

CENTER FOR AUTO SAFETY

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July 28, 2015

Honorable T. Bella Dinh-Zarr, Ph.D., Vice Chairman
National Transportation Safety Board
490 L'Enfant Plaza East, S.W.
Washington, DC 20594

Dear Dr. Dinh-Zarr:

In 2012, Congress authorized and appropriated \$25 million for the National Highway Traffic Safety Administration (NHTSA) to update the agency's crash investigation and data programs.¹ While Congress intended NHTSA to conduct a much needed major overhaul of the data programs, NHTSA delivered only a modest update of its 35 year old programs. The new designs continue some of the errors in the original design of the National Accident Sampling System and do not take advantage of modern technologies that could give the agency a dramatically improved picture of crashes and crash injuries.

Upgrading of our national crash data systems is critical at this time when (1) vehicle design and technology is changing rapidly in response to new fuel economy regulations, (2) automotive electronics, sensors and on-board computers are advancing rapidly, and (3) spending on road and bridge maintenance has been curtailed. It would be appropriate at this time for the National Transportation Safety Board to initiate a comprehensive review of not only the redesigned crash investigation programs of NHTSA, but of the nation's crash investigation and reporting programs generally. Please consider this letter as a request for such a review. We are addressing this request to you, with a copy to Chairman Hart, because of your extensive past involvement in vehicle and road safety.

The fundamental problems with both the old and new NHTSA crash investigation and reporting systems are:

- They are, and will probably continue to be underfunded in relation to the National Highway Traffic Safety Administration's need for detailed,

¹ Public Law 112-141— July 6, 2012. NHTSA's Review of the National Automotive Sampling System, produced in response to this legislation is: Report to Congress, DOT HS 812 128, Washington, D.C., March 2015. It is not clear how much of the \$25 million was spent in the preparation of this report.

comprehensive information on the more serious crashes and crash injuries occurring across the nation.

- They continue to focus primarily on passenger cars and light trucks – where there have already been major reductions in crash fatalities and injuries – mostly ignoring pedestrians, pedal cyclists, motor cyclists, and larger trucks.
- They have a limited mechanism for identifying and selecting crashes of the highest interest: those that have the greatest potential to cause human death and injury and where safety improvements can most dramatically demonstrate success. This is because selection is based on police accident reports (PARs) that lack adequate accurate information on crash and injury severity. Since the vast majority of crashes are not particularly serious, the consequence is that a substantial majority of the crashes selected for investigation provide little insight into (1) the conditions that produce fatalities and the most severe crash injuries and (2) how improved vehicle and road designs may be reducing the occurrence and severity of crashes and of crash casualties.

The roadblock is the fact that most local and state police crash investigators are still doing their investigations and reports in essentially the same way they were at the time NHTSA was formed nearly fifty years ago. In the meantime, there have been major developments in digital photography, computer systems, artificial intelligence, and internet communications; many of which are being adopted in other areas of law enforcement.

What the nation now needs is a major modernization of the way that local and state police crash investigators conduct and report on significant crashes. This is critical because investigating officers have unique access to the freshest and most complete information on a crash. Specifically, investigating officers should have laptop computers or tablets with software to facilitate their work. These systems would specifically:

- Provide guidance in responding to a crash (contacting EMS and tow trucks, clearing scene) and conducting investigations,
- Provide templates for direct input of data in electronic format,
- Directly read licenses, registrations, and insurance cards; and pinpoint crash location from a GPS (this technology would save a considerable amount of time and improve accuracy),

- Provide a simple app with which pre-crash speed, pre-crash braking, and restraint use can be downloaded from the vehicle's crash recorder² (NTSB is well-acquainted with the value of crash recorders because of their critical role in air and rail crashes. An officer's access using simple equipment would probably require a change in the design of future vehicle crash recorders to permit such readings),
- Direct the officer on taking a modest number of photographs of the scene and vehicles (concentrating on the crash damage areas of the vehicles from which artificial intelligence software can make an estimate of the Collision Deformation Classification that is critical to estimating the severity of the crash), and
- Provide a template for the officer to complete a simple questionnaire concerning the condition of the various people involved in the crash (artificial intelligence software would make a reasonably sophisticated estimate of the nature and severity of their injuries, including the Abbreviated Injury Scale classification that would be a major improvement over the present *KABCO* description of injury).

The assessment of crash and injury severity could be used to advise emergency medical technicians on the level of care required for crash victims.

Assuming that a uniform standard can be developed and agreed upon for crash reporting, electronic records of crashes that are sufficiently severe to trigger a police report, could all be assembled within days into a state computer. The results could be assessed on a monthly basis by software designed to identify patterns to provide a highly useful, comprehensive picture of the state of traffic safety in each state, virtually in real time.

Such data bases could probably have identified the most severe and widespread safety defects of recent years: the Firestone tire/Ford Explorer case, the Jeep Grand Cherokee fire defect, the Toyota unintended acceleration cases, the Takata air bag explosions, and the GM ignition switch failures; each of which has resulted in tens to hundreds of fatalities and more injuries. More important, these records could also have identified the problems with SUV rollovers and weak roofs and other more widespread safety challenges.

The costs of a more advanced system would be more than offset by the savings in time and resources to create the existing paper PARs. If needed, the initial funds

² NTSB is well-acquainted with crash recorders because of their value in air and rail crashes. Such crash recorders are in virtually all recent model vehicles on the road, but at present, the data available from them can be accessed only by trained personnel using expensive equipment.

are available in the half-billion dollar State Highway Safety Grants. Because the laptop software could guide an officer through an investigation, only minimal additional training would be necessary. The increase in efficiency from such a system would mean that officers would spend no more time on modern crash investigations than they do at present, and would need little additional training.

NHTSA's National Center for Statistics and Analysis has refused to even entertain the possibility that local and state police might be induced to bring their work into the Twenty-First Century. They cannot conceive of the possibility that photographs could be taken by at least the police agencies in their Primary Sampling Units, where Federal crash investigations are conducted, that would make it possible to "separate the wheat (crashes worthy of Federal investigation) from the chaff (mostly fender benders and relatively minor crashes)."

The Government Accountability Office recently completed a study of NHTSA's crash investigation program.³ However, this agency basically accepted NHTSA's conclusion – which we do not – that state and local police agencies could or would not adopt modern technologies for their crash investigation and reporting.

We urge that you work with Chairman Hart and other NTSB board members to initiate a more far-sighted NTSB review of the practices and technologies used in crash investigation and reporting at the local, state and national level that could ensure a better understanding of our safety needs and achievements.

Improving the quality of police reporting on vehicle crashes will be advantageous to everyone involved, and especially the public that will enjoy safer motor vehicle transportation. Every NHTSA crash data base, every rulemaking and defect investigation that use those data bases would benefit. It is critical that an independent review be conducted before NHTSA's revised crash data systems become entrenched and proceed unchanged for another 40 years.

Sincerely,



Clarence M. Ditlow
Executive Director



Carl E. Nash, Ph.D.
Chief Scientist

cc: Chairman Christopher A. Hart

³ Auto Safety: *Status of NHTSA's Redesign of Its Crashworthiness Data System*, GAO-15-334: Washington, D.C.: Mar 6, 2015.