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IVHS Countermeasures for Rear–End Collisions, Task 1

Volume V: 1985 NASS Case Analysis

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EXECUTIVE SUMMARY / ABSTRACT

The attached report is from the NHTSA sponsored program, "IVHS Countermeasures for Rear-End Collisions," contract #DTNH22-93-C-07326. The program's primary objective is to develop practical performance guidelines or specifications for rear-end collision avoidance systems. The program consists of three Phases: Phase one: "Laying the Foundation" (Tasks 1-4), Phase two: "Understanding the state-of-the-art" (Tasks 5 & 6), and Phase three: "Testing and Reporting" (Tasks 7-9). This work focuses on light (primarily passenger) vehicles and emphasizes autonomous in-vehicle based equipment (as opposed to cooperative infrastructure-based equipment.)

Phase I of this contract, Laying the Foundation, consisted of 4 Tasks: Task 1: a detailed analysis of the rear-end crash problem, Task 2: development of system-level functional goals, Task 3: hardware testing of existing technologies, and Task 4: development of preliminary performance specifications or guidelines. The goals of Tasks 1, 2 and 3 were to develop the background needed to write the preliminary performance guidelines (Task 4).

Task 1, a detailed analysis of the rear-end Crash Problem, consisted of analysis, both clinical and statistical, of available mass accident data bases, some of which include the pre-crash variables, and an initial human factors study. The goal here was to identify, determine the nature of, and quantify the causes of rear-end type crashes. A report volume was written for each of these areas.

The Task 1 Interim Report consists of six volumes. This Volume, Volume V, "1985 NASS Analysis, " presents the results of the analysis of the 1985 NASS crash data. Data from 1985 was selected for analysis because it provided more insight into roadway variables that are no longer available in the current CDS or GES databases. This report (all volumes) forms the foundation for the work in the later stages of the contract. Descriptions of Volumes I - IV, VI are as follows:
a. Volume I, "Summary," presents background information, an overview of the framework used to analyze the rear-end collision problem, an overview of the initial human factors studies, and summarizes the clinical conclusions found in other volumes.
b. Volume II, "Statistical Analysis," presents the statistical analysis of rear-end collision accident data that characterizes the accidents with respect to their frequency, severity, time and place of occurrence, the vehicle, and the involved drivers. Data for this Volume includes NHTSA's Fatal Accident Reporting System (FARS), NHTSA's General Estimates System (GES), and some state accident data files for recent years.
c. Volume III "1991 NASS CDS Clinical Case Analysis," presents the results of the detailed analysis of cases from NHTSA's 1991 National Accident Sampling System (NASS) Crashworthiness Data System (CDS) crash data.
d. Volume IV, "1992 NASS CDS Clinical Case Analysis," presents the results of the detailed analysis of 200 cases from the 1992 NASS CDS crash data including the new pre-crash variables.
e. Volume VI, "Human Factors," presents the results of the initial human factors literature review and study.

From this detailed analysis of the accident databases a framework of the dynamic situations of rear-end collisions was developed and used to analyze the rear-end collision problem. From an in-depth analysis of the dynamic situations it was discovered that most rear-end collisions occur with the following vehicle traveling at a constant velocity and the lead vehicle decelerating to a stop, i.e. the close-following or platooning situation. It was determined that the primary causal factors for rear-end collisions were inattention and following too closely. Also determined was a list of preliminary specification information.

The results presented during Phase I, including the Preliminary Performance Guidelines or Specifications, are based on work carried out with limited interactions with the academic, research, and industry communities, any conclusions drawn from the results presented must bear this in mind.

Phase II goals include a detailed state-of-the-art review of technologies related to rear-end collision avoidance systems and the design of a test bed system. Phase II will complete in June 1996. Phase III goals include the construction and test of the test bed system, the generation of the final performance guidelines or specifications, and the final reporting on all aspects of the project. Phase III will finish in early 1998. Work continues throughout Phase II and III to add to, and to refine, these preliminary performance guidelines or specifications. Numerous items still need to be determined (TBD) throughout the remainder of the research.

Key words: Collision Avoidance, Rear-end Collision, Crash Analysis, Performance Specifications, Causal Factors, Dynamic Situations, Human Factors.

1985 NASS CASE ANALYSIS

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SECTION 1
INTRODUCTION

This volume of the Task 1 Interim Report for IVHS Countermeasures for Rear-End Collisions, Contract DTNH22-93-C-07326, deliverable item 5, contains an overview and summary of the analysis of rear-end collision cases from the 1985 National Accident Sampling System (NASS).

The 1985 NASS was selected to provide more insight into roadway variables, such as profiles, surface types, weather conditions, etc., that are no longer available in the 1991 or 1992 NASS CDS databases. NHTSA previously analyzed rear-end collisions as reported in "Rear-End Crashes: Problem Size Assessment and Statistical Description" and "Assessment of IVHS Countermeasures for Collision Avoidance: Rear-End Crashes" both by Ronald R. Knipling, et al, May, 1993. Based on a study of these reports, it was determined that further analysis of the rear-end crash problem would benefit the goal of this program, to derive performance specifications for a rear-end collision avoidance countermeasures system.

The case selection is described in Section 2 of this volume. A summary of the results of the analysis of the 1985 NASS is contained in Section 3. An overall summary is contained in Section 4. The raw data from the selected cases is listed in Appendix A.

SECTION 2
CASE SELECTION METHODOLOGY

The selection criteria for the 1985 NASS was as follows:

- Rear-end collision
- Two and only two vehicles involved
- Delta-V calculated for each vehicle

Delta-V was selected as a filter because cases having this information usually have enough detail to allow extraction of the information needed. In addition, this information allows a determination to be made of some of the parameters of the event. Only two vehicle cases were selected since these cases are also usually more thoroughly investigated and the delta-V's calculated for two vehicles are presumed to be more accurate.

A search of the 1985 NASS database found 134 cases of two-vehicle, rear-end collisions that were listed with delta-V calculated. The hard copy files of five of the 1985 NASS cases were ordered from Zimmerman Associates. These cases were reviewed to determine if the hard copy files contained additional information over and above that contained in the computer database. The hard copy files were highly sanitized, and it was determined that all the information needed could be obtained from the mass database. The pre-crash variables could not be determined from the data, but an estimation of accident causal factor was made. The information extracted from the data includes mainly roadway information. Table 2-1 is a listing of the cases selected for analysis.

Table 2-1 1985 NASS Cases Selected for Analysis

Case #	Case #	Case #	Case #	Case #
27-010V	27-052R	27-078V	27-237C	27-294C
*27-312C	28-278C	29-102V	29-138Q	30-049M
30-073Q	30-108V	30-243D	32-003R	32-052V
32-089W	37-210C	51-003R	51-038W	51-063W
51-073R	51-096V	51-100V	51-295B	51-313B
51-330C	51-166P	51-359D	51-362D	51-367B
51-379B	52-018V	52-068T	52-095O	52-111T
52-228D	52-235D	52-261A	52-290C	52-294B
52-295B	52-320B	52-334C	54-004V	54-020T
54-068V	54-072T	54-080W	54-084W	54-085R
54-204C	54-220C	54-223D	54-226B	54-241D
54-248B	54-254B	54-265B	55-021W	55-023P
55-080W	55-094T	55-109V	55-131P	55-137P
55-141V	55-149T	55-201B	55-203C	55-210C
55-250D	55-280D	55-316C	55-321B	56-017T
56-030V	56-032T	56-047T	56-125T	56-206B
56-212B	56-229D	56-238D	56-263C	58-078P
58-079T	58-090P	.58-100V	58-155T	58-162T
58-174P	58-246A	58-248B	58-253B	58-260C
58-334D	58-337C	58-338D	58-345B	58-359C
58-416B	59-079W	59-084R	59-270C	60-008W
79-092V	80-003T	80-025T	80-109T	80-128V
80-145P	80-146W	80-280B	80-306B	80-314C
81-067V	81-101P ·	81-119Q	81-254B	81-270B
81-277C	83-043T	87-015R	87-025P	87-051V
87-056R	87-058Q	87-205B	87-217C	87-245C
87-246C	87-247D	87-251C	87-288B	

* This case was a side-impact collision (miss coded as rear-end collision) and was not analyzed.

SECTION 3
SUMMARY OF RESULTS

Some of the data presented within this section was obtained using all the rear-end collisions available in the 1985 NASS database and some of the data presented within this section was obtained using the 134 selected cases shown in Table 2-1. The 1985 NASS hard copy data did not include enough detail, due to sanitation of the driver interview and police report, to make a determination of the pre-crash events. As a result, a determination of the dynamic situation or accident causal factor was not made. For each of the following tables and figures, the unknowns have been evenly distributed.

Table 3-1 and Figure 3-1 show the likelihood of a rear-end collision happening versus roadway profile for all rear-end collisions in the 1985 NASS database. The 1985 NASS has a much higher occurrence of rear-end collisions occurring on grades than does the 1991 or 1992 NASS GES, but for a rear-end collision avoidance system, it is not the grade but the change-in-grade that affects system performance. There is no way of determining whether the accident occurred at a change-in-grade or not. The roadway profile coded as a grade can only be used to estimate the possibility of occurrence of changes-in-grade.

Table 3-1 Table of Rear-End Collisions vs. Roadway Profile,
Weighted (85 NASS)

Roadway Profile	Number	Percentage
Level	2600695	64.34%
Grade	1390082	34.39%
Hillcrest	40017	0.99%
Sag	11318	0.28%
Total	4042112	100.00%
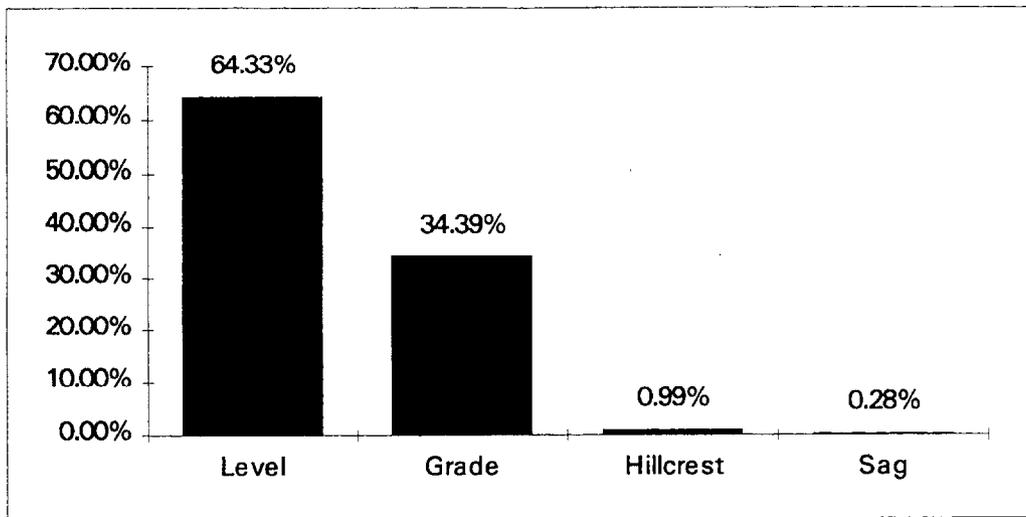
Figure 3-1 Percentage of Rear-End Collisions vs. Roadway Profile,
Weighted (85 NASS)

Table 3-2 and Figure 3-2 show the distribution of rear-end collisions that occurred on different grades. One curiosity to note is the bump that occurs as -3 degrees in the weighted data. This is due to the weighting of the individual cases coded at -3 degrees. It is not known why this occurs.

Table 3-2 Table of Rear-End Collisions vs. Roadway Grade,
Weighted and Unweighted (85 NASS)

Grade (degrees)	Number	Weighted	Unweighted
-37	658	0.02%	0.04%
-24	165	0.00%	0.02%
-15	1701	0.04%	0.19%
-10	1576	0.04%	0.08%
-9	607	0.02%	0.04%
-8	30669	0.76%	0.52%
-7	11378	0.28%	0.33%
-6	18636	0.46%	1.23%
-5	37707	0.93%	1.92%
-4	71730	1.77%	3.53%
-3	551118	13.63%	3.92%
-2	176640	4.37%	4.91%
-1	234321	5.80%	7.24%
0	1982720	49.05%	51.40%
1	383788	9.49%	8.35%
2	167160	4.14%	4.86%
3	211720	5.24%	4.78%
4	80197	1.98%	3.38%
5	47426	1.17%	1.54%
6	18338	0.45%	0.81%
7	2796	0.07%	0.23%
8	6450	0.16%	0.48%
9	3159	0.08%	0.06%
10	418	0.01%	0.02%
16	941	0.02%	0.04%
42	94	0.00%	0.04%
Total	4042112	100.00%	100.00%
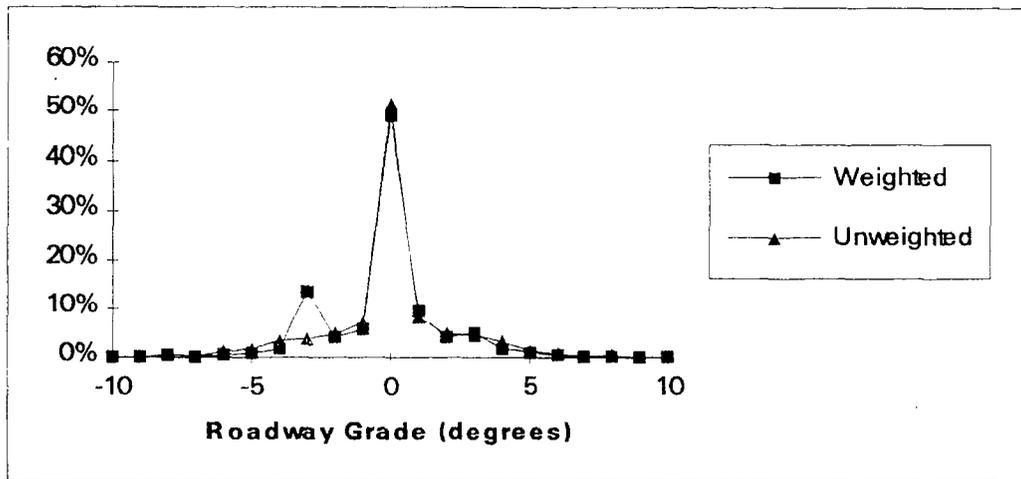
Figure 3-2 Percentage of Rear-End Collisions vs. Roadway Grade, Weighted and Unweighted (85 NASS)

Table 3-3 and Figure 3-3 show the occurrence of rear-end collisions that occur on different surface types. As can be seen, the most common surface types are asphalt and concrete. Rear-end collisions that occur on other surface types are small enough that they can be ignored. A rear-end collision avoidance system that is not degraded by either of these roadway surface types would be optimum.

Table 3-3 Table of Rear-End Collisions vs. Roadway Surface Type, Weighted (85 NASS)

Surface Type	Number	Percentage
Concrete	483033	11.95%
Asphalt	3556251	87.98%
Other	2829	0.07%
Total	4042112	100.00%
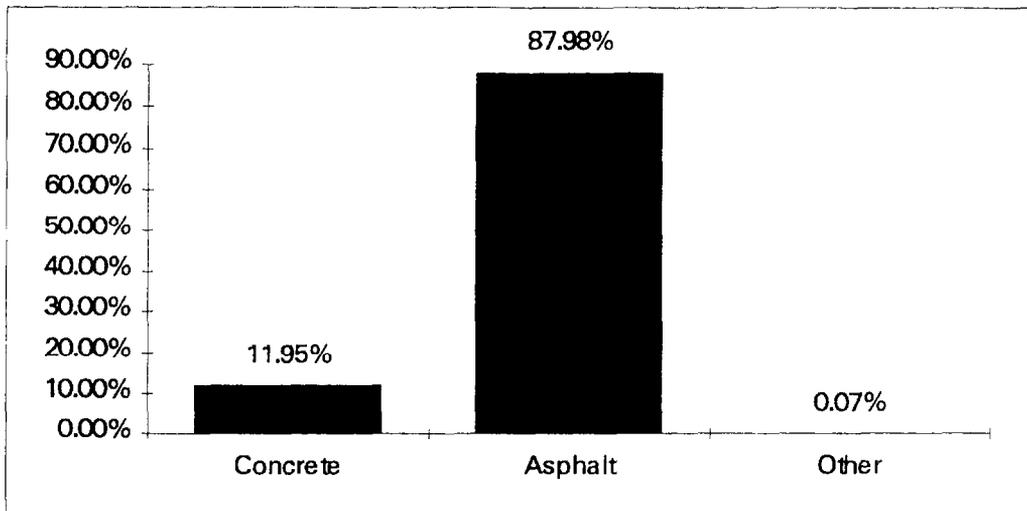
Figure 3-3 Percentage of Rear-End Collisions vs. Roadway Surface Type,
Weighted (85 NASS)

Table 3-4 and Figure 3-4 show the occurrence of rear-end collisions versus roadway alignment. Typical coding shows that most rear-end collisions occur on straight roadways. By comparison with the detailed clinical analysis performed on the 1992 NASS CDS, it was found that some roadways that were coded as straight, could be considered curved to a rear-end collision avoidance system or sensor. Roadways that are curved as little as 1.5 degrees could cause a sensor to be an entire lane width off of the lead vehicle (this is based on a system with a pencil beam, a range of 300 feet and a lane-width of 8 feet).

Table 3-4 Table of Rear-End Collisions vs. Roadway Alignment,
Weighted (85 NASS)

| Name	Number	Percentage
Straight	3565143	88.20%
Curve right	274055	6.78%
Curve left	202914	5.02%
Total	4042112	100.00%

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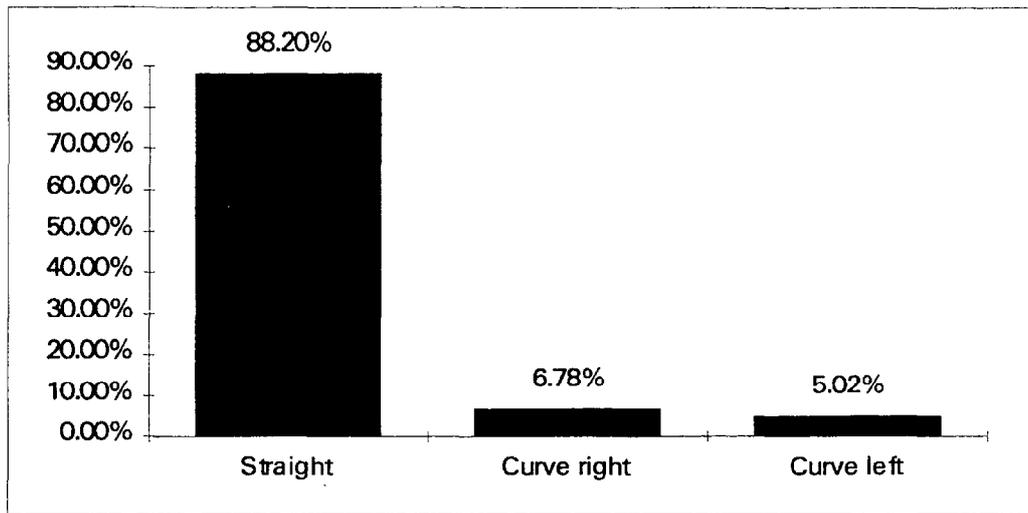
Figure 3-4 Percentage of Rear-End Collisions vs. Roadway Alignment,
Weighted (85 NASS)

Table 3-5 shows the distribution of rear-end collisions versus roadway curvature for those
collisions that occurred on roadways coded between 0 and 9 degrees. Collisions that occurred
on straight roadways are not included in the graph.
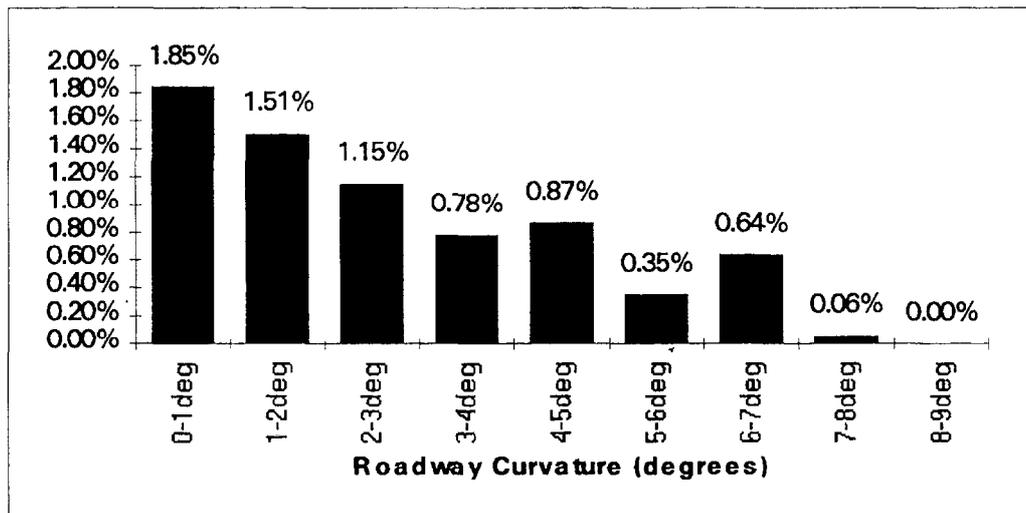
Figure 3-5 Percentage of Rear-End Collisions vs. Roadway Curvature,
Weighted (85 NASS)

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Table 3-5 shows the distribution of rear-end collisions versus travel speed of both the struck (lead) and striking (following) vehicles. It should be noted that in the 134 cases reviewed not a single unknown was coded, whereas in the 1991 and 1992 NASS CDS a high percentage was coded unknown. The travel speed has been rounded to the nearest 5 mph increment. Table 3-6 shows the same data presented in Table 3-5 as percentages.

Table 3-5 Table of Rear-End Collisions vs. Travel Speeds, Weighted (85 NASS)

Struck Vehicle Travel Speed (MPH)	Striking Vehicle Travel Speed (MPH)														Total
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	Total
0	323	942	525	3347	2556	2639	2978	1086	1034	1432	656	107	0	965	18590
5	0	0	458	0	1135	862	630	225	295	0	73	0	0	0	3679
10	0	1284	0	105	0	703	105	1080	792	46	0	0	0	0	4114
15	0	0	0	0	53	680	0	105	102	499	0	0	0	0	1439
20	0	0	0	0	0	148	719	303	0	228	0	0	0	0	1398
25	0	0	0	0	181	0	228	0	0	0	0	0	102	0	511
30	0	0	0	0	0	828	0	393	0	0	0	0	0	0	1221
35	0	0	0	0	0	911	1483	306	0	0	0	0	0	0	2700
40	124	0	0	58	0	0	0	0	0	0	0	103	0	0	286
45	0	0	0	0	0	0	0	238	0	0	0	0	0	0	238
50	0	0	0	0	0	0	0	0	0	908	0	0	222	732	1863
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	241	0	0	0	241
Total	448	2226	983	3510	3925	6771	6143	3735	2223	3112	970	210	324	1697	36279

Table 3-6 Percentage of Rear-End Collisions vs. Travel Speeds, Weighted (85 NASS)

Struck Vehicle Travel Speed (MPH)	Striking Vehicle Travel Speed (MPH)														Total
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	Total
0	0.89%	2.60%	1.45%	9.23%	7.04%	7.27%	8.21%	2.99%	2.85%	3.95%	1.81%	0.29%	0	2.66%	51.24%
5	0	0	1.26%	0	3.13%	2.38%	1.74%	0.62%	0.81%	0	0.20%	0	0	0	10.14%
10	0	3.54%	0	0.29%	0	1.94%	0.29%	2.98%	2.18%	0.13%	0	0	0	0	11.34%
15	0	0	0	0	0.15%	1.87%	0	0.29%	0.28%	1.37%	0	0	0	0	3.97%
20	0	0	0	0	0	0.41%	1.98%	0.83%	0	0.63%	0	0	0	0	3.85%
25	0	0	0	0	0.50%	0	0.63%	0	0	0	0	0	0.28%	0	1.41%
30	0	0	0	0	0	2.28%	0	1.08%	0	0	0	0	0	0	3.37%
35	0	0	0	0	0	2.51%	4.09%	0.84%	0	0	0	0	0	0	7.44%
40	0.34%	0	0	0.16%	0	0	0	0	0	0	0	0.28%	0	0	0.79%
45	0	0	0	0	0	0	0	0.66%	0	0	0	0	0	0.00%	0.66%
50	0	0	0	0	0	0	0	0	0	2.50%	0	0	0.61%	2.02%	5.13%
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0.66%	0	0	0	0.66%
Total	1.23%	6.14%	2.71%	9.67%	10.82%	18.66%	16.93%	10.30%	6.13%	8.58%	2.67%	0.58%	0.89%	4.68%	100.00%

Table 3-7 and Figure 3-6 show the number of rear-end collisions on different roadway surface conditions. As can be seen the vast majority of rear-end collisions occur on dry (primarily) and wet roadways.

Table 3-7 Table of Rear-End Collisions vs. Roadway Surface Condition,
Weighted (85 NASS)

Surface Condition	Number	Percentage
Dry	2817352	69.70%
Wet	1030739	25.50%
Snow or slush	96606	2.39%
Ice	92564	2.29%
Other	4851	0.12%
Total	4042112	100.00%

Figure 3-6 Percentage of Rear-End Collisions vs. Roadway Surface Condition,
Weighted (85 NASS)
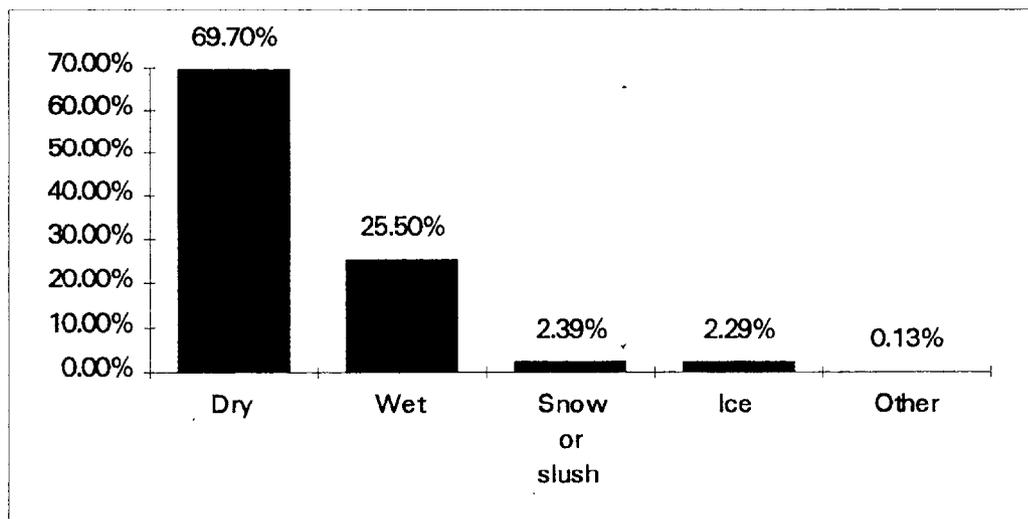
SECTION 4
SUMMARY

One hundred thirty four rear-end accident case files from the 1985 NASS were analyzed in detail.

Most rear-end collisions have been coded as occurring on level roadways. Hillcrest and sag are rarely coded. Rear-end collisions occurring on grades happen about one-third the time. The 1985 NASS has a much higher occurrence of rear-end collisions occurring on grades than does the 1991 or 1992 NASS GES, but for a rear-end collision avoidance system, it is not the grade but the change-in-grade that may affect system performance. For a rear-end collision avoidance system to function properly, it must be able to sense the vehicle in front. Depending on the type of system, the amount of returned energy from roadway objects such as signposts and the road itself can cause problems. This returned energy is usually denoted as "clutter". It is undesirable and very difficult to eliminate. Changes-in-grade present more of the roadway to the radiated energy from the sensor and can cause additional reflected energy or clutter back to the sensor. The roadway profile coded as a grade in the 1985 NASS is the actual slope of the roadway (coded in degrees). A change-in-grade is a point where the slope of the roadway changes from one slope to another. It is these changes-in-grade in the roadway that may prove difficult for a rear-end collision avoidance system to overcome. There is no way of determining the effects that the change-in-grade may have on a rear-end collision avoidance system without performing actual roadway tests on that system.

The most common roadway surface types are asphalt (bituminous) and concrete. All other surface types occur in such a small percentage that they could be ignored. The amount of clutter generated may be a function of surface type. This information is also useful in establishing coefficients of friction for various surface conditions and the establishment of test scenarios.

Most rear-end collisions have been coded as occurring on straight roadways. No definition of a straight roadway was found for the NASS coding (how long does a roadway have to be straight in order to be coded as straight?). For a rear-end collision avoidance system the roadway must be exactly straight, within the beam or scan width, to the maximum detection distance of the sensor or at a minimum to the distance that will allow the system to warn the driver in time to avoid the collision. At some point the roadway curvature will become too great for the rear-end collision avoidance system to be effective. Also roadway curvature introduces additional roadway features that may be sources for clutter and false alarms (A false alarm is when the rear-end collision avoidance system believes there is a vehicle in front

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when none exists). For a rear-end collision avoidance system to be effective, it must operate on curved roadways. The amount of curvature allowable versus system effectiveness is being established in the simulation task (Task 4).

It is necessary for a rear-end collision avoidance system to operate at various speeds of both the lead and following vehicles. Examining the data from the 1985 NASS the upper boundary on estimated travel speed is 70 mph. This places the relative speed between the two vehicles within the range of 5-70 mph. An anomaly in Tables 3-5 and 3-6 should be noted. In some cases the struck (lead) vehicle has a travel speed higher than the striking (following) vehicle. This anomaly is probably the result of the data being entered into the database incorrectly.

The purpose of the analysis on the 1985 NASS was to provide more insight into roadway characteristics, such as roadway profiles, roadway alignment, surface type and roadway surface condition. This information is useful in establishing the boundaries for the specification to be developed, providing inputs to the analysis and simulation task (Task 4) and establishing various test scenarios to be used when testing existing systems (Task 3). This information will also be used as situation modifiers for the establishment of functional goals for a rear-end collision avoidance system (Task 2).

APPENDIX A
1985 NASS CASES

Number	Case	National Inflation Factor	Accident Month	Accident Day of Week	Accident Time	Lead Vehicle Moving or Stationary	Roadway Alignment (horizontal)	Degree of Curvature	Roadway Profile	Grade Measurement	Roadway Surface Type	Roadway Surface Condition	Relation to Junction	Number of Travel Lanes	Travel Lane Width (feet)	Crash Severity
1	27-010V	92.48	JAN	WED	1830	Stationary	Straight	0	Level	0	Asphalt	Wet	Intersection related	2	10.9	Injury
2	27-052R	157.05	APR	MON	1145	Stationary	Curve left	3.4	Level	1	Asphalt	Wet	Driveway, alley access related	2	12.5	Property damage
3	27-078V	179.73	MAY	SUN	238	Stationary	Straight	0	Level	0	Asphalt	Dry	Intersection related	3	11.8	Injury
4	27-237C	227.722	AUG	FRI	2122	Moving	Straight	0	Level	-1	Asphalt	Dry	Non-junction	2	11.3	Injury
5	27-294C	227.722	NOV	TUE	1035	Moving	Straight	0	Grade	8	Asphalt	Wet	Three leg intersection	2	11.8	Injury
7	28-278C	273.067	NOV	SAT	2345	Stationary	Curve left	6.1	Level	-1	Asphalt	Wet	Intersection related	2	11.7	Injury
8	29-102V	147.64	MAY	FRI	2217	Stationary	Straight	0	Level	-1	Asphalt	Dry	Intersection related	2	12.5	Injury
9	29-138Q	220.18	JUN	SAT	1310	Stationary	Curve left	1.5	Grade	2	Asphalt	Dry	Intersection related	2	16.8	Property damage
10	30-049M	457.57	MAR	MON	1600	Moving	Straight	0	Grade	-8	Asphalt	Ice	Driveway, alley access related	2	11	Injury
11	30-073Q	72.74	APR	FRI	1050	Stationary	Straight	0	Level	-1	Asphalt	Dry	Non-junction	2	12	Injury
12	30-108V	166.6	MAY	THU	2145	Moving	Curve right	10.7	Grade	-5	Asphalt	Dry	Three leg intersection	2	11	Injury
13	30-234D	527.975	AUG	MON	1900	Stationary	Straight	0	Grade	-8	Asphalt	Dry	Driveway, alley access related	4	12.1	Injury
14	32-003R	52.98	JAN	SAT	858	Moving	Curve left	0.9	Grade	5	Asphalt	Ice	Intersection related	2	11	Injury
15	32-052V	119.2	FEB	SUN	700	Stationary	Straight	0	Grade	-8	Asphalt	Dry	Non-junction	2	10	Injury
16	32-089W	356.14	MAY	THU	705	Moving	Straight	0	Level	-1	Asphalt	Dry	Intersection related	3	13	Injury
17	37-210C	178.958	JUL	FRI	1554	Moving	Straight	0	Grade	8	Asphalt	Dry	Non-junction	2	12.5	Injury
18	51-003R	58.22	JAN	TUE	1145	Moving	Straight	0	Level	0	Asphalt	Dry	Driveway, alley access related	2	10	Injury
19	51-038W	444.14	FEB	SUN	9999	Stationary	Straight	0	Level	0	Asphalt	Dry	Non-junction	5	11.5	Property damage
20	51-063W	225.81	FEB	SAT	2300	Stationary	Straight	0	Level	0	Asphalt	Dry	Non-junction	4	11	Injury
21	51-073R	580.12	MAR	TUE	220	Stationary	Straight	0	Level	0	Asphalt	Dry	Non-junction	4	12	Property damage
22	51-096V	256.17	MAR	SAT	1820	Stationary	Straight	0	Level	0	Asphalt	Dry	Intersection related	4	9	Injury
23	51-100V	285.69	MAR	FRI	1546	Stationary	Straight	0	Level	0	Asphalt	Wet	Intersection related	3	11.9	Injury
24	51-166P	87.77	MAY	TUE	900	Moving	Straight	0	Level	0	Asphalt	Dry	Driveway, alley access related	3	12.5	Injury
25	51-295B	104.797	OCT	SAT	11	Moving	Straight	0	Level	0	Asphalt	Dry	Intersection related	2	12	Injury
26	51-313B	104.797	OCT	FRI	1525	Moving	Straight	0	Level	0	Asphalt	Dry	Intersection related	2	10	Injury
27	51-330C	239.536	NOV	TUE	1715	Moving	Straight	0	Level	0	Asphalt	Dry	Intersection related	4	11	Injury
28	51-359D	718.608	DEC	THU	1430	Stationary	Straight	0	Level	0	Asphalt	Wet	Intersection related	5	10.7	Property damage
29	51-362D	718.608	DEC	SAT	136	Moving	Straight	0	Grade	-5	Asphalt	Dry	Non-junction	2	11	Property damage
30	51-367B	104.797	DEC	WED	138	Moving	Straight	0	Level	0	Asphalt	Dry	Driveway, alley access related	4	12	Injury
31	51-379B	104.797	DEC	SUN	1515	Stationary	Curve left	1.6	Level	0	Asphalt	Dry	Intersection related	4	12	Injury
32	52-018V	341.52	FEB	FRI	1158	Stationary	Straight	0	Level	0	Asphalt	Wet	Non-junction	2	9.5	Injury
33	52-066T	124.46	APR	TUE	1315	Moving	Straight	0	Grade	2	Asphalt	Dry	Non-junction	2	11	Injury
34	52-095Q	341.52	MAY	WED	750	Stationary	Straight	0	Level	-1	Asphalt	Wet	Intersection related	2	10	Injury
35	52-111T	130.53	JUN	MON	1235	Stationary	Curve left	2.3	Grade	-4	Asphalt	Wet	Non-junction	2	10	Injury
36	52-228D	683.055	AUG	FRI	1424	Moving	Curve right	0.8	Grade	3	Asphalt	Dry	Non-junction	2	11.5	Property damage
37	52-235D	683.055	AUG	SAT	1045	Moving	Curve left	1.5	Level	-1	Asphalt	Dry	Intersection related	2	9.5	Injury
38	52-261A	45.537	SEP	FRI	750	Moving	Straight	0	Grade	-5	Asphalt	Dry	Driveway, alley access related	2	9.5	Injury
39	52-290C	227.685	OCT	THU	1720	Stationary	Straight	0	Level	-1	Asphalt	Wet	Non-junction	2	10	Injury
40	52-294B	102.458	NOV	SUN	1022	Moving	Straight	0	Grade	-2	Asphalt	Dry	Non-junction	2	11.5	Injury
41	52-295B	102.458	NOV	WED	1545	Stationary	Straight	0	Grade	-2	Asphalt	Dry	Non-junction	2	10.2	Injury
42	52-320B	102.458	DEC	FRI	1717	Moving	Straight	0	Level	0	Asphalt	Dry	Driveway, alley access related	2	11.3	Injury
43	52-334C	227.685	DEC	TUE	20	Stationary	Curve right	2.5	Grade	-3	Asphalt	Dry	Intersection related	3	11.5	Injury
44	54-004V	183.19	JAN	SUN	1455	Stationary	Straight	0	Grade	-2	Asphalt	Dry	Intersection related	2	9.5	Injury
45	54-020T	131.22	FEB	FRI	1955	Stationary	Straight	0	Grade	-4	Asphalt	Wet	Intersection related	4	12.3	Property damage
46	54-068V	224.32	APR	THU	1040	Stationary	Straight	0	Level	0	Asphalt	Dry	Non-junction	2	10.5	Injury
47	54-072T	133.47	MAY	FRI	1710	Stationary	Straight	0	Grade	-6	Asphalt	Dry	Four leg intersection	2	14	Injury
48	54-080W	241.14	MAY	SUN	1300	Stationary	Straight	0	Level	0	Asphalt	Dry	Three leg intersection	2	16	Property damage
49	54-084W	78.51	MAY	SAT	1023	Stationary	Straight	0	Grade	5	Asphalt	Dry	Driveway, alley access related	2	15.5	Property damage

Number	Case	National Inflation Factor	Accident Month	Accident Day of Week	Accident Time	Lead Vehicle Moving or Stationary	Roadway Alignment (horizontal)	Degree of Curvature	Roadway Profile	Grade Measurement	Roadway Surface Type	Roadway Surface Condition	Relation to Junction	Number of Travel Lanes	Travel Lane Width (feet)	Crash Severity
50	54-085R	858.02	JUN	SAT	1430	Moving	Curve right	0.2	Level	-1	Asphalt	Dry	Intersection related	2	10	Property damage
51	54-204C	302.832	JUN	THU	1730	Stationary	Straight	0	Level	0	Asphalt	Dry	Non-junction	2	11.5	Injury
52	54-220C	302.832	JUL	SUN	1640	Stationary	Straight	0	Level	0	Asphalt	Wet	Intersection related	2	11.8	Injury
53	54-223D	908.496	JUL	WED	1545	Stationary	Straight	0	Level	-1	Asphalt	Dry	Three leg intersection	2	11.3	Property damage
54	54-226B	134.592	AUG	WED	1700	Stationary	Straight	0	Grade	-6	Asphalt	Dry	Non-junction	2	11.9	Injury
55	54-241D	908.496	SEP	TUE	1325	Stationary	Straight	0	Grade	-7	Asphalt	Dry	Intersection related	1	15.2	Property damage
56	54-248B	134.592	SEP	SAT	1730	Stationary	Straight	0	Level	0	Asphalt	Dry	Driveway, alley access related	2	12.2	Injury
57	54-254B	134.592	OCT	SAT	1312	Stationary	Curve left	2.3	Level	1	Asphalt	Dry	Driveway, alley access related	2	14.2	Injury
58	54-265B	134.592	OCT	FRI	2220	Stationary	Straight	0	Grade	4	Asphalt	Dry	Non-junction	2	11.9	Injury
59	55-021W	360.9	JAN	THU	2147	Stationary	Straight	0	Level	0	Asphalt	Dry	Intersection related	3	11.8	Property damage
60	55-023P	319.22	FEB	FRI	1145	Stationary	Straight	0	Level	0	Asphalt	Wet	Non-junction	3	8.6	Injury
61	55-080W	343.3	APR	THU	12	Moving	Straight	0	Grade	6	Asphalt	Dry	Intersection related	5	12.8	Property damage
62	55-094T	78.34	APR	TUE	1921	Moving	Straight	0	Grade	-6	Asphalt	Dry	Three leg intersection	1	19	Injury
63	55-109V	44.01	MAY	WED	1725	Stationary	Curve right	1.1	Level	0	Asphalt	Wet	Intersection related	2	10.5	Injury
64	55-131P	91.65	JUN	MON	1325	Moving	Straight	0	Level	-1	Asphalt	Dry	Intersection related	2	10.5	Injury
65	55-137P	103.3	JUN	TUE	915	Stationary	Curve right	53.5	Grade	-2	Asphalt	Dry	Intersection related	1	11.8	Injury
66	55-141V	66.02	JUN	FRI	1732	Stationary	Straight	0	Grade	4	Asphalt	Dry	Non-junction	2	11.6	Injury
67	55-149T	86.26	JUN	FRI	1653	Stationary	Straight	0	Grade	-2	Concrete	Dry	Non-junction	3	11.9	Injury
68	55-201B	128.739	JUN	THU	1450	Moving	Straight	0	Level	0	Asphalt	Dry	Intersection related	4	12	Injury
69	55-203C	297.09	JUN	FRI	1708	Stationary	Straight	0	Level	-1	Asphalt	Dry	Non-junction	2	11.3	Injury
70	55-210C	297.09	JUL	THU	1535	Moving	Curve right	1.1	Level	0	Asphalt	Dry	Non-junction	5	11.5	Injury
71	55-250D	911.076	SEP	MON	1630	Stationary	Curve left	1.1	Grade	2	Asphalt	Dry	Non-junction	2	11	Property damage
72	55-280D	911.076	OCT	FRI	1528	Moving	Straight	0	Level	0	Asphalt	Dry	Non-junction	3	11	Property damage
73	55-316C	297.09	DEC	WED	1040	Stationary	Straight	0	Grade	-4	Asphalt	Dry	Three leg intersection	4	9.2	Injury
74	55-321B	128.739	DEC	WED	1519	Stationary	Curve left	9.2	Grade	-2	Asphalt	Wet	Intersection related	4	12.7	Injury
75	56-017T	161.79	JAN	MON	1525	Stationary	Straight	0	Level	0	Concrete	Dry	Entrance ramp	1	12	Injury
76	56-030V	185.24	JAN	TUE	1735	Stationary	Curve right	2.3	Level	0	Asphalt	Dry	Entrance ramp	1	16.2	Injury
77	56-032T	148.49	FEB	THU	743	Moving	Curve left	4.6	Level	0	Asphalt	Dry	Non-junction	3	11.5	Injury
78	56-047T	93.82	FEB	TUE	1205	Stationary	Straight	0	Level	0	Asphalt	Dry	Non-junction	2	10.5	Injury
79	56-125T	128.38	MAY	WED	1245	Stationary	Straight	0	Grade	2	Asphalt	Dry	Intersection related	3	11	Injury
80	56-206B	96.044	JUN	SUN	1705	Moving	Straight	0	Level	0	Asphalt	Dry	Non-junction	2	11.2	Injury
81	56-212B	96.044	JUN	MON	725	Moving	Straight	0	Grade	3	Concrete	Dry	Non-junction	5	99.9	Injury
82	56-229D	679.696	JUL	TUE	830	Stationary	Straight	0	Level	0	Asphalt	Dry	Intersection related	4	11	Property damage
83	56-238D	679.696	AUG	THU	915	Moving	Curve right	9.2	Level	0	Asphalt	Dry	Non-junction	3	14	Injury
84	56-263C	225.334	SEP	SAT	1700	Moving	Straight	0	Level	0	Asphalt	Dry	Driveway, alley access related	5	12.1	Injury
85	58-078P	95.34	MAR	TUE	1456	Stationary	Curve right	1.9	Level	-1	Asphalt	Dry	Intersection related	2	11.3	Injury
86	58-079T	108.05	MAR	WED	1619	Stationary	Curve left	3.8	Level	0	Asphalt	Dry	Driveway, alley access related	2	11.3	Injury
87	58-090P	104.01	MAR	SUN	1210	Stationary	Straight	0	Grade	-5	Asphalt	Wet	Intersection related	2	9.8	Injury
88	58-100V	237.65	MAR	FRI	730	Moving	Straight	0	Grade	-5	Asphalt	Dry	Intersection related	4	11.5	Injury
89	58-155T	108.95	MAY	SUN	1550	Stationary	Straight	0	Grade	3	Asphalt	Dry	Driveway, alley access related	2	10	Injury
90	58-162T	155.98	MAY	SAT	1506	Stationary	Straight	0	Level	1	Asphalt	Dry	Non-junction	4	11	Injury
91	58-174P	111.89	JUN	TUE	1402	Stationary	Curve right	4.2	Grade	-4	Asphalt	Dry	Intersection related	2	23	Injury
92	58-246A	53.583	AUG	FRI	1230	Moving	Straight	0	Level	1	Asphalt	Dry	Non-junction	2	12	Injury
93	58-248B	102.701	AUG	SAT	2037	Stationary	Straight	0	Level	1	Concrete	Dry	Non-junction	2	12	Injury
94	58-253B	102.701	AUG	THU	1212	Stationary	Straight	0	Level	0	Asphalt	Wet	Driveway, alley access related	3	11	Injury
95	58-260C	241.123	AUG	WED	1908	Stationary	Straight	0	Level	0	Asphalt	Wet	Intersection related	4	10.5	Injury
96	58-334D	732.301	OCT	FRI	20	Moving	Straight	0	Level	0	Asphalt	Dry	Non-junction	2	11.5	Injury
97	58-337C	241.123	OCT	MON	739	Moving	Curve right	4.4	Level	1	Concrete	Dry	Non-junction	6	11.8	Injury

Number	Case	National Inflation Factor	Accident Month	Accident Day of Week	Accident Time	Lead Vehicle Moving or Stationary	Roadway Alignment (horizontal)	Degree of Curvature	Roadway Profile	Grade Measurement	Roadway Surface Type	Roadway Surface Condition	Relation to Junction	Number of Travel Lanes	Travel Lane Width (feet)	Crash Severity
98	58-338D	732.301	OCT	MON	800	Stationary	Straight	0	Level	1	Asphalt	Dry	Driveway, alley access related	2	10.5	Injury
99	58-345B	102.701	OCT	MON	1555	Stationary	Curve left	1.5	Level	-1	Asphalt	Dry	Driveway, alley access related	3	12	Injury
100	58-359C	241.123	OCT	THU	1507	Stationary	Curve left	0.6	Level	1	Asphalt	Wet	Driveway, alley access related	2	11.1	Injury
101	58-416B	116.096	DEC	MON	710	Stationary	Straight	0	Level	0	Asphalt	Dry	Intersection related	2	12	Injury
102	59-079W	438.87	APR	FRI	1700	Stationary	Straight	0	Hillcrest	-3	Asphalt	Wet	Non-junction	2	12	Property damage
103	59-084R	576.95	APR	SAT	822	Stationary	Straight	0	Level	0	Asphalt	Dry	Non-junction	2	15	Property damage
104	59-270C	221.905	OCT	FRI	1100	Moving	Curve left	3.8	Level	0	Asphalt	Dry	Non-junction	2	11.5	Injury
105	60-008W	1046.29	JAN	TUE	750	Stationary	Straight	0	Level	0	Asphalt	Dry	Intersection related	2	10.6	Injury
106	79-092V	102.99	APR	FRI	1420	Moving	Straight	0	Level	99	Concrete	Dry	Non-junction	4	12	Injury
107	80-003T	42.34	JAN	TUE	1215	Stationary	Straight	0	Grade	5	Asphalt	Wet	Intersection related	5	11	Injury
108	80-025T	41.02	JAN	THU	635	Moving	Straight	0	Grade	6	Asphalt	Ice	Non-junction	2	13.5	Injury
109	80-109T	97.65	MAY	THU	1510	Stationary	Straight	0	Level	1	Asphalt	Dry	Intersection related	3	12.2	Injury
110	80-128V	175.1	MAY	THU	1400	Stationary	Straight	0	Level	0	Asphalt	Dry	Intersection related	3	11.5	Injury
111	80-145P	68.41	JUN	WED	200	Stationary	Straight	0	Grade	-3	Asphalt	Dry	Intersection related	5	11	Injury
112	80-146W	387.7	JUN	FRI	1405	Stationary	Straight	0	Level	2	Asphalt	Dry	Intersection related	2	13	Injury
113	80-280B	77.408	SEP	SAT	1820	Stationary	Straight	0	Level	0	Concrete	Snow or slush	Intersection related	3	12.2	Injury
114	80-306B	77.408	NOV	WED	1150	Stationary	Straight	0	Level	0	Asphalt	Dry	Intersection related	4	12.6	Injury
115	80-314C	178.635	NOV	THU	1725	Moving	Straight	0	Level	0	Asphalt	Dry	Non-junction	3	13.3	Injury
116	81-067V	289.85	MAR	TUE	1811	Stationary	Straight	0	Level	0	Asphalt	Dry	Three leg intersection	2	14.8	Injury
117	81-101P	61.14	MAY	SAT	953	Moving	Straight	0	Level	0	Asphalt	Dry	Driveway, alley access related	2	13.1	Injury
118	81-119Q	574.05	MAY	SUN	30	Stationary	Straight	0	Level	0	Asphalt	Dry	Non-junction	2	11.7	Injury
119	81-254B	106.998	SEP	TUE	2003	Stationary	Straight	0	Level	0	Asphalt	Dry	Driveway, alley access related	3	13.3	Injury
120	81-270B	106.998	SEP	SUN	1814	Stationary	Straight	0	Grade	3	Asphalt	Dry	Exit ramp	1	18	Injury
121	81-277C	305.71	SEP	THU	630	Moving	Straight	0	Level	0	Asphalt	Dry	Non-junction	2	11.8	Injury
122	83-043T	68.23	APR	WED	1230	Stationary	Curve left	5.9	Level	2	Asphalt	Dry	Three leg intersection	2	11.9	Injury
123	87-015R	638.11	JAN	SAT	138	Stationary	Straight	0	Level	0	Asphalt	Wet	Intersection related	3	11.7	Injury
124	87-025P	32.01	FEB	MON	955	Stationary	Straight	0	Level	-1	Asphalt	Dry	Driveway, alley access related	2	11.2	Injury
125	87-051V	472.32	MAR	MON	2205	Moving	Curve right	99.9	Level	1	Asphalt	Dry	Non-junction	2	12.4	Injury
126	87-056R	980.62	APR	MON	750	Stationary	Straight	0	Level	0	Asphalt	Dry	Intersection related	3	13	Injury
127	87-058Q	183.5	APR	THU	1725	Stationary	Straight	0	Level	0	Asphalt	Dry	Intersection related	5	12.7	Injury
128	87-205B	164.22	JUL	WED	1619	Stationary	Straight	0	Level	1	Asphalt	Dry	Intersection related	2	14.3	Injury
129	87-217C	375.36	JUL	FRI	1550	Stationary	Straight	0	Level	0	Asphalt	Dry	Non-junction	2	12.2	Injury
130	87-245C	375.36	SEP	TUE	1742	Moving	Straight	0	Level	0	Asphalt	Wet	Intersection related	5	14	Injury
131	87-246C	375.36	SEP	SUN	2228	Moving	Straight	0	Level	0	Asphalt	Dry	Non-junction	2	11	Injury
132	87-247D	1135.464	SEP	TUE	725	Moving	Straight	0	Level	1	Asphalt	Dry	Non-junction	5	12.8	Injury
133	87-251C	375.36	SEP	FRI	1725	Stationary	Straight	0	Level	0	Asphalt	Wet	Non-junction	5	19.2	Injury
134	87-288B	164.22	NOV	FRI	1904	Moving	Straight	0	Level	0	Asphalt	Dry	Non-junction	2	11.6	Injury

Number	Case	Alcohol Involvement	Speed Limit	Light Condition	Atmospheric Condition	Class Trafficway	Trafficway Flow	Shoulder Type Left	Shoulder Type Right	Cross Slope	Accident Causal Factor	Striking Vehicle Model Year	Striking Vehicle Make
1	27-010V	No	40	Dark	Clear	US Highway	divided	Surfaced 2-6ft	Gravel 2-6ft	Normal crown	Too fast for conditions	75	Plymouth
2	27-052R	No	35	Daylight	Snow	US Highway	divided	Surfaced 2-6ft	No shoulder	Normal crown	Inattention	83	Dodge
3	27-078V	Yes	40	Dark, but lighted	Clear	State highway	divided	Surfaced 2-6ft	No shoulder	Normal crown	Alcohol Involvement	85	Ford
4	27-237C	Yes	40	Dark	Clear	US Highway	divided	Surfaced 2-6ft	Surfaced >6ft	Normal crown	Alcohol Involvement	81	Dodge
5	27-294C	No	40	Daylight	Rain	State highway	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Flat	Too fast for conditions	79	Plymouth
7	28-278C	No	55	Dark	Rain	State highway	divided	No shoulder	No shoulder	Superelevation	Poor judgement	81	Ford
8	29-102V	No	25	Dark, but lighted	Clear	County road	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Inattention	79	Pontiac
9	29-138Q	No	35	Daylight	Clear	State highway	Two-way	No shoulder	No shoulder	Normal crown	Inattention	70	Plymouth
10	30-049M	No	55	Daylight	Clear	State highway	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Too fast for conditions	78	Plymouth
11	30-073Q	No	55	Daylight	Clear	Interstate	divided	No shoulder	Surfaced >6ft	Normal crown	Inattention	81	Datsun
12	30-108V	No	45	Dark	Clear	State highway	Two-way	Gravel >6ft	Gravel 2-6ft	Superelevation	Inattention	80	Chevrolet
13	30-234D	No	25	Daylight	Clear	US Highway	Two-way	No shoulder	No shoulder	Normal crown	Inattention	81	Chevrolet
14	32-003R	No	35	Daylight	Clear	State highway	Two-way	Gravel 2-6ft	Gravel >6ft	Superelevation	Inattention	84	Ford
15	32-052V	No	35	Daylight	Clear	County road	Two-way	Gravel >6ft	Gravel >6ft	Normal crown	Inattention	80	Toyota
16	32-089W	No	45	Daylight	Clear	State highway	divided	Surfaced 2-6ft	No shoulder	Normal crown	Inattention	78	Chevrolet
17	37-210C	No	35	Daylight	Clear	Township	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Inattention/following too closely	76	Plymouth
18	51-003R	No	35	Daylight	Clear	Municipality	Two-way	Dirt >6ft	Dirt >6ft	Normal crown	Encroachment of another vehicle	79	Ford
19	51-038W	Unknown	30	Dark, but lighted	Clear	State highway	Two-way	No shoulder	Surfaced >6ft	Flat	Inattention/following too closely	73	Cadillac
20	51-063W	No	35	Dark, but lighted	Clear	State highway	Two-way	Surfaced >6ft	Surfaced >6ft	Normal crown	Inattention/following too closely	79	Buick
21	51-073R	No	45	Dark, but lighted	Clear	State highway	divided	No shoulder	No shoulder	Normal crown	Inattention	82	Isuzu
22	51-096V	No	40	Daylight	Clear	State highway	divided	No shoulder	No shoulder	Normal crown	Encroachment of another vehicle	77	Pontiac
23	51-100V	No	45	Daylight	Rain	State highway	divided	No shoulder	No shoulder	Normal crown	Inattention	80	Oldsmobile
24	51-166P	No	45	Daylight	Clear	US Highway	divided	No shoulder	No shoulder	Normal crown	Inattention	83	Ford
25	51-295B	No	35	Dark, but lighted	Clear	Municipality	Two-way	Dirt >6ft	Dirt >6ft	Normal crown	Too fast for conditions	82	Ford
26	51-313B	No	35	Daylight	Clear	Municipality	divided	Surfaced >6ft	No shoulder	Normal crown	Inattention	78	Ford
27	51-330C	No	40	Dusk	Clear	State highway	divided	No shoulder	No shoulder	Normal crown	Inattention	81	Oldsmobile
28	51-359D	Yes	35	Daylight	Rain	Municipality	Two-way	No shoulder	No shoulder	Normal crown	Alcohol Involvement	75	Oldsmobile
29	51-362D	No	35	Dark, but lighted	Clear	State highway	divided	No shoulder	No shoulder	Normal crown	Inattention/traffic stopped or slowing	77	Dodge
30	51-367B	Yes	45	Dark, but lighted	Clear	State highway	divided	No shoulder	No shoulder	Normal crown	Alcohol Involvement	71	Pontiac
31	51-379B	No	45	Daylight	Clear	US Highway	divided	No shoulder	No shoulder	Negative superelevation	Inattention	85	Lincoln
32	52-018V	No	55	Daylight	Rain	State highway	Two-way	Gravel >6ft	Gravel >6ft	Normal crown	Too fast for conditions	77	Toyota
33	52-068T	No	40	Daylight	Clear	US Highway	Two-way	Gravel >6ft	Gravel >6ft	Normal crown	Inattention/following too closely	77	Dodge
34	52-095Q	No	35	Daylight	Rain	State highway	Two-way	Gravel 2-6ft	Gravel 2-6ft	Normal crown	Too fast for conditions	83	Ford
35	52-111T	No	35	Daylight	Rain	County road	Two-way	Surfaced >6ft	Surfaced 2-6ft	Superelevation	Inattention	82	Toyota
36	52-228D	No	45	Daylight	Clear	US Highway	Two-way	Dirt >6ft	Gravel >6ft	Superelevation	Inattention/following too closely	78	Chevrolet
37	52-235D	No	40	Daylight	Clear	County road	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Superelevation	Inattentio/following too closely	82	Datsun
38	52-261A	No	55	Daylight	Clear	County road	Two-way	Gravel >6ft	Gravel >6ft	Normal crown	Inattention	68	Cadillac
39	52-290C	No	55	Dark	Rain	County road	Two-way	Gravel 2-6ft	Gravel >6ft	Normal crown	Inattention/following too closely	77	Chevrolet
40	52-294B	No	55	Daylight	Clear	State highway	Two-way	Dirt >6ft	Dirt 2-6ft	Normal crown	Inattention	77	Datsun
41	52-295B	No	45	Daylight	Clear	County road	Two-way	Gravel 2-6ft	Gravel >6ft	Normal crown	Too fast for conditions	84	Dodge
42	52-320B	No	55	Dark	Clear	US Highway	Two-way	Gravel >6ft	Gravel >6ft	Normal crown	Inattention/traffic stopped or slowing	77	Toyota
43	52-334C	Yes	55	Dark	Clear	US Highway	divided	No shoulder	Surfaced >6ft	Normal crown	Alcohol Involvement	84	Chevrolet
44	54-004V	No	55	Daylight	Clear	State highway	Two-way	Dirt 2-6ft	Dirt >6ft	Normal crown	Too fast for condition	76	Pontiac
45	54-020T	No	35	Dark, but lighted	Rain	State highway	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Inattention	78	Buick
46	54-068V	No	35	Daylight	Clear	State highway	Two-way	Surfaced 2-6ft	Dirt 2-6ft	Normal crown	Inattention/following too closely	77	Buick
47	54-072T	No	20	Daylight	Clear	US Highway	Two-way	Dirt 2-6ft	Dirt 2-6ft	Flat	Inattention/following too closely	75	Toyota
48	54-080W	No	35	Daylight	Clear	US Highway	Two-way	No shoulder	No shoulder	Normal crown	Inattention/following too closely	76	Dodge
49	54-084W	No	25	Daylight	Clear	Municipality	Two-way	Surfaced 2-6ft	Dirt >6ft	Normal crown	Inattention/following too closely	77	Chrysler

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Number	Case	Alcohol Involvement	Speed Limit	Light Condition	Atmospheric Condition	Class Trafficway	Trafficway Flow	Shoulder Type Left	Shoulder Type Right	Cross Slope	Accident Causal Factor	Striking Vehicle Model Year	Striking Vehicle Make
50	54-085R	No	45	Daylight	Clear	State highway	Two-way	Gravel 2-6ft	Surfaced 2-6ft	Normal crown	Inattention/following too closely	84	Chevrolet
51	54-204C	No	45	Daylight	Clear	State highway	Two-way	Dirt 2-6ft	Dirt >6ft	Normal crown	Inattention	85	Jeep
52	54-220C	No	45	Daylight	Rain	State highway	Two-way	Dirt >6ft	Dirt >6ft	Normal crown	Too fast for conditions	77	Buick
53	54-223D	No	55	Daylight	Clear	State highway	Two-way	Dirt >6ft	Dirt >6ft	Other	Inattention	84	Datsun
54	54-226B	No	55	Daylight	Clear	State highway	Two-way	Dirt >6ft	Dirt >6ft	Normal crown	Inattention	76	Ford
55	54-241D	No	55	Daylight	Clear	US Highway	divided	Surfaced >6ft	Gravel >6ft	Normal crown	Inattention	79	Honda
56	54-248B	No	35	Daylight	Clear	US Highway	Two-way	Surfaced 2-6ft	Surfaced >6ft	Normal crown	Inattention	85	Datsun
57	54-254B	No	35	Daylight	Clear	US Highway	Two-way	Surfaced >6ft	No shoulder	Superelevation	Inattention	84	Buick
58	54-265B	No	35	Dark	Clear	State highway	Two-way	Dirt >6ft	Dirt >6ft	Normal crown	Inattention/traffic stopped or slowing	80	Honda
59	55-021W	Yes	25	Dark, but lighted	Clear	Municipality	Two-way	Surfaced >6ft	No shoulder	Normal crown	Alcohol Involvement	67	Cadillac
60	55-023P	No	50	Daylight	Rain	US Highway	divided	No shoulder	Surfaced 2-6ft	Normal crown	Inattention/following too closely	72	Datsun
61	55-080W	Yes	45	Dark, but lighted	Clear	Municipality	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Alcohol Involvement	72	Dodge
62	55-094T	No	15	Dark	Clear	Municipality	divided	No shoulder	No shoulder	Normal crown	Encroachment of another vehicle	77	Oldsmobile
63	55-109V	No	40	Daylight	Clear	Municipality	Two-way	Dirt >6ft	Dirt >6ft	Superelevation	Too fast for conditions	78	Chevrolet
64	55-131P	No	50	Daylight	Clear	US Highway	Two-way	Dirt >6ft	Dirt >6ft	Normal crown	Inattention	79	Subaru
65	55-137P	No	25	Daylight	Clear	Municipality	One-way	Surfaced 2-6ft	Dirt >6ft	Normal crown	Inattention/following too closely	85	Ford
66	55-141V	No	50	Daylight	Clear	US Highway	divided	Dirt >6ft	Surfaced >6ft	Normal crown	Inattention, external distraction	79	Ford
67	55-149T	Yes	55	Daylight	Clear	US Highway	divided	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Alcohol Involvement	73	Ford
68	55-201B	No	50	Daylight	Clear	US Highway	divided	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Inattention	79	Ford
69	55-203C	Yes	25	Daylight	Clear	Municipality	Two-way	No shoulder	No shoulder	Normal crown	Alcohol Involvement	79	GMC
70	55-210C	No	50	Daylight	Clear	US Highway	divided	Surfaced >6ft	Surfaced 2-6ft	Normal crown	Inattention/following too closely	79	Chevrolet
71	55-250D	Yes	55	Daylight	Clear	State highway	Two-way	Surfaced 2-6ft	Dirt >6ft	Normal crown	Alcohol Involvement	80	Ford
72	55-280D	No	50	Daylight	Clear	US Highway	divided	No shoulder	Surfaced 2-6ft	Normal crown	Inattention	84	Chevrolet
73	55-316C	No	35	Daylight	Clear	Municipality	Two-way	No shoulder	No shoulder	Normal crown	Inattention	73	Cadillac
74	55-321B	No	25	Daylight	Rain	Municipality	Two-way	No shoulder	No shoulder	Normal crown	Too fast for conditions	82	Datsun
75	56-017T	No	99	Daylight	Clear	State highway	One-way	No shoulder	Surfaced 2-6ft	Normal crown	Poor judgement	80	Pontiac
76	56-030V	No	55	Daylight	Clear	State highway	divided	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Inattention	79	Chevrolet
77	56-032T	No	40	Daylight	Clear	State highway	divided	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Inattention	75	Chevrolet
78	56-047T	Unknown	45	Daylight	Clear	State highway	divided	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Inattention	80	Honda
79	56-125T	No	40	Daylight	Clear	Municipality	divided	Dirt 2-6ft	No shoulder	Normal crown	Inattention	73	Ford
80	56-206B	Yes	40	Daylight	Clear	State highway	divided	Dirt >6ft	Dirt >6ft	Normal crown	Alcohol Involvement	74	Plymouth
81	56-212B	No	55	Daylight	Clear	Interstate	divided	Unknown	Surfaced >6ft	Normal crown	Inattention	78	Toyota
82	56-229D	No	35	Daylight	Clear	State highway	divided	Surfaced >6ft	Surfaced 2-6ft	Normal crown	Inattention	69	Volvo
83	56-238D	No	30	Daylight	Clear	State highway	One-way	No shoulder	No shoulder	Normal crown	Inattention	77	Dodge
84	56-263C	Yes	40	Daylight	Clear	Municipality	Two-way	No shoulder	No shoulder	Normal crown	Alcohol Involvement	83	Chevrolet
85	58-078P	No	45	Daylight	Clear	State highway	Two-way	Gravel 2-6ft	Surfaced 2-6ft	Superelevation	Inattention	85	Dodge
86	58-079T	No	35	Daylight	Clear	Township	Two-way	Gravel 2-6ft	Gravel 2-6ft	Superelevation	Inattention	77	Cadillac
87	58-090P	Yes	55	Daylight	Rain	State highway	Two-way	Dirt >6ft	Surfaced 2-6ft	Normal crown	Alcohol Involvement	82	Ford
88	58-100V	No	45	Daylight	Clear	US Highway	divided	Dirt >6ft	Gravel >6ft	Normal crown	Inattention	82	Plymouth
89	58-155T	No	45	Daylight	Clear	State highway	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Inattention	75	Cadillac
90	58-162T	No	35	Daylight	Clear	State highway	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Too fast for conditions	82	Ford
91	58-174P	No	35	Daylight	Clear	State highway	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Superelevation	Inattention	84	Chevrolet
92	58-246A	Yes	55	Daylight	Clear	State highway	Two-way	Dirt >6ft	Dirt >6ft	Normal crown	Alcohol Involvement	79	Mercury
93	58-248B	No	45	Dark, but lighted	Clear	US Highway	divided	Dirt >6ft	Surfaced >6ft	Normal crown	Inattention	64	Chevrolet
94	58-253B	No	25	Daylight	Rain	State highway	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Too fast for conditions	63	Dodge
95	58-260C	No	35	Daylight	Rain	State highway	Two-way	No shoulder	No shoulder	Normal crown	Inattention	85	Ford
96	58-334D	Yes	55	Dark	Clear	Interstate	divided	Surfaced 2-6ft	Surfaced >6ft	Normal crown	Alcohol Involvement	75	Chevrolet
97	58-337C	No	55	Daylight	Clear	Interstate	divided	Surfaced >6ft	Surfaced 2-6ft	Superelevation	Inattention	81	Chevrolet

Number	Case	Alcohol Involvement	Speed Limit	Light Condition	Atmospheric Condition	Class Trafficway	Trafficway Flow	Shoulder Type Left	Shoulder Type Right	Cross Slope	Accident Causal Factor	Striking Vehicle Model Year	Striking Vehicle Make
98	58-338D	No	35	Daylight	Clear	State highway	Two-way	Surfaced >6ft	Surfaced 2-6ft	Normal crown	Inattention	83	Toyota
99	58-345B	No	45	Daylight	Clear	State highway	divided	Surfaced 2-6ft	Dirt >6ft	Normal crown	Inattention	79	Chevrolet
100	58-359C	No	35	Daylight	Rain	State highway	Two-way	Dirt >6ft	Dirt >6ft	Superelevation	Inattention	68	Chevrolet
101	58-416B	No	55	Daylight	Clear	State highway	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Inattention	83	Plymouth
102	59-079W	No	55	Daylight	Rain	State highway	Two-way	Dirt >6ft	Dirt >6ft	Normal crown	Inattention/following too closely	80	Buick
103	59-084R	No	30	Daylight	Clear	Municipality	Two-way	Dirt 2-6ft	Dirt 2-6ft	Normal crown	Inattention	76	Chevrolet
104	59-270C	Yes	55	Daylight	Clear	US Highway	divided	Dirt >6ft	Dirt >6ft	Superelevation	Alcohol Involvement	74	Oldsmobile
105	60-008W	No	40	Daylight	Clear	State highway	Two-way	Gravel >6ft	Gravel >6ft	Normal crown	Inattention	82	Chevrolet
106	79-092V	No	55	Daylight	Clear	State highway	divided	Surfaced >6ft	Surfaced >6ft	Normal crown	Encroachment of another vehicle	84	BMW
107	80-003T	No	45	Daylight	Clear	State highway	divided	Surfaced >6ft	Surfaced 2-6ft	Normal crown	Inattention	78	Volvo
108	80-025T	No	45	Dark	Clear	State highway	divided	Surfaced >6ft	Surfaced 2-6ft	Normal crown	Too fast for conditions	77	Volkswagen
109	80-109T	No	45	Daylight	Clear	State highway	divided	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Inattention	79	Pontiac
110	80-128V	No	35	Daylight	Clear	US Highway	divided	Surfaced 2-6ft	Surfaced >6ft	Normal crown	Inattention	82	Subaru
111	80-145P	Yes	45	Dark, but lighted	Clear	State highway	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Alcohol Involvement	80	Honda
112	80-146W	No	45	Daylight	Clear	State highway	divided	Surfaced 2-6ft	Surfaced >6ft	Normal crown	Inattention	83	Toyota
113	80-280B	No	45	Dusk	Snow	State highway	divided	Surfaced 2-6ft	Surfaced >6ft	Normal crown	Inattention/following too closely	80	Volkswagen
114	80-306B	No	40	Daylight	Clear	State highway	divided	No shoulder	Surfaced 2-6ft	Normal crown	Inattention	86	Ford
115	80-314C	Unknown	40	Dark, but lighted	Clear	State highway	divided	Surfaced 2-6ft	No shoulder	Normal crown	Inattention	79	Cadillac
116	81-067V	No	35	Daylight	Clear	County road	Two-way	Gravel >6ft	Gravel >6ft	Normal crown	Inattention	72	Mercury
117	81-101P	No	35	Daylight	Clear	US Highway	divided	No shoulder	No shoulder	Normal crown	Inattention/following too closely	85	Datsun
118	81-119Q	Yes	50	Dark	Clear	County road	Two-way	Gravel 2-6ft	Gravel 2-6ft	Normal crown	Alcohol Involvement	79	Lincoln
119	81-254B	Yes	25	Dark	Clear	Municipality	Two-way	Surfaced 2-6ft	No shoulder	Normal crown	Alcohol Involvement	67	Pontiac
120	81-270B	No	55	Daylight	Clear	Interstate	One-way	Surfaced 2-6ft	Surfaced >6ft	Normal crown	Inattention	84	Audi
121	81-277C	No	50	Daylight	Unknown	County road	Two-way	Gravel >6ft	Gravel 2-6ft	Normal crown	Poor judgement	83	Cadillac
122	83-043T	No	45	Daylight	Clear	Municipality	divided	Surfaced 2-6ft	Surfaced >6ft	Normal crown	Inattention/traffic stopped or slowing	77	Chevrolet
123	87-015R	Unknown	35	Dark, but lighted	Rain	Municipality	divided	No shoulder	Surfaced 2-6ft	Normal crown	Inattention	55	Chevrolet
124	87-025P	No	45	Daylight	Clear	County road	Two-way	Gravel 2-6ft	Gravel 2-6ft	Flat	Inattention	76	Chevrolet
125	87-051V	No	55	Dark	Clear	Interstate	divided	Surfaced 2-6ft	Surfaced >6ft	Unknown	Too fast for conditions	83	Mercedes Benz
126	87-056R	No	35	Daylight	Clear	Municipality	Two-way	Surfaced 2-6ft	Surfaced 2-6ft	Normal crown	Inattention, external distraction	76	Mercedes Benz
127	87-058Q	Yes	40	Daylight	Clear	Municipality	divided	No shoulder	No shoulder	Flat	Alcohol Involvement	67	Buick
128	87-205B	No	45	Daylight	Clear	County road	divided	No shoulder	Surfaced 2-6ft	Normal crown	Inattention	71	Toyota
129	87-217C	No	35	Daylight	Clear	Municipality	Two-way	Gravel >6ft	Surfaced >6ft	Normal crown	Inattention	84	Honda
130	87-245C	No	35	Dusk	Rain	Municipality	Two-way	No shoulder	No shoulder	Normal crown	Inattention	81	Ford
131	87-246C	Yes	25	Dark	Clear	Municipality	Two-way	Gravel >6ft	No shoulder	Normal crown	Alcohol Involvement	73	Dodge
132	87-247D	No	35	Daylight	Clear	Municipality	Two-way	No shoulder	No shoulder	Normal crown	Inattention	76	Mercury
133	87-251C	No	35	Daylight	Rain	Municipality	Two-way	No shoulder	No shoulder	Normal crown	Inattention	82	Buick
134	87-288B	Yes	35	Dark	Clear	Municipality	Two-way	Gravel >6ft	Surfaced 2-6ft	Normal crown	Alcohol Involvement	79	Ford

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Number	Case	Striking Vehicle Model	Striking Vehicle Body Type	Striking Vehicle Travel Speed	Striking Vehicle Attempted Avoidance Maneuver	Striking Vehicle Accident Type	Striking Vehicle Curb Weight	Striking Vehicle Cargo Weight	Striking Vehicle Total Weight	Striking Vehicle Basis for Total Delta-V	Striking Vehicle Total Delta-V
1	27-010V	Valiant	4-door sedan, hardtop	35	Braking (lockup)	Stopped	3100	0	3100	Missing vehicle algorithm	16
2	27-052R	B.W-series pickup	Pickup	20	Braking (lockup)	Stopped	3500	0	3500	Missing vehicle algorithm	21
3	27-078V	Escort	5-door/ 4-door hatchback coupe	45	Unknown	Stopped	2100	Unknown	2100	Missing vehicle algorithm	16
4	27-237C	Challenger	2-door sedan, hardtop, coupe	35	Unknown	Slower	2800	Unknown	2800	CRASH program - damage routine only	21
5	27-294C	Voyager	Van	50	No avoidance actions	Slower	3700	0	3700	CRASH program - damage routine only	9
7	28-278C	Mustang	3-door/ 2-door hatchback	30	Braking (lockup unknown)	Stopped	2800	0	2800	Missing vehicle algorithm	12
8	29-102V	Sunbird	2-door sedan, hardtop, coupe	20	Braking (no lockup)	Stopped	2700	0	2700	CRASH program - damage routine only	13
9	29-138Q	Valiant	2-door sedan, hardtop, coupe	5	Braking (no lockup)	Stopped	3000	0	3000	Missing vehicle algorithm	7
10	30-049M	Fury	4-door sedan, hardtop	15	Braking (lockup)	Decelerating	3900	0	3900	CRASH program - damage routine only	11
11	30-073Q	Pickup	Pickup	55	No avoidance actions	Stopped	2600	100	2700	CRASH program - damage routine only	30
12	30-108V	Camero	2-door sedan, hardtop, coupe	45	Braking (lockup)	Slower	3500	0	3500	CRASH program - damage routine only	15
13	30-234D	Chevette	3-door/ 2-door hatchback	30	Braking (lockup)	Stopped	2100	0	2100	CRASH program - damage routine only	21
14	32-003R	Tempo	2-door sedan, hardtop, coupe	25	Braking (no lockup)	Slower	2400	0	2400	Missing vehicle algorithm	15
15	32-052V	Unknown	4-door sedan, hardtop	50	No impact	Stopped	Unknown	0	Unknown	Missing vehicle algorithm	17
16	32-089W	Malibu	4-door sedan, hardtop	40	Braking and steering left	Slower	3100	0	3100	CRASH program - damage routine only	12
17	37-210C	Volare	4-door sedan, hardtop	30	Braking (lockup)	Slower	3500	0	3500	CRASH program - damage routine only	9
18	51-003R	Van	Van	20	Braking (no lockup)	Decelerating	4200	0	4200	CRASH program - damage routine only	6
19	51-038W	El Dorado	Convertible	25	Unknown	Stopped	4800	0	4800	Missing vehicle algorithm	10
20	51-063W	Regal	2-door sedan, hardtop, coupe	35	Braking (no lockup)	Stopped	3200	0	3200	CRASH program - damage routine only	14
21	51-073R	Pickup	Pickup	35	Steering right	Stopped	4400	Unknown	4400	Missing vehicle algorithm	12
22	51-096V	Firebird	2-door sedan, hardtop, coupe	50	Braking and steering left	Stopped	3400	0	3400	CRASH program - damage routine only	14
23	51-100V	Cutlass	4-door sedan, hardtop	25	Braking (lockup unknown)	Stopped	3200	Unknown	3200	Missing vehicle algorithm	10
24	51-166P	Van	Van	30	Braking (no lockup)	Slower	4500	300	4800	Missing vehicle algorithm	12
25	51-295B	Mustang	3-door/ 2-door hatchback	40	Unknown	Slower	2800	Unknown	2800	Missing vehicle algorithm	16
26	51-313B	Van	Van	35	Braking and steering left	Decelerating	4000	0	4000	Missing vehicle algorithm	10
27	51-330C	Cutlass	4-door sedan, hardtop	30	Braking (no lockup)	Slower	3100	0	3100	CRASH program - damage routine only	11
28	51-359D	Cutlass	2-door sedan, hardtop, coupe	20	Braking and steering left	Stopped	3900	0	3900	CRASH program - damage routine only	5
29	51-362D	Aspen	4-door sedan, hardtop	35	Unknown	Slower	3400	Unknown	3400	Missing vehicle algorithm	12
30	51-367B	Valiant	2-door sedan, hardtop, coupe	20	Braking (no lockup)	Decelerating	3100	Unknown	3100	Missing vehicle algorithm	11
31	51-379B	Contential	4-door sedan, hardtop	40	Unknown	Stopped	3800	Unknown	3800	Missing vehicle algorithm	8
32	52-018V	Corolla	3-door/ 2-door hatchback	50	Braking (lockup)	Stopped	2300	0	2300	Missing vehicle algorithm	15
33	52-068T	Diplomat	2-door sedan, hardtop, coupe	5	Braking (lockup)	Slower	3600	0	3600	CRASH program - damage routine only	11
34	52-095Q	Fairmont	4-door sedan, hardtop	30	Braking and steering right	Stopped	2900	Unknown	2900	Missing vehicle algorithm	9
35	52-111T	Corolla	2-door sedan, hardtop, coupe	35	Braking and steering left	Stopped	2300	0	2300	Missing vehicle algorithm	14
36	52-228D	Luv	Pickup	30	Braking (lockup)	Decelerating	2400	0	2400	CRASH program - damage routine only	11
37	52-235D	200SX	2-door sedan, hardtop, coupe	40	Braking and steering right	Decelerating	2600	0	2600	CRASH program - damage routine only	11
38	52-261A	Deville	4-door sedan, hardtop	50	Unknown	Decelerating	4900	0	4900	Missing vehicle algorithm	13
39	52-290C	Malibu	4-door sedan, hardtop	45	Braking (no lockup)	Stopped	3800	0	3800	CRASH program - damage routine only	9
40	52-294B	B210	3-door/ 2-door hatchback	65	Braking (lockup)	Slower	2000	100	2100	CRASH program - damage routine only	16
41	52-295B	Omni	5-door/ 4-door hatchback coupe	55	Braking (lockup)	Stopped	2200	0	2200	CRASH program - damage routine only	24
42	52-320B	Corolla	4-door sedan, hardtop	45	Braking (lockup)	Decelerating	2000	0	2000	Missing vehicle algorithm	11
43	52-334C	Cavalier	4-door sedan, hardtop	45	Braking (lockup)	Stopped	2400	0	2400	CRASH program - damage routine only	17
44	54-004V	Grand Prix	2-door sedan, hardtop, coupe	50	Braking and steering right	Stopped	4200	0	4200	CRASH program - damage routine only	8
45	54-020T	Electra	4-door sedan, hardtop	35	Braking (no lockup)	Stopped	3900	0	3900	CRASH program - damage routine only	9
46	54-068V	Regal	2-door sedan, hardtop, coupe	30	Braking (lockup)	Stopped	3600	0	3600	CRASH program - damage routine only	8
47	54-072T	Corolla	2-door sedan, hardtop, coupe	20	No avoidance actions	Stopped	2200	0	2200	CRASH program - damage routine only	20
48	54-080W	Aspen	4-door sedan, hardtop	35	Braking (lockup)	Stopped	3500	0	3500	CRASH program - damage routine only	7
49	54-084W	Cordoba	2-door sedan, hardtop, coupe	25	Braking and steering left	Stopped	4100	0	4100	CRASH program - damage routine only	17

Number	Case	Striking Vehicle Model	Striking Vehicle Body Type	Striking Vehicle Travel Speed	Striking Vehicle Attempted Avoidance Maneuver	Striking Vehicle Accident Type	Striking Vehicle Curb Weight	Striking Vehicle Cargo Weight	Striking Vehicle Total Weight	Striking Vehicle Basis for Total Delta-V	Striking Vehicle Total Delta-V
50	54-085R	Chevette	3-door/ 2-door hatchback	35	Braking (lockup)	Decelerating	2100	0	2100	CRASH program - damage routine only	17
51	54-204C	Cheeroke	Truck based utility	55	Braking (lockup)	Stopped	3000	Unknown	3000	CRASH program - damage routine only	14
52	54-220C	Regal	2-door sedan, hardtop, coupe	40	Braking and steering right	Stopped	3600	0	3600	CRASH program - damage routine only	7
53	54-223D	Pulsar	2-door sedan, hardtop, coupe	50	Braking (lockup)	Stopped	1900	0	1900	CRASH program - damage routine only	13
54	54-226B	Granada	2-door sedan, hardtop, coupe	55	Braking (lockup)	Stopped	3500	200	3700	CRASH program - damage routine only	23
55	54-241D	Civic	3-door/ 2-door hatchback	10	Braking (no lockup)	Stopped	1800	0	1800	CRASH program - damage routine only	20
56	54-248B	Pulsar	2-door sedan, hardtop, coupe	35	Braking and steering right	Stopped	1900	0	1900	CRASH program - damage routine only	19
57	54-254B	Regal	4-door sedan, hardtop	35	Braking and steering right	Stopped	3300	0	3300	CRASH program - damage routine only	8
58	54-265B	Accord	3-door/ 2-door hatchback	35	Braking and steering right	Stopped	2200	0	2200	CRASH program - damage routine only	13
59	55-021W	Deville	Unknown automobile type	15	Unknown	Stopped	4700	Unknown	4700	Missing vehicle algorithm	9
60	55-023P	240	3-door/ 2-door hatchback	30	Braking (lockup)	Stopped	2400	0	2400	CRASH program - damage routine only	24
61	55-080W	Dart	4-door sedan, hardtop	35	Braking (no lockup)	Slower	3000	0	3000	CRASH program - damage routine only	14
62	55-094T	Cutlass	4-door sedan, hardtop	50	Braking (lockup)	Slower	3900	0	3900	CRASH program - damage and trajectory routine	24
63	55-109V	Corvette	2-door sedan, hardtop, coupe	50	Braking and steering right	Stopped	3600	0	3600	CRASH program - damage routine only	13
64	55-131P	Brat	Pickup	45	Braking and steering right	Decelerating	2200	200	2400	CRASH program - damage routine only	25
65	55-137P	Van	Van	5	Braking (no lockup)	Stopped	4000	400	4400	CRASH program - damage routine only	14
66	55-141V	Mustang	2-door sedan, hardtop, coupe	50	Unknown	Stopped	2600	Unknown	2600	Missing vehicle algorithm	6
67	55-149T	LTD	4-door sedan, hardtop	35	Braking (no lockup)	Stopped	4300	0	4300	CRASH program - damage routine only	12
68	55-201B	Fairmont	Station wagon	45	Braking (no lockup)	Decelerating	2900	0	2900	Missing vehicle algorithm	15
69	55-203C	C.K-series pickup	Pickup	25	Unknown	Stopped	4000	0	4000	CRASH program - damage routine only	8
70	55-210C	Monte Carlo	2-door sedan, hardtop, coupe	40	Braking (no lockup)	Slower	3000	0	3000	CRASH program - damage routine only	13
71	55-250D	Fairmont	4-door sedan, hardtop	70	Braking (no lockup)	Stopped	2700	0	2700	Missing vehicle algorithm	22
72	55-280D	Monte Carlo	2-door sedan, hardtop, coupe	30	Braking (no lockup)	Decelerating	3300	0	3300	CRASH program - damage routine only	6
73	55-316C	Deville	2-door sedan, hardtop, coupe	35	Braking (lockup)	Stopped	5000	0	5000	CRASH program - damage routine only	13
74	55-321B	Pickup	Pickup	20	Braking (lockup)	Stopped	2500	0	2500	CRASH program - damage routine only	11
75	56-017T	Sunbird	2-door sedan, hardtop, coupe	40	Braking (no lockup)	Stopped	2900	0	2900	CRASH program - damage routine only	19
76	56-030V	Nova	4-door sedan, hardtop	10	Braking (lockup unknown)	Stopped	3300	0	3300	Missing vehicle algorithm	11
77	56-032T	Caprice	2-door sedan, hardtop, coupe	30	Braking (no lockup)	Slower	4300	0	4300	CRASH program - damage routine only	10
78	56-047T	Civic	3-door/ 2-door hatchback	45	Unknown	Stopped	1700	Unknown	1700	Missing vehicle algorithm	20
79	56-125T	Torino	Station wagon	20	Braking (no lockup)	Stopped	4200	100	4300	CRASH program - damage routine only	6
80	56-206B	Satellite	4-door sedan, hardtop	40	Unknown	Slower	3700	0	3700	Missing vehicle algorithm	10
81	56-212B	Corolla	4-door sedan, hardtop	30	Braking (no lockup)	Decelerating	2100	0	2100	Missing vehicle algorithm	22
82	56-229D	142	Station wagon	10	Braking and steering left	Stopped	2700	0	2700	CRASH program - damage routine only	9
83	56-238D	Aspen	4-door sedan, hardtop	30	Unknown	Slower	3400	0	3400	CRASH program - damage routine only	19
84	56-263C	Chevette	5-door/ 4-door hatchback coupe	40	Steering left	Slower	2200	0	2200	CRASH program - damage routine only	15
85	56-078P	Colt	3-door/ 2-door hatchback	35	Braking (lockup unknown)	Stopped	1900	0	1900	CRASH program - damage routine only	19
86	56-079T	Deville	4-door sedan, hardtop	35	Braking (lockup)	Stopped	4500	0	4500	CRASH program - damage routine only	8
87	56-090P	Van	Van	50	Braking (lockup)	Stopped	4300	500	4800	CRASH program - damage routine only	22
88	56-100V	Reliant K	Station wagon	40	Braking and steering left	Decelerating	2500	0	2500	Missing vehicle algorithm	13
89	56-155T	Deville	2-door sedan, hardtop, coupe	40	Braking (lockup)	Stopped	5100	0	5100	CRASH program - damage routine only	10
90	56-162T	Escort	5-door/ 4-door hatchback coupe	35	Braking (no lockup)	Stopped	2100	0	2100	CRASH program - damage routine only	18
91	56-174P	C.K-series pickup	Pickup	30	Braking (no lockup)	Stopped	4000	500	4500	Missing vehicle algorithm	10
92	56-246A	Cougar	2-door sedan, hardtop, coupe	70	Braking and steering left	Slower	4200	0	4200	CRASH program - damage routine only	16
93	56-248B	Camer	2-door sedan, hardtop, coupe	40	Braking (lockup)	Stopped	3100	0	3100	CRASH program - damage routine only	11
94	56-253B	Other truck	Pickup	25	Braking (no lockup)	Stopped	4800	0	4800	CRASH program - damage routine only	11
95	56-260C	Crown Victoria	4-door sedan, hardtop	30	No avoidance actions	Stopped	3700	0	3700	CRASH program - damage routine only	15
96	56-334D	Manza	3-door/ 2-door hatchback	70	Braking (lockup)	Slower	3000	0	3000	Missing vehicle algorithm	9
97	56-337C	Chevette	5-door/ 4-door hatchback coupe	55	Braking and steering right	Decelerating	2000	0	2000	CRASH program - damage routine only	15

Number	Case	Striking Vehicle Model	Striking Vehicle Body Type	Striking Vehicle Travel Speed	Striking Vehicle Attempted Avoidance Maneuver	Striking Vehicle Accident Type	Striking Vehicle Curb Weight	Striking Vehicle Cargo Weight	Striking Vehicle Total Weight	Striking Vehicle Basis for Total Delta-V	Striking Vehicle Total Delta-V
98	58-338D	Celica	2-door sedan, hardtop, coupe	30	Braking (no lockup)	Stopped	2500	0	2500	Missing vehicle algorithm	14
99	58-345B	Caprice	4-door sedan, hardtop	45	Braking and steering right	Stopped	3700	0	3700	CRASH program - damage routine only	18
100	58-359C	Caprice	4-door sedan, hardtop	30	Braking (lockup)	Stopped	3500	0	3500	CRASH program - damage routine only	14
101	58-416B	Reliant K	4-door sedan, hardtop	55	Braking (lockup)	Stopped	2300	0	2300	CRASH program - damage routine only	21
102	59-079W	Regal	4-door sedan, hardtop	40	Braking (lockup)	Stopped	3300	0	3300	CRASH program - damage routine only	15
103	59-084R	Nova	4-door sedan, hardtop	20	Braking and steering right	Stopped	3400	0	3400	CRASH program - damage routine only	11
104	59-270C	Delta-88	2-door sedan, hardtop, coupe	65	No avoidance actions	Slower	4500	0	4500	CRASH program - damage routine only	20
105	60-008W	Camero	2-door sedan, hardtop, coupe	25	Braking (lockup)	Stopped	3000	0	3000	CRASH program - damage routine only	10
106	79-092V	524i	4-door sedan, hardtop	60	Braking and steering left	Slower	3000	0	3000	CRASH program - damage routine only	10
107	80-003T	242	Station wagon	45	No avoidance actions	Stopped	2900	0	2900	CRASH program - damage routine only	18
108	80-025T	Rabbit	3-door/ 2-door hatchback	40	Braking (lockup)	Slower	1900	0	1900	CRASH program - damage routine only	21
109	80-109T	Grand Prix	2-door sedan, hardtop, coupe	35	Unknown	Stopped	3200	Unknown	3200	Missing vehicle algorithm	19
110	80-128V	FE	Station wagon	30	Braking (lockup)	Stopped	2400	0	2400	Missing vehicle algorithm	12
111	80-145P	Civic	3-door/ 2-door hatchback	40	Braking and steering right	Stopped	1800	0	1800	CRASH program - damage routine only	26
112	80-146W	Tercel	Unknown automobile type	45	Braking (lockup)	Stopped	2000	0	2000	Missing vehicle algorithm	14
113	80-280B	Rabbit	5-door/ 4-door hatchback coupe	10	Braking (lockup unknown)	Stopped	200	0	200	CRASH program - damage routine only	15
114	80-306B	Escort	3-door/ 2-door hatchback	35	Braking (lockup)	Stopped	2100	0	2100	Missing vehicle algorithm	12
115	80-314C	El Dorado	2-door sedan, hardtop, coupe	35	Braking and steering right	Specifics Unknown	3900	0	3900	CRASH program - damage routine only	9
116	81-067V	Montego	4-door sedan, hardtop	35	Braking (lockup)	Stopped	3800	Unknown	3800	Missing vehicle algorithm	7
117	81-101P	Pickup	Pickup	35	No avoidance actions	Decelerating	3000	0	3000	CRASH program - damage routine only	16
118	81-119Q	Contentinal	4-door sedan, hardtop	50	Braking (lockup)	Stopped	4800	0	4800	CRASH program - damage routine only	10
119	81-254B	Firebird	2-door sedan, hardtop, coupe	25	Braking (no lockup)	Stopped	3300	0	3300	Missing vehicle algorithm	12
120	81-270B	5000	Station wagon	60	Braking (lockup)	Stopped	3000	200	3200	Missing vehicle algorithm	14
121	81-277C	Deville	4-door sedan, hardtop	40	Braking (lockup)	Slower	3900	0	3900	CRASH program - damage routine only	14
122	83-043T	Grand Prix	2-door sedan, hardtop, coupe	40	Braking (lockup)	Stopped	4000	0	4000	CRASH program - damage routine only	10
123	87-015R	Caprice	4-door sedan, hardtop	35	Unknown	Stopped	3300	0	3300	CRASH program - damage routine only	17
124	87-025P	Luv	Pickup	40	Braking (lockup unknown)	Stopped	2400	200	2600	Missing vehicle algorithm	19
125	87-051V	450 SE	4-door sedan, hardtop	45	Braking (lockup)	Decelerating	3700	0	3700	CRASH program - damage routine only	11
126	87-056R	200 series	4-door sedan, hardtop	20	No avoidance actions	Stopped	3200	0	3200	Missing vehicle algorithm	10
127	87-058Q	LeSabre	4-door sedan, hardtop	30	No avoidance actions	Stopped	4000	0	4000	CRASH program - damage routine only	13
128	87-205B	Corolla	2-door sedan, hardtop, coupe	15	Braking and steering right	Stopped	1700	0	1700	Missing vehicle algorithm	14
129	87-217C	Accord	3-door/ 2-door hatchback	25	Braking and steering right	Stopped	2200	0	2200	CRASH program - damage routine only	6
130	87-245C	F-series pickup	Pickup	10	Braking and steering left	Decelerating	3500	0	3500	CRASH program - damage routine only	7
131	87-246C	Coronett	2-door sedan, hardtop, coupe	30	Braking (lockup)	Decelerating	3500	0	3500	Missing vehicle algorithm	20
132	87-247D	Bobcat	Station wagon	25	Braking (lockup)	Decelerating	2800	0	2800	Missing vehicle algorithm	12
133	87-251C	Regal	2-door sedan, hardtop, coupe	20	Braking (no lockup)	Stopped	3200	0	3200	CRASH program - damage routine only	10
134	87-288B	F-series pickup	Pickup	50	Unknown	Slower	3300	500	3800	Missing vehicle algorithm	17

Number	Case	Striking Vehicle Longitudinal Delta-V	Striking Vehicle Lateral Delta-V	Struck Vehicle Model Year	Struck Vehicle Make	Struck Vehicle Model	Struck Vehicle Body Type	Struck Vehicle Travel Speed	Struck Vehicle Attempted Avoidance Maneuver	Struck Vehicle Accident Type	Struck Vehicle Curb Weight
1	27-010V	-16	0	70	Oldsmobile	Cutlass	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped, turning left	3600
2	27-052R	-21	0	77	Oldsmobile	Cutlass	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	3800
3	27-078V	-16	0	82	Mercury	Lynx	3-door/ 2-door hatchback	0	No avoidance actions	Lead vehicle stopped	2000
4	27-237C	-21	0	83	Renault	Alliance	4-door sedan, hardtop	25	Unknown	Lead vehicle stopped	2000
5	27-294C	-9	0	84	Renault	Encore	5-door/ 4-door hatchback coupe	20	No avoidance actions	Lead vehicle slower, turning right	2000
7	28-278C	-12	0	74	Chrysler	New Yorker	2-door sedan, hardtop, coupe	0	Unknown	Lead vehicle stopped	4600
8	29-102V	-13	0	84	Dodge	Aries	4-door sedan, hardtop	0	No impact	Lead vehicle stopped	2400
9	29-138Q	-7	0	79	Chevrolet	G-series Van	Van	0	Unknown	Lead vehicle stopped	Unknown
10	30-049M	-11	0	82	GMC	C,K-series pickup	Cab chassis based	5	Unknown	Lead vehicle decelerating, turning right	5900
11	30-073Q	-30	3	80	Ford	Fairmont	4-door sedan, hardtop	5	No avoidance actions	Lead vehicle stopped	2800
12	30-108V	-15	1	81	Dodge	Marada	2-door sedan, hardtop, coupe	5	No avoidance actions	Lead vehicle slower, turning left	3400
13	30-234D	-21	2	81	Subaru	FE	Station wagon	0	No avoidance actions	Lead vehicle stopped	2200
14	32-003R	-15	0	78	Chevrolet	Suburban	Truck based station wagon	15	No avoidance actions	Lead vehicle slower, turning left	4600
15	32-052V	-17	0	77	Chevrolet	Caprice	4-door sedan, hardtop	0	No impact	Lead vehicle stopped	3800
16	32-089W	-12	-1	80	Datsun	B210	2-door sedan, hardtop, coupe	10	No avoidance actions	Lead vehicle slower	1900
17	37-210C	-9	0	78	Volkswagen	Scirocco	3-door/ 2-door hatchback	5	Steering right	Lead vehicle slower	1900
18	51-003R	-6	1	73	Chevrolet	K-series pickup	Pickup	40	No avoidance actions	Lead vehicle decelerating, turning right	4800
19	51-038W	-10	0	78	Chevrolet	Caprice	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped	3500
20	51-063W	14	0	85	Ford	Thunderbird	2-door sedan, hardtop, coupe	5	Unknown	Lead vehicle stopped	3100
21	51-073R	-12	0	82	Chevrolet	G-series Van	Unknown van type	0	Unknown	Lead vehicle stopped	3900
22	51-096V	-14	0	84	Volkswagen	Rabbit	3-door/ 2-door hatchback	15	No avoidance actions	Lead vehicle decelerating	2200
23	51-100V	-10	0	83	Datsun	Sentra	Station wagon	0	No avoidance actions	Lead vehicle stopped	2000
24	51-166P	-12	-2	76	Chevrolet	Nova	4-door sedan, hardtop	10	Unknown	Lead vehicle slower, turning right	3300
25	51-295B	-16	0	71	Ford	Mustang	2-door sedan, hardtop, coupe	15	No avoidance actions	Lead vehicle slower	3200
26	51-313B	-9	0	78	Toyota	Celica	2-door sedan, hardtop, coupe	10	No avoidance actions	Lead vehicle decelerating, turning right	2400
27	51-330C	-11	0	79	Volkswagen	Rabbit	3-door/ 2-door hatchback	10	No avoidance actions	Lead vehicle slower	1800
28	51-359D	-5	1	82	GMC	G Van	Van	0	No avoidance actions	Lead vehicle stopped	4300
29	51-362D	-12	0	78	Volkswagen	Rabbit	3-door/ 2-door hatchback	20	Unknown	Lead vehicle slower	1900
30	51-367B	-11	0	80	Dodge	Aspen	4-door sedan, hardtop	10	No avoidance actions	Lead vehicle decelerating, turning right	3400
31	51-379B	-6	0	82	Toyota	Corolla	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped	2300
32	52-018V	15	0	77	Chevrolet	Nova	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped	3400
33	52-068T	-11	0	77	Oldsmobile	Cutlass	2-door sedan, hardtop, coupe	40	No avoidance actions	Lead vehicle slower	3800
34	52-095V	-9	-1	83	Ford	Ranger	Pickup	0	Other action	Lead vehicle stopped	2700
35	52-111T	-14	0	85	Chevrolet	Celebrity	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped	2800
36	52-228D	-11	0	78	Ford	Pinto	2-door sedan, hardtop, coupe	5	No avoidance actions	Lead vehicle decelerating	2600
37	52-235D	-11	0	83	Oldsmobile	Cutlass	2-door sedan, hardtop, coupe	10	No avoidance actions	Lead vehicle decelerating, turning left	3200
38	52-261A	-13	0	76	Ford	F-series pickup	Pickup	10	No avoidance actions	Lead vehicle decelerating, turning left	3600
39	52-290C	-9	0	83	Subaru	Corona	4-door sedan, hardtop	10	No avoidance actions	Lead vehicle slower	2200
40	52-294B	-6	0	75	Dodge	Polaris	4-door sedan, hardtop	25	Accelerating	Lead vehicle slower	4400
41	52-295B	-24	0	77	Chevrolet	Chevette	3-door/ 2-door hatchback	0	No avoidance actions	Lead vehicle stopped	2000
42	52-320B	-11	0	83	Buick	Skylark	2-door sedan, hardtop, coupe	15	No avoidance actions	Lead vehicle decelerating, turning left	2500
43	52-334C	-17	0	85	Volkswagen	Jetta	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped	2300
44	54-004V	-8	0	81	Chevrolet	Chevette	5-door/ 4-door hatchback coupe	0	No avoidance actions	Lead vehicle stopped, turning left	2000
45	54-020T	-9	2	81	Ford	Fairmont	2-door sedan, hardtop, coupe	35	No avoidance actions	Lead vehicle stopped, turning left	2800
46	54-068V	8	0	76	Pontiac	Firebird	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	3500
47	54-072T	-20	0	78	Ford	LTD	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped, turning left	4300
48	54-080W	-7	0	78	Honda	Civic	3-door/ 2-door hatchback	0	No avoidance actions	Lead vehicle stopped, turning left	2000
49	54-084W	-17	0	67	Ford	LTD	2-door sedan, hardtop, coupe	25	No avoidance actions	Lead vehicle stopped, turning left	3700

Number	Case	Striking Vehicle Longitudinal Delta-V	Striking Vehicle Lateral Delta-V	Struck Vehicle Model Year	Struck Vehicle Make	Struck Vehicle Model	Struck Vehicle Body Type	Struck Vehicle Travel Speed	Struck Vehicle Attempted Avoidance Maneuver	Struck Vehicle Accident Type	Struck Vehicle Curb Weight
50	54-085R	-17	0	80	Dodge	B,W-series pickup	Pickup	35	No avoidance actions	Lead vehicle decelerating	3700
51	54-204C	-14	0	81	Volkswagen	Jetta	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	1900
52	54-220C	-7	0	74	Toyota	Pickup	Pickup	20	No avoidance actions	Lead vehicle stopped, turning left	2400
53	54-223D	-13	0	80	Buick	Regal	2-door sedan, hardtop, coupe	50	No avoidance actions	Lead vehicle stopped, turning left	3200
54	54-226B	-23	0	71	Pontiac	Bonneville	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped	4400
55	54-241D	-20	0	75	Ford	F-series pickup	Pickup	10	No avoidance actions	Lead vehicle stopped, turning right	3800
56	54-248B	-19	0	77	Chevrolet	Camero	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped, turning left	3600
57	54-254B	-8	1	83	Ford	Escort	3-door/ 2-door hatchback	0	No avoidance actions	Lead vehicle stopped, turning left	2000
58	54-285B	-13	0	81	Buick	Regal	2-door sedan, hardtop, coupe	35	No avoidance actions	Lead vehicle stopped	3300
59	55-021W	-4	8	74	Volkswagen	Karmann Ghia	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped, turning left	1900
60	55-023P	-24	4	79	GMC	Jimmy	Truck based utility	0	No avoidance actions	Lead vehicle stopped	4100
61	55-080W	-14	2	83	Pontiac	Bonneville	4-door sedan, hardtop	5	No avoidance actions	Lead vehicle slower	3300
62	55-094T	-22	-6	87	Chevrolet	Malibu	4-door sedan, hardtop	15	No avoidance actions	Lead vehicle slower	3200
63	55-109V	-13	2	77	Oldsmobile	Cutlass	Station wagon	0	No avoidance actions	Lead vehicle stopped, turning left	4400
64	55-131P	-23	-9	84	Audi	200 series	4-door sedan, hardtop	10	No avoidance actions	Lead vehicle decelerating, turning left	2700
65	55-137P	-14	0 -	77	Pontiac	Bonneville	2 door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped, turning right	3700
66	55-141V	-6	0	76	Chevrolet	Caprice	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped	4400
67	55-149T	-12	0	73	Chevrolet	Nova	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	3300
68	55-201B	-15	0	73	Dodge	Charger	2-door sedan, hardtop, coupe	5	No avoidance actions	Lead vehicle decelerating	3600
69	55-203C	-8	-1	68	Plymouth	Fury	2-door sedan, hardtop, coupe	0	Unknown	Unknown	3800
70	55-210C	-13	0	84	Buick	Skylark	2-door sedan, hardtop, coupe	30	No avoidance actions	Lead vehicle slower	2500
71	55-250D	-19	11	69	Ford	F-series pickup	Pickup	0	No avoidance actions	Lead vehicle stopped	3600
72	55-280D	-6	0	81	Chevrolet	Citation	3-door/ 2-door hatchback	35	No avoidance actions	Lead vehicle decelerating	2500
73	55-316C	-13	0	77	Ford	F-series pickup	Pickup	0	No avoidance actions	Lead vehicle stopped, turning left	Unknown
74	55-321B	-11	0	72	Plymouth	Valiant	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped, turning left	2900
75	56-017T	-19	0	76	Chevrolet	Malibu	Station wagon	0	No avoidance actions	Lead vehicle stopped	4400
76	56-030V	11	0	80	Buick	Regal	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	3300
77	56-032T	-10	0	82	Honda	Civic	4-door sedan, hardtop	20	No avoidance actions	Lead vehicle slower	2000
78	56-047T	-20	0	82	Mazda	RX7	3-door/ 2-door hatchback	0	Unknown	Unknown	2300
79	56-125T	-6	0	71	Plymouth	Valiant	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	2900
80	56-206B	-10	-1	72	Dodge	Polaris	2-door sedan, hardtop, coupe	30	No avoidance actions	Lead vehicle slower	4000
81	56-212B	-22	0	85	Chrysler	E-class	4-door sedan, hardtop	30	No avoidance actions	Lead vehicle decelerating	3700
82	56-229D	-9	0	78	Dodge	Charger	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	4000
83	56-238D	-19	0	78	Buick	Riveria	2-door sedan, hardtop, coupe	15	No avoidance actions	Lead vehicle slower	3900
84	56-263C	-15	3	78	Chevrolet	Malibu	4-door sedan, hardtop	5	No avoidance actions	Lead vehicle slower, turning right	3300
85	58-078P	-19	0	79	Chevrolet	K-series pickup	Pickup	35	No avoidance actions	Lead vehicle stopped, turning left	3800
86	58-079T	-8	0	83	Toyota	Corolla	Station wagon	35	No avoidance actions	Lead vehicle stopped	2100
87	58-090P	-22	0	74	Toyota	Celica	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped, turning left	2500
88	58-100V	-13	0	76	Pontiac	Astre	3-door/ 2-door hatchback	45	No avoidance actions	Lead vehicle decelerating	2500
89	58-155T	-10	0	70	Toyota	Corolla	Station wagon	0	No avoidance actions	Lead vehicle stopped, turning left	1600
90	58-162T	-18	0	74	Chevrolet	Camero	2-door sedan, hardtop, coupe	35	No avoidance actions	Lead vehicle stopped	3600
91	58-174V	-10	-3	82	Ford	Escort	3-door/ 2 door hatchback	0	No avoidance actions	Lead vehicle stopped, turning left	2000
92	58-246A	-16	3	79	Plymouth	Aero	Pickup	0	No avoidance actions	Lead vehicle slower	2500
93	58-248B	-11	0	84	Chevrolet	Blazer	Truck based utility	0	No avoidance actions	Lead vehicle stopped	4400
94	58-253B	-11	0	75	Mercury	Monarch	2-door sedan, hardtop, coupe	25	No avoidance actions	Lead vehicle stopped, turning left	3400
95	58-260C	-15	0	83	Oldsmobile	Cutlass	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped, turning left	3500
96	58-334D	-9	-3	78	Mercury	Bobcat	3-door/ 2-door hatchback	50	No avoidance actions	Lead vehicle slower	2500
97	58-337C	-15	-3	75	Plymouth	Valiant	2-door sedan, hardtop, coupe	60	No avoidance actions	Lead vehicle decelerating	3200

Number	Case	Striking Vehicle Longitudinal Delta-V	Striking Vehicle Lateral Delta-V	Struck Vehicle Model Year	Struck Vehicle Make	Struck Vehicle Model	Struck Vehicle Body Type	Struck Vehicle Travel Speed	Struck Vehicle Attempted Avoidance Maneuver	Struck Vehicle Accident Type	Struck Vehicle Curb Weight
98	58-338D	-14	1	81	Plymouth	Horizon	5-door/ 4-door hatchback coupe	30	No impact	Lead vehicle stopped	2200
99	58-345B	-18	-3	84	Buick	Skyhawk	2-door sedan, hardtop, coupe	0	Accelerating and steering left	Lead vehicle stopped, turning left	2400
100	58-359C	-14	1	83	Renault	Alliance	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped, turning left	2000
101	58-416B	-21	0	76	Datsun	710	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped, turning left	2400
102	59-079W	-15	0	80	Buick	LeSabre	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	3500
103	59-084R	-11	2	81	Chevrolet	K-series pickup	Pickup	0	No avoidance actions	Lead vehicle stopped	3500
104	59-270C	-20	0	74	Mercury	Marquis	4-door sedan, hardtop	50	No avoidance actions	Lead vehicle slower	4500
105	60-008W	-10	0	82	Chevrolet	Camero	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	3000
106	79-092V	-10	2	80	Toyota	Celica	3-door/ 2-door hatchback	40	No avoidance actions	Lead vehicle slower	2500
107	80-003T	-18	0	78	Buick	Opal	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	2200
108	80-025T	-21	0	74	Ford	Torino	Station wagon	10	No avoidance actions	Lead vehicle slower	4400
109	80-109T	-19	-4	84	Ford	Thunderbird	2-door sedan, hardtop, coupe	0	Accelerating and steering right	Lead vehicle stopped	3100
110	80-128V	-12	-2	76	Cadillac	El Dorado	2-door sedan, hardtop, coupe	0	Unknown	Lead vehicle stopped	3900
111	80-145P	-25	4	72	GMC	G Van	Van	0	Unknown	Unknown	4200
112	80-146W	-14	0	77	Chevrolet	Camero	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	3600
113	80-280B	-15	3	79	Ford	Van	Van	0	No avoidance actions	Lead vehicle stopped	4000
114	80-306B	-12	0	70	Ford	Maveric	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	2500
115	80-314C	-9	0	73	Ford	LTD	2-door sedan, hardtop, coupe	0	No avoidance actions	Specifics Other	4300
116	81-067V	-7	0	66	Plymouth	Baracuda	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	2800
117	81-101P	-14	-8	76	American Motors	Pacer	3-door/ 2-door hatchback	5	No avoidance actions	Lead vehicle decelerating, turning right	3200
118	81-119Q	-10	0	79	Datsun	Pickup	Pickup	0	No avoidance actions	Lead vehicle stopped	2400
119	81-254B	-12	-2	63	Dodge	Dart	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped	2800
120	81-270B	-14	1	80	Volkswagen	Rabbit	3-door/ 2-door hatchback	0	No avoidance actions	Lead vehicle stopped	2200
121	81-277C	-14	0	73	Plymouth	Satellite	4-door sedan, hardtop	35	Braking (no lockup)	Lead vehicle slower	3600
122	83-043T	-10	0	66	Volkswagen	Beetle	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped, turning left	1800
123	87-015R	-17	0	76	Chevrolet	Other	Pickup	0	No avoidance actions	Lead vehicle stopped	4100
124	87-025P	-19	2	77	Oldsmobile	Delta-88	4-door sedan, hardtop	0	No avoidance actions	Lead vehicle stopped	3600
125	87-051V	-11	1	76	Ford	Mustang	2-door sedan, hardtop, coupe	10	No avoidance actions	Lead vehicle decelerating	3000
126	87-056R	-10	0	72	Dodge	B,W-series pickup	Pickup	0	No avoidance actions	Lead vehicle stopped	3900
127	87-058Q	-13	0	75	Chevrolet	El camino	Auto based pickup	0	Braking (no lockup)	Lead vehicle stopped	3800
128	87-205B	-13	-5	65	Dodge	Unknown	Pickup	0	No avoidance actions	Lead vehicle stopped	Unknown
129	87-217C	-6	0	73	Cadillac	El Dorado	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	4800
130	87-245C	-7	0	71	Mercedes Benz	200 series	4-door sedan, hardtop	10	No avoidance actions	Lead vehicle slower, turning right	3400
131	87-246C	-20	0	84	Datsun	Maxima	4-door sedan, hardtop	10	No avoidance actions	Lead vehicle decelerating	2900
132	87-247D	-12	0	71	Volkswagen	Beetle	2-door sedan, hardtop, coupe	5	No avoidance actions	Lead vehicle decelerating	2000
133	87-251C	-10	1	79	Ford	Fairmont	2-door sedan, hardtop, coupe	0	No avoidance actions	Lead vehicle stopped	3000
134	87-288B	-17	1	77	Chevrolet	Monte Carlo	2-door sedan, hardtop, coupe	15	Unknown	Lead vehicle slower	4000

Number	Case	Struck Vehicle Cargo Weight	Struck Vehicle Total Weight	Struck Vehicle Basis for Total Delta-V	Struck Vehicle Total Delta-V	Struck Vehicle Longitudinal Delta-V	Struck Vehicle Lateral Delta-V	Striking Vehicle Impact Speed	Struck Vehicle Impact Speed	Striking Vehicle Travel Speed	Struck Vehicle Travel Speed	Striking Vehicle Post-Impact Speed	Struck Vehicle Post-Impact Speed
1	27-010V	Unknown	3600	Missing vehicle algorithm	15	15	0	31	0	31	0	16	15
2	27-052R	0	3800	Missing vehicle algorithm	20	20	0	41	0	41	0	21	20
3	27-078V	0	2000	Missing vehicle algorithm	17	17	0	33	0	33	0	16	17
4	27-237C	Unknown	2000	CRASH program - damage routine only	25	25	0	71	25	71	25	46	50
5	27-294C	0	2000	CRASH program - damage routine only	· 16	16	-4	45	20	45	20	29	36
7	28-278C	Unknown	4600	Missing vehicle algorithm	7	7	0	19	0	19	0	12	7
8	29-102V	0	2400	CRASH program - damage routine only	15	15	0	28	0	28	0	13	15
9	29-138Q	Unknown	Unknown	Missing vehicle algorithm	5	5	0	12	0	12	0	7	5
10	30-049M	200	6100	CRASH program - damage routine only	7	7	0	23	5	23	5	16	12
11	30-073Q	300	3100	CRASH program - damage routine only	25	24	-2	60	5	60	0	35	25
12	30-108V	0	3400	CRASH program - damage routine only	15	15	-1	35	5	35	5	20	20
13	30-234D	0	2200	CRASH program - damage routine only	18	18	-2	39	0	39	0	21	18
14	32-003R	Unknown	4600	Missing vehicle algorithm	8	8	0	38	15	38	15	30	23
15	32-052V	0	3800	Missing vehicle algorithm	13	13	0	30	0	30	0	17	13
16	32-089W	0	1900	CRASH program - damage routine only	19	19	0	41	10	41	10	22	29
17	37-210C	0	1900	CRASH program - damage routine only	15	15	0	29	5	29	5	14	20
18	51-003R	100	4900	CRASH program - damage routine only	5	5	-1	51	40	51	40	46	45
19	51-038W	0	3500	Missing vehicle algorithm	14	-14	0	24	0	24	0	10	14
20	51-063W	0	3100	CRASH program - damage routine only	12	-12	0	31	5	31	0	19	12
21	51-073R	Unknown	3900	Missing vehicle algorithm	14	14	0	26	0	26	0	12	14
22	51-096V	0	2200	CRASH program - damage routine only	19	19	0	48	15	48	0	29	19
23	51-100V	0	2000	Missing vehicle algorithm	17	17	0	27	0	27	0	10	17
24	51-166P	0	3300	Missing vehicle algorithm	15	15	0	37	10	37	10	22	25
25	51-295B	0	3200	Missing vehicle algorithm	14	14	0	45	15	45	15	31	29
26	51-313B	0	2400	Missing vehicle algorithm	15	13	-7	35	10	35	10	20	25
27	51-330C	0	1800	CRASH program - damage routine only	19	19	0	40	10	40	10	21	29
28	51-359D	800	5100	CRASH program - damage routine only	3	3	-1	8	0	8	0	5	3
29	51-362D	0	1900	Missing vehicle algorithm	21	21	0	53	20	53	20	32	41
30	51-367B	0	3400	Missing vehicle algorithm	9	9	0	30	10	30	10	21	19
31	51-379B	0	2300	Missing vehicle algorithm	13	13	0	21	0	21	0	8	13
32	52-018V	0	3400	Missing vehicle algorithm	11	11	0	26	0	26	0	15	11
33	52-068T	0	3800	CRASH program - damage routine only	11	11	0	62	40	62	40	51	51
34	52-095Q	0	2700	Missing vehicle algorithm	10	10	2	19	0	19	0	9	10
35	52-111T	0	2800	Missing vehicle algorithm	12	12	-2	26	0	26	0	14	12
36	52-228D	0	2600	CRASH program - damage routine only	11	11	0	27	5	27	5	16	16
37	52-235D	0	3200	CRASH program - damage routine only	8	8	2	29	10	29	10	21	18
38	52-261A	0	3600	Missing vehicle algorithm	15	15	3	38	10	38	10	23	25
39	52-290C	0	2200	CRASH program - damage routine only	16	16	0	35	10	35	0	19	16
40	52-294B	200	4600	CRASH program - damage routine only	8	8	0	49	25	49	25	41	33
41	52-295B	100	2100	CRASH program - damage routine only	23	23	0	47	0	47	0	24	23
42	52-320B	0	2500	Missing vehicle algorithm	9	7	4	35	15	35	15	26	24
43	52-334C	0	2300	CRASH program - damage routine only	17	17	0	34	0	34	0	17	17
44	54-004V	0	2000	CRASH program - damage routine only	16	16	0	24	0	24	0	8	16
45	54-020T	0	2800	CRASH program - damage routine only	12	12	2	56	35	56	0	44	12
46	54-068V	100	3600	CRASH program - damage routine only	8	8	0	16	0	16	0	8	8
47	54-072T	0	4300	CRASH program - damage routine only	10	10	2	30	0	30	0	20	10
48	54-080W	0	2000	CRASH program - damage routine only	11	11	0	18	0	18	0	7	11
49	54-084W	0	3700	CRASH program - damage routine only	19	19	0	61	25	61	0	42	19

Number	Case	Struck Vehicle Cargo Weight	Struck Vehicle Total Weight	Struck Vehicle Basis for Total Delta-V	Struck Vehicle Total Delta-V	Struck Vehicle Longitudinal Delta-V	Struck Vehicle Lateral Delta-V	Striking Vehicle Impact Speed	Struck Vehicle Impact Speed	Striking Vehicle Travel Speed	Struck Vehicle Travel Speed	Striking Vehicle Post-Impact Speed	Struck Vehicle Post-Impact Speed
50	54-085R	100	3800	CRASH program - damage routine only	9	9	0	61	35	61	35	52	44
51	54-204C	0	1900	CRASH program - damage routine only	22	22	0	36	0	36	0	14	22
52	54-220C	0	2400	CRASH program - damage routine only	10	9	2	37	20	37	0	27	10
53	54-223D	0	3200	CRASH program - damage routine only	7	7	0	70	50	70	0	63	7
54	54-226B	0	4400	CRASH program - damage routine only	17	17	0	40	0	40	0	23	17
55	54-241D	200	4000	CRASH program - damage routine only	9	9	0	39	10	39	0	30	9
56	54-248B	100	3700	CRASH program - damage routine only	12	12	0	31	0	31	0	19	12
57	54-254B	0	2000	CRASH program - damage routine only	14	14	2	22	0	22	0	8	14
58	54-265B	0	3300	CRASH program - damage routine only	11	11	0	59	35	59	0	48	11
59	55-021W	0	1900	Missing vehicle algorithm	23	11	-20	32	0	32	0	9	23
60	55-023P	0	4100	CRASH program - damage routine only	14	14	-2	38	0	38	0	24	14
61	55-080W	0	3300	CRASH program - damage routine only	13	13	2	32	5	32	5	19	18
62	55-094T	0	3200	CRASH program - damage routine only	28	25	12	67	15	67	15	39	43
63	55-109V	0	4400	CRASH program - damage routine only	11	11	2	24	0	24	0	13	11
64	55-131P	0	2700	CRASH program - damage routine only	20	19	7	55	10	55	10	35	30
65	55-137P	0	3700	CRASH program - damage routine only	15	15	0	29	0	29	0	14	15
66	55-141V	0	4400	Missing vehicle algorithm	4	4	0	10	0	10	0	6	4
67	55-149T	0	3300	CRASH program - damage routine only	15	15	0	27	0	27	0	12	15
68	55-201B	0	3600	Missing vehicle algorithm	12	12	0	32	5	32	5	20	17
69	55-203C	0	3800	CRASH program - damage routine only	9	8	5	17	0	17	0	8	9
70	55-210C	0	2500	CRASH program - damage routine only	16	16	0	59	30	59	30	43	46
71	55-250D	0	3600	Missing vehicle algorithm	17	15	-9	39	0	39	0	22	17
72	55-280D	0	2500	CRASH program - damage routine only	8	8	0	49	35	49	35	41	43
73	55-316C	100	Unknown	CRASH program - damage routine only	12	12	-2	25	0	25	0	13	12
74	55-321B	0	2900	CRASH program - damage routine only	9	9	0	20	0	20	0	11	9
75	56-017T	0	4400	CRASH program - damage routine only	12	12	0	31	· 0	31	0	19	12
76	56-030V	0	3300	Missing vehicle algorithm	11	-11	0	22 ,	0	22	0	11	11
77	56-032T	0	2000	CRASH program - damage routine only	21	21	0	51	20	51	20	30	41
78	56-047T	0	2300	Missing vehicle algorithm	16	16	3	36	0	36	0	20	16
79	56-125T	Unknown	2900	CRASH program - damage routine only	8	8	0	14	0	14	0	6	8
80	56-208B	0	4000	Missing vehicle algorithm	9	9	1	49	30	49	30	40	39
81	56-212B	0	3700	Missing vehicle algorithm	13	13	0	65	30	65	30	52	43
82	56-229D	0	4000	CRASH program - damage routine only	6	6	0	15	0	15	0	9	6
83	56-238D	0	3900	CRASH program - damage routine only	17	16	3	51	15	51	15	34	32
84	56-263C	0	3300	CRASH program - damage routine only	13	12	-4	33	5	33	5	20	18
85	58-078P	0	3800	CRASH program - damage routine only	10	10	0	64	35	64	0	54	10
86	58-079T	0	2100	CRASH program - damage routine only	16	16	0	59	35	59	0	43	16
87	58-090P	0	2500	CRASH program - damage routine only	39	-22	0	61	0	61	0	22	39
88	58-100V	0	2500	Missing vehicle algorithm	13	12	0	71	45	71	45	58	58
89	58-155T	0	1600	CRASH program - damage routine only	29	26	0	39	0	39	0	10	29
90	58-162T	0	3600	CRASH program - damage routine only	11	11	0	64	35	64	0	53	11
91	58-174P	0	2000	Missing vehicle algorithm	20	20	4	30	0	30	0	10	20
92	58-248A	0	2500	CRASH program - damage routine only	26	25	-5	42	0	42	0	16	26
93	58-248B	0	4400	CRASH program - damage routine only	8	8	0	19	0	19	0	11	8
94	58-253B	0	3400	CRASH program - damage routine only	15	15	0	51	25	51	0	36	15
95	58-260C	0	3500	CRASH program - damage routine only	16	16	0	31	0	31	0	15	16
96	58-334D	0	2500	Missing vehicle algorithm	11	11	-2	70	50	70	50	59	61
97	58-337C	0	3200	CRASH program - damage routine only	9	9	2	84	60	84	60	75	, 69

Number	Case	Struck Vehicle Cargo Weight	Struck Vehicle Total Weight	Struck Vehicle Basis for Total Delta-V	Struck Vehicle Total Delta-V	Struck Vehicle Longitudinal Delta-V	Struck Vehicle Lateral Delta-V	Striking Vehicle Impact Speed	Struck Vehicle Impact Speed	Striking Vehicle Travel Speed	Struck Vehicle Travel Speed	Striking Vehicle Post-Impact Speed	Struck Vehicle Post-Impact Speed
98	58-338D	0	2200	Missing vehicle algorithm	15	15	-3	59	30	59	0	44	15
99	58-345B	0	2400	CRASH program - damage routine only	25	25	4	43	0	43	0	18	25
100	58-359C	0	2000	Missing vehicle algorithm	25	25	-4	39	0	39	0	14	25
101	58-416B	0	2400	CRASH program - damage routine only	21	21	0	42	0	42	0	21	21
102	59-079W	0	3500	CRASH program - damage routine only	14	14	0	29	0	29	0	15	14
103	59-084R	0	3500	CRASH program - damage routine only	10	10	2	21	0	21	0	11	10
104	59-270C	0	4500	CRASH program - damage routine only	20	20	0	90	50	90	50	70	70
105	60-008W	0	3000	CRASH program - damage routine only	10	10	0	20	0	20	0	10	10
106	79-092V	0	2500	CRASH program - damage routine only	12	11	-4	62	40	62	40	50	52
107	80-003T	0	2200	CRASH program - damage routine only	22	22	0	40	0	40	0	18	22
108	80-025T	0	4400	CRASH program - damage routine only	9	9	0	40	10	40	10	31	19
109	80-109T	0	3100	Missing vehicle algorithm	19	18	3	38	0	38	0	19	19
110	80-128V	Unknown	3900	Missing vehicle algorithm	8	8	3	20	0	20	0	12	8
111	80-145P	100	4300	CRASH program - damage routine only	11	11	2	37	0	37	0	26	11
112	80-146W	0	3600	Missing vehicle algorithm	9	9	0	23	0	23	0	14	9
113	80-280B	100	4100	CRASH program - damage routine only	9	9	0	24	0	24	0	15	9
114	80-306B	0	2500	Missing vehicle algorithm	10	10	0	22	0	22	0	12	10
115	80-314C	0	4300	CRASH program - damage routine only	8	8	0	17	0	17	0	9	8
116	81-067V	0	2800	Missing vehicle algorithm	10	10	1	17	0	17	0	7	10
117	81-101P	0	3200	CRASH program - damage routine only	15	15	0	36	5	36	5	21	20
118	81-119Q	0	2400	CRASH program - damage routine only	20	20	0	30	0	30	0	10	20
119	81-254B	0	2800	Missing vehicle algorithm	13	13	2	25	0	25	0	12	13
120	81-270B	0	2200	Missing vehicle algorithm	18	18	-6	32	0	32	0	14	18
121	81-277C	0	3600	CRASH program - damage routine only	14	14	0	63	35	63	35	49	49
122	83-043T	0	1800	CRASH program - damage routine only	21	20	5	31	0	31	0	10	21
123	87-015R	0	4100	CRASH program - damage routine only	14	14	0	31	0	31	0	17	14
124	87-025P	0	3600	Missing vehicle algorithm	14	14	0	33	0	33	0	19	14
125	87-051V	0	3000	CRASH program - damage routine only	15	15	1	36	10	36	10	21	25
126	87-056R	0	3900	Missing vehicle algorithm	8	8	0	18	0	18	0	10	8
127	87-058Q	0	3800	CRASH program - damage routine only	13	13	0	26	0	26	0	13	13
128	87-205B	400	Unknown	Missing vehicle algorithm	5	5	0	19	0	19	0	14	5
129	87-217C	0	4800	CRASH program - damage routine only	3	3	0	9	0	9	0	6	3
130	87-245C	0	3400	CRASH program - damage routine only	7	7	-2	24	10	24	10	17	17
131	87-246C	0	2900	Missing vehicle algorithm	22	21	2	52	10	52	10	30	32
132	87-247D	0	2000	Missing vehicle algorithm	18	18	-2	35	5	35	5	17	23
133	87-251C	0	3000	CRASH program - damage routine only	11	11	1	21	0	21	0	10	11
134	87-288B	Unknown	4000	Missing vehicle algorithm	16	16	0	48	15	48	15	32	31