

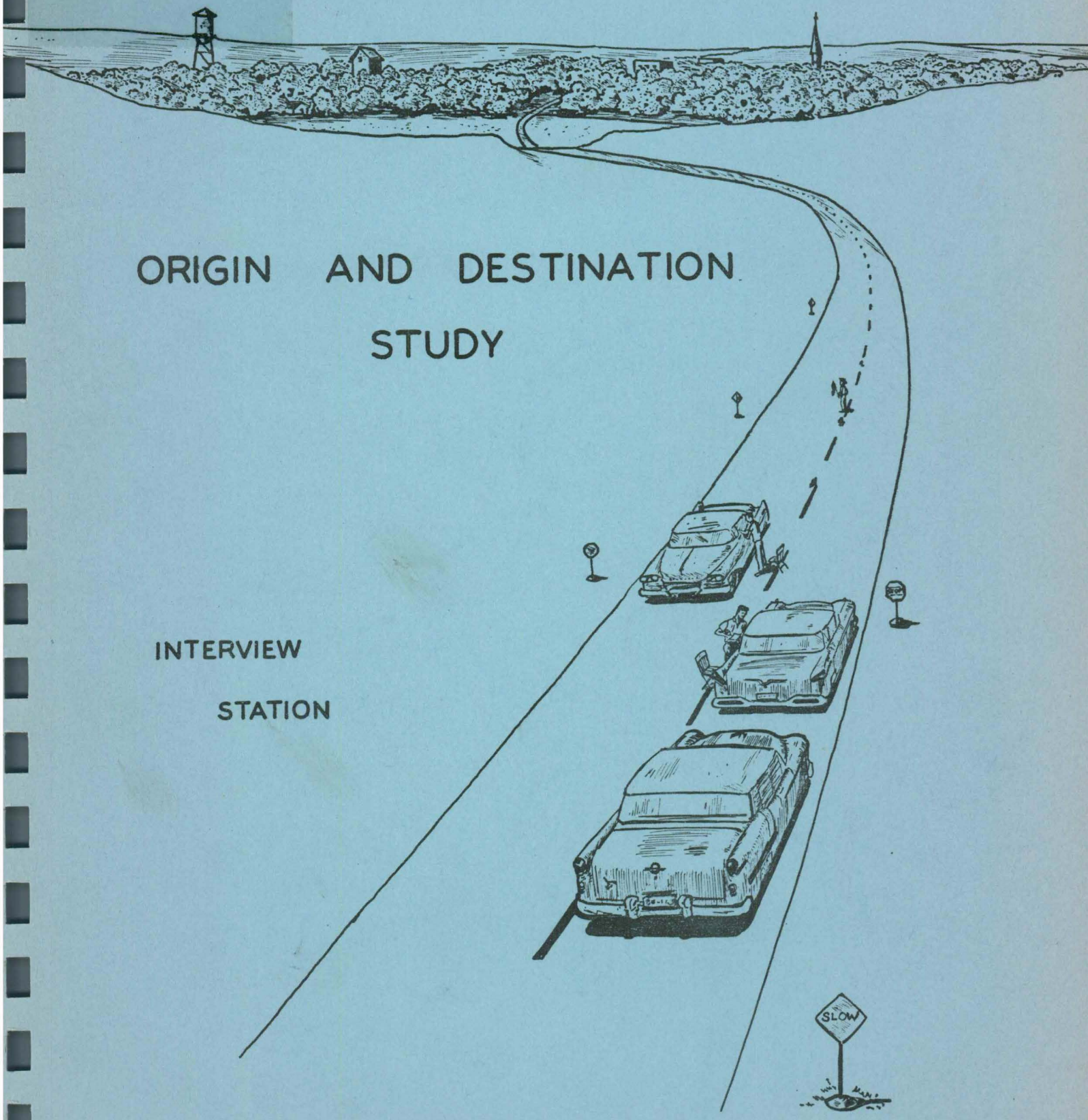
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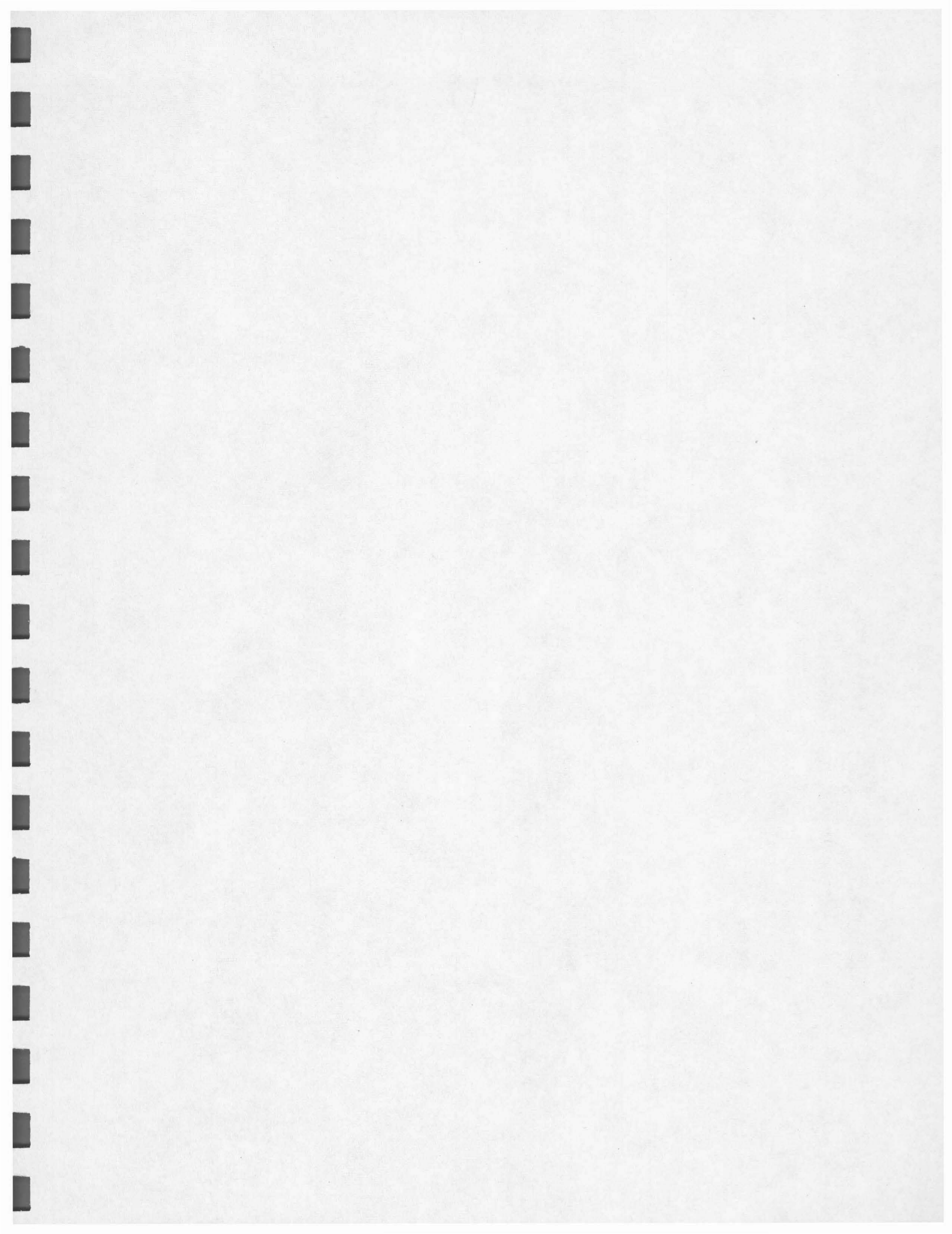
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# MAQUOKETA

## ORIGIN AND DESTINATION STUDY

INTERVIEW  
STATION







Maquoketa Corporate Area  
Origin and Destination  
Traffic Survey

April 1959

Prepared by  
Highway Planning Section  
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 (CBD)

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.

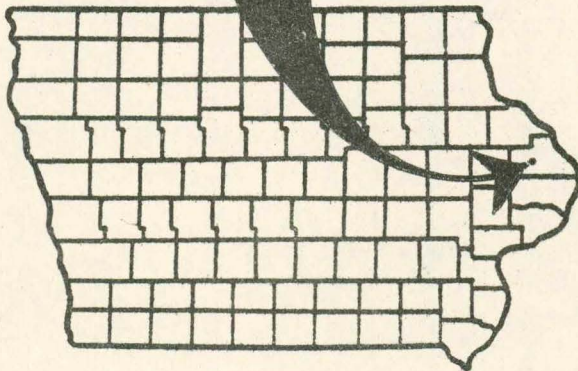
Average Weekday

This includes Monday through Friday inclusive.



PART I  
SUMMARY

MAQUOKETA





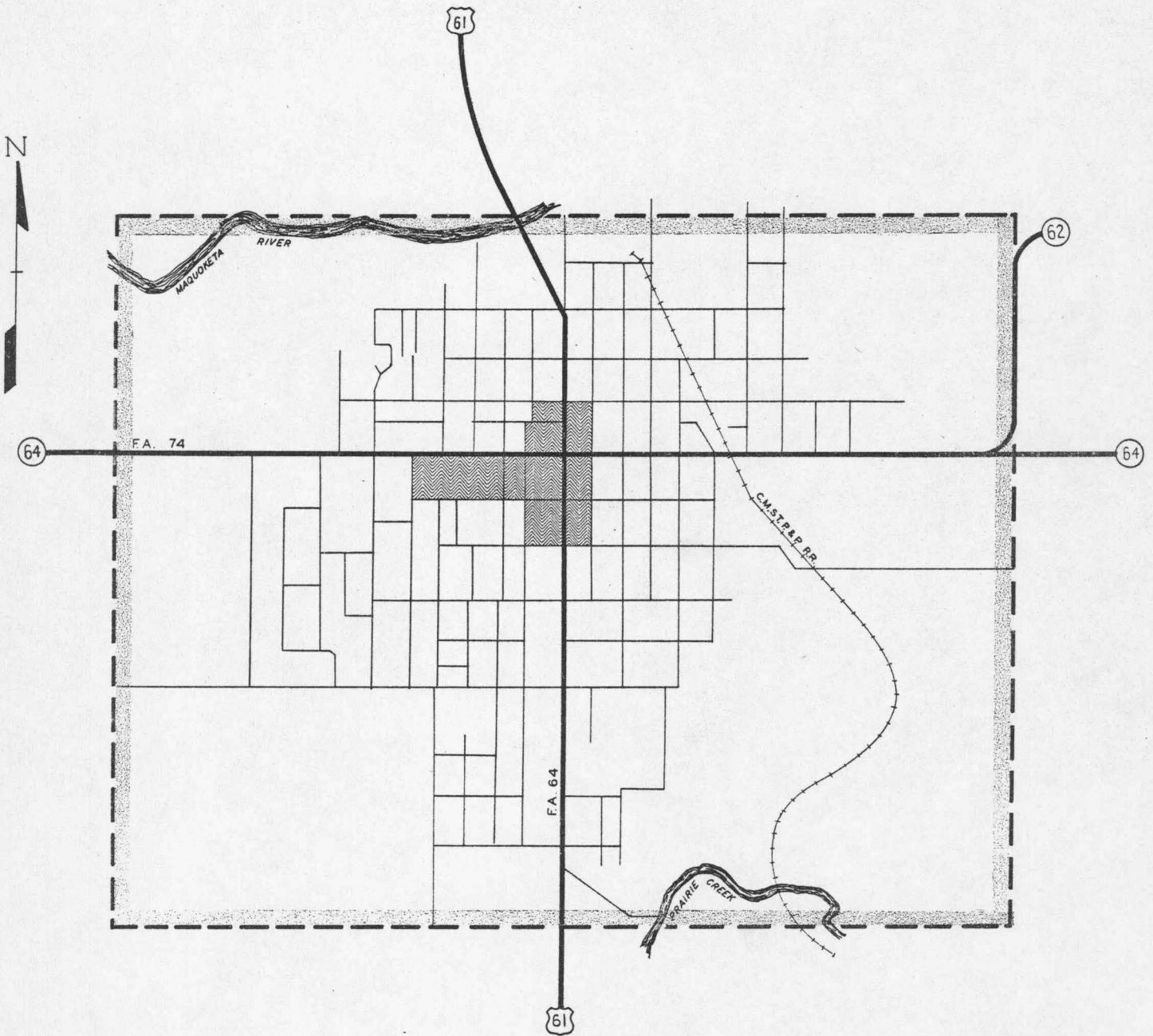
This report of the Maquoketa Corporate Area Traffic Survey describes briefly the characteristics of the corporate area pertinent to the local problem of highway transportation and presents and analyses the data gathered in the survey. All trip data obtained in the survey are presented in terms of the 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 81.17 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 9,093 trips crossed the Maquoketa city limits. Out of this total, 21.95 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 21.65 per cent. The remaining 0.30 per cent, which were also external through trips, traveled without passing via the central business district.

Of all trips passing through the interview stations 28.10 per cent had termini in the central business district. However, another 28.49 per cent of the total had termini in the residential and intermediate areas between the station and the central business district. In addi-

tion to this, 21.46 per cent of the total trips passing through the interview stations had routes via and termini beyond the central business district.

PART II  
HISTORY AND CHARACTERISTICS  
CITY OF MAQUOKETA



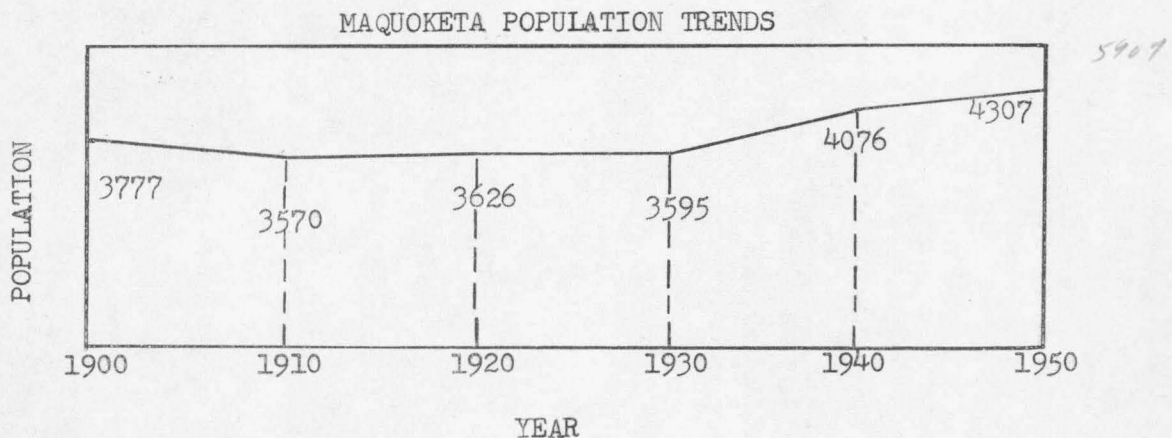


A. HISTORY

The "Father" of Maquoketa was John E. Goodenow who erected a cabin there in March 1838 and opened a trading post. It was here that the Dubuque to Davenport stage route intersected the trail followed by pioneers traveling west from Chicago, and so the village soon became the center-point of an important crossroad. A school was opened in 1841 in a sod-covered log cabin which had been Goodenow's Blacksmith Shop. Various denominations also held church services here.

Maquoketa was incorporated as a town in 1853. Four years later the Iowa General Assembly approved its incorporation as a city, and the boundaries for the present four wards were established. In 1870 the first railroad reached Maquoketa. Three years later the city erected a two-story brick building and offered it to Jackson County as a court house. The county accepted the offer and moved their offices from Andrew to Maquoketa in November 1873.

As a result of a disastrous fire in the business district in 1882, the city established a municipal water system and a volunteer fire-fighting company in 1883. By 1900, there were 3,777 residents living in the city. Population trends since then are illustrated below.



B. CHARACTERISTICS

Maquoketa is geographically located in east-central Iowa. The city lies 30 miles south of Dubuque and is situated in the very hilly terrain of Jackson County, which borders the Mississippi River. The Maquoketa River flows easterly along the north edge of the northwest quarter of the city.

The general configuration of the incorporated area of Maquoketa is a one and one-half mile by two mile rectangle with the longer dimensions running east and west. Maquoketa's T-shaped central business district is located north of the center of the city. Service and retail establishments and wholesale firms predominate this area. The city's leading industry is located in east-central Maquoketa and manufactures Clinton gasoline engines.

Transportation facilities include the Chicago, Milwaukee, St. Paul, and Pacific Railroad. It runs northerly across the east half of the city and terminates at the rail depot located in north central Maquoketa. Highway Ia. 64 crosses the north half of the city and passes through the central business district. U.S. 61 bisects the city into east and west segments and intersects with Ia. 64 in the central business district.



# PART III SURVEY PRESENTATION

Municipal  
Traffic Surveys  
Origin and Destination Operations

Section I Procedures for collection of data  
Instructions to Field Personnel

- Purpose and Scope  
The origin and destination traffic survey operation regarding the travel by motor vehicle activity sections of an urban area. Research in traffic this may be done by interviewing motor vehicle locations surrounding the area, whether they the whole urban area. These instructions to field personnel in conducting the interview condition about the survey area.
- Location of Stations  
The origin and destination interview highways entering the area. The exact location should be marked by the field supervisor in a notebook.
- Operating Schedule  
Each station will be covered 8 hour working periods, one or two days inclusive.  
All traffic passing the vehicle operators to the field party to record.  
Both sides of the road will be covered.  
A portable external survey station is required to be used.
- Summary  
A report should be prepared directly after the survey operation.

IOWA STATE HIGHWAY COMMISSION  
DEPARTMENT OF SAFETY AND TRAFFIC  
QUESTIONNAIRE AND CODING SHEET FOR EXTERNAL ORIGIN AND DESTINATION DATA  
URBAN AREA TRAFFIC SURVEYS

STATION NO. \_\_\_\_\_ DATE \_\_\_\_\_

CITY \_\_\_\_\_ SHEET \_\_\_\_\_ OF \_\_\_\_\_ INTERVIEWER \_\_\_\_\_

Serial Number	Type of Vehicle	REGISTRATION		ORIGIN Address of city and state	DESTINATION Address of city and state	MOTOR USED	TRAFFIC	COUNT	MILE	MILE	MILE	MILE	MILE	MILE	MILE	MILE	MILE	MILE	
		State	County																

Prepared By  
 Highway Planning Survey Division  
 Safety and Traffic Department  
 Iowa State Highway Commission  
 In Cooperation with the  
 United States Bureau of Public Roads

March 1959

FINAL REPORT

Urban Area  
Origin and Destination  
Traffic Survey



A. INTRODUCTION

Part III of this report describes briefly the purposes and objectives, procedures, and findings of the Maquoketa Corporate Area Traffic Survey. Summaries and illustrations of the significant data classifications are included. All information was collected during the period of July 7 to 11, 1958. It is reported in terms of the number of trips daily on an average weekday in July 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 corporate 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.

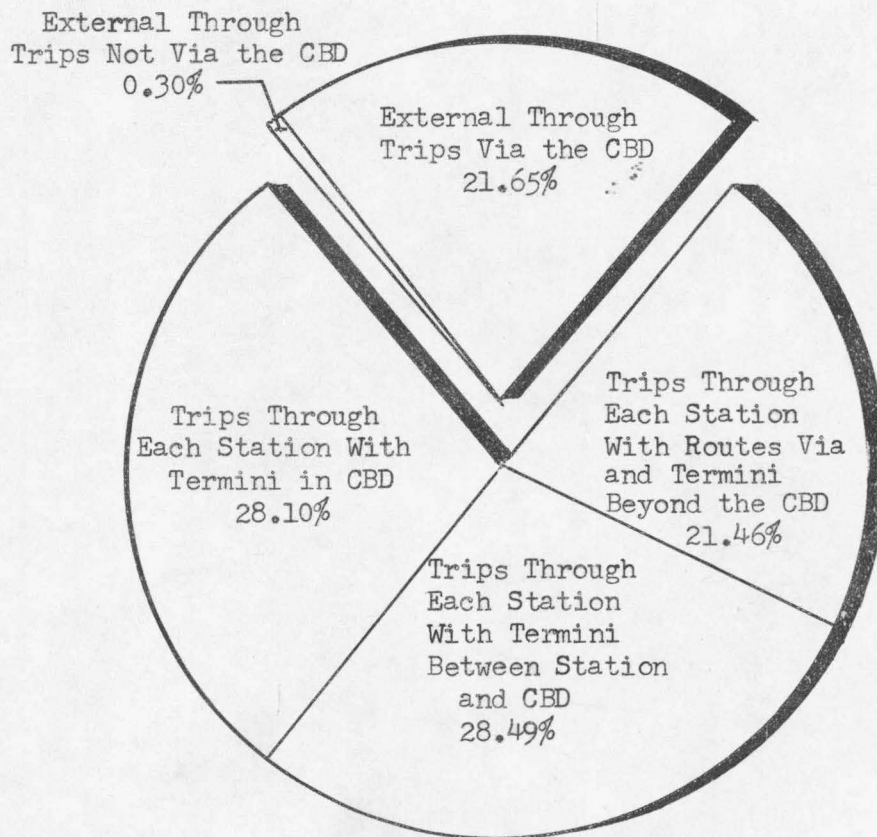
Each interview station was operated for 16 hours starting at 6 AM and ending at 10 PM. This scheme of operation provided for coverage of all but a small portion of the trips passing through each station in the twenty-four hour day. This small portion of traffic was accounted for by portable automatic 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.

The following illustration represents a net total trip summarization and percentage distribution of the termini for all trips passing through the external interview stations on an average weekday in July 1958. It should be noted that the few external through trips having termini on non-primary rural roads, as listed on the trip tabulation sheet in the appendix, are all included with the external local trips.

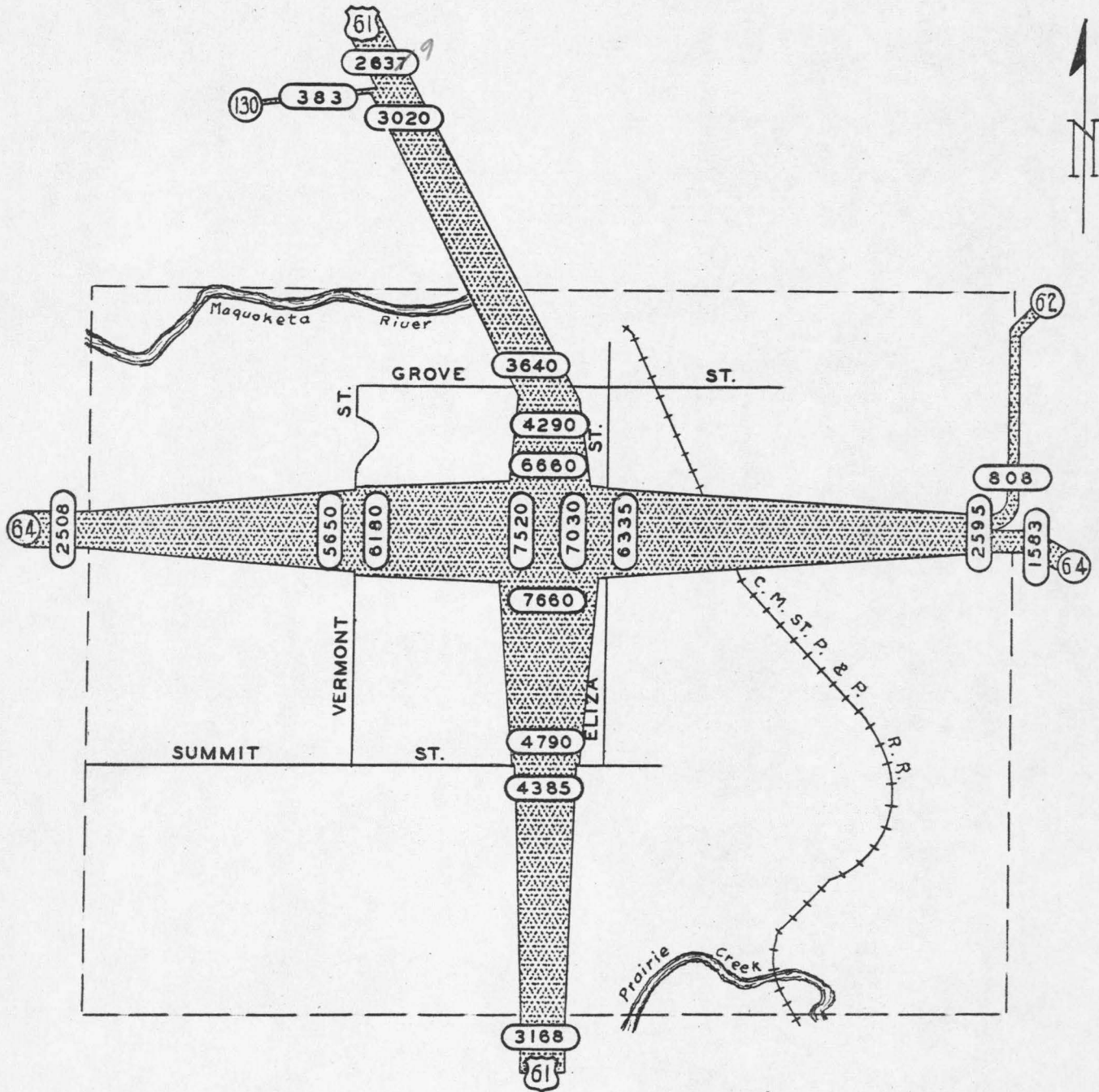




1. Traffic and Interview Summary:

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.

Table 1 Traffic Entering or Leaving the Maquoketa 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 61 N	2,189	338	112	2,639	2,423	91.82
Ia 62 E	718	81	9	808	232	28.71
Ia 64 E	1,408	99	76	1,583	1,424	89.96
US 61 S	2,803	225	140	3,168	2,762	87.18
Ia 64 W	2,317	127	64	2,508	2,077	82.81
Ia 130 NW	341	42	---	383	83	21.93
Total	9,776	912	401	11,089	9,001	81.17



TRAFFIC FLOW MAP  
 CITY OF MAQUOKETA  
 JACKSON COUNTY  
 AVERAGE WEEK DAY TRAFFIC JULY-1958

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 1,969 trips, or 21.65 per cent of the total trips passing through all external stations, were external through trips traveling via the central business district.

External Station Location	Total Trips Through Station	Through Trips Via the CBD	
		Number	Per Cent of Total
US 61 N	2,639	1,129	42.78
Ia 62 E	808	124	15.35
Ia 64 E	1,583	606	38.28
US 61 S	3,168	1,237	39.05
Ia 64 W	2,508	790	31.50
Ia 130 NW	383	52	13.58
Less Duplicates	1,996	1,969	98.65
Total	9,093	1,969	21.65



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 0.30 per cent.

External Station Location	Total Trips Through Station	Through Trips Not Via the CBD	
		Number	Per Cent of Total
US 61 N	2,639	12	.45
Ia 62 E	808	15	1.86
Ia 64 E	1,583	15	.95
US 61 S	3,168	---	-----
Ia 64 W	2,508	---	-----
Ia 130 NW	383	12	3.13
Less Duplicates	1,996	27	1.35
Total	9,093	27	0.30

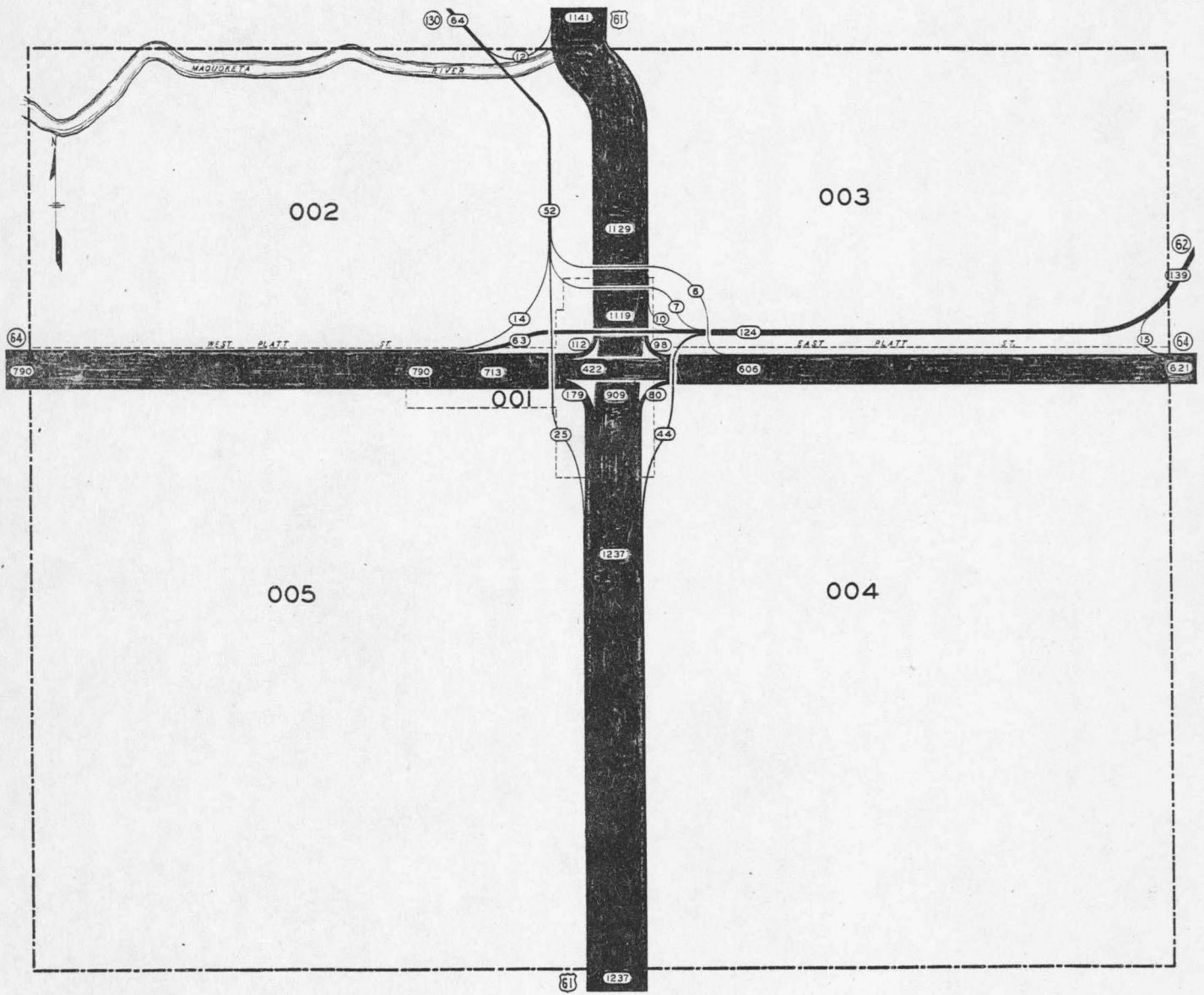
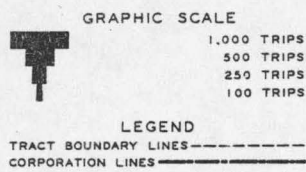


CHART NO. 1  
 ORIGIN OR DESTINATION OF TRIPS  
 BETWEEN PRIMARY ROAD ENTRANCES  
 IN THE CITY  
 OF  
 MAQUOKETA

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 28.10 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 61 N	2,639	477	18.08
Ia 62 E	808	270	33.41
Ia 64 E	1,583	356	22.49
US 61 S	3,168	662	20.90
Ia 64 W	2,508	665	26.52
Ia 130 NW	383	125	32.64
Less Duplicates	1,996	----	-----
Total	9,093	2,555	28.10



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, 2,591 trips, or 28.49 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.

External Station Location	Total Trips Through Station	Termini Between Station and CBD	
		Number	Per Cent of Total
US 61 N	2,639	486	18.42
Ia 62 E	808	269	33.29
Ia 64 E	1,583	371	23.44
US 61 S	3,168	831	26.23
Ia 64 W	2,508	528	21.05
Ia 130 NW	383	106	27.67
Less Duplicates	1,996	---	-----
Total	9,093	2,591	28.49

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 1,951 trips, or 21.46 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	Route Via-Termini Beyond CBD	
		Number	Per Cent of Total
US 61 N	2,639	535	20.27
Ia 62 E	808	130	16.09
Ia 64 E	1,583	235	14.84
US 61 S	3,168	438	13.82
Ia 64 W	2,508	525	20.93
Ia 130 NW	383	88	22.98
Less Duplicates	1,996	---	-----
Total	9,093	1,951	21.46

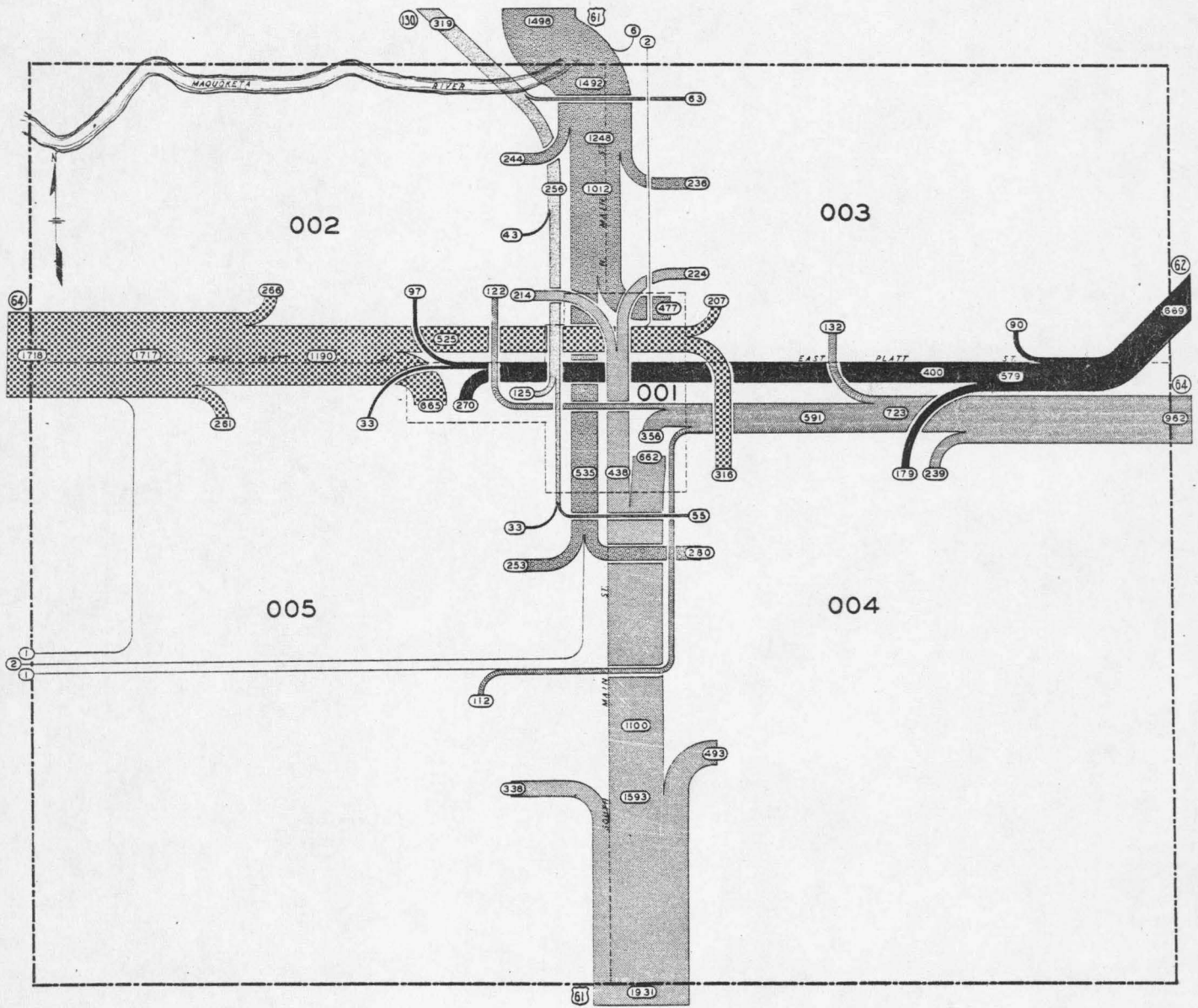
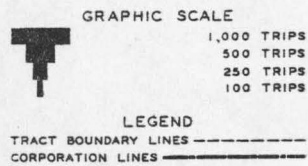


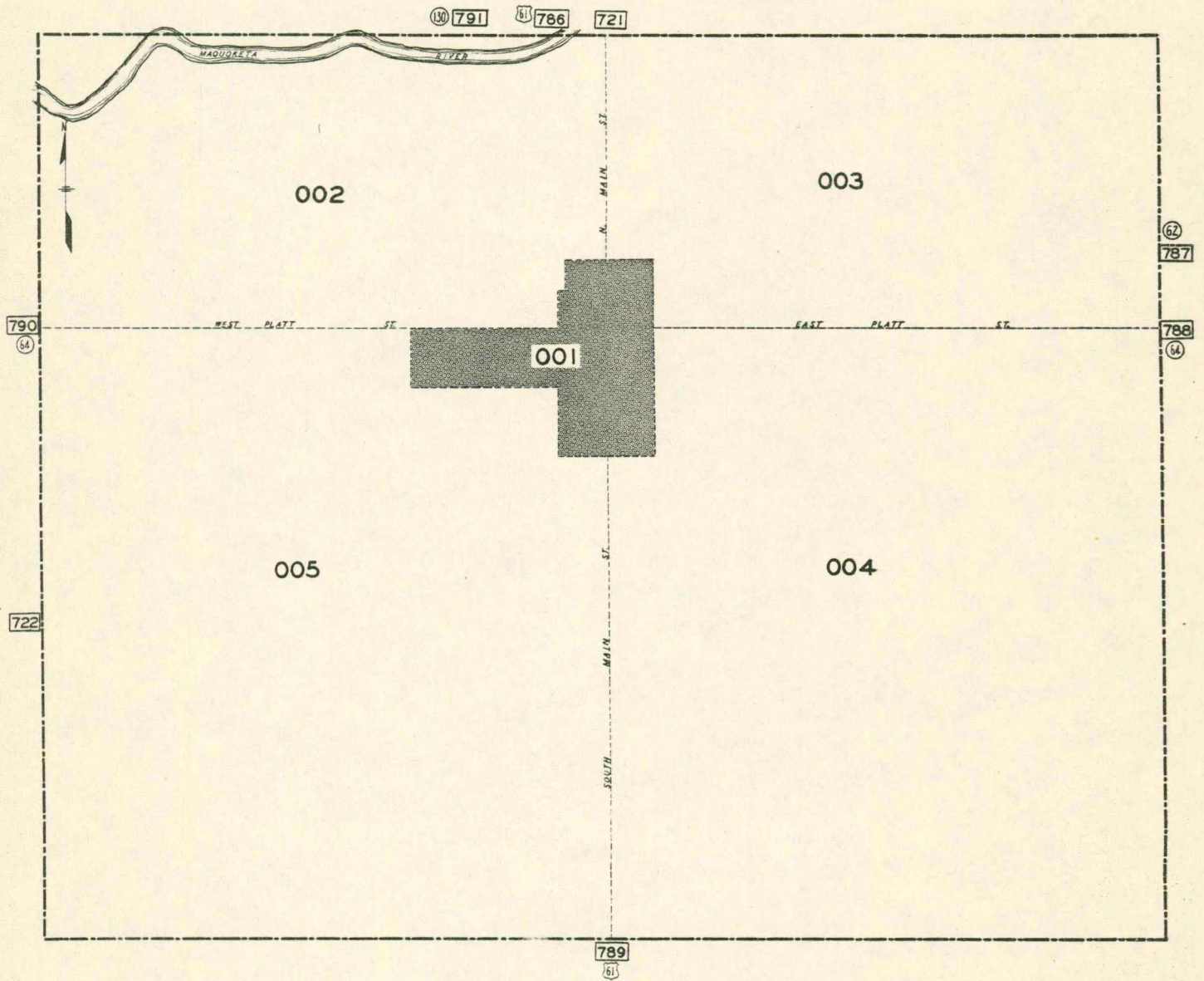
CHART NO. 2  
 ORIGIN OR DESTINATION OF TRIPS  
 BETWEEN PRIMARY ROAD ENTRANCES  
 AND  
 ALL TRACTS WITHIN THE CITY  
 OF  
**MAQUOKETA**

JULY AVERAGE WEEKDAY TRAFFIC 1958





A P P E N D I X



TRACT MAP  
 OF  
 CITY OF MAQUOKETA  
 WITH  
 EXTERNAL STATIONS

LEGEND  
 TRACT BOUNDARY LINES - - - - -  
 CORPORATION LINES - - - - -  
 EXTERNAL STATIONS - - - - - 721  
 CENTRAL BUSINESS DISTRICT - - - - -



1958 Maquoketa Origin and Destination  
 Total Trips Through Stations Located on  
 U.S. 61 N., Ia. 62 N.E., Ia. 64 E., U.S. 61 S., Ia. 64 W., and Ia. 130 N.W.  
 Average Weekday Traffic in July

		Maquoketa Urban Area					Maquoketa Total	External Area							External Total	GRAND TOTAL		
		Tract	Central Business District	Northwest	Northeast	Southeast		Southwest	Local Road No.	Local Road W.	U.S. 61 North	Ia. 62 N.E.	Ia. 64 East	U.S. 61 South			Ia. 64 West	Ia. 130 N.W.
			001	002	003	004		005	721	722	786	787	788	789			790	791
Maquoketa U. A.	Tract	Trip Origin					Trip Destination											
	001	Central Business District								234	91	174	313	307	23	1142	1142	
	002	Northwest								122	26	59	109	133	19	468	468	
	003	Northeast								127	37	74	115	111	45	509	509	
	004	Southeast								125	24	116	241	151	22	679	679	
	005	Southwest								122	13	49	173	138	14	509	509	
	Maquoketa Total									730	191	472	951	840	123	3307	3307	
External Area	721	Local Road North								3				1		4	4	
	722	Local Road West								1						1	1	
	786	U.S. 61 North	243	122	109	155	131	760	3	1		6	53	462	52	9	586	1346
	787	Ia. 62 N.E.	179	71	53	155	20	478			4		9	20	35	5	73	551
	788	Ia. 64 East	182	63	58	123	63	489		1	45	6		33	184	3	272	761
	789	U.S. 61 South	349	105	109	252	165	980			447	24	47		92	10	620	1600
	790	Ia. 64 West	358	133	96	165	123	875	1	1	60	28	238	87		9	424	1299
	791	Ia. 130 N.W.	102	24	18	33	19	196			3	2	3	15	5		28	224
	External Total		1413	518	443	883	521	3778	4	3	563	66	350	617	369	36	2008	5786
	GRAND TOTAL		1413	518	443	883	521	3778	4	3	1293	257	822	1568	1209	159	5315	9093



