
Traffic Accident Investigation Methods: Scene Evidence, Causation Analysis and Report Writing Course

4 – 8 April 2027
Muscat





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Ref: 524_28308 Date: 4 – 8 April 2027 Location: Muscat Fees: 4300 GBP

Programme Summary

Traffic accident investigation is the subject of this one-week training course for road safety officers, fleet safety managers, traffic supervisors and insurance investigators, ending in a complete investigation file for one collision. Collisions are often examined in haste, with evidence lost at the scene and causes recorded as a single driver error. The programme replaces this with a repeatable method that runs from scene management through evidence, causation analysis and report writing, applied to case material throughout. Mars Training Centre UK delivers this programme on traffic accident investigation to mixed-organisation cohorts.

The Business Case

Organisations that investigate collisions inconsistently repeat the same causes, weaken claims and disputes with thin evidence, and miss road, vehicle and management factors behind each event. Investigators who follow one method produce findings that withstand review by employers, insurers and courts, and that point to preventive action beyond the driver.

- Evidence Quality: Improves as scene records, photographs and statements are captured to a common standard.
- Repeat Collision Rate: Falls as contributing factors beyond driver error are identified and acted on.
- Claim and Dispute Handling: Becomes more reliable as findings rest on documented facts.

Principles and Evidence Base

- Vehicular accident reconstruction principles: Speed, braking and impact are estimated from physical evidence, and this approach shapes Sessions 2 and 4.
- In-depth road accident study method: Each collision is examined across road, vehicle and human factors, and the method frames the causation work in Session 4.
- Evidence-based investigation practice: Facts are recorded, preserved and separated from opinion, and this practice governs Sessions 1, 3 and 5.

Intended Participants

- Road safety officers who review collisions and recommend preventive measures.
- Fleet safety managers who investigate incidents involving company vehicles and drivers.
- Traffic supervisors who direct scene teams and approve investigation reports.
- Insurance investigators who assess how a collision occurred and who bears responsibility.
- Safety advisers who brief management on collision findings.

Typical settings include transport and logistics, insurance, public works and oil and gas operations.



Learning Outcomes

1. Participants will be able to organise the first phase at a collision scene so that evidence is protected.
2. Participants will be able to construct a scene record from measurements, photographs and sketches.
3. Participants will be able to evaluate vehicle, road and driver evidence for its bearing on the collision.
4. Participants will be able to diagnose causes and contributing factors with a structured causation method.
5. Participants will be able to estimate speed and impact from physical evidence at a basic level.
6. Participants will be able to justify findings and recommendations in a written investigation report.

Programme Structure

Day 1: Scene Management and Evidence Protection

What must be done in the first hour at a collision scene to protect evidence?

- Scene Safety and Control Checklist
- Evidence Priority Ladder
- Chain of Custody Record
- Scene Photography Plan
- Witness Identification Log

Day 2: Scene Recording and Measurement

How is a scene recorded so that another investigator could rebuild it?

- Scene Sketch and Datum Method
- Measurement Table for Marks and Debris
- Road Condition Survey Sheet
- Skid and Yaw Mark Reading
- Rest Position Diagram

Day 3: Vehicle and Statement Evidence

What do vehicles, drivers and witnesses add to the physical record?

- Vehicle Damage Examination Form
- Tyre, Brake and Lamp Check Sheet
- Driver Interview Guide
- Witness Statement Template
- Data Recorder Extraction Summary



Day 4: Causation Analysis and Reconstruction Basics

How are causes and contributing factors separated from outcomes and opinions?

- Speed Estimation from Physical Evidence
- Timeline and Sequence Chart
- Contributing Factor Map
- Cause and Effect Diagram
- Human Factors Prompt List

Day 5: Reporting and the Investigation File

Do the scene, vehicle and causation records support a defensible report?

- Applying the Session 1 Checklist to a Case Scene
- Plotting the Session 2 Measurements on a Diagram
- Testing the Session 3 Statements Against the Physical Record
- Checking the Session 4 Causation Map for Gaps
- Completing the Investigation File

Methodology

The programme uses case analysis built on anonymised collision files, scene photographs, measurement tables, vehicle examination records and short written statements from transport, logistics and insurance settings. Participants work in small groups on a case file, challenge one another's sequences and causes, and receive facilitator feedback on every record and diagram they produce.

- Suggested activity: Recording a staged scene from photographs and rebuilding it on a diagram.
- Suggested activity: Comparing two driver statements with the physical evidence and noting the differences.
- Suggested activity: Rewriting a finding of driver error to show the other contributing factors.

Capstone Output

Each participant completes an investigation file for one collision. It holds a scene record, a measurement table, a vehicle examination form, statement summaries, a timeline, a contributing factor map and a written report with recommendations. The file is used at work as the template for future investigations and as the evidence summary for managers, insurers and legal advisers.



Frequently Asked Questions

Is training in traffic accident investigation suitable for staff who have not led an investigation before?

Yes. The programme assumes familiarity with road safety or fleet work and builds traffic accident investigation from scene protection upward, with no reconstruction background needed.

Which principles does traffic accident investigation rest on in this programme?

It rests on vehicular accident reconstruction principles, an in-depth road accident study method and evidence-based investigation practice.

How is the investigation file for traffic accident investigation used at work?

You use it as the template for future investigations and as the evidence summary for managers, insurers and legal advisers.

How does learning traffic accident investigation differ from a programme on defensive driving?

It centres on examining a collision after it happens and finding its causes, while defensive driving centres on the habits drivers use to avoid collisions.