

CRASH INVESTIGATION AND REPORTING GUIDE

GLOBAL ISSUES AND 'SAFE SYSTEM' INVESTIGATION CONSIDERATIONS
CRASH INVESTIGATION GUIDELINES
CRASH INVESTIGATION PRINCIPLES



GLOBAL
ROAD SAFETY
PARTNERSHIP

Notes:

This Guide should be read in conjunction with the Global Road Safety Partnership's Traffic Crash Investigation Programme Modules 1 to 5.

References within this Guide are made to the 'safe system' approach to road safety. The safe system approach to road safety is a holistic view which provides a framework to assess, guide and improve road safety. At the core of this is the need for responsibility for reducing risk to be shared by road users and those who design, maintain and operate all parts of the road transport system. This Guide does not include a detailed explanation of the 'safe system' approach, however, helpful information can be found by viewing an explanatory video, produced by the New Zealand Transport Agency that can be viewed at: <https://www.youtube.com/watch?v=FJgvMX-UmqU>.

Other useful reference material can be viewed at:

<https://www.roadsafety.gov.au/nrss/safe-system>

<https://roadsafety.piarc.org/en/road-safety-management-safe-system-approach/safe-system-principles>

<http://www.towardszerofoundation.org/thesafesystem/>

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OBJECTIVES

Part One of this guide explains the importance of crash investigation and reporting, what is meant by the crash reporting rate, and why a high proportion of serious crashes globally are unreported. It also explained what can be practically done to improve crash data accuracy, how to analyse crash patterns within a 'Safe System' approach and crash severity definitions.

Parts Two and Three of the guide summarise important guidelines and principles when undertaking crash investigation.



NOTE:

Within Parts Two and Three of this guide, the investigation approach that is explained relates to those collisions involving death, serious injury or where for reasons of public interest, in depth investigation is required. Minor crashes do not require the depth of investigation described.

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PART ONE

1 Global Issues and 'Safe System' Investigation Considerations

1.1. Understanding the importance of accurate crash reporting

When being introduced to global road safety trends, there is commonly reference made to the numbers of people across the world who are killed and injured in road crashes each year. The World Health Organisation (WHO) Global Status report on Road Safety (2018)¹ reports that in 2016, it was estimated that 1.35 million people were killed and between 20 and 50 million were injured in crashes. These numbers are estimates, based on surveys and formula applied by WHO, as the absolute number is not accurately recorded within many countries.

Without full and accurate crash data, it is not possible for road safety leaders to fully understand the number of road crash deaths and injuries or calculate the costs of the road trauma situation in a particular country, region, or city. Information such as accurate numbers of death and serious injuries, where, when and why crashes are occurring, the type of vehicles involved, the demographics of victims and their involvement (e.g. car passengers, motor cyclists, pedestrians, etc.) can only be fully understood through accurate crash data. Furthermore, it is through accurate data that fully informed road safety countermeasures can be planned. Accurate crash data comes directly from thorough police investigation and reporting.

Initiatives such as targeted road engineering improvements, legislative initiatives, targeted police enforcement, and supporting public awareness campaigns require accurate crash information to inform their development. Accurate data allows the fatal and serious injury (FSI) crash problem to be understood and for comprehensive and informed planning to occur. Accurate crash data allows road safety leaders and authorities to monitor trends over time and the effectiveness of road safety measures that are put in place.

1.2. Fatal and injury crash definitions

The commonly applied road crash injury definitions are as follows;

- **Fatal Casualty** – death resulting from injuries sustained within 30 days of the crash
- **Serious Injury** – Fractures, concussion, severe cuts, other injury requiring medical attention or detention in hospital
- **Minor Injury** – Injury which is not serious, but which requires first aid or which causes discomfort or pain to the person injured

1.3. The crash investigation process

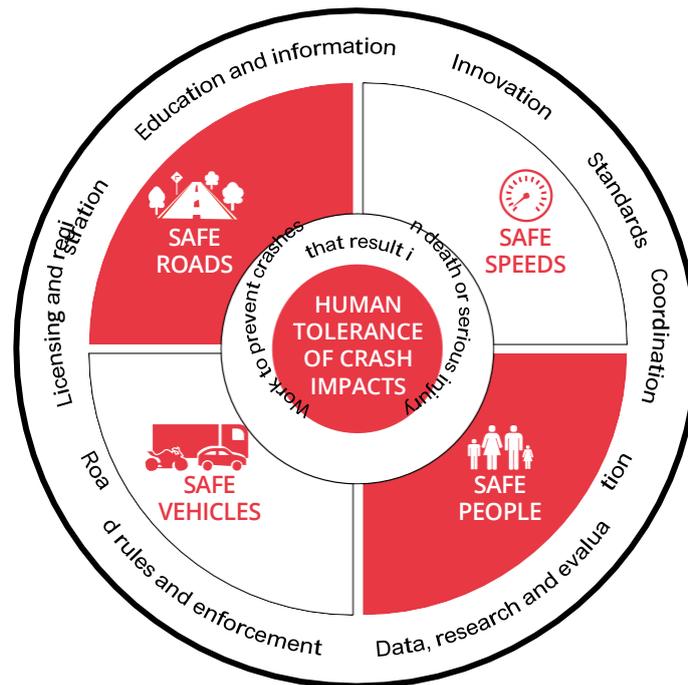
1.3.1 Crash reporting and the safe system approach

When a crash investigation occurs, it has been an historical practice for police to focus on the culpability of drivers and securing evidence. This remains an important aspect, but a broader approach to identifying systemic failures that led to the crash provides valuable information to allow road safety measures to be planned and applied when risks are identified.

By investigating crashes in relation to the 'safe system,' the part that each component of the system contributed to the crash is identified.

¹Global Status Report on Road Safety, World Health Organisation (2018) sourced at <http://apps.who.int/iris/bitstream/handle/10665/277370/WHO-NMH-NVI-18.20-eng.pdf?ua=1>

Diagram 1 – Shows the elements of the safe system approach to road safety.



The 'safe system' focused crash investigation is initially focused on an individual crash. Through the collection of crash data and the review of data from multiple crashes, further analysis allows broader crash trends and risks to be identified.

1.3.2 Applying a 'safe system' review of a serious injury crash (example)

The following scenario provides an example of how a crash investigation can collect information that allows for the event to be analysed in terms of how the 'system' allowed the crash to occur.



At 1 a.m. on a Saturday morning, a 19-year-old male driver, who recently passed his full driver's license test, is driving home on a rural unlit non-divided road to his home. He is travelling at 95 km/hour, the road has a 90 km/hour speed limit, has no roadside sealing or rumble strips (rumble strips alert drivers when they drift from their lane) and within a few meters of the roadway, are stands of large trees. The car being driven is a 1998 model, and is not equipped with airbags, ABS (anti-lock braking system) or ESP (electronic stability programme). The driver consumed alcohol before leaving work, is not wearing a seat belt, and is tired after finishing work at a local restaurant.

As he travels through a gentle left-hand bend, he is distracted when his mobile phone receives a text message and he finds he has drifted too far to the left. He sharply turns the steering wheel to correct his position on the road. He over corrects, loses control of the vehicle, and slides sideways, drifting off the opposite side of road. The vehicle collides sideways with a roadside tree impacting the driver's door area. The driver strikes his head on the window pillar, and is seriously injured with a severe head injury, internal injuries, broken arm and leg. A passing motorist discovered the crash scene shortly after it occurred, an ambulance arrives within 15 minutes and the driver is hospitalised.

The traditional view of a crash such as this example, was to place blame on a young, speeding, inattentive and alcohol affected driver not wearing a safety belt. However, a thorough and complete investigation which identifies 'all' contributing factors can help prevent the recurrence of this type of crash.

A 'safe system' crash investigation adopts the following approach.



Safe Speeds – The roadway is a non-divided rural road, where vehicles can cross the centre line. The roadway has no street lighting and has roadside trees. This road environment is designed for a speed limit of no more than 70 km/hour. 70 km/hour is a safe system consistent speed limit for this road environment. A thorough reconstruction, which collects evidence from tyre skid marks and assesses precise vehicle damage allows police utilising crash reconstruction computer software to calculate the pre-crash travel speed.

Contributing Factors

1. The speed limit of 90 km/hour is 20 km/hour above the design specifications for the road.
2. The driver was exceeding the speed limit by 5 km/hour and the road design speed by 25 km/hour.



Safe Roads and Roadsides – The exact crash location would be recorded and it would be noted that the roadway has no lighting and no median or roadside barriers. If a driver makes a mistake, striking a roadside tree is clearly a major risk and there are no roadside barriers to prevent such a collision. There are no rumble strips or sealed road shoulders to alert an inattentive driver or prevent the vehicle drifting into the unstable unsealed roadside surface. The road surface would also be inspected to determine whether its surface may have contributed to loss of control.

Contributing Factors

3. The road lacked basic safety features as described (no centre or side barriers, sealed shoulder or rumble strip) that could have prevented loss of control, crossing to the wrong side of the road, or striking the tree.



Safe Vehicles – The vehicle make, model, and year of manufacture would be recorded. A mechanical inspection would be carried out to check tyre tread, condition, and pressure. Brake efficiency, steering, seat belts, and roadworthiness would be inspected to identify whether a vehicle fault contributed to the crash or the injury outcome. It would be noted that as the vehicle was a 1998 model, and lacked side intrusion bars, head and side protection airbags, and ESP to prevent such a loss of control crash. The vehicle lacked the safety features necessary to protect the driver.

Contributing Factors

4. Any vehicle faults would be identified, and the make, model, and year of manufacture would be added to the crash database to build up an understanding of how effectively this vehicle type performs in a side impact crash with respect to protecting occupants.



Safe Road User – Complete details of the driver would be recorded and a blood sample taken and analysed to determine alcohol involvement. Complete details of all injuries would be recorded as well as identifying if a seat belt was worn. Inquiries would be undertaken at the driver's place of work. Work records would be identified that confirm long working hours in the week before the crash, and poor health and safety policies that allow employees of the restaurant to drink alcohol before driving home. The mobile phone would be inspected and would identify receipt of a message, and the driver would be interviewed to record their statement as to what occurred.

Contributing Factors

5. Alcohol affected
6. Fatigue through long working hours
7. Poor health and safety policies of the restaurant owner
8. Failure to wear a safety belt
9. Inexperienced and young driver
10. Distracted by mobile phone



Post-Crash Response – The ambulance staff are advanced paramedics who rapidly respond to and stabilise the victim, before transporting him to a nearby hospital for trauma care within 45 minutes.

Contributing Factors

11. None identified

While the example provided is not exhaustive, it is intended to illustrate how a thorough investigation should be conducted to gather all relevant contributing factors that extend beyond just the behavior of the driver. Training is required and ongoing skill development to build competency among specialised police to allow comprehensive crash investigations.

All relevant information obtained is recorded, coded and in a timely manner entered into a crash database and analysed at regular intervals to determine trends.

A 'safe system' review would also ultimately consider crash clusters that may identify patterns such as high crash risk locations, high risk times and days of the week, alcohol involvement or incorrectly applied speed limits. The level of police enforcement and behavioral indicators, such as alcohol impaired driving rates, speed, and seat belt surveys would be reviewed to determine trends.

As examples, a review would consider the volume of police random breath testing carried out during high alcohol hours (time and days of the week when alcohol impaired driving peaks). The review would consider the levels of speed or safety belt enforcement and assess whether supporting public awareness campaigns to deter these behaviors are occurring. These important parts of the system would be assessed and any deficiencies addressed, as part of a 'safe system' review.

1.4. Fatal and Injury Crash Reporting – Challenges

Reported FSI (Fatal and Serious Injury) crashes are significantly lower than true levels.

The reasons why crash reporting rates are frequently low are complex and vary greatly between and within countries. However, reasons that have been shown to affect reporting rates include:

- Some victims or next of kin choose not to report the death to police;
- Culpable injured drivers (e.g. alcohol affected or unlicensed) can avoid reporting their injuries to police to avoid prosecution;
- Police may not have the resources or systems to allow them to travel to remote rural crashes to attend (e.g. no access to a vehicle, fuel or staff to attend);
- Police attending crashes may inaccurately record injuries or fail to thoroughly report all injured victims where multiple vehicle passenger injuries occur;
- Police may not follow-up with crash victims after crashes to fully gather information on the full extent of injuries when they become known (i.e. immediately after a crash, internal injuries and internal bleeding, delayed concussion, fractures, and other serious injuries may not be recognised and may only become apparent when hospital treatment begins);
- Paper based or poor procedural systems may not correctly collate or accurately enter crash data;
- Data may be manipulated to reduce the number of FSI crashes to give the appearance of reducing road trauma;
- Injuries to cyclists, pedestrians and the young are much less likely to be reported.

Studies have shown that some classes of crashes are less likely to be reported. A 2009 study² conducted in India found that of the 511 road traffic injury cases in the hospital-based study where injuries were not reported to police, 500 (97.8%) provided a reason for not reporting. Similar proportions reported *hit and run case* (the other party ran away after the crash (32.4%) and not needed (31.8%) followed by *settlement between the parties* (20.4%) as the reasons for not reporting to the police.

Despite systemic under-reporting of FSI crash injuries being a global problem, it is frequently not recognised or well understood by police or road safety agencies and 'reported' FSI and minor crash injury data is incorrectly accepted as being an accurate record of true injury rates. A thorough review of crash investigation and reporting is required to understand the causes of under-reporting within a given locality.

A risk exists that locations where most reported FSI crashes occur are believed to be in major cities or urban areas, because FSI reporting rates in these areas are generally higher. The FSI problem in remote or rural areas is often thought to be low, but in reality, has been found to be much higher, but significantly under-reported³.

² *Underreporting of road traffic injuries to the police: results from two data sources in urban India - Rakhi Dandona, G Anil Kumar, Md Abdul Ameer, G Brahmananda Reddy, and Lalit Dandona, (2009) accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2779560/>.*

³ For further information regarding under-reporting in rural areas please see Zwerling, C. S., Peek-Asa, C., Whitten, P. S., Choi, S., Sprince, N. L., & Jones, M. P. (2005). Fatal motor vehicle crashes in rural and urban areas: decomposing rates into contributing factors. *Injury prevention: Journal of the International Society for Child and Adolescent Injury Prevention*, 11 1, 24-8

1.5. Improving crash reporting rates

When discussing road crashes, it is important to differentiate the relative importance of crash types and relative investment that should be applied to investigating different crash categories.

It is estimated that globally, each day there are on average 3,800 people killed and between 55,000 and 137,000 injured in road crashes. The total number of 'all' road crashes (including non-injury crashes) of all kinds that occur globally each day is unknown, but would be enormous. The majority of crashes are minor and involve only property damage and slight or no injuries at all. Minor crashes generally peak during daytime commuting periods, when large numbers of vehicles are being driven on road systems in congested networks. The prevention of minor collisions is not a major focus for road safety. There are, however, economic imperatives to reducing and responding to minor crashes quickly and to reducing them through improving traffic management.

FSI collisions tend to more frequently involve higher speeds, alcohol impaired drivers and vulnerable road users (i.e. pedestrians, cyclists, and motorcyclists) and rural locations. FSI collisions are the focus of road safety efforts, as they result in enormous health and rehabilitation costs for communities. Understanding the true numbers and causes of FSI crashes allows the greatest opportunity to prevent them.

To be able to comprehensively investigate every crash that occurs would require an enormous time commitment for police and is generally well beyond their capacity. For this reason, comprehensive crash investigation and reporting should be focused on FSI collisions.

Mistakenly focusing on the prevention of 'all' crashes, can result in:

- road safety investment in locations where large numbers of minor crashes occur, which distract road safety authorities from addressing FSI crash locations (often rural locations or roadways with high volumes of vulnerable road users);
- police targeting enforcement activity to times and days of the week that will not prevent FSI crashes (e.g. over-emphasis on daytime minor crash commuter traffic periods at the expense of high alcohol hour night time weekend periods);
- misinterpreting large numbers of low-speed minor crashes as the main problem and not identifying proportionally much smaller numbers of high cost FSI crash causes as the correct road safety focus (e.g. speed and alcohol involved collisions);
- decreases in reported crashes being interpreted as an indicator that FSI crashes are also decreasing, which is generally not the case.

For these reasons, it is important that FSI crash data and trends are analysed separately to minor crash data.

1.6. Understanding the gap between reported and unreported road crash fatalities and injuries



FF countries to reduce the burden of road crash fatalities and injuries in line with the goals and targets in the UN Decade of Action for Road Safety, it is a vital step to analyse and create a framework to eliminate the disproportionate gap between reported and unreported road crash fatalities and injuries.⁴

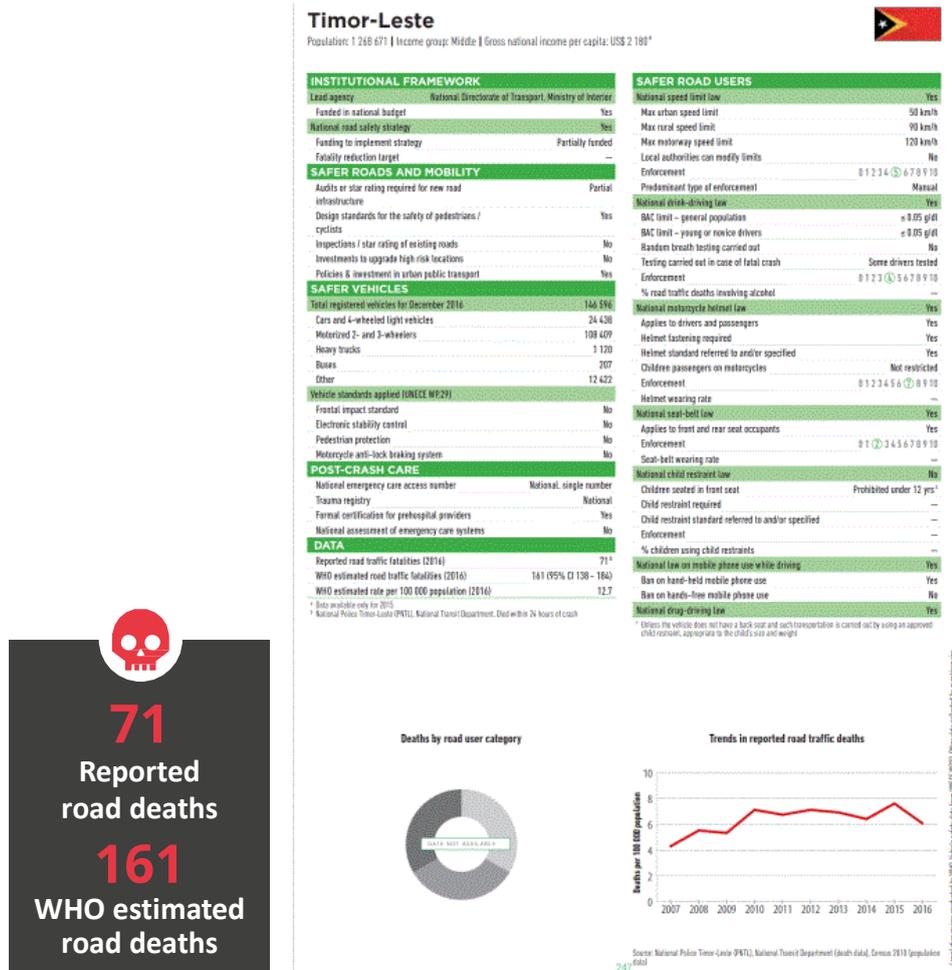
Ideally, on each occasion that an FSI crash occurs, the crash scene would be attended by well-trained police who would investigate the collision, identify contributing factors, accurately record the injuries that occur, victim details, time, date and place and other data, and submit a thorough report. This in turn would be entered into a crash database that would provide a comprehensive view of the FSI crash situation occurring in a given locality so that the true number of deaths and serious injuries is known and high crash rate locations and crash causes can be identified. It also allows for FSI casualty rates to be monitored over time. However, this situation is generally not occurring in many low- and middle-income countries and crash reporting rates (the number of crashes reported as compared to the actual number occurring) are estimated.

The WHO Global Status report on Road Safety 2018 provides details on the number of fatalities reported for most countries as well as the number of fatalities that are estimated to be occurring.

An example of country profile information is provided in Diagram 2.

⁴ *Guide for Road Safety Opportunities and Challenges: Low- and Middle-Income Country Profiles: World Bank 2020, Page 22 – sourced at <https://openknowledge.worldbank.org/handle/10986/33363>*

Diagram 2 – WHO Global Status Report (2018) – Example of country profile information (Timor Leste)



This example shows both the number of reported road crash fatalities and the number of crash fatalities that are estimated by the WHO.

At a global level, on average only 16% of road deaths are being recorded in low-income countries and 49% in middle-income countries.

Figure 1⁵ - Average road crash fatality reporting rate by country income level

Analysis by the Global Road Safety Facility of the World Bank based on World Health Organisation data	Percentage of Under-reporting in Low, Middle- and High-Income Countries
Country Classification	Percentage Under-reporting of road crash fatalities
Low Income	84%
Middle Income	51%
High Income	11%

Because such a large volume of data is not recorded, this inhibits understanding of the extent of the road trauma problem and the health, rehabilitation, lost productivity, property damage and other costs being incurred. This also results in inadequate understanding of where, when, and why FSI crashes are occurring and the demographics of victims.

⁵ Guide for Road Safety Opportunities and Challenges: Low- and Middle-Income Country Profiles: World Bank 2020, Page 22

1.7 Case study from New Zealand – Improving crash reporting

Case Study – Improving crash reporting rates in the Southern Police District, New Zealand

In 2000 in New Zealand, a comparison between serious crash injuries reported by police and crash victim hospital admission data indicated that the ratio of reported serious injuries to hospital admissions was 56% and 55% in two New Zealand regions, Otago and Southland, respectively. This meant that for every 100 crash casualties admitted to a hospital, police reported just over half of the casualties. Nationally, the figure was lower and the reporting ratio had been steadily falling. In 2000 reporting reached a low of 36%.

In addition to the obvious under-reporting, there were other problems with the quality and accuracy of Traffic Crash Reports (TCRs) completed by police. The reports were sometimes incomplete, or had not been sent to the Land Transport Safety Authority (LTSA), which was at that time responsible for the data entry, coding, and analysis of crash reports. Injuries were often inaccurately recorded, if at all. Crash locations were often imprecise and blood alcohol levels, and pre-crash speeds, were not recorded in all cases. This combination of under-reporting of casualties and missing data resulted in important crash data being lost, understating both the actual levels of road trauma and crash contributing factors.

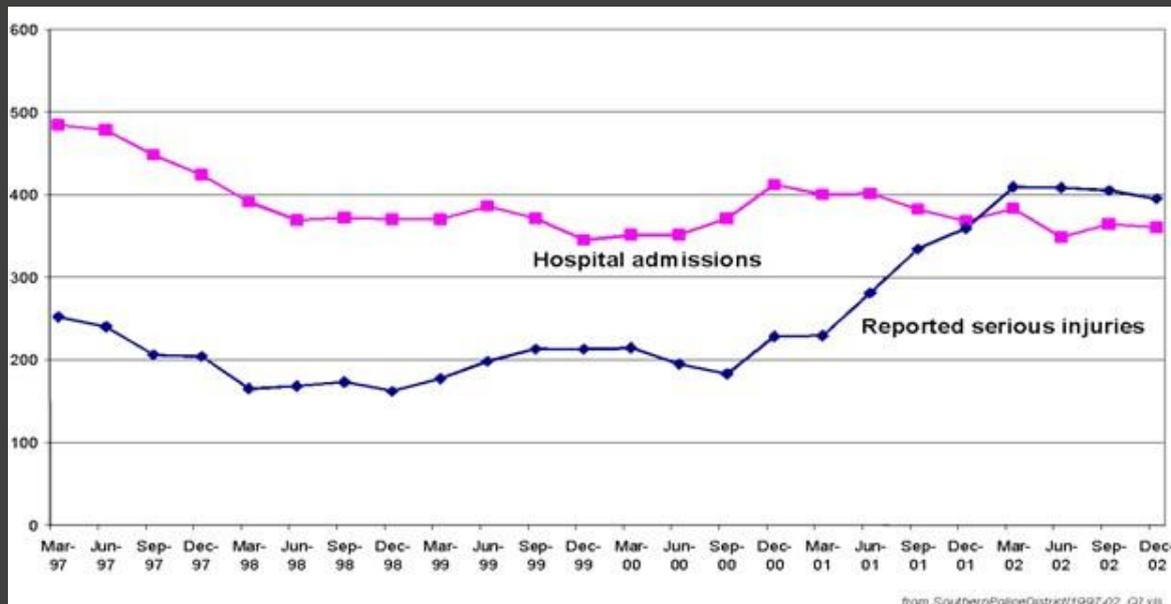
In response, police and the LTSA jointly set about to improve crash reporting. Accurate crash data was regarded as a source of intelligence. The first step towards improving data was to run a series of training sessions to provide police officers with an understanding of the importance of accurate data, the common faults with TCRs, and the ways in which reporting could be improved. A simple crash investigation reminder was prepared and provided to all staff to address commonly made errors.

The next step was to develop a crash file audit system for each police district. Every crash file was centrally checked to ensure accuracy and confirm that all the required information had been forwarded to the LTSA.

This audit process improved reporting rates and report quality. For example, it ensured that every blood alcohol level (including those under the legal limit) was recorded, thus significantly improving data on the involvement of alcohol in collisions. Furthermore, crash victims were also contacted by police a week to 10 days after the crash to update the details of their injuries, as victims are often unaware of the full extent of their injuries at the time of the crash and drivers were contacted to ensure all passenger details were captured and in turn their injuries recorded.

As a result of training and the new audit process, the reporting ratio for the Southern District rose from 55% in 2000 to 115% by 2002. For every 100 hospitalised casualties, police reported 115 serious injuries (serious injuries do not always result in hospital admission as treatment can occur in medical centres or as hospital outpatients). The reporting ratio that was achieved was a more accurate reflection of the actual level of serious road trauma. Over the same period, the number of crash casualty hospital admissions as recorded by public health recording systems was stable, indicating that the actual level of road trauma had not risen, and the significant increase in reported injuries was attributable to improved reporting. Figure 3 shows how Otago and Southland police reporting of serious injuries improved between 1997 and 2002.

Figure1. MVC Hospitalisations in Otago and Southland, 1997-2002



New Zealand police and LTSA demonstrated that robust crash reporting systems can significantly improve crash reporting rates. Improved crash reporting allows important information to be gathered that forms the basis for road safety intelligence that can be utilised by an effective road policing programme and to more accurately identify where, when, and why crashes are occurring.

Further initiatives have included transferring from a paper based to an electronic crash reporting process to speed up crash reporting, reduce errors and avoid lost or unsubmitted reports.

PART TWO - Crash Investigation Guidelines

2 Introduction to Police Crash Investigation

When called to a road traffic crash, police are often required to investigate the circumstances that contributed to or caused the crash and complete a report. Importantly, the attending police must determine the full facts relevant to the case.

An investigating officer is the person who is tasked with the responsibility of examining all relevant circumstances that contributed to the crash. The investigating officer must make all relevant inquiries to establish the facts as to what happened in the lead up to, during and immediately after the crash occurring. To appreciate the role of the investigating officer, it is necessary to consider both the definition and the aim of the investigation and the reporting of the road crash as a process.

Any crash investigation must be objective and should be concerned with the accurate collection, recording and reporting of evidence. Investigating officers must ensure that they objectively collect all evidence relevant to the crash and ensure that the investigation occurs within the legal framework which governs investigative procedures.

2.1. Crash Investigation Defined

A crash investigation is an objective assessment of an act, error, situation, or event to identify in as much detail as possible, any factors that led to or contributed to the crash occurring (and any resulting injuries). The intent of the investigation is to accurately collect, record and report on all relevant circumstances involved to determine what caused the crash, whether any breach of the law was involved and/or to assign responsibility for the occurrence such as other factors that may have played a part as described earlier.

For the purpose of defining a road crash, it can be defined as follows:

“ A crash, also called a traffic collision, a motor vehicle collision, car accident or car crash, occurs when a vehicle collides with another vehicle, pedestrian, animal, road debris, or other stationary obstruction, such as a tree, pole or building. Road crashes often result in injury, disability, death and property damage as well as financial costs to both society and the individual involved. (Peden, Scurfield, & al., 2004)

For the purpose of crash investigation, it can be defined as follows:

“ A crash investigation is a search for the truth, in the interests of public health and safety, of justice and in accordance with the specifications of the law.

An investigating officer is the person tasked with the responsibility of conducting an examination into a particular road crash.

2.2 Process of Crash Investigation

Considering the above, an investigating officer should undertake the following:

1. Establish that a crash has occurred.
2. Collect evidence and complete an objective assessment of all relevant facts related to the crash. This should include:
 - accurate numbers of deaths and descriptions of all injuries of all persons involved, including follow up with victims a few days after the crash to ensure all injuries are accurately recorded
 - type of vehicles involved
 - victim demographics (e.g. gender, age, ethnicity etc.) and their involvement (e.g. car passengers, motor cyclists, pedestrians, etc.), and
 - key contributing factors
3. Establish the whereabouts of any offending party or parties.
4. Establish a connection between the offender (or offenders) and the crash
5. Record & report on any other relevant information to inform the investigation.

2.3. Sources of evidence

An investigating officer may make use of basic sources of evidence during an investigation. These include but are not limited to:

1. Search of the scene of the collision.
2. Examination of exhibits, including photographing the scene, taking scene measurements and collecting physical evidence at the site.
3. Interviewing witnesses.
4. Information received - informants
 - witnesses
 - colleagues
5. Inspection of official records (e.g. blood test results etc).
6. Vehicle inspections and in some cases property searches for evidence.
7. Interviewing offenders or suspects.

2.4. Evidence Defined

Evidence consists of:

- a. Facts
- b. Testimony
- c. Documents (hard copy and/or digital)
- d. Physical Exhibits

which may be **legally admitted** into evidence by the presiding court in order to prove or disprove the matter under inquiry.

2.5. Investigative Conduct

It is every investigating officer's responsibility to legally establish and utilise fact-finding processes that are conducted in an impartial and objective manner, with the aim to establish the relevant facts and to make recommendations in relation to their connection to the crash.

The standards of the police organisation can be judged by the ethical conduct of its employees. Just one thoughtless act can adversely impact the reputation of the police and undermine public confidence in the investigation.

Since investigating officers are often dependent upon the willing co-operation of the public for the success of their activities, it is imperative that their conduct is appropriate to the circumstances in which they find themselves and appropriate to any person or persons that they are addressing.

In particular, when an investigating officer is given the responsibility to investigate a fatal or serious injury crash, they must display a high level of integrity to ensure that victims, their families and friends, as well as the courts have confidence in the quality of their work. Police must keep families informed as the investigation progresses.

2.6. Crash Investigation Purpose

The investigation of a crash combines the skill of investigation with principles of the science relevant to crashes. The purpose of investigation of a crash is to establish:

- the level of responsibility (and/or culpability) of the person or persons involved.
- the sequence of events and contributing factors that led to the crash and identify the causes and contributing factors in order to develop recommendations to prevent future crashes from occurring.

Road crashes do not just happen by chance and involve a failure of the system. By applying a 'safe system' focussed review as described in Part One, the contribution of each component of the system can be determined.

2.7. Approaches to Crash Investigation

The approach to crash investigation is based on a logical assessment of the person(s) and things involved in the crash, as well as an open mind on all of the possible contributing factors (reasons) the crash occurred. This includes considering the person(s) including victims, complainants, and witnesses who may know something about the circumstances, as well as the driver, suspect or offender.

2.8 Person(s) Involved in a Crash

Victims, complainants and witnesses must be the subjects of interviews in which the investigating officer seeks to clarify and record all the information that the person can provide as to the circumstances of the event.

Establishing facts from people is an exact process requiring skill, patience, and an understanding of human nature. Evidence derived from people will have varying degrees of reliability due to human error, uncertainty and/or imperfection. Human memory is not infallible and people may have varying degrees of recollection, be prejudiced or simply mistaken requiring confirmation of their statements by independent means.

2.9. Physical Evidence

The investigating officer must appreciate the potential evidential value of all relevant physical evidence involved in a crash and understand:

- a) what physical evidence is;
- b) how to collect and preserve physical evidence;
- c) how to obtain the best value from the information it provides;
- d) how to interpret the information obtained.

Physical evidence is factual evidence and is not subject to other influences affecting human memory or recollection. It always tells the same story. It cannot fabricate itself. Only failure to find it, preserve it, study and understand it, can diminish its value.

At any crash scene, there is contact with and between physical things. Accordingly, there may be contamination of the scene by the people and things involved or a mutual exchange of traces between those things and the environment of the crash scene. The principle that every contact leaves its traces is known as the “principle of exchange.”

Tyre skids and scuffs, gouges, scrapes, vehicle debris, clothing, material, fingerprints, footmarks, toolmarks, bloodstains, glass fragments, hairs, herbage, and soil are examples of physical traces which can assist in establishing the facts.

Physical evidence includes any material, whether solid, liquid or gaseous. In a crash, the vehicle involved, debris left, the contents of a bottle or an odour present, could all constitute physical evidence. So too, do fragments of paint, blood and other traces which, may still be available, even though the offender or vehicle have failed to remain or attempted to conceal evidence of the crash.

The search of the scene and examination of physical evidence found there is a vital phase of the investigation. It is essential that contamination of the crash scene by human or natural means should be prevented where possible and as quickly as possible.

Prompt attendance at and management of the crash scene will ensure preservation of physical evidence, location of witnesses and detention of possible suspects, thereby increasing the prospects of accurately reconstructing the circumstances of the crash.

The full benefit of physical evidence can often be realised only after expert examination or analysis. Therefore, the investigating officer must know who the appropriate experts are and how, when and where to enlist their support. The investigating officer must not expect the impossible of an expert, who can do no more than evaluate the physical material submitted to them for further analysis or examination.

There will be occasions where expert examination of physical evidence can prove certain facts beyond any reasonable doubt through the employment of exact sciences. However, such an examination cannot be made unless the investigating officer finds and preserves the physical evidence in the first place. The expertise of scientists and technology are aids to, rather than substitutes for, thorough and timely investigation.

2.10. Summary

Road crash investigation requires the application of aptitude, reason and experience, together with an observation of the rules of law and the established principles of crash investigation.

The investigating officer's approach must be based on integrity and a sense of responsibility in accordance with community expectations. Their aim must be to objectively determine all the contributing factors involved in a crash, the details and injuries of all those involved and report on it accurately and impartially. It also involves holding accountable any person who has committed an offence.

PART THREE - Crash Investigation Principles

3 An Introduction to Crash Investigation Principles

The initial response by police when attending the scene of a crash and the immediate action taken often determines the outcome of the investigation. Such immediate or 'initial' action can contribute significantly to the success of the investigation and ensure greater accuracy in reporting the contributing factors. Conversely, poor initial action will likely result in detrimental outcomes to the investigation which may include failure to determine primary causation(s) and to impact upon the likelihood of police holding to account those responsible for causing the crash.

Initial action requires the responding police to adopt a pragmatic approach, to possess an ability to reason, and to draw upon their own experience in response to the situation.

Upon arrival at the scene, it is probable that any errors made in the initial action phase

cannot be rectified. Errors will be minimised if the investigating officer(s) remains alert to this fact and to the transitory nature of some evidence.

“ *Open your eyes
and your mind*

Even with experienced crash investigators, there is a compelling urge to seek the obvious cause, identify the offending party or parties and to restore traffic flow with a sense of urgency. Investigators should proceed with the more critical task of taking charge, controlling the scene and coordinating resources in attendance at the crash site.

Without fulfilling these important steps, an investigating officer cannot obtain all of the available evidence concerning the cause and identity of the people and things involved. This haste to react without considering preservation of the scene, the protection of evidence and identifying and accounting for all of those involved in the crash may have a detrimental effect on the outcome of the investigation. Additional time spent on thoroughly examining and searching the scene will always be worth the effort.

3.1. Initial Action

The aim of initial action is to discover ALL OF THE AVAILABLE EVIDENCE relevant to the cause of the collision and the identity of ALL vehicles and persons involved.

Initial action should be taken to:

- PRESERVE THE SCENE in its original state; and
- PREVENT CONTAMINATION of the scene.

Unless action is taken, the investigating officer cannot observe the scene as it was at the time the crash occurred. Furthermore, if the investigating officer adopts the theory that when a person enters and/or leaves an environment, they bring into and/or carry away from the area, traces of debris such as paint, glass, plastic, etc. which may connect the vehicle with the collision, the investigating officer will be much more mindful of the necessity to adopt this action.

In any investigation, the scene of the occurrence and the routes to and from the scene must be examined thoroughly and methodically at the first available opportunity. A departure from this rule may occur where a suspect/offender is arrested at the scene and it is necessary to take the person into custody. In this situation, it is still essential to examine the scene thoroughly and at the earliest opportunity.

Most crash investigations occur following notification of the collision, upon which the investigating officer will attend the scene. In this sense, their role is retrospective. This is the customary role of crash investigation in which the usual form of initial action is followed.

On arrival at the crash scene the investigating officer should, as soon as practical, consider all circumstances relating to what happened, when it happened, where it happened so as to inform why it happened.

In some circumstances, the scene may never be visited e.g., due to a delay in reporting or due to the remote location of the crash scene. If a crash is reported hours or days after the occurrence, it may be pointless or impractical to visit the scene. Where there is a report of a collision involving death or serious injury however, every attempt should be made to visit and inspect the scene, so as to corroborate the information being provided.

To arrive at the truth, crashes and their causes are determined through the orderly collection of facts (induction) which, in turn permits logical conclusions to be drawn (deduction). It also allows for the application of principles of physics to be applied to those facts to enable a retrospective detailed reconstruction of the event.

3.2. Preliminary Investigation

The immediate objective of the investigating officer must be to:

- i. Establish that a crash has occurred;
- ii. Collect evidence and complete an objective assessment of all relevant facts related to the crash. These should include:
 - Accurate information concerning any death(s) and descriptions of all injuries of all persons involved (it is important to find out if any people who were injured have left the scene and record all injuries);
 - victim demographics (e.g. gender, age, ethnicity etc.) and their involvement (i.e. car passengers, motorcyclists, pedestrians etc.) and;
 - key contributing factors.
- iii. Establish the whereabouts of suspects/offending persons(s)
- iv. Establish a connection between the offender(s) and the crash
- v. Record and report on any other relevant information to inform the investigation

All, or some of these facts will likely be established by an examination of physical evidence discovered at the scene, whether or not eye witnesses exist.

3.3. Definition of a Crash Scene

The scene of a road traffic crash is the area in the immediate vicinity of the occurrence, in which evidence might be found.

The limits of this area will vary according to the nature of the crash. It can be localised in some cases but might cover a considerable area in others.

The scene becomes the focal point of the investigation and is the place from which numerous leads may come. It is here that valuable physical evidence of the crash and connecting the offender and the vehicle with the collision is most likely to be found.

3.4. The Principle of Exchange

Trace evidence can be used to link people or objects to places, other people or objects, and often serves as a starting point for a line of investigation. Trace evidence helps to put together pieces of the investigative puzzle, such as from which direction the offending vehicle travelled, where a pedestrian was standing on the road etc. Trace evidence can significantly affect the outcome of the investigation and may be found by careful examination of small pieces of evidence.

Remember the Principle of Exchange:

“ Every contact leaves a trace

3.5. Primary and Secondary Scenes

In some cases, there may be a primary collision scene and one or more secondary scenes. A primary scene is one where the collision actually occurred. For example, an intersection where a pedestrian was struck is a primary collision scene. The place where the vehicle involved was parked after the driver fled the scene is a secondary scene. Similarly, the route between the intersection and the location of the car is also a secondary scene.

Important physical traces, connecting the vehicle with the collision might be found at any of these locations. The same care and procedures adopted at primary scenes should be used at the secondary scenes.

3.6. Receiving the initial report of the crash

It is important to remember that on receiving an initial report of a crash, **TAKE NOTES IMMEDIATELY**. Sufficient details should be obtained from the person making the report to enable the investigating officer(s) to take any essential action before proceeding to the scene. Confusion can arise if sufficient basic particulars are not obtained and recorded.

The following basic information should be recorded upon being alerted to the crash

- UPON RECEIVING INITIAL REPORT:
- TAKE NOTES - Commence Log/Date/Time of Call
- Name/Address/Telephone No./Location/Safety of Victim(s)/Caller
- Date/Time/Nature/Precise location of crash (particularly in rural areas)
- Person Injured/Nature/Medical Assistance/Obtained/Required
- Any Person to Hospital/Ambulance/Name of Hospital
- Offender/Suspect/s Known/Description/Person/Vehicle
- If applicable; Vehicle/Type/Location/Damage
- At Scene/Location/Left Scene/Mode of Travel/Vehicle/ Foot/Direction
- Inform Superiors/ Communication Centre/Broadcast Descriptions
- If applicable; Direction/Method of leaving the Scene

Request the person reporting the incident to await police arrival and not to touch anything. If the reporting person requests to remain anonymous, insist that the call taker obtain as many details as possible, as experience proves that anonymous callers rarely call again.

3.7. Considerations Before Arrival at Scene

Consider the nature of the report before arriving on scene and what equipment may be needed to render the site safe. Also consider what other emergency services may be required if not already on site or on their way. Consider any additional police resources that may be required to support the investigation and to safely manage the outer perimeter of the scene, to ensure other road users don't drive through or contaminate the scene or create a safety hazard. Consider redirecting traffic to alternative roads.

Make sure you have the necessary equipment to manage the scene safely and to ensure your own safety and the safety of the public is not compromised

Consider other support services:

- Medical assistance
- Additional resources including other/assisting/specialist investigator(s)
- Photographers
- Lighting, traffic cones, signage.
- Traffic diversion

3.8. Prompt Attendance at the Crash Scene

A reduction in the interval between call time and response time increases the prospects of solution. Any delay in attending at the crash scene increases the chances of loss, destruction or contamination of evidence. Prompt attendance may result in:

- a) the offender being found at, or near the scene;
- b) witnesses being located at the scene before they have had time to leave, or to discuss the event with other witnesses;
- c) prevention of access to the scene by unauthorised people;
- d) prevention of loss or destruction of evidence;
- e) prevention of contamination by bystanders or other causes (e.g. weather, animals etc).

3.9. Proceeding to the Crash Site

On route to the crash scene, be on the lookout for any possible suspect(s) who may be attempting to leave the scene. Consider, from the nature or the original report, whether the suspect(s) is likely to be on foot, in a vehicle and any information to identify them or their vehicle. If a physical description of the suspect(s) has been supplied, the investigating officer should be on the alert for any person answering that description.

Local knowledge of the area might permit a prediction of the route a suspect would take in fleeing the scene.

The manner in which the scene is approached will depend on the size, scale and dimension of the crash. It may be necessary to enlist assistance in covering the scene or patrolling to locate suspects and vehicles that have left the scene. The nature of the offence might make it dangerous to stop in close proximity to the scene. It may be safer to stop the car some distance away and approach on foot.

3.10. On Arrival at the Crash Scene

The investigating officer may or may not be the first to arrive at the crash scene. If other members are already present, ascertain the following;

- a) Who is in Charge?
- b) How many police are in attendance and has the scene been rendered safe?
- c) What has been discovered about the circumstances of the crash?
- d) What action has been taken?
- e) Is the scene adequately protected from contamination and guarded?
- f) Has the scene been contaminated? Has anything been touched and if so what?
- g) Has action been taken to locate, retain and isolate evidence, witnesses, suspects?
- h) Has any suspect been isolated from other people at the scene and kept under supervision?
- i) Does a specialist unit or group need to be contacted and requested to attend and assist?
- j) Are additional services required to support the police response?

If the investigating officer is the first to arrive at the scene, the following action should be undertaken:

3.11 Proceeding Methodically

- a) Make a brief appreciation of the scene(s).
- b) Take charge of the situation.
- c) Satisfy yourself that a collision/offence has been committed.
- d) Ascertain if the suspect(s) is still at the scene and if so, separate them from any witnesses and away from the collision scene.
- e) If there is no obvious suspect, consider others who may be present.
- f) Ascertain if medical attention or other assistance is required.
- g) Take action to locate, retain and isolate witnesses.
- h) Broadcast description of suspects, vehicles, property, etc.
- i) Set up some form of communication (radio, phone)
- j) Preserve the scene and prevent contamination.
- k) Develop a plan of action.
- l) Delegate specific tasks (log keeper, traffic control, crowd control, exhibit collection etc.)

Whether or not the investigating officer is the first to arrive at the scene, they should make arrangements to keep in contact with their office and supervisors and advise of any developments.

 **Never use the crash scene itself as a Command post.**

3.12. Preventing Contamination of Exhibits

Every effort should be taken to prevent contamination of the scene. Contamination can result in loss, deterioration or destruction of evidence.

Contamination can occur as a result of people present or natural circumstances (e.g. weather, animals etc)

Contamination by natural elements can be prevented by protecting the crash scene (or the relevant parts of it) from the elements. It might be possible to rig a covering over critical evidence located at the scene, for example, in order to protect it from the weather. Footprints, tyre marks, or other impressions can also be protected by covering them appropriately.

Contamination by people present is a different hazard and the one which is most difficult to prevent. Human nature being as it is, people exhibit extreme curiosity at crash scenes, and are likely to interfere with vital evidence unless measures are taken to prevent their intrusion. Even experienced police have been known to prematurely handle exhibits at scenes out of curiosity. The first person you have to control at a crash scene is yourself. If you set a good example, others will follow.

Keeping the evidence intact and limiting personnel in the area are just some of the keys to successful crash scene management.

It is imperative that the movement of people is controlled around and within the crash scene. The basic rule is that those found at the scene on arrival should be kept there and those who were off the scene, should be kept off. No person should be allowed to move into the area or away from the area.

Similarly, no person should be allowed to move any article in the area, from the area or into the area. The greater the movement, the greater the contamination. Where witnesses or suspects have been detained at the scene, ENSURE THAT THEY DO NOT TOUCH ANYTHING without permission. Similarly, ensure that they do not contaminate the scene by introducing foreign objects.

Other members of the Police (this includes higher ranking officers) who are not involved in the scene should not enter. It can be a major problem, especially at any subsequent court hearing.

As a general rule, the fewer people present at the collision scene, the less risk there is of contamination. It may be necessary to erect tape or barricades, etc., in order to achieve this end.

To prevent contamination of scenes, the following steps should be strictly adhered to:

- 1. Examine, sketch and photograph the scene in its present state without moving or touching anything.**
- 2. If necessary and capacity exists, fingerprint the scene without moving or touching anything.**
- 3. Search the scene without touching or moving anything.**
- 4. Photograph exhibits individually as they are found.**
- 5. Fingerprint exhibits individually as they are found.**
- 6. Collect and label exhibits individually as they are found.**
- 7. Treat any secondary scenes as the primary scene following the above steps.**

The same principles apply to searching any crash scenes, whether they be large, small or concentrated to a single feature such as a vehicle itself.

A thorough and properly conducted scene search is every investigating officer's responsibility.

Forensic evidence alone may never prove a case, but will likely be able to give certain indications in a line of inquiry and also prove that claims made by suspects or witnesses are true or false.

3.13. Taking and Recording Notes

The ability to take and record notes is perhaps the single most important attribute that you can foster as a Police Officer.

Full and precise notes should be progressively maintained throughout the investigation and also provide a comprehensive account of the crash to inform the crash report. Notes, 'taken at the time', should commence with the initial particulars of the report of crash, the investigating officer's time of arrival at the scene and the sequence of their activities on scene, should all be recorded.

A simple mantra to remember is;

“ The shortest note will outlive the longest memory

The arrival times of other responding police, any emergency service agencies and any other occurrences should also be recorded. This can be done in the form of a log which should be kept to record the time and details of all events relevant to the crash scene. Wherever possible, a Log Keeper should be delegated to guard the scene and accurately record the details of all persons entering and exiting.

The notes will detail the collision scene situation including diagrams, measurements and other relevant conditions, with particular attention given to the relative position of exhibits and evidentiary features such as scuff and skid marks. Notes provide a valuable record of the development of the investigation and assist in preparation of reports which may be required for use in court.

3.14. Other Considerations at the Crash Scene

The presence or absence of any articles or clothing of deceased or injured persons if they remain on scene, including any mark on the deceased person, indicating whether objects have been worn or removed should be recorded. It is important to make a sketch of any injuries and obtain photographs if possible.

3.15. Examination of the Crash Scene

A thorough physical examination of the scene should be made before any attempt is made to search for any exhibits or items of interest. This is simply a survey or observation to permit an appreciation of the crash scene by the investigating officer. During this phase, the investigating officer can mentally reconstruct the occurrence and determine the likely whereabouts of exhibits and traces of evidence.

The most important tool a Police Officer can take to collision scene is a professional attitude

The examination of the road crash scene is aimed at discovering, documenting and preserving:

- (a) evidence to establish what occurred, when it occurred, how and why it occurred;
- (b) facts to prove persons involved including victims, witnesses or offenders;
- (c) facts to use in any subsequent interview of witnesses and suspects or offenders;
- (d) relevant physical evidence and exhibits for ultimate production in court if required;
- (e) physical evidence for submission to experts for examination or scientific analysis.



REMEMBER

Once an item of evidence has been removed or altered, it is almost impossible to restore it to its original position or condition.

3.16. Points to note during the scene examination

The following dot points should be used as prompts to aid an examination of the crash scene:

- Take full notes
- Approach the scene with caution
- Avoid contaminating the scene
- Stand in a convenient position and observe the scene slowly and methodically
- Endeavour to reconstruct the collision in your mind
- Draw a sketch plan of the scene showing the relative position of all exhibits
- Ensure that nothing is moved and that the scene is preserved in its original state
- Resist the impulse to form hasty conclusions
- Resist the urge to single out obvious clues and concentrate on them
- Consider vehicle control or clues of relevance such as doors and windows (open or closed), lights on or off, heaters or A/C unit on or off, demister on or off, stereo on or off etc.
- Note and record every feature of the scene, see that no clue is overlooked, damaged or destroyed;
- Always photograph items in situ before touching or removing them and remember that photographs preserve evidence;

- Outline the position of important exhibits with crayon after photographs have been taken and before they are moved. Once moved, it is almost impossible to replace an article in its original position;
- Consider
 - ▶ motive; this may give a clue to the suspect or offender;
 - ▶ the path that an offender travelled to and from the scene if they have fled;
 - ▶ was the offender alone or would they have had an assistance?
 - ▶ whether articles used, taken, moved or left at the scene indicate the presence and gender, of more than one offender, e.g., drinking vessels, blood/material traces, illicit substances etc.
 - ▶ the principle of exchange every contact leaves its traces;
 - ▶ whether medical attention might be required by a suspect due to injuries sustained;
 - ▶ if there is a deceased or unconscious victim, accurately establish the cause of death or injury and the identity of the victim;
 - ▶ whether fingerprint expert, photographer, surveyor, etc are required to aid or assist the investigation.

3.17. Conducting a Search of the Scene



REMEMBER

It's your case! You only get one chance at making a comprehensive assessment and analysis of what took place so make sure you do it right.

The search of both primary and secondary crash scenes are your responsibility. Remember to relate to what you are searching for. The search should be so thorough that, on its completion, you are satisfied that you have found everything capable of being found.

The search must be methodical and thorough. Possibly, the best method is to take a fixed starting point and work clockwise from it. Proceed systematically through the crash scene, considering areas beyond the immediate vicinity of the main items or objects of interest located within the scene.

Every piece of physical evidence which could have any connection with the crash should be collected and preserved. Nothing should be rejected because it is too large, too small or apparently, too insignificant. Consider traces which might be revealed following microscopic examination.



REMEMBER

Do not permit the removal of any article from its original position until it has been photographed, videoed, fingerprinted and diagrammed, sketched or otherwise connected with scene. There are no exceptions to this rule, including private vehicles and property.

Search particularly for:

- (a) evidence and clues of all types;
- (b) articles foreign to the scene;
- (c) articles and features normally at the scene;
- (d) articles left at the scene by suspects;
- (e) evidence of articles removed by the suspect;
- (f) tyre prints, footprints, fingerprints, and palm prints;
- (g) traces of blood, marks in blood, bloodstains on clothing;
- (h) possibility of dirt, dust, grease paint, etc., being transferred to the suspect or their clothing or the victim and their clothing;
- (i) clothing, fibres, buttons etc., left by the victim or any possible suspect;
- (j) car tracks, tyre marks gouges, scrapes scuffs etc.

3.18. Articles Left at the Scene by a Suspect

Common items can be of great importance at the scene of a crash. It is vital to establish whether an item belongs to the victim, the suspect or a witness. Items such as receipts, rail or bus tickets, letters, newspapers, cigarette butts or cigarette packets, clothing, keys, jewellery, etc, may be traceable.

3.19. Recording, Photographing and Collecting Exhibits

Good forensic evidence must be collected and preserved in pristine condition and its continuity recorded throughout.

All exhibits should be photographed before removal. At the scene, place all exhibits in a segregated area having labelled each one as it was found. Note and record the exact position in which each exhibit was found. Where exhibits are numerous, the task of collecting and preserving them should be allotted to one or two assisting officers.

Physical evidence must be labelled, or its physical characteristics recorded in such a manner that it can be positively identified later. If an exhibit must be moved before it can be photographed, measured and recorded, you should measure its location as accurately as possible and make written notes it has been moved. When exhibits are labelled, the relevant finder's name should be stated, together with the time, date and place of its discovery. Original notes should indicate the labelling descriptions appropriate to identification of each exhibit.

All physical evidence should be collected, packaged, transported and stored in such a way that its original condition remains unchanged, until it has been handed to an expert for examination or until it is produced in court. All physical evidence must be connected with the scene by photographs, sketches, diagrams, written descriptions and oral testimony.

The chain of custody must be maintained from the time of its collection at the scene to the time of its production in court as an exhibit. Notes of changes of possession must be maintained, in all instances. Failure to do so may negate the evidentiary value in court.

3.20. Approaching Witnesses at the Scene

Consider witnesses as your stepping stone to understanding what happened.

Where witnesses are located at the scene of the crash, it is usually best to briefly interview them there and if the situation allows. More in-depth interviews can be arranged for later. It is helpful to take a short statement from a witness immediately, binding them to their recollection of events.

Don't overlook the value of negative statements from witnesses who claim to have heard, seen and said nothing. Statements to this effect at least restrict the witness giving evidence later. This is particularly so for accomplices or passengers present in an offending vehicle.

Witnesses are more likely to volunteer information immediately after the crash than they are after a considerable delay. Therefore, obtain statements from witnesses at the first practical opportunity.

It is important that investigating officers should not discuss the details of the collision with any person at the scene. Nothing should be volunteered to witnesses, suspects or members of the media. Witnesses should also be advised not to talk to the media.

3.21. Making Local Inquiries

Consider the situation of persons who could have been in the vicinity at the time of the collision, such as tradespersons, transport workers, school children etc. Often a follow up visit a day or so after crash to the scene at the same time it occurred may reveal witnesses.

3.22. Conducting House-to-House Visits

Consider conducting house-to-house visits to question residents about what they may have witnessed. Commonly referred to as 'canvassing for witnesses' this is the systematic initiation of contact with individuals to ascertain whether they may be able to provide information.

Witnesses may be reluctant to come forward voluntarily and their evidence will never be obtained unless the police seek them out.

The occasions when a house-to-house 'canvass' is utilised will depend on the nature of the situation. However, when it has been decided to make such a canvass, it is essential that it should cover every house within sight or earshot of the crash scene and also along the route which the offender may have taken in the lead up to the crash and departure routes if they left the site and failed to remain at the scene until the arrival of the police.

In conducting the canvass, the investigating officer(s) should make comprehensive notes of their progress to prevent duplication or omissions. The following details should be recorded:

- Address of each house visited.
- Identity of each occupier.
- Identities of all people at the location at the time of the crash.
- Identities of any persons present at the time of the crash, but absent at the time of the visit by police.
- Individual accounts of people interviewed, indicating whether anything of value was heard, seen, is known or suspected.
- Whether the person(s) know of any individual who may have been in the area at the relevant time.

This record enables the investigating officer co ordinating the inquiry to determine the nature, extent and value of the information and to arrange for missing persons to be interviewed later. The same pattern can be applied if the crash happened in the vicinity of a commercial business precinct, a shopping centre or office buildings.

3.23. Conclusion

Initial action is aimed at discovering ALL OF THE AVAILABLE EVIDENCE relevant to the crash and the identity of the offender, so that the offender can be brought to justice and the full circumstances of the crash reported. It must be remembered that the same principles of initial action apply to all investigations.



REMEMBER

It is better to have the evidence and not need it than to need it and not have the evidence

APPENDIX 'A'

GUIDING PRINCIPLES SUMMARY

The following principles are based on practice and experience and provide practical guidelines for an investigating officer with the responsibility to examine and investigate a crash:

- 1.** A crash investigation is a search for the truth, in the interests of public health and safety, of justice and in accordance with the specifications of the law.
- 2.** The process of crash investigation involves utilising the basic sources of evidence in accordance with the facts of the matter under inquiry.
- 3.** A reduction in the interval between a call time and response time increases the prospects of solution.
- 4.** The fundamental rule of crash investigation is that the investigating officer must first establish whether a crash and/or offence has actually been committed.
- 5.** In the course of an investigation, the investigating officer must:
 - i.** Establish that a collision has occurred.
 - ii.** Collect evidence and complete an objective assessment of all relevant facts related to the crash.
 - iii.** Identify and establish whereabouts of all parties involved.
 - iv.** Establish a connection between the offender(s) and the crash.
 - v.** Record and report on any other relevant information to inform the investigation.
- 6.** The investigating officer is a collector of facts and, as such, must allow the evidence to present its own conclusion.
- 7.** The scene of the crash must be visited at the earliest possible opportunity and to commence a thorough investigation.
- 8.** The crash scene must be preserved in its original state until it has been viewed, photographed and searched.
- 9.** The first responsibilities at a crash scene are equally:
 - i.** Rendering first aid/medical assistance as necessary.
 - ii.** Prevention of contamination.
 - iii.** Preservation of evidence
 - iv.** Location and isolation of witnesses.
 - v.** Detention of suspects when serious offences have been committed.
- 10.** The search of the crash scene must be exhaustive. The investigating officer must be satisfied that they have found all evidence related to the crash.
- 11.** Physical evidence is real evidence. It always tells the same story and is not subject to the adverse influences affecting human memory.
- 12.** Science and technology are aids to, and not substitutes for, crash investigation. The investigating officer must discover the physical evidence for submission to the experts.
- 13.** Evidence of witnesses is affected by human frailty. Every effort must be made to obtain confirmation of witnesses' statements.
- 14.** If the investigating officer asks enough people enough questions, they will eventually obtain most of the right answers.
- 15.** Written notes must be recorded progressively throughout the investigation. If it is worthwhile making a mental note of something, it is worthwhile making a written record of it.

- 16.** Observation, information, and examination are extremely important processes in investigation.
- 17.** A confession is a good start to an investigation, however it is imperative that every effort should be made to corroborate confessional evidence.
- 18.** The investigating officer should endeavour to project themselves into the mind of the drivers/witnesses/suspects in order to anticipate their actions at the time of or after the crash.
- 19.** Remember that we deal with human beings. Deal with each case on its individual merits. If we treat people with dignity and respect and behave in a professional, procedurally fair, and just manner, people will generally respond and interact more positively.
- 20.** Road crash investigation is based on common sense and the type and degree of road crash will determine the type of investigation required. The standard of a road crash investigation should be equivalent to the capability and experience of the investigating officer who should call upon or utilise expert examination or analysis for more technical or complex examination or analysis should it be necessary to ensure the thoroughness and integrity of the investigation.
- 21.** Road crash investigation involves the processes of induction and deduction the former to assemble all of the available evidence and the latter to inform and permit logical conclusions to be drawn.
- 22.** In order to establish a finding of fact, it is essential that an investigating officer establishes connection (a nexus) between the person or persons involved and who is responsible and the crash occurring.
- 23.** Road crash prevention mitigates the need for investigation.

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