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REPORT OF
THE MIDDLETOWN TRAFFIC SURVEY
MIDDLETOWN CONNECTICUT.
Dec. 1934 to June 1935

Ralph F. Jones, Director

Whitney Hastings, Senior Engineer

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FOREWORD

The widespread use of the automobile for private and business transportation as well as the rapid increase in the use of trucks and buses for commercial purposes has created traffic problems in cities large and small which were unknown a few years ago. Recognizing the fact that traffic problems in Middletown, particularly the parking problem, had gradually reached the point where a scientific study was necessary, a local traffic committee was formed at the suggestion of the state FERA administrative organization with a view to sponsering the Middletown traffic survey, and FERA funds were allotted for this purpose.

This committee consisted of Professor Charles R. Hoover, chairman, George H. Boothroyd, Eugene F. Clark, F.B. Fountain R.S. Lyon, Van Buren Moody, Fred W. Shearer, Fred N. Smith, and R.H. Wilcox, representing the town selectman, the Chamber of Commerce, the local ERA, the service organizations and the city and town schools. These men have given a great deal of time and thought as well as every possible co-operation to those in direct charge of the survey, and whatever achievement that is forthcoming as a result is largely due to their efforts.

Altogether about forty people were employed during the winter months, the organization consisting of a director, an office manager, a senior engineer, two junior engineers, two draughtsman, two stenographers, and a staff of field clerks. Practically all of these people were worked under the budget system used by the Connecticut state ERA social service and excellent co-operation was obtained from the social service organization in obtaining and placing so-called "white Collar" workers where they could do their best work.

The state furnished able administrative assistance from the state ERA engineers office working through Mr. F.W. Hutchins Regional Engineer. Expert advice on traffic problems was furnished by the ERA planning division of engineers through traffic advisors, Mr. J.G. Hayden and Mr. R.N. Grunow whose assistance contributed in a large way to the success of the project.

Fine co-operation was also obtained from the city officials including Mayor Leo B. Santangelo, R.W. Wilcox, First Selectman and local Relief Administrator, Director of Public Works, Allen R. Schaeffer, and Chief of Police Charles A. Anderson.

Acknowledgement and thanks is hereby tendered to the following organizations who contributed the use of valuable equipment: Central National Bank, Chamber of Commerce, Farmers and Mechanics Bank, Guy, Rice and Davis, Middletown National Bank, Remington Noiseless Typewriter Corporation, Travellers Insurance Company, and Wesleyan University.

REPORT OF THE MIDDLETOWN TRAFFIC SURVEY

INTRODUCTION

Middletown the principal city in Middlesex County lies in the heart of a wealthy trading area and is therefore the focus of all vehicular traffic in this section. In addition, the city is in the approximate center of the state of Connecticut with main highways entering it from six directions. The winter traffic entering and leaving the city each twenty-four hours on these routes averages 12,000 cars. Much of the shore traffic in the summer time from the north-western part of the state passes through the city thus increasing this figure about 40 per cent, and bringing the total summer traffic in and out of the city to an estimated 17,000 cars per day.

The survey indicated that approximately 5000 cars are being parked in the business district, during the ordinary winter business day, an average of about 500 cars per hour. On Saturdays, including the evening shopping hours, this total is about 8600 cars an average of 610 cars per hour. The average winter traffic flow on Main Street in the central section of the city is approximately twelve thousand cars a day with a proportionate increase in the summer time.

It is obvious that the Middletown business district is handling a much larger volume of traffic in proportion to its size than many other cities. The city is very fortunate in having a Main Street of unusual width and length which makes the traffic problem much simpler than it could be otherwise.

The growth of traffic in the past ten years has been so great that it is very important to anticipate as far as possible the effect of increased motor vehicle registration with the resulting traffic during the next ten years. In 1924, there were 2894 motor vehicles registered in Middletown, while in 1934 there were 4958, an increase of 71%. The increase in the state of Connecticut closely parallels this figure. In addition, the gasoline consumption per car has gradually increased indicating that the total motor vehicle mileage will be greater this year than ever before. Except for a drop in 1933, the trend in the past five years has been gradually upward and it is safe to assume that with increasing prosperity Middletown's traffic problems and those of the state will become more and more difficult.

Traffic is now one of the major problems of every city and its importance justifies long range planning for the future.

MIDDLETOWN PARKING SURVEY

Parking has been one of Middletown's major traffic problems for a number of years not because of the lack of facilities but rather because of the careless parking habits of the people. Lack of adequate parking regulations and enforcement have been contributing factors. These are conditions which have gradually grown upon the community largely because the unusual parking facilities in Middletown's business district have made close regulations of parking unnecessary until recent years. Other cities of similar size were forced by a rapid growth in motor vehicle traffic to pass strict parking regulations at a much earlier date.

Parking conditions in Middletown have reached the point where it is difficult to find parking space in the central section of the city on the afternoon of the average week-day, and during the peak hours on Saturdays it is practically impossible. At these times, double parking has become a general practice thus slowing down the normal traffic flow and creating a general chaotic condition. Although Main Street and some of the adjoining streets have had a two hour parking limit for a number of years, it has not been generally observed by the public. These unrestricted conditions offered an unusual opportunity from a statistical standpoint for a parking study because practically everyone could stay as long as necessary to accomplish the purpose of their visit to the business district Therefore, the results presented herein give an accurate cross-section of the parking habits of the community.

OBJECTIVES:

The Middletown parking survey had the following general objectives:

1. To determine the parking habits of the public both in the two hour limit zones and on the unrestricted streets of the business district.

2. To determine the number of habitual and occasional overtime parkers and classify them as to occupation, place of residence, and number of violations over an extended period of time.

3. To collect general data on parking such as the number of double parked cars with and without drivers, the number of commercial vehicles at the curb or double parked, the number of cars opposite hydrants, prohibited zones, and driveways.

4. To consider the best location of Bus Stops, the advisability of other parking plans for Main Street, and to make general constructive suggestions.

PROCEDURE:

Parking studies were made on the following streets; Main St., from Hartford Ave. to Union Street, Washington Street from Pearl to Water Street, and Court Street, College Street, and William St., from Broad to Water Street. Some data was taken on Liberty Street but the study was discontinued because the results did not warrant carrying it further.

All parking spaces on these streets were numbered at thecurb and corresponding numbers were placed on data sheets having a horizontal column for each parking stall. The location of all other curb spaces such as at hydrants, prohibited zones, and driveways was also layed out on the data sheets so that cars parking at these points could be recorded. Special symbols were used to indicate improper parking, commercial vehicles, double parked cars with drivers and double parked cars without drivers. Each observer had his data sheet layed out in advance for the section assigned to him

and all that he had to do was to record the number of the car that occupied each stall at the proper point on the data sheet at regular intervals throughout the day, usually from 8 A.M. to 6;30 P.M. on week-days and from 8 A.M. to 10:30 P.M. on Saturdays. Readings were taken every half-hour during the period of the main survey. Thus, the data sheets were layed out for readings at 8:00 8:30, 9:00, 9:30, etc.

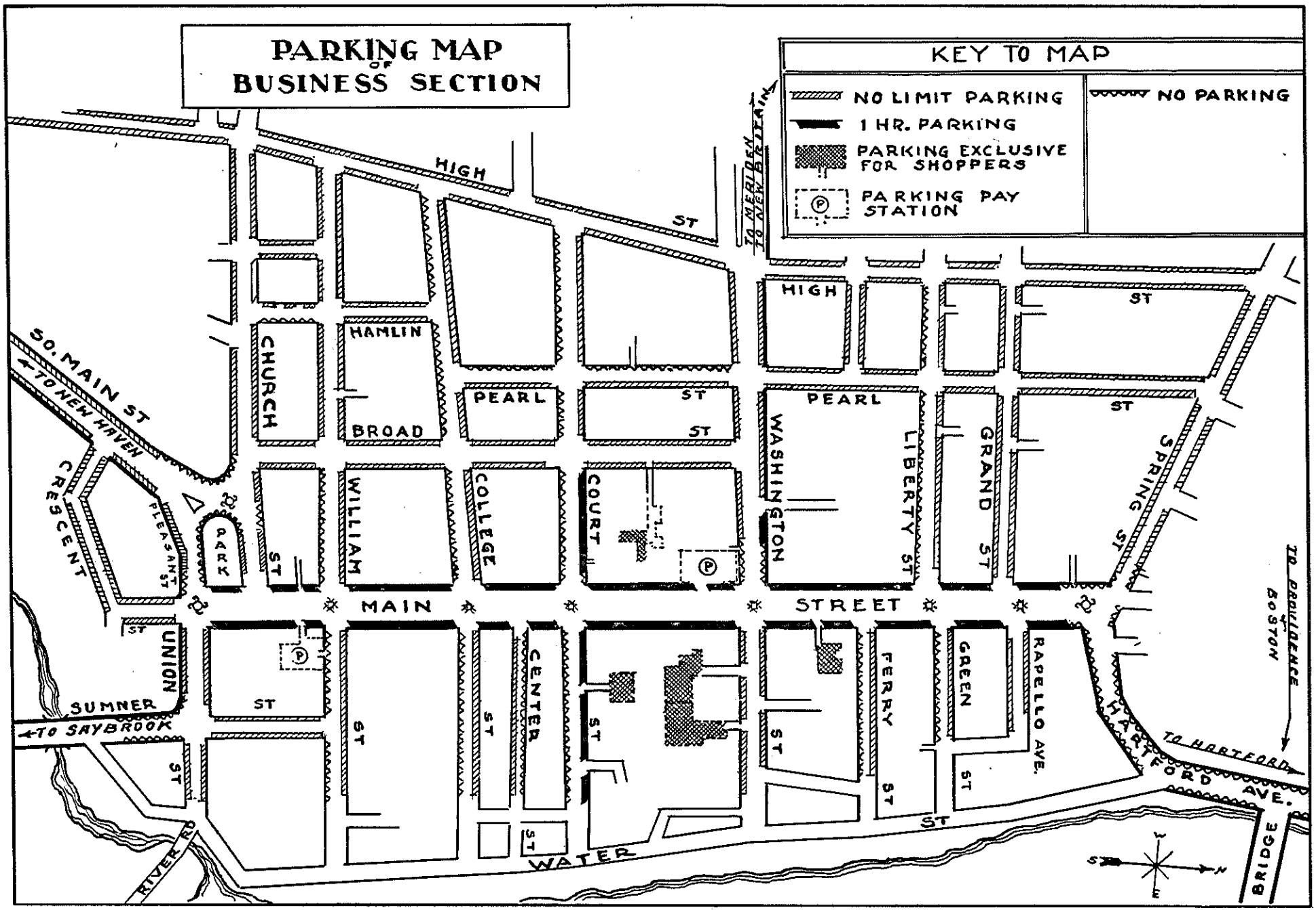
Since the principal purpose of the main survey which was made through the month of December was to collect data on overtime parking, the entire business district had to be checked at one time for a period of several days. Checks were made on nine week days, and three Saturdays between November 28th, and December 22, 1934., a period of heavy shopping preceding Christmas. Apparently the fact that the survey was in progress had no deterrent effect on overtime parking because a daily analysis shows that the number of overtime parkers remained about constant thruout the course of the survey.

Later, during the month of March 1935, it seemed desirable to make additional parking studies to check the data obtained in Dec. This offered an opportunity to obtain data taken at fifteen minute. intervals which is fundamentally more accurate. This point was recognized at the start of the main survey but due to lack of personnel and the fact that the entire business district had to be checked at one time over a continuous period, the December study could not be made this way. However, the two methods agreed with a surprising degree of accuracy on most points.

Occasional counts of the number of cars parked during the day were made on Broad Street, Church Street, Crescent Street, Liberty Street and at the various parking spaces behind stores and office buildings to determine in a general way the average number of cars being accommodated in these areas.

One of the major accomplishments of the survey was the preparation of a parking map three feet by five feet, showing the location of all parking space in the business district as well as hydrants, prohibited zones, driveways, traffic lights, traffic rotaries, and public or private parking lots with their entrances. The entire map was drawn to scale and all dimensions actually taken from the street, thus filling the need of the city for an accurate map of the downtown business district. This map has been and will be very useful in studying various parking layouts, analysing data, etc. A full sized blue and white cloth print colored to show prohibited parking zones, traffic lights, and hydrants, has been placed on file with Chief of Police, Charles A. Anderson.

The parking map on the next page is not an exact copy of the original map. It is included here as a substitute, because of the difficulty in obtaining a reduced readable copy of the large map. This small map was prepared primarily for the use of the public in locating no limit parking space. Details, such as the number of spaces in each block, the accurate location of hydrants, yellow zones, and driveways, have necessarily been ommitted.


PARKING MAP OF BUSINESS SECTION
KEY TO MAP
NO LIMIT PARKING
1 HR. PARKING
PARKING EXCLUSIVE FOR SHOPPERS
PARKING PAY STATION
NO PARKING
HIGH ST
TO MERIDEN TO NEW BRITAIN
SO. MAIN ST TO NEW HAVEN
CHURCH
HAMLIN
BROAD
PEARL
ST
HIGH
PEARL
WASHINGTON
LIBERTY ST
GRAND ST
SPRING ST
CRESCENT
PLEASANT ST
PARK
WILLIAM ST
COLLEGE
COURT
MAIN STREET
UNION
SUMNER
TO SAYBROOK
CENTER
FERRY ST
GREEN
RAPELLO AVE.
HARTFORD AVE.
TO PROVIDENCE BOSTON
TO HARTFORD
RIVER RD
WATER
BRIDGE

During the course of the December and March surveys, approximately three hundred thousand readings were taken on one hundred and fifty thousand vehicles. This provided enough data to assure accurate results based on averages. For the purposes of analysis, Main Street was divided into three zones, which were determined after the parking density on each main street had been computed as shown graphically in Figures 1 and 2.

Since the two central blocks on Main Street, namely, from Washington to College Street are most densely parked and too about the same degree, they were grouped to-gether and called Zone 1. The block immediately north of Zone 1, namely, from Washington to Liberty Street and the block immediately south of Zone 1, namely from College to William Street also show approximately the same degree of parking, and they were grouped to-gether and called Zone 2. The remaining blocks, namely from Hartford Avenue to Liberty Street and from William Street to Union Street were grouped to-gether as Zone 3. This method of grouping Main Street parking areas is similar to the zoning method used in determining parcel post rates.

Each of the east-west streets crossing Main Street, was considered as a separate unit thus giving a total of seven different units which permitted a detailed analysis of any part of the business district. In addition, the entire Main Street, and the entire business district were each taken as a unit for an analysis of these areas as a whole.

All data was summarized and averaged on standardized forms for the average week-day and for the average Saturday. These are

FIG.-1

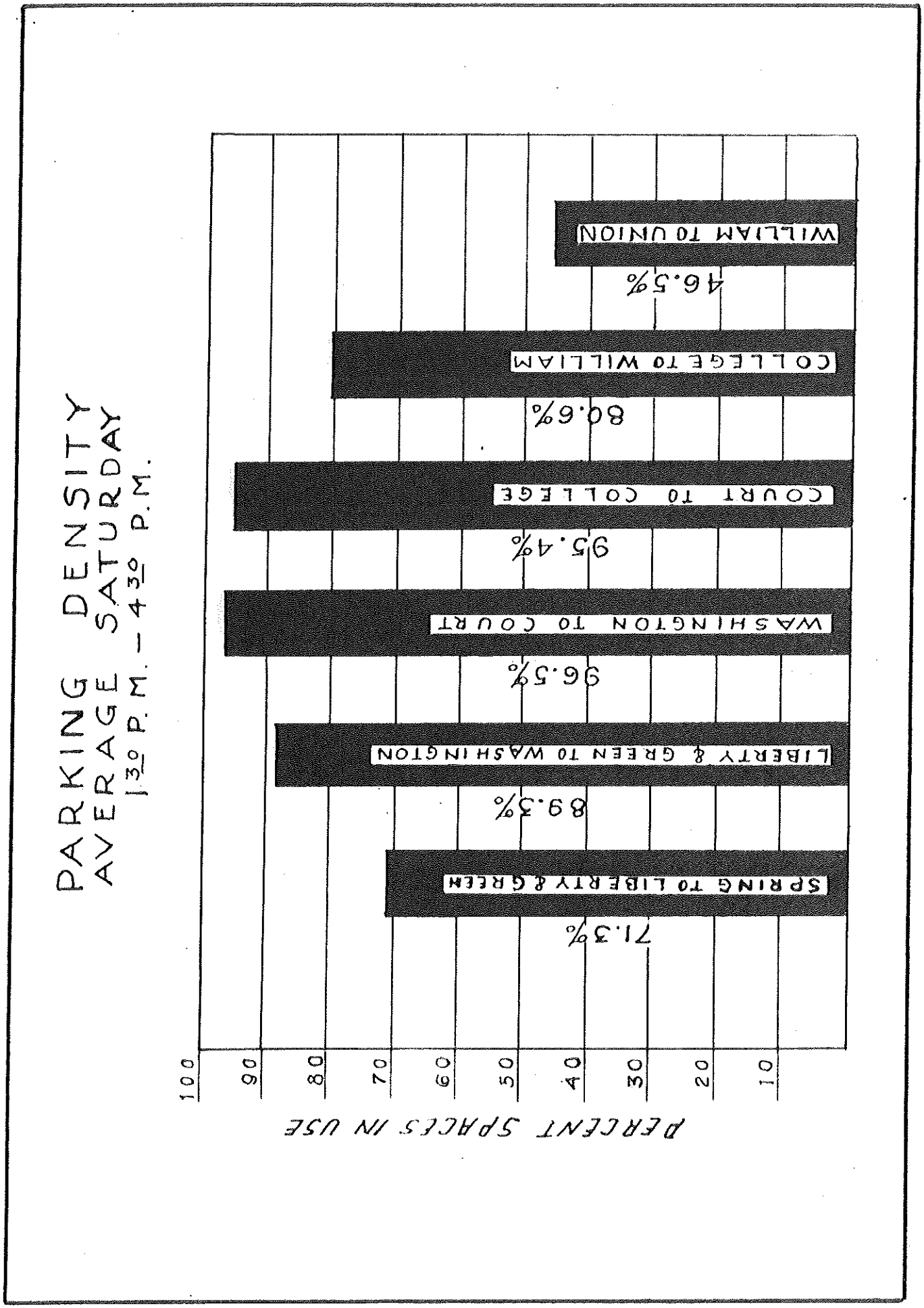
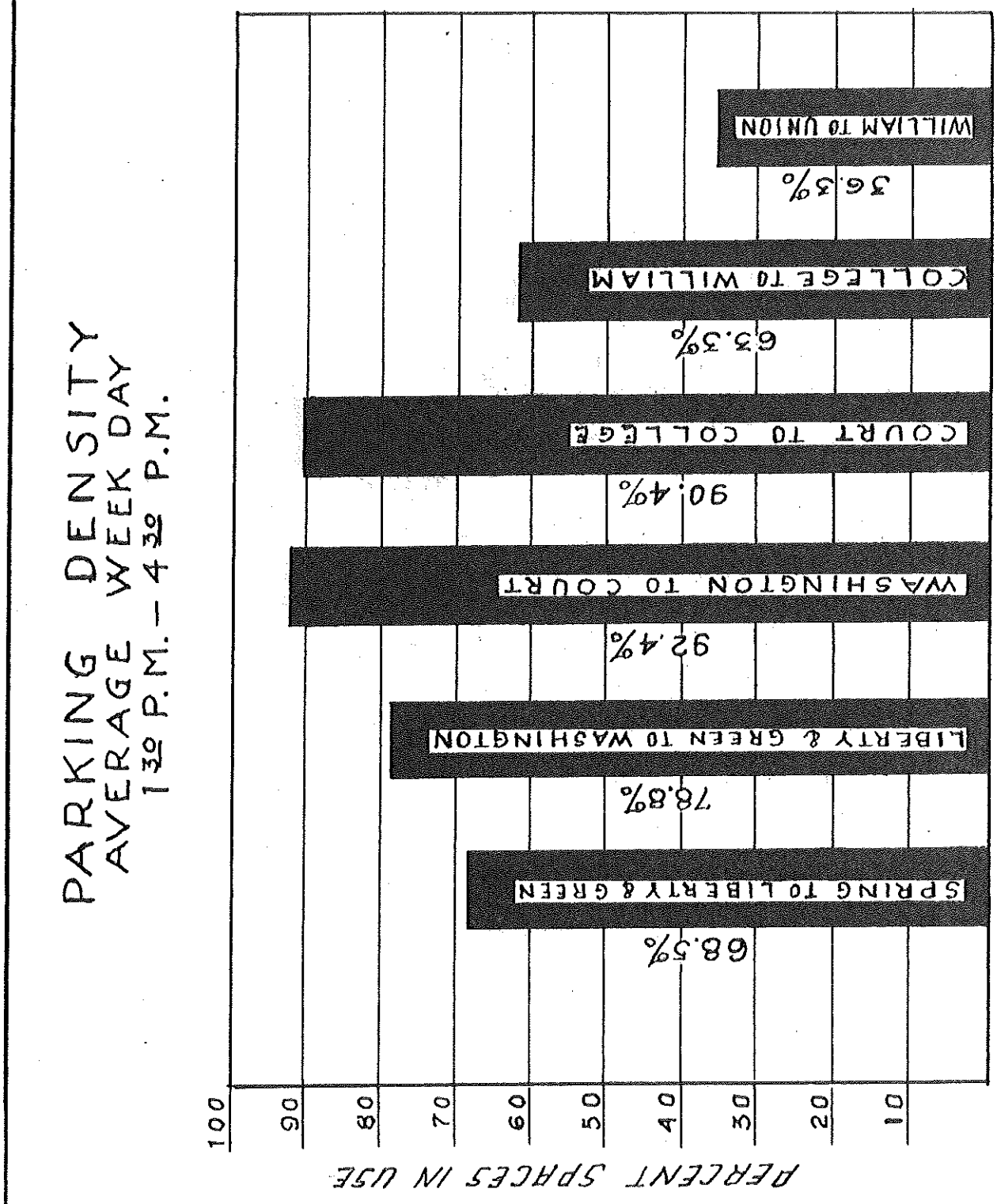

PARKING DENSITY
AVERAGE SATURDAY
1:30 P.M. - 4:30 P.M.
PERCENT SPACES IN USE
100
90
80
70
60
50
40
30
20
10
SPRING TO LIBERTY & GREEN
71.3%
LIBERTY & GREEN TO WASHINGTON
89.3%
WASHINGTON TO COURT
96.5%
COURT TO COLLEGE
95.4%
COLLEGE TO WILLIAM
80.6%
WILLIAM TO UNION
46.5%

FIG.-2


PARKING DENSITY
AVERAGE WEEK DAY
1³⁰ P.M. – 4³⁰ P.M.
PERCENT SPACES IN USE
100
90
80
70
60
50
40
30
20
10
SPRING TO LIBERTY & GREEN
68.5%
LIBERTY & GREEN TO WASHINGTON
78.8%
WASHINGTON TO COURT
92.4%
COURT TO COLLEGE
90.4%
COLLEGE TO WILLIAM
63.3%
WILLIAM TO UNION
36.3%

included as a part of this report following Page 30. Therefore the summarized data for any zone, of the whole can be obtained from them. The same tabulation method was employed in summarizing the fifteen minute interval study made in March and these are also included in this report following the above data.

The numbers of all overtime parked cars were listed in a card index with one card for each car showing the owner's name and address, the time parked, the duration of parking, and the location of the car for each infraction observed. Excellent co-operation of the Motor Vehicle Department in securing the names and addresses permitted accurate analysis and classification into the following five groups.

1. Habitual overtime parkers employed in business district.
2. Miscellaneous habitual overtime parkers from the business district.
3. Occasional overtime parkers from the Middletown area.
4. Occasional overtime parkers from Middlesex County outside of Middletown.
5. Occasional overtime parkers from the remainder of Conn.

Considerable data was accumulated relative to the location of prohibited zones, bus stops, and limited parking areas, in the business district. Other parking plans such as, double row center parking were given careful analysis and will be discussed in further detail.

DISCUSSION OF RESULTS:

Considering first the parking situation as a whole in the business district the following figures obtained during the course of the survey will give a general picture of the problem. Except as otherwise noted these figures are totals obtained during a period of fourteen days, twelve days in December and two days in March

Total Number of Overtime Parked Cars	5005
Total Number of Cars Parked Over Two Hours	7101
Total Number of Cars Parked Opposite Hydrants, Prohibited Zones, and Driveways	1906
Total Number of Cars Double Parked Without Drivers	408
Total Number of Major Parking Infractions	7319
Total Number of Cars Improperly Parked at the Curb	6187
Total Number of Cars Parked per Average Week-day	5000
Total Number of Cars Parked per Average Saturday between 8 A.M. and 10 P.M.	8600
Average Parking time of all Legally Parked Vehicles on Main Street.	38 Min.

Overtime parking constitutes 68.4% of the major parking infractions, parking opposite hydrants, zones and driveways is 26%, and double parking without drivers is 5.6%. While such infractions as the latter two are more serious in the eyes of the law than overtime parking, they are largely the result of overtime parking. In other words such an enormous amount of overtime parking reduces parking space to the vanishing point and automatically encourages these offenses. Therefore, any remedy which will increase the number of available parking spaces will at the same time reduce double parking and parking opposite prohibited areas.

Percentage-wise, the number of overtime parked cars in terms of the total number of cars being parked varies in different areas from 5.1% to 14½% depending on the day of the week, the weather and other factors, The following table gives a general idea of the variation for the average week-day and the average Saturday.

PERCENT OVERTIME PARKERS TO THE TOTAL

LOCATION	AV. WEEKDAY	AV. SATURDAY
Main Street Zone 1	5.1%	7.0%
Main Street Zone 2	7.3%	7.8%
Main Street Zone 3	5.8%	8.4%
Court Street	10.9%	14.5%

UNRESTRICTED AREAS

PERCENT PARKED OVER TWO HOURS TO TOTAL

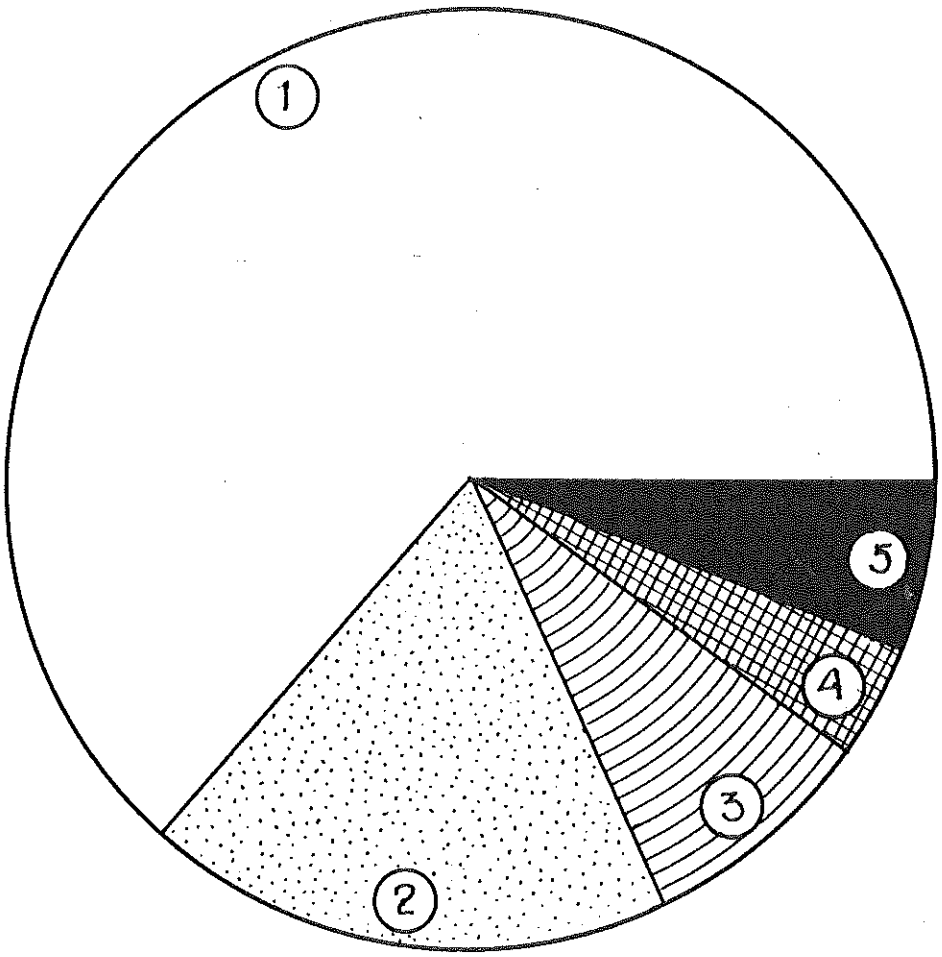
	Av. Week Day	Av. Saturday
Washington Street	28.1%	27.0%
College Street	30.0%	34.8%
William Street	25.0%	16.6%

Although the overtime percentages are small, their effect in terms of occupied useable space is much greater. In order to analyze this, let us consider the parking habits of the general public as illustrated on Figure 3, which shows the parking period distribution on the average week-day for the entire Main St. Note that 63½% of all cars average one-half hour parking time and that 81.8% of all cars parked an average of one hour or less. This leaves 12.2% who park between one and two hours and 6% who park overtime. While these figures apply to Main Street as a whole almost identical results were obtained in each separate zone. The habits of Main Street parkers are remarkably uniform along the length of the street. These figures also apply closely to Saturdays when the percentage of overtime parked cars is a little higher which slightly brings down the percent of those parking one hour or under.

Figure 4, illustrates the proportion of the total space hours that each class of parker uses on Main Street during the average week-day. The space hours are calculated by multiplying the number of cars involved times the average length of time parked. This is the true measure of the proportion of the total space which each group of parkers use.

FIG.-3

PARKING PERIOD DISTRIBUTION
AVERAGE WEEK DAY
ENTIRE MAIN STREET

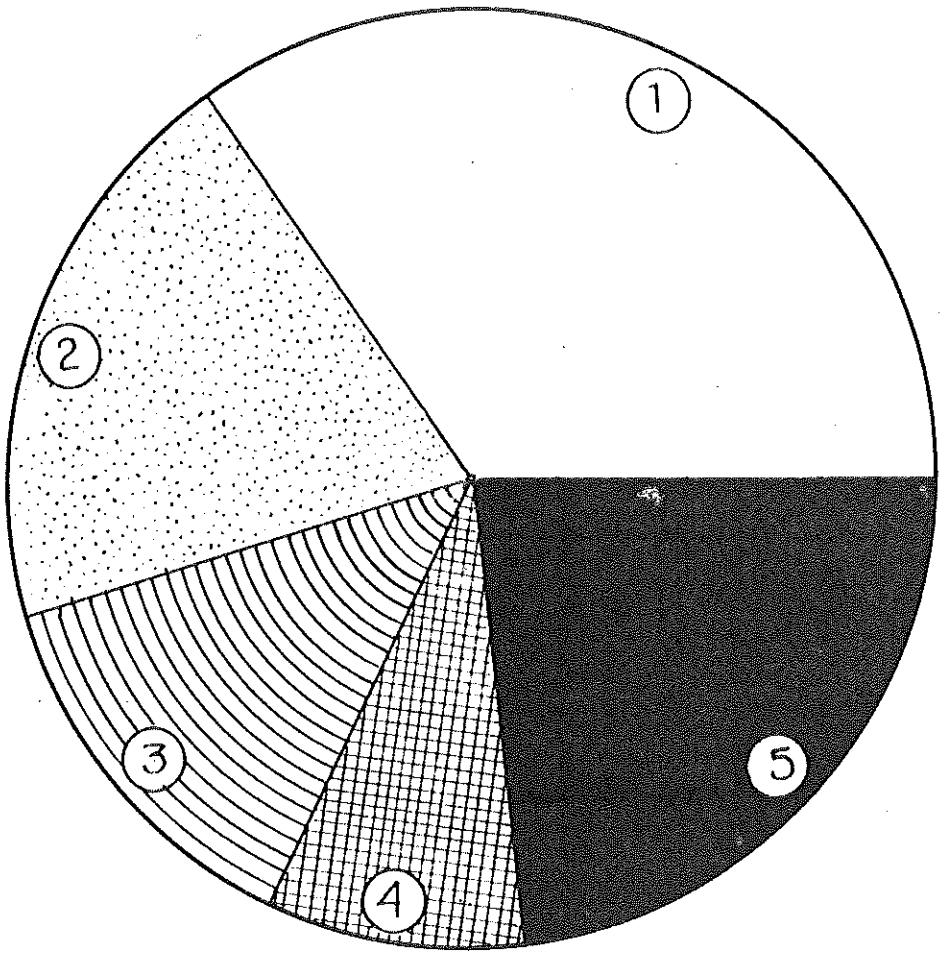


LEGEND

(1)	63.5%	OF CARS PARKED	½ HR.
(2)	18.3%	OF CARS PARKED	1 HR.
(3)	8.1%	OF CARS PARKED	1½ HRS.
(4)	4.1%	OF CARS PARKED	2 HRS.
(5)	6.%	OF CARS PARKED	OVERTIME

FIG.-4

SPACE HOUR DISTRIBUTION
AVERAGE WEEK DAY
ENTIRE MAIN STREET



~ LEGEND ~

(1) - CARS PARKED ½ HR. USED 34.7% OF SPACE HRS.

(2) - CARS PARKED 1 HR. USED 20.% OF SPACE HRS.

(3) - CARS PARKED 1½ HRS. USED 13.3% OF SPACE HRS.

(4) - CARS PARKED 2 HRS. USED 8.9% OF SPACE HRS.

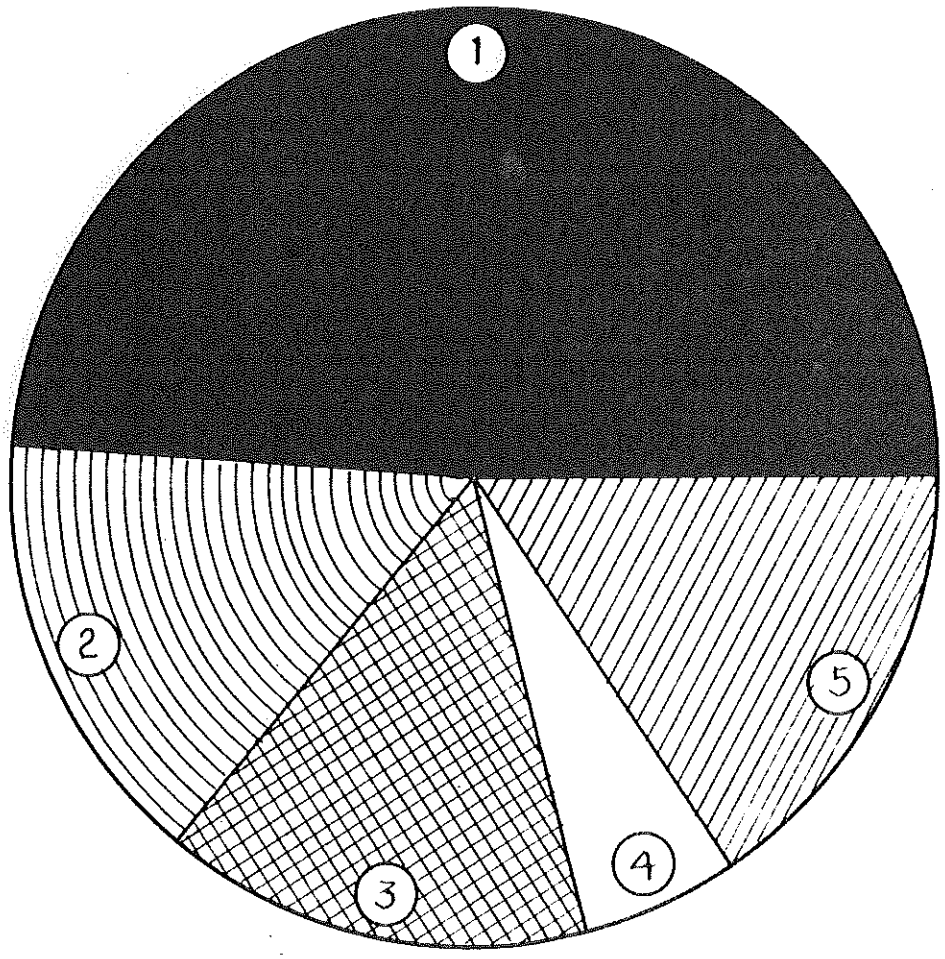
(5) - CARS PARKED OVERTIME USED 23.1% OF SPACE HRS.

Thus, the overtime parked cars (6% of the total number) illustrated in Figure 3 actually use 23.1% of the total space hours. It is significant to note that the 18.2% who park over one hour are using 54.7% of the total space hours occupied on Main Street. In other words, a comparatively small number of people are responsible for the congestion and parking difficulties experienced by everyone who tries to park on Main Street. In considering these facts it should be emphasized that they represent the actual parking habits of the community unaffected to any appreciable extent by parking restrictions. It is reasonable to assume that any parking plan which fits the habits of a large majority will be successful

Let us examine Figure 5 which illustrates the percentage of space hours used by the various classifications of overtime parkers. Habitual parkers were those observed parking overtime more than once during the course of the twelve days in December while occasional parkers were those observed only once. The habitual group averaged about six infractions apiece, the range per car being from two up to nineteen infractions. Note that nearly 50% of the overtime space hours are used by merchants, in the business district or their employees. The group classified as habitual parkers-miscellaneous in the business district, are those who could not be classified as full time employees and others who were temporarily working in the business district. Those listed as, occasional parkers from the Middletown area, appeared only once in the course of the December check and are probably shoppers of those having temporary business. Other occasional parkers from Middlesex county and the remainder of Connecticut who

FIG.-5

OVERTIME SPACE HOUR DISTRIBUTION



LEGEND

1. HABITUAL PARKERS EMPLOYED IN BUSINESS DISTRICT 48.7%
2. HABITUAL PARKERS — MISC. BUSINESS DISTRICT 15.1%
3. OCCASIONAL PARKERS FROM MIDDLETOWN AREA 15.1%
4. OCCASIONAL PARKERS — MIDDLESEX COUNTY OUTSIDE OF M'D'TN 5.3%
5. OCCASIONAL PARKERS REMAINDER OF CONNECTICUT 15.8%

occupy a total of 21% of the overtime space hours can only be classified in this general way.

It is evident that people living in the general Middletown area which includes Portland and Cromwell, use practically 80% of the overtime space hours. Since the overtime space hours used by out of town people constitute only 20% of the whole, it would be practical to adopt a liberal enforcement policy for this group should it seem desirable.

In terms of the actual number of people involved, about 60% of the overtime parkers are from Middletown area and about 40% from out of town. In a community like this, there is naturally a considerable overlapping of these two groups because many people living in towns such as Durham, Higganum, and Middlefield, etc. are listed from out of town, but they actually regard Middletown as their center of business activity.

To analyse the three zones into which Main Street is divided, a careful study of Figures 6,7, and 8, will be helpful. The solid line of Figure 6, represents an hourly count of the number of cars actually on the street in Zone 1, between 8 A.M. and 10 P.M. This includes all double parked cars and cars opposite hydrants, prohibited zones and driveways. It gives some indication of the actual demand for parking space that exists in Zone 1 on a busy Saturday. There are two peaks, one at 11 A.M. another at 8 P.M. when the number of cars standing on the street far exceed the total number of parking spaces in these two blocks. In addition there was a period at four O'clock for perhaps an hour when the demand exceeded the capacity.

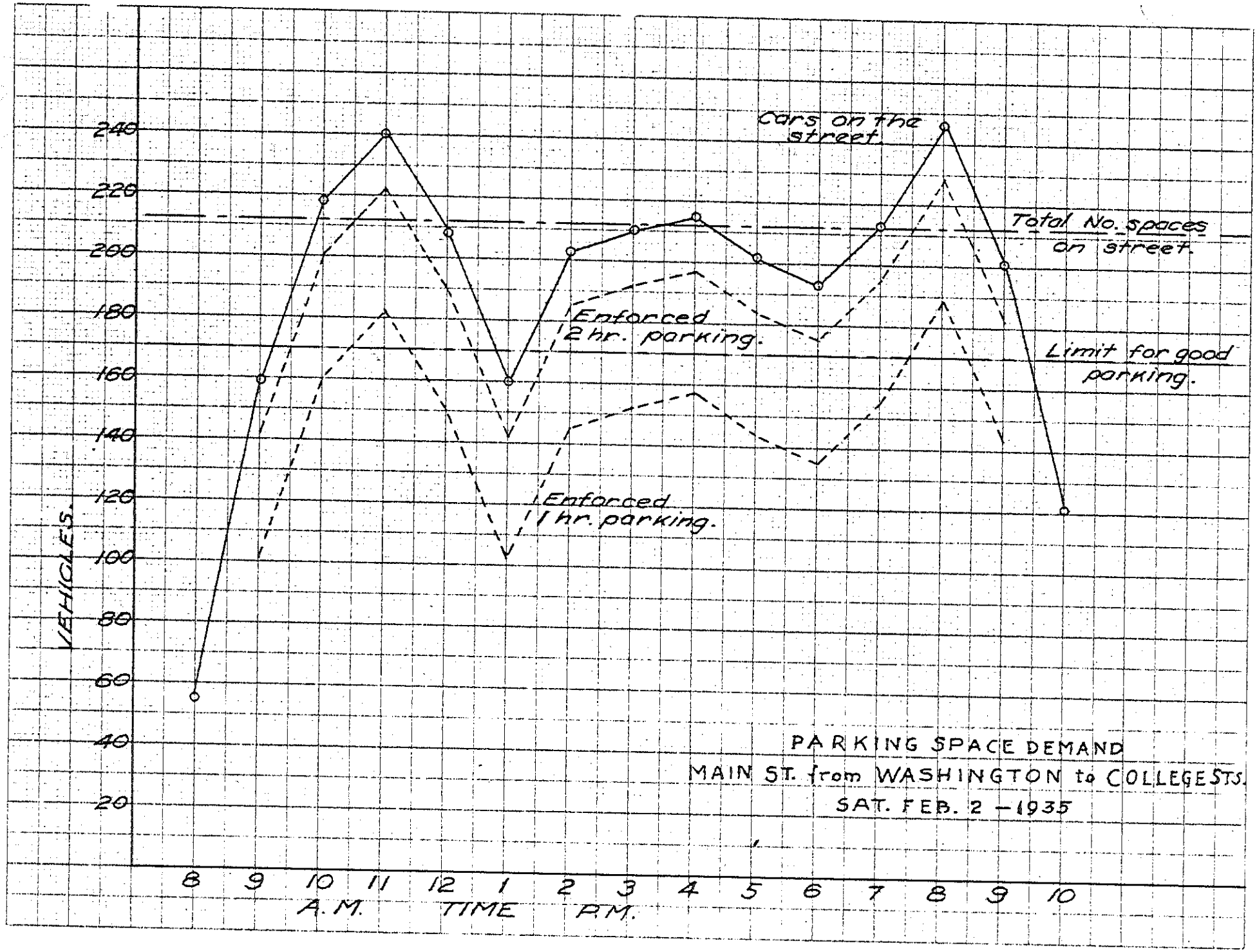
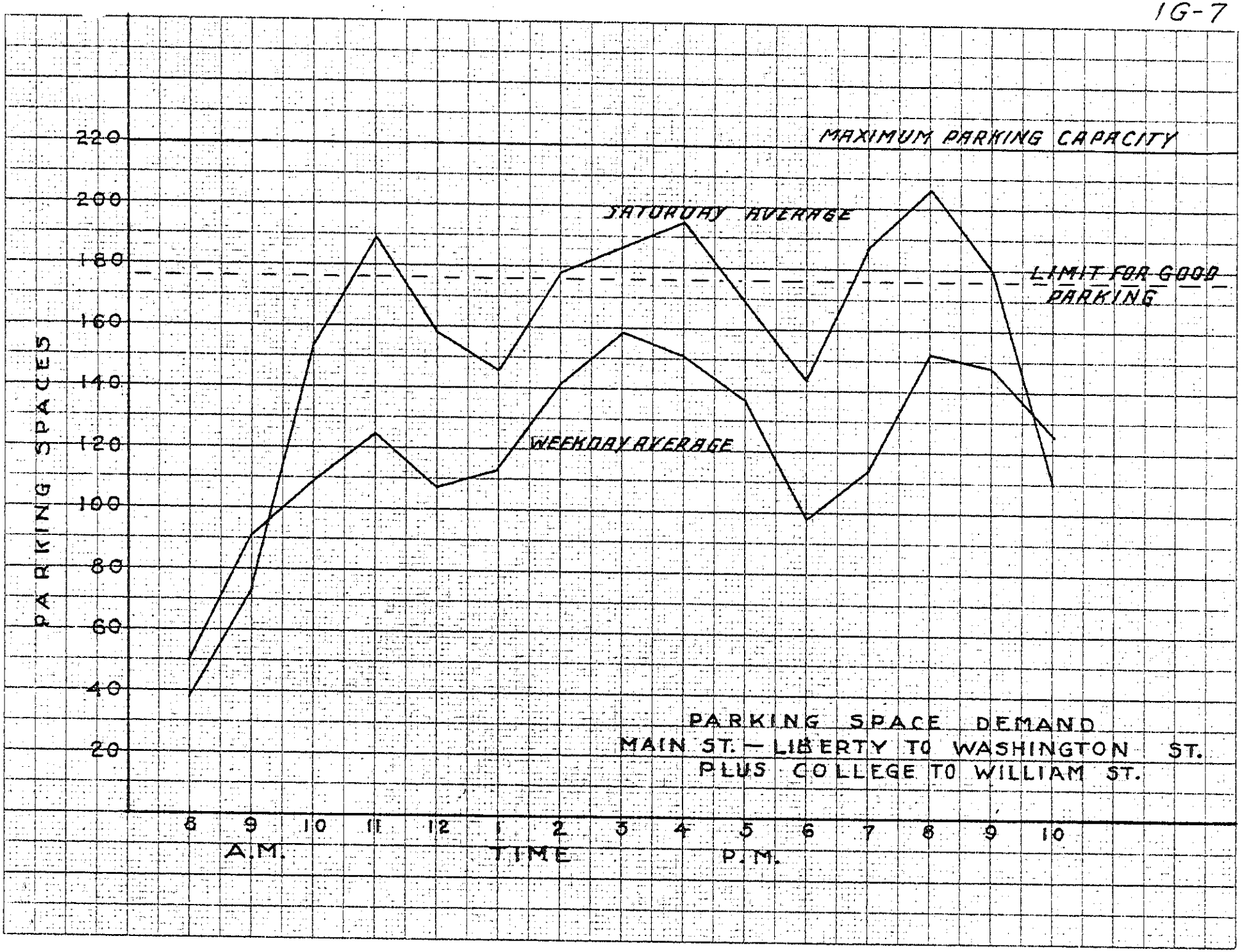

Cars on the street.
Total No. spaces on street.
Enforced 2 hr. parking.
Limit for good parking.
Enforced 1 hr. parking.
VEHICLES.
240
220
200
180
160
140
120
100
80
60
40
20
8 9 10 11 12 1 2 3 4 5 6 7 8 9 10
A.M. TIME P.M.
PARKING SPACE DEMAND
MAIN ST. from WASHINGTON to COLLEGE STS.
SAT. FEB. 2 – 1935

FIG. 6



PARKING SPACE DEMAND
MAIN ST. — LIBERTY TO WASHINGTON ST.
PLUS COLLEGE TO WILLIAM ST.

FIG-7

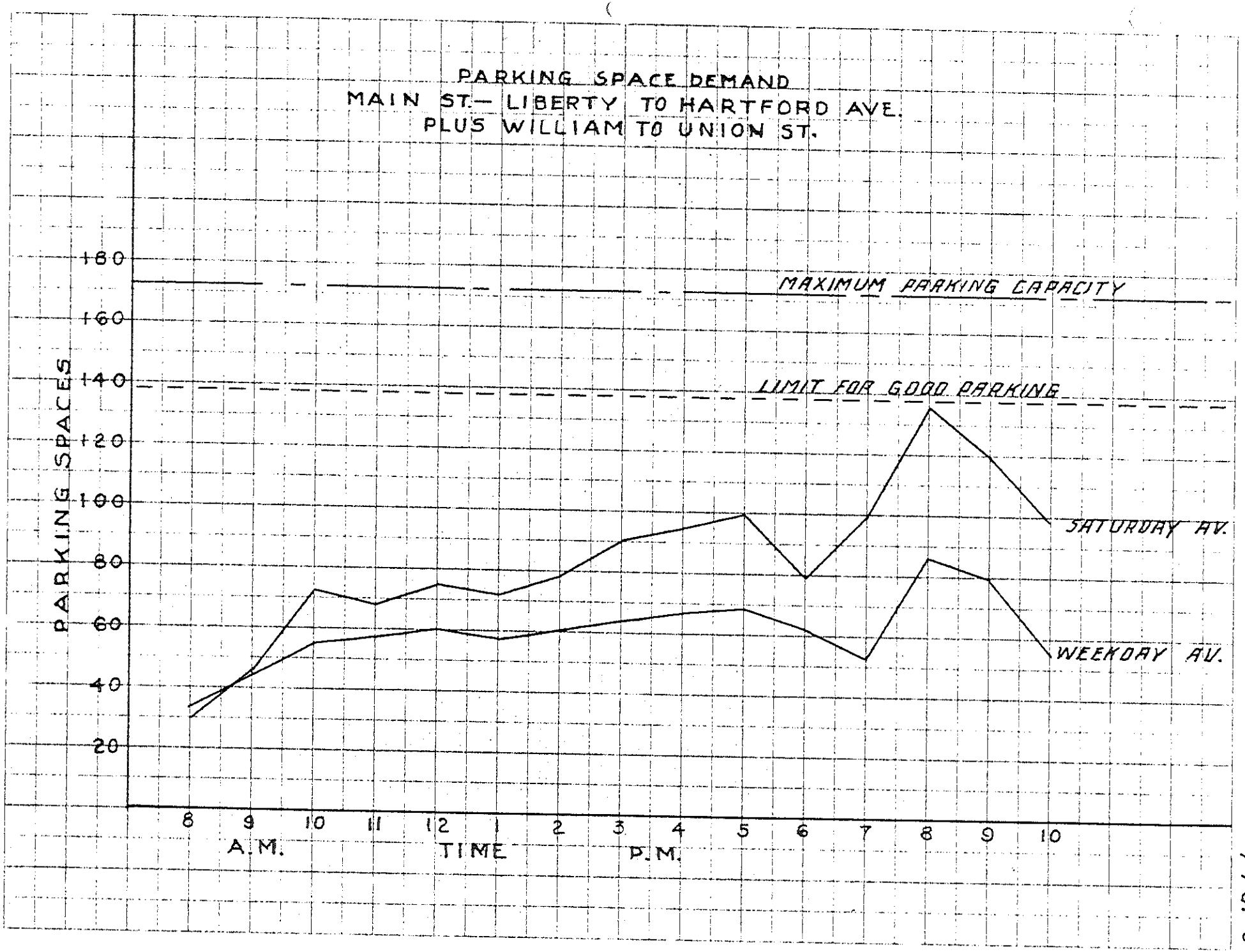

PARKING SPACE DEMAND
MAIN ST.— LIBERTY TO HARTFORD AVE.
PLUS WILLIAM TO UNION ST.
PARKING SPACES
180
160
140
120
100
80
60
40
20
MAXIMUM PARKING CAPACITY
LIMIT FOR GOOD PARKING
SATURDAY AV.
WEEKDAY AV.
8 9 10 11 12 1 2 3 4 5 6 7 8 9 10
A.M.
TIME
P.M.

FIG-8

It is an actual fact that for satisfactory parking, the number of spaces in use should never exceed 80% of the total. This has been demonstrated time and time again during the course of the survey. Furthermore, maximum space circulation seems to be obtained at about an 80% parking level.

The eight o'clock peak illustrated in Figure 6 indicates that there were 34 more cars in Zone 1 than the total number of parking spaces, and that 77 more cars were on the street than there should have been for a satisfactory parking condition. This gives us something in the way of a theoretical objective to work to in making parking regulations.

The dotted curve on Figure 6 marked "Enforced Two Hour Parking" indicates the estimated number of cars each hour which would be in Zone 1 assuming that the present two hour regulation were stirctly enforced and that all of those who are now parking over two hours remained for exactly two hours. The lower dotted curve marked "Enforced One Hour Parking" indicates the condition which would result with strictly enforced one hour parking, assuming that all cars who now park over one hour remained for exactly this period. It is realized that these curves are theoretical, and that the actual space demand in Zone 1 is much greater at times than the curve indicates, because many cars seek parking space there without finding it.

One hour parking in Zone 1 would theoretically open up an average of 58 spaces and would increase the space circulation on Saturday approximately 28%. In practice, the effect of one hour

parking would be to automatically force the long time parkers entirely out of Zone 1, also the small group of four per cent who park two hours would find it necessary to seek parking space elsewhere. Thus, much more than 28% of the space would actually be available for shoppers and short-time parkers. Naturally, the Main Street merchants in this area as well as the public would profit a great deal by the increased space circulation afforded by one hour parking.

Parking Regulations in Connecticut Cities

Before making any recommendations for parking in Middletown let us consider what limits have been adopted in other Connecticut cities. To make the comparison, information was requested from the Police Department of each of the cities listed in the accompanying table. The points covered were as follows; parking time allowed in the most congested business districts, parking time allowed immediately adjacent to the congested business district, amount of the fine for overtime parking, degree of enforcement of parking regulations, and whether or not the city in question had sufficient personell to strictly enforce the parking regulation

The replies to these inquiries have been condensed and tabulated in the table on the following page. It is apparent that the majority of these cities allow from 15 to 45 minutes parking in the congested business district and that none of them allow over one hour. Even in the less congested areas only two cities allow more than one hour at points where a parking restriction is used.

PARKING REGULATIONS IN CONNECTICUT CITIES

CITY	PKG. TIME CONGESTED BUSINESS DISTRICT	PKG. TIME ADJACENT BUSINESS DISTRICT	FINE FOR PARKING VIOLATIONS	ADEQUATE POLICE FORCE	DEGREE OF ENFORCEMENT
MERIDEN	15 to 30 Minutes	30 to 60 Minutes	1st.-None 2nd.-$2.00 3rd.-$5.00	NO.	MODERATE
DANBURY	60 Min. 15 at Banks 5 at P.O.		$1.00 Forfeited by Bond	NO.	RIGID
STAMFORD	60 Min.	None	1st.-$1.00	YES	RIGID
BRISTOL	20 to 30 Minutes	1 Hour	$2.00 for all violations	NO	RIGID
BRIDGEPORT	60 Min.	Prohibited in front of Theatres	$1.00	YES	RIGID
NEW LONDON	30 Min. 10 Min. in front of P.O. & Banks	1 Hour 12 Hour in residential	1st. Warned 2nd. $2.00	NO	MODERATE
WATERBURY	45 Min.	1 Hour	$1.00	YES	RIGID
NEW HAVEN	30 Min. on both sides of st. 30 min. on narrow streets	No Limit from 7 A.M. to 7 P.M. 3 Hours from 7 P.M-7AM	$1.00	NO	RIGID
GREENWICH	60 Min.	2 Hours	$3.00	YES	RIGID
MANCHESTER	1 Hour Part of one street in center 10 Min.	On few streets Parking is restricted on one side	$2.00	NO	MODERATE
HARTFORD	15 Minutes 40 "	1 Hour One or Two Points 2 Hours	$1.00	YES	RIGID
MIDDLETOWN	2 Hours	No Limit	$2.00	NO	MODERATE

Therefore, if one hour parking is adopted for Main Street, Middletown would still have more liberal parking limits than most other Connecticut cities and parking facilities unequaled by any of them. It is hoped that the board of Police Commissioners will see fit to adopt one hour parking for Zones 1 and 2 and possibly for Zone 3 which can be either one ortwo hour parking.

While strictly enforced two hour parking would help slightly it can not be recommended as a real solution to Middletown's parking problem. Later as the car registration and population of the community grows it may become necessary to adopt a restriction below one hour. Since the average parking time of all legally parked vehicles was less than 40 minutes, a 40 minute parking limit on Main Street would not be unreasonable, particularly in Zone 1.

Figures 7 and 8, plotted to the same co-ordinates as Figure 6 indicate that the parking density in Zones 2 and 3 is not nearly as great as in Zone 1, although Zone 2 becomes congested on Saturdays during the three peak periods. It is recommended that any change put into effect for Zone 1 be also applied to Zone 2. Otherwise, the natural result would be to force the overflow from Zone 1 into the adjacent blocks of Zone 2, thus creating an unfair condition there.

However, Zone 3, because of its low parking level even on Saturdays could be left with a two hour parking limit which would provide about 170 spaces on Main Street where the out of town visitor could park more than one hour.

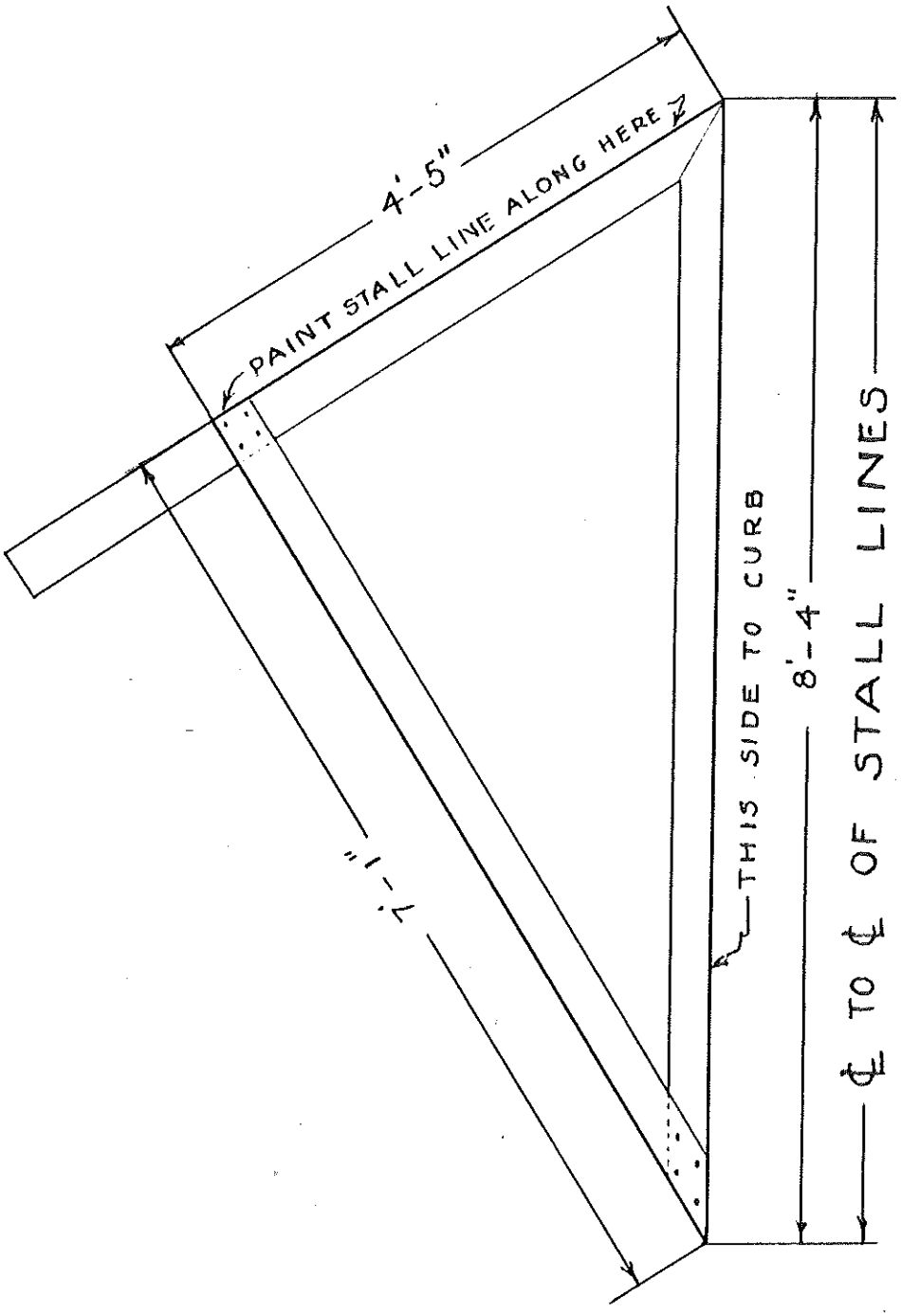
Parking Stall Layout

Because of the fact that a one hour parking limit on Main Street would open up a large percentage of the parking space it would be possible in this event to use a slightly easier parking angle, without feeling the necessary loss of a few parking spaces. A check up of the present parking angles indicated that they vary from 55 to 70 degrees. After a trial of various experimental stalls, it was decided that one with an angle of 58 degrees which requires an eight foot four inch curb space for a seven foot one inch width, would be a good stall for the average car. This stall gives an average distance between cars of about 16 inches and permits easy parking from a line approximately 10 feet outside the row of curb parked cars. The templet illustrated in Figure 10 will be helpful in laying out this stall. It could be used throughout the length of Main Street with a loss of only three percent of the present number of spaces. If a wider stall seems desirable without the loss of curb space, a 60 degree angle is recommended with an eight foot four inch curb space,which gives a stall width of seven feet three inches.

Court Street Congestion

Court Street, one of the main arteries to the business district entering Main Street at appnoximately its center, has been a source of great congestion for a number of years. Overtime parking on this street averages 10.9% on week-days and 14.5% on the average Saturday which is about twice the average for Main Street.

FIG.-10



DETAIL OF
PARKING SPACE TEMPLATE
SCALE 3/4" = 1'-0"

While the parking density on Court Street during the day time is somewhat lower than on Main Street, traffic tie-ups seem to be more frequent here than at any other point in the business district. Recent counts on the number of times per day that traffic is at a standstill at some point on Court Street average one every 7½ minutes on a week-day and one every 9½ minutes on a Saturday. This does not include the partial tie-ups from double parking, which are included in the tables below.

TRAFFIC HOLD-UPS ON COURT ST.

Broad to Water St.

Friday April 26, 1935

	A.M.			P.M.				
Hour Ending	9½	10½	11½	12½	2½	3½	4	5
East Court	2	2	3	3	9	6	3	5
West Court	5	12	3	13	8	12	3	3

	E. Court	W. Court	Total
No. Complete Hold-Ups	24	34	58
Average Time Held Up	10 Sec.	7 Sec.	
Delays from Double Parking	9	25	34
Total	33	59	92

TRAFFIC HOLD-UPS ON COURT ST.

Broad to Water St.

Saturday April 27, 1935

	A.M.			P.M.									
Hour Ending	9½	10½	11½	12½	2½	3½	4	5	6	7	8	9	10
East Court	10	9	3	3	9	3	1	3	4	5	8	5	3
West Court	9	11	12	7	6	7	1	4	2	4	8	10	3

	E. Court	W. Court	Total
No. Complete Hold-Ups	29	50	79
A verage Time Held Up	1 Min	1-1/8 Min.	
Delays From Double Parking	37	34	71
Total	66	84	150

More traffic tie-ups are indicated on west Court Street than on east Court Street, but the situation is very bad at both points. Most of the traffic jams occur near the centers of the blocks and they seem to be rather uniformly distributed throughout the day, after the early morning hours.

It is evident that in case a fire coincided with one of these tie-ups it might delay the arrival of the fire apparutus for several minutes. Trucks in the habit of double parking for loading and unloading purposes are the principal cause. The street is not wide enough to accommodate parallel parked cars on each side and double parked trucks in the middle without either creating a bottle-neck or an actual closure of the street. Therefore, it is recommended that serious consideration be given to the elimination of all parking on the south side of Court Street between Broad and Main Streets. For the section of Court Street between Main and Water Streets parking on one side or the other should be eliminated. There is slightly more traffic heading east than there is west on this section, but the difference is small. A one hour parking limit is recommended for the unrestricted side of Court Street between Broad Street and Water Street.

Major Recommendations Already Adopted

At the time of this writing, the Police Committee have decided to adopt the following changes in parking regulations.

1. One hour parking on Main Street thruout its entire length, from 12 A.M. to 6 P.M. on week-days and from 12 A.M. to 10 P.M. on Saturdays.

2. One hour parking on the north side of Court Street from Broad to Main Streets between the hours of 12 A.M. and 6 P.M. on week-days and between the hours of 12 A.M. and 10 P.M. on Saturdays. No person shall park any vehicle on the south side of Court Street between Broad Street and Main St.

3. One Hour parking on the north side of Court Street from Main Street to Water Street at all times. No person shall park any vehicle on the south side of Court Street from Main Street to Water Street between the hour of 6 A.M. and 6 P.M. After 6 P.M. and until 6 A.M. one hour parking will be allowed on the south side.

4. No person shall park any vehicle on the north side of Loveland Street between South Main and High Street.

With a one hour parking limit on Main Street the natural question arises "Where will those cars go who formerly parked from one to ten hours"? If parking space off Main Street can be found for this group, it will open up from 28% to 50% more space on Main Street depending on the degree to which this is accomplished. It will mean that on Saturday an average of 94 cars per hour will have to seek parking space off Main Street with a peak of 116 per hour at 8 P.M. The number of unused no limit spaces within one block of Main Street averages at least 182 per hour. In addition, within two blocks of Main Street there is an average total of 409 unused spaces. These figures do not include at least 200 spaces which are usually available behind stores and office buildings and which will furnish ideal parking space for employees. Nor do they include the Berkeley Divinity pay parking lot. Therefore, it seems that one hour parking will not create an undue hardship on anyone.

Minor Recommendations Already Adopted

Minor suggestions which have already been acted upon favorably by the Police Committee are as follows:

For the present the east-west streets with the exception of Court Street and eight spaces on Washington Street, south of Wetmore Place, will be left as they are with unlimited parking at all points where parking is allowed. This affords no limit parking space for 223 cars within an average of one half a block of Main Street between Liberty Street and William Street.

South Street at the Railroad Track

No parking is to be allowed for 75 feet from the north corner on the west side of the street. Parking here interferes with the approaching motorists view of the railroad crossing.

Intersection Church and Main Street.

A "STOP" sign is to be installed on the southwest corner of this intersection to increase the safety of the motorists entering Main Street from Church Street. No parking is to be allowed for 42 feet from the northwest corner of this intersection to permit a better view of the south bound Main Street traffic.

Corner of Liberty and Main Streets.

No parking is to be allowed on the north side of Liberty Street for a distance of 60 feet from the Main Street curb, Parking at this point blocks west bound traffic from entering Liberty Street when east bound traffic is waiting for the signal.

Hartford Avenue

The lanes and yellow curbing on Hartofrd Aveune are to be completely repainted.

Parking Stalls

The new 58 degree parking stall is to be adopted when the lines are repainted.

High Street

From Washington to Spring Street is to be a through street. Liberty and Grand Streets will be "STOP" streets at High Street.

A new parking ticket designed to facilitate checking and filing and to eliminate paper work by the police has been officially adopted. The police department have also adopted a card similar to the parking check data sheets for making their own parking checks, which will replace the old method of marking tires with chalk.

Other Suggestions

Union and Sumner Streets.

It is suggested that a white line following the center of the street is to be painted around this corner from Union Street into Sumner Street.

Painting

It is suggested that parking stall, yellow curbing, and parking signs be repainted every six months to keep them in first class condition.

Center Street.

This is the narrowest of all the streets leading into Main Street. It carries a comparitively small amount of traffic approximately 800 cars each twenty-four hours, of which about 56%

travels eastward. At present no parking is allowed on the north side. In view of the frequent tie-ups on this street with the consequent fire hazard, it is recommended that Center Street be made a one way street for east-bound travel with parking allowed on the south side only as at present.

Bus Stops

Middletown has three recognized points where thru-buses can stop. These points are at the Municipal Building, the Connecticut Co.,stop at Kings Avenue on Main Street, and the Blue Way Bus stop at the North End Fruitery. There is very little traffic congestion at the north end of Main Street where the Connecticut Company and the Blue Way buses now stop, and from this standpoint it is an ideal place for the location of a recognized municipal stop for all buses.

If possible, it would be desirable to eliminate the stopping of buses at the Municipal Building, the point now used by the Grey Line, particularly north bound buses which must stop on the left side of the street and therefore must cross the south-bound lane of Main Street traffic. The Grey Line operates from four to six buses a day which make a rest stop at this point and therefore bring a certain amount of business to the city.

At a recent conference, an official of the Grey Line pointed out that if they could not continue the use of the present stop they might be forced to make their rest stops elsewhere. To compromise, a stop just behind the Connecticut Company bus stop on Court Street was offered them. The use of this point would mean

a short walk of perhaps 100 feet for the passengers who wish to eat, but it would be much better in every other respect. It is recommended that every effort be made to persuade the Grey Line to use this point rather than the Municipal Building Stop.

Double Parking

There are two or three periods on Saturdays when double parking on Main Street with and without drivers has become habitual with people wishing to run in and do short errands. This creates a congested condition between College and Washington Streets, for a period of an hour or two at 11 A.M., 4P.M. and 8 P.M. Under the new regulations, there will be more parking space on Main St. or within a block than there has been before. Much of it is unused even on Saturday nights because most people will double park on Main Street if they can, rather than walk a block. To relieve this condition it is suggested that every effort be made to keep the traffic on Main Street moving. If the thirty or forty cars which now clog the traffic on Main Street Saturday night could be kept moving and were required to find a parking space, a much improved traffic condition would result.

Traffic Characteristics in Zone 1

Some interesting data on the characteristic traffic in Zonel is plotted on figure 9. The curve at the top of the sheet indicates the volume of traffic in number of vehicles per hour at Washington Street between the hours of 8 A.M. and 10 P.M. on the average Saturday. The solid curve second from the top indicates the parking density between these hours. This curve does not indude

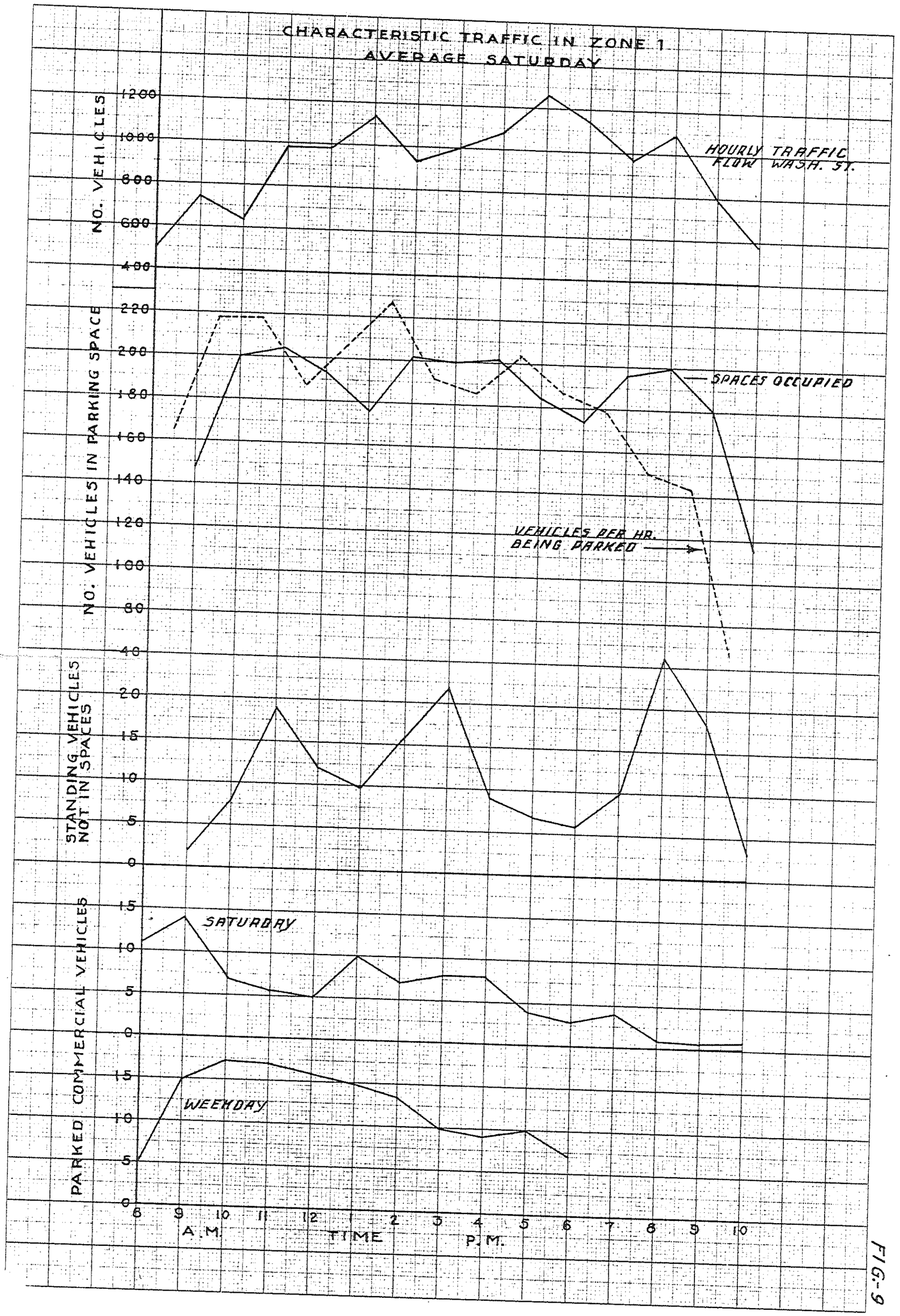

CHARACTERISTIC TRAFFIC IN ZONE 1
AVERAGE SATURDAY
NO. VEHICLES
1200
1000
800
600
400
HOURLY TRAFFIC FLOW WASH. ST.
NO. VEHICLES IN PARKING SPACE
220
200
180
160
140
120
100
80
SPACES OCCUPIED
VEHICLES PER HR. BEING PARKED
STANDING VEHICLES NOT IN SPACES
40
20
15
10
5
0
PARKED COMMERCIAL VEHICLES
15
10
5
0
SATURDAY
15
10
5
0
WEEKDAY
6 9 10 11 12 1 2 3 4 5 6 7 8 9 10
A.M. TIME P.M.

FIG-9

double parked cars or cars parked opposite prohibited areas but simply indicates the number of cars actually in legitimate parking stalls. The dotted curve indicates the cars being parked each hour, which is a true measure of space circulation.

There is a definite tendency for the number of cars being parked to drop when the spaces become nearly full. This can be noticed at eleven o'clock, three o'clock, and eight o'clock. There is also a tendency for the space circulation to increase at the times when the number of occupied spaces drops down, such as at one o'clock and again at four. These data indicate that greater space circulation will normally be obtained when there are a considerable number of spaces open. It is evident that the maximum space circulation is obtained at a parking density of about 80% when 20% of the spaces are open.

Comparing the hourly traffic flow curve with the parking circulation curve, we find that there is a tendency for the peaks of these curves to occur at the same time, The low points of the spaces occupied curve occur at the same time as the high points of the traffic flow curve. These are conditions that one would normally expect.

The third curve from the top shows the number of vehicles standing in the street, not in parking spaces, throughout the day. The three peaks of this curve correspond exactly with the three peaks of the spaces occupied curve directly above indicating that at times when the spaces are practically all full, the number of cars waiting in the street plus those illegally parked immediately reaches a maximum.

The two bottom curves indicate the number of commercial vehicles parked at the curb on week-days and Saturdays. It is interesting to note that more commercial vehicles are on the street week-days and that the majority of them appear in the morning hours.

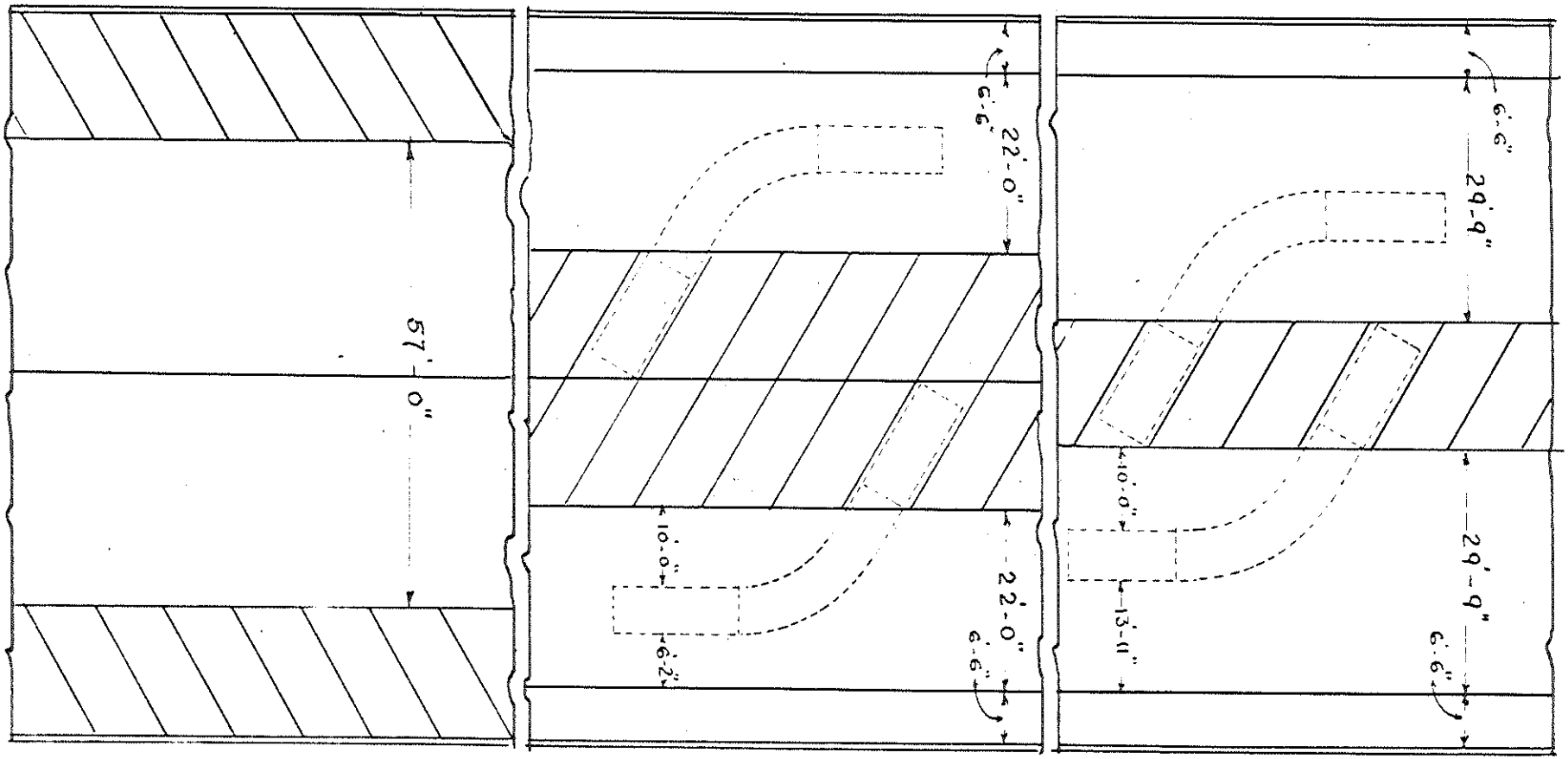
Main Street Parking Systems

Before making the final recommendations toward the solution of Middletown's parking problems, thorough study was given to the two plans of center parking outlined on Figure 11, as compared with the present system of angle curb parking.

Considering first the double row center parking plan which is drawn to scale with the proper stall angle and spacing, it is apparent that this plan offers a number of important advantages which are listed as follows:

1. It permits passenger vehicles, buses, and trucks to draw up to the curb to take on or discharge passengers or freight.
2. It divides the traffic into two lanes reducing the possibility of collisions between cars travelling in opposite directions.
3. Theoretically, it will clear the curb and allow a view of the store windows by the passing motorist.
4. It automatically eliminates "U" turns except at desired points where provision can be made for them.
5. It may slightly increase the number of stalls, estimated at 6%.
6. It will facilitate street cleaning.

PARKING SYSTEM COMPARISON
FOR
MAIN STREET
SCALE- 1 INCH = 20 FEET



ANGLE CURB PARKING

DOUBLE CENTER PARKING
STOP AT CURB

SINGLE CENTER
PARALLEL CURB
} PARKING

FIG.- 11

The disadvantages of this plan are as follows:

1. Passengers coming to and from their cars would be obliged to cross through traffic lanes at all points along the block without being protected by any form of traffic regulation. Thus many passengers would be forced to take accident risks that normally are optional.

2. Cars leaving the center zone would have to back out into fast moving traffic lanes. By custom and habit the left hand lane is always the fastest.

3. In the winter time a heavy snow would be much more of a problem than it is with curb parking, because the center of the street would have to be kept clear and the snow would have to be piled at the curb. People would be forced to walk in the street to find a pathway to the sidewalk.

4. To be effective, the plan requires that all curb space be kept clear which would be practically impossible with the present police force.

5. Cars seeking a parking space must travel in a line about ten feet out as shown on Figure 11, and they would therefore slow up traffic if any curb parking or waiting was permitted.

The Poilce Commissioners gave careful consideration to all of these points and decided that in view of the large volume of traffic which Main Street carries, double center parking would create too great an accident hazard. It was pointed out that, while this plan has been successful in a number of smaller cities as far as was known it has not been tried out on streets carrying from twelve thousand to seventeen thousand cars a day. The advantages and disadvantages are listed above for further reference should the plan be considered again.

A third plan called single row center and parallel curb parking overcomes some of the disadvantages of the double row center parking, for example, it would permit short period parallel curb parking say for fifteen minutes without impeding traffic to any

appreciable extent. The accident hazard would be reduced by 50% since only half of the cars are parked in the center of the street. Cars leaving the center parking zone could move forward and turn into the opposite lane of traffic instead of backing out. A slightly steeper angle could be used which would permit an increase in the number of stalls.

The single row center plan offers most of the advantages of double row center parking and fewer disadvantages. Of the two, we would prefer it. For the present at least, the committee felt that angle curb parking as now used with a strictly enforced one hour limit, offered the best solution. This will first be given a thorough try-out.

In closing this subject, it should be mentioned that if a four foot walk in the center of the street were built in connection with double row center parking, the accident hazard would be eliminated, because motorists who desired could walk down to the corner to cross the traffic lanes. Something of this kind may be the ultimate solution.

A resume of the important results and conclusions of the parking study is included at the back of this report.

ADDENDUM TO PARKING STUDY

The Board of Police Commissioners of Middletown has seen fit to adopt a number of the most important parking suggestions derived from this survey. These include one hour parking for Main and Court streets a one dollar fine for minor parking violations, and a number of other changes. Since the traffic survey staff was still intact at the time when these changes went into effect, an exceptional opportunity existed to make a few short parking checks to determine the effect of the changes on the parking habits of the community, the space circulation, and the space available under the new conditions. Accordingly, a parking study was made on one week-day and one Saturday about three weeks after the initiation of the changes.

This data was taken at 15 minute intervals using the same method as in the March survey to get results which would be directly comparable.

Spaces Available-Afternoon Peak Hours

	Week Day			Saturday		
	2 Hour Parking	1 Hour Parking	% Imp.	2 Hour Parking	1 Hour Parking	% Imp.
Zone 1	20	46	130	20	46	130
Zone 2	53	111	109	47	96	104
Zone 3	98	111	13	No Data	No Data	
Main St.	171	268	57	*67	*142	*112

*Main St.- between Liberty and William Streets.

The greatest improvement is noted between Washington and College streets (Zone 1) where the number of available spaces increased from 20 to 46, a matter of 130%. A large increase in available spaces was also noted in Zones 2 and 3 with an average

on the week-day for the entire Main Street of 57%

At the Saturday afternoon peak hours, the average improvment in Zones 1 and 2 is 112%, enough to make a tremendous difference in the ease of parking during this period. When this data was taken the new parking lanes had not been painted in Zone 3 and therefore, no comparison here could be made. However this zone is relatively uncongested and of no great importance in this comparison.

Comparison of Space Turnover

The following tabulation shows the increase in space turnover effected by the new regulation.

LOCATION	TIME	NO. CARS ACCOMMODATED		% INCREASE
	SATURDAY	2 Hour Parking	1 Hour Parking	SPACE CIRCULATION
Zone 1	8 A.M. to	3011	4048	35%
Zone 2	10 P.M.	2601	3013	16
Zone 1 & 2	Peak 2-5 P.M.	1271	1485	17
Zone 1 & 2	Peak 7-9 P.M.	745	1191	60
	WEEK-DAY			
Zone 1	8 A.M. to 6 P.M.	1974	2322	18%
Zone 2	"	1328	1452	10
Zone 3	"	856	957	12
Entire Main St.	"	4158	4731	14

The average increase in Saturday space turnover in Zone 1 for the entire business day from 8 A.M. to 10 P.M. was 35%, an increase of 1037 cars. In Zone 2, the increase was 412 cars bringing the total increase between Liberty and William Streets to 1450 cars or 26%

For comparison during the Saturday peak hours, Zones 1 and 2 were combined. Between 7 and 9 P.M. which is the heaviest parking peak of the entire week, the increase in circulation was 60% a tremendous improvement which should reflect itself in increased business.

The week-day comparison made during the period of the business day indicates a uniform increase in space circulation with an average of 14% for the entire Main Street.

Parking Period Distribution

Parking habits have changed under the new regulation through the re-distribution of parked vehicles. Those who wish to park on Main Street for a short period of time can now do so, while the few who wish to park a longer period are required to park elsewhere. Thus, Main Street is now being used largely by shoppers and those whose business will not require much over one hour, and the east-west streets and Broad Street are being used by those who are employed in the business district, or who may require longer than an hour. The following table, when compared with Figure 3, indicates the changes that have been made. The average parking time is now approximately 10 minutes less than formerly.

Parking Period Distribution (Zone 1)

1 Hour Parking Limit

Average Time Parked	Saturday % Total Cars	Week-Day % Total Cars
15 Minutes	46%	41.7%
30 "	25	26.5
45 "	15.1	15.6
60 "	8.4	7.6
Over 60 "	5.5	8.6
Average Parking time of legally parked vehicles	28 Minutes	28 Minutes

Note that approximately 85% of those parking in Zone 1 stay three quarters of an hour or less, and about 70% stay for only one half hour or less, although they are entitled to one full hour. The percentage of overtime parking, that is over one hour, remains about the same as it was before, but the overtime parkers do not stay for the extended periods that they formerly did. This is due to the excellent enforcement by the police. Naturally with the present police force they can not eliminate all overtime parking.

The number of cars observed parked opposite hydrants, prohibited zones, and driveways in Zone 1 on Saturday has decreased from an average of 65 to 10 under the new regulations.

Conclusions

More motorists are now able to park on Main Street than ever before, and they can now locate parking space much more easily at the desired point. An enormous improvement has been effected during the peak hours especially from 7-9 P.M. on Saturday. There is still some congestion during this period which can only be eliminated by the prevention of all double parking. The new regulation has had the effect of moving long time parkers into parking lots and no limit parking zones. The unrestricted east-west streets still show about the same space circulation as before with a little higher average parking time. About 12 more cars on the average than formerly now park on Broad Street, a negligible increase, except between Court and Washington Street where most of this increase is concentrated. Strict enforcement of the new regulations and the one dollar fine have been very effective in bringing about these vastly improved conditions.

ZONE 1 - Week Day Summary

Average of Nov. 28, Dec. 3,4,5,6,7,12,13 & 14, 1934

	A.M. Time					P.M. Time						
	8	9	10	11	12	1	2	3	4	5	6	Total
No. of Spaces in use at time indicated	65	133	167	182	165	166	194	195	189	172	99	1727
No. of Vehicles being parked during each hour		142	172	185	186	216	212	191	199	202	122	1827
No. of Vacant Spaces at time indicated	147	79	45	30	47	46	18	17	23	40	113	605
No. of Cars double parked during each hour	1	1	2	1	1	1	1	4	2	2	1	17
No. of Cars parked opp. Hydrants Zones and Driveways each hour	1	1	2	3	4	3	4	5	4	3	2	32
No. of Cars improperly parked each hour	5	10	11	10	10	10	12	8	11	9	7	103
Total No. of infractions each hour	7	12	15	14	15	14	17	17	17	14	10	152
No. of Comm. Vehicles at curb during each hour	5	14	16	16	15	15	13	10	9	10	7	130
Comm. Loading double parked during each hour	--	1	1	1	1	--	--	--	--	--	--	4
No. of Cars waiting with drivers during each hour	--	1	--	2	1	1	1	5	4	4	1	20

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	1180	361	167	82	33	22	14	9	5	3	3	1	2	--	4	1885
% Each To Total	62.5%	19.1%	8.9%	4.4%	Overtime		5.1%									

Total Cars Parked Overtime	96	Total Space Hours Used 10 Hours	1706½
No. of Space Hours Overtime Parking	149	Percent Overtime Space Hours	8.7%
No. of Space Hours Legal Parking	1557½	Percent Legal Space Hours	91.3%

ZONE 2 - Week Day Summary

Average of Nov. 28, Dec. 3,4,5,6,7,12,13 & 14, 1934

	A.M. Time					P.M. Time						
	8	9	10	11	12	1	2	3	4	5	6	Total
No. of Spaces in use at time indicated	50	89	109	125	107	113	142	158	151	137	98	1279
No. of Vehicles being parked during each hour		92	100	125	118	124	152	153	152	142	86	1244
No. of Vacant Spaces at time indicated	170	131	111	95	113	107	78	62	69	83	122	1141
No. of Cars double parked during each hour	1	1	1	2	1	1	1	1	2	2	1	14
No. of Cars parked opp. Hydrants Zones and Driveways each hour	1	2	2	3	3	2	4	4	4	4	3	32
No. of Cars improperly parked each hour	7	11	14	17	15	13	15	11	10	8	7	128
Total No. of infractions during each hour	9	14	17	22	19	16	20	16	16	14	11	174
No. of Comm. Vehicles at curb during each hour	9	19	18	23	19	16	17	15	16	12	10	174
Comm. Loading double parked during each hour	--	1	--	1	1	--	1	--	--	1	--	5
No. of Cars waiting with drivers during each hour	--	--	1	1	2	1	1	1	1	2	--	10

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	812	222	100	51	30	18	13	11	7	4	5	1	2	--	3	1279
% Each To Total	63.5%	17.4%	7.8%	4.0%	Overtime 7.3%											

Total Cars Parked Overtime	94	Total Space Hours Used 10 Hours	1221
No. of Space Hours Overtime Parking	153	Percent Overtime Space Hours	12.5%
No. of Space Hours Legal Parking	1068	Percent Legal Space Hours	87.5%

ZONE 3 - Week Day Summary

Average of Nov. 28, Dec. 3,4,5,6,7,12,13 & 14, 1934.

	A.M. Time					P.M. Time						
	8	9	10	11	12	1	2	3	4	5	6	Total
No. of Spaces in use at time indicated	34	45	55	57	60	57	61	64	67	69	62	631
No. of Vehicles being parked during each hour		50	65	61	70	70	69	65	76	74	61	661
No. of Vacant Spaces at time indicated	139	128	118	116	113	116	112	109	106	104	111	1272
No. of Cars double parked during each hour	--	1	1	--	1	--	--	--	1	--	--	4
No. of Cars parked opp. Hydrants Zones and Driveways each hour	--	1	1	1	2	2	1	2	1	2	1	14
No. of Cars improperly parked each hour	5	8	10	8	7	8	9	7	7	5	5	79
Total No. of infractions during each hour	5	10	12	9	10	10	10	9	9	7	6	97
No. of Comm. Vehicles at curb during each hour	7	16	15	13	13	12	13	10	12	9	5	125
Comm. Loading double parked during each hour	--	1	--	--	--	--	--	--	--	--	--	1
No. of Cars waiting with drivers during each hour	--	--	1	--	--	--	--	--	--	--	1	2

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	464	126	47	24	13	10	6	3	4	1	2	1	1	--	1	703
% Each To Total	66.1%	17.9%	6.7%	3.4%	Overtime	5.9%										

Total Cars Parked Overtime	41	Total Space Hours Used 10 Hours	616
No. of Space Hours Overtime Parking	64	Percent Overtime Space Hours	10.5%
No. of Space Hours Legal Parking	552	Percent Legal Space Hours	89.5%

MAIN ST. - Week Day Summary

Average of Nov. 28, Dec. 3,4,5,6,7,12,13 & 14, 1934

	A.M. Time					P.M. Time						
	8	9	10	11	12	1	2	3	4	5	6	Total
No. of Spaces in use at time indicated	149	267	331	364	332	336	397	417	407	378	259	3637
No. of Vehicles being parked during each hour		284	337	371	374	410	433	409	427	418	269	3732
No. of Vacant Spaces at time indicated	456	338	274	241	273	269	208	188	198	227	346	3018
No. of Cars double parked during each hour	2	3	4	3	3	3	2	5	4	4	2	35
No. of Cars parked opp. Hydrants Zones and Driveways	2	4	5	7	9	7	9	11	9	9	6	78
No. of Cars improperly parked each hour	17	29	35	35	32	31	36	26	28	22	19	310
Total No. of infractions during each hour	21	36	44	45	44	41	47	42	41	35	27	423
No. of Comm. Vehicles at curb during each hour	21	49	49	52	47	43	43	35	37	31	22	429
Comm. Loading double parked during each hour	--	3	1	2	2	--	1	--	--	1	--	10
No. of Cars waiting with drivers during each hour	1	1	1	4	3	2	2	5	5	5	1	30

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	2456	709	314	157	76	50	33	23	16	8	10	3	5	--	8	3868
% Each To Total	63.5%	18.3%	8.1%	4.1%	Overtime 6%											

Total Cars Parked Overtime	232	Total Space Hours Used 10 Hours	3541
No. of Space Hours Overtime Parking	355	Percent Overtime Space Hours	10%
No. of Space Hours Legal Parking	3186	Percent Legal Space Hours	90%

COURT ST. - Week Day Summary

Average of Nov. 23, Dec. 3,4,5,6,7,8,12,13 & 14, 1934.

	A.M. Time					P.M. Time						
	8	9	10	11	12	1	2	3	4	5	6	Total
No. of Spaces in use at time indicated	16	40	40	44	41	43	47	50	55	46	33	455
No. of Vehicles being parked during each hour		45	35	43	39	41	47	46	57	41	25	419
No. of Vacant Spaces at time indicated	72	43	43	44	47	45	41	33	33	42	55	513
No. of Cars double parked during each hour	--	.1	.3	.2	.3	.1	--	--	.2	--	.2	1.4
No. of Cars parked opp. Hydrants Zones and Driveways	.2	1.1	1.3	1.0	1.5	2.0	3.0	2.3	1.7	1.1	.9	16.1
No. of Cars improperly parked each hour	1.4	4.3	5.9	4.5	4.0	3.4	4.4	4.2	4.6	3.1	3.4	43.2
Total No. of infractions during each hour	1.6	5.5	7.5	5.7	5.3	5.5	7.4	6.5	6.5	4.2	4.5	60.7
No. of Comm. Vehicles at curb during each hour	5	8	11	10	11	9	8	8	13	6	4	93
Comm. Loading Vehicles at curb during each hour	.1	.1	.3	.1	.2	.1	--	.1	--	--	.1	1.1
No. of Cars waiting with drivers during each hour	--	--	--	.1	--	.1	--	--	.1	.1	.1	.5

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	243	73	38	23	13	9	7	6	3	2	2	1	--	--	3	423
% Each To Total	57.4%	17.3%	9%	5.4%			Overtime	10.9%								

Total Cars Parked Overtime	46	Total Space Hours Used 10 Hours	476
No. of Space Hours Overtime Parking	36½	Percent Overtime Space Hours	13.2%
No. of Space Hours Legal Parking	339½	Percent Legal Space Hours	81.3%

WASHINGTON ST.- Week Day Summary

Average of Nov.23, Dec. 3,4,5,6,7,12,13 & 14, 1934

	A.M. Time				P.M. Time							
	8	9	10	11	12	1	2	3	4	5	6	Total
No. of Spaces in use at time indicated	31	43	50	53	49	46	51	56	46	34	26	490
No. of Vehicles being parked during each hour		23	18	12	19	27	22	20	25	19	10	195
No. of Vacant spaces at time indicated	34	67	65	62	66	69	64	59	69	81	89	775
No. of Cars double parked during each hour	--	--	--	.3	.1	.2	.1	.3	.6	--	--	1.6
No. of Cars parked opp. Hydrants Zones and Driveways	.4	.3	.3	.5	.3	.6	.5	.5	1.1	.7	.2	5.9
No. of Cars improperly parked during each hour	2	3	4	3	3	3	2	3	3	2	2	30
Total No. of infractions each hour	2.4	3.3	4.3	3.3	3.4	3.3	2.6	3.3	4.7	2.7	2.2	37.5
No. of Comm. Vehicles at curb during each hour	1	3	5	2	2	2	2	3	4	3	1	28
Comm. Loading double parked during each hour	--	.1	--	--	--	.1	.1	.2	--	--	--	.5
No. of Cars waiting with drivers during each hour	--	--	--	.2	--	--	--	--	--	--	--	.2

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	86	39	24	12	12	10	7	10	4	4	2	1	1	1	11	224
% Each To Total	38.4%	17.4%	10.7%	5.4%	Over 2 Hours 28.1%											

Total Cars Parked Over 2 Hours	63	Total Space Hours Used 10 Hours	445
No. of Space Hours Over 2 Hours	177	Percent Space Hours-Over 2 Hours	39.8%
No. of Space Hours Under 2 Hours	268	Percent Space Hours-Under 2 Hours	60.2%

COLLEGE ST. - Week Day Summary

Average of Nov. 28, Dec. 3,4,5,6,7,12,13 & 14, 1934

	A.M. Time					P.M. Time						
	8	9	10	11	12	1	2	3	4	5	6	Total
No. of Space in use at time indicated	8	13	14	17	16	14	25	26	26	17	14	190
No. of Vehicles being parked during each hour		9	7	7	8	10	17	9	11	5	6	89
No. of Vacant Spaces at time indicated	33	33	32	29	30	32	21	20	20	23	32	316
No. of Cars double parked during each hour	--	.1	--	--	--	--	--	--	--	--	--	.1
No. of Cars parked opp. Hydrants Zones and Driveways	.1	.3	.6	.8	.1	.4	.3	1.2	.5	.1	--	4.4
No. of Cars improperly parked each hour	1.3	1.3	1.9	1.2	2.0	1.7	1.4	1.2	1.6	1.7	1.7	17.0
Total No. of infractions each hour	1.4	1.7	2.5	2.0	2.1	2.1	1.7	2.4	2.1	1.8	1.7	21.5
No. of Comm. Vehicles at curb during each hour	1.1	1.7	2.0	.9	2.4	2.1	2.1	1.6	2.2	1.5	.9	18.5
Comm. Loading double parked during each hour	--	--	--	--	--	--	--	--	--	--	--	--
No. of Cars waiting with drivers during each hour	--	--	--	.1	--	.1	--	--	--	--	--	.2

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	35	16	11	8	8	7	3	2	2	2	2	--	--	1	3	100
% Each To Total	35%	16%	11%	8%	Over 2 Hours			30%								

Total Cars Parked Over 2 Hours 30

No. of Space Hours Over 2 Hours 66½

No. of Space Hours Under 2 Hours 126

Total Space Hours Used 10 Hours 192½

Percent Space Hours-Over 2 Hours 34.5%

Percent Space Hours - Under 2 Hours 65.5%

WILLIAM ST. - Week Day Summary

Average of Nov. 28, Dec. 3,4,5,6,7,12,13 & 14, 1934

	A.M. Time					P.M. Time						
	8	9	10	11	12	1	2	3	4	5	6	Total
No. of Spaces in use at time indicated	10	11	11	10	9	11	11	12	11	10	7	113
No. of Vehicles being parked during each hour		3	4	4	6	3	5	7	3	5	3	60
No. of Vacant Spaces at time indicated	31	30	30	31	32	30	30	29	30	31	34	339
No. of Cars double parked during each hour	--	--	--	--	--	--	--	--	--	--	--	--
No. of Cars parked opp. Hydrants Zones and Driveways	.2	.7	1.0	.3	.3	.6	.2	.2	.6	.1	.4	5.1
No. of Cars improperly parked each hour	3.1	1.7	1.4	1.2	1.3	2.9	1.4	2.0	1.2	1.2	1.0	13.9
Total No. of infractions during each hour	3.3	2.4	2.4	2.0	2.1	3.5	1.6	2.2	1.3	1.3	1.4	24.
No. of Comm. Vehicles at curb during each hour	1.4	1.1	.7	.7	1.1	1.	.9	1.1	.9	1.1	1.1	11.1
Comm. Loading double parked during each hour	--	--	--	--	--	--	--	--	.1	--	--	.1
No. of Cars waiting with drivers during each hour	--	.1	--	--	--	--	--	--	--	--	--	.1

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	26	11	6	5	4	4	2	2	4	1	1	--	1	--	1	65
% Each To Total	40%	17%	9.2%	7.7%		Overtime		26.1%								

Total Cars Parked Over 2 Hours	17	Total Space Hours Used 10 Hours	115
No. of Space Hours Over 2 Hours	38	Percent Space Hours-Over 2 Hours	33%
No. of Space Hours Under 2 Hours	77	Percent Space Hours-Under 2 Hours	67%

ENTIRE BUSINESS DISTRICT * Study Day Summary

Average of Nov. 28, Dec. 3,4,5,6,7,12,13 & 14, 1934

	8	9	10	11	12	1	2	3	4	5	6	Total
No. of Space in use at time indicated	214	379	446	433	447	450	531	561	545	435	339	4335
No. of Vehicles being parked during each hour		369	401	437	446	497	524	491	529	433	313	4495
No. of Vacant Spaces at time indicated	631	516	449	407	443	445	364	334	350	419	556	4960
No. of Cars double parked during each hour	2	3	4	4	3	3	2	6	5	4	2	38
No. of Cars parked opp. Hydrants Zones & Driveways each hour	3	7	9	10	11	11	13	15	13	11	7	110
No. of Cars improperly parked each hour	25	39	48	45	43	42	45	37	33	39	27	419
Total No. of infractions during each hour	30	49	61	59	57	56	60	53	56	45	36	567
No. of Comm. Vehicles at curb during each hour	30	62	63	65	64	57	56	49	57	43	29	530
Comm. Loading double parked during each hour	--	3	2	2	2	--	1	--	--	1	--	11
No. of Cars waiting with drivers during each hour	--	1	1	4	3	3	2	6	5	6	2	33

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	2346	343	393	205	112	79	52	43	23	17	17	5	7	2	26	4630
% Each To Total	60.8%	10.1%	8.4%	4.4%	Over 2 Hours 8.3%											

Total Cars Parked Overtime	278	Total Space Hours Used 10 Hours	4744½
*Total Cars Parked Over 2 Hours	383	Percent Overtime Space Hours	9.3%
No. of Space Hours Overtime Parking	441½	Percent Legal Space Hours	90.7%
No. of Space Hours Legal Parking	4303		

* Includes Legal Parking on Washington, College & William Sts.

ZONE 1 - Saturday Summary

Average of Dec. 8, 15 & 22, 1934.

	A.M. Time 8	9	10	11	12	P.M. Time 1	2	3	4	5	6	7	8	9	10	Total
No. of Spaces in use at time indicated	49	149	200	204	193	177	202	201	203	185	174	196	201	180	114	2623
No. of Vehicles being parked each hour	49	165	217	219	188	208	228	192	186	203	187	179	151	144	67	2534
No. of Vacant spaces at time indicated	163	63	12	8	19	35	10	11	9	27	38	16	11	32	98	552
No. of Cars double parked each hour	--	--	1	3	2	1	2	1	2	1	--	1	--	--	--	14
No. of Cars opp. Hydrants Zones and Driveways	--	1	2	7	4	4	4	3	1	2	1	3	5	3	2	42
No. of Cars improperly parked each hour	6	12	12	11	12	14	13	20	8	9	7	5	4	4	5	142
Total No. of infractions during each hour	6	13	15	21	18	19	19	24	11	12	8	9	9	7	7	198
No. of Comm. Vehicles at curb during each hour	9	13	7	5	5	10	6	7	7	4	3	4	1	1	1	83
Comm. Loading double parked during each hour	2	1	--	1	--	--	1	1	1	--	--	--	--	--	--	7
No. of Cars waiting with drivers during each hour	--	1	5	9	6	5	10	18	6	4	5	6	21	15	1	112

Parking Period

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	1457	563	288	151	79	46	23	17	8	3	4	3	--	1	1	2644
%	55.1%	21.3%	10.9%	5.7%	Overtime 7%											

Total Cars Parked Overtime	185	Total Space Hours Used 14 Hours	2615½
No. of Space Hours Overtime Parking	220	Percent Overtime Space Hours	8.4%
No. of Space Hours Legal Parking	2395½	Percent Legal Space Hours	91.6%

ZONE 2 - Saturday Summary

Average of Dec. 8, 15 & 22, 1934.

	A.M. Time					P.M. Time										
	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	Total
No. of Spaces in use at time indicated	36	82	148	182	157	138	173	192	185	162	137	176	200	173	102	2243
No. of Vehicles being parked each hour		103	179	198	189	160	207	187	212	159	150	193	149	86	58	2230
No. of Vacant spaces at time indicated	184	138	72	38	63	82	47	28	35	58	83	44	20	47	118	1057
No. of Cars double parked each hour	1	--	--	--	--	1	1	1	1	--	1	--	--	--	--	6
No. of Cars opp. Hydrants Zones and Driveways	1	1	3	6	5	3	5	3	6	5	5	5	8	6	4	66
No. of Cars improperly parked each hour	4	9	8	8	7	10	17	8	10	11	6	7	6	5	6	122
Total No. of infractions during each hour	6	10	11	14	12	14	23	12	17	16	12	12	14	11	10	194
No. of Comm. Vehicles at curb during each hour	10	15	13	12	12	12	12	8	11	9	9	4	3	2	4	136
Comm. Loading dourble parked during each hour	1	1	2	1	--	--	1	1	--	1	--	--	--	--	--	8
No. of Cars waiting with drivers during each hour	--	--	2	4	3	1	3	4	1	--	1	1	--	--	--	20

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	1370	415	195	106	68	42	22	15	9	4	8	3	1	2	3	2263
% Each to Total	60.5%	18.4%	8.6%	4.7%	Overtime 7.8%											

Total Cars Parked Overtime	177	Total Space Hours Used 14 Hours	2204½
No. of Space Hours Overtime Parking	246	Percent Overtime Space Hours	11.2%
No. of Space Hours Legal Parking	1958½	Percent Legal Space Hours	88.8%

ZONE 3 - Saturday Summary

Average of Dec. 8, 15 & 22, 1934.

	A.M. Time					P.M. Time										
	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	Total
No. of Spaces in use at time indicated	36	52	70	68	76	72	79	88	93	97	79	89	125	104	80	1208
No. of Vehicles being parked each hour		58	78	75	92	81	93	84	97	84	59	79	98	59	20	1057
No. of Vacnat spaces at time indicated	137	121	103	105	97	101	94	85	80	76	94	84	48	69	93	1387
No. of Cars double parked each hour	--	--	1	1	--	--	--	--	--	--	--	1	1	--	--	4
No. of Cars opp. Hydrants Zones and Driveways	1	1	2	2	1	2	2	1	1	1	2	3	3	2	--	24
No. of Cars improperly parked each hour	3	6	9	15	10	8	10	8	7	3	6	6	8	4	2	105
Total No. of infractions during each hour	4	7	12	18	11	10	12	9	8	4	8	10	12	6	2	133
No. of Comm. Vehicles at curb during each hour	10	13	16	13	10	11	8	9	10	7	3	3	2	2	1	118
Comm. Loading double parked during each hour	1	1	1	--	--	--	1	--	1	--	--	--	--	--	--	5
No. of Cars waiting with drivers during each hour	1	1	--	--	--	--	--	--	--	--	--	1	2	1	--	6

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	609	210	78	54	27	19	14	9	7	2	2	2	1	1	3	1038
% Each To Total	58.7%	20.2%	7.5%	5.2%					Overtime	8.4%						

Total Cars Parked Overtime	87	Total Space Hours Used 14 Hours	951
No. of Space Hours Overtime Parking	137½	Percent Overtime Space Hours	14.4%
No. of Space Hours Legal Parking	813½	Percent Legal Space Hours	85.6%

MAIN ST. - Saturday Summary

Average of Dec. 8,15 & 22, 1934.

	A.M. Time					P.M. Time										
	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	Total
No. of Spaces in use at time indicated	121	283	418	454	426	387	454	481	481	444	390	461	526	457	296	6079
No. of Vehicles being parked each hour		326	474	492	469	449	528	463	495	446	396	451	398	289	145	5821
No. of Vacant spaces at time indicated	484	322	187	151	179	218	151	124	124	161	215	144	79	148	309	2996
No. of Cars double parked each hour	1	--	2	4	2	2	3	2	3	1	1	2	1	--	--	24
No. of Cars opp. Hydrants Zones and Driveways	2	3	7	15	10	9	11	7	8	8	8	11	16	11	6	132
No. of Cars improperly parked each hour	13	27	29	34	29	32	40	36	25	23	19	18	18	13	13	369
Total No. of infractions during each hour	16	30	38	53	41	43	54	45	36	32	28	31	35	24	19	525
No. of Comm. Vehicles at curb during each hour	29	41	36	30	27	33	26	24	28	20	15	11	6	5	6	337
Comm. Loading double parked during each hour	4	3	3	2	--	--	3	2	2	1	--	--	--	--	--	20
No. of Cars waiting with drivers during each hour	1	2	7	13	9	6	13	22	7	4	6	8	23	16	1	138

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	3436	1188	561	311	174	107	59	41	24	9	14	8	2	4	7	5945
% Each To Total	57.8%	20%	9.4%	5.2%	Overtime		7.6%									

Total Cars Parked Overtime	449	Total Space Hours Used 14 Hours	5871
No. of Space Hours Overtime Parking	603½	Percent Overtime Space Hours	10.3%
No. of Space Hours Legal Parking	5267½	Percent Legal Space Hours	89.7%

COURT ST. - Saturday Summary

Average of Dec. 8,15, & 22, 1934.

	A.M. Time					P.M. Time										
	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	Total
No. of Spaces in use at time indicated	15	36	53	57	50	34	45	61	66	53	41	57	76	75	62	781
No. of Vehicles being parked each hour	--	34	45	45	61	25	36	56	65	42	39	59	53	16	26	602
No. of Vacant Spaces at time indicated	73	52	35	31	33	54	43	27	22	35	47	31	12	13	26	539
No. of Cars double parked each hour	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	1
No. of Cars opp. Hydrants Zones and Driveways	--	--	2	3	2	1	1	2	3	2	--	2	3	3	2	26
No. of Cars improperly parked each hour	1	3	5	7	3	4	3	2	4	4	5	4	5	4	4	53
Total No. of Infractions during each hour	1	3	7	10	5	5	4	4	3	6	5	6	3	7	6	35
No. of Comm. Vehicles at curb during each hour	3	4	6	5	6	4	5	5	5	1	1	1	--	1	--	47
Comm. Loading double parked during each hour	1	--	--	--	--	1	--	--	1	--	--	--	--	--	--	3
No. of Cars waiting with drivers during each hour	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	1

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	213	125	62	38	22	17	14	5	3	3	2	1	--	1	2	503

% Each To Total	41.9%	24.6%	12.2%	7.4%	Overtime	13.9%

Total Cars Parked Overtime	70	Total Space Hours Used 14 Hours	644
No. of Space Hours Overtime Parking	103½	Percent Overtime Space Hours	16.1%
No. of Space Hours Legal Parking	540½	Percent Legal Space Hours	83.9%

WASHINGTON ST. - Saturday Summary

Average of Dec. [illegible],15; & 22, 1974.

	A.M. Time					P.M. Time										
	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	Total
No. of Spaces in use at time indicated	33	32	36	38	38	34	36	43	59	49	53	63	31	68	49	712
No. of Vehicles being parked each hour	--	23	15	13	16	25	29	25	40	25	19	26	44	22	14	341
No. of Vacant Spaces at time indicated	32	33	79	77	77	81	79	72	56	66	62	52	34	47	66	1013
No. of Cars double parked each hour	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	1
No. of Cars opp. Hydrants Zones and Driveways	--	--	--	--	1	--	1	1	--	--	--	--	1	--	--	4
No. of Cars improperly parked each hour	3	2	2	--	1	1	2	1	--	--	--	--	--	--	--	12
Total No. of Infractions during each hour	3	2	2	1	2	1	3	2	--	--	--	--	1	--	--	17
No. of Comm. Vehicles at curb during each hour	3	2	3	3	1	2	4	2	1	1	--	--	1	1	1	25
Comm. Loading double parked during each hour	1	1	--	1	1	1	1	2	1	2	2	--	--	--	--	13
No. of Cars waiting with drivers during each hour	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	117	76	43	30	22	16	11	9	10	3	6	3	1	--	4	356
% Each To Total	32.9%	21.3%	13.5%	8.4%	Over 2 Hours 23.9%											

Total Cars Parked Over 2 Hours	85	Total Space Hours Used 14 Hours	593½
No. of Space Hours Over 2 Hours	157	Percent Space Hours-Over 2 Hours	26.5%
No. of Space Hours Under 2 Hours	436½	Percent Space Hours-Under 2 Hours	73.5%

COLLEGE ST. - Saturday Summary

Average of Dec. 3,15 & 22, 1934.

	A.M. Time					P.M. Time										
	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	Total
No. of Spaces in use at time indicated	11	15	17	20	20	21	26	29	31	27	25	31	34	33	22	362
No. of Vehicles being parked each hour	--	11	3	12	12	17	13	13	16	6	11	20	14	7	4	164
No. of Vacant spaces at time indicated	35	31	29	26	26	25	20	17	15	19	21	15	12	13	24	328
No. of Cars double parked each hour	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	1
No. of Cars opp. Hydrants Zones and Driveways	--	--	--	1	1	--	1	--	1	1	1	2	2	1	--	11
No. of Cars improperly parked during each hour	3	4	2	4	3	3	3	4	5	3	3	4	3	2	1	47
Total No. of Infractions during each hour	3	4	2	5	5	3	4	4	6	4	4	6	5	3	1	59
No. of Comm. Vehicles at curb during each hour	3	2	3	2	2	1	2	4	3	1	1	--	--	--	--	24
Comm. Loading double parked during each hour	1	1	1	1	--	--	--	1	--	--	--	--	--	--	--	5
No. of Cars waiting with drivers during each hour	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	60	21	21	15	10	13	14	7	4	5	3	2	2	1	5	133
% Each To Total	32.3%	11.4%	11.4%	8.2%	Over 2 Hours 36.2%											

Total Cars Parked Over 2 Hours	66	Total Space Hours Used 14 Hours	335
No. of Space Hours Over 2 Hours	140½	Percent Space Hours-Over 2 Hours	36.5%
No. of Space Hours Under 2 Hours	244½	Percent Space Hours-Under 2 Hours	63.5%

WILLIAM ST. - Saturday Summary

Average of Dec. 3, 15 & 22, 1934

	A.M. Time					P.M. Time										
	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	Total
No. of Spaces in use at time indicated	9	10	12	11	10	11	14	14	12	12	9	13	14	13	12	176
No. of Vehicles being parked each hour	-	5	8	6	7	8	10	7	8	9	5	8	7	7	5	100
No. of Vacant Spaces at time indicated	32	31	29	30	31	30	27	27	29	29	32	28	27	28	29	439
No. of Cars double parked each hour	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
No. of Cars opp. Hydrants Zones and Driveways	--	1	--	--	--	--	--	1	2	--	--	--	--	--	--	5
No. of Cars improperly parked each hour	4	4	4	4	4	4	4	4	5	4	1	3	3	--	--	48
Total No. of Infractions during each hour	4	5	4	4	4	4	4	5	7	4	1	3	3	--	1	53
No. of Comm. Vehicles at curb during each hour	1	1	1	2	2	2	1	1	2	1	--	--	--	--	--	14
Comm. Loading double parked during each hour	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	1
No. of Cars waiting with drivers during each hour	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	38	17	13	9	7	3	2	1	2	1	1	--	--	--	1	95
% Each To Total	40%	18%	13.6%	9.5%	Over 2 Hours 18.9%											

Total Cars Parked Over 2 Hours	18	Total Space Hours Used 14 Hours	138½
No. of Space Hours Over 2 Hours	29	Percent Space Hours-Over 2 Hours	20.9%
No. of Space Hours Under 2 Hours	109½	Percent Space Hours-Under 2 Hours	79.1%

ENTIRE BUSINESS DISTRICT - Saturday Summary

Average of Dec. 8, 15 & 22, 1934.

	A.M. Time					P.M. Time										
	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	Total
No. of Spaces in use at time indicated	189	376	536	580	544	487	575	628	649	585	518	625	731	646	441	8110
No. of Vehicles being parked each hour		399	550	573	565	524	616	564	624	528	470	564	516	341	194	7028
No. of Vacant Spaces at time indicated	706	519	359	315	351	408	320	267	246	310	377	270	164	249	454	5315
No. of Cars double parked each hour	1	--	2	5	3	2	3	2	3	1	1	2	1	--	--	26
No. of Cars opp. Hydrants Zones and Driveways	2	3	10	19	14	10	14	11	15	12	9	15	22	15	9	180
No. of Cars improperly parked each hour	24	40	42	49	40	44	52	47	39	35	28	29	29	20	18	536
Total No. of Infractions during each hour	27	43	54	73	57	56	69	60	57	48	38	46	52	35	27	742
No. of Comm. Vehicles at curb during each hour	39	50	49	42	38	42	38	36	39	24	18	12	6	7	7	447
Comm. Loading double parked during each hour	7	5	4	5	1	2	4	6	4	3	3	1	--	--	--	45
No. of Cars waiting with drivers during each hour	1	2	7	14	9	6	13	22	7	4	6	8	24	16	1	140

PARKING PERIOD

	Hr. ½	Hr. 1	Hr. 1½	Hr. 2	Hr. 2½	Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
Cars Parked Each Period	3864	1427	705	403	235	156	100	63	43	21	26	14	5	6	19	7087
% Each To Total	54.5%	20.1%	10%	5.7%	Overtime 9.7%											

Total Cars Parked Overtime	519	Total Space Hours Used 14 Hours	7653
*Total Cars Parked Over 2 Hours	688	Percent Overtimw Space Hours	9.2%
No. of Space Hours Overtime	707	Percent Legal Space Hours	90.8%
No. of Space Hours Legal Parking	6946		

*Includes Legal Parking on Washington, College & William Sts.

ZONE 1 - March 13 & 14, 1935

	A.M. Time										P.M.
	8	8½	9	9½	10	10½	11	11½	12	12½	1
No. of Spaces in use at time indicated	71	80	141	160	171	164	173	169	167	173	163
No. of Vehicles being parked each half hour	--	58	101	91	93	99	90	69	127	87	96
No. of Vacant Spaces at time indicated	141	132	71	52	41	48	39	43	45	39	49
No. of Cars double parked each half hour	--	--	1	1	1	--	--	--	--	--	--
No. of Cars opp. Hydrants Zones and Driveways	--	--	--	1	2	1	4	5	14	7	8
No. of Cars improperly parked each half hour	3	6	6	1	--	1	--	--	4	2	1
Total No. of Infractions during each half hour	3	6	7	3	3	2	4	5	13	9	9
No. of Comm. Vehicles at curb each half hour	8	9	10	11	14	9	8	8	13	8	8
Comm. Loading double parked each half hour	--	1	1	1	--	--	--	--	--	--	--
No. of Cars waiting with drivers each half hour	--	--	--	1	--	--	--	2	--	--	--

PARKING PERIOD

	Hr. ¼	Hr. ½	Hr. 3/4	Hr. 1	Hr. 1¼	Hr. 1½	Hr. 1-3/4	Hr. 2	Hr. 2¼	Hr. 2½	Hr 2-3/4	Hr. 3
Cars Parked Each Period	653	462	267	174	93	65	67	33	37	26	23	21
% Each To Total	32.1%	23.4%	13.5%	8.8%	4.7%	3.3%	3.4%	2%	Overtime		7.8%	

Total Cars Parked Overtime	155	Total Space Hours Used 10 Hours	1676½
No. of Space Hours Overtime Parking	191	Percent Overtime Space Hours	11.4%
No. of Space Hours Legal Parking	1485½	Percent Legal Space Hours	88.6%

ZONE 1 - March 13 & 14, 1935

Time P.M.							Time			
1½	2	2½	3	3½	4	4½	5	5½	6	Total
170	130	133	194	137	190	193	160	135	99	3333
31	94	113	103	79	122	89	74	34	29	1734
42	32	24	13	25	22	14	52	77	113	1119
--	--	2	1	1	--	--	--	--	--	7
10	10	3	13	11	3	--	1	--	--	103
1	2	6	3	7	6	5	4	4	4	66
11	12	16	17	19	14	5	5	4	4	176
11	3	12	9	3	5	5	3	5	4	131
--	--	--	--	--	--	--	--	--	--	3
1	3	3	2	6	5	--	--	--	--	23

Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
9	15	3	3	2	4	--	7	--	1974

ZONE 2 - March 13 & 14, 1935

	A.M.										P.M.
	Time										
	8	8½	9	9½	10	10½	11	11½	12	12½	1
No. of Spaces in use at time indicated	33	47	56	79	117	113	115	111	104	104	115
No. of Vehicles being parked each half hour	--	26	35	50	80	73	59	42	73	67	66
No. of Vacant Spaces at time indicated	132	173	164	141	103	102	105	109	116	116	105
No. of Cars double parked each half hour	--	--	1	--	--	--	--	--	--	--	--
No. of Cars opp. Hydrants Zones and Driveways	--	1	1	2	3	1	4	3	2	1	1
No. of Cars improperly parked each half hour	1	--	4	2	3	3	3	4	7	7	4
Total No. of Infractions during each half hour	1	1	6	4	11	4	7	7	9	8	5
No. of Comm. Vehicles at curb each half hour	9	13	15	21	27	21	16	13	12	16	20
Comm. Loading double parked each half hour	--	--	--	--	--	--	--	--	--	--	--
No. of Cars waiting with drivers each half hour	--	--	--	1	--	--	--	--	--	--	--

PARKING PERIOD

	Hr. ½	Hr. ½	Hr. 3/4	Hr. 1	Hr. 1¼	Hr. 1½	Hr. 1-3/4	Hr. 2	Hr. 2¼	Hr. 2½	Hr. 2-3/4	Hr. 3
Cars Parked Each Period	440	284	201	104	70	48	33	20	21	25	11	24
% Each To Total	33.1%	21.4%	15.1%	7.8%	5.3%	3.6%	2.5%	1.5%	Overtime	9.7%		

Total Cars Parked Overtime	123	Total Space Hours Used 10 Hours	1189
No. of Space Hours Overtime Parking	169	Percent Overtime Space Hours	14.2%
No. of Space Hours Legal Parking	1020	Percent Legal Space Hours	85.8%

ZONE 2 - March 13 & 14, 1935

Time P.M.							Time			
1½	2	2½	3	3½	4	4½	5	5½	6	Total
114	142	146	157	169	169	164	142	120	9[illegible]	2417
65	85	72	66	81	70	65	56	66	37	1234
106	73	74	63	51	51	56	73	100	130	2203
--	--	--	--	--	1	--	--	--	--	2
1	--	2	3	3	5	4	4	4	1	46
5	5	2	2	3	5	4	3	2	3	77
6	5	4	5	6	11	9	7	6	4	125
19	16	16	13	19	13	4	5	5	5	302
1	--	--	--	--	--	--	--	--	--	1
--	--	--	--	--	--	--	--	--	--	1

Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
13	10	9	7	2	--	2	4	--	1323

ZONE 3-MARCH 13 & 14, 1935

	A.M. 8	8½	9	9½	10	10½	11	11½	12	12½	P.M. 1	1½	2
	Time												
No. of Spaces in use at time indicated	29	33	44	51	68	72	55	52	71	61	43	44	52
No. of Vehicles being parked each half hour	--	21	29	34	40	47	35	65	56	23	26	41	33
No. of Vacant spaces at time indicated	144	140	129	122	110	101	113	121	102	112	125	129	121
No. of Cars double parked each half hour	--	--	--	--	--	--	--	--	--	--	--	--	--
No. of Cars ppg. Hydrants Zones and Driveways	--	--	--	--	3	6	2	1	1	--	--	1	1
No. of Cars improperly parked each half hour	1	2	3	4	6	8	7	5	15	9	6	6	3
Total No. of Infractions during each half hour	1	2	3	4	9	14	9	6	16	9	6	7	4
No. of Comm. Vehicles at curb each half hour	6	9	5	5	8	8	9	14	11	7	7	14	12
Comm. Loading double parked each half hour	--	--	--	--	--	--	--	--	--	--	--	--	--
No. of Cars waiting with drivers each half hour	--	--	--	--	--	2	--	--	--	--	--	--	--

PARKING PERIOD

	Hr. ¼	Hr. ½	Hr. 3/4	Hr. 1	Hr. 1½	Hr. 1½	Hr. 1-3/4	Hr. 2	Hr. 2½	Hr. 2½	Hr. 2-3/4	Hr. 3
Cars Parked Each Period	83	227	111	55	33	18	23	13	15	6	2	7
% Each to Total	33.5%	26.5%	12.3%	6.4%	3.9%	2.1%	2.7%	1.5%	Overtime 5.5%			

Total Cars Parked Overtime	46	Total Space Hours Used 10 Hours	610
No. of Space Hours Overtime Parking	49¼	Per Cent Overtime Space Hours	8.1%
No. of Space Hours Legal Parking	560-3/4	Per Cent Legal Space Hours	91.9%

ZONE 3-MARCH 13 & 14, 1935

Time P.M.						Time		
2½	3	3½	4	4½	5	5½	6	Total
72	77	65	70	74	79	71	61	1244
61	43	34	51	33	39	49	51	311
101	96	108	103	99	94	102	112	2389
--	--	--	--	--	--	--	--	--
1	1	1	2	1	--	--	1	22
9	4	5	5	5	2	2	5	112
10	5	6	7	6	2	2	6	134
13	13	12	17	7	5	6	7	195
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	2

Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
9	3	2	--	--	--	1	1	--	856

MAIN ST. - March 13 & 14, 1935

	A.M. 8	8½	9	9½	10	10½	11	11½	12	12½	P.M. 1
	Time										
No. of Spaces in use at time indicated	138	160	241	290	351	354	343	332	342	338	326
No. of Vehicles being parked each half hour	--	105	165	175	213	219	184	176	256	177	188
No. of Vacant Spaces at time indicated	467	445	364	315	254	251	262	273	263	267	279
No. of Cars double parked each half hour	--	--	2	1	1	--	--	--	--	--	--
No. of Cars opp. Hydrants Zones and Driveways	--	1	1	3	8	8	10	9	17	8	9
No. of Cars improperly parked each half hour	5	8	13	7	14	12	10	9	26	18	11
Total No. of Infractions during each half hour	5	9	16	11	23	20	20	18	43	26	20
No. of Comm. Vehicles at curb each half hour	23	31	30	37	49	37	33	35	41	31	25
Comm. Loading double parked each half hour	--	1	1	1	--	--	--	--	--	--	--
No. of Cars waiting with drivers each half hour	--	--	--	2	--	2	--	2	--	--	--

PARKING PERIOD

	Hr. ¼	Hr. ½	Hr. 3/4	Hr. 1	Hr. 1¼	Hr. 1½	Hr. 1-3/4	Hr. 2	Hr. 2½	Hr. 2½	Hr. 2-3/4	Hr. 3
Cars Parked Each Period	1423	973	579	333	196	131	123	71	73	57	36	52
% Each To Total	34.2%	23.4%	13.9%	8%	4.7%	3.1%	3%	1.7%	Overtime	8%		

Total Cars Parked Overtime	329	Total Space Hours Used 10 Hours	3475½
No. of Space Hours Overtime Parking	409¼	Percent Overtime Space Hours	11.8%
No. of Space Hours Legal Parking	3066¼	Percent Legal Space Hours	88.2%

MAIN ST. - March 13 & 14, 1935

Time P.M.								Time		
1½	2	2½	3	3½	4	4½	5	5½	6	Total
328	374	406	428	421	429	436	381	326	250	6994
187	212	251	212	194	243	187	169	199	117	3829
277	231	199	177	184	176	169	224,	279	355	5711
--	--	2	1	1	1	--	--	--	--	9
12	11	11	17	15	15	5	5	4	2	171
12	10	17	9	15	16	14	9	8	12	255
24	21	30	27	31	32	19	14	12	14	435
44	36	41	40	39	35	16	13	16	16	678
1	--	--	--	--	--	--	--	--	--	4
1	3	3	2	6	5	--	--	--	--	26

Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
31	28	19	10	4	4	2	12	--	4158

COURT ST. - March 14, 1935

	A.M.										P.M.			
	Time													
	8	8½	9	9½	10	10½	11	11½	12	12½	1	1½	2
No. of Spaces in use at time indicated	20	32	42	41	42	38	37	43	50	42	43	55	50
No. of Vehicles being parked each half hour		25	13	29	26	8	16	33	26	9	19	17	25
No. of Vacant Spaces at time indicated	63	56	46	47	46	50	51	40	38	46	39	33	38
No. of Cars double parked each half hour	1	1	--	--	--	--	--	--	--	1	--	--	--
No. of Cars opp. Hydrants Zones and Driveways	--	--	1	3	2	3	2	4	2	1	2	--	1
No. of Cars improperly parked each half hour	1	2	2	1	1	--	--	--	1	1	1	1	--
Total No. of Infractions during each half hour	2	3	3	4	3	3	2	4	3	3	3	1	1
No. of Comm. Vehicles at curb each half hour	6	11	7	3	4	6	9	5	5	2	5	4	4
Comm. Loading double parked each half hour	1	1	--	--	--	--	--	--	--	1	--	--	--
No. of Cars waiting with drivers each half hour	--	--	--	--	--	--	--	--	--	--	--	--	--

PARKING PERIOD

	Hr. ¼	Hr. ½	Hr. 3/4	Hr. 1	Hr. 1¼	Hr. 1½	Hr. 1-3/4	Hr. 2	Hr. 2½	Hr. 2¼	Hr. 2-3/4	Hr. 3
Cars Parked Each Period	243	85	52	30	30	13	15	14	3	5	6	12
% Each To Total	45.3%	15.6%	9.5%	5.5%	5.5%	2.3%	2.7%	2.5%		Overtime	10.1%	

Total Cars Parked Overtime	55	Total Space Hours Used 10 Hours	493¼
No. of Space Hours Overtime Parking	91	Percent Overtime Space Hours	18.4%
No. of Space Hours Legal Parking	402¼	Percent Legal Space Hours	81.6%

COURT ST. - March 14, 1935

Time					P.M.		Time	
2½	3	3½	4	4½	5	5½	6	Total
55	53	53	50	44	53	45	52	956
16	22	16	14	16	24	22	21	402
33	35	30	33	44	35	43	36	392
--	--	--	--	--	--	--	1	4
2	5	2	2	2	2	1	2	39
1	--	--	1	1	1	1	1	17
3	5	2	3	3	3	2	4	60
4	7	7	9	5	1	1	1	111
--	--	--	--	--	--	--	--	3
--	--	--	--	--	--	--	--	--

Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
5	6	2	2	2	2	1	4	--	547

ENTIRE BUSINESS DISTRICT-MARCH 13 & 14, 1935

	A.M. Time										P.M.		
	8	8½	9	9½	10	10½	11	11½	12	12½	1	1½	2
No. of Spaces in use at time indicated	205	245	343	401	461	452	431	436	448	438	427	437	482
No. of Vehicles being parked each half hour	--	139	203	227	252	239	207	227	311	202	224	223	258
No. of Vacant Spaces at time indicated	690	650	552	494	434	443	464	459	447	457	468	458	413
No. of Cars double parked each half hour	1	1	3	1	1	--	--	--	1	3	--	--	--
No. of Cars opp. Hydrants Zones and Driveways	--	3	4	8	13	14	16	16	20	10	12	13	15
No. of Cars improperly parked each half hour	7	11	19	9	18	14	11	11	32	24	14	15	11
Total No. Infractions during each half hour	8	15	26	18	32	28	27	27	53	37	26	28	26
No. of Comm. Vehicles at curb each half hour	34	47	46	53	63	50	46	46	57	44	48	55	46
Comm. loading double parked each half hour	1	2	1	1	--	--	--	--	--	1	--	1	--
No. of Cars waiting with drivers each half hour	--	--	--	2	--	2	--	2	--	--	--	1	3

PARKING PERIOD

	Hr. ¼	Hr. ½	Hr. 3/4	Hr. 1	Hr. 1¼	Hr. 1½	Hr. 1-3/4	Hr. 2	Hr. 2½	Hr. 2½	Hr. 2-3/4	Hr. 3
Cars Parked Each Period	1677	1114	673	401	244	164	151	92	94	71	45	78
% Each to Total	33.5%	22.3%	13.5%	8%	4.9%	3.3%	3%	1.8%	Over 2 Hours		9.7%	

Total Cars Parked Overtime	384	Total Space Hours Used 10 Hours	4372
*Total No. of Cars Over 2 Hours	480	Per Cent Overtime Space Hours	11.5%
No. of Space Hours Overtime	500¼	Per Cent Legal Space Hours	88.5%
No. of Space Hours Legal Parking	3872¼		

* Includes Legal Parking on Washington, College, William Streets.

ENTIRE BUSINESS DISTRICT-MARCH 13 & 14, 1935

Time P.M.					Time			
2½	3	3½	4	4½	5	5½	6	Total
525	551	553	538	548	485	421	350	9177
283	254	227	274	209	208	238	149	4554
370	344	342	357	347	410	474	545	9618
2	1	1	1	--	1	--	1	18
14	24	18	18	8	8	5	4	243
20	11	16	21	17	12	10	14	317
36	36	35	40	25	21	15	19	578
55	60	55	53	26	18	24	25	951
--	--	--	--	--	--	--	--	7
3	2	6	5	--	--	--	--	26

Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
49	46	32	17	9	9	5	25	--	4996

ZONE 1 - March 16, 1935

	A.M. Time										P.M.			
	8	8½	9	9½	10	10½	11	11½	12	12½	1	1½	2	2½
No. of Spaces in use at time indicated	72	91	136	171	192	194	200	191	170	162	139	140	164	170
No. of Vehicles being parked each half hour	--	49	84	120	130	114	136	102	167	90	104	112	121	124
No. of Vacant Spaces at time indicated	140	121	76	41	20	18	12	21	42	50	73	72	48	42
No. of Cars double parked each half hour	--	--	--	--	--	--	--	--	--	--	--	--	--	--
No. of Cars opp. Hydrants Zones and Driveways	1	--	4	4	4	5	3	2	4	1	1	--	--	1
No. of Cars improperly parked each half hour	1	1	5	4	4	5	2	2	4	6	4	4	.3	1
Total No. of Infractions during each half hour	2	1	9	8	8	10	10	4	8	7	5	4	3	2
No. of Comm. Vehicles at curb each half hour	4	7	9	10	10	17	9	13	10	9	8	9	9	7
Comm. Loading double parked each half hour	--	--	--	--	--	--	--	--	--	--	--	--	--	--
No. of Cars waiting with drivers each half hour	--	--	1	3	4	5	5	1	--	1	--	2	--	4

PARKING PERIOD

	Hr. ¼	Hr. ½	Hr. 3/4	Hr. 1	Hr. 1¼	Hr. 1½	Hr. 1-3/4	Hr. 2	Hr. 2¼	Hr. 2½	Hr. 2-3/4	Hr. 3
Cars Parked Each Period	314	717	507	267	203	97	75	45	60	27	23	25
% Each To Total	30.4%	23.3%	16.3%	8.9%	6.7%	3.2%	2.5%	1.5%	Overtime	6.2%		

Total Cars Parked Overtime	186	Total Space Hours Used 14 Hours	2411¼
No. of Space Hours Overtime	184-3/4	Percent Overtime Space Hours	7.7%
No. of Space Hours Legal Parking	2226-1/2	Percent Legal Space Hours	92.3%

ZONE 1 - March 16, 1935

Time P.M.										Time					
3	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	Total
132	139	195	139	177	153	150	166	175	190	186	183	133	153	131	4815
136	102	167	69	84	101	89	119	112	125	153	54	83	53	27	2927
19	23	17	23	35	54	62	46	37	22	26	29	24	59	81	1333
--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	1
--	3	3	--	4	1	--	--	--	1	1	--	3	--	--	51
2	5	--	--	--	2	2	1	--	--	1	1	1	1	3	65
2	3	3	--	4	3	3	1	--	1	2	1	4	1	3	117
3	10	9	7	4	4	2	2	3	3	4	3	5	4	3	202
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	6	9	4	7	3	--	--	--	--	5	1	--	--	--	64

Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
14	21	8	4	1	1	1	--	1	3011

ZONE 2-MARCH 16, 1935

	A. M. 8	8½	9	9½	10	10½	11	11½	12	12½	P. M. 1	1½	2
	Time												
No. of Spaces in use at time indicated	58	69	112	126	155	169	155	164	137	112	112	118	159
No. of Vehicles being parked each half hour	--	48	95	73	125	111	98	128	108	86	99	85	128
No. of Vacant Spaces at time indicated	162	151	108	94	65	51	65	56	83	108	108	102	61
No. of Cars double parked each half hour	--	1	--	2	--	--	1	--	--	1	--	--	--
No. of Cars opp. Hydrants Zones and Driveways	1	--	2	--	4	3	6	3	3	1	3	--	1
No. of Cars Improperly Parked each half hour	10	10	10	12	7	6	5	3	2	2	4	5	11
Total No. of Infractions each half hour	11	11	12	14	11	9	12	6	5	4	7	5	12
No. of Comm. Vehicles at curb each half hour	15	15	20	14	14	15	6	14	14	10	13	14	12
Comm. Loading Double Parked each half hour	1	--	--	1	--	--	--	--	--	--	--	--	--
No. of Cars waiting with drivers each half hour	1	--	--	--	--	2	--	--	--	1	--	2	1

PARKING PERIOD

	Hr. ¼	Hr. ½	Hr. ¾	Hr. 1	Hr. 1¼	Hr. 1½	Hr. 1¾	Hr. 2	Hr. 2¼	Hr. 2½	Hr. 2¾	Hr. 3	Hr. 3½
Cars Parked Each Period	964	596	287	214	140	90	70	48	42	23	13	43	26
% Each To Total	37.1%	22.9%	11%	8.2%	5.4%	3.5%	2.7%	1.8%	Overtime 7.4%				

Total Cars Parked Overtime	192	Total Space Hours Used 14 Hours	2075
No. of Space Hours Overtime	264¼	Per Cent Overtime Space Hours	12.7%
No. of Space Hours Legal Parking	1810¾	Per Cent Legal Space Hours	37.3%

ZONE 2-MARCH 16, 1935

P. M. 2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	Total
169	163	180	168	172	155	125	123	142	182	192	187	204	182	156	131	4277
87	101	105	127	102	67	83	89	63	124	80	111	62	77	52	41	2555
51	57	40	52	48	65	95	97	78	38	28	33	16	38	64	89	2103
--	--	--	--	--	--	--	1	--	--	--	2	--	--	--	--	8
1	3	5	3	--	1	1	2	1	4	--	9	--	3	1	1	62
6	4	5	5	4	3	2	3	5	7	3	1	1	--	1	1	138
7	7	10	8	4	4	3	6	6	11	3	12	1	3	2	2	208
11	9	10	13	5	9	9	6	5	6	10	10	6	5	5	5	300
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2
--	--	--	--	1	1	--	2	--	--	1	2	1	1	--	--	16

Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
18	7	2	4	4	1	2	7	2601

ZONE 3 - March 16, 1935

	A.M. Time										P.M.			
	8	8½	9	9½	10	10½	11	11½	12	12½	1	1½	2	2½
No. of Spaces in use at time indicated	33	33	55	62	62	60	63	70	76	52	53	60	70	34
No. of Vehicles being parked each half hour	--	27	43	51	33	43	48	46	62	33	42	60	57	47
No. of Vacant Spaces at time indicated	140	135	113	111	111	113	110	103	97	121	120	113	103	89
No. of Cars double parked each half hour	--	--	--	2	--	--	--	2	--	--	--	--	--	--
No. of Cars opp. Hydrants Zones and Driveways	--	--	--	--	3	2	1	2	2	1	1	1	--	2
No. of Cars improperly parked each half hour	3	10	5	7	9	6	2	3	4	5	5	5	5	7
Total No. of Infractions during each half hour	3	10	5	9	12	8	3	7	6	6	6	6	5	9
No. of Comm. Vehicles at curb each half hour	12	14	17	16	15	13	13	11	12	7	8	6	8	12
Comm. Loading double parked each half hour	--	--	--	--	--	--	--	--	--	--	--	--	--	1
No. of Cars waiting with drivers each half hour	--	--	--	--	--	1	--	--	--	--	--	--	--	2

PARKING PERIOD

	Hr. ½	Hr. ½	Hr. 3/4	Hr. 1	Hr. 1¼	Hr. 1½	Hr. 1-3/4	Hr. 2	Hr. 2¼	Hr. 2½	Hr. 2-3/4	Hr. 3
Cars Parked Each Period	662	293	153	106	66	34	51	32	37	29	5	23
% Each To Total	43.6%	19.3%	10.1%	7%	4.4%	2.2%	3.4%	2.0%	Overtime	3%		

Total Cars Parked Overtime	121	Total Space Hours Used 14 Hours	1175½
No. of Space Hours Overtime	114	Percent Overtime Space Hours	9.7%
No. of Space Hours Legal Parking	1061½	Percent Legal Space Hours	90.3%

ZONE 3 - March 16, 1935

Time P.M.										Time					
3	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	Total
86	99	85	85	84	81	78	80	81	84	137	146	124	136	107	2331
65	41	89	67	51	51	49	62	59	32	139	47	37	23	15	1429
37	74	88	88	89	92	95	93	92	89	36	27	49	37	66	2686
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5
4	1	1	--	--	1	2	1	1	--	2	3	1	--	--	32
10	6	9	10	7	7	6	2	2	2	1	2	1	2	--	143
14	7	10	13	8	8	8	3	3	2	3	5	2	2	--	130
11	11	13	17	9	8	8	6	5	7	7	8	3	7	4	293
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
--	--	2	--	--	1	--	--	--	--	--	--	1	--	--	7

Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
10	9	2	1	1	2	1	--	1	1513

MAIN STREET-MARCH 16, 1935

	A.M. Time												P.M.
	8	8½	9	9½	10	10½	11	11½	12	12½	1	1½	2
No. of Spaces in use at time indicated	163	198	303	359	409	423	418	425	383	326	304	318	393
No. of Vehicles being parked each half hour	--	124	222	244	293	268	282	276	337	214	245	257	306
No. of Vacant Spaces at time indicated	442	407	302	246	196	182	187	180	222	279	301	287	212
No. of Cars double parked each half hour	--	1	--	4	--	--	1	2	--	1	--	--	--
No. of Cars opp. Hydrants Zones and Driveways	2	--	6	4	11	10	15	7	9	3	5	1	1
No. of Cars improperly parked each half hour	14	21	20	23	20	17	9	8	10	13	13	14	19
Total No. of Infractions during each half hour	16	22	26	31	31	27	25	17	19	17	18	15	20
No. of Comm. Vehicles at curb each half hour	31	36	46	40	39	45	28	38	36	26	29	29	29
Comm. Loading double parked each half hour	1	--	--	1	--	--	--	--	--	--	--	--	--
No. of Cars waiting with drivers each half hour.	1	--	1	3	4	8	5	1	--	2	--	4	1

PARKING PERIOD

	Hr. ¼	Hr. ½	Hr. ¾	Hr. 1	Hr. 1¼	Hr. 1½	Hr. 1¾	Hr. 2	Hr. 2¼	Hr. 2½	Hr. 2¾	Hr. 3
Cars Parked Each Period	2540	1606	947	587	409	221	196	125	139	79	41	91
% Each to Total	35.6%	22.5%	13.3%	8.2%	5.8%	3.1%	2.7%	1.8%	Overtime	7%		

Total Cars Parked Overtime	499	Total Space Hours Used 14 Hours	5732
No. of Space Hours Overtime	563	Per Cent Overtime Space Hours	9.8%
No. of Space Hours Legal Parking	5169	Per Cent Legal Space Hours	90.2%

MAIN STREET-MARCH 16, 1935

Time P. M.												Time				Total
2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	
423	442	468	448	446	416	364	351	388	438	466	510	533	494	445	369	11423
258	302	248	383	238	202	235	227	244	295	237	403	163	197	128	83	6911
182	163	137	157	159	189	241	254	217	167	139	95	72	111	160	233	6122
--	--	--	--	1	1	--	1	--	--	--	2	--	--	--	--	14
4	7	9	7	--	5	3	4	2	5	1	12	3	7	1	1	145
14	16	16	14	14	10	11	11	8	9	5	3	4	2	4	4	346
18	23	25	21	15	16	14	16	10	14	6	17	7	9	5	5	505
30	28	31	35	29	22	21	16	13	14	20	21	17	18	16	12	795
1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3
6	3	6	11	5	8	4	2	--	--	1	7	2	2	--	--	87

Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
50	48	17	7	6	7	3	2	9	7130

ENTIRE BUSINESS DISTRICT

March 16 & 23, 1935

	A.M. Time										P.M.			
	8	8½	9	9½	10	10½	11	11½	12	12½	1	1½	2	2½
No. of Spaces in use at time indicated	204	268	389	465	516	551	525	533	457	428	394	412	505	564
No. of Vehicles being parked each half hour	--	171	266	289	324	350	323	327	397	262	292	291	375	310
No. of Vacant spaces at time indicated	691	627	506	430	379	344	370	362	408	467	501	483	390	331
No. of Cars double parked each half hour	--	1	1	4	--	--	1	2	--	1	--	--	--	--
No. of Cars opp. Hydrants Zones and Driveways	2	1	6	4	12	12	16	10	11	3	5	1	3	5
No. of Cars improperly parked each half hour	16	25	24	29	24	22	15	12	12	14	17	19	23	17
Total No. of Infractions during each half hour	18	27	31	37	36	34	32	24	23	18	22	20	26	22
No. of Comm. Vehicles at curb each half hour	40	51	61	54	51	67	37	47	47	37	39	39	42	36
Comm. Loading double parked each half hour	2	--	--	1	--	2	1	--	--	--	--	--	--	1
No. of Cars waiting with drivers each half hour	1	--	1	3	4	8	5	1	--	2	--	4	1	6

PARKING PERIOD

	Hr. ¼	Hr. ½	Hr. ¾	Hr. 1	Hr. 1¼	Hr. 1½	Hr. 1-¾	Hr. 2	Hr. 2¼	Hr. 2½	Hr. 2-¾
Cars Parked Each Period	2876	1863	1142	747	501	302	265	162	196	96	64
% Each To Total	33.6%	21.8%	13.3%	8.7%	5.9%	3.5%	3.1%	1.9%	Over 2 Hours		3.2%

Total No. Cars Parked Overtime	562	Total Space Hours Used 14 Hours	7414½
*Total No. Cars Parked Over 2 Hours	707	Percent Overtime Space Hours	8.5%
No. of Space Hours Overtime	628-¾	Percent Legal Space Hours	91.5%
No. of Space Hours Legal Parking	6785-¾		

* Includes Legal Parking on Washington, College & William Sts.

ENTIRE BUSINESS DISTRICT

March 16 & 23, 1935

Time P.M.															
3	3½	4.	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	Total
571	602	584	581	534	481	462	489	553	601	665	725	662	573	457	14781
362	293	471	267	245	279	264	290	334	282	485	238	242	158	91	8284
324	293	311	314	361	414	433	406	342	294	230	170	233	322	438	11174
--	--	--	1	1	--	1	--	--	--	2	--	--	--	--	15
9	10	7	--	5	3	4	4	6	2	19	6	8	2	2	178
20	19	25	19	13	17	19	15	16	11	9	9	5	7	5	473
29	29	32	20	19	20	24	19	22	13	30	15	13	9	7	671
39	37	59	38	29	27	20	17	20	26	30	27	21	24	15	1077
--	--	1	--	--	--	--	--	--	--	1	--	--	--	--	9
3	6	11	5	8	4	2	--	--	1	8	3	2	--	--	89

Hr. 3	Hr. 3½	Hr. 4	Hr. 4½	Hr. 5	Hr. 5½	Hr. 6	Hr. 6½	Hr. 7	Hr. 7½	Total
114	68	70	29	17	13	13	3	6	18	8565

VEHICLE VOLUME ANALYSIS

Middletown, due to its size, location and industries, is what we might call a "representative" city and it therefore presents the usual city problems, one of the most important of which is the control and direction of traffic flow. The correct solution of this problem is of vital importance to any city's growth and welfare. But it is not one which can be solved without a considerable amount of study and statistics.

As shown elsewhere in the report, the registration figures for the Middletown district have increased rapidly during the past ten years. Yet Middletown still has the same Main Street and the same bridge crosses the Connecticut River.

We therefore see that the traffic problem is a very real one and one which will increase rather than diminish in the future.

OBJECTIVES:

A well conducted traffic survey should reveal pertinent data which will enable the proper authorities to:

1. Lay out thru traffic routes.
2. Design streets and intersections
3. Plan future city developement.
4. Make and enforce traffic rules and install regulating signals.

Thru traffic can be classed as positive and negative, that is, helpful or detrimental to the city involved. If such traffic is heavy, clogs up the streets and leaves no money as it passes thru, it is detrimental. If, however, the thru motorist stops, shops, eats or spends money in other ways, it is helpful to the city. It must be decided whether the good derived from the traffic is worth

the additional congestion that it causes, unless there is no alternative route which can be employed. Detrimental traffic should therefore be put thru the city by the best route to eliminate traffic congestion. If possible, the desirable traffic should be so routed that the city reaps the biggest benefit with the least amount of confusion.

Frequently, intersections can be redesigned so that traffic flow is made smoother, is accelerated and is put thru the focal point with less danger of accident. Direction, speed, class of vehicles, pedestrian movement, type of intersection, all have a decided influence on such design. Streets can be widened, parking changed, rules adjusted, or direction of flow altered to induce better traffic conditions. In some cases traffic lights may be more of a detriment than a help. If so, they should be removed.

Older cities, such as Boston, when compared with a city like Washington clearly demonstrate what can be done by city planning. Utility and beauty can be planned for and achieved by proper attention to future needs and development.

Traffic movement that is, volume per hour, is dependent on two factors, number of lanes of traffic and speed of the vehilces. Both are limited by the local conditions. Usually streets must be taken as they are because the width is fixed, but speed is a factor which can be altered. It should be the maximum, consistent with safety. Studies should be made to determine the safe maximum and whether the present regulations, if satisfactory are enforced.

PROCEDURE:

There are a number of methods for making vehicle counts but it is generally agreed that the one which gives the most information for the time and money spent is the "Short Count" method. This system is based on the supposition that a city, from a traffic viewpoint can be divided into areas or sections, each area having a main point through which all traffic passes and minor intersections or feeders which have the same hourly traffic variations as this central point. We can then consider each area separately, designating the central point as a control station and the subpoints as base stations. It has been proved that the traffic from 9 A .M. to 12 noon and from 1 P.M. to 4 P.M. at the base stations will bear the same relation to the 24-hour total as the traffic during these hours at the control station will bear to its 24-hour total. It is obvious then, that, if the control station traffic is taken for twenty-four hours, it will be necessary to count the base station traffic for only a few hours, which count can be multiplied by a factor, to arrive at the approximate base station 24-hour total. This method was employed in the vehicle volume analysis of Middletown.

For the purposes of this count, Middletown was divided into the following zones or areas.

Zone A--Control Station #1 - Main and Pleasant Streets.

Base Stations

8 - Church and High Streets
15 - Main and William Streets

16 - Water and River Streets
21 - Hamlin and William Streets
22 - Church and Broad Streets

ZONE B - Control Station #2 - Main and Washington Streets

Base Stations

#11 - Rapallo Avenue
12 - Main and Liberty Streets
13 - Court and Main Streets
14 - Main and College Streets
23 - Broad and College Streets
24 - Court and Pearl Streets

ZONE C - Control Station #3 - Bridge and Hartford Avenue.

Base Stations

9 - Main and Hartford Avenue
10 - Hartford Ave. and Water Street.

ZONE D - Control Station #4 - Washington and Berlin Streets.

Base Stations

#20 - Mt. Vernon and Wyllys Avenue.
25 - High and Washington Streets
26 - Liberty and High Streets
27 - Grand and High Streets
28 - Johnson and Spring Streets

ZONE E - Control Station #5 - South Main and Warwick Streets

Base Stations

#18 - South Main and Farm Hill Road
19 - Pine and Bretton Road

ZONE F - Control Station #6 - E. Main and Saybrook Road

Base Stations

7 - Russell Street and Ridge Road
17 - Silver and E. Main Streets.

The general practice in taking counts was to start a crew at 6 A.M. on the control station, relieve them at 9 A.M. and use this crew on the base station counts. In addition three other crews worked in seven hour shifts to complete the 24 hour period. This method gave the largest return for the man-hours consumed during the day. Some counts were thrown out due to sudden bad weather during the day when it was felt that the resulting figures would

not give a true picture of conditions.

The base station counts were taken for two one hour periods, the first between the hours of 9 and 12 A.M. and the second between 1 and 4 P.M. Traffic relations between control and base stations are known to be more uniform and representative during these hours.

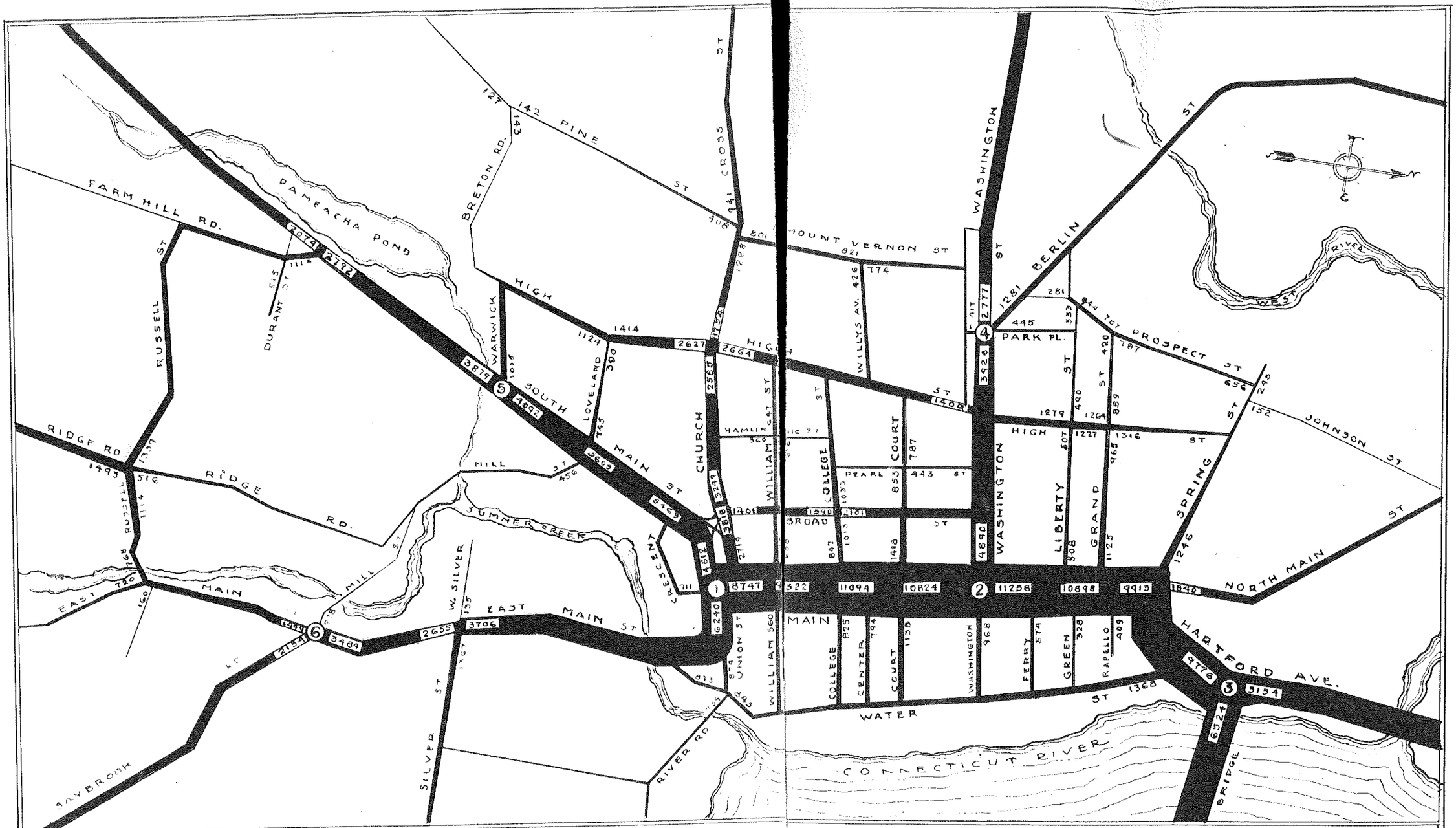
The control station factor was calculated by dividing the average 24-hour traffic by the average traffic for two hours obtained during the above periods at the control station.

The following table gives the factors at each control point. These factors check closely with those obtained in other cities of similar size.

STATION	AVERAGE 2 HOUR * TRAFFIC	AVERAGE 24 HOUR TRAFFIC	FACTOR
1	1341	10277	7.6
2	1736	14295	8.2
3	1375	11489	8.3
4	497	4408	8.8
5	569	4510	8.0
6	472	3674	7.8
		AVERAGE FACTOR	8.1

* Obtained between the hours of 9-12 A.M. and 1-4 P.M.

Base station 24 hour totals were calculated by multiplying the two hour average at the base station, by the control station factor, the resulting figures are given on the volume count summary sheets. Base station data was used primarily for the development of the flow map, and not in determining percentages of each type of traffic to the total.



C.R. HOOVER — CHAIRMAN
R.H. WILCOX — ADMINISTRATOR
R.F. JONES — DIRECTOR

TRAFFIC FLOW MAP
MIDDLETOWN TRAFFIC SURVEY
1935

SCALE—1 INCH 20,000 CARS
WINTER MONTHS 24 HOURS 3 DAY AVERAGE

KEY TO MAP

24 hr. counts here
No of cars 24 hour average

DISCUSSION:

A glance at the data plotted on Figures 12, 14, 16, 18, 20, and 21 will reveal characteristics common to all control stations. The lightest travel is always between 4 and 5 A.M. it mounts rapidly after 7 A.M., increasing steadily to attain the peak for the day at 4-5 P.M. An exception is the Connecticut bridge traffic peak, which does not occur until 7-8 P.M. This is probably due to theatre traffic at that time. After midnight, the volume drops down rapidly until it reaches the low point from 4-5 A.M.

Station No.2, Main and Washington Streets, carries the most traffic, an average of 14,295 car per day. Station No. 6 Saybrook Road and East Main Street is low with an average of 3674 car per day.

Volume of Commercial Traffic

The number of commercial vehicles was classified separately at each control station into light trucks, namely those one ton or under, heavy trucks and buses.

Taking Washington and Main Streets as a typical control station, we find the following figures relative to commercial vehicles.

CLASS	AVERAGE 24 HOUR TOTAL	AVERAGE FOR PEAK HOUR	
Light Trucks	442	128	10.A.M.
Heavy Trucks	221	84	11.A.M.
Buses	170	39	3 P.M.
TOTAL	833	251	

As the total traffic thru the Washington-Main Street station is 14,295 cars per day, the total commercial vehicle traffic represents only 6% of the traffic thru this point, a proportion too

small to warrant separate routing. A large proportion of these commercial vehicles are light trucks and probably many of these are engaged in intra-city transportation.

Thru Traffic

Although the figures show that the traffic volume borne by Middletown streets is large, it has not reached the point where resulting conditions are serious or the streets saturated. Probably the summer peaks are at least 40% above those obtained. Even then, the volume does not saturate the streets.

Middletown has an alternate route which can be used and should be planned for in the future. Water Street now carries a very small portion of the traffic (roughly 14%), and because of its parallel location thru vehicles could easily be routed this way to avoid the congestion of Main Street, and to save time. The water front should be developed to improve the appearance of the city and transmit thru traffic.

A fine opportunity for a scenic highway exsists in the development of the river road to Higganum. Thru traffic from the north would then take Water Street to enter this highway, thus avoiding the congestion and accident hazard of South Main Street and the Saybrook Road. It is hoped that the State Highway Department will give serious consideration to this development in the near future.

Let us compare traffic conditions at certain points which appear to be the worst, considering the volume of traffic and the street width. These places are:

Connecticut River Bridge
Hartford Avenue Underpass
Main Street at Washington

The Connecticut River Bridge has a width of 22 feet and carries a daily volume of 6524 cars. The Hartford Avenue Underpass is 35 feet wide and 9776 cars per day pass this point. Main Street has an effective width, allowing for parking, of 53 feet. Traffic here amounts to 14295 cars per day.

Cars Per Hour Per Foot Of Street Width

Bridge	.12
Hartford Avenue Underpass	12
Main Street at Washington	11

This clearly indicates that the bridge and Hartford Avenue at the under-pass are the points of greatest congestion in Middletown, and if we multiply these figures by our estimated 40% increase for summer traffic, some results indicating approaching saturation are obtained. A dd to this, periodic tie-ups of traffic caused by the opening of the draw bridge and we have a very bad condition at the bridge.

Design Of Streets And Intersections

Bridge and Hartford Avenue (Refer to Figure 17.)

This is one of the worst intersections in Middletown. Traffic from Hartford meets cars coming off the bridge, most of which make a left turn at this point. During the average twenty-four hours, there are 2863 cars coming off the bridge, turning to the left and meeting with the 5154 cars arriving on Hartford Avenue. Only 597 cars from the bridge make the right turn to Hartford.

The recently approved Russell loop will do much to relieve this congestion, but the only complete solution is a new bridge across the Connecticut River to replace the present relic of the horse and buggy days.

Main and Washington Streets (Refer to Figure 15.)

This intersection averages the largest volume of traffic in the city, 14,295 cars in twenty-four hours. On the other hand, the traffic on Washington Street crossing Main is comparatively light. The figures show 166 cars crossing from east to west and 132 from west to east. Making a right turn from Main to Washington Street. west are 1148 cars. It would be logical to allow a right turn at the red signal on Main Street for south bound traffic turning into Washington Street. This would materially increase the efficiency of the intersection by speeding up the Main Street movement.

Main and Union Streets (Refer to Figure 13.)

Main Street extension will help this intersection a great deal. The average daily traffic shows 2304 cars per day making the left turn from Main Street to Union Street. These turns will be eliminated to a large extent. A traffic signal will be needed at this point when this extension is completed, and right turns into Pleasant Street on the Red light should be allowed.

In the event that the Main Street extension is not put thru, it would still be advisable to install a traffic signal at Main and Union Streets if the city adopts the plan for a synchronized system outlined in the Traffic signal Analysis section. At present 43% of the vehicles passing through this intersection must make awkward left turns around the rotary. With the installation of a traffic light the rotary could be eliminated which would make these left turns much easier and they would be under control. The signal could be timed so that cars entering Main Street from Pleasant and Union Streets would be approximately in step with a continuously moving band of traffic.

Church and South Main Street (Refer to Figure 13.)

The rotary traffic circle now used at this intersection is a little larger than necessary and slightly too far south. It is suggested that this rotary be moved from 5 to 10 feet north to allow east bound Church Street traffic an easier turn around the rotary. If the size of the rotary is reduced at the same time no hardship will be placed upon traffic turning from Church Street into South Main Street or upon traffic turning from South Main Street, west into Church Street. This change has already been put into effect with satisfactory results.

Saybrook And East Main Street.

When the Main Street extension has been completed, this intersection will be so radically changed that it is useless at this time to make any recommendations. Afterwards, a short study of this intersection should be made to prevent accidents, possibly by the location of a "STOP" signal or boulevard stop signs.

Berlin and Washington Streets (Refer to Figure 19)

There are four directions of travel converging at this point. Traffic on Washington Street east and west, and Berlin Street is comparatively heavy, while on Park Place and the Terrace it is light. Let us look at the figures

24 Hour Averages

Washington Street East	3926
Washington Street West	2777
Berlin Street	1281
Park Place	445
Terrace	417

In the summertime traffic volume figures at this point obtained by the State Highway Department indicate that there is 40% more traffic than in the winter when the above counts were made. A few suggestions relative to eliminating accidents are covered in the accident analysis section of this report.

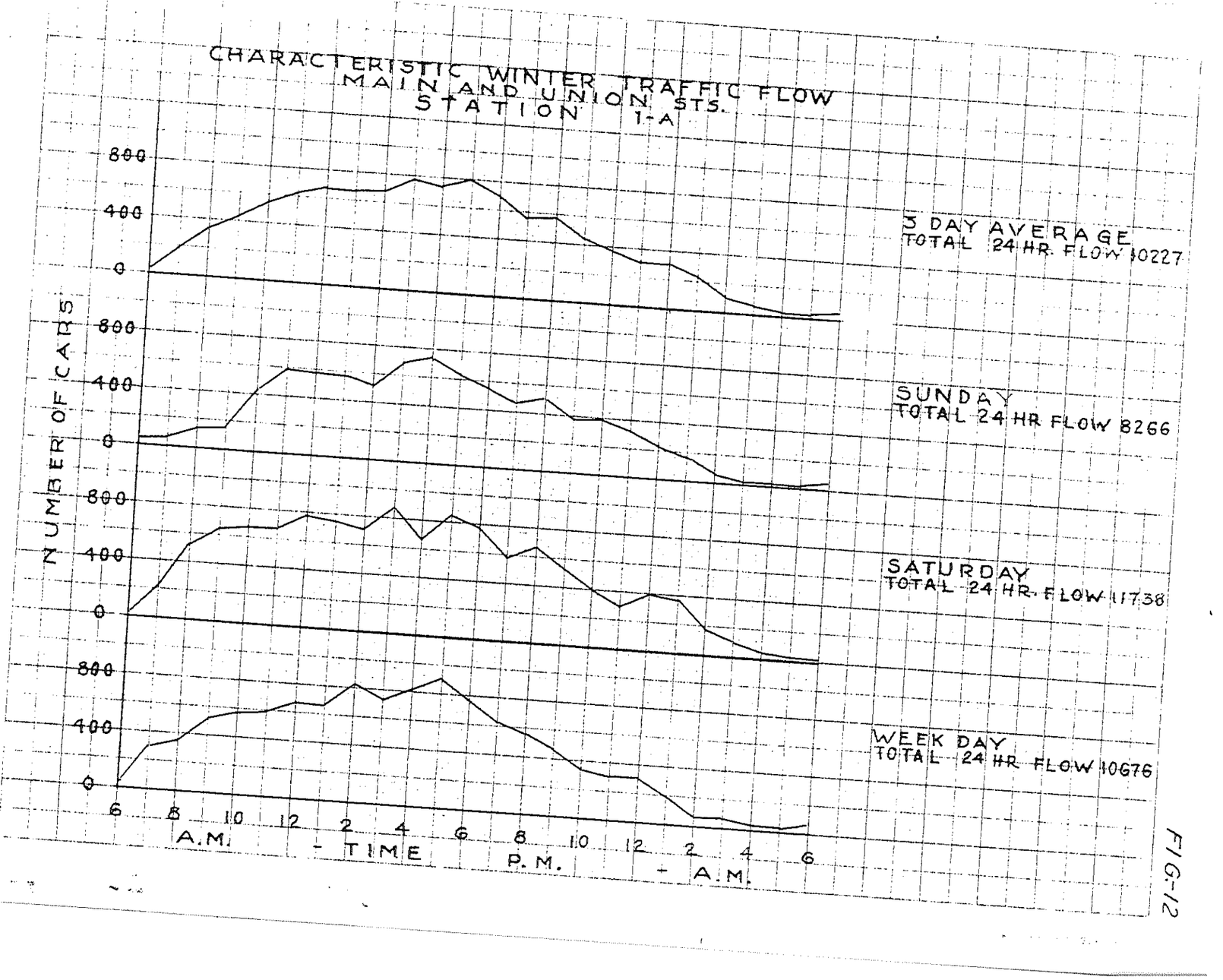

CHARACTERISTIC WINTER TRAFFIC FLOW
MAIN AND UNION STS.
STATION 1-A
NUMBER OF CARS
800
400
0
3 DAY AVERAGE
TOTAL 24 HR. FLOW 10227
SUNDAY
TOTAL 24 HR FLOW 8266
SATURDAY
TOTAL 24 HR. FLOW 11738
WEEK DAY
TOTAL 24 HR FLOW 10676
6 8 10 12 2 4 6 8 10 12 2 4 6
A.M. - TIME P.M. - A.M.

FIG-12

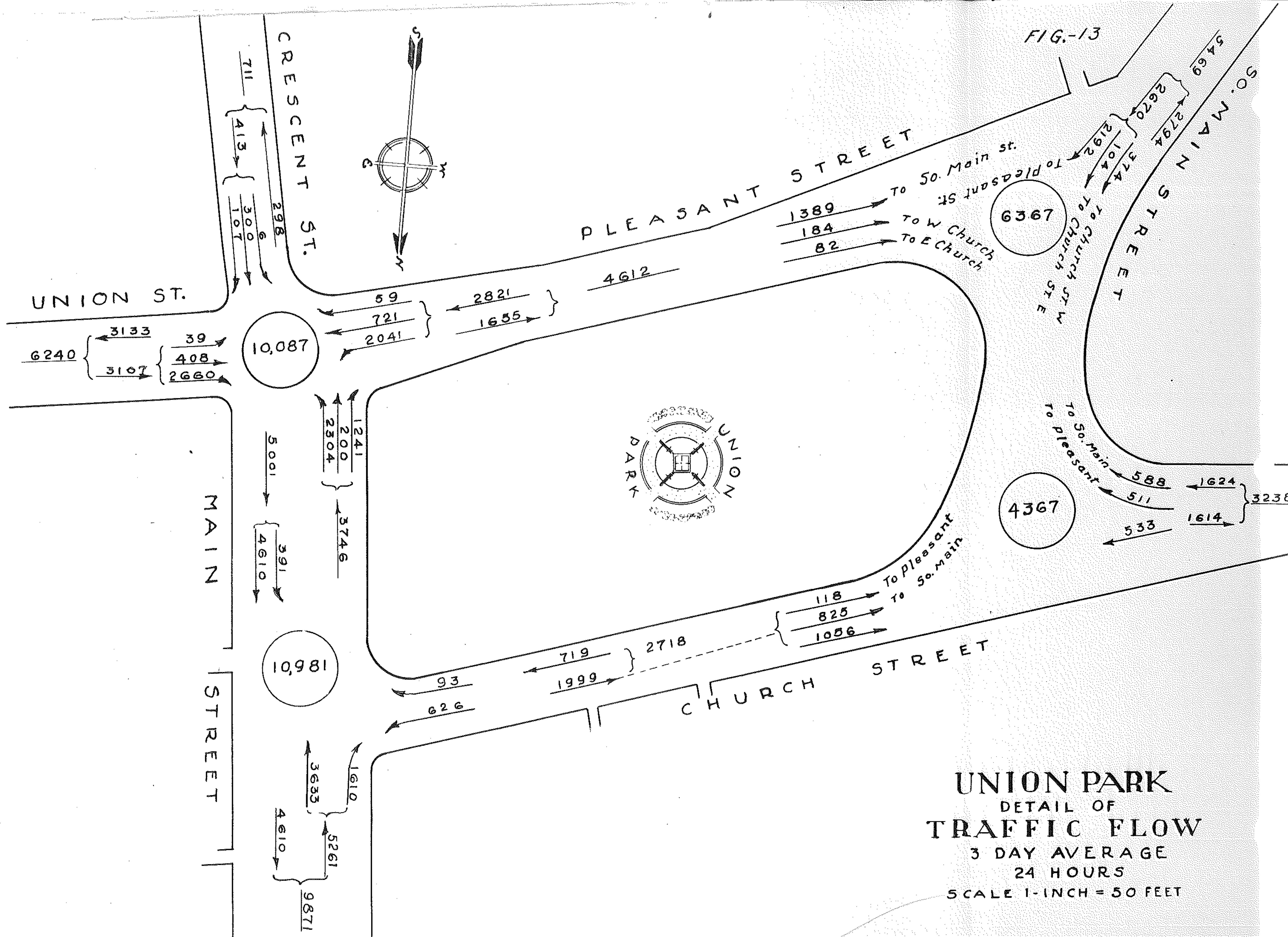


FIG.-13
CRESCENT ST.
UNION ST.
PLEASANT STREET
SO. MAIN STREET
MAIN STREET
CHURCH STREET
UNION PARK
10,087
10,981
6367
4367
6240
3133
3107
39
408
2660
59
721
2041
2821
1655
4612
1389
184
82
To So. Main St.
To W Church
To E Church
To Pleasant St.
To Church St. W
To Church St. E
2192
104
374
2670
2794
5469
711
413
10T
300
6
298
5001
4610
391
2304
200
1241
3746
3633
1610
4610
5261
9871
93
626
719
1999
2718
118
825
1056
To Pleasant
To So. Main
588
511
533
1624
1614
3238

UNION PARK
DETAIL OF
TRAFFIC FLOW
3 DAY AVERAGE
24 HOURS
SCALE 1-INCH = 50 FEET

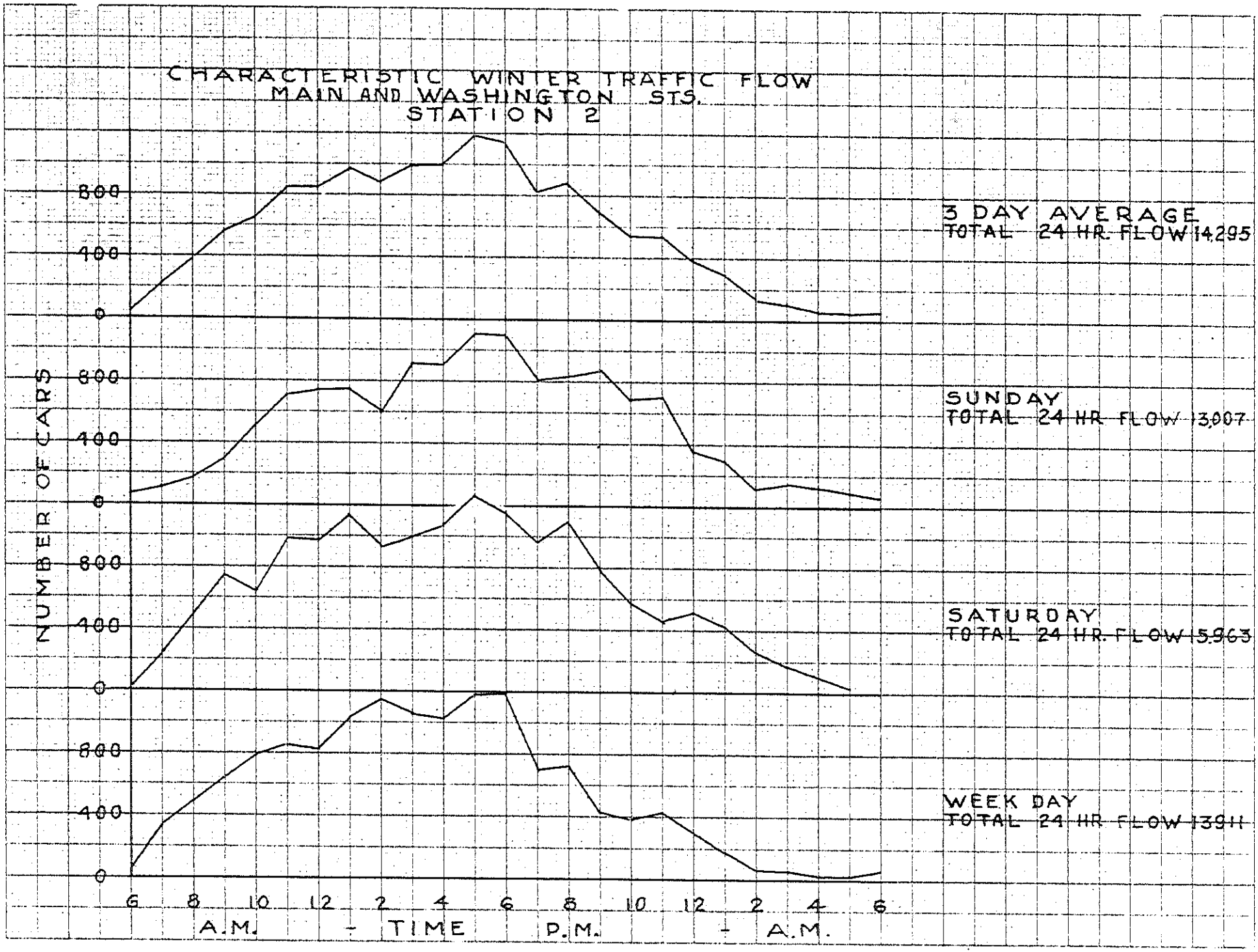

CHARACTERISTIC WINTER TRAFFIC FLOW
MAIN AND WASHINGTON STS.
STATION 2
NUMBER OF CARS
800
400
0
3 DAY AVERAGE
TOTAL 24 HR. FLOW 14,295
SUNDAY
TOTAL 24 HR FLOW 13,007
SATURDAY
TOTAL 24 HR. FLOW 15,963
WEEK DAY
TOTAL 24 HR FLOW 13911
6 8 10 12 2 4 6 8 10 12 2 4 6
A.M. - TIME P.M. - A.M.

FIG-14

FIG.-15

CONTROL STATION 2
WASHINGTON AND MAIN STS.
24 HOUR TRAFFIC
3 DAY AVERAGE
WASHINGTON ST.
MAIN ST.
MAIN ST
11,221
5513
171
4439
1098
247
132
112
491
968
2749
4890
1097
166
1148
2411
477
140
4169
1249
6699
11,258
S
E
W
N

FIG-16

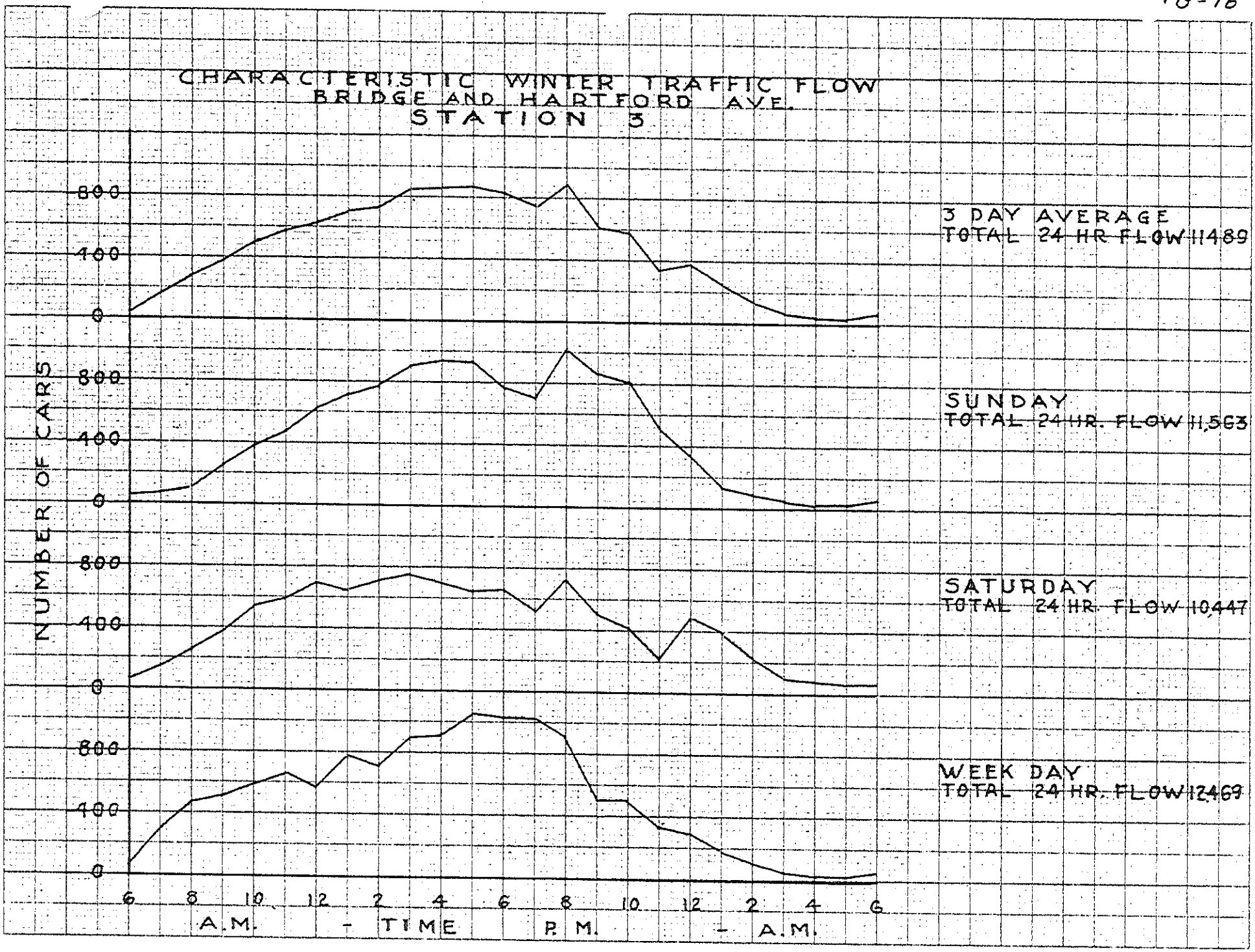

CHARACTERISTIC WINTER TRAFFIC FLOW
BRIDGE AND HARTFORD AVE.
STATION 3
NUMBER OF CARS
800
400
0
3 DAY AVERAGE
TOTAL 24 HR FLOW 11489
SUNDAY
TOTAL 24 HR. FLOW 11,563
SATURDAY
TOTAL 24 HR. FLOW 10,447
WEEK DAY
TOTAL 24 HR. FLOW 12469
6 8 10 12 2 4 6 8 10 12 2 4 6
A.M. - TIME P.M. - A.M.

FIG-16

CONTROL STATION 3.

BRIDGE AND HARTFORD AVE.

24 HOUR TRAFFIC

3 DAY AVERAGE

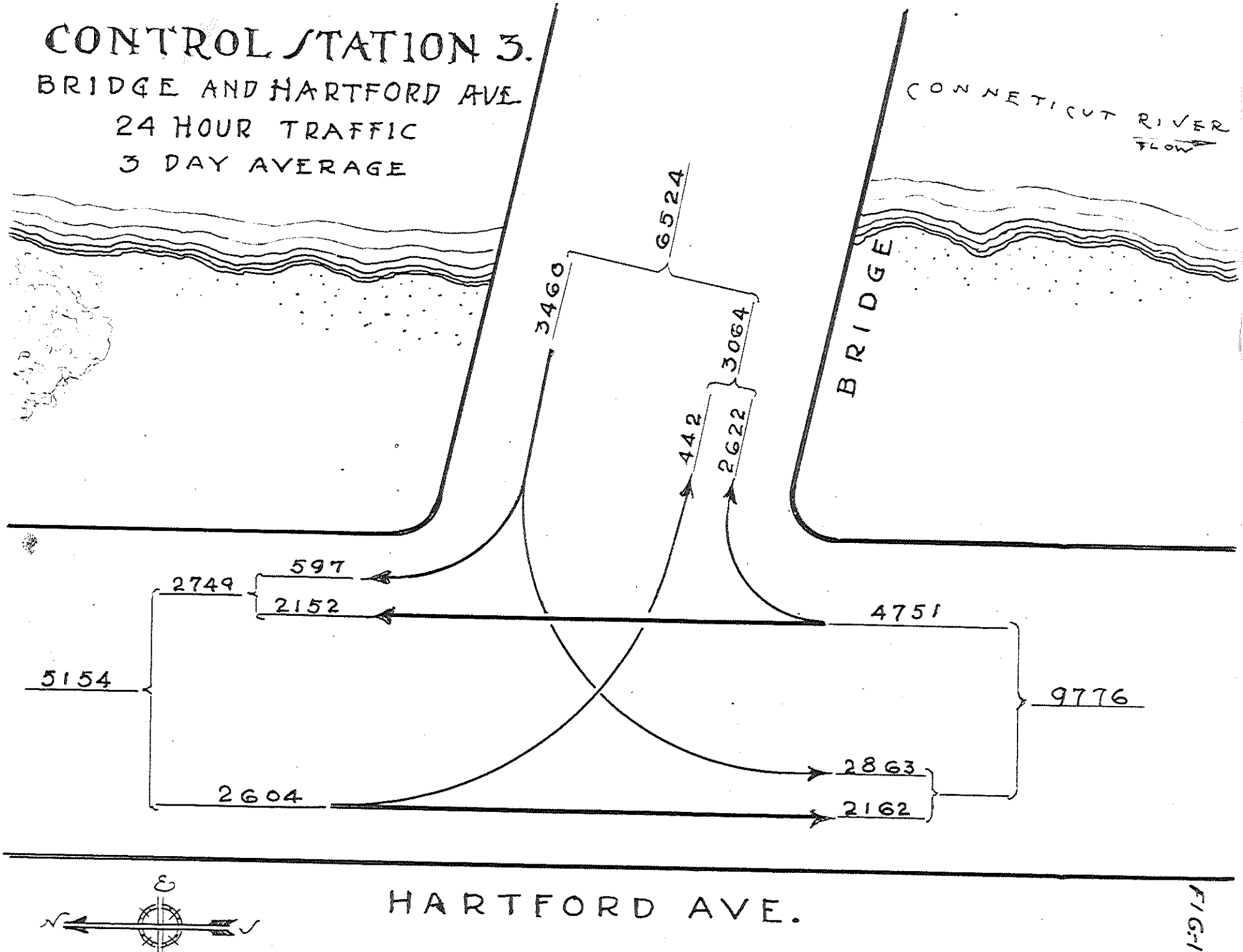


FIG-17

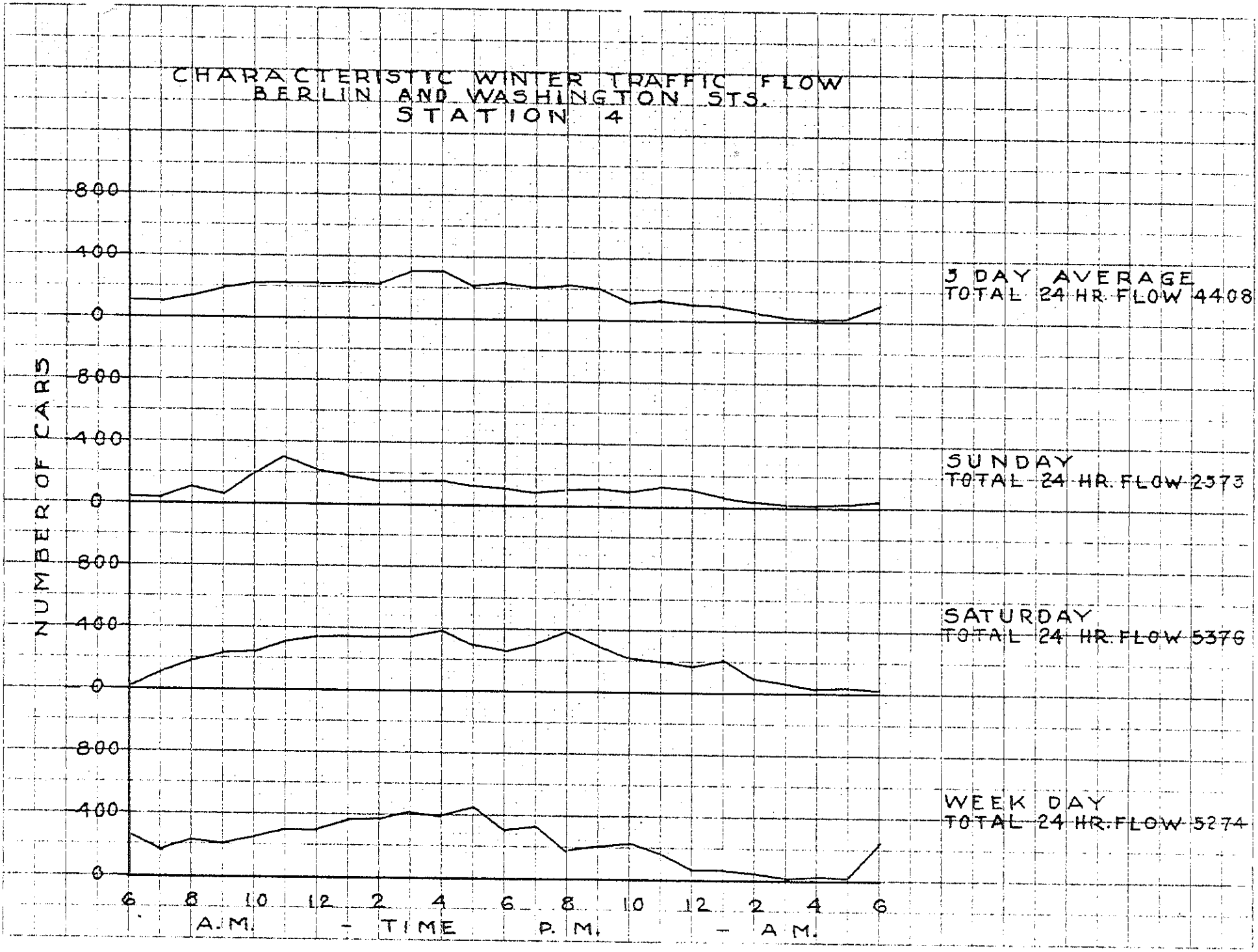
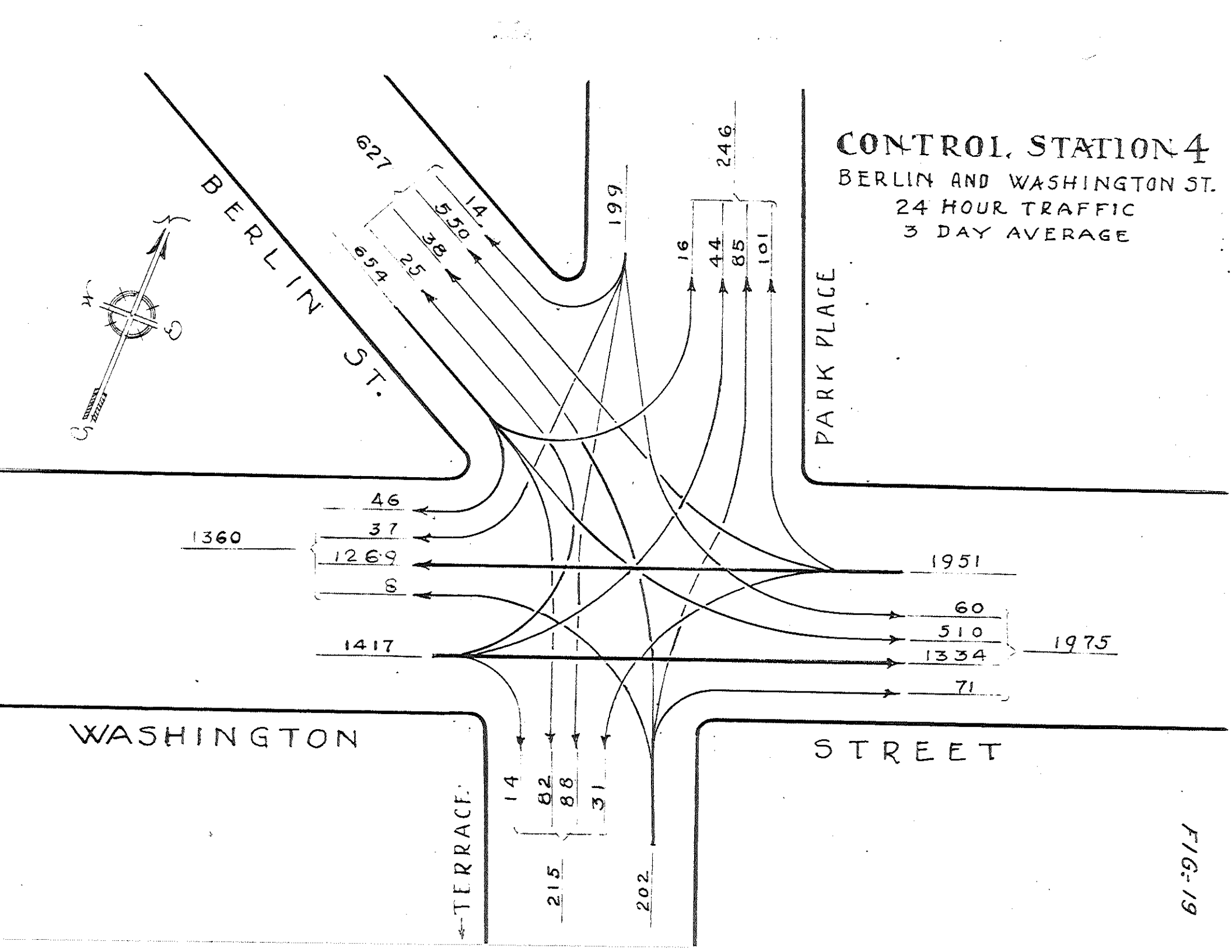

CHARACTERISTIC WINTER TRAFFIC FLOW
BERLIN AND WASHINGTON STS.
STATION 4
NUMBER OF CARS
800
400
0
3 DAY AVERAGE
TOTAL 24 HR. FLOW 4408
SUNDAY
TOTAL 24 HR. FLOW 2373
SATURDAY
TOTAL 24 HR. FLOW 5376
WEEK DAY
TOTAL 24 HR. FLOW 5274
6 8 10 12 2 4 6 8 10 12 2 4 6
A.M. - TIME P.M. - A.M.

FIG. 18


CONTROL STATION 4
BERLIN AND WASHINGTON ST.
24 HOUR TRAFFIC
3 DAY AVERAGE
BERLIN ST.
PARK PLACE
WASHINGTON
STREET
TERRACE
627
14
550
38
25
654
199
246
16
44
85
101
46
37
1269
8
1360
1951
60
510
1334
71
1975
1417
14
82
88
31
215
202
FIG. 19

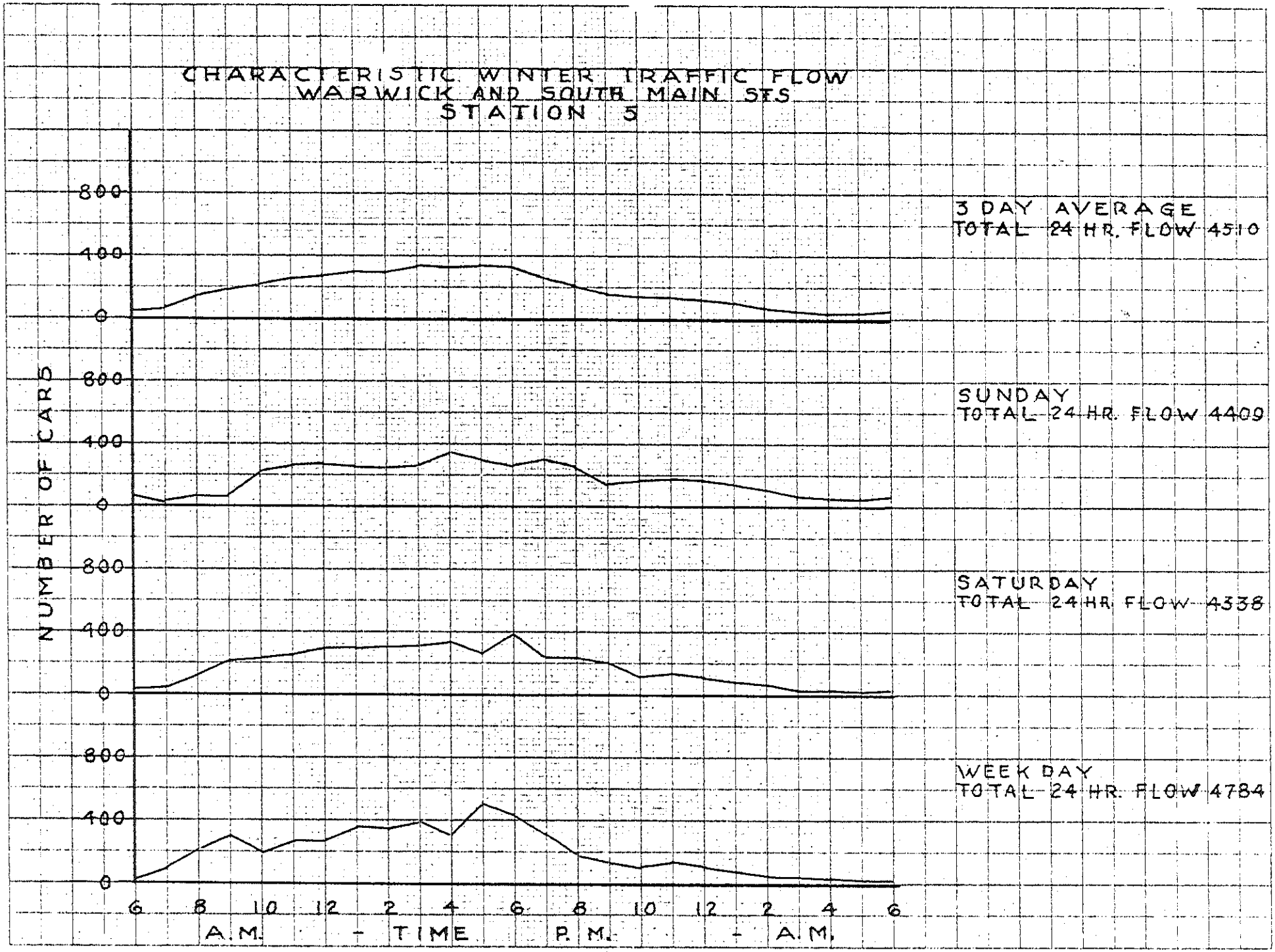

CHARACTERISTIC WINTER TRAFFIC FLOW
WARWICK AND SOUTH MAIN STS
STATION 5
NUMBER OF CARS
800
400
0
3 DAY AVERAGE
TOTAL 24 HR. FLOW 4510
SUNDAY
TOTAL 24 HR. FLOW 4409
SATURDAY
TOTAL 24 HR. FLOW 4338
WEEK DAY
TOTAL 24 HR. FLOW 4784
6 8 10 12 2 4 6 8 10 12 2 4 6
A.M. - TIME P.M. - A.M.

FIG. 20

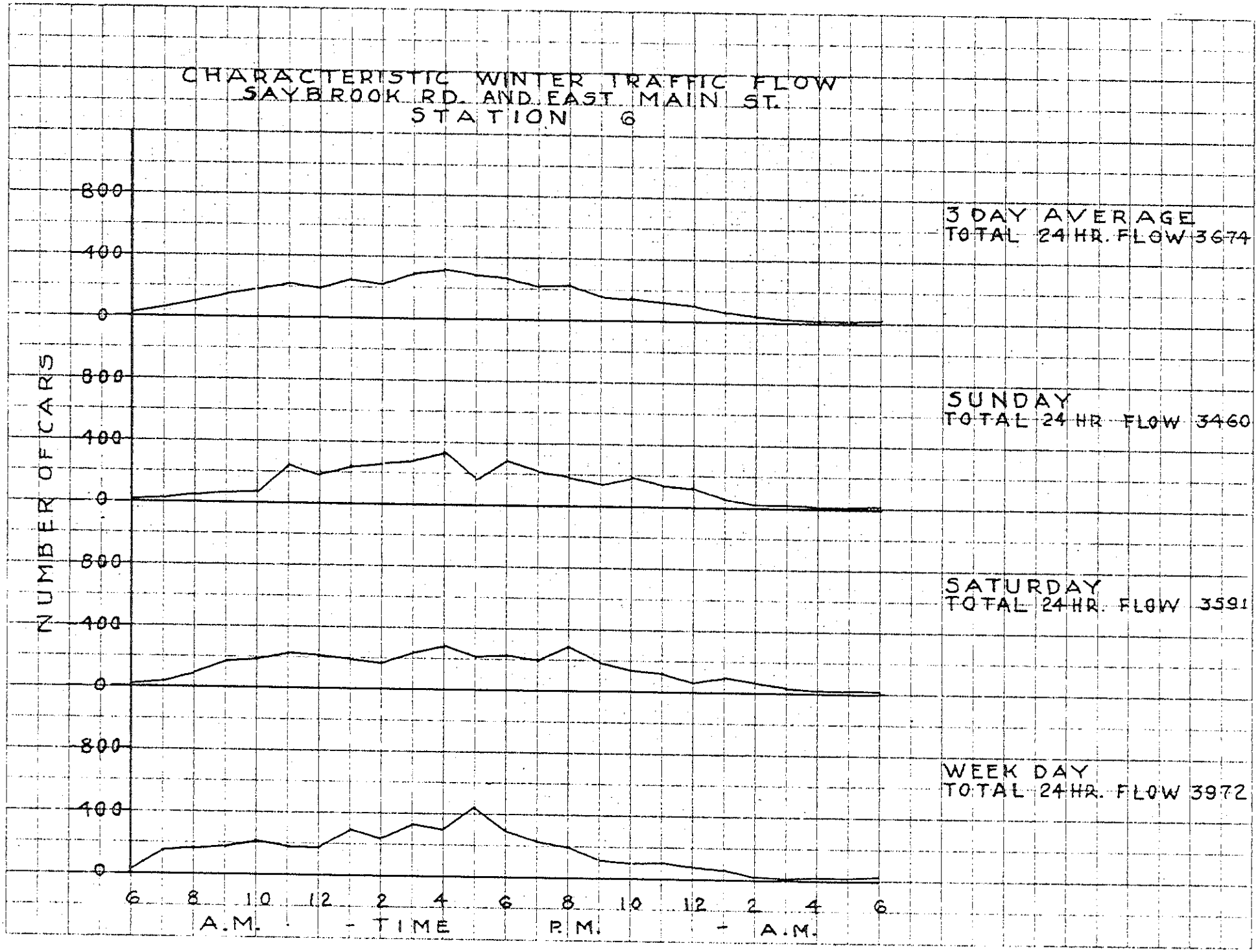

CHARACTERISTIC WINTER TRAFFIC FLOW
SAYBROOK RD. AND EAST MAIN ST.
STATION 6
NUMBER OF CARS
800
400
0
3 DAY AVERAGE
TOTAL 24 HR. FLOW 3674
SUNDAY
TOTAL 24 HR FLOW 3460
SATURDAY
TOTAL 24 HR. FLOW 3591
WEEK DAY
TOTAL 24 HR. FLOW 3972
6 8 10 12 2 4 6 8 10 12 2 4 6
A.M. - TIME P.M. - A.M.

FIG-21

CONTROL STATION SUMMARY RECORD

UNION - MAIN

STATION 1

TOTAL TRAFFIC THRU THE STATION						
HOUR ENDING	JAN.11	JAN.12	JAN.13	3 DAY TOTAL	DAILY AVERAGE	HOURLY PER CENT
7 A.M.	237	210	55	552	184	1.8
8	351	528	130	1009	336	3.3
9	520	644	153	1317	439	4.2
10	563	669	436	1668	556	5.4
11	593	672	589	1859	620	6.1
12	668	768	573	2009	670	6.5
1 P.M.	662	755	567	1984	661	6.5
2	809	716	515	2040	680	6.7
3	733	875	682	2295	765	7.5
4	802	660	733	2195	732	7.2
5	901	844	633	2378	793	7.7
6	759	777	559	2095	698	6.8
7	631	587	460	1678	559	5.5
8	560	661	504	1725	575	5.6
9	438	528	371	1337	446	4.4
10	341	392	381	1114	372	3.5
11	311	308	321	940	313	3.1
12	309	397	235	941	313	3.1
1 A.M.	193	362	165	720	240	2.2
2	63	190	73	326	109	1.1
3	68	100	34	202	67	.7
4	33	43	25	101	34	.4
5	20	29	25	74	25	.3
6	51	23	47	121	40	.4
TOTAL	10676	11738	8266	30680	10227	100

CONTROL STATION SUMMARY RECORD

MAIN & WASHINGTON STS.

STATION 2

TOTAL TRAFFIC THRU THE STATION						
HOUR ENDING	JAN. 5	JAN. 6	JAN. 8	3 DAY TOTAL	DAILY AVERAGE	HOURLY PERCENT
7 A.M.	241	72	332	645	215	1.5
8	485	184	481	1150	383	2.7
9	739	305	640	1684	561	3.9
10	642	512	784	1938	646	4.5
11	971	712	846	2529	843	5.9
12	964	737	833	2534	844	5.9
1 P.M.	1122	755	1030	2907	969	6.8
2	922	608	1125	2655	886	6.2
3	997	919	1050	2966	989	6.9
4	1074	909	1018	3001	1000	7.
5	1274	1115	1177	3566	1189	8.3
6	1150	1105	1135	3440	1146	8.
7	961	812	703	2476	825	5.7
8	1088	888	723	2649	883	6.2
9	739	870	439	2088	699	4.9
10	564	681	384	1629	543	3.8
11	464	702	436	1603	534	3.7
12	516	356	317	1189	396	2.8
1 A.M.	424	238	170	832	294	2.1
2	255	113	74	442	147	1.1
3	167	134	49	350	119	.8
4	94	124	20	238	79	.6
5	32	91	28	151	50	.3
6	33	64	67	164	55	.4
TOTAL	15963	13007	13911	42886	14295	100

CONTROL STATION SUMMARY RECORD

BRIDGE - HARTFORD AVENUE

STATION 3

TOTAL TRAFFIC THRU THE STATION						
HOUR ENDING	DEC. 20	DEC. 23	FEB. 2	3 DAY TOTAL	DAILY AVERAGE	HOURLY PER CENT
7 A.M.	296	57	155	508	169	1.5
8	460	117	277	854	285	2.4
9	503	251	369	1123	374	3.2
10	539	394	542	1515	505	4.1
11	662	475	578	1715	572	4.9
12	570	631	684	1885	628	5.6
1 P.M.	763	719	643	2125	708	6.2
2	717	760	711	2188	729	6.4
3	899	907	736	2542	844	7.4
4	919	937	682	2538	846	7.3
5	1051	926	644	2621	874	7.9
6	1038	766	649	2453	818	7.6
7	1009	714	520	2243	748	6.6
8	908	1035	721	2664	888	7.8
9	509	864	509	1880	627	5.4
10	511	812	411	1734	578	4.5
11	330	436	209	1035	345	3.1
12	290	345	481	1116	372	2.9
1 A.M.	135	151	400	736	245	2.2
2	110	82	235	427	142	1.3
3	59	48	103	210	70	.7
4	30	20	80	130	48	.4
5	21	20	54	95	32	.2
6	41	46	55	142	47	.4
TOTAL	12469	11563	10447	34479	11489	100

CONTROL STATION SUMMARY RECORD

BERLIN & WASHINGTON STS.

STATION 4

TOTAL TRAFFIC THRU THE STATION						
HOUR ENDING	DEC. 27	JAN. 19	JAN. 20	3 DAY TOTAL	DAILY AVERAGE	HOURLY PER CENT
7 A.M.	176	90	34	300	100	2.6
8	216	174	94	434	123	3.3
9	208	237	75	520	173	4.5
10	246	237	199	682	227	5.9
11	239	300	239	878	226	5.9
12	297	339	226	862	220	5.7
1 P.M.	360	352	170	882	227	5.9
2	361	342	151	854	218	5.6
3	408	353	159	920	300	7.7
4	390	378	153	921	300	7.7
5	442	294	122	858	219	5.6
6	311	272	115	698	232	6.
7	332	317	83	732	210	5.4
8	173	397	103	673	226	5.9
9	202	295	106	603	201	5.2
10	220	221	95	536	112	2.8
11	170	130	123	432	127	3.3
12	72	166	111	349	116	3.0
1 A.M.	55	204	62	321	100	2.6
2	45	95	32	172	57	1.5
3	11	49	19	79	26	.7
4	24	26	3	53	11	.3
5	18	29	10	57	12	.3
6	243	20	39	302	100	2.6
TOTAL	5274	5376	2573	13223	4403	100

CONTROL STATION SUMMARY RECORD
WARWICK - SOUTH MAIN
STATION 5

TOTAL TRAFFIC THRU THE STATION						
HOUR ENDING	JAN.16	JAN.26	FEB.10	7 DAY TOTAL	DAILY AVERAGE	HOURLY - PER CENT
7 A.M.	93	45	35	173	58	1.3
8	206	124	71	401	133	2.9
9	290	210	72	572	190	4.2
10	184	233	227	644	214	4.7
11	260	247	268	775	258	5.7
12	265	288	273	826	275	6.1
1 P.M.	354	285	246	885	295	6.5
2	333	306	242	881	293	6.5
3	390	317	317	1024	341	7.6
4	303	335	344	982	327	7.2
5	493	259	305	1057	352	7.8
6	417	377	278	1072	324	7.2
7	301	220	306	827	276	6.1
8	169	218	252	639	213	4.7
9	123	204	159	491	164	3.6
10	110	118	165	393	131	2.9
11	133	133	177	453	151	3.3
12	107	110	179	396	132	2.9
1 A.M.	79	89	132	300	100	2.2
2	45	75	118	238	79	2.9
3	42	34	79	155	52	1.2
4	28	30	53	111	37	.8
5	26	29	45	100	33	.8
6	29	33	79	136	45	1.
TOTAL	4734	4333	4409	13531	4510	100

CONTROL STATION SUMMARY RECORD

SAYBROOK - EAST MAIN

STATION 6

TOTAL TRAFFIC THRU THE STATION						
HOUR ENDING	JAN.16	JAN.26	FEB.10	3 DAY TOTAL	DAILY AVERAGE	HOURLY PER CENT
7 A.M.	150	44	14	208	69	1.9
8	160	104	47	311	104	2.8
9	177	174	61	412	137	3.7
10	209	135	161	555	185	5.
11	180	235	244	659	220	6.0
12	133	214	196	593	198	5.4
1 P.M.	295	193	243	736	245	6.7
2	240	174	264	678	226	6.1
3	323	244	235	857	286	7.8
4	294	235	326	905	302	8.2
5	441	209	173	823	276	7.5
6	304	233	293	830	277	7.5
7	234	207	232	673	224	6.1
8	200	237	189	676	225	6.1
9	120	194	133	447	149	4.1
10	109	150	189	448	149	4.1
11	115	124	137	376	125	3.3
12	88	79	134	301	100	2.7
1 A.M.	60	105	55	220	73	2.
2	28	79	22	129	43	1.2
3	4	40	23	67	22	.6
4	20	13	3	41	14	.5
5	11	7	5	23	8	.2
6	22	7	21	50	17	.5
TOTAL	3972	3591	3460	11023	3674	100

VOLUME COUNT SUMMARY

STA. NO.	LOCATION	STREET	VOLUME	STREET	VOLUME	STREET	VOLUME	STREET	VOLUME	TOT. AT STA.
* 3	Bridge Hfd. Ave	Bridge	6524	Hfd.Ave (N)	5154	Hfd.Ave (N)	9776			10727
10	Water Hfd. Ave	Hfd.Ave (N)	10088	Hfd.Ave (S)	8934	Water (S)	1368			10136
9	Main Hfd. Ave	Hfd.Ave (E)	8962	No.Main (N)	1340	Spring (W)	1296	Main (S)	10409	11253
11	Main St. Grand	Main St (N)	9302	Main St (S)	9192	Rapallo (E)	409	Grand (W)	1123	10013
12	Main St. Liberty	Main St (N)	10838	Main St (S)	10747	Green (E)	164	Liberty (W)	508	11158
* 2	Main St. Wash.St.	Main St (N)	11253	Main St (S)	11221	Wash.St (E)	963	Wash.St (W)	4830	14168
13	Main St. Court	Main St (N)	10824	Main St (S)	10577	Court (E)	1138	Court (W)	1418	11978
14	Main St. College	Main St (N)	11094	Main St (S)	10833	College (E)	525	College (W)	347	11649
15	Main St. William	Main St (N)	9522	Main St (S)	8359	William (E)	560	William (W)	638	9339
* 1-B	Main St. Church	Main St (N)	9871	Church (W)	2713					6294
* 1-A	Main St. Pleasant	Main St (N)	8747	Union (E)	6240	Crescent	711	Pleasant	4612	10155
* 1-D	So.Main Pleasant	Pleasant	4612	So.Main	5469					5040
* 5	So.Main Warwick	So. Main (N)	4092	So.Main (S)	3879	Warwick	1015			4493
18	So.Main Fm.H.Rd.	So. Main (N)	2792	So.Main (S)	2074	Fm. Hill Road	1118	Durant	515	3249
16	Water Union	Water	843	Union	874	South St	873	River	734	1662
17	E. Main Silver	E. Main (N)	3706	E. Main (S)	2655	Silver (E)	1367	Silver (W)	135	3931

* Control Station - 24 Hour Average - 3 Day Count

Note: Letter (N.S.E.W.) indicates direction of entry point from center of intersection

VOLUME COUNT SUMMARY

STA. NO.	LOCATION	STREET	VOLUME	STREET	VOLUME	STREET	VOLUME	STREET	VOLUME	TOT. AT STA
* 6	E. Main Sayb'kRd	E. Main (N)	3484	E. Main (S)	1449	Mill St (W)	278	Say-Brook	2154	3682
7	Ridge Rd Russell	Ridge (N)	516	Ridge (S)	1493	Russell (E)	1114	Russell (W)	1339	2231
22	Broad Church	Broad (N)	1401	Church (E)	3819	Church (W)	3249			4234
3	Church High	High (N)	2664	High (S)	2627	Church (E)	2585	Church (W)	1754	4315
29	Pine Church	Pine	408	Cross	941	Mount Vernon	301	Church	1238	1719
* 4	Berlin Wash.St	Wash (W)	2777	Wash (E)	3926	Berlin	1281	Park Pl Terrace	445 417	4423
19	Pine St Bretton	Pine (N)	142	Pine (S)	127	Bretton Road	143			206
20	Mt.Vernon Wyllys	Mt.Ver-nonN)	359	Mt.Ver (S)	911	Wyllys (E)	473			1121
21	Hamlin William	Hamlin (N)	416	Hamlin (S)	369	William (E)	616	William (W)	647	1024
23	Broad College	Broad (N)	1590	Broad (S)	1590	College (E)	1013	College (W)	1033	2613
24	Pearl Court	Pearl (N)	443	Pearl (S)	377	Court (E)	853	Court (W)	787	1230
25	High St Wash St	High (N)	1748	High (S)	1409	Wash St (E)	4691	Wash St (W)	4493	6171
26	High St Liberty	High (N)	1227	High (S)	1279	Liberty (E)	507	Liberty (W)	490	1752
27	High St Grand	High (N)	1316	High (S)	1264	Grand (E)	965	Grand (W)	359	2202
28	Johnson Spring	Johnson	175	Spring (E)	403	Spring (W)	279			428

* Control Station - 2 Hour Average - 3 Day Count

Note: Letter (N.S.E.W.) indicates direction of entry point from center of intersection

ACCIDENT ANALYSIS

The rapid increase in the number of accidents in the last few years is worthy of serious consideration by those interested in motor vehicle traffic and by the general public whose safety while travelling by automobile is gradually reduced from year to year. We are rapidly approaching the time when drastic measures must be taken either in the form of restrictive legislation or an intensive educational safety campaign for the general public. While the following study only includes 164 accidents, there were undoubtedly many times this number unrecorded minor accidents. Many of these might just as well have been of a major character except that the participants were a little more fortunate.

Unless the accident involves personal injury or property damage amounting to at least twenty-five dollars, it goes unrecorded, and therefore a study of this kind can only cover those accidents which were important enough to be recorded. Many of the minor accidents are probably very important in their implications as to highway conditions and driving habits, and it is unfortunate that insufficient data make a study of them possible.

OBJECT:

The purposes of the accident analysis were as follows:

1. To determine the high--accident location.
2. To determine the causes of accidents at these points.
3. To ascertain whether or not highway conditions contributed to the cause of an accident.
4. To make recommendations which would decrease the accident hazard.

PROCEDURE:

The accident reports filed with the Police Department and the State Motor Vehicle Department for the years of 1932-33-34 were the basis of this analysis. From these reports, lists of intersection and "mid-block" accidents, in the order of seriousness were prepared. Then data on these accidents was condensed on cards and special analysis sheets covering the location, date, time light or dark, condition of weather and road, nature of the accident, extent of injuries, and type of collision.

Whenever possible the cause of the accident was ascertained based on the report as a whole, the diagram, and testimony of the driver or drivers involved.

Out of 164 accidents studied, ninety-seven occured in mid-blocks and sixty-seven at intersections. Very few of the mid-block accidents could be accurately analysed because no one point showed sufficient concentration of accidents. The following locations were analyzed in detail.

1. Connecticut River Bridge and Hartford Avenue.
2. Hartford A venue and Water Street.
3. Main Street and College Street.
4. Main Street and Washington Street.
5. Park Place, Berlin and Washington Street.
6. Washington Street at the R.R. Underpass.
7. Connecticut River Bridge.

Collision diagrams were made of the first six and later reference will be made to them. A tabular summary of all accidents analysed is included on the following page.

SUMMARY OF ACCIDENTS ANALYZED
MIDDLETOWN TRAFFIC SURVEY

INTERSECTION	TOTAL ACCDTS	TYPE OF CONTROL	PEAK MONTH	WEATHER			LIGHT	DARK	CONDITION OF ROAD			HOUR OF DAY																				TYPE OF COLLISION			INJURY OR DAMAGE			CAUSES																		
				CLR	FOG	RAIN SNOW			WET	ICY	GOOD	A.M.								P.M.												AvA	AvP	MsL	PER	FTL	PTY	A															B			
												12-1	1-6	6-7	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1	2	3	4
RIDGE & HARTFORD Ave.	5	R	3	3	1	1	1	4	1	1	3			1											1				1		1	4	1		1		4	1	1		1									1						
ARTFORD & WATER ST	3	NONE		1	1	1	2	1	2	1								1				1			1							2		1	2		3		1		1		1													
OLLEGE & MAIN	4	S-G		2		2		4	2		2	1															2					2	2		1	1	2	1		1		1	1													
AIN & WASHINGTON	3	S-G	3	1		2	1	2	2	1			1											1				1				2	1		3			1	1			1														
ARK PL. & WASHINGTON	3	R		3				3			3																	1	1	1		2	1		3				2																1	
ASHINGTON ST UNDERPASS	4	SLOW	3-4	3		1	1	3	1		3												1		2							3	1		2		2	1			1								1					1		
HIGHWAY BRIDGE	13			5		5	8	3	5		5								1	3			3	1	1	1		1				13			3		10				3	3							2							
RIDGE & HARTFORD Ave.	1	R					1				1		1																			1					1		1																	
AIN & COLLEGE	1	S-G				1			1															1								1					1												1							
AIN & WASHINGTON	1	S-G		1			1				1														1							1					1										1									
ARK PL. & WASHINGTON	2	R		1		1	1	1	1		1											1								1		2					2	1	1																	
ASHINGTON ST UNDERPASS	2			1				2			1		1														1					2			1		2			2																
GHWAY BRIDGE	4		8	3		1	4		1		3								1				1		2							2		2	1		4				1	2							1							
ARTFORD & WATER	2		2				2				2								1	1												2					2	1					1													
IN & WASHINGTON	5	S-G	9	5			2	3			5										1					1	1	2				3	2		2		3	1	1				1			1										1
ASHINGTON ST UNDERPASS	2	—	—	2			1	1			2													1							1	2			1		2			1										1						
RTFORD Ave. UNDERPASS	4	—	7	3		1	4		1		3					1			1	1		1										3		1	1		3	1					1													
GHWAY BRIDGE	6	—	11	4		2	6		2		4				1				3						2							6					6					4	1													

—LEGEND—

AvA —Auto against Auto
AvP—Auto " Pedestrian
MsL—Miscelaneous
Per — Personal
Ftl — Fatal
Pty — Property
A-1 —Inattention
A-2 —Failure to grant right of way
A-3 —Wrong side of road

A-4 — Skidded
A-5 —Followed Vehicle too closely
A-6 —Improper left turn in apposition to traffic
A-7 —Carelessly approached pedestrian
A-8 —Too fast for traffic condition
A-9 —Too fast in approaching intersection
A-10 —Backed carelessly
A-11 —Intoxication
R —Rotary

A-12—Defective equipment
A-13—Cutting in; side swiping
A-14—Passing on wrong side of Vehicle
A-15—Violation of signal
B-1 —Crossed street inattentively
B-2 —Stepped from behind object
B-3 —Playing in street
B-4 —Violation of signal
S-G —Stop and go sign

Discussion of Results and Recommendations

The accidents occuring on the Saybrook Road, the Durham Road, and the Meriden Road, were not thoroughly analysed, because it was impossible to pin them down to a specific location. Their major cause seems to be excessive speed, and carelessness on the part of the drivers. Speed limiting signs placed at speed tempting points such as Bible Rock Hill, Durham Road by Dooley's Pond, and Chapman Hill, on the Meriden Road, would probably help to reduce accidents at these points.

Connecticut River Bridge and Hartford Avenue

Four common causes have contributed to the accidents occurring at this intersection. They are, inattention of the driver or pedestrian involved, failure to grant the right of way, skidding, and cutting in. Little can be done at this intersection under present conditions to remedy the situation, except to move the rotary about three or four feet to the south. This would give cars coming off the bridge turning south an easier and shorter turn, thus preventing them from crowding into the south bound traffic on Hartford Avenue. Reference to the collision diagram Figure 22 will illustrate this point.

Hartford Avenue and Water Street

Of the five accidents at this intersection, see Figure 23, two were caused by turns into Water Street from south bound lane on Hartford Avenue, and two were caused by cutting in from Water Street to north bound lane on Hartford Avenue. While it is undesirable to prohibit south bound cars from entering Water Street a warning sign worded as follows; Cars Bearing Left "SLOW" would help the situation.

COLLISION DIAGRAM

INTERSECTION OF

HARTFORD AVE.

AND

CONNECTICUT RIVER BRIDGE

SCALE – 1 INCH = 20 FEET

LEGEND

- Path of Motor Vehicle
- Car Lane
- Pedestrian Hit
- Point of Contact
- Rotary

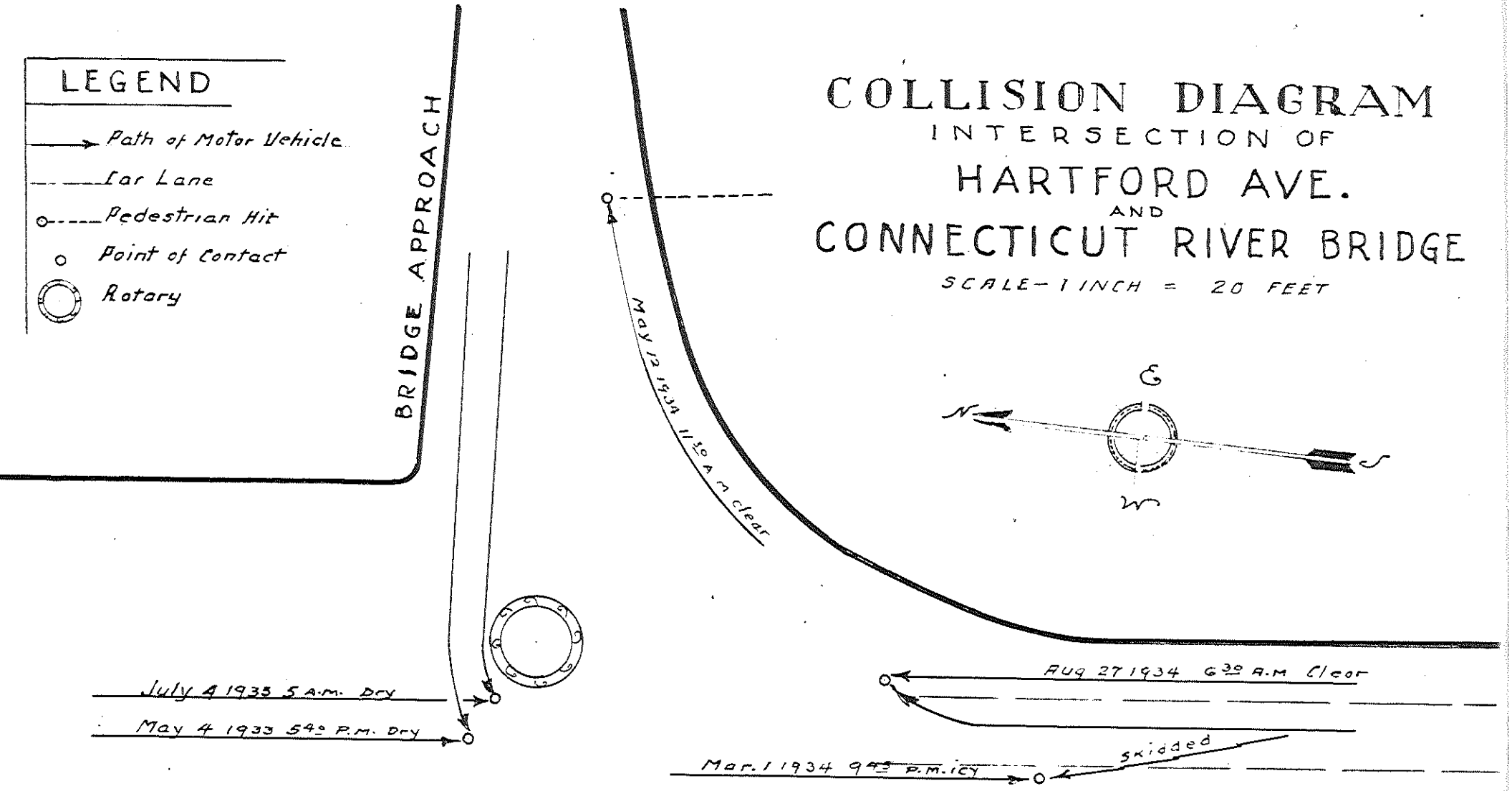
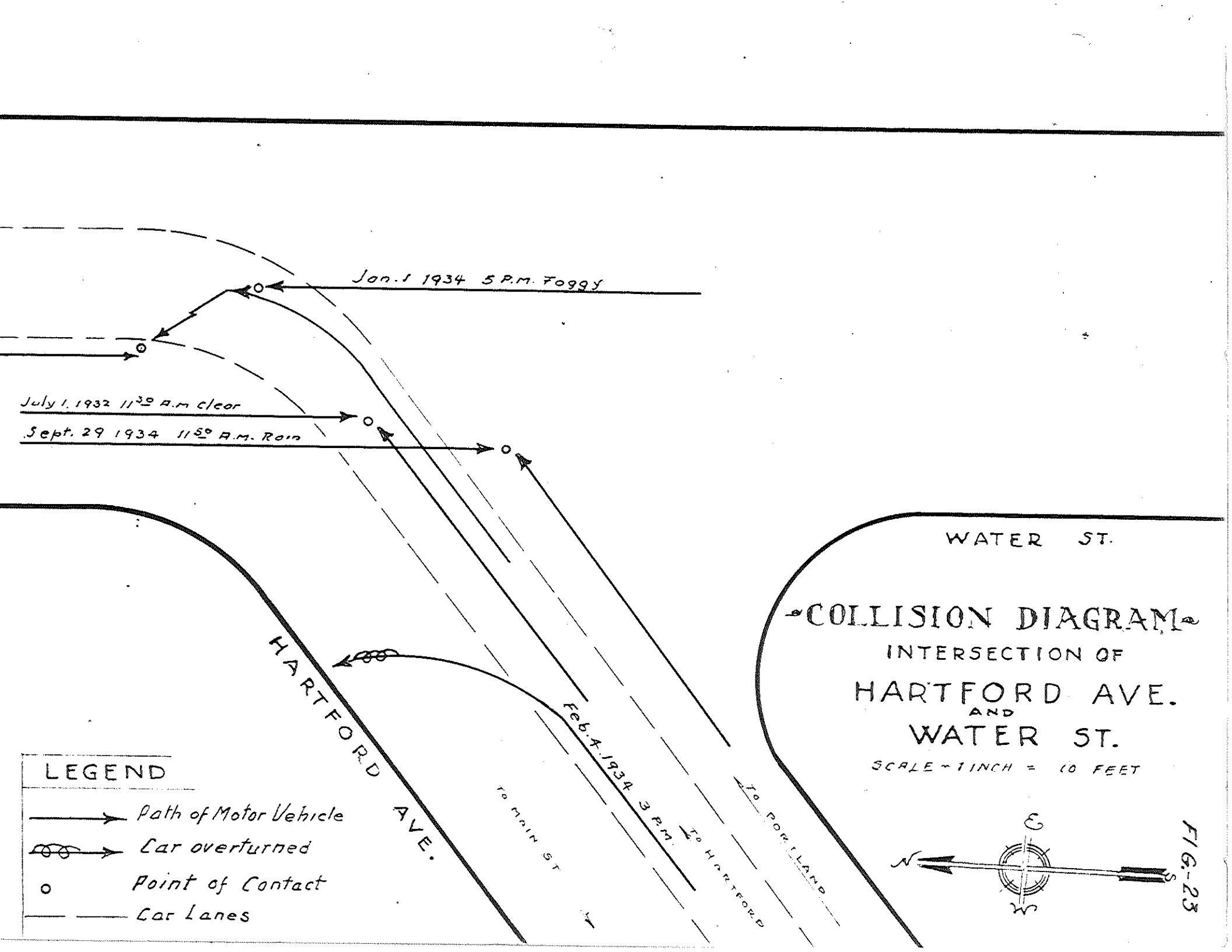


FIG-22


Jan. 1 1934 5 P.M. Foggy
July 1. 1932 11 30 A.M clear
Sept. 29 1934 11 50 A.M. Rain
Feb. 4. 1934 3 P.M.
HARTFORD AVE.
WATER ST.
To PORTLAND
To HARTFORD
To MAIN ST
LEGEND
Path of Motor Vehicle
Car overturned
Point of Contact
Car Lanes
COLLISION DIAGRAM
INTERSECTION OF
HARTFORD AVE.
AND
WATER ST.
SCALE - 1 INCH = 10 FEET
E
N
S
W
FIG-23

A "STOP" sign should also be placed on the north bound lane of Water Street at Hartford Avenue.

Intersection - Main And College Streets.

There were five accidents at this intersection, as indicated on collision diagram Figure 24. In two cases the signal light was in favor of each car. In one case a pedestrian accident, the pedestrian attempted to cross the street against the light and driver was extremely careless in cutting the corner too sharply. Obviously, carelessness on the part of the driver or drivers caused most of the accidents here.

Main Street And Washington Street.

At this intersection there were nine accidents, three of which involved pedestrians. Refer to collision diagram Figure 25. In one case a pedestrian was crossing the street against the light. In three other cases, the cause was due to the hurrying drivers who jumped the amber signals. Such accidents would be reduced if the "STOP" and "GO" signal lights flashed amber following the green only. Carelessness on the part of the driver or drivers caused most of these accidents.

Park Place And Washington Street.

At Washington Street and Park Place all of the accidents occured at or near the rotary as illustrated by Figure 26. Three of the accidents involved cars travelling east on Washington St. and cars coming south from Berlin Street. "STOP" signs placed at Berlin Street and at Park Place would undoubtedly reduce this cause of accidents.

COLLISION DIAGRAM

INTERSECTION OF

MAIN

AND

COLLEGE ST.

SCALE — 1 INCH - 20 FEET

LEGEND

- Path of Motor Vehicle
- Car lane
- Pedestrian Path
- Point of Contact
- Traffic Light
- Motor Vehicle

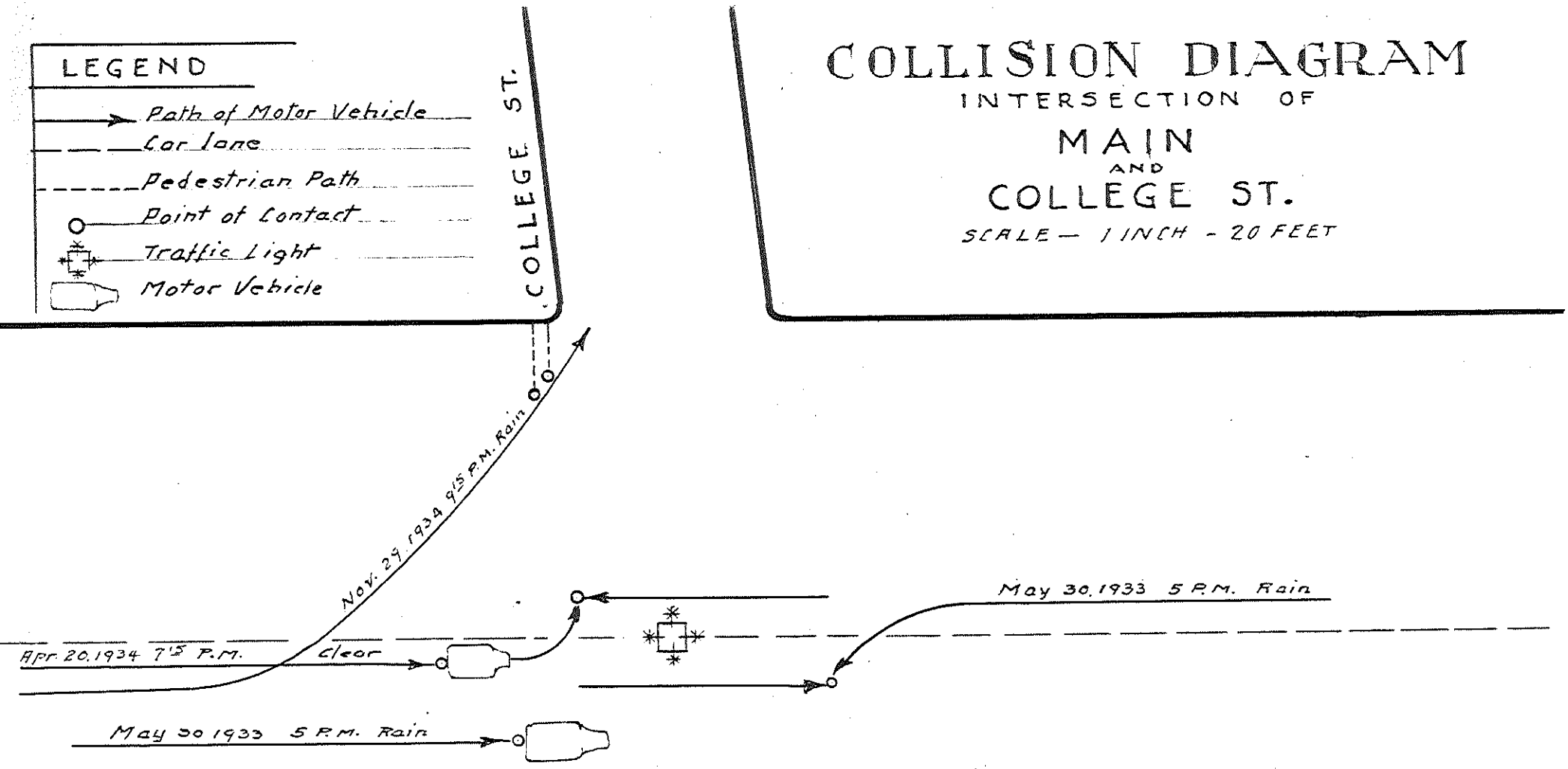


FIG.-24

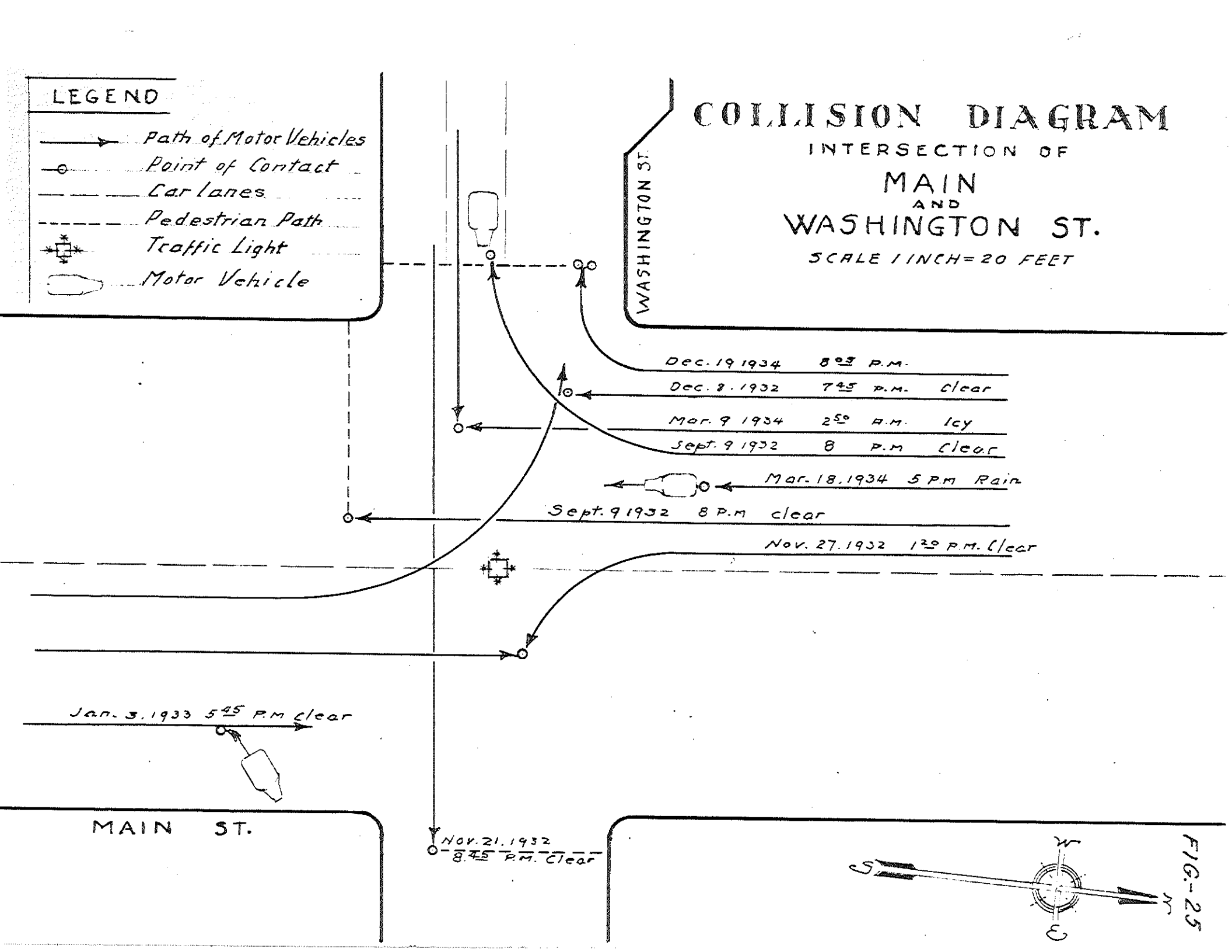

LEGEND
Path of Motor Vehicles
Point of Contact
Car lanes
Pedestrian Path
Traffic Light
Motor Vehicle
COLLISION DIAGRAM
INTERSECTION OF
MAIN
AND
WASHINGTON ST.
SCALE 1 INCH = 20 FEET
WASHINGTON ST.
Dec. 19 1934 8 03 P.M.
Dec. 8. 1932 7 45 P.M. Clear
Mar. 9 1934 2 50 P.M. Icy
Sept. 9 1932 8 P.M Clear
Mar. 18. 1934 5 P.M Rain
Sept. 9 1932 8 P.M clear
Nov. 27. 1932 1 20 P.M. Clear
Jan. 3. 1933 5 45 P.M Clear
MAIN ST.
Nov. 21. 1932
8 45 P.M. Clear
W
S
N
E

FIG.-25

COLLISION DIAGRAM

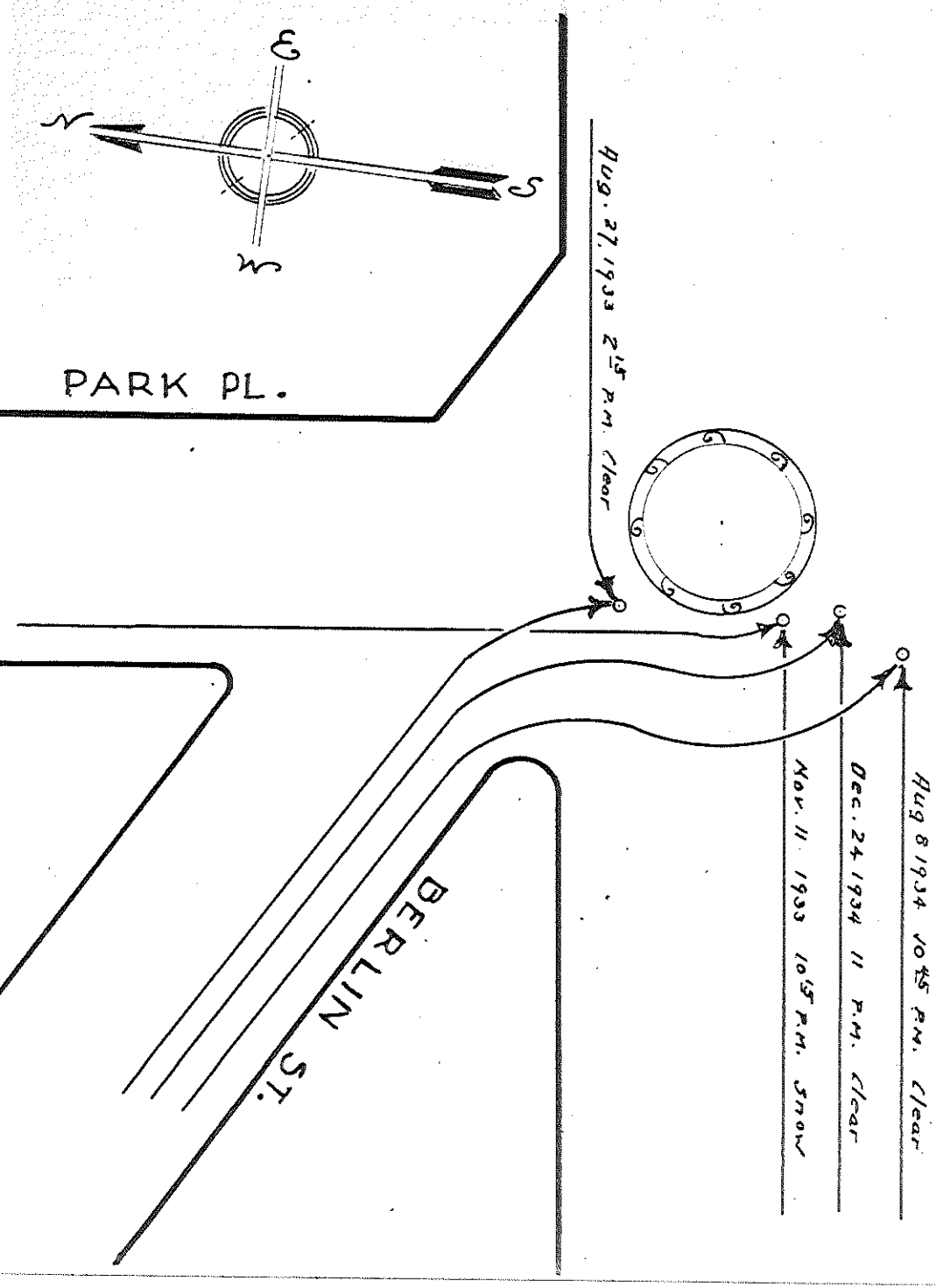
INTERSECTION OF

PARK PL. — BERLIN ST.

AND

WASHINGTON ST.

SCALE - 1 INCH = 20 FEET



LEGEND

Path of Motor Vehicles

Point of Contact

Rotary

FIG-26

Cars entering the city travelling east on Washington Street should be slowed down by the time they reach this intersection. Speed limit signs at one or two points between the Underpass and Berlin Street are recommended.

Washington Street At Underpass.

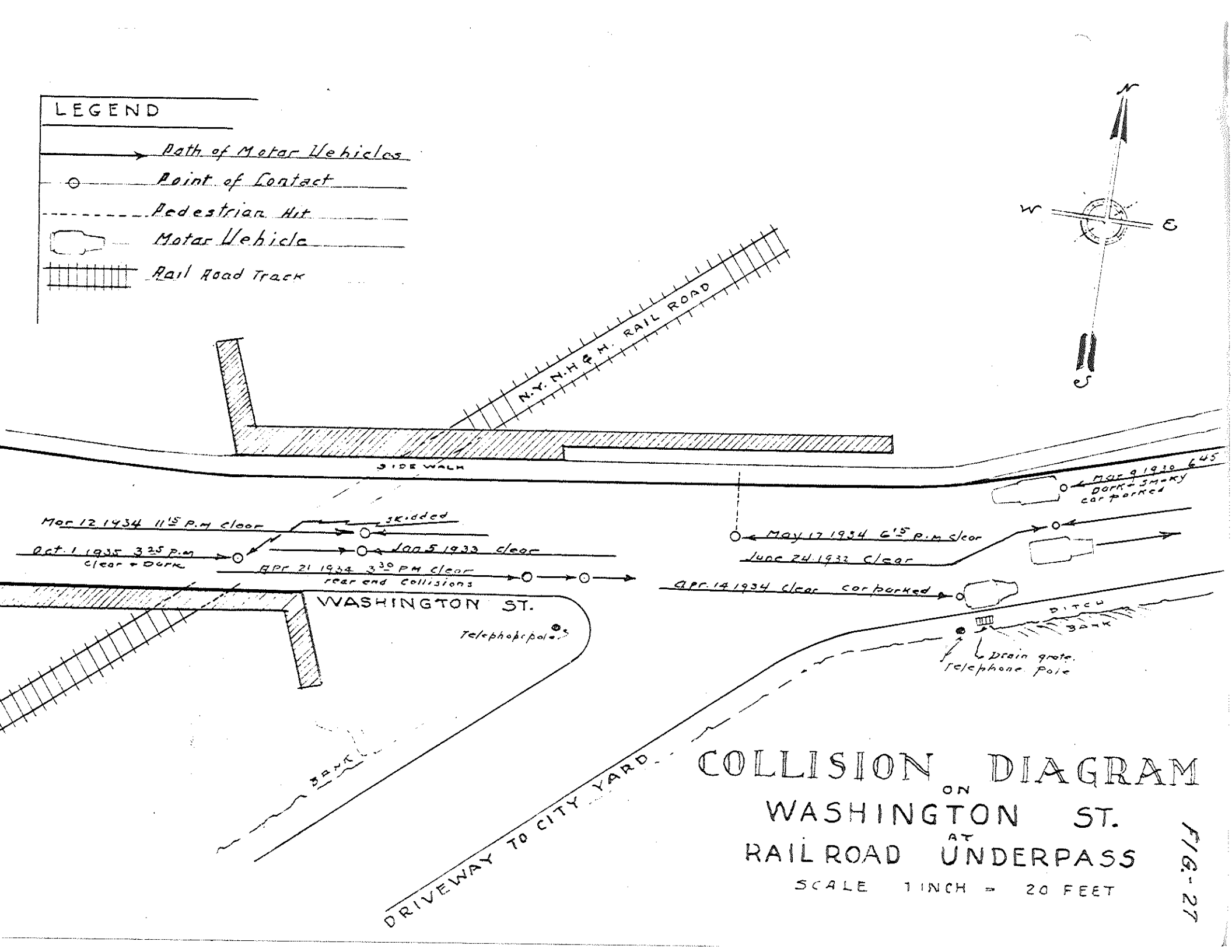
Fifty per cent of the accidents at this location were due to side swiping and to driving on the wrong side of the road. A study of the collision diagram Figure 27 will show that the slight curve and the narrowness of the road are important contributing conditions. Widening of the Underpass is the logical remedy, but if this is too expensive an undertaking, speed limiting signs should be placed at the approaches of the Underpass. The old trolley tracks should be removed as they are likely to cause skidding.

Connecticut River Bridge.

Approximately ninety percent of the accidents on the bridge were rear end collisions caused by skidding and following too closely, and ten per cent were due to defective equipment. At the present time the bridge is equipped with warning signs that the bridge is slippery when wet, but these signs are too small and not conspicuously placed. Better location of these signs plus the warning to keep thirty-five feet apart would undoubtedly decrease the accident hazard on the bridge.

GENERAL CONCLUSIONS:

It should be noted that twelve per cent of the accidents analysed were due to inattention of the driver, fifteen per cent due to failure to grant the right of way, eight per cent were



COLLISION DIAGRAM
ON
WASHINGTON ST.
AT
RAILROAD UNDERPASS

SCALE 1 INCH = 20 FEET

FIG. 27

caused by operating on the wrong side of the road, eighteen per cent were due to skidding, eighteen per cent were due to following the preceeding car too closely, nine per cent occurred when the operators made improper left turns in opposition to traffic, six per cent were due to defective equipment, and ten per cent occurred when operators backed carelessly.

This report clearly shows that about seventy-eight per cent of the accidents studied were caused by carelessness. In order to eliminate this large source of accidents, it is obvious that the public must become better acquainted with the principles of safe driving.

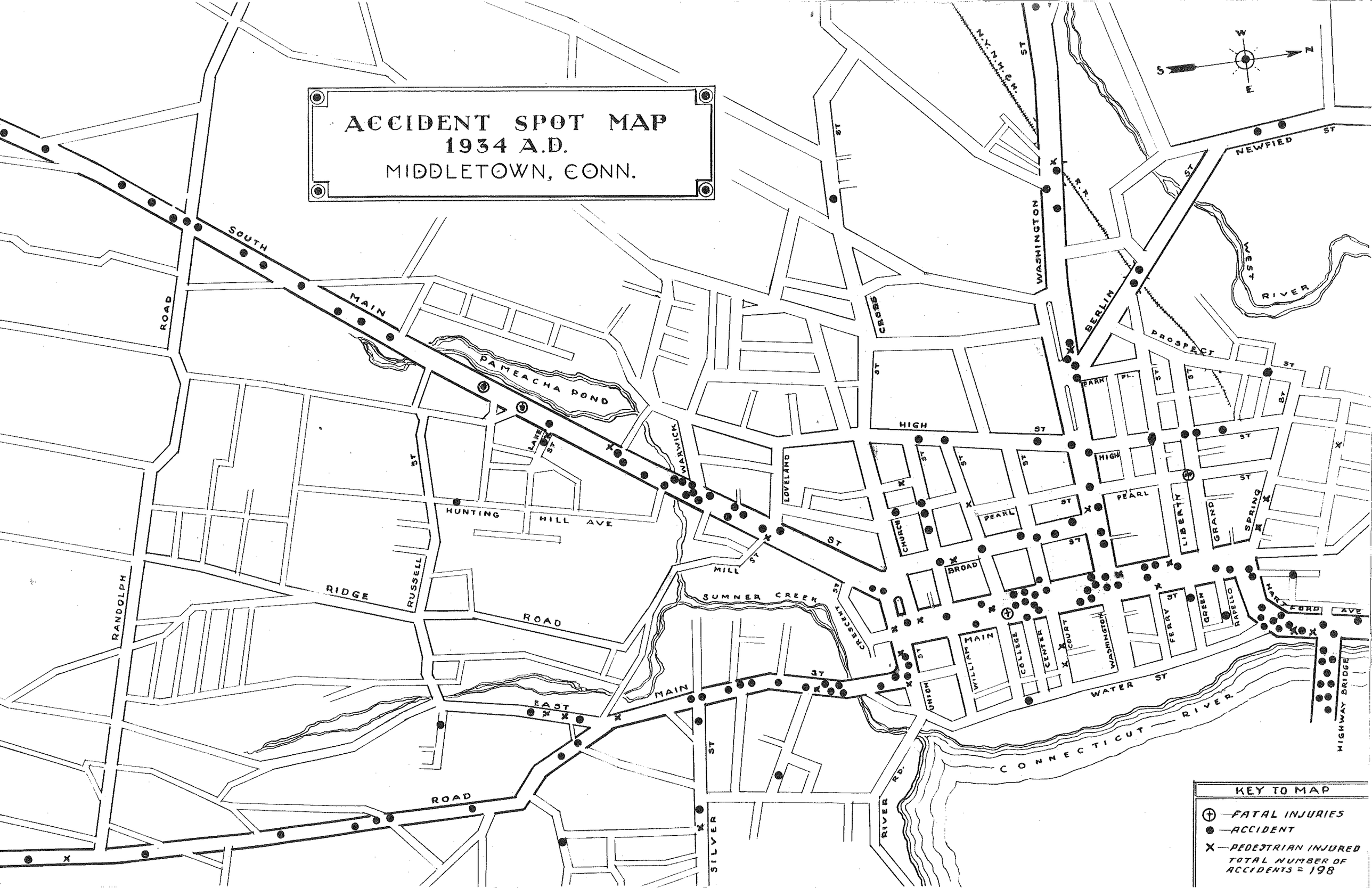
Accident Spot Map

In order to make this study as useful to the police as possible, an accident spot map was prepared showing the location of all accidents in the* Middletown records during the year 1934. On the small copy included on the next page these accidents are classified as fatal, pedestrian, and ordinary accidents, which may involve either property damage or personal injury. Since it was desirable to include a large territory on this comparatively small map, a uniform scale could not be used at all points.

A larger map prepared for the use of the police has colored tacks to indicate the various types of accidents. This will be displayed in a prominent position for continual reference by interested members of the department.

* The Motor Vehicle Department records contain 231 cases. A few unimportant ones were omitted.

ACCIDENT SPOT MAP
1934 A.D.
MIDDLETOWN, CONN.



KEY TO MAP

⊕ — FATAL INJURIES

● — ACCIDENT

✕ — PEDESTRIAN INJURED

TOTAL NUMBER OF ACCIDENTS = 198

SCHOOL CHILD TRAFFIC HABITS

School children are universally recognized as a community's greatest asset and everything possible should be done to protect them from traffic hazards. While the accident rate for school children in Middletown compares favor ably as far as we can determine with other cities, it is hoped that the facts revealed by this survey will show ways and means of still further improving the safety of Middletown children.

OBJECT:

A study of school child traffic habits was made to determine.

1. Data on good and bad habits of children walking to and from school, for use of school authorities in promoting safety practice.
2. The location of dangerous intersections.
3. The location and motorist observance of "STOP" and "SLOW" signs in the school district.
4. Motorist habits at the intersection in question.
5. Constructive suggestions to increase the safety of school children.

PROCEDURE:

A crew of men were stationed at all intersections within a quarter mile radius of the school during the school hours, one day being allotted to each school. The habits of the children were observed on the following points:

1. Crossing at corner.
2. Crossing in the middle of the block.
3. Walking in the street.
4. Playing in the street.

Motorists travelling thru these intersections were observed as to speeding, obedience of zone signs, and general safety practice.

DISCUSSION:

We will take up the figures obtained for each school or group of school separately.

Central School and Middletown High School

About 90% of these children have no dangerous habits in going to and from school. However 4% do cross in the middle of the block and 5% to 7% walk or play in the street. Thus, there are 10% of the children who do not properly conduct themselves to insure safety

In connection with the vehicle traffic it should be noted that from 12% to 14% do not obey "STOP" signs. This lack of observance is clearly dangerous and is discussed at length under "Stop Sign Observance".

A detailed study at the points of heaviest school child movement was made to determine the characteristics of the traffic on each individual street. It will be noticed by a study of the data sheets at the end of this section that the percentages vary considerably according to conditions. For instance, on College Street near Hamlin we have 43.2% of the children, crossing in the middle of the block, and walking or playing in the street. However on Hamlin near College, there are only 2.1% of the children, who do this. The most dangerous points near these schools due to the habits of the children and the traffic are:

1. Hamlin at College Street.
2. College at Pearl Street.
3. Pearl at College Street.
4. Pearl at Court Street.
5. Court at Pearl Street. (East)

There do not seem to be any corners in this district where the traffic is heavy enough to warrant the use of a Police officer but the use of "School-Boy" monitors would promote safety at the above intersections.

Johnson School

The degree of laxness relative to crossing in the middle of the block and walking or playing in the street is about the same here as at the Central School. The worst accident hazard in this district is at Liberty Street where 81 children a day cross Main Street. In the traffic signal section of this report, the removal of the Liberty Street signal is discussed, because of the low volume of cross traffic. While the number of children crossing here is small, they should have ample protection from the heavy Main Street traffic.

St. Mary's School

Here a large number of children are crossing in the middle of the block or walking in the street at the intersection of Hotchkiss and Church Streets and at Church and South Main Streets. This condition should be corrected by safety education.

Woodrow Wilson High School

The study of the conditions surrounding this school were hampered by the fact that very few streets have sidewalks and it is therefore necessary for the children to walk in the street. Walking in the street induces playing in the street and these facts must be borne in mind in studying the resulting data.

It is impossible to correct this condition fully without going to the expense of installing sidewalks. These children should be impressed with the fact that by walking in the street they increase the accident hazard, and therefore they should be unusually careful. The traffic on these streets is not heavy, but on Russell Street there is some speeding.

Hubbard School

On Silver Street at Elm, Wall Street at Silver, Walnut Street at Silver Street, and Silver Street at Evergreen Avenue, it can be noted that a large number of children are walking and playing in the streets. Since the traffic at these points is light and the children in the street are not in much danger, nevertheless, it should be eliminated so far as possible by safety education of the children.

St. John's School and McDonough School

Of the number of children observed going to and from these schools there were 221 walking in the street and 165 playing in the street. While this is only 10% of the children recorded, it is a large number and should be reduced to avoid accidents. A total of 386 children in the street every day affords plenty of chance for a serious accident.

The traffic density on the streets leading to these schools is q uite heavy.

Durant School

Of the intersections studied in this school district, there are only two which have sidewalks on the streets; Lake Street at Durant Terrace and South Main Street at Pameacha.

This would account for the large number of children walking

in the street. However, this condition is also true at Lake Street and Durant Terrace where there are sidewalks.

Evidently the children in this district get in the habit of walking in the street and do not use sidewalks even when there is opportunity to do so. Safety education as at the Wilson School is suggested.

The following summary gives a general idea of habits observed in each school district, and indicates what points should be stressed in a safety education program. Further details are given in the accompanying data.

SUMMARY

PERCENTAGE OF CHILDREN OBSERVED

IN VARIOUS STREET PRACTICES

SCHOOL ZONE	CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	NOTES
Central School and Middletown High	88.3	7.4	2.6	1.7	
Woodrow Wilson High School	29.5	.6	68.6	1.3	No Sidewalks
St. Mary's School	66.9	25.4	5.3	2.4	
Johnson School	89.9	6.6	1.8	1.7	
St. John's School and McDonough School	70.6	19.4	5.7	4.3	
Durant School	43.5	19.2	31.1	7.2	
Silver St. School	72.5	10.4	10.0	7.1	

SCHOOL STUDY

CENTRAL AND HIGH SCHOOLS

DATE Feb. 11, 1935.

		SCHOOL CHILDREN					TRAFFIC			
STREET	TIME	CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
WILLIAM AND HIGH	7:30-9:30	37		9		46		*		
	11:00-2:00	93		2		95	2	*	8	10
	2:30-4:00	28		3	2	33		*	2	2
HIGH AND CHURCH	7:30-9:30	69	2			71	4	62	198	264
	11:00-2:00	95	2		7	104	1	114	486	601
	2:30-4:00	82			2	84		38	213	251
COURT AND HIGH	7:30-9:30	226				226		*	147	147
	11:00-2:00	133	6	9	2	150	1	*	308	309
	2:30-4:00	80	2	1	2	85		*	216	216
WILLIAM AND BROAD	7:30-9:30	138				138	8	65	60	133
	11:00-2:00	246	1			247	35	140	182	357
	2:30-4:00	120				120	5	45	120	170
TOTALS		1347	13	24	15	1400	56	464	1940	2460
PER CENT		96.2%	.9%	3.8%	1.1%	100%	6.7%	14.8%	78.5%	100%

* No Sign

CENTRAL AND HIGH SCHOOLS — SCHOOL STUDY — DATE Feb. 11, 1935

		SCHOOL CHILDREN					TRAFFIC			
STREET	TIME	CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
CHURCH AT HUBBARD	7:30-9:30	168	22	8	4	202	10	5	66	81
	11:00-2:00	135	8	3	1	147	4	6	110	120
	2:30-4:00	123	5	4	3	135	1	3	53	57
COURT AND BROAD	7:30-9:30	186	13	2		201	2	75	172	249
	11:00-2:00	792	5		3	800	1	81	271	353
	2:30-4:00	257	9	1		267	2	27	135	164
COLLEGE AND HAMLIN	7:30-9:30	555	42	32	22	651	12	*	70	82
	11:00-2:00	1011	57	31	34	1133	22	*	132	154
	2:30-4:00	459	24	22	40	545	8	*	63	71
COLLEGE AND HAMLIN	7:30-9:30	119	2	29	3	153		*	124	124
	11:00-2:00	237	6	42	8	293		*	324	324
	2:30-4:00	114	2	8	10	134		*	145	145
TOTALS		4156	195	182	128	4661	62	197	1665	1924
PERCENT		87%	5.9%	4.1%	3%	100%	3.1%	10.2%	86.7%	100%

* No Sign

CENTRAL AND HIGHSCHOOLS

SCHOOL STUDY

DATE Feb. 11, 1935

STREET	TIME	SCHOOL CHILDREN					TRAFFIC			
		CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
COLLEGE AND PEARL	7:30-9:30	567	12	9		588		*	61	61
	11:00-2:00	1102	11	2	7	1122	1	*	51	52
	2:30-4:00	578	1	2	9	590	1	*	26	27
COURT AND PEARL	7:30-9:30	617	67	16	16	716	4	20	80	104
	11:00-2:00	1187	101	54	37	1379	8	22	97	127
	2:30-4:00	1086	58	35	14	1193	5	13	104	122
BROAD AND COLLEGE	7:30-9:30	368	12	6	77	463	17	44	95	156
	11:00-2:00	705	26	31	70	832	22	82	339	443
	2:30-4:00	372	10	11	14	407	10	47	133	190
CHURCH AND BROAD	7:30-9:30	71	9	10		90		27	126	153
	11:00-2:00	231	84	27	5	297		38	[illegible]	250
	2:30-4:00	96	11	16	5	128		22	85	107
TOTALS		6980	352	219	254	7805	68	315	1409	1792
PER CENT		89.3%	4.4%	2.6%	3.7%	100%	3.9%	12.3%	83.8%	100%

* No Sign

SCHOOL STUDY

CENTRAL AND HIGH SCHOOLS

DATE Feb. 11, 1935

STREET	TIME	SCHOOL CHILDREN					TRAFFIC			
		CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
WASHINGTON AT HIGH	7:30-9:30	70	51		2	123				
	11:00-2:00	76	79			155				
	2:30-4:00	61	19			80				
WASHINGTON AT BROAD	7:30-9:30	3	6			9				
	11:00-2:00	6	15			21				
	2:30-4:00	14	2			16				
WASHINGTON AT PEARL	7:30-9:30	237	11		3	251				
	11:00-2:00	241	2			243				
	2:30-4:00	100				100				
TOTALS		808	185		5	998				
PER CENT		80.9%	18.5%		.6%	100%				

NOTE: Traffic not taken with school count.
Recorded with volume count.

CENTRAL AND HIGH SCHOOLS — SCHOOL STUDY

DATE March 21, 1935.

STREET	TIME	SCHOOL CHILDREN: CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	DIAGONAL	TOTAL	TRAFFIC: SPEEDING	DO NOT OBEY SIGN	O.K.	TOTAL
COLLEGE AT HAMLIN (E)	7:30-8:00	13					13		*	5	5
	8:00-8:30	44	6				50			38	38
	8:30-9:00	7	7				14			12	12
	9:00-9:30									13	13
	11:00-11:30	5	1		7		13			7	7
	11:30-12:00	2			5		7			11	11
	12:00-1:00	36	30	8	5		79			37	37
	1:00-1:30	46	19	1	4		70			22	22
	1:30-2:00	3					3			5	5
	2:30-3:00	4	11	1			16			9	9
	3:00-3:30	4	12				16			12	12
	3:30-4:00	16	11	3			30			7	7
TOTALS		180	97	13	21		311			178	178
PER CENT		59.8%	32.2%	4.2%	6.8%		100%			100%	100%
COLLEGE AT HAMLIN (W)	7:30-8:00	5			2		7	1	*	7	8
	8:00-8:30	14		2			16			11	11
	8:30-9:00	4	1				5			19	19
	9:00-9:30									13	13
	11:00-11:30	4	12		4		20	1		11	11
	11:30-12:00	3	14				17			14	14
	12:00-1:00	1	12		6		19			27	27
	1:00-1:30	2	11		2		15			13	13
	1:30-2:00									13	13
	2:30-3:00		2				2		2	7	9
	3:00-3:30	5	12		4		21			11	11
	3:30-4:00		7		9		16			3	3
TOTALS		38	71	2	27		138	2	2	149	153
PER CENT		27.5%	51.4%	1.5%	19.6%		100%	1.3%	1.3%	97.4%	100%

CENTRAL AND HIGH SCHOOLS

SCHOOL STUDY

DATE March 21, 1935

		SCHOOL CHILDREN						TRAFFIC			
STREET	TIME	CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	DIAG-ONAL	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
COLLEGE AT PEARL (W)	7:30-8:00	2	1			2	5			10	10
	8:00-8:30	8	54			6	68			53	53
	8:30-9:00	4	14			3	21			14	14
	9:00-9:30									11	11
	11:00-11:30	5					5			6	6
	11:30-12:00	23	19				42	1		30	31
	12:00-1:00	22	33				55			70	70
	1:00-1:30	14	59		11		84			43	43
	1:30-2:00		7				7			22	22
	2:30-3:00	13	21				34	1		20	21
	3:00-3:30	2	11				13	1		29	30
	3:30-4:00	14	43				57			11	11
TOTALS		107	262		11	11	391	3		319	322
PER CENT		27.4%	68.0%		2.3%	2.3%	100%	.9%		99.1%	100%
PEARL AT COLLEGE (N)	7:30-8:00	11					11			4	4
	8:00-8:30	52	46				98			8	8
	8:30-9:00	8	4				12			9	9
	9:00-9:30									6	6
	11:00-11:30	12					12			9	9
	11:30-12:00	8	1				9			5	5
	12:00-1:00	41	44				85			13	13
	1:00-1:30	48	32		8		88			3	3
	1:30-2:00	9	1				10			4	4
	2:30-3:00	10	33				43			6	6
	3:00-3:30	4	32				36			5	5
	3:30-4:00	40	46	7			93			6	6
TOTALS		243	239	7	8		497			78	78
PER CENT		48.9%	48.0%	1.5%	1.6%		100%			100%	100%

CENTRAL AND HIGH SCHOOLS

SCHOOL STUDY

DATE March 21, 1935

		SCHOOL CHILDREN						TRAFFIC			
STREET	TIME	CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	DIAG-ONAL	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
PEARL AT COURT (N)	7:30-8:00	2	4				6			10	10
	8:00-8:30	6					6			10	10
	8:30-9:00	2					2		3	6	9
	9:00-9:30								1	7	8
	11:00-11:30									6	6
	11:30-12:00								4	9	13
	12:00-1:00	15	2				17		1	20	21
	1:00-1:30	7					7		2	8	10
	1:30-2:00							1	1	13	15
	2:30-3:00	18			3		21			8	8
	3:00-3:30	2					2			4	4
	3:30-4:00	6			2		8			8	8
TOTALS		58	6		5		69	1	12	109	122
PER CENT		84.0%	8.6%		7.4%		100%	.9%	9.8%	89.3%	100%
PEARL AT COURT (S)	7:30-8:00	15					15		7	7	14
	8:00-8:30	27					27		12	16	28
	8:30-9:00	5					5		10	4	14
	9:00-9:30								3	6	9
	11:00-11:30	2					2		7	10	17
	11:30-12:00	1					1		4	7	11
	12:00-1:00	66	64	10		75	215		12	17	29
	1:00-1:30	84	27				111		5	8	13
	1:30-2:00								3	6	9
	2:30-3:00	67	25	6	2	44	144		6	14	20
	3:00-3:30	49	11	2		13	75		2	5	7
	3:30-4:00	12	4			3	19		4	6	10
TOTALS		328	131	18	2	135	614		75	106	181
PER CENT		53.4%	21.3%	2.7%	.3%	22.3%	100%		41.4%	58.6%	100%

SCHOOL STUDY

CENTRAL AND HIGH SCHOOLS

DATE March 21, 1935.

		SCHOOL CHILDREN						TRAFFIC			
STREET	TIME	CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	DIAG-ONAL	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
HAMLIN AT COLLEGE (S)	7:30-8:00	20					20			2	2
	8:00-8:30	311	12				323	1		17	18
	8:30-9:00	103					103			4	4
	9:00-9:30									4	4
	11:00-11:30	106			9		115			11	11
	11:30-12:00	95			10		105			8	8
	12:00-1:00	301			3		304			10	10
	1:00-1:30	382			6		388			3	3
	1:30-2:00	36		2	3		41			2	2
	2:30-3:00									3	3
	3:00-3:30	44		1			45			5	5
	3:30-4:00	314			1		315				
TOTALS		1712	12	3	32		1759	1		69	70
PER CENT		97.9%	.6%	.2%	1.3%		100%	1.4%		98.6%	100%

COLLEGE AT PEARL (E)	7:30-8:00	12	2				14			10	10
	8:00-8:30	48					48			8	8
	8:30-9:00	22					22			15	15
	9:00-9:30	3					3			14	14
	11:00-11:30	2					2			8	8
	11:30-12:00	20					20			20	20
	12:00-1:00	94					94			67	67
	1:00-1:30	37			10		47			25	25
	1:30-2:00	3					3			27	27
	2:30-3:00	9					9			23	23
	3:00-3:30	28		4	5		37			28	28
	3:30-4:00	30					30			28	28
TOTALS		308	2	4	15		329			273	273
PER CENT		93.6%	.6%	1.2%	4.6%		100%			100%	100%

CENTRAL AND HIGH SCHOOLS — SCHOOL STUDY — DATE March 21, 1935

		SCHOOL CHILDREN						TRAFFIC			
STREET	TIME	CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	DIAG-ONAL	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
COURT AT PEARL (E)	7:30-8:00	16		3		8	27		2	17	19
	8:00-8:30	49				97	146	1	4	23	28
	8:30-9:00	15				3	18		4	21	25
	9:00-9:30							2	1	13	16
	11:00-11:30	5					5	1		20	21
	11:30-12:00	3					3			11	11
	12:00-1:00	88	5	2		107	202		1	24	25
	1:00-1:30	31				73	104			20	20
	1:30-2:00	1					1	1		9	10
	2:30-3:00	59	2	3		51	115	2		19	21
	3:00-3:30	16	2	1	2	15	36			12	12
	3:30-4:00	17				6	23			21	21
TOTALS		300	9	9	2	360	680	7	12	210	229
PER CENT		44.1%	1.3%	1.3%	.3%	52%	100%	3%	5.2%	91.8%	100%

PEARL AT COLLEGE (S)	7:30-8:00	1	3				4		*	7	7
	8:00-8:30	11	28	5			44			12	12
	8:30-9:00	4	12				16			9	9
	9:00-9:30									4	4
	11:00-11:30									4	4
	11:30-12:00	7					7				
	12:00-1:00	25	43				68				
	1:00-1:30	8	34				42				
	1:30-2:00	1	2				3				
	2:30-3:00		23				23				
	3:00-3:30		9				9				
	3:30-4:00		70	3	3		76				
TOTALS		57	224	8	3		292			36	36
PER CENT		19.5%	76.9%	2.4%	1.2%		100%			100%	100%

* No sign.

JOHNSON SCHOOL

SCHOOL STUDY

DATE March 12, 1935

		SCHOOL CHILDREN					TRAFFIC			
STREET	TIME	CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
MAIN AT GRAND	7:30-9:30	19	14			33	54	*	274	328
	11:00-2:00	66	19	4		89				
	2:30-4:00	41	7	1	7	56				
MAIN AT FERRY	7:30-9:30	40	3			43	20	*	262	282
	11:00-2:00	73	4	1	2	80	1		1	2
	2:30-4:00	56	4	1	1	62				
MAIN AT HFD. AVE	7:30-9:30	155	11	2	2	170		*		
	11:00-2:00	260	29	29	12	330				
	2:30-4:00	136	11	14	2	163				
SPRING AT MAIN	7:30-9:30	71				71				
	11:00-2:00	168	3			171				
	2:30-4:00	122				122				
TOTALS		1207	105	52	26	1390	75		537	612
PER CENT		86.8%	8.5%	3.2%	1.5%	100%	12.3%		87.7%	100%

* No Sign

JOHNSON SCHOOL

SCHOOL STUDY

DATE March 12, 1935

STREET	TIME	SCHOOL CHILDREN					TRAFFIC			
		CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
N.MAIN AT MAIN	8:00-9:15	127	19			146				
	11:00-2:00	303	3	5		311				
	2:45-4:00	214	2	2		218				
GREEN AT MAIN	8:00-9:15	74			8	82		*		
	11:00-2:00	148	14		2	164				
	2:45-4:00	63	18			81				
RAPALLO AT MAIN	8:00-9:15	71				71		*		
	11:00-2:00	168	3			171				
	2:45-4:00	122				122				
MAIN AT LIBERTY	8:00-9:15	8	3		4	15	50	9*	240	299
	11:00-2:00	36	6		13	55				
	2:45-4:00	9	2			11				
TOTALS		1343	70	7	27	1447	50	9	240	299
PER CENT		93.0%	4.8%	.5%	1.7%	100%	15.7%	3.9%	80.4%	100%

* No Sign

ST. MARY'S SCHOOL

SCHOOL STUDY

DATE March 20, 1935

STREET	TIME	CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEEDING	DO NOT OBEY SIGN	O.K.	TOTAL
HOTCH-KISS AT CHURCH	8:00-9:00	39	20	6	2	67	4	8	107	119
	11:30-1:00	69	26	7	2	104	30	20	258	308
	2:30-4:00	62	16	10	1	89	7	8	194	209
CHURCH AT S.MAIN	8:00-9:00	44	18	2	1	65		4	14	18
	11:30-1:00	173	58	24	17	272				
	2:30-4:00	87	30	10	2	129				
WARWICK AT OAK	8:00-9:00		4			4		*	25	25
	11:30-1:00		13	1		14	3		86	89
	2:30-4:00		6			6	1			1
OAK AT WARWICK	8:00-9:00	5				5		*	12	12
	11:30-1:00	5	7	1		13			17	17
	2:30-4:00	8	4			12			19	19
TOTALS		492	202	61	25	780	45	40	732	817
PER CENT		63.2%	25.8%	7.7%	3.3%	100%	5.7%	4.8%	89.5%	100%

* No Sign

ST. MARY'S SCHOOL

SCHOOL STUDY

DATE March 20, 1935

STREET	TIME	SCHOOL CHILDREN					TRAFFIC			
		CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEEDING	DO NOT OBEY SIGN	O.K.	TOTAL
LOVELAND AT HUBBARD	8:00-9:00	33	11			44			14	14
	11:30-1:15	91	32		1	124	5		52	57
	2:30-4:00	36	3		3	42			33	33
HUBBARD AT LOVELAND	8:00-9:00	28		8		36	1		16	17
	11:30-1:15	20	28	2		50			36	36
	2:30-4:00	7	14			21			23	23
LOVELAND AT HIGH	8:00-9:00	3				3	3	*	13	16
	11:30-1:15	22				22			40	40
	2:30-4:00	10				10			30	30
HIGH AT LOVELAND	8:00-9:00	6				6	3	*	29	32
	11:30-1:15	12	7			19	3		104	107
	2:30-4:00	5	3	..	2	10	5		76	81
TOTALS		273	98	10	6	387	20		466	486
PER CENT		70.6%	25.1%	2.9%	1.4%	100%	4.1%		95.9%	100%

* No Sign

WILSON HIGH SCHOOL

SCHOOL STUDY

DATE Feb. 13, 1935

STREET	SCHOOL CHILDREN					TRAFFIC			
	CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
DURANT ST HUNTING HILL			210	5	215		*	105	105
RUSSELL ST RIDGE ROAD	27		369		396	8	*	440	448
RUSSELL ST HUNTING HILL	430		173	21	632		*	366	366
RUSSELL ST FM.HILL ROAD	142	8			150	26	*	591	617
SOUTH MAIN NORFOLK ST			95		95	27	*	898	925
FRONT ST RUSSELL ST			311		311		*	190	190
RANDOLPH RD E. RIDGE RD			16		16	3	*	78	81
RANDOLPH RD RIDGE ROAD			58		58	2	118	162	282
RIDGE ROAD NEWTON ST			157		157			152	152
TOTALS	599	8	1389	26	2022	66	118	2982	3166
PER CENT	29.5%	.6%	68.6%	1.3%	100%	1.5%	5.4%	94.1%	100%

HOURS TAKEN - SCHOOL CHILDREN 8:00-9:30
2:30-4:00

TRAFFIC 8:30-11:30
1:30- 3:30

* No S ign

SUBJECT: SCHOOL

SCHOOL STUDY

DATE March 15, 1935.

STREET	TIME	SCHOOL CHILDREN					TRAFFIC			
		CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEEDING	DO NOT OBEY SIGN	O.K.	TOTAL
E. MAIN AT SILVER	8:00-9:00	88				88				
	11:00-1:00	153				153				
	2:30-4:00	107				107				
ELM AT SILVER	8:00-9:00	12				12		*	5	5
	11:00-1:00	21				21			3	3
	2:30-4:00	9				9				
SILVER AT ELM	8:00-9:00	18	4	5	5	32		*	9	9
	11:00-1:00	18	5	5	4	32			16	16
	2:30-4:00	9	4	4		17			19	19
WALL AT SILVER	8:00-9:00			19		19		*	10	10
	11:00-1:00			1		1			18	18
	2:30-4:00			4		4			4	4
TOTALS		435	13	38	9	495			84	84
PER CENT		87.8%	2.7%	7.2%	2.3%	100%			100%	100%

* No Sign

SUTRAM SCHOOL

SCHOOL STUDY

DATE March 15, 1965

STREET	TIME	SCHOOL CHILDREN					TRAFFIC			
		CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
SILVER AT WAL.	8:00-9:00	13	19		5	37	6	*	84	90
	11:30-1:00	2	5	3		10	14		121	135
	2:30-4:00	5	22			27	7		126	133
SILVER AT WALNUT	8:00-9:00						5	*	84	89
	11:30-1:00						21		109	130
	2:30-4:00	1				1	6		97	103
WALNUT AT SILVER	8:00-9:00	28	2	2		32		*	13	13
	11:30-1:00	71	9	12	6	98	1		47	48
	2:30-4:00	44	2	11	5	62			37	37
SILVER AT EVERGREEN	8:00-9:00	19	1	2	1	23	3	*	14	17
	11:30-1:00	13	2	9	6	30			25	25
	2:30-4:00	13		5	3	21			25	25
TOTALS		209	62	44	26	341	63		782	845
PER CENT		61.3%	18.1%	12.8%	7.8%	100%	7.5%		92.5%	100%

* No Sign

Referring to the major traffic infractions, there were 101 cases in 1934 as compared with 89 cases in 1933 with a slightly high percentage of convictions than in 1934. Note that in 1934 42% of the minor violators were fined while 76% of the major violators were convicted, indicating a much higher degree of enforcement in the major cases. A more detailed study of the major traffic infractions can be made by referring to the accompanying tables.

Comparing the percentage of fines collecting for overtime parking in the years 1933 a nd 1934, the data shows that in 1933 87% of those apprehended were required to pay the fine while in 1934 only 37% paid the fine. This indicates that during the past year there has been some slackness in the enforcement of the overtime parking regulations, and a very unsatisfactory situation has developed because the 37% who were fined knew that many others had been able to avoid it. The clerk of the court who collects the fines for this offense has had a very difficult job because of the terrific pressure exerted by parking violators trying to avoid payment of the present two dollar fine.

In other cities a one dollar fine which has to be paid by every one regardless of their position and influence in the community has proved to be more satisfactory.

It is recommended that the fine for all parking violations be reduced to one dollar and that no fines be remitted except by the order of the court. This recommendation has already been adopted by the Board of Police Commisssioners and is now in effect. Under the new plan the clerk of the courts position becomes much easier.

ANALYSIS OF ENFORCEMENT OF MAJOR TRAFFIC INFRACTIONS (1934)

	Fined or Paid Costs	Nolled	Not Guilty	Total Cases	Per cent Convicted	Case Involving Accidents
Violations-Rules of the road	28	2	1	31	90%	16
Operating under the Influence	15	1		16	94%	6
Operating without a license	9	1		10	90%	4
Speeding	3	1		4	75%	
Evading Responsibility	5	4		9	55%	6
Reckless Driving		5	2	7		9
Violation Motor Vehicle Law	1	1		2	50%	1
Overloading	2			2	100%	
Defective Brakes	8	1		9	89%	4
Failure to Grant Right of Way	1			1	100%	1
Overcrowding		1		1		1
Homicide with Motor Vehicle		3		3		3
Operating without Signaling Device	2			2	100%	
Not endorsing operator's license	1			1	100%	
Not carrying operator's license	1			2	50%	
Parked in front of Hydrant	1			1	100%	
TOTAL	77			101	76%	51

ANALYSIS OF ENFORCEMENT OF MAJOR TRAFFIC INFRACTIONS (1933)

	Fined or Paid Costs	Nolled	Not Guilty	Total Cases	Percent Convicted	Case Involving Accidents
Violations-Rules of the rd.	14	5	1	20	70%	8
Operating under the inf.	16			16	100%	6
Operating without license	10			10	100%	2
Reckless driving	2	7	1	10	22%	11
Speeding	7	1		8	87%	
Violation Motor Vehicle Law	9	4		13	70%	1
Defective Brakes	2	1		3	66%	1
Evading Responsibility	2	2	1	5	40%	4
Failure to grant right of way		4		4		2
TOTAL	62	24	3	89	70%	35

THE TRAFFIC SIGNAL SYSTEM

For a number of years it has been recognized that the present traffic signal system does not adequately handle Main Street traffic. Traffic control is essentially a problem of keeping traffic moving continuously by arranging it in an orderly procession and eliminating all unnecessary stops. The speed at which traffic may move safely should be determined by the physical condition of the streets, block lengths, and density of traffic. The timing intervals now used have been adopted after years of experience with Main Street traffic and they probably are the best that can be obtained with the existing equipment, most of which is now about ten years old.

This study had three definite objectives:

1. To analyse each Main Street intersection to find out whether or not the present traffic signals are needed and if there are any intersections where traffic signals should be added.
2. To discover if any improvement can be accomplished with existing equipment both with and without the addition of new equipment.
3. To consider the application and total cost of new equipment permitting a continuous moving flow of traffic throughout the entire length of Main Street.

After considering all the phases of traffic movement on Main Street, it has been decided that all traffic signals as now installed are necessary with the possible exception of Liberty Street where a stop sign has been proposed instead of the signal, which was installed about a year ago, shortly after a serious pedestrian accident at this point. The Johnson school studies indicates that approximately 80 school children necessarily cross Main Street at Liberty Street each school day in going to and from school. It

does not seem advisable to leave them without some form of protection in crossing Main Street at a point which averages nearly 11, 000 cars a day, second only to Washington Street in volume of traffic. See traffic flow map. Therefore, unless a traffic officer can be assigned to Liberty Street during the school hours it would be better to let the signal remain.

When the Main Street extension has been completed, the traffic characteristics at the Union Street intersection will be quite different from those observed in this survey. As near as can be estimated, four to five thousand cars a day will travel straight ahead at this intersection. At present, there are 4600 cars a day entering from or leaving to Pleasant Street, which will be unaffected by the change. A large portion of the present Union Street traffic will be carried by the new extension leaving the Union Street traffic at an estimated two to three thousand cars a day. Obviously some form of traffic regulation will be required at this intersection preferably a traffic signal.

If this suggestion is adopted, it is recommended that a green arrow be installed coinciding with the red signal for south bound Main Street traffic to allow right turns against the red light. Thus all traffic from Main Street to South Main Street would be uninterrupted. The physical layout of the intersection is excellent for this arrangement.

Another point where a green arrow could be used to advantage is at Washington Street allowing south bound Main Street traffic to make a right turn against the red signal. The adoption of this suggestion would not create a serious accident hazard because the

amount of pedestrian traffic crossing Main Street on the north side of Washington Street is comparatively light. Should these suggestions be followed, it will be necessary to eliminate two or three parking spaces so that the right turning traffic can travel closer to the curb before turning.

The present signal equipment consists of a 1500 watt timer with four signals located at Washington Street, Court Street, College Street, and William Street operating to-gether on the same time cycle and a 550 watt timer operating the two signals at Grand Street and Liberty Street to-gether on the same time cycle. There is no relation between the two timers or means of synchronizing them in any way to permit a continuous flow of traffic.

These two timers contain a series of automatically operated switches which throw the green, amber, and red signals on and off in a predetermined cycle. Additional equipment could not be installed to synchronize them.

The 1500 watt timer operates the four principal signals on the following time cycle; Green 55 seconds, amber overlapping gree 3 seconds, red 25 seconds, amber overlapping red 3 seconds. The total period of the cycle and the proportion of red to green can be changed at will.

With existing equipment it would be possible to accomplish progressive travel from William Street through Washington Street by reversing the connections at two of the signals, say at Colleg and at William Street in such a way that these two signals would show red when the other two signals showed green. The total perio

would then have to be approximately 90 seconds with 45 seconds red and 45 seconds green which would allow continuous travel thru these four blocks at approximately 20 miles per hour. The principal objection to this time cycle is that it necessitates the same green and red time for the cross streets as for Main Street. A longer or shorter period could be used, but in any case it would have to be the same for both the green and the red lights and 45 seconds has been determined as about the best time interval. This change would not synchronize these lights for continuous travel with those at Liberty and Grand Streets, but it would eliminate the necessity of the thru motorist making more than one stop in passing thru the four principal signals. While the above plan is not recommended as a permanent or entirely satisfactory solution, it might be worth a trial pending the purchase of new equipment which would accomplish the same result thruout the entire length of Main Street with flexible control.

New Equipment for Continuous Traffic Movement

In considering a traffic signal system for continuous movement, it has been assumed that a signal will be necessary at the intersection of Main and Union Streets as soon as Main Street extension has been completed. Then if the whole system of seven lights was not synchronized, a motorist would frequently be stopped as many as four times in passing from one end of Main Street to the other, in which case he would require about 215 seconds to make the trip. A synchronized system permitting continuous travel at twenty miles per hour would at the most require 145 seconds, a saving of 70 seconds per car. It is estimated that from 2000 to

2500 cars a day pass through Main Street without stopping except to obey signals. Obviously a continuous system would save a great deal of time and contribute a great deal toward motoring ease and satisfaction in the course of a year. The time spent waiting for signals on Main Street plus the idling expense for gasoline now costs the motoring public at least twenty thousand dollars a year more than it would with a continuous system.

A number of technical advantages are: The bands of continuously moving traffic would tend to eliminate traffic tie-ups due to the accumulation of cars waiting for traffic signals. Vehicular speeds could be instantly controlled to meet varying conditions from police headquarters where the master timer would be located. The system would ordinarilly be set for an average speed of about twenty miles per hour, and cars travelling too fast would soon be stopped by a red signal while cars travelling too slow would not be able to make the signals. A thru motorist would be required to make only one stop or possible none at all depending on whether or not he approached the first signal at the right time. Main Street would more easily handle a large volume of traffic. Sundays, when practically all of the traffic travels straight through the lights could be set for a higher average speed. Should it be necessary cross streets carrying different amounts of traffic could be given a different time split.

With the proposed system, an amber signal could be used following or overlapping the green signal only. This would be a great improvement over the present sequence because the amber signal would only be used to warn cars in motion that a change was coming.

Cars at a standstill waiting at a red light would not receive an amber signal following the red, which encourages starting before the green light actually appears.

A schematic wiring diagram of the equipment required for progressive travel of Main Street traffic is shown on Figure 28. With this arrangement the signals could be operated in pairs with one secondary timer for each pair, except for the signal at Union St., thus saving of the cost of three secondary timers. The master control is used to keep the secondaries in their proper relation to each other, giving complete control of the entire system from one point. Normally the master control would be located at police headquarters and secondary controls would be pole-mounted at desired points on the street.

Figure 29, is a space-time graph showing the proposed setting of the timers to produce a progressive movement of traffic on Main Street at twenty miles per hour. With these settings it would be possible for the last car of a given group to enter the intersection twenty seconds after the first car had started and still make all the lights. Technically, this is called a twenty second band which is considered very satisfactory. Under heavy traffic conditions it usually takes a maximum of fifteen seconds to clear an intersection of traffic after the signal has turned green, therefore twenty seconds provides ample leeway for extreme conditions.

The horizontal solid lines on the graph indicate the time period of the red signals at each intersection. The parallel diagonal lines indicate the bands of traffic flowing on Main Stree

SCHEMATIC WIRING DIAGRAM FOR PROGRESSIVE TRAFFIC CONTROL

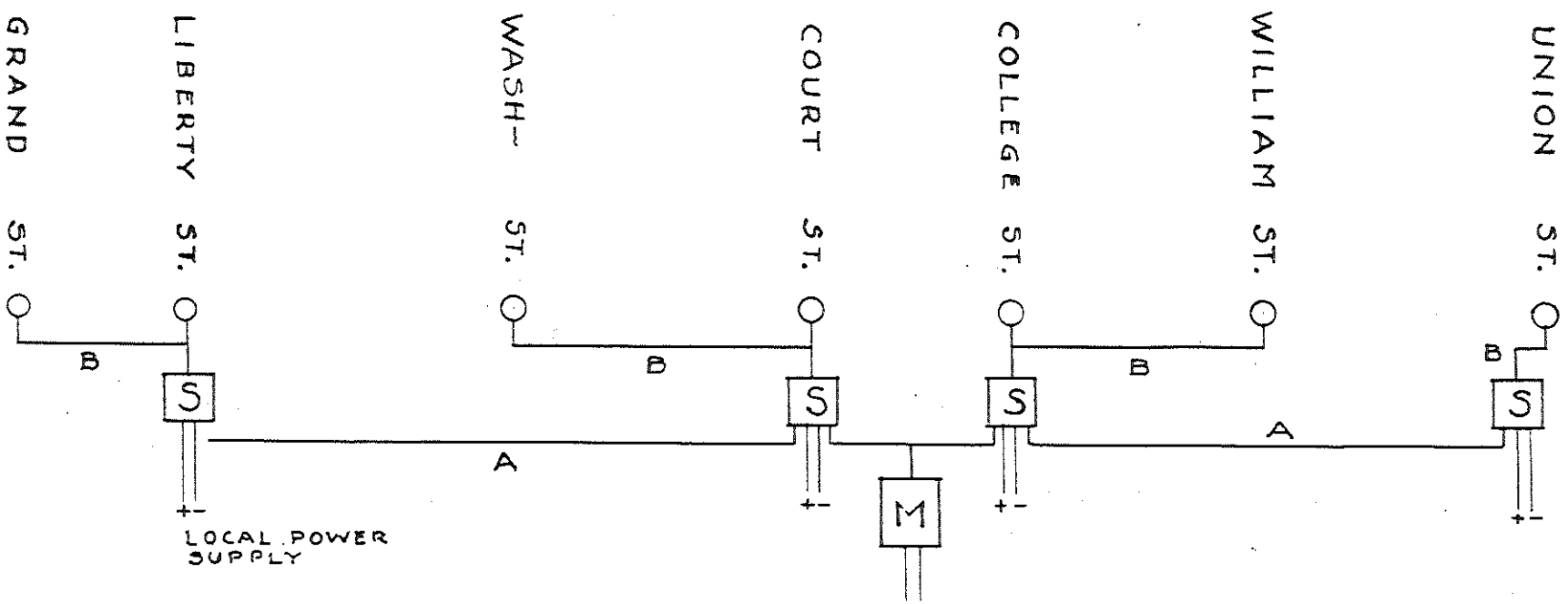


FIG-28

LEGEND

○	TRAFFIC SIGNAL
S	SECONDARY TIMER – POLE MOUNTED
M	MASTER TIMER AT POLICE HEADQUARTERS
A	7-CONDUCTOR INTERCONNECTING CABLE
B	7-CONDUCTOR SIGNAL CABLE

OUTPOST SCHOOL

SCHOOL STUDY

DATE March 15, 1965

STREET	TIME	SCHOOL CHILDREN					TRAFFIC			
		CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
SILVER AT WAL.	8:00-9:00	13	19		5	37	6	*	84	90
	11:30-1:00	2	5	3		10	14		121	135
	2:30-4:00	5	22			27	7		126	133
SILVER AT WALNUT	8:00-9:00						5	*	84	89
	11:30-1:00						21		109	130
	2:30-4:00	1				1	6		97	103
WALNUT AT SILVER	8:00-9:00	28	2	2		32		*	13	13
	11:30-1:00	71	9	12	6	98	1		47	48
	2:30-4:00	44	2	11	5	62			37	37
SILVER AT EVERGREEN	8:00-9:00	19	1	2	1	23	3	*	14	17
	11:30-1:00	13	2	9	6	30			25	25
	2:30-4:00	13		5	3	21			25	25
TOTALS		209	62	44	26	341	63		762	845
PER CENT		61.3%	18.1%	12.8%	7.8%	100%	7.5%		92.5%	100%

* No Sign

ST. JOHN'S AND MCDONOUGH SCHOOLS SCHOOL STUDY

DATE Feb. 6, 1935

STREET	SCHOOL CHILDREN					TRAFFIC			
	CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
SPRING-ROME AVE.	650	43	25	21	744		*	345	345
SPRING PEARL	758	192	60	48	1067			283	283
STACK PEASE AVE	319	28	12		359		*	208	208
SPRING PEASE AVE	575	395	107	68	1145			249	249
SPRING - HIGH	193	38	8	13	252			479	479
STACK HIGH	55				55			255	255
N.MAIN STACK	151	5		7	163		22	745	767
STACK GROVE	90	56	9	8	163		*	195	195
TOTALS	2791	737	221	165	3935		22	2759	2781
PER CENT	70.6%	19.4%	3.7%	4.3%	100%		.8%	99.2%	100%

HOURS TAKEN - SCHOOL CHILDREN 7:45-9:30
12:00-2:00
2:45-4:00

TRAFFIC 8:30-11:30
1:30- 3:30

*No Sign

DURANT SCHOOL

SCHOOL STUDY

DATE March 19, 1935

		SCHOOL CHILDREN					TRAFFIC			
STREET	TIME	CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
LAKE AT DURANT TERRACE	8:00-9:00	20	3	20		43		*	7	7
	11:30-1:00	25	6	21	7	59			23	23
	2:30-4:00	14	6	21	2	43			17	17
LAKE AT HUNTING HILL	8:00-9:00	2	1	66	6	75	10	*	18	28
	11:30-1:00	9		9	3	21	11		4	15
	2:30-4:00	2		20		22	6		10	16
DURANT AT DURANT TERRACE	8:00-9:00	21	2	11		34	3	*	7	10
	11:30-1:00	16	2	1		19	1		12	13
	2:30-4:00	22	1	3		26			7	7
HUNTING HILL AT SO. MAIN	8:00-9:00	1				1		*	27	27
	11:30-1:00								15	15
	2:30-4:00	29				29			16	16
TOTALS		161	21	172	18	372	31		163	194
PER CENT		43.6%	6.1%	46.2%	4.1%	100%	16.%		84%	100%

* No Sign

DURANT SCHOOL

SCHOOL STUDY

DATE March 19, 1935

STREET	TIME	SCHOOL CHILDREN					TRAFFIC			
		CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEEDING	DO NOT OBEY SIGN	O.K.	TOTAL
HUNTINGHILL AND BIRDSEY	8:00-9:00			54		54	3	*	19	22
	11:30-1:00			10		10			16	16
	2:30-4:00			52		52			18	18
LAKE AND BIRDSEY	8:00-9:00	11	30	16	3	60		*	9	9
	11:30-1:00	27	74	17		118			33	33
	2:30-4:00	32	30	20		82			17	17
S.MAIN AT PAMEACHA	8:00-9:00	49				49		4	27	31
	11:30-1:00	39	1			40		5	42	47
	2:30-4:00	29	6			35		13	43	56
S.MAIN AT LAKE	8:00-9:00	29	9	11		49		*	15	15
	11:30-1:00	8	38	8		54			32	32
	2:30-4:00	16	28	24		68			29	29
TOTALS		240	216	212	3	671	3	22	300	325
PER CENT		35.7%	32.1%	31.8%	.4%	100%	.8%	6.8%	92.4%	100%

* No Sign

DURANT SCHOOL

SCHOOL STUDY

DATE March 19,1935

STREET	TIME	SCHOOL CHILDREN					TRAFFIC			
		CROSS AT CORNER	CROSS MIDDLE BLOCK	WALKING IN STREET	PLAYING IN STREET	TOTAL	SPEED-ING	DO NOT OBEY SIGN	O.K.	TOTAL
S.MAIN AT DURANT	8:00-9:00	40	6	4	2	52	7	*	26	35
	11:30-1:00	23	4	4		31	7		39	46
	2:30-4:00	39	5	11	2	57	4		45	49
DURANT AT HUNTING HILL	8:00-9:00	12	2	39	5	58	4	*	9	13
	11:30-1:00	19	2	13		34	7		26	33
	2:30-4:00	16	7	16		39	6		18	24
DURANT AT BIRDSEY	8:00-9:00	8	14	6		28	4	*	9	13
	11:30-1:00	24	12	9		45			17	17
	2:30-4:00	5	8	5		18			7	7
TOTALS		186	60	107	9	362	39		198	237
PER CENT		51.3%	16.5%	32.2%		100%	16.5%		83.5%	100%

* No Sign

LAW ENFORCEMENT ANALYSIS

Law enforcement of both minor and major traffic violations is naturally a most important phase of any system of traffic regulation for lax enforcement of good regulations will completely nullify the benefits to be derived from them. Obviously, proper enforcement by the courts goes hand in hand with the work of the Police and the proper functioning of one is of little use without the proper functioning of the other.

OBJECT:

The object of this analysis was to determine how many traffic violations had been reported by the police during the years 1933 and 1934 and how these had been disposed of by the courts.

A ll information on these points was taken from the police records and tabulated on the following sheets into two general classifications. First, minor traffic infractions which were handled by the collection of a fine by the clerk of the court, second, major traffic infractions which because of their na ture were court cases.

A study of the following tabulation of the minor infractions indicates that more violators were apprehended during the year 1934 than in 1933, but that fewer fines were collected in 1934. In 1933, 190 fines were collected out of 239 violations, a total of approximately 80%, while in 1934, 127 fines were collected out of 304 infractions, a total of 42%. The percentage fined for each type of minor infraction is given in the a ccompanying tables, if more detailed analysis is desired.

ANALYSIS OF ENFORCEMENT OF MINOR TRAFFIC INFRACTIONS (1934)

VIOLATIONS	FINED $2.	FINED $1.	NOLLED	PENDING	TOTAL	PER CENT FINED
Overtime Parking	53	17	84	25	189	37%
Improper Parking	3	1	2	3	9	44
Double Parking	14	3	12	5	34	50
Parking on Cross Walk		1		1	2	50
Parking in Restricted Area	6	3	4	10	23	40
Parking on Wrong Side of Street	1			16	17	6
Obstructing Drive-Way	2		2	1	5	40
Passing Stop Sign	15	3	5	1	24	75
Passing Signal	5				6	83
TOTAL	99	28	109	72	304	42

ANALYSIS OF ENFORCEMENT OF MINOR TRAFFIC INFRACTIONS (1933)

VIOLATIONS	FINED	NOLLED	PENDING	TOTAL	PER CENT FINED
Overtime Parking	87	12		100	87%
Double Parking	29	7		39	80
Passing Stop Sign	11	1		12	91
Parking in Restricted Area	10	3		13	76
Improper Parking	21	10		31	68
Parked on Wrong Side of Street	32	12		44	73
TOTAL	190	45		239	79.5

Referring to the major traffic infractions, there were 101 cases in 1934 as compared with 89 cases in 1933 with a slightly high percentage of convictions than in 1934. Note that in 1934 42% of the minor violators were fined while 76% of the major violators were convicted, indicating a much higher degree of enforcement in the major cases. A more detailed study of the major traffic infractions can be made by referring to the accompanying tables.

Comparing the percentage of fines collecting for overtime parking in the years 1933 a nd 1934, the data shows that in 1933 87% of those apprehended were required to pay the fine while in 1934 only 37% paid the fine. This indicates that during the past year there has been some slackness in the enforcement of the overtime parking regulations, and a very unsatisfactory situation has developed because the 37% who were fined knew that many others had been able to avoid it. The clerk of the court who collects the fines for this offense has had a very difficult job because of the terrific pressure exerted by parking violators trying to avoid payment of the present two dollar fine.

In other cities a one dollar fine which has to be paid by every one regardless of their position and influence in the community has proved to be more satisfactory.

It is recommended that the fine for all parking violations be reduced to one dollar and that no fines be remitted except by the order of the court. This recommendation has already been adopted by the Board of Police Commisssioners and is now in effect. Under the new plan the clerk of the courts position becomes much easier.

FIG-29

SPACE TIME GRAPH
FOR
PROGRESSIVE TRAVEL ON MAIN ST.
GRAND ST. TO UNION ST.

SPEED—20 MILES PER-HR.
TOTAL PERIOD = 75 SEC.
= STOP

	OFFSET	SPLIT	
		SECONDS	PERCENT
UNION ST.	0	45/30	60/40
WILLIAM ST.	47	45/30	60/40
COLLEGE ST.	47	45/30	60/40
COURT ST.	0	45/30	60/40
WASH'G'T'N ST.	0	45/30	60/40
LIBERTY ST.	47	55/20	74/26
GRAND ST.		55/20	74/26

FIRST CAR NORTH BOUND
LAST CAR NORTH BOUND
20 MILES PER-HR.
20 MILES PER-HR.
FIRST CAR SOUTH BOUND
LAST CAR SOUTH BOUND

DISTANCE IN FEET: 3400, 3200, 3000, 2800, 2600, 2400, 2200, 2000, 1800, 1600, 1400, 1200, 1000, 800, 600, 400, 200, 0

TIME IN SECONDS: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180

in both directions. Technically, the slope of these traffic bands is an exact measure of the speed of the vehicles passing along the street. The steeper the slope of the bands, the faster the speed and vice versa. With this signal sequence note that it is impossible for a vehicle to travel much too fast or much too slow without immediately running into a red signal. At the same time, there is enough leeway to allow for momentary delays or ordinary variations in speed. Between Washington Street and Grand Street a faster rate of travel possibly 25 miles per hour would be desirable and this can be accomplished under the proposed plan without difficulty.

COSTS

None of the present equipment can be used except the signals and the signal cable. One new signal would have to be purchased for Union Street unless it is decided to move the Liberty Street signal to this point. The plan illustrated in Figure 28 calls for one master timer, four secondary timers, one traffic signal, two auxiliary green arrow signals for Washington and Union Streets and 2500 feet of No. 12 seven conductor cable.

Quotations obtained from the manufacturer of the city's present equipment, and estimates on the installation cost supplied by the Connecticut Power Company indicate that the total cost of the above equipment and its installation would be approximately $2000.00 Complete correspondence on this subject is on file at the office of the Director of Public Works.

MOTORIST OBEDIENCE OF SIGNALS

Careful observance of signals by all motorists is absolutely essential to the safe movement of vehicles and pedestrians thru an intersection. Minor violations such as jumping the amber lights are responsible for a large percentage of the accidents occurring at intersections controlled by signals.

This study was made with two definite objectives. First, to determine the percentage of cars entering the intersection on each phase of the signal cycle. Second, to determine the percentage of potential violators by considering only those who approach the intersection at a time when the signal could be disobeyed. For example, the majority of cars waiting for the signal to turn green are not necessarily in the front row and therefore, they are not in a position to jump the signal. The same is true at the other phases of the signal cycle.

For the first study every car was recorded as it entered the intersection according to the light showing at that time. Three Main Street intersections were checked between the hours of 10 A.M. and 4 P.M.

The average percentage of cars entering on each phase of the signal for the three intersections are as follows. For further details refer to the accompanying data sheet.

	Middletown	Average for Connecticut Cities
Enter on Green	95.6%	94.9%
" on Amber after Green	2.0%	1.9%
" on Red	.9%	1.9%
" on Amber before Green	1.5%	1.3%

Comparing these results with those obtained by the department of Motor Vehicles in 1934 in representative cities of the state as

listed in the right hand column above, Middletown's obedience is slightly better than the state average, particularly obedience of the red light.

The second part of the study involving only potential violators brings out the amber light obedience much better because it shows the percentage of motorists who would disobey the amber light if they were in a position to do so. Observers counted only those cars in the front row waiting for the green light, and those cars who could deliberately enter the amber after the green light when they had plenty of time to stop.

Table of Potential Disobedience

	Amber before Green	Amber after Green
Entering Cars	26%	39%
Strict Obedience	74%	61%

It is evident that a large number of motorists are potential violators and particularly significant that 26% jump the green light when they are at a standstill and have no occasion to do so. The 39% who entered the amber after the green can be excused to some extent because the purpose of this amber is to clear the intersection. A publicity campaign or an enforcement campaign by the police to reduce the violations of the amber signals would do much to reduce the accident hazard at the principal Main Street intersections.

If a new signal system is installed as suggested in another section of this report, the wiring at these signals can be changed to show amber after the green only which will greatly reduce the number of cars who jump the green light. The light will then change directly from red to green, and if the lights are properly shielded no warning of the green light will be given until it actually appears. This is now universally recognized as the best sequence

VEHICLE OBSERVANCE OF "STOP" AND "GO" SIGNS

HOURS-10 A.M.-4 P.M. MAIN STREET DATE Jan. 3, 1935.

	ENTER ON GREEN				AMBER AFTER GREEN				RED				AMBER BEFORE GREEN				
INTER-SECTION	LEFT	STR.	RT.	TOTAL	LEFT	STR.	RT.	TOTAL	LEFT	STR.	RT.	TOTAL	LEFT	STR.	RT.	TOTAL	TOTAL
East on Wash.	160	186	131	477	17	13	6	36	1	2		3	14	7		21	537
West on Wash.	594	82	610	1286	13	2	15	30	22	1	7	30	1			1	1347
North on Main	87	2082	516	2685	3	63	19	85	1	25	9	35	1	35	15	51	2856
South on Main	396	1902	175	2473	7	33		40	5	8	2	15	11	41	2	54	2582
TOTAL	1237	4252	1432	6921	40	111	40	191	29	36	18	83	27	83	17	127	7322
East on Court	52	39	76	167	7	4	3	14		1	2	3					184
West on Court	215	25	202	442	2		10	12	1		2	3	2	1		3	460
North on Main	97	2338	270	2705		5	2	7	1	12	2	15	6	54	8	68	2795
South on Main	365	2813	258	3436	29	88	2	119	15	37	1	53	17	78	2	97	3705
TOTAL	729	5215	806	6750	38	97	17	152	17	50	7	74	25	133	10	168	7144
East on College	58	28	56	142					1			1					143
West on College	149	16	94	259	2		1	3			1	1	1			1	264
North on Main	45	2644	166	2855	1	33	2	36		17	2	19					2910
South on Main	77	2484	30	2591	1	17	1	19	1	13	1	15		6		6	2631
TOTAL	329	5172	346	5847	4	50	4	58	2	30	4	36	1	6		7	5948
PER CENT				95.6%				2.0%				.9%				1.5%	

PEDESTRIAN OBEDIENCE OF SIGNALS

The traffic lights are designed for two purposes, to control traffic and to control pedestrians. Naturally, their efficiency depends to a great extent on the observance of these lights by the vehicles and pedestrians. To determine the percentage of pedestrians who obey the traffic lights, a detailed study was made on Main Street at the corners of Liberty, Washington, Court, College and William Streets.

Four observers were stationed at each intersection with one man at each corner. Each observer picked out one pedestrian at a time, watched the light as he stepped from the curb, noted whether the light changed or not during the pedestrian's progress across the street, its color when he reached the opposite sidewalk and whether the pedestrian was hampered by traffic.

DISCUSSION:

In analysing the figures shown in the accompanying tables it should be remembered that the unfavorable lights for the pedestrian at the start of the crossing are amber after green, and red. A person stepping from the curb on amber after green is sure to be caught in the path of the traffic after three seconds, when the light turns red. Stepping into the street against the red signal is a direct violations of the traffic rules, and a dangerous practice.

The following condensed tabulation will give a clear understanding of the essentials. For further details refer to the accompanying tables

INTERSECTION	STREET	PERCENTAGE OF PEDESTRIANS STEPPING FROM CURB ON AMBER AFTER GREEN	RED
Main and Liberty	Main	0	37
	Liberty	3	52
Main and Washington	Main	1	29
	Washington	4	33
Main and Court	Main	3	16
	Court	6	32
Main and College	Main	4	24
	College	7	30
Main and William	Main	2	18
	William	8	44
AVERAGE		3.8	31.5%

This summary shows that while the percentage of people stepping from the curb on amber after green is small, the number starting to cross on red is large, averaging 24.8% on Main Street and 38.2% on the east-west streets. These crossings are in driect violation of traffic rules, dangerous to the crossing pedestrians interfere with traffic, and constitute a traffic hazard which should be removed.

It is possible to a djust the signals for a longer amber or walk period, but because of the width of Main Street such a change would be of little value unless a much longer period, say 12 to 15 seconds, were used. If pedestrians could be educated to start only on the green light, their crossings would be made with no danger.

The present traffic light system is amply able to take care of the pedestrian flow. But the public should be educated by a program of publicity, calling their attention to the hazards of present observance of the traffic lights.

MAIN AND COURT STS.

PEDESTRIAN OBSERVANCE OF "STOP" AND "GO" SIGNALS

DATE March 2, 1935
TIME 2 P.M. - 4 P.M.

STREET	STEPS FROM CURB ON	REACHED OPPOSITE SIDE ON					NO INTERFERENCE FROM VEHICLES		WITH INTERFERENCE FROM VEHICLES		TOTAL
		SAME GREEN	AMBER	RED	AMBER	NEXT GREEN	CROSSED STRAIGHT	CROSSED DIAGONAL	CROSSED STRAIGHT	CROSSED DIAGONAL	
MAIN (North)	Green	69	1	5			61	4	5	5	75
	Amber Aft. Green			1		1	1		1		2
	Red				2	24	31	3	4	3	41
	Amber Aft. Red					2	1	1			2
MAIN (South)	Green	62	3	4	4		63	6	3	1	73
	Amber Aft. Green		2	2	1	1	5		1		6
	Red			9	3	13	20	1	3	1	25
	Amber Aft. Red				2	2	2	1		1	4
COURT (East)	Green	124	24	1			123	3	23		149
	Amber Aft. Green		4	20	2		24		2		26
	Red			63	7		54	3	18		75
	Amber Aft. Red				3	7	10				10
COURT (West)	Green	104	5				101	1	7		109
	Amber Aft. Green			1			1				1
	Red			56	6	1	58	3	2		63
	Amber Aft. Red				3	6	9				9

PEDESTRIAN OBSERVANCE
OF
"STOP" AND "GO" SIGNALS

MAIN AND COLLEGE STS.

DATE March 2, 1935
TIME 10 A.M.-12 Noon

STREET	STEPS FROM CURB ON	REACHED OPPOSITE SIDE ON					NO INTERFERENCE FROM VEHICLES		WITH INTERFERENCE FROM VEHICLES		TOTAL
		SAME GREEN	AMBER	RED	AMBER	NEXT GREEN	CROSSED STRAIGHT	CROSSED DIAGONAL	CROSSED STRAIGHT	CROSSED DIAGONAL	
MAIN (North)	Green	45	8	4			43	12	2		57
	Amber Aft. Green		1	2			3				3
	Red			17	3	17	21	2	3	6	37
	Amber Aft. Red					1			1		1
MAIN (South)	Green	48	5	3			43	9	3	1	56
	Amber Aft. Green		1	2	1	3	4	2		1	7
	Red			15	4	30	27	5	11	6	49
	Amber Aft. Red		3		3					3	3
COLLEGE (East)	Green	107	10	5			113	1	8		122
	Amber Aft. Green			15	1		15		1		16
	Red			41	6	8	49		6		55
	Amber Aft. Red				15	—	15				15
COLLEGE (West)	Green	89	5	6			86	4	10		100
	Amber Aft. Green			11			11				11
	Red			54	13	3	57	8	5		70
	Amber Aft. Red				2	6	7		1		8

MAIN AND WILLIAM STREETS

PEDESTRIAN OBSERVANCE OF "STOP" AND "GO" SIGNALS

DATE March 12, 1935
TIME 4 P.M. - 6 P.M.

STREET	STEPS FROM CURB ON	REACHED OPPOSITE SIDE ON					NO INTERFERENCE FROM VEHICLES		WITH INTERFERENCE FROM VEHICLES		TOTAL
		SAME GREEN	AMBER	RED	AMBER	NEXT GREEN	CROSSED STRAIGHT	CROSSED DIAGONAL	CROSSED STRAIGHT	CROSSED DIAGONAL	
MAIN (North)	Green	51	3	3			51	3	2	1	57
	Amber Aft. Green			1	1		1	1			2
	Red			6		5	10	1			11
	Amber Aft. Red					2	2				2
MAIN (South)	Green	28		4	3		26	9			35
	Amber Aft. Green										
	Red			15		2	16	1			17
	Amber Aft. Red										
WILLIAM (East)	Green	76	7	16	5	5	93	13	3		109
	Amber Aft. Green		5	13	2	2	13	7	1	1	22
	Red			70	11	21	87	14		1	102
	Amber Aft. Red				8	8	10	4	1	1	16
WILLIAM (West)	Green	38					36	1	1		38
	Amber Aft. Green			5			5				5
	Red			58			49	8	1		58
	Amber Aft. Red				3	2	5				5

PEDESTRIAN OBSERVANCE
OF
"STOP" AND "GO" SIGNALS

MAIN AND WASHINGTON STS.

DATE March 2, 1935
TIME 4 P.M. - 6 P.M.

STREET	STEPS FROM CURB ON	REACHED OPPOSITE SIDE ON					NO INTERFERENCE FROM VEHICLES		WITH INTERFERENCE FROM VEHICLES		TOTAL
		SAME GREEN	AMBER	RED	AMBER	NEXT GREEN	CROSSED STRAIGHT	CROSSED DIAGONAL	CROSSED STRAIGHT	CROSSED DIAGONAL	
MAIN (North)	Green	38	1	4			36	2	4	1	43
	Amber Aft. Green			1	1	3	5				5
	Red			16	6	23	37	1	7		45
	Amber Aft. Red										
MAIN (South)	Green	39	2	13	1		49	1	5		55
	Amber Aft. Green		4	2			5	1			6
	Red			17	4	28	31	4	13	1	49
	Amber Aft. Red										
WASHINGTON (East)	Green	113	11	5			92	8	29		129
	Amber Aft. Green		3	9			9		3		12
	Red			75	3		55	1	23		79
	Amber Aft. Red				1	8	8		1		9
WASHINGTON (West)	Green	60	7	1			62	4	2		68
	Amber Aft. Green			1			1				1
	Red			21	5	3	19	6	2		27
	Amber Aft. Red					3	2	1			6

Main and Liberty - Green Sts.

PEDESTRIAN OBSERVANCE OF "STOP" AND "GO" SIGNALS

DATE March 12, 1935
TIME 2 P.M. - 4 P.M.

STREET	STEPS FROM CURB ON	REACHED OPPOSITE SIDE ON					NO INTERFERENCE FROM VEHICLES		WITH INTERFERENCE FROM VEHICLES		TOTAL
		SAME GREEN	AMBER	RED	AMBER	NEXT GREEN	CROSSED STRAIGHT	CROSSED DIAGONAL	CROSSED STRAIGHT	CROSSED DIAGONAL	
MAIN (North)	Green	14	5				9	7		3	19
	Amber Aft. Green										
	Red			4			2	2			4
	Amber Aft. Red										
MAIN (South)	Green	16		2			15	1	2		18
	Amber Aft. Green										
	Red			18			16	2			18
	Amber Aft. Red										
GREEN (East)	Green	389	169				535	23			558
	Amber Aft. Green										
	Red										
	Amber Aft. Red										
LIBERTY (West)	Green	50	2	1			44	7	2		53
	Amber Aft. Green		1	3			4				4
	Red			61	3	3	61	5	1		67
	Amber Aft. Red				2	1	2		1		3

BOULEVARD STOP SIGN OBSERVANCE

A large number of boulevard stop signs are located at street intersections in Middletown to secure greater safety for converging cars. This study was made to determine how well these signs were being obeyed by the motorist.

In order to secure accurate data, the observer was stationed a small distance away from the sign and usually sat in a car to prevent his being seen by the motorist. The conduct of the drivers was divided into three classes, no stop, slow, and stop. Several of these locations were checked at daylight, dusk and dark to find out if the time of day influenced stop sign obedience.

The accompanying data sheets show a large number of cars which did not stop or which merely slowed down. The average percentage of obedience for all boulevard stop signs observed was:

	Middletown	Average of 40 Cities in Connecticut
No Stop	24%	8.5%
Slow	53%	19.4%
Complete Stop	23%	72.1%

Comparing these figures with those obtained by the Motor Vehicle Department in forty different municipalities during 1934, Middletown is far behind other cities in the state in boulevard stop sign obedience. Only 23% of the motorists in Middletown come to a complete stop as compared with the state average of 72%. In Middletown, 24% make no pretense of stopping as compared with 8½% for the state. However, 53% in Middletown slow down thereby observing safety practice to some extent.

Intersections showing the highest percentage of stop sign disobedience are:

	NO STOP	SLOW	STOP
Pameacha Ave. at Highland Ave.	26	52	22
High Street at Liberty	19	74	7
Pearl Street at Spring	10	80	10
Pearl Street at Grand	47	33	20
Center Street at Water	33	42	25

There does not appear to be any great difference in the percentage of observance for daylight, dusk and dark, except a tendency toward less stirct observance after dark.

This overwhelming lack of stop sign obedience in Middletown obviously creates an accident hazard which must be eliminated. Cars on thru streets guarded by stop signs expect crossing motorists to stop and do not exercise as much caution as they otherwise would. Therefore, stop signs which are not being observed are worse than no stop signs at all. These signs should be either enforced or removed.

STOP SIGN OBSERVANCE

LOCATION	DAYLIGHT NO STOP	DUSK NO STOP	DARK NO STOP	DAYLIGHT SLOW	DUSK SLOW	DARK SLOW	DAYLIGHT STOP	DUSK STOP	DARK STOP
Court at Water	15	25	29	46	50	42	39	25	39
Center at Water	30	25	45	35	68	33	35	17	22
College at Water	--	--	--	78	100	100	22	--	--
Ferry at Water	37	40	35	43	47	45	20	13	20
William at Water	26	--	*	50	*	*	24		*
Hamlin at Church	25	*	*	50	*	*	25	*	*
Hubbard at Church	21	*	*	54	*	*	25	*	*
Hubbard at Loveland	23	50	--	46	38	--	31	12	--
Hotchkiss at Church	26	--	38	48	75	50	26	25	12
Loveland at South Main	33	38	30	18	24	50	49	38	20
Mill at South Main	23	--	33	51	33	67	26	67	--
Burr Ave. at South Main	--	--	50	42	100	17	58	--	33
South at Sumner	12	--	--	45	75	57	43	25	43
Pease Ave. at Spring	--	--	--	50	83	78	50	17	22
Baldwin at Washington	--	--	--	94	100	25	6	--	75

STOP SIGN OBSERVANCE

LOCATION	DAYLIGHT NO STOP	DUSK NO STOP	DARK NO STOP	DAYLIGHT SLOW	DUSK SLOW	DARK SLOW	DAYLIGHT STOP	DUSK STOP	DARK STOP
Pameacha Ave. at Highland Ave.	24%	25%	33%	55%	50%	67%	21%	25%	--
High at Church	12	15	15	25	17	19	63	68	66
High at Washington	20	*	*	51	*	*	29	*	*
High at Liberty	20	16	22	68	78	76	12	6	2
High at Grand	22	24	20	52	29	55	26	47	25
High at Spring	22	*	*	55	*	*	23	*	*
High at Stack	18	*	*	50	*	*	32	*	*
Pearl at Washington	20	*	*	40	*	*	40	*	*
Pearl at Liberty	16	*	*	53	*	*	31	*	*
Pearl at Grand	36	55	49	28	32	39	36	13	12
Pearl at Spring	10	7	14	79	81	79	11	12	7
Broad at Church	25	30	35	39	40	41	36	30	24
Broad at Court	2	2	7	59	66	47	38	32	46
Broad at Washington	27	30	31	39	37	38	34	33	31
Washington at Water	18	17	14	57	50	57	25	33	29

STOP SIGN OBSERVANCE

LOCATION	DAYLIGHT NO STOP	DUSK NO STOP	DARK NO STOP	DAYLIGHT SLOW	DUSK SLOW	DARK SLOW	DAYLIGHT STOP	DUSK STOP	DARK STOP
North Main at Spring	7	2	5	24	22	25	69	76	70
Butternut at Washington	--	--	--	58	100	100	42	--	--
Vine at Washington	22	17	25	41	50	58	37	33	17
Silver at E. Main	8			54			38		
S. Green at Pleasant St.	17			41			42		
Crescent St. at S. Main	14			50			36		
Hunting Hill Ave. at S. Main	20			42			38		
Pameacha Ave. at S. Main	24			43			43		

* No figures

STUDY OF U-TURNS

An unusual feature of Middletown's traffic is the number of U-turns made on Main Street. The average city does not and cannot allow reverse turns on their main thoroughfare. But Middletown with its very wide street can do so, although many people question the desirability of this privilege.

This study was made to determine, the number of these turns, their object, whether or not they were dangerous, and the extent to which they impeded traffic flow.

During the business hours of one week-day and two Saturdays, men were stationed, two to each block, to record the number of U-turns on the sheets provided for that purpose. Each car making a reverse turn was watched to find out whether it turned to park or to reverse direction, to-gether with the number of cars delayed by the turn and the length of time that they were delayed.

DISCUSSION OF RESULTS:

From the accompanying data it is evident that there were a very large number of U-turns on Main Street, both on week-days and Saturdays, the average number of U-turns per hour being 152. Of this number 30% turn to park and 70% to reverse direction. During the 18 hours studied there were 2559 cars held up by 678 of the U-turning cars, which is 21% of the total. The remaining 79% did not impede traffic. The average number of cars delayed at one time was four and the delay averaged five seconds. Most U-turns were made from 3 to 5 P.M. On Saturday nights the peak comes at 8 to 9 P.M.

Ordinarily, U-turning cars do not hold up traffic as much as might be supposed, but they do constitute a menace to safety especially during periods of heavy traffic. The one hour parking limit just put in force may decrease these turns, because more parking spaces will be available and hence the number of cars turning to park will be decreased.

Three courses of procedure are open. First, all U-turns can be eliminated with no provision for turning around. Second, all U-turns can be eliminated and green arrows installed to allow right turns on the red signal, thus making it easy for traffic to go around the block. Third, U-turns can be permitted at designated points such as at or near intersections when the Main Street signals are red.

The first two possibilities do not offer a real satisfactory solution, because of the unusual length of Middletown's blocks. The third might be adapted to Main Street by creating U-turn zones at the end of each block. A double white stop line could be placed about 20 feet from the pedestrian cross walk which would create a lane between cars waiting for the signal and the crosswalk, for cars wishing to make U-turns. It is recommended that serious consideration be given to this plan.

SUMMARY OF

Saturday — U-TURN COUNT ON MAIN STREET — March 2, 1935

BLOCK	PURPOSE	A.M. 11-12	P.M. 1-2	2-3	3-4	4-5	5-6	Total
From Liberty St. To Washington St.	Park	6	10	11	10	9	7	53
	Reverse	14	11	16	14	15	9	79
	Total	20	21	27	24	24	16	132
From Washington St. To Court St.	Park	12	15	11	8	11	11	68
	Reverse	38	21	22	25	30	39	175
	Total	50	36	33	33	41	50	243
From Court St. To College St.	Park	11	8	3	4	7	6	39
	Reverse	40	33	33	33	48	42	229
	Total	51	41	36	37	55	48	268
From College St. To William St.	Park	16	18	9	13	11	16	83
	Reverse	34	23	33	36	48	40	214
	Total	50	41	42	49	59	56	297
TOTAL		171	139	138	143	179	170	940

Total Cars Observed	930	Average Time Cars Held Up	8 Sec.
No. Holding Up Traffic	153	No. Turned To Park	243
Average No. Cars Held Up	3	No. Turned To Reverse	687

SUMMARY OF

Thursday — U-TURN COUNT ON MAIN STREET — March 28, 1935

		A.M.			P.M.					
		10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	Total
From Spring St. To Liberty St.	Park	11	10	6	6	12	6	18	10	79
	Reverse	12	16	10	14	10	10	14	13	99
	Total	23	26	16	20	22	16	32	23	178
From Liberty St. To Washington St.	Park	11	7	10	10	9	12	7	11	77
	Reverse	16	18	20	21	19	27	31	28	180
	Total	27	25	30	31	28	39	38	39	257
From Washington St. To Court St.	Park	15	31	20	19	26	24	21	16	172
	Reverse	48	71	37	56	37	54	31	49	383
	Total	63	102	57	75	63	78	52	65	555
From Court St. To College St.	Park	6	7	7	7	8	8	8	9	60
	Reverse	4	3	15	14	13	11	11	12	83
	Total	10	10	22	21	21	19	19	21	143
From College St. To William St.	Park	13	10	12	10	9	5	12	6	77
	Reverse	12	12	16	7	13	13	21	12	106
	Total	25	22	28	17	22	18	33	18	183
From William St. To Pleasant St.	Park	6	7	5	6	4	11	7	7	53
	Reverse	11	8	9	11	11	24	14	12	100
	Total	17	15	14	17	15	35	21	19	153
TOTAL		165	200	167	181	171	205	195	185	1469

Total Cars Observed 1459
No. Holding Up Traffic 344
Average No. Cars Held Up 4

Average Time Cars Held Up 4 Sec.
No. Turned To Park 517
No. Turned To Reverse 942

SUMMARY OF

U-TURN

Saturday — U-TURN COUNT ON MAIN STREET — March 29,1935

BLOCK	PURPOSE	P.M. 6-7	7-8	8-9	9-10	Total
From Spring St.	Park	8	12	7	5	32
To Liberty St.	Reverse	13	14	14	15	56
	Total	21	26	21	20	88
From Liberty St.	Park	7	12	6	3	28
To Washington St.	Reverse	17	33	27	11	88
	Total	24	45	33	14	116
From Washington St.	Park	20	15	14	12	61
To Court St.	Reverse	45	48	70	49	212
	Total	65	63	84	61	273
From Court St.	Park	9	5	2	3	19
To College St.	Reverse	13	14	24	13	64
	Total	22	19	26	16	83
From College St.	Park	12	4	4	4	24
To William St.	Reverse	34	34	32	15	115
	Total	46	38	36	19	139
From William St.	Park	12	8	4	1	25
To Pleasant St.	Reverse	14	21	26	8	69
	Total	26	29	30	9	94
TOTAL		204	220	230	139	794

Total Cars Observed	794	Average Time Cars Held Up	4 Sec.
No. Holding Up Traffic	181	No. Turned to Park	189
Average No. of Cars Held Up	4	No. Turned to Reverse	604

SPEED STUDIES

Motor vehicle speeds have increased with the development of automobiles and roads to a point undreamed of ten or fifteen years ago. This has increased accidents to an alarming extent and has made high accident locations out of roads which were formerly considered perfectly safe. Therefore, it is important for the police of every city to know the speed habits of the public at all points in their city.

The purpose of this study was to make speed checks at selected points and to classify passing vehicles as to type and speed.

Observers using stop watches and 45 degree mirrors were stationed at the various points for periods ranging from two hours up. The box containing the 45 degree mirror located 176 feet from the observer indicated the passage of a vehicle by a flash. In this way, the time required for each car to travel 176 feet could be accurately measured with a stop watch and the speed calculated. Speeds were measured at thirteen key points in the city, their locations being recorded on the accompanying data sheets.

For the purpose of classification, vehicle speeds were divided into the following groups: 0-25 miles per hour, 25-35 miles per hour, 35-45 miles per hour, and 45-55 miles per hour. Whenever possible, the speed of every passing vehicle was measured but in cases where the traffic was too heavy vehicles were selected at random.

South Main Street

At Highland A venue and South Main Str eet 49% of the passenger cars were travelling from 35 to 45 miles per hour and 15% from 45 to 55 miles per hour. A speed of 45 miles per hour or over is too high at this point. Furthermore, the light and heavy trucks have a tendency to travel too fast at this location.

At St. Mary's School on South Main Street 26% of the passenger vehicles were travelling between 35-45 miles per hour, which is a little too high for safe city driving. A bout the same situation or worse exists at Hunting Hill Avenue, Pameacha Avenue and at Lake Street on South Main Street.

Russell Street

There is some speeding at Russell Street near the Wilson High School but it could be classified as excessive since only 12% of the passenger vehicles were observed to travel over 35 miles per hour. An occasional check up by a motorcycle policeman would be advisable on account of the school.

Main Street

Most of the traffic on Main Street travels below 25 miles per hour except for occasional speeds. Between College and William Street 50% were travelling over 25 miles per hour and 5% over 35 miles per hour. With these few exceptions, Main Street traffic is operating at a reasonable speed.

Washington Street.

East of the underpass on Washington Street is an especially

bad location for speeding, and the data indicates that 39% of the vehicles here were travelling over 35 miles per hour. This is a high accident location and speeds should be held down to 30-35 miles per hour at all points on Washington Street east of the underpass.

Hartford Avenue (In Cromwell)

Forty-seven percent of the passenger cars were observed to be travelling between 35-45 miles per hour just north of the bridge and 10% were travelling between 45-55 miles per hour. While this stretch is not considered a high accident location it may become so if speeding over 45 miles per hour is not checked.

It is suggested that the following points be patrolled from time to time by the police to check excessive speeding; South Main Street between St. Mary's school and Highland Avenue, Russell Street near the Wilson School, Washington Street east of the underpass, and Hartford Avenue north of the bridge. For further details refer to the following tabulations which show the speeds of passenger cars, heavy trucks, light trucks, and buses at the various points and the total number of vehicles measured.

SPEED STUDIES

FIGURES SHOW PERCENTAGE IN EACH SPEED RANGE

MAIN STREET — BETWEEN LIBERTY-WASHINGTON

CLASS	0-25	25-35	35-45	45-55	55-65
Passenger	58	39	3		
Lt. Trucks	76	24			
Hvy.Trucks	98	2			
Buses	100				

Total Vehicles Observed 316

MAIN STREET — BETWEEN WASHINGTON-COURT

Passenger	70	29	1		
Lt. Trucks	86	14			
Hvy.Trucks	88	12			
Buses	90	10			

Total Vehicles Observed 273

MAIN STREET — BETWEEN COLLEGE-WILLIAM

Passenger	50	45	5		
Lt. Trucks	68	32			
Hvy.Trucks	94	6			
Buses	90	10			

Total Vehicles Observed 318

SAYBROOK ROAD — TOLL GATE HILL

Passenger	4	54	29	13	
Lt. Trucks		50	50		
Hvy.Trucks	15	62	23		
Buses					

Total Vehicles Observed 133

SPEED STUDIES

FIGURES SHOW PERCENTAGE IN EACH SPEED RANGE

SO. MAIN STREET — AT HIGHLAND AVE.

CLASS	0-25	25-35	35-45	45-55	55-65
Passenger	6	29	49	15	1
Lt. Trucks	21	33	33	13	
Hvy.Trucks	10	40	50		
Buses		67	33		

Total Vehicles Observed 246

SO. MAIN STREET — AT ST.MARY'S SCHOOL

Passenger	16	56	26	2	
Lt. Trucks	37	49	14		
Hvy.Trucks	52	45	3		
Buses	62	38			

Total Vehicles Observed 336

SO. MAIN STREET — BETWEEN HUNTING HILL AVE.- PAMEACHA AVE

Passenger	7	59	29	5	
Lt.Trucks	25	66	9		
Hvy.Trucks	55	39	6		
Buses	47	53			

Total Vehicles Observed 274

SO. MAIN STREET — AT LAKE ST.

Passenger	8	51	33	7	1
Lt. Trucks	11	49	40		
Hvy.Trucks	44	39	17		
Buses					

Total Vehicles Observed 216

RUSSELL STREET — AT WILSON HIGH

Passenger	32	56	10	2	
Lt. Trucks	39	58	3		
Hvy.Trucks	60	40			
Buses	83	12	5		

Total Vehicles Observed 365

SPEED STUDIES

FIGURES SHOW PERCENTAGE IN EACH SPEED RANGE

RANDOLPH RD. AT FARM HILL RD.

CLASS	0-25	25-35	35-45	45-55	55-65
Passenger	18	22	48	12	
Lt. Trucks	25	50	25		
Hvy. Trucks					
Buses					

Total Vehicles Observed 31

HARTFORD AVE. NORTH OF BRIDGE

Passenger	3	39	47	10	1
Lt. Trucks	4	29	54	13	
Hvy. Trucks	8	92			
Buses		100			

Total Vehicles Observed 165

WASHINGTON ST. EAST OF UNDERPASS

Passenger	6	55	34	5	
Lt. Trucks	17	75	8		
Hvy. Trucks	54	46			
Buses	60	40			

Total Vehicles Observed 209

WASHINGTON ST. AT TERRACE

Passenger	23	58	19		
Lt. Trucks	37	43	20		
Hvy. Trucks	64	36			
Buses	50	50			

Total Vehicles Observed 195

PEDESTRIAN COUNT

This study was made to determine the number of persons crossing the streets at each intersection on Main Street. To do so, all pedestrian movement was counted between 9 A.M. and 6 P.M. at all Main Street intersections on one week-day and one Saturday.

The accompanying tabulation of results reveals the following information:

On Saturday the busiest crossing on Main Street was the east side of Main Street at Washington Street where 10,255 people were counted. College Street was second with 6683 and Court Street was third with 6100, these also being on the east side of Main Street. In general, the east side of Main Street at the busy intersections carries from three to ten times as many people as the west side.

The busiest east-west street crossing on Saturday was the south side of Court Street where 3982 people were observed, the next busiest was the north side of Court Street with 2150 and the third busiest was College Street. A study of these data quickly reveals the necessity for traffic signals to protect pedestrians at all of these intersections.

The week-day results are somewhat different. Then the largest number of pedestrians were observed on the east side of Main Street crossing College Street. Washington Street was second and Court Street third. On week-days there is not so much difference between the east and west sides of Main Street, although the east side shows more people at every intersection.

PEDESTRIAN COUNT

Saturday — MAIN STREET — March 3, 1975

CROSSING AT		A.M. Hour Ending 9	10	11	12	P.M. Hour Ending 1	2	3	4	5	6	Total
Hartford Avenue		19	24	6	20	18	19	20	16	19	17	178
Rapallo Avenue		4	13	1	3	12	8	9	14	10	2	76
Grand Street		19	30	64	31	57	38	54	64	78	45	480
Liberty Street		36	68	92	98	140	112	82	121	97	86	932
Washington St.	North Side	56	55	42	105	65	65	115	76	128	66	773
	South Side	51	81	109	105	61	111	137	128	121	104	1008
Court Street	North Side	69	190	378	269	123	208	180	244	236	253	2150
	South Side	111	249	372	544	395	510	508	428	483	382	3982
College Street	North Side	18	102	271	182	109	96	112	36	125	41	1092
	South Side	24	71	109	105	64	166	118	57	425	73	1217
William Street	North Side	34	64	81	87	110	97	129	151	133	110	906
	South Side	11	16	29	40	17	40	40	44	52	42	331
Church Street		25	64	87	82	87	79	113	118	96	63	814
Union Street		16	26	32	38	21	26	17	27	46	43	292
TOTALS		493	1053	1673	1709	1279	1575	1634	1524	2049	1332	14321

PEDESTRIAN COUNT

Saturday — MAIN ST. - WALKING NORTH AND SOUTH — March 9, 1935

EAST SIDE - CROSSING	A.M. HOUR ENDING 9	10	11	12	P.M. HOUR ENDING 1	2	3	4	5	6	Total
Hartford Avenue	70	107	96	103	107	153	168	219	259	124	1406
Rapallo Avenue	85	156	199	135	122	268	333	388	356	279	2321
Green Street	69	202	286	352	386	334	512	427	511	418	3497
Washington Street	219	836	1036	1128	863	956	1498	1463	1174	1082	10255
Court Street	134	303	675	608	477	592	738	873	861	839	6100
College Street	153	545	611	794	520	690	1145	680	809	436	6383
William Street	66	201	265	346	293	304	462	591	507	318	3353
Union Street	26	131	137	141	118	255	279	199	198	207	1691
WEST SIDE - CROSSING											
Grand Street	56	161	73	79	114	96	104	82	119	50	934
Liberty Street	55	93	89	73	82	114	107	86	109	75	883
Washington Street	40	117	113	108	75	118	116	111	94	82	974
Court Street	104	215	339	268	139	211	177	154	180	170	1957
College Street	34	86	146	100	127	116	112	73	92	78	964
William Street	88	181	152	116	131	144	151	139	229	107	1438
Church Street	48	92	96	69	79	125	110	106	106	59	890
Pleasant Street	13	21	54	30	19	34	26	22	37	24	280
Crescent Street	26	71	83	91	49	67	43	82	100	63	675
TOTAL	1296	3512	4450	4541	3701	4577	6031	5695	5741	4411	44001

PEDESTRIAN COUNT

Wednesday — MAIN STREET — March 27, 1935

CROSSING AT		A.M. HOUR ENDING 9	10	11	12	P.M. 1	2	HOUR ENDING 3	4	5	6	Total
Hartford Ave.		3	7	10	5	14	15	5	12	11	15	97
Rapallo Ave.		--	----	--	--	--	--	--	--	--	--	--
Grand Street		42	42	51	41	28	42	49	83	39	80	497
Liberty St.		37	35	34	34	42	30	21	59	33	89	414
Washington St.	North Side	35	35	54	59	40	66	82	69	88	54	582
	South Side	61	64	89	96	112	115	129	112	124	49	951
Court Street	North Side	63	81	105	82	328	87	101	207	100	73	1227
	South Side	76	147	175	125	379	157	324	274	191	188	2036
College Street	North Side	66	40	58	156	96	166	92	117	192	66	1049
	South Side	168	119	107	203	328	207	127	305	260	119	1943
William Street	North Side	32	24	29	41	99	68	55	50	100	42	540
	South Side	79	78	49	44	66	60	62	81	75	93	687
Church Street		62	86	68	45	123	76	102	139	91	139	981
Union Street		69	13	20	39	47	29	55	69	28	84	453
TOTALS		793	771	849	970	1702	1118	1204	1627	1332	1091	11457

PEDESTRIAN COUNT

Wednesday — MAIN ST. - WALKING NORTH AND SOUTH — March 27, 1935

EAST SIDE - CROSSING	A.M. HOUR ENDING 9	10	11	12	P.M. 1	2	HOUR ENDING 3	4	5	6	Total
Hartford Avenue	137	37	32	37	181	278	97	337	238	110	1484
Washington St.	162	237	300	340	338	373	529	564	538	361	3742
Court Street	70	134	265	157	468	135	153	655	218	125	2380
College Street	187	304	385	487	488	611	452	533	494	296	4237
William Street	48	46	94	72	132	76	131	122	197	96	1014
Union Street	58	76	73	95	87	119	122	242	187	103	1162
WEST SIDE - CROSSING											
Grand Street	92	100	81	88	110	66	89	147	80	63	916
Liberty Street	83	65	62	57	65	78	57	140	78	118	803
Washington St.	117	147	135	138	141	126	140	137	191	84	1356
Court Street	200	285	227	172	263	168	281	292	183	205	2276
College Street	131	148	261	220	276	256	93	241	337	117	2080
William Street	99	63	36	22	52	41	42	77	48	70	550
Church Street	75	57	42	79	62	93	111	153	93	90	855
Pleasant Street	64	27	95	71	147	45	37	155	50	68	759
Crescent Street	73	29	105	158	164	39	45	160	73	103	949
TOTALS	1596	1755	2193	2193	2974	2504	2379	3955	3005	2009	24563

These figures which can be analysed in detail by referring to the tables should be of great interest to those who are in business on Main Street.

SUMMARY OF IMPORTANT CONCLUSIONS

The following conclusions are not intended to be a complete summary. Only the most important general conclusions are given here. For further details and minor suggestions refer to the text of each section.

PARKING:

1. One hour parking on Main Street plus strict enforcement is the best practical way to relieve the parking congestion and get the desired space turn-over.

2. Parking should be eliminated on the south side of Court Street during the business day, and one hour parking should be allowed on the north side, between Broad and Water Streets.

3. The overtime parking fine should be $1.00 instead of $2.00 with no exemptions except thru the discretion of the judge.

VEHICLE VOLUME ANALYSIS:

1. Water Street should be improved and used as an alternate route for thru traffic.

2. The river road to Higganum offers an excellent opportunity for the developement of a scenic highway for thru traffic along the river, eliminating the congestion and accident hazard of East Main Street and the Saybrook Road.

3. The Middletown-Portland bridge should be replaced. It is now the bottle neck of the Middletown traffic system.

4. Middletown truck traffic is not heavy enough to warrant separate routing.

ACCIDENT ANALYSIS:

1. Seventy-eight percent of the 164 accidents studied were caused by carelessness in one form or another. Safety propaganda is recommended.

2. The highest accident locations or streets are along South Main Street and along Saybrook Road, although these roads seem to be comparatively free from serious accident hazards.-

SCHOOL CHILD TRAFFIC HABITS:

1. School monitors or some system of supervised traffic could be used to advantage at certain points in the central school district. See text.

2. A program of safety education at regular intervals is suggested at all the schools, particularly at the Durant and Wilson Schools where the lack of sidewalks makes the safety problem more difficult.

3. The Liberty Street light furnishes protection to school children crossing Main Street, and it should not be removed, unless traffic officers can be stationed here during school hours.

THE TRAFFIC SIGNAL SYSTEM:

1. The traffic signals should be synchronized to allow progressive travel on Main Street. Total cost $2000.00

2. When Main Street extension has been completed, a signal will be necessary at the corner of Main and Union Streets. It should be synchronized with the other lights to allow continuous travel. Right turns against the red light indicated by a green arrow should be allowed, south bound Main Street traffic turning into Union Street, and south bound Main Street traffic turning into Washington Street .

3. The use of the amber after the green light only is recommended.

SIGNAL OBEDIENCE:

1. Motorist obedience of the signals is reasonably satisfactory and compares favorably with the degree of obedience in other Connecticut Cities.

2. Most of the non-observance comes from jumping the amber lights before and after the green. Stricter enforcement would reduce accident hazards from this source.

3. The disobedience of signals by pedestrians is too high. It constitutes an accident hazard which should be corrected.

BOULEVARD STOP SIGN OBEDIENCE:

1. Disobedience of Stop signs is much higher in Middletown than in other Connecticut Cities. Stop signs should be enforced or removed.

U-TURNS:

1. The U-turn problem is a difficult one with no real satisfactory solution. See text. Because of the long blocks in Middletown, and the wide Main Street, a very large number make use of this privilege.

SPEED STUDIES:

1. The dangerous points for speeding (see text) should be patrolled at regular intervals.

PEDESTRIAN COUNT:

1. On Saturday, the highest concentration of pedestrians was observed on Main Street at the east crossing of Washington Street.

2. The east side of Main Street carries from three to ten times as many people as the west side.