# Advancing crash investigation with connected and automated vehicle data – Phase 2

This report explores the advancement of crash investigation through connected and automated vehicle (AV) data by answering the following research questions:

1. What do AVs tell us when they crash?
2. What are the gaps in AV safety performance?
3. Which crash contributors do AV sensors reveal?
4. What information is missing in crash investigations?
5. How can law enforcement prepare to use AV data?
6. What insights can AV crash narratives provide?
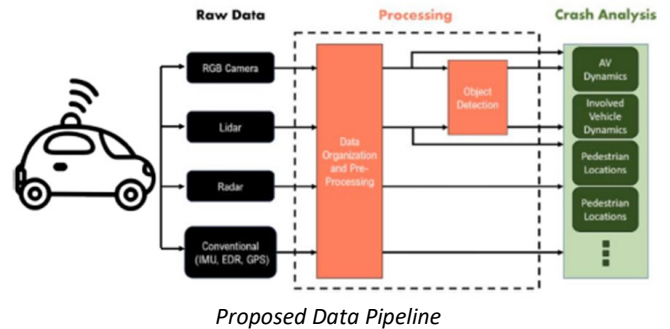
The results revealed that AV sensors provide valuable information about vehicle trajectories, which is usually unavailable.

We addressed questions 2 and 6 by combining text analytics of crash narratives with Bayesian methods to assess how precrash conditions, automated driving mode, and crash types are associated with crash severity. This method revealed that AVs operating on ramps or slip lanes often experience higher injury severity.

To answer questions 4 and 5, we surveyed crash investigators in law enforcement and assessed their familiarity and experience with AV data. The survey revealed a need for standardization in AV data retrieval and training processes, resulting in a list of pertinent training curricula for law enforcement.

This report also motivates a discussion on proper training of crash investigators. It shows that data uncovered through AV sensors can enrich crash investigation practices by facilitating a comprehensive portrayal of crash events.

Proposed Data Pipeline

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