

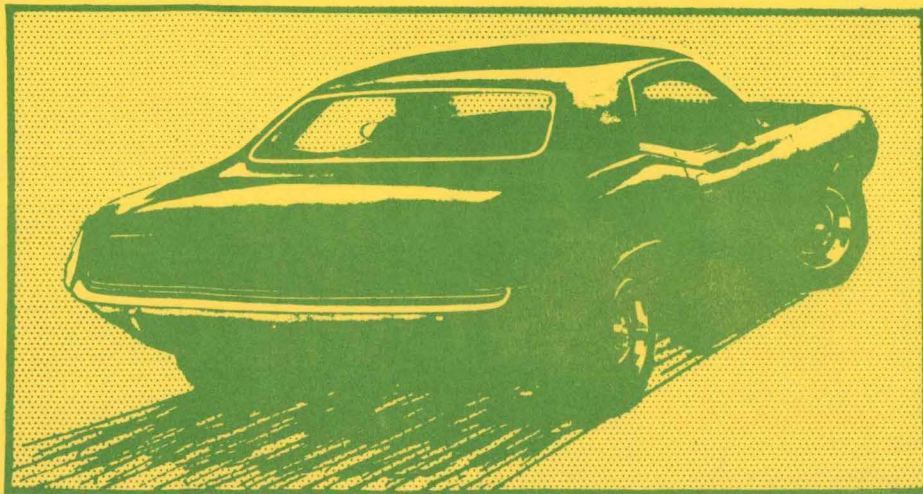
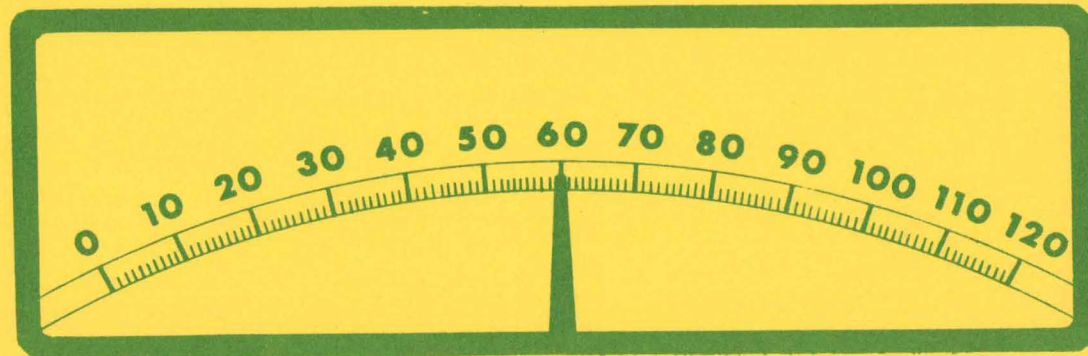
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1971

Annual

Speed Check

at Selected Primary Road Locations



IOWA

July 1971

17-HS3TS
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971

IOWA
SPEED STUDY

1971

Prepared by
Traffic and Safety Department
Iowa State Highway Commission

In Cooperation With
Federal Highway Administration
U.S. Department of Transportation

INTRODUCTION

The Iowa State Highway Commission conducted speed studies during the month of July, 1971, at 23 locations. Normally 25 locations are surveyed, but because of road construction, two stations were omitted. Twenty of the stations are located on Primary highways and five are situated on the Interstate System. At four of the locations, data was also obtained during the nighttime. In the past, data had been collected semi-annually through 1967; and in 1968, studies were made at each station during the months of May, July and October.

The general locations of the 25 annual speed check stations are illustrated on an Iowa map, shown on Page 4.

Vehicular speeds were measured by the use of an electronic radar speed meter. Vehicles were classified as passenger cars or commercial. Passenger cars were classified as local, other Iowa, or foreign. The commercial vehicles were classified as local and other. A two hour study is made at each station. The stations are on level, tangent sections of paved rural highways and only the speeds of "free-flowing" vehicles are recorded.

1971 SPEED STUDY

DESCRIPTION OF STATIONS BY SYSTEMS

Interstate

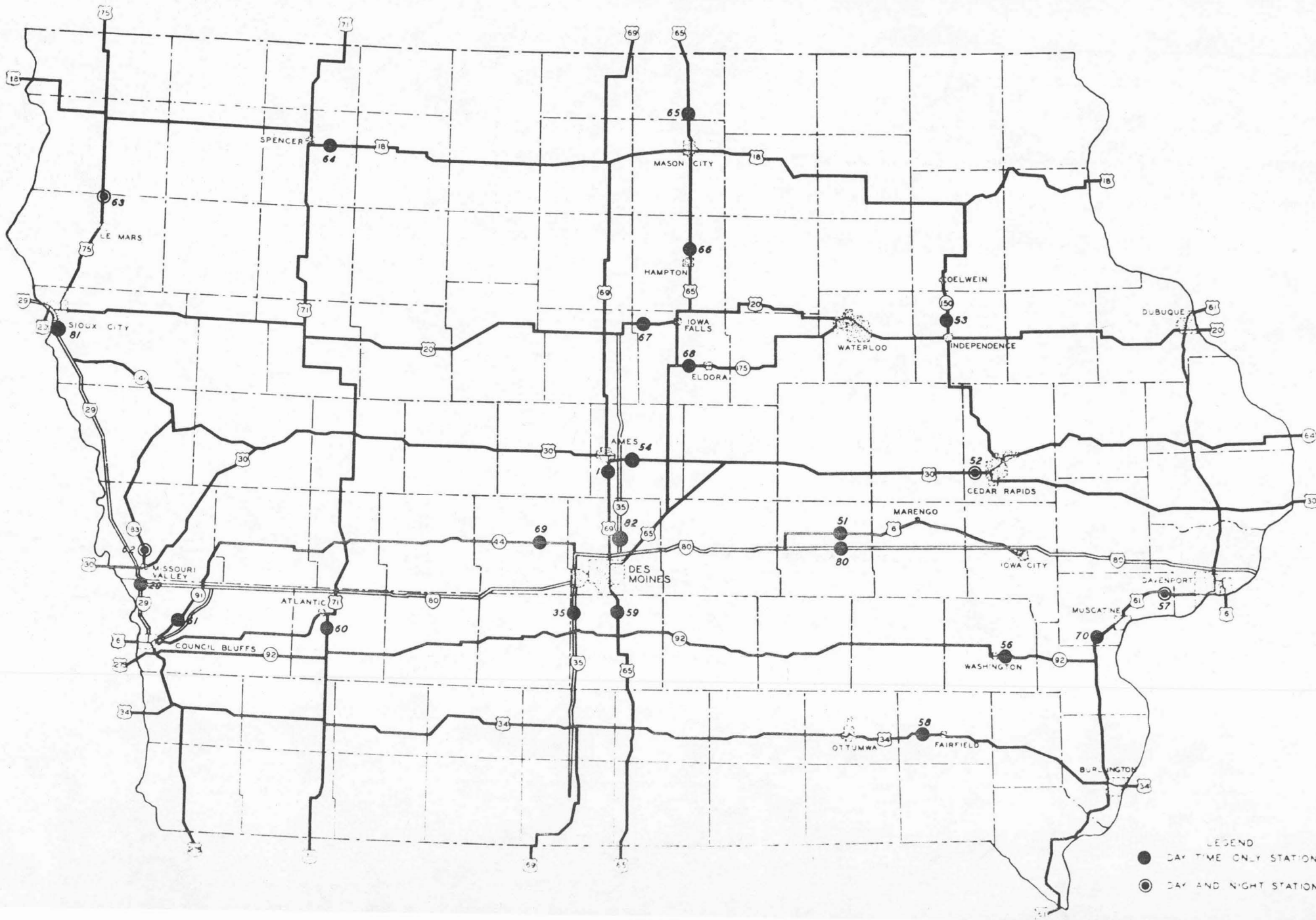
Station 29	I-29	1 mile south of Loveland Exit
Station 35	I-35	North of North River Bridge
Station 80	I-80	East of Brooklyn Exit
Station 81	I-29	Sioux City Industrial Interchange
Station 82	I-35	South of Bondurant Interchange

Primary

Station 1	U.S. 69	4 miles south of Ames
Station 51	U.S. 6	1.8 miles east of Iowa 398
Station 52	U.S. 30	1 mile west of Cedar Rapids
Station 53	Iowa 150	1 mile north of Independence
Station 54	U.S. 30	4 miles east of Ames
Station 56	Iowa 92	2 miles east of Washington
Station 57	U.S. 61	2.5 miles west of Blue Grass
Station 58	U.S. 34	5 miles west of Fairfield
Station 59	U.S. 69	6 miles north of Indianola
Station 60	U.S. 71	4 miles south of Atlantic
Station 61	Iowa 191	2.5 miles south of Underwood
Station 62	Iowa 183	2.5 miles north of Missouri Valley
Station 63	U.S. 75	7 miles north of Le Mars
Station 64	U.S. 18	5 miles east of Spencer
Station 65	U.S. 65	7.7 miles north of Mason City

Station 66	U.S. 65	2 miles north of Hampton
Station 67	U.S. 20	3 miles west of Alden
Station 68	Iowa 175	2.8 miles east of U.S. 65
Station 69	Iowa 44	0.5 mile east of Dallas Center
Station 70	U.S. 61	9 miles south of Muscatine

ANNUAL SPEED CHECK STATION LOCATIONS



LEGEND
 ● DAY TIME ONLY STATION
 ○ DAY AND NIGHT STATION

IOWA STATE HIGHWAY COMMISSION
AVERAGE AND 85th PERCENTILE DAYTIME
SPEEDS OF MOTOR VEHICLES
CHECKED IN JULY, 1971 SURVEY

*Interstate
Stations

Speed Check Location No.	Rt. No.	Passenger Cars			Commercial Vehicles			All Vehicles		
		No. Obs.	85th% Speed	Avg. Speed	No. Obs.	85th % Speed	Avg. Speed	No. Obs.	85th% Speed	Avg. Speed
51	6	99	67.9	59.0	17	54.6	49.4	116	67.0	57.6
52	30	612	64.9	57.6	99	58.6	52.4	711	64.0	57.1
53	150	329	62.3	54.4	54	55.9	50.7	383	61.1	53.5
54	30	371	67.7	60.0	58	59.9	56.2	429	67.1	59.4
1	69	317	66.8	59.7	38	57.8	52.1	355	66.2	59.0
56	92	295	63.9	56.9	55	57.0	50.6	350	63.1	55.9
57	61	384	67.5	59.5	103	58.7	52.5	487	66.5	58.0
58	34	377	64.4	57.2	55	57.0	50.1	432	63.8	56.5
59	69	Closed For Reconstruction								
60	71	Closed For Reconstruction								
61	191	139	66.5	58.0	23	57.5	50.6	162	65.6	57.1
62	183	113	64.7	55.2	10	54.7	43.4	123	64.2	54.4
63	75	152	69.5	61.7	41	60.5	55.5	193	68.9	59.8
64	18	223	68.8	61.8	35	59.2	54.8	258	68.3	60.4
65	65	580	67.4	58.5	85	59.5	53.7	665	66.8	57.9
66	65	272	67.7	59.7	77	58.8	52.4	349	66.7	58.1
67	20	264	69.1	60.9	65	57.8	52.8	329	68.3	59.0
68	175	212	69.5	60.7	44	58.8	52.0	256	69.0	59.3
69	44	212	65.8	57.7	23	58.5	49.7	235	65.3	57.1
70	61	380	65.8	57.7	101	57.0	51.5	481	64.3	56.4
29*	29	752	74.8	67.4	142	68.3	62.5	894	74.0	66.6
35*	35	801	77.5	69.2	102	68.0	60.3	903	76.9	68.5
80*	80	1257	77.8	70.1	192	68.5	62.1	1449	77.2	69.2
81*	29	1000	71.3	60.6	107	67.0	58.4	1107	70.6	60.3
82*	35	1130	76.3	66.7	159	64.7	57.4	1289	75.5	65.4
All Stations	-	10271	70.9	62.5	1685	61.2	55.6	11956	70.0	61.6

Iowa State Highway Commission
Average and 85th Percentile Daytime
Speeds of Motor Vehicles on Primary Highways
Checked in July, 1971 Survey

Speed Check Location No.	Rt. No.	Passenger Cars			Commercial Vehicles			All Vehicles		
		No. Obs.	85th% Speed	Avg. Speed	No. Obs.	85th % Speed	Avg. Speed	No. Obs.	85th% Speed	Avg. Speed
51	6	99	67.9	59.0	17	54.6	49.4	116	67.0	57.6
52	30	612	64.9	57.6	99	58.6	52.4	711	64.0	57.1
53	150	329	62.3	54.4	54	55.9	50.7	383	61.1	53.5
54	30	371	67.7	60.0	58	59.9	56.2	429	67.1	59.4
1	69	317	66.8	59.7	38	57.8	52.1	355	66.2	59.0
56	92	295	63.9	56.9	55	57.0	50.6	350	63.1	55.9
57	61	384	67.5	59.5	103	58.7	52.5	487	66.5	58.0
58	34	377	64.4	57.2	55	57.0	50.1	432	63.8	56.5
59	69	Closed for Reconstruction								
60	71									
61	191	139	66.5	58.0	23	57.5	50.6	162	65.6	57.1
62	183	113	64.7	55.2	10	54.7	43.4	12.3	64.2	54.4
63	75	152	69.5	61.7	41	60.5	55.5	193	68.9	59.8
64	18	223	68.8	61.8	35	59.2	54.8	258	68.3	60.4
65	65	580	67.4	58.5	85	59.5	53.7	665	66.8	57.9
66	65	272	67.7	59.7	77	58.8	52.4	349	66.7	58.1
67	20	264	69.1	60.9	65	57.8	52.8	329	68.3	59.0
68	175	212	69.5	60.7	44	58.8	52.0	256	69.0	59.3
69	44	212	65.8	57.7	23	58.5	49.7	235	65.3	57.1
70	61	380	65.8	57.7	101	57.0	51.5	481	64.3	56.4
All Stations	-	5331	66.4	58.5	983	57.9	52.3	6314	65.7	57.6

IOWA STATE HIGHWAY COMMISSION
 AVERAGE AND 85th PERCENTILE DAYTIME
 SPEEDS OF MOTOR VEHICLES ON INTERSTATE HIGHWAYS
 CHECKED IN JULY, 1971, SURVEY

Speed Check Location No.	Rt. No.	PASSENGER CARS			COMMERCIAL VEHICLES			ALL VEHICLES		
		No. Obs.	85th% Speed	Avg. Speed	No. Obs.	85th % Speed	Avg. Speed	No. Obs.	85th% Speed	Avg. Speed
29	29	752	74.8	67.4	142	68.3	62.5	894	74.0	66.6
35	35	801	77.5	69.2	102	68.0	60.3	903	76.9	68.5
80	80	1257	77.8	70.1	192	68.5	62.1	1449	77.2	69.2
81	29	1000	71.3	60.6	107	67.0	58.4	1107	70.6	60.3
82	35	1130	76.3	66.7	159	64.7	57.4	1289	75.5	65.4
All Stations	-	4940	75.6	66.8	702	67.3	60.3	5642	75.0	66.1

IOWA STATE HIGHWAY COMMISSION
 AVERAGE AND 85th PERCENTILE NIGHTTIME
 SPEEDS OF MOTOR VEHICLES ON PRIMARY HIGHWAYS
 CHECKED IN JULY, 1971 SURVEY

Speed Check Location No.	Rt. No.	PASSENGER CARS			COMMERCIAL VEHICLES			ALL VEHICLES		
		No. Obs.	85th% Speed	Avg. Speed	No. Obs.	85th % Speed	Avg. Speed	No. Obs.	85th% Speed	Avg. Speed
52	30	415	62.3	57.1	77	59.6	55.5	492	61.2	56.9
57	61	241	65.3	58.9	46	60.2	56.2	287	64.7	58.4
62	183	67	65.9	57.6	4	63.0	53.4	71	65.7	57.3
63	75	89	69.4	61.1	10	67.2	58.4	99	69.2	60.7
All Stations	-	812	64.3	58.1	137	60.5	55.9	949	63.4	57.8

1971 SPEED STUDY
ALL RURAL HIGHWAYS
DAYTIME TRAFFIC

STATIONS ALL RURAL STATIONS

	VEHICLE TYPE					ALL
	PASSENGER CARS			COMMERCIAL		
	LOCAL	OTHER	FOREIGN	LOCAL	OTHER	
NO. CHECKED	4018	2476	3777	543	1142	11956
AVG. SPEED	61.5	63.8	66.9	54.5	58.2	61.6
85% SPEED	68.7	70.1	74.1	59.6	63.7	70.0

VEHICLES TRAVELING AT OR BELOW
INDICATED SPEED - PERCENT

85	99.8	99.8	99.5	100.0	100.0	99.9
80	99.5	98.5	98.1	100.0	100.0	99.7
75	95.6	92.4	87.6	100.0	99.7	93.0
70	90.7	84.8	73.6	99.6	99.8	85.2
65	74.7	64.0	47.9	95.2	88.1	66.2
60	57.5	48.3	31.8	86.9	76.0	50.6
55	31.3	23.1	14.7	64.1	45.7	27.2
50	16.3	10.5	6.9	43.3	23.4	14.0
45	4.0	1.7	1.2	15.0	3.7	3.1
40	1.0	0.3	0.2	5.0	0.7	0.7
35	0.5	0.0	0.1	0.3	0.0	0.4
30	0.0	0.0	0.1	0.1	0.0	0.3
25	0.0	0.0	0.0	0.0	0.0	0.0

DAYTIME VIOLATIONS
(ALL STATIONS)
1971

Violations	Passenger Cars		Commercial Vehicles		All Vehicles	
	Primary Routes	Interstate Routes	Primary Routes	Interstate Routes	Primary Routes	Interstate Routes
Below Minimum Exceed Limits		4		7		11
5 MPH or less	115	660	248	139	363	799
6 to 10 MPH	46	89	19	11	65	100
11 to 25 MPH	6	31	7	3	13	34
16 to 20 MPH	1	1	2	-	3	1
21 to 25 MPH	1	-	-	-	1	-
Over 25 MPH	-	-	-	-	-	-
Violation Sub-Total	169	785	276	160	445	945
Vehicle Sub-Total	5331	4940	983	702	6314	5642
Percent Sub-Total	3.2%	15.9%	28.1%	22.8%	7.0%	16.7%
Total Vehicles	10271		1685		11956	
Percent	9.3%		25.9%		11.6%	

Speed limits - Primary Routes - Day 70; Night 60
 Trucks - Day - Night, 55. Buses - Day-Night, 60
 Interstate - Day, 75; Night, 65, Minimum 40,
 Trucks - Day - Night, 65.

Exceeding Limits by	NIGHTTIME VIOLATIONS (4 Stations None Interstate)		
	Passenger Cars (60 MPH)	Commercial Vehicles	All Vehicles
5 MPH or less	125	59	184
6 to 10 MPH	77	8	85
11 to 15 MPH	13	2	15
16 to 20 MPH	4	-	4
21 to 25 MPH	3	-	3
Over 25 MPH	-	-	-
Violation Total	222	69	291
Total No. of Vehicles Checked	812	137	949
Percent Exceeding Speed Limit	27.3%	50.4%	30.7%

CUMULATIVE FREQUENCY CHART

ALL DAY STATIONS
 STATION NO. All Stations

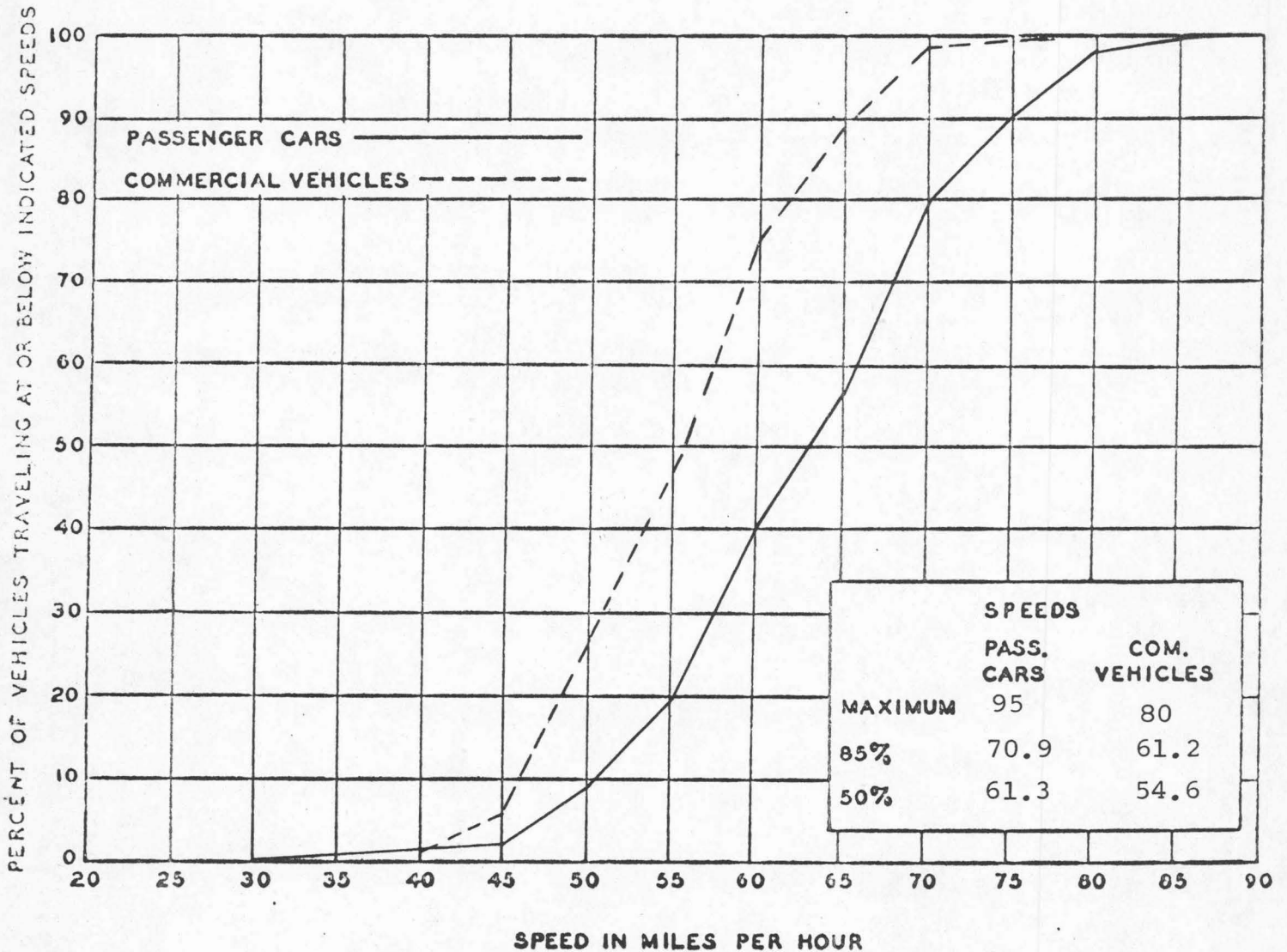
PASSENGER CARS

COMMERCIAL VEHICLES

Local and other 6494
 OUT OF STATE 3777
 TOTAL 10271

Local 543
 Other 1142
 TOTAL 1685

TOTAL VEHICLES 11956



CUMULATIVE FREQUENCY CHART

CORRESPONDING DAY AND NIGHT STATIONS

STATIONS 52-57-62-63

DAY

NIGHT

PASSENGER CARS 1261

PASSENGER CARS 812

COMMERCIAL VEHICLES 253

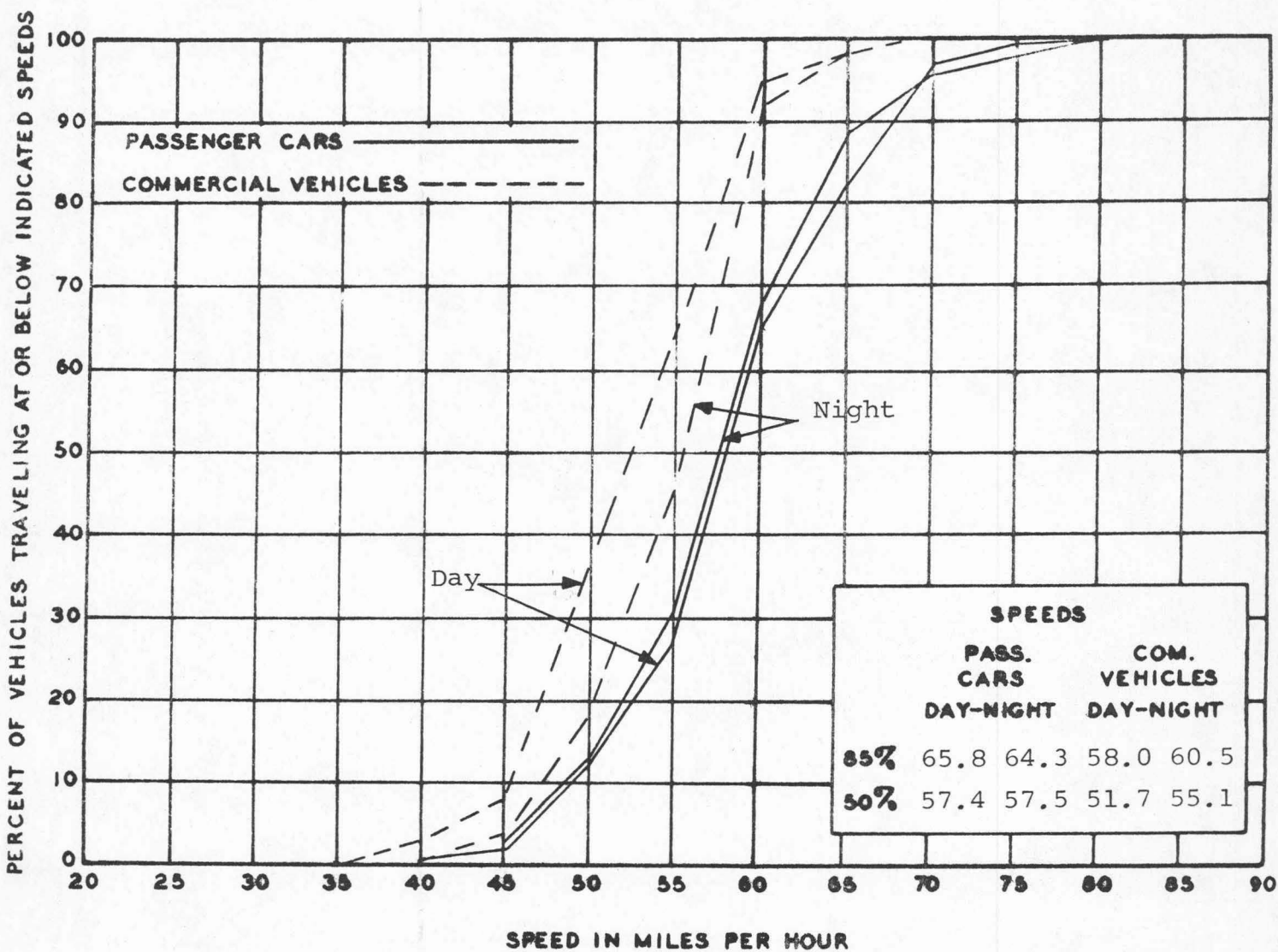
COMMERCIAL VEHICLES 137

TOTAL 1514

TOTAL 949

SPEED LIMIT Cars 70, Trucks 55

SPEED LIMIT Cars 60, Trucks 55



85th Percentile Speeds in July
Compared By Year
For Passenger Cars and Commercial Vehicles

Year	Passenger Cars			Commercial		
	Primary Cars		Interstate	Primary		Interstate
	Day	Night	Day	Day	Night	Day
1967*	62.4	62.5	72.5	54.2	56.6	61.7
1968	66.9	63.8	72.0	58.0	58.4	62.3
1969	67.7	63.9	74.6	58.1	59.0	65.3
1970	68.8	66.4	75.5	59.0	58.0	66.6
1971	66.4	64.3	75.6	57.9	60.5	67.3

* Represents data obtained in October, 1967

SUMMARY

The 1971 Annual Speed Study data was obtained during the day at 23 rural stations (18 on Primary roads and five on Interstate Highways) using electronic radar speed meters. Normally, data is collected at 25 locations, but due to reconstruction, two Primary stations were omitted. In addition, data was gathered at four of the Primary road locations during nighttime hours.

A total of 12,905 vehicles was surveyed during the day and night hours at the 23 stations in July, 1971. The daylight survey totaled 11,956 of which 10,271 were passenger cars and 1,685 were commercial vehicles. The four night stations checked a total of 949 vehicles. Passenger cars accounted for 812 and commercial vehicles for 137 of the total.

Of the 11,956 vehicles observed during the daytime, 33.6% were local passenger cars, 20.7 were other Iowa Passenger cars, 31.6% were out-of-state passenger cars, 4.5% were local commercial vehicles, and 9.6% were other Iowa and out-of-state commercial vehicles.

The 85th percentile daytime speeds of 66.4 MPH for passenger cars and 57.9 MPH for commercial vehicles indicates the 70 MPH car and 55 MPH truck daytime speed limits are fairly reasonable and proper. The 85th percentile nighttime speeds were 64.3 MPH for passenger cars and 60.5 MPH for commercial vehicles on the Primary roads. Iowa has a posted nighttime speed limit of 60 MPH for cars and 55 MPH for trucks.

The 85th percentile daytime speeds of 75.6 MPH for passenger cars and 67.3 MPH for commercial vehicles is also in close agreement with the 75 MPH car and 65 MPH truck daytime speed limits posted on the Interstate System.

It has also been determined that of the 6,314 daytime vehicles on the Primary highways, 7.0% were exceeding the posted car/truck speed limits of 70/55 MPH. Approximately 82% of the violators, however, were traveling only 5 MPH or less over the posted speed. Of the 5,642 daytime vehicles on the Interstate highways, 16.7% were exceeding the posted car/truck speed limits of 75/65 MPH. Again, approximately 85% of the violators, however, were traveling only 5 MPH or less over the posted speed. From reviewing the 949 nighttime vehicles surveyed at the four Primary road stations, it was discovered that 30.7% were exceeding the posted car/truck speed limits of 60/55 MPH. About 63% of the violators, however, were traveling only 5 MPH or less over the posted speed. In Iowa, on rural highways, a speeding violation of 5 MPH or less over the posted limit is not cited for a traffic offense. A violator exceeding the posted speed limit from greater than 5 MPH to 10 MPH will be given a warning summons.

STATE LIBRARY OF IOWA



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