CONCEPT

Road Safety Audit and Inspection: Staged Scheme Audits, Blackspot Screening and Work Zones

7 – 11 February 2027
Dammam - Eastern Province five-star



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Introduction:

Road safety audit exists because many highway schemes open with hazards that an independent reviewer could have spotted on the drawings: a kerb line that traps cyclists, a signpost in the clear zone, a crossing hidden by a crest at night. On existing networks, inspections are often reduced to defect patrols that miss collision patterns. This Core Concept course trains highway engineers, design consultants and road authority staff to lead staged audits, inspect live corridors and screen crash records for blackspots. Participants produce a Staged Road Safety Audit Report and Designer Response for a case scheme.

Course Objectives:

- Scope a road safety audit at feasibility, preliminary design, detailed design, pre-opening and post-opening stages and write an audit brief with the scheme drawings, speed data and collision history the team needs
- Assemble an audit team that is independent of the designers and maintainers and has the competence, disciplines and site experience the scheme demands
- Conduct daytime and night-time site visits and identify hazards for pedestrians, cyclists, motorcyclists, heavy goods vehicle drivers and other road users
- Test layouts against Safe System and forgiving roadside principles, including clear zone width, passive safety of roadside furniture and vehicle restraint provision
- Write audit problems and recommendations in a defensible report format and evaluate the designer response and exception reports that follow
- Screen collision records to rank blackspots, run road safety inspections of existing routes and audit temporary work-zone layouts

Target Audience:

- Engineers responsible for designing highway schemes that must pass independent road safety audit before approval
- Engineers responsible for leading or joining road safety audit teams on authority and developer schemes
- Engineers responsible for road network maintenance, route inspection and local safety improvement budgets
- Engineers responsible for collision data analysis and blackspot treatment programmes
- Engineers responsible for approving temporary traffic layouts and work-zone arrangements on live carriageways
- Project sponsors responsible for signing off audit findings and designer responses on behalf of a road authority

Course Outline:

Day 1: Purpose, Stages and Scope of Road Safety Audit

- Road Safety Audit Versus Design Check, Compliance Review and Road Safety Inspection
- Audit Stages from Feasibility Through Preliminary Design, Detailed Design, Pre-Opening and Post-Opening
- Audit Brief Contents: Scheme Drawings, Design Speed, Traffic Flows and Departures from Standard
- Audit Team Independence Rules, Team Leader Role and Auditor Competence Records
- Collision History Pack and Speed Survey Data Supplied to the Audit Team

Day 2: Safe System, Forgiving Roadsides and Road User Hazard Frameworks

- Safe System Approach: Kinetic Energy Tolerance, Speed Management and Shared Responsibility
- Forgiving Roadside Principles: Clear Zone Width, Passive Safety Poles and Vehicle Restraint Systems
- Pedestrian and Cyclist Hazard Prompt List: Crossings, Desire Lines, Kerb Upstands and Shared Paths
- Motorcyclist and Heavy Goods Vehicle Hazards: Surface Grip, Swept Paths and Blind Spots
- Human Factors in Auditing: Driver Expectancy, Self-Explaining Roads and Visual Clutter

Day 3: Auditing Drawings, Site Visits and Writing the Audit Report

- Desktop Drawing Review Technique: Plan, Longitudinal Section, Signing and Lighting Sheets
- Daytime Site Visit Walk and Drive-Through Routine with Photographic Log
- Night-Time Site Visit: Retroreflectivity, Street Lighting Gaps and Headlight Glare
- Audit Report Format: Problem Statement, Location Plan, Collision Type and Recommendation
- Designer Response, Exception Report and Client Decision Log

Day 4: Existing Network Inspection, Blackspot Screening and Work-Zone Audits

- Road Safety Inspection of Existing Routes: Drive-Over Surveys, Hazard Scoring and Treatment Lists
- Crash-Data Screening Using Collision Frequency, Severity Weighting and Expected Crash Methods from the Highway Safety Manual
- Blackspot Cluster Analysis, Collision Stick Diagrams and Low-Cost Countermeasure Selection
- Systemic Safety Approach for Route-Wide Risk Factors Versus Site-Specific Blackspot Treatment
- Work-Zone Road Safety Audit: Taper Lengths, Traffic Management Signing, Barrier Terminals and Worker Protection

Day 5: Case Scheme Staged Audit and Designer Response

- Case Scheme Data Pack: Dual Carriageway Junction Upgrade with Bus Stops and a Signalised Pedestrian Crossing
- Stage Detailed Design Audit Exercise on the Case Scheme Drawings
- Pre-Opening Site Walkthrough Exercise Using Day and Night Photographic Evidence
- Staged Road Safety Audit Report Drafting with Prioritised Problems and Recommendations
- Designer Response Role Exchange and Audit Team Leader Sign-Off Panel

Skills You Will Gain:

- Audit Brief Preparation
- Vulnerable Road User Hazard Identification
- Night-Time Visibility Assessment
- Roadside Hazard Evaluation
- Audit Problem Statement Writing
- Collision Data Screening
- Blackspot Countermeasure Selection
- Work-Zone Layout Review

Why Attend This Course:

- Return with a Staged Road Safety Audit Report and Designer Response built on a realistic scheme that can serve as a model for the next audit you lead
- Recognise the hazards to pedestrians, cyclists and motorcyclists that drawing reviews tend to miss, especially after dark
- Defend audit recommendations when designers push back, using collision evidence and forgiving roadside reasoning
- Exchange audit and inspection practice with engineers from road authorities, design consultancies, contractors and developers

Conclusion:

An audit protects road users only when an independent team looks at the scheme through the eyes of every user, by day and by night, and when its findings are answered on the record. The week moves from audit stages, briefs and team independence through Safe System and forgiving roadside principles, drawing review and site visits, report writing and designer responses, into network inspection, blackspot screening and work-zone audits. It ends with a Staged Road Safety Audit Report and Designer Response for a case scheme.