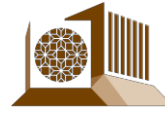




INTERNATIONAL ROAD FEDERATION  
FEDERATION ROUTIERE INTERNATIONALE



جامعة قطر  
QATAR UNIVERSITY

# Safe Urban Street Design for Vulnerable Road Users Safety

4<sup>th</sup> –6<sup>th</sup> December 2018

Doha, Qatar

## COURSE DESCRIPTION

All road users deserve a safe road. “Vulnerable” Road Users such as pedestrians, motorcyclists, public transport users, non-motorized vehicles and bicyclists at greater risk than vehicle occupants and usually bear the greatest burden of injury during road crashes. In some countries Vulnerable Road Users represent more than 70% of the fatalities. This percentage is about thirty percent (30%) in Qatar. Too often these fatalities and serious injuries are due to high speeds of traffic and the lack of separation between these fast moving motorized vehicles and vulnerable users.

Children, elderly, and disabled people are particular vulnerable, as their physical and mental skills are either not fully developed or they are especially fragile. Children and older people are often overrepresented in traffic fatalities, especially as vulnerable road users.

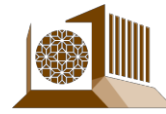
This course discusses the reasons pedestrians, bicyclists, motorcyclists, public transportation vehicles and non-motorized vehicles are involved in impacts that result in fatalities and serious injuries. The corrective actions, including education, enforcement and engineering actions that can be taken to reduce these impacts are also presented in detail.

This training is applicable for Road Agency Executives, Highway and Street Engineers, Traffic Management Professionals, Traffic Safety Professionals, Pedestrian Safety Advocates, Bicycle Safety Advocates, Motorcycle Safety Advocates, Law Enforcement, and Research & Academia Personnel.

INSTRUCTORS: Phil Clarke and Tawab Kazemi

## LEARNING OUTCOMES

- Understand the meaning of Vulnerable Users
- Comprehend why Vulnerable Users are involved in crashes
- Understand based concept of urban street design considering the safety of pedestrians and cyclists
- Be exposed to countermeasures designed to reduce the number of Vulnerable User fatalities and serious injuries
- Learn how to develop educational campaigns designed to improve Vulnerable User safety



**DAY 1 – 4 December, 2018**

**08:30-10:30**

**Current Status of Vulnerable Road User Safety in Qatar**

**Defining a Vulnerable Road User**

- Pedestrians
- Bicyclists
- Motorcyclists
- Public Transit Users
- Non-Motorized Vehicles

**Introduction to Infrastructure Safety Management**

- Road Safety Impact
- Assessment Road Safety Audit
- Road Safety Inspection
- Black Spot Management Network Safety Management

**11:00-12:30**

**Public Perception of Different Road Users Culture and Attitudes**

**LUNCH**

**13:30-16:00**

**Segment Issues & Countermeasures for Vulnerable Road Users-  
Pedestrians**

Identifying & Quantifying Pedestrian Safety Deficiencies Pedestrian  
Level of Service (PLOS)



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Pedestrian Crash Types Signalization

Countermeasures Geometric

Countermeasures Operational

Countermeasures

Selecting the Appropriate Countermeasure

Pedestrian Engineering Countermeasures

- **Central Hatching**
- **Delineation**
- **Speed Management Parking Improvements**
- **Pedestrian Crossing - Grade Separation Pedestrian Crossing - Unsignalized**
- **Pedestrian Footway Regulate Roadside Commercial Activity Pedestrian Crossing - Signalized**
- **Pedestrian Refuge Island**
- **Restrict/Combine Direct Access Points Shoulder Sealing**
- **Traffic Calming Service Road**

Crash Reduction Factors (CRF)

**16:00-16:30**

**Day 1 Wrap-up**



**DAY 2 – 5 December, 2018**

**08:30-10:30**

**Segment Issues & Countermeasures for Vulnerable Road Users- Bicyclists, Motorcyclists, Public Transit Users, Others**

**Motorcyclists Engineering Countermeasures**

- **Central Turn Lanes**

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- **Right-Turn Lanes**
- **Signalization**
- **Motorcycle Lanes One-Way Network**
- **Surface Upgrades**
- **Realignment**
- **Shield Guardrail Post**

**Bicyclists Engineering Countermeasures**

- **Lane Widening Bicyclist Facilities**

**Public Transit Engineering Countermeasures**

- **Bus Stop Design Bus Stop Location**
- **Eliminating Uncontrolled Stops**

**Educational Countermeasures**

**Enforcement Countermeasures**

**Emergency Services Countermeasures**

**11:00-12:30**

**Developing Educational Campaigns to Protect Vulnerable Road Users**

- **Safety town**
- **Safe Routes to School**
- **Teen Education (Teen RSA)**



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Qatar Transportation and Traffic Safety Center



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**13:30-16:00**

**Status of Vulnerable Road User Safety in the State of Qatar  
Qatar Designer Checklist for School Zones**

**16:00-16:30**

**Day 2 Wrap-Up**

**DAY 3 – 6 December, 2018**

**08:30-10:30**

**Design Aspects of Urban Streets for Safer Environment for  
Vulnerable Road Users**

**BREAK**

**11:00-12:30**

**Education of Drivers  
Enforcement  
Role of Media and Advocacy Groups**

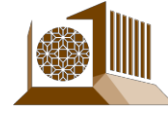
**LUNCH**

**13:30-16:00**

**Vulnerable Road User Safety Considerations in the Planning Stage  
Vulnerable Road User Safety Considerations in the Design Stage**

**16:00-16:30**

**Workshop Conclusions & Certificates**



## Presenters

### **Phil Clarke**

Technical Director Road Safety & Enforcement  
4E Road Safety & Transport Consultants, Dubai



Phil has over 38 years of road safety experience, the last six in the Middle East. He is a former senior officer in the UK Traffic Police and following retirement from the service, became the Head of Road Safety for a UK local authority, before coming to the UAE in 2012.

Phil has extensive experience in incident management, collision investigations, enforcement, safety camera operations, driver and vehicle licensing, driver training, crash data and accident prevention. He has worked in the areas of sustainable transport, transport planning, road safety strategies and the implementation of safety improvement schemes, including engineering and campaigns. He is an experienced Road Safety Auditor, having completed over 60 in the ME as a Team Leader or Team Member and is authorised by Ashgal to conduct audits in Qatar.

### **Tawab Kazemi**

Managing Director,  
4E Road Safety & Transport Consultants



Tawab is a Road Safety Engineering practitioner with more than 24 years' experience in multi-disciplinary transport, traffic and road safety projects, both for private and public sector clients in the UK, UAE, Qatar, Ethiopia, Afghanistan and India. He is a qualified road safety auditor and member of UK's Society of Road Safety Auditors (SoRSA) and has carried out more than 500 international road safety audits on varying project sizes and types relating to roads, public transport (e.g. tram corridors), BRT systems, cycle facilities and pedestrian facilities. Tawab has regularly conducted training on road safety audit and road safety engineering related topics. He has also contributed to development of several road safety related manuals and guidelines, e.g. road safety audit guidelines, road side design guidelines, for several countries, conducted training courses on road safety engineering, vulnerable road user safety, work zone safety. Tawab has carried out road safety audit of several pedestrian and cycle facilities and is passionate about promoting sustainable transport modes.