

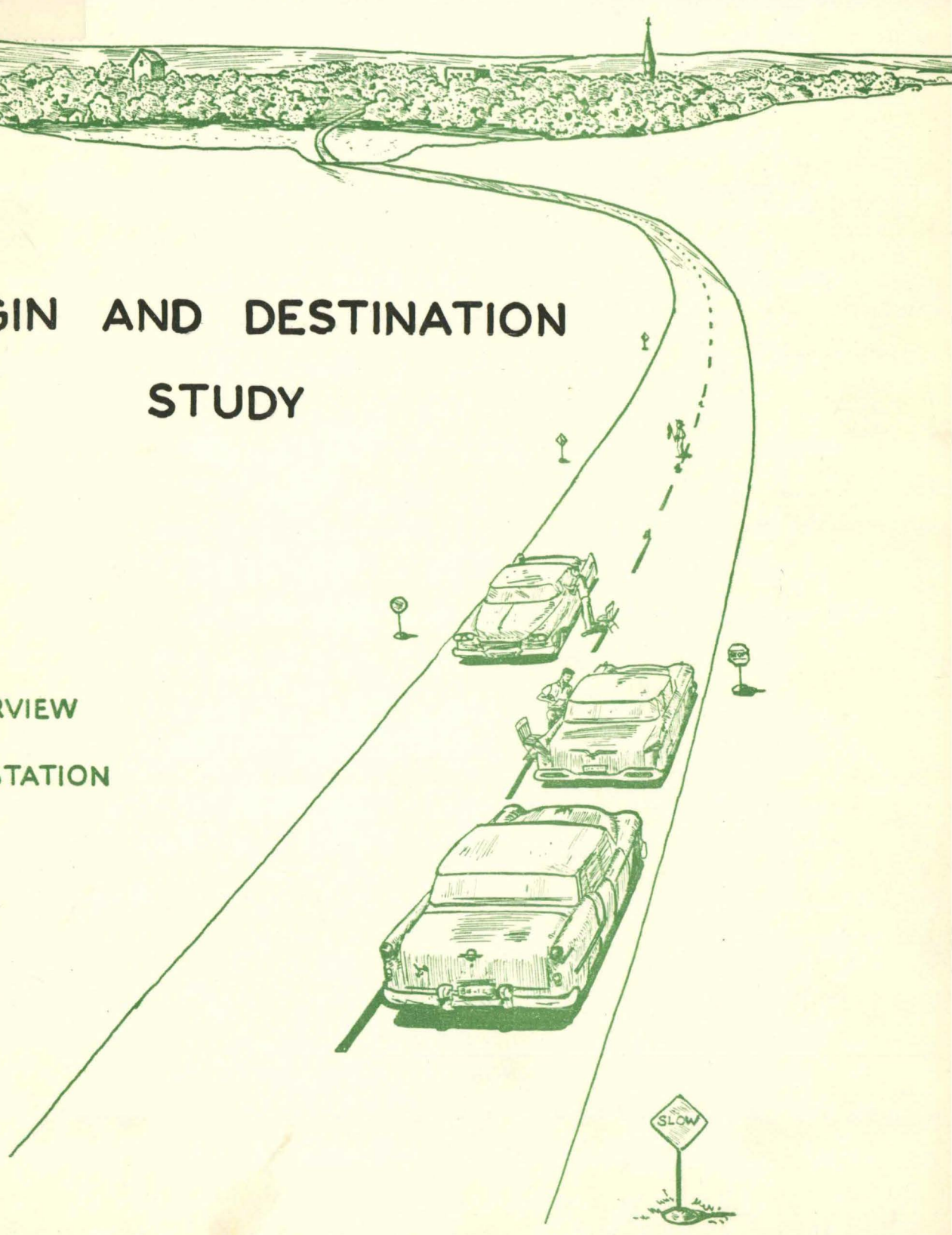
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# NEW HAMPTON

## ORIGIN AND DESTINATION STUDY

INTERVIEW  
STATION



New Hampton Corporate Area  
Origin and Destination  
Traffic Survey

April 1959

Prepared By  
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Safety and Traffic Department  
Iowa State Highway Commission  
In Cooperation With the  
United States Bureau of Public Roads

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## DEFINITIONS

### Urban Area

An area including and adjacent to a municipality or other urban place of 5,000 or more population as shown by the latest available census.

### Corporation Line

A hypothetical line delimiting the municipal area and often called the City Limits.

### Urban or Corporate Area Traffic Survey

A survey of highway travel designed to collect detailed information concerning trip origins and destinations within a selected urban or corporate area.

### External Survey

A study in which trip data is obtained by interviewing motor vehicle operators intercepted at external stations.

### External Station

An interview point located on a principal rural highway which crosses the corporation or urban area line. It is always set up outside of the urban or corporate area, but as close as is practical and possible to the line delimiting this area.

### Tract

One of the several homogeneous sections into which the study area is divided.

### Central Business District (CED)

The section containing the concentrated commercial and retail business center, in most cases, tract 001.

Trip

A one-way journey between a point of origin and a point of destination.

Origin

The stated beginning point of a single trip.

Destination

The stated terminating point of a single trip.

External Local Trip

A trip with either the point of origin or the point of destination located within the corporate limits, the performance of which trip involves travel through an external interview station.

External Through Trip

A trip with both points of origin and destination located outside the corporate limits, the performance of which trip involves travel through an external interview station and into, through, and out of the corporate or urban area.

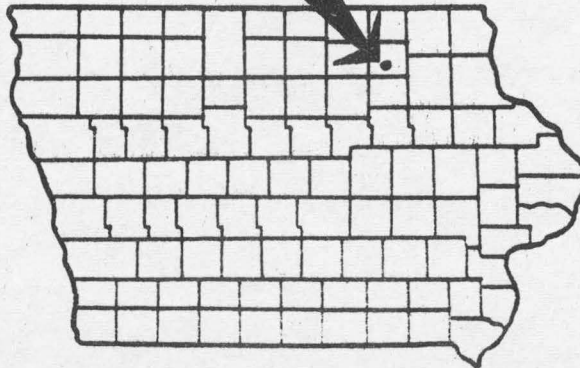
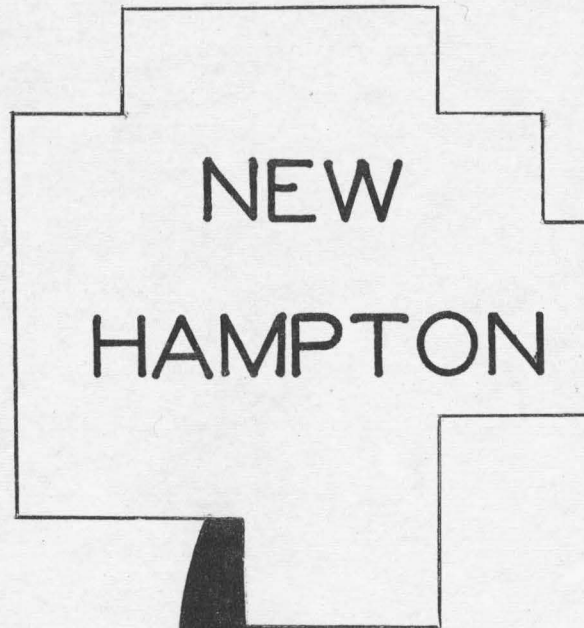
Duplicated Through Trips (Duplicates)

Trips traveling completely across the urban or corporate area, and thereby passing through two interview stations.

Average Weekday

This includes Monday through Friday inclusive.

PART I  
SUMMARY



This report of the New Hampton Corporate Traffic Survey describes briefly the characteristics of the corporate area pertinent to the local problem of highway transportation and presents and analyzes the data gathered in the survey. All trip data obtained in the survey are presented in terms of the number of trips per day. They are classified by the origins and destinations of these trips and by the areas within the city, to which and from which they were made. The only information obtained was from those trips crossing the city limits, and this was done by maintaining roadside interview stations at the entrances of the principal rural highways into the city. These trips, for which the data were obtained, may be defined as "rural trips." Knowledge of the number of "urban trips" or "intra-city trips" is not available in this external type survey.

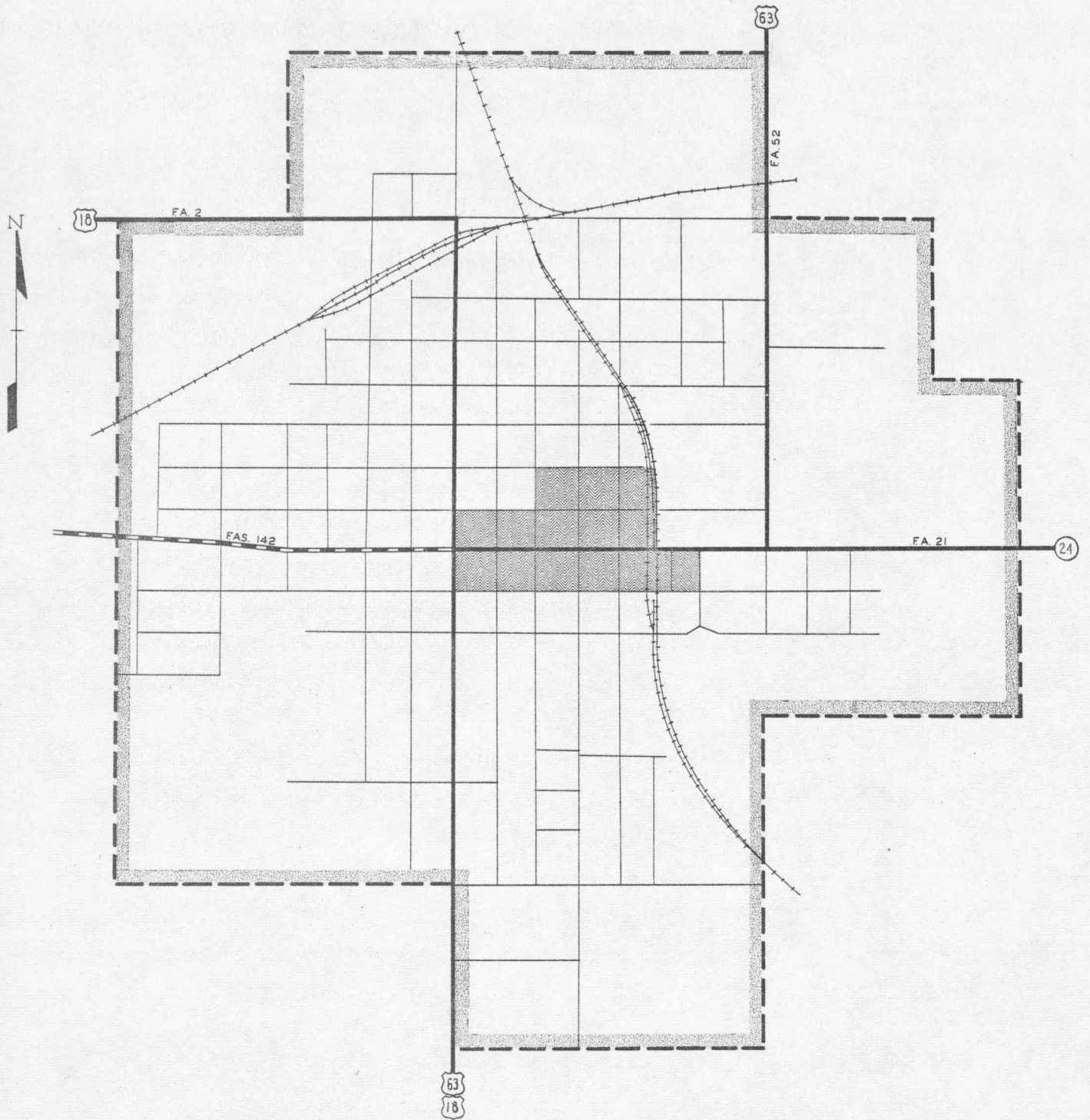
For this particular study, information was gathered by interviewing 88.07 per cent of the average weekday traffic. After the expansion of this information it was found that for an average weekday in July 1958, a total of 6,371 trips crossed the New Hampton city limits. Out of this total, 37.79 per cent were classified as external through trips. These were divided into two groups. External through trips which passed via the central business district accounted for 36.93 per cent. The remaining 0.86 per cent, which were also external through trips, traveled without passing via the central business district.

Of all trips passing through the interview stations 32.34 per cent had termini in the central business district. However, another 13.92 per cent of the total had termini in the residential and intermediate

areas between the station and the central business district. In addition to this, 8.79 per cent of the total trips passing through the interview stations had routes via and termini beyond the central business district. The final consideration is given to the 456 trips, or 7.16 per cent of the total number of trips which passed through the stations, with routes not via but termini beyond the central business district.



PART II  
HISTORY AND CHARACTERISTICS  
CITY OF NEW HAMPTON



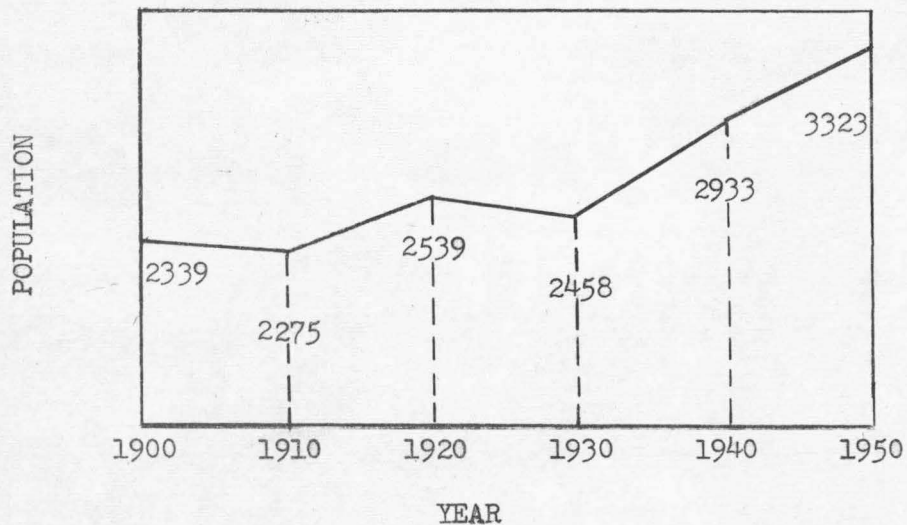
A. HISTORY

New Hampton was founded in 1854 and was originally known as Chickasaw Center. Thirteen years later the town was platted and the original survey recorded on September 12, 1857. It was reorganized as the county seat of Chickasaw County that same year. The community's first church was constructed in 1866. During the ten previous years religious services were held in a log cabin.

New Hampton was incorporated in 1873. James F. Babcock was voted mayor in the town's first election held on May 21, 1873. During the 1890's a privately owned light plant provided electricity for some of the town's residents. As a result of intermittent and undependable operation, land was purchased in 1904 for a municipal power plant.

In 1910 New Hampton had 2,275 residents. The city's population had grown to 3,323 by 1950 as indicated in the figure below.

NEW HAMPTON POPULATION TRENDS



B. CHARACTERISTICS

New Hampton is located in the third tier of counties west of the Mississippi River and the second tier south of the Iowa-Minnesota border. It is situated in level to gently rolling terrain in Chickasaw County.

The incorporated boundaries of New Hampton form a rough rectangle one and three-quarter miles long and one and one-quarter miles wide. The longer axis lies in a north-south direction. Midway between the corporate boundaries is the central business district composed of retail, wholesales, and service firms. Heavy industrial firms such as the B & B Silo Company, and the Super Sweet Milling Company are located in the north-central portion of the city.

The Chicago and Great Western Railroad separates about the north-east third of the city from the remainder of the corporate area and passes through the east end of the central business district. The Chicago, Milwaukee, St. Paul, and Pacific Railroad cuts diagonally across the north half of the city and in an east-west direction. It intersects with the Chicago and Great Western about one-half mile north of the central business district.

There are four primary highway entrances to New Hampton. The east-west and north-south arterials intersect in the west end of the central business district. The east-west highway runs five and one-half blocks through the heart of the business area. There are two highway-railroad grade intersections within the city.



A. INTRODUCTION

Part III of this report describes briefly the purposes and objectives, procedures, and findings of the New Hampton Corporate Area Traffic Survey. Summaries and illustrations of the significant data classifications are included. All information was collected during the period of July 28 to 31, 1958, inclusive. It is reported in terms of the number of trips daily on an average July weekday in 1958 and classified by trip origins and destinations.

B. PURPOSES AND OBJECTIVES

The purposes of this survey were to determine the origin, destination, and number of daily trips into, out of, and through the corporate area. Ultimate objectives were to assemble and present, as clearly as possible, the traffic patterns and volumes as they exist. This presentation reveals the amount of street congestion which may be attributed to through highway travelers, and the exact routes by which these travelers enter and exit the urban area. It will also assist city officials and highway administrators in determining the location and type of street or highway improvements necessary to alleviate particular traffic problems.

C. PROCEDURES

The data for the determination of the origin and destination of all trips were gathered through roadside interviews of motor vehicle operators. These interviews were obtained at the external stations located on each rural road entrance to the city. All vehicles were stopped as they passed through the station and the motor vehicle

operator was asked the purpose, origin, and destination of this particular trip. The interviewers also recorded for each vehicle, from visual inspection, other data such as the type, the place of registration, and the number of passengers.

Each interview station was operated for 16 hours starting at 6 AM and ending at 10 PM. This scheme of operation provided for coverage of all but a small portion of the trips passing through each station in the twenty-four hour day. This small portion of traffic was accounted for by portable automatic traffic recorders which were operated continuously at each station for the entire period of the survey. Factors obtained by using these recorder tapes provided means for converting all of the data to average twenty-four hour weekday values. The information gathered was then coded and punched on I.B.M. cards to expedite tabulation.

#### D. FINDINGS

Most of the significant findings of this survey have been summarized in the ensuing tables and charts. Any other combinations of related material may be found by referring to the trip tabulation sheet in the appendix.

Three traffic flow diagrams will be found in appropriate locations throughout the presentation of the findings. The first one encountered merely gives a pictorial view of the entire traffic pattern within the area. A traffic flow map depicting all external through trips will be found next, immediately following the external through trip tables. The third and final flow diagram is found following the group of tables relating all of the external local trips to their termini.

1. Traffic and Interview Summary:

By using the previously explained procedures, the information in the following table was obtained. The external stations are listed with the total traffic passing each station, the total number of interviews taken at each station, and the per cent that this interview figure is of the total traffic figure. This information is all based on the flow of traffic for an average weekday in July 1958.

1980  
24

Table 1 Traffic Entering or Leaving the New Hampton Corporate Area by Way of the Principal Rural Road Entrances						
External Station Locations	Average Weekday Traffic-July 1958				No. of Inter- views Taken	Per Cent Inter- viewed
	Passenger Cars and Pick-Ups	Single Unit Trucks	Truck Combi- nations	Total		
US 63 N	1,638	115	221	1,974	1,696	85.92
Ia 24 E	1,784	141	55	1,980	1,709	86.31
US 63 S	2,470	254	339	3,063	2,619	85.50
US 18 W	1,481	159	122	1,762	1,708	96.94
Total	7,373	669	737	8,779	7,732	88.07

2. External Through Trips Via  
the Central Business District:

Table 2 presents a very good comparison between the total trips passing through each external station and the number or per cent of these trips which pass directly through the corporate area via the central business district. This same relationship is again presented both numerically and on a percentage basis for the summation of all trips through all stations. From this presentation it is shown in the following table that 2,353 trips, or 36.93 per cent of the total trips passing through all external stations, were external through trips traveling via the central business district.

Table 2 External Through Trips Via the Central Business District on an Average Weekday in July 1958			
External Station Location	Total Trips Through Station	Through Trips Via the CBD	
		Number	Per Cent of Total
US 63 N	1,974	1,386	70.21
Ia 24 E	1,980	560	28.28
US 63 S	3,063	1,955	63.83
US 18 W	1,762	805	45.68
Less Duplicates	2,408	2,353	97.72
Total	6,371	2,353	36.93



3. External Through Trips Not  
Via the Central Business District:

The following table reveals the exact relationship between all trips passing through each external station and the percentage of these trips which pass directly on through and out of the corporate area, but not via the central business district. This same comparison is also presented for the total of all external through trips passing through all external stations. From Table 3 it is then noted that this figure is 0.86 per cent.

Table 3 External Through Trips Not Via the Central Business District on an Average Weekday in July 1958			
External Station Location	Total Trips Through Station	Through Not Via the CBD	
		Number	Per Cent of Total
US 63 N	1,974	55	2.79
Ia 24 E	1,980	55	2.78
US 63 S	3,063	--	-----
US 18 W	1,762	--	-----
Less Duplicates	2,408	55	2.28
Total	6,371	55	0.86

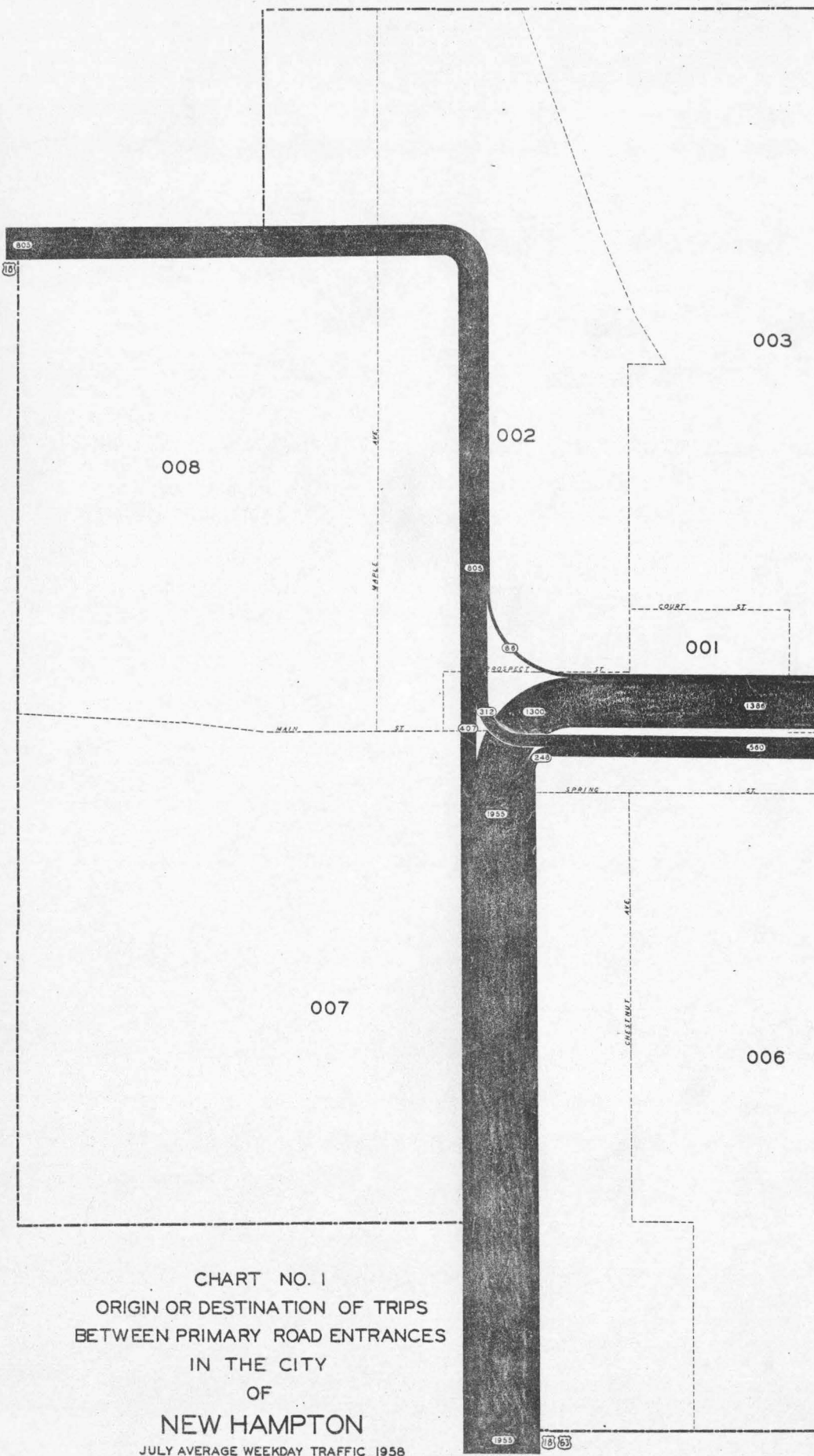


CHART NO. 1  
 ORIGIN OR DESTINATION OF TRIPS  
 BETWEEN PRIMARY ROAD ENTRANCES  
 IN THE CITY  
 OF  
 NEW HAMPTON  
 JULY AVERAGE WEEKDAY TRAFFIC 1958

4. Trips Through Each Station With  
Termini in the Central Business District:

Table 4 compares the total trips passing through each station with the percentage of these respective trips having termini in the central business district. It also relates the total of all trips passing through all of the stations to the number of these same trips having termini in the central business district. On this comparative basis 32.34 per cent of the total trips passing through all external stations fall into the above explained category.

Table 4 Trips Through Each Station With Termini in the Central Business District on an Average Weekday in July 1958			
External Station Location	Total Trips Through Station	Termini in the CBD	
		Number	Per Cent of Total
US 63 N	1,974	279	14.13
Ia 24 E	1,980	709	35.81
US 63 S	3,063	612	19.98
US 18 W	1,762	460	26.11
Less Duplicates	2,408	---	-----
Total	6,371	2,060	32.34

5. Trips Through Each Station With Termini  
Between the Station and the Central Business District:

The information contained in Table 5 reveals a comparison of the total trips passing through each station and the percentage of these trips having termini in the residential and intermediate areas between that station and the central business district. In addition to this, the summation of the total trips passing through all of the external stations is compared to the percentage of these total trips having termini as explained above. These comparisons are pointed out both numerically and on a percentage basis. As can be seen from the table, 887 trips, or 13.92 per cent of the total trips passing through all of the external stations, had termini in the residential and intermediate areas between the stations and the central business district.

Table 5 Trips Through Each Station With Termini Between the Station and the Central Business District on an Average Weekday in July 1958			
External Station Location	Total Trips Through Station	Termini Between Station and CBD	
		Number	Per Cent of Total
US 63 N	1,974	177	8.97
Ia 24 E	1,980	294	14.85
US 63 S	3,063	120	3.92
US 18 W	1,762	296	16.80
Less Duplicates	2,408	---	-----
Total	6,371	887	13.92

6. Trips Through Each Station With Routes Via  
and Termini Beyond the Central Business District:

In Table 6 a comparison is made between the total trips passing through each external station, and the number and percentage of these trips which pass directly via and have their termini beyond the central business district. It can also be seen from the following table that 560 trips, or 8.79 per cent of all trips passing through all stations, travel directly via the central business district and have their termini beyond it. These comparisons are made both numerically and on a percentage basis for all of the routes listed.

Table 6 Trips Through Each Station With Routes Via and Termini Beyond the Central Business District on an Average Weekday in July 1958			
External Station Location	Total Trips Through Station	Routes Via-Termini Beyond CBD	
		Number	Per Cent of Total
US 63 N	1,974	19	0.96
Ia 24 E	1,980	362	18.28
US 63 S	3,063	179	5.84
US 18 W	1,762	----	-----
Less Duplicates	2,408	----	-----
Total	6,371	560	8.79

7. Trips Through Each Station With Routes Not  
Via but Termini Beyond the Central Business District:

The following table reveals the exact relationship between all trips passing through all external stations, and the percentage of these trips which had termini beyond but routes not via the central business district. As can be seen below, 456 trips, or 7.16 per cent of the total trips passing through all of the external stations, fall into the above category. This same comparison for each individual station is also clearly presented in the table.

Table 7 Trips Through Each Station With Routes Not Via But Termini Beyond the Central Business District on an Average Weekday in July 1958			
External Station Location	Total Trips Through Station	Route Not Via-Termini Beyond CBD	
		Number	Per Cent of Total
US 63 N	1,974	58	2.94
Ia 24 E	1,980	---	---
US 63 S	3,063	197	6.43
US 18 W	1,762	201	11.41
Less Duplicates	2,408	---	---
Total	6,371	456	7.16

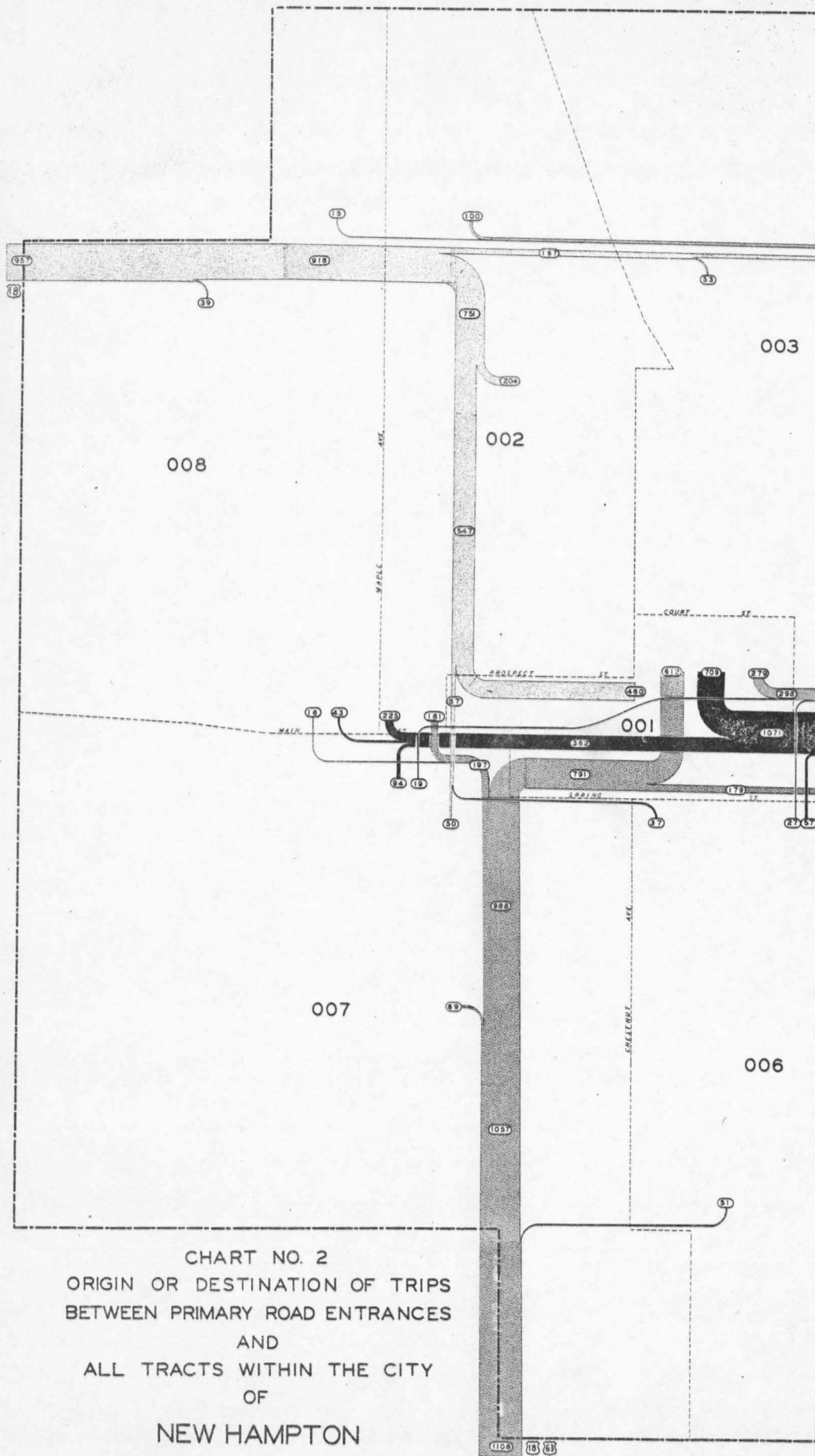
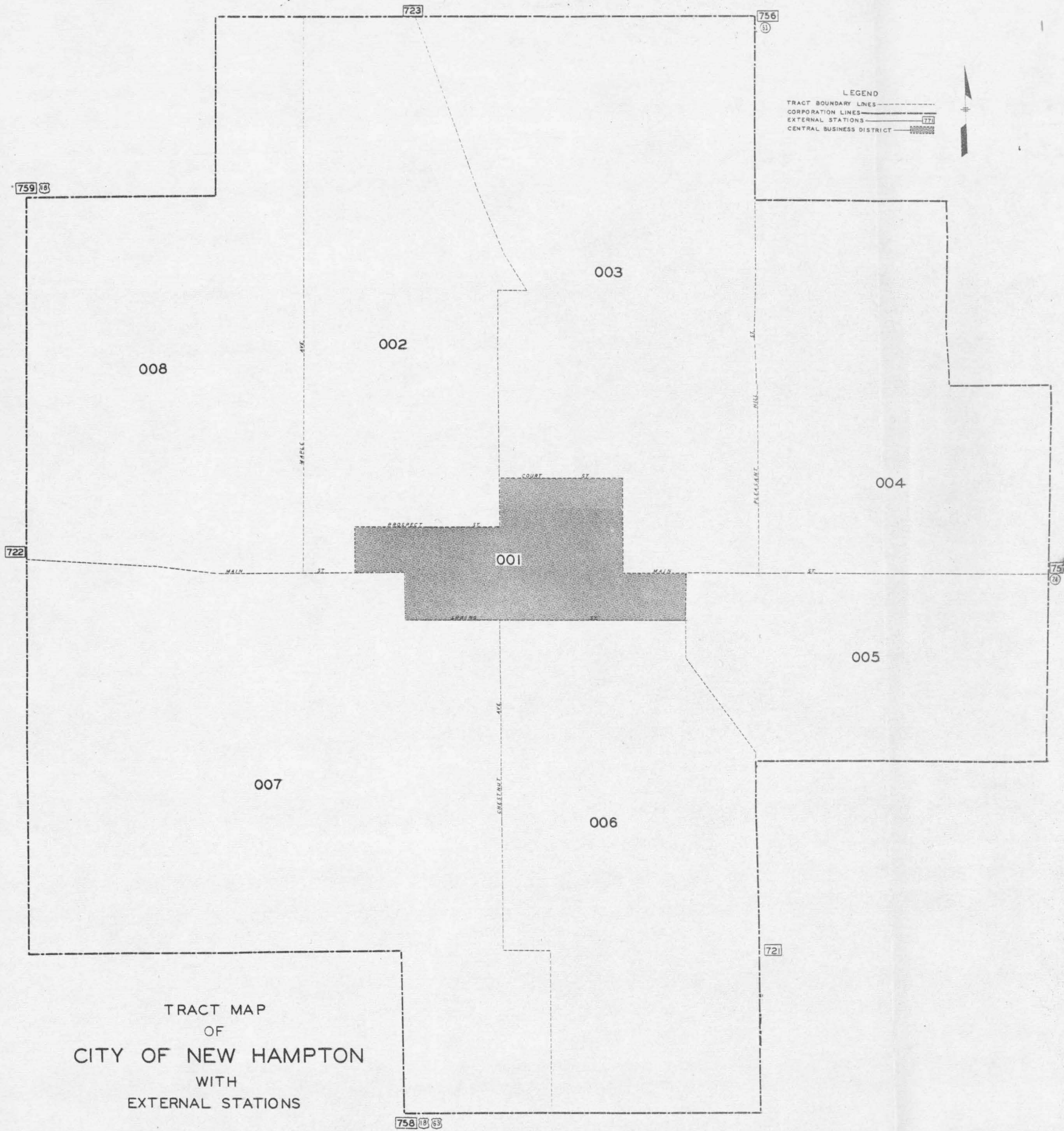


CHART NO. 2  
 ORIGIN OR DESTINATION OF TRIPS  
 BETWEEN PRIMARY ROAD ENTRANCES  
 AND  
 ALL TRACTS WITHIN THE CITY  
 OF  
 NEW HAMPTON  
 JULY AVERAGE WEEKDAY TRAFFIC 1958

A P P E N D I X





New Hampton Origin and Destination  
 Trips Through Stations Located On  
 Ia. 24 E., U.S. 63 S., and U.S. 18 W.  
 Average Weekday Traffic in July

New Hampton Urban Area						New Hampton Total	External Area				External Total	GRAND TOTAL
North	Northeast	East	Southeast	Southwest	Northwest		U.S. 63 N.	Ia. 24 E.	U.S. 63 S.	U.S. 18 W.		
003	004	005	006	007	008		756	757	758	759		
Trip Destination												
							134	356	300	235	1025	1025
							34	118	85	84	321	321
							18	44	36	30	128	128
							13	18	17	8	56	56
							17	51	52	49	169	169
							15	30	26	20	91	91
							12	46	39	23	120	120
							6	19	9	22	56	56
							249	682	564	471	1966	1966
	16	15	14	12	7	9	284	24	686	40	750	1034
	39	28	57	27	48	24	683	31	128	150	309	992
	26	6	42	25	30	7	544	614	120	222	956	1500
	23	15	42	17	27	17	486	46	162	185	393	879
	104	64	155	81	112	57	1997	691	306	999	412	2408
	104	64	155	81	112	57	1997	940	988	1563	883	4374

