If more than four directions can be handled by one man, a modification of Form No 2 with a column for street cars and with or without " clicker-reading " columns can be used

Form Number 4 This form is used in the origin-destination study, when vehicles are stopped and the points of origin and destination of the trip noted Under the car column is marked the time of starting and the beginning of each hour thereafter The hour should also be marked at the top of each sheet. If the vehicle stopped is a passenger car, a check mark is put in the car column, otherwise a check mark is put in the truck column The description of the origin or destination is then marked down after the driver has been questioned. A definite list should be made up in advance showing the groups into which it is desired to have the origins and destinations recorded. For instance, if the origin or destination is outside of the state, it is unnecessary to obtain very minute description, probably the state or county might be sufficient. If the area to be included in the survey is a particular county, all points outside of that county might be listed, as in a particular county, with the exception of adjacent counties, which might be divided into two or more parts In the county of the survey, however, it is necessary to obtain a more detailed description, such as the village or township If the survey is in or adjacent to a large city, the city address or the nearest street intersection to this address should be taken and recorded in the description column The column headed " zone " is provided for office work The field records, after receipt in the office, are checked and the various descriptions given zone numbers which have been set up in advance If a city is divided into a number of zones for the purpose of the origin-destination study, each zone is given a zone number which is used to classify the various descriptions listed by the field recorders.

SEASONAL DISTRIBUTION OF TRAFFIC

A N JOHNSON,

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The traffic counts taken by the State Roads Commission of Maryland for the past twelve years at over two hundred points furnish the data for this discussion.

Since 1917, traffic data have been secured over the entire state highway system, which in that year was fairly complete, that is, all the main through roads had been built, and were in use.

The traffic counts were taken one day per month from 6 a m. to 6 p m ; thus, any analysis or conclusions are subject to the limitations this quantity of data imposes

One of the studies made on these data was to determine the seasonal variation or distribution of traffic throughout the year. Three

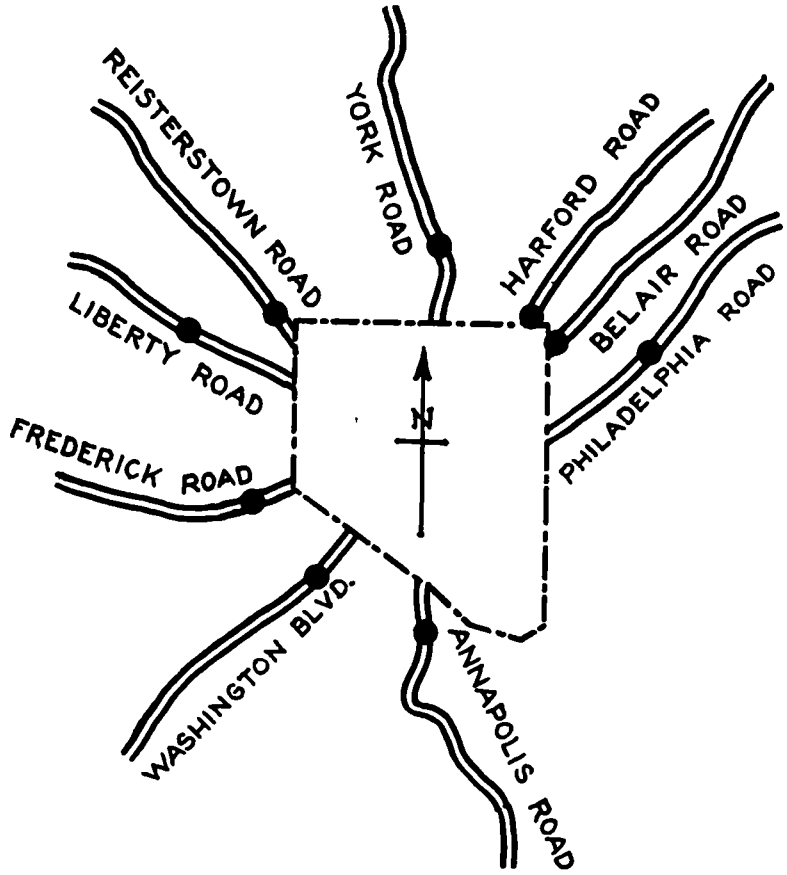

Figure 1. Traffic Stations Vicinity of Baltimore

points. Baltimore, Frederick, and Salisbury were chosen for comparative study These particular points were selected partly because of the completeness of the traffic records in the vicinity, but principally because of their geographic and economic location; Baltimore being a large commercial and industrial center; Frederick lying in the central part of the state in a fertile valley, and Salisbury being representative of the truck farm districts on the flat sandy Eastern Shore country.

In the vicinity of each of these cities the traffic stations were located as shown on Figures 1, 2 and 3, and the average daily traffic at each of these stations for the years 1926 to 1928, inclusive, was obtained. The average daily traffic for all the stations around a given center for the past three years was taken at 100 per cent, then the average daily traffic for all the stations for each month for a three year period was ascertained, that is, all the Januarys for each of the years was averaged and called the January traffic The percentage

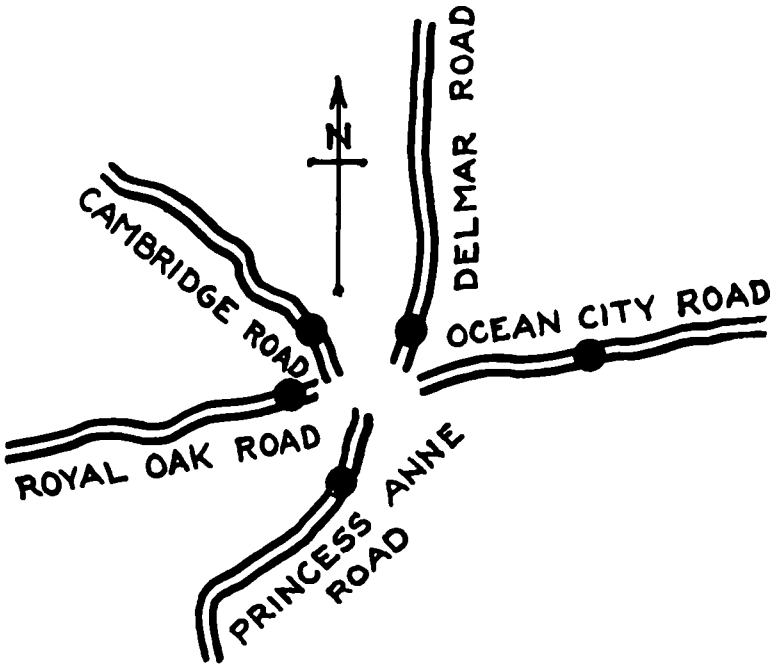

Figure 2 Traffic Stations Vicinity of Salisbury

that this average traffic for each month was above or below the yearly average was computed and platted, as shown on Figure 4.

It will be noted there are two curves on each diagram; one, for the years 1926 to 1928, inclusive, which was based upon the data as here described The second or dotted curve is the average daily traffic for the years 1917 to 1920, inclusive, and was made in a similar manner, but was not based upon as complete data, in that the curves for 1917 to 1920 included but two stations, and are therefore subject to greater inconsistencies But the general trends are concordant and we can accept the results as giving a very fair portrayal of the variation between the traffic ten to twelve years ago and that of today

Thus, about Baltimore, in 1917 to 1920, the January traffic was about 50 per cent of the average yearly traffic, while in September it was 160 per cent of the average yearly traffic, a variation of 110 per cent

About Salisbury, similar data show that January traffic was 58 per cent of the yearly average, while the August traffic was 160 per cent of the same, a variation of 102 per cent

Figure 3 Traffic Stations Vicinity of Frederick

Again, around Frederick it is noted that the average traffic in January ten years ago was but 29 per cent of the yearly average, while the maximum in October was about 166 per cent of the yearly average, a range of 137 per cent

These variations are in accord with the relative severity of the winters in these neighborhoods.

We now note the solid curves on the diagrams which show the seasonal variation during the past three years, 1926 to 1928, inclusive.

The minimum about Baltimore, in February, is seen to be 79 per cent of the yearly average, while the maximum month is 121 per cent, showing a difference of but 42 per cent, as compared with 110 per cent ten years ago

About Salisbury, we notice a similar trend for the past three years, that is, the difference between the maximum and minimum traffic months is about 52 per cent, as compared with 102 per cent ten years ago

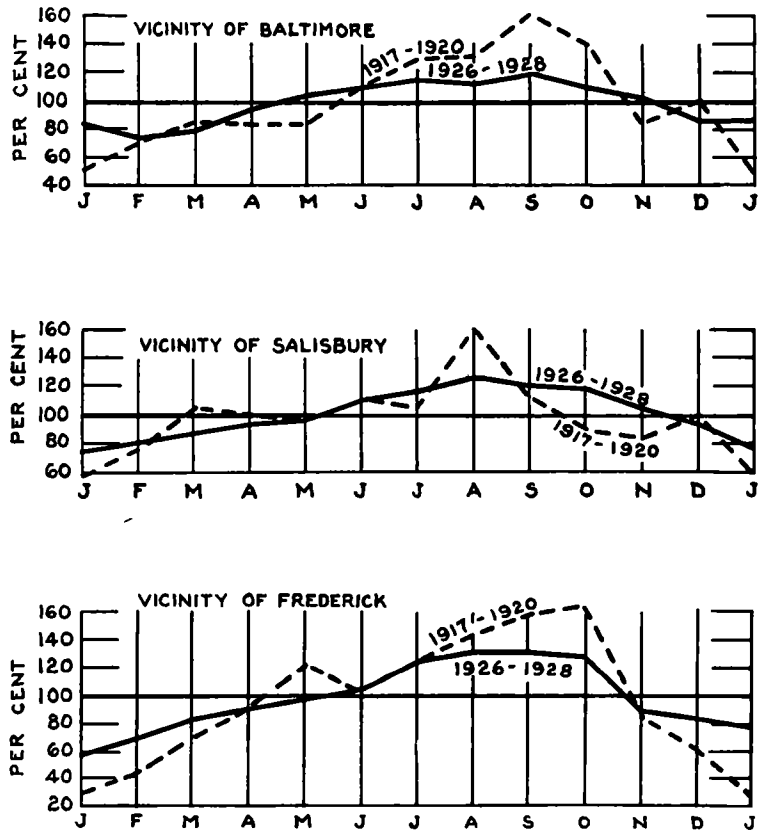

Figure 4. Monthly Variation of Traffic Average Traffic Throughout Year Taken as 100 Per Cent

About Frederick, for the past three years the variation is 76 per cent as compared with 137 per cent ten years ago.

Not only has the amount of traffic during bad weather increased, but relatively this amount is a greater proportion of the traffic than was the case ten or twelve years ago Then the roads, during the winter months, accommodated but a third of the average traffic throughout the year, whereas, today the traffic during the bad weather months is nearly three-fourths of the yearly average

This change, without doubt, has been brought about mainly through the general adoption of closed cars, which make it possible to ride comfortably in stormy weather No doubt, too, the better attention given to our roads, particularly the removal of snow, has helped to increase the use of road during bad weather

Another set of data illustrating the relative use made of roads during fair and stormy days was collected at a given point on the Baltimore-Washington road near the University of Maryland Traffic was counted on a stormy day for a period of one hour Suppose this happened to be on a Wednesday Then the next fair Wednesday, at the same hour, traffic would be counted again at the same point. Seven such comparisons were made on different days during March and April, 1929. The ratio of rainy weather to good weather traffic varied from a minimum of 67 per cent to a maximum of 111 per cent; in the latter case it happened that the hour counted for the rainy weather was in excess of that of a similar count of the fair weather traffic The average, however, was 87 per cent.

With the continued improvement of vehicles and road surfaces, it may be expected that the difference between the use of our roads in good and in bad weather will continue to decrease, and that highway departments are amply justified in employing every practical means for the improvement of road surfaces during bad weather.

DISCUSSION

ON

THE REPORT OF THE COMMITTEE ON HIGHWAY TRAFFIC ANALYSIS

WILLIAM H. CONNELL, *Executive Director, Regional Planning Federation of the Philadelphia Tri-State District* Before entering into a discussion of highway traffic analysis, I want to compliment the committee on what I consider an exceptionally good and comprehensive report on a very important subject. Instead of discussing the recommendations in the report, and the subject matter in detail, I will confine my remarks to pertinent observations relative to the subject. I will also submit for your information a discussion of a very interesting Origin and Destination Traffic Survey made by the Regional Planning Federation of the Philadelphia Tri-State District in June, 1929.