



EVIDENCE TIMELINE

- - - The Crime

A hit-and-run has occurred at 2:45 a.m. A 911 call was made after the perpetrator fled the scene. The victim is hospitalized with serious injuries. There are no eye-witnesses to the collision. The area is well-lit and the weather is dry.



A smartphone is found on the curb near the collision. It is powered off. The screen is cracked. A fiber is caught on the surface. Fresh blood is observed along one edge. A dusty fingerprint is partially visible on one corner.

The Evidence



Scene security
Traffic control
Searchers
Photographer
Investigator

Documentation

The phone is spotted during a scene search inside the security barrier. It is photographed from a medium angle to record its position. Close-up photos are taken first without, then with, both a scale and evidence marker. The phone's location is marked on the scene sketch, and its condition entered in the scene notes.

Collection

An investigator, wearing clean gloves, picks up the phone by its edges to avoid disturbing any latent fingerprints. The fiber is pulled from the cracked screen with disposable tweezers and placed into an envelope, then an evidence bag to prevent loss during transportation. The bloodstain is wiped with a swab. The swab is packaged in a paper envelope to dry. The investigator removes the battery from the phone. The phone is placed into a paper evidence bag to prevent contamination to the remaining blood. The battery is placed into an anti-static bag, then both are enclosed in a Faraday bag to block any signals.

All packaging materials are labelled by the collecting officer with the case number, location, date, time collected, and the officer's name. Tamper-evident tape is used to seal all packaging and the collecting officer marks their initials across the tape.



Trace

The fiber is delivered to the trace analysis laboratory and entered into the inventory management system. The analyst records all visual characteristics, such as:

- sample length and thickness
- color
- sheen
- texture
- number of individual fibers
- twist or weave pattern and direction

A small portion of the sample may be processed for chemical content. Details are compared to libraries of similar fibers from known sources. The evidence is kept for later comparison to suspect vehicles and clothing.

DNA

The swab is delivered to the DNA laboratory and entered into the inventory management system. A portion of the dried swab is removed. The remainder of the swab and blood sample are stored under evidence control. The sample is processed for a DNA profile. The DNA profile is submitted to a local or state DNA index system. An analyst generates a report on the profile which is reviewed by second analyst. The report and remaining evidence is returned to the investigating agency.

Digital Media

The faraday bag is opened inside of a signal-blocking workbox. The phone, battery, SIM card, and SD memory card are separated without disturbing the surfaces of any latent prints. The digital contents are searched and retrieved:

- phone number
- user account
- network identifiers
- text messages
- web browser history
- deleted files
- email accounts
- photos

All results are documented and reported to the investigating agency. The phone and components are forwarded to the latent print laboratory.

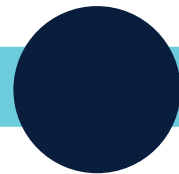
Latent Prints

The phone, battery, SIM card, and SD memory card are examined and processed to develop latent prints following a procedure for non-porous surfaces:

- white-light examination
- cyanoacrylate fuming
- fluorescent dye stain
- alternate light source examination
- powder application
- tape lift

Photographs are taken at every step. Any lifts are scanned with an FBI-approved imaging device. The prints are classified by pattern. The print details are marked in software by a latent print examiner. The marked records are uploaded to the FBI IAFIS system and searched against records from known individuals. A number of possible results are returned and each is compared to the case prints by an examiner. If an identification is found, the known and case prints are reviewed by a second examiner. Results are submitted to the investigating agency.

EVIDENCE TIMELINE



The Laboratory

Receiving clerk
Evidence technician
Trace analyst
DNA analyst
Computer analyst
Phone analyst
Digital media investigator
Latent print technician
Latent print examiners

The Investigation

Detective
Clerk of the court
Judge
Traffic officer
Booking officer
Toxicologist
DNA analyst
10-Print examiner
Latent print examiner
Trace analyst
District Attorney



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Investigators believe the phone owner is the driver in the hit-and-run, caused the collision under the influence of alcohol, was injured, deleted messages and photos, then threw the phone out of the vehicle while leaving the scene.

- Time stamps show the photos and text messages were deleted minutes before the 911 call reporting the collision was received. A warrant is requested for call detail records and cell tower connection points from the evening prior to the event, and signed by a judge.
- Investigators conduct an interview with the phone owner identified by carrier account records. The suspect claims the phone was stolen the night of the collision and that they don't own a vehicle. The state DMV has no record of a vehicle registration in the suspect's name and no vehicle is observed at the residence.
- Contacts from the phone are identified and questioned as to their activity with the suspect during the relevant hours and offer no useful information.

Three months later, the suspect is pulled over two miles from the original collision for driving erratically. The vehicle was reported stolen 4 months ago and shows front-end damage. A cheek swab and blood sample are collected and the suspect is fingerprinted during booking.

- The cheek swab is processed in the police station on a rapid DNA machine. A profile is generated in 90 minutes and uploaded to the local database. Software determines a possible match to the blood swab from the phone and the results are sent to the DNA laboratory for comparison. Based on the rapid DNA profile match, the suspect is detained for further investigation.

Pending analysis results are returned from the laboratories:

- The blood sample is sent to the toxicology lab and results show a blood alcohol level over the legal limit for operating a motor vehicle.
- Fingerprint details from the arrest are marked in software by a 10-print examiner and uploaded to IAFIS. A latent print examiner compares the known prints taken from the suspect with the latent prints from the phone and makes an identification. A second latent print examiner also makes an identification.
- Fiber and paint samples from the stolen vehicle are collected and sent for comparison to the trace lab. The fibers are consistent with carpeting from the stolen vehicle. Paint samples are identified to the victim's car. Damaged areas on both vehicles correlate.

The suspect is charged with the hit-and-run.

Judge
Defense attorney or public defender
Prosecutor
Bailiff
Corrections officers
Stenographer
Evidence clerk
Witnesses
Jury



The Courtroom - - - - -

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Evidence items are presented to the court for admission:

- Phone and components
- Collected fiber
- Paint samples from both vehicles
- Developed print lift cards
- DNA profile from blood swab

Analysts from the DNA, toxicology, latent print, digital media, and trace evidence laboratories are introduced in court and present their results:

- The DNA profile from the phone swab matches the cheek swab taken during booking the suspect.
- The digital evidence of deleted text messages and photos show plans and communication during an evening of drinking before the collision.
- The fiber evidence from the phone is consistent with sample fibers taken from the stolen vehicle following the traffic stop.
- Paint samples and damage reports from both vehicles correlate to each other showing contact.
- The latent prints from the phone are identified to known prints collected from the suspect during booking for the DUI.

Statements are presented from other parties involved in the drinking activities during the time in question. Witnesses identify the accused and state the accused was slurring their speech, left the bar while staggering, and drove away in the stolen vehicle.

The jury hears the evidence, deliberates, and returns a verdict of guilty in the charges of assault with a vehicle while driving under the influence, obstructing an investigation, and fleeing the scene.