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**FORENSIC  
COLLISION INVESTIGATION  
AND RECONSTRUCTION  
WITHIN THE POLICE SERVICE  
2013**

**Association of Chief Police Officers**  
**Roads Policing Business Area**

**Forensic Collision Investigation and  
Reconstruction within the Police Service**

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## 1 Introduction

- 1.1 The Forensic Collision Investigation Protocol is intended to define and promote a common standard of investigation of road traffic collisions. This document will be separately available to the police service and the public on the ACPO website.
- 1.2 The investigation of the circumstances surrounding death and serious injury resulting from road traffic collisions and serious crime where a vehicle has been used as a weapon is one of the most important activities within the field of roads policing. It is essential that a thorough and impartial investigation be carried out, seeking out best evidence to provide information to those personally affected and to any subsequent court enquiry. The role of the Collision Investigator is crucial to this process.
- 1.3 The police service has built up a level of expertise in the field of collision investigation and reconstruction since its introduction in the 1970s. This expertise is now recognised by H.M. Coroners, as well as the criminal and civil courts.
- 1.4 Collision Investigators can provide evidence as an expert witness. In doing so, their first duty is to the court, to comply with the legislative requirements contained within the Criminal Procedure Rules (CrPR) and the Civil Procedure Rules (CPR).
- 1.5 In conjunction with the Senior Investigating Officer, they must carry out an impartial and thorough investigation, drawing on all available evidence to determine what happened, rather than simply directing effort towards securing a conviction.
- 1.6 Collision Investigators should not feel obliged to arrive at a single, definitive conclusion. Some collisions are open to a number of equally viable interpretations.
- 1.7 This Forensic Collision Investigation Protocol will be subject to continual review, to ensure that it continues to reflect current good practice and remains valid in the light of emerging legislation, new technology, human rights case law and other relevant factors.
- 1.8 The review process will be managed by the ACPO portfolio holder<sup>1</sup> and will take into account representations from members of the police service, external stake holders and the public.
- 1.9 Reference in this protocol to the role of Collision Investigator may apply equally to the role of Vehicle Examiner. It should be noted that, in some forces, Collision Investigators also perform the role of Vehicle Examiner, whilst in others; the two roles are performed by different officers, members of police staff or the Vehicle and Operator Services Agency (VOSA).

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1. The ACPO Road Death and Serious Collision Investigation portfolio holder is:  
Assistant Chief Constable Sean White, Cleveland Police

## **2 The role of the Collision Investigator**

- 2.1 The skills and experience possessed by Collision investigators are such that they must be involved in the investigation of every road death at an early stage, in accordance with the Road Death Investigation Manual.
- 2.2 In addition, consideration must be given to the early involvement of a Collision Investigator at the scene of any incident where their skills may add value to an investigation.
- 2.3 When a Senior Investigating Officer (SIO) has been appointed to manage an investigation, they will have overall responsibility for that investigation. It is the role of the Collision Investigator to advise the SIO on matters within the scope of their expertise, working within the parameters established.
- 2.4 Police forces must ensure that they are readily able to deploy a Collision Investigator with the appropriate level of skills to road traffic collisions and scenes of crime that fall within the remit of this protocol.
- 2.5 Where a police force is unable to deploy a Collision Investigator with the appropriate level of skill from within its own resources, it is essential that the services of an experienced Collision Investigator from another force be obtained.

## **3 The role of the Senior Collision Investigator**

- 3.1 Every police force that undertakes the investigation and reconstruction of road traffic collisions must appoint a Senior Collision Investigator (SCI), who will be responsible for the quality assurance of the standard of collision investigation within that force.
- 3.2 The Senior Collision Investigator must possess the appropriate qualifications and current experience in the field of forensic collision investigation to enable them to undertake this role. Supervisory experience is desirable but not essential.
- 3.3 The Senior Collision Investigator's responsibilities, in conjunction with individual force strategy, should ensure:
  - That the number of Collision Investigators available to the force is appropriate to the demand for their services.
  - That all Collision Investigators receive adequate training.
  - That Collision Investigators are provided with sufficient equipment and resources to enable them to fulfil their role.
  - That all trained Collision Investigators have a regular opportunity to practise their skills.
  - That effective procedures exist for the validation of collision investigation evidence.
  - That Senior Collision Investigators have an opportunity to attend regional and national meetings to share good practice.

## **4 Welfare Considerations**

- 4.1 Chief Officers should recognise that the investigation of road death frequently exposes the investigators to traumatic incidents. Consideration should be given to monitoring their health and welfare on a regular basis, providing occupational support where appropriate, in line with force policy.

## **5 Training**

- 5.1 It is essential that forces have in place and adhere to a structured programme of training for their Collision Investigators that provides them with the necessary skills to perform the role.
- 5.2 Chief Officers must ensure that, as a primary standard, Collision Investigators pass a nationally approved qualification.<sup>2</sup> It is further recommended that this should be achieved within three years from the time the officer or police staff member first undertakes this type of work.
- 5.3 During a Collision Investigator's selection, training and progression to competence, there should be a continuing assessment of their suitability and development for this role.
- 5.4 Forensic Collision Investigation will only be carried out by a Collision Investigator who has successfully completed an approved training course and has been formally assessed by the Senior Collision Investigator as being competent to work unsupervised, or is working under the supervision of a fully qualified Collision Investigator.
- 5.4 Chief Officers must provide opportunities for training and the continuing professional development (CPD) of their Collision Investigators. The principle of life long learning is essential for all officers and staff engaged in forensic collision investigation. Collision Investigators are required to keep a balanced and documented CPD portfolio of not less than eighteen hours per annum.
- 5.5 Examples of required training and professional development activities are contained in appendix B, although this is not an exhaustive list.
- 5.6 Chief Officers should provide the opportunity for Collision Investigators to carry out empirical testing into vehicle stability, handling, braking and general performance, particularly in relation to new technology such as vehicle borne data systems, in a safe and controlled environment. This may be general research or specific to individual ongoing investigations.
- 5.7 Chief Officers should support Collision Investigators in registering with appropriate professional bodies for this discipline.

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<sup>2</sup>. Relevant approved qualifications are listed in appendix A.

## **6. Scientific Support**

- 6.1 It is recognised that the majority of Collision Investigators have developed substantial expertise in a range of specialist areas.
- 6.2 It is imperative that every Collision Investigator recognises the limits of their own knowledge and expertise. Use must be made of appropriate forensic service providers, as well as other scientific or specialist technical support, whenever the requirements of the investigation exceed the limits of the Collision Investigator's own expertise.
- 6.3 Determining when it is appropriate to use such specialist support should involve consultation between the Senior Investigating Officer, the Senior Collision Investigator and the Collision Investigator in the case; in accordance with individual force policy.

## **7. The use of computer technology in collision investigation**

- 7.1 Specialist computer software programmes are an important tool in many investigations. An investigator using specialist software in the course of an investigation must be trained in its use and have knowledge of the processes involved, as well as a full understanding of the effect of variable inputs on the final result.
- 7.2 The Collision Investigator must consider the validity of the results obtained from a specialist computer programme in the light of their own experience and expertise. Wherever possible, results obtained from a computer programme should be corroborated by other evidence or independently validated.

## **8. Validation of expert evidence**

- 8.1 It is recommended that Collision Investigators use a suitable template for the production of their expert reports. Such templates should contain a 'Statement of Compliance' and 'Declaration of Understanding', using a form of words that demonstrates knowledge of, and compliance with, the legislative requirements of both the Criminal Procedure Rules (CrPR) and the Civil Procedure Rules (CPR).
- 8.2 Where a Collision Investigator is preparing a report in a case where there is limited evidence or the evidence is far from complex, the content of that report should be tailored to the circumstances of the case, as determined by the author.
- 8.3 It is therefore not recommended to adopt a formal abbreviated report template, as the aspects of an investigation that will need to be reported on, for the information of H.M. Coroner and the Crown Prosecution Service, will vary from case to case. It is good practice to simply use the relevant sections of the standard report template adopted within a force.

- 8.4 It is imperative that any conclusion or expert opinion expressed in a Collision Investigator's report is capable of being supported by the available evidence in the case, the expertise and experience of the author or published scientific research and must comply with the following:
- Scientific laws and physical principles must have been correctly used within their proper context.
  - Any calculations used in reaching the conclusions are both valid and numerically correct.
  - All references to published research should be fully cited.
- 8.5 All collision investigation evidence should be validated by a suitably qualified and experienced Collision Investigator. Where possible, the Collision Investigator carrying out this validation should be independent of the investigation and be able to certify that they have examined the expert reports, including associated documentary evidence, and can confirm that the content of the report is correct.
- 8.6 Where an investigation involves the application of physical laws, methods or mathematics that are beyond the experience of the Collision Investigator to explain and prove to the satisfaction of a court, the evidence must be validated by an appropriate expert.
- 8.7 This may be a more qualified and experienced member of the police service, a forensic service provider or an appropriate expert who has the necessary knowledge and experience. In such cases, a balance must be drawn between those who possess academic qualifications and those with essential practical experience.
- 8.8 Whilst the independent scrutiny of individual investigations and quality assurance processes may be achieved by the use of appropriate experts to validate police findings, it should also be noted that the management of collision investigation within forces may be subject to independent review.

## **Appendix A**

### **Approved Collision Investigation qualifications**

City and Guilds Forensic Collision Investigation Certificate

University Continuing Personal Development (UCPD) Certificate in Collision Investigation, awarded by De Montfort University

Appropriate degree qualification in collision investigation or a relevant allied subject.

Appropriate vehicle examination qualifications.

## **Appendix B**

### **Continuing Professional Development**

#### **1. Overview**

- 1.1 The process of Continuing Professional Development (CPD) is essential and enables Collision Investigators to record their training and demonstrate their continuing development within their role. CPD ensures investigators keep up to date with current developments and new technology, thereby expanding their knowledge. It forms a personal record of learning and development for the benefit of the investigator and the organisation. It is a means by which standards of expertise and experience are not only maintained but also enhanced.
- 1.2 Learning is a life long experience and continues beyond initial qualification. Increased knowledge can always improve performance and enhance role competence. CPD does not include attending and reporting incidents, except where subsequent research into new technology or methods is required.
- 1.3 CPD is a means for recording the learning gained. Recording relevant CPD is also not just a matter of attending courses. Achievement of CPD does not impose requirements to attend courses, nor does it set financial obligations.

#### **2. How to obtain CPD**

- 2.1 CPD is a requirement for all Collision Investigators engaged in the investigation of collisions within the police service. A minimum, documented eighteen hours requirement is specified for each year. All records should include details of the learning activity, its relevance to the role and the development achieved.
- 2.2 It is the investigator's responsibility to record, justify and calculate the value of their CPD in hours. An example would be listening to a subject in which an investigator already has a good knowledge. Such an activity may not benefit that investigator as much as one experiencing that subject matter for the first time.

#### **3. Development Activities**

- 3.1 CPD can be obtained in a variety of ways. A balanced approach is required to the activities recorded, as it will provide greatest benefit.
- 3.2 Activity categories relevant to collision investigation may include:
  - a. **Further Education Studies**  
BTEC, National Certificates, City and Guilds, Diplomas, NVQs, other recognised diplomas, post qualification studies, BA, BSc, MA, MSc.

b. **Short Courses/workshops**

Attending short courses in individual relevant subjects, structured practical training and seminars organised by:

- Police.
- Relevant professional bodies.
- Other short course providers.
- Distance learning providers.

c. **Imparting knowledge**

- Preparation of presentations for conferences and seminars.
- Preparation of articles and reviews for publication.
- Preparation of lectures and training course input.
- Mentoring of trainee Collision Investigators.

d. **Conferences and exhibitions**

- Attending conferences and exhibitions organised by the police, relevant professional bodies and other organisations

e. **Committee work**

- Related committees for the development and management of collision investigation issues.
- Service on technical panels.

f. **Meetings**

- Organised by police or other relevant professional bodies.

g. **Research relevant to individual investigations**

- Technical and structured studies into a specific issue.
- Structured research that enhances knowledge and experience.
- Experience of new technology and investigative techniques.

h. **Private study/Self directed learning**

- Learning of new skills.
- Private study, including reading publications and journals relevant to collision investigation.

#### **4. How to record evidence of CPD**

4.1 Achieving, recording and maintaining records of CPD is a personal responsibility.

4.2 For each documented CPD entry there is a requirement to specify:

- Date
- Activity or event title
- Organiser and venue
- Description of the activity or event
- Relevance to the person's role
- Personal development achieved.
- Hours claimed

### **Appendix C**

#### **Training Courses**

Collision Investigators require training in the following subjects, although this is not a definitive or exhaustive list:

Advanced police driving  
Motorcycle licence holder  
Large goods vehicle licence holder  
Passenger carrying vehicle licence holder

Forensic Collision Investigation  
Surveying  
Photography  
Plan production  
Computer animation and simulation  
Pedestrian Collisions  
Motorcycle Collisions

Vehicle Examination  
    Cars and motorcycles  
    Commercial vehicles  
Analogue and Digital Tachograph Analysis  
Tachograph calibration  
Hybrid vehicles

Specialist courses  
    Anti-lock brakes  
    Tyres  
    Light bulb analysis  
    Vehicle crush damage measurement and analysis  
    Vehicle handling courses  
    Supplementary Restraint Systems (SRS)  
    Manufacturer's vehicle borne data systems

Incident Data Recorders and Data Loggers