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Risk-Based Processes for Safety Defect Analysis and Management of Recalls

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16. Abstract

The National Traffic and Motor Vehicle Safety Act authorizes NHTSA to investigate issues relating to motor vehicle safety, and requires manufacturers to notify NHTSA of all safety-related defects involving unreasonable risk of accident, death, or injury. NHTSA and manufacturer recall campaigns provide vehicle and equipment owners with free repair or other remedy. NHTSA's Office of Defects Investigation (ODI) plays a key role in executing this mission by gathering and analyzing relevant information, investigating potential defects, identifying unsafe motor vehicles and items of motor vehicle equipment, and managing the recall process. More than 90 people work for ODI in five Vehicle Defect Divisions (VDDs) and four supporting divisions. ODI risk-based processes consist of five stages: Data Collection; Data Review; Issue Review; Investigation; and Recall Management. This publication, intended for the general reader, describes in detail ODI's work on recalls, how recalls work, and how the public can quickly and easily find recall information and web portals.

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Please note that this information is intended to provide clarity to the public regarding existing processes and requirements; it does not have the force and effect of law and is not meant to bind the public or any regulated entity in any way.

Introduction

The mission of the National Highway Traffic Safety Administration is to save lives, prevent injuries, and reduce economic costs due to road traffic crashes, through education, research, safety standards, and enforcement activity. In furtherance of this mission, the National Traffic and Motor Vehicle Safety Act ("Safety Act"), as amended, authorizes NHTSA to investigate issues relating to motor vehicle safety. The act also requires manufacturers to notify NHTSA of all safety-related defects involving unreasonable risk of accident, death, or injury and to execute recall campaigns providing vehicle and equipment owners with free repair or other remedy. The Office of Defects Investigation (ODI) at NHTSA plays a key role in executing this mission by gathering and analyzing relevant information, investigating potential defects, identifying unsafe motor vehicles and items of motor vehicle equipment, and managing the recall process.

Our work is urgent and ongoing. Although there has been a general downward trend in traffic fatalities over the past 40 years, 36,560 people died on our Nation's roads and highways in 2018.[1] More can be done to save lives and prevent injuries. In 2017, traffic crashes were the primary cause of unintentional deaths in the United States for those aged 5 to 24 years old, and the second leading cause of unintentional deaths in America.[2] In 2013, the annual medical costs from motor vehicle related crashes were estimated to be more than $44 billion.[3] Identifying unsafe vehicles and equipment and getting them repaired or off the road is integral to saving lives, improving safety, and reducing the costs involved with motor vehicle crashes. From 1966 to 2019 NHTSA and its predecessor agency managed recalls of more than 766 million cars, trucks, buses, recreational vehicles, motorcycles, and mopeds, as well as 120 million tires, 61 million child car seats, and 180 million other items of motor vehicle equipment due to safety defects.

Over the past several years, ODI has invested substantial time and resources to restructure the office, reform its pre-investigative and investigative processes, and leverage technology to improve its ability to identify safety-related defects and those defects repaired through the recall process. More than 90 Federal employees work for ODI in five investigative divisions (known as Vehicle Defect Divisions or VDDs) and four supporting divisions. The organization of these ODI divisions is illustrated in Figure 1 on the following page.

[1] National Center for Statistics and Analysis. (2019, October). *2018 fatal motor vehicle crashes: Overview* (Traffic Safety Facts Research Note. Report No. DOT HS 812 826). National Highway Traffic Safety Administration. https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812826.

[2] Heron, M. (2019, June 24). *Deaths: Leading causes for 2017* (National Vital Statistics Reports, Volume 68, Number 6). Centers for Disease Control and Prevention. www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_06-508.pdf

[3] Centers of Disease Control and Prevention. (n.a.). *Costs of Crash Deaths* [Web page]. www.cdc.gov/motorvehiclesafety/statecosts/index.html.

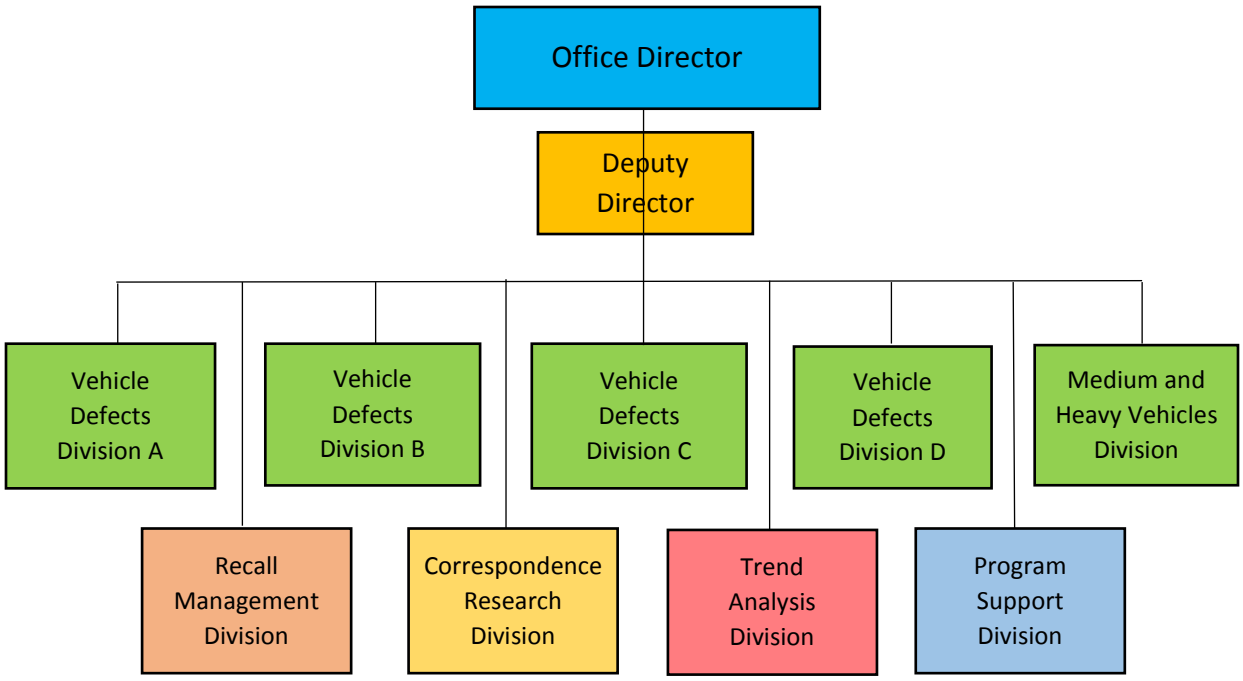

Figure 1. Organization of NHTSA Office of Defects Investigation

Each of these ODI divisions follows consistent procedures to document workflow, from intake and analysis of data, review of potential issues and problems, investigation of potential defects,[4] and tracking and analysis of vehicle and equipment recalls. To investigate and identify potential defects relating to motor vehicle safety, ODI uses objective, risk-based, evaluative processes to prioritize its work, to assist in identifying issues appropriate for investigation, and to help evaluate the potential risk of harm posed by potential defects. These processes have been vetted by external experts for completeness and objectivity, and are regularly assessed with quality control measures to ensure consistency and identify opportunities for continual improvement.

Purpose

NHTSA is often asked about when and how it evaluates safety-related issues, how it determines whether to launch a formal investigation, and when and how a recall is initiated. The purpose of this document is to provide the public with a more thorough overview of ODI's processes – the sources from which it gathers information, how it analyzes data and other information, how it decides whether to formally investigate a specific issue, how an investigation is carried out, how recalls are initiated, and how recalls are managed. This document provides transparency to the public about NHTSA's defects investigation

[4] While a significant amount of ODI's work is what most would consider investigatory, we reserve the use of the term "investigation" to a very formal process that only encompasses a small subset of ODI's robust evaluative work. For instance, in 2019 NHTSA received 75,267 consumer complaints, 32,482 of which resulted involved issues needing further substantive review, overseeing 966 recalls involving 38.6 million vehicles and 14.4 million pieces of equipment belonging to 53 million people. Despite this amount of activity, only 88 formal investigations were necessary, since, often due to our evaluative discussions, the manufacturers elected to launch recalls without the need to pursue formal investigation.

and recall management processes, which help to protect the public from unsafe motor vehicles and equipment.[5]

This document also explains the integral role that vehicle owners and other members of the public play in our processes. To execute our mission, NHTSA relies heavily on the public to report safety-related concerns involving vehicles and equipment, to respond to recall notices and have safety defects promptly repaired, and to regularly use resources provided by NHTSA to check for uncompleted recalls on vehicles and equipment. This document also provides readers with answers to some of the most frequently asked questions NHTSA receives on the investigation and recall processes and identifies resources that provide additional information. NHTSA's website, www.nhtsa.gov, also provides the public with a wide variety of information relating to motor vehicle safety.

Overview of ODI's Risk-Based Processes

Figure 2 below graphically shows ODI's risk-based processes.

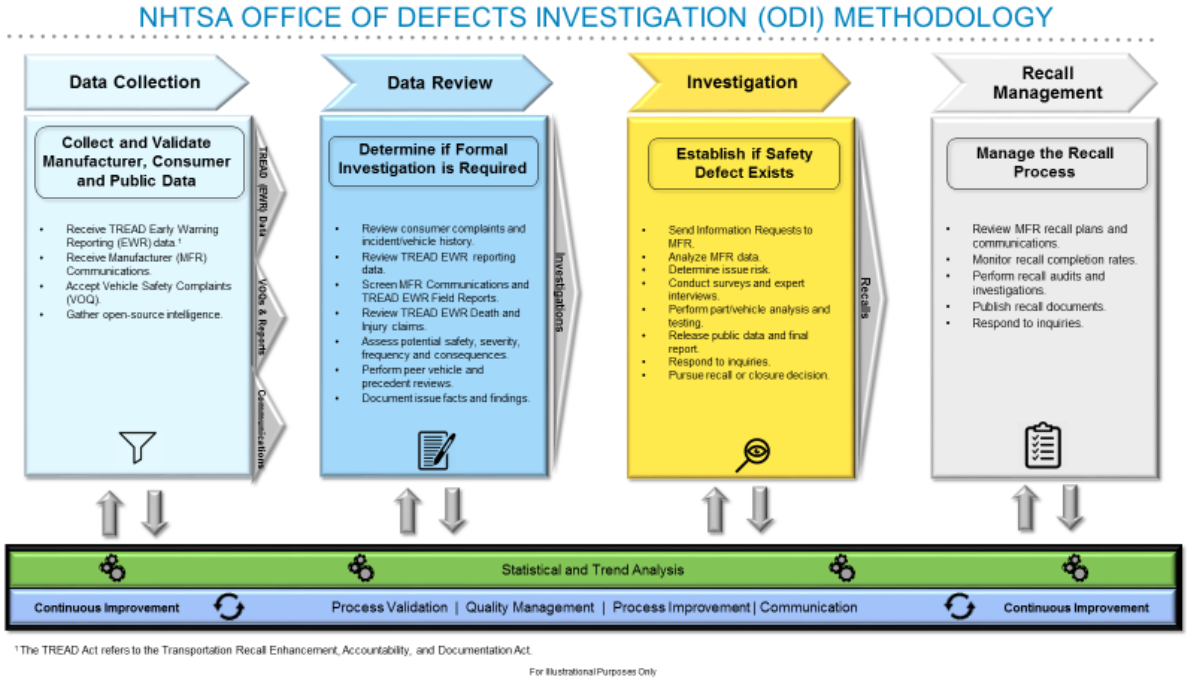

Figure 2. ODI's Risk-Based Processes Used to Identify and Investigate Potential Defects and Manage Recalls

The ODI risk-based processes generally consist of four separate stages.

- *Data Collection* – The intake of information from a variety of sources.
- *Data Review* – A process to review consumer complaints, information provided by manufacturers, and other information potentially relating to defects. The analysis of the review and analysis of information is used to determine whether to open an investigation, a preliminary

[5] In addition to ODI's processes described here, NHTSA may take action, as appropriate, to pursue civil penalties and other remedies against manufacturers that fail to comply with Federal laws and regulations regarding motor vehicle safety.

review of petitions asking NHTSA to open a defect investigation, and a preliminary review of problems arising from the execution of recalls.

- *Investigation* – The formal investigation of a potential safety defect and/or a problem relating to the execution of a recall.
- *Recall Management* – Monitoring the effectiveness and management of recalls, including the filing of recall notices with NHTSA, communicating with owners regarding the recalls, and tracking the completion rate of each recall.

Each part of the methodology has defined internal processes that are followed across the ODI divisions. Underlying these processes is a statistical and trends analysis to assist with pre-investigative and investigative efforts. Quality control metrics and analysis ensure consistency and assist in identifying and implementing process improvements. And although ODI's processes are structured in four sequential phases, they are also flexible. ODI can condense the processes when appropriate to respond quickly to a rapidly evolving or severe risk to motor vehicle safety.

Data Collection

ODI's risk-based processes begin with **Data Collection**. ODI gathers information and data from many sources and in many forms. This section describes those sources, the types of information ODI receives from those sources, and how it processes that information.

Consumer Complaints

Consumer complaints are one of ODI's primary sources of information. Consumers are encouraged to contact NHTSA with concerns about the safety of motor vehicles and motor vehicle equipment. Information provided by the public about crashes, other incidents, and other safety concerns is formatted into a Vehicle Owner Questionnaire document (VOQ) for ODI review and analysis. ODI receives an average of more than 6,000 consumer complaint VOQs every month. These complaints may be on specific vehicle components, systems, or equipment, or express a general safety concern relating to motor vehicles or equipment.

A person filing a VOQ can describe the problem or issue they observed in narrative form to better inform ODI. Complaints on specific makes and models of vehicles are routed to and read daily by the investigative division responsible for the manufacturer identified in the complaint. Other specific complaints on child car seats, tires, and other equipment are sent to ODI subject matter experts for review. Standardizing consumer complaints and concerns into VOQs allows ODI to more efficiently process this information and more quickly identify patterns or trends that suggest the potential existence of a safety-related defect.

NHTSA has established two methods to assist consumer participation in this process: an easy-to-use online portal (www-odi.nhtsa.dot.gov/VehicleComplaint/) and a toll-free safety hotline (888-327-4236, Hearing Impaired [TTY] 800-424-9153). Owners are encouraged to have ready their Vehicle Identification Numbers (VIN)[6] and any related information such as photos, repair orders, police and fire reports, or manufacturer correspondence that may help describe their issues. This information is very helpful for ODI staff as they review the complaint. Despite the "Owner" reference in VOQs, the person submitting the complaint need not be the actual owner of the vehicle or equipment. Likewise, while not required, the name and contact information for the complainant greatly increases the usefulness of any complaint, because it allows ODI to follow up and obtain additional information, as needed. Similarly,

[6] To find the VIN for your vehicle, look on the lower left of your car's windshield for your 17-character Vehicle Identification Number. Your VIN is also located on your car's registration card, and it may be shown on your insurance card. *See* www.nhtsa.gov/recalls (Where's my VIN?).

while not required, when the person making the complaint agrees to allow us to share that information with the manufacturer, ODI's ability to investigate and act on information included in the complaint is significantly increased. Finally, ODI generally encourages consumers submitting complaints relating to child car seats to call the safety hotline rather than using the online portal, since the phone call helps ODI capture all relevant information.

Consumers and the public play vital roles in supplying ODI with important information and concerns about potential safety issues. ODI, therefore, encourages anyone with information or concerns about potential safety defects relating to motor vehicles or motor vehicle equipment to contact NHTSA via the online portal or the safety hotline. VOQs are posted on NHTSA's website (following redaction of all personal identifying information [PII]) and are searchable by manufacturer, model and model year, or equipment brand name.[7]

Manufacturer Information

ODI also receives data and other information directly from manufacturers. Under Federal law, all manufacturers of motor vehicles and equipment are required to provide NHTSA with specific information and copies of communications regarding potential defects on a regular basis.[8]

The information manufacturers may be required to provide to NHTSA on a quarterly basis includes the following categories, commonly referred to as EWR (Early Warning Reporting) information:

> *Production Information* – Cumulative count of each manufacturer's make, model, model year of vehicles produced during the model year through the reporting period.
>
> *Death and Injury Incidents* – Claims or notices of death or injury including an allegation that the death or injury was caused by a possible defect.
>
> *Field Reports* – Communications from an employee or representative of a manufacturer or a dealer discussing a failure, malfunction, lack of durability, or other performance problem of a vehicle or equipment that previously left the control of the manufacturer.
>
> *Consumer Complaint* – A communication made by a consumer to a manufacturer, which expresses dissatisfaction or relates to the alleged unsatisfactory performance of a vehicle or equipment, or any actual or potential defect, or any event allegedly caused by any potential defect.
>
> *Warranty Claim* – A claim paid by a manufacturer under the applicable warranty or for good will due to an alleged failure of a component or a defect in a vehicle or equipment.
>
> *Property Damage Claim* – A claim for property damage beyond damage to the vehicle or equipment itself (for example, a vehicle fire that damages a garage).

The information submitted by manufacturers varies with the different categories. For death and injury incidents, manufacturers submit specific information that frequently includes VIN numbers and additional details regarding the incidents. Most manufacturers are also required to submit copies of certain types of field reports. For other categories, such as warranty, property damage claims, customer complaints, and all types of field reports, manufacturers submit aggregate data with assigned codes specifying the

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[7] See www-odi.nhtsa.dot.gov/owners/SearchSafetyIssues. The user can search vehicles, car seats, tires, and other equipment by clicking on the various tabs.

[8] The specific information that a manufacturer must submit varies with the type and volume of vehicles or equipment it manufactures. Specific requirements for different types of manufacturers are set forth in 49 C.F.R. Part 579, Subpart C (PDF available at www.govinfo.gov/content/pkg/CFR-2009-title49-vol7/pdf/CFR-2009-title49-vol7-part579-subpartC.pdf).

components or systems at issue. This allows ODI to monitor trends and to follow up as appropriate to request additional information regarding specific claims or reports that may include helpful information. Some of this information is publicly available on-line, including production information for light vehicle manufacturers and basic information extracted from death and injury incidents and property damage claims.[9]

Other information categories that manufacturers are required to submit include these.

> *Manufacturer Communications* – All communications between manufacturers and dealers, distributors, or owners, including Technical Service Bulletins (TSBs) and other notices about defects, regardless of whether they are safety issues, along with an index to the communications. This information is due to NHTSA monthly. Manufacturer communications submitted to NHTSA are publicly available and searchable on NHTSA's website.[10]
>
> *Foreign Recall Campaigns* – Information regarding foreign recall campaigns concerning substantially similar vehicles or equipment to those sold in the United States, identifying the foreign model, disclosing all similar models sold in the United States, and explaining why a recall was not conducted on those similar models in the United States. This information is due to NHTSA within 5 working days. These reports are also available on NHTSA's website.[11]

As a result of these reporting requirements, ODI receives large amounts of information directly from manufacturers on monthly or quarterly bases. In 2019, for example, ODI received and reviewed more than 125,000 field reports and TSBs and more than 1,400 quarterly aggregate EWR reports from manufacturers. ODI internal processes ensure that this information is reviewed, prioritized, and analyzed in a timely and efficient manner.

In addition to the information manufacturers are required to submit, ODI also proactively and periodically meets with many vehicle and equipment manufacturers. These meetings promote an ongoing dialogue regarding potential safety issues and provide ODI with both additional information regarding issues that a manufacturer may be investigating and the opportunity to informally request information regarding issues of interest to ODI.

Other Sources of Information

Although ODI obtains most of its information directly from consumers and manufacturers, valuable information may also be found in other locations and obtained from other sources. For example, local government entities, first responders, and the news media provide important information relating to crashes or other incidents. Third-party consumer advocacy and motor vehicle safety organizations generate testing data or analyses not available from traditional sources. Foreign governments have information regarding incidents and recalls outside of the United States. Internet sources such as online forums, blogs, advocacy websites, and social media sources of all forms include information not otherwise available.[12] Private civil lawsuits include information about crashes and alleged defects in motor vehicles or equipment of interest to ODI.

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[9] See NHTSA's Early Warning Reporting portal, www.nhtsa.gov/vehicle-manufacturers/early-warning-reporting#early-warning-reporting-data-search.

[10] See NHTSA's VIN Safety & Recall portal, www.nhtsa.gov/recalls. The user can search vehicles, car seats, tires, and other equipment by clicking on the various tabs. Manufacturer communications can be accessed by searching under the "Year, Make, Model" option for vehicles or brand name for equipment. The results of this search will include "Manufacturer Communications."

[11] See NHTSA's Foreign Campaigns portal, www.nhtsa.gov/foreign-campaigns.

[12] While ODI recognizes that some information from the internet may have unique value, certain allegations and anonymous postings may have limited value due to their unverifiable nature.

NHTSA's whistleblower statute allows people to submit information relating to potential defects and other safety concerns and provides for the confidentiality of the whistleblower.[13] Federal law also prohibits any motor vehicle manufacturer, part supplier, or dealership from discharging or discriminating against an employee for providing information to NHTSA relating to a motor vehicle defect, noncompliance, or violation of the reporting and notification requirements of the Safety Act.[14]

ODI appreciates the need to regularly review and evaluate new sources of information as part of its commitment to continual improvement. By staying abreast with and regularly evaluating the usefulness of all these potential sources of information, ODI helps to ensure its processes and investigation procedures are informed by the best and most useful sources of information.

Data Review

The second stage of the ODI processes is **Data Review**, a multi-step process during which ODI screeners analyze daily the data collected in the first stage, and ODI analysts and investigators gather and evaluate the evidence of a potential safety-related defect and assess the severity of the risk to determine whether to open an investigation

Because ODI is responsible for investigating potential defects in motor vehicles or equipment that relate to motor vehicle safety, information and data gathered in the first stage is filtered in a manner that supports the focus of the ODI risk-based processes and methodology. Data and information relating to non-safety-related potential defects (for example, complaints about the quality of seat upholstery), defects not relating to motor vehicles or equipment (for example, a complaint about a bicycle), or safety issues not involving a potential vehicle or equipment defect (for example, road surface conditions) are removed from consideration. The remaining data and other information is then reviewed to identify potential issues involving defects relating to motor vehicle safety. Defect petitions are also initially reviewed during this stage.[15]

EWR information and data are initially reviewed by the ODI Trends Analysis Division (TAD). TAD safety defect analysts review death and injury reports, field reports, and other EWR information and they work closely with the Vehicle Defect Divisions to identify trends and issues that may suggest the existence of a defect. TAD statisticians use predictive modeling and time series analysis to identify statistical outliers that could signal or reflect a defect or a larger safety issue. Based on TAD's familiarity with and expertise in working with the large amounts of data submitted by manufacturers, the division also provides analytical and statistical support throughout the five stages of ODI's risk-based processes.

Other information and data, including consumer complaints and manufacturer death and injury reports, are referred to the appropriate VDDs, based on the manufacturer or type of equipment at issue. The VDDs screen and review this material and may request additional information from consumers and manufacturers regarding specific crashes, other claims, or similar types of incidents. Through this process, ODI identifies issues that merit further review based upon the data, information, and other available analysis. If further review is warranted, all the related complaints and other data are combined for the next step in ODI's risk-based processes.

Once all this initial data is reviewed by ODI, the next step is to assess the severity of the risk to determine whether to open an investigation.

ODI investigators search internal and external sources that expand on the existing evidence. The investigators may search a wide range of public and private sources for photos, vehicle history, and incident reports, including news media reports, insurance industry records, vehicle auction sites, and Carfax reports. ODI investigators may also use internal NHTSA resources such as crash investigations

[13] See 49 U.S.C. § 30172.
[14] See 49 U.S.C. § 30171.
[15] See 49 U.S.C. § 30162(a)(2); 49 C.F.R. Part 552.

done by NHTSA's Special Crash Investigations (SCI) team or databases of vehicle crash information, including the Fatality Analysis Reporting System (FARS), the Crash Report Sampling System (CRSS), the Crash Injury Research & Engineering Network (CIREN), and the National Automotive Sampling System (NASS).[16] The investigator may also perform peer vehicle and precedent reviews to understand the potential scope of the defect and leverage ODI's historical knowledge and experience.

To assist in objectively evaluating whether a potential defect issue should be advanced to the next stage for an investigation, the investigator uses a hazard or vehicle system-specific risk matrix that looks at both the nature of the hazard posed by the potential defect (for example, loss of steering control) and the frequency with that the hazard has occurred (a normalized rate based on the number of incidents during a defined period). These hazard or vehicle system-specific risk matrices combine ODI's collective experience and expertise in evaluating potential defects relating to motor vehicle safety with recognized best practices for objectively evaluating hazards. ODI uses these matrices as deliberative tools to assist in evaluating the risk posed by a potential defect and identifying issues that should be elevated to an investigation.

ODI risk matrices are reviewed, refined, and updated as needed to reflect advances in motor vehicle and equipment technology and ODI's increased understanding of and experience with different types of risks associated with motor vehicle safety. An example of a generic risk matrix is shown in Figure 3 on the following page.

[16] See NHTSA's Crash Investigation Sampling System page and portal, www.nhtsa.gov/crash-data-systems/crash-investigation-sampling-system.

Pre-Investigative, Generic Risk Matrix used by ODI for Risk Ranking and Resource Prioritization Purposes

	Severity Factors		Frequency Level				
Severity Level	**Detectability of Condition**	**Consequence of Failure**	**1**	**2**	**3**	**4**	**5**
SL-5	None/poor detectability	Severe or fatal injury	Y	R	R	R	R
SL-4		Moderate injury	G	Y	R	R	R
SL-3	Good/reasonable detectability	Severe or fatal injury	G	G	Y	R	R
SL-2		Moderate injury	G	G	G	Y	R
SL-1	Not considered	Minor Injury	G	G	G	G	Y

Notes:

Detectability: Presence or lack of warning lights, messaging and notifications; audible warnings and abnormal noises; vehicle handling and/or performance anomalies, the presence of which would be reasonably expected to be noticeable by a typical driver or occupant.

Consequence: Severe injury means AIS 3 and above injuries, including death, that typically require significant medical treatment and/or hospitalization, moderate means AIS 2 type injuries, and minor means AIS 1 or any injury allegation such as minor cuts or soft tissue.

Incidents: Appear to involve a common fault condition and consequence.

Common Fault Condition: Same/similar part, failure mode, and conditions leading to failure.

Common Fault Consequence: Same/similar failure mode and effects caused by failure.

Figure 3. Example of a Generic Risk Matrix

ODI has developed and uses separate risk matrices for specific types of risks (e.g., loss of steering) and/or specific components (e.g., defects in service brakes) based on ODI experience and expertise. Each of these risk matrices objectively defines different levels of frequency of occurrence and different categories of severity of harm based upon the type of risk or system being evaluated. ODI uses an objective, data-driven process to define and validate these parameters and re-evaluates them on an ongoing basis.

If ODI concludes through this Data Review process that there is sufficient evidence of a potential safety-related defect in a motor vehicle or equipment, the next stage is to open a formal investigation.

Investigation

The third stage of the methodology is the formal **Investigation** stage, during which an investigation takes place on a defined issue. There are two general categories of investigations, defect investigations and administrative investigations. Defect investigations are used to investigate the existence of a defect relating to motor vehicle safety. Administrative investigations involve related compliance and enforcement issues.

Defect Investigations

A formal investigation of a new potential safety defect normally begins officially with the opening of a Preliminary Evaluation (PE). In addition to preparing the opening resume, the investigator reviews all existing information and drafts an Information Request (IR) letter to the manufacturer requesting additional technical information and documents regarding the vehicle, system, and/or component at issue and additional information relating to potential relevant claims, complaints, and incidents. Following receipt of this information, the investigator performs an in-depth analysis of all available information to determine whether it supports the finding of an unreasonable risk to motor vehicle safety.

If, from the PE investigation, ODI concludes that additional information, testing, or analysis is needed, the investigation will be escalated to an Engineering Analysis (EA). During the EA phase of an investigation, investigators may send additional IR letters to gather additional relevant information, including "peer IRs" to other manufacturers. The investigator may also use other resources such as the NHTSA Vehicle Research and Test Center (VRTC), Special Crash Investigations (SCI), or other external testing organizations for specific inspections, tests, surveys, or studies.[17] If, based on the work done in a PE or EA, there is sufficient evidence of a defect related to motor vehicle safety, but the manufacturer has not initiated a recall, ODI may convene a multi-disciplinary panel of NHTSA experts and stakeholders to review all the facts and findings of the investigation before issuing a Recall Request letter to the manufacturer.

Each manufacturer has an affirmative obligation under Federal law to report and remedy any defect it identifies relating to motor vehicle safety.[18] By definition, a defect relates to motor vehicle safety when it involves an unreasonable risk of a crash occurring or an unreasonable risk of death or injury in the event of a crash.[19] Because the investigation stage of the ODI processes involves a dialogue and an exchange of information between NHTSA and the manufacturer of the subject vehicle or item of equipment, defect investigations ordinarily are resolved prior to a formal finding of a defect by NHTSA, classified internally as an "Influenced Recall", when the manufacturer files a recall report identifying the defect and setting forth its plan to remedy the defect. Alternatively, if the investigation does not result in sufficient evidence demonstrating the existence of a defect relating to motor vehicle safety, ODI closes the investigation and no further action is taken unless additional relevant information subsequently becomes available. If necessary, NHTSA also has the statutory authority to make a formal decision that a vehicle or equipment contains a safety-related defect and can order a manufacturer to conduct a recall.[20] The Department of Justice may also file an action in Federal court to compel a manufacturer to conduct a recall.[21] When a manufacturer recalls a vehicle at NHTSA's urging during or after an investigation, NHTSA classifies it as an "influenced recall." Whether a recall is influenced or not, the recall process is the same.

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[17] Although the activities and resources listed are most commonly used in the EA phase of a defect investigation, they are also available to and may be used by ODI during the PE phase of an investigation or in any of the other types of investigation.
[18] See 49 U.S.C. § 30118(c)(1).
[19] See 49 U.S.C. § 30102(a)(9).
[20] See 49 U.S.C. § 30118(b)(1).
[21] See 49 U.S.C. § 30163.

NHTSA notes that, while the number of formal investigations over the past several years has declined, the total number of recalls has increased substantially. This is largely attributable to a change in the Agency's enforcement approach based upon lessons learned from recent high-profile recalls, and additional regulatory tools that increase the amount of data provided to and reviewed by the Agency. As part of this approach, NHTSA has developed a more regular cadence of communications with manufacturers, where data is reviewed and potential safety issues are discussed openly and prioritized based upon risk. This approach has led to manufacturers voluntarily recalling vehicles earlier in their useful life, when there is a higher likelihood of the recall being remedied.

Administrative Investigations

An administrative investigation is opened to determine whether a manufacturer or other entity has complied with its legal obligations relating to motor vehicle and equipment safety and recalls. These obligations include filing timely notice of defect or noncompliance (a Timeliness Query or TQ investigation),[22] providing EWR data and reports on a timely basis (an Audit Query or AQ investigation),[23] providing owners with proper notice of recall (a Recall Query or RQ investigation),[24] and providing owners with adequate remedy within reasonable time in the event of recall (also a Recall Query or RQ investigation).[25] Although an administrative investigation will be opened under one of these sub-categories, multiple issues from the same or different sub-categories may be included in a single investigation. The public opening resume for an investigation states the defined issues included in the investigation.

Although ODI is primarily responsible for conducting administrative investigations due to its technical expertise and experience, these investigations typically include questions relating to the legal obligations of manufacturers and other entities regulated by NHTSA. ODI, therefore, works closely with other offices at NHTSA, including the Office of Chief Counsel and the Office of Vehicle Safety Compliance, during the course of these investigations.

ODI publishes a monthly report of all open defect and administrative investigations on the NHTSA website.[26] In 2019, for example, ODI opened 37 new investigations and continued its work on other pending investigations. The NHTSA website also allows the public to search for open investigations under the make, model, and model year of a vehicle or the brand name or model of equipment.[27] Documents relating to these investigations are also available on the NHTSA website.[28] These documents include the opening resume (which defines the issues and explains the purpose and scope of the investigation), the closing resume (which explains the conclusions reached and actions taken as a result of the investigation), along with other investigative documents, written information requests (IRs) directed to the manufacturer or other companies, and the responses received to those requests.[29]

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[22] See 49 C.F.R. Part 573.
[23] See 49 C.F.R. Part 579.
[24] See 49 C.F.R. Part 577.
[25] See 49 U.S.C. § 30120(c).
[26] See www-odi.nhtsa.dot.gov/recalls/monthlyreports.cfm.
[27] See www.nhtsa.gov/recalls. In addition to open investigations, this search function returns information on open recalls, VOQs, and manufacturer communications regarding the subject of the search.
[28] Documents and information relating to NHTSA's investigations can be searched for by the make, model, and model year of a vehicle or the brand name of an item of equipment at (www.nhtsa.gov/#vehicle, www.nhtsa.gov/recalls, by the date the investigation was opened (www.nhtsa.gov/search/safety-issues#investigation), and by the NHTSA identification number for the investigation (www.nhtsa.gov/recalls?prodType=C).
[29] Any personally identifiable information (PII) and any confidential business information (CBI) are redacted from the documents made publicly available on the NHTSA website.

Recall Management

The fourth stage in the methodology is **Recall Management**, during which ODI's Recall Management Division (RMD) administers the recall process, including the recall reports filed by manufacturers, the recall notices sent to owners, the free repair or other remedy provided under the recalls, and the overall completion rate of recalls (i.e., the percentage of affected vehicles or items of equipment that have been repaired). In 2019, for example, ODI processed 966 recalls that included over 38.6 million vehicles and 14.4 million pieces of equipment belonging to 53 million people.[30]

A recall is typically initiated when a manufacturer files a Part 573 Defect Information Report identifying a safety defect, often called a DIR or Part 573 Report. A manufacturer is required to file a Part 573 Report with NHTSA within 5 working days after it knew or should have known that a defect relating to motor vehicle safety exists in its vehicles or equipment. The Part 573 Report must include information regarding how and when the manufacturer identified the safety defect, a description of the affected population of vehicles or equipment, information on the safety risk posed by the defect, and a plan for how the manufacturer proposes to remedy the issue. Safety recall specialists from RMD review these reports for completeness. Following this review, RMD sends the manufacturer a Recall Acknowledgement Letter, including a request for any missing information. These documents are all available to the public on NHTSA's website, along with RMD's summary of the recall.[31] ODI also publishes a monthly report of all Part 573 Reports it receives, which is made available on the NHTSA website.[32]

A manufacturer is also required to provide owners of the affected vehicles or equipment with notice of the recall no later than 60 days after it files a Part 573 Report and to submit the proposed notice to NHTSA for review at least 5 days before it proposes mailing the notice to owners. To be effective, the recall notice must reach as many of the current owners of the vehicles or equipment as possible and motivate those owners to take advantage of the free repair or other remedy offered by the manufacturer. Federal regulations therefore require that both the letter and the envelope in which the letter is sent are clearly marked as including "IMPORTANT SAFETY RECALL" information, and the letter must provide the owner with a clear statement of the recall issue, the safety consequences and risk associated with a potential malfunction, and any precautions the owner can take to reduce the risk. The letter must also explain how and where the owner can have the vehicle or equipment repaired at no cost. If a remedy is not available within 60 days (if, for example, parts necessary for the repairs are not yet available), the manufacturer is required to send an initial letter informing owners of the recall and then send a second letter when the remedy is available. Safety recall specialists review the draft owner letters for compliance with the regulatory requirements and work with the manufacturer to incorporate any required edits.

After recalls have been initiated, manufacturers are required to report recall completion rates to ODI for at least 6 calendar quarters. Although Federal law requires manufacturers to report defect, initiate recall, offer free remedy, and send notice of recalls to owners, it does not require owners to have the recalls completed. RMD therefore regularly monitors and evaluates the completion rates on recalls, and ODI works with manufacturers to identify how they can increase these completion rates. To this end, NHTSA has hosted workshops with manufacturers, consumer safety advocates, and other stakeholders to identify and encourage good practices for executing recalls and increasing completion rates.[33] NHTSA also has published tips for manufacturers for increasing recall completion rates, including the use of different

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[30] See www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/2019_recall_annual_count_final-031620-v1-tag.pdf. In addition to recalls involving safety defects, RMD also administers recalls involving issues of noncompliance with the Federal Motor Vehicle Safety Standards (FMVSS). Investigations of potential non-compliances with the FMVSS are conducted by NHTSA's Office of Vehicle Safety Compliance (OVSC).

[31] See www.nhtsa.gov/recalls.

[32] See www-odi.nhtsa.dot.gov/recalls/monthlyreports.cfm.

[33] See www.nhtsa.gov/press-releases/nhtsa-meets-federal-and-industry-leaders-discuss-boosting-recall-repair-rates.

resources to locate current vehicle owners, electronic or other means to provide notice to those owners, and different messaging or other incentive tactics to motivate owners to have the recall work completed.[34] In appropriate circumstances, NHTSA also can require manufacturers to send follow-up owner notification letters to those owners who have not yet had the recall work completed.[35]

During the Recall Management phase, NHTSA may also review and investigate potential issues relating to the timeliness of a manufacturer's recall report (whether the manufacturer timely initiated a recall), the scope of the recall (whether the recall properly included all defective or noncompliant vehicles and equipment), the availability of the remedy (whether the manufacturer's service network has parts and is able to complete the repairs), and the effectiveness of the remedy (whether the recall repair appropriately addresses the safety risk created by the defect).

The public plays a vital role in ensuring that as many unsafe motor vehicles and equipment are repaired as possible through the recall process. If you receive notice of a recall, you should schedule to have the repair completed as soon as possible. Until the repair has been completed, you should follow any precautions provided in the recall notice to owners to minimize the risk to you, your passengers, and other road users. If you have issues or concerns in having the recall repair performed, you can contact NHTSA and submit a complaint via the NHTSA website or the safety hotline.

To assist the public in determining whether a vehicle or item of equipment is subject to a recall, NHTSA has developed several online tools that let people to search for recalls by VIN on specific vehicles, or by the manufacturer's name, make, and model or brand name on vehicles, child car seats, tires, and other equipment.[36] People can also sign up for NHTSA email recall alerts and receive regular notice of new recalls.[37] NHTSA recommends that everyone check their vehicles for open recalls at least twice a year, such as when daylight savings time begins and ends.[38] NHTSA has developed an app for smart phones, the SaferCar App, that allows consumers to store the VINs of their vehicles and other information identifying their child car seats, tires, and other equipment in the app and then receive alerts of subsequent recalls that apply to those vehicles and equipment. The app was released in 2020.

Conclusion

Thank you for taking the time to learn more about ODI's risk-based processes. NHTSA trusts this information has provided you with a general understanding and knowledge of the processes we employ to further the NHTSA mission of saving lives and reducing injuries and economic losses caused by motor vehicle crashes. As we have explained, the public plays a critical role in ODI's work, by providing NHTSA with information about potential defects and by ensuring that recall repairs on motor vehicles and equipment are completed in a timely manner. Additional information about ODI and other NHTSA programs and offices is available on NHTSA's website, www.nhtsa.gov, and in the following resources.

[34] See www.nhtsa.gov/vehicle-manufacturers/tips-increasing-recall-completion-rates.
[35] See 49 C.F.R. § 577.10.
[36] See www.nhtsa.gov/recalls.
[37] See www-odi.nhtsa.dot.gov/nhtsa/subscriptions.
[38] See www.nhtsa.gov/recalls/daylight-saving-time-check-recalls.

Additional Resources

Report Safety Problems

NHTSA portal for filing a consumer complaint relating to the safety of a motor vehicle or equipment. www-odi.nhtsa.dot.gov/VehicleComplaint/.

NHTSA Vehicle Safety Hotline for consumer complaints relating to the safety of a motor vehicle or equipment. (Toll-Free: 888-327-4236, Hearing Impaired [TTY]: 800-424-9153).

Search Potential Safety Problems and Recalls

The NHTSA search tool allows the public to search for recalls, investigations, complaints, and manufacturer communications for vehicles by year, make and model, vehicles by VIN, and child car seats, tires, and other equipment by brand name.
www.nhtsa.gov/recalls.

Recall Notifications – sign up for periodic alerts regarding new recalls.
www-odi.nhtsa.dot.gov/nhtsa/subscriptions.

NHTSA Monthly Reports

Monthly reports listing new recalls and investigations.
www-odi.nhtsa.dot.gov/recalls/monthlyreports.cfm.

EWR Data Search

NHTSA's search tool for searching current and past manufacturer EWR data submitted to NHTSA.
www-odi.nhtsa.dot.gov/ewr/qb/.

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