Rural Intersection Accidents

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A STUDY has been made of all the rural intersections in one state to develop information which would indicate the intersections of rural highways which have had the highest accident frequency and also the greatest number of accidents. This study was performed in Delaware by the Traffic and Planning Division of the state highway department. The information obtained is being made available for the use of enforcement agencies through state police and local police channels to engineering agencies, and educational channels.

In the study traffic-volume statistics and accident statistics for each intersection are gathered together, and by the use of key punch cards and tabulating equipment, statistical information is gathered.

There were 2,914 intersections studied; 1,235 (25.8 percent) out of the 4,784 accidents reported by state police during 1952 were studied. (these were the accidents occurring at intersections in the state). Tabulations were made showing the accident frequency in each county and also various tables were made showing the frequency of occurrence by intersections, by accidents, by traffic volumes, and by other features. The study pointed out the high-hazard locations and the relatively low percentage of intersections which can expect accident occurrence, particularly in the low-volume groups.

● IN Delaware, as in most of the other states in the country, the increase in the volume of traffic on highways seems to bring with it an increase in the number of vehicular accidents. The frequency with which these accidents occur and the location of the occurrences has prompted a study to develop information which would indicate the intersections in the state on rural highways which have had the highest accident frequency experience during the year 1952.

It is intended that the information obtained will be made available for the use of enforcement agencies through state and local police channels, to engineering agencies, particularly the state highway department, and to education channels with the particular thought that pointed publicity might better educate the motorists about the intersections pointed out in this report. Thus the three E's are immediately covered, but considerable time, study, and effort will be necessary to effectively reduce any accident experiences at these or at any other intersections.

This has been a large job. Only the facts that Delaware is a small state and that traffic-volume information is readily available on each rural road and that the cooperation of the state police in furnishing good accident information to the state highway department have made it possible for the work to be done at all, much less with the accuracy which we think is reflected in the study.

It is to be pointed out that the purpose of the study is not to develop sensationalism concerning the accident experience or the physical characteristics of the given intersections.

We are pointing at, as best we can, what has happened at each rural intersection in the state. We hope by our analysis of the accidents and the conditions which existed when they occurred, to be in a position to suggest changes which may reduce the accident frequency at the various intersections where the frequency is particularly alarming. Whether the suggestions apply to engineering, education, or enforcement, they are primarily intended to help our state reduce the number and severity of traffic accidents.

METHOD OF COMPILING DATA

In Delaware the highway department has under its control all rural roads in the state, and the Traffic and Planning Division of the department has kept accurate records

TABLE 1

Numerical by Accident Rate	County	Intersection Number	Road Number	Road Number	Road Number	Accidents	Fatalities	1952 24 Hour Annual Average Traffic	Accident Rate No of Vehicles Per Accident	Controls Present	System Class	Location
						NEW CASTLE COUNTY						
1 -	2	0181	237	237	021	08	00	03887	0177000	3	01	E of Hockessin
2 -	2	0101	225	225	267	06	00	02985	0182000	3	15	W of Tyler McConnell Bridge
3 -	2	0218	334	334	333	09	00	05289	0214000	3	09	General Motors Plant
4 -	2	0348	387	387	026	05	01	03474	0253000	3	13	S of Newark
5 -	2	0237	033	033	006	55	00	43329	0288000	2	01	Basin Corner
6 -	2	0029	050	050	220	23	00	18952	0301000	2	13	Edgemoor
7 -	2	0375	003	003	340	05	00	04346	0317000	3	14	E of Christiana
8 -	2	0244	006	006	340	09	01	08672	0352000	3	13	S E of Newport
9 -	2	0050	023	023	043	06	00	07077	0369000	3	13	Marsh Rd and Washington St
10 -	2	0392	032	032	387	20	00	20730	0378000	2	01	Glasgow
11 -	2	0240	033	055	003	35	00	37789	0394000	2	01	Hare's Corner
12 -	2	0643	028	028	369	19	00	20887	0401000	2	01	Roger's Corner
13 -	2	0211	011	011	031	08	01	08785	0401000	3	14	Limestone Rd
14 -	2	0214	011	011	021	11	00	11211	0409000	2	01	Greenbank
15 -	2	0001	024	024	017	17	00	22577	0485000	2	13	Naaman's
16 -	2	0324	011	011	0112	08	00	10704	0488000	3	01	N E. of Limestone Rd
17 -	2	0491	022	441	438	09	00	12917	0524000	2	13	N Bound Lane — Odessa
18 -	2	0384	032	032	005	13	01	20248	0569000	2	13	Bear
19 -	2	0633	011	272	333	06	00	09727	0592000	3	15	W of Price's Corner
20 -	2	0011	004	017	221	06	00	10073	0613000	3	13	Naaman's Rd and Concord Pike
21 -	2	0380	033	033	032	27	01	45941	0621000	2	01	State Road
22 -	2	0388	032	032	048	10	00	17564	0641000	3	13	X Roads - W of Bear
23 -	2	0054	004	004	210	06	00	10714	0652000	3	13	Murphy Rd and Concord Pike
24 -	2	0248	006	006	336	08	00	16460	0751000	2	02	Newport — Main X Roads
25 -	2	0055	004	203	232	07	00	15511	0809000	3	13	Blue Ball
26 -	2	0584	001	030	487	05	00	12189	0890000	3	19	Paddock Restaurant - Smyrna
27 -	2	0216	011	271	0112	06	00	15575	0947000	2	13	Price's Corner
28 -	2	0225	033	028	033	17	00	44880	0964000	2	01	S of Roger's Corner on 33
29 -	2	0016	024	024	050	08	00	23672	1080000	2	01	Claymont
30 -	2	0049	024	024	502	05	00	16637	1214000	2	13	Market St and Lea Blvd
31 -	2	0637	056	056	019	08	00	27044	1234000	3	01	N C Avenue Overpass
32 -	2	0644	033	029	369	10	00	38315	1398000	4	01	Kent Manor Inn
33 -	2	0015	024	024	207	05	00	22009	1607000	2	13	Claymont
34 -	2	0639	033	033	056	10	00	44960	1641000	3	01	To Memorial Bridge — Farnhurst
						KENT COUNTY						
1 -	1	0669	289	078	078	03	00	00660	0080000	3	15	Little Masten's Corner
2 -	1	0247	046	047	048	03	00	01628	0198000	3	01	X Roads - Hartly
3 -	1	0286	027	025	024	13	00	09068	0255000	2	01	Cooper's Corner
4 -	1	0149	041	048	041	03	00	02760	0336000	3	01	Everett's Corner
5 -	1	0312	003	024	024	09	00	08371	0339000	3	01	Betty's Lunch — S of Dover
6 -	1	0015	039	009	001	12	00	13824	0420000	2	13	Main X Roads — Smyrna
7 -	1	0304	027	026	027	03	00	03536	0430000	3	13	E of Rising Sun
8 -	1	0216	070	003	025	06	00	07600	0462000	2	01	Silver Lake — N of Dover
9 -	1	0191	007	002	088	10	00	13058	0477000	2	13	Markland's — N. of Dover
10 -	1	0310	029	024	024	05	00	06574	0480000	2	14	X Roads — E of Camden
11 -	1	0305	027	027	356	08	00	04201	0511000	3	14	X Roads — S of Moore's Lake
12 -	1	0018	041	039	454	04	00	06109	0557000	2	17	Pleasanton's Garage
13 -	1	0207	016	007	051	07	00	10763	0561000	2	13	Latex Corner — E of Dover
14 -	1	0016	039	039	065	04	00	06421	0586000	2	15	Smyrna — Commerce and Main
15 -	1	0701	005	006	060	05	00	08348	0609000	2	01	X Roads — E of Harrington
16 -	1	0608	005	034	057	05	00	08402	0613000	2	13	X Roads — E of Felton
17 -	1	0835	024	024	105	03	00	05534	0673000	3	14	W. of Starhill
18 -	1	0837	005	031	032	04	00	07568	0691000	3	13	X Roads — Canterbury
19 -	1	0124	154	1020	002	03	00	05329	0709000	3	14	N of Melody Club
20 -	1	0044	043	001	001	03	00	06098	0742000	3	13	Welfare Home — Smyrna
21 -	1	0284	071	003	003	03	00	06250	0760000	4	13	Dover — Wyoming Ave & Governor's Ave
22 -	1	0211	007	024	007	06	00	13404	0815000	5	01	S. of Loockerman St Ext —E Dover
23 -	1	0103	014	002	045	04	00	12297	1122000	3	13	Bishop's Corner
						SUSSEX COUNTY						
1 -	3	0474	013	013	4040	15	00	06983	0170000	3	01	S of Bridgeville
2 -	3	0219	016	016	013	13	00	07124	0200000	4	13	X Roads — Greenwood
3 -	3	0695	024	024	248	07	00	04022	0210000	3	13	N of Millsboro Pond
4 -	3	0218	016	016	036	03	00	01784	0217000	3	09	E of Greenwood
5 -	3	1111	052	052	382	03	00	01972	0237000	3	09	Roxana
6 -	3	0447	013	013	040	07	02	05361	0280000	3	13	E of Bridgeville — Entire
7 -	3	0308	014	014	018	05	00	05186	0379000	4	01	Wescoat's Corner — Lewis
8 -	3	0966	113	334	337	04	00	04320	0394000	3	14	½ Way — Millsboro and Dagsboro
9 -	3	0757	113	113	432	03	00	03424	0417000	3	13	W of Stockley
10 -	3	0716	113	113	339	04	00	04834	0441000	3	14	S of Millsboro
11 -	3	0329	014	024	270	04	00	05115	0468000	3	06	½ Way — Lewes and Rehoboth
12 -	3	0567	113	113	018	03	00	04294	0522000	2	01	N W of Georgetown
13 -	3	0586	113	113	028	03	00	04496	0547000	2	01	W of Georgetown
14 -	3	0821	113	113	020	03	00	04553	0554000	4	13	N of Bett's Pond — Millsboro
15 -	3	0494	014	014	0140	03	00	04705	0572000	3	14	W of Rehoboth
16 -	3	0336	014	014	274	03	00	04831	0588000	3	13	Midway
17 -	3	0922	0130	0130	485	04	00	07458	0681000	3	15	½ Way — Laurel and Seaford
18 -	3	1236	0130	0130	024	05	00	09950	0726000	2	13	X Roads — Center of Laurel
19 -	3	0859	0130	0130	534	03	00	06006	0737000	4	14	N of Seaford
20 -	3	0627	013	013	046	03	00	06166	0750000	3	14	X Roads — N of Clear Brook — S B
21 -	3	0890	0130	0130	020	04	00	10649	0972000	2	09	Blades, Delaware
22 -	3	1207	0130	0130	028	03	00	09346	1137000	3	13	N. Laurel Limits

TABLE 2

TRAFFIC AND ACCIDENT PICTURE AT ALL RURAL INTERSECTIONS

County	Number of Intersections	Number of Accidents 1952	Average Traffic Per Intersection for Year 1952	Average Number of Vehicles per Accident 1952	Total Number of Vehicles 1952	Percent of Total Intersections	Percent of Total Accidents	Percent of Total Vehicles
Kent	819	254	446,700	1,440,300	365,829,000	28.1	20 6	19 9
New Castle	625	672	1,413,800	1,314,900	883,632,000	21 5	54 4	48,2
Sussex	1,470	309	398,800	1,897,000	586,168,000	50.4	25 0	31.9
Total State	2,914	1,235	629,900	1,486,300	1,835,629,000	100.0	100.0	100.0

for several years of the traffic-volume changes which occur on these highways.

Also, for several years the Traffic and Planning Division has received copies of state-police records so that copies of all accident reports are on file in this office. When these reports are received, in their order of occurrence, the information is cross-filed so that the number of accidents on specific roads is known.

Thus, we have the two-most-important pieces of information for this study: traffic volumes on rural roads and the accident reports for the same roads.

It is for this reason, particularly, that the study is limited to rural intersections. The study does not include intersections in urban areas or in other large incorporated towns. It does not include intersections where suburban streets intersect rural highways. At these latter locations, where the accident information is generally available, the traffic information is not. Also, details of accumulating such information would be tremendous and beyond the scope of this project.

During the course of this study each rural intersection in the state was assigned a number. A tabulation was made which contained the county, the intersection number, the numbers for the roads making the intersection, the number of accidents occurring at the intersection in 1952, the number of fatalities occurring at the intersection in 1952, the 1952 24-hour annual average traffic volume entering the intersection (obtained by dividing by two the 24-hour annual average volume for each leg of the intersection, then adding these half-leg totals together), the accident rate or the number of vehicles entering the intersection per year for each accident which occurred (the yearly traffic divided by the number of accidents which occurred), the type of traffic controls present (stop sign, traffic signal, etc.), and the system class of the intersection (two primary roads, a primary and a secondary road, etc.).

When the information was obtained for the three counties, it was coded and then punched on IBM punch cards for analysis purposes. Thus, it can be seen that the routine used for accumulating the information was relatively simple and yet quite tedious.

TABLE 3

NUMBER OF INTERSECTIONS BY NUMBER OF ACCIDENTS FOR ALL INTERSECTIONS

Number of Accidents	Number of Intersections	Total Accidents 1952	Average Traffic Per Intersection 1952	Average Number of Vehicles per Accident 1952	Total Number of Vehicles 1952	Percent Intersections	Percent Accidents	Percent Total Vehicles
None	2,388	—	355,800	—	849,590,000	81 90	—	46 3
1	331	331	1,210,500	1,210,500	400,677,000	11.40	26 8	21.8
2	90	180	1,828,900	914,400	164,598,000	3 10	14.6	9 0
3	36	108	2,273,500	757,800	81,846,000	1 20	8 7	4.5
4	19	76	2,984,600	746,100	56,707,000	.70	6.2	3.1
5	10	50	3,544,700	708,900	35,447,000	40	4.1	1.9
6	8	48	3,520,100	586,700	28,161,000	30	3.9	1.5
7	4	28	3,253,700	464,800	13,015,000	10	2.3	.7
8	6	48	5,508,700	688,600	33,052,000	20	3 9	1.8
9	4	36	3,216,500	357,400	12,866,000	.10	2.9	7
10	4	40	10,393,000	1,039,300	41,572,000	.10	3.2	2.2
11 - 15	6	77	4,164,700	324,500	24,988,000	20	6.2	1.3
16 - 20	4	73	9,954,000	545,400	39,816,000	15	5.9	2.2
21 - 30	2	50	11,843,000	473,700	23,686,000		4 1	1.3
31 - 40	1	35	13,793,000	394,100	13,793,000		2 8	.8
41 - 50	—	—	—	—	—	.15	—	—
51 - 60	1	55	15,815,000	287,500	15,815,000		4.4	.9
Total	2,914	1,235	629,900	1,486,300 (798,400)	1,835,629,000	100.00	100.00	100.0

CLASSIFICATION AND EVALUATION OF DATA

The tabulated information which had been punched on cards was sorted into three county groups and, in some instances, statewide groups which were the basic working arrangements. The information which follows was then obtained from the punched cards. Obviously, other data could be determined and still can be if the need presents itself.

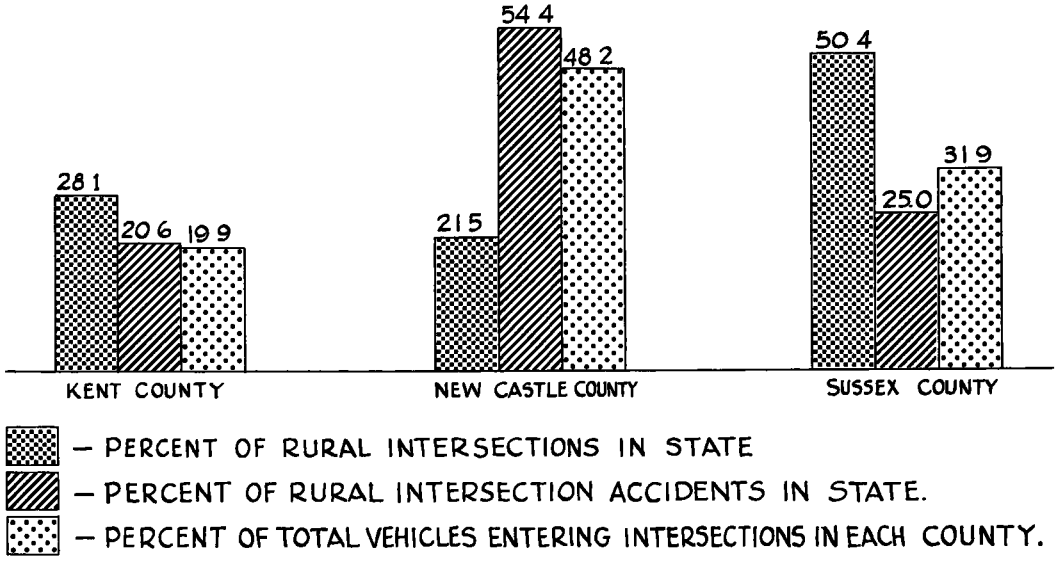

Figure 1. Traffic and accident picture at all rural road intersections, 1952.

Table 1 lists information by counties showing the order of occurrence of accident frequency from the highest frequency, or most occurrences per number of vehicles entering the intersection, to the lowest frequency.

The New Castle County listing contains 34 intersections, representing those at which five or more accidents were reported as having occurred in 1952. The first intersection listed shows that 177,000 cars entered the intersection for each accident which occurred, while at the lower end of the table more than 1,641,000 vehicles entered the intersection for each accident which occurred.

In Kent County the listing contains 23 intersections, representing those where three or more accidents were reported as having occurred in 1952. The first intersection indicates that 80,000 cars entered the intersection for each accident that occurred and the last 1,122,000 cars entered the intersection for each accident which occurred.

In Sussex County the listing contains 22 intersections, representing those at which three or more accidents were reported as having occurred in 1952. The first intersection listed indicates that 170,000 cars entered the intersection for each accident and the last 1,137,000.

In order to obtain workable groups and realistic results, it was necessary to eliminate intersections from these listings which showed high frequencies with perhaps one or two accidents accompanied by low traffic volumes. Thus, the limits described above were arbitrarily set. The intersections with the low frequencies are eliminated from this part of the study but not from the whole study and certainly not from consideration when means for accident prevention are explored.

Table 2 is a traffic-and-accident table by counties at all rural intersections showing the intersections, number of accidents, average traffic per intersection, and average number of vehicles per accident. This table shows that there are 2,914 rural intersections in Delaware and that 1,235 accidents were reported as having occurred at these intersections in 1952.

An analysis of the percentages shown

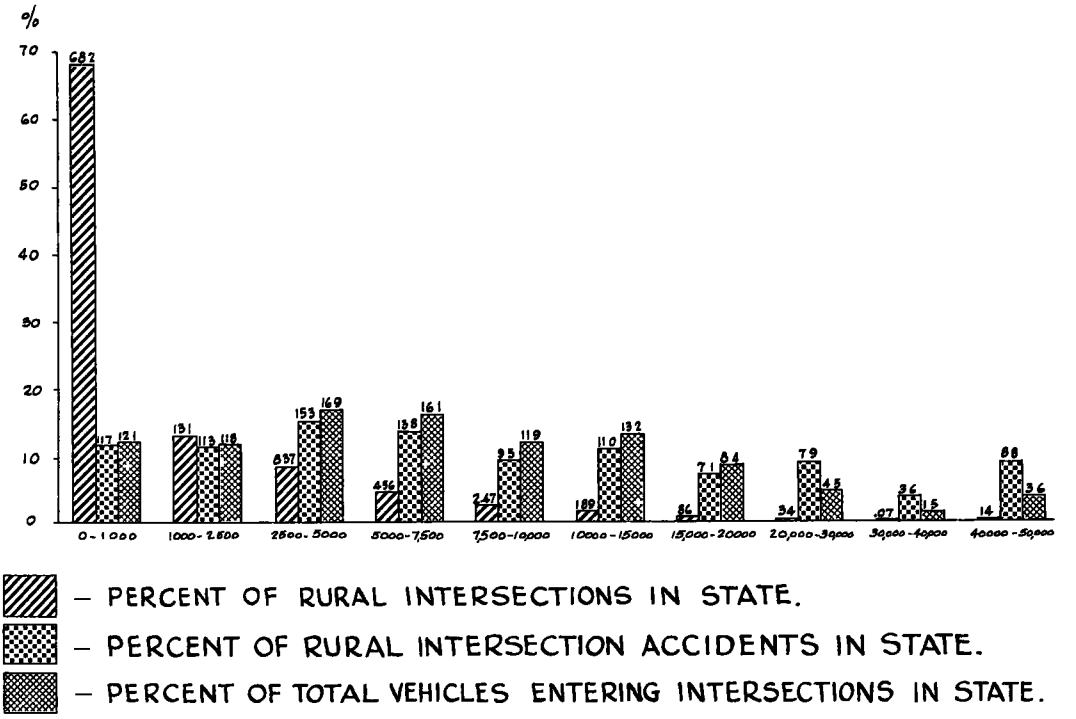

Figure 2. Rural intersections by traffic groupings showing comparison of percent of intersections, percent of accidents, and percent of total vehicles, 1952.

on the table is indicated in Figure 1. A close relationship exists between the percentage of accidents occurring at intersections in each county compared with the percentage of vehicles entering intersections in the counties. There are indicated close relationships between traffic volumes and numbers of accidents but little relationship between numbers of intersections and numbers of accidents.

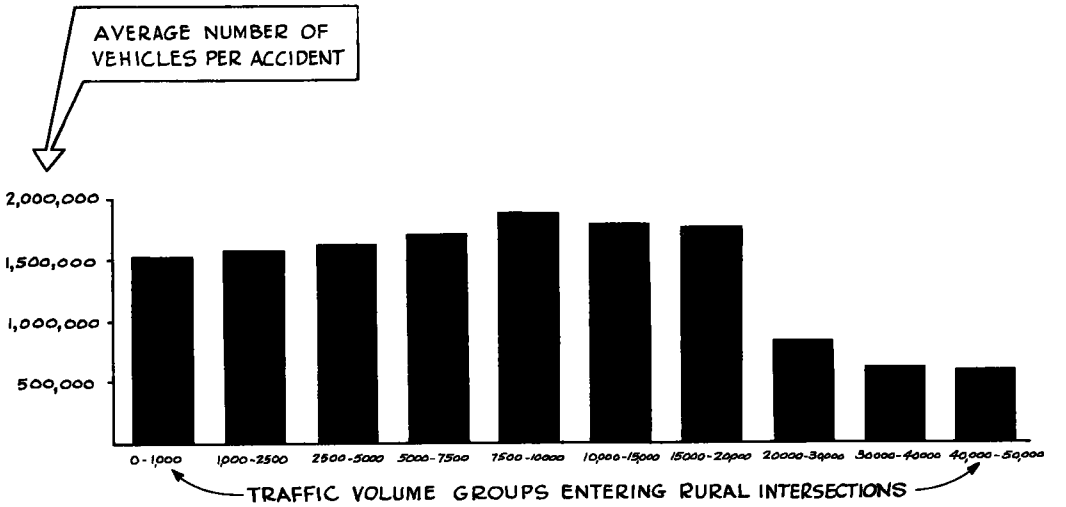

Figure 3. Rural intersections by traffic volume groupings showing average number of vehicles entering intersections per accident in each group, 1952.

Table 3 is a statewide table showing the number of intersections by the number of accidents. There were 2,388 rural intersections (81.9%) in the state at which no accidents were reported as having occurred. Of the vehicles entering intersections in the state, 46.3 percent were represented at these accident-free intersections. It also shows that the intersection with zero or one accident together represent 93.3 percent of the rural intersections in the state.

A tabulation (Table 4) where the number of accidents are paired with the number of intersections at which they occurred has been made from Table 3. There is, of course, a consistent dropoff in the number of intersections with high accident occurrences and a dropoff in the number of intersections with high volumes of traffic.

TABLE 4

NUMBER OF INTERSECTIONS BY NUMBER OF ACCIDENTS, ALL RURAL INTERSECTIONS, 1952

Number of Accidents	Number of Intersections
None	2,388
1	331
2	90
3	36
4	19
5	10
6	8
7	4
8	6
9	4
10	4
11 - 15	6
16 - 20	4
21 - 30	2
31 - 40	1
41 - 50	None
51 - 60	1
Total	2,914

Table 5 is a statewide table showing all rural intersections by traffic groupings. These traffic groups represent the 24-hour annual average traffic entering the intersections.

From Table 5 we made up Figure 2, which indicates that there was a close relation between the percentage of accidents and the percentage of vehicles entering intersections in the various traffic volume groups. In the three-highest-volume groups, the percent of accidents strays more from the close relation indicated in the lower groupings where the percentages agree closely.

A point of great interest seems here to be that the elimination of 0.55 percent of the intersections (16) would eliminate 20.3 percent of the intersection accidents.

This information is more-strikingly pointed out by Figure 3, where the average number of vehicles entering the intersection per accident were paired with traffic volume groups. In the study, the intersection with the greatest number of vehicles entering intersections per accident, as far as traffic groups are concerned, is in the group where 7,500-9,900 vehicles enter per day. Also, there is a decided drop in the number entering per accident in the groups over 20,000 per day. These groups are the 0.55 percent of the intersections referred to a short time back where 20.3 percent of the intersection accidents occurred.

This could be a good take off point to set up a priority list of intersections to be eliminated, remembering that some of these intersections have relatively good frequency rates and others relatively poor. The accident-frequency occurrence, and the related property damages and injuries, plus the normal inconveniences and delays inherent in high-volume intersections would certainly point to a separation as the logical solution in many cases.

SUMMARY

A total number of 2,914 intersections is included in this study. This represents the number of rural highway intersections in Delaware.

The total number of accidents occurring at these intersections was 1,235 in 1952: (1) Kent County had 819 intersections, 254 accidents at these intersections; (2) New Castle County had 625 intersections, 672 accidents at these intersections; and (3) Sussex County had 1,470 intersections, 309 accidents at these intersections.

The total number of vehicles in 1952 entering the 2,914 intersections was 1,835,629,000. This is an average of 629,000 per intersection, and an average of 1,486,300 per accident.

There were no accidents reported at 2,388 of the 2,914 intersections in 1952.

At the 526 intersections where at least one accident occurred, the total number of vehicles for 1952 was 986,039,000, an average of 1,874,600 per intersection, and an average of 798,400 per accident: (1) Kent County had 134 (25.4%) intersections with at least one accident, and 20.5 percent of the intersection accidents occurred in this county; (2) New Castle County had 196 (37.3%) intersections with

at least one accident and 54.4 percent of the intersection accidents occurred in this county; and (3) Sussex County had 196 (37.3%) intersections with at least one accident, and 25.1 percent of the intersection accidents occurred in this county.

TABLE 5

NUMBER OF INTERSECTIONS BY TRAFFIC GROUPINGS FOR ALL INTERSECTIONS

Traffic Groups - Daily -	Number of Intersections	Accidents 1952	Average Traffic Per Intersection 1952	Average Number of Vehicles per Accident 1952	Total Number of Vehicles 1952	Percent Intersections	Percent Accidents	Percent Total Vehicles
Less than 1,000	1,987	145	111,700	1,530,300	221,892,000	68 20	11.7	12.1
1,000-2,499	382	139	567,100	1,558,400	216,617,000	13 10	11 3	11.8
2,500-4,999	244	189	1,272,900	1,644,700	310,584,000	8.37	15.3	16.9
5,000-7,499	133	171	2,223,400	1,729,300	295,715,000	4.56	13.8	16.1
7,500-9,999	72	116	3,038,700	1,886,100	218,786,000	2.47	9.5	11.9
10,000-14,999	55	136	4,412,200	1,784,400	242,673,000	1.89	11 0	13.2
15,000-19,999	25	88	6,182,400	1,756,400	154,559,000	86	7 1	8.4
20,000-29,999	10	97	8,164,600	841,700	81,646,000	.34	7.9	4 5
30,000-39,999	2	45	13,889,000	617,300	27,778,000	07	3.6	1 5
40,000-49,999	4	109	16,344,800	599,800	65,379,000	14	8 8	3.6
50,000-59,999	—	—	—	—	—	—	—	—
Total	2,914	1,235	629,900	1,486,300	1,835,629,000	100 00	100.0	100.0

Of the 2,914 intersections there were 1,987 (68.2%) where less than 1,000 vehicles entered the intersection daily. Only 145 (11.7%) accidents at these intersections: (1) In Kent County 648 (79.1%) intersections out of 819 had an average daily traffic of less than 1,000; there were 54 (21.3%) accidents at these intersections; an average of 1,298,900 vehicles per accident for 1952. (2) In New Castle County 290 (46.4%) intersections out of 625 had an average daily traffic of less than 1,000; there were 30 (4.5%) accidents at these intersections; an average of 1,145,900 vehicles per accident in 1952. (3) In Sussex County 1,049 (71.4%) intersections out of 1,470 had an average daily traffic of less than 1,000; there were 61 (19.7%) accidents at these intersections, an average of 1,924,200 vehicles per accident for 1952.

There was a total of 4,784 accidents reported by state police during 1952; 1,235 (25.8%) of these accidents were at intersections, not including accidents occurring in Wilmington.

New Castle County, with a figure of 910,100, had the highest number of vehicles entering intersections per accident of the three counties. The state average was 798,400. Intersections with accidents only.

Statewide intersections with an average daily traffic of over 20,000 represented ½ percent of the intersections, 20.3 percent of the accidents, and 9.6 percent of the total vehicles of all intersections. All of these intersections are in New Castle County.

The study, so far as it has gone, has determined the intersections in each county which have had the most accident occurrences in 1952 and, also, those intersections where the frequency of accidents has been greatest. The information is intended to enable us to concentrate our best efforts to reduce or eliminate any vehicle hazards or conditions which could cause the accidents, and to advise as many people in and out of our state to operate their vehicles in accordance with the conditions which exist particularly at these locations, as well as on all other roads in the state. It is not felt that the accident experience in Delaware for intersections can be considered bad. The study indicates 93.3 percent of the intersections had one or less accidents in 1952. It would be well if this could be said for all the intersections. It is for this type of performance which we strive.

CONCLUSION

The results of the Delaware 1952 Rural Intersection Accident Study were presented to the people in Delaware in a somewhat different form than that which is being presented here. For the local purposes the five intersections in each county which had the most-serious accident frequencies were discussed in detail and sketches of the intersections were presented showing the number and types of accidents which occurred.

In Delaware as a result of the study it was recommended that the state police be

furnished copies of the report and that they be instructed to keep under constant surveillance the activities of the motor-vehicle operators as they approach the intersections which have the highest accident frequencies in each county.

It was recommended that the state highway department promptly act upon the intersections which can be assisted by good engineering practices. Particular attention should be given to the construction of separate roadways where heavy traffic volumes cross. The campaign for having controlled access legislation in the states should be vigorously pursued, since the report indicated that this type of highway construction will positively reduce the number and frequency of accidents on Delaware highways.

It was recommended that copies of the report be made available to the press, radio and television stations, to the Delaware Safety Council, to the Governor's Highway Safety Committee, and to other interested commercial and industrial industries in order that widespread interest and knowledge concerning the conditions at the intersections studied might be attained.

In the end the responsibility for accidents rests primarily with the driver. The accidents are caused. They do not just happen. This is merely another phase in the education of the motor-vehicle operator. He now knows in Delaware the intersections at which most accidents have occurred and should be in a better position to adjust himself accordingly.