North Carolina Department of Transportation
Division of Highways
Transportation Mobility & Safety Division

GUIDELINES
for
Investigation of Fatal Crashes
October 2019

In support of NCDOT's Mission and Goals (https://inside.ncdot.gov/Pages/Mission-and-Goals.aspx) and fundamental to the delivery of North Carolina's Strategic Highway Safety Plan goals to significantly reduce fatalities and serious injuries, the North Carolina Department of Transportation manages a comprehensive Fatal Crash Location Investigation Program through the Transportation Mobility and Safety Division's Traffic Safety Unit.

Basis and Purpose of NCDOT's Fatal Crash Investigation Program –

Fatal crash location investigations are just one of NCDOT's multi-pronged, evidence-driven Highway Safety Improvement Programs. The purpose of each of these programs is to save lives by reducing fatal and severe injuries. Fatal crash location investigations utilize location-specific roadway condition and historical crash data to identify and mitigate hazardous roadway conditions through safety enhancement recommendations and development of highway safety improvement construction projects.

The effective combination of information-driven systemic efforts with event-based investigative programs enhances North Carolina's overall safety knowledge, capabilities and effectiveness.

North Carolina's Statewide Fatal Crash Investigation Program addresses:

- Road Environment and Condition Risk Assessment
- Regulatory and Traffic Control Risk Assessment
- Review of most current five years of historical safety performance of location (crash data)
- Identification of patterns, deficiencies and recommendations to mediate/treat
- Potential safety and/or maintenance improvement recommendations
- Ability to transfer and apply knowledge gained to other locations/future projects
- Produce and maintain critical fatal crash location and condition documentation – often requested and required by public, media and legal community
- Dissemination of safety knowledge to divisions, local governments and other safety partners (GHSP, NCSHP, FHWA, etc.)
- Expanding knowledge of engineers with regard to conditions, circumstances, and combinations of driver, road, and vehicle contributions to fatal outcome crashes

To maximize the ability of experienced Safety Investigative Engineers to safely document, study and assess fatal crash and severe injury crash location conditions, investigations are performed under daylight conditions.

NCDOT's Fatal Crash Location Investigations are performed by experienced Traffic Safety Engineers. NCDOT's fatal crash investigations are not forensic crash reconstructions and are more roadway/location focused than the typical law enforcement investigation.

Initiation of a Fatal Investigation –

A Fatal Investigation is typically initiated by receipt of a Fatal Slip, at which time an investigation packet is prepared. Traffic Safety Systems Section determines if the fatal crash meets the exclusion criteria outlined in the November 2, 2010 memorandum from State Traffic Safety Engineer Terry Hopkins and updated in the list dated April 7, 2017. (Note: Even if a fatal crash meets the exclusion criteria, the region may still request an analysis. Also, if a fatal crash is not initially excluded, the Regional Office can still request a fatal be excluded if circumstances dictate (planned project at the location, recent investigation, etc.).

As of July 2018, all Fatal Investigations are processed through the Fatal Workflow Tracker. Each fatal crash investigated will have an individual Tracker entry and Document Set found at:
https://connect.ncdot.gov/site/tmsd/fatal

Workflow Process (Tracker)

Explanation and instructions for the Workflow Process can be found at:
https://connect.ncdot.gov/site/tmsd/fatal/Help/

Document Set

The Completed Fatal Investigation Document Set should include (but is not limited to):

- Fatal Slip
- Highway Patrol or Local Police Report (DMV-349)
- TEAAS data
- Field Investigation Notes Form
- Field Sketch Form (As needed. The DMV-349 sketch may be referred to, if it is sufficient.)
- Map of crash location
- News reports or other relevant information (if applicable)
- Photos
- Relevant correspondence

Field Investigator Responsibilities

1. Access and review the data within the Document Set once assigned by the Regional Office.
2. Conduct Field Investigation (see guidelines below).
   - Complete Field Investigation Notes
3. Conduct further study, if needed. Consider the following:
   - Plot a collision diagram based on the crash analysis.
   - Look for possible crash patterns.
   - Review Signal Plans if applicable.
   - Check for upcoming projects (TIP, Bridge replacement, Spot Safety, HSIP Project, and others) that may provide future improvements to the location.
4. Make engineering recommendations.
   - Discuss with RTE, DTE, or others as needed.
5. Upload all relevant data and correspondence to the Document Set and update the Tracker.

Documentation

Data Entry

- Make sure to document ALL data collected. This information is essential, especially when responding in tort claims.
- All data should be based on factual information, which is gathered from the DMV-349, the fatal slip, or field investigation. The DMV-349 takes precedence over the fatal slip. Conflicting data should be verified and corrected.
- Written data should be in a clear, legible, professional format.
- Electronic data entry should match information gathered from the investigation. The electronic file may be updated as needed.

File Management

- Everything is retained electronically via the Tracker and Document Sets and should be retained according to standard policy (10 years).
- Following the completion of the investigation, any additional correspondence should be uploaded to the Investigation folder in the Document Set.
- Digital photos should be uploaded to the Investigation folder in the Document Set.
- If another file exists for the fatal location, such as an HSIP, Spot Safety, TIP, etc, it is recommended that a copy of the fatal packet be referenced in the related file.

Investigation Reporting

- The need for a report following a fatal investigation, and the format for making recommendations, may be determined per the procedure followed by the individual Regional office.
- Recommendations should be documented within the document set. This may be in the form of a report, memo, e-mail, written notes, etc.

Notes

The Fatal Investigation Document Set may be provided to other state/municipal agencies upon request, as approved by the RTE. All other requests must go through appropriate channels (e.g. Reporters should be directed to the NCDOT Communications Office).

Lawyers/plaintiff requests should first be discussed with the Traffic Safety Systems Engineer who will contact the Attorney General's office.

Do not include DMV 349's in any correspondence per Federal law. The requestor needs to request these directly from NCDMV.

Regional Office Field Guidelines
For Fatal Crash Investigations
October 2019

Note – Investigations are typically performed during normal business hours.

1. **Review DMV-349**

   - Verify Data with fatal slip (such as name, date, time, location, etc…)
   - Look for items of interest (as applicable):

General Items	Info on Deceased	Vehicle	Site Information
Alcohol	Age	Type Vehicle	Road Surface (at time of crash)
Pedestrian	Person Type	Maneuver/Action	Weather (at time of crash)
Bicycle	Seating Position	Vehicle Defects	Light (at time of crash)
Tree	Seatbelt Use	Estimated Speed	Current pavement condition
Tractor Trailer	Physical condition	Cond. of driver	Current condition of markings
Cross Median	Maneuver/Action	Age of driver	Lane configuration
			Access control
			Visibility of traffic control
			Speed limit
			Skid Marks

2. **Locate crash site** and verify location on investigation form.
3. **Complete the "Field Inv Notes" form** based on field observations and review of the DMV-349.
4. **Ride location** as needed to make observations and/or collect data, to include:
   - Signing and/or other traffic control devices
   - Check curves with Ball Bank Indicator
   - Check sight distances
   - Note roadway character and conditions
   - Review Signal Operation (if applicable)
   - Look for evidence of previous crash history at location
5. **Obtain Pictures** - Number and type to be determined on site by the investigating engineer. The following factors should be considered:
   - Views of each approach to the crash site. Close and mid range shots as needed.
   - Different perspectives of the impact point
   - Pavement condition in the vehicle's travel lane, at the location of the 1st harmful event
   - Shoulder condition in the direction of travel, at the location of the 1st harmful event
   - Object Struck
   - Other relevant shots such as traffic control, and roadside conditions
6. Make a **sketch** of the location (if DMV-349 does not suffice). The following data should be included as needed (but not limited to):
   - Site and lane configuration
   - Signing and other traffic control devices (also, date installed if available)
   - Pavement marking details
   - Roadside obstacles
   - Driveways

7. The following **measurements** should be obtained from the site unless unsafe to do so. If the site is deemed unsafe, use appropriate tools to obtain measurements, and note in file.
   - Lane widths on all lanes and all directions pertinent to crash (center of edge line to center of lane divider)
   - Width of paved shoulder (if applicable)
   - Width of soil (unpaved) shoulder
   - Distance from object struck (trees etc.) to the edge of pavement (if applicable)

Performance Management Expectations

General Expectations:

- Collection and review of data is expected to begin immediately upon receipt of the fatal slip by the party responsible for collecting the data.
- The DMV-349 should be requested immediately upon receipt of the slip.
- If the DMV-349 must be picked up physically, it should be obtained as soon as it is ready.
- The remaining assimilation of data should be completed immediately upon receipt of the DMV-349; and the packet provided to the investigative engineer as soon as possible.
- Upon receipt of the notification in the Fatal Crash Review Program Tracker, the expectation for completion of the investigation is 60 calendar days (45 business days). This may be waived at the discretion of the RTE (or other superior) as necessary due to special circumstances. The Workflow Due Date is setup on the Tracker automatically. The Investigation Due date is assigned by the Regional Traffic Office.
- The (60)-day period should begin at Step 4 in the Workflow Tracker.

Performance Evaluation

- Fatal investigations are listed as a performance goal for all field-based engineers in the Traffic Safety Unit. For those positions the expectations are as follows:

Exceeds Expectations	> 95% completed by due date
Meets Expectations	90-95% completed by due date
Does Not Meet Expectations	< 90% completed by due date

(Source of Documentation: Traffic Safety Fatal Crash Review Program Tracker