days.

Course fees:
The course is free of charge for civil servants. Official travel costs will be reimbursed on submission of required documentation and original receipts. Course accommodation, breakfast and lunch daily will be provided.

Schedule:
1. Deadline for submission of your application form, CV and letter from Manager authorising your attendance: 12th January 2018
2. Participants list issue: 26th January 2018
3. Confirmation of participation: 9th February 2018

Due to NUST strict security policy, late enrolments/ changes in applicants cannot be accepted.

Key Trainers:
- Edoardo MAZZIA: An internationally approved Road Safety Auditor according to the Dir. 2008/96/EC who has over 15 years' international experience in road safety engineering, transport planning and road operation. In the past decade he has delivered international road safety engineering projects in Eastern Europe, North Africa, the Caucasus and the Middle East funded by the ADB, World Bank, EIB and EBRD. He has
recently developed and conducted Road Safety Audit and Inspection Training Courses in Italy, Jordan, Tunisia and Morocco.

**Dr Antonino TRIPODI:** Civil engineer with a PhD in Transport Systems, who has fourteen years of professional experience in transport systems. In the past decade he has undertaken national and international projects specialising in sustainable mobility and road safety, focusing on crash databases and crash analysis. Co-author of more than 25 scientific papers on transportation and road safety.

**Dr Kamran AHMED:** Civil engineer with PhD in transportation/traffic engineering. Assistant Professor in School of Engineering at National University of Sciences & Technology.

**Dr Omer M QURESHI:** Civil/mechanical Engineer with a PhD in automotive crashworthiness from the University of Modena, Italy with crashworthiness experience in Ferrari MillieChile Lab, and several years of research and teaching experience of Crash Investigations. Currently, Dr Qureshi works in Pakistan as the founder of Automotive Design and Crashworthiness Research which is pioneering modern methods of road crash investigations in Pakistan. He has been a team member of inquiries into several national disasters including the Ahmedpur Sharqia Oil Tanker Tragedy and the Therri bypass accident. He has authored several research papers on road crash investigations published in key international journals.

**Rosemary ROUSE:** Master in International Public Health with over 23 years of senior management experience in road safety within Australia and internationally. Her expertise is focused to strategy, policy and legislation and programs in the areas of speed management, vehicle safety and road user safety, including the safety of vulnerable road users. She has led multi-sector engineering and behavioural projects in Indonesia, South East Asia, Iraq, Uganda, India and Pakistan.
# Road Safety Auditing & Inspection
## Training Course Programme
### 19-27 February

### Day 1: 19 February 2018

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<th>Activity</th>
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<tr>
<td>8:30</td>
<td>Registration of trainees</td>
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<tr>
<td>9:00</td>
<td>Introduction and opening remarks</td>
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<td>9:30</td>
<td>Photo opportunity</td>
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| 10:00 | **Module 1: Road safety national and international framework**  
*Short presentation of road safety trends in terms of number of collisions and casualties. Introduction to the international road safety agreements and targets that Pakistan has endorsed, and to the national relevant legislation and to the road safety management system.*  
Trainers: Rosemary Rouse, Edoardo Mazzia  
- National statistics and comparison with international statistics  
- National legislation and comparison with international legislation  
- The Safe System Approach  
- Roles and responsibilities on road safety management: the EU case |
| 12:00 | Lunch                                         |
| 13:00 | **Module 2: Crash investigation**            |
*Introduction to collision causation and dynamics. The roles of vehicles, road and users in every collision. Presentation of local case studies.*  
Trainer: Omer Masood Qureshi  
- Introduction to vehicle crashworthiness |
| 14:00 | **Lunch**                                     |
| 15:30 | **Break**                                     |
| 16:00 | **Case study**                                |
Day 2: 20 February 2018

Module 3: Road safety engineering process

Description of how road safety engineering is carried out in terms of collision reduction and collision prevention: activities aimed to identify hazardous sites and basic statistical techniques to analyse the collisions. Economic assessment of mitigation measures.

Trainers: Edoardo Mazzia, Kamran Ahmed

9:00
- Road safety approaches
- Network safety ranking

10:30 Break

11:00
- Statistical techniques
- Workshop

13:00 Lunch

14:00
- Site visit
- Economic assessment

15:30 Break

16:00
- iRAP approach to route studies

Day 3: 21 February 2018

Module 4: Conflict studies

Practical workshop aimed to identify possible hazardous conflicts among traffic streams

Trainers: Edoardo Mazzia, Kamran Ahmed

9:00
- Conflict studies

10:00 Break

10:30 Workshop (on site)

13:00 Lunch

Module 5: Principles of traffic engineering

Description of Traffic Engineering fundamentals. Safety as the basic element of Traffic Engineering
Day 4: 22 February 2018

Module 6: Road safety audits and inspections
Presentation of RSIA, RSA and RSI procedures
Trainers: Edoardo Mazzia, Kamran Ahmed

9:00 • Road Safety Impact Assessment
10:00 Break
10:30 • Road Safety Audit
       • Workshop
13:00 Lunch
14:00 • Road Safety Inspections
15:30 Break
16:00 • Risk assessment

Day 5: 23 February 2018

9:00 Module 7: Site visit
   Visit of a high accident concentration road section
Trainers: Edoardo Mazzia, Kamran Ahmed
   [After the visit, trainees will be required to prepare a report that will be
evaluated in the final assessment]

13:00 Lunch

Module 8: Reporting
Practical lessons to write a good road safety engineering report
Trainers: Edoardo Mazzia, Kamran Ahmed
14:00 • How to write a RSA report
   • How to write a RSI report
15:30 Break
16:00 • Workshop

Weekend 24-25 February 2018
[Free time at disposal for project work preparation]

Day 6: 26 February 2018

Module 9: The safe road design
Presentation of good and bad practices about the main topics of road design affecting road safety
Trainers: Edoardo Mazzia, Kamran Ahmed
9:00 • Road design standards
   • Traffic calming
10:30 Break
11:00 • Intersections
   • Pedestrians
13:00 Lunch
14:00 • Roadsides
15:30 Break
16:00 • Temporary Traffic Management

Day 7: 27 February 2018

Module 10 - The management system of crash data
Introduction to data management for road planning and safety purposes. Techniques to analyse road crash data and to merge information.
Trainer: Antonino Tripodi
9:00 • Role of road crash data in road safety management
   • Benefits and requirements of road crash data: the importance of evidence base analysis
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| 11:00 | • Information systems for data collection, management and analysis  
     | • Analysis of road crash data  
     | • Identification of road crash causes |
| 13:00 | Lunch                                        |
| 14:00 | Final examination                            |
| 15:30 | Break                                        |
| 16:30 | Delivery of training certificates and closing remarks |