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A Guide to the Use of  
TRUCK ACCIDENT DATA  
at the  
Highway Safety Research Institute

by

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## ABSTRACT

This is a guide to the use of several accident data files maintained at the University of Michigan's Highway Safety Research Institute, specifically with regard to the study of truck accident involvement. Among other accident files identified are a complete file of large truck accidents occurring in the state of Texas, a sample of pickup truck involvements in Texas, and the set of approximately 200 pickup trucks which have been investigated in Multidisciplinary accident investigation programs.

Several examples of methods for studying truck accident involvement are presented, and some sample statistics illustrating the differences between passenger car and truck accident characteristics are given. This guide is intended to be used in conjunction with codebooks which are on file at HSRI.

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## I. INTRODUCTION

This guidebook describes truck accident data available at the University of Michigan Highway Safety Research Institute, and provides some examples of how the data may be used. The information presented here is intended specifically for members of the Truck Committee of the MVMA, but it may well be useful to other persons and organizations interested in questions of truck involvement in accidents.

Over the past eight years, HSRI has compiled some 110 different sets of accident data. These files constitute an important resource, not only for HSRI's analysts, but for researchers in government, industry, and other universities. Of the 110 data files at HSRI, the 17 listed in this guidebook contain the most useful information on truck involvements in accidents. Several of these data files--including those derived from records of the U.S. Bureau of Motor Carrier Safety and records of the Ohio, Indiana, and Pennsylvania turnpikes--were created at HSRI in connection with a truck accident study conducted in 1971.

Dictionary codebooks (i.e., tabulations of the computerized data) exist for several of the truck data files. Copies of these voluminous codebooks were furnished last year to members of the interested MVMA committees, and are also available at HSRI.

## II. THE HSRI TRUCK ACCIDENT FILES

The data sets listed and described here are the active digital files at HSRI that contain substantial numbers of truck accident cases. These files are displayed by their title, the numbers of different types of trucks in them, and the number of variables recorded for each case.

A variable, as used here, is essentially an individual item of information about an accident--for example, the day of the week, the degree of injury to the driver, the number of occupants of the vehicle, etc. The different files vary considerably in the number of variables they report. Lists of the actual variables reported in two important truck data files may be inspected directly in the dictionaries discussed in Part V of this guidebook.



Table 1

## HSRI Truck Data Files

Number of Vehicles in File (By type)

<u>File Name</u>	<u>Pickups</u>	<u>Straight Trucks</u>	<u>Large Trucks</u>	<u>Recreational Vehicles</u>	<u>Number of Variables</u>
Bureau of Motor Carrier Safety Jul. 1966-1969	--	6247	41383	--	42
CPIR (Rev. 2)	16	0	0		320
CPIR (Rev. 3)	202	0	0		576
Truck-Bus-Motor cycle-Ped (GM Long Form)	9	37	49 (articulated)		62
Dade Co., Fla., 1972 (4 years available)	← 8982 →		1270		84
Denver Co., Colo. (4 years available)	4000	2204	505	364	217
Indiana Turnpike 1966-1970	126	359	1224	77	145
King County, Wash., 1972 (4 years available)	4371	1330	445	99	235
Michigan Fatal File, 1971	← 270 →		122		43
New York Level I, 1970	1681	527	738		189
New York Level II, 1970(1/4)-1971	763	394	600	32	81
1972	761	556	524	14	81

Oakland Co., Mich., 1972 (5 years available)	2959	1630	546		189
Ohio Turnpike, 1966 ( $\frac{1}{2}$ )-1970	← 354 →		1739	68	97
Pennsylvania Turnpike, 1966-1968	← 1991 →		2610		135
Texas, Bexar County, 1972 (4 years available)	5017	2012	341	27	179
5% Sample, 1972 (4 years avail- able)	3860	1220	588	20	179
Truck File, 1972 (4 years available)	--	7942	3081		179

### III. SOME DATA ON INVOLVEMENT OF TRUCKS IN ACCIDENTS

This section presents the distribution of data for several variables relating to pickups and large trucks. The variables were selected to give an overview of the type of accidents and circumstances in which trucks are involved. The data for pickup truck accidents were obtained from both the 1972 Oakland County mass data file and the 1972 Texas mass data file. The data for large trucks, i.e., single and multiple units larger than pickups and panel trucks, are from the 1972 Texas data file.

The Oakland County data are from a census of all 1972 accidents reported to the police, a total of 34,262 accidents or approximately 60,000 vehicles, including 2,970 pickups or panel trucks. The Texas pickup data, taken from a 5% sample of all accidents reported to the police, include 3,860 pickups. This would extrapolate to about 77,200 pickups in the 600,000 accidents in the entire state in 1972. The material on large trucks is from the 1972 Texas "truck" file which includes all large trucks involved in the 600,000 accidents in the state. This file contains 11,023 large trucks in 10,834 accidents.

Several of the variables are available in both the Texas and Oakland County files. In such cases the results are given in both files. When the results are shown for only Oakland or Texas, the variable is not available in both with compatible coding.

The distributions shown below are in column percentages--e.g., the percentage of the year's "large truck" involvements in Texas which occurred in January was 8.0, in February, 7.3, etc. The monthly distribution is seen to be quite uniform. By contrast, as shown in the second table, only 3.4% of the week's "large truck" involvements occurred on Sundays, as compared with 18.9% on Friday.

Table 2

## Truck Population Distributions for Selected Accident Variables

Month of Year	<u>Oakland Pickup or Panel</u>	<u>Texas Pickup</u>	<u>Texas Large Truck</u>
January	9.3	7.7	8.0
February	8.3	7.5	7.3
March	6.9	7.7	8.6
April	5.2	7.3	7.0
May	7.8	7.5	7.9
June	8.1	8.9	9.2
July	7.0	8.3	9.3
August	7.9	9.2	8.8
September	7.1	8.3	8.1
October	9.0	8.9	8.9
November	9.3	8.4	7.9
December	13.6	10.4	8.9
Day of Week			
Sunday	7.4	9.5	3.4
Monday	16.7	15.0	17.0
Tuesday	15.2	14.0	17.4
Wednesday	13.3	13.0	17.5
Thursday	13.0	14.5	17.6
Friday	20.4	17.9	18.9
Saturday	13.4	16.0	8.1
Highway Class			
Intersection	14.2		
U.S. Route	23.8		
State Route	48.7		
Intersection Loop	9.9		
Other	3.4		
Weather			
Clear/Cloudy	78.3	86.9	88.3
Fog	1.2	0.8	0.9
Rain	12.8	12.0	10.5
Snow	8.1	0	0.3
Light			
Daylight	70.0	75.9	87.1
Dawn/Dusk	4.5	2.8	1.5
Dark	25.5	21.3	11.4
Road Surface			
Dry	56.6	82.6	84.1
Wet	30.1	15.6	13.7
Snow/Ice	13.5	1.8	2.1

Table 2 continued

	<u>Oakland Pickup or Panel</u>	<u>Texas Pickup</u>	<u>Texas Large Truck</u>
Urbanization			
Rural	44.1	17.8	18.0
Under 25K	16.3	24.3	16.8
25K-50K	12.8	5.3	4.3
50K-100K	26.8	11.8	9.1
100K-250K	----	5.3	5.2
Over 250K	----	35.5	46.6
Accident Type - 2 vehicle accidents			
Not Applicable	10.8		
Head-on	3.7		
Rear-end	10.0		
Side-Swipe	.		
Meeting	1.9		
Passing	4.7		
Angle	10.8		
Backed Into	0.9		
Other	57.2		
Hazardous Action			
None	43.0		
Too Fast	19.2		
Failed to Yield/ Disregard Signal	12.1		
Follow too Close	9.4		
Left of Center/ Improper Lane Use	7.7		
Other	8.6		
Contributing Circumstance			
DUIL	2.8		
Reckless	1.0		
Obscured Vision	2.8		
Defective Equipment	3.3		
Other	13.8		
None	76.3		
Vehicle Condition			
Disabled Vehicle	0		
Puncture/Blowout	0.2		
Other Defective Equipment	1.8		
Not Defect	96.5		

Table 2 continued

<u>Location of Damage</u>	<u>Texas Pickup</u>	<u>Texas Large Truck</u>	<u>Texas Passenger Cars</u>
Front Center	4.1	1.9	
Distributed	11.0	9.3	
Left	10.1	7.1	
Right	9.8	8.3	
Back Distributed	6.5	6.8	
Left	2.9	3.3	
Right	2.9	2.8	
Left Pass. Comp.	2.9	3.1	
Right Pass. Comp.	4.0	3.1	
Left Side Front	6.8	4.6	
Right Side Front	6.4	5.5	
Left Side Rear	4.0	3.7	
Right Side Rear	4.0	4.0	
Left Side Dist.	2.4	2.2	
Right Side Dist.	1.8	2.6	
Left Side & Top	1.9	1.5	
Right Side & Top	1.5	1.6	
Missing Data	16.8	28.4	
Subtotals Front	35.0	26.6	
Back	12.3	12.9	
Right Side	17.7	16.8	
Left Side	18.0	15.1	
Damage Scale			
0 None	2.5	14.3	2.1
1 Minor	31.8	33.4	30.8
2	23.1	11.0	22.9
3	14.9	6.9	15.9
4	5.2	2.5	5.4
5	2.8	1.3	2.4
6	1.7	1.1	1.6
7 Very Severe	1.1	1.1	0.9
Missing Data	16.8	28.4	17.9
Defective Equipment			
None	97.6	92.9	
Brakes	0.9	3.2	
Steering	0.1	0.3	
Lights	0.2	0.1	
Wipers	0	0	
Tires	0.4	1.0	
Trailer Equipment	0.4	0.8	
Stop/Turn Signal	0.2	0.3	
Wheel Came Off	0.1	0.8	
Other/Missing Data	0.1	0.6	

Table 2 continued

Area of Impact	<u>Oakland Pickup or Panel</u>
None	0.2
Center Front	28.6
Right Front	14.5
Right Side	5.7
Right Rear	6.3
Center Rear	11.7
Left Rear	6.5
Left Side	6.2
Left Front	15.2
Other Impact	0.7
Rollover	2.0
Front & Rear	1.7

Driver Injury (Police Codes)	<u>Oakland Pickup or Panel (Driver injury)</u>	<u>Texas Pickup (Worst Injury in veh.)</u>	<u>Texas Large Trucks (Worst Injury in veh.)</u>
Fatal	0.13	0.6	0.3
A *	2.2	2.5	1.1
B *	4.9	5.1	2.6
C *	8.2	3.6	1.9
O *	84.6	88.2	94.2

A-Incapacitating injury

B-Evident, non-incapacitating injury

C-Possible injury

O-No injury

#### IV. AN EXAMPLE OF AN ANALYSIS OF DAMAGE DISTRIBUTION

The State of Texas accident report routinely includes the notation of physical damage to the vehicle by use of the TAD (Traffic Accident Data Project) scale. Severity of damage is normally reported on a seven-point scale ranging from "1" for minimal damage to "7" for very severe damage. This scale is applied by the reporting officer, who compares the observed damage with a reference photograph and chooses a severity number which most closely matches the photo.

The photographs normally furnished for reference are of passenger cars; how damage to commercial vehicles is interpreted is not clear.

The material in this section is presented as an example of a damage distribution analysis. The TAD codes have been grouped into four areas (front, right side, left side, and rear) and three extent codes: minimum (TAD 1 and 2), moderate (TAD 3 and 4) and severe (TAD 5, 6, and 7).

The numbers in Table 3 indicate the percentage of crashed vehicles of that category which suffered that degree and location of damage. For example, of all the tractor-semitrailers in collisions in Texas in 1972, 3.1 percent of them incurred what the reporting officer described as severe left-side damage. The same data are displayed pictorially in Figures 1, 2, and 3.



Table 3

Truck Crash Experience (Damage Severity in Percent of Accident-Involved Vehicles which Suffered that Degree and Location of Damage)

Damage Area	Damage Severity											
	Pickups			Straight Trucks			Truck Tractor-semitrailers					
	<u>Minimum</u>	<u>Moderate</u>	<u>Severe</u>	<u>Minimum</u>	<u>Moderate</u>	<u>Severe</u>	<u>Minimum</u>	<u>Moderate</u>	<u>Severe</u>	<u>Minimum</u>	<u>Moderate</u>	<u>Severe</u>
Front	27.4%	9.5%	3.7%	33.4%	6.5%	1.5%	25.0%	7.4%	4.1%			
Left Side	14.1%	7.0%	1.7%	16.4%	3.7%	1.7%	14.1%	6.0%	3.1%			
Right Side	15.9%	4.6%	1.6%	18.5%	3.7%	1.0%	15.8%	6.8%	3.7%			
Rear	12.9%	1.3%	0.2%	12.6%	0.7%	0.2%	10.5%	1.4%	0.4%			

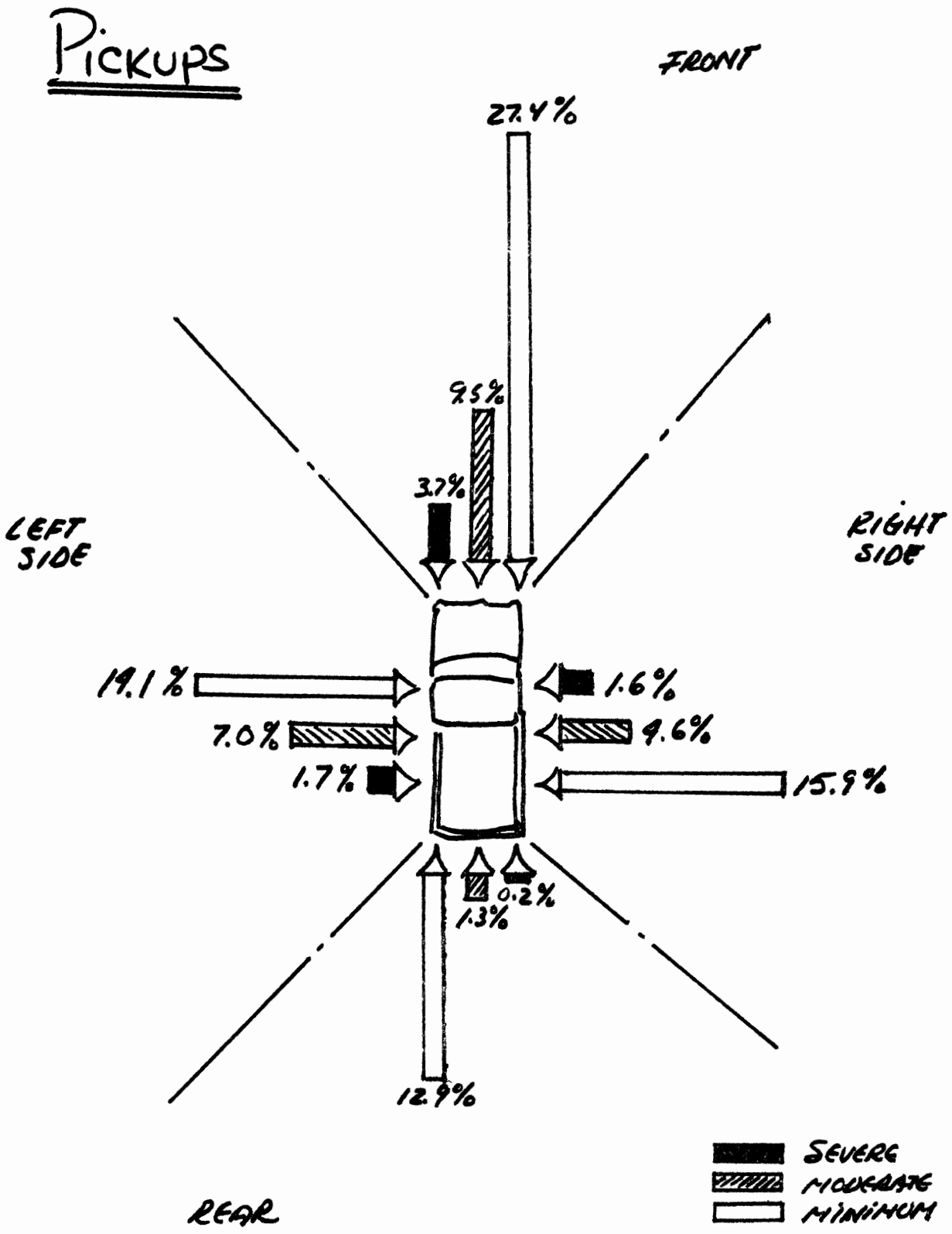


Figure 1. Damage Severity by Percent of Pickup Accidents.

Each percentage figure is the percent of all pickup trucks in accidents in Texas in 1972 that sustained that severity of damage in that area (i.e., the front, rear, left side, or right side).

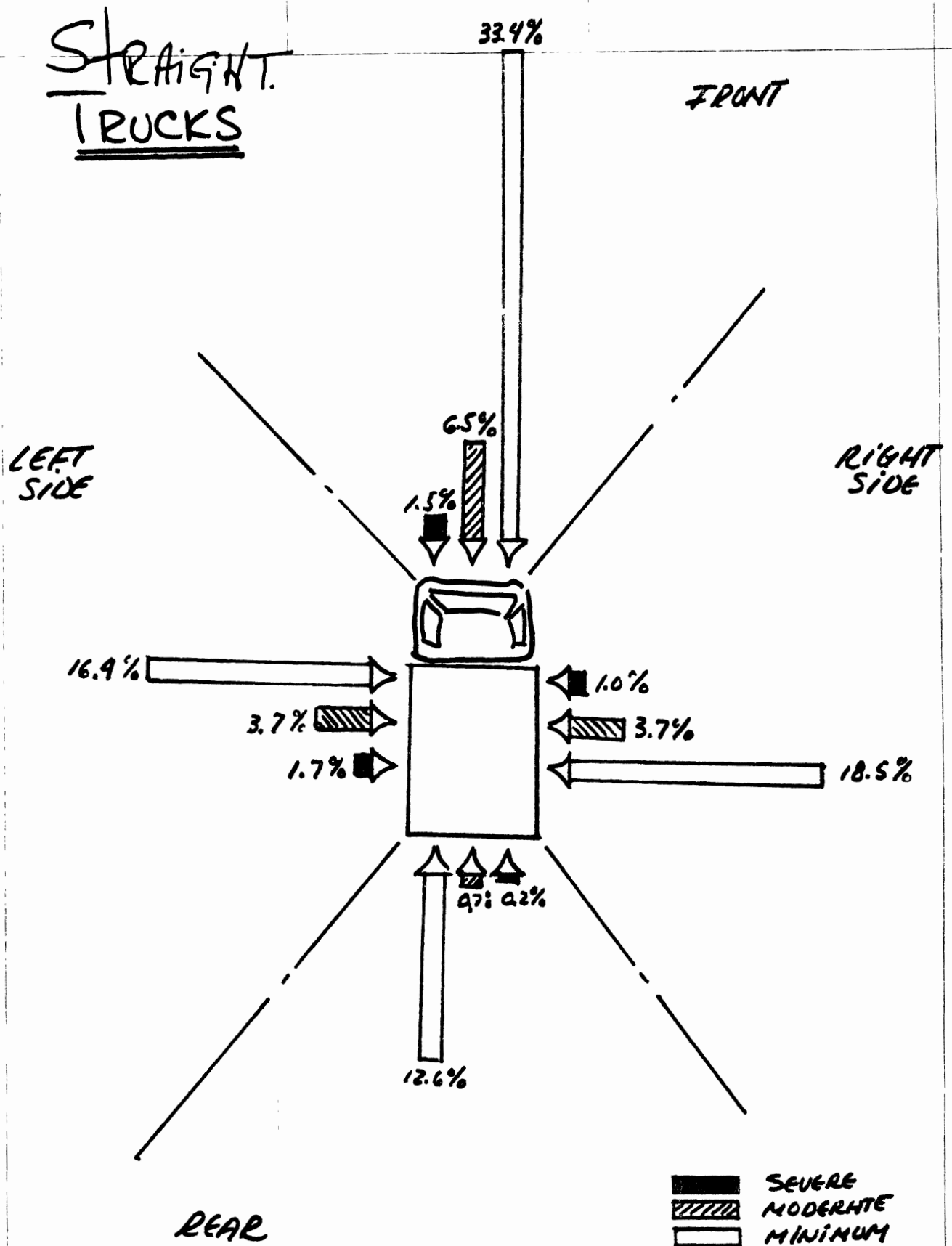


Figure 2. Damage Severity by Percent of Straight Truck Accidents.

Each percentage figure is the percent of all straight trucks in accidents in Texas in 1972 that sustained that severity of damage in that area (i.e., the front, rear, left side, or right side).

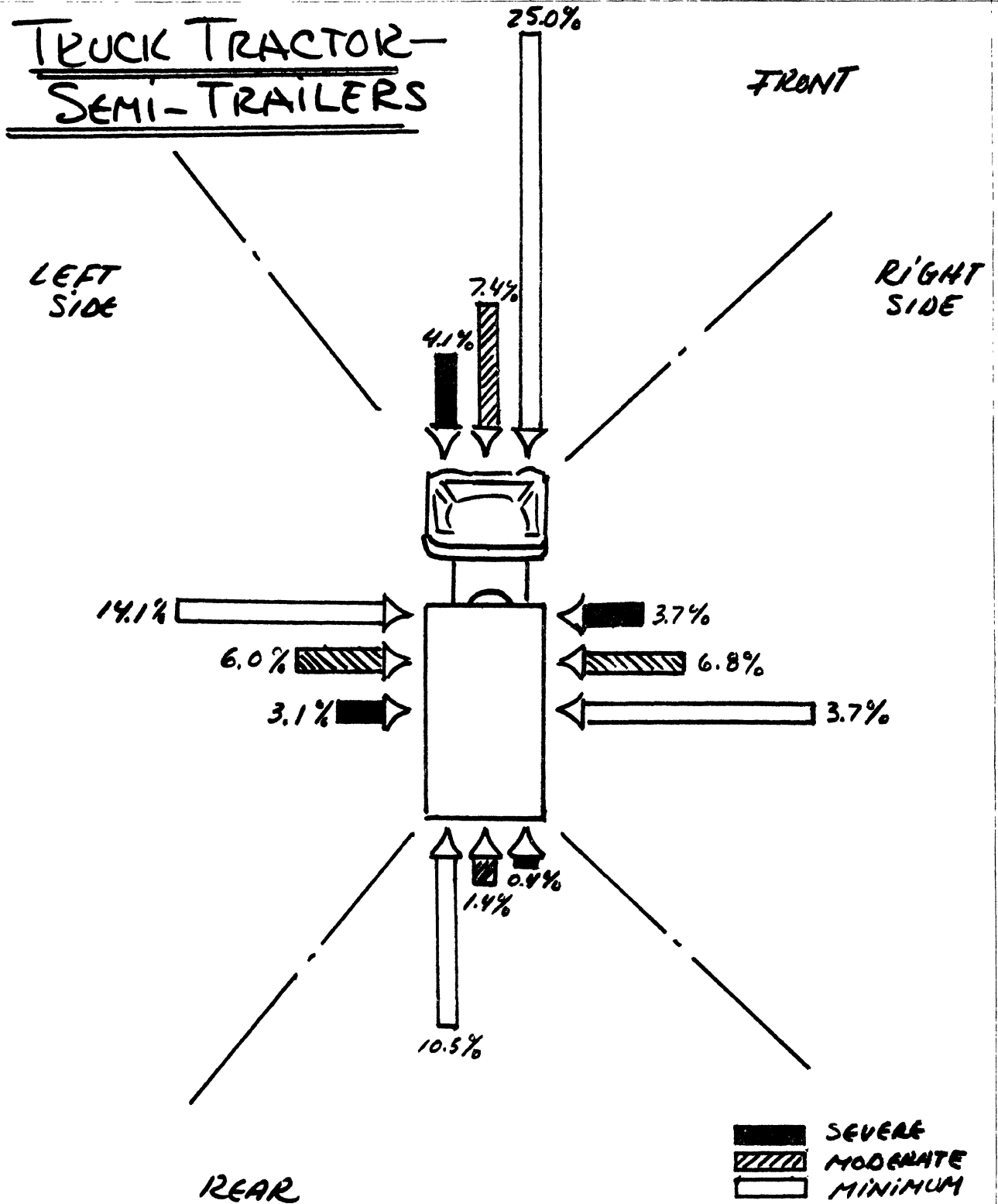


Figure 3. Damage Severity by Percent of Tractor-Semitrailer Accidents.

Each percentage figure is the percent of all tractor-semitrailer trucks in accidents in Texas in 1972 that sustained that severity of damage in that area (i.e., the front, rear, left side, or right side).

## V. SAMPLES OF TWO CODEBOOK DICTIONARIES

The four Dictionary/Codebooks furnished last year to members of the MVMA Data Collection and Coordination Subcommittee and the MVMA Truck Committee were these:

<u>Title</u>	<u>No. of Vehicles</u>	<u>No. of Accidents</u>
CPIR (Rev. 3)	202 pickups	285 (occupants)
Texas 5% Sample	3,860 pickups	3,644
Texas Truck File	11,023 large trucks	10,834
Complete Texas 5% Sample File	36,500 vehicles of all types	21,000

The dictionary portions of those Dictionary/Codebooks are presented in this section as Table 4 (a reproduction of the CPIR or Longform dictionary) and Table 5 (a reproduction of the dictionary applicable to all files of Texas data).

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Table 4. Reproduction of CPIR Dictionary

Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
1	ORIGINAL FORM	26	ROAD VERTICAL ALIGNMENT
2	INVESTIGATOR	27	ROAD HORIZ. ALIGNMENT
3	REPORT SEQUENCE NUMBER	28	SURFACE COVERING
4	MULTIPLE CASE VEHICLE #	29	PRECIPITATION
5	TEAM NUMBER	30	PRECIPITATION RATE
6	TEAM SPONSOR	31	SURFACE SLIPPERY
7	MONTH OF COLLISION	32	SPEED LIMIT
8	DAY OF COLLISION	33	ROAD DEFECTS
9	YEAR OF COLLISION	34	TEMPERATURE, F
10	MONTH OF INVESTIGATION	35	CROSSWIND
11	DAY OF INVESTIGATION	36	TIME OF DAY
12	YEAR OF INVESTIGATION	37	VISIBILITY LIMITATION
13	MONTH SUBMITTED	38	VISIBILITY OBSTRUCTION
14	DAY SUBMITTED	39	#MECH. MALFUNCTION CHECK
15	YEAR SUBMITTED	40	COMMENT W/R MECH. MALF.
16	TEAM CASE NUMBER	41	BRAKE SYSTEM MALFUNCTION
17	DOT-BS NUMBER	42	EXHAUST SYSTEM MALF.
18	PB NUMBER	43	STEERING SYSTEM MALF.
19	FIPS STATE CODE	44	SUSPENSION MALFUNCTION
20	URBAN/RURAL AREA	45	TIRE(S) MALFUNCTION
21	LOCALITY	46	ELECTRICAL MALFUNCTION
22	LIMITED ACCESS HIGHWAY	47	THROTTLE CONTROLS MALF.
23	ROAD TOTAL LANE WIDTH	48	DRIVER CONTROLS MALF.
24	OTHER ROAD TOTAL LANES	49	POWER TRAIN MALFUNCTION
25	TYPE OF ROAD SURFACE	50	FUEL SYSTEM MALFUNCTION

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Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
51	VISIBILITY ITEMS MALF.	76	OTHER VEH. PRIOR SPEED
52	OTHER MALFUNCTION	77	OTHER VEH. IMPACT SPEED
53	UNKNOWN MALFUNCTION	78	CV BRACKETED PRIOR SPEED
54	PRIMARY MALFUNCTION	79	CV BRACKETED IMPACT MPH
55	NUMBER OF SLIDES INCL.	80	CV BRACKETED PRIOR SPEED
56	COLLISION-VEH. TO OBJECT	81	OV BRACKETED IMPACT MPH
57	COLLISION-FOLLOWER	82	OTHER VEH. VIN
58	RAN OFF THE ROADWAY	83	O. VEH. COUNTRY OF MFG.
59	COLLISION-VEH. TO VEH.	84	OTHER VEH. CORPORATION
60	VEH. TO STOPPED VEHICLE	85	OV CORP. DIVISION
61	VEH. TO MOVING VEHICLE	86	O.VEH.CTRY.-CORP.-DIV.
62	OTHER COLLISION CONFIG.	87	O. VEHICLE BODY MODEL
63	TOTAL VEHICLES INVOLVED	88	O. VEHICLE MAKE/MODEL
64	FIRST OBJECT CONTACTED	89	OTHER VEHICLE MODEL YEAR
65	SECOND OBJECT CONTACTED	90	O. VEH. BRACKETED WEIGHT
66	THIRD OBJECT CONTACTED	91	OTHER VEHICLE WEIGHT, LBS
67	FOURTH OBJECT CONTACTED	92	O. V. BRACKETED ODOMETER
68	OBJECTS CONTACTED	93	O. VEH. ODOMETER READING
69	CASE VEH DRIVER IMPAIR.	94	OTHER VEHICLE BODY STYLE
70	TRAFFIC VIOLATION	95	OV # OF ENGINE CYLINDERS
71	LEGAL ACTION	96	OV HIGH PERFORM. ENGINE
72	PERSONAL INJURY	97	O. VEH. # OF OCCUPANTS
73	PROPERTY DAMAGE	98	OTHER VEHICLE LOADING
74	CASE VEH. PRIOR SPEED	99	O. VEH. CDC-IMPACT-CRACK
75	CASE VEH. IMPACT SPEED	100	O. VEH. CDC-DEFORM. AREA

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Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
101	OV CDC (P)-HORIZ. AREA	126	CASE VEH.-# OF CYLINDERS
102	CV. CDC (E)-VERT. AREA	127	CASE VEH.- HI PERFORM.
103	OV CDC (P)-DAM. DISTRIB.	128	CASE VEH.-# OF OCCUPANTS
104	O. VEH. CDC (P)-EXTENT #	129	CASE VEHICLE LOADING
105	OTHR VEH. PRIMARY CDC	130	CASE VEH. TRANSMISSION
106	CV PRIMARY DAMAGE AREA #	131	CASE VEHICLE STEERING
107	OV CDC (P)-HORIZ. DAM.#	132	CASE VEHICLE BRAKES
108	OV CDC (P)-VERT. DAM. #	133	CASE VEH. BRAKES-TYPE
109	CV CDC (P)-DAM. DISTR. #	134	C-BRAKE ANTI-LOCK DEVICE
110	O V (P)-DESCRIP.DAMAGE #	135	C-CONVERT. TOP POS.
111	O. VEHICLE CIP EFFCT #	136	C-REPAIR/REPLACE COST
112	CASE VEH. VIN	137	C. VEH. CDC-IMPACT-CLOCK
113	C.V. COUNTY OF REG.	138	C. VEH. CDC-DEFORM. AREA
114	CASE VEH. CORPORATION	139	CV CDC (P)-HORIZ. AREA
115	CASE VEH.CORP.-DIV.	140	C VEH CDC (P)-VERT. AREA
116	C.V.-CTPY.-CORP.-DIV.	141	CV CDC (P)-DAM. DISTRIB.
117	C. VEHICLE BODY MODEL	142	C. VEH. CDC (P)-EXTENT #
118	C. VEHICLE MAKE/MODEL	143	CASE VEH. PRIMARY CDC
119	CASE VEHICLE MODEL YEAR	144	CV PRIMARY DAMAGE AREA #
120	C. VEH. BRACKETED WEIGHT	145	CV CDC (P)-HORIZ.DAM.#
121	CASE VEHICLE WEIGHT, LBS	146	CV CDC (P)-VERT. DAM. #
122	CASE-ODOMETER BRACKET	147	CV CDC (P)-DAM. DISTR. #
123	CASE-ODOMETER READING	148	C V (P)-DESCRIP. DAMAGE
124	CASE VEH.-BODY STYLE	149	C. VEH. CDC-IMPACT-CLOCK
125	CASE VEH. BODY STRUCTURE	150	C. VEH. CDC-DEFORM. AREA



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Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
151	CV CDC (S)-HORIZ.AREA	176	ORIG. WHEELS EQUIP. DAM.
152	C VEH. CDC (S)-VERT.AREA	177	TIRES-TREAD TYPE
153	CV CDC (S)-DAM. DISTRIB.	178	TIRES-TREAD WEAR
154	C. VEH. CDC (S)-EXTENT #	179	TIRES-PROFILE
155	CASE VEH. SECONDARY CDC	180	TIRES-CARCASS TYPE
156	CV SECCND. DAMAGE AREA #	181	HOOD LATCH RELEASED
157	CV CDC (S)-HORIZ. DAM.#	182	HOOD LATCH DAMAGED
158	CV CDC (S)-VERT.DAM. #	183	HOOD LATCH JAMMED
159	CV CDC (S)-DAM.DISTR. #	184	LEFT HOOD HINGE DAMAGED
160	C V (S)-DESCRIP. DAMAGE	185	LEFT HOOD HINGE SEP.
161	HSRI ANALYSIS CDC'S	186	RIGHT HOOD HINGE DAMAGE
162	FRONT SHEET METAL DAMAGE	187	RIGHT HOOD HINGE SEP.
163	REAR SHEET METAL DAMAGE	188	HOOD REMAINED ON VEH.
164	LEFT SHEET METAL DAMAGE	189	REAR EDGE OF HOOD ELEV.
165	RIGHT SHEET METAL DAMAGE	190	R.EDGE HOOD CON. WIND.
166	ROOF SHEET METAL DAMAGE	191	R. EDGE HOOD PEN. WIND.
167	OTHER SHEET METAL DAMAGE	192	OPTIONAL HCCD INSTALLED
168	FRONT INCHES CRUSH	193	ENG./TRANS. MOUNT SEPAR.
169	REAR INCHES CRUSH	194	EQUIP. FLEX. STEER COUP.
170	LEFT INCHES CRUSH	195	SEPAR. FLEX. STEER COUP.
171	RIGHT INCHES CRUSH	196	OTHER DAM. FLEX. COUP.
172	ROOF INCHES CRUSH	197	TYPE ENG. TEL. UNIT
173	OTHER INCHES CRUSH	198	LENGTH ENG. TEL. UNIT
174	ORIG. TYPE FRONT WHEELS	199	FIRE
175	ORIG. TYPE REAR WHEELS	200	EXTENT OF FIRE

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Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
201	ORIGIN OF FIRE	226	REAR DOOR LATCH REL.
202	LEFT PILLARS NOT DAM.	227	LEFT FT. DOOR HINGE DAM.
203	LEFT UPPER A PILLAR DAM.	228	LEFT FT. DOOR HINGE SEP.
204	LEFT UPPER A PILLAR SEP.	229	L. REAR DOOR HINGE DAM.
205	LEFT LOWER A PILLAR DAM.	230	L. REAR DOOR HINGE SEP.
206	LEFT LOWER A PILLAR SEP.	231	LEFT STRUCT. CONT. MAIN.
207	LEFT UPPER B PILLAR DAM.	232	LEFT FT. DOOR OPEN-COLL.
208	LEFT UPPER B PILLAR SEP.	233	L. REAR DOOR OPEN-COLL.
209	LEFT LOWER B PILLAR DAM.	234	LEFT FT. DOOR JAM CLOSED
210	LEFT LOWER B PILLAR SEP.	235	L. REAR DOOR JAM. CLOSED
211	LEFT UPPER C PILLAR DAM.	236	FUEL LEVEL AT IMPACT
212	LEFT UPPER C PILLAR SEP.	237	FUEL TANK RETENTION
213	LEFT LOWER C PILLAR DAM.	238	FUEL TANK DEFORMED
214	LEFT LOWER C PILLAR SEP.	239	FUEL LEAKAGE PRESENT
215	LEFT UPPER D PILLAR DAM.	240	FUEL LEAK FROM TANK
216	LEFT UPPER D PILLAR SEP.	241	FUEL LEAK FROM NECK
217	LEFT LOWER D PILLAR DAM.	242	FUEL LEAK FROM LINE
218	LEFT LOWER D PILLAR SEP.	243	TRAILER HITCH INSTALLED
219	LEFT ROOF RAIL DAMAGED	244	TRAILER BEING TOWED
220	LEFT ROOF RAIL BUCKLED	245	TAILGATE LATCH RELEASED
221	LEFT BODY MOUNT SEP.	246	TAILGATE LATCH DAMAGED
222	LEFT STRUCTURE NOT DAM.	247	TAILGATE LATCH JAMMED
223	LT. FT. DOOR LATCH DAM.	248	BOTTOM LEFT HINGE DAM.
224	LT. FT. DOOR LATCH REL.	249	BOTTOM LEFT HINGE SEP.
225	L. REAR DOOR LATCH DAM.	250	BOTTOM FT. HINGE DAM.

Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
251	BOTTOM FT. HINGE SEP.	276	RT. LOWER E PILLAR DAM.
252	TOP LEFT HINGE DAM.	277	RT. LOWER B PILLAR SEP.
253	TOP LEFT HINGE SEP.	278	RT. UPPER C PILLAR DAM.
254	TOP RT. HINGE DAM.	279	RT. UPPER C PILLAR SEP.
255	TOP RT. HINGE SEP.	280	RT. LOWER C PILLAR DAM.
256	EQUIP. 2-WAY TAILGATE	281	RT. LOWER C PILLAR SEP.
257	TAIL.ELEC.WINDOW OPER.	282	RT. UPPER D PILLAR DAM.
258	TRUNK LID LATCH RELEASED	283	RT. UPPER D PILLAR SEP.
259	TRUNK LID LATCH DAMAGED	284	RT. LOWER D PILLAR DAM.
260	TRUNK LID LATCH JAMMED	285	RT. LOWER D PILLAR SEP.
261	TRUNK LID L.HINGE DAM.	286	RIGHT ROOF RAIL DAMAGED
262	TRUNK LID L. HINGE SEP.	287	RIGHT ROOF RAIL BUCKLED
263	TRUNK LID RT. HINGE DAM.	288	WINDSHIELD HEADER
264	TRUNK LID RT.HINGE SEP.	289	RIGHT BODY MOUNT SEPAR.
265	TRUNK AREA DAMAGED	290	RIGHT STRUCTURE NOT DAM
266	SPARE TIRE SEPARATION	291	RIGHT FT.DOOR LATCH DAM
267	TRUNK PASS.PART.DAM.	292	RIGHT FT.DOOR LATCH REL.
268	BACKLIGHT HEADER DAMAGED	293	RT. REAR DOOR LATCH DAM.
269	RIGHT PILLAR NOT DAM.	294	RT.REAR DOOR LATCH REL.
270	RT.UPPER A PILLAR DAM.	295	RIGHT FT. DOOR HINGE DAM
271	RT. UPPER A PILLAR SEP.	296	RIGHT FT.DOOR HINGE SEP.
272	RT. LOWER A PILLAR DAM.	297	RT.REAR DOOR HINGE DAM.
273	RT.LOWER A PILLAR SEP.	298	RT.REAR DOOR HINGE SEP.
274	RT.UPPER B PILLAR DAM.	299	RT.STRUCT. CONT. MAIN.
275	RT.UPPER B PILLAR SEP.	300	RT.FT. DOOR OPEN-COLL.

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Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
301	RT. REAR DOOR OPEN-CCLL.	326	"A" DIMENSION CHANGE
302	RT. FR. DOOR JAM. CLOSED	327	DIR. OF COLUMN MOTION
303	RT. P. DOOR JAM. CLOSED	328	STEERING CCL. EA DEVICE
304	STEERING WHEEL TYPE	329	STEERING CCL. EA COMP.
305	STEERING WHEEL RIM DAM.	330	SEPAR. CAPSULE SEPARATION
306	OCCUP. CONTACT WHEEL RIM	331	COLUMN VERTICAL MOTION
307	# STEER. WHEEL SPOKES	332	PASS. COMPART. REDUCTION
308	STEER. WHEEL SPOKES IAM.	333	EXTERNAL OBJ. INTRUSION
309	OCC. CONTACT WHEEL SPOKE	334	INTERNAL LOOSE OBJECT
310	HORN RING, BUTTON IAM.	335	VERT. ROT. INSTR. PANEL
311	OCCUP. CONTACT HORN RING	336	FIREWALL DEFORMATION
312	STEERING WHEEL EA DEVICE	337	FLOORPAN DEFORMATION
313	EA DEVICE FINAL POSITION	338	WINDSHIELD CRACKED
314	EA MAX. L. CHANGE	339	WINDSHIELD BROKEN
315	EA MIN L. CHANGE	340	WINDSHIELD OCC. CONTACT
316	EA DEVICE EXTENSION	341	WIND.CR./BR.-OCC.CONT.
317	STEERING WHEEL POSITION	342	WINDSHIELD BOND SEPAR.
318	STEERING WHEEL PAD	343	WINDSHIELD CODE
319	STEERING WHEEL PAD DEF.	344	UPPER PANEL DAMAGED
320	TILT FEATURE EQUIPPED	345	UPPER PANEL OCC. CONT.
321	TILT FEATURE FINAL POS.	346	MIDPANEL DAMAGED
322	TELESCOPING FEATURE	347	MIDPANEL OCCUP. CONT.
323	TEL. FEATURE FINAL POS.	348	LOWER PANEL DAMAGED
324	SWING-AWAY FEATURE	349	LOWER PANEL OCC. CONT.
325	SWING-AWAY FINAL POS.	350	ASHTRAY DAMAGED

Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
351	ASHTRAY OCCUP. CONT.	376	REAR VIEW MIRROR DAM.
352	CONTROL KNOB/LEVER DAM.	377	R. VIEW MIRROR OCC.CCNT.
353	CONT. KNOB/LEVER OCC.CCNT	378	SUNVISOR/FITTINGS DAM.
354	GLOVE COMP. DAMAGED	379	SUNVISOR/FITTINGS CCNT.
355	GLOVE COMP. OCC. CCNT.	380	WIND. TOP MOLD. DAMAGED
356	INSTRUMENTS DAMAGED	381	WIND. TOP MOLD.OCC.CCNT.
357	INSTR. OCCUP. CONT.	382	LEFT INT.A-PILLAR DAM.
358	PARKING BRAKE EQUIPPED	383	L.INT.A-PILLAR OCC.CCNT.
359	PARKING BRAKE DAMAGED	384	RIGHT INT.A-PILLAR DAM.
360	PARK. BRAKE OCC. CCNT.	385	R. INT. A-PIL. OCC. CNT.
361	AIR COND. EQUIPPED	386	CONSOLE EQUIPPED
362	AIR COND. CUTLET DAM.	387	CONSOLE DAMAGED
363	A/C CU. CONT.	388	CONSOLE OCCUPANT CONTACT
364	HEAT/AC DUCT EQUIPPED	389	TRANS.LEVER-COLUMN EQUIP
365	HEAT/AC DUCTS DAMAGE	390	TRANS. LEVER-COLUMN DAM.
366	HEAT/AC DUCTS OCC.CCNT.	391	TRANS.LEVER-COLUMN CCNT.
367	RADIO EQUIPPED	392	TRANS.LEVER-CONSOLE EQP.
368	RADIO DAMAGED	393	TRANS.LEVER-CONSOLE DAM.
369	RADIO OCCUP. CONT.	394	TRANS.LEVER-CONSOLE CCNT
370	INSTR. PANEL-OTHER DAM.	395	TYPE OF FRONT SEAT
371	OTHER-INST.PANEL-CCNT.	396	FOLDING FRONT SEAT BACKS
372	FOOT CONTROLS DAMAGED	397	DELUXE ACCESSORIES-SEAT
373	FOOT CONTROLS OCC.CCNT.	398	TYPE OF SEAT ADJUSTERS
374	IGNITION KEY DAMAGED	399	TYPE OF SEAT ADJUSTMENT
375	IGNITION KEY OCC.CCNT.	400	DAM. TO SEAT ADJUSTERS

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Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
401	SEAT ADJUSTED DAMAGE #1	426	REAR CENTER ARMBESTS
402	SEAT ADJUSTED DAMAGE #2	427	REAR CENTER ARMBEST IAM.
403	SEAT SEPARATION LOCATION	428	L-REAR SEAT BACK
404	DRIVER'S SEAT POSITION	429	L-REAR SEAT BK. LOCK HELD
405	FT. FRONT SEAT POSITION	430	R-REAR SEAT BACK LOCK
406	FT. SEAT BACKREST DAM.	431	R.R. SEAT BK. LOCK HELD
407	FT. SEAT CUSHION DAMAGE	432	THIRD SEAT EQUIPPED
408	FT. SEAT CONTACT-REAR OCC	433	THIRD SEAT BACKREST IAM.
409	FT. CENTER ARMBEST EQUIP.	434	THIRD SEAT CUSHION DAM.
410	FT. CENTER ARMBEST DAM.	435	BACKLIGHT DAMAGED
411	FT. HEAD RESTRAINT EQUIP.	436	BACKLIGHT OCCUPANT CONT.
412	HEAD RESTRAINT REMOVED	437	BACKLIGHT HEADER DAMAGE
413	HEAD RESTRAINT RETAINED	438	BACKLIGHT HEADER CONTACT
414	HEAD RESTRAINT DAMAGED	439	L. FT. WINDOW CLOSED
415	HEAD RESTRAINT CONTACTED	440	L. REAR WINDOW CLOSED
416	HEAD RESTRAINT ADJUST.	441	R. FT. WINDOW CLOSED
417	L-FT. SEAT BACK LOCK	442	R. R. WINDOW CLOSED
418	L-FT. SEAT BK. LOCK HELD	443	BACKLIGHT CLOSED
419	R-FT. SEAT BACK LOCK	444	SIDE WINDOW OPERATION
420	R-FT. SEAT BK. LOCK HELD	445	POWER SIDE WIND. EQUIP.
421	LEFT SEAT ANGLE	446	L. INT. FT. DOOR DAM.
422	R. SEAT ANGLE DIFFERENCE	447	L. INT. FT. DOOR CONTACT
423	TYPE OF REAR SEAT	448	L. INT. FT. HARDWARE DAM.
424	REAR SEAT BACKREST DAM.	449	L. INT. FT. HARDWARE CONT.
425	REAR SEAT CUSHION DAM.	450	L. INT. FT. ARMBEST DAM.

<u>Variable Number</u>	<u>Variable Name</u>	<u>Variable Number</u>	<u>Variable Name</u>
451	L.INT. FT. ARMREST CCNT.	476	R. FT. ARMREST DAMAGE
452	L.INT.FT. GLASS DAMAGE	477	R. FT. ARMREST CONT.
453	L.INT.FT. GLASS CONTACT	478	R. INT. FT. GLASS DAMAGE
454	L.INT.REAR DOOR DAM.	479	R. INT. FT.GLASS CONTACT
455	L.INT.REAR DOOR CONTACT	480	R. INT. REAR DOOR DAM.
456	L.INT.REAR HWARE. DAM.	481	R. INT. REAR DOOR CONT.
457	L. INT.REAR HWARE. CCNT.	482	R. INT. REAR HWARE. DAM.
458	L.INT.REAR ARMREST DAM.	483	R.INT.REAR HWARE.CCNT.
459	L.INT.REAR ARMREST CCNT.	484	R.REAR ARMREST DAM.
460	L.INT.REAR GLASS DAM.	485	R.REAR ARMREST CONT.
461	L.INT.REAR GLASS CONTACT	486	R. INT. REAR GLASS DAM.
462	L.ROOF SIDE RAIL DAMAGE	487	R. INT. REAR GLASS CCNT.
463	L. ROOF SIDE RAIL CCNT.	488	R. ROOF SIDE RAIL DAMAGE
464	L. INT. B-PILLAR DAMAGE	489	R. ROOF SIDE RAIL CCNT.
465	L. INT. B-PILLAR CONTACT	490	R. INT. B-PILLAR DAMAGE
466	L. INT. C-PILLAR DAMAGE	491	R. INT. B-PILLAR CONTACT
467	L. INT. C-PILLAR CONTACT	492	R. INT. C-PILLAR DAMAGE
468	L. INT. D-PILLAR DAMAGE	493	R. INT. C-PILLAR CONTACT
469	L. INT. D-PILLAR CONTACT	494	R. INT. D-PILLAR DAMAGE
470	L.INT.-OTHER DAMAGE	495	R. INT. D-PILLAR CONTACT
471	L. INT.-OTHER OCC.CCNT.	496	R. INT.-OTHER DAMAGE
472	R. INT. FT. DOOR DAM.	497	R. INT.-OTHER OCC.CONT.
473	R. INT. FT. DOOR CONTACT	498	ROOF INT. HEADLINE DAM.
474	R. INT. FT. HARDWARE DAM	499	ROOF INT. HEADLINE CCNT.
475	R. FT. HARDWARE CONT.	500	ROOF INT. STRUCT. DAM.

Variable Number	Variable Name	Variable Number	Variable Name
501	ROOF INT. STRUCT. CONT.	526	CV -FINAL CLOCK POS.
502	DRIVER EDUCATION	527	FIRE CNTRL USFD
503	# CF PREVIOUS VIOLATIONS	528	EXTRICATION USED
504	# OF PREVIOUS COLLISIONS	529	AMBULANCE USFD
505	# CF PEHV. LICENSE SUSP.	530	TOWING SERVICE USED
506	TRIP PLAN-ORIGIN	531	PRE-CRASH GENERAL LOC
507	TRIP PLAN-DESTINATION	532	PRE-CRASH PARTICULAR LOC
508	TRIP PLAN-ROUTE FAMILIAR	533	COIL.MCST RESPONS.VEH.
509	TRIP PLAN-AFFA FAMILIAR	534	COLL.2ND RESPONS.VEH.
510	TRIP PLAN-ROUTE USAGE	535	COIL. 3RD RESPONS.VEH.
511	TRIP-TIME CF DEPARTURE	536	COIL.C-VEH.RESPONSIBLE
512	TRIP-TIME CF IMPACT	537	TOTAL ENERGY AVAILBLE
513	TRIP-TIME EXPECT ARRIVAL	538	MRV-PRE-CRASH MOVEMENT
514	DRIVER STRESS THAT DAY	539	CHARACTER CF MOVEMENT
515	PARTIAL STATE	540	RESPONSIBLE ACC.FACTOR
516	OCCUPATION-BROAD CLASS	541	MRV-PRIMARY ERROR 1
517	OCCUPATION-CENSUS CLASS	542	MRV-PRIMARY ERROR 2
518	PERMANENT PHYSIO.COND.	543	MRV-DEGREE DRIVER ATT.
519	TRANSIENT PHYSIO.COND 1	544	MRV-DRIVING COMPLEXITY
520	TRANSIENT PHYSIO.COND 2	545	MRV-AVOIDANCE MANUEVERS
521	NGN-IMFACT MEDICAL COND	546	S MRV-AVOIDL.MANUEVERS
522	PHARMACOLOGICAL AGENTS	547	MRV-VEH-VFH COMBINATION
523	BLCOD ALCOHCL LEVEL MG%	548	S MRV-VFH-VEH COMB.
524	DIRECTION CF RCLLCVER	549	2ND MCST RSP.VFH.MOVE
525	CV -CR.FINAL LOCATION	550	HAZAFDCUS FOAL COND 1



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Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
551	HAZAPDCUS ROAD COND 2	576	OVERALL C-VEH. INJ. SEV.
552	CONCLUS. HUMAN: PRF-CRASH	577	OCCUPANT #
553	CONCLUS. HUMAN: CRASH	578	SEAT LOCATION
554	CONCLUS. HUMAN: PCS-CRASH	579	POSITION ON SEAT
555	CONCLUS. VEH.: PRF-CRASH	580	SEAT LOCATION/POSITION
556	CONCLUS. VEH.: CRASH	581	POSTURE
557	CONCLUS. VEH.: POST-CRASH	582	OCC AGE (POLICE BRACKET)
558	CONCLUS. ENVIF.: PRF-CRASH	583	OCC AGE (5 YR. BRACKET)
559	CONCLUS. ENVIF.: CRASH	584	AGE - YEARS
560	CONCLUS. ENVIF.: PCS-CRASH	585	AGE IN MONTHS (INFANT)
561	FT. LEFT OCCUPANCY	586	OCC WEIGHT (25 LBS. BRAC)
562	FT. LEFT INJ. SEVERITY	587	OCC. WEIGHT, LBS
563	FT. LEFT RESTRAINT USAGE	588	OCC. HEIGHT (6 INCH BRAC)
564	FT. CENTER OCCUPANCY	589	OCC. HEIGHT (INCHES)
565	FT. CENTER INJ. SEVERITY	590	SEX
566	FT. C. RESTRAINT USAGE	591	LAP BELT EQUIPPED
567	FT. RIGHT OCCUPANCY	592	LAP BELT WORN
568	FT. RIGHT SEVERITY	593	LAP BELT WORN SNUGGLY
569	FT. R. RESTRAINT USAGE	594	LAP BELT LOCK EXTRAC.
570	REAR OCCUPANCY	595	UPPER TORSO RESTRAINT
571	REAR OCC. INJ. SEVERITY	596	UPPER TORSO WORN
572	REAR OCC. RESTRAINT USE	597	UPPER TORSO WORN CORRECT
573	OTHER OCCUPANCY	598	UP. TORSO INERTIA REEL
574	OTHER OCC. INJ. SEVERITY	599	RESTRAINT SYSTEM USAGE
575	OTHER OCC. RESTRAINT USE	600	OVERALL OCC INJ SEVERITY

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Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
601	RESTRAINT SYSTEM USED	626	LUMBAR OVERFALL INJURY
602	CHILD RESTRAINT CODE	627	ABDOMEN CONTACTS
603	10 AREAS CONTACT BY OCC	628	ABDOMEN OVERALL INJURY
604	DEGREE OF EJECTION	629	PELVIC GIRDLE CONTACTS
605	AREA OF EJECTION	630	PELVIC GIRDLE INJURY
606	TREATMENT/MORTALITY	631	RIGHT LEG CONTACT
607	INT.ORGAN CONTACT AREAS	632	RIGHT LEG OVERALL INJURY
608	INT.ORGAN OVERALL INJURY	633	LEFT LEG CONTACT
609	BRAIN CONTACT AREAS	634	LEFT LEG OVERALL INJURY
610	BRAIN OVERALL INJURY	635	WHOLE BODY CONTACT
611	FACE CONTACT AREAS	636	WHOLE BODY OVERALL INJ.
612	FACE OVERALL INJURY	637	BODY REGION
613	HEAD CONTACT AREAS	638	BODY REGION-DIGIT 1
614	HEAD OVERALL INJURY	639	BODY REGION-DIGIT 2
615	NECK CONTACT AREAS	640	TOTAL # OCC. INJURIES
616	NECK OVERALL INJURY	641	TOTAL # REGION INJURIES
617	SHOULDER GIRDLE CONTACT	642	REGION INJURY COUNTER
618	SHOULDER GIRDLE OVERALL INJ.	643	MOST SEVERE INJURY
619	RIGHT ARM CONTACTS	644	INJURY TYPE
620	RIGHT ARM OVERALL INJURY	645	INJURY SEVERITY
621	LEFT ARM CONTACTS	646	AREAS CONTACTED
622	LEFT ARM OVERALL INJURY	647	OCC. INJURY COUNTER
623	THORAX CONTACT		
624	THORAX OVERALL INJURY		
625	LUMBAR CONTACT		

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Table 5: Reproduction of Texas Dictionary

Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
1	HSRI SEQUENCE NUMBER	26	SEVERITY
2	ACCIDENT YEAR	27	TOTAL KILLED
3	ACCIDENT MONTH	28	TOTAL A INJURY
4	DAY OF MONTH	29	TOTAL B INJURY
5	DAY OF YEAR	30	TOTAL C INJURY
6	WEEK OF YEAR	31	NUMBER KNOWN INJURED
7	QUARTER	32	NUMBER KNOWN CASUALTIES
8	SEASON	33	NUMBER KNOWN UNINJURED
9	DAY OF WEEK	34	TOTAL TRAFFIC UNITS INV.
10	HOUR OF DAY	35	COUNTY
11	HOUR OF WEEK	36	CITY
12	LIGHT	37	URBANIZATION
13	WEATHER	38	PART OF HIGHWAY INVOLVED
14	ROAD SURFACE	39	DEGREE OF CURVE ROAD
15	ROAD CONDITION	40	# OF INTERSECTING ROADS
16	INTERSECTION TYPE	41	NON-ROAD AREA ASSOCIATED
17	TRAFFIC CONTROL	42	DIRECTION-TRAVEL VEH. #1
18	ROAD ALIGNMENT	43	DIRECTION-TRAVEL VEH. #2
19	ACCIDENT TYPE	44	ROAD CLASSIFICATION
20	PRE CRASH MANEUVERS	45	ROAD VEHICLE #1
21	CRASH EVENT	46	ROADWAY VEHICLE #1
22	CONTRIB. CIRCUMSTANCES	47	LOCATION ON ROADWAY VEH #1
23	VEHICLE MOVEMENTS	48	LOCATION ON ROAD VEH #1
24	VEHICLE MIX	49	ROAD VEHICLE #2
25	INVESTIGATION	50	ROADWAY VEHICLE #2

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Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
51	LOCATION ON RDWAY VEH #2	76	TOTAL A INJURY IN VEH.
52	LOCATION ON ROAD VEH #2	77	TOTAL B INJURY IN VEH.
53	ROAD PCINT OF IMPACT	78	TOTAL C INJURY IN VEH.
54	ROADWAY POINT OF IMPACT	79	TOTAL INJURED IN VEH.
55	LCCATION ON RDWAY POI	80	TOTAL CASUALTIES IN VEH.
56	LOCATION ON ROAD POI	81	TOTAL KNOWN UNINJURED
57	DRIVER NUMBER	82	TOTAL PLACED IN VEH.
58	VEHICLE MODEL YEAR	83	MOST SERIOUS INJ. IN VEH
59	VEHICLE MAKE	84	INJURFD #1 SEVERITY
60	VEHICLE BODY STYLE	85	INJURED #2 SEVERITY
61	SPECIFIC VEHICLE TYPE	86	INJURED #3 SEVERITY
62	GENERAL VEHICLE TYPE	87	INJURED #4 SEVERITY
63	VEHICLE DAMAGE AREA	88	INJURED #5 SEVERITY
64	DAMAGE SCALF	89	INJURED #6 SFVERITY
65	VEHICLE DEFECT	90	ALL INJURFD SEVERITY
66	DRIVER AGE	91	INJURED #1 AGE
67	DRIVER AGE 5 YR. GROUPS	92	INJURED #2 AGE
68	DRIVER AGE NSC GROUPS	93	INJURED #3 AGE
69	DRIVER PESIDENCE	94	INJURED #4 AGE
70	DRIVER LICENSE STATUS	95	INJURED #5 AGE
71	DRIVER SEX	96	INJURED #6 AGE
72	DRIVER VIOLATION #1	97	ALL INJURED AGE
73	DRIVER VIOLATION #2	98	INJ. #1 AGE 5 YR. GROUPS
74	DRIVER IMPAIRMENT	99	INJ. #2 AGE 5 YR. GROUPS
75	TOTAL KILLED IN VEHICLE	100	INJ. #3 AGE 5 YR. GROUPS

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Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
101	INJ. #4 AGE 5 YR. GROUPS	126	INJURED #1 LOCATION
102	INJ. #5 AGE 5 YR. GROUPS	127	INJURED #2 LOCATION
103	INJ. #6 AGE 5 YR. GROUPS	128	INJURED #3 LOCATION
104	ALL INJ. AGE 5 YR. GROUP	129	INJURED #4 LOCATION
105	INJ. #1 AGE NSC GROUPS	130	INJURED #5 LOCATION
106	INJ. #2 AGE NSC GROUPS	131	INJURED #6 LOCATION
107	INJ. #3 AGE NSC GROUPS	132	ALL INJURED LOCATION
108	INJ. #4 AGE NSC GROUPS	133	INJURED #1 CLASSIF.
109	INJ. #5 AGE NSC GROUPS	134	INJURED #2 CLASSIF.
110	INJ. #6 AGE NSC GROUPS	135	INJURED #3 CLASSIF.
111	ALL INJ. AGE NSC GROUPS	136	INJURED #4 CLASSIF.
112	INJURED #1 SEX	137	INJURED #5 CLASSIF.
113	INJURED #2 SEX	138	INJURED #6 CLASSIF.
114	INJURED #3 SFX	139	ALL INJURED CLASSIF.
115	INJURED #4 SEX	140	INJURED #1 EJECTION
116	INJURED #5 SEX	141	INJURED #2 EJECTION
117	INJURED #6 SEX	142	INJURED #3 EJECTION
118	ALL INJURED SEX	143	INJURED #4 EJECTION
119	INJURED #1 SEAT BELT	144	INJURED #5 EJECTION
120	INJURED #2 SEAT BELT	145	INJURED #6 EJECTION
121	INJURED #3 SEAT BELT	146	ALL INJURED EJECTION
122	INJURED #4 SEAT BELT	147	INJ. #1-INJURY CAUSE
123	INJURED #5 SEAT BELT	148	INJ. #2-INJURY CAUSE
124	INJURED #6 SEAT BELT	149	INJ. #3-INJURY CAUSE
125	ALL INJURED SEAT BELT	150	INJ. #4-INJURY CAUSE

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Variable Number -----	Variable Name -----	Variable Number -----	Variable Name -----
151	INJ. #5-INJURY CAUSE	176	PASS. COLOR OF LENS
152	INJ. #6-INJURY CAUSE	177	PASSENGER EQUIPMENT
153	ALL-INJURY CAUSE	178	PASS. COAT COLOR
154	PART OF BODY INJ. #1	179	PASS. PANTS COLOR
155	PART OF BODY INJ. #2		
156	PART OF BODY INJ. #3		
157	PART OF BODY INJ. #4		
158	PART OF BODY INJ. #5		
159	PART OF BODY INJ. #6		
160	PART OF BODY INJ.-ALL		
161	INJ. #1 BLOOD SAMPLE		
162	INJ. #2 BLOOD SAMPLE		
163	INJ. #3 BLOOD SAMPLE		
164	INJ. #4 BLOOD SAMPLE		
165	INJ. #5 BLOOD SAMPLE		
166	INJ. #6 BLOOD SAMPLE		
167	ALL BLOOD SAMPLE		
168	DRIVER HELMET INFO.		
169	DRIVER EYE PROTECTION		
170	DR. COLOR OF LENS		
171	DRIVER EQUIPMENT		
172	DRIVER COAT COLOR		
173	DRIVER PANTS COLOR		
174	PASSENGER HELMET INFO.		
175	PASS. EYE PROTECTION		

## VI. A SAMPLE COMPARISON OF PICKUP TRUCK ACCIDENTS AND PASSENGER CAR ACCIDENTS

A series of one-way analyses of variance (ANOVA) tables were prepared to compare pickup trucks with passenger cars in both the 1972 Oakland County and 1972 Texas 5% sample file. By splitting all vehicles into two groups, passenger cars and pickup trucks, a dichotomous categorical variable is created. This can be analyzed as a function of several of the code levels of a control variable. The mean value calculated by the program indicates directly the percentage of the control variable code levels, which in this case is the percentage of vehicles which are pickup trucks. This approach, i.e., the use of analysis of variance for a categorical variable, is discussed more fully in an article by Schultz and O'Day in the November 1972 issue of HIT LAB Reports, Vol. 3, No. 3.

The F statistics provided by the ANOVA program permit computation of the probability that the differences are not real but result from chance (significance level). Usually the differences are considered real if the significance level is 5% or less. A summary of the individual analyses is given in Table 5a. The variables for which the differences between passenger cars and pickups were not significant at the 5% level are labeled "not significant." Many of the differences which are statistically significant might be explained by differences in exposure (use). For example, pickup trucks are significantly underrepresented in accidents on Sunday because they usually are not used on Sunday.

The individual ANOVA runs are of value in examining detailed differences in the patterns of cars and pickups. These are presented here as Tables 6 through 35. The first column of each table lists the code values of the independent or control variable. The second column displays the total number of cases at each code level. The third column contains the percentage distribution

of the frequencies listed in the second column. The fourth column gives the percentage of the cases for each subgroup that are pickup trucks.

Differences in the distributions for pickups and cars in Tables 6 through 35 are summarized in Table 5a.



Table 5a

Summary of One-Way Analyses of Variance of Pickups  
Versus Passenger Cars on Selected Variables

<u>Table</u>	<u>Variable</u>	<u>File</u>	<u>Significance Level (%)</u>	<u>Pattern</u>
6,21	Month	Oakland Texas	3.4 Not. sig.	Low in Mar.-Apr. High in Oct., Nov., Dec.
7,22	Day of Week	Oakland Texas	0.00 0.00	Low - Sat., Sun. Low - Sat., Wed., Sun.
8	Highway Class	Oakland	Not Sig.	
9,23	Weather	Oakland Texas	Not Sig. 0.3	High - Clear Low - Rain
10,24	Light	Oakland Texas	0.00 0.00	High - Daylight High - Dawn Low - Dark
11,25	Road Surface	Oakland Texas	Not Sig. 0.02	Low - Wet & Icy
12,26	Pop. of Area	Oakland  Texas	0.00  0.00	High - Rural Low - Lg. City High - Rural Low - Lg. City
13	Acc. Type	Oakland	0.00	High - Sideswipe Low - Head-on, Angle
14	Acc. Conf. (HSRI)	Oakland	0.00	High - Sideswipe Low - Angle
15	Hazardous Action	Oakland	0.00	High - Improper backing left of center Low - Traffic control im- proper turn
16	Contrib. Circum.	Oakland	1.1	High - Alcohol, careless driv- ing, defective equipment

17	Veh. Condition	Oakland	Not Sig.	
18	Impact Code	Oakland	0.00	High - left rear, left side
		Texas	0.00	High - front right, left center, right passenger com- partment, top.
19	Driver Inj.	Oakland	Not Sig.	
		Texas	Not Sig.	High - fatals Low - "C"
20	Front Right Pass. Inj.	Oakland	Not Sig.	
OTHER TEXAS TABLES				
27	Accident Type	Texas	0.00	Low - Fixed object ran-off-road, train
28	Pre-Crash Maneuver	Texas		
29	Cont. Circum.	Texas	0.00	High - either vehicle passing on left (com- plicated table)
30	Def. Equip.	Texas	0.00	High - Tires, trailer equip- ment Low - Brakes
31	Most serious injury in accident	Texas		
32	Most serious injury in vehicle	Texas	10	
33	Driver Age	Texas	0.00	Low - 16-34 year High - 35-74, especially 45-74

34	Driver Violation #1	Texas	0.00	High - Improper turn/improper lane and wrong side not passing Low - Disregard signal & wrong way
35	Driver Violation #2	Texas	4.65	High - Improper start Low - DUIL
36	Vehicle Damage Area	Texas	0.00	High - Top damage (indicating rollover)
37	Damage Scale (TAD)	Texas	0.00	

In the summary table ( 5a ) "low" indicates that pickup trucks are underrepresented, relative to passenger cars, in the noted sub-groups. "High" indicates that pickup trucks are overrepresented. For example, in Oakland county records, pickup trucks are underrepresented in accidents in the months of March and April--i.e., they are not involved in as many accidents in those months as we might expect when compared with passenger cars. This could, of course, mean that pickup trucks travel less during those months, that they are less susceptible to factors which cause accidents during those months (e.g., high winds and rain may increase the probability of a passenger car accident but not that of a pickup). Or, indeed, pickup trucks may be no different during those months, but passenger cars travel (and have accidents) more often.

The point is that the difference has some significance. It is stated as a statistical observation, but the reasons for the differences must be judged by fuller knowledge of the problem at hand. 0% significance indicates that the probability that this arrangement of the data could have occurred by chance is zero to two significant digits--and thus should be viewed as a very (statistically) significant finding. The reader still must judge why pickup trucks are so overrepresented in sideswipe collisions, or so underrepresented in rainy weather.

TABLE 6. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY MONTH OF ACCIDENT

Month	Number of Vehicles	Column Percent	Percent Pickups
January	5017	9.3	5.5
February	4476	8.3	5.5
March	4463	8.3	4.6
April	3431	6.4	4.5
May	4255	7.9	5.4
June	4225	7.8	5.7
July	3811	7.1	5.4
August	4225	7.8	5.6
September	4075	7.5	5.2
October	4397	8.1	6.1
November	4892	9.1	5.6
December	6750	12.5	6.0
Total	54017	100.0	5.5

TABLE 7. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY DAY OF WEEK

Day of Week	Number of Vehicles	Column Percent	Percent Pickups
Sunday	5767	10.7	3.9
Monday	7604	14.1	6.5
Tuesday	7415	13.7	6.1
Wednesday	7169	13.3	5.5
Thursday	7480	13.8	5.2
Friday	10104	18.7	6.0
Saturday	8478	15.7	4.7
Total	54017	100.0	5.5

TABLE 8. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY HIGHWAY CLASS

Highway Class	Number of Vehicles	Column Percent	Percent Pickups
Interstate Route	2539	14.4	5.7
US Route	4105	23.4	5.9
M Route	8562	48.7	5.8
Interstate Business Loop or Spur	1812	10.3	5.3
US Business Route	538	3.1	7.8
M Business Route	4	----	0.0
Connectors	6	0.0	16.7
Service Drive	13	----	0.0
<b>Total</b>	<b>17579</b>	<b>100.0</b>	<b>5.8</b>

TABLE 9. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY WEATHER

Weather	Number of Vehicles	Column Percent	Percent Pickups
Clear or Cloudy	41412	76.9	5.6
Fog	486	0.9	7.6
Rain	7437	13.8	5.1
Snow	4499	8.4	5.3
<b>Total</b>	<b>53834</b>	<b>100.0</b>	<b>5.5</b>

TABLE 10. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY LIGHT

Light	Number of Vehicles	Column Percent	Percent Pickups
Daylight	35184	65.3	5.9
Dawn or Dusk	2701	5.0	5.0
Darkness with Streetlights	5398	10.0	4.3
Darkness Without Streetlights	10593	19.7	4.8
Total	53876	100.0	5.5

TABLE 11. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY ROAD SURFACE

Road Surface	Number of Vehicles	Column Percent	Percent Pickups
Dry	30931	57.7	5.4
Wet	15531	20.0	5.7
Snow/Ice	7100	13.3	5.6
Total	53562	100.0	5.5

TABLE 12. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY POPULATION OF AREA

Population of Area	Number of Vehicles	Column Percent	Percent Pickups
Township	18212	33.7	7.2
Less Than 1000	215	.4	6.0
1000 to 2500	473	.9	5.3
2500 to 5000	2322	4.3	5.8
5000 to 10000	1390	2.6	6.6
10000 to 25000	4485	8.3	4.7
25000 to 50000	9236	17.1	4.1
50000 to 100000	17684	32.7	4.5
Total	54017	100.0	5.5

TABLE 13. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY ACCIDENT TYPE

Accident Type	Number of Vehicles	Column Percent	Percent Pickups
Not Applicable	5567	10.4	5.7
Head On	2105	3.9	5.2
Rear End	4286	8.0	6.9
Side Swipe - Meeting	619	1.2	8.9
Side Swipe - Passing	1705	3.2	8.0
Angle	6342	11.9	5.0
Backed Into	365	.7	6.8
All Other	32456	60.7	5.2
Total	53445	100.0	5.5



TABLE 14. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY ACCIDENT  
CONFIGURATION

Accident Configuration	Number of Vehicles	Column Percent	Percent Pickups
Rear End - Both Straight or one Straight/One Turning	19864	51.0	5.6
Head On - Both Straight	2105	5.4	5.2
Angle	10182	26.1	4.9
Side Swipe - Both Straight	2324	6.0	8.2
One Vehicle Left Side of Road (Rollover, Hit Object)	1817	4.7	5.1
One Vehicle Right Side of Road (Rollover, Hit Object)	2668	6.8	5.5
Total	38960	100.0	5.5

TABLE 15. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY HAZARDOUS ACTION

Hazardous Action	Number of Vehicles	Column Percent	Percent Pickups
No Violation	25196	47.3	5.0
Speed Too Fast	9536	17.9	5.9
Speed Too Slow	18	0.0	5.6
Failed to Yield Right of Way	7261	13.6	4.9
Wrong Way	28	0.1	7.1
Drove Left of Center	3230	6.1	6.9
Improper Passing, Overtaking, Turning, Signalling	2475	4.6	4.8
Disregard Traffic Control	1168	2.2	9.2
Followed Too Closely	4316	8.1	6.4
Total	53228	100.0	5.5

TABLE 16. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY CONTRIBUTING  
CIRCUMSTANCE

Contributing Circumstance	Number of Vehicles	Column Percent	Percent Pickups
Driving Under the Influence of Alcohol or Drugs	601	1.9	7.7
Reckless or Careless Driving	242	0.8	6.6
Ill, Fatigued, Inattention	655	2.1	5.5
Failed to Comply With License Restrictions	8	---	0.0
Obscured Vision	957	3.1	4.7
Defective Equipment (if contributed to accident)	800	2.6	6.5
Lost Control Due to Shifting Shifting Load	10	0.0	0.0
Lost Control Due to Wind or Vacuum	24579	79.4	5.0
Skidding	3092	10.0	5.6
Total	30944	100.0	5.2

TABLE 17. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY VEHICLE CONDITION

Vehicle Condition	Number of Vehicles	Column Percent	Percent Pickups
Disabled Vehicle	26		0.0
Puncture or Blowout	73	0.1	9.6
Other Defective Equipment (Brakes, Lights, Steering)	836	1.6	6.2
No Defect	52631	98.3	5.4
Total	53566	100.0	5.5

TABLE 18. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY IMPACT CODE

Impact Code	Number of Vehicles	Column Percent	Percent Pickups
No Impact	64	0.1	12.5
Center Front	15396	8.6	5.5
Right Front	7826	14.5	5.5
Right Side	3293	6.1	5.1
Right Rear	3289	6.1	5.7
Center Rear	8059	15.0	4.3
Left Rear	3117	5.8	6.2
Left Side	3076	5.7	6.0
Left Front	8207	15.2	5.5
Other Impact	139	0.3	12.9
Rollover	463	0.9	12.5
Both Front and Rear	968	1.8	5.3
Caught Fire Before Impact	9	---	0.0
Total	53906	100.0	5.5

TABLE 19. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY DRIVER/INJURY

Driver/Pedestrian Injury	Number of Vehicles	Column Percent	Percent Pickups
Fatal	80	0.8	5.0
Incapacitating Injury	1306	13.0	5.0
Non-Incapacitating Injury	2873	28.5	5.1
Possible Injury	5815	57.7	4.2
Total	10074	100.0	4.6

TABLE 20. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN OAKLAND COUNTY 1972 BY FRONT RIGHT INJURY

Front Right Injury	Number of Vehicles	Column Percent	Percent Pickups
K	31	0.9	3.2
A	452	12.9	3.8
B	918	26.1	4.5
C	2115	60.2	3.6
Total	3516	100.0	3.8

TABLE 21. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY MONTH

Month	Number of Vehicles	Column Percent	Percent Pickups
January	2508	8.0	11.8
February	2295	7.3	12.9
March	2479	7.9	12.0
April	2515	8.0	11.2
May	2478	7.9	11.5
June	2581	8.2	13.3
July	2548	8.1	12.7
August	2745	8.7	12.7
September	2727	8.7	11.7
October	2694	8.6	13.0
November	2801	8.9	11.5
December	3123	9.9	12.8
Total	31494	100.0	12.3

TABLE 22. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY DAY OF WEEK

Day of Week	Number of Vehicles	Column Percent	Percent Pickups
Sunday	3518	11.0	10.2
Monday	4326	13.6	13.4
Tuesday	4259	13.3	12.9
Wednesday	4217	13.2	11.9
Thursday	4387	13.7	12.8
Friday	5779	18.1	12.0
Saturday	5421	17.0	11.3
Total	31907	100.0	12.1

TABLE 23. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY WEATHER

Weather	Number of Vehicles	Column Percent	Percent Pickups
Clear or Cloudy	26781	85.0	12.5
Raining	4365	13.9	10.6
Snowing	99	0.3	11.1
Foggy	243	0.8	11.9
Blowing Dust	5	0.0	40.0
Smoke	1	---	0.0
Total	31493	100.0	12.3

TABLE 24. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY LIGHT

Light	Number of Vehicles	Column Percent	Percent Pickups
Daylight	23538	73.8	12.5
Dawn	156	0.5	19.2
Darkness - No Street Light	5830	18.3	11.2
Darkness - Street Lights	1744	5.5	9.2
Dusk	639	2.0	12.4
Total	31907	100.0	12.1

TABLE 25. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY ROAD SURFACE

Road Surface	Number of Vehicles	Column Percent	Percent Pickups
Dry	25559	80.1	12.5
Wet	5731	18.0	10.5
Mud	9	0.0	33.3
Snow	55	0.2	12.7
Icy	553	1.7	11.0
Total	31907	100.0	12.1

TABLE 26. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY URBANIZATION

Urbanization	Number of Vehicles	Column Percent	Percent Pickups
Rural	3380	10.7	20.8
L25K	6265	19.9	15.1
25K < 50K	1868	5.9	10.7
50K < 100K	3931	12.5	11.4
100K < 250K	1983	6.3	10.4
> 250K	14067	44.7	9.7
Total	31494	100.0	12.3

TABLE 27. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY ACCIDENT TYPE

Accident Type	Number of Vehicles	Column Percent	Percent Pickups
Pedestrian	228	0.7	12.7
Another Motor Vehicle	26956	84.5	11.9
Railroad Train	44	0.1	29.5
Parked Car	1336	4.2	11.9
Bicyclist	125	0.4	9.6
Animal	277	0.9	18.4
Fixed Object	1712	5.4	9.6
Other Object	89	0.3	10.1
Overtuned in Road	107	0.3	30.8
Ran Off Road	985	3.1	16.8
Other Non-Collision	48	0.2	31.3
Total	31907	100.0	12.1

TABLE 28. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY PRE CRASH MANEUVERS

Pre Crash Maneuvers	Number of Vehicles	Column Percent	Percent Pickups
Single Vehicle Going Straight	4150	13.0	13.1
Single Vehicle Turning Right	181	0.6	9.9
Single Vehicle Turning Left	180	0.6	11.1
Single Vehicle Backing	432	1.4	15.3
Other Single Vehicle Movement	8	0.0	37.5
1 Straight 2 Straight Approach at Angle	5767	18.1	12.0
1 Straight 2 Backing Approach at Angle	510	1.6	16.1
1 Straight 2 Stopped Approach at Angle	114	0.4	11.4
1 Straight 2 Right Turn Approach at Angle	754	2.4	11.8
1 Straight 2 Left Turn Approach at Angle	1779	5.6	12.0
1 Right Turn 2 Right Turn Approach at Angle	9	0.0	11.1
1 Right Turn 2 Left Turn Approach at Angle	54	0.2	5.6
1 Right Turn 2 Stopped Approach at Angle	146	0.5	8.2
1 Left Turn 2 Left Turn Approach at Angle	97	0.3	11.3
1 Left Turn 2 Stopped Approach at Angle	100	0.3	11.0
1 Straight 2 Straight Same Direction - Rear End	2185	6.8	12.3
1 Straight 2 Straight Same Direction - Side Swipe	2042	6.4	11.6
1 Straight 2 Stopped Same Direction	6250	19.6	9.8
1 Straight 2 Right Turn Same Direction	827	2.6	14.6
1 Straight 2 Left Turn Same Direction	1459	4.6	16.4



TABLE 28 (cont'd)

Pre Crash Maneuvers	Number of Vehicles	Column Percent	Percent Pickups
1 Right Turn 2 Right Turn Same Direction	109	0.3	11.9
1 Right Turn 2 Left Turn Same Direction	6	---	0.0
1 Right Turn 2 Stopped Same Direction	28	0.1	3.6
1 Left Turn 2 Left Turn Same Direction	110	0.3	14.5
1 Left Turn 2 Stopped Same Direction	8	0.0	12.5
1 Straight 2 Straight Opposite Direction	886	2.8	17.2
1 Straight 2 Backing Opposite Direction	79	0.2	13.9
1 Straight 2 Stopped Opposite Direction	58	0.2	10.3
1 Straight 2 Right Turn Opposite Direction	6	0.0	16.7
1 Straight 2 Left Turn Opposite Direction	2013	6.3	10.8
1 Backing 2 Stopped Opposite Direction	334	1.0	12.3
1 Right Turn 2 Left Turn Opposite Direction	62	0.2	8.1
1 Right Turn 2 Stopped Opposite Direction	3	---	0.0
1 Left Turn 2 Left Turn Opposite Direction	15	0.0	20.0
1 Left Turn 2 Stopped Opposite Direction	13	0.0	7.7
1 Straight 2 Parking	628	2.0	11.0
1 Right Turn 2 Parking	46	0.1	13.0
1 Left Turn 2 Parking	64	0.2	7.8
1 Parking 2 Stopped	165	0.5	13.9
1 Parking 2 Parking	130	0.4	10.8
All Other 2 Vehicle Accidents	100	0.3	18.0
Total	31907	100.0	12.1

TABLE 29. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY CONTRIBUTING CIRCUMSTANCES

Contributing Circumstances	Number of Vehicles	Column Percent	Percent Pickups
Lost Control or Skidded (Icy or Slick Road, etc.)	214	2.0	12.6
Passenger Interfered With Driver	13	0.1	23.1
Attention Diverted from Driving	255	2.3	13.3
Open Door or Object Pro- jecting from Vehicle	56	0.5	14.3
Foot Slipped Off Clutch or Brake	13	0.1	15.4
Gusty Winds	11	0.1	9.1
Vehicle Passing or Attempting to Pass on Left	736	6.8	19.7
Vehicle Passing or Attempting to Pass on Right	242	2.2	12.4
Vision Obstructed by Standing or Parking Vehicle	143	1.3	13.3
Vision Obstructed by Moving Vehicle	53	0.5	9.4
Commercial Sign	4	---	0.0
Headlight or Sun Glare	87	0.8	17.2
Trees, Shrubs, Weeds, Other Vegetation	63	0.6	19.0
Other Visual Obstructions	66	0.6	12.1
Vehicle Swerved to Avoid Pedestrian/Other Human in Road	16	0.1	12.5
Vehicle Swerved for Avoidance Animal/Object in Road	62	0.6	14.5
Vehicle Swerved for Avoiding Another Vehicle	595	5.5	11.6
Vehicle Swerved for Avoiding Previous Accident	12	0.1	16.7
Vehicle Swerved for Surface Condition or Visibility	3	---	0.0
Vehicle Swerved from In- tended Course, Reason Not Stated	72	0.7	13.9

TABLE 29 (cont'd)

Contributing Circumstances	Number of Vehicles	Column Percent	Percent Pickups
Vehicle Slowing/Stopped on Road for School Bus	22	0.2	18.2
Vehicle Slowing/Stopped on Road for Pedestrian/Other Human	3093	28.5	9.7
Vehicle Slowing/Stopped on Road for Animal/Other Object	44	0.4	13.6
Vehicle Slowing/Stopped on Road for Other Vehicle Entering	2285	21.1	10.1
Vehicle Slowing/Stopped on Road to Avoid Previous Accident	55	0.5	7.3
Vehicle Slowing/Stopped on Road for Surface Condition/Visibility	16	0.1	6.3
Vehicle Slowing/Stopped on Road to Make or Complete Turn	1065	9.8	13.4
Vehicle Slowing/Stopped on Road, Reason Unknown	1557	14.3	10.0
Total	10853	100.0	11.5

TABLE 30. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY VEHICLE DEFECT

Vehicle Defect	Number of Vehicles	Column Percent	Percent Pickups
No Defect	31347	98.4	12.0
Defective Brakes	304	1.0	11.5
Defective Steering	25	0.1	12.0
Defective or Improper Lights	19	0.1	36.8
No Windshield Wiper	1	---	0.0
Defective Tires	112	0.4	15.2
Defective Trailer Equipment	27	0.1	59.3
Defective Stop or Turn Signal	22	0.1	31.8
Wheel Came off Vehicle	10	0.0	40.0
Total	31866	100.0	12.1

TABLE 31. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY MOST SERIOUS INJURY IN  
ACCIDENT

Injury Severity	Number of Vehicles	Column Percent	Percent Pickups
Fatal	105	2.4	18.1
"A"	568	12.7	13.4
"B"	1294	29.0	11.5
"C"	1115	25.0	10.2
Present But Not Injured	1379	30.9	11.7
Total	4461	100.0	11.7

TABLE 32. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY MOST SERIOUS INJURY IN VEHICLE

Serious Injury	Number of Vehicles	Column Percent	Percent Pickups
No Injuries	27931	87.5	12.2
Fatal	149	0.5	15.4
"A"	749	2.3	13.0
"B"	1672	5.2	11.7
"C"	1406	4.4	9.9
Total	31907	100.0	12.1

TABLE 33. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY DRIVER AGE NSC GROUPS

Driver Age NSC Groups	Number of Vehicles	Column Percent	Percent Pickups
00-14 Years	24	0.1	12.5
15 Years	72	0.2	12.5
16 Years	613	2.0	10.0
17 Years	1159	3.8	7.7
18-19 Years	3005	9.9	8.2
20-24 Years	5938	19.6	8.2
25-34 Years	6873	22.7	11.3
35-44 Years	4373	14.4	13.9
45-54 Years	3714	12.3	16.8
55-64 Years	2431	8.0	17.4
65-74 Years	1491	4.9	16.3
75 Years & Older	581	1.9	12.9
Total	30274	100.0	12.0

TABLE 34. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY DRIVER VIOLATION #1

Violation #1	Number of Vehicles	Column Percent	Percent Pickups
Speeding Over Limit or During Unsafe Conditions	4145	39.4	11.3
Failed to Yield Right of Way	4134	39.3	13.6
Disregarded Traffic Signal	1074	10.2	10.1
Improper Turn, Wide Right	173	1.6	12.7
Improper Turn, Cut Corner on Left	85	0.8	14.1
Improper Turn, Improper Lane	448	4.3	15.6
Wrong Side, Not Passing	430	4.1	18.4
Wrong Way on One Way Road	31	0.3	6.5
Total	10520	100.0	12.6

TABLE 35. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY DRIVER VIOLATION #2

Violation #2	Number of Vehicles	Column Percent	Percent Pickups
Following Too Closely	1029	33.4	13.5
Improper Passing	363	11.8	14.0
No Signal or Wrong Signal of Intent	79	2.6	20.3
Improper Start from Parked Position	473	15.4	19.0
Fail to Yield Right of Way to Pedestrian	14	0.5	7.1
Improper Parking	63	2.0	12.7
Under Influence of Alcohol	1022	33.2	13.8
Under Influence of Drugs	36	1.2	5.6
Total	3079	100.0	14.6

TABLE 36. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY VEHICLE DAMAGE AREA

Vehicle Damage Area	Number of Vehicles	Column Percent	Percent Pickups
Front Center	1300	4.6	12.2
Front - Distributed	4497	15.9	9.5
Front Left	3037	10.8	12.9
Front Right	3132	11.1	12.1
Back - Distributed	2801	9.9	9.0
Back Left	1002	3.5	11.2
Back Right	981	3.5	11.6
Left Passenger Compartment	1139	4.0	10.0
Right Passenger Compartment	1209	4.3	12.7
Left Side - Front Quarter	2270	8.0	11.6
Right Side - Front Quarter	2233	7.9	11.1
Left Side - Back Quarter	1443	5.1	10.7
Right Side - Back Quarter	1430	5.1	10.9
Left Side - Distributed	613	2.2	15.3
Left Side - Distributed	640	2.3	10.6
Left Side and Top	271	1.0	26.6
Right Side and Top	228	0.8	25.4
<b>Total</b>	<b>28226</b>	<b>100.0</b>	<b>11.4</b>

TABLE 37. PERCENT PICKUP TRUCKS INVOLVED IN ACCIDENTS  
IN TEXAS 1972 BY DAMAGE SCALE (TAD)

Damage Scale	Number of Vehicles	Column Percent	Percent Pickups
No Damage	561	2.0	17.3
Minor Damage	10410	36.9	11.8
	8026	28.4	11.1
	5570	19.7	10.3
	1909	6.8	10.5
	851	3.0	12.9
	577	2.0	11.1
Very Severe Damage	322	1.1	13.7
<b>Total</b>	<b>28226</b>	<b>100.0</b>	<b>11.4</b>







