



MILWAUKEE POLICE DEPARTMENT

STANDARD OPERATING INSTRUCTION

CRASH RECONSTRUCTION UNIT

ISSUED: May 4, 2026

EFFECTIVE: May 4, 2026

REVIEW/APPROVED BY:

Assistant Chief Steven Johnson

DATE: March 30, 2026

ACTION: Creates SOI

WILEAG STANDARD(S): 13.1.5

I. PURPOSE

This standard operating instruction establishes the requirements for the Specialized Patrol Division (SPD) – Crash Reconstruction Unit (CRU). CRU is dedicated to uphold the highest investigative standards in the examination of fatal and serious injury crashes, ensuring accuracy, procedural integrity, and defensible conclusions.

II. POLICY

- A. The CRU is tasked with the investigation of all fatal motor vehicle crashes occurring in the City of Milwaukee. At the discretion of the CRU commander, the CRU may respond to crashes resulting in serious injuries with a high likelihood of death, or other major incidents where precise measurements or scene reconstruction is required.
- B. The CRU conducts follow-up investigations at the request of the District and City Attorney's Offices, and may assist neighboring departments with serious or fatal crash investigations when requested.
- C. The CRU assists the Internal Affairs Division (IAD) with downloading and analyzing crash data from department vehicles involved in a motor vehicle crash (see SOP 650 Vehicle Crashes).
- D. The CRU uses sophisticated equipment to measure scenes in three dimensions. The recorded data is used to create scaled reconstructions in a computer aided drawing program. By applying scientific and mathematical principles to the data collected, officers in the CRU are able to conduct a collision analysis and crash reconstruction.

III. PERSONNEL

- A. The CRU commander will be staffed by the Captain of the Specialized Patrol Division, or designee.
- B. The CRU supervisor will be staffed by an SPD - Motorcycle Unit sergeant.
- C. The CRU is located within SPD and will consist of crash reconstructionists, who are trained in the field of crash reconstruction and the use of forensic mapping equipment.
- D. The CRU may be underfilled by police officers who have been ranked through a

department roll call posting and are on a current CRU eligibility list.

IV. CASE MANAGEMENT AND CRITICAL INCIDENT RESPONSE

A. Crash reconstructionists will manage investigations they are dispatched to from initial response until the case is completed/closed.

1. CRU shall respond to all fatal crashes (see SOP 650 Vehicle Crashes).
2. Requests for CRU at serious injury crashes or crime scenes will be triaged on a case-by-case basis. Certain investigations may not require or be appropriate for a CRU members response and shall be handled as a follow up task at the discretion of the crash reconstruction supervisor.
3. Non-dispatched assignments (e.g., follow up requests, assignments related to SOP 650 Vehicle Crashes, District Attorney's Office cases), will be assigned via a fair sheet managed by the CRU supervisor.
4. All cases should be assigned a co-investigator via a fair sheet managed by the CRU supervisor. This insures cases are managed effectively during the lead investigators absence.
5. The CRU supervisor may reassign cases based on case load, special knowledge, or other needs of the department.
6. A CRU briefing will be held as needed to share investigative knowledge and insight for cases with all CRU members. The CRU supervisor will determine the frequency of these briefings based on case load or other needs.

B. PEER REVIEW

All reports based on mathematical analysis and/or professional opinion of the crash reconstructionist will be peer reviewed by a CRU member, with an equal or higher level of training in that topic, prior to being submitted to the District Attorney's Office.

C. CRITICAL INCIDENT RESPONSE

1. CRU members may be requested to assist in critical incidents (as defined by SOP 453 Officer Involved Deaths and Other Critical Incidents). Duties may include, but not be limited, to:
 - a. Forensic mapping;
 - b. Airbag control module downloads.
2. In the event of a fatal or serious injury crash where a conflict of interest is evident (e.g., off-duty department member is involved):

- a. The Wisconsin State Patrol will respond to the scene and become the lead investigating agency
- b. CRU will act as a liaison to the Wisconsin State Patrol and the Milwaukee Police Department.

V. ISSUED EQUIPMENT

- A. The field of crash reconstruction involves operating in and around severely damaged vehicles exposing the CRU member to sharp metal objects, broken glass, chemicals, and blood.
- B. Members should wear personal protective equipment (PPE) when practical while working around crashed vehicles and when operating power tools.
- C. Members shall be issued the below PPE items when transferred to the CRU.
 1. Wrap around style safety glasses;
 2. Work gloves (Mechanix or similar);
 3. Extrication gloves (Ringers R-314 or similar); and
 4. Earplugs or similar hearing protection.
- D. Members shall notify the CRU supervisor when a PPE item has become worn and needs replacement.

VI. CRU SELECTION AND TRAINING (WILEAG 13.1.5)

A. VACANCIES

1. Department members will be notified of any vacancy in the CRU through a roll call posting on the Directives intranet site. Any officer interested in this assignment must submit an application through the Human Resources Division.
2. The commanding officer of SPD, or designee, will make decisions related to assignments to the CRU.

B. CANDIDATE REQUIREMENTS

Department members desiring consideration for assignment to the CRU shall meet the following requirements:

1. Demonstrate strong foundational knowledge of mathematical order of operations, solving of algebraic equations, and the Pythagorean Theorem.

2. Demonstrate a strong knowledge of Wisconsin traffic laws.
3. Willingness to respond to CRU investigations at all hours of the day in various weather conditions.
4. Have received positive department evaluations.
5. Have the recommendation of current supervisors.

C. EVALUATION PROCESS

When a police officer is selected for appointment to the CRU, that officer will enter into a field training period under a senior crash reconstructionist for a period of time determined by the SPD commander. There is no set time frame for CRU field training as it is based largely on call volume, but a minimum of 6 months of field training can be expected. During field training the candidate should be involved in investigations including:

1. Serious injury crashes;
2. Single vehicle fatal crashes;
3. Multi vehicle fatal crashes;
4. Non-criminal fatal crashes;
5. Pursuit related crashes;
6. SOP 650 Vehicle Crashes investigations;
7. Processing of cars post-crash (e.g., hit and run, crash data retrieval (CDR), etc.); and
8. Crime scene mapping

D. INITIAL TRAINING

1. The CRU supervisor and senior crash reconstructionist will evaluate the officer's field training. When sufficient field training has occurred, and at the recommendation of the CRU supervisor, the department shall register the member for the Core Sequence of crash reconstruction classes taught by Northwestern University Center for Public Safety (NUCPS). NUCPS is the standard curriculum ensuring that all crash reconstruction members use similar verbiage and equations across investigations. Members approved for training shall be required to request training and travel for NUCPS in accordance with SOP 082.50. No member shall be designated a certified crash reconstructionist until they successfully complete the NUCPS Core Sequence.

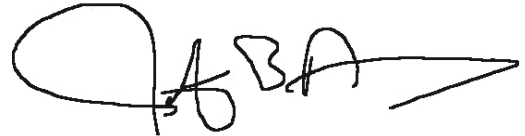
Note: Members will need authorization from the CRU supervisor to seek Crash Reconstruction certification through an institution other than NUCPS.

2. The sequence of courses to be completed before obtaining the rank of crash reconstructionist is:
 - a. Crash Investigation I.
 - b. Crash Investigation II.
 - c. Vehicle Dynamics.
 - d. Traffic Crash Reconstruction I.
 - e. Traffic Crash Reconstruction II.
 - f. Bosch CDR Data Analyst – by Bosch authorized instructor/institution.
3. The courses are sequential and pass/fail. Failing a course may result in removal from the CRU.

E. ADDITIONAL TRAINING

1. Crash reconstruction is a highly technical field involving all forms of transportation and forensic mapping. These are rapidly evolving fields and a crash reconstructionist must stay current with current vehicle and forensic technology.
2. Additional required training will need to be completed within two years of becoming certified as a crash reconstructionist, including:
 - a. Trimble Forensics Basic Diagramming;
 - b. Federal Aviation Administration (FAA) Part 107 small Unmanned Aircraft Systems (UAS) license;
 - c. Forensic Scene Mapping; and
 - d. Advanced CDR Reconstruction.
3. Each crash reconstructionist shall attend a minimum of 24 hours of training annually in topics related to crash reconstruction, vehicle technologies, forensic mapping, etc. This training, which must be preapproved by the CRU supervisor, can be done by completing in-person and online courses, webinars by recognized professional groups (e.g., National Association of Professional Accident Reconstruction Specialists (NAPARS), Midwest Association of Technical Accident Investigations (MATAI), etc.), or attending conferences. Information learned at these training events should be disseminated to other CRU members at the monthly briefing.

4. The CRU supervisor shall monitor training and ensure all members of the CRU have the same relative level of training for reconstruction courses (e.g., pedestrian, motorcycle, kinematics, etc.). The CRU supervisor may enroll members of the CRU in training based on the needs of the unit.
5. Failure to complete ongoing training may result in removal from the CRU.

A handwritten signature in black ink, appearing to read 'J.B.N.' followed by a long horizontal stroke.

JEFFREY B. NORMAN
CHIEF OF POLICE

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