

# DEFECTS: INVESTIGATION AND ANALYSIS



# ODI Mission

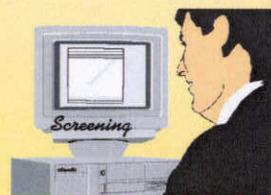
- **Identify defects that relate to motor vehicle safety**
- **To assure that defects are remedied effectively and promptly**



# DEFECTS INVESTIGATION PROCESS



- **U.S. Registered Vehicles: 215 Million**
- **Complaints: 50,000 per year**  
**Hotline VOQ, EVOQ, Letters, Internet**
- **Issues Screened: 200**
- **Investigations: 140**
- **ODI Influenced Vehicle Defect Recalls: 75**
- **ODI Influenced Vehicles Recalled: 11 Million**



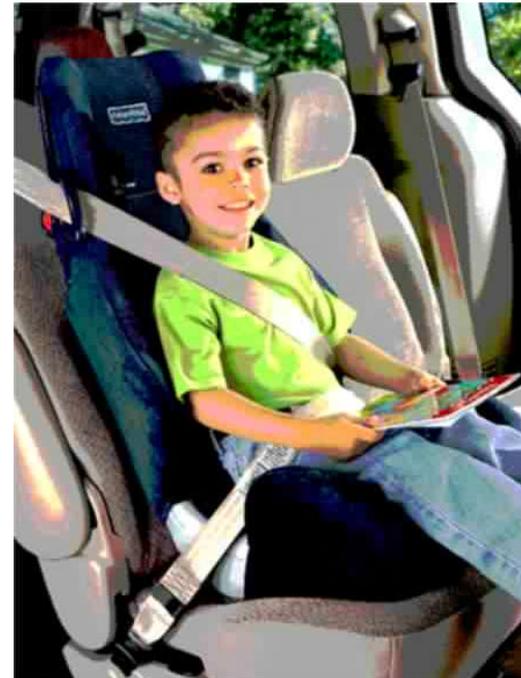
# REPORTING DEFECTS

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Callers to the Hotline can report safety defects in vehicles and vehicle equipment.

Vehicle equipment includes:

- Add-on accessories
- Tires
- Jacks
- Child Safety Seats



 <b>DOT Auto Safety Hotline</b> <b>Vehicle Owner's Questionnaire</b> TO REPORT VEHICLE SAFETY DEFECTS 1-888-DASH-2-DOT (1-888-327-4236) INTERNET: www.nhtsa.dot.gov/hotline		FOR AGENCY USE ONLY Date Received _____ Od_or _____ rt_dt _____ od_rt _____ up_ltr _____ Reference No. _____	
<b>OWNER INFORMATION (Type or Print)</b>			
Name _____			
Street No. _____		Apt. No. _____	
City _____	State _____	Zip Code _____	
Daytime Telephone Number ( ) _____			
Do you authorize NHTSA to provide a copy of this report to the manufacturer of your vehicle? <input type="checkbox"/> YES <input type="checkbox"/> NO In the absence of an authorization, NHTSA WILL NOT provide your name or address to the vehicle manufacturer.			
Signature of Owner _____ Date ____/____/____			
<b>PRODUCT INFORMATION</b>			
Vehicle Identification No. (VIN.) (17 Digits) _____ <small>(Located at bottom of windshield on driver's side)</small>		Make _____	Model _____
Purchased Date _____		Dealer's Name _____	Engine Size (CID/CC/L) _____
<input type="checkbox"/> New <input type="checkbox"/> Used		Dealer's City _____	No. Cylinders _____
		State _____	<input type="checkbox"/> Turbo <input type="checkbox"/> Diesel <input type="checkbox"/> Gas <input type="checkbox"/> Fuel Injection
Manufacture Date (on driver's door or pillar) _____ Transmission Type <input type="checkbox"/> Manual <input type="checkbox"/> Automatic	Restraint System <input type="checkbox"/> Driverside Air Bag <input type="checkbox"/> Passengerside Air Bag <input type="checkbox"/> 3-Point Belt <input type="checkbox"/> Motorbelt <input type="checkbox"/> 2-Point Belt	Cruise Control <input type="checkbox"/> Yes <input type="checkbox"/> No	Drivetrain <input type="checkbox"/> Front <input type="checkbox"/> Rear <input type="checkbox"/> 4-Wheel
		Vehicle Type <input type="checkbox"/> Car <input type="checkbox"/> Van <input type="checkbox"/> Minivan <input type="checkbox"/> Sport Utility <input type="checkbox"/> Truck <input type="checkbox"/> Motorcycle <input type="checkbox"/> Other _____	Body Style <input type="checkbox"/> 2-Door <input type="checkbox"/> Stationwagon <input type="checkbox"/> Pick Up Truck <input type="checkbox"/> 4-Door <input type="checkbox"/> Other _____
<b>FAILED COMPONENT(S)/PART(S) INFORMATION</b>			
Part Name(s) _____		Location <input type="checkbox"/> Left <input type="checkbox"/> Front <input type="checkbox"/> Right <input type="checkbox"/> Rear	Failed Part(s) <input type="checkbox"/> Original <input type="checkbox"/> Replacement
		Handicap Adaptive Equip <input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>TO BE COMPLETED WHEN REPORTING A TIRE FAILURE</b>			
Tire Brand _____		Tire Name _____	Complete Tire Size _____
No. of Failures _____	Date(s) of Failure(s) _____	Failed Part(s) Available? _____	NHTSA Previously Contacted? _____
Mileage at Failure(s) _____		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Vehicle Speed at Failure(s): _____			
<b>APPLICABLE INCIDENT INFORMATION</b> (Please describe in detail the Incident(s), Failure(s), Crash(es), and Injury(ies). Attach photos if available.)			
Crash <input type="checkbox"/> Yes <input type="checkbox"/> No	Fire <input type="checkbox"/> Yes <input type="checkbox"/> No	Number of Persons Injured _____	Number of Fatalities _____
		Reported to Manufacturer <input type="checkbox"/> Yes <input type="checkbox"/> No	
Narrative Description of Incident(s), Failure(s), Crash(es), and Injury(ies). _____ _____ _____ _____ _____ _____ _____ _____ _____ _____			
Continue on back.			
The Privacy Act of 1974 - Public Law 93-579 This information is requested pursuant to a49 U.S.C. Chapter 301. You are under no obligation to respond to this questionnaire. Your response may be used to assist NHTSA in determining whether a manufacturer should take appropriate action to correct a safety defect. If NHTSA proceeds with administration enforcement or litigation against a manufacturer, your response, or a statistical summary thereof, may be used in support of the agency's action.			



## Sources of Complaints

**DOT Auto Safety HOTLINE**

**DASH-2-DOT**

**(1-888-327-4236)**

**Letters**

**Electronic VOQ**

**Internet VOQ**

**Additional Information**

**Early Warning Information**

## Screening

- **Assemble & Review Complaints**
- **Understand the Safety Consequence & Trend**
- **Interview & Verify Complaints**
- **Conduct Field Inspections**
- **Make Peer Vehicle Comparison**
- **Review Current & Past Activity**
- **Early Warning Information**

# Screening

## Assemble & Review Complaints

- Read all new complaints
- Search NHTSA complaint database
- Check Model/MY for complaint history
- Search “Corporate Cousins”
  - Ford Expedition -- Lincoln Navigator
- Make peer complaint comparison
- Review other NHTSA data & data bases

# **Screening**

## **Understand the Safety Consequence & Trend**

- **Is defect related to motor vehicle safety?**
- **What is result of alleged defect?**
- **Is there a complaint trend?**

# Screening

## Interview & Verify Complaints

- Phone owners and vehicle operators
- Clarify or correct the information on VOQ
  - VIN, dates, injuries etc.
- Get details on what happened before, during and after the incident
- Clarify exactly what is the allegation
- Get information for follow up if necessary

# Screening

## Conduct Field Inspections

- **Examine selected complaint vehicles**
- **Examine exemplar vehicles**
- **Examine peer vehicles**
  - (same model different model year)

# Screening

## Make Peer Vehicle Comparison

- **Examine peer vehicles**
  - other model in same class (compact, trucks, vans, SUV)
  - same model different model year
- **Compare complaint rate**
- **Examine readily apparent design differences**
  - e.g. does subject vehicle have exposed brake line and others have a shield?

# Screening

## Review Current & Past Activity

- Review prior NHTSA recalls
  - for specific Model/MY
  - for similar problem on other Model/MYs
- Search for service bulletins
- Check foreign activity/recalls

# Screening

## Early Warning Information

- **Warranty data**
- **Claims and incidents involving serious injury or death**
- **Data on property damages**
- **Field reports**
- **Complaints**
- **Other data**

# **INVESTIGATION PROCESS**

## **Preliminary Evaluation (PE)**

**Most Investigations Start at PE Level**

**Obtain Limited Info for Analysis**

**To be completed in 4 Mos**

**9**

# INVESTIGATION PROCESS

- **Send Information Request (IR) Letter**
- **6 Week IR Turn Around**
- **Evaluate Response**
- **Recall, Close or Upgrade**

# **INVESTIGATION PROCESS**

## **Engineering Analysis (EA)**

**Detailed Technical Analysis**

**To be completed in 12 Mos**

**9**

# INVESTIGATION PROCESS

## ENGINEERING ANALYSIS

- **Send Information Request (IR) Letter**
- **7 Week IR Turn Around**
- **Test Components**
- **Survey**
- **Inspect Vehicles**
- **Follow Up IR, Peer IR Letters**
- **Evaluate and Analyze**
- **Informal Communication with Manufacturer**

# **INVESTIGATION PROCESS**

**After this is complete**

**Panel of Peer Experts Within NHTSA**

**9**

**Recall Request Letter (Office Director)**

**9**

# INVESTIGATION PROCESS

**Initial Decision That a Defect Exists  
(Associate Administrator)**

**9**

**Public Meeting**

**9**

**Final Decision  
(NHTSA Administrator)**

**9**

**Recall Order**

# RECALL MANAGEMENT

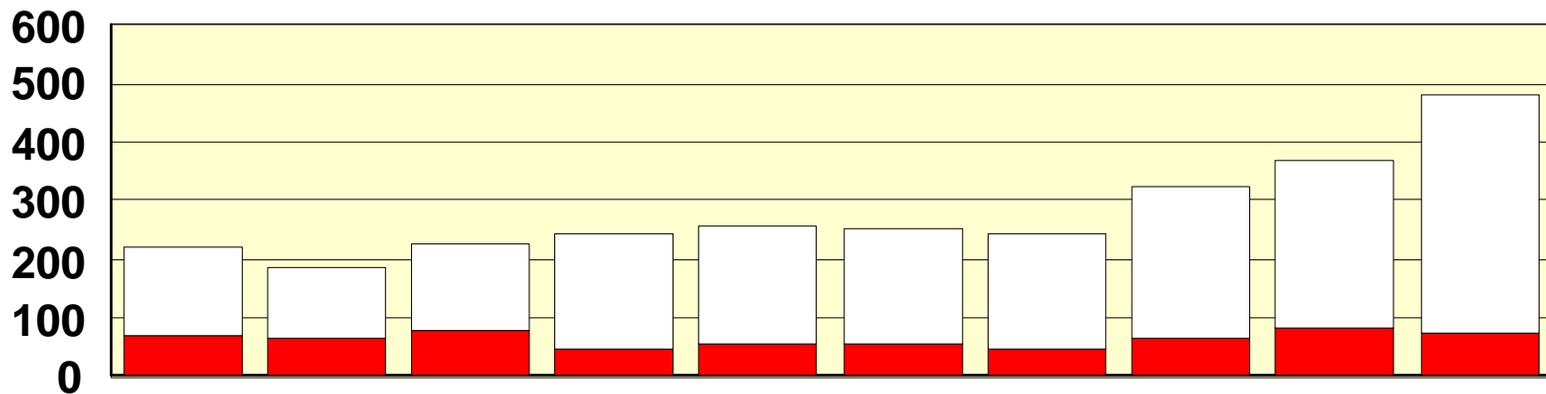
## INVESTIGATIONS

- **Tracking Recalls & Completion Rates**
- **Supplemental Notification**
- **Recall Query (RQ) -- Investigate the scope or effectiveness of recall action**
- **Audit Query (AQ)**

# Vehicle Safety Recalls By Influence

## For January through December, 1991-2000

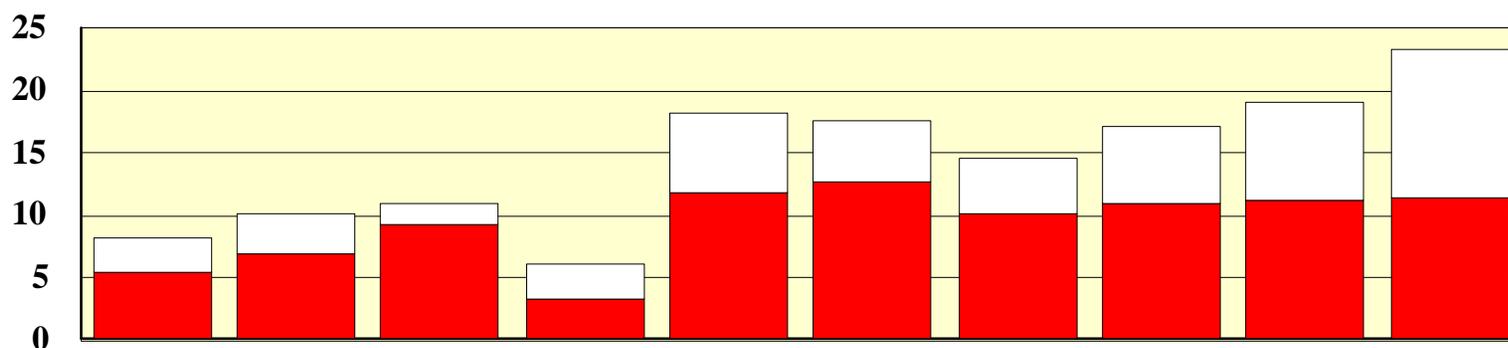
### Recalls



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<span style="color: red;">■</span> <b>NSA</b>	70	64	80	49	55	54	46	64	85	76
<span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> <b>MFR</b>	150	123	144	195	204	197	200	262	285	407
<b>Total</b>	220	187	224	244	259	251	246	326	370	483

# Number of Vehicles Recalled by Influence For January through December, 1991-2000

Vehicles Recalled (Millions)



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
■ NSA	5.43	7.00	9.34	3.27	11.83	12.71	10.16	11.08	11.24	11.48
□ MFR	2.85	3.12	1.60	2.78	6.40	4.96	4.43	6.17	7.93	11.92
<b>Total</b>	<b>8.28</b>	<b>10.12</b>	<b>10.94</b>	<b>6.05</b>	<b>18.23</b>	<b>17.66</b>	<b>14.59</b>	<b>17.25</b>	<b>19.17</b>	<b>23.40</b>