

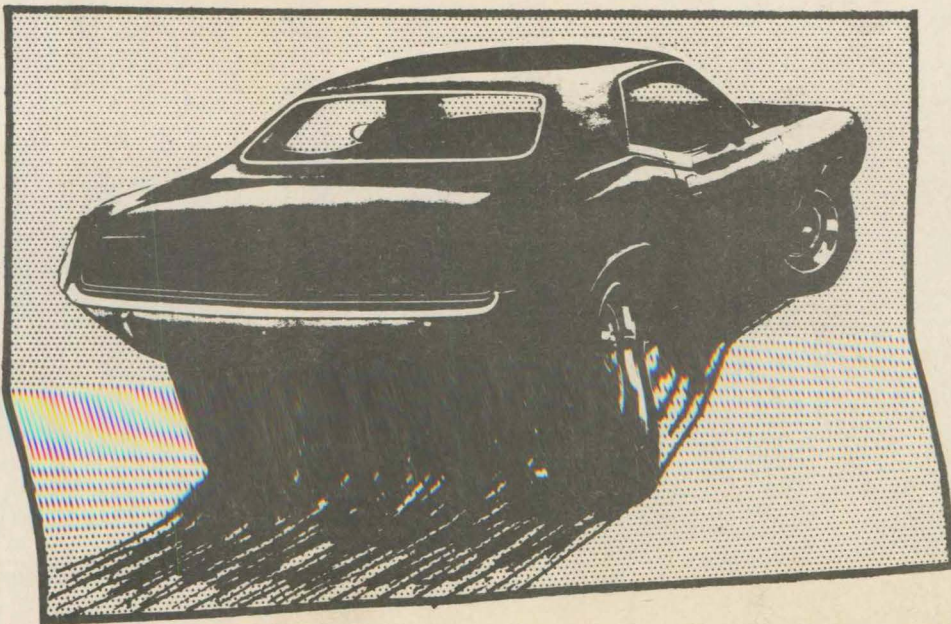
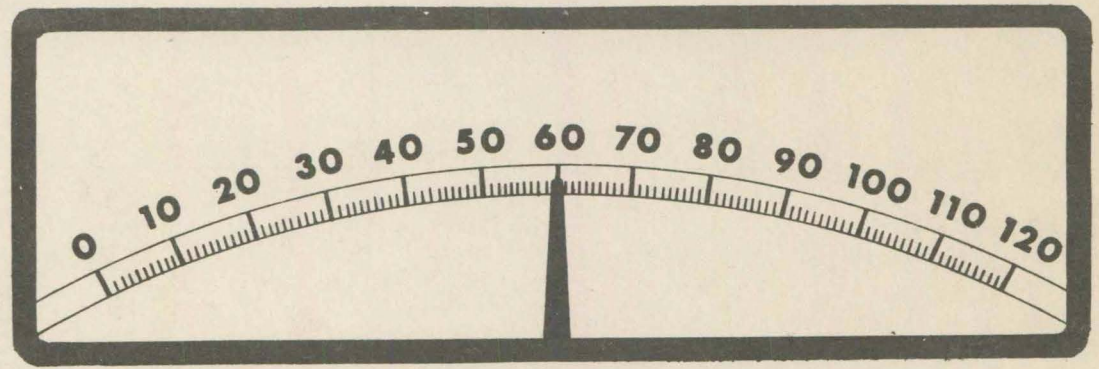
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# Annual

# Speed Check

## at Selected Primary Road Locations



# IOWA

## July 1973

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IOWA  
SPEED STUDY  
1973

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 the annual speed check during the month of July, 1973. Prior to 1968 data had been collected semi-annually at each location. In 1968, studies were made at each station during the months of May, July and October, and since that time, on a single annual basis in July.

There are twenty-five (25) established speed check points throughout the State. Twenty of these are on Primary highways and five are situated on the Interstate highways (see pages 2 through 4 for locations). All stations are on level, tangent sections of paved rural highways.

A two-hour study was conducted at each station, recording only the speeds of "free-flowing" vehicles. Vehicles were classified as either passenger car or commercial. The passenger cars were further identified as local, other Iowa, or foreign, and the commercial vehicles were identified as local or "other". Vehicular speeds were measured by an electronic radar speed meter.

In addition to the day checks, night checks were conducted at four of the Primary highway stations. No night checks were made on the Interstate highways.

DESCRIPTIONS OF STATIONS BY HIGHWAY SYSTEMS

Interstate

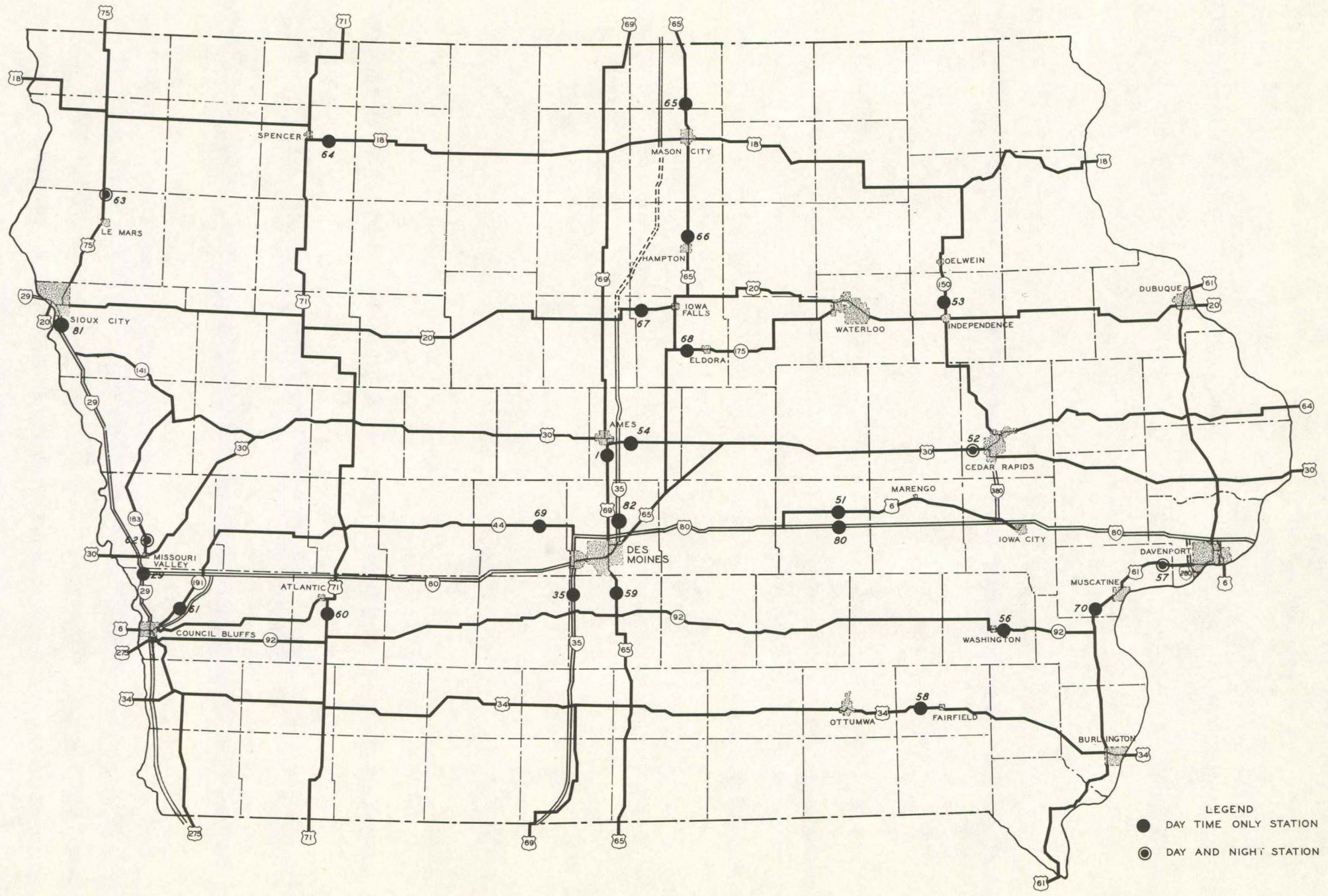
Station 29	I-29	1 mile south of Loveland Exit
Station 35	I-35	North of North River Bridge
Station 80	I-80	East of Brooklyn Exit
Station 81	I-29	Port Neal Landing Interchange
Station 82	I-35	South of Bondurant Interchange

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



AVERAGE AND 85TH PERCENTILE DAYTIME  
SPEEDS OF MOTOR VEHICLES  
ON PRIMARY AND INTERSTATE HIGHWAYS  
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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	743	72.2	65.8	217	68.3	61.1	960	70.9	64.5
35*	35	742	74.6	67.3	143	64.4	57.9	885	73.9	65.7
80*	80	1165	76.9	69.9	312	68.7	62.8	1477	75.5	68.7
81*	29	896	75.1	67.9	133	68.7	63.8	1029	74.4	67.1
82*	35	1235	72.4	64.3	237	63.9	59.5	1472	71.4	63.1
All Stations		11046	70.85	63.37	2296	63.62	58.13	13342	70.4	62.33



AVERAGE AND 85TH PERCENTILE DAYTIME  
SPEEDS OF MOTOR VEHICLES  
ON PRIMARY HIGHWAYS

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	132	71.1	63.4	26	58.3	55.3	158	70.1	61.6
52	30	677	65.3	57.9	164	59.6	53.6	841	64.4	57.1
53	150	273	67.3	59.5	58	63.9	56.5	331	66.8	59.2
54	30	421	70.5	62.9	133	60.6	56.5	554	69.7	60.5
1	69	345	67.2	59.5	40	60.1	53.2	385	66.8	59.0
56	92	319	65.2	57.5	49	58.0	53.4	368	64.3	56.8
57	61	415	70.2	62.0	83	60.6	56.4	498	69.4	60.6
58	34	355	68.6	60.2	71	62.1	56.4	426	67.8	59.6
59	65	689	67.4	59.6	81	60.3	55.9	770	66.9	59.4
60	71	189	70.4	63.2	41	68.0	61.2	230	70.1	62.9
61	191	188	67.0	59.7	19	57.2	50.2	207	66.8	59.1
62	183	129	67.7	57.1	4	50.3	48.9	133	67.5	56.6
63	75	171	70.8	64.5	46	65.1	59.3	217	70.1	63.3
64	18	248	68.8	62.6	45	60.4	56.6	293	68.4	61.3
65	65	403	67.4	59.5	55	60.8	55.1	458	67.0	59.1
66	65	282	70.0	62.8	69	62.1	57.3	351	69.4	61.1
67	20	243	71.6	65.8	85	61.7	56.3	328	70.4	63.0
68	175	205	70.2	63.0	38	58.7	53.9	243	69.4	61.5
69	44	213	67.3	58.7	30	59.9	50.9	243	66.5	57.9
70	61	368	67.9	59.8	117	59.9	55.4	485	66.5	58.5
All Stations		6265	68.22	60.58	1254	60.86	55.61	7519	67.55	59.60

AVERAGE AND 85TH PERCENTILE DAYTIME  
SPEEDS OF MOTOR VEHICLES ON INTERSTATE HIGHWAYS

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	I-29	743	72.2	65.8	217	68.3	61.1	960	70.9	64.5
35	I-35	742	74.6	67.3	143	64.4	57.9	885	73.9	65.7
80	I-80	1165	76.9	69.9	312	68.7	62.8	1477	75.5	68.7
81	I-29	896	75.1	67.9	133	68.7	63.8	1029	74.4	67.1
82	I-35	1235	72.4	64.3	237	63.9	59.5	1472	71.4	63.1
All Stations		4781	74.31	67.04	1042	66.93	61.15	5823	73.25	6585

AVERAGE AND 85TH PERCENTILE NIGHTTIME  
SPEEDS OF MOTOR VEHICLES  
ON PRIMARY HIGHWAYS

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	395	62.4	57.1	83	60.4	55.7	478	56.9	61.9
57	61	243	66.2	59.8	25	61.2	59.1	268	65.7	59.6
62	183	82	64.4	55.5	2	53.7	50.9	84	64.3	55.2
63	75	75	68.1	60.0	19	65.6	57.7	94	67.9	59.8
All Stations		795	64.31	58.03	129	61.22	56.58	924	61.24	60.41

DAYTIME TRAFFIC FOR ALL STATIONS

	VEHICLE TYPE					ALL
	PASSENGER CARS			COMMERCIAL		
	LOCAL	OTHER	FOREIGN	LOCAL	OTHER	
No Checked	4936	2509	3601	649	1647	13342
Avg. Speed	60.7	63.6	66.4	55.6	59.2	62.3
85% Speed	69.4	71.8	74.0	61.6	65.8	70.4

PERCENT OF VEHICLES TRAVELING  
AT OR BELOW INDICATED SPEED

Speed In Miles Per Hour	85	99.9	100.0	99.5	100.0	100.0	99.8
	80	99.7	98.9	98.4	100.0	100.0	99.2
	75	96.6	92.8	88.2	99.8	99.8	94.1
	70	90.8	83.1	74.7	99.5	98.1	86.2
	65	68.6	56.1	44.0	92.8	82.8	62.3
	60	51.7	38.0	28.7	83.5	64.8	45.7
	55	22.0	13.3	9.3	45.8	26.3	18.0
	50	10.3	4.9	4.1	25.6	11.8	7.8
	45	1.8	0.4	0.4	6.8	1.4	1.4
	40	0.4	0.0	0.0	2.6	0.2	0.4
	35	0.0	0.0	0.0	0.2	0.0	0.0
	30	0.0	0.0	0.0	0.0	0.0	0.0
	25	0.0	0.0	0.0	0.0	0.0	0.0

DAYTIME VIOLATIONS  
FOR ALL STATIONS  
1973

Violations	PASSENGER CARS		COMMERCIAL VEHICLES		ALL VEHICLES	
	Primary Routes	Interstate Routes	Primary Routes	Interstate Routes	Primary Routes	Interstate Routes
Below Minimum Exceed Limits	-	12	-	16	-	28
5 MPH or Less	325	545	619	240	944	785
6 to 10 MPH	121	61	115	23	236	84
11 to 15 MPH	16	15	55	4	71	19
16 to 20 MPH	5	1	8	0	13	1
21 to 25 MPH	3	0	0	0	3	0
Over 25 MPH	0	0	0	0	0	0
Violation Sub-Total	470	634	797	283	1,267	917
Vehicle Sub-Total	6,265	4,781	1,254	1,042	7,519	5,823
Percent Sub-Total	7.5	13.3	63.6	27.2	16.9	15.7
Total Vehicles	11,046		2,296		13,342	
Percent	10.0		47.0		16.4	

Primary Routes

Cars-Day 70, Night 60

Trucks - Day & Night 55

Buses - Day & Night 60

SPEED LIMITS

Interstate Routes

Cars - Day 75, Night 65

Trucks - Day & Night 65

Minimum 40

Exceeding Limits By	Nighttime Violations On Primary Routes		
	Passenger Cars	Commercial Vehicles	All Vehicles
5 MPH or Less	119	59	178
6 to 10 MPH	85	18	103
11 to 15 MPH	16	2	18
16 to 20 MPH	7	1	8
21 to 25 MPH	0	0	0
Over 25 MPH	1	0	1
Total Violations	228	80	308
Total Number of Vehicles Surveyed	795	129	924
Percent Exceeding Speed Limit	28.7	62.0	33.3

# CUMULATIVE FREQUENCY CHART

ALL DAY STATIONS  
 STATION NO. All Stations

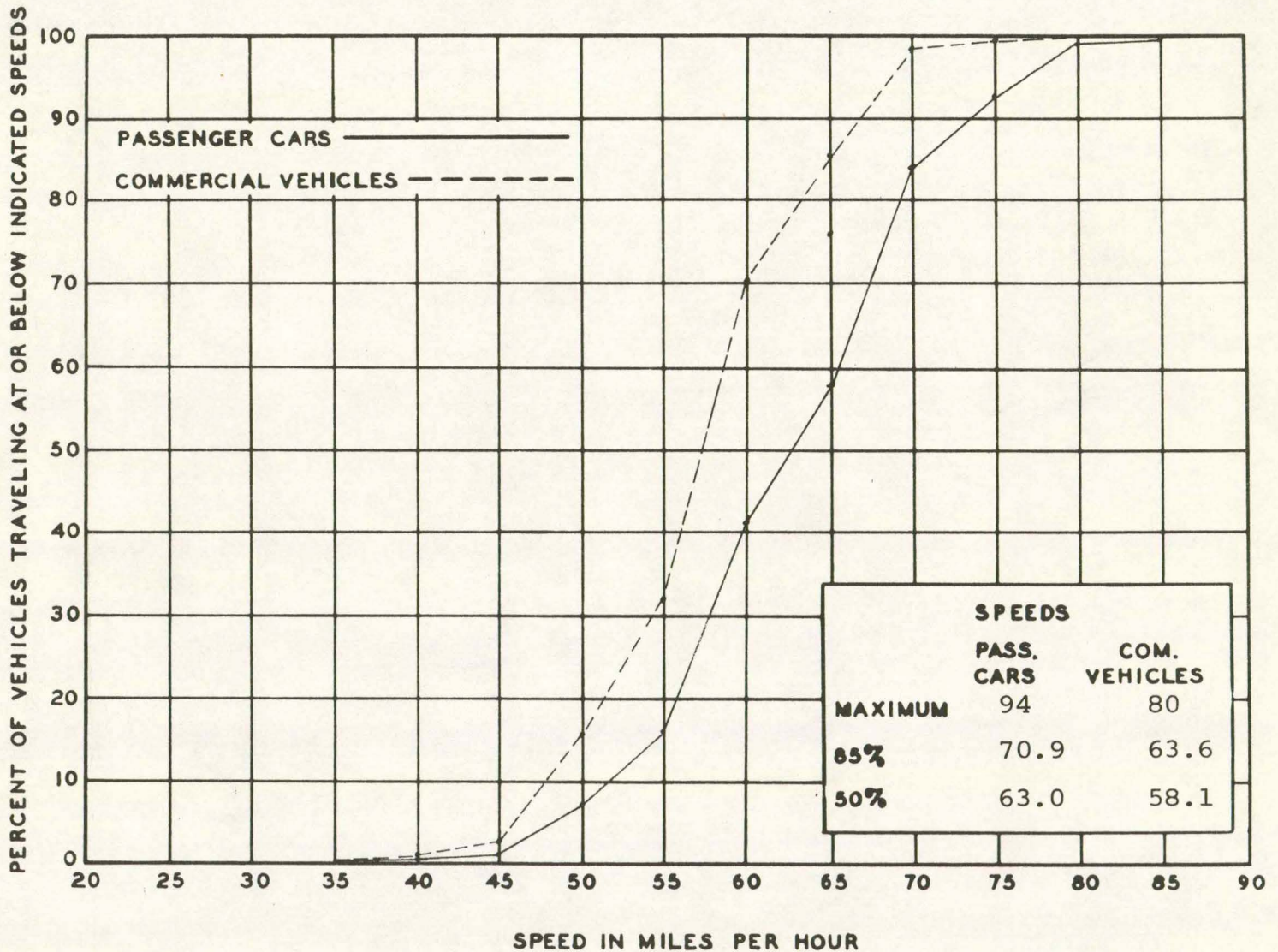
PASSENGER CARS

COMMERCIAL VEHICLES

7,445  
 3,601  
 11,046

649  
 1,647  
 2,296

TOTAL VEHICLES 13,342



# CUMULATIVE FREQUENCY CHART

CORRESPONDING DAY AND NIGHT STATIONS

STATIONS 52-57-62-63

**DAY**

PASSENGER CARS 1,392

COMMERCIAL VEHICLES 297

TOTAL 1,689

SPEED LIMIT Cars 70 - Trucks 55

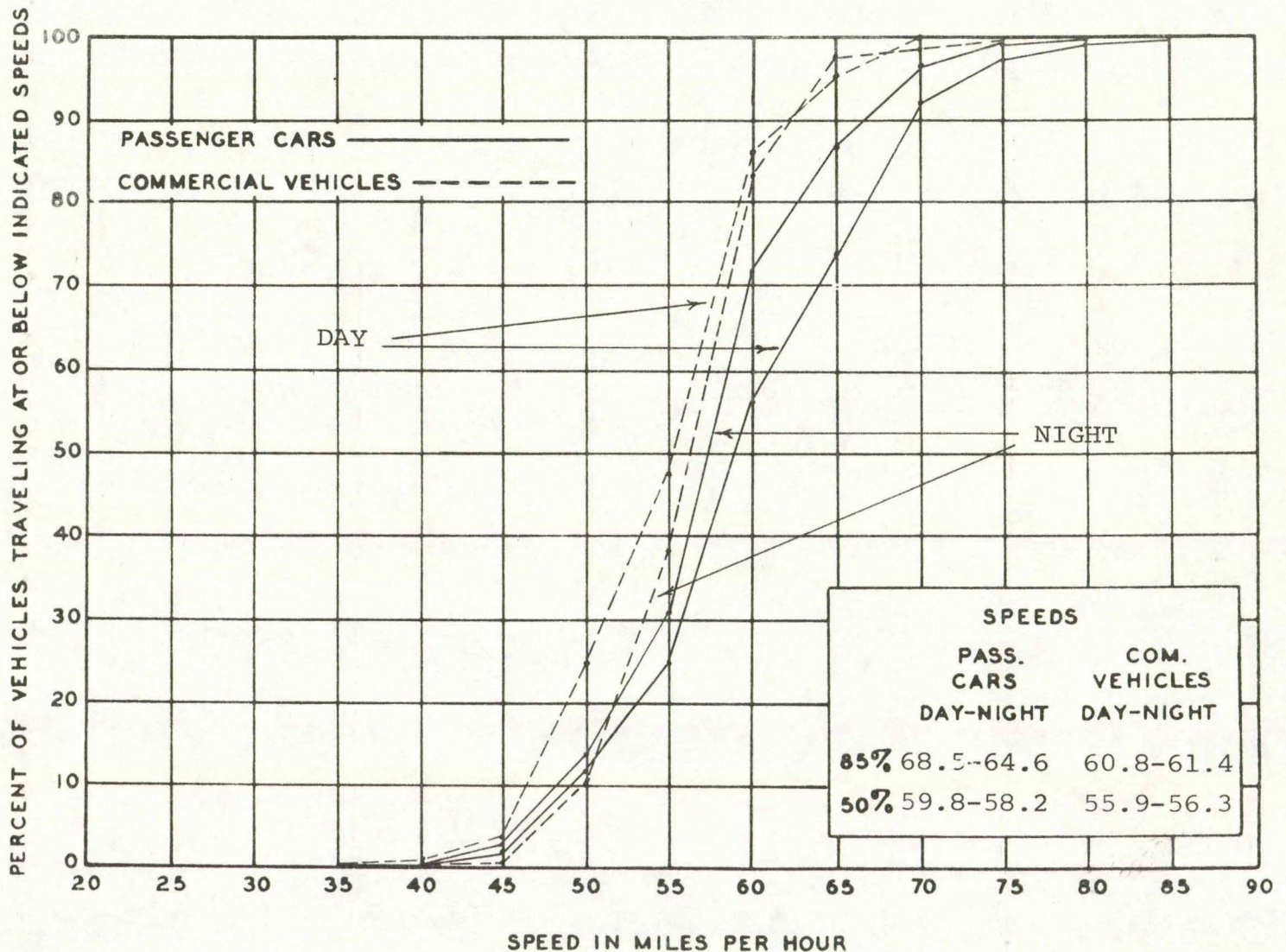
**NIGHT**

PASSENGER CARS 795

COMMERCIAL VEHICLES 129

TOTAL 924

SPEED LIMIT Cars 60 - Trucks 55



YEARLY COMPARISON OF 85TH PERCENTILE SPEEDS  
IN JULY FOR PASSENGER AND COMMERCIAL VEHICLES

YEAR	PASSENGER CAR			COMMERCIAL VEHICLE		
	Primary		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
1972	68.5	65.8	77.7	60.0	60.3	66.5
1973	68.2	64.3	74.3	60.9	61.2	66.9

\* Data was collected in October during 1967



## SUMMARY

A total of 14,266 vehicles were checked at the 25 stations as part of the annual speed study. The daytime checks accounted for 13,342 vehicles of which 11,046 were passenger cars and 2,296 were commercial vehicles. Night checks at four Primary highway locations accounted for the remaining 924 vehicles. Of these, 795 were passenger cars and 129 were commercial vehicles.

Of the 13,342 vehicles observed during daylight hours, 37.0% were local passenger cars, 18.8% were other Iowa passenger cars, 27.0% were out-of-state, 4.9% were local commercial vehicles, and 12.3% were other Iowa or out-of-state commercial vehicles.

Iowa's Primary highways have a posted passenger car daytime speed limit of 70 MPH, a night speed of 60 MPH, and a truck speed of 55 MPH both day and night. The Interstate highways have a posted passenger car daytime speed limit of 75 MPH, a night speed of 65 MPH and a truck speed of 65 MPH both day and night. In addition, the Interstate highways have a minimum speed limit of 40 MPH.

The Primary highway 85th percentile daytime speeds of 68.2 MPH for passenger cars and 60.9 MPH for commercial

vehicles (see page 6) indicates Iowa's 70 MPH daytime passenger car speed limit is reasonable and proper, however, commercial vehicles are traveling somewhat faster than the 55 MPH truck speed limit. The 85th percentile nighttime speeds were 64.3 MPH for passenger cars and 61.2 MPH for commercial vehicles (see page 8).

The Interstate highways revealed 85th percentile daytime speeds of 74.3 MPH for passenger cars and 66.9 MPH for commercial vehicles (see page 7). This is in fairly close agreement with the 75 MPH car and 65 MPH truck daytime posted speed limits. No night checks were conducted on the Interstate highways.

In comparison, the 1972 speed checks at these locations showed Primary highway 85th percentile daytime speeds of 68.5 MPH for passenger cars for a reduction of 0.3 MPH and 60.0 MPH for commercial vehicles for an increase of 0.9 MPH. The 85th percentile night speeds were 65.8 MPH for passenger cars for a reduction of 1.5 MPH and 60.3 MPH for commercial vehicles for an increase of 0.9 MPH.

The 1972 speed checks on the Interstate highways showed 85th percentile daytime speeds of 77.7 MPH for passenger cars for a 3.4 MPH reduction in speed and 66.5 MPH for commercial vehicles for a 0.4 MPH increase.

An analysis of the 1973 data (see page 10) reveals that of the 6,265 daytime passenger cars checked on the Primary highways, 7.5% were exceeding the posted speed limit of 70 MPH compared to 7.3% in 1972. Approximately 69% of the violators, however, were traveling 5 MPH or less over the posted speed compared to 61% in 1972. Of the 1,254 daytime commercial vehicles checked on the Primary highways, 63.6% were exceeding the posted speed limit of 55 MPH compared to 51.3% in 1972. Approximately 78% of the violators were traveling 5 MPH or less over the posted speed compared to 79% in 1972.

Of the 795 passenger cars checked at night at the four Primary highway stations, 28.7% were exceeding the posted speed limit of 60 MPH compared to 34.9% in 1972. Approximately 52% of the violators were traveling 5 MPH or less over the posted speed compared to 51% in 1972. Of the 129 commercial vehicles checked at night at the four Primary highway stations, 62.0% were exceeding the posted speed limit of 55 MPH compared to 60.0% in 1972. Approximately 74% of the violators were traveling 5 MPH or less over the posted speed compared to 83% in 1972.

Of the 4,781 passenger cars checked during the day on the Interstate highways, 13.0% were exceeding the posted speed limit of 75 MPH compared to 25.3% in 1972. Approximately

88% of these violators were traveling 5 MPH or less over the posted speed compared to 79% in 1972. Of the 1,042 commercial vehicles checked during the day on the Interstate highways, 25.6% were exceeding the posted speed limit of 65 MPH compared to 23.0% in 1972. Again, approximately 90% of these violators were traveling 5 MPH or less over the posted speed compared to 88% in 1972.

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