NHTSA
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Real World Data Collection

Data Availability from NHTSA's Newly Modernized CISS and Special Crash Investigations (SCI) Programs

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NHTSA's Data Collection Modernization

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Began in 2013:

- New sample designs
  - NASS General Estimates System (GES) and Crashworthiness Data System (CDS) retired for modernized system
- Crash Report Sampling System (CRSS) replaced GES
  - 75 sites selected (60 implemented for 2018 - 2019)
- Crash Investigation Sampling System (CISS) replaced NASS/CDS
  - 73 Sites selected (32 implemented for 2018 - 2019)
- Built a Crash Data Acquisition Network (CDAN) for all crash data collection programs
  - CISS
  - Special Crash Investigations (SCI)
  - Crash Injury Research and Engineering Network (CIREN)
  - CRSS
  - Fatality Analysis Reporting System (FARS)
- Revised manuals, protocols, and procedures for field data collection

NHTSA's Data Collection Modernization

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2013 - 2015 Sample design and Information Technology (IT) specifications developed
Field operations developed

2015 - 2018 Setup Primary Sampling Unit (PSU) sites for CISS and tested equipment

- Established office location and staff
- Built a new IT system
- Tested / procured new equipment for field
  - EDR kits for each Technician
  - Rugged tablet computers for field use
  - Total Station measuring devices
- Trained new Crash Technicians / Investigators (CISS, SCI and CIREN)

NHTSA's Data Collection Modernization

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CISS setup (continued)

- Established a PSU Operations Center
- Established a Quality Control Center
- Standardized training at the Crash Investigation Training Academy in Oklahoma City, OK

Data Modernization (CISS)

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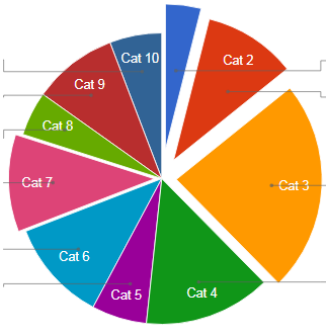
2017 Data collection

- Ramped up to 24 teams
  - Four additional teams added in November 2017
- Listed over 245k crash reports
  - Selected almost 2,100 cases



Category 1	**Any model year vehicle** Fatal injury	**Category 6**	**Mid model year vehicle** Moderate, minor or unknown injury
Category 2	**New vehicle** Serious Injury	**Category 7**	**Mid model year vehicle** No injury
Category 3	**New vehicle** Moderate, minor or unknown injury	**Category 8**	**Older model year vehicle** Serious injury
Category 4	**New vehicle** No injury	**Category 9**	**Older model year vehicle** Moderate, minor or unknown injury
Category 5	**Mid model year vehicle** Serious Injury	**Category 10**	**Older model year vehicle** No injury

New: Last five model years
Mid: 6 – 10 years old
Old: > 10 years old

Data Modernization (CISS)

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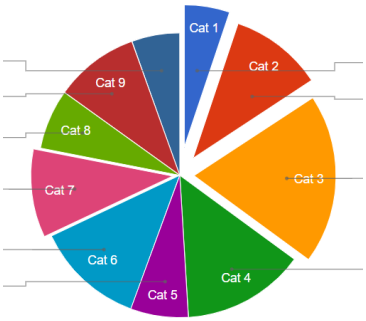
2018 Data collection

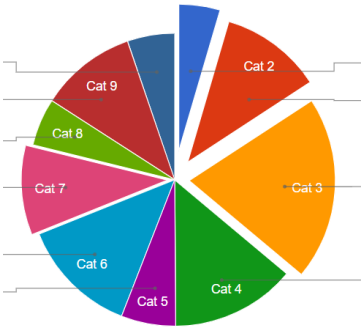
- Ramped up to 32 teams
  - Four additional teams added in November 2018
- Listed over 179k* crash reports
  - Selected almost 2,700 cases

* Subsample implemented at specific sites



2019 Data collection

- Full year with 32 teams
- To date, listed about 170k crash reports
  - Selected 2,750 cases to date



Data Modernization (CISS)

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2017… More Data Available!

Towed Vehicle Inspections		
Required	Obtained	%
2,936	2,583	88

EDR's		
Available	Imaged	%
1,814	1,390	77

2018… Even More Data Available!

Towed Vehicle Inspections		
Required	Obtained	%
3,789	3,326	88

EDR's		
Available	Imaged	%
2,375	1,838	77

2019… Yet More Data Available!

Towed Vehicle Inspections		
Required	Obtained	%
3,845	3,423	89

EDR's		
Available	Imaged	%
2,383	1,952	82

Event Data Recorder (EDR)

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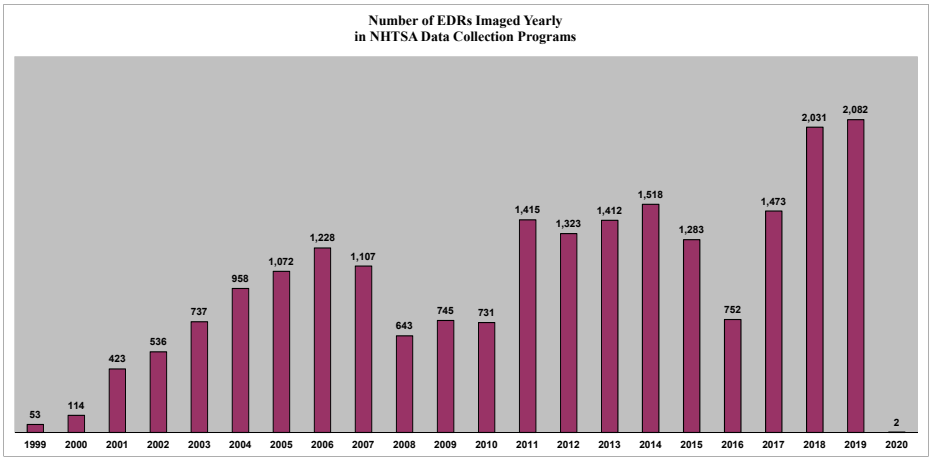
To date: 21,638 EDR Files have been collected



Event Data Recorder

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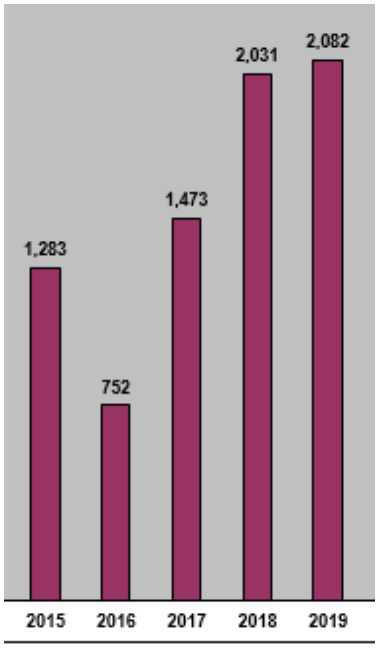
- 2015 Data
  - Last year of NASS CDS
- 2016 Data
  - Pilot data and testing
- 2017 Data
  - CISS 24 PSUs
  - SCI / CIREN – 72 EDR's
  - Raw .cdrx file published with redacted VIN)
- 2018 Data
  - Over 2,000 in CISS
- 2019 Data
  - Almost 2,100 thus far



Upgraded Data Available to Public

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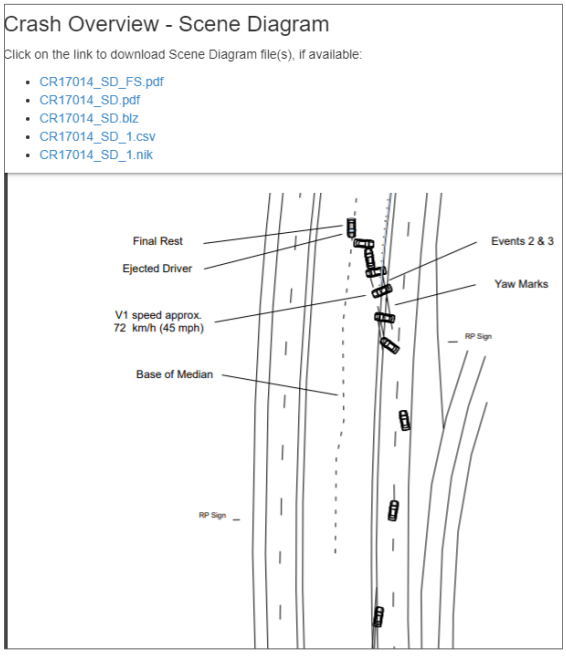
- Modernization resulted in upgraded scene diagrams for investigation-based programs
- All files can be downloaded
  - .pdf
  - .blz (Faro product)
  - .nik
  - .csv
  - .cdrx



CISS First Object Struck

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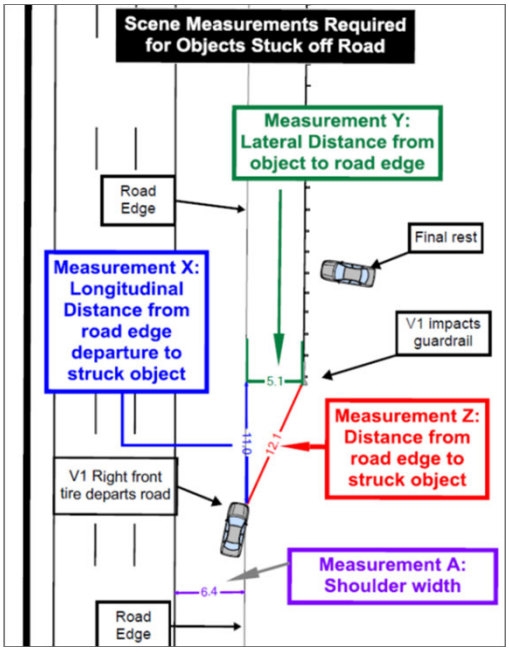
- FHWA requested data for off road objects
  - Nationally-representative
- Shoulder width
- Struck object length/width/height
- Distance from edge of road X/Y/Z
- Additional images of crash scene



Crash Data Available for Reconstruction

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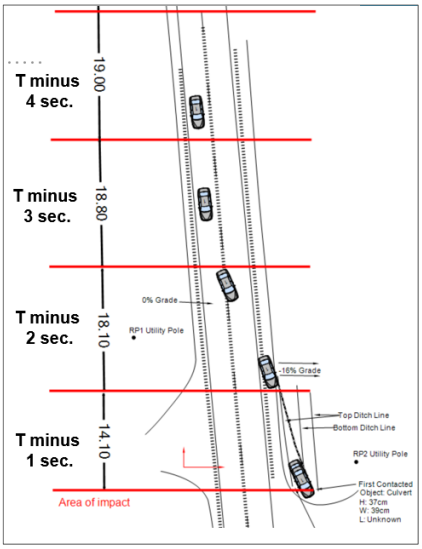
Pre-Crash Data -5 sample

Time Stamp (sec)	Speed, Vehicle Indicated (MPH [km/h])	Service Brake (On, Off)	Steering Input (deg)
-5.0	43 [70]	Off	0
-4.5	43 [69]	Off	0
-4.0	43 [69]	Off	0
-3.5	42 [68]	Off	0
-3.0	42 [67]	Off	0
-2.5	42 [67]	Off	15
-2.0	41 [66]	On	20
-1.5	40 [64]	On	15
-1.0	34 [55]	On	5
-0.5	32 [51]	On	55
0.0	29 [47]	On	85



Scaled diagram

Available on Web

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- Released the 2017 CISS file
- Coming soon! – Release the 2018 CISS file
- 2019 – a complete CISS year with 32 PSUs collecting crash data
- In addition to coded data in SCI, CISS, and CIREN:
  - Complete EDR file (not just a .pdf)
  - Scene files (2D)
  - Vehicle crush files
  - Scene and vehicle images
  - Expanded injury data
  - Technical Report (SCI Cases)
  - Expanded SAS data sets (CISS)

Data Access www.nhtsa.gov/research

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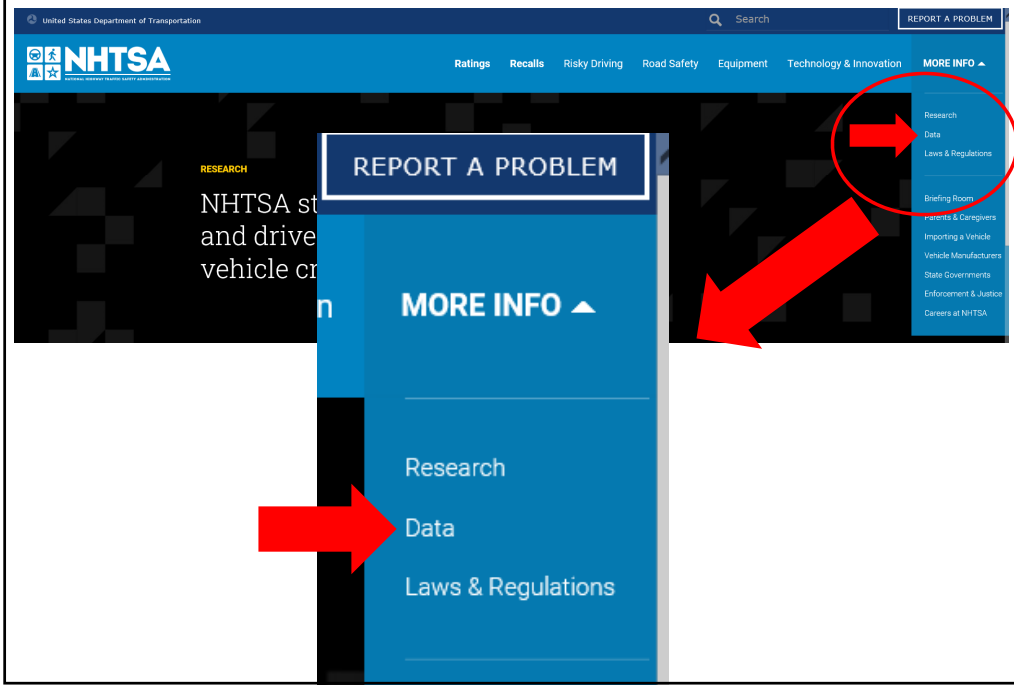

Data Access www.nhtsa.gov/research

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Data

The National Center for Statistics and Analysis (NCSA), an office of the National Highway Traffic Safety Administration, is responsible for providing a wide range of analytical and statistical support to NHTSA and the highway safety community at large.

Publications, Data & Data Tools

Crash Data Systems

Regulatory Analysis

Traffic Records

National Driver Register

About NCSA

Data Access www.nhtsa.gov/research

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← DATA

Crash Data Systems

Share:

NCSA Data Collection Systems

Crash Investigation Sampling System (CISS)

Crash Report Sampling System (CRSS)

Fatality Analysis Reporting System (FARS)

National Automotive Sampling System (NASS)

Special Crash Investigations (SCI)

State Data Programs

Non-Traffic Surveillance (NTS)

PUBLICATIONS, DATA & DATA TOOLS
>> CRASH DATA SYSTEMS <<
REGULATORY ANALYSIS
TRAFFIC RECORDS
NATIONAL DRIVER REGISTER
ABOUT NCSA

Crash Data Access (Easy)

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https://crashviewer.nhtsa.dot.gov/

NHTSA is authorized by Congress (Volume 489, United States Code Chapter 301 Motor Vehicle Safety, Section 30166, 30168 and Volume 23 , Section 403) to collect information on motor vehicle crashes to aid in the development, implementation and evaluation of motor vehicle and highway safety countermeasures. The law requires the agency to protect the privacy of individuals involved in crashes investigated. Agency procedure for release, accuracy and security of research data collected under the crash data programs prohibit the dissemination of any information collected, assembled, derived or computed until all conditions of data gathering and reporting, case completeness, quality control and privacy have been completed. The cases available through the online web query system have met these conditions.

Investigation-Based

Investigation-Based Studies use Police Acident Reports (PAR) as the basis for the majority of qualifying cases. These cases include follow up research, collection and assessment of Driver/Occupant data, Vehicle Interior/Exterior inspection data, Safety Systems data, Scene Data and Medical Record data.

Crash Injury Research Engineering Network MORE
CIREN Crash Viewer (Current)
CIREN Crash Viewer (2004 - 2015)

Crash Investigation Sampling System MORE
CISS Crash Viewer (Current)
NASS CDS Viewer (2004 - 2015)
Download NASS CDS Images (1997 - 2003)

Large Truck Crash Causation Study
LTCCS Crash Viewer (2001 - 2003)

National Motor Vehicle Crash Causation Study
NMVCCS Crash Viewer (2005 - 2007)

Special Crash Investigations MORE
SCI Crash Viewer (Current) *
SCI Crash Viewer (2004 - 2015)
Download SCI Technical Report/Images (1991 - 2003)

* The viewer contains specific cases conducted prior to 2016 but not published officially prior to 2016.

Records-Based

Records-based Studies use Police Accident Reports (PAR) as the basis for all qualifying cases. These cases can include additional documentation such as medical records. Cases are coded solely from information obtained via the crash documents.

The Fatality Analysis Reporting System MORE
How to Access FARS Data
FARS Encyclopedia
FARS Application Programming Interface (API)

State Specific Data
State Traffic Safety Information (STSI)

Other Links

Additional resources are available using the following links, which includes detailed study reports and research material. Click the links for more information:

NHTSA Repository for Crash Research Publications
CrashStats

Search for Data https://crashviewer.nhtsa.dot.gov/

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Special Crash Investigations (Current)

Reset criteria | Search

Crash Information

Case Date: Year: ALL Month: All
Number of Vehicles: Minimum: All Maximum: All
Max Severity: All
State: All
SCI Case Type: None selected

Vehicle Information

Make: None selected
Model: None selected
Model Year: None selected
Body Category: All
Crash Avoidance Equipment Available: None selected
Crash Avoidance Equipment Activated: None selected

Vehicle Damage

Plane Of Impact/Primary: All
Plane Sub-Section/Secondary: All
PDOF: to degrees
Delta V: to kmph
Barrier Equivalent Speed: to kmph
RollOver:
Event Data Recorder:

Occupant

Age: to Months
Sex: None selected
Seat Position: All
Max Severity: All
Height: to in
Weight: to lb

Injury

Body Region: All
AIS Code:
Maximum AIS: to
ISS: to

Clarifications?

Thank You!

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