MOTOR VEHICLE SPEEDS
ON
CONNECTICUT HIGHWAYS

BY

CHARLES J. TILDEN
Member Am. Soc. C. E.
Strathcona Professor of Engineering Mechanics
Yale University
President Eno Foundation for Highway Traffic Regulation, Inc.

ASSISTED BY

DANIEL LUZON MORRIS
THOMAS M. C. MARTIN
AND
ERICSON W. RUSSELL

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INTRODUCTION

The research study described in the following pages was undertaken to determine the actual speed of vehicles on Connecticut Highways. It was made in connection with a general survey of highway traffic in the State, carried on jointly by the United States Bureau of Public Roads and the Connecticut State Highway Department. The prime object of this joint survey was to bring up to date a similar study by the same two agencies which had been made in 1924. The same stations and key-points were used in this survey as in the survey of ten years before, and in general the same data were obtained. Certain additions were made to the program for the 1934 survey, and the project of the determination of vehicle speeds was one of them. For the speed survey Yale University joined the two agencies mentioned above to carry out the study.

The observations recorded were made on 117 days from November 14, 1933 to September 26, 1934. A total of 91,044 vehicles was observed, the average of all observed speeds being 38.9 miles per hour. This total includes 3,834 cars which were observed in two special studies; one at a long curve near Madison, the other at a railroad grade crossing in North Haven. These special studies are described in detail in the Appendix.

The lowest speed measured was 9 miles per hour for a heavy truck on June 19 at station 63, on a wet pavement. The highest speed, 80 miles per hour, was twice observed, once in Meriden on June 21, and again in Saybrook on July 4. Both were passenger cars.

The field personnel comprised two observers, provided with the following equipment:

- One automobile
- Two Eno Foundation Speed Detectors, mounted on camera tripods
- One 100-foot steel tape, graduated in feet and inches
- Two stop-watches, graduated in tenths of a second
- Two laboratory stands with 3-way adjustable clamps
- Two high-power focusing flashlights with cardboard shields and bulbs covered with green cellophane
- Data sheets and field data boards
- Flashlights for sighting, reading watches, and recording data

Two camp stools

Two targets for daytime background

The "speed detector", which was the principal instrument used in the investigations, was designed and developed by the Eno Foundation for Highway Traffic Regulation, Incorporated, in 1931. It consists of an L-shaped box provided with a reflecting mirror about 5 inches by 7 inches. The inside of the box is painted black. The top cover is hinged merely for convenience in getting at the mirror, and may be fastened down with a small brass hook. The sketch, figure 1, shows these details.

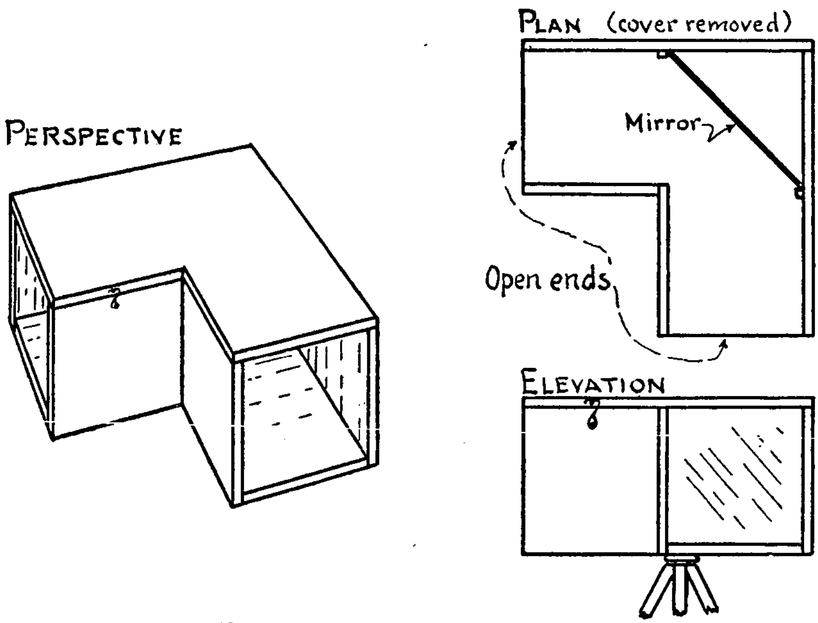

FIG. 1. Details of speed detector.

METHODS

The speed detector is mounted on a camera tripod at a convenient height and set on the roadside. One of the open ends of the L-shaped box points across the road, while the other is directed toward the observer, figure 2. The mirror is then at an angle to each of these sight-lines. The observer, looking along the road and into the open end of the box, can see in the mirror directly across the road from the point where the box is set. An approaching car pass-

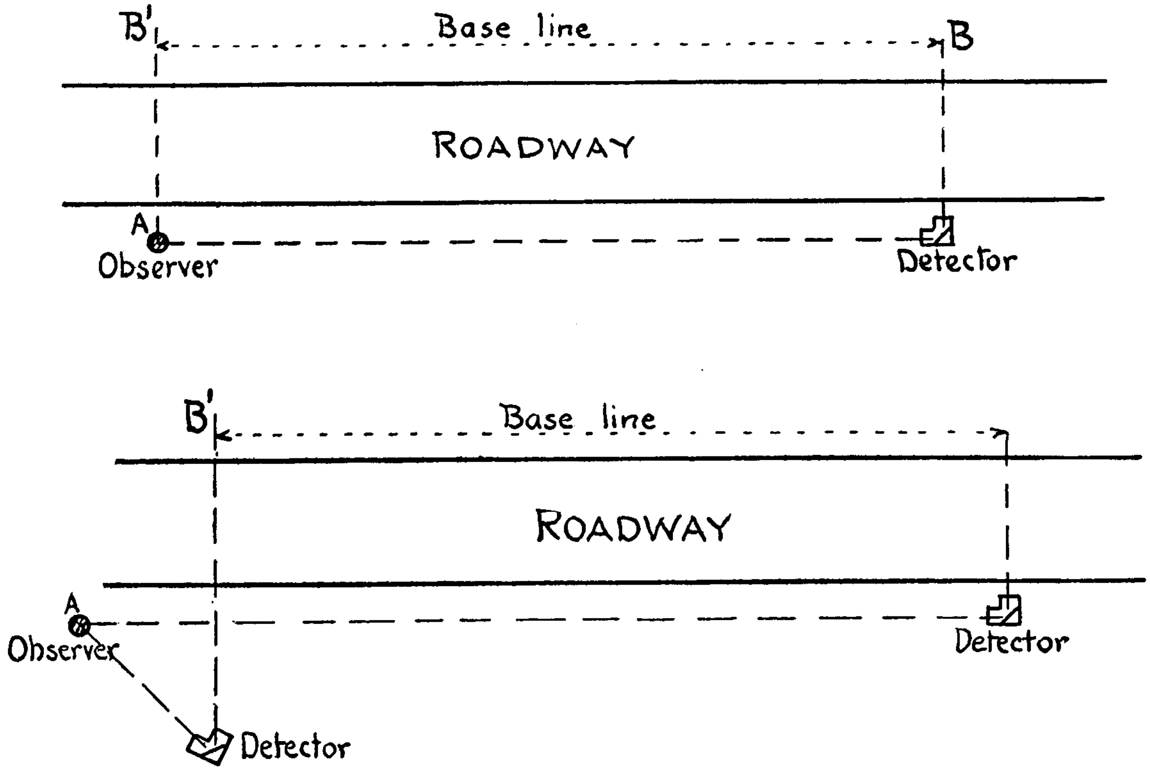

FIG. 2. Arrangement of observer and instrument. Above—one detector; below—two detectors.

ing the box makes a distinct flash or flicker in the mirror which is readily seen by the observer. The instant he gets this flash he presses the starting button on a stop-watch which he holds in his hand. When the car passes the near end of the base-line, he stops the watch and records the interval of elapsed time. The reverse

Sheet No. 1

SPEED RECORD Date July 14, 1934

Location Ct. #91 – Phoenixville (.6 mile south of #134)

Baseline 352 ft.

Observer Russell Recorder Martin

Weather Overcast – Warm

Road Surface 20'-2 slab concrete (dry) 27' sh.-sh.

Observed Time (seconds)	Speed M/H	License	Time P.M.	Pass.	Remarks
4.7 N	51		3 10	F2	
4.2 S	57	N.Y.		M	
8.0 N	30			M2	Model "T" Ford
4.6 N	52	Mass		F	
4.5 S	53				L
5.4 S	44	Pa.		Mx	
6.8 N	35				M
5.8 S	41			Fx	
4.8 N	50				New Engl. Bus
4.4 N	55			M	State Police
9.6 S	25				H

FIG. 3. Sample of log sheet as kept in the field. "L" "M" and "H" indicate trucks in the light, medium or heavy class as judged by observation. In the "Pass." column M means male driver alone, M2 means male driver with two people in car, Mx means male driver with more than two people in car, F means driver alone, F2 means woman driver with two people in car, and Fx means woman driver with more than two people in car. The speeds were computed as observed, the values ringed being vehicles other than passenger.

procedure is followed for timing cars moving in the opposite direction.

The "base-line", or distance along the road from the mirror box to observer, may be any length so long as it has been accurately measured. On a straight stretch of road, 60 to 120 yards are reasonable limits for this measured distance. If less than 150 feet, the time interval is rather short to be gauged accurately by an ordinary stop-watch. A car traveling 30 miles per hour covers 132 feet in 3 seconds. On the other hand, if the measured distance is too long, the speed of some cars may change materially, perhaps from 40 miles per hour to 20, between the mirror box and the observer.

Early in the investigation a distinct improvement was made by the field party by using two detectors instead of one. In using only one detector the observer must start his stop-watch when he sees the flash of the car in the mirror as it passes the beginning of the measured distance. He stops his watch, however, when the car passes him at the other end of the base-line. The effect of the personal equation in catching the instant of these two essentially different phenomena may make an appreciable difference in the recorded time. By the use of two of the detectors set up on the same side of the road at the measured distance apart, the observer was able to station himself in such a position that he could catch the flash in the mirror at both the beginning and the end of the measured base-line. This appeared to be more accurate, and was used on most of the observations that are recorded.

Two different lengths were used for the base-line. For most locations the length of 176 feet was found satisfactory. It is long enough to secure a fairly close measure of the time with a stop-watch reading to tenths or even fifths of a second, and the average speed of the vehicle does not usually change much in the interval. The definite number of 176 feet was chosen to facilitate the subsequent computations for this length of base-line. If the number 120 is divided by the observed time, the result will be the car's speed in miles per hour: That is, if it takes a car exactly 4 seconds to travel 176 feet, the speed is 30 miles per hour; if 6 seconds, it is 20 miles per hour, and so on. If the stop-watch reads 3.4 seconds, the speed is a little over 35 miles per hour. A base-line just double this length, namely, 352 feet, was used on long, straight sections of highway where the speeds were generally high. With the higher speeds, this length of base is more satisfactory and the computations are just as easily made. In this case, of course, it is the number 240 which is divided by the time in seconds, to give the miles per hour.

Figure 4 is a chart which may conveniently be used for calculation of speeds for either the 352-foot base-line or the 176-foot line.

It has been found convenient, particularly during the winter months, to take observations from a car parked beside the road. Quite aside from the comfort of the observers, the car arouses less suspicion or curiosity on the part of vehicle drivers than would two men taking notes beside the road.

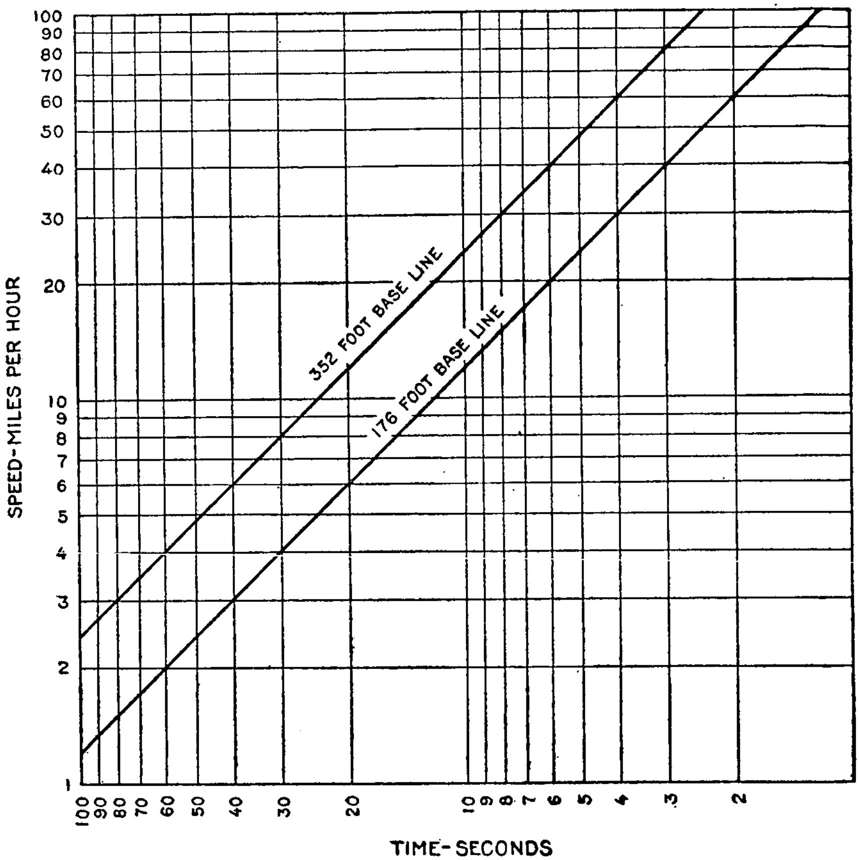

FIG. 4. Chart for calculating speeds from observed time intervals.

In setting up the detectors it is desirable, when practicable, to place them some distance back from the pavement, where they are less readily noticed by drivers. In this case it is important that the line from the box to B, figure 2, cut the road at right angles and exactly at the end of the base-line. The set-up should always be tested to make sure this is the case. The simplest method of adjustment is to station one man at B. He can readily locate the image of A in the mirror. The box is twisted until the line is exactly right.

If a base-line longer than 176 feet is used, it is important that the line from the box to B strike a light background. Otherwise, it is often difficult to distinguish the flash of a dark car in the mirror. Where possible, the line of sight is directed at the sky. When this is not possible, a light-colored "target" is placed at B.

Observations can easily be taken at night. In this case a flashlight set on a laboratory stand is used in place of the target. The observer at A sees the beam from the flashlight. This is interrupted

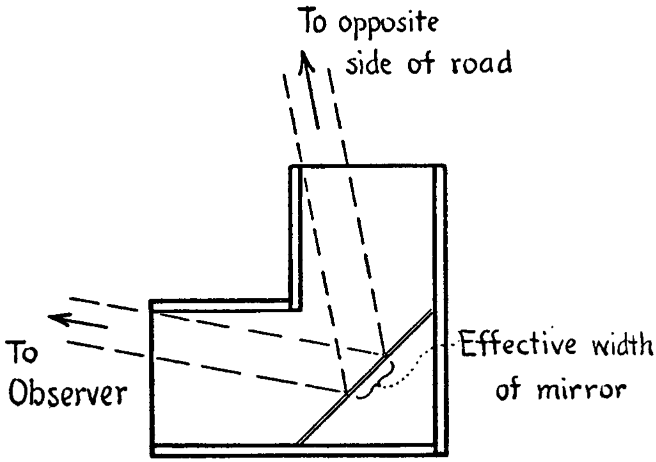

FIG. 5. The sight-lines need not be parallel to sides of box.

by passing cars. When setting up this system, a light is usually placed at A. The man at B picks up the image of the light in the mirror, and places his flashlight exactly in the line of sight.

If the speed detector is placed far back from the road, the angle A-box-B is seldom a right angle. The only limit to this angle is the construction of the box. Satisfactory observations have been taken where the effective width of the mirror was only about an inch, provided the background was bright, figure 5.

The detectors may be used on curves, over the brow of hills, in fact anywhere where they are both visible from one point. The observer may be stationed between the detectors. On curves it is necessary to measure the base-line on both sides of the road, since cars on the inside of the curve travel a shorter distance between radii than those on the outside. The detectors must then be set so that the line of sight cuts the ends of both base-lines.

The accuracy of the method depends, as already stated, upon the length of the base-line. Using the 352-foot line, and assuming perfect handling of the stop-watch, speeds up to almost 50 miles per hour may be measured with an uncertainty of less than one mile per hour (at 49 miles per hour an error of one tenth second results in an error of one mile per hour in the recorded speed). With the 176-foot line this is true only up to 35 miles per hour. At 60 miles per hour the uncertainty on the shorter base-line is 3 miles per hour, whereas on the long line it is only 1½ miles per hour.

The method was developed with two prime objectives: First, to determine the speed of the car from a point wholly outside the car, that is, without any reference to the speedometer; and secondly, to do this in such a way that the driver is not aware that his speed is being measured. A fast driver is generally on the look-out for anything that appears to be a speed trap and senses it quickly. If he passes any one who signals his passing to another observer a short distance away, he will instinctively slow down. Curiosity alone will often cause a reduction in speed. The use of the two speed detectors, inconspicuously placed as described above, in general leaves the motorist ignorant of the observations that are being made.

STATIONS AND SUMMARY

A detailed list of the stations and the date or dates each was occupied during the survey appears in appendix III. This is followed by a day by day summary of the observations which constitutes a comprehensive log of the entire survey. Station locations are shown graphically on the accompanying map.

In order to permit possible use of the detailed count of traffic which was being made in the general survey of highway traffic of which this speed survey was a part, stations were occupied at or near the places chosen for the more extended observations. Many of the traffic census stations, however, were at highway intersections where speed studies of the desired type could not be made. A considerable stretch of straightway was the main desideratum for speed survey stations, and such points were picked out as close as feasible to census stations.

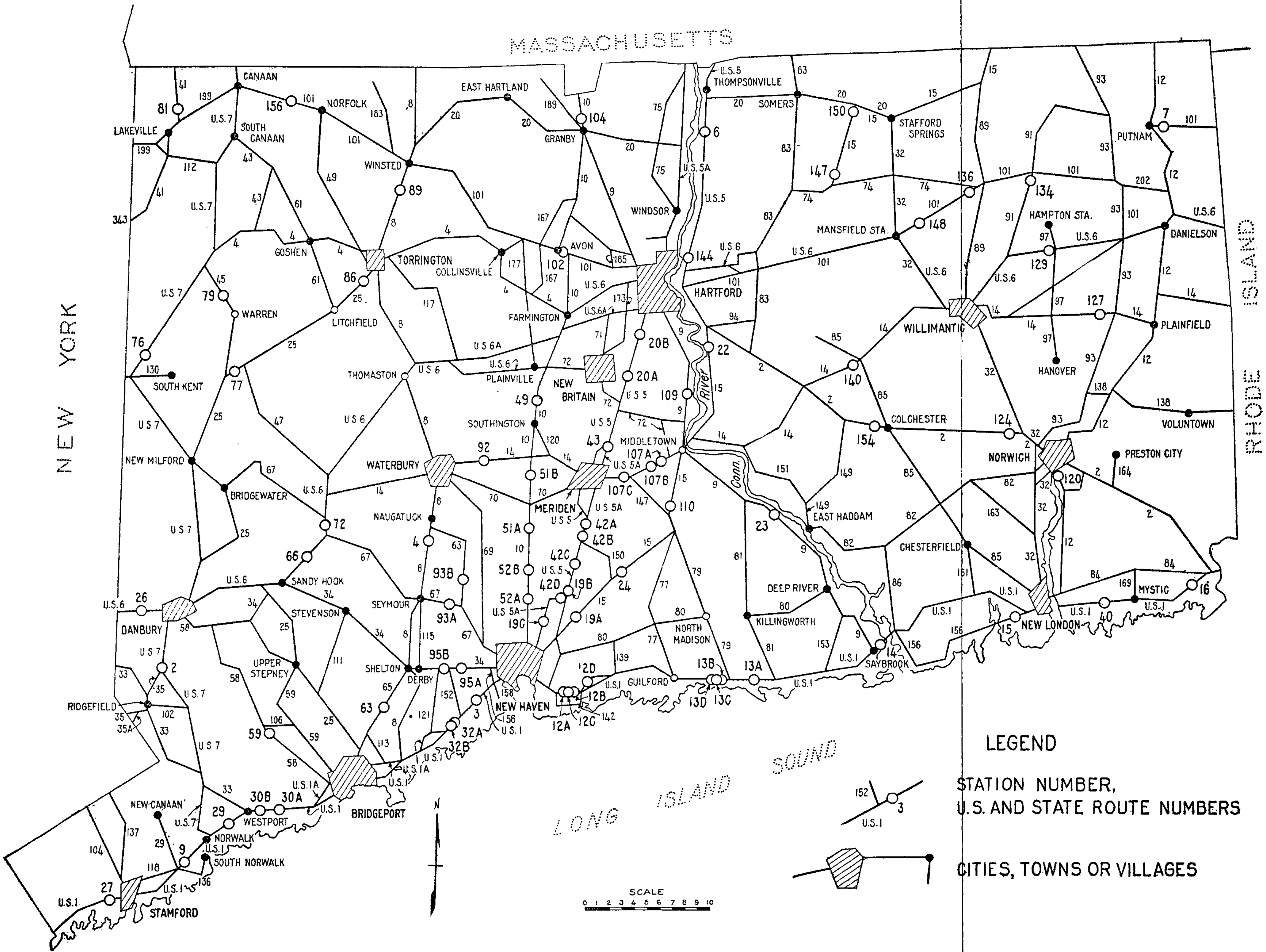
MASSACHUSETTS
NEW YORK
RHODE ISLAND
LONG ISLAND SOUND
CANAAN
LAKEVILLE
SOUTH CANAAN
NORFOLK
WINSTED
EAST HARTLAND
GRANBY
THOMPSONVILLE
SOMERS
STAFFORD SPRINGS
PUTNAM
WINDSOR
MANSFIELD STA.
HAMPTON STA.
DANIELSON
GOSHEN
TORRINGTON
COLLINSVILLE
AVON
HARTFORD
WARREN
LITCHFIELD
FARMINGTON
WILLIMANTIC
PLAINFIELD
THOMASTON
PLAINVILLE
NEW BRITAIN
SOUTH KENT
HANOVER
SOUTHINGTON
MIDDLETOWN
COLCHESTER
VOLUNTOWN
WATERBURY
NORWICH
PRESTON CITY
NEW MILFORD
MERIDEN
BRIDGEWATER
EAST HADDAM
NAUGATUCK
CHESTERFIELD
SANDY HOOK
DEEP RIVER
MYSTIC
STEVENSON
SEYMOUR
DANBURY
KILLINGWORTH
NORTH MADISON
NEW LONDON
UPPER STEPNEY
SHELTON
DERBY
SAYBROOK
GUILFORD
NEW HAVEN
RIDGEFIELD
BRIDGEPORT
WESTPORT
NEW CANAAN
NORWALK
SOUTH NORWALK
STAMFORD
Conn. River
SCALE
0 1 2 3 4 5 6 7 8 9 10
N
LEGEND
STATION NUMBER, U.S. AND STATE ROUTE NUMBERS
CITIES, TOWNS OR VILLAGES

FIG. 6. Measuring the base line.

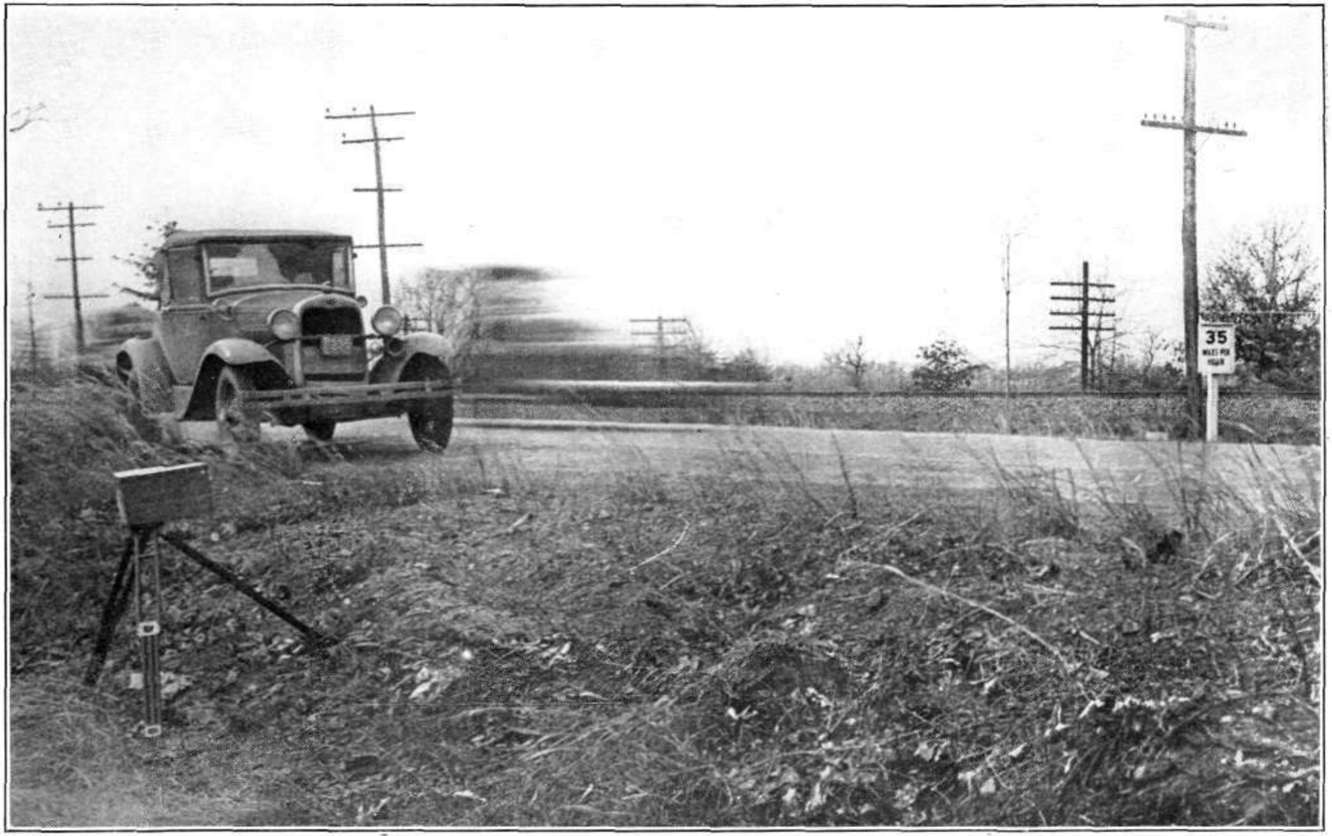

FIG. 7. Observer's car with nearer detector in position. Note blur indicating passing car.

FIG. 8. "Picking up" the image of observation point (A in fig. 2).

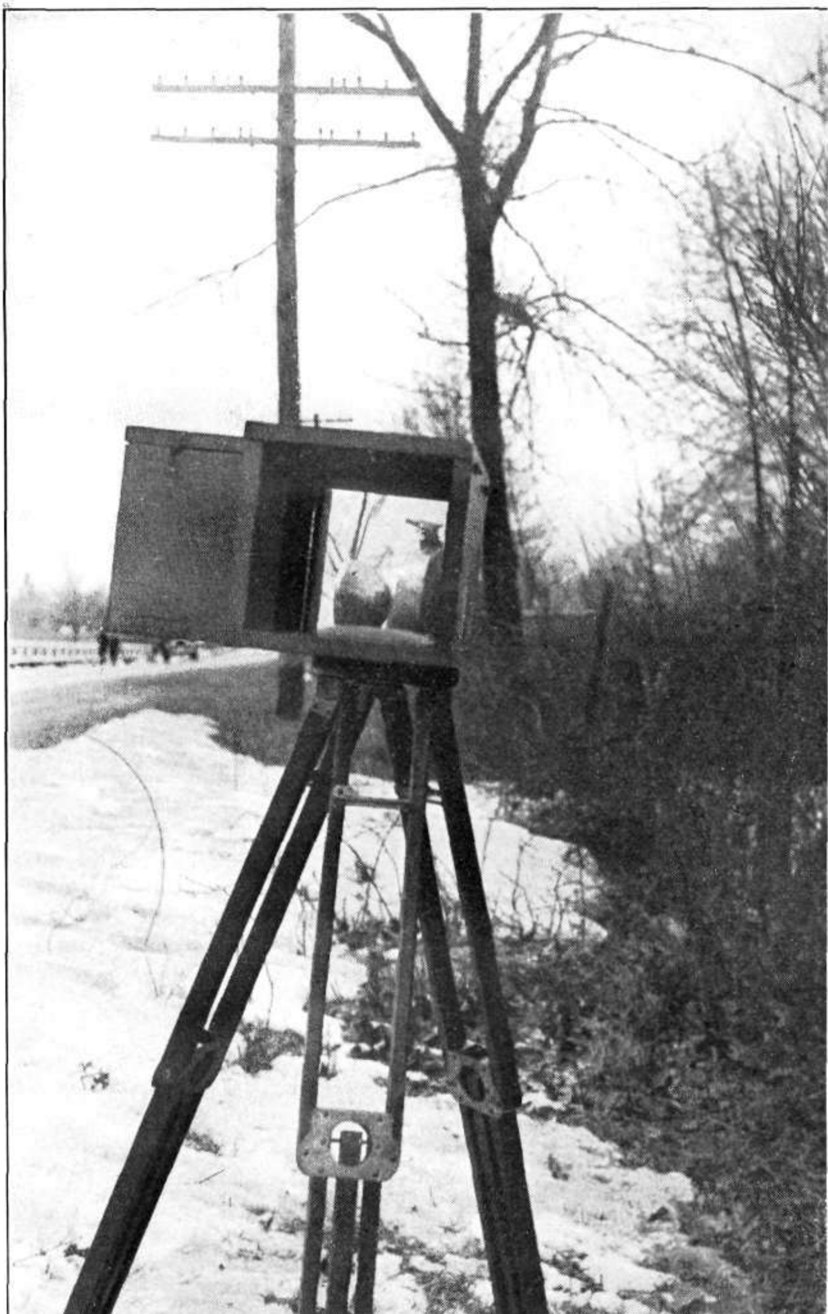

FIG. 9. Image of passing car seen in detector mirror.

FIG. 10. Locating image of observation point and adjusting the detector.

FIG. 11. Observer's car, A, as seen in detector mirror from Point B, Figure 2.

Table 1 is a general summary of all the speed determinations made during the survey except those at the Madison curve on U S 1, in the latter part of September, and the grade crossing study, in January, which warrant separate analysis in a subsequent section of this report. In the table these observations are classified into three groups, covering passenger cars, trucks, and buses. The passenger cars are subdivided into two groups, those for which the speed was measured during daylight hours and those on which night observations were made. Passenger cars in the daylight classification are further subdivided into Connecticut and foreign (that is, out-of-State) cars, and the foreign cars are again subdivided into three groups, those bearing New York licenses, those from Massachusetts, and those from other States.

The number of vehicles observed under all conditions of weather and road surface and the average speed are given for each classification. The three periods of the survey, winter, spring, and summer, are defined more or less arbitrarily, as indicated by the inclusive dates given. It is interesting to note that the average speed for the winter period is the highest in spite of a large bad-weather factor. Approximately 25 per cent of the winter observations were made under bad weather conditions, to be discussed more in detail in a later portion of this report.

Figures 6, 7, 8, 9, 10 and 11 are from photographs taken in the field showing details of setting up and using the apparatus.

Figures 12, 13, 14 and 15 show frequency distributions of passenger car speeds under different conditions.

TABLE 1.—GENERAL SUMMARY OF OBSERVED AVERAGE SPEEDS

(Does not include grade-crossing and curve observations reported in Appendix II)

VEHICLE CLASSIFICATION	WINTER PERIOD NOVEMBER 14, 1933 MARCH 29, 1934		SPRING PERIOD APRIL 4, 1934 JUNE 2, 1934		SUMMER PERIOD JUNE 16, 1934 SEPTEMBER 10, 1934		COMPLETE SURVEY NOVEMBER 14, 1933 SEPTEMBER 10, 1934	
	NUMBER OF VEHICLES	AVERAGE SPEED	NUMBER OF VEHICLES	AVERAGE SPEED	NUMBER OF VEHICLES	AVERAGE SPEED	NUMBER OF VEHICLES	AVERAGE SPEED
All Vehicles	28,158	40.3	13,187	40.0	45,865	38.2	87,210	39.2
A. Passenger Cars:	21,896	41.8	11,136	40.8	40,139	38.8	73,171	40.0
1. Passenger Cars—Day	18,700	42.4	9,315	41.2	34,656	39.4	62,671	40.6
A. Connecticut	14,003	41.4	6,370	39.9	20,273	38.2	40,646	39.6
B. Foreign	4,697	45.4	2,945	44.0	14,383	41.1	22,025	42.4
(1) New York	1,839	45.2	1,259	43.6	6,020	41.3	9,118	42.4
(2) Massachusetts	1,473	45.4	813	44.4	3,435	40.3	5,721	42.2
(3) Other Foreign	1,385	45.6	873	44.0	4,928	41.3	7,186	42.5
2. Passenger Cars—Night	3,196	37.8	1,821	38.6	5,483	35.2	10,500	36.6
B. Trucks	5,498	34.2	1,746	34.4	4,723	33.0	11,967	33.8
C. Buses	764	43.5	305	42.5	1,003	39.9	2,072	41.6

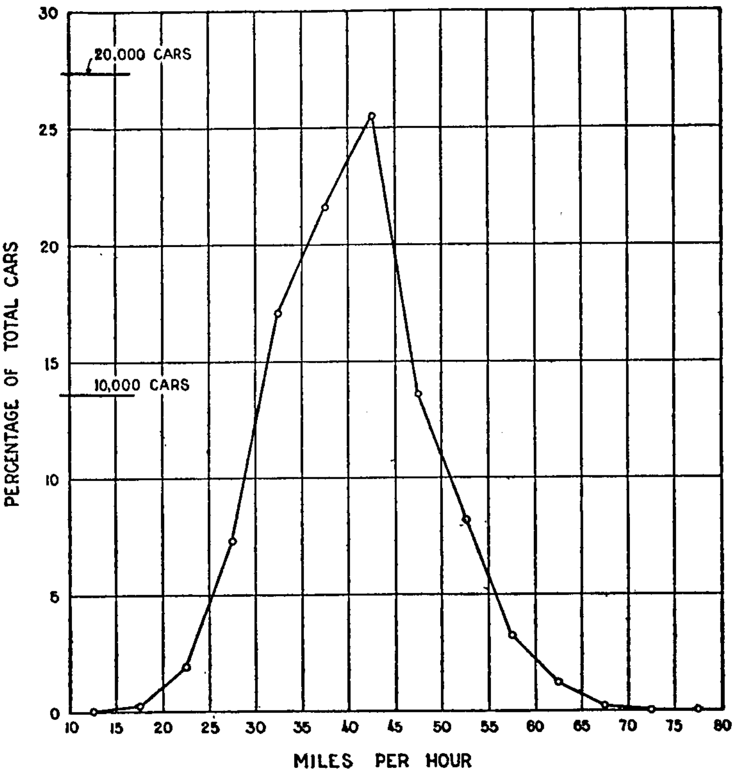

FIG. 12. Diagram of frequency distribution, all passenger cars, in speed groups of 5 miles per hour intervals.

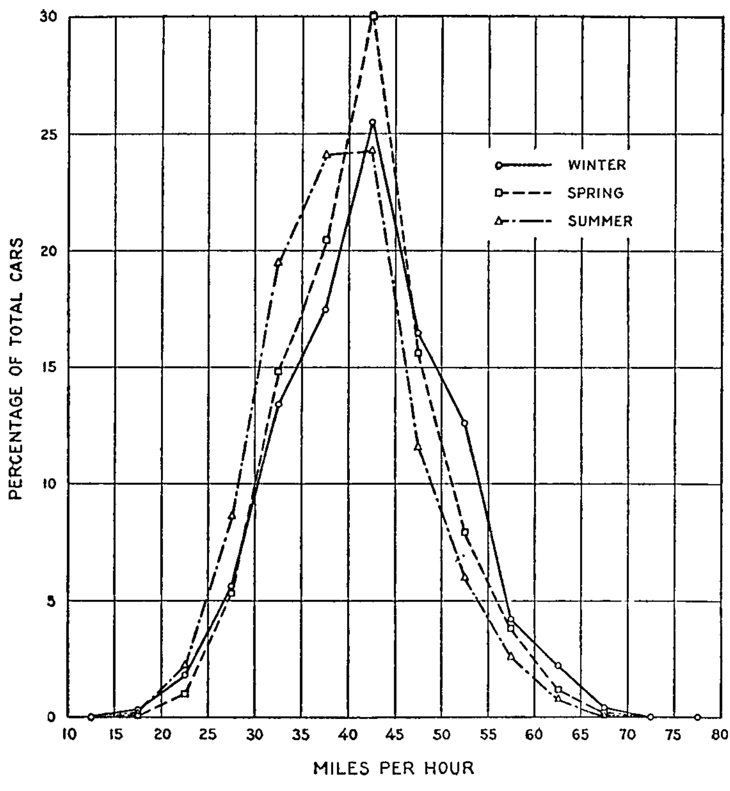

FIG. 13. Diagram of frequency distribution, all passenger cars, in speed groups of 5 miles per hour intervals; winter, spring, and summer periods.

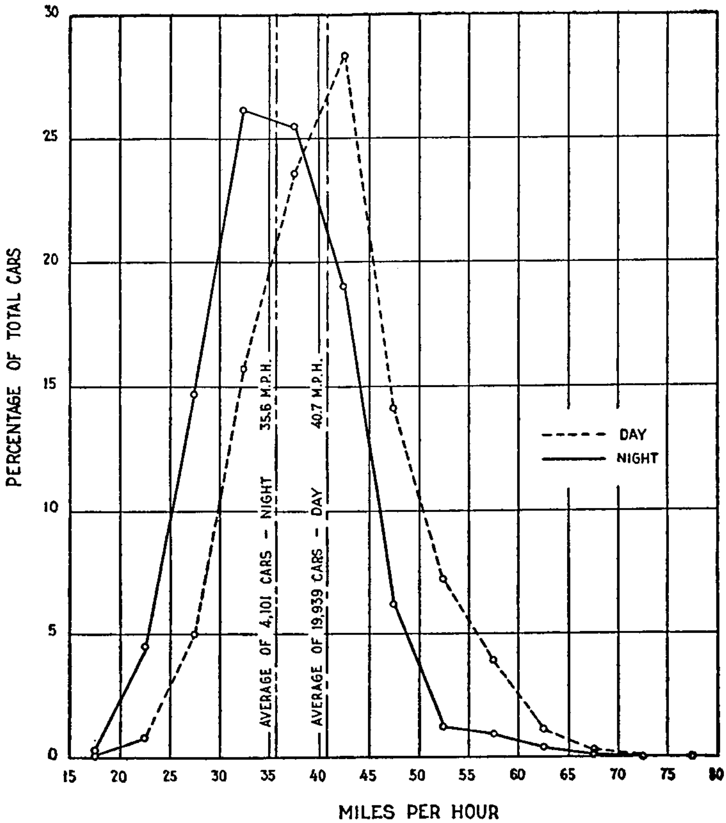

FIG. 14. Diagram of frequency distribution, in speed groups of 5 miles per hour intervals, of passenger cars observed in the summer period, separated as to day and night observations.

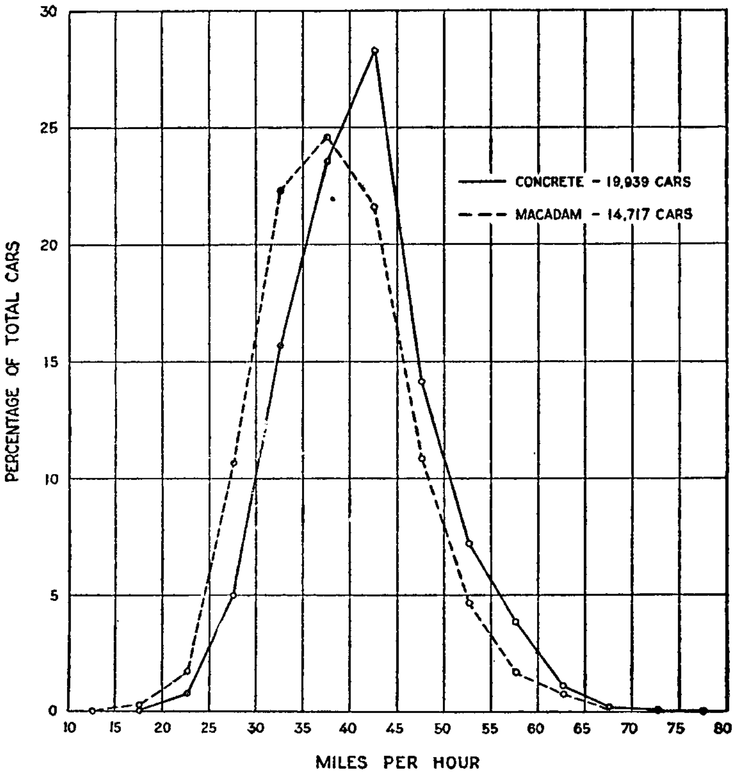

FIG. 15. Comparison of speed frequency distribution, passenger cars on concrete and macadam roads; day observations, summer period.

FACTORS INFLUENCING SPEED

Seasonal Comparison of Passenger Car Data by Road Types

Table 2 presents the average speed of all passenger cars observed by day and night under similar conditions, during the speed survey. The grand totals of 62,671 day observations and 10,500 night observations are divided into three groups representing winter, spring and summer observations. Each period is subdivided according to road types: Two-lane concrete; 4-lane concrete; and macadam.

The winter period, extending from November 14, 1933 to March 29, 1934, presents the highest passenger car averages despite the fact that nearly 25 per cent of the daytime observations were made during bad weather conditions. The amount of bad weather encountered during the spring and summer periods was negligible, yet the average speed for each group in the spring period is lower than the average for the corresponding group in the winter period, and the averages for the summer period are the lowest for the survey. This striking difference between summer and winter speeds is one of the most significant facts brought out by table 2. Taking only the good weather winter observations, the difference in average speed is even greater than that shown in the table, being 2.8 miles per hour for 2-lane concrete; 5.0 miles per hour for 4-lane concrete; and, 4.7 miles per hour for macadam roads.

For the entire survey the observed average speed of passenger cars at night (after dark) was 4.0 miles per hour less than that observed during the daylight hours. This difference is greatest in summer, being 4.2 miles per hour, and least in spring when it is 2.6 miles per hour. The difference in day and night speeds is the same for 4-lane concrete roads and macadam roads, — 4.0 miles per hour; and 4.4 miles per hour for 2-lane concrete roads.

Graphical studies of some of these data are given in Figures 13 and 14.

It seems probable that these seasonal differences are due not to any direct effect of weather nor to any change of driver habits, but rather to the addition of a distinct class of slow pleasure drivers in the summer.

Influence of Weather Conditions on Passenger Car Speed

The effect of various types of weather conditions on vehicle

TABLE 2.—SEASONAL COMPARISON OF PASSENGER CAR DATA BY ROAD TYPE

SEASONAL PERIODS	DAY OBSERVATIONS NUMBER OF VEHICLES	DAY OBSERVATIONS AVERAGE SPEED M.P.H.	NIGHT OBSERVATIONS NUMBER OF VEHICLES	NIGHT OBSERVATIONS AVERAGE SPEED M.P.H.
Winter Period: November 14 to March 29	18,700	42.4	3,196	37.8
Two-lane concrete roads	9,400	42.8	1,108	37.5
Four-lane concrete roads	7,701	42.2	1,858	37.9
Macadam roads	2,229	41.5	230	37.9
Spring Period: April 4 to June 2	9,315	41.2	1,821	38.6
Two-lane concrete roads	4,403	41.6	1,228	39.9
Four-lane concrete roads	4,912	40.8	593	35.9
Summer Period: June 16 to September 10	34,656	39.4	5,483	35.2
Two-lane concrete roads	13,591	41.3	1,260	36.2
Four-lane concrete roads	6,348	39.3	2,841	35.4
Macadam roads	14,717	37.8	1,382	33.6
Complete Survey	62,671	40.6	10,500	36.6
Two-lane concrete roads	27,394	41.9	3,596	37.9
Four-lane concrete roads	18,331	40.8	5,292	36.4
Macadam roads	16,946	38.2	1,612	34.2

speeds is shown in table 3. The effects of weather conditions are three-fold: A psychological effect due to the reaction of the driver to the weather; a visual effect due to the presence of snow, rain or fog in the atmosphere; and the effect of bad surface conditions due to snow, ice or water on the road surface. The effects of weather on speed range from virtual stoppage of traffic during a bad blizzard to the invitation to drive at high speed presented by a clear, crisp November or December morning with the road free from snow and ice.

In table 3 several outstanding examples of bad weather observations are presented. The average speed under unfavorable conditions is compared with the speeds on nearby dates when observations were made under normal weather conditions, and the decrease due to bad weather is expressed in miles per hour and percent. The data refer to passenger cars only. Although not a weather condition, a case where observations were taken soon after the application of fresh oil to a macadam road is included in this table. In general, bad weather tends to equalize speed on various highways, thus causing a much greater drop in speed on a normally high-speed than on a normally low-speed road.

The lowest average speed observed under bad weather conditions was 28.4 miles per hour at station 42A on U S 5 south of Meriden. This speed was lower by 17.0 miles per hour, or 37.5 percent, than the average speed of 45.4 miles per hour observed at the same station under normal conditions a few weeks before. The drop in speed was caused primarily by three to four inches of hard-packed snow left on the surface from a blizzard which occurred ten days before. The paved portion of the highway was lined on each side by high snow banks left by Highway Department snow plows. The weather was perfectly clear during the period of observation.

During a sleet storm on December 15, 1933 at station 24, Northford, an average speed of 35.4 miles per hour was observed, showing a drop of 10.9 miles per hour, or 23.5 percent from a normal of 46.3 miles per hour. Conditions were extremely bad on this day. A driving sleet froze on car windshields, making them hardly more than translucent. The road surface was also covered with a thin film of ice. In view of the extremely bad visual and surface conditions on this day, it is surprising that the average of observed speeds should have been as high as noted.

A dense fog early in the morning at station 6, Enfield, brought down the average speed 23.0 percent from 40.8 miles per hour to 31.4 miles per hour. Visibility was such that cars could barely be seen at one hundred yards. A less dense fog at station 66, Southbury, caused a decrease in speed of only 1.8 miles per hour, from 37.1 to 35.3 miles per hour, a drop of less than 5 percent.

A hard steady rain at station 42B, Wallingford, caused a drop of 6.0 miles per hour in daylight speeds from 43.8 to 37.8 miles per hour, 13.7 percent. A drop of 8.3 miles per hour from 46.4 to 38.1 miles per hour, nearly 18 percent was observed at station 134, Phoenixville, on Connecticut 91, during a period of wet snow, rain and slush.

In several instances a partial covering of snow on the road surface brought down the average speeds between 4.4 percent and 10.4 percent. Two stations were observed when the road surface at the station had been plowed perfectly clear, but about half the cars were equipped with chains to assist them at points where the road was snow covered. The effect of chains on a clear road was to cause the speed to drop, in one case from 36.0 miles per hour to 31.8 miles per hour, or 11.7 percent; in the other, from 37.1 miles per hour to 33.3 miles per hour, or 10.2 percent. These are not included in table 3.

Although not an effect of bad weather, observations were made on a freshly oiled, macadam road and are included here because of the similarity of the results. The average speed observed was 30.7 miles per hour. Observations under normal conditions at the same point were never made, but the average for all macadam roads was 37.8 miles per hour, indicating a drop of about 20 percent due to this condition.

These various examples tend to show that bad surface conditions cause the greatest decrease from normal average speeds. Light rains, and slightly wet concrete pavements, have very little effect on average speed, although they do discourage driving in the higher speed groups. It must be borne in mind that each individual case of bad weather observation is a special set of conditions which may be accurately measured at the time, but should not be interpreted in too general a fashion. Sufficient examples are presented here to show the general trend of automobile speed during various hazards of weather conditions.

TABLE 3.—EFFECT OF WEATHER ON PASSENGER CAR SPEED

DATE	STATION NUMBER	WEATHER AND ROAD CONDITION	ROAD TYPE	SPEED DURING BAD WEATHER		SPEED UNDER NORMAL CONDITIONS		DECREASE IN SPEED	
				NUMBER OF VEHICLES	AVERAGE SPEED M.P.H	NUMBER OF VEHICLES	AVERAGE SPEED M.P.H	MILES PER HOUR	PERCENT
December 11, 1933	3	Snow Flurries Snow on Road	4-Lane Concrete	915	39.2	812	43.7	4.5	10.3
December 15, 1933	24	Sleet Storm, Icy Road Surface.	2-Lane Concrete	212	35.4	925	46.3	10.9	23.5
December 27, 1933	95A	Clear, 30 percent Snow-Covered. Some Chains.	2-Lane Concrete	177	35.2	231	36. 8	1.6	4.4
January 7, 1934	42B	Steady Rain	2-Lane Concrete	753	37.8	780	43.8	6.0	13.7
January 13, 1934	134	Snow, Rain and Slush.	2-Lane Concrete	81	38.1	103	46.4	8.3	17.9
February 5, 1934	3	Clear, Snow on Road.	4-Lane Concrete	394	38.8	812	43.7	5.1	11.7
March 2, 1934	42A	Clear, 3-inches Hard-Packed Snow.	2-Lane Concrete	182	28.4	298	45.4	17.0	37.5
March 8, 1934	19B	Light Snow	Macadam	305	36.2	386	40.8	4.6	8.9
March 28, 1934	19A	Light Rain	2-Lane Concrete	269	43.1	197	44.7	1.6	3.6
June 19, 1934	4	Hard Rain	Macadam	129	34.3	...	...	...	...
June 27, 1934	92	Clear, Fresh Oil.	Macadam	147	30.7	...	...	...	...
August 7, 1934	66	Dense Fog	Macadam	35	35.3	640	37.1	1.8	4.9
August 16, 1934	86	Light Rain	2-Lane Concrete	324	39.4	205	42.6	3.2	7.5
September 6, 1934	6	Dense Fog	Macadam	20	31.4	603	40.8	9.4	23.0

Fluctuations in Average Speed During the Day
(Hourly variations and trend)

Studies were made during the summer to ascertain, if possible, the manner in which the average speed of passenger vehicles varies during the day. In order to obtain data of a type suitable for such an analysis, observations were taken at certain control stations from 6 a. m. to 10 p. m., and averages computed for each hour during

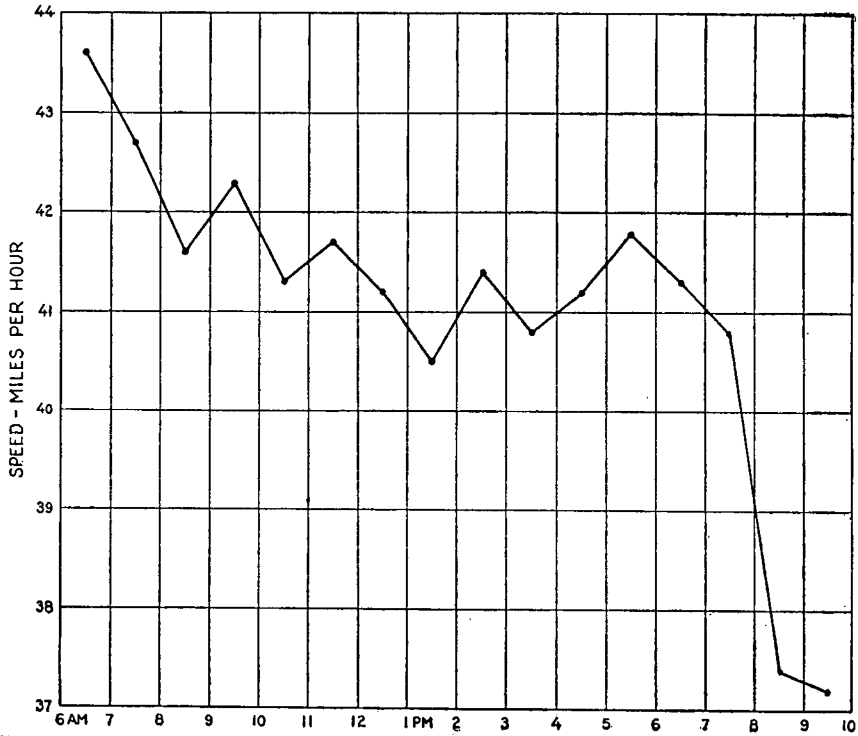

FIG. 16. Composite average speeds at five stations on weekdays from 6 A.M. to 10 P.M., Summer period.

these periods. A problem of this character suggests a graphical method of analysis and, accordingly, the following graphs were constructed:

Figure 16 showing the composite average speeds from five stations, 6 a. m. to 10 p. m., week-days.

Figure 17 showing composite averages from nine stations, 2 p. m. to 10 p. m., on Sundays, and composite averages from five stations, 2 p. m. to 10 p. m., on Saturdays.

In analyzing the above curves, certain general characteristics and certain marked differences are worthy of note. The most noticeable common property of all graphs is found in the nearly universal falling off in speed as the day progresses. In general, the highest average speed occurs shortly after daybreak, while the lowest average speed occurs soon after nightfall. The "spread" between the high and low average speeds is about 7 or 8 miles per hour.

At least one-half of this spread may be ascribed to the effects of darkness, lower visibility, uncertainty caused by approaching headlights, et cetera, while the other one-half represents a fluctuating but nevertheless persistent decrease of speed during daylight hours.

First examining the graph representing week-days, figure 16, it is seen that the trend is downward rather steeply from its high of the day at 6 a. m. until after 8 a. m., when the descent becomes more gradual, to a minor low between 1 p. m. and 2 p. m. After this low point is passed the average speed rises slowly and registers a minor high sometime between 5 p. m. and 6 p. m. Following this high point the trend becomes downward again, at first rather slowly, and then, with the coming of darkness, falling into its most precipitous decline of the day.

Taking next figure 17. which reproduces the 2 p. m. to 10 p. m. fluctuations for Saturdays and Sundays, and comparing these graphs with the corresponding portions of figure 16, we find that these curves at once serve to classify Saturdays as typical week-days, and at the same time call attention to the marked distinction between Sundays and week-days. Whereas Saturday's graph has the minor high in the late afternoon that is characteristic of week-days, this feature is entirely missing in the graph for Sundays. The other really distinguishing mark of the Sunday graph is, of course, the relatively much lower absolute value of the average speeds observed, the Sunday graph lying pretty generally 3 to 4 miles per hour beneath the corresponding portions of the week-day curve.

The drop in speed, which is noted after darkness sets in, is easily understood. The explanations of the various fluctuations noted during daylight are not so easily found and are debatable from many angles. Some of the most probable reasons for the peculiarities of the week-day graph, figure 16, may be summed up as follows:

The higher speeds from 6 a. m. to 8 a. m., as well as the upturn between 5 p. m. and 6 p. m. may very well be the effect of regular commuting to and from work. This is confirmed by the fact that on Sundays, when there is no evening commuting, the corresponding rise in speed is also absent. The pronounced drop which occurs about midday may possibly be connected in some fashion with the noon meal period. That is to say, it may be that tourists seeking

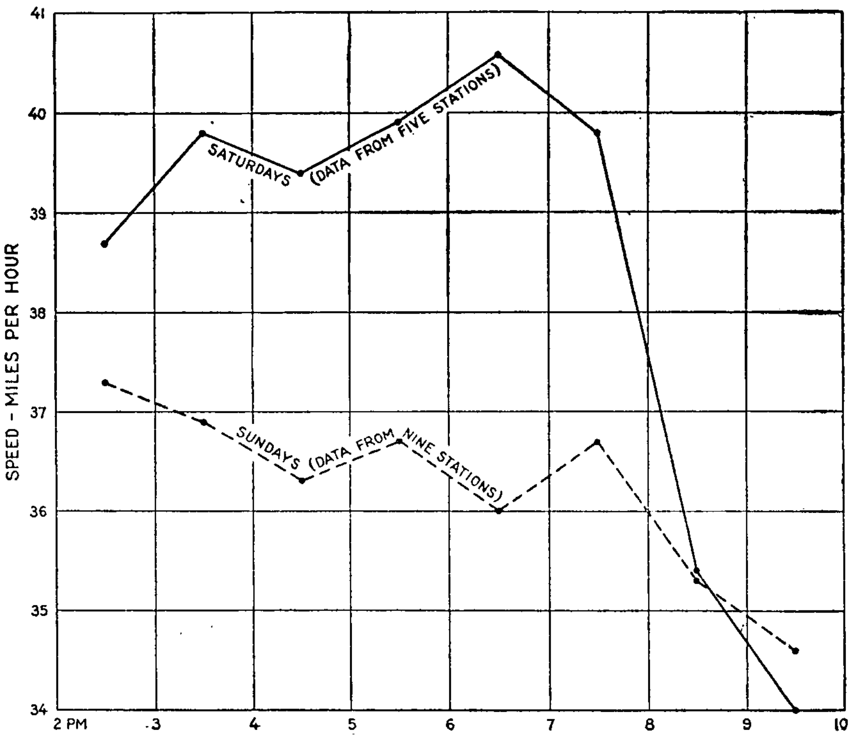

FIG. 17. Composite average speeds, 2 P.M. to 10 P.M. on Saturdays and Sundays, Summer period.

suitable places to dine may exert a lowering reaction upon the average speeds. Also, there is evidence pointing to the fact that persons do not drive quite as fast immediately after eating as they are likely to either beforehand or after a period of an hour or so.

The probable explanation of the lower speeds on Sunday is the Sunday afternoon pleasure driving, a rather aimless type of travel which frequently has no fixed destination, and in the course of which no very great importance is attached to the element of time. The large volume of traffic on Sunday may also affect average speeds.

Effect of Volume of Traffic on Speed

One of the original objectives of the speed survey was to ascertain whether and to what extent there exists a correlation between the number of vehicles using a given section of highway and the average speed of those vehicles at the same location; in other words, to determine the manner in which speed may be affected by the volume of traffic.

Analysis of the data collected, however, indicated that they were hardly adequate as a basis for any conclusion in this regard. Fluctuations in traffic volume were apparently rarely great enough to have any measurable effect on speed. Furthermore, periods of high traffic density were usually of such brief duration that the traffic volume count and the speed observations, both of which were recorded by half hours, could not accurately take account of the fluctuations. The correlation between speed and volume, if any exists, depends on many variable factors such as the type and width of pavement, the visibility, the general weather conditions, and many other considerations, all of which tend to obscure the basic relationship sought.

In general, there seems to be no distinctly observable correlation over a rather wide range of light or moderate traffic volume. A high degree of congestion, on the other hand, obviously results in low speeds. Just where on any road the critical point is reached when increasing volume brings a decrease in average speed, and what the relationship may be thereafter, could not be determined within the scope of this survey. It is a problem of much interest and importance and might well be made the subject of a special investigation.

Speeds on Various Through Routes

During the winter months of the survey most of the observations were taken near New Haven. A number of observations were made at various stations on each of the four main highways leading out of New Haven, and these have been collected in table 4.

More observations were taken on the Boston Post Road, U S 1 than on any of the other highways. It is interesting that speeds on

TABLE 4.—WINTER PERIOD SPEEDS ON VARIOUS THROUGH ROUTES

Day Observation Only
Passenger Cars Only

BOSTON POST ROAD, U S 1 AND 1A

LOCATION	NO. CARS OBSERVED	NO. DAYS	STATION	SPEED M.P.H.
Westport — Norwalk	810	1	29	40
Westport — Southport	340	1	30A	41
Milford Turnpike: Milford end	233	1	32B	44
Milford Turnpike: Dip in road	1312	1	32A	47
Milford Turnpike: New Haven end	1374	2	3	43
East Haven: Lake Saltonstall	180	1	12A	42
East Haven: Top of Cherry Hill	357	1	12C	42
Branford: Hill to West of Town	246	1	12B	42
Branford: Bypass	116	1	12D	45
East River: Madison	322	1	13D	41
Madison: Sharp curve	1925	4	13C	30
Madison: Slight curve	83	1	13B	36
Madison — Clinton	155	1	13A	43
Saybrook — Lyme	524	1	14	44

NEW HAVEN TO HARTFORD, VIA MIDDLETOWN, ROUTES 15 AND 9

LOCATION	NO. CARS OBSERVED	NO. DAYS	STATION	SPEED M.P.H.
New Haven — Northford	410	2	19A	43
Northford — Durham	925	2	24	46
Durham — Middletown	550	1	110	45
*Middletown — Hartford	221	1	109	42

NEW HAVEN TO HARTFORD, VIA WALLINGFORD, U S 5 AND 5A

LOCATION	NO. CARS OBSERVED	NO. DAYS	STATION	SPEED M.P.H.
New Haven — North Haven	448	1	19C	40
North Haven — Wallingford: North Haven	386	1	19B	41
North Haven — Wallingford: Wallingford	324	1	42C	42
Wallingford — Meriden: 1 mile North of Wallingford	780	1	42B	44
Wallingford — Meriden: 3 miles North of Wallingford	298	1	42A	45
Meriden By-pass	1859	3	43	48
Berlin — Newington	378	1	20A	43
Newington — Hartford	407	1	20B	43

COLLEGE HIGHWAY, ROUTE 10

LOCATION	NO. CARS OBSERVED	NO. DAYS	STATION	SPEED M.P.H.
Centerville	515	2	52A	35
Mount Carmel	210	1	52B	39
Mount Carmel — Cheshire	266	1	51A	42
Cheshire — Southington	153	1	51B	44
Southington — Plainville	388	1	49	43

* Observations taken April 5 — second day of Spring period.

this route west of New Haven are higher in general than those to the east. Though only three stations were observed between New Haven and Middletown, all of these showed high speeds. Incidentally, general opinion accepts the Middletown route as the quickest way to get from New Haven to Hartford.

Variations in Average Speed — Local and Out-of-State Vehicles

The survey indicates a markedly higher rate of speed for out-of-State vehicles than for vehicles registered in Connecticut. The average of all "foreign" passenger cars is 2.9 miles per hour faster than for all Connecticut passenger cars (Summer period, daytime observations). Massachusetts cars were observed to be 2.1 miles per hour and New York cars 3.1 miles per hour faster than those of Connecticut.

The higher speed of foreign cars might be explained by the different type of travel represented by such vehicles. That is to say, the very fact that an automobile carries the registration plates of another State bespeaks the fact that the driver is farther from home than is the driver of the average Connecticut car, and, therefore, more likely to place a high value on his time, whether his objective is a business appointment or a holiday at some vacation spot. Except within a commuting area adjacent to a large urban center, a higher speed is to be expected from tourists and others who pass but once or infrequently over a given route as against the comparative lack of haste of those who regularly use the route. Furthermore, the out-of-State cars, making longer trips, are possibly in better mechanical condition, newer, and accordingly faster, than the general average of all vehicles.

The accompanying chart, figure 18, illustrates graphically the results of the study carried on during the summer months to determine quantitatively the differences in average daylight speeds between several classifications of out-of-State cars and Connecticut vehicles. It is interesting to note that the average speed of the cars from the four midwestern States shown (which, incidentally, were separated purely as a matter of curiosity) was 6.7 miles per hour faster than for all Connecticut cars during the same period. The chart is prepared to illustrate the deviations from the average of all passenger vehicles

(39.4 miles per hour) rather than as deviations from any particular group.

Effect of Sex and Passengers on Average Speed

There has been much debate as to whether women drive faster than men, or vice versa. To attempt an answer to this question, data were recorded during two periods of the speed survey to show not only the sex of the driver, but also the extent to which passengers were carried in addition to the driver. The purpose of this latter information was to answer, if possible, another unsettled question — do persons when driving by themselves drive slower or faster than when they are accompanied by passengers?

As to the relative speeds of men and women, the conclusion is that there is no very significant difference. During the first observation period the men drove slightly faster than the women, but the women came in ahead by a narrow margin during the second period. Combining all observations, the men averaged less than 0.4 mile per hour faster than the women.

The first observation period extended from November 24, 1933 to January 31, 1934, inclusive, and included a tabulation of 11,358 cars, the over-all average speed of which was 42.9 miles per hour. Of these, 10,249, or 90.2 percent, were operated by men, while 1,109, or 9.8 percent, were operated by women. The average speed for the men and women drivers was, respectively, 43.0 miles per hour and 41.9 miles per hour. The men, therefore, drove 1.1 miles per hour faster than the women.

During the second observation period, which extended from July 12, 1934 to and including September 6, 1934, it was found that the women were driving faster than the men by 0.6 mile per hour (figure 19). It is of interest that the percentage of women drivers observed was nearly double what it had been in the winter. During this summer period the results were as follows:

16,276 men drivers, average speed, 39.2 miles per hour
3,368 women drivers, average speed, 39.8 miles per hour

The data concerning the relationship between speed and the number of passengers were fairly consistent as between summer and winter. These data indicate that the unaccompanied driver drives, on the average, somewhat faster than one with passengers in the

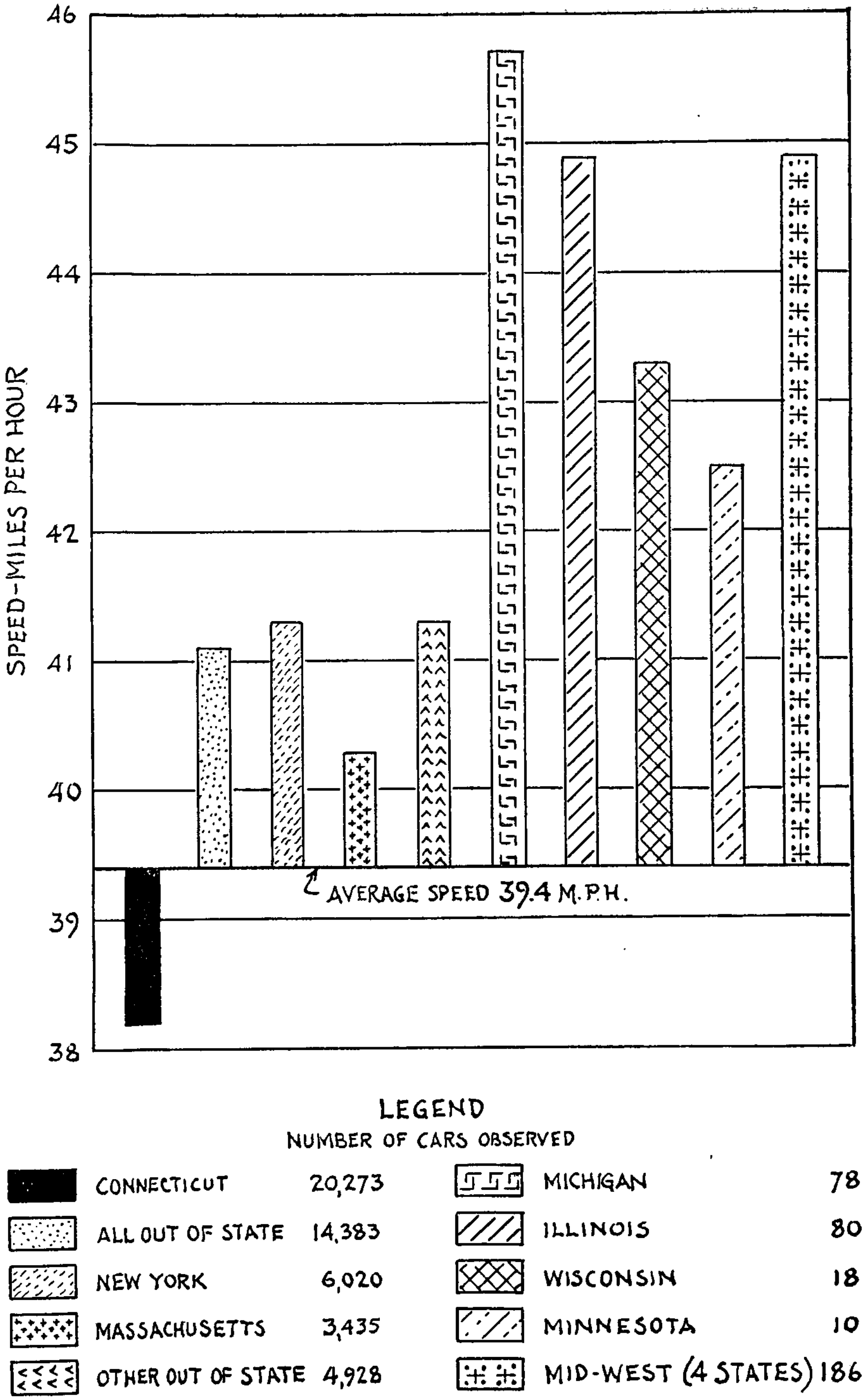

FIG. 18. Deviations from average speed according to State of Registration, passenger cars in the daytime, Summer period.

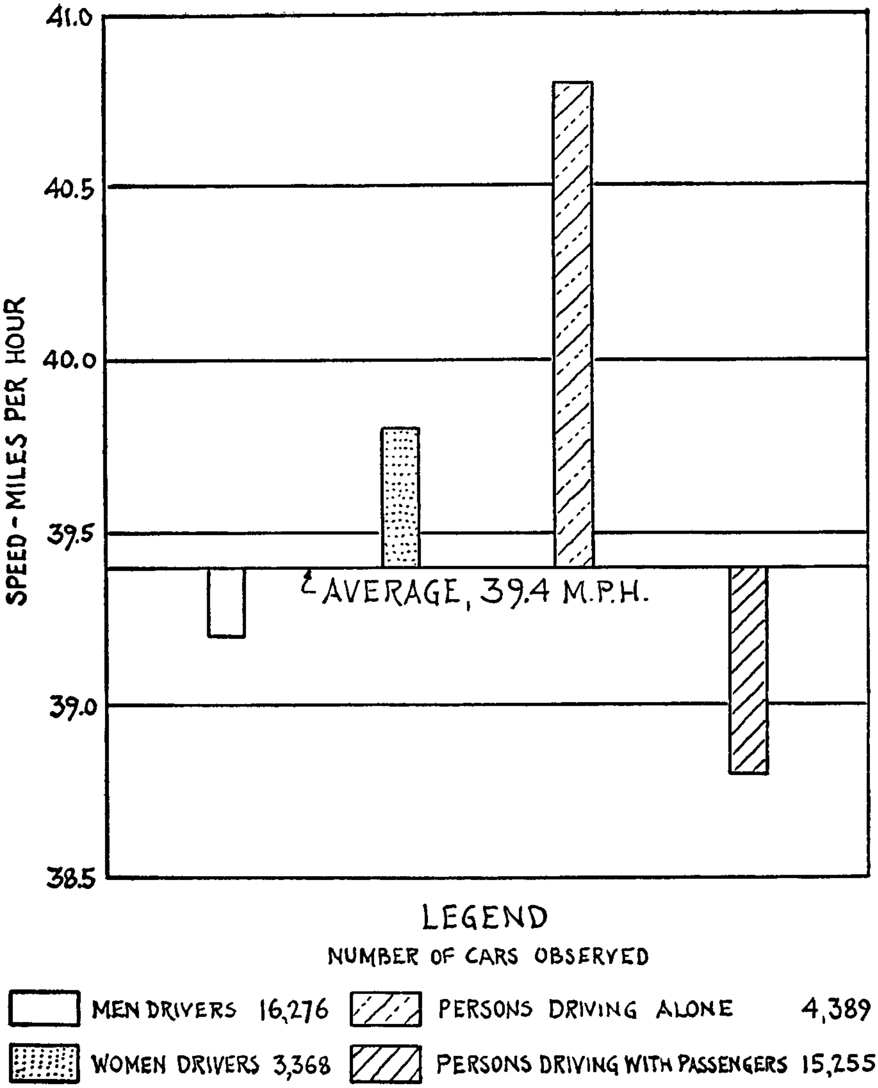

FIG. 19. Deviations from average speed to certain classes of vehicle operators in Summer period (July 12 to September 6, 1934).

vehicle with him. The results during the winter were:

4,800 drivers without passengers, 43.7 miles per hour
5,417 drivers with passengers, 43.2 miles per hour

During the summer (figure 19) the results were:

4,389 drivers without passengers, 40.8 miles per hour
15,255 drivers with passengers, 38.8 miles per hour

An interesting fact is that while both classes of drivers drove more slowly in summer than in winter, the lone drivers slowed down but 2.9 miles per hour, while those with passengers dropped in average speed 4.4 miles per hour. In other words, drivers with passengers, as a class, dropped their speed a little over 50 percent more than did drivers without passengers. This confirms the theory expressed earlier, that the summer reduction in average speed is largely due to the inclusion of a special class of leisurely summer drivers. Here it appears that the drivers in this slow class are ordinarily accompanied by passengers.

Also interesting are the figures showing the percentage of the separate observation periods in which the lone drivers were faster. For example, out of a total of 31 locations during the winter period, 23 times, or about 75 percent of the time, the single drivers were faster. During the summer, at 35 out of 42 locations, or a little over 83 percent of the time, the same was true, while for 3 places, or 7 percent of the time, there was no difference in speed, and 4 times, or about 9.5 percent of the time, the drivers with passengers were faster.

Correlation of Observed Vehicle Speeds with Accident Records

Over a period of six months, during the winter and spring periods, the license number of each car was recorded along with its speed. It was desired to choose two groups of cars: one group observed traveling at moderate speeds, and one group at high speeds. The average speed for all passenger vehicles on main highways is close to 40 miles per hour. On this basis the high-speed group was made up of cars traveling at 50 miles per hour or faster, and the moderate-speed group of those going between 35 and 45 miles per hour. All cars falling in the high-speed group were taken for the high-speed list. The number of moderate-speed cars was much larger, so about as many moderate-speed as high-speed cars were taken from each day's records. This gave two sets of cars observed at different speeds, but at the same place and the same time. In the final tabulation there was more duplication among the high-speed than the moderate-speed group, so the final totals were 981 high-speed and 1,054 moderate-speed cars. These were listed separately and the license numbers were sent to the Connecticut Department of Motor Vehicles. There the owner of each car was looked up, and his accident record since 1928 obtained. The number of accidents for each owner was written opposite his license number and the lists were returned. No distinction was made as to the seriousness of the accidents, nor as to the degree of responsibility of the owners for the accidents.

The results are shown in table 5. The original records are tabulated in the first part of this table. For fair comparison between the two speed groups, the second part shows the same data per 1,000 cars, thus correcting for the fact that there are not the same number of cars observed in each group.

TABLE 5

Accident records of owners of cars observed traveling at high and low speeds

Speed class	Total cars	Owners with accident r'ds	Total accidents	Number of owners with the following number of accidents					
				1	2	3	4	5	6
High speed:	981	273	438	168	71	15	13	5	1
Low speed:	1,054	225	324	152	54	13	5	1	0

Accidents per thousand cars

High speed:	1,000	278	446	171	72	15	13	5	1
Low speed:	1,000	213	307	144	51	12	5	1	0

It appears from these figures that 30 percent more of those operators who travel at comparatively high speeds have accident records than of those traveling at moderate speeds. Moreover, the high-speed drivers who have accidents have more of them, so that they account for 45 percent more accidents than do the low-speed drivers.

From these results alone it is of course impossible to state whether high speed causes accidents. It may be that people who drive fast are more likely to have accidents at any speed. At any rate, these data indicate fairly conclusively that, on the whole, the fast driver is less careful than the moderate driver.

Various objections have been raised as to drawing conclusions from data collected as these were. These objections are as follows:

1. Each car is observed only once. A car on the high-speed list may have been going fast only at the particular moment when he was being timed, and contrariwise, a car on the slow list may have slowed only over that particular stretch.

This objection is perfectly valid. Obviously, some slow cars have been included on the fast list, and vice versa. In 24 cases the same car appeared on both lists. But the effect of this error is to push the results on each list toward, rather than away from, the average for the whole driving population. If this effect could be eliminated, the fast cars should show even more accidents than they do, and the slow cars even less.

2. In the case of each car, the record of the owner of the car is consulted. What assurance have we that the owner was actually the driver when the car was observed?

This is the most serious objection to the method. Doubtless a very large number of cars on each list were driven by people other than their owners. This factor eliminates the possibility of drawing quantitative conclusions from the results. But here again, the effect is to minimize the differences between the records of fast and slow drivers. If a non-owner-driven car in the fast list has a speeding owner, no harm is done; if the owner is a slow driver, we have erroneously included a slow driver in the fast list, and, judging by the totals in the tables, he will in general have a cleaner accident record. Again, the error tends to push the totals toward the average for the general population.

3. The accident records since 1928 were consulted. Some of the drivers will not have been driving as long as that.

True, but this will apply equally to each list, and the errors introduced will tend to cancel one another.

From the speed and accident analysis we conclude that, (1) in general, more automobile vehicle operators who travel at comparatively high rates of speed have accident records than those who travel at moderate rates; (2) the high-speed operators with accident records average more accidents per operator than the low-speed operators; (3) any error in the statistics used to draw these conclusions is presumably in the direction of minimizing the discrepancies between the two classes of drivers.

APPENDIX I

The Connecticut Motor Vehicle Laws have the following regulations concerning speed of vehicles.* These are comprised in Sections 1581 and 1582 of the law, revised to July 1, 1931, the pertinent parts of which are herewith quoted:

"Sec. 1581. **Reckless driving.** (a) No person shall operate any motor vehicle upon the highway of the state recklessly, having regard to the width, traffic and use of such highway, the intersection of streets and the weather conditions, or so as to endanger the property or life or limb of any person. (b) No person shall operate any motor vehicle upon any public highway of the state at a rate of speed greater than is reasonable, having regard to the width, traffic and use of the highway, the inter-section of streets and the weather conditions. (c) Any person who shall violate any provision of subsection (a) of this section shall be fined not less than twenty-five nor more than one hundred dollars or imprisoned not more than thirty days or both for the first offense and for each subsequent offense shall be fined not less than one hundred nor more than two hundred dollars or imprisoned not more than one year or both. Any person who shall violate any provision of sub-section (b) of this section shall be fined not less than ten nor more than one hundred dollars. No person shall be convicted of a violation of both sub-sections (a) and (b) of this section if the same act shall constitute both violations.

"Sec. 1582. **Certain acts declared reckless.** The operation of a motor vehicle upon any public highway at such a rate of speed as to endanger the life of any person other than an occupant of such motor vehicle or the operation, down grade, upon any highway of any commercial motor vehicle with the clutch or gears disengaged, shall constitute a violation of the provisions of subsection (a) of section 1581. The operation of a motor vehicle upon any public highway at such a rate of speed as to endanger the life of any occupant of such motor vehicle but not the life of any other person than such an occupant, shall constitute a violation of the provisions of sub-section (b) of section 1581."

*It should be noted that the observations recorded in this report were made before the speed limit of 45 miles per hour (1935) was established. This is now (1936) 50 miles per hour.

APPENDIX II

Speed at a Railroad Grade Crossing

A brief series of observations was made at the level crossing of route 5A with the New Haven Railroad track in North Haven, station 42D. A sketch of this location is shown in Figure 20.

In the hour during which this spot was studied, 225 vehicles passed. Ten of these were buses and four were oil trucks, all of which came to a full stop before crossing the tracks. Their speeds are, therefore, not included in the general average. The other 211 vehicles averaged 24.7 miles per hour. The 177 passenger cars averaged 25.3 miles per hour, and the 34 trucks, 21.5 miles per hour.

The average speeds of passenger cars for stations 19C and 19B, the two stations nearest to the crossing on route 5A and 5, are 40.1 and 40.8 miles per hour, respectively.

Speeds on Madison Curve

The curve on the heavily traveled Boston Post Road, U. S. 1, at Madison, was chosen for a special study, since it is one of the most dangerous in the State. The curve has a radius of 340 feet, with an included angle of nearly 80 degrees. A sketch plan of the curve is shown in figure 21. The area between the outside shoulder of the road and the gasoline pump is hard and fairly level. On the inside of the curve there is a stone ledge high enough to curtail visibility around the curve. The warning signs at the curve and on the approaches are inadequate to bring about a safe reduction in speed, which, of course, increases the tendency to skid.

There is a large yellow sign beside the gasoline pump with three large black arrows painted on it. This is on the outside of the curve, and supposedly where drivers coming from either direction will see it. Since, however, it is some distance off the road, and the driver's attention is, and should be, directed toward the inside of the curve it is doubtful if it is seen at all in the majority of cases.

At five different times, 2,095 cars were observed on this curve. Four of these times were in good weather, and 1,925 cars were observed. The other 170 were observed on a day when the road was covered with hard-packed snow.

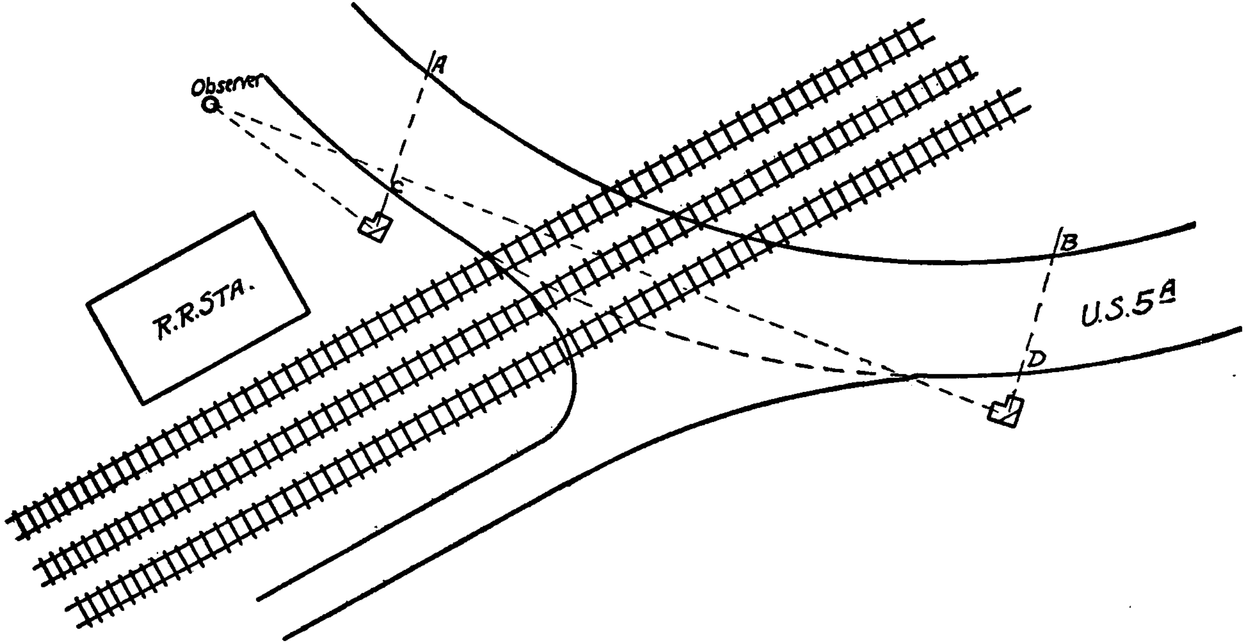

FIG. 20. Railway grade crossing Route US5A and N.Y., N.H. and H.R,R, at North Haven Station.

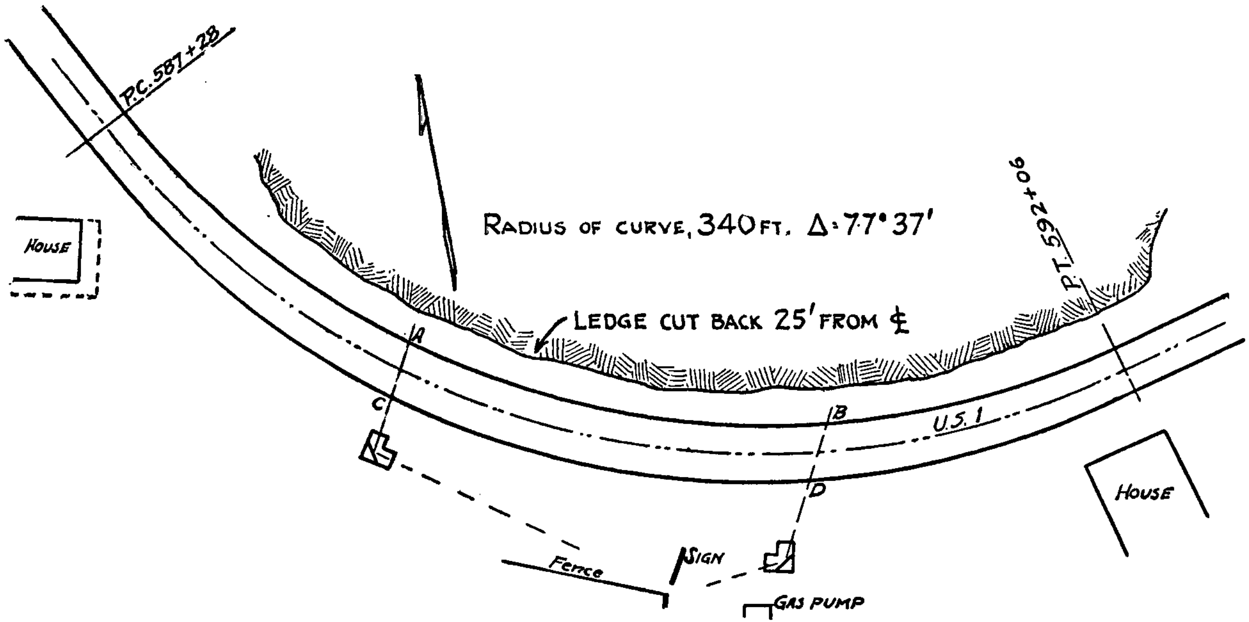

FIG. 21. The curve in the Boston Post Road, US 1, at Madison.

The average speed of all cars observed in good weather was 30.4 miles per hour. On the snowy day February 5, the average was 25.8 miles per hour. The daily averages for the good weather were:

Date	Number of Cars	Speed m.p.h.
January 10	124	29.9
January 19	226	31.7
September 25	857	30.3
September 26	718	30.1

It will be seen that the daily averages do not vary greatly from the general average.

For comparison with these speeds, 1,514 cars were observed on a long, straight stretch 0.7 mile west of this curve on September 25 and 26. There the general average was 39.6 miles per hour, or 9.2 miles per hour faster than on the curve.

A frequency-distribution of the speed of the cars observed on the Madison curve on September 26 follows:

Miles per Hour	Number of Cars	Percent of Total
18	2	0.3
19	2	0.3
20	5	0.7
21	2	0.3
22	5	0.7
23	18	2.5
24	28	3.9
25	32	4.4
26	39	5.4
27	55	7.7
28	35	4.9
29	88	12.3
30	66	9.2
31	44	6.1
32	121	16.9
33	48	6.7
34	48	6.7
35	28	3.9
36	17	2.4
37	0	0.0
38	14	1.9
39	9	1.2
40	7	1.0
41	4	0.5
42	0	0.0
43	1	0.1
Total	718	100.0

The sharp drop between 32 and 36 miles an hour is interesting. The speed of 43 miles per hour was the maximum observed at this curve at any time, and was attained by only one car.

In many cases, tires "squealed" as cars rounded the curve. A check was kept to see if there was any relationship between this phenomenon and the speed, but none could be found. A few squeals were noticed at each speed between 33 and 41 miles per hour. Most of the cars which negotiated the curve at 40 miles per hour or more did so without any slipping or squealing. It seems, therefore, that slipping is due to condition of tires or to faulty handling of the car, rather than to speed in itself.

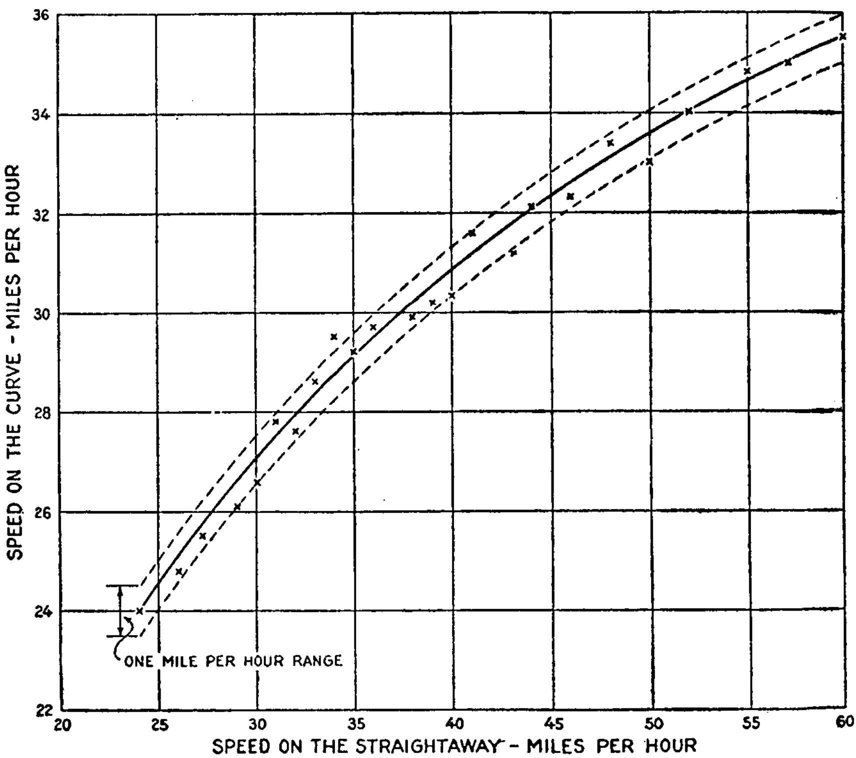

FIG. 22. Madison Curve, Stations 13C and 13D. Average speeds on the straightaway compared with average speeds on the curve.

On September 25 and 26 many license numbers as well as speeds were taken both on the curve itself and on the straight stretch to the west. Later the data were compared and the speeds of individual cars at each point could be found. In compiling these results, all the cars going at a given speed on the straight stretch were grouped together. The speeds of these same cars on the curve were listed, and the average determined. Thus, 11 cars were observed at 27 miles per hour on the straight stretch. These cars had the following speeds on the curve: One at 20; one at 22; three at 24; one each at 25, 26, 27; two at 29; and one at 30. The average of these is 25.5 miles per hour. The 82 cars going 40 miles per hour on the straight stretch averaged 30.3 miles per hour on the curve. Figure 22 shows graphically the relationship between these speeds. It is of interest to note that although it is perfectly possible to take the curve at 35 miles per hour, the average car approaching it at 35 miles per hour slows to less than 30 miles per hour.

On February 5, when the road was covered with snow, the average speed, as stated above, was 25.8 miles per hour, 4.4 miles per hour slower than on a dry road. On this date the slowest car was going 13 miles per hour and the fastest were three cars going 32 miles per hour.

APPENDIX III

LOCATION AND SCHEDULE OF SPEED OBSERVATIONS

Sta. No.	Town	Location of Traffic Census Station	Speed Survey Station	Observed Date	Observed Hours
2	Ridgefield	At Junction of U.S. 7 and Conn. 35, approximately 5½ miles S. of Danbury.	0.2 mile N. on U.S. 7, ½ mile level tangent, 20-ft. two-lane concrete.	Wed., July 25, 1934	3:00 P. M.— 6:30 P. M.
3	West Haven	At junction of U.S. 1 and Conn. 158 at West Haven.	2.0 miles W. on U.S. 1, ½ mile nearly level tangent, 36-ft. four-lane concrete.	Tues., Nov. 21, 1933	6:00 A. M.—11:30 A. M.
				Mon., Dec. 4, 1933	9:00 A. M.—12:00 M.
				Mon., Dec. 11, 1933	9:30 A. M.— 5:00 P. M.
				Sat., Jan. 6, 1934	3:30 P. M.—10:30 P. M.
				Mon., Feb. 5, 1934	2:30 P. M.— 5:00 P. M.
				Mon., Mar. 19, 1934	10:30 P. M.— 6:00 A. M.
				Tues., Mar. 20, 1934	10:30 P. M.— 6:00 A. M.
				Wed., Mar. 21, 1934	10:30 P. M.— 6:00 A. M.
				Fri., April 6, 1934	9:00 A. M.—12:30 P. M.
				Wed., May 16, 1934	1:30 P. M.— 5:00 P. M.
				Fri., June 1, 1934	2:30 P. M.—10:00 P. M.
				Sat., June 2, 1934	9:30 A. M.— 5:00 P. M.
				Sun., July 29, 1934	2:00 P. M.—10:00 P. M.
				Fri., Sept. 7, 1934 Sat., Sept. 8, 1934	10:00 P. M.— 6:00 A. M.
4	Naugatuck	At junction of Conn. 8 and Conn. 63 at S. limits of Naugatuck.	1.0 mile S. on Conn. 8, level, slightly winding, high-crowned, 30-ft. macadam.	Tues., June 19, 1934	9:30 A. M.—11:30 A. M.
6	Enfield	On U.S. 5, approximately ½ mile S. of the Conn.-Mass. State Line at truck scales.	4.6 miles S. on U.S. 5, ½ mile level tangent, 25-ft. macadam.	Sun., July 1, 1934	2:00 P. M.—10:00 P .M.
				Wed., Sept. 5, 1934	2:00 P. M.—10:00 P. M.
				Thurs., Sept. 6, 1934	6:00 A. M.— 2:00 P. M.
7	Putnam	The North junction of Conn. 12 and 101 at Putnam.	1.0 mile E. on Conn. 101, ½ mile tangent, 20-ft. two-lane concrete.	Fri., July 13, 1934	2:00 P. M.— 4:30 P. M.
9	Darien	At junction of U.S. 1 with Conn. 29, Conn. 118 and Conn. 136 at Darien.	0.8 mile E. on U.S. 1. Short tangent, slightly ascending grade E., 36-ft., four-lane concrete.	Mon., June 25, 1934	11:00 A. M.— 1:00 P. M.

Sta. No.	Town	Location of Traffic Census Station	Speed Survey Station	Observed Date	Observed Hours
12	Branford	Junction of U.S. 1 and Conn. 142 at Branford.	A. 1.7 miles W. on U.S. 1. Slight curve located in hollow between ascending grades. 36-ft., four-lane concrete.	Fri., Dec. 22, 1933	12:30 P. M.— 2:00 P. M.
			B. 0.3 miles W. on U.S. 1. Ascending grade W., 36-ft. four-lane concrete.	Fri., Dec. 22, 1933	2:00 P. M.— 4:00 P. M.
			C. 1.0 mile W. on U.S. 1. Short tangent at crest of hill. 36-ft., four-lane concrete.	Tues., Jan. 9, 1934	6:30 A. M.—10:00 A. M.
			D. 1.0 mile E. on U.S. 1-A. ¾ mile level tangent. 20-ft. two-lane concrete.	Tues., Jan. 9, 1934	10:30 A. M.—12:00 M.
13	Madison	Junction of U.S. 1 and Conn. 79 at Madison.	A. 2.1 miles E. on U.S. 1. ½ mile level tangent. 20-ft. two-lane concrete.	Wed., Jan. 10, 1934	7:00 A. M.—10:00 A. M.
				Mon., June 18, 1934	9:00 A. M.—12:00 M.
			B. 0.6 mile W. on U.S. 1. Slight curve in settled area. 20-ft., two-lane concrete.	Wed., Jan. 10, 1934	10:30 A. M.— 1:30 P. M.
			C. 0.8 mile W. on U.S. 1. Sharp curve, 20-ft., two-lane concrete.	(Special Studies)	
				Wed., Jan. 10, 1934	12:30 P. M.— 2:00 P. M.
				Fri., Jan. 19, 1934	10:00 A. M.—12:30 P. M.
				Mon., Feb. 5, 1934	10:00 A. M.—12:30 P .M.
				Tues., Sept. 25, 1934	10:00 A. M.— 5:00 P. M.
				Wed., Sept. 26, 1934	1:00 P. M.— 5:00 P. M.
			D. 1.3 miles W. on U.S. 1. ¼ mile level tangent, 20-ft. two-lane concrete.	Fri., Jan. 19, 1934	1:30 P. M.— 5:00 P. M.
				(Special Studies)	
				Tues., Sept. 25, 1934	10:00 A. M.— 5:00 P. M.
				Wed., Sept. 26, 1934	1:00 P. M.— 5:00 P. M.
14	Old Saybrook	Junction of Conn. 9 and U.S. 1 at Old Saybrook.	0.7 mile E. on U.S. 1. ¾ mile level tangent, 20-ft. two-lane concrete.	Thur., Mar. 29, 1934	10:00 A. M.— 5:00 P. M.
				Wed., July 4, 1934	6:00 A. M.— 2:00 P. M.
				Sat., Sept. 1, 1934	2:00 P. M.—10:00 P. M.
				Sun., Sept. 2, 1934	2:00 P. M.—10:00 P. M.

15	Waterford	Junction of U.S. 1 and Conn. 156, approximately 2 miles W. of New London.	1.0 mile W. on U.S. 1. 1/4 mile level tangent. 20-ft. two-lane concrete.	Thur., July 5, 1934 Sat., July 7, 1934 Fri., Aug. 31, 1934	6:00 A. M.— 2:00 P. M. 2:30 P. M.—10:00 P. M. 2:30 P. M.—10:00 P. M.
16	Stonington	Junction Conn. 84 and U.S. 1 in Pawcatuck.	1.5 miles W. on U.S. 1. 18-ft., single strip concrete. Short tangent at bottom of dip in road.	Fri., July 6, 1934	9:30 A. M.— 1:00 P. M.
19	North Haven	Junction of U.S. 5 and Conn. 15, approximately 2 miles N. of New Haven.	A. 2.3 miles N. on Conn. 15. 1/8 mile level tangent. 20-ft. two-lane concrete. B. 4.1 miles N. on U.S. 5. 1/4 mile level tangent. 24-ft. macadam. C. 3.0 miles N. of New Haven on U.S. 5-A. 20-ft. concrete. 1/4 mile level tangent.	Thur., Mar. 8, 1934 Thur., Mar. 15, 1934 Wed., Mar. 28, 1934 Thur., Mar. 8, 1934 Sat., Mar. 10, 1934 Wed., Mar. 28, 1934	9:30 A. M.—12:30 P. M. 3:00 P. M.— 5:00 P. M. 9:00 A. M.—12:30 P. M. 2:00 P. M.— 4:00 P. M. 9:30 A. M.—12:00 M. 1:30 P. M.— 4:30 P. M.
20	Berlin	North junction of Conn. 72 and U.S. 5 at Berlin.	A. 2.3 miles N. on U.S. 5. Near middle of descending grade N. 20-ft., two-lane concrete. B. 6.1 miles N. on U.S. 5. 1/2 mile level tangent macadam.	Mon., Feb. 12, 1934 Mon., Feb. 12, 1934	2:00 P. M.— 4:30 P. M. 10:00 A. M.— 1:30 P.M.
22	Glastonbury	Junction of Conn. 2, 15 and 94 at Glastonbury.	1.7 miles S. on 15. Short tangent at bottom of dip. Road generally winding and built up for several miles. 35 m.p.h. slow signs. 20-ft. two-lane concrete.	Fri., Aug. 10, 1934	2:00 P. M.— 6:00 P. M.
23	Haddam	Junction of Conn. 9 and 81 at Higganum.	3.4 miles S. on Conn. 9. 1/4 mile tangent nearly level. 20-ft., two-lane concrete.	Mon., June 18, 1934	1:30 P. M.— 4:30 P. M.

Sta. No.	Town	Location of Traffic Census Station	Speed Survey Station	Observed Date	Hours
24	North Branford	Junction of Conn. 15 and 150, approximately 1½ miles N. of Northford.	1.2 miles N. on Conn. 15. ½ mile tangent slight dip. 20-ft., two-lane concrete.	Tues., Nov. 28, 1933 Fri., Dec. 15, 1933 Thurs., Jan. 25, 1934 Sun., April 22, 1934 Mon., May 21, 1934 Thur., June 28, 1934 Wed., July 18, 1934	6:30 A. M.— 2:00 P. M. 10:00 A. M.— 4:30 P. M. 7:00 A. M.— 2:00 P. M. 2:00 P. M.—10:00 P. M. 10:00 A .M.— 2:00 P. M. 9:00 A. M.—12:00 M. 10:30 A. M.— 2:00 P. M.
26	Danbury	Straightaway count on U.S. 6, approximately 2 miles W. of Danbury.	0.8 mile W. on U.S. 6. ¼ mile level tangent. 20-ft. two-lane concrete. Wide shoulders.	Thurs., July 26, 1934	2:00 P .M.— 6:00 P. M.
27	Stamford and Greenwich	Straightaway count on U.S. 1 at Stamford-Greenwich town line.	0.2 mile W. on U.S. 1. 200-yd. tangent nearly level. 36-ft. concrete.	Fri., July 27, 1934 Sat., July 28, 1934 Sun., Sept. 9, 1934 Mon., Sept. 10, 1934	2:00 P. M.—10:00 P. M. 2:00 P. M.—10:00 P. M. 10:30 P. M.— 6:00 A. M.
29	Westport and Norwalk	Straightaway count on U.S. 1 at Westport-Norwalk town line, approximately 2 miles N. E. of Norwalk.	At Station. 4-lane, 36-ft. concrete. Level tangent for ⅓ mile.	Wed., Feb. 7, 1934	10:30 A .M.— 5:00 P. M.
30	Westport	At junction of U.S. 1 and Conn. 136, N. side of Southport.	A. 1.7 miles W. on U.S. 1. ½ mile tangent, 36-ft., four-lane concrete. Trolley tracks on S. side of pavement.	Sat., Nov. 25, 1933 Fri., May 18, 1934 Sat., June 16, 1934 Sun., June 24, 1934	2:30 P. M.— 5:00 P. M. 2:00 P. M.—10:00 P. M. 6:30 A. M.— 2:00 P. M. 2:00 P. M.—10:00 P. M.
			B. 2.3 miles W. on U.S. 1. Descending grade E. Two 18-ft. concrete roadways.	Sat., Nov. 25, 1933	6:00 P. M.—10:00 P. M.
32	Milford	At junction of U.S. 1-A and Conn. 121, approximately 1 mile N. E. of Milford.	A. 2.3 miles E. on U.S. 1. At bottom of dip in road. 4-lane, 36-ft. concrete.	Wed., Nov. 29, 1933 Mon., Dec. 4, 1933	8:30 A. M.— 3:30 P. M. 1:00 P. M.— 2:00 P. M.
			B. 1.9 miles E. on U.S. 1. ¼ mile level tangent. 36-ft., 4-lane concrete.	Mon., Dec. 4, 1933	2:30 P. M.— 4:00 P. M.

40	Groton	Junction of U.S. 1, Conn. 12 and Conn. 84 at Groton.	4.0 miles E. on U.S. 1. 22-ft. macadam, ½ mile level tangent.	Fri., July 6, 1934	2:30 P. M.— 4:30 P. M.
42	Meriden	On Route U.S. 5-A, approximately 1 mile S. of Meriden.	A. 1.5 miles S. on U.S. 5. ½ mile level tangent. 2-lane, 20-ft. concrete.	Wed., Jan. 31, 1934 Fri., Mar. 2, 1934 Thur., May 17, 1934 Thur., June 21, 1934	12:30 P. M.— 2:30 P. M. 10:30 A. M.— 1:00 P. M. 9:00 A. M.— 5:00 P. M. 1:30 P. M.— 4:00 P. M.
			B. 3.0 miles S. on U.S. 5. ½ mile level tangent. 2-lane, 20-ft. concrete.	Wed., Dec. 13, 1933 Sun., Jan. 7, 1934	10:00 A. M.— 5:00 P. M. 3:00 P. M.—10:30 P .M.
			C. 5.5 miles S. on U.S. 5. ½ mile level tangent. 22-ft. macadam.	Thur., Mar. 15, 1934	10:00 A. M.—12:00 M.
			D. North Haven grade crossing on 5-A. Macadam.	(Special Study) Wed., Jan. 31, 1934	 3:30 P. M.— 5:00 P. M.
43	Meriden	On Route U.S. 5-A, approximately 1 mile N. of Meriden.	1.1 miles N. on U.S. 5-A. ½ mile level tangent. 20-ft. 2-lane concrete. Fastest place observed.	Fri., Nov. 24, 1933 Mon., Jan. 8, 1934 Sun., Jan. 21, 1934 Wed., Jan. 31, 1934 Wed., April 18, 1934 Thur., June 21, 1934	7:00 A. M.— 2:00 P. M. 2:30 P. M.—10:00 P. M. 7:00 A. M.— 2:00 P .M. 9:30 A. M.—12:00 M. 2:00 P. M.—10:00 P. M. 10:00 A. M.—12:00 M.
49	Southington	At junction of Conn. 10 and Conn. 120 at Southington.	2.1 miles N. on Conn. 10. ½ mile level tangent. 20-ft. macadam.	Fri., Feb. 16, 1934 Sat., June 23, 1934 Sun., July 8, 1934	2:00 P. M.— 5:00 P. M. 2:30 P. M.—10:00 P. M. 2:00 P. M.—10:00 P. M.
51	Cheshire	At junction of Conn. 10 and Conn. 70 at Cheshire.	A. 2.2 miles S. on Conn. 10. ¼ mile level tangent. 20-ft. macadam.	Wed., Feb. 14, 1934	2:00 P. M.— 5:00 P. M.
			B. 3.6 miles N. on Conn. 10. ½ mile level tangent. 16-ft. macadam.	Fri., Feb. 16, 1934	9:30 A. M.—12:30 P. M.

Sta. No.	Town	Location of Traffic Census Station	Speed Survey Station	Observed Date	Observed Hours
52	Hamden	Straightaway count on Conn. 10, N. of Centerville.	A. 1.2 miles S. on Conn. 10. Near bridge over Mill River. 4-lane, outer concrete, inner macadam, with trolley tracks. Level tangent for 1/4 mile. Settled area.	Tues., Nov. 14, 1933 Fri., Nov. 17, 1933	2:30 P. M.— 6:30 P. M. 3:00 P. M.— 6:30 P. M.
			B. 1.6 miles N. on Conn. 10. 1/4 mile level tangent. Road same as 52-A.	Wed., Feb. 14, 1934 Thurs., May 31, 1934	9:30 A. M.— 2:00 P. M. 6:30 A. M.— 2:00 P. M.
59	Easton	At junction of Conn. 58 and Conn. 106, approximately 1 mile W. of Easton.	0.3 mile S. on Conn. 58. Level, slightly winding. 26-ft macadam.	Mon., June 25, 1934	2:00 P. M.— 5:00 P. M.
63	Shelton	Straightaway count on Conn. 65, approximately 1 mile S. of business district of Shelton.	1.3 miles S. on Conn. 65. Very short tangent, slight down-grade to N. 2-lane, 20-ft. concrete.	Tues., June 19, 1934	1:30 P. M.— 4:00 P. M.
66	Newtown	At E. junction of U.S. 6 and Conn. 34 with town road at Sandy Hook.	3.1 miles E. on U.S. 6. 200-yd. tangent. Slight ascending grade E. 22-ft. macadam.	Sun., July 22, 1934 Mon., Aug. 6, 1934 Tues., Aug. 7, 1934	2:00 P. M.—10:00 P. M. 2:00 P. M.—10:00 P. M. 6:00 A. M.— 2:00 P. M.
72	Southbury	At N. junction of U.S. 6 and Conn. 67, approximately 1 1/4 miles N. of Southbury.	0.5 mile S. on U.S. 6. 1/4 mile level tangent. 20-ft. macadam, built-up section.	Thurs., July 26, 1934	10:00 A. M.— 1:00 P.M.
76	Kent	At junction of U.S. 7 and Conn. 130, approximately 4 miles S. of Kent.	2.2 miles N. on U.S. 7. 1/4 mile level tangent. 2-lane, 18-ft. concrete.	Tues., Jan. 30, 1934 Fri., April 27, 1934 Thur., July 19, 1934	3:00 P. M.— 9:00 P. M. 6:00 A. M.— 2:00 P. M. 2:30 P. M.— 5:00 P .M.
77	Washington	At junction of Conn. 25 and Conn. 45 at New Preston.	0.9 mile E. on Conn. 25. 3/4 mile tangent, nearly level. 20-ft., 2-lane concrete.	Thur., July 19, 1934	9:30 A. M.—12:30 P. M.
78	Cornwall	At junction of U.S. 7 and Conn. 45, approximately 1 mile S. W. of Cornwall Bridge.	3.0 miles E. on Conn. 45. 300-yd. tangent, nearly level at crest of grade. 20-ft. macadam.	Fri., July 20, 1934	9:30 A. M.—12:00 M.

81	Salisbury	At N. E. junction of Conn. 41 and Conn. 199 at Salisbury.	0.9 mile N. on Conn. 41. 200-yd. level tangent. 20-ft., 2-lane concrete.	Fri., July 20, 1934	2:00 P. M.— 5:00 P. M.
86	Litchfield	At junction of Conn. 25 and Conn. 61 at Litchfield.	3.5 miles E. on Conn. 25. ¼ mile level tangent. 2-lane, 20-ft. concrete.	Sat., July 21, 1934 Wed., Aug. 15, 1934 Thur., Aug. 16, 1934	2:00 P. M.—10:00 P. M. 2:00 P. M.—10:00 P. M. 6:00 A. M.— 2:00 P. M.
89	Winchester	Straightaway count on Conn. 8, ½ mile S. of Winsted.	1.8 miles S. on Conn. 8. ½ mile level tangent. 20-ft., 2-lane concrete.	Tues., Aug. 14, 1934	3:00 P. M.— 6:00 P. M.
92	Waterbury and Wolcott	Straightaway count on Conn. 14 at Waterbury-Wolcott town line, approximately 4 mile E. of Waterbury.	1.0 mile E. on Conn. 14. 26-ft. macadam. Downgrade W.	Wed., June 27, 1934	10:30 A. M.—12:00 M.
93	Woodbridge	At junction of Conn. 67 and Conn. 63, approximately 5 miles E. of Seymour.	A. 1.0 mile W. on Conn. 67. ¼ mile level tangent. 2-lane, 20-ft. concrete.	Thur., Dec. 21, 1933	9:30 A. M.—12:00 M.
			B. 2.2 miles N. on Conn. 63. ⅜ mile level tangent at crest of hill. 2-lane, 20-ft. concrete.	Thur., Dec. 21, 1933	1:30 P. M.— 5:00 P. M.
95	Orange	At junction of Conn. 34 and Conn. 152, approximately 6 miles W. of New Haven.	A. 0.9 mile E. on Conn. 34. ¼ mile level tangent. 2-lane, 20-ft. concrete.	Wed., Dec. 27, 1933 Wed., Mar. 7, 1934	9:30 A. M.—12:30 P. M. 3:00 P. M.— 5:00 P. M.
			B. 0.8 mile W. on Conn. 34. ¼ mile tangent on grade ascending W. 2-lane, 20-ft. concrete.	Wed., Dec. 27, 1933	1:30 P. M.— 5:00 P. M.
102	Avon	At junction of Conn. 101 and Conn. 10 at E. edge of Avon.	0.2 mile W. on Conn. 10 and 101. 4-lane, 40-ft. concrete. ⅜ mile level tangent.	Wed., Aug. 8, 1934	9:30 A. M.—12:00 M.
104	Granby	At junction of Conn. 10, 189, 20 and 9 at Granby.	0.9 mile N. on Conn. 10. ¼ mile level tangent. 30-ft. macadam.	Wed., Aug. 8, 1934	1:00 P. M.— 4:00 P. M.

Sta. No.	Town	Location of Traffic Census Station	Speed Survey Station	Observed Date	Observed Hours
107	Middlefield	Junction of Conn. 14 and Conn. 147, approximately.	A. 2.9 miles E. on Conn. 14. ¼ mile level tangent. 2-lane, 20-ft. concrete.	Wed., Jan. 17, 1934 Wed., April 4, 1934 Thurs., April 5, 1934	10:00 A. M.—12:00 M. 2:30 P. M.—10:00 P. M. 1:30 P. M.— 5:00 P. M.
			B. 1.9 miles E. on Conn. 14. Sweeping curve. 2-lane, 20-ft. concrete.	Wed., Jan. 17, 1934	12:30 P. M.— 2:30 P. M.
			C. 0.3 mile W. on Conn. 14. Near middle of long hill. 2-lane, 20-ft. concrete.	Wed., Jan. 17, 1934	3:00 P. M.— 5:00 P. M.
109	Cromwell	Junction of Conn. 9 and State Road to Berlin, in Cromwell.	2.4 miles N. on Conn. 9. ¾ mile level tangent. Built-up area. 2-lane, 20-ft. concrete.	Thur., Apr. 5, 1934	10:30 A. M.—12:30 P. M.
110	Durham	Junction of Conn. 15 and Conn. 147 at Durham.	0.8 mile N. on Conn. 15. ½ mile tangent. Ascend-grade N. 2-lane, 20-ft. concrete.	Fri., Mar. 16, 1934	10:00 A. M.— 4:30 P. M.
120	Preston	Junction of Conn. 12 and State Road E. to Poquetanuck at Norwich State Hospital.	1.2 miles N. on Conn. 12 30-ft. macadam. Short level tangent in front of Conn. State Hospital.	Fri., Aug. 24, 1934	3:00 P. M.— 5:00 P. M.
124	Norwich	Junction of Conn. 2 and Conn. 32, at Yantic.	1.0 miles W. on Conn. 2. 300-yd. level tangent. 30-ft. macadam.	Fri., Aug. 24, 1934	9:00 A. M.— 1:00 P. M.
127	Canterbury	Junction of Conn. 14 and Conn. 93.	1.2 miles W. on Conn. 14. 300-yd. level tangent. 30-ft. macadam.	Sat., July 14, 1934	9:30 A. M.— 1:00 P .M.
129	Hampton	Junction of Routes U.S. 6 and Conn. 97 at Hampton.	0.3 mile W. on U.S. 6. Near top of ascending grade E. 28-ft. macadam.	Thur., July 12, 1934 Sun., July 15, 1934 Sat., Aug. 25, 1934	6:00 A. M.— 2:00 P. M. 2:00 P. M.—10:00 P. M. 2:00 P. M.—10:00 P. M.

134	Eastford	Junction of Conn. 91 and Conn. 101 at Phoenixville.	0.6 mile S. on Conn. 91. ¼ mile tangent. 20-ft., 2-lane concrete.	Thur., Nov. 16, 1933 Sat., Jan. 13, 1934 Mon., April 9, 1934 Tues., April 10, 1934 Wed., April 11, 1934 Sat., July 14, 1934	6:00 A. M.— 2:00 P. M. 6:00 A. M.— 2:00 P. M. 11:30 A. M.— 7:00 P. M. 2:00 P. M.—10:00 P. M. 8:00 A. M.— 4:00 P. M. 3:00 P. M.— 5:30 P. M.
136	Ashford	Junction of Conn. 101 and Conn. 89 at Warrenvsille.	1.6 miles W. on Conn. 101. ¼ mile tangent between East and Westbound ascending grades. 22-ft. macadam.	Fri., July 13, 1934	9:00 A. M.—12:00 M.
140	Hebron	Junction of Conn. 14 and Conn. 85 at Hebron.	0.7 mile W. on Conn. 14. 29-ft. macadam. Descending grade W.	Sat., Aug. 11, 1934	9:00 A. M.—12:00 M.
144	East Hartford	Junction of U.S. 6, U.S. 5 and Conn. 15.	1.0 mile N. on U.S. 5 Level very slight S-curve on embankment. 18-ft. macadam.	Fri., Aug. 10, 1934	9:30 A. M.—12:00 M.
147	Tolland	Junction of Conn. 15 and Conn. 74, approximately 3 miles E. of Rockville.	0.8 mile N. on Conn. 15. ¼ mile tangent near middle of descending grade N. 22-ft. macadam, highly crowned.	Thur., Aug. 9, 1934	9:00 A. M.—12:00 M.
148	Mansfield	Junction of Conn. 32 and Conn. 101 at Mansfield Station.	2.2 miles E. on Conn. 101. Short level tangent at crest of hill. 20-ft. macadam.	Thur., Aug. 9, 1934	2:00 P. M.— 5:00 P. M.
150	Stafford	Junction of Conn. 15 and Conn. 20 at West Stafford.	0.3 mile S. on Conn. 15. On easement in long grade. 31-ft. macadam.	Mon., July 2, 1934 Tues., July 3, 1934 Sun., Aug. 26, 1934	2:30 P. M.—10:00 P. M. 6:00 A. M.— 2:00 P. M. 2:00 P. M.—10:00 P. M.
154	Colchester	On Conn. 85, approximately 1 mile S. of Colchester.	1.0 mile W. on Conn. 2. ¼ mile tangent descending grade E. 18-ft. macadam.	Sat., Aug. 11 ,1934	1:00 P. M.— 3:00 P. M.
156	Norfolk	At junction of Conn. 101 and Conn. 49 at Norfolk.	2.8 miles W. on Conn. 101. ⅛ mile tangent. 20-ft., two strip concrete.	Tues., Aug. 14, 1934	10:30 A. M.— 1:00 P. M.

CONNECTICUT VEHICLE SPEED SURVEY — 1933-34 - - - DAY BY DAY SUMMARIES

	DAY	DATE	STATION	WEATHER	ROAD TYPE	TOTAL VEHICLES	AVERAGE SPEED (M.P.H.)	PASSENGER CARS	AVERAGE SPEED (M.P.H.)	PASS. CARS DAY	AVERAGE SPEED (M.P.H.)	CONN. CARS	AVERAGE SPEED (M.P.H.)	FOREIGN CARS	AVERAGE SPEED (M.P.H.)	NEW YORK	AVERAGE SPEED (M.P.H.)	MASSACHUSETTS	AVERAGE SPEED (M.P.H.)	OTHER FOREIGN	AVERAGE SPEED (M.P.H.)	PASS. CARS NIGHT	AVERAGE SPEED (M.P.H.)
1.	Tue.	11/14/33	52A	Clear	CM36	155	34.4	125	34.9	71	36.2	69	36.1	2	42.0	......	......	2	42.0	......	......	54	33.2
2.	Thur.	11/16	134	C**	C20	127	44.6	103	46.4	103	46.4	76	46.2	27	47.0	......	......	......	......	27	47.0	......	......
3.	Fri.	11/17	52A	C	CM36	449	33.8	390	34.3	141	34.1	131	34.0	10	35.7	9	33.6	......	......	1	55.0	249	34.5
4.	Tue.	11/21	3	C	C36	1035	41.8	812	43.7	812	43.7	618	43.5	194	44.4	98	44.0	40	45.2	56	44.6	......	......
5.	Fri.	11/24	43	C	C20	839	46.3	670	48.3	670	48.3	485	48.0	185	49.1	73	49.9	66	48.1	46	49.3	......	......
6.	Sat.	11/25	30A	C	C36	412	40.0	340	41.0	340	41.0	228	40.2	112	42.7	74	42.9	17	41.4	21	43.3	......	......
7.	Sat.	11/25	30B	C	C36	610	36.6	538	36.8	......	......	......	......	......	......	......	......	......	......	......	......	538	36.8
8.	Tue.	11/28	24	C	C20	593	44.4	466	46.7	466	46.7	286	45.0	180	49.4	60	48.5	64	50.2	56	49.4	......	......
9.	Wed.	11/29	32A	C	C36	1509	46.1	1312	46.9	1312	46.9	746	45.5	566	48.5	240	49.0	127	48.1	199	48.2	......	......
10.	Mon.	12/4	3	ULR	C36	674	41.9	562	42.9	562	42.9	356	41.6	206	44.9	85	45.0	48	45.4	73	44.5	......	......
11.	Mon.	12/4	32A	ULR	C36	252	45.2	209	46.0	209	46.0	107	44.8	102	47.2	36	46.5	31	46.6	35	48.2	......	......
12.	Mon.	12/4	32B	ULR	C36	296	42.5	233	43.5	233	43.5	136	41.4	97	46.4	40	45.9	30	47.6	27	45.8	......	......
13.	Mon.	12/11	3	USF	C36	1161	38.3	915	39.2	915	39.2	652	38.4	263	41.1	113	41.1	70	40.9	80	41.3	......	......
14.	Wed.	12/13	42B	USF	C20	1001	42.0	780	43.6	675	43.8	542	43.5	133	45.1	53	45.3	50	44.3	30	45.9	105	42.1
15.	Fri.	12/15	24	SLS	C20	309	33.3	212	35.4	212	35.4	123	34.7	89	36.3	31	34.2	33	35.5	25	40.0	......	......
16.	Thur.	12/21	93A	C	C20	121	37.0	92	38.4	92	38.4	89	38.4	3	38.0	1	30.0	......	......	2	42.0	......	......
17.	Thur.	12/21	93B	C	C20	313	40.1	255	41.9	255	41.9	242	41.6	13	46.8	9	48.0	2	44.5	2	43.5	......	......
18.	Fri.	12/22	12A	C	C36	224	41.6	180	42.1	180	42.1	143	41.5	37	44.5	8	46.0	7	43.3	22	44.4	......	......
19.	Fri.	12/22	12B	C	C36	297	40.9	246	41.7	246	41.7	194	41.1	52	44.0	17	43.9	11	43.8	24	44.2	......	......
20.	Wed.	12/27	95A	C	C20	244	34.8	177	35.2	177	35.2	165	34.8	12	40.1	7	42.6	2	33.3	3	39.0	......	......
21.	Wed.	12/27	95B	C	C20	376	33.1	301	33.9	301	33.9	287	33.9	14	34.5	7	36.0	1	43.0	6	31.3	......	......
22.	Sat.	1/6/34	3	C	C36	775	38.7	655	39.2	279	41.8	212	40.7	67	45.5	36	44.6	14	46.7	17	46.4	376	37.2
23.	Sun.	1/7	42B	R	C20	832	34.1	753	34.2	206	37.8	182	37.5	24	39.7	14	37.5	7	44.5	3	38.7	547	32.8
24.	Mon.	1/8	43	C	C20	726	42.7	598	44.0	310	45.6	250	45.0	60	48.3	33	47.6	17	50.3	10	47.6	288	42.2
25.	Tue.	1/9	12C	C	C36	474	40.1	357	41.6	357	41.6	328	41.3	29	44.7	20	45.3	4	41.5	5	44.8	......	......
26.	Tue.	1/9	12D	C	C20	145	42.6	116	44.6	116	44.6	76	43.6	40	46.5	17	45.2	8	45.6	15	48.5	......	......
27.	Wed.	1/10	13A	C	C20	222	40.7	155	42.9	155	42.9	136	42.3	19	47.1	11	48.8	2	43.0	6	45.3	......	......
28.	Wed.	1/10	13B	C	C20	116	35.4	83	36.3	83	36.3	76	36.0	7	39.0	3	43.0	......	......	4	36.0	......	......
29.	Sat.	1/13	134	LS-LR	C20	106	37.2	81	38.1	81	38.1	66	37.0	15	43.1	1	47.0	8	39.5	6	47.3	......	......
30.	Wed.	1/17	107A	C	C20	193	41.8	141	44.3	141	44.3	111	43.3	30	48.0	6	47.0	12	48.1	12	48.2	......	......
31.	Wed.	1/17	107B	C	C20	191	39.3	135	40.5	135	40.5	117	40.0	18	43.5	6	45.0	5	46.0	7	40.5	......	......
32.	Wed.	1/17	107C	C	C20	196	38.4	159	39.6	159	39.6	140	38.9	19	44.1	7	50.4	7	42.4	5	40.0	......	......
33.	Fri.	1/19	13D	C	C20	415	39.9	322	40.8	322	40.8	245	40.0	77	43.6	35	43.5	17	45.0	25	42.9	......	......
34.	Sun.	1/21	43	C	C20	649	45.9	591	46.4	591	46.4	476	45.6	115	49.5	44	49.6	49	49.1	22	50.0	......	......
35.	Thur.	1/25	24	C	C20	592	43.8	459	45.9	459	45.9	318	44.8	141	48.4	43	49.1	50	47.3	48	48.8	......	......
36.	Tue.	1/30	76	C	C18	123	42.6	106	43.9	71	45.5	54	44.3	17	49.1	11	50.5	4	46.0	2	48.0	35	40.6
37.	Wed.	1/31	43	C	C20	299	46.2	239	48.6	239	48.6	187	48.1	52	49.9	20	49.9	18	49.1	14	51.0	......	......
38.	Wed.	1/31	42A	C	C20	400	43.7	298	45.4	298	45.4	236	45.0	62	47.2	17	45.7	28	47.3	17	48.6	......	......
39.*	Wed.	1/31	42D	C	M30	211	24.7	177	25.3	177	25.3	151	25.3	26	25.3	12	24.0	11	25.7	3	29.6	......	......
40.	Mon.	2/5	3	C	C36	497	37.8	394	38.8	394	38.8	300	37.4	94	43.1	25	41.5	32	42.6	37	44.6	......	......
41.	Wed.	2/7	29	C	C36	1058	39.6	810	40.2	810	40.2	583	39.4	227	42.0	121	41.5	58	42.1	48	43.3	......	......
42.	Mon.	2/12	20B	C	M	499	41.8	407	43.0	407	43.0	321	42.3	86	45.5	31	46.2	34	45.9	21	43.8	......	......
43.	Mon.	2/12	20A	C	C20	445	42.2	378	42.9	378	42.9	296	41.7	82	47.4	42	47.9	22	46.7	18	46.6	......	......
44.	Wed.	2/14	52B	C	CM36	284	37.6	210	39.1	210	39.1	194	38.8	16	42.5	1	38.0	9	43.3	6	42.1	......	......
45.	Wed.	2/14	51A	C	M20	349	40.1	266	41.9	266	41.9	236	41.4	30	46.2	10	43.2	12	48.6	8	46.5	......	......
46.	Fri.	2/16	51B	C	M16	198	42.3	153	43.8	153	43.8	129	43.4	24	45.8	8	47.7	14	44.5	2	48.0	......	......
47.	Fri.	2/16	49	C	M20	495	41.6	388	42.9	388	42.9	334	42.7	54	44.5	11	41.0	34	45.4	9	45.6	......	......
48.	Fri.	3/2	42A	C	C20	266	28.1	182	28.4	182	28.4	132	27.4	50	30.9	18	29.6	20	31.5	12	31.8	......	......
49.	Wed.	3/7	95A	C	C20	286	36.1	231	36.8	231	36.8	213	36.7	18	37.6	6	36.6	5	36.6	7	39.0	......	......
50.	Thur.	3/8	19A	C	C20	291	41.9	197	44.7	197	44.7	135	43.0	62	48.5	19	48.9	35	49.0	8	45.0	......	......
51.	Thur.	3/8	19B	C	M25	397	35.3	305	36.2	305	36.2	231	35.6	74	38.2	22	37.7	33	38.9	19	37.4	......	......

	PASSENGER CAR FREQUENCY DISTRIBUTION By SPEED GROUPS (M.P.H.)																	
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	ALL TRUCKS	AVERAGE SPEED (M.P.H.)	ALL BUSSES	AVERAGE SPEED (M.P.H.)
1.	....	5	22	31	32	31	2	2	....	....	....	....	....	....	30	32.5	....	......
2.	....	......	3	6	16	23	16	14	13	7	5	....	....	....	24	38.3	....	......
3.	....	11	72	129	100	59	9	6	3	....	....	....	1	....	59	30.4	....	......
4.	1	8	24	80	122	230	116	165	20	37	7	1	1	....	203	34.1	20	42.5
5.	....	1	3	24	55	151	129	175	56	58	15	....	3	....	156	37.4	13	50.1
6.	....	2	12	51	62	124	52	30	4	2	1	....	....	....	59	33.8	13	42.4
7.	1	16	44	134	153	128	41	19	....	2	....	....	....	....	59	34.0	13	41.0
8.	....	......	5	30	51	87	109	115	38	20	9	1	1	....	117	35.4	10	44.6
9.	....	1	13	51	110	317	260	433	29	82	13	2	1	....	144	38.1	53	46.7
10.	....	2	12	47	85	175	110	114	2	13	2	....	....	....	91	35.6	21	42.6
11.	....	......	1	8	20	67	49	54	3	5	1	1	....	....	29	38.8	14	46.0
12.	....	......	7	22	37	76	38	38	10	5	....	....	....	....	44	36.0	19	46.4
13.	1	7	53	188	215	261	101	75	5	9	....	....	....	....	190	33.5	56	41.4
14.	....	2	21	66	139	217	170	96	47	17	5	....	....	....	197	35.1	24	45.1
15.	2	11	44	47	37	48	13	6	4	....	....	....	....	....	87	27.9	10	37.0
16.	....	......	3	26	27	23	6	5	2	....	....	....	....	....	29	32.5	....	......
17.	....	1	12	31	48	69	51	22	16	3	2	....	....	....	55	32.5	3	34.0
18.	....	......	8	21	39	55	26	18	9	4	....	....	....	....	34	38.3	10	45.5
19.	....	1	9	30	47	87	37	26	6	3	....	....	....	....	41	36.6	10	39.5
20.	....	11	25	52	38	35	12	1	2	1	....	....	....	....	66	33.7	1	50.0
21.	1	22	45	107	60	47	10	7	1	1	....	....	....	....	74	29.5	1	29.0
22.	2	21	58	130	104	180	75	53	21	10	1	....	....	....	83	33.8	37	42.6
23.	7	41	142	216	180	102	39	21	3	2	....	....	....	....	59	32.0	20	38.4
24.	....	6	10	51	101	141	134	98	37	18	1	1	....	....	120	35.5	8	47.7
25.	....	1	10	47	80	108	51	41	11	6	2	....	....	....	108	35.6	9	35.3
26.	....	......	2	8	17	32	25	20	10	2	....	....	....	....	28	34.6	1	51.0
27.	....	2	4	16	27	42	35	19	7	3	....	....	....	....	59	36.2	8	31.6
28.	....	4	11	23	19	13	7	5	1	....	....	....	....	....	29	32.6	4	35.0
29.	4	5	8	9	12	23	10	7	3	....	....	....	....	....	25	34.2	....	......
30.	....	2	1	16	17	33	37	20	10	4	1	....	....	....	47	34.6	5	39.0
31.	....	1	5	32	22	31	29	9	5	1	....	....	....	....	53	36.4	3	40.3
32.	....	2	9	29	44	41	13	12	3	5	1	....	....	....	35	32.8	2	44.5
33.	....	3	11	59	56	108	51	21	7	6	....	....	....	....	79	36.6	14	37.5
34.	....	1	4	26	73	137	155	100	64	24	5	2	....	....	44	38.6	14	46.9
35.	....	......	11	26	57	90	125	82	54	13	1	....	....	....	123	35.8	10	46.4
36.	....	1	9	9	11	20	29	12	12	2	1	....	....	....	17	34.8	....	......
37.	....	......	2	4	20	38	62	54	44	11	4	....	....	....	59	36.7	1	45.0
38.	....	1	4	16	44	62	89	45	24	7	5	....	1	....	86	37.1	16	47.5
39.*	*2|30	61	54	22	7	1	......	......	....	....	....	....	....	....	34	21.5	....	......
40.	1	9	30	65	93	116	55	19	5	1	....	....	....	....	77	31.8	26	41.6
41.	....	11	35	115	187	258	97	77	22	8	....	....	....	....	197	36.1	51	45.0
42.	....	4	16	43	63	100	94	52	29	5	1	....	....	....	81	35.1	11	43.3
43.	....	......	8	45	73	81	103	41	23	4	....	....	....	....	58	37.2	9	46.1
44.	1	4	16	30	49	67	22	16	5	....	....	....	....	....	74	33.5	....	......
45.	....	1	12	33	53	59	58	28	16	6	....	....	....	....	83	34.4	....	......
46.	....	......	3	12	27	32	46	21	10	2	....	....	....	....	45	37.0	....	......
47.	....	4	18	35	64	101	90	42	22	9	1	2	....	....	93	36.2	14	42.1
48.	7	39	66	45	21	3	1	......	....	....	....	....	....	....	78	26.8	6	35.5
49.	....	6	28	52	53	64	19	8	1	....	....	....	....	....	53	32.9	2	33.6
50.	....	1	8	11	31	43	48	31	15	7	2	....	....	....	91	35.5	3	51.3
51.	....	8	27	92	85	60	26	6	1	....	....	....	....	....	78	31.1	14	39.6

*Special study of grade crossing as reported in Appendix B. The data in this line are not included in Table I. "2|30" in frequency distribution column, means that two cars were in the 10-14 m.p.h. group and 30 in the 15-19 m.p.h. group.
**C—Clear; ULR—Unsettled, light rain; USF—Unsettled, snow, then fair; SLS—Slush, snow; R—Rain; LS-LR—Light snow, changing to light rain; US—Unsettled, then snow; LR—Light rain; HR—Hard rain; U—Unsettled.

	DAY	DATE	STATION	WEATHER	ROAD TYPE	TOTAL VEHICLES	AVERAGE SPEED (M.P.H.)	PASSENGER CARS	AVERAGE SPEED (M.P.H.)	PASS. CARS DAY	AVERAGE SPEED (M.P.H.)	CONN. CARS	AVERAGE SPEED (M.P.H.)	FOREIGN CARS	AVERAGE SPEED (M.P.H.)	NEW YORK	AVERAGE SPEED (M.P.H.)	MASSACHUSETTS	AVERAGE SPEED (M.P.H.)	OTHER FOREIGN	AVERAGE SPEED (M.P.H.)	PASS. CARS NIGHT	AVERAGE SPEED (M.P.H.)	PASSENGER CAR FREQUENCY DISTRIBUTION By SPEED GROUPS (M.P.H.)														ALL TRUCKS	AVERAGE SPEED (M.P.H.)	ALL BUSSES	AVERAGE SPEED (M.P.H.)
																								15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84				
52.	Sat.	3/10	19B	US	M25	494	39.7	386	40.8	386	40.8	304	40.2	82	43.1	30	43.4	32	42.7	20	43.2	......	......	....	1	16	55	80	129	67	23	5	9	1	....	....	....	99	34.9	9	42.0
53.	Tue.	3/13	F80	C	C20	136	35.6	91	37.4	91	37.4	88	37.1	3	46.0	......	......	1	53.0	2	42.5	......	......	....	7	12	15	14	29	7	7	....	....	....	....	....	....	43	31.7	2	36.0
54.	Thur.	3/15	42C	C	M22	421	40.4	324	42.1	324	42.1	255	41.7	69	43.3	23	42.7	28	43.2	18	44.3	......	......	....	1	9	33	61	119	56	30	11	4	....	....	....	....	91	34.3	6	45.2
55.	Thur.	3/15	19A	C	C20	274	41.2	213	42.4	213	42.4	164	40.5	49	48.5	13	45.9	22	49.9	14	48.9	......	......	1	6	7	28	37	48	40	23	19	3	1	....	....	....	56	36.0	5	44.2
56.	Fri.	3/16	110	C	C20	695	43.0	550	44.6	550	44.6	363	42.6	187	48.4	61	47.4	85	49.3	41	47.9	......	......	....	4	17	39	72	154	112	85	37	26	4	....	....	....	136	36.3	9	45.5
57.	Mon.-Tue.	3/19, 20	3	C	C36	640	36.6	330	41.0	....	......	......	......	......	......	......	......	......	......	......	......	330	41.0	2	5	16	45	60	100	53	31	12	3	3	....	....	....	276	30.5	34	44.3
58.	Tue.-Wed.	3/20, 21	3	C	C36	601	37.0	311	41.1	....	......	......	......	......	......	......	......	......	......	......	......	311	41.1	....	2	19	44	56	89	56	31	12	2	....	....	....	....	258	31.0	32	45.0
59.	Wed.-Thu.	3/21, 22	42C	C	M22	450	35.8	230	37.9	....	......	......	......	......	......	......	......	......	......	......	......	230	37.9	....	3	22	52	57	60	26	8	2	....	....	....	....	....	198	32.6	22	43.3
60.	Thur.-Fri.	3/22, 23	42A	C	C20	375	38.2	133	41.9	....	......	......	......	......	......	......	......	......	......	......	......	133	41.9	....	1	6	20	24	33	25	16	5	2	1	....	....	....	219	34.7	23	50.7
61.	Wed.	3/28	19A	LR	C20	341	41.4	269	43.1	269	43.1	190	42.0	79	45.8	22	48.0	38	44.6	19	45.8	......	......	....	......	8	25	43	93	44	34	19	2	1	....	....	....	67	33.7	5	50.0
62.	Wed.	3/28	19C	C	C20	573	39.0	448	40.1	448	40.1	318	39.0	130	42.8	37	43.3	63	42.5	30	43.0	......	......	....	8	33	57	86	142	72	31	13	6	....	....	....	....	101	33.4	24	41.7
63.	Thur.	3/29	14	C	C20	642	42.6	524	43.9	524	43.9	332	42.5	192	46.3	54	46.6	45	45.8	93	46.4	......	......	....	7	13	38	79	153	112	73	39	9	1	....	....	....	104	35.9	14	46.2
64.	Wed.	4/4	107A	C	C20	742	39.6	652	40.0	345	40.5	288	40.0	57	43.2	13	37.0	23	44.0	21	46.1	307	39.5	....	4	28	125	166	170	81	50	24	2	1	..1	....	....	77	35.6	13	40.2
65.	Thur.	4/5	109	C	C20	301	40.1	221	42.1	221	42.1	200	42.1	21	42.8	7	44.7	10	42.1	4	41.5	......	......	....	......	7	22	48	72	37	25	8	2	....	....	....	....	74	34.4	6	38.6
66.	Thur.	4/5	107A	C	C20	519	40.0	441	40.8	441	40.8	380	40.1	61	45.2	16	45.0	26	45.8	19	44.7	......	......	....	......	21	86	90	115	70	30	24	5	....	....	....	....	73	35.1	5	40.0
67.	Fri.	4/6	3	LR	C36	800	41.8	687	42.6	687	42.6	421	41.6	266	44.2	113	43.5	60	44.7	93	44.6	......	......	....	3	20	64	115	215	147	68	41	11	2	....	1	....	95	35.6	18	41.9
68.	Mon.	4/9	134	C	C20	211	43.4	158	45.0	158	45.0	94	42.8	64	48.2	8	51.1	31	48.3	25	47.2	......	......	....	2	3	16	26	39	22	19	16	13	2	....	....	....	50	39.0	3	34.0
69.	Tue.	4/10	134	C	C20	161	41.5	125	42.8	97	43.3	73	41.9	24	47.7	7	48.4	13	48.1	4	45.5	28	41.0	....	1	7	18	18	32	19	12	12	4	2	....	....	....	35	37.0	1	29.0
70.	Wed.	4/11	134	C	C20	167	42.8	117	44.3	117	44.3	76	43.3	41	46.2	7	45.9	21	45.9	13	46.8	......	......	....	1	5	9	19	26	26	16	9	6	....	....	....	....	48	39.6	2	32.0
71.	Wed.	4/18	43	C	C20	1150	41.2	1018	41.7	570	43.1	427	42.4	143	45.3	45	44.9	75	45.0	23	47.0	448	39.9	1	6	46	134	186	335	154	96	39	15	5	....	1	....	118	36.6	14	47.8
72.	Sun.	4/22	24	C	C20	1413	39.4	1384	39.4	939	39.0	670	36.6	269	45.0	97	45.7	106	43.9	66	45.7	445	40.2	....	17	123	268	288	369	188	77	39	14	1	....	....	....	18	36.8	11	46.1
73.	Fri.	4/27	76	C	C18	243	40.1	180	42.5	180	42.5	109	41.1	71	44.7	42	45.6	17	42.5	12	44.8	......	......	....	2	6	19	32	53	34	20	13	1	....	....	....	....	63	33.3	....	......
74.	Wed.	5/16	3	C	C36	624	40.2	514	41.0	514	41.0	333	40.3	181	42.4	77	41.5	44	43.6	60	42.5	......	......	....	1	20	65	110	177	93	32	14	2	....	....	....	....	73	33.6	37	41.8
75.	Thur.	5/17	42A	C	C20	1249	41.0	1000	41.9	1000	41.9	771	41.4	229	43.6	85	44.1	91	43.5	53	42.8	......	......	1	4	27	122	208	297	202	99	33	6	1	....	....	....	212	36.0	37	46.2
76.	Fri.	5/18	30A	C	C36	1528	37.8	1255	39.0	971	40.0	559	38.8	412	41.7	249	41.4	55	43.2	108	41.6	284	35.5	1	15	92	200	317	420	144	42	22	2	....	....	....	....	236	31.4	37	40.5
77.	Mon.	5/21	24	C	C20	424	42.0	335	43.8	335	43.8	169	42.4	166	45.3	61	44.5	51	45.9	54	45.7	......	......	....	......	5	34	42	119	56	48	23	7	1	....	....	....	82	34.4	7	46.7
78.	Thur.	5/31	52B	C	C36	733	35.7	590	36.4	590	36.4	532	36.2	58	38.3	23	36.9	21	40.0	14	38.1	......	......	4	23	77	123	155	136	43	17	9	3	....	....	....	....	143	32.4	....	......
79.	Fri.	6/1	3	C	C36	1495	40.0	1251	40.8	942	42.4	572	40.5	370	45.1	178	45.4	71	45.7	121	44.3	309	36.2	3	22	59	171	211	383	225	118	43	14	2	....	....	....	186	33.6	58	41.3
80.	Sat.	6/2	3	C	C36	1427	40.6	1208	41.4	1208	41.4	696	39.7	512	43.8	231	43.8	98	43.9	183	43.7	......	......	....	11	46	163	256	384	184	99	40	23	....	2	....	....	163	33.4	56	43.1
81.	Sat.	6/16	30	C	C36	1381	41.2	1145	42.2	1145	42.2	645	41.4	500	43.4	270	43.6	91	42.4	139	43.4	......	......	....	5	34	113	196	388	178	136	73	19	3	....	....	....	198	34.4	38	44.6
82.	Mon.	6/18	23	C	C20	347	41.0	288	41.6	288	41.6	267	41.6	21	42.1	9	41.3	5	41.4	7	43.7	......	......	1	1	12	43	61	79	46	23	14	8	....	....	....	....	57	37.9	2	35.0
83.	Mon.	6/18	13A	C	C20	400	40.7	330	41.7	330	41.7	185	40.9	145	42.8	56	43.3	26	40.5	63	43.3	......	......	....	4	9	51	61	107	54	18	23	2	1	....	....	....	65	36.6	5	34.6
84.	Tue.	6/19	4	HR	M30	197	33.0	129	34.3	129	34.3	108	34.3	21	34.0	13	34.8	2	32.5	6	33.0	......	......	....	5	26	34	39	18	4	2	1	....	....	....	....	....	64	30.3	4	34.5
85.	Tue.	6/19	63	HR	C20	203	32.0	155	33.2	155	33.2	136	33.1	19	33.6	5	32.0	6	33.7	8	34.6	......	......	....	8	31	58	34	16	5	3	....	....	....	....	....	....	40	28.2	8	25.0
86.	Thur.	6/21	43	C	C20	397	43.5	348	44.4	348	44.4	218	44.0	130	45.1	39	46.4	48	44.8	43	44.4	......	......	....	......	5	22	63	116	56	44	28	12	2	....	....	....	45	36.2	4	50.8
87.	Thur.	6/21	42	C	C20	398	40.0	324	41.2	324	41.2	242	40.8	82	42.3	27	43.2	28	42.0	27	41.7	......	......	....	3	18	48	70	90	41	32	15	6	....	....	....	1	58	31.9	16	47.6
88.	Sat.	6/23	49	C	M20	1080	37.3	981	37.5	899	38.0	776	37.4	123	41.5	39	42.6	51	41.7	33	39.8	82	32.2	....	37	102	243	235	208	93	35	22	5	1	....	....	....	80	35.6	19	36.8
89.	Sun.	6/24	30	C	C36	1550	38.6	1439	38.8	1297	39.2	641	38.6	656	39.6	427	38.9	50	42.4	179	40.7	142	35.8	1	21	95	231	384	441	152	70	35	7	2	....	....	....	61	34.4	50	39.4
90.	Mon.	6/25	9	C	C36	300	40.1	238	41.3	238	41.3	109	40.5	129	42.0	72	41.7	21	42.4	36	42.4	......	......	....	3	10	28	50	67	40	27	12	1	....	....	....	....	48	33.0	14	43.3
91.	Mon.	6/25	59	C	M26	247	34.8	208	35.3	208	35.3	181	35.1	27	36.6	18	36.8	4	34.5	5	37.8	......	......	3	9	28	66	41	42	11	4	3	1	....	....	....	....	38	31.6	1	40.0
92.	Wed.	6/27	92	C	M26	199	29.1	147	30.7	147	30.7	117	30.2	30	32.5	7	32.3	16	32.1	7	33.8	......	......	8	15	39	46	24	12	2	1	....	....	....	....	....	....	48	24.2	4	28.0
93.	Wed.	6/27	98	C	M31	248	38.1	208	39.4	208	39.4	125	37.5	83	42.2	20	43.0	26	42.6	37	41.4	......	......	2	3	13	39	48	62	19	12	8	2	....	....	....	....	40	31.8	....	......
94.	Thur.	6/28	24	C	C20	399	42.1	321	43.8	321	43.8	176	41.7	145	46.1	55	44.3	47	46.8	43	47.7	......	......	....	2	11	32	46	98	45	46	30	7	4	....	....	....	75	34.9	3	41.3
95.	Sun.	7/1	6	C	M26	875	35.7	838	35.4	762	35.6	443	34.2	319	37.3	50	38.9	227	36.2	42	41.0	76	34.6	5	25	140	234	204	158	44	20	8	....	....	....	....	....	14	32.0	23	45.5
96.	Mon.	7/2	150	C	M31	880	40.5	798	41.0	728	41.4	313	38.9	415	43.2	100	44.8	183	41.7	132	44.1	70	37.1	6	7	44	106	185	208	109	84	37	11	1	....	....	....	60	33.0	22	45.0
97.	Tue.	7/3	150	C	M31	850	41.5	740	42.3	740	42.3	313	41.8	427	42.6	123	44.4	200	41.4	104	42.7	......	......	2	4	21	88	150	219	120	85	39	12	....	....	....	....	88	35.4	22	41.9
98.	Wed.	7/4	14	C	C20	1181	41.9	1061	42.4	1061	42.4	604	40.8	457	44.4	178	46.9	73	40.6	206	43.7	......	......	1	11	29	116	240	289	187	109	55	12	5	2	4	1	99	37.2	21	37.2
99.	Thur.	7/5	15	C	C20	1238	39.3	1012	40.5	1012	40.5	588	38.6	424	43.0	171	43.6	64	41.2	189	43.2	......	......	1	9	37	150	248	276	174	71	35	8	2	1	....	....	207	33.7	19	38.2
100.	Fri.	7/6	40	C	M22	399	37.4	346	37.8	346	37.8	167	36.8	179	38.8	54	40.7	38	37.6	87	38.1	......	......	1	2	28	79	110	70	38	14	4	....	....	....	....	....	41	34.3	12	37.2
101.	Fri.	7/6	16	C	C18	643	39.9	539	40.7	539	40.7	249	39.4	290	41,7	78	42.7	10	43.5	202	41.2	......	......	1	3	27	72	141	156	76	42	16	4	1	....	....	....	95	35.7	9	43.2
102.	Sat.	7/7	15	C	C20	1159	38.4	1050	38.4	906	39.5	537	37.8	369	41.9	165	42.0	47	40.6	157	42.1	144	31.9	1	24	103	215	246	264	115	52	23	7	....	....	....	....	82	37.1	27	41.5
103.	Sun.	7/8	49	C	M20	1451	34.7	1391	34.7	1291	35.0	1151	34.7	140	37.3	44	37.2	61	37.0	35	37.9	100	29.7	2	52	225	470	335	225	57	17	6	2	....	....	....	....	40	32.9	20	34.9

**C—Clear; ULR—Unsettled, light rain; USF—Unsettled, snow, then fair; SLS—Slush, snow; R—Rain; LS-LR—Light snow, changing to light rain; US—Unsettled, then snow; LR—Light rain; HR—Hard rain; U—Unsettled.

	DAY	DATE	STATION	WEATHER	ROAD TYPE	TOTAL VEHICLES	AVERAGE SPEED (M.P.H.)	PASSENGER CARS	AVERAGE SPEED (M.P.H.)	PASS. CARS DAY	AVERAGE SPEED (M.P.H.)	CONN. CARS	AVERAGE SPEED (M.P.H.)	FOREIGN CARS	AVERAGE SPEED (M.P.H.)	NEW YORK	AVERAGE SPEED (M.P.H.)	MASSACHUSETTS	AVERAGE SPEED (M.P.H.)	OTHER FOREIGN	AVERAGE SPEED (M.P.H.)	PASS. CARS NIGHT	AVERAGE SPEED (M.P.H.)
104.	Thur.	7/12	129	C	M28	430	36.5	353	37.9	353	37.9	165	37.7	188	38.2	45	40.0	41	38.0	102	37.5	......	......
105.	Fri.	7/13	136	C	M20	104	39.9	85	40.8	85	40.8	51	42.3	34	38.5	5	36.4	11	37.2	18	39.8	......	......
106.	Fri.	7/13	7	C	M22	248	41.0	207	41.4	207	41.4	97	40.3	110	42.3	7	45.4	41	42.5	62	41.9	......	......
107.	Sat.	7/14	134	C	C20	154	44.7	142	45.1	142	45.1	87	44.5	55	46.2	16	46.9	21	43.2	18	48.8	......	......
108.	Sat.	7/14	127	C	M22	95	35.3	78	36.3	78	36.3	53	35.4	25	38.2	10	38.8	1	34.0	14	38.0	......	......
109.	Sun.	7/14	129	C	M28	870	35.3	838	35.4	750	35.7	405	34.4	345	37.1	75	37.2	105	36.5	165	37.5	88	32.6
110.	Wed.	7/18	24	C	C20	346	41.4	269	44.0	269	44.0	123	42.8	146	45.2	56	45.0	41	44.6	49	45.9	......	......
111.	Thur.	7/19	76	C	C18	300	40.4	278	40.9	278	40.9	133	39.2	145	42.2	103	42.0	10	41.6	32	43.2	......	......
112.	Thur.	7/19	77	C	C20	238	43.8	205	44.5	205	44.5	117	43.3	88	46.0	60	47.3	6	41.5	22	44.0	......	......
113.	Fri.	7/20	79	C	M28	75	37.7	62	38.0	62	38.0	45	38.4	17	37.0	11	37.3	......	......	6	36.4	......	......
114.	Fri.	7/20	81	C	C20	197	39.9	181	40.2	181	40.2	94	37.6	87	43.0	48	42.8	16	40.5	23	45.2	......	......
115.	Sat.	7/21	86	C	C20	1021	39.7	948	39.8	857	40.2	642	38.9	215	44.0	142	44.7	25	42.7	48	43.0	91	35.8
116.	Sun.	7/22	66	C	M22	1353	31.9	1339	31.9	1167	32.3	767	30.4	400	36.0	231	36.3	35	32.9	134	35.9	172	29.3
117.	Wed.	7/25	2	C	C20	648	39.8	576	40.4	576	40.4	319	40.0	257	41.0	183	40.9	15	43.8	59	40.9	......	......
118.	Thur.	7/26	72	C	M20	300	37.7	262	38.4	262	38.4	139	38.0	123	38.7	45	38.8	18	38.3	60	38.8	......	......
119.	Thur.	7/26	26	C	C20	575	41.1	506	41.7	506	41.7	148	40.5	358	42.2	216	41.0	22	43.3	120	44.0	......	......
120.	Fri.	7/27	27	C	C36	1485	35.4	1220	36.5	978	37.5	444	36.4	534	38.4	381	38.3	25	37.6	128	38.6	242	32.5
121.	Sat.	7/28	27	U	C36	1645	35.5	1393	36.2	1174	37.0	570	35.6	604	38.1	417	37.9	36	38.8	151	38.6	219	32.0
122.	Sun.	7/29	3	C	C36	1600	38.2	1457	38.4	1176	39.1	696	37.1	480	42.1	258	42.1	82	42.3	140	42.1	281	34.9
123.	Mon.	8/6	66	C	M22	803	36.5	759	36.8	660	37.3	318	35.7	342	38.6	160	38.9	32	37.6	150	38.6	99	33.7
124.	Tue.	8/7	66	C	M22	774	36.2	675	37.0	675	37.0	340	36.6	335	37.6	144	37.7	40	36.2	151	37.8	......	......
125.	Wed.	8/8	102	C	C40	398	41.7	340	42.5	340	42.5	227	41.7	113	44.1	41	45.0	36	42.8	36	44.5	......	......
126.	Wed.	8/8	104	C	M30	397	37.7	326	38.7	326	38.7	167	38.0	159	39.4	52	40.0	64	37.6	43	41.2	......	......
127.	Thur.	8/9	148	C	M20	150	37.1	129	38.9	129	38.9	94	38.7	35	39.5	1	38.0	14	40.0	20	39.2	......	......
128.	Thur.	8/9	147	C	M22	397	43.2	352	44.4	352	44.4	123	42.6	229	45.4	58	46.7	104	45.2	67	44.5	......	......
129.	Fri.	8/10	22	C	C20	600	42.5	520	43.4	520	43.4	372	42.4	148	46.0	42	46.4	74	45.3	32	46.9	......	......
130.	Fri.	8/10	144	C	M18	397	37.6	305	38.7	305	38.7	163	37.6	142	40.2	38	41.5	79	39.5	25	40.2	......	......
131.	Sat.	8/11	140	C	M29	301	42.4	284	43.0	284	43.0	121	41.6	163	44.0	64	44.5	17	42.7	82	43.9	......	......
132.	Sat.	8/11	154	C	M18	400	39.5	363	40.2	363	40.2	299	40.0	64	41.0	22	40.8	33	41.1	9	40.8	......	......
133.	Tue.	8/14	156	C	C20	300	41.6	249	42.1	249	42.1	140	41.2	109	43.3	67	43.3	13	44.4	29	42.8	......	......
134.	Tue.	8/14	89	C	C20	397	40.8	324	42.1	324	42.1	270	41.5	54	44.6	32	45.1	12	43.5	10	44.4	......	......
135.	Wed.	8/15	86	C	C20	932	39.7	835	40.1	651	40.6	527	40.2	124	42.4	70	42.2	17	42.3	37	42.8	184	38.4
136.	Thur.	8/16	86	U	C20	681	39.6	529	40.6	529	40.6	425	40.6	104	40.7	65	40.9	12	37.5	27	41.7	......	......
137.	Fri.	8/24	120	U	M30	199	32.9	170	33.1	170	33.1	139	33.6	31	30.9	8	29.9	8	35.5	15	29.0	......	......
138.	Fri.	8/24	124	C	M30	289	39.3	225	40.8	225	40.8	176	40.6	49	41.7	22	40.5	11	41.6	16	43.3	......	......
139.	Sat.	8/25	129	C	M28	894	37.1	834	37.4	693	38.2	309	37.1	384	39.0	98	40.5	73	38.2	213	38.6	141	33.8
140.	Sun.	8/26	150	C	M31	1395	36.7	1360	36.7	991	37.0	545	35.9	446	38.4	67	40.8	304	37.2	75	41.2	369	35.9
141.	Fri.	8/31	15	C	C20	1223	39.6	1115	39.9	859	40.9	448	39.5	411	42.4	139	42.2	67	42.2	205	42.7	256	36.7
142.	Sat.	9/1	14	C	C20	1372	41.3	1281	41.5	998	42.7	452	41.4	546	43.7	227	44.6	92	40.7	227	43.9	283	37.3
143.	Sun.	9/2	14	C	C20	1294	38.3	1258	38.3	956	39.1	534	37.8	422	40.8	147	41.0	83	39.6	192	41.1	302	35.7
144.	Wed.	9/5	6	C	M26	1043	38.9	891	39.5	706	40.8	383	39.4	323	42.4	64	44.3	201	41.9	58	42.1	185	34.4
145.	Thur.	9/6	6	C	M26	828	39.4	623	40.8	623	40.8	315	39.9	308	41.7	63	42.8	174	40.8	71	43.0	......	......
146.	Fri.-Sat.	9/7, 8	3	U	C36	1238	35.5	803	37.7	....	......	......	......	......	......	......	......	......	......	......	......	803	37.7
147.	Sun.-Mon.	9/9, 10	27	C	C36	1457	34.0	1154	35.2	....	......	......	......	......	......	......	......	......	......	......	......	1154	35.2
Madison Curve (See Appendix III)																							
		1/10	13C	C	C20			....	......	124	29.9	....	......	......	......	......							
		1/19	13C	C	C20			....	......	226	31.7	....	......	......	......	......							
		2/5	13C	C	C20			....	......	170	25.8	....	......	......	......	......							
		9/25	13C	C	C20			....	......	857	30.3	....	......	......	......	......							
		9/26	13C	C	C20			....	......	718	30.1	....	......	......	......	......							
		9/25, 26	13D	C	C20			....	......	1514	39.6	....	......	......	......	......							

	PASSENGER CAR FREQUENCY DISTRIBUTION By SPEED GROUPS (M.P.H.)																	
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	ALL TRUCKS	AVERAGE SPEED (M.P.H.)	ALL BUSSES	AVERAGE SPEED (M.P.H.)
104.	....	12	27	78	104	69	39	18	4	2	....	....	....	....	64	29.2	13	36.0
105.	2	0	9	5	17	23	20	6	1	2	....	....	....	....	19	35.8	....	......
106.	....	......	12	26	45	58	37	17	9	3	....	....	....	....	39	38.6	2	40.5
107.	....	......	3	11	16	40	29	29	11	1	2	....	....	....	12	39.9	....	......
108.	1	4	10	21	14	17	6	4	1	....	....	....	....	....	17	30.2	....	......
109.	9	33	112	226	245	140	53	17	2	1	....	....	....	....	12	27.9	20	37.3
110.	....	......	8	24	50	62	54	39	22	9	....	1	....	....	68	30.0	9	47.0
111.	....	2	15	46	71	58	41	31	8	3	2	....	1	....	22	35.8	....	......
112.	....	1	3	18	38	58	31	28	15	9	3	1	....	....	27	37.3	6	45.8
113.	....	2	3	15	15	18	3	4	2	....	....	....	....	....	13	36.4	....	......
114.	1	1	13	36	36	44	25	16	5	4	....	....	....	....	16	36.0	....	......
115.	1	15	59	178	221	248	109	72	33	8	4	....	....	....	61	38.0	12	40.5
116.	11	164	353	382	247	131	39	10	1	1	....	....	....	....	13	29.6	1	28.0
117.	1	8	20	106	133	151	100	42	11	3	....	1	....	....	62	34.3	10	41.0
118.	....	2	15	57	84	61	29	13	....	1	....	....	....	....	37	33.1	1	46.0
119.	....	6	21	67	115	120	91	61	20	5	....	....	....	....	61	37.0	8	38.3
120.	1	30	130	311	345	308	59	28	7	1	....	....	....	....	210	29.2	55	35.3
121.	4	34	171	367	362	348	68	29	9	1	....	....	....	....	167	29.6	85	35.1
122.	1	22	116	311	345	433	126	70	23	7	2	....	1	....	73	34.1	70	39.8
123.	1	23	92	165	204	193	60	20	1	....	....	....	....	....	41	30.5	3	36.0
124.	1	18	60	191	177	138	64	17	9	....	....	....	....	....	90	30.5	9	31.2
125.	....	1	6	36	79	97	66	34	17	3	1	....	....	....	55	36.0	3	51.7
126.	....	5	27	58	93	67	57	16	2	....	1	....	....	....	69	32.9	2	38.5
127.	1	2	15	23	26	27	22	11	2	....	....	....	....	....	21	26.1	....	......
128.	....	......	7	22	59	91	87	57	23	5	1	....	....	....	42	33.4	3	45.7
129.	....	2	16	58	101	145	57	73	45	20	1	1	1	....	71	36.2	9	38.4
130.	....	5	21	61	77	77	50	11	3	....	....	....	....	....	76	32.6	16	38.2
131.	....	2	7	18	55	94	64	29	8	7	....	....	....	....	16	31.4	1	39.0
132.	....	......	12	57	107	104	58	19	4	2	....	....	....	....	35	32.0	2	38.0
133.	....	3	8	29	50	73	47	24	12	2	1	....	....	....	47	38.3	4	46.7
134.	....	1	13	53	70	75	51	30	22	6	1	2	....	....	67	34.3	6	45.0
135.	....	13	61	124	212	190	126	66	36	6	1	....	....	....	89	35.1	8	43.6
136.	....	3	19	77	145	141	87	37	16	4	....	....	....	....	139	35.3	13	43.6
137.	1	17	41	42	33	26	9	......	1	....	....	....	....	....	29	31.4	....	......
138.	....	1	13	36	47	62	37	13	13	3	....	....	....	....	61	33.7	3	41.0
139.	4	31	80	177	233	186	82	28	11	2	....	....	....	....	44	31.0	16	39.1
140.	1	32	153	367	380	252	118	41	12	3	....	1	....	....	17	30.7	18	45.6
141.	....	13	73	187	278	282	174	73	25	7	3	....	....	....	73	36.2	35	37.3
142.	....	7	53	161	331	329	207	125	47	19	2	....	....	....	62	38.1	29	41.9
143.	....	14	110	273	357	293	132	47	22	8	2	....	....	....	21	35.4	15	43.7
144.	2	19	74	142	216	221	131	54	22	9	1	....	....	....	123	34.2	29	42.3
145.	....	6	30	84	147	171	120	47	16	2	....	....	....	....	170	34.1	35	41.7
146.	4	30	95	150	187	185	89	36	16	9	1	....	1	....	371	29.3	64	43.9
147.	4	50	159	355	280	230	49	18	8	1	....	....	....	....	258	28.2	45	37.7

**C—Clear; ULR—Unsettled, light rain; USF—Unsettled, snow, then fair; SLS—Slush, snow; R—Rain; LS-LR—Light snow, changing to light rain; US—Unsettled, then snow; LR—Light rain; HR—Hard rain; U—Unsettled.