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Research and
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Administration

Early Warning Reporting Categories Analysis of Recall and Complaints Data

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For

Office of Defects Investigation
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Background

This analysis was performed to assist the National Highway Traffic Safety Administration (NHTSA) in identifying components and systems to be included in early warning reporting (EWR) categories that would be based upon historical safety-related recalls. The categorization presented in this paper is primarily the result of the examination of recall data maintained by NHTSA in its DIMS II database. Complaints data in DIMS II were also analyzed with respect to the recalls. This paper describes the summarization and analysis of the data, and presents the results for each vehicle category: light vehicles, medium-heavy vehicles, buses, motorcycles, and trailers.

Data notes

The recall data are the primary information considered, while the complaints data are used to indicate relative severity and public concern over crashes for each aggregate component category. Data on recalls and complaints received were provided by NHTSA. The complaints data file is current as of August 2001, and the recall data file is current as of early December 2001. The recall data file includes recalls beginning in 1966. Although these files are not linked by specific vehicle affected, both files indicate the type of vehicle and component for each observation.

Data were summarized by aggregate vehicle type (light vehicle, medium-heavy vehicle, motorcycle, bus, and trailer), developed by combining more specific vehicle categories for which NHTSA maintains data. A list of vehicle codes for each aggregate vehicle type is given at the beginning of each applicable section. A subset of the vehicle types was not utilized, based on guidance from NHTSA.¹ For each vehicle type, there are tables and figures for all defect recalls and ODI-influenced defect recalls. The component categories are sorted for each table and chart by the number of vehicles affected by recalls. A total for the proposed categories is presented in the bottom row of each table. The numbers may not sum exactly due to rounding.

Table 1 below identifies the aggregate component categories on which reporting would be required under the proposed early warning rule (NPRM). For each component category, the table identifies the DIMS II codes and whether the NPRM would require reporting on particular vehicle categories. Component code and vehicle type combinations not indicated in this table were aggregated into "Other" categories for each vehicle type.

¹ These include farm implement, unknown, slide-in camper, 4 wheel ATV, all terrain vehicle, mail/postal vehicle, equipment spindle, equipment heater, equipment axle, equipment jack, equipment refrigerant, non-vehicle, brake lining, and equipment car ramp.

Table 1. EWR Categories cross-referenced to existing DIMSII Component Codes²

EWR Component/System	DIMSII Component Codes	Light Vehicle	Medium-Heavy Vehicle	Bus	Motor-cycle	Trailer
Steering	01*	X	X	X	X	
Suspension	02*-026*-027*	X	X	X	X	X
Service Brakes	03*	X	X	X	X	X
Parking Brakes	04*	X	X	X		X
Engine & Engine Cooling System	05*	X	X	X	X	
Fuel System Integrity	060*, 061*, 062*, 063*	X	X	X	X	
Power Train	07*	X	X	X	X	
Electrical System	08*	X	X	X	X	X
Lighting	090*, 091*, 092*, 093*	X	X		X	
Lighting/Horn/Alarm	09*, -096*, -09701000			X		X
Visual Systems	10*-10110001, -10121100, -10122100, -10122200, -1016*	X	X	X		
Climate Control System	11*	X	X	X		X ³³
Airbags	121*-1213*	X	X	X		
Seat Belts	122*-1228*, -12200002, +1213*	X	X	X		
Structure	13*, -1317000, -13450000, -13550000, -13561003, -13630000, -13730000	X	X	X	X	X
Seats	123*, -12367000	X	X	X		
Engine Speed Control	064* & 153*	X	X	X	X	
Integrated Child Restraints	1545* +15402000	X				
Latches	13171000, 13450000, 13550000, 13561003, 13630000, 13730000	X	X	X		X
Tires ⁴	027*	X	X	X	X	X
Wheels	026*	X	X	X	X	X
Hitches	15902000	X	X	X		X
Fires	No component number.	X	X	X	X	X
Engine Exhaust System	065*, 066*		X	X		

For each category of vehicle, the categories of components (and tires) for which reporting would be required are listed, data are presented, and several calculations were performed. The number of recall campaigns and affected vehicles are presented. The percentage of all recall or ODI influenced recall campaigns, affected vehicles and crashes for each component reflect the percentage for each vehicle type category.

² Asterisks are wildcards (meaning that any number in the 8 digit field can follow), a minus sign indicate that those codes should be excluded from the category, a plus sign indicate that those codes should be included in the category.

³ Climate control systems for travel/camping trailers.

⁴ Tires are included in the reporting requirements for vehicle manufacturers because several vehicle manufacturers currently include tires in their warranty coverage.

The following sections summarize the results for each of the aggregate vehicle categories. Each section includes a brief discussion followed by figures and tables for all recalls and Office of Defects Investigation (ODI) influenced recalls.

Light Vehicles

Light vehicles consist of passenger vehicles, including those classified in NHTSA's DIMS II database as

- 6 Truck, Van
- 7 Electric Car
- 8 Diesel, Pass. Vehicle
- DX Truck, Light, Diesel
- E Multipurpose Passenger Vehicle
- F Passenger Vehicle
- MF Passenger Vehicle, Methanol
- TD Turbo/Diesel Passenger
- X Truck, Light

For light vehicles, the component category with the largest number of vehicles recalled is power train, while service brakes have the most recall campaigns overall and fuel system integrity has the most ODI-influenced recall campaigns. Airbags are mentioned in the greatest number of complaints involving a crash.

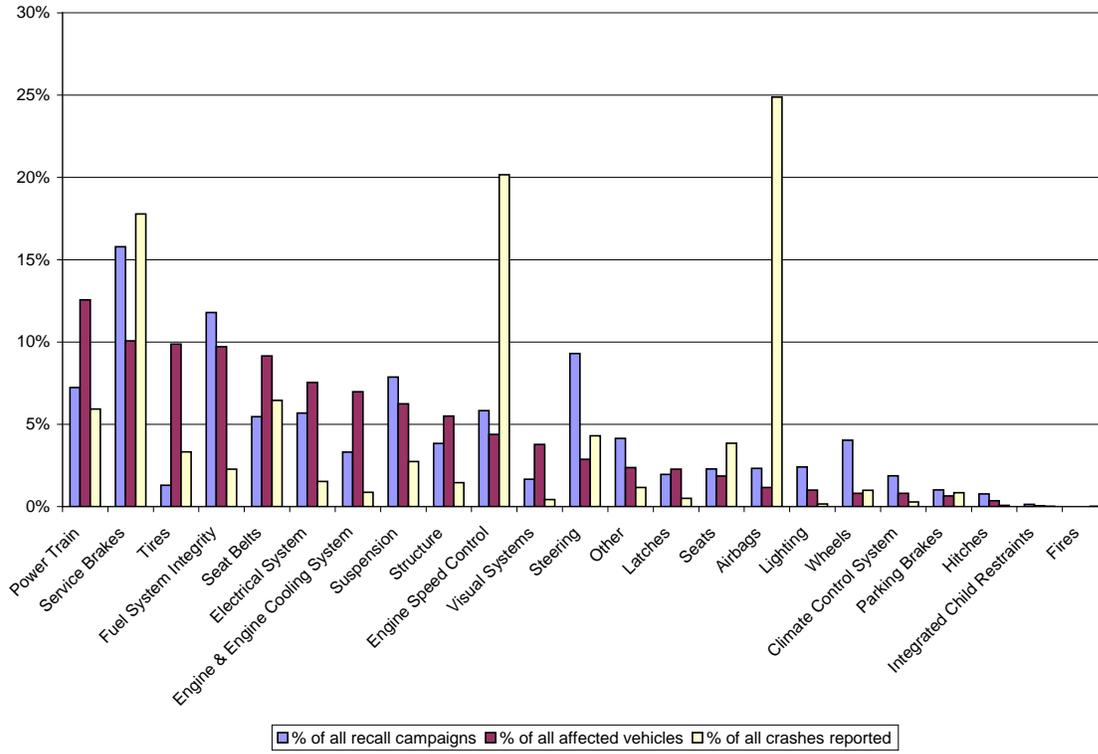


Figure 1. All light vehicle recalls and complaints

Table 2. All light vehicle recalls and complaints

Component category	Recall campaigns	% of all recall campaigns	Cumulative % of all recall campaigns	Affected vehicles	% of all affected vehicles	Cumulative % of all affected vehicles	% of all crashes reported	Avg. vehicles affected per campaign
Power Train	330	7%	7%	73988164	13%	13%	6%	224207
Service Brakes	720	16%	23%	59327463	10%	23%	18%	82399
Tires	59	1%	24%	58168246	10%	33%	3%	985902
Fuel System Integrity	538	12%	36%	57221313	10%	42%	2%	106359
Seat Belts	249	5%	42%	53883863	9%	51%	6%	216401
Electrical System	259	6%	47%	44369701	8%	59%	2%	171312
Engine & Engine Cooling System	151	3%	51%	41083619	7%	66%	1%	272077
Suspension	359	8%	58%	36761974	6%	72%	3%	102401
Structure	175	4%	62%	32350859	5%	78%	1%	184862
Engine Speed Control	266	6%	68%	25802211	4%	82%	20%	97001
Visual Systems	76	2%	70%	22247835	4%	86%	0%	292735
Steering	424	9%	79%	16906260	3%	89%	4%	39873
Other	189	4%	83%	13940182	2%	91%	1%	73758
Latches	89	2%	85%	13418093	2%	93%	1%	150765
Seats	104	2%	87%	10967908	2%	95%	4%	105461
Airbags	106	2%	90%	6841692	1%	96%	25%	64544
Lighting	110	2%	92%	5902350	1%	97%	0%	53658
Wheels	184	4%	96%	4774337	1%	98%	1%	25947
Climate Control System	85	2%	98%	4735758	1%	99%	0%	55715
Parking Brakes	46	1%	99%	3821275	1%	100%	1%	83071
Hitches	35	1%	100%	2051876	0%	100%	0%	58625
Integrated Child Restraints	6	0%	100%	313526	0%	100%	0%	52254
Fires	0	0%	100%	0	0%	100%	0%	-
Total for proposed component list	4339	95%		570740935	97%		99%	

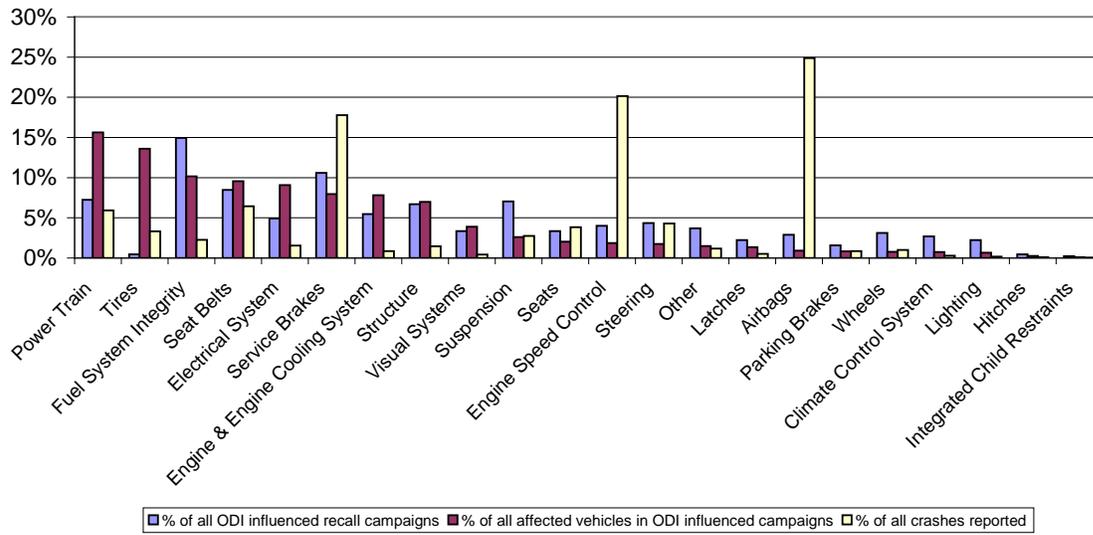


Figure 2. ODI influenced light vehicle recalls

Table 3. ODI influenced light vehicle recalls

Component category	Recall campaigns	% of all ODI influenced recall campaigns	Cumulative % of all ODI influenced recall campaigns	Affected vehicles	% of all affected vehicles in ODI influenced campaigns	Cumulative % of all affected vehicles in ODI influenced campaigns	% of all crashes reported	Avg. vehicles affected per campaign
Power Train	65	7%	7%	66253802	16%	16%	6%	1019289
Tires	4	0%	8%	57600000	14%	29%	3%	14400000
Fuel System Integrity	134	15%	23%	43019388	10%	39%	2%	321040
Seat Belts	76	8%	31%	40485997	10%	49%	6%	532710
Electrical System	44	5%	36%	38472316	9%	58%	2%	874371
Service Brakes	95	11%	47%	33695113	8%	66%	18%	354685
Engine & Engine Cooling System	49	5%	52%	33145027	8%	74%	1%	676429
Structure	60	7%	59%	29581407	7%	81%	1%	493023
Visual Systems	30	3%	62%	16507767	4%	85%	0%	550259
Suspension	63	7%	69%	10986181	3%	87%	3%	174384
Seats	30	3%	73%	8561387	2%	89%	4%	285380
Engine Speed Control	36	4%	77%	7876619	2%	91%	20%	218795
Steering	39	4%	81%	7423355	2%	93%	4%	190342
Other	33	4%	85%	6253874	1%	94%	1%	189511
Latches	20	2%	87%	5710816	1%	96%	1%	285541
Airbags	26	3%	90%	3939160	1%	97%	25%	151506
Parking Brakes	14	2%	91%	3492139	1%	97%	1%	249439
Wheels	28	3%	94%	3300778	1%	98%	1%	117885
Climate Control System	24	3%	97%	3093457	1%	99%	0%	128894
Lighting	20	2%	99%	2809817	1%	100%	0%	140491
Hitches	4	0%	100%	1132951	0%	100%	0%	283238
Integrated Child Restraints	2	0%	100%	307000	0%	100%	0%	153500
Total for proposed component list	863	96%		417394477	99%		99%	

Medium-Heavy Vehicles

Medium-heavy vehicles consist of a variety of trucks, including those classified in DIMS II as

- 55 Streetsweeper
- B Chassis Cab
- DK Truck, Unknown, Diesel
- DY Truck, Medium, Diesel
- DZ Truck, Heavy, Diesel
- FC Forward Control (8/82)
- FT Fire Truck
- GT Garbage Truck
- K Truck, Unknown Type
- L Truck Tractor
- MT Truck, Military
- N Motor Home/Conversion
- WK Wrecker, Truck
- Y Truck, Medium
- Z Truck, Heavy

For medium-heavy vehicles, the component category with the greatest number of affected vehicles for recalls is power train, while steering has the most recall campaigns overall and service brakes have the most ODI influenced recall campaigns. Suspension is mentioned in the most complaints involving a crash.

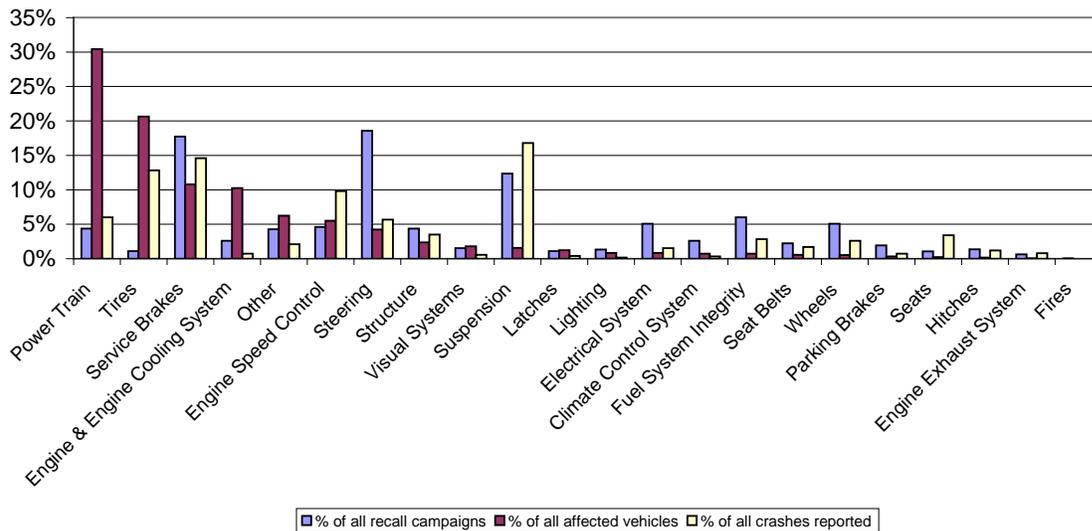


Figure 3. All medium-heavy vehicle recalls

Table 4. All medium-heavy vehicle recalls

Component category	Recall campaigns	% of all recall campaigns	Cumulative % of all recall campaigns	Affected vehicles	% of all affected vehicles	Cumulative % of all affected vehicles	% of all crashes reported	Avg. vehicles affected per campaign
Power Train	111	4%	4%	21704825	30%	30%	6.0%	195539
Tires	28	1%	5%	14710855	21%	51%	12.8%	525388
Service Brakes	451	18%	23%	7685316	11%	62%	14.6%	17041
Engine & Engine Cooling System	66	3%	26%	7303575	10%	72%	0.7%	110660
Other	109	4%	30%	4455926	6%	78%	2.1%	40880
Engine Speed Control	117	5%	35%	3930245	6%	84%	9.8%	33592
Steering	472	19%	53%	3034166	4%	88%	5.7%	6428
Structure	111	4%	58%	1679505	2%	90%	3.5%	15131
Visual Systems	39	2%	59%	1279691	2%	92%	0.6%	32813
Suspension	314	12%	72%	1109266	2%	94%	16.8%	3533
Latches	28	1%	73%	873830	1%	95%	0.4%	31208
Lighting	34	1%	74%	606475	1%	96%	0.2%	17838
Electrical System	129	5%	79%	589873	1%	97%	1.5%	4573
Climate Control System	66	3%	82%	525223	1%	97%	0.3%	7958
Fuel System Integrity	153	6%	88%	520189	1%	98%	2.8%	3400
Seat Belts	57	2%	90%	401265	1%	99%	1.7%	7040
Wheels	129	5%	95%	372138	1%	99%	2.6%	2885
Parking Brakes	49	2%	97%	248574	0%	100%	0.7%	5073
Seats	27	1%	98%	157555	0%	100%	3.4%	5835
Hitches	35	1%	99%	107396	0%	100%	1.2%	3068
Engine Exhaust System	16	1%	100%	31442	0%	100%	0.8%	1965
Fires	1	0%	100%	146	0%	100%	0.0%	146
Total for proposed component list	2433	96%		66871550	94%		86%	

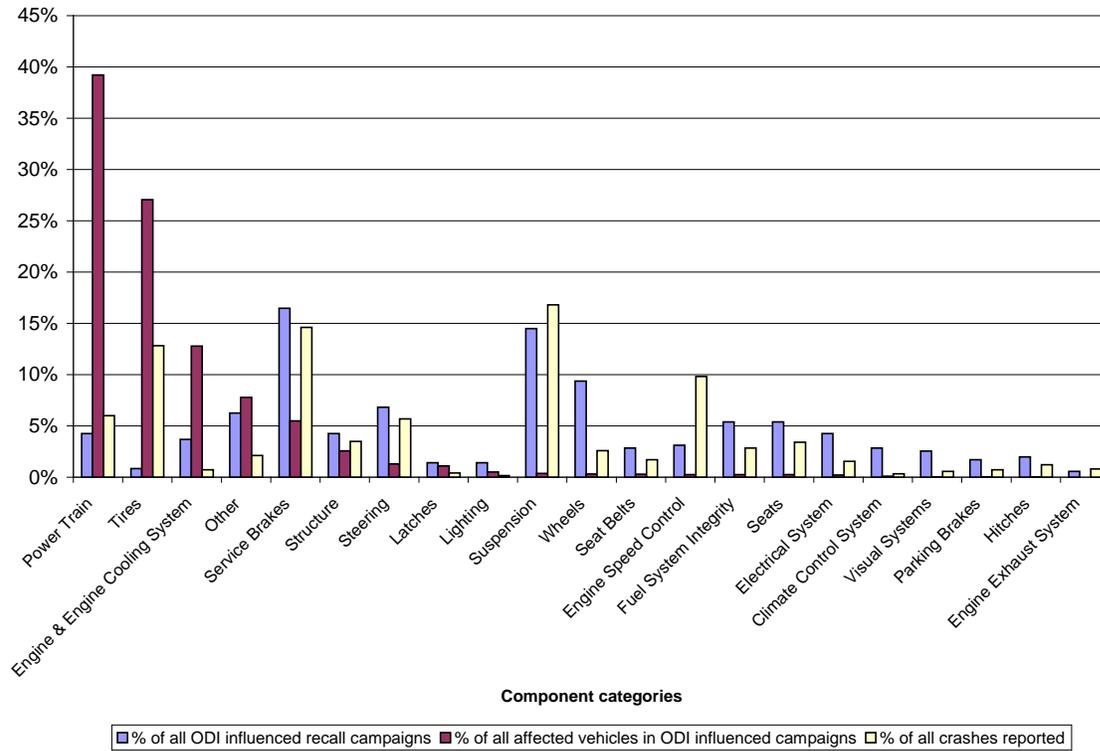


Figure 4. ODI influenced medium-heavy vehicle recalls and complaints

Table 5. ODI influenced medium-heavy vehicle recalls and complaints

Component category	Recall campaigns	% of all ODI influenced recall campaigns	Cumulative % of all ODI influenced recall campaigns	Affected vehicles	% of all affected vehicles in ODI influenced campaigns	Cumulative % of all affected vehicles in ODI influenced campaigns	% of all crashes reported	Avg. vehicles affected per campaign
Power Train	15	4%	4%	21012683	39%	39%	6%	1400846
Tires	3	1%	5%	14500464	27%	66%	13%	4833488
Engine & Engine Cooling System	13	4%	9%	6851954	13%	79%	1%	527073
Other	22	6%	15%	4166543	8%	87%	2%	189388
Service Brakes	58	16%	32%	2942845	5%	92%	15%	50739
Structure	15	4%	36%	1376322	3%	95%	3%	91755
Steering	24	7%	43%	695583	1%	96%	6%	28983
Latches	5	1%	44%	589248	1%	97%	0%	117850
Lighting	5	1%	45%	276759	1%	98%	0%	55352
Suspension	51	14%	60%	199830	0%	98%	17%	3918
Wheels	33	9%	69%	165587	0%	99%	3%	5018
Seat Belts	10	3%	72%	160060	0%	99%	2%	16006
Engine Speed Control	11	3%	75%	141742	0%	99%	10%	12886
Fuel System Integrity	19	5%	81%	136969	0%	99%	3%	7209
Seats	19	5%	86%	134151	0%	100%	3%	7061
Electrical System	15	4%	90%	118234	0%	100%	2%	7882
Climate Control System	10	3%	93%	48585	0%	100%	0%	4859
Visual Systems	9	3%	96%	23059	0%	100%	1%	2562
Parking Brakes	6	2%	97%	18218	0%	100%	1%	3036
Hitches	7	2%	99%	15577	0%	100%	1%	2225
Engine Exhaust System	2	1%	100%	173	0%	100%	1%	87
Total for proposed component list	330	94%		49408043	92%		86%	

Buses

There are two types of buses, including those classified in DIMS II as

- A Bus
- H School Bus

For buses, the component category with the greatest number of affected vehicles for recalls is structure, while service brakes have the most recall campaigns overall and structure has the most ODI influenced recall campaigns. Engine speed control is mentioned in the most complaints involving a crash.

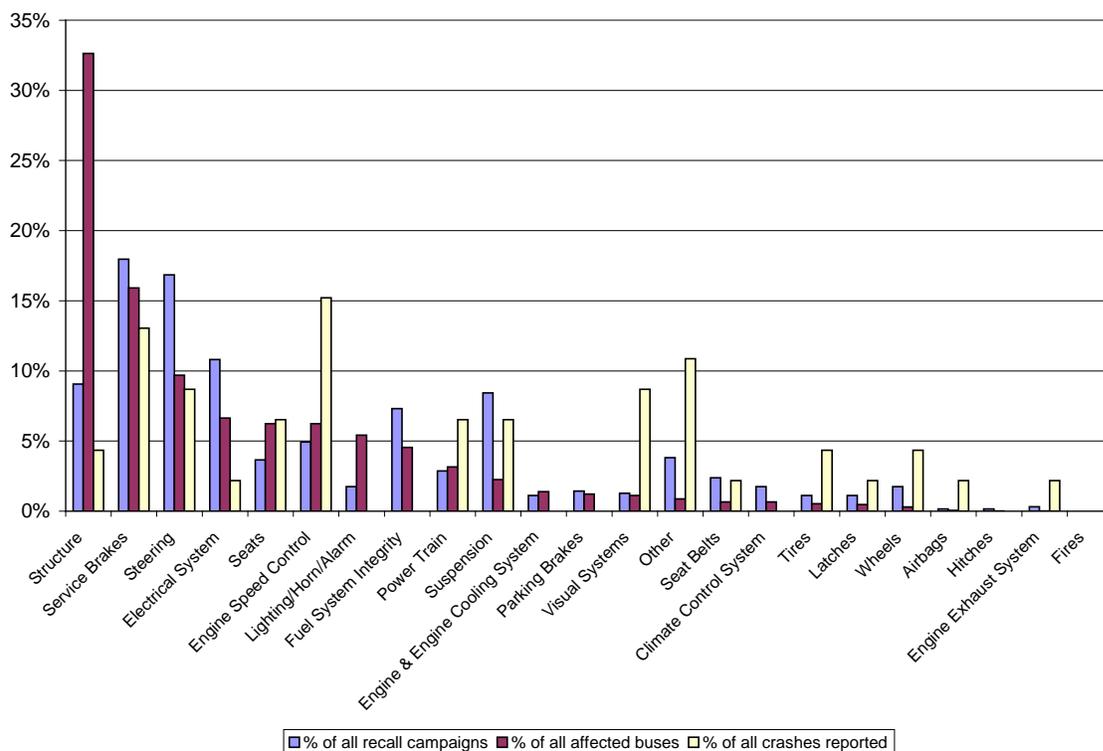


Figure 5. All bus recalls and complaints

Table 6. All bus recalls and complaints

Component category	Recall campaigns	% of all recall campaigns	Cumulative % of all recall campaigns	Affected buses	% of all affected buses	Cumulative % of all affected buses	% of all crashes reported	Avg. buses affected per campaign
Structure	57	9%	9%	643903	33%	33%	4%	11297
Service Brakes	113	18%	27%	314084	16%	49%	13%	2780
Steering	106	17%	44%	191314	10%	58%	9%	1805
Electrical System	68	11%	55%	130910	7%	65%	2%	1925
Seats	23	4%	58%	123136	6%	71%	7%	5354
Engine Speed Control	31	5%	63%	123004	6%	77%	15%	3968
Lighting/Horn/Alarm	11	2%	65%	106955	5%	83%	0%	9723
Fuel System Integrity	46	7%	72%	89761	5%	87%	0%	1951
Power Train	18	3%	75%	62208	3%	90%	7%	3456
Suspension	53	8%	84%	44487	2%	93%	7%	839
Engine & Engine Cooling System	7	1%	85%	27472	1%	94%	0%	3925
Parking Brakes	9	1%	86%	24022	1%	95%	0%	2669
Visual Systems	8	1%	87%	21958	1%	96%	9%	2745
Other	24	4%	91%	17314	1%	97%	11%	721
Seat Belts	15	2%	94%	13016	1%	98%	2%	868
Climate Control System	11	2%	95%	12997	1%	99%	0%	1182
Tires	7	1%	97%	10425	1%	99%	4%	1489
Latches	7	1%	98%	9357	0%	100%	2%	1337
Wheels	11	2%	99%	5801	0%	100%	4%	527
Airbags	1	0%	100%	995	0%	100%	2%	995
Hitches	1	0%	100%	217	0%	100%	0%	217
Engine Exhaust System	2	0%	100%	172	0%	100%	2%	86
Fires	0	0%	100%	0	0%	100%	0%	-
Total for proposed component list	605	96%		1956194	99%		89%	

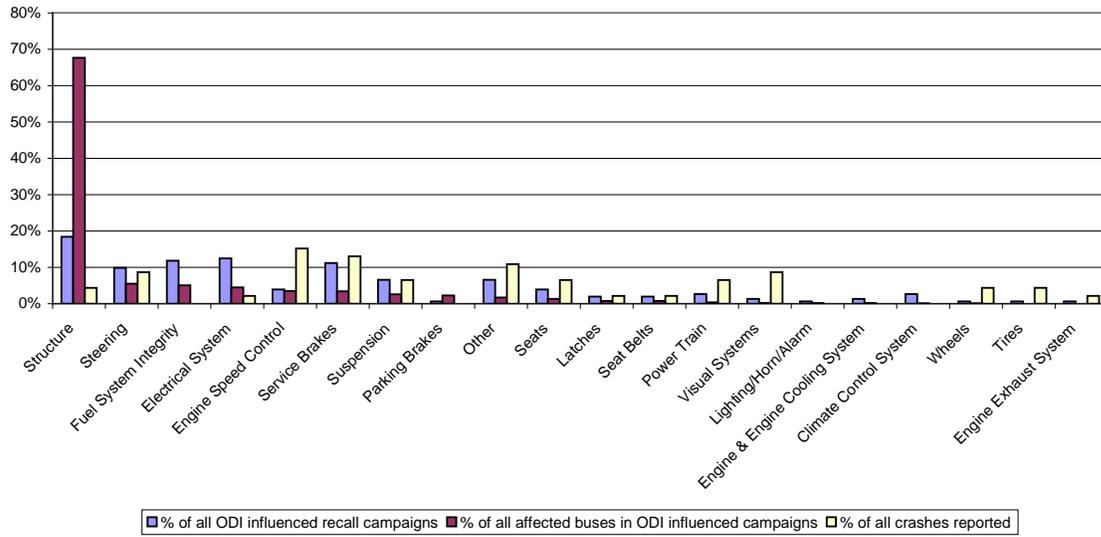


Figure 6. ODI influenced bus recalls and complaints

Table 7. ODI influenced bus recalls and complaints

Component category	Recall campaigns	% of all ODI influenced recall campaigns	Cumulative % of all ODI influenced recall campaigns	Affected vehicles	% of all affected buses in ODI influenced campaigns	Cumulative % of all affected buses in ODI influenced campaigns	% of all crashes reported	Avg. vehicles affected per campaign
Structure	28	18%	18%	422800	68%	68%	4%	15100
Steering	15	10%	28%	34598	6%	73%	9%	2307
Fuel System Integrity	18	12%	40%	31826	5%	78%	0%	1768
Electrical System	19	13%	53%	28056	4%	83%	2%	1477
Engine Speed Control	6	4%	57%	21606	3%	86%	15%	3601
Service Brakes	17	11%	68%	21174	3%	90%	13%	1246
Suspension	10	7%	74%	16300	3%	92%	7%	1630
Parking Brakes	1	1%	75%	14044	2%	94%	0%	14044
Other	10	7%	82%	10692	2%	96%	11%	1069
Seats	6	4%	86%	8170	1%	98%	7%	1362
Latches	3	2%	88%	4844	1%	98%	2%	1615
Seat Belts	3	2%	89%	4665	1%	99%	2%	1555
Power Train	4	3%	92%	2242	0%	99%	7%	561
Visual Systems	2	1%	93%	1379	0%	100%	9%	690
Lighting/Horn/Alarm	1	1%	94%	803	0%	100%	0%	803
Engine & Engine Cooling System	2	1%	95%	613	0%	100%	0%	307
Climate Control System	4	3%	98%	418	0%	100%	0%	105
Wheels	1	1%	99%	211	0%	100%	4%	211
Tires	1	1%	99%	188	0%	100%	4%	188
Engine Exhaust System	1	1%	100%	159	0%	100%	2%	159
Total for proposed component list	142	93%		614096	98%		87%	

Motorcycles

Motorcycles include a variety of vehicles, including those classified in DIMS II as

- 3 Motorcycle 3-Wheel
- 3V 3 Wheel Vehicle
- 4 Moped
- C Motorcycle
- D Motor-Driven Cycle
- O Motorcycle, Small(<100cc)
- Q Motorcycle, Medium(100-500c)
- R Motorcycle, Large(>500cc)

For motorcycles, the component category with the greatest number of affected vehicles for recalls is fuel system integrity, while service brakes have the most recall campaigns overall and fuel system integrity has the most ODI influenced recall campaigns. Tires are mentioned in the most complaints involving a crash.

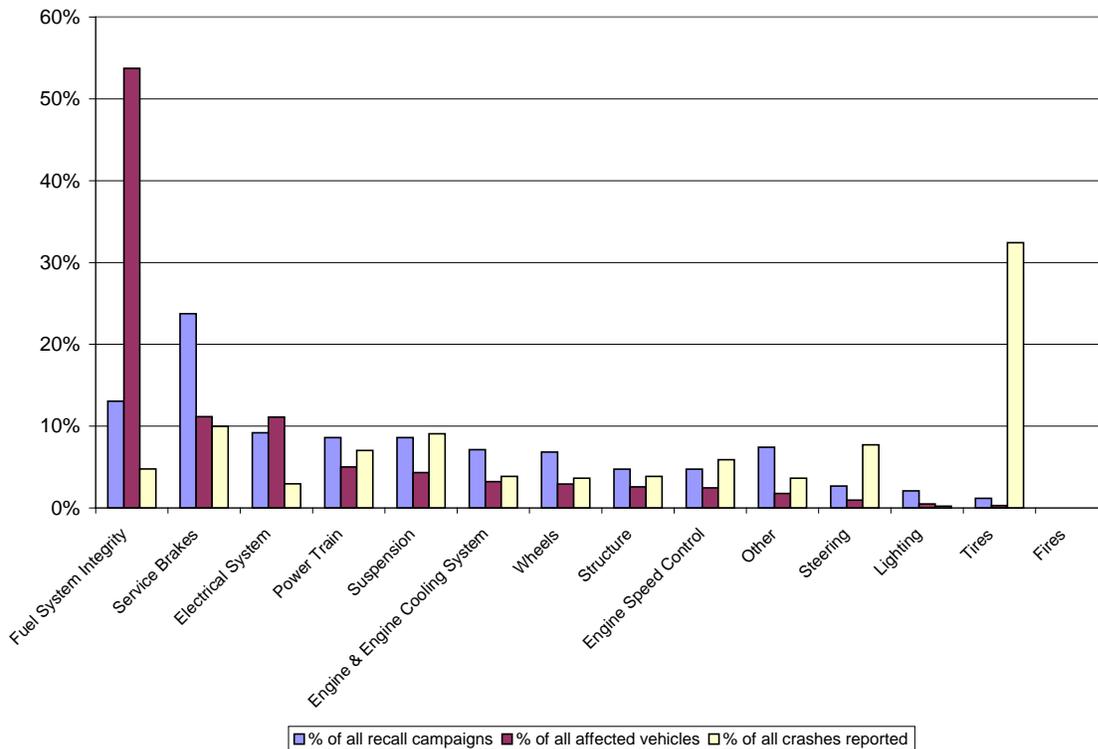


Figure 7. All motorcycle recalls and complaints

Table 8. All motorcycle recalls and complaints

Component category	Recall campaigns	% of all recall campaigns	Cumulative % of all recall campaigns	Affected vehicles	% of all affected vehicles	Cumulative % of all affected vehicles	% of all crashes reported	Avg. vehicles affected per campaign
Fuel System Integrity	44	13%	13%	2156533	54%	54%	4.8%	49012
Service Brakes	80	24%	37%	447747	11%	65%	10.0%	5597
Electrical System	31	9%	46%	445679	11%	76%	2.9%	14377
Power Train	29	9%	55%	200786	5%	81%	7.0%	6924
Suspension	29	9%	63%	174063	4%	85%	9.1%	6002
Engine & Engine Cooling System	24	7%	70%	129038	3%	89%	3.9%	5377
Wheels	23	7%	77%	117040	3%	91%	3.6%	5089
Structure	16	5%	82%	103659	3%	94%	3.9%	6479
Engine Speed Control	16	5%	87%	98971	2%	97%	5.9%	6186
Other	25	7%	94%	70614	2%	98%	3.6%	2825
Steering	9	3%	97%	38895	1%	99%	7.7%	4322
Lighting	7	2%	99%	19288	0%	100%	0.2%	2755
Tires	4	1%	100%	11367	0%	100%	32.4%	2842
Fires	0	0%	100%	0	0%	100%	0.0%	-
Total for proposed component list	312	93%		3943066	98%		91%	

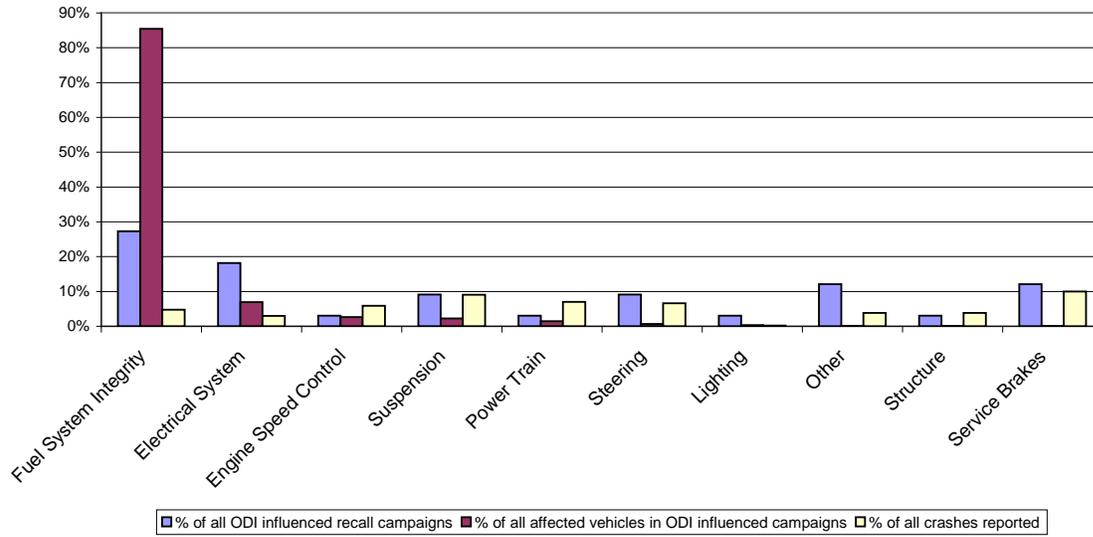


Figure 8. ODI influenced motorcycle recalls and complaints

Table 9. ODI influenced motorcycle recalls and complaints

Component category	Recall campaigns	% of all ODI influenced recall campaigns	Cumulative % of all ODI influenced recall campaigns	Affected vehicles	% of all affected vehicles in ODI influenced campaigns	Cumulative % of all affected vehicles in ODI influenced campaigns	% of all crashes reported	Avg. vehicles affected per campaign
Fuel System Integrity	9	27%	27%	1678125	85%	85%	5%	186458
Electrical System	6	18%	45%	136933	7%	92%	3%	22822
Engine Speed Control	1	3%	48%	52126	3%	95%	6%	52126
Suspension	3	9%	58%	44680	2%	97%	9%	14893
Power Train	1	3%	61%	28000	1%	99%	7%	28000
Steering	3	9%	70%	12843	1%	99%	7%	4281
Lighting	1	3%	73%	6212	0%	100%	0%	6212
Other	4	12%	85%	2792	0%	100%	4%	698
Structure	1	3%	88%	1400	0%	100%	4%	1400
Service Brakes	4	12%	100%	1235	0%	100%	10%	309
Total for proposed component list	29	88%		1961554	100%		50%	

Trailers

Trailers cover a variety of types, including those classified in DIMS II as

- 1 Trailer, Fifth Wheel
- 5 Trailer, Boat
- 9 Trailers, Miscellaneous
- G Pole Trailer
- I Trailer, Semi
- J Trailer Converter Dolly
- M Trailer, Unknown Type
- S Trailer, Full
- T Trailer, Camper
- U Trailer, House
- V Trailer, Travel
- W Trailer, Miscellaneous
- ZS Trailer, Live Stock(12-83)

For trailers, the component category with the greatest number of affected trailers for recalls is tires, while suspension has the most recall campaigns overall and for ODI influenced recall campaigns. Tires are mentioned in the most complaints involving a crash.

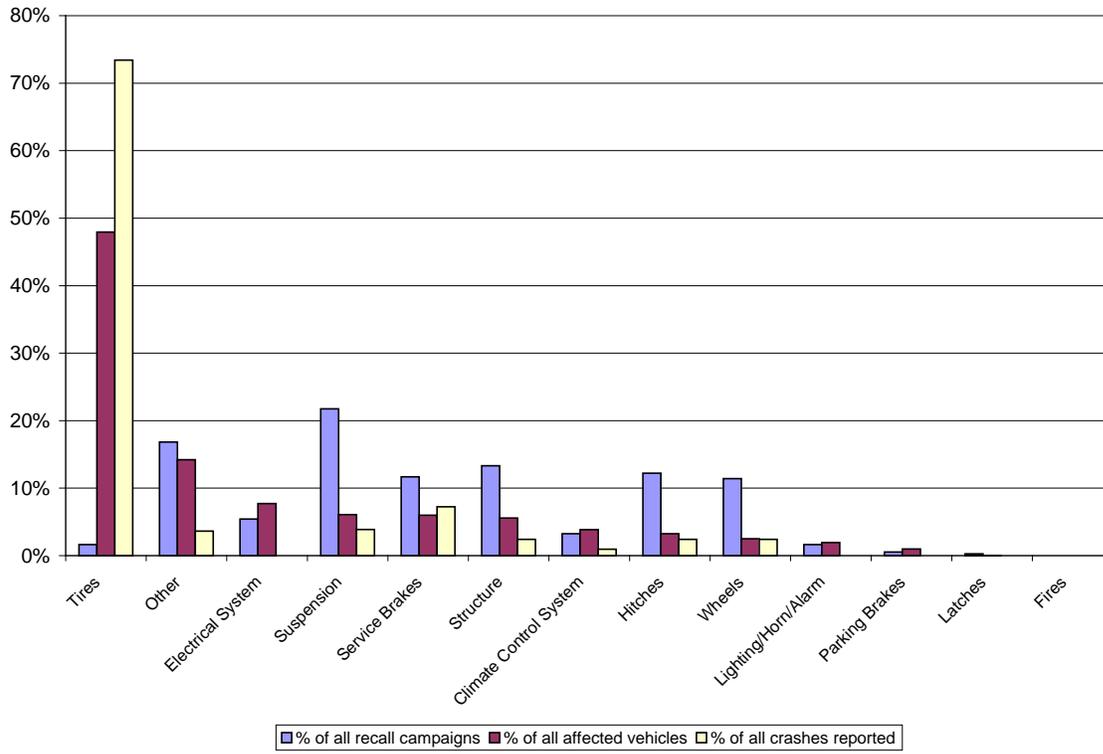


Figure 9. All trailer recalls and complaints

Table 10. All trailer recalls and complaints

Component category	Recall campaigns	% of all recall campaigns	Cumulative % of all recall campaigns	Affected vehicles	% of all affected vehicles	Cumulative % of all affected vehicles	% of all crashes reported	Avg. vehicles affected per campaign
Tires	6	2%	2%	490056	48%	48%	73.4%	81676
Other	62	17%	18%	145210	14%	62%	3.6%	2342
Electrical System	20	5%	24%	78766	8%	70%	0.0%	3938
Suspension	80	22%	46%	62244	6%	76%	3.9%	778
Service Brakes	43	12%	57%	61233	6%	82%	7.2%	1424
Structure	49	13%	71%	56890	6%	87%	2.4%	1161
Climate Control System	12	3%	74%	39451	4%	91%	1.0%	3288
Hitches	45	12%	86%	33136	3%	95%	2.4%	736
Wheels	42	11%	98%	25461	2%	97%	2.4%	606
Lighting/Horn/Alarm	6	2%	99%	19680	2%	99%	0.0%	3280
Parking Brakes	2	1%	100%	10009	1%	100%	0.0%	5005
Latches	1	0%	100%	340	0%	100%	0.0%	340
Fires	0	0%	100%	0	0%	100%		-
Total for proposed component list	306	83%		877266	86%		81%	

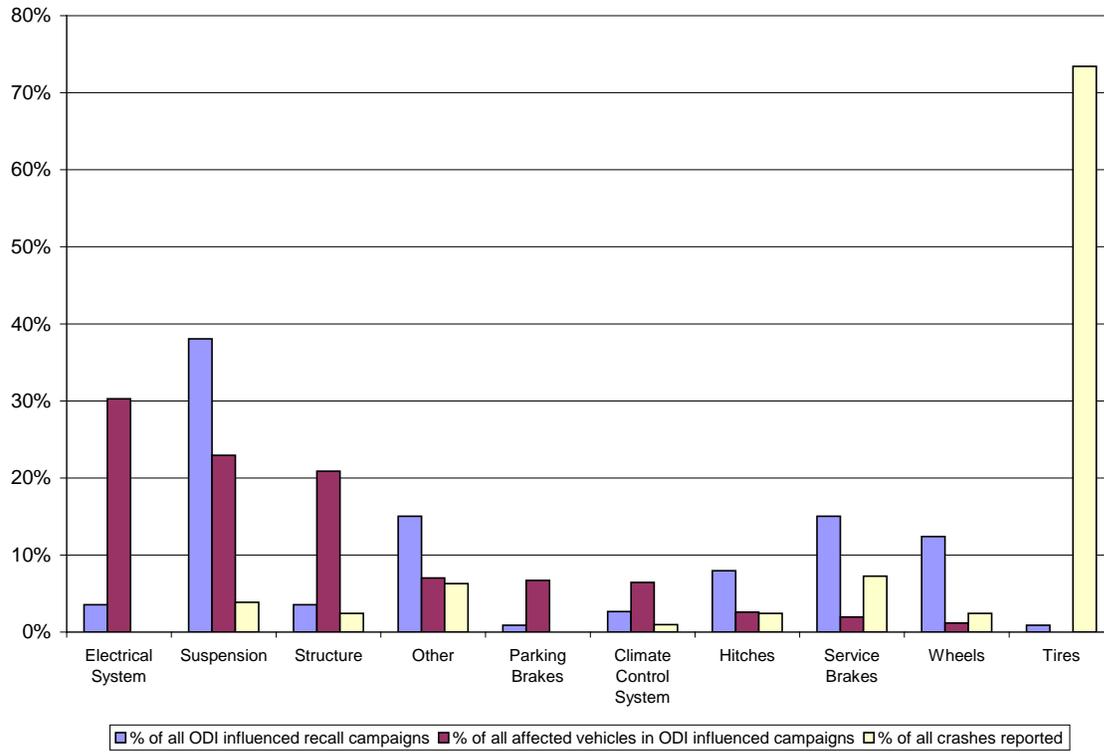


Figure 10. ODI influenced trailer recalls and complaints

Table 11. ODI influenced trailer recalls and complaints

Component category	Recall campaigns	% of all ODI influenced recall campaigns	Cumulative % of all ODI influenced recall campaigns	Affected vehicles	% of all affected vehicles in ODI influenced campaigns	Cumulative % of all affected vehicles in ODI influenced campaigns	% of all crashes reported	Avg. vehicles affected per campaign
Electrical System	4	4%	4%	45001	30%	30%	0%	11250
Suspension	43	38%	42%	34100	23%	53%	4%	793
Structure	4	4%	45%	31035	21%	74%	2%	7759
Other	17	15%	60%	10420	7%	81%	6%	613
Parking Brakes	1	1%	61%	9970	7%	88%	0%	9970
Climate Control System	3	3%	64%	9588	6%	94%	1%	3196
Hitches	9	8%	72%	3823	3%	97%	2%	425
Service Brakes	17	15%	87%	2918	2%	99%	7%	172
Wheels	14	12%	99%	1731	1%	100%	2%	124
Tires	1	1%	100%	0	0%	100%	73%	0
Total for proposed component list	96	85%		138166	93%		93%	