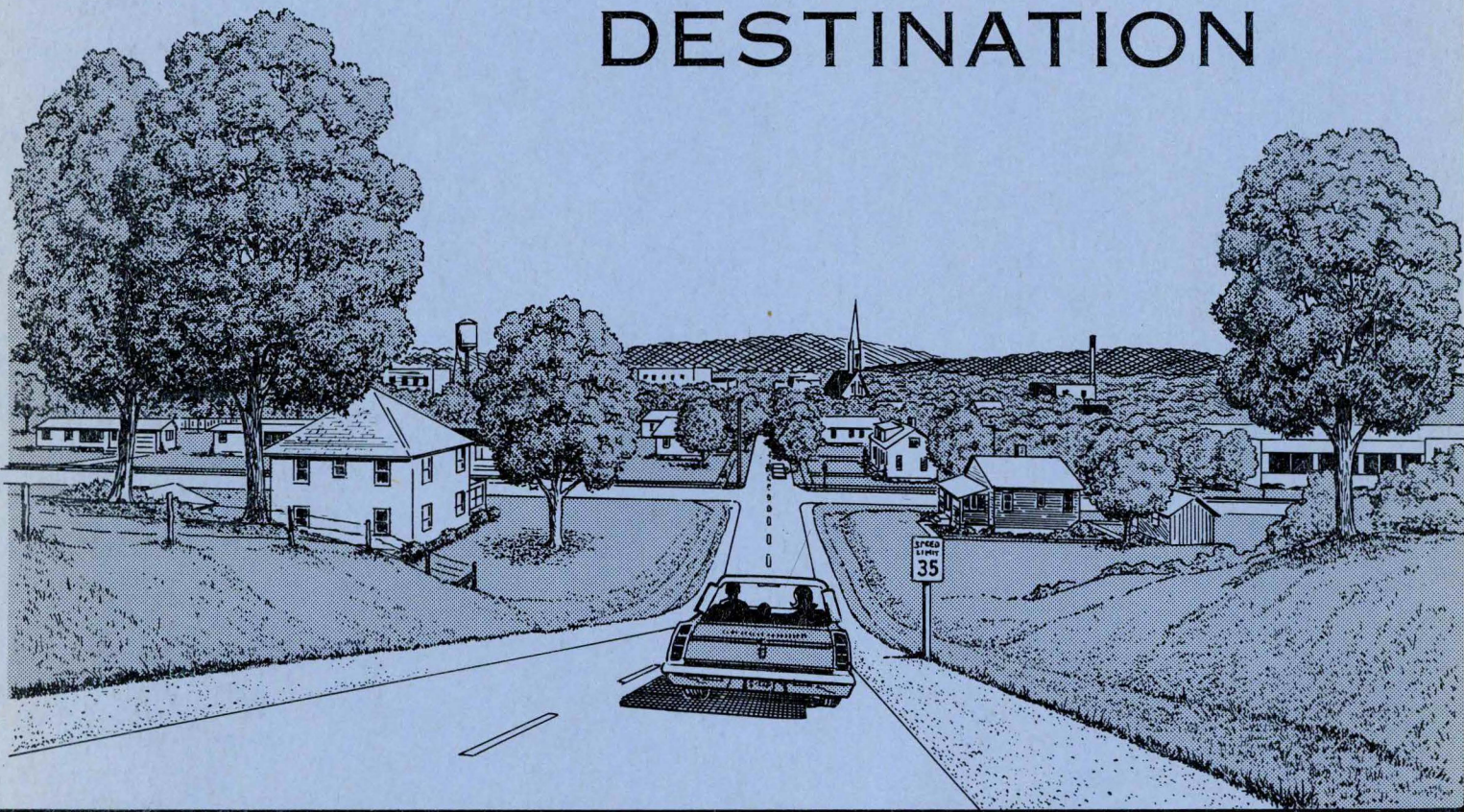


ME
370
.075
I33
1970

IDA GROVE

ORIGIN AND
DESTINATION



TRAFFIC REPORT

IOWA

JUNE OF 1968

STATE OF IOWA

IDA GROVE

ORIGIN AND DESTINATION
TRAFFIC REPORT

DATA GATHERED JUNE 1968

PUBLISHED JANUARY 1970

PREPARED BY

HIGHWAY PLANNING SURVEYS DEPARTMENT
DIVISION OF PLANNING
IOWA STATE HIGHWAY COMMISSION

IN COOPERATION WITH THE

UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

Reproduction Cost \$4.20

INTRODUCTION

This report is based on an external origin and destination traffic survey that was made in Ida Grove in June of 1968. The survey was conducted in cooperation with the United States Bureau of Public Roads and was made to determine the total number and type of vehicles entering or leaving the study area, along with specific origin-destination data from a representative sample of vehicle operators.

The purpose of this report is to summarize the data gathered in Ida Grove and to present this data in a manner which will implement the determination of traffic needs and thereby provide a sound basis for street and highway planning.

TABLE OF CONTENTS

	Page
LIST OF ILLUSTRATIONS	vi
LIST OF TABLES	vii
DEFINITIONS	viii
PART ONE SIGNIFICANT FACTS	
Distribution of Trips	2
Summary	3
Regional Influence of the Study Area	4
Vehicle Type Summary	6
PART TWO HISTORY AND DEVELOPMENT	
History	8
Population Trends	10
Motor Vehicle Registration	12
Study Area Position	14
PART THREE SURVEY PROCEDURES	
The Survey	16
Tract Map of the Study Area	18
PART FOUR TRAFFIC MOVEMENTS	
Internal Dispersion of All Vehicular Trips Passing Through the Following Interview Stations:	
701, F.A.S. 2002 North	21
702, F.A.S. 359 Northeast	22
703, U.S. 59 and Iowa 175 Southeast	23
705, F.A.S. 2014 South	24
707, U.S. 59 and Iowa 175 West	25
Desire Lines of Travel of Trips to or from External Entrances of the Study Area and ...	
The Central Business District	27
Other External Entrances	27
Internal Tracts	27

	Page
Summary of Trips Entering or Leaving the Study Area	29
Dispersion of External Trips Between the Study Area and Points in Iowa Beyond Ida County	30
Dispersion of External Trips Between the Study Area and Points Within Ida County	31
Traffic Volumes on Rural Primary Highways in Ida County . .	32
Traffic Volumes on Primary Road Extensions and Major Streets in the Study Area	33

PART FIVE APPENDIX

Trip Purpose of External Trips	36
Average Car Occupancy by Trip Purpose	37
Origin and Destination of Trips by Autos, Trucks, Taxis, and Buses	38
Origin and/or Destination of Trips by Autos, Trucks, Taxis, and Buses	39

LIST OF ILLUSTRATIONS

Figure		Page
1-1	Distribution of Trips	2
1-2	Regional Influence of the Study Area	4
2-1	Population Trends	11
2-2	Motor Vehicle Registration in Ida County	13
2-3	Study Area Position	14
3-1	Tract Map of the Study Area	18
	Internal Dispersion of All Vehicular Trips Passing Through the Following Interview Stations:	
4-1	701, F.A.S. 2002 North	21
4-2	702, F.A.S. 359 Northeast	22
4-3	703, U.S. 59 and Iowa 175 Southeast	23
4-4	705, F.A.S. 2014 South	24
4-5	707, U.S. 59 and Iowa 175 West	25
	Desire Lines of Travel of Trips to or from External Entrances of the Study Area and ...	
4-6	The Central Business District	27
4-7	Other External Entrances	27
4-8	Internal Tracts	27
4-9	Dispersion of External Trips Between the Study Area and Points in Iowa Beyond Ida County	30
4-10	Dispersion of External Trips Between the Study Area and Points Within Ida County	31
4-11	Traffic Volumes on Rural Primary Highways in Ida County .	32
4-12	Traffic Volumes on Primary Road Extensions and Major Streets in the Study Area	33

LIST OF TABLES

Table		Page
1-1	Regional Influence of the Study Area	5
1-2	Vehicle Type Summary	6
2-1	Population Trends in Ida Grove	10
2-2	Population Trends in Ida County	10
2-3	Motor Vehicle Registration in Ida County	12
4-1	Summary of External Trips	29
B-2a	Trip Purpose of External Trips	36
B-3a	Average Car Occupancy by Trip Purpose	37
E-1	Origin and Destination of Trips by Autos, Trucks, Taxis, and Buses	38
E-2	Origin and/or Destination of Trips by Autos, Trucks, Taxis, and Buses	39

DEFINITIONS OF TECHNICAL TERMS

Study Area	The area enclosed by a cordon line of interview stations
Cordon Line	A hypothetical line determined by the location of traffic interview stations and used to delimit the area under study
Interview Station	A location at which vehicle drivers are stopped and interviewed
Code Station	A location on a street or highway at the point where it crosses the cordon line and at which traffic is counted but not interviewed
Central Business District	The major business district of a city
Origin	The location from which a driver started a trip
Destination	The location at which a trip was ended
Trip	The one-way travel between a point of origin and a point of destination
Internal Trip	A trip having both origin and destination within the study area
External Local Trip	A trip having either origin or destination within the study area and which passed through only one interview station in the cordon line enroute to its destination
External Through Trip	A trip having neither origin nor destination within the study area but which passes through it enroute to its destination
Traffic	The total number of vehicles passing a given point
Desire Line	A straight line between the point of origin and point of destination without regard to routes of travel

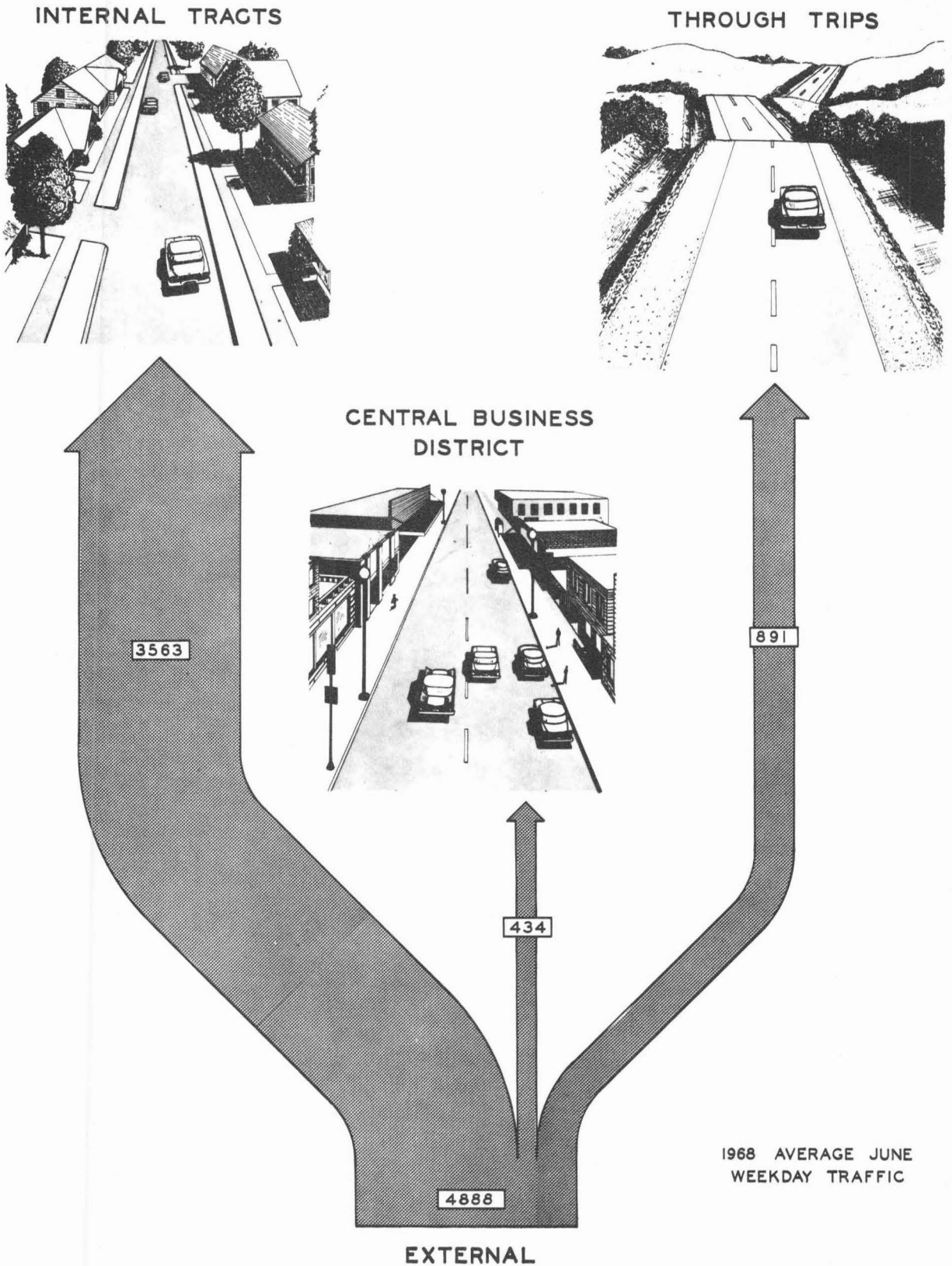


Significant Facts



Part One

FIGURE 1-1
DISTRIBUTION OF TRIPS
IDA GROVE STUDY AREA



SUMMARY

The chart on the left graphically illustrates some of the more significant traffic volumes derived from the Ida Grove Origin and Destination Traffic Survey. An average of 4,888 trips per day passed through the external cordon line of interview stations surrounding the study area during the survey period.

434 trips, or 8.88 percent of the total number of trips, were between external areas and the central business district.

3,563 trips, or 72.89 percent of the total number of trips, were between external and internal areas exclusive of the central business district.

891 trips, or 18.23 percent of the total number of trips, were through trips which passed through Ida Grove enroute to another destination.

Of the total number of trips which passed through interview stations, 15.63 percent began or ended at work, 22.03 percent were for social or recreational purposes, 23.63 percent were during work, 22.32 percent were for personal business, 8.10 percent were for shopping, and the remaining 8.29 percent were for other purposes.

Table 1-1
REGIONAL INFLUENCE OF THE IDA GROVE STUDY AREA

1968 Average June Weekday Traffic

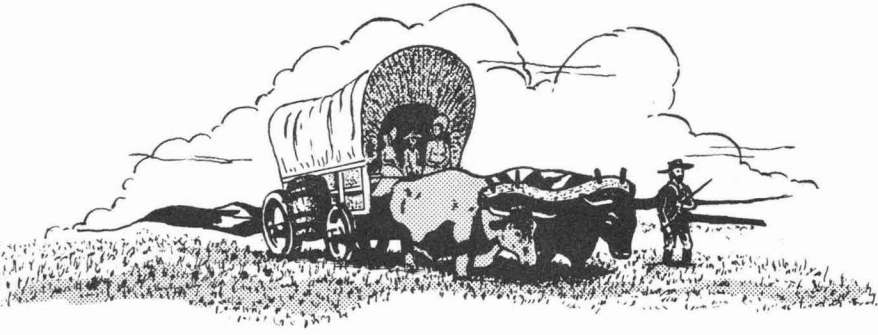
	Miles From Study Area	Number of Trips	Percent of Total Trips Within a Fifty-Mile Radius
North	0 - 10	134	3.61
	10 - 20	340	9.16
	20 - 30	43	1.16
	30 - 40	76	2.04
	40 - 50	2	.05
North Total		595	16.02
East	0 - 10	753	20.28
	10 - 20	236	6.36
	20 - 30	62	1.67
	30 - 40	13	.35
	40 - 50	35	.94
East Total		1,099	29.60
South	0 - 10	603	16.24
	10 - 20	190	5.12
	20 - 30	140	3.77
	30 - 40	9	.24
	40 - 50	8	.22
South Total		950	25.59
West	0 - 10	819	22.06
	10 - 20	100	2.69
	20 - 30	127	3.42
	30 - 40	10	.27
	40 - 50	13	.35
West Total		1,069	28.79
Grand Total		3,713	100.00

TABLE 1-2
VEHICLE TYPE SUMMARY
IDA GROVE STUDY AREA

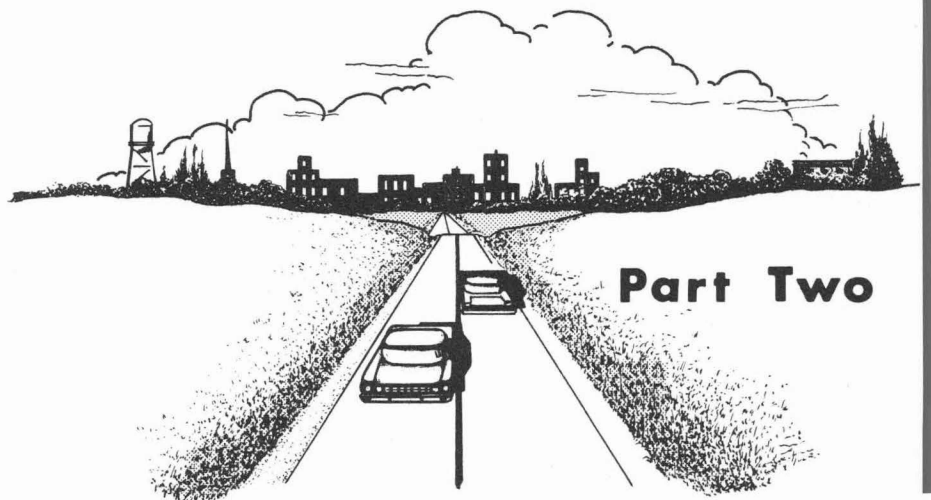
AVERAGE JUNE WEEKDAY TRAFFIC 1968

Station	Location	Passenger Cars	Pickups and Panels	Single Unit Trucks	Truck Combi- nations	Total
701	F.A.S. 2002 North	125	40	7		172
702	F.A.S. 359 Northeast	174	52	5	5	236
703	U.S. 59 and Iowa 175 N.E.	1,798	335	172	110	2,415
705	F.A.S. 2014 South	324	104	35	1	464
707	U.S. 59 and Iowa 175 West	1,876	347	157	100	2,480
Total		4,297	878	376	216	5,767

The totals shown above include the duplication of those trips which passed entirely through the study area and were, therefore, interviewed twice.



History and Development



Part Two

HISTORY

Broad rolling prairies, plenty of available timber, and abundant water brought John Moorehead and his family to settle in Ida County in 1856. Since their homesite included a fine grove of trees they called it Ida Grove.

In 1858, Moorehead built a dam across the Maple River. The dam was used to power a sawmill and gristmill to serve the few other settlers who had arrived in the Ida County area.

A townsite was staked out in 1859 but no houses were built pending the establishment of the route of the Northwestern Railroad which was to be built in this area. Instead of building through the Maple River Valley, as many people anticipated, the railroad chose to build its line through the Boyer River Valley. In addition, the railroad secured rights to all land not already claimed in the area. This action practically closed Ida County to settlement for several years and the population grew very slowly.

In 1871, the railroad relinquished its claims and settlers began to arrive in greater numbers. That year John Moorehead, W. J. Wagoner and Charles Hathaway laid out and filed the plat for the village of Ida. The following year Ida was designated as the Ida County seat.

Rail service came to Ida in 1877 with the completion of the Fort Dodge and Sioux City Railroad link to the town. The name was changed from Ida to Ida Grove and a large town plat was laid out.

Ida Grove has grown to a population of 2,265 (1960 census). This makes it the largest town in Ida County.

Ida Grove's municipal water system takes excellent advantage of the readily available water supplies in the area. Three wells supply 1,000 gallons per minute for normal city needs, with the additional potential of two more wells to supply another 600 gallons per minute for future expansion.

The municipal sewage treatment plant, constructed in 1932, provides complete treatment of all waste products. All residential, commercial and industrial areas are served by this facility.

The Ida Grove Community School system includes elementary, junior high and senior high schools. The entire system has full accreditation and offers a full program of instruction and extra-curricular activities.

Fire protection is provided in Ida Grove by a volunteer fire department equipped with a city truck and a rural truck. An emergency unit with respiration equipment is also available if needed.

Horn Memorial Hospital, constructed in 1966, provides full medical facilities for the citizens of Ida Grove. This facility is supplemented by two medical clinics. A nursing home, built in 1967 provides care for the elderly.

Industry in Ida Grove is primarily agricultural such as feed manufacturing, feed milling, dairy processing, and manufacturing small farm equipment. However, Ida Grove's industry also includes residential and commercial construction, plastic manufacturing, and marine equipment manufacturing.

Ida Grove is amply supplied with transportation facilities. Rail transportation is supplied by the Chicago Northwestern Railroad. The Municipal Airport provides excellent facilities for small aircraft. The 3,200 foot asphalt, all-weather runway is completely lighted. Radio facilities include Unicom radio at 122.8 MHZ and a non-directional low frequency radio beacon operating on 281 KHZ. Airport services include air taxi, air ambulance, charter service and flight instruction.

The primary highways serving Ida Grove are U.S. Highway 59 and Iowa 175. Five trucking services and two parcel services make use of these highways in serving Ida Grove. In addition, Ida Grove has bus service connecting it with other cities.

POPULATION TRENDS

IDA GROVE POPULATION

Table 2-1

Census Year	Ida Grove Population	Volume Increase or Decrease	Percent Change 10-Year Period
1900	1,767		
1910	1,874	107	6.05
1920	2,020	146	7.79
1930	2,206	186	9.21
1940	2,238	32	1.45
1950	2,202	-36	-1.61
1960	2,265	63	2.86

IDA COUNTY POPULATION

Table 2-2

Census Year	Ida Co. Population	Volume Increase or Decrease	Percent Change 10-Year Period
1860	43		
1870	226	183	462.10
1880	4,382	4,156	1838.94
1890	10,705	6,323	144.29
1900	12,327	1,622	15.15
1910	11,296	-1,031	-8.36
1920	11,689	393	3.47
1930	11,933	244	2.09
1940	11,047	-886	-7.42
1950	10,679	-368	-3.33
1960	10,269	-410	-3.84

FIGURE 2-1
POPULATION TRENDS

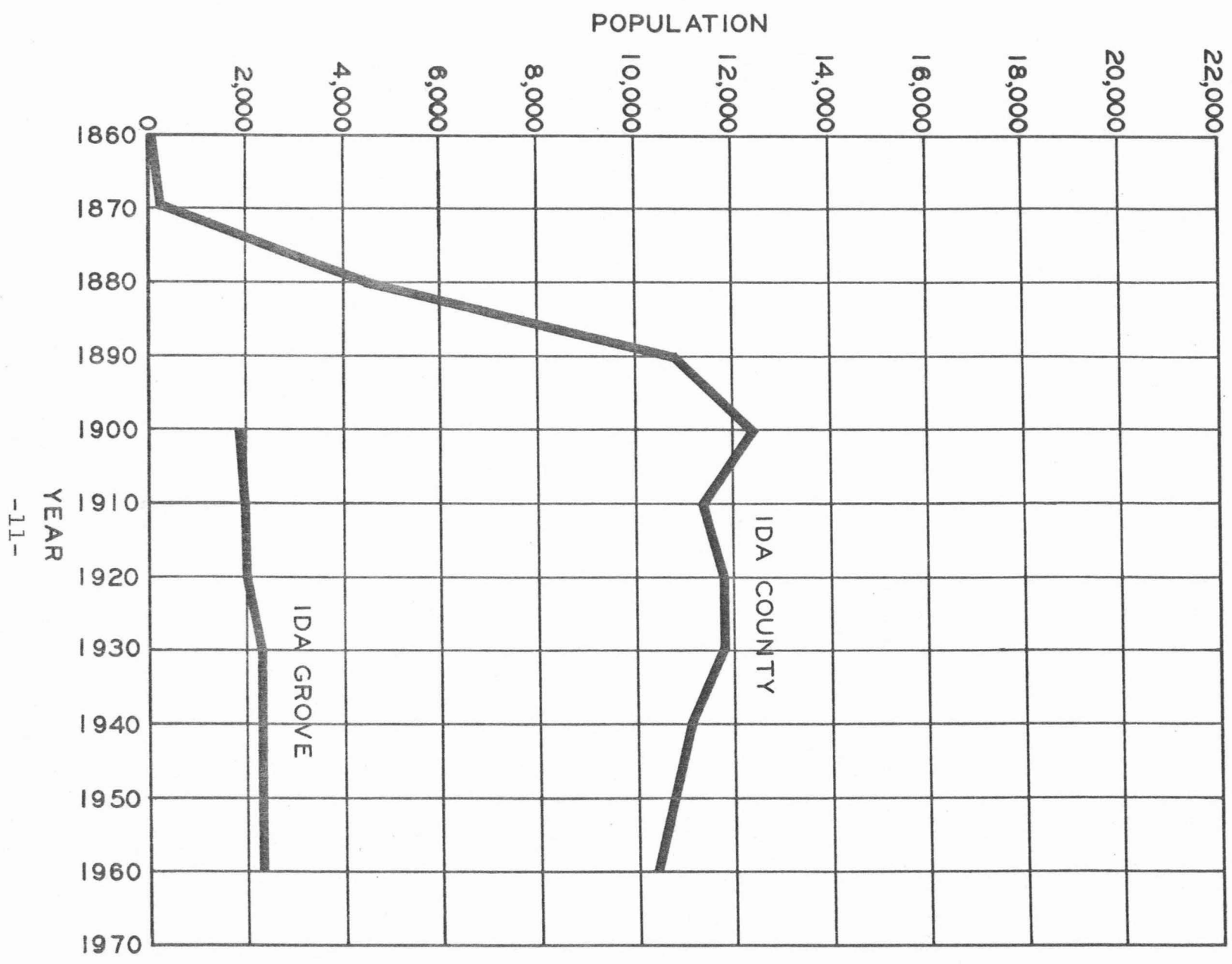


TABLE 2-3
 MOTOR VEHICLE REGISTRATION IN IDA COUNTY
 FROM 1939 THROUGH 1968

Year	Autos	Trucks	Motorcycles	Total	Percent Change
1939	3,433	397	2	3,832	
1940	3,549	430	6	3,985	3.84
1941	3,597	478	3	4,078	2.33
1942	3,328	458	7	3,793	2.85
1943	3,199	457	6	3,662	3.45
1944	3,178	480	4	3,662	
1945	3,185	510	9	3,704	1.15
1946	3,337	579	10	3,926	5.65
1947	3,564	663	13	4,240	8.00
1948	3,785	812	31	4,628	9.15
1949	4,185	956	37	5,178	11.88
1950	4,358	1,078	39	5,475	5.74
1951	4,282	1,147	36	5,465	- .18
1952	4,125	1,199	22	5,346	- 2.18
1953	4,108	1,242	21	5,371	.47
1954	4,255	1,309	28	5,592	4.11
1955	4,336	1,354	41	5,731	1.39
1956	4,186	1,329	43	5,558	- 3.02
1957	4,114	1,299	36	5,449	- 1.96
1958	4,213	1,333	45	5,591	2.61
1959	4,315	1,351	38	5,704	2.02
1960	4,266	1,348	41	5,655	- .86
1961	4,308	1,408	44	5,760	1.86
1962	4,434	1,460	33	5,927	2.90
1963	4,478	1,513	29	6,029	1.72
1964	4,486	1,534	32	6,052	.38
1965	4,567	1,604	57	6,228	2.91
1966	4,626	1,678	88	6,392	2.63
1967	4,677	1,691	138	6,506	1.78
1968	4,612	1,755	184	6,551	.69

MOTOR VEHICLE REGISTRATION IN IDA COUNTY
FROM 1939 THROUGH 1968

FIGURE 2-2

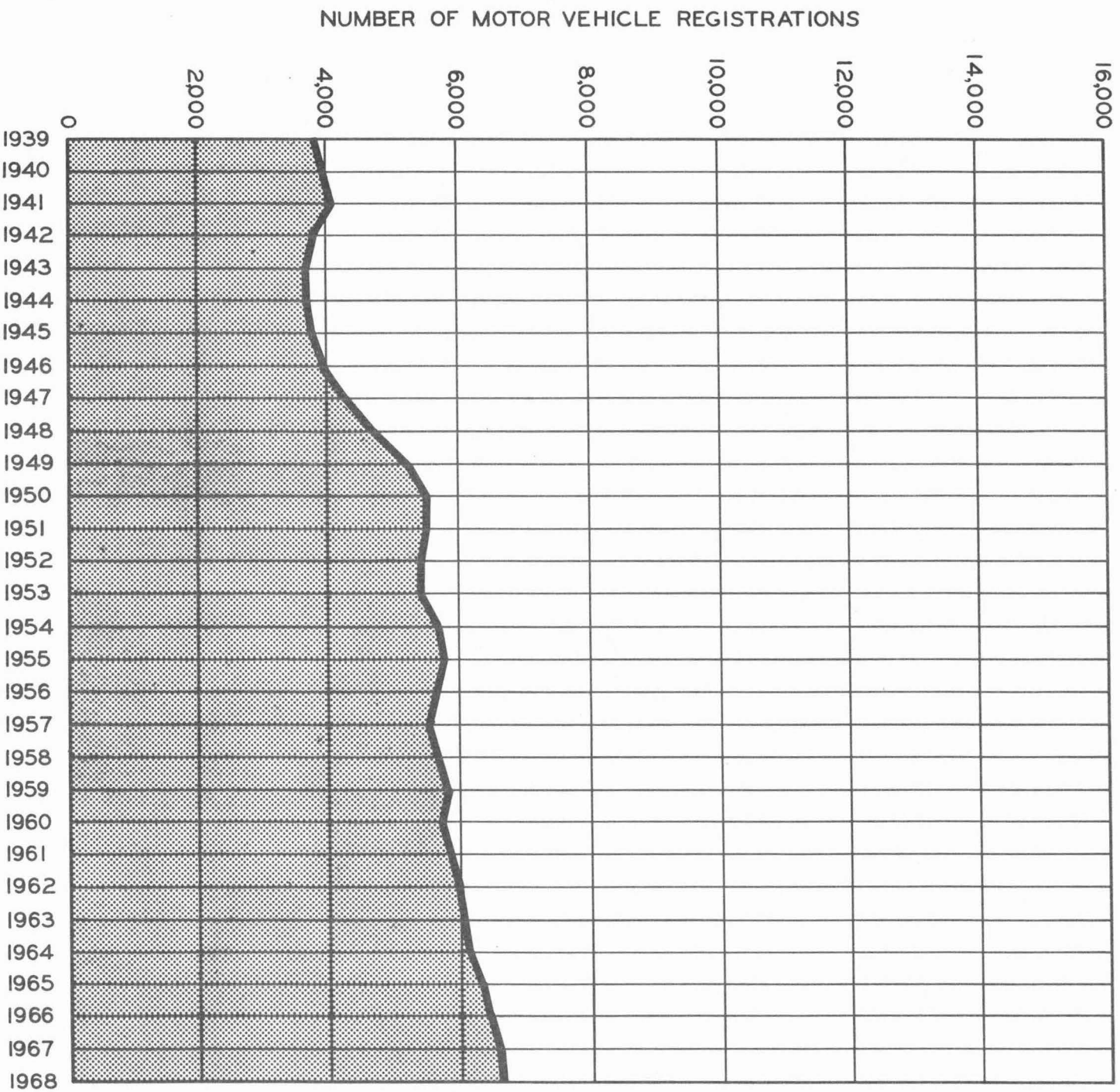
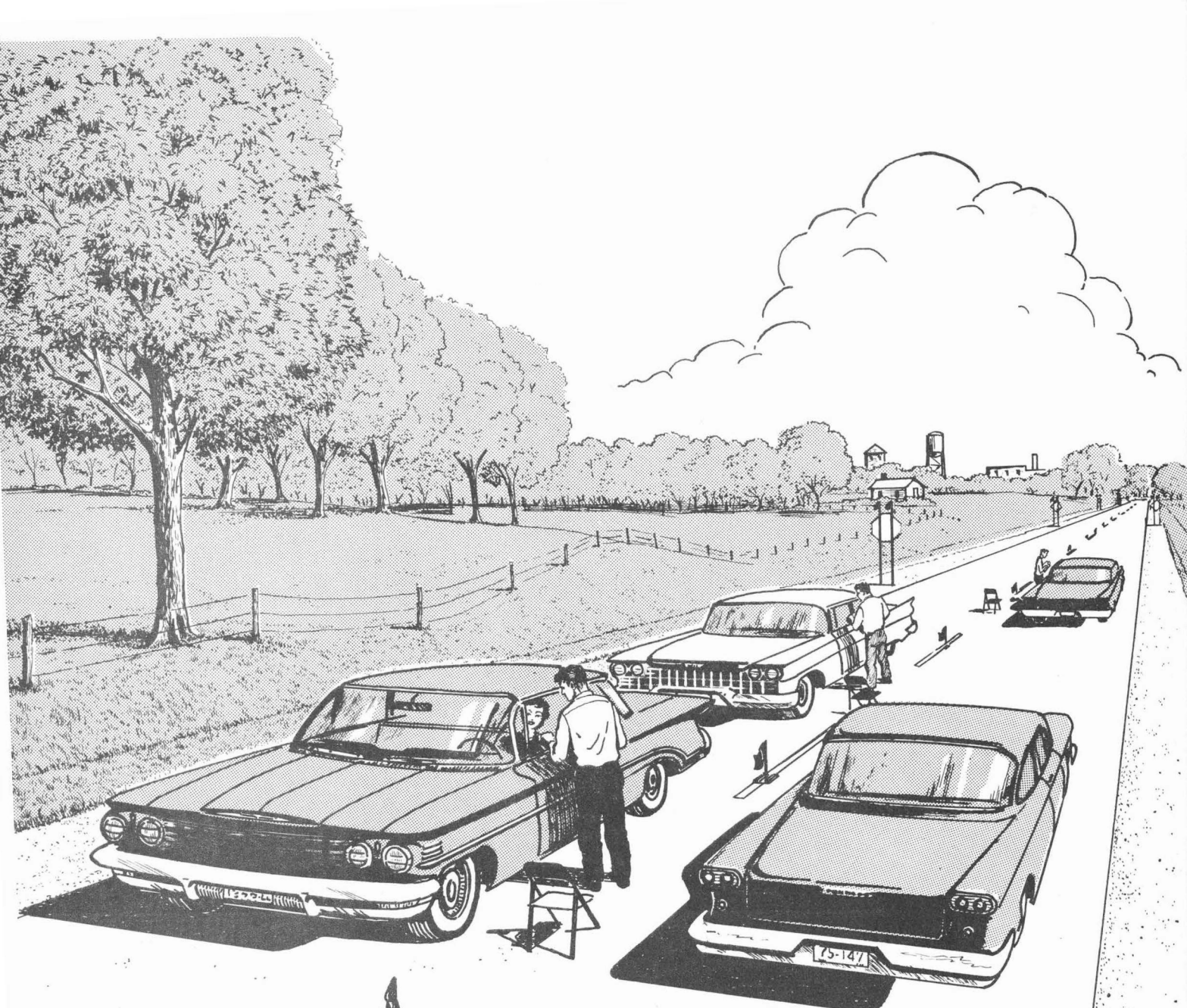


FIGURE 2-3
STUDY AREA POSITION





Survey

Procedures

Part Three

THE SURVEY

An external origin and destination traffic survey, of the type conducted in Ida Grove, is designed primarily to determine the origin, destination, and purpose of travel, along with the number and type of all vehicles entering or leaving the study area in a given period of time.

It has been demonstrated that travel is an expression of behavior and as such, tends to be repetitive. It is this repetition which enables the statistician and the highway planner to expand and project current data for the prediction of future needs.

In order to obtain accurate information upon which to base an analysis, it is necessary to interview vehicle drivers at strategically located interview stations. A cordon line composed of interview stations and code stations was located around the perimeter of the study area. Interview stations were located on all major roads entering the study area and all other roads were assigned station code numbers to facilitate the organization of interview data for those through trips which passed through only one interview station. The study area was divided into six tracts, and all trips which had either their origin or their destination within the study area were traced to one of these tracts.

Interviewing for the Ida Grove survey was done between June 4th and 11th in 1968. All vehicles passing through interview stations during a 15-hour period from 6 a.m. to 9 p.m. were stopped briefly for interviews in which vehicle operators were questioned concerning the origin, destination, and purpose of the trip in progress. In addition, the vehicle type was recorded along with the location where it was normally kept or garaged, the place of registration, direction of travel, and number of occupants.

It should be noted that the Washington Street Bridge was closed at the time of the survey and that traffic volumes on the Moorhead Avenue Bridge and adjacent streets were abnormal as a result. Traffic volumes on streets not immediately adjacent to this area were not affected.

Mechanical traffic recorders were placed at the location of each interview station and were operated continuously for a period of five weekdays, including the day on which the interviewing was done. Manual vehicle classification counts were also taken and, together with the data provided by the mechanical recorders, were used to expand the interview data to 24-hour average June weekday traffic for 1968.

At the conclusion of the field work, the data pertaining to each trip were coded and punched on tabulating cards. These cards were then sorted and tabulated by machine according to the tract of origin or destination and the station or stations through which each trip passed.

In an external survey of this type, all trips are placed in two main categories composed of "external local trips" and "external through trips". External local trips have only one terminal (which may be either the origin or destination) within the study area and, therefore, pass through only one interview station while enroute to their destination. Trips which have neither origin nor destination within the study area, but must pass through it enroute to another destination, are classified as external through trips. Trips in this category must cross the cordon line at least twice while enroute to their destination.

Traffic flow charts indicating trip termini by tract of origin or destination are included in this report along with a series of desire line charts showing desired routes of travel in straight lines between interview stations and internal tracts.

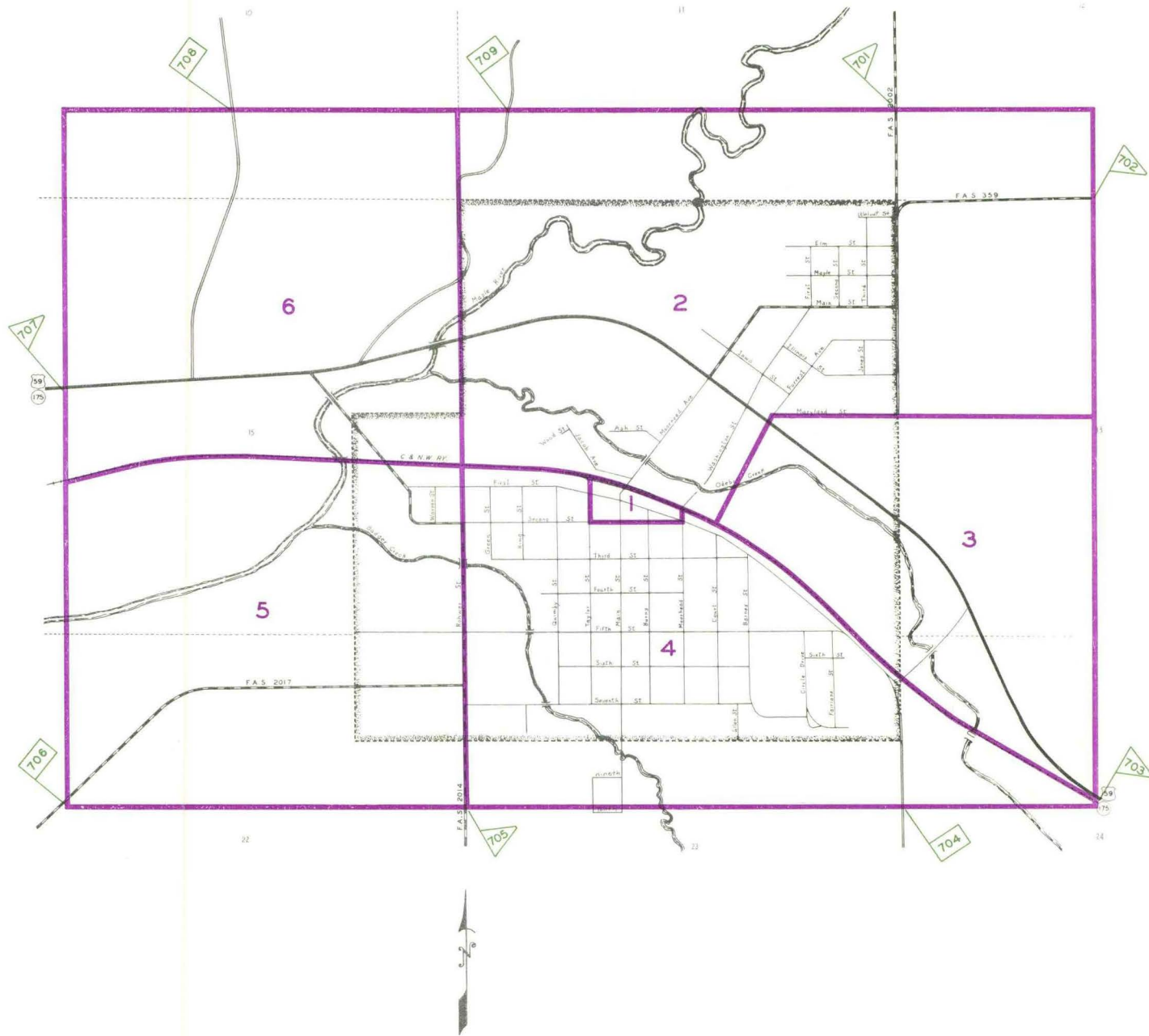
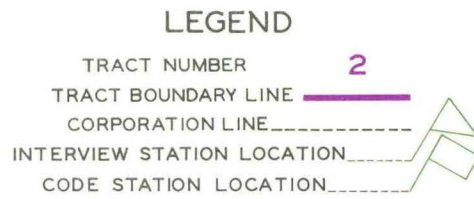


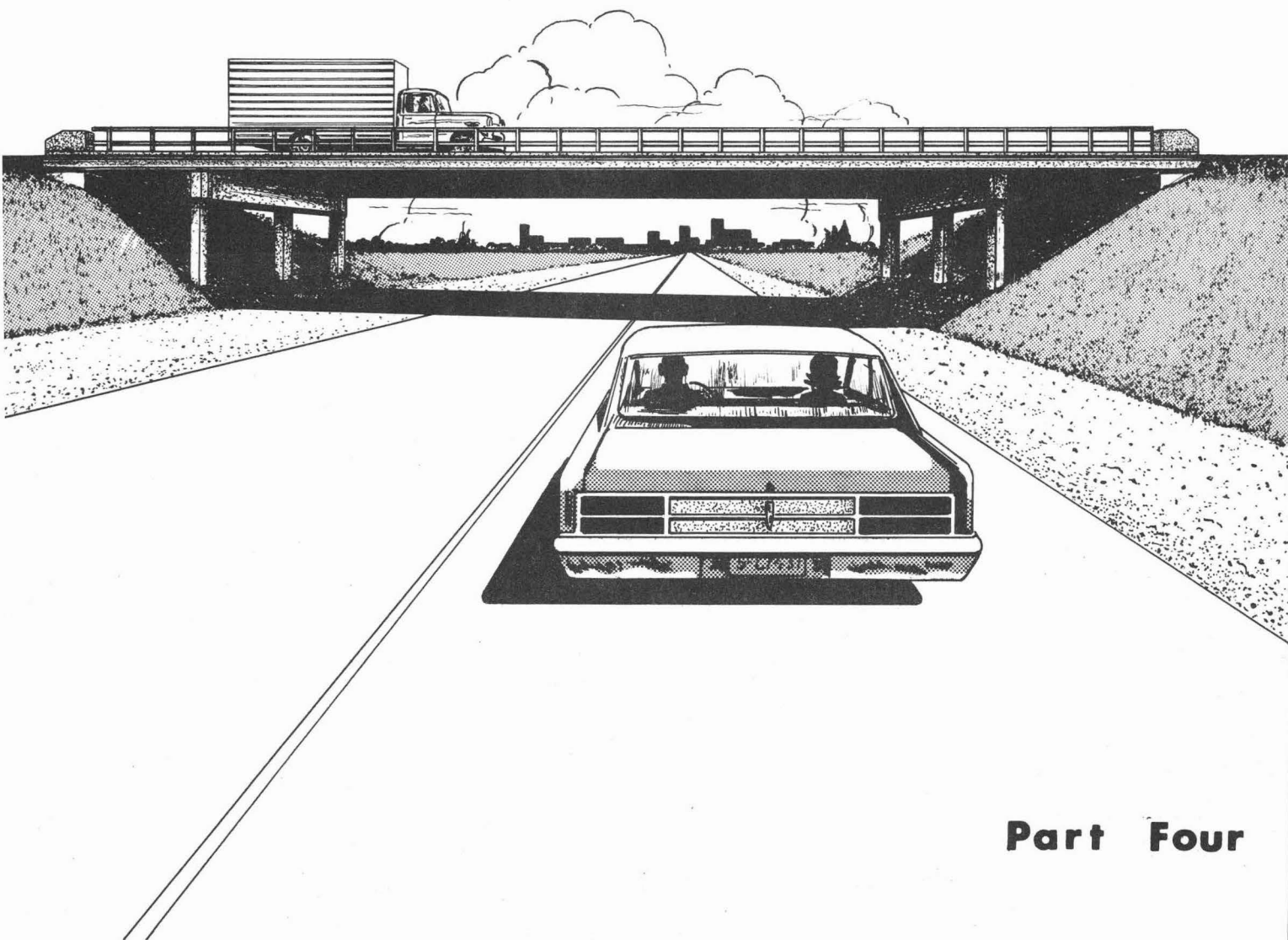
FIGURE 3-1
TRACT MAP OF THE
IDA GROVE STUDY AREA

JUNE 1968



Traffic

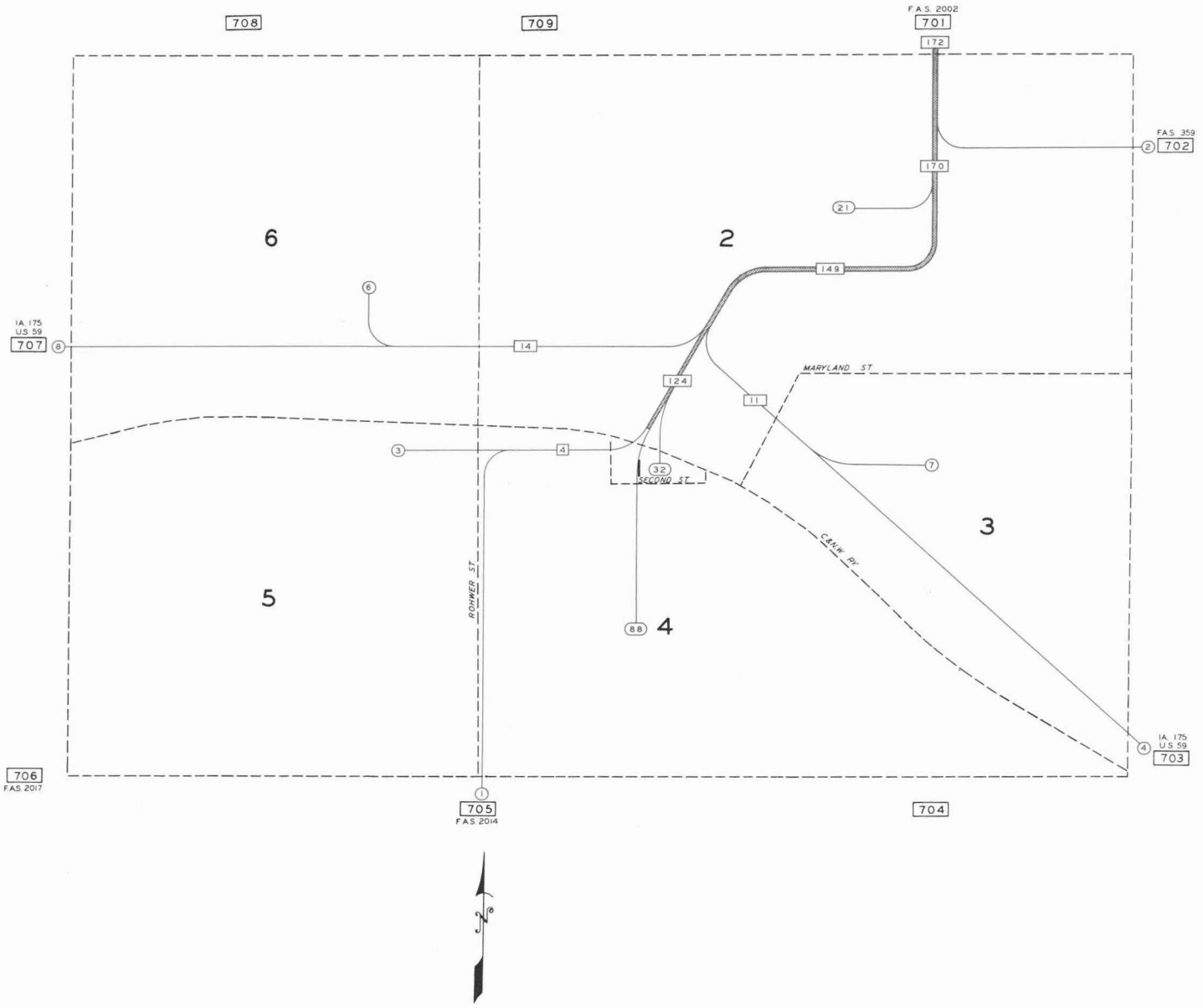
Movements



Part Four

TRAFFIC FLOW CHARTS

The following traffic flow charts illustrate the internal dispersion of trips between points of origin and/or destination through the stations indicated. These charts are not intended to show exact routes, but rather to show trip volume by tract of origin or destination and the number of trips passing through each external interview station. Trips origins and destinations are not differentiated and the tract or station totals shown include both origins and destination.



LEGEND

- TRACT BOUNDARY LINE - - - - -
- CORPORATION LINE - - - - -

GRAPHIC SCALE



1968 AVERAGE JUNE WEEKDAY TRAFFIC

FIGURE 4-1
INTERNAL DISPERSION OF
ALL VEHICULAR TRIPS PASSING THROUGH
STATION 701 F.A.S. 2002 NORTH
OF THE
IDA GROVE STUDY AREA
 (ALL TRIPS BY DRIVERS OF AUTOS TRUCKS TAXIS AND BUSES)

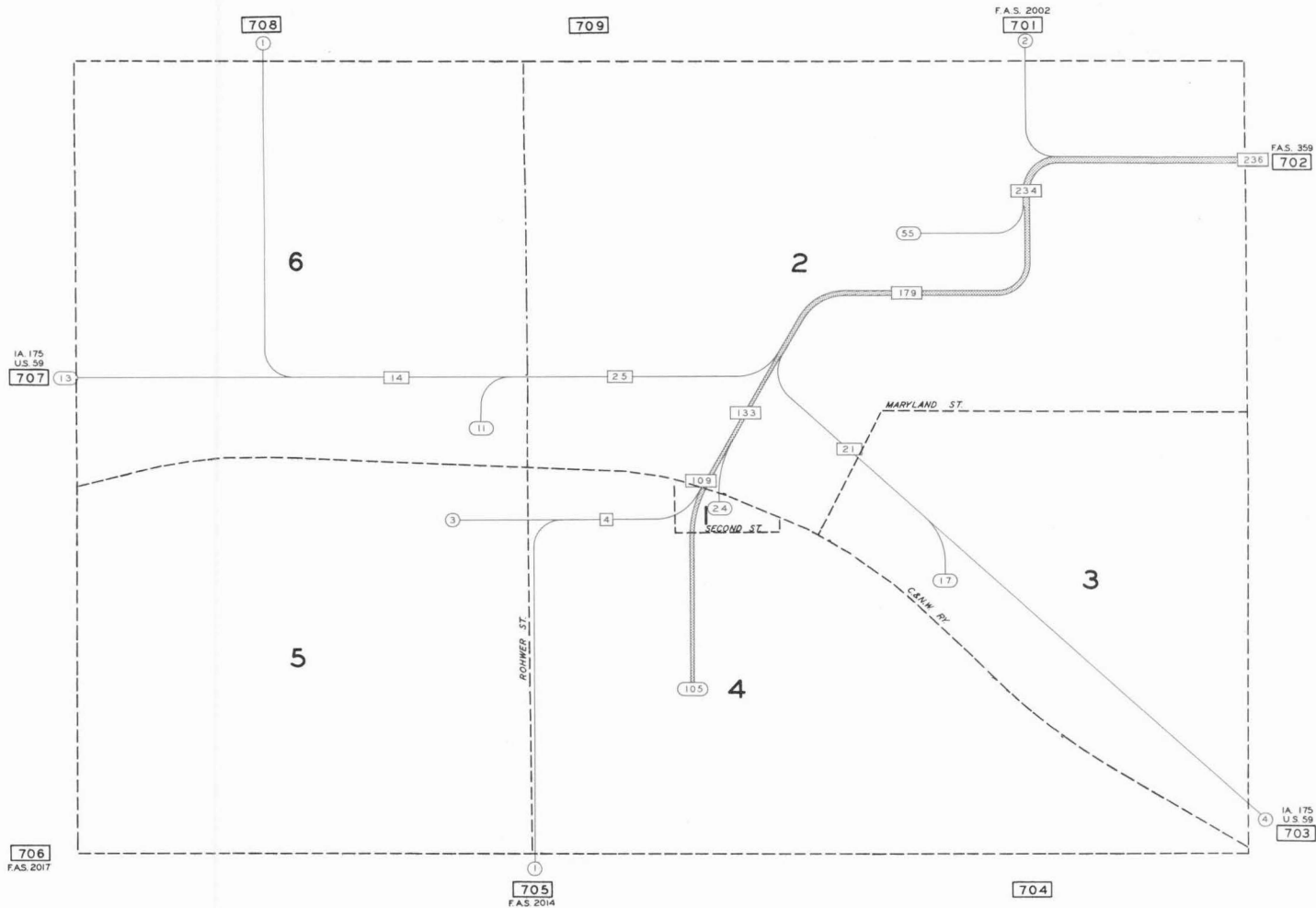


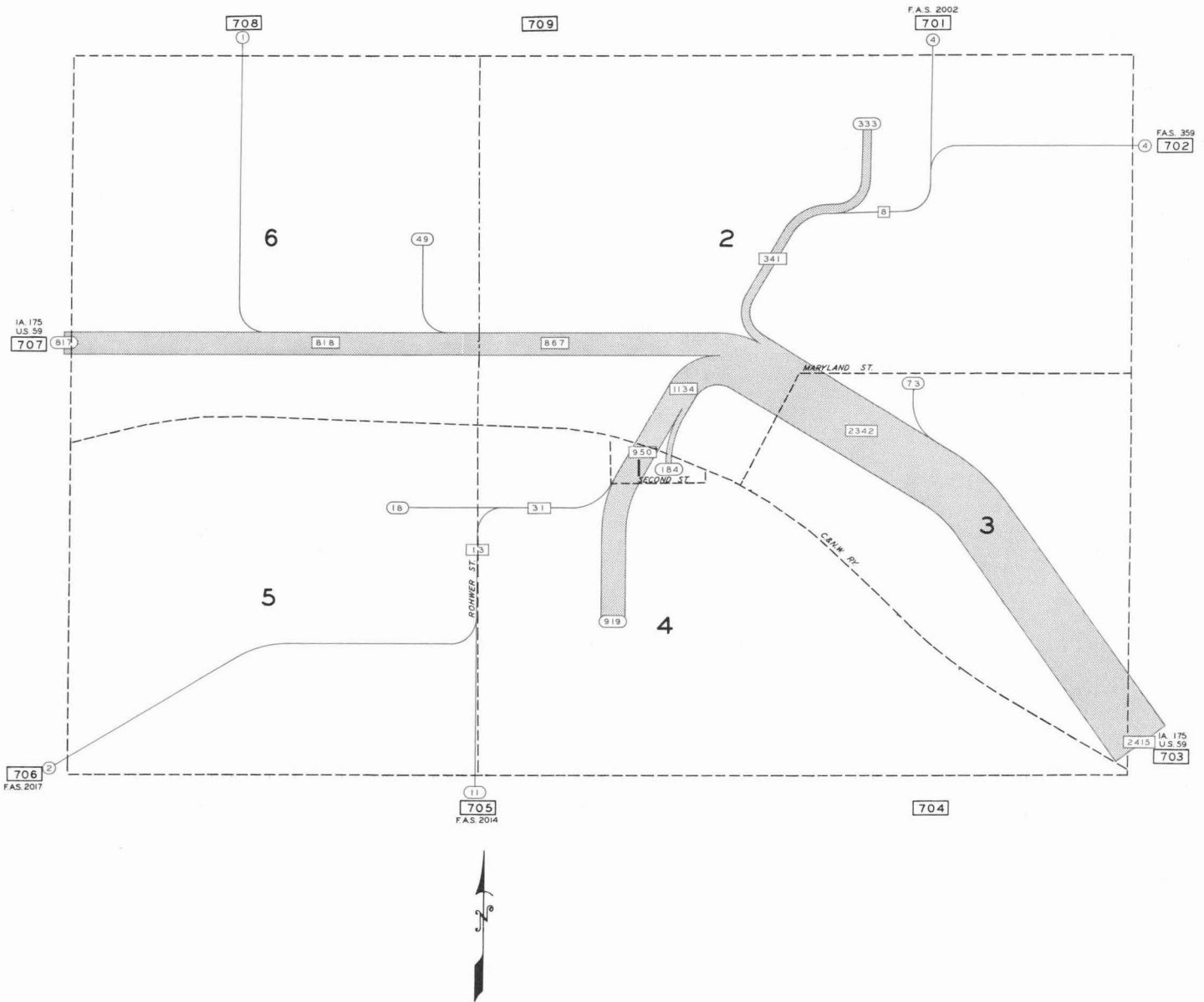
FIGURE 4-2
 INTERNAL DISPERSION OF
 ALL VEHICULAR TRIPS PASSING THROUGH
 STA 702 F.A.S. 359 NORTHEAST
 OF THE
 IDA GROVE STUDY AREA
 (ALL TRIPS BY DRIVERS OF AUTOS TRUCKS TAXIS AND BUSES)

LEGEND
 TRACT BOUNDARY LINE - - - - -
 CORPORATION LINE - - - - -

GRAPHIC SCALE

	4000 TRIPS
	2000 TRIPS
	1000 TRIPS
	500 TRIPS

1968 AVERAGE JUNE
 WEEKDAY TRAFFIC



LEGEND

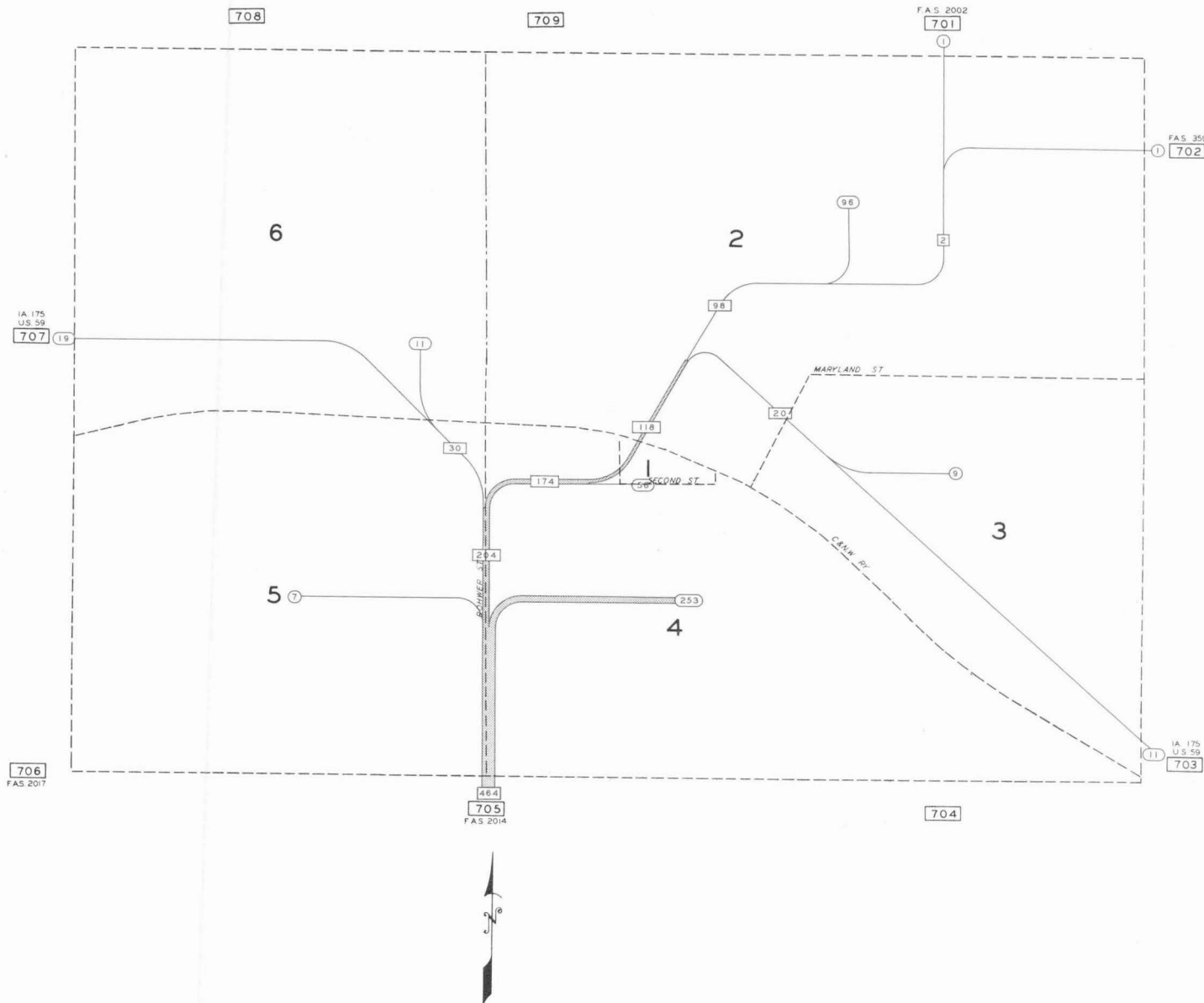
TRACT BOUNDARY LINE - - - - -
 CORPORATION LINE - - - - -

GRAPHIC SCALE

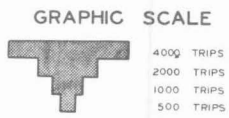


1968 AVERAGE JUNE
 WEEKDAY TRAFFIC

FIGURE 4-3
INTERNAL DISPERSION OF
ALL VEHICULAR TRIPS PASSING THROUGH
STA 703 U.S. 59 & IA. 175 S.E.
OF THE
IDA GROVE STUDY AREA
 (ALL TRIPS BY DRIVERS OF AUTOS TRUCKS TAXIS AND BUSES)

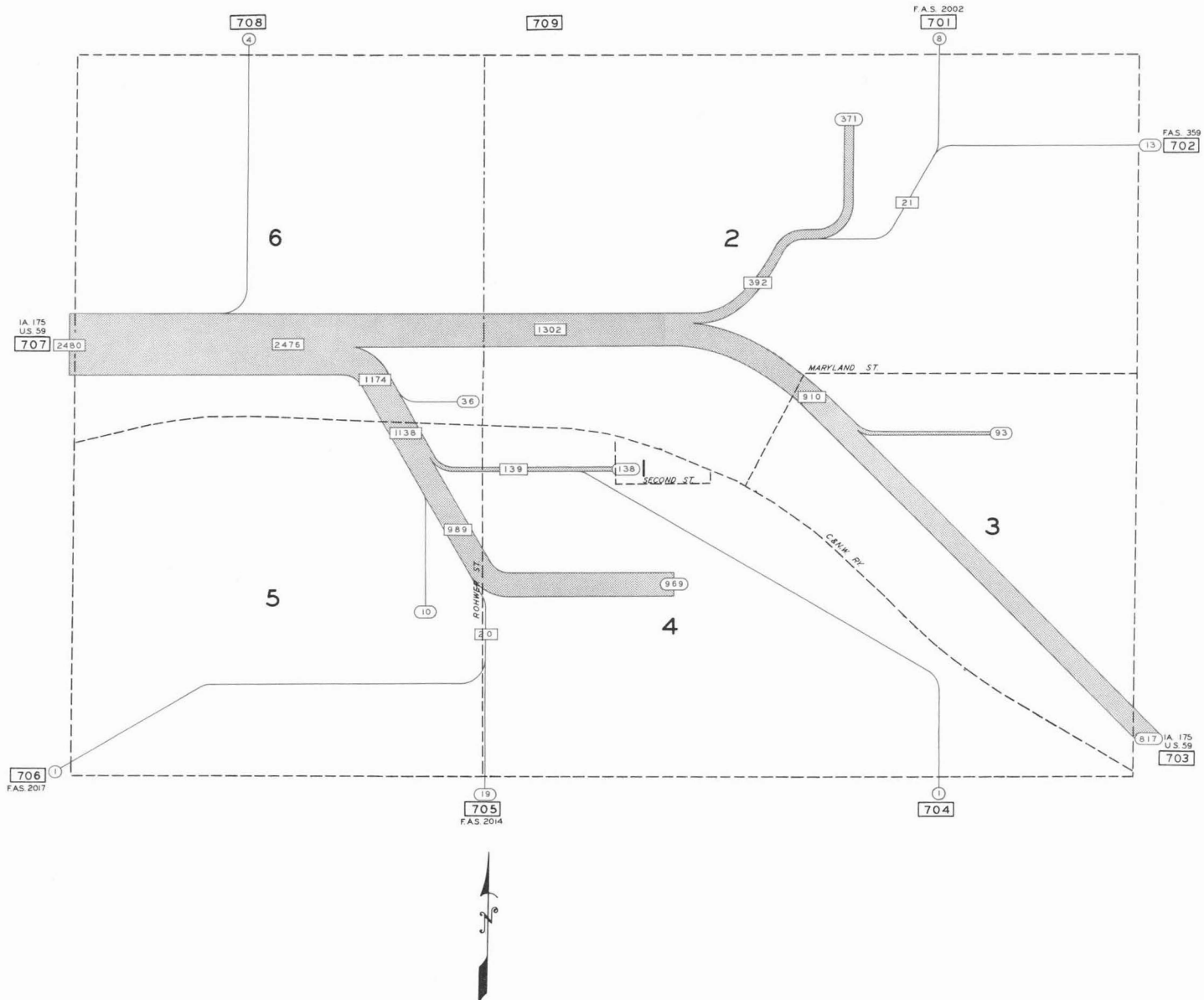


LEGEND
 TRACT BOUNDARY LINE - - - - -
 CORPORATION LINE - - - - -



1968 AVERAGE JUNE
 WEEKDAY TRAFFIC

FIGURE 4-4
 INTERNAL DISPERSION OF
 ALL VEHICULAR TRIPS PASSING THROUGH
 STA 705 F.A.S. 2014 SOUTH
 OF THE
 IDA GROVE STUDY AREA
 (ALL TRIPS BY DRIVERS OF AUTOS TRUCKS TAXIS AND BUSES)



LEGEND

TRACT BOUNDARY LINE - - - - -
 CORPORATION LINE - - - - -

GRAPHIC SCALE



1968 AVERAGE JUNE
 WEEKDAY TRAFFIC

FIGURE 4-5
 INTERNAL DISPERSION OF
 ALL VEHICULAR TRIPS PASSING THROUGH
 STATION 707-U.S. 59 & IA. 175 W.
 OF THE
 IDA GROVE STUDY AREA
 (ALL TRIPS BY DRIVERS OF AUTOS TRUCKS TAXIS AND BUSES)

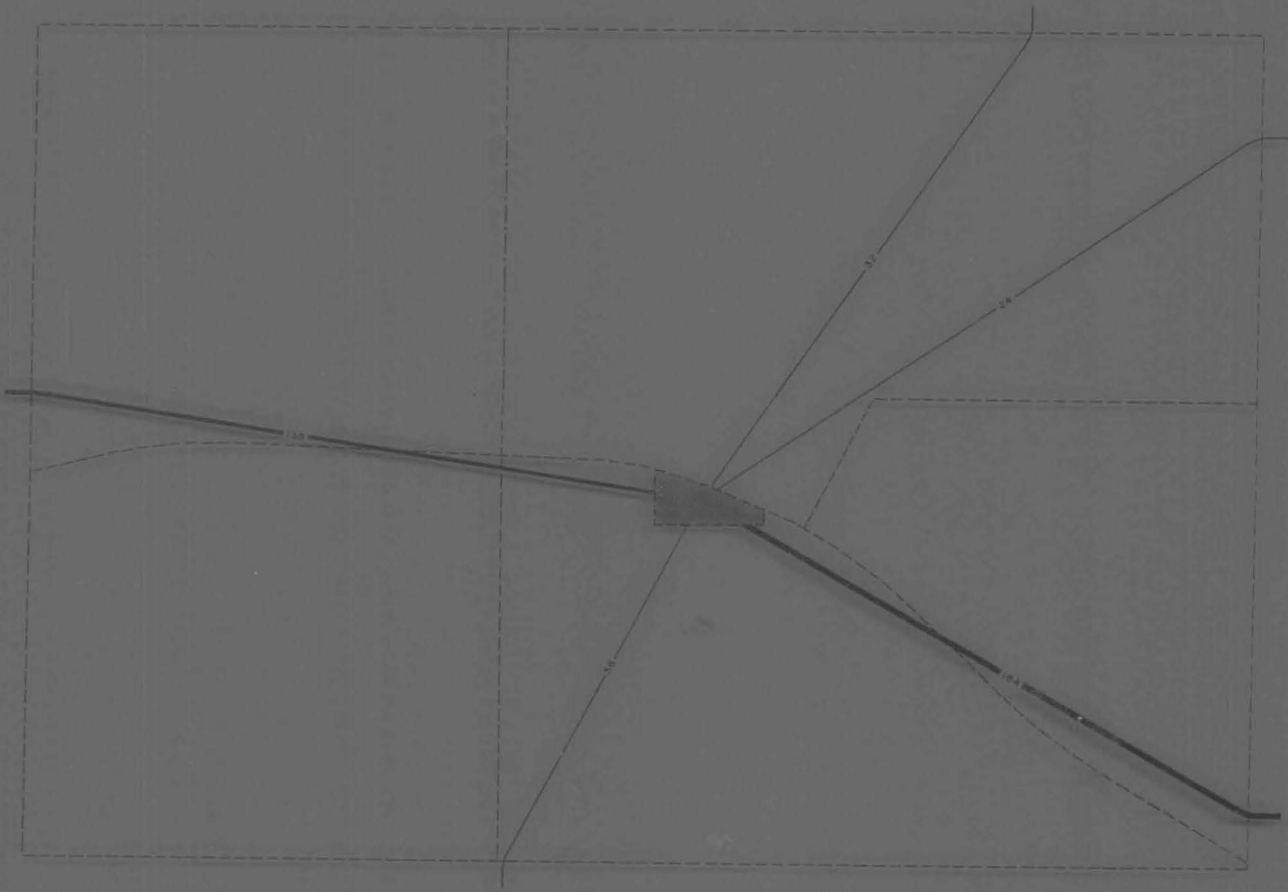
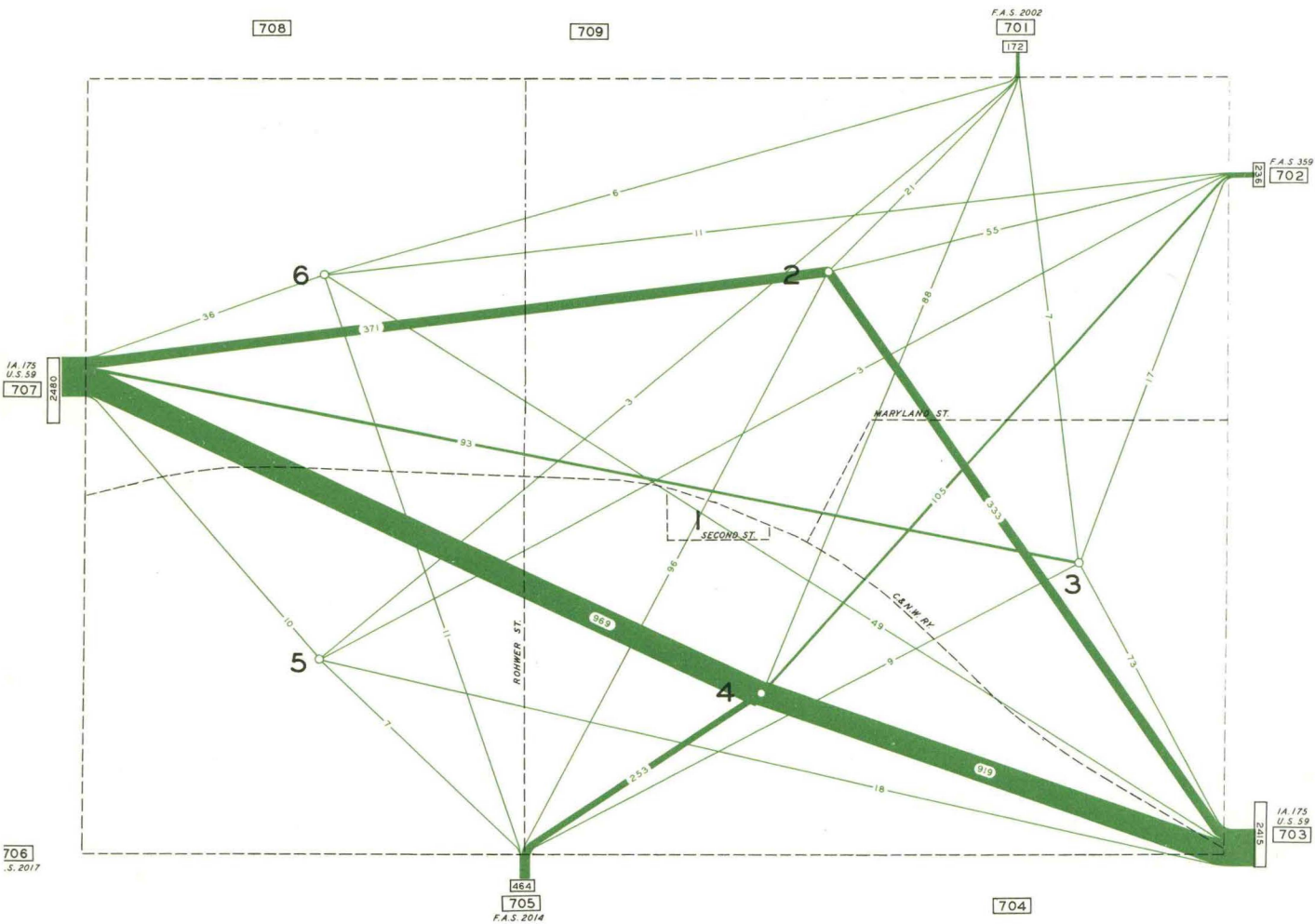


FIGURE 4-6

CENTRAL BUSINESS DISTRICT



LEGEND

TRACT BOUNDARY LINE - - - - -
 CORPORATION LINE - - - - -

GRAPHIC SCALE



1968 AVERAGE JUNE
 WEEKDAY TRAFFIC

FIGURE 4-8
 DESIRE LINES OF TRAVEL OF TRIPS
 TO OR FROM
 EXTERNAL ENTRANCES OF THE
 IDA GROVE STUDY AREA
 AND
 INTERNAL TRACTS

EXTERNAL TRIP TERMINI

Table 4-1 on the adjoining page shows a tabulation of the number and percent of those trips which had termini in Ida County, rural areas adjacent to the study area, other counties in Iowa, and other states.

The following traffic flow charts illustrate the data shown in Table 4-1 and point out the Iowa terminals of all trips which passed through the Ida Grove study area at the time of the survey. Figure 4-9 shows the external termini of all trips which originated or terminated beyond Ida County. Those trips which had termini in other states are shown entering or leaving Iowa on routes which appear to be most direct to the study area. Figure 4-10 is a continuation of Figure 4-9 and shows the external termini of those trips which originated or terminated in Ida County beyond the cordon line surrounding the study area. All routes shown are approximate and should be interpreted as such.

TABLE 4-1
 SUMMARY OF TRIPS ENTERING OR LEAVING
 THE IDA GROVE STUDY AREA

1968 AVERAGE JUNE WEEKDAY TRAFFIC

Origin or Destination	Station Location	F.A.S. 2002 North		F.A.S. 359 Northeast		U.S. 59 and Ia. 175 S.E.		F.A.S. 2014 South		U.S. 59 and Ia. 175 West	
		Station 701		Station 702		Station 703		Station 705		Station 707	
		Vol.	%	Vol.	%	Vol.	%	Vol.	%	Vol.	%
Arthur		1	.58	16	6.78	422	17.47				
Battle Creek								17	3.66	762	30.72
Galva		17	9.88	19	8.05	14	.58			23	.93
Holstein		3	1.75							339	13.67
Total to Towns		21	12.21	35	14.83	436	18.05	17	3.66	1,124	45.32
Rural Ida County		146	84.88	189	80.08	503	20.83	411	88.58	249	10.04
Other Counties		5	2.91	11	4.66	1,341	55.53	36	7.76	969	39.07
Out-of-State				1	.42	135	5.59			138	5.57
Total		172	100.00	236	100.00	2,415	100.00	464	100.00	2,480	100.00

FIGURE 4-9
DISPERSION OF EXTERNAL TRIPS
BETWEEN THE IDA GROVE STUDY AREA
AND POINTS IN IOWA BEYOND IDA COUNTY*

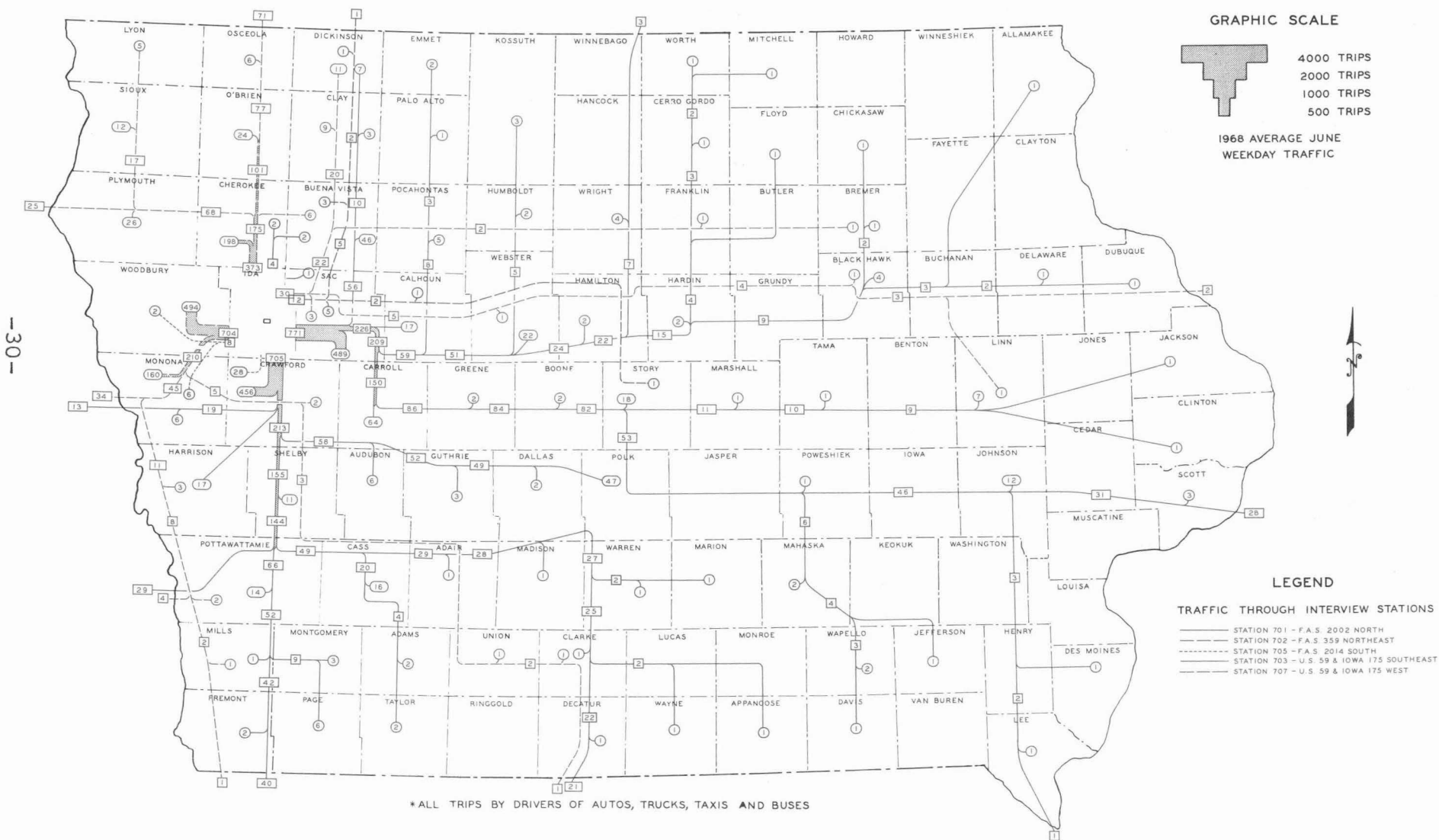
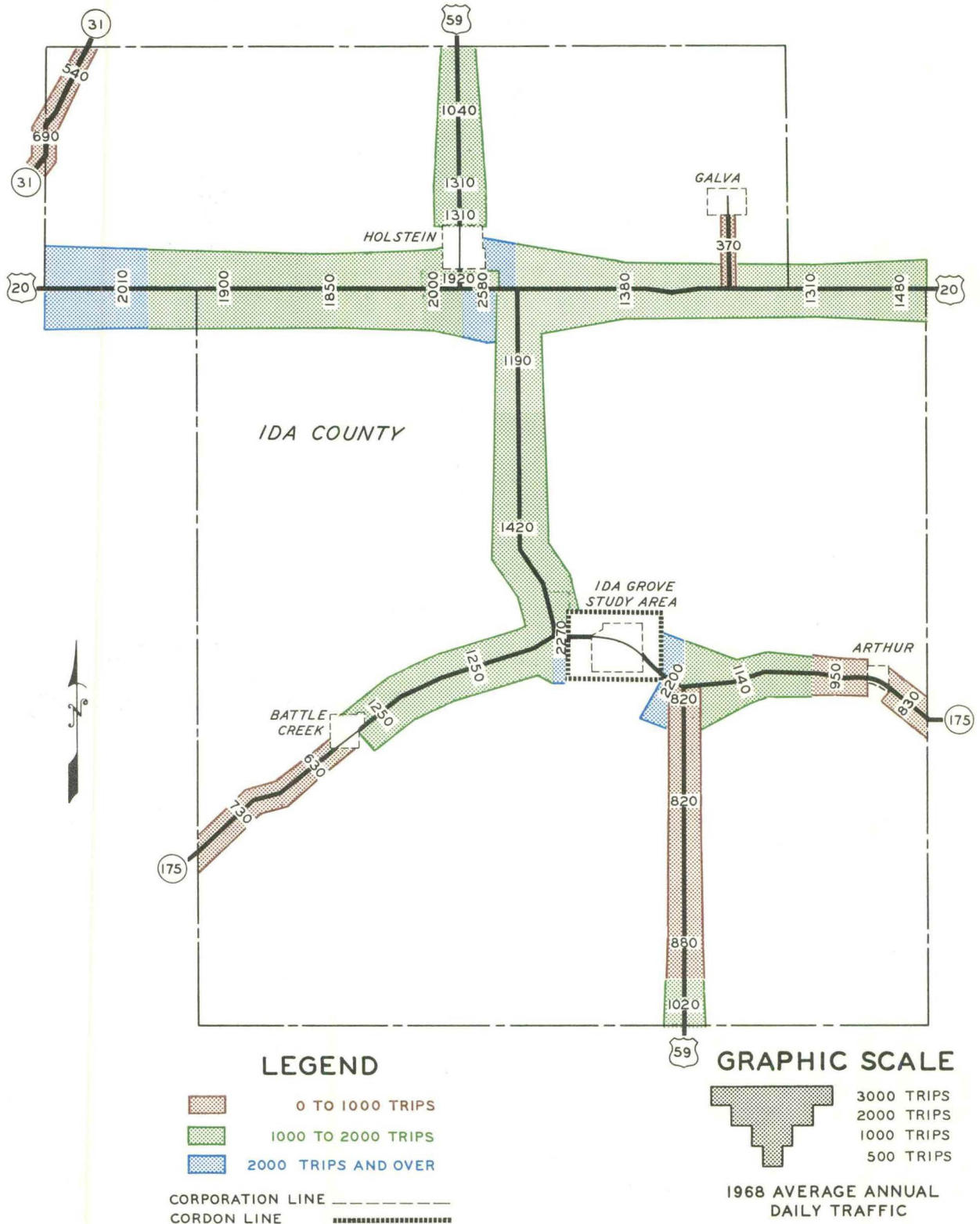


FIGURE 4-11
TRAFFIC VOLUMES ON
RURAL PRIMARY HIGHWAYS
IN IDA COUNTY



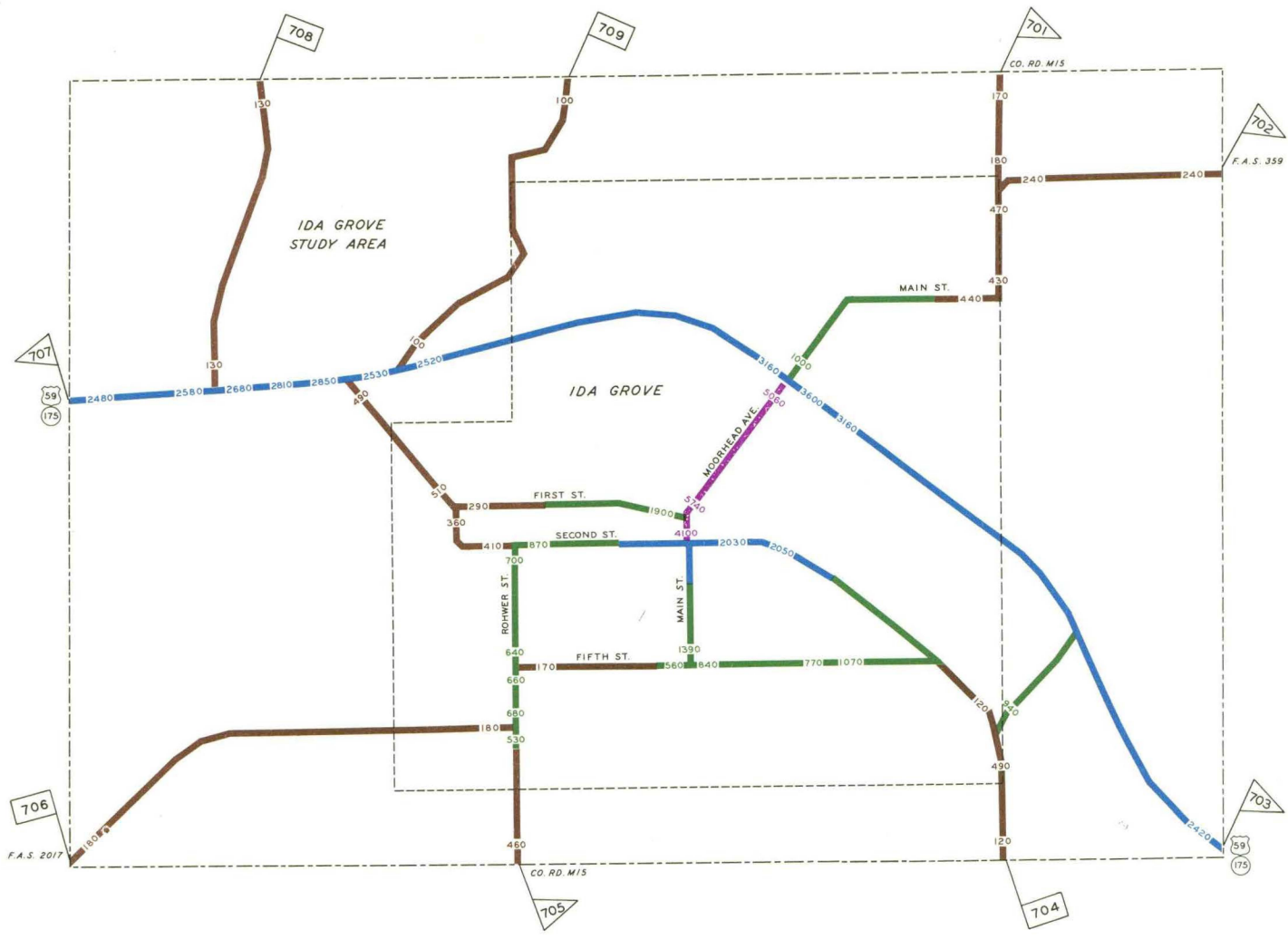


FIGURE 4-12
 TRAFFIC VOLUMES ON
 PRIMARY ROAD EXTENSIONS
 AND MAJOR STREETS IN THE
 IDA GROVE STUDY AREA



LEGEND

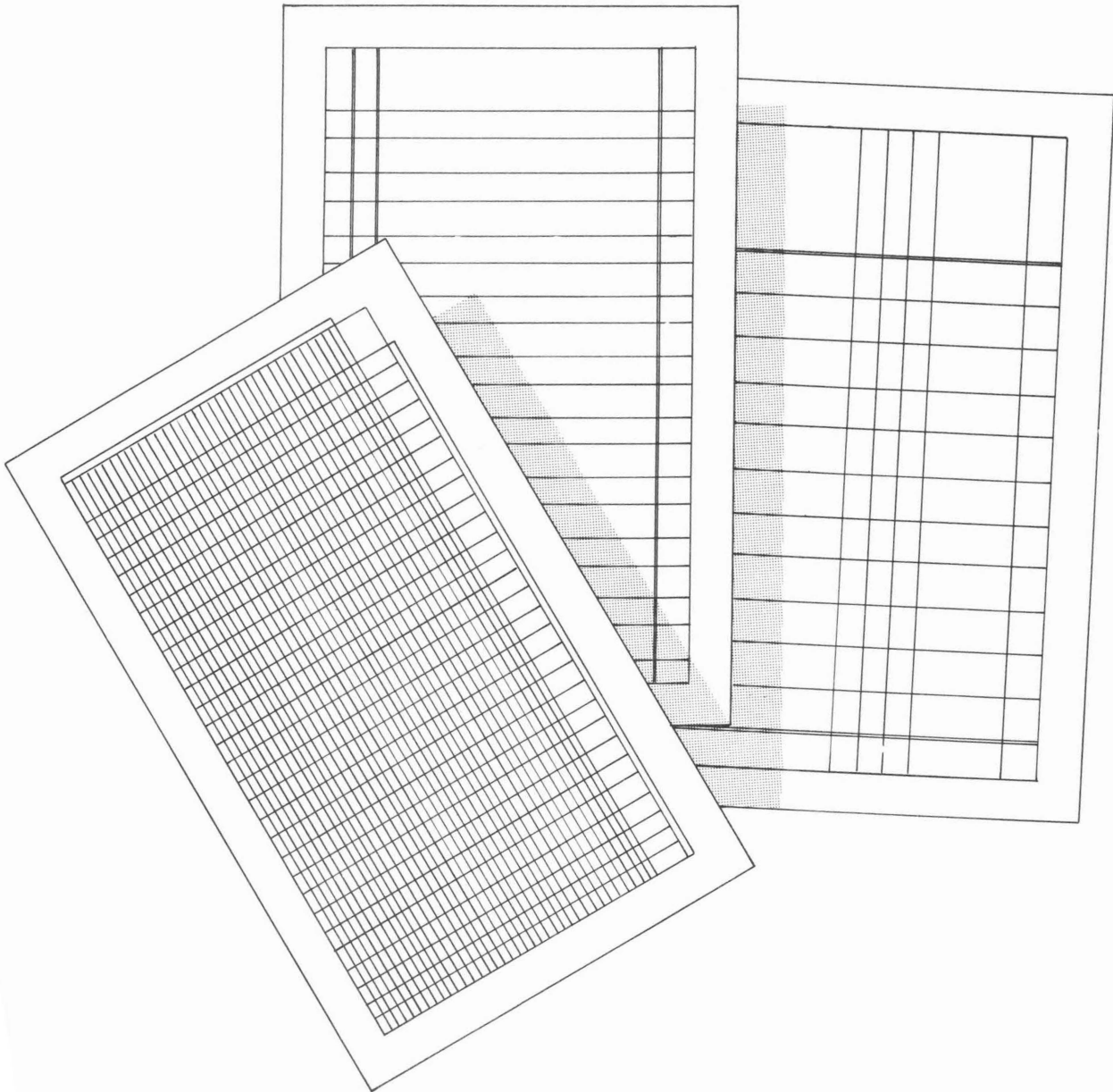
- 0 TO 500 TRIPS
- 500 TO 2000 TRIPS
- 2000 TO 3500 TRIPS
- 3500 TRIPS AND OVER

INTERVIEW STATION
 CODE STATION

CORPORATION LINE -----
 CORDON LINE - - - - -

1966 AVERAGE JUNE
 WEEKDAY TRAFFIC

Appendix



Part Five

**IDA GROVE STUDY AREA
TRIP PURPOSE OF EXTERNAL TRIPS
(ALL VEHICLE TYPES)**

1968 AVERAGE JUNE WEEKDAY TRAFFIC

Table B-2a(1) EXTERNAL LOCAL TRIPS

Station Trip Purpose	701	702	703	705	707	Total Traffic	Total Trips
	F.A.S. 2002 North	F.A.S. 359 Northeast	U.S. 59 and Iowa 175 Southeast	F.A.S. 2014 South	U.S. 159 and Iowa 175 West		
Work	25	16	258	64	313	676	676
Personal Business	56	52	323	137	368	936	936
During Work	21	37	387	64	349	858	858
Medical or Dental		1	50	9	48	108	108
School			11		15	26	26
Social or Recreation	30	49	340	79	276	774	774
Eat	2	23	43	21	31	120	120
Shop	16	20	132	44	177	389	389
Serve Passengers	7	17	32	14	40	110	110
Total Traffic	157	215	1,576	432	1,617	3,997	
Total Trips	157	215	1,576	432	1,617		3,997

Table B-2a(2) EXTERNAL THROUGH TRIPS

Station Trip Purpose	701	702	703	705	707	Total Traffic	Total Trips
	F.A.S. 2002 North	F.A.S. 359 Northeast	U.S. 59 and Iowa 175 Southeast	F.A.S. 2014 South	U.S. 59 and Iowa 175 West		
Work	4	3	79	4	85	175	88
Personal Business	6	3	146	4	150	309	155
During Work	2	7	287	5	290	591	297
Medical or Dental			14	2	13	29	15
School			7	2	7	16	8
Social or Recreation	3	6	284	14	295	602	303
Eat			3		3	6	3
Shop			6	1	7	14	7
Serve Passengers	1	2	13		13	29	15
Total Traffic	16	21	839	32	863	1,771	
Total Trips	8	11	421	16	435		891

Table B-2a(3) SUMMARY - ALL EXTERNAL TRIPS

Station Trip Purpose	701	702	703	705	707	Total Traffic	Total Trips
	F.A.S. 2002 North	F.A.S. 359 Northeast	U.S. 59 and Iowa 175 Southeast	F.A.S. 2014 South	U.S. 59 and Iowa 175 West		
Work	29	19	337	68	398	851	764
Personal Business	62	55	469	141	518	1,245	1,091
During Work	23	44	674	69	639	1,449	1,155
Medical or Dental		1	64	11	61	137	123
School			18	2	22	42	34
Social or Recreation	33	55	624	93	571	1,376	1,077
Eat	2	23	46	21	34	126	123
Shop	16	20	138	45	184	403	396
Serve Passengers	8	19	45	14	53	139	125
Total Traffic	173	236	2,415	464	2,480	5,768	
Total Trips	165	226	1,997	448	2,052		4,888

IDA GROVE STUDY AREA AVERAGE CAR OCCUPANCY BY TRIP PURPOSE

1968 AVERAGE JUNE WEEKDAY TRAFFIC

EXTERNAL LOCAL TRIPS

Table B-3a(1)

Trip Purpose Origin	Trip Purpose - Destination										Average Occupancy
	Work	Personal Business	During Work	Medical or Dental	School	Social or Recreation	Eat	Shop	Serve Pass.	Home	
Work		1.226	1.089	1.331		1.673	1.364	1.000		1.266	1.275
Personal Business	1.000	1.408		1.000		2.005			2.699	1.710	1.688
During Work	1.000	1.000	1.312			1.350	1.411			1.287	1.301
Medical or Dental	1.000					1.500			2.474	1.953	1.936
School										2.970	2.970
Social or Recreation		1.527	2.682	2.004	1.000	2.294	2.018	2.339	4.486	2.252	2.312
Eat	1.000	1.951	1.336			2.195				1.824	1.695
Shop	4.000	2.359				2.298	2.000	1.495		1.924	1.960
Serve Passengers	2.000		2.000			3.655				2.506	2.683
Home	1.188	1.733	1.508	2.108	2.346	2.357	1.822	1.991	2.644		1.914
Average Occupancy	1.180	1.712	1.340	2.026	2.389	2.339	1.704	1.992	2.902	1.791	

EXTERNAL THROUGH TRIPS

Table B-3a(2)

Trip Purpose Origin	Trip Purpose - Destination										Average Occupancy	
	Work	Personal Business	During Work	Medical or Dental	School	Social or Recreation	Eat	Shop	Serve Pass.	Home		
Work		3.000	1.140							1.000	1.235	1.253
Personal Business	1.000	1.798	2.000							2.000	1.867	1.856
During Work	1.148	2.000	1.364			1.500					1.360	1.360
Medical or Dental											1.898	1.898
School					5.000						1.652	2.123
Social or Recreation	1.000	1.497				2.555					2.654	2.589
Eat			1.000									1.000
Shop											1.670	1.670
Serve Passengers	1.961										3.004	2.772
Home	1.285	1.658	1.231	2.288	1.790	2.874	2.000	2.443	3.327			2.272
Average Occupancy	1.276	1.671	1.338	2.288	2.314	2.785	2.000	2.443	3.144	2.156		

SUMMARY - ALL EXTERNAL TRIPS

Table B-3a(3)

Trip Purpose Origin	Trip Purpose - Destination										Average Occupancy
	Work	Personal Business	During Work	Medical or Dental	School	Social or Recreation	Eat	Shop	Serve Pass.	Home	
Work		1.321	1.101	1.331		1.673	1.364	1.000	1.000	1.264	1.273
Personal Business	1.000	1.486	2.000	1.000		2.005	2.000		2.699	1.731	1.711
During Work	1.045	1.204	1.325			1.390	1.411			1.314	1.317
Medical or Dental	1.000				1.500				2.474	1.947	1.932
School					5.000					2.399	2.571
Social or Recreation	1.000	1.517	2.682	2.004	1.000	2.436	2.018	2.339	4.486	2.377	2.406
Eat	1.000	1.951	1.311			2.195				1.824	1.689
Shop	4.000	2.359				2.298	2.000	1.495		1.921	1.931
Serve Passengers	1.980		2.000			3.655				2.557	2.692
Home	1.197	1.721	1.409	2.130	2.264	2.485	1.825	2.003	2.736		1.975
Average Occupancy	1.190	1.705	1.339	2.055	2.270	2.457	1.765	2.004	2.929	1.846	

TABLE E-1

IDA GROVE STUDY AREA
DIRECTIONAL TRIPS BETWEEN STATIONS AND TRACTS
1968 AVERAGE JUNE WEEKDAY TRAFFIC

VEHICLE TRIPS							VEHICLE TRIPS							VEHICLE TRIPS								
From	To	Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total	From	To	Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total	From	To	Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total		
001	701	11	3	2		16	701	006	2	1			3	702	701	1						1
002	701	6	4	1		11	Cl. 3 Total		61	20	2		83	702	703	1					1	2
003	701	1	3			4	702	001	8	2			10	702	705	1						1
004	701	32	6	1		39	702	002	18	6			24	702	707	5	1				2	8
005	701	1	1			1	702	003	6	4	1		11	701	702	1						1
006	701	1	1	1		3	702	004	43	9			52	703	702	1	1					2
Cl. 2 Total		51	18	5		74	702	005	1	1	1		2	707	702	3					2	5
001	702	10	4			14	702	006	3	1			4	Cl. 4 Total		13	3				5	21
002	702	21	9	1		31	Cl. 3 Total		78	23	2		103	703	701	2	1					3
003	702	3	3			6	703	001	59	22	7	4	97	703	702	1	1					2
004	702	42	10	1		53	703	002	100	30	15	14	159	703	705	3						3
005	702	1	1			1	703	003	20	9	2	1	32	703	706	1	1					1
006	702	7		1		7	703	004	370	56	21	5	452	703	707	312	45	34	38		38	429
Cl. 2 Total		83	26	3		112	703	005	4	2			6	701	703	1						1
001	703	58	17	13	4	92	703	006	20	4	2	1	27	702	703	1					1	2
002	703	130	26	16	2	174	Cl. 3 Total		573	123	47	25	768	705	703	5		2			1	8
003	703	26	8	4	3	41	705	001	16	6	5		27	706	703	288	40	31	29		29	388
004	703	382	59	21	5	467	705	002	29	13	4		46	708	703	1						1
005	703	5	7			12	705	003	4	1	1		6	Cl. 4 Total		613	90	67	69		69	839
006	703	11	5	4	2	22	705	004	91	31	6		128	705	703	5		2			1	8
Cl. 2 Total		612	122	58	16	808	705	005	2	2	1		5	705	707	6	1	1				8
001	705	20	6	3		29	705	006	7	1	1		9	701	705	1						1
002	705	35	11	4		50	Cl. 3 Total		149	54	18		221	702	705	1						1
003	705	1	1	1		3	707	001	49	11	8	2	70	703	705	3						3
004	705	91	30	4		125	707	002	105	25	23	8	161	707	705	9	1	1				11
005	705	2				2	707	003	37	14	2	1	54	707	707	1						1
006	705	1		1		2	707	004	419	66	11	6	502	707	708	1						1
Cl. 2 Total		150	48	13		211	707	005	1	1	3		5	707	708	5						5
001	707	52	12	3	1	68	707	006	9	7	2		18	701	707	1						1
002	707	141	43	19	7	210	Cl. 3 Total		620	124	49	17	810	702	707	5						5
003	707	26	5	6	2	39	701	702	1				1	702	707	5	1				2	8
004	707	382	72	11	2	467	701	703	1				1	703	707	312	45	34	38		38	429
005	707	5				5	701	705	1				1	704	707	1						1
006	707	14	2	2		18	701	707	5				5	705	707	6	1	1				8
Cl. 2 Total		620	134	41	12	807	702	701	1				1	706	707	1						1
701	001	12	4			16	703	701	2	1			3	708	707	3						3
701	002	7	3			10	707	701	2	1			3	Cl. 4 Total		636	89	67	71		71	863
701	003	3	3			3	Cl. 4 Total		13	2			15									
701	004	39	8	2		49																
701	005	1	1			2																

TABLE E-2

IDA GROVE STUDY AREA
NONDIRECTIONAL TRIPS BETWEEN STATIONS AND TRACTS
1968 AVERAGE JUNE WEEKDAY TRAFFIC

VEHICLE TRIPS							VEHICLE TRIPS							VEHICLE TRIPS						
From	To	Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total	From	To	Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total	From	To	Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total
701	001	23	7	2		32	707	001	101	23	11	3	138	703	701	3	1			4
701	002	13	7	1		21	707	002	246	68	42	15	371	703	702	2	1		1	4
701	003	1	6			7	707	003	63	19	8	3	93	703	705	8		2	1	11
701	004	71	14	3		88	707	004	801	138	22	8	969	703	706		2			2
701	005	1	2			3	707	005	6	1	3		10	703	707	600	85	65	67	817
701	006	3	2	1		6	707	006	23	9	4		36	703	708		1			1
Cl.2&3	Total	112	38	7		157	Cl.2&3	Total	1,240	258	90	29	1,617	Cl.4	Total	613	90	67	69	839
														Cl.2&3	Total	1,185	245	105	41	1,576
														703	Total	1,798	335	172	110	2,415
702	001	18	6			24	701	702	2				2							
702	002	39	15	1		55	701	703	3	1			4							
702	003	9	7	1		17	701	705	1				1							
702	004	85	19	1		105	701	707	7	1			8							
702	005		1	2		3	Cl.4	Total	13	2			15							
702	006	10	1			11	Cl.2&3	Total	112	38	7		157							
Cl.2&3	Total	161	49	5		215	701	Total	125	40	7		172	Cl.4	Total	25	2	4	1	32
														Cl.2&3	Total	299	102	31		432
														705	Total	324	104	35	1	464
703	001	117	39	20	8	184	702	701	2				2							
703	002	230	56	31	16	333	702	703	2	1		1	4							
703	003	46	17	6	4	73	702	705	1				1							
703	004	752	115	42	10	919	702	707	8	1		4	13							
703	005	9	9			18	702	708		1			1							
703	006	31	9	6	3	49	Cl.4	Total	13	3		5	21							
Cl.2&3	Total	1,185	245	105	41	1,576	Cl.2&3	Total	161	49	5		215							
							702	Total	174	52	5	5	236							
705	001	36	12	8		56								Cl.4	Total	636	89	67	71	863
705	002	64	24	8		96								Cl.2&3	Total	1,240	258	90	29	1,617
705	003	5	2	2		9								707	Total	1,876	347	157	100	2,480
705	004	182	61	10		253														
705	005	4	2	1		7														
705	006	8	1	2		11														
Cl.2&3	Total	299	102	31		432														

STATE LIBRARY OF IOWA



3 1723 02036 0418