Criminal Investigation 11th edition Hess Solutions Manual

SKU: 9781285862613-SOLUTIONS

CHAPTER 2

DOCUMENTING THE CRIME SCENE: NOTE TAKING, PHOTOGRAPHING AND SKETCHING

OUTLINE

- Field Notes: The Basics
- Characteristics of Effective Notes
- Retaining Notes
- Admissibility of Notes in Court
- Investigative Photography: An Overview
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- Computer-Assisted Drawing
- Admissibility of Sketches and Drawings in Court

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Chapter 2
Documenting the Crime Scene: Note Taking, Photographing and Sketching

Key Terms

• baseline method • compass-point method • competent photograph • cross-projection sketch • finished scale drawing • forensic photogrammetry • immersive imaging • laser-beam photography • legend • macrophotography • marker • material photograph • megapixel • microphotography	• mug shots • overlapping • Pictometry® • pixel • PPI • rectangular-coordinate method • relevant photograph • resolution • rogues' gallery • rough sketch • scale • sketch • trap photography • triangulation • ultraviolet-light photography

Learning Objectives

After reading this chapter, students should be able to

- Explain why notes are important in an investigation.
- Identify the characteristics of effective notes.
- Summarize the purposes served by crime scene photography.
- Describe the minimum photographic equipment an investigator should have available and be skilled in using.
- Understand what should be photographed at a crime scene and in what sequence.
- Identify the various types of photography used in criminal investigations and the circumstances in which they are applied.
- Explain the specific criteria photographs must meet to be admissible in court.
- List the steps involved in making a rough sketch.
- Describe the requirements for a sketch or a scale drawing to be admissible in court.

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Internet Assignments

1. Have students search the following Web sites for information on crime scene sketches and photographs:

   - FBI
   - Crime-scene-investigator.net
   - National Criminal justice Reference Service

   Then, hold the following discussion:

   - Discuss at least five similarities between the sites.
   - Discuss how photographs and sketches can aid in criminal profiling.
   - Describe the role the FBI and the NJRS provide as a resource for law enforcement.

2. Have students go to the FBI's Integrated Automated Fingerprint Identification System (IAFIS) Web site and review this national fingerprint and criminal history system maintained by the FBI, Criminal Justice Information Services (CJIS) Division. Ask students to describe the function of the IAFIS. (The IAFIS provides automated fingerprint search capabilities, latent searching capability, electronic image storage and electronic exchange of fingerprints and responses.) Then have students search local police and sheriff's department's Web sites to see how they integrate with the FBI and IAFIS.

3. Have students search the Web and locate a recent article that depicts a crime scene. Each student should then share their article with the class.

Class Assignments

1. Split the class into three large groups. Using the articles found during the web search as inspiration, each group should create a crime scene scenario. After the scenario is created, the group should take notes based upon their created scenario as if they were investigating the crime scene.

2. Have the class split into eight groups, with each group using one of the following methods to sketch the classroom. Set up a small mock crime scene using everyday items in a corner of the room for the "scene." Afterward, discuss pros and cons of the different styles.

   - Rectangular-coordinate method
   - Baseline method
   - Center-baseline method
   - Diagonal-baseline method
   - Outdoor-baseline method
   - Triangulation method
   - Compass-point method
   - Cross-projection method

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Chapter Outline

I. Field Notes: The Basics

A. When to take notes
B. What to record: As you take notes, ask yourself specific questions such as these:

1. When: did the incident happen? was it discovered? was it reported? did the police arrive on the scene? were suspects arrested?
2. Where: did the incident happen? was evidence found? stored? do victims, witnesses and suspects live? do suspects frequent most often? were suspects arrested?
3. Who: are suspects? accomplices? Complete descriptions would include gender, race, coloring, age, height, weight, hair (color, style, condition), eyes (color, size, glasses), nose (size, shape), ears (close to head or protruding), distinctive features (birthmarks, tattoos, scars, beard), clothing, voice (high or low, accent) and other distinctive characteristics such as walk
4. Who: were the victims? associates? was talked to? were the witnesses? saw or heard something of importance? discovered the crime? reported the incident? made the complaint? investigated the incident? worked on the case? marked and received evidence? was notified? had a motive?
5. What: type of crime was committed? are the elements of the crime? was the amount of damage or value of the property involved? happened? (narrative of the actions of suspects, victims and witnesses; combines information included under “How”) evidence was found? preventive measures (safes, locks, alarms, etc.) had been taken? knowledge, skill, or strength was needed to commit the crime? was said? did the police officers do? further information is needed? further action is needed?
6. How: was the crime discovered? does this crime relate to other crimes? did the crime occur? was evidence found? was information obtained?
7. Why: was the crime committed? (was there intent? consent? motive?) was certain property stolen? was a particular time selected?
8. Information establishing a suspect’s innocence is as important as establishing a suspect’s guilt
9. Include all evidence, both inculpatory and exculpatory
10. Record everything you observe in the overall scene: all services rendered, including first aid, description of the injured, location of wounds, who transported the victim and how

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11. Record complete and accurate information regarding all photographs taken at the scene
12. As the search is conducted, record the location and description of evidence and its preservation
13. Record information to identify the type of crime and what was said and by whom. Include the name, address and phone number of every person present at the scene and all witnesses
14. Take notes on everything you do in an official investigative capacity. Record all facts, regardless of where they may lead. Information establishing a suspect's innocence is as important as that establishing guilt
15. When evidentiary conflicts exist, the general rule is that *all* of the evidence, both inculpatory and exculpatory should be reported to the prosecutor for evaluation

C. Where to record notes

1. Opinions vary about whether it is better to use a loose-leaf notebook or separate spiral-bound notebooks for each case
2. If you use a loose-leaf notebook, you can easily add paper for each case you are working on as the need arises, and you can keep it well organized
3. Most investigators favor the loose-leaf notebook because of its flexibility in arranging notes for reports and for testifying in court
4. However, use of a loose-leaf notebook opens the opportunity of challenge from the defense attorney that the officer has fabricated the notes, adding or deleting relevant pages
5. This can be countered by numbering each page, followed by the date and case number, or by using a separate spiral notebook for each case
6. Disadvantages of the latter approach are that the spiral notebook is often only partially used and therefore expensive and may be bulky for storage
7. If other notes are kept in the same notebook, they also will be subject to the scrutiny of the defense
8. A final disadvantage is that if you need a blank sheet of paper for some reason, you should not take it from a spiral notebook because most of these notebooks indicate on the cover how many pages they contain

D. How to take notes

1. Note taking is an acquired skill. Time does not permit a verbatim transcript
2. Learn to select key facts and record them in abbreviated form
3. Do not include words such as *a, and* and *the* in your notes. Omit all other unnecessary words

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4. If you make an error, cross it out, make the correction and initial it. Do *not* erase. Whether intentional or accidental, erasures raise credibility questions
5. Whenever possible, use standard abbreviations such as *mph, DWI, Ave*
6. Do *not,* however, devise your own shorthand
7. Using a digital recorder

    a. Advantage of recording exactly what was stated with no danger of misinterpreting, slanting or misquoting
    b. Disadvantages of digital recording:

        (1) The most serious is that they can malfunction and fail to record valuable information
        (2) Weak batteries or background noise can also distort the information recorded
        (3) In addition, transcribing recordings is time consuming, expensive and subject to error
        (4) The recordings themselves, not the transcription, are the original evidence and thus must be retained and filed

II. Characteristics of Effective Notes

A. Effective notes describe the scene and the events well enough to enable a prosecutor, judge or jury to visualize them
B. Effective notes are complete, accurate, specific, factual, clear, arranged in chronological order and well organized
C. The basic purpose of notes is to record the *facts* of a case, accurately and objectively

III. Retaining Notes

A. If department policy is to keep the notes, place them in a location and under a filing system that makes them available months or even years later
B. As long as the system is logical, the notes will be retrievable

IV. Admissibility of Notes in Court

1. The use of notes in court is probably their most important legal application
2. They can help discredit a suspect's or a defense witness's testimony; support evidence already given by a prosecution witness, strengthening that testimony; and defend against false allegations by the suspect or defense witnesses
3. They must be legally retrievable and "discoverable" by both the prosecution and the defense

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V. Investigative Photography: An Overview

A. Advantages of photographs

1. The basic purpose of crime scene photography is to record the scene permanently
2. They can be taken immediately, accurately represent the crime scene and evidence, create interest and increase attention to testimony
3. They accurately represent the crime scene in court
4. The effect of pictures on a jury cannot be overestimated
5. Photographs are highly effective visual aids that corroborate the facts presented
6. Digital photographs are quickly adaptable as e-mail attachments; additional technical information is recorded in a text file associated with the image; image degradation is avoided; physical storage space is reduced

B. Disadvantages of photographs

1. They are not selective
2. They do not show actual distances
3. They may be distorted and damaged by mechanical errors in shooting or processing

C. Advantages and disadvantages of video

1. A video or DVD, played before a jury, can bring a crime scene to life and offers some distinct advantages over photographs, such as showing distance and including audio capability
2. A slow pan of a crime scene is more likely than a series of photographs to capture all evidence, including that in the periphery of view, which might seem rather inconsequential at the time
3. Many agencies fail to provide adequate training to those tasked with videotaping a crime scene
4. The negative consequences of poor video is that it can damage a case
5. Untrained crime scene videographers may shoot without planning ahead, not shooting enough, shooting too much (resulting in a boring presentation), poor focusing, overusing the zoom feature, making jerky camera movements, including unintentional audio and failing to use a tripod or proper lighting

VI. Basic Photographic Equipment

A. Departments are advised to purchase a variety of photographic equipment for different applications
B. At a minimum, have available and be skilled in operating a Polaroid-type instant-print camera, a point-and-shoot camera, a digital single-lens reflex (DSLR) camera, a fingerprint camera and video equipment
C. Instant-print cameras

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1. These cameras provide pictures at low cost per image
2. They are simple to operate
3. The photographer can tell immediately whether the photo is good

D. Point-and-shoot cameras

1. These have a fixed lens, have become relatively inexpensive and are easy to use
2. Some models are ruggedized to resist water, shock and extreme temperatures
3. They provide instant feedback regarding a photo's quality

E. Digital single-lens reflex (DSLR) cameras

1. These have interchangeable lenses
2. They offer significantly higher image quality and resolution, but are more difficult to use properly and are often more expensive
3. With accessories, they can be adapted to take better photos in more challenging situations

F. Fingerprint cameras

1. These are specially constructed to take pictures of fingerprints without distortion
2. They provide their own light through four bulbs
3. A tripod and cable release should be used when photographing latent prints
4. This camera can also photograph trace evidence

G. Video cameras

1. These are used to record alleged bribery, payoffs and narcotics buys (surveillance)
2. Permanently installed units frequently photograph crimes being committed
3. They have the advantage of immediacy and eliminate a middle processing step in the chain of evidence
4. They can be used for in-station recording of bookings, for testing of suspects in driving-while-intoxicated stops, for crime scene investigations, and can be mounted on the dashboard of a patrol vehicle

H. Accessories

1. These can include an exposure meter, flash attachments, flood lamps and high-intensity spotlights
2. Special lenses and filters can be used for different purposes, such as photographing evidence, distant subjects or an entire room in one frame

I. Computer software

1. Immersive imaging is a major advancement in computer software to

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stitch together digital photos of 180 degrees or more to create one 360-degree photo—a panoramic view of a crime scene that is interactive, allowing viewers, including jury members, to walk through it as though they were there

2. Crime Scene Virtual Tour (CSVT) software lets jurors virtually step into a crime scene
3. The software allows the scene to be viewed from any angle with zoom, pan, tilt and rotate features

VII. Training In and Using Investigative Photography

A. Training in the use of photographic equipment

1. Training is needed for all types of photography
2. It is important to understand the basic terms of digital technology and resolution

B. What to photograph or videotape

1. Photograph the crime scene as soon as possible and photograph the most fragile areas of the crime scene first
2. Plan a sequence of shots showing the entire scene using the technique called overlapping
3. First photograph the general area, then specific areas and finally specific objects of evidence
4. Take exterior shots first because they are the most subject to alteration by weather and security violations
5. This progression of shots or video will reconstruct the commission of a crime:

a. Take *long-range* shots of the locality, points of ingress and egress, normal entry to the property and buildings, exterior of the buildings and grounds, and street signs or other identifiable structures that will establish location
b. Take *medium-range* shots of the immediate crime scene and the location of objects of evidence within the area or room
c. Take *close-range* shots of specific evidence such as hairs, fibers, footprints and bloodstains. The entire surface of some objects may be photographed to show all the evidence; for example, a table surface may contain bloodstains, fingerprints, hairs and fibers
d. Zoom lenses allow close shots without disturbing the crime scene, and close-ups are possible with macro lenses
e. Such close-range shots usually should include a marker, or scale
f. Forensic photogrammetry, the technique of extrapolating three-dimensional (3-D) measurements from two-dimensional photographs, can be used at most crime scenes

C. Errors to avoid

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1. To obtain effective photographs and videos, be familiar with your equipment and check it before you use it
2. Take photographs and/or videos before anything is disturbed
3. If something has been moved, do *not* put it back; it is legally impossible to return an object to its original position
4. To minimize distortion or misrepresentation, maintain proper perspective, and attempt to show the objects in a crime scene in their relative size and position
5. Take pictures from eye level, the height from which people normally observe objects

D. Checklists

1. Checklists are a critical aspect of the law enforcement function, especially when it comes to crime scene photography
2. Checklists can include the following:

   a. Are the batteries in the camera?
   b. Is the memory media loaded?
   c. Is the camera on?
   d. Is the lens cap removed?
   e. Are spare batteries and memory media readily available?

VIII. Types of Investigative Photography

A. Surveillance photography

1. With a well-thought-out plan, surveillance tapes can increase the efficacy of a law enforcement agency
2. Surveillance photography is also called trap photography
3. Many agencies are switching to digital formats rather than videotapes
4. Video analysis is the “new DNA of law enforcement”
5. Soon forensic video evidence will have the Regional Forensic Video Analysis Labs—a national database of criminals caught on tape
6. Enhanced surveillance capability can be provided by using robots
7. Small video cameras have also been attached to radio-controlled model airplanes

B. Aerial photography

1. Geographical Information Systems (GIS)
2. Pictometry: computer technology that integrates various aerial shots of a land-based artifact taken straight down (orthogonal) and from numerous angles (oblique). The software also features extreme zooming capabilities, allowing investigators to rotate and zoom in on a particular structure

C. Night photography
D. Laboratory photography

1. Microphotography takes pictures through a microscope and can help

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identify minute particles of evidence such as hairs or fibers

2. In contrast, macrophotography enlarges a subject. For example, a fingerprint or a tool mark can be greatly enlarged to show the details of ridges or striations
3. Laser-beam photography

    a. Reveals evidence indiscernible to the naked eye
    b. For example, it can reveal the outline of a footprint in a carpet, even though the fibers have returned to normal position

4. Ultraviolet-light photography

    a. Uses the low end of the color spectrum, which is invisible to human sight, to make visible impressions of bruises and injuries long after their actual occurrence
    b. Bite marks, injuries caused by beatings, cigarette burns, neck strangulation marks and other impressions left from intentional injuries can be reproduced and used as evidence in criminal cases by scanning the presumed area of injury with a fluorescent or blue light

E. Mug shots

1. The pictures of people in police custody are kept in department files for identification and are known as *mug shots*
2. Gathered in files and displayed in groups, they are called a *rogues' gallery*

F. Lineup photographs

1. Officers can select 6 to 12 other "hits" to be used for presentation with the suspect's photo
2. Videotapes or photographs of people included in lineups may be taken to establish the fairness of the lineup
3. Laptop Lineup I software quickly assembles appropriate lineups from a photo database

IX. Identifying, Filing and Maintaining Security of Evidence

A. Identifying

1. In the field notes, the photographs taken should be dated and numbered sequentially
2. Include the case number, type of offense and subject of the picture
3. Record the photographer's name, location and direction of the camera, lens type, approximate distance in feet to the subject, film and shutter speed, lighting, weather conditions and a brief description of the scene in the picture
4. Backing: On the back of the photo, write your initials, the date the photo was taken, what the photo depicts and the direction of north

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B. Filing

1. File the picture and negatives for easy reference
2. Pictures in the case file are available to others
3. Use a filing system just for photographs
4. Always cross-reference by case number
5. File digital images appropriately as evidence or within the department's internal secured hard drive

C. Maintaining security

1. Record the chain of custody of the film and photographs in the field notes or in a special file
2. Mark and identify the film as it is removed from the camera
3. Each time the film changes possession, record the name of the person accepting it

X. Admissibility of Photographs In Court

A. Photographs must be

1. Material
2. Relevant
3. Competent

XI. Crime Scene Sketches: An Overview

A. Crime scene sketches should

1. Accurately portray the physical facts
2. Relate to the sequence of events at the scene
3. Establish the precise location and relationship of objects and evidence at the scene
4. Help create a mental picture of the scene for those not present
5. Be a permanent record of the scene
6. Be usually admissible in court

B. A crime scene sketch assists in

1. Interviewing and interrogating people
2. Preparing the investigative report
3. Presenting the case in court

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XII. The Rough Sketch

A. This is the first pencil-drawn outline of a scene and the location of objects and evidence within this outline

1. It is not usually drawn to scale, although distances are measured and entered in the appropriate locations
2. Sketch all serious crime and crash scenes after photographs are taken and before anything is moved. Sketch the entire scene, the objects and the evidence

B. Sketching materials

1. Materials for the rough sketch include clipboard, paper, pencil, long steel measuring tape, carpenter-type ruler, straightedge, eraser, compass, protractor and thumbtacks
2. Plain white or graph paper is best
3. Today's contemporary crime scene specialist is likely to be equipped with a GPS (Global Positioning System) instrument for extreme accuracy

XIII. Steps in Sketching the Crime Scene

A. Step One: Once photographs have been taken and other priority steps in the preliminary investigation performed, you can begin sketching the crime scene

1. Observe and plan
2. Decide where to start

B. Step Two: Measure and outline the area

1. Always measure from fixed objects
2. Always position north at the top of the paper
3. Determine the scale: Use the largest, simplest scale possible

C. Step Three: Plot objects and evidence

1. Plotting methods
2. Rectangular-coordinate method

a. Uses two adjacent walls as fixed points from which distances are measured at right angles
b. Locates objects by measuring from one wall at right angles and then from the adjacent wall at right angles
c. This method is restricted to square or rectangular areas

3. Baseline method

a. Establishes a straight line from one fixed point to another, from which measurements are taken at right angles
b. Take measurements along either side of the baseline to a point at right angles to the object to be located

4. Triangulation method

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a. Uses straight-line measures from two fixed objects to the evidence to create a triangle with the evidence in the angle formed by the two straight lines
b. Commonly used outdoors but can be used indoors also

5. Compass-point method

a. Uses a protractor to measure the angle formed by two lines

6. Cross-projection method

a. The room is flattened out much like a box cut down at the four corners and opened flat
b. Presents the floor and walls as though they were one surface

D. Step Four: Take notes and record details
E. Step Five: Identify the scene

1. Prepare the legend
2. Legend should contain the case number, type of crime, name of victim or complainant, location, date, time, investigator, anyone assisting, scale of the sketch, direction of north and name of the person making the sketch

F. Step Six: Reassess the sketch

XIV. File the Sketch

XV. The Finished Scale Drawing

XVI. Computer-Assisted Drawing

A. Forensic software programs, such as Crime Zone, are easy to use and can create diagrams with great precision and attention to detail, giving the drawing greater credibility in court
B. Software graphics have been used to diagram the trajectory of bullets, to document the scene of a carjacking and to help a jury visualize the locations of witnesses, victims and suspects at the scene of a shooting
C. Speed and portability are two other features investigators look for when selecting a CAD program

XVII. Admissibility of Sketches and Drawings in Court

A. An admissible sketch is drawn or personally witnessed by an investigator and accurately portrays a crime scene
B. A scale drawing also is admissible if the investigating officer drew it or approved it after it was drawn and if it accurately represents the rough sketch
C. The rough sketch must remain available as evidence
D. Well-prepared sketches and drawings help judges, juries, witnesses and other people to visualize crime scenes

XVIII. Summary

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