ALBIA

ORIGIN and DESTINATION

TRAFFIC REPORT

IOWA

JULY 1969

STATE OF IOWA

ALBIA

ORIGIN AND DESTINATION TRAFFIC REPORT

DATA GATHERED JULY 1969

PUBLISHED MARCH 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

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INTRODUCTION

This report is based on an external origin and destination traffic survey that was made in Albia in July of 1969. 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 Albia 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.

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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

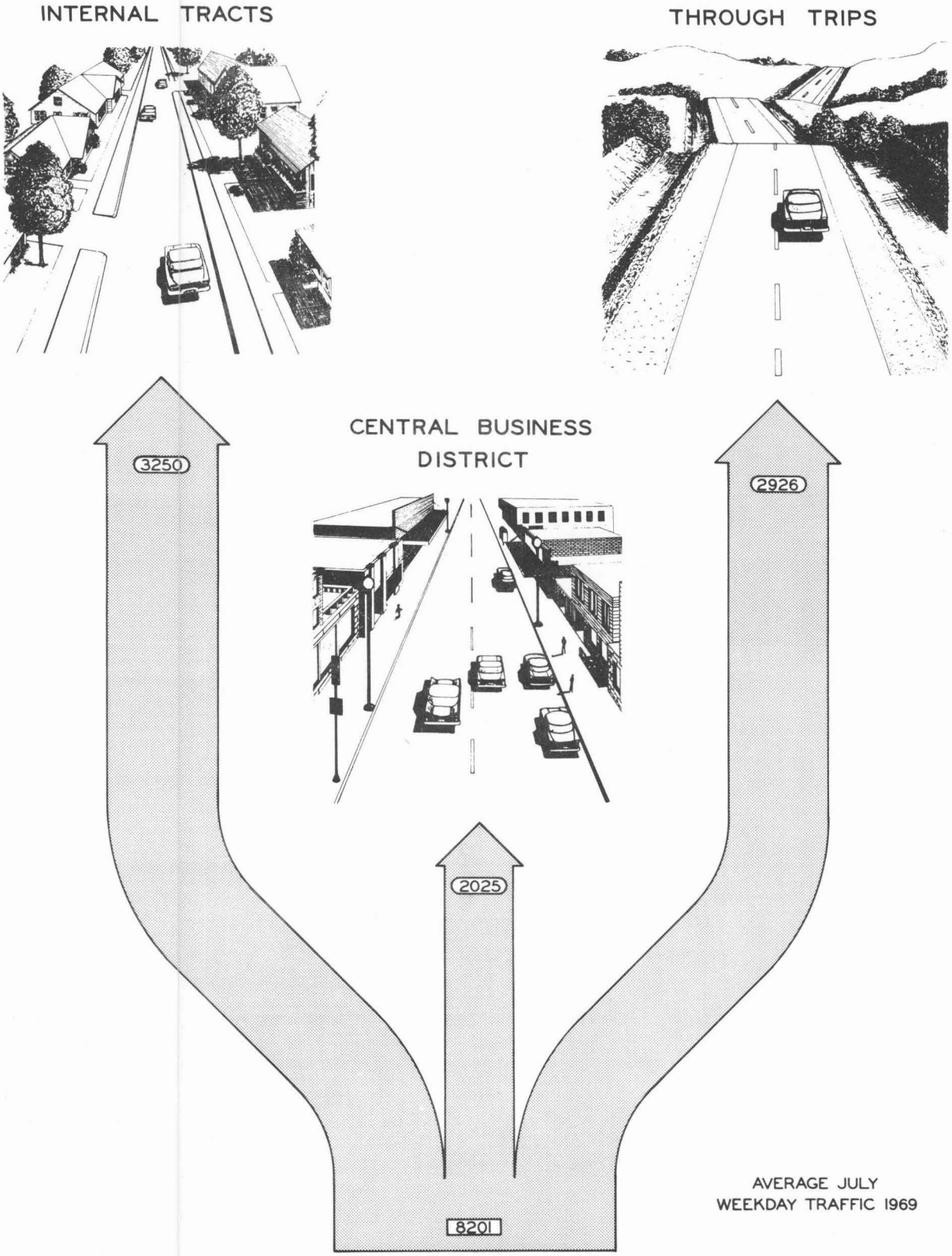
Significant Facts

Part One

FIGURE 1-1

DISTRIBUTION OF TRIPS

ALBIA STUDY AREA



SUMMARY

The chart at left graphically illustrates some of the more significant traffic volumes derived from the Albia origin and destination traffic survey. An average of 8,201 trips per day passed through the external cordon line of interview stations surrounding the study area during the survey period.

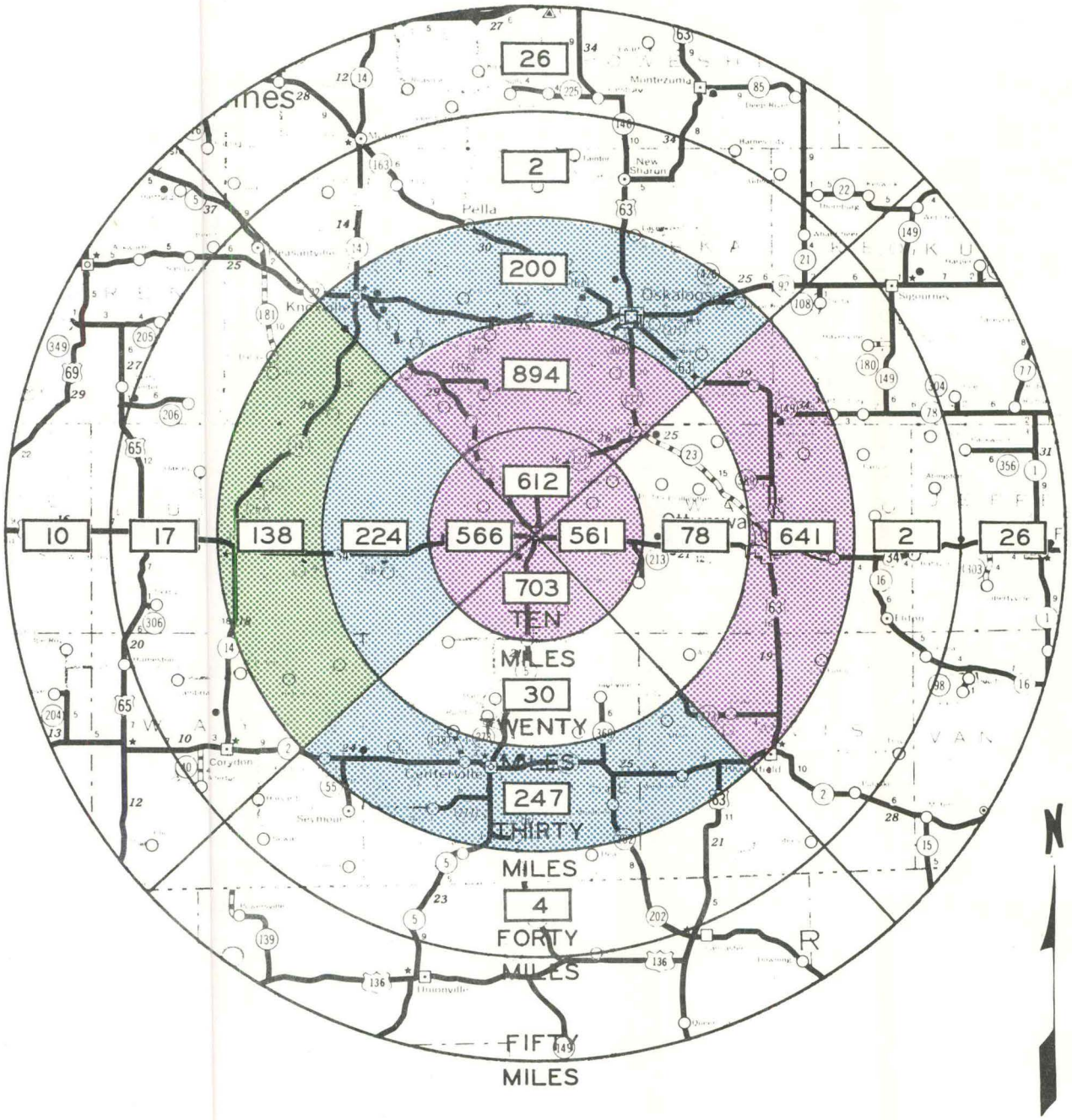
2,025 trips or 24.69 percent of the total number of trips were between external areas and the central business district.

3,250 trips or 39.63 percent of the total number of trips were between external and internal areas exclusive of the central business district.

2,926 trips or 35.68 percent of the total number of trips were through trips which passed through Albia enroute to another destination.

Of the total number of trips which passed through interview stations, 16.64 percent began or ended at work, 29.57 percent were for social or recreational purposes, 21.52 percent were during work, 8.32 percent were for personal business, 17.29 percent were for shopping, and the remaining 6.66 percent were for other purposes.

FIGURE 1-2
REGIONAL INFLUENCE OF THE ALBIA STUDY AREA



0 TO 100 TRIPS

100 TO 200 TRIPS

200 TO 400 TRIPS

400 AND OVER

1969 AVERAGE JULY WEEKDAY TRAFFIC

Table 1-1

REGIONAL INFLUENCE OF THE ALBIA STUDY AREA

1969 Average July Weekday Traffic

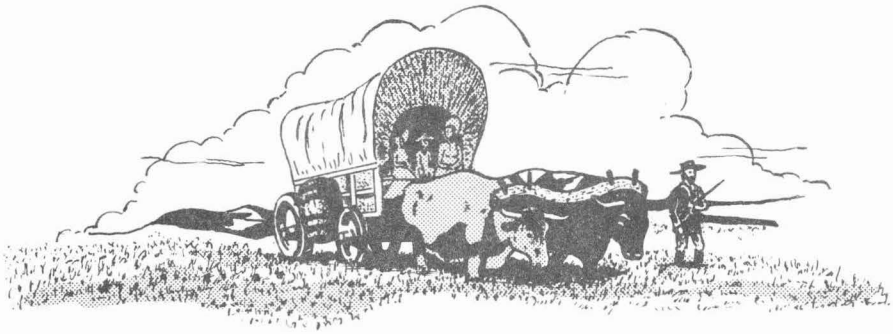
Miles From Study Area		Number of Trips	Percent of Total Trips Within a Fifty-Mile Radius
North	0 - 10	612	12.29
	10 - 20	894	17.95
	20 - 30	200	4.01
	30 - 40	2	.04
	40 - 50	26	.52
North Total		1,734	34.81
East	0 - 10	561	11.26
	10 - 20	78	1.57
	20 - 30	641	12.87
	30 - 40	2	.04
	40 - 50	26	.52
East Total		1,308	26.26
West	0 - 10	566	11.36
	10 - 20	224	4.50
	20 - 30	138	2.77
	30 - 40	17	.34
	40 - 50	10	.20
West Total		955	19.17
South	0 - 10	703	14.11
	10 - 20	30	.61
	20 - 30	247	4.96
	30 - 40	4	.08
	40 - 50	--	--
South Total		984	19.76
Grand Total		4,981	100.00

TABLE 1-2
VEHICLE TYPE SUMMARY
ALBIA STUDY AREA

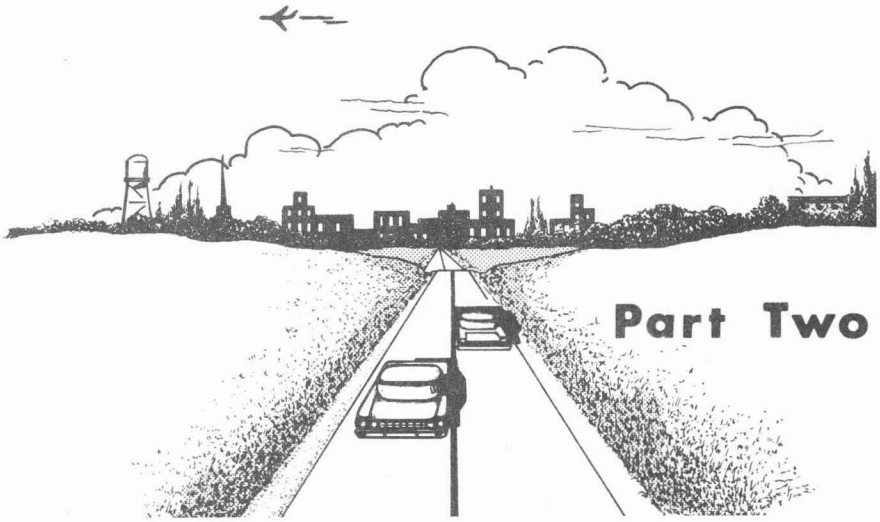
1969 AVERAGE JULY WEEKDAY TRAFFIC

Station	Location	Passenger Cars	Pickups and Panels	Single Unit Trucks	Truck Combi-nations	Total
701	Iowa 137 North	729	164	99	51	1,043
705	County Road H-35 (Old 34) East	295	51	6	1	353
707	U.S. 34 East	1,841	283	176	147	2,447
708	County Road H-47 East	179	48	9		236
709	County Road T-35 South	163	31	8		202
711	Iowa 5 South	1,640	295	139	83	2,157
712	U.S. 34 West	1,144	194	164	149	1,651
713	County Road H-35 (Old 34) West	210	40	21		271
715	Iowa 5 South	2,211	321	132	94	2,758
Grand Total		8,412	1,427	754	525	11,118

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

Albia, county seat of Monroe County, began its existence as Princeton, county seat of Kishkekosh County.

Kishkekosh County, named for a Fox Indian Chief, was organized in 1845. The county seat, Princeton, was laid out on land surveyed by John Massey. Residents of Kishkekosh County voted, in 1846, to change the name to Monroe County in honor of President James Monroe. They also voted to make Princeton the permanent county seat, but they changed the name to Albia. Albia is a name of Celtic origin and means "high flat plateau."

Albia was officially incorporated in 1859. The population at that time was approximately 600 people. In 1876, Albia was incorporated as a city of the second class, with population numbering over 2,000 people.

Coal was discovered near Avery Creek in 1861. Mining soon became a major factor in the Monroe County economy. By 1906 Monroe County coal production was greater than that of any other county in Iowa. Production of coal reached its highest level in 1917, but declined as other sources of power became available.

A $10,000 grant from Andrew Carnegie enabled the citizens of Albia to build and furnish the Albia Public Library in 1906. In 1930 the library was enlarged to its present size.

Manufacturing has long been an important part of Albia's economy. The items produced by Albia firms include concrete blocks, archery equipment, aluminum doors, atuomatic mouse traps, feed, fryers, soft drinks, sheet metal products and burial vaults.

Albia's transportation needs are served by three railroads and three primary highways. The railroads, the Chicago Northwestern, the Chicago Burlington and Quincy, and the Wabash, provide freight service only. U.S. Highway 34 provides access to points in Iowa and the rest of the country to the east and west. Iowa Highway 5 connects Albia to Centerville to the south and Des Moines to the north. Iowa 137 connects Albia to Eddyville and Oskaloosa.

POPULATION TRENDS

ALBIA POPULATION

Table 2-1

Census Year	Albia Population	Volume Increase or Decrease	Percent Change 10-Year Period
1900	2,889	--	--
1910	4,969	2,080	72.00
1920	5,067	98	1.97
1930	4,425	-642	-12.67
1940	5,157	732	16.54
1950	4,838	-319	- 6.19
1960	4,582	-256	- 5.29

MONROE COUNTY POPULATION

Table 2-2

Census Year	Monroe Co. Population	Volume Increase or Decrease	Percent Change 10-Year Period
1850	2,884	--	--
1860	8,612	5,728	198.61
1870	12,724	4,112	47.75
1880	13,719	995	7.82
1890	13,666	- 53	- .39
1900	17,985	4,319	31.60
1910	25,429	7,444	41.39
1920	23,467	-1,962	- 7.72
1930	15,010	-8,457	-36.04
1940	14,553	- 457	- 3.04
1950	11,814	-2,739	-18.82
1960	10,463	-1,351	-11.44

Figure 2-1

POPULATION TRENDS

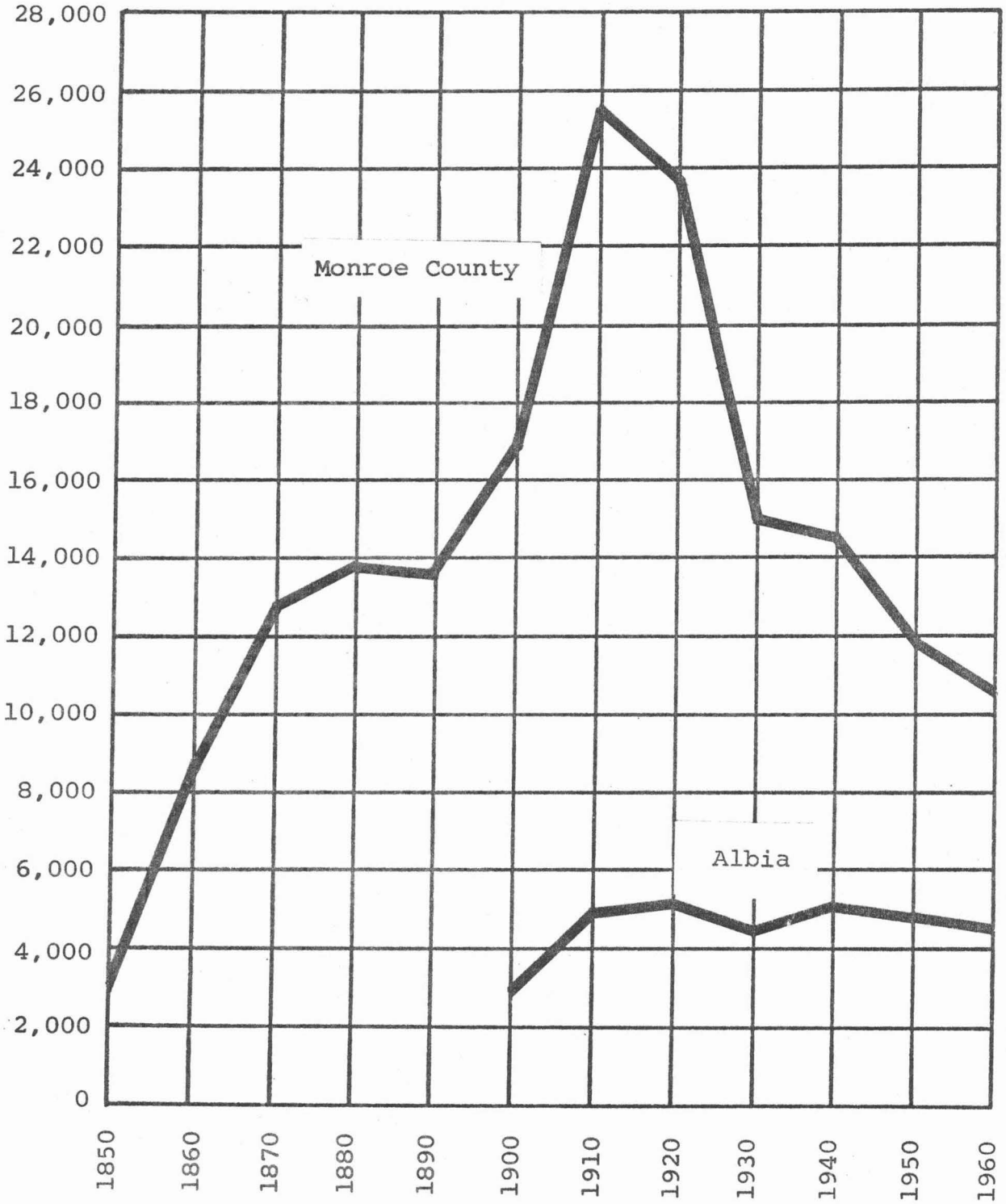


Table 2-3

MOTOR VEHICLE REGISTRATION IN MONROE COUNTY

FROM 1939 THROUGH 1969

Year	Autos	Trucks	Motorcycles	Total	Percent Change
1939	3,064	402	1	3,467	--
1940	3,097	440	4	3,541	2.13
1941	3,132	460	5	3,597	1.58
1942	2,878	418	8	3,304	-8.15
1943	2,752	399	9	3,160	-4.36
1944	2,695	413	5	3,113	-1.49
1945	2,635	417	5	3,057	-1.80
1946	2,733	471	15	3,219	5.30
1947	2,822	549	21	3,392	5.37
1948	3,013	638	29	3,680	8.49
1949	3,242	728	32	4,002	8.75
1950	3,547	721	15	4,283	7.02
1951	3,663	736	14	4,413	3.04
1952	3,573	688	17	4,278	-3.06
1953	3,696	720	22	4,438	3.74
1954	3,643	728	22	4,393	-1.01
1955	3,844	762	22	4,628	5.35
1956	3,701	807	26	4,534	-2.03
1957	3,725	832	26	4,583	1.08
1958	3,719	870	25	4,614	.68
1959	3,923	899	32	4,854	5.20
1960	3,987	897	31	4,915	1.26
1961	3,930	915	38	4,883	- .65
1962	3,958	929	37	4,924	.84
1963	3,972	946	26	4,944	.41
1964	4,015	1,018	23	5,056	2.27
1965	4,070	1,077	38	5,185	2.55
1966	4,121	1,172	42	5,335	2.89
1967	4,103	1,234	65	5,402	1.26
1968	4,235	1,306	72	5,613	3.91
1969	4,255	1,384	99	5,738	2.23

Figure 2-2

MOTOR VEHICLE REGISTRATION IN MONROE COUNTY
FROM 1939 THROUGH 1969

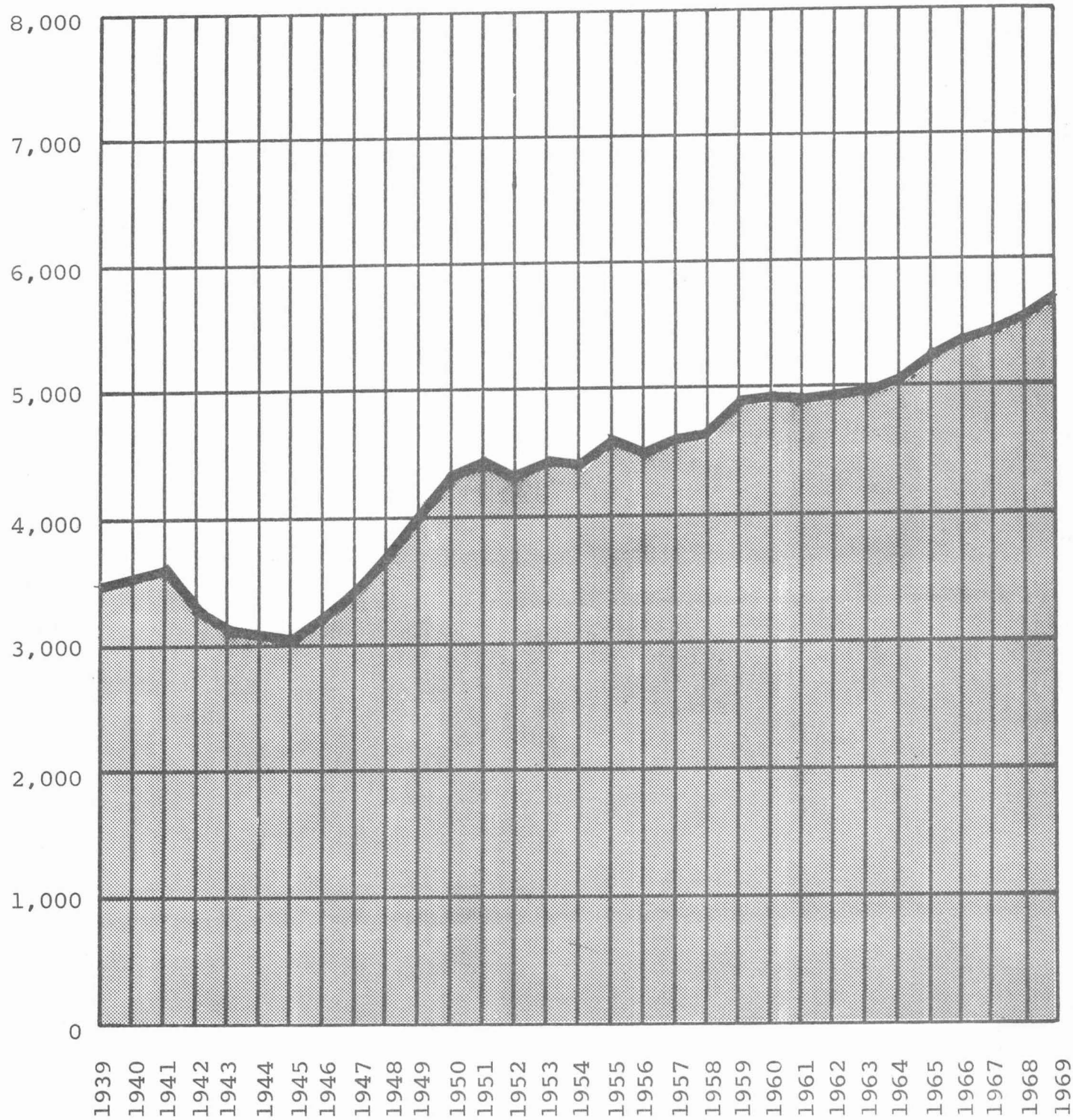
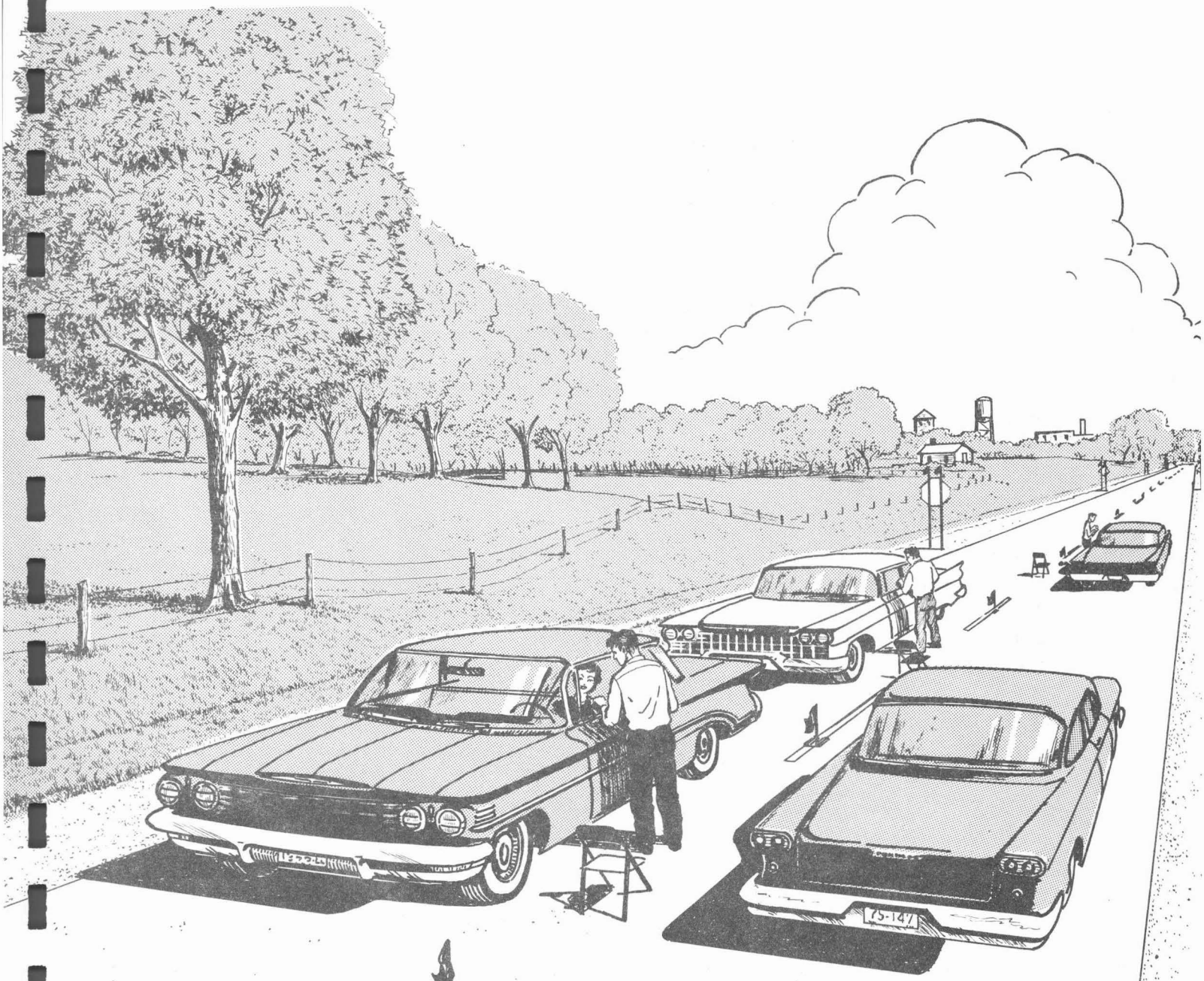


FIGURE 2-3

STUDY AREA POSITION



Survey Procedures

Part Three

THE SURVEY

An external origin and destination traffic survey, of the type conducted in Albia, 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 11 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 Albia survey was done between July 7th and 14th in 1969. 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.

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 July weekday traffic for 1969.

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 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.

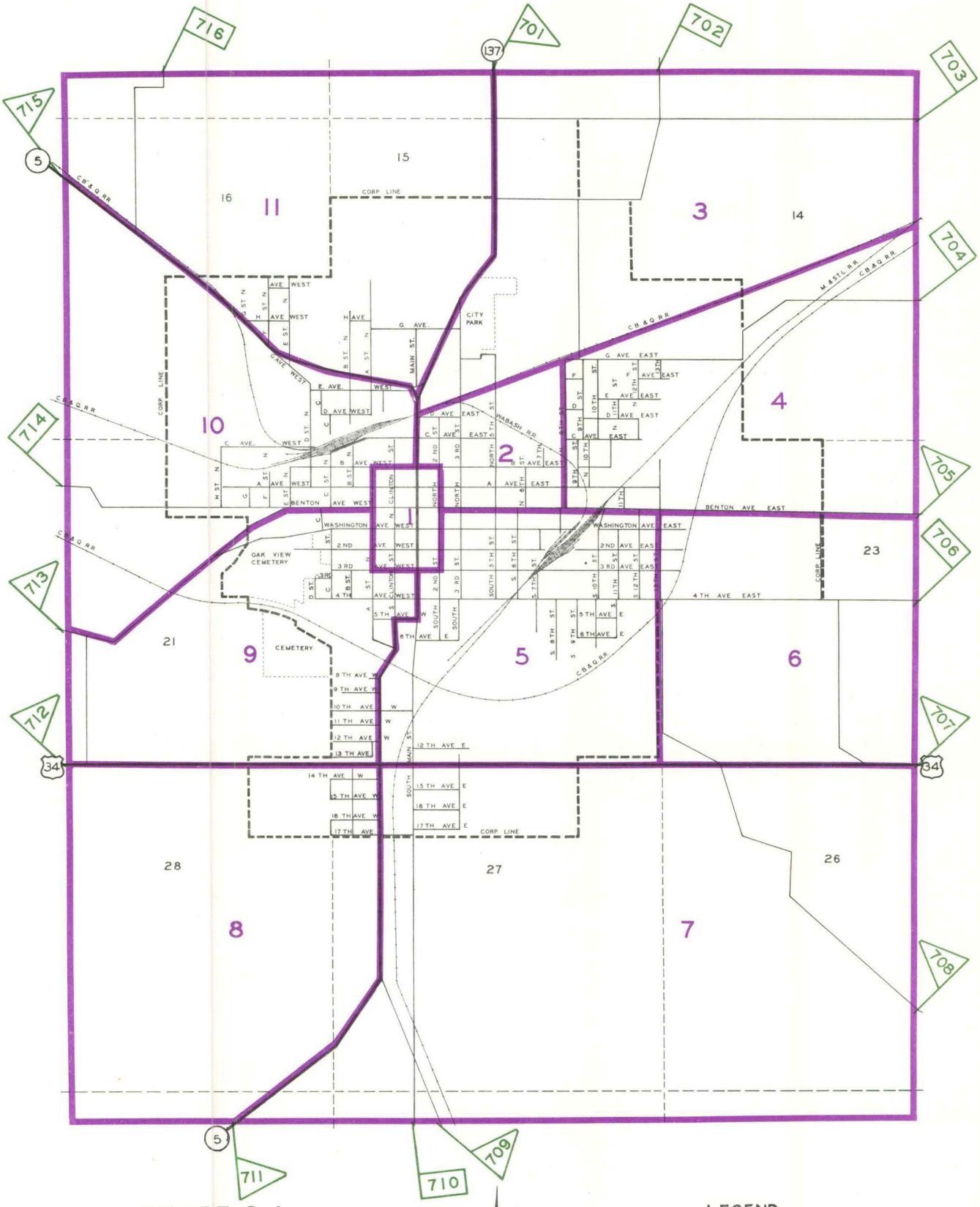


FIGURE 3-1

TRACT MAP OF THE

ALBIA STUDY AREA

JULY 1969

LEGEND

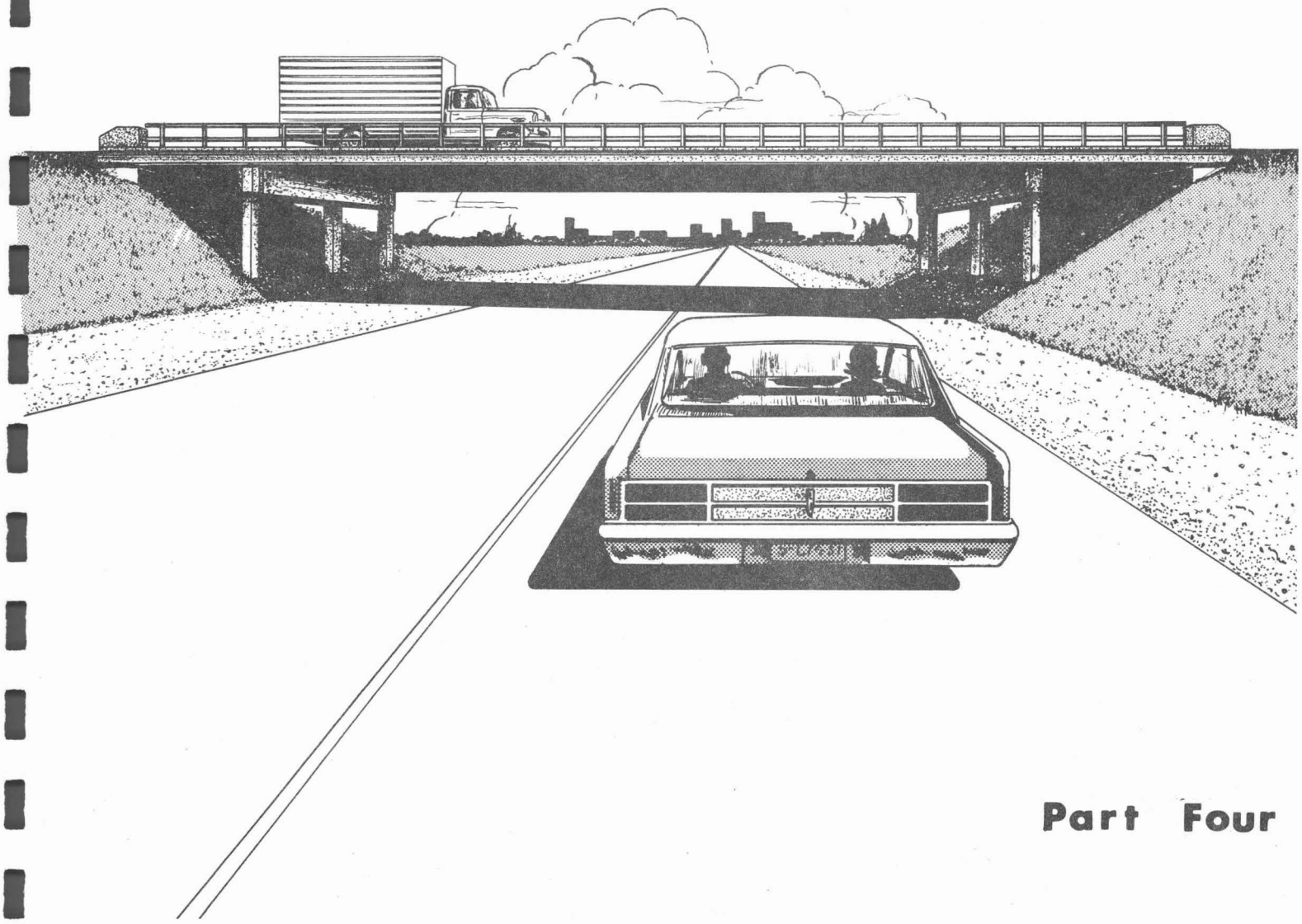
TRACT NUMBER

TRACT BOUNDARY LINE

CODE STATION LOCATION---

INTERVIEW STATION LOCATION

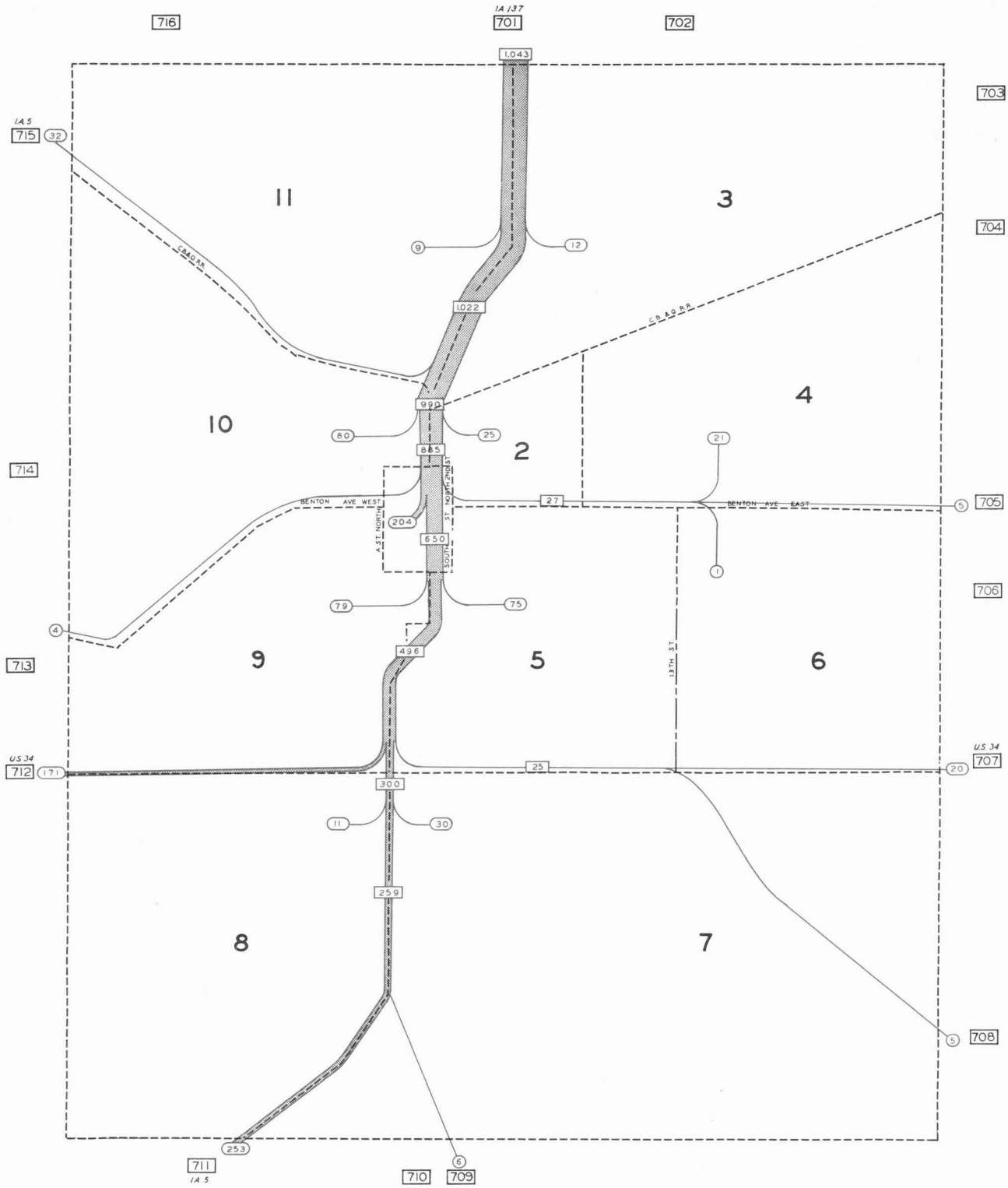
Traffic Movements



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 route, but rather to show trip volume by tract of origin or destination and the number of trips passing through each external interview station. Trip origins and destinations are not differentiated and the tract or station totals shown include both origins and destinations.



LEGEND

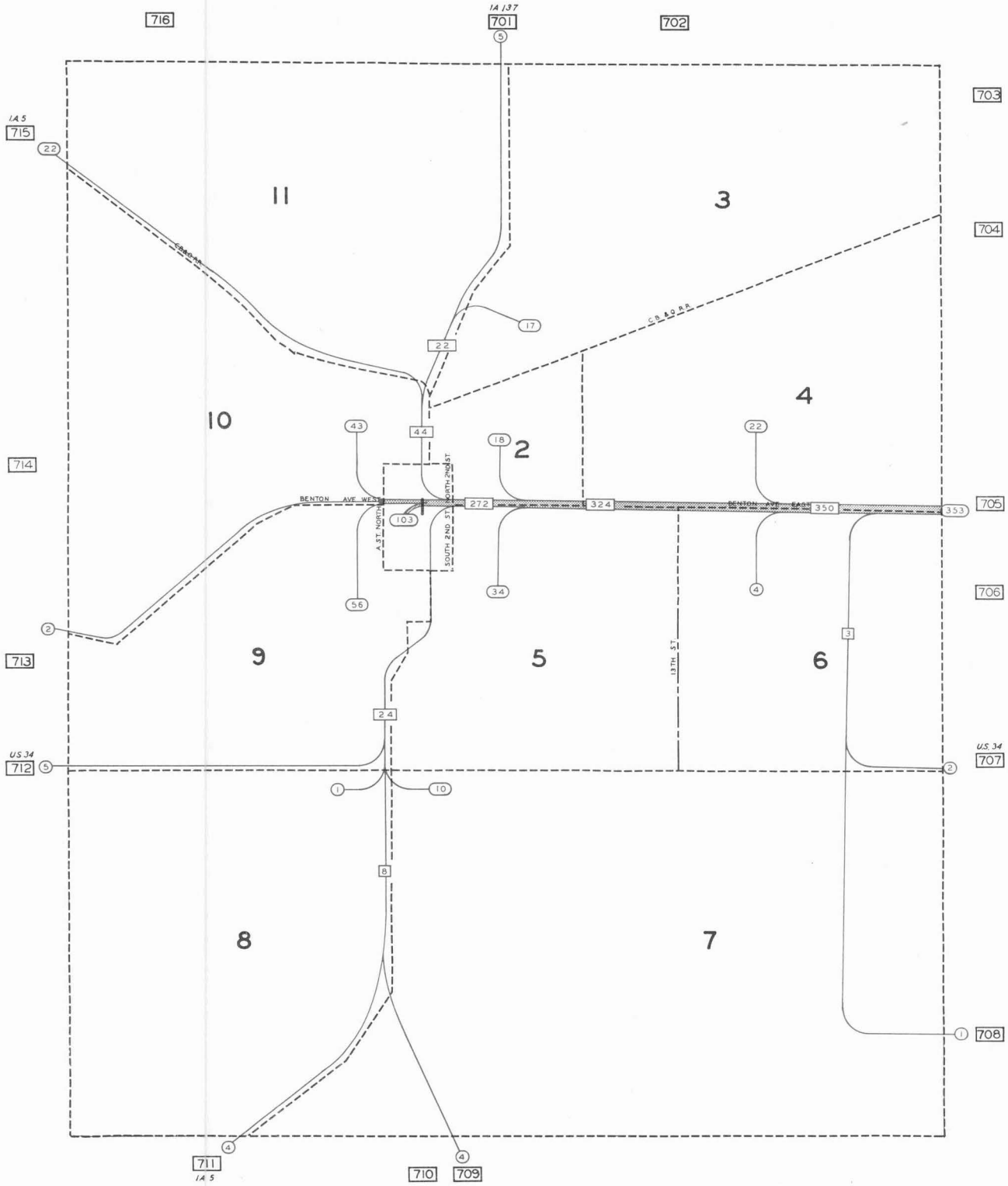
TRACT BOUNDARY LINE --------

GRAPHIC SCALE

4000 TRIPS
2000 TRIPS
1000 TRIPS
500 TRIPS

1969 AVERAGE JULY WEEKDAY TRAFFIC

FIGURE 4-1
INTERNAL DISPERSION OF
ALL VEHICULAR TRIPS PASSING THROUGH
STATION 701-IOWA 137 NORTH
OF THE
ALBIA STUDY AREA



LEGEND

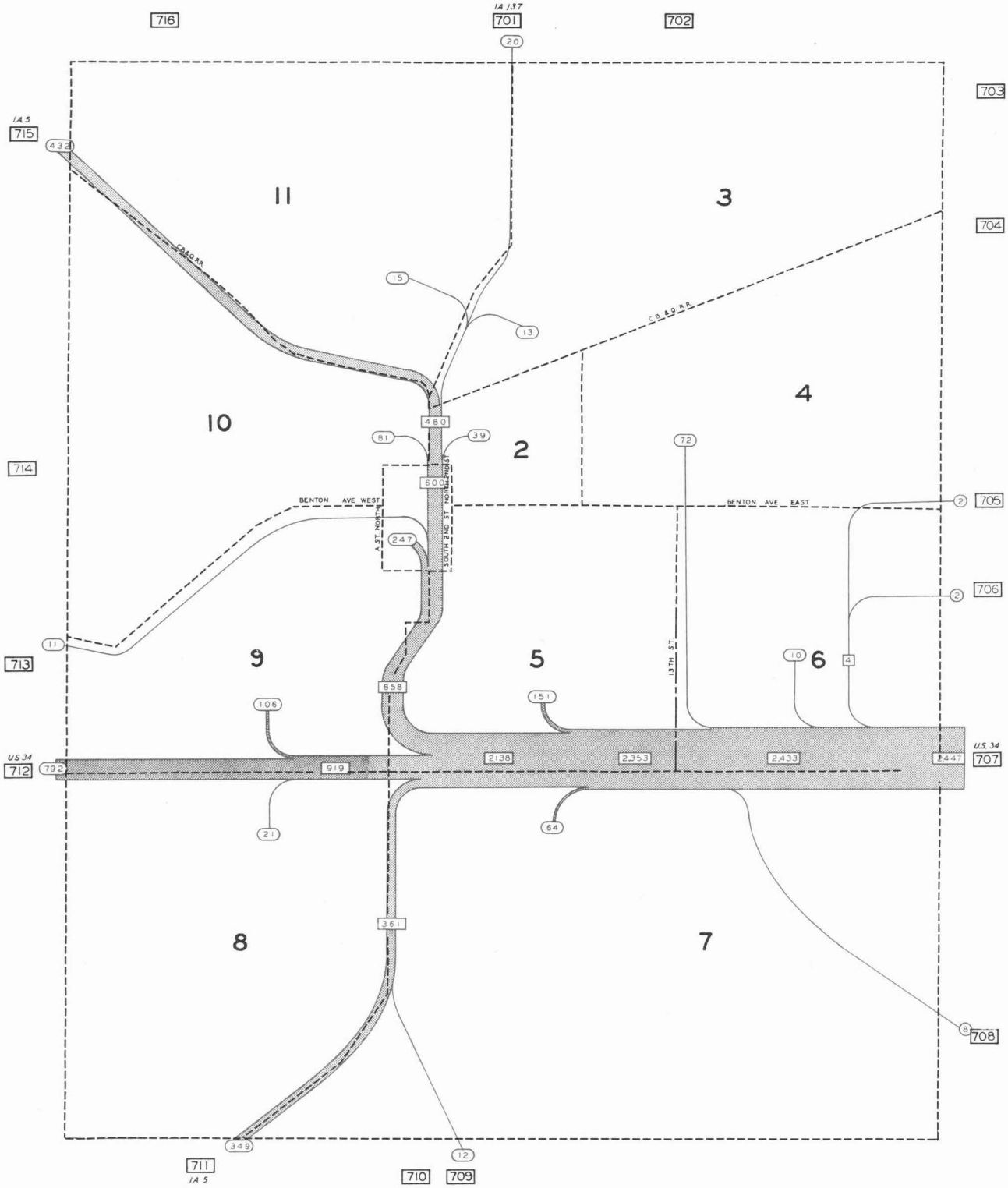
TRACT BOUNDARY LINE --------

GRAPHIC SCALE

4000 TRIPS
2000 TRIPS
1000 TRIPS
500 TRIPS

1969 AVERAGE JULY WEEKDAY TRAFFIC

FIGURE 4-2
INTERNAL DISPERSION OF
ALL VEHICULAR TRIPS PASSING THROUGH
STATION 705- OLD U.S. 34 EAST
OF THE
ALBIA STUDY AREA



LEGEND

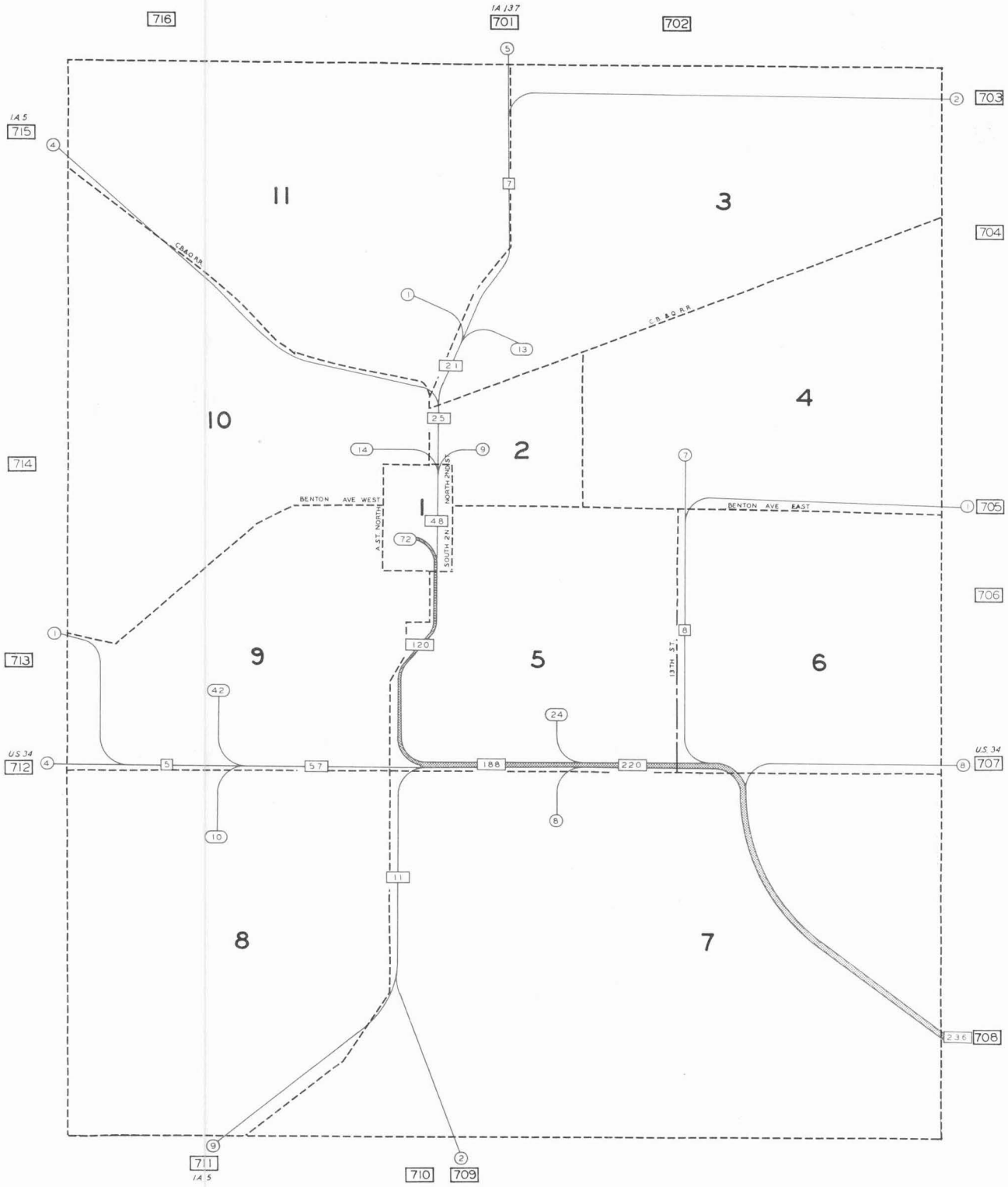
TRACT BOUNDARY LINE - - - - - - - -

GRAPHIC SCALE

4000 TRIPS
2000 TRIPS
1000 TRIPS
500 TRIPS

1969 AVERAGE JULY WEEKDAY TRAFFIC

FIGURE 4-3
INTERNAL DISPERSION OF
ALL VEHICULAR TRIPS PASSING THROUGH
STATION 707-U.S. 34 EAST
OF THE
ALBIA STUDY AREA



LEGEND

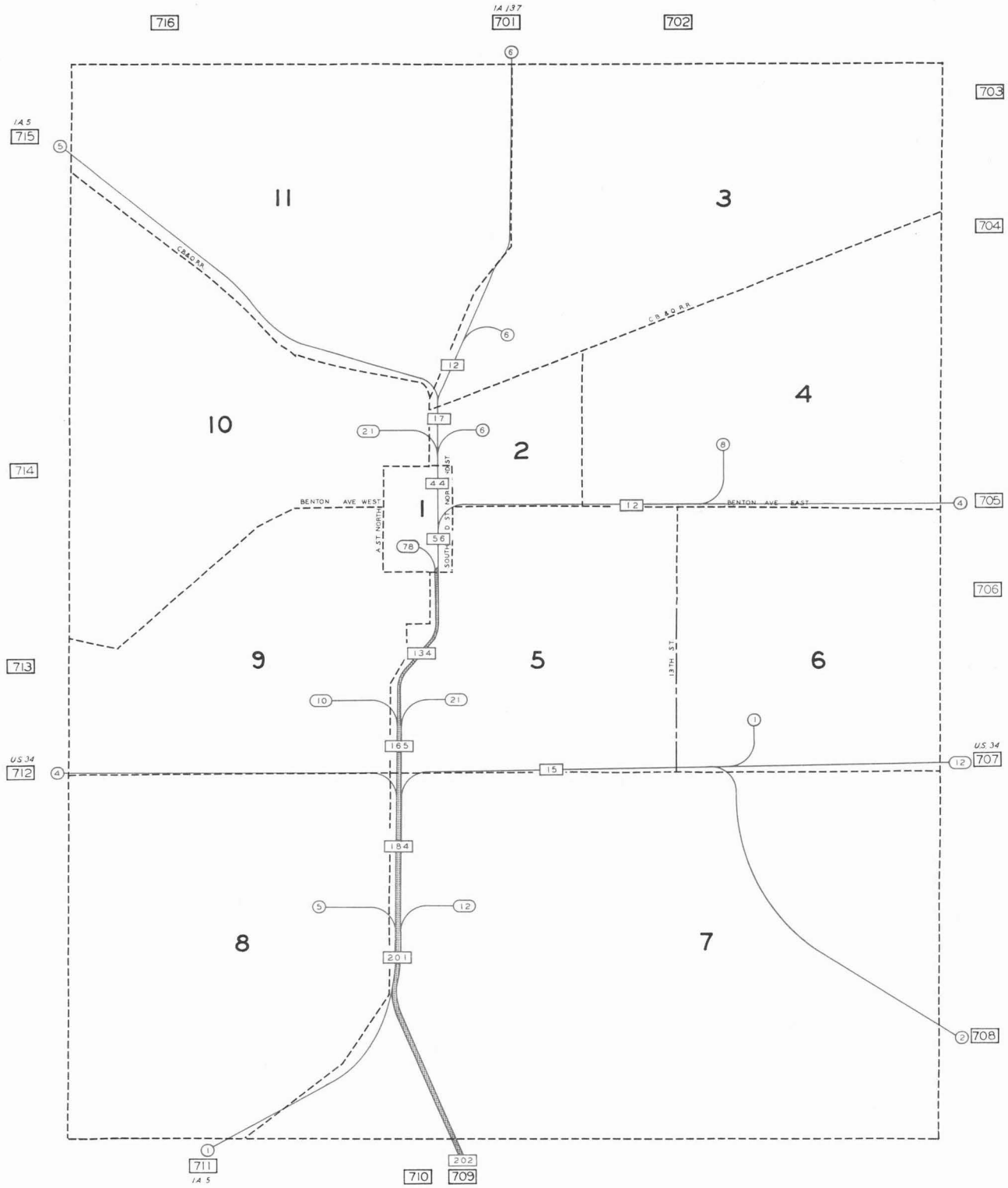
TRACT BOUNDARY LINE - - - - - - - -

GRAPHIC SCALE

4000 TRIPS
2000 TRIPS
1000 TRIPS
500 TRIPS

1969 AVERAGE JULY WEEKDAY TRAFFIC

FIGURE 4-4
INTERNAL DISPERSION OF
ALL VEHICULAR TRIPS PASSING THROUGH
STATION 708 COUNTY ROAD H-47
OF THE
ALBIA STUDY AREA



LEGEND

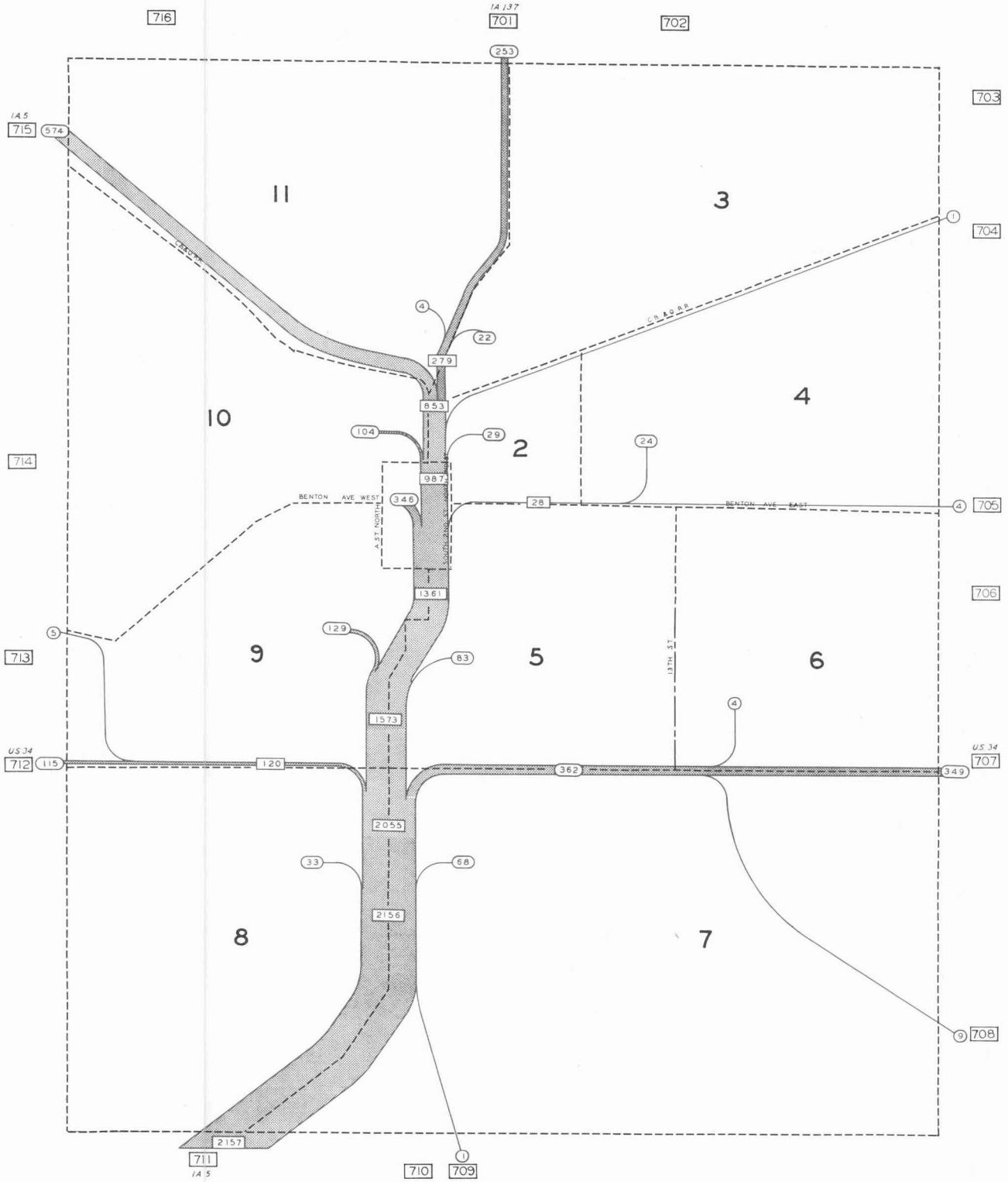
TRACT BOUNDARY LINE --------

GRAPHIC SCALE

4000 TRIPS
2000 TRIPS
1000 TRIPS
500 TRIPS

1969 AVERAGE JULY WEEKDAY TRAFFIC

FIGURE 4-5
INTERNAL DISPERSION OF
ALL VEHICULAR TRIPS PASSING THROUGH
STATION 709-LOCAL ROAD SOUTH
OF THE
ALBIA STUDY AREA



LEGEND

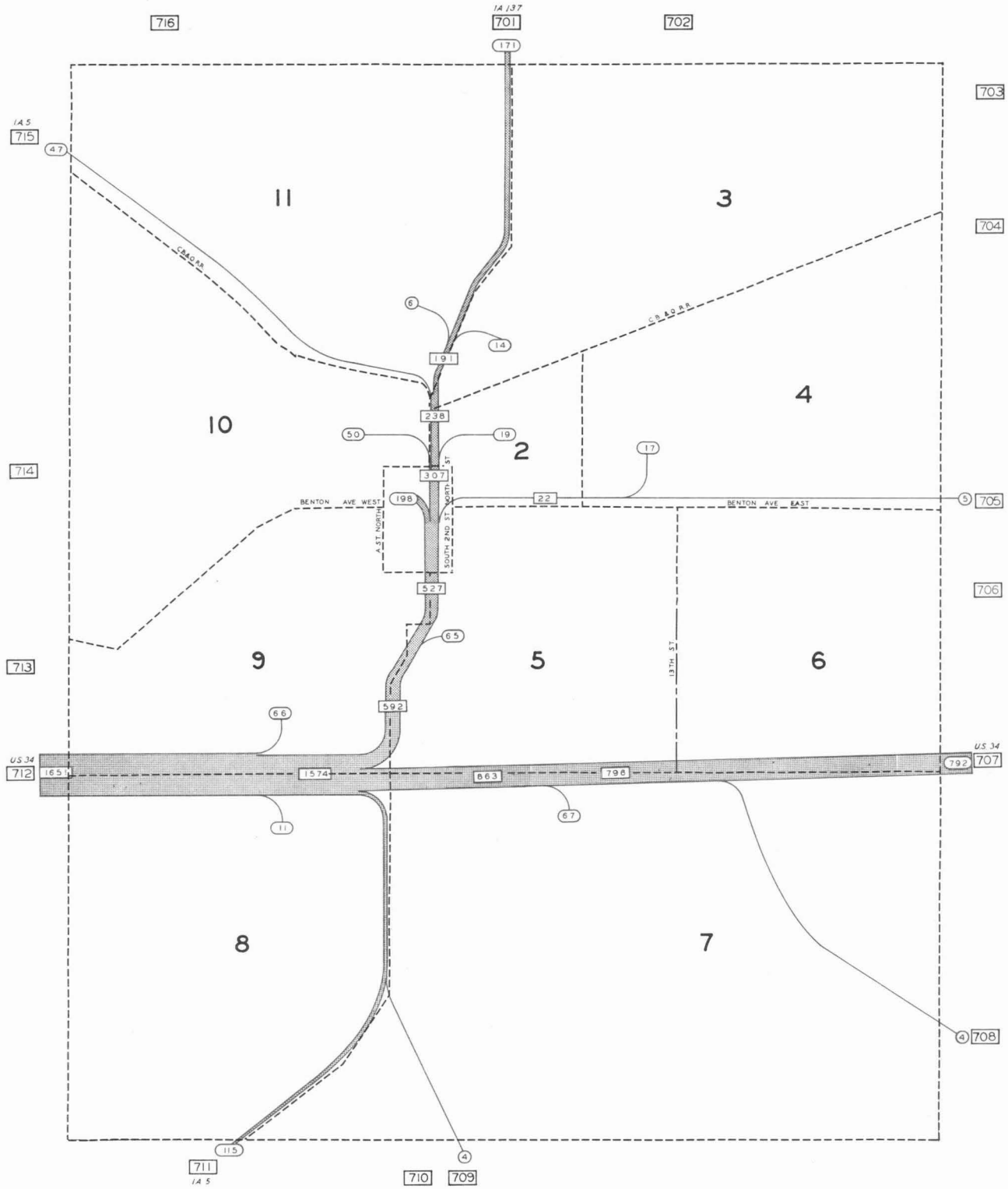
TRACT BOUNDARY LINE - - - - - - - -

GRAPHIC SCALE

4000 TRIPS
2000 TRIPS
1000 TRIPS
500 TRIPS

1969 AVERAGE JULY WEEKDAY TRAFFIC

FIGURE 4-6
INTERNAL DISPERSION OF
ALL VEHICULAR TRIPS PASSING THROUGH
STATION 711-IOWA 5 SOUTH
OF THE
ALBIA STUDY AREA



LEGEND

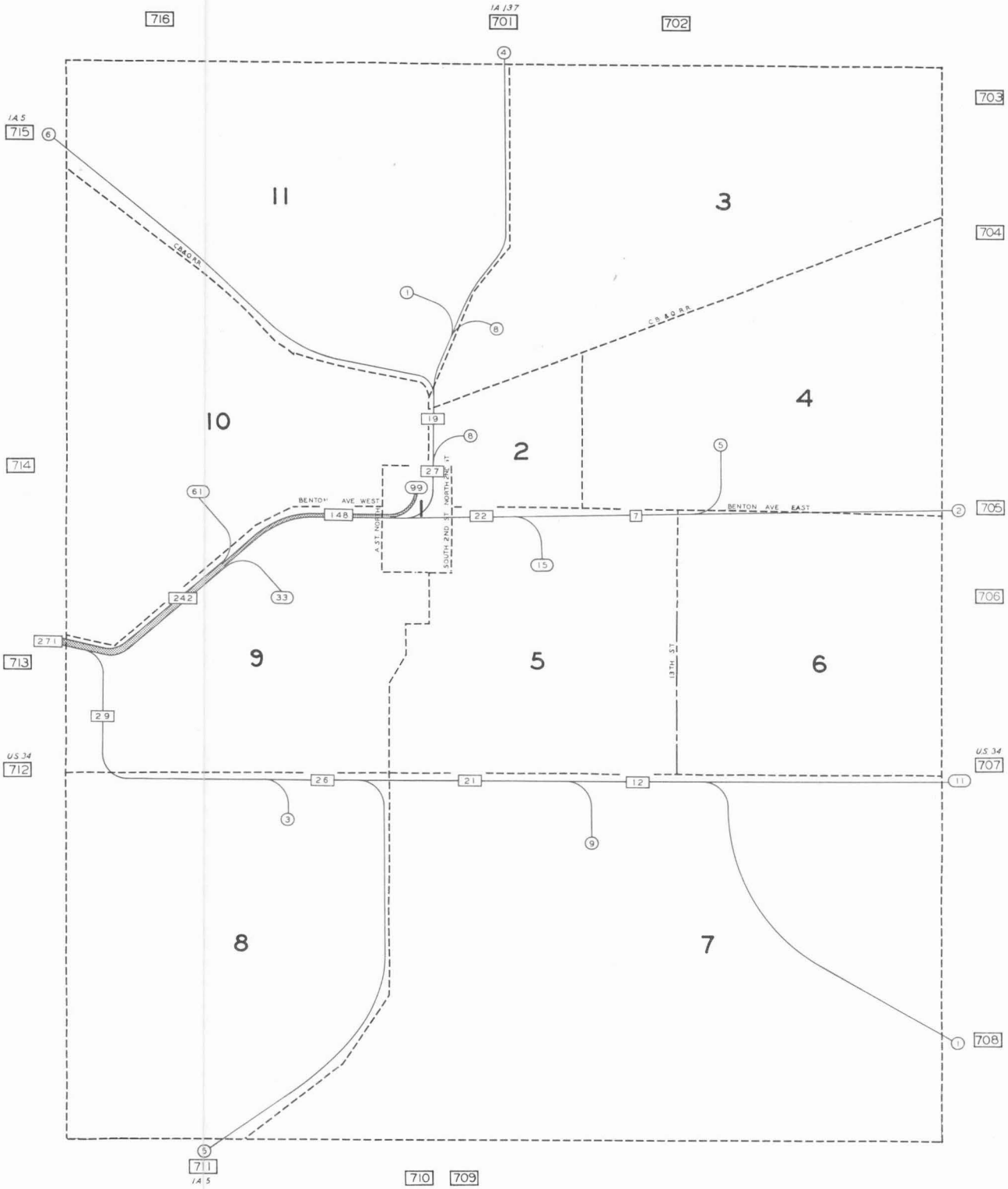
TRACT BOUNDARY LINE --------

GRAPHIC SCALE

4000 TRIPS
2000 TRIPS
1000 TRIPS
500 TRIPS

1969 AVERAGE JULY WEEKDAY TRAFFIC

FIGURE 4-7
INTERNAL DISPERSION OF
ALL VEHICULAR TRIPS PASSING THROUGH
STATION 712-U.S. 34 WEST
OF THE
ALBIA STUDY AREA



LEGEND

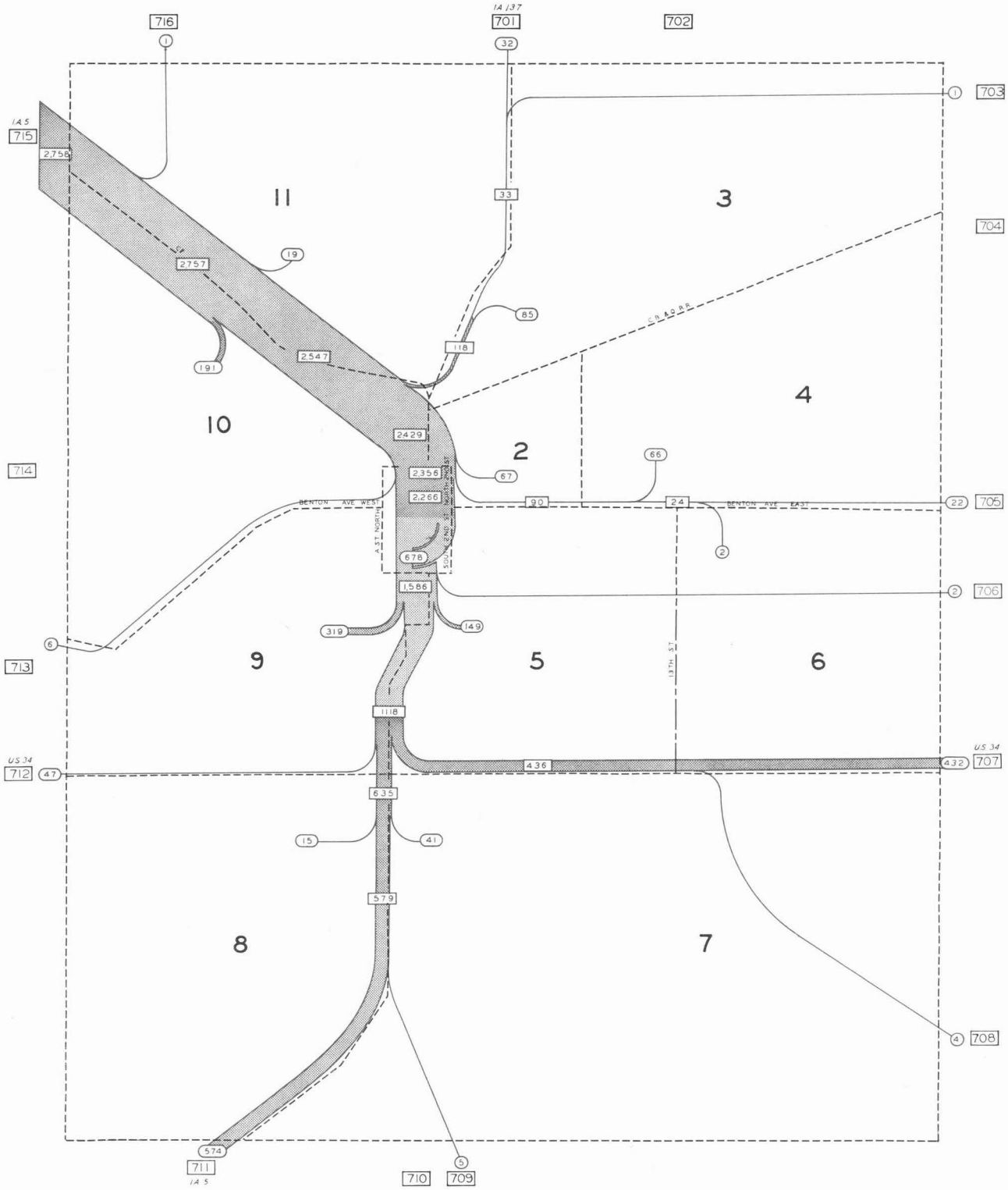
TRACT BOUNDARY LINE - - - - - - - -

GRAPHIC SCALE

4000 TRIPS
2000 TRIPS
1000 TRIPS
500 TRIPS

1969 AVERAGE JULY WEEKDAY TRAFFIC

FIGURE 4-8
INTERNAL DISPERSION OF
ALL VEHICULAR TRIPS PASSING THROUGH
STATION 713-OLD U.S. 34 WEST
OF THE
ALBIA STUDY AREA



LEGEND

TRACT BOUNDARY LINE --------

GRAPHIC SCALE

4000 TRIPS
2000 TRIPS
1000 TRIPS
500 TRIPS

1969 AVERAGE JULY WEEKDAY TRAFFIC

FIGURE 4-9
INTERNAL DISPERSION OF
ALL VEHICULAR TRIPS PASSING THROUGH
STATION 715-IOWA 5 NORTHWEST
OF THE
ALBIA STUDY AREA

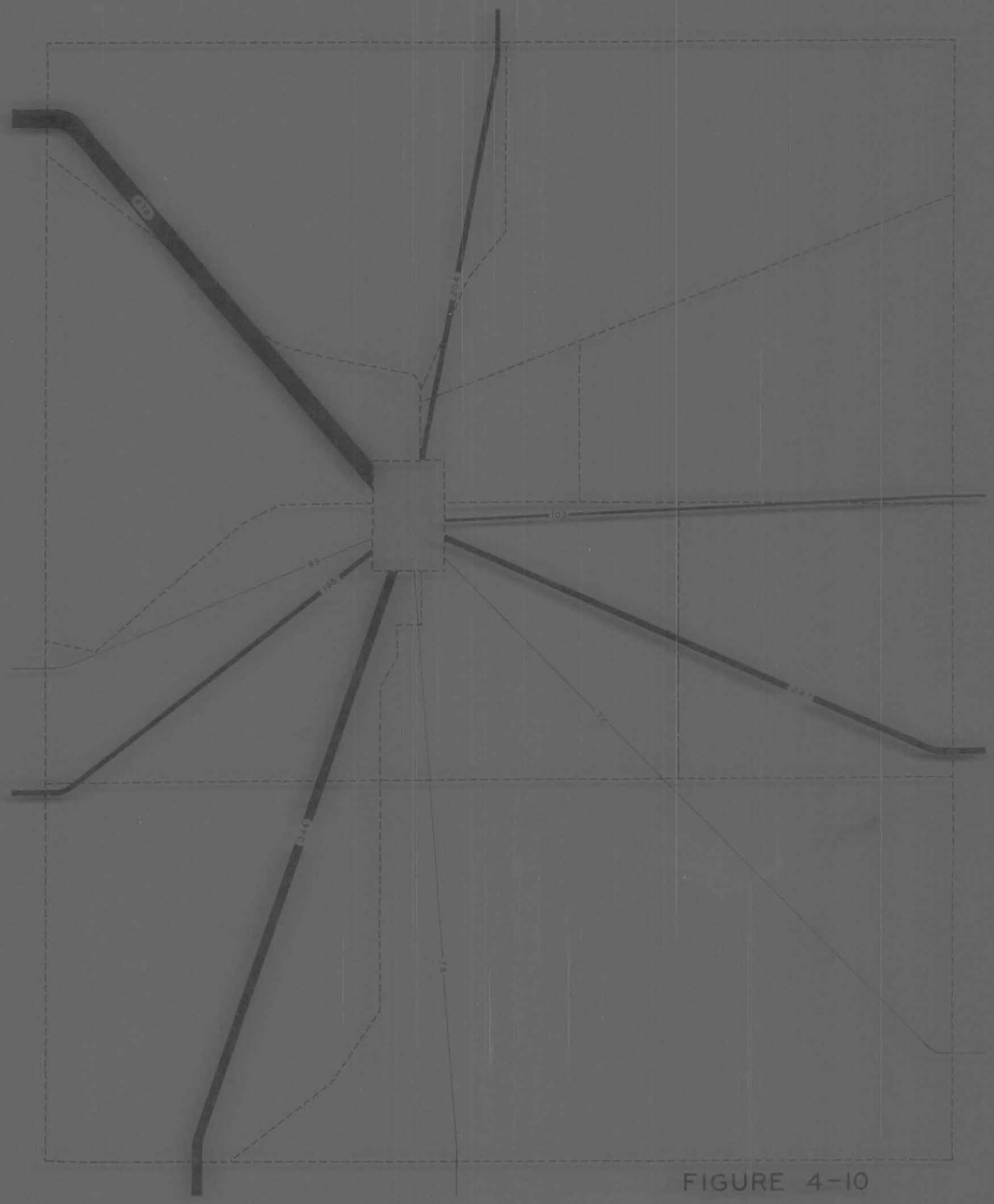


FIGURE 4-10

THE CENTRAL BUSINESS DISTRICT

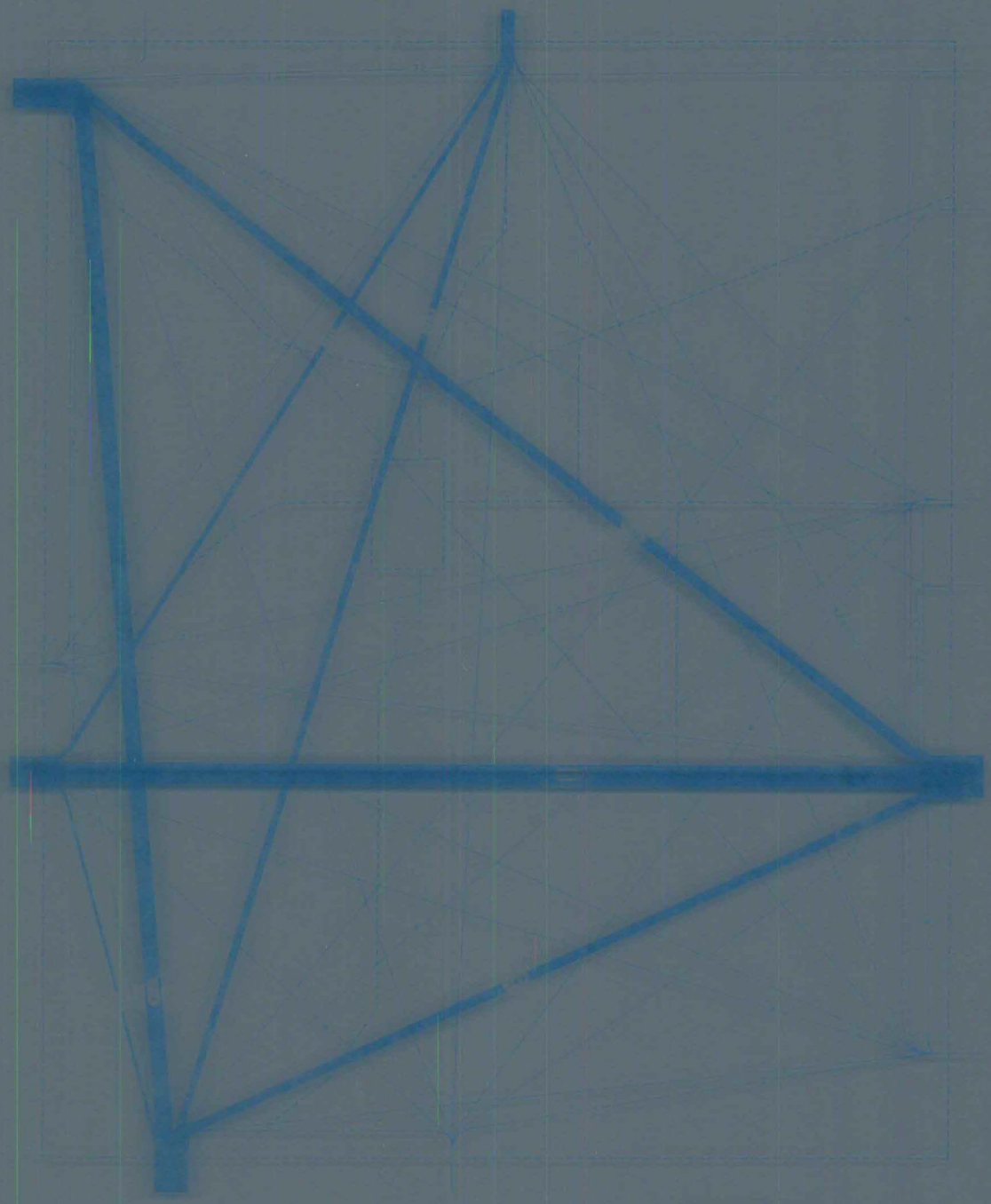
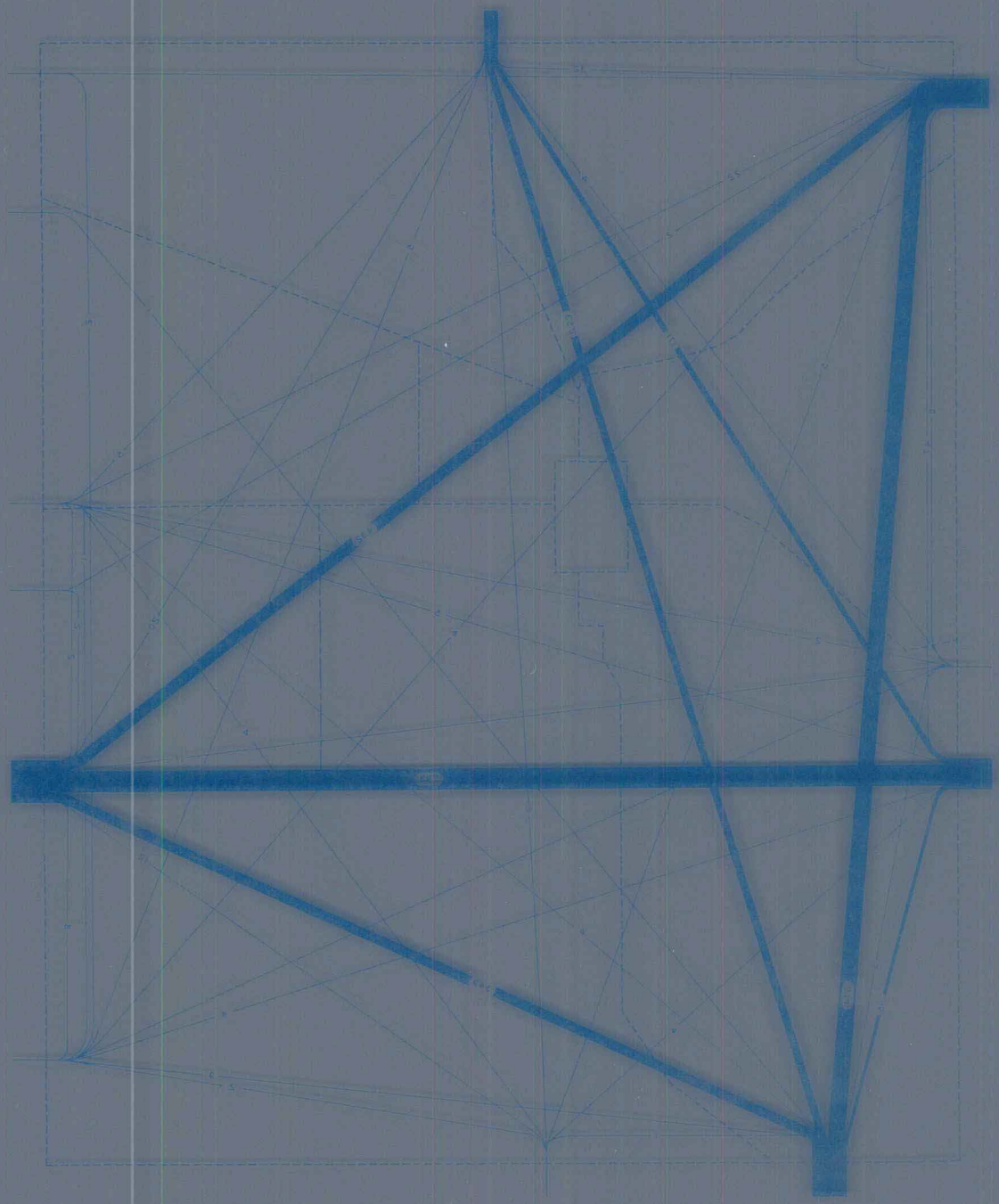
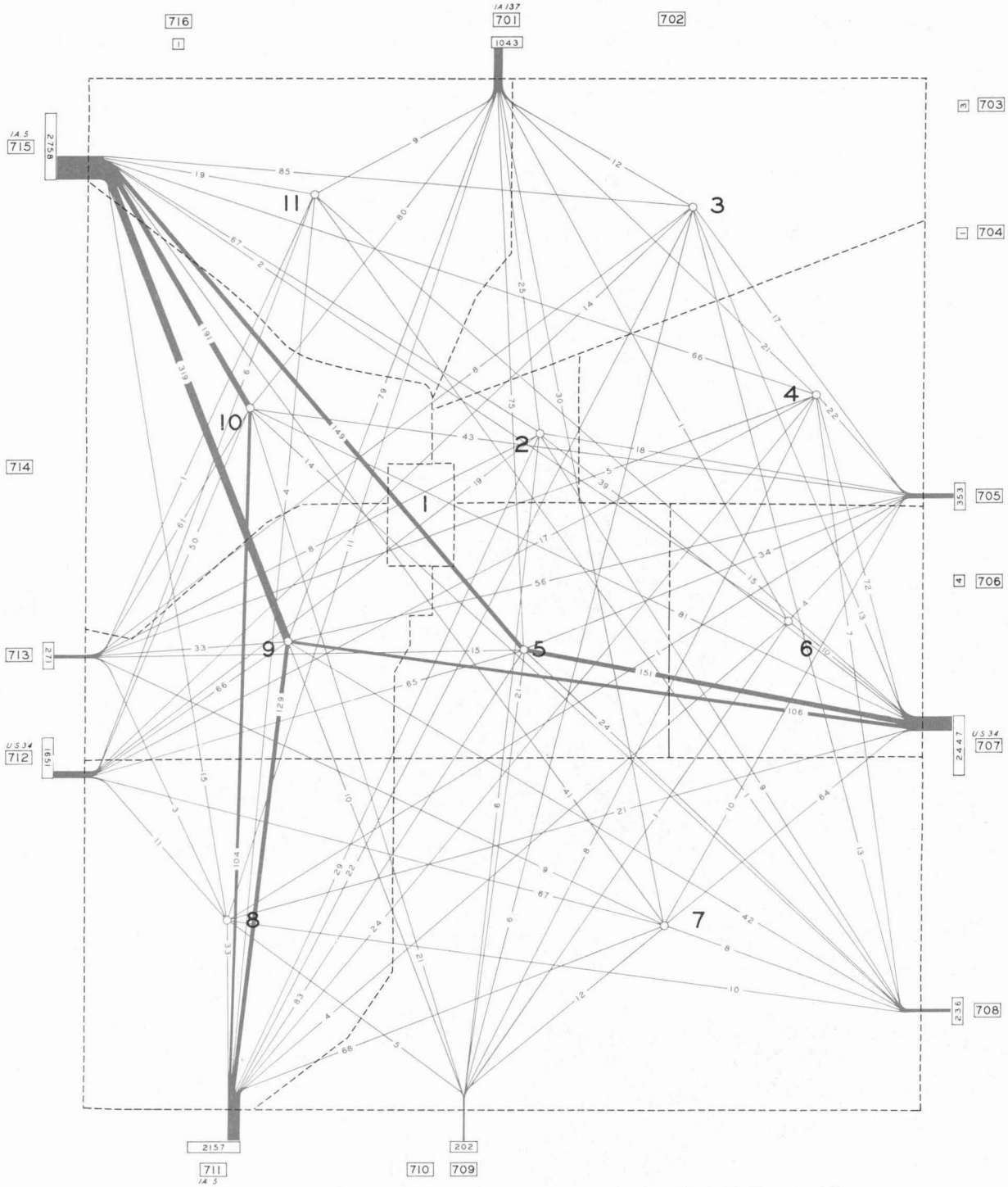


FIGURE 4-11

OTHER EXTERNAL ENTRANCES





LEGEND

TRACT BOUNDARY LINE _____

GRAPHIC SCALE

4000 TRIPS
2000 TRIPS
1000 TRIPS
500 TRIPS

AVERAGE JULY
WEEKDAY TRAFFIC 1969

FIGURE 4-12
DESIRE LINES OF TRAVEL OF TRIPS
TO OR FROM
EXTERNAL ENTRANCES OF THE
ALBIA 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 Monroe 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 Albia study area at the time of the survey. Figure 4-13 shows the external termini of all trips which originated or terminated beyond Monroe 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 4-14 is a continuation of Figure 4-13 and shows the external termini of those trips which originated or terminated in Monroe 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 ALBIA STUDY AREA

1969 AVERAGE JULY WEEKDAY TRAFFIC

Station Location / Origin or Destination	Iowa 137 North		Old U.S. 34 East		U.S. 34 East		County Road H-47 Southeast		Local Road South		Iowa 5 South		U.S. 34 West		Old U.S. 34 West		Iowa 5 Northwest	
	Station 701		Station 705		Station 707		Station 708		Station 709		Station 711		Station 712		Station 713		Station 715	
	Vol.	%	Vol.	%	Vol.	%	Vol.	%	Vol.	%	Vol.	%	Vol.	%	Vol.	%	Vol.	%
Avery			32	9.07														
Frederica			2	.57														
Hitman																	247	8.95
Lovilia																	728	26.40
Melrose													274	16.60	64	23.62		
Total to Towns			34	9.64									274	16.60	64	23.62	975	35.35
Rural Monroe County	284	27.23	259	73.37	153	6.25	222	94.07	186	92.08	280	12.98	263	15.93	172	63.47	487	17.66
Other Counties	715	68.55	59	16.71	2,060	84.19	14	5.93	15	7.42	1,576	73.07	853	51.66	34	12.54	1,258	45.61
Out-of-State	44	4.22	1	.28	234	9.56			1	.50	301	13.95	261	15.81	1	.37	38	1.38
Grand Total	1,043	100.00	353	100.00	2,447	100.00	236	100.00	202	100.00	2,157	100.00	1,651	100.00	271	100.00	2,758	100.00

FIGURE 4-13
DISPERSION OF EXTERNAL TRIPS BETWEEN THE ALBIA STUDY AREA AND POINTS IN IOWA BEYOND MONROE COUNTY

ALL TRIPS BY DRIVERS OF AUTOS, TRUCKS, TAXIS, AND BUSES

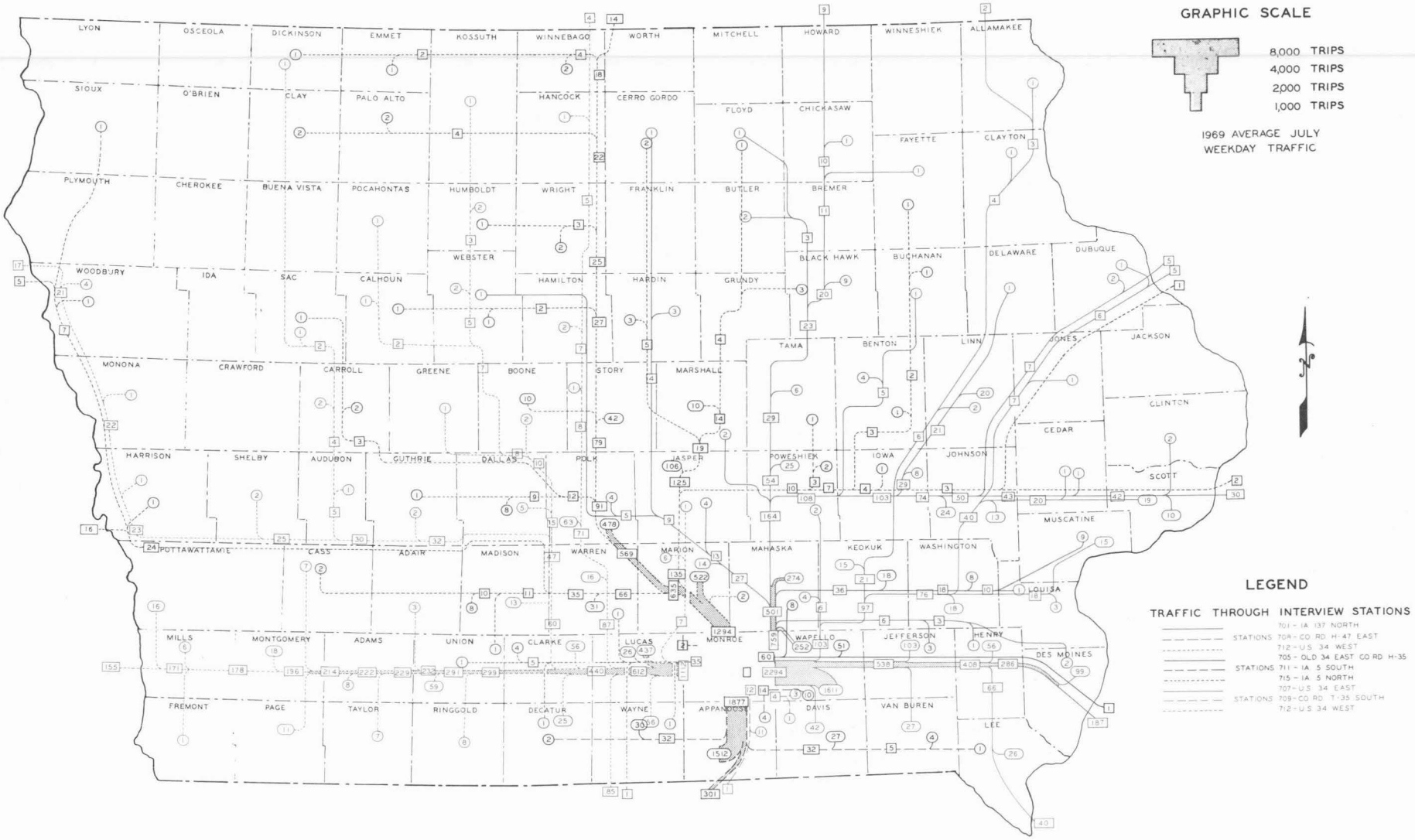
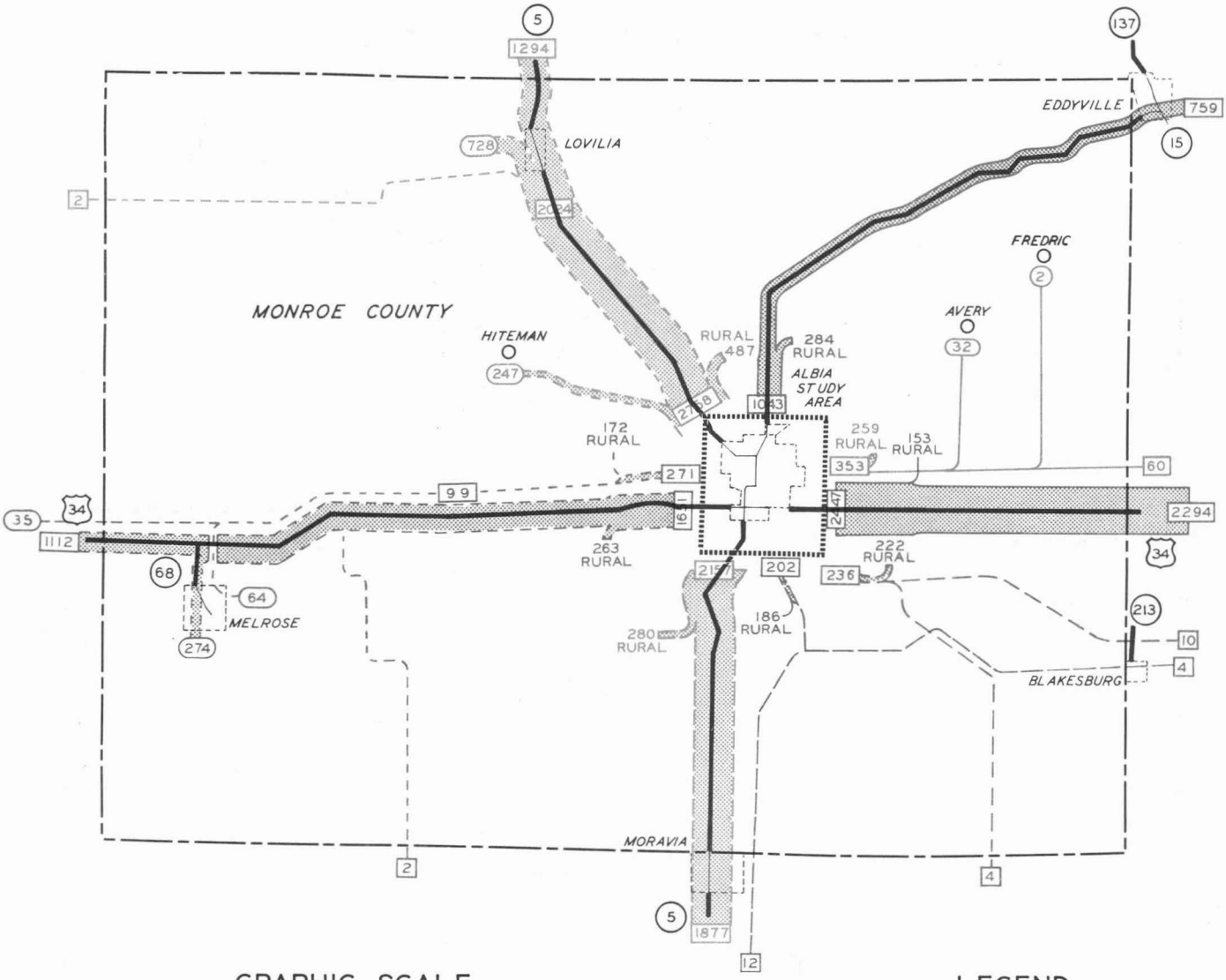


FIGURE 4-14
DISPERSION OF EXTERNAL TRIPS BETWEEN THE ALBIA STUDY AREA AND POINTS WITHIN MONROE COUNTY



GRAPHIC SCALE

8000 TRIPS
4000 TRIPS
2000 TRIPS
1000 TRIPS

1969 AVERAGE JULY WEEKDAY TRAFFIC

N

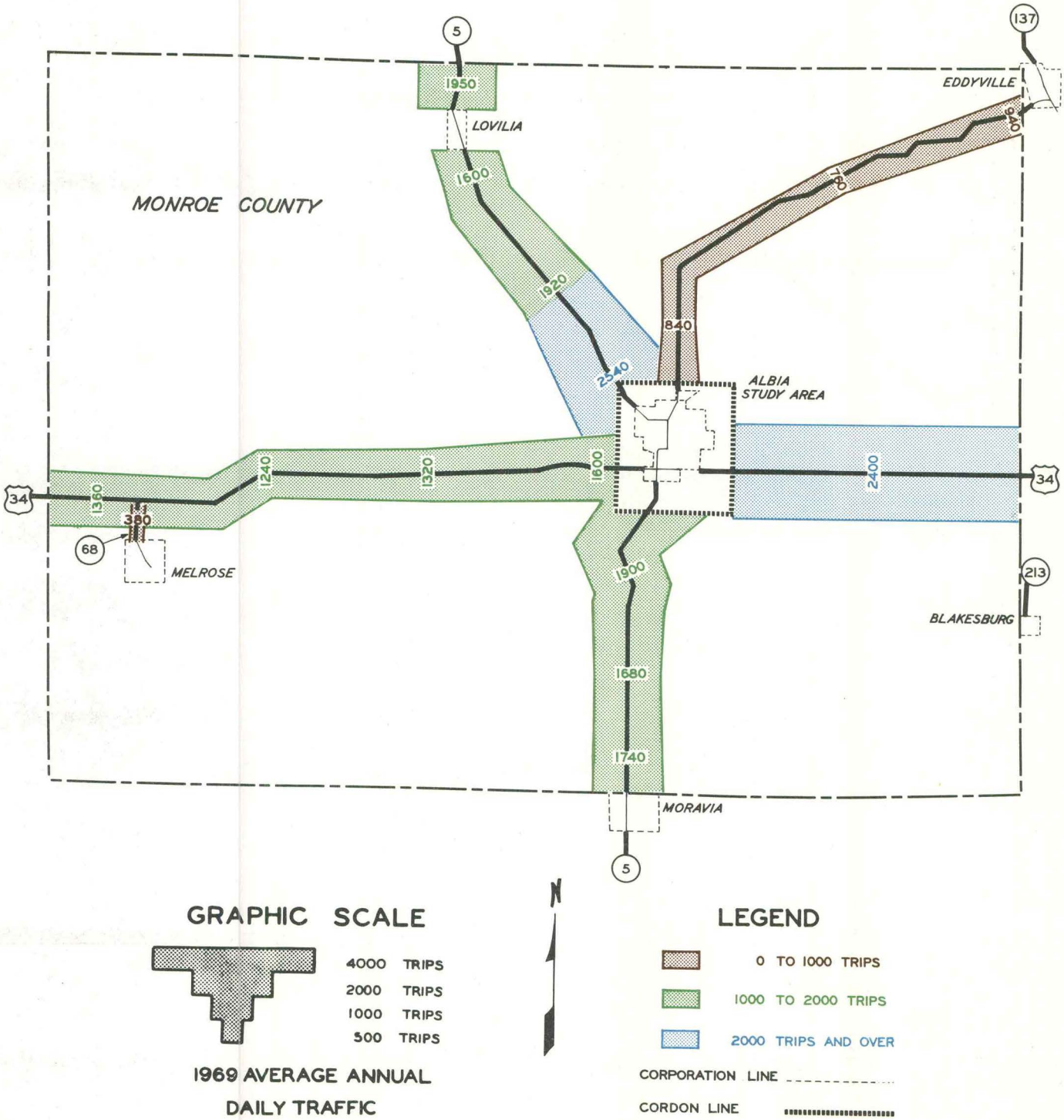
LEGEND

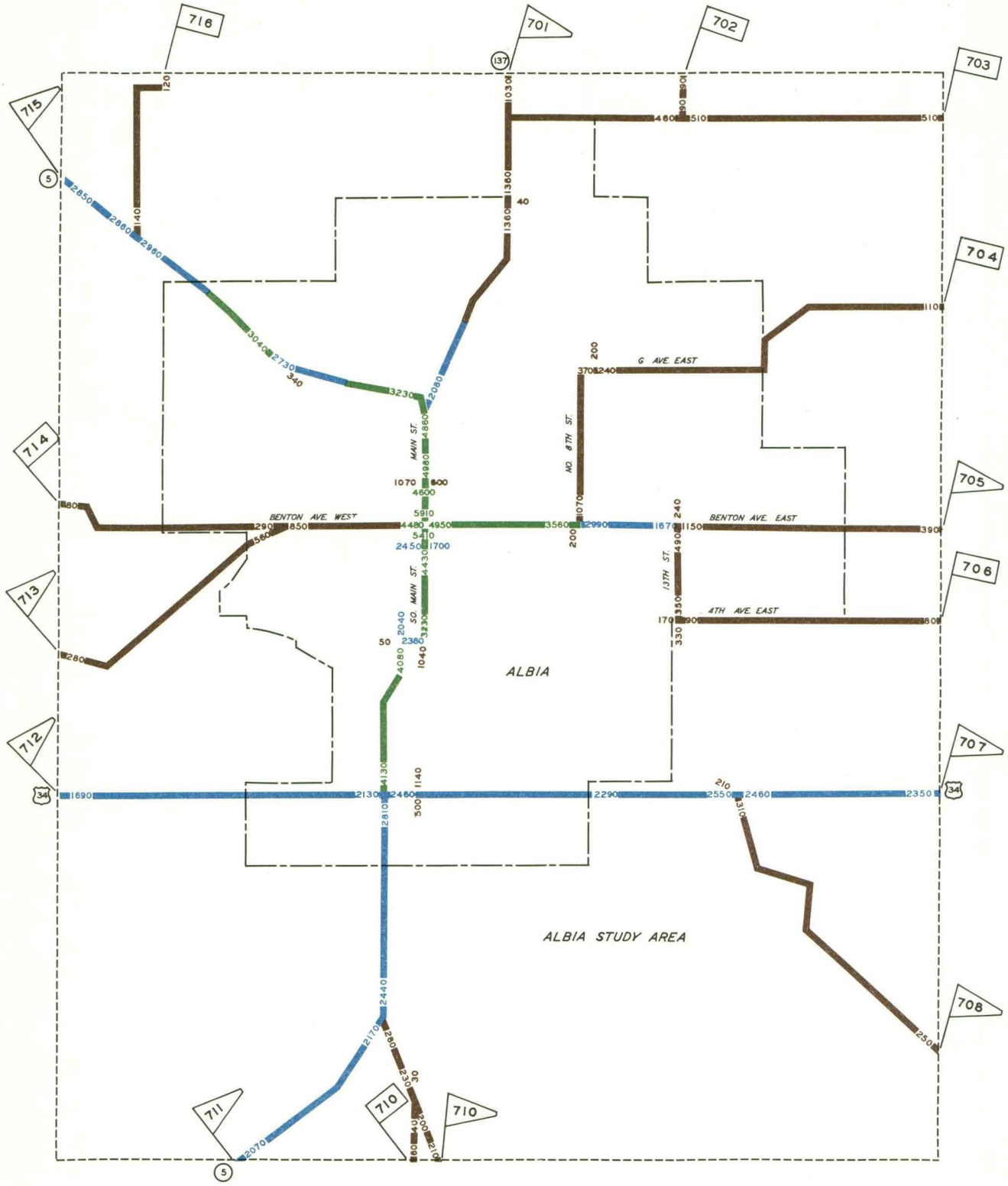
TRAFFIC THROUGH INTERVIEW STATIONS

- STATION 705 - OLD 34 EAST COUNTY RD. H-35
- STATION 711 - IOWA 5 SOUTH
- STATION 715 - IOWA 5 NORTH WEST
- STATION 707 - U.S. 34 EAST
- STATION 709 - COUNTY RD. T-35 SOUTH
- STATION 712 - U.S. 34 WEST
- STATION 701 - IOWA 137 NORTH
- STATION 708 - COUNTY RD. H-47 EAST
- STATION 713 - OLD 34 WEST COUNTY RD. H-35
- CORPORATION LINE
- CORDON LINE

FIGURE 4-15

TRAFFIC VOLUMES ON RURAL PRIMARY HIGHWAYS IN MONROE COUNTY





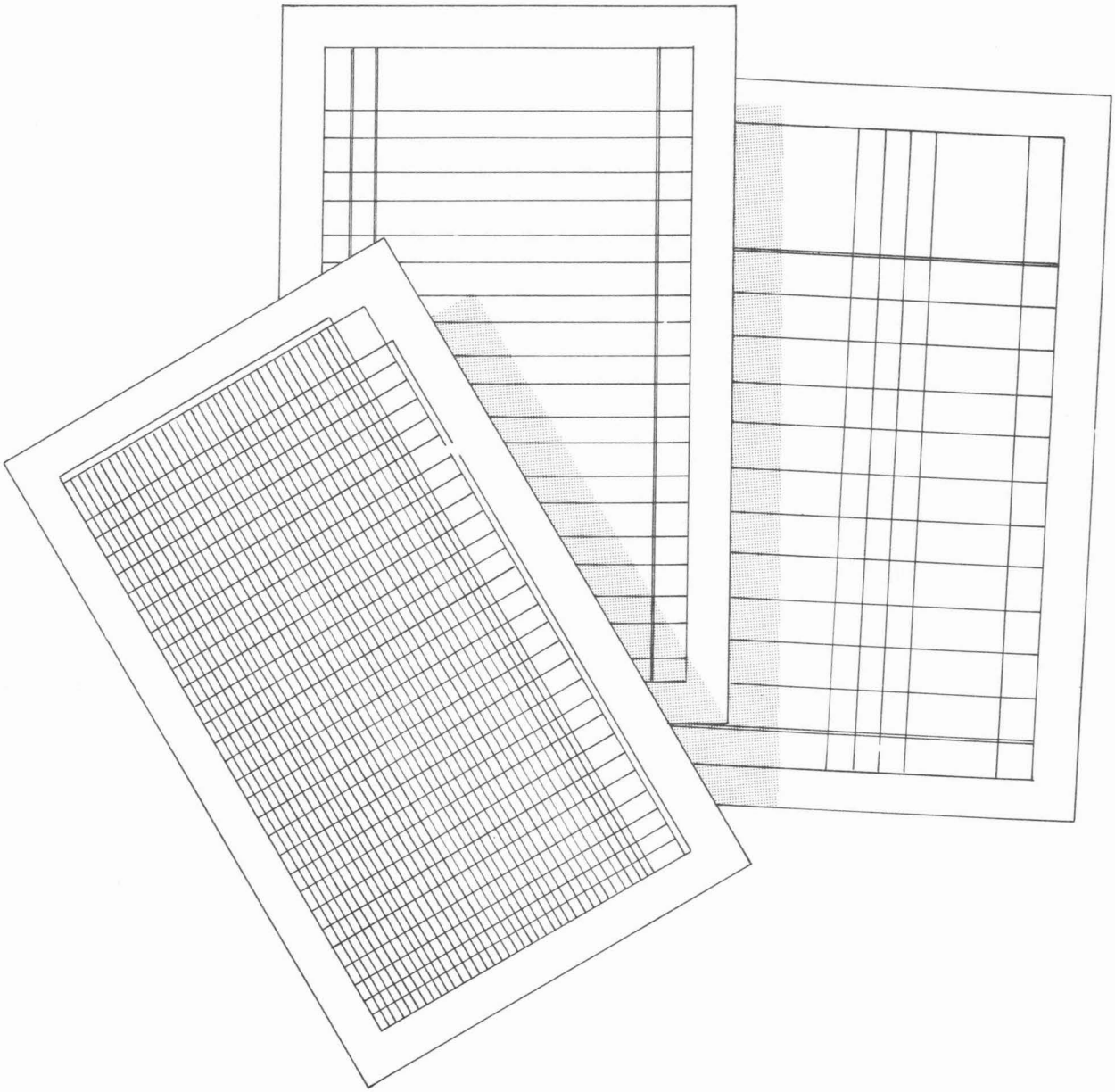
LEGEND

- 0 TO 1500 TRIPS
- 1500 TO 3000 TRIPS
- 3000 TRIPS AND OVER

INTERVIEW STATION LOCATIONS
CODE STATION LOCATIONS
CORPORATION LINE
CORDON LINE

FIGURE 4-16
TRAFFIC VOLUMES ON PRIMARY ROAD EXTENSIONS AND MAJOR STREETS IN THE
ALBIA STUDY AREA
1969 AVERAGE JULY WEEKDAY TRAFFIC

Appendix



Part Fiv

ALBIA STUDY AREA

TRIP PURPOSE OF EXTERNAL TRIPS (ALL VEHICLE TYPES)

1969 AVERAGE JULY WEEKDAY TRAFFIC

Table B-2a (1) EXTERNAL LOCAL TRIPS

Station / Trip Purpose	701 Iowa 137 North	705 Old U.S. 34 East	707 U.S. 34 East	708 County Road H-47 Southeast	709 Local Road South	711 Iowa 5 South	712 U.S. 34 West	713 Old U.S. 34 West	715 Iowa 5 Northwest	Total Traffic
Work	116	64	197	49	28	174	97	56	271	1,052
Personal Business	58	33	69	14	16	67	45	11	160	473
During Work	93	19	175	26	10	145	144	26	203	841
Medical or Dental	7	5	21	1	4	12	7		21	78
School	5	5	11			3	1	3	6	34
Social or Recreation	123	84	154	46	43	170	104	66	403	1,193
Eat	8	8	32	7	6	31	24	12	44	172
Shop	132	72	151	37	44	205	84	64	491	1,280
Serve Passengers	5	18	9	20	17	39	7	4	33	152
Total Traffic	547	308	819	200	168	846	513	242	1,632	5,275

Table B-2a (2) EXTERNAL THROUGH TRIPS

Station / Trip Purpose	701 Iowa 137 North	705 Old U.S. 34 East	707 U.S. 34 East	708 County Road H-47 Southeast	709 Local Road South	711 Iowa 5 South	712 U.S. 34 West	713 Old U.S. 34 West	715 Iowa 5 Northwest	Total Traffic
Work	47	8	202	4	5	139	108	5	106	624
Personal Business	42	9	92	5	3	115	59	2	91	418
During Work	185	4	510	5	7	389	426	5	315	1,846
Medical or Dental	8	1	21		1	15	9	3	8	66
School	6	1	17			21	7	1	27	80
Social or Recreation	178	17	679	18	13	560	483	10	503	2,461
Eat	2		1			2	1		1	7
Shop	22	3	89		5	59	37	2	58	275
Serve Passengers	6	2	17	4		11	8	1	17	66
Total Traffic	496	45	1,628	35	34	1,311	1,138	29	1,126	5,843

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

Station / Trip Purpose	701 Iowa 137 North	705 Old U.S. 34 East	707 U.S. 34 East	708 County Road H-47 Southeast	709 Local Road South	711 Iowa 5 South	712 U.S. 34 West	713 Old U.S. 34 West	715 Iowa 5 Northwest	Total Traffic
Work	163	72	399	53	33	313	205	61	377	1,676
Personal Business	100	42	161	19	19	182	104	13	251	891
During Work	278	23	685	31	17	534	570	31	518	2,687
Medical or Dental	15	6	42	1	5	27	16	3	29	144
School	11	6	28			24	8	4	33	114
Social or Recreation	301	101	833	64	56	730	587	76	906	3,654
Eat	10	8	33	7	6	33	25	12	45	179
Shop	154	75	240	37	49	264	121	66	549	1,555
Serve Passengers	11	20	26	24	17	50	15	5	50	218
Total Traffic	1,043	353	2,447	236	202	2,157	1,651	271	2,758	11,118

ALBIA STUDY AREA

AVERAGE CAR OCCUPANCY BY TRIP PURPOSE

1969 AVERAGE JULY WEEKDAY TRAFFIC

EXTERNAL LOCAL TRIPS

Table B-3a(1)

Trip Purpose Origin	Trip Purpose - Destination: Work	Personal Business	During Work	Medical or Dental	School	Social or Recreation	Eat	Shop	Serve Pass.	Home	Average Occupancy
Work		1.000				2.258	1.303	1.171	2.000	1.320	1.342
Personal Business	1.000	1.648		1.000	4.328	2.231	1.000	1.497	3.000	1.687	1.782
During Work		1.000	1.240			1.500	1.000			1.410	1.242
Medical or Dental										1.916	1.916
School					4.624				1.000	1.797	2.580
Social or Recreation	2.034	3.222	4.000			2.653	3.057	2.430	7.570	2.380	2.501
Eat	1.148	1.623	1.517			2.459			4.000	2.553	2.281
Shop	1.363	1.667	1.000			2.622	1.000	1.831	2.000	2.179	2.176
Serve Passengers		1.000				1.985		3.742	2.490	2.346	2.340
Home	1.380	1.875	1.266	2.142	2.218	2.386	2.377	1.995	2.357		1.983
Average Occupancy	1.376	1.883	1.252	2.113	3.757	2.427	2.220	2.006	2.507	1.965	1.955

EXTERNAL THROUGH TRIPS

Table B-3a(2)

Trip Purpose Origin	Trip Purpose - Destination: Work	Personal Business	During Work	Medical or Dental	School	Social or Recreation	Eat	Shop	Serve Pass.	Home	Average Occupancy
Work						2.457		2.000		1.517	1.528
Personal Business	1.000	2.312				2.158				1.659	1.739
During Work			1.304					1.000		1.073	1.294
Medical or Dental										2.293	2.293
School						1.649				1.765	1.754
Social or Recreation					1.000	2.896	2.000	2.572		2.788	2.818
Eat						2.000				2.000	2.000
Shop						2.000		2.000		2.341	2.334
Serve Passengers	3.000								2.000	2.171	2.206
Home	1.493	1.916	1.254	2.928	1.689	2.646	4.000	2.562	3.598		2.376
Average Occupancy	1.499	1.939	1.303	2.928	1.668	2.705	2.915	2.531	3.522	2.350	2.229

SUMMARY - ALL EXTERNAL TRIPS

Table B-3a(3)

Trip Purpose Origin	Trip Purpose - Destination: Work	Personal Business	During Work	Medical or Dental	School	Social or Recreation	Eat	Shop	Serve Pass.	Home	Average Occupancy
Work		1.000				2.277	1.303	1.243	2.000	1.367	1.384
Personal Business	1.000	1.908		1.000	4.328	2.217	1.000	1.497	3.000	1.679	1.770
During Work		1.000	1.274			1.500	1.000	1.000		1.164	1.269
Medical or Dental										2.018	2.018
School					4.624	1.649			1.000	1.781	2.216
Social or Recreation	2.034	3.222	4.000		1.000	2.806	3.013	2.437	7.570	2.606	2.675
Eat	1.148	1.623	1.517			2.451			4.000	2.541	2.277
Shop	1.363	1.667	1.000			2.612	1.000	1.839	2.000	2.194	2.190
Serve Passengers	3.000	1.000				1.985		3.742	2.430	2.316	2.230
Home	1.404	1.889	1.259	2.385	1.812	2.512	2.392	2.047	2.567		2.108
Average Occupancy	1.401	1.901	1.279	2.360	2.659	2.560	2.229	2.052	2.656	2.086	2.048

TABLE E-1

ALBIA STUDY AREA

DIRECTIONAL TRIPS BETWEEN STATIONS AND TRACTS

1969 AVERAGE JULY WEEKDAY TRAFFIC

		VEHICLE TRIPS				
From	To	Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total
001	701	73	28	2	1	104
002	701	7	1	2		10
003	701	5		2		7
004	701	11	2			13
005	701	34	4	1		39
006	701		1			1
007	701	9	1	4		14
008	701	2	1	1		4
009	701	33	9	1		43
010	701	29	13	4	1	47
011	701	5	2			7
Cl. 2	Total	208	62	17	2	289
001	705	47	5			52
002	705	8	1			9
003	704	6				6
004	705	8				8
005	705	20	1			21
006	705	1				1
007	705	4	1	1		6
009	705	27	5			32
010	705	14	6			20
Cl. 2	Total	135	19	1		155
001	707	99	14	4	1	118
002	707	15	3	1	2	21
003	707	7				7
004	707	23	3	12	1	39
005	707	52	6	3	3	64
006	707	3	1			4
007	707	23	4	6		33
008	707	5	4	3		12
009	707	37	5	6		48
010	707	28	6	1	3	38
011	707	8				8
Cl. 2	Total	300	46	36	10	392
001	708	19	11			30
002	708	7	1			8
003	708	5	1			6
004	708	4	1			5
005	708	10				10
007	708	6				6
008	708	2	4			6
009	708	23	3			26
010	708	4	1	3		8
Cl. 2	Total	80	22	3		105
001	709	30	5	2		37
002	709	1	1			2
003	709	5				5
004	709	4				4
005	709	9		1		10
007	709	6	1	1		8
008	709	2				2
009	709	4	1			5
010	709	5	2	1		8
Cl. 2	Total	66	10	5		81

		VEHICLE TRIPS				
From	To	Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total
001	711	127	44	7		178
002	711	11	3	1		15
003	711	3	3			6
004	711	3	7			10
005	711	43	5	2		50
006	711	1				1
007	711	23	4	5		32
008	711	6	10			16
009	711	68	9	1		78
010	711	49	6	11		66
011	711	1				1
Cl. 2	Total	335	91	27		453
001	712	67	20	6	4	97
002	712	9	4			13
003	712	6				6
004	712	8	1			9
005	712	27	2	4		33
007	712	19	8	10		37
008	712	4				4
009	712	32	3	3	4	42
010	712	15	6	11		32
011	712	4				4
Cl. 2	Total	191	44	34	8	277
001	713	30	9	2		41
002	713	1				1
003	713	1				1
004	713	1				1
005	713	6	2			8
007	713	1				1
008	713			1		1
009	713	10		3		13
010	713	24	6	4		34
Cl. 2	Total	74	17	10		101
001	715	241	44	13	2	300
002	715	23	3	1	3	30
003	715	32	1			33
004	715	25	6	2		33
005	715	66	8	1		75
006	715	1				1
007	715	19		1	2	22
008	715	6		2	1	9
009	715	165	10	2		177
010	715	71	16	11		98
011	715	11	1			12
Cl. 2	Total	660	89	33	8	790
701	001	76	20	3	1	100
701	002	13	2			15
701	003	3		2		5
701	004	7	1			8
701	005	31	4	1		36
701	007	15	1			16
701	008	3	3	1		7
701	009	29	6	1		36
701	010	22	8	3		33
701	011	1		1		2
Cl. 3	Total	200	45	12	1	258

VEHICLE TRIPS						
From	To	Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total
705	001	40	10		1	51
705	002	8	1			9
705	003	9	2			11
705	004	12		2		14
705	005	13				13
705	006	3				3
705	007	3		1		4
705	008		1			1
705	009	19	5			24
705	010	18	5			23
Cl.3	Total	125	24	3	1	153
707	001	92	27	7	3	129
707	002	14	2	2		18
707	003	6				6
707	004	23	3	6	1	33
707	005	77	6	3	1	87
707	006	4	2			6
707	007	25	5	1		31
707	008	3	4	2		9
707	009	39	8	8	3	58
707	010	32	8	2	1	43
707	011	7				7
Cl.3	Total	322	65	31	9	427
708	001	33	9			42
708	002	1				1
708	003	6	1			7
708	004	1	1			2
708	005	13		1		14
708	007		2			2
708	008	1	3			4
708	009	11	3	2		16
708	010	4		2		6
708	011	1				1
Cl.3	Total	71	19	5		95
709	001	36	4	1		41
709	002	2	2			4
709	003	1				1
709	004	4				4
709	005	10	1			11
709	006	1				1
709	007	4				4
709	008	2	1			3
709	009	4	1			5
709	010	7	4	2		13
Cl.3	Total	71	13	3		87
711	001	125	37	6		168
711	002	13	1			14
711	003	15	1			16
711	004	11	3			14
711	005	31	1	1		33
711	006	3				3
711	007	26	7	2	1	36
711	008	10	6	1		17
711	009	48	3			51
711	010	23	4	11		38
711	011	1	1	1		3
Cl.3	Total	306	64	22	1	393

VEHICLE TRIPS						
From	To	Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total
712	001	74	17	8	2	101
712	002	6				6
712	003	7	1			8
712	004	6	2			8
712	005	28	3	1		32
712	007	14	4	12		30
712	008	7				7
712	009	20	1	3		24
712	010	6	7	5		18
712	011	2				2
Cl.3	Total	170	35	29	2	236
713	001	45	11	2		58
713	002	7				7
713	003	7				7
713	004	3	1			4
713	005	7				7
713	007	8				8
713	008			2		2
713	009	19	1			20
713	010	19	4	4		27
713	011	1				1
Cl.3	Total	116	17	8		141
715	001	317	51	8	2	378
715	002	32	3	1	1	37
715	003	49	2	1		52
715	004	25	8			33
715	005	62	9	3		74
715	006	1				1
715	007	16		3		19
715	008	4	1	1		6
715	009	121	16	5		142
715	010	63	21	9		93
715	011	7				7
Cl.3	Total	697	111	31	3	842
701	705		1			1
701	707	7	3			10
701	708	1	1			2
701	709	1	1			2
701	711	89	15	13	4	121
701	712	43	8	10	17	78
701	713	2				2
701	715	9	2	1	1	13
705	701	2		2		4
707	701	7	2	1		10
708	701	2	1			3
709	701	3	1			4
711	701	92	12	20	8	132
712	701	47	9	21	16	93
713	701	2				2
715	701	14	1	2	2	19
Cl.4	Total	321	57	70	48	496

VEHICLE TRIPS						
From	To	Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total
705	701	2		2		4
705	707	1	1			2
705	709	2				2
705	711	2	1			3
705	712	[illegible]	1			3
705	713	1				1
705	715	9	2			11
701	705		1			1
708	705	1				1
709	705	2				2
711	705	1				1
712	705	2				2
713	705	1				1
715	705	9	2			11
Cl.4	Total	35	8	2		45
707	701	7	2	1		10
707	706	1				1
707	708	4	1			5
707	709	7	1			8
707	711	136	20	8	4	168
707	712	272	37	25	51	385
707	713	5	1	1		7
707	715	172	25	15	14	226
701	707	7	3			10
705	707	1	1			2
706	707	1				1
708	707	2		1		3
709	707	3	1			4
711	707	147	18	12	4	181
712	707	297	39	27	44	407
713	707	2	1	1		4
715	707	155	22	18	11	206
Cl.4	Total	1,219	172	109	128	1,628
708	701	2	1			3
708	703		1			1
708	705	1				1
708	707	2		1		3
708	709	1				1
708	711	5	1			6
708	712	1				1
708	715	1				1
701	708	1	1			2
703	708		1			1
707	708	4	1			5
709	708	1				1
711	708	3				3
712	708	2	1			3
713	708	1				1
715	708	3				3
Cl.4	Total	28	7	1		36

VEHICLE TRIPS						
From	To	Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total
709	701	3	1			4
709	705	2				2
709	707	3	1			4
709	708	1				1
709	712	1	1			2
709	715	2	2			4
701	709	1	1			2
705	709	2				2
707	709	7	1			8
708	709	1				1
711	709	1				1
712	709	2				2
715	709		1			1
Cl.4	Total	26	8			34
711	701	92	12	20	8	132
711	705	1				1
711	707	147	18	12	4	181
711	708	3				3
711	709	1				1
711	712	37	7	6	4	54
711	713	1	1			2
711	715	208	27	12	27	274
701	711	89	15	13	4	121
704	711	1				1
705	711	2	1			3
707	711	136	20	8	4	168
708	711	5	1			6
712	711	43	7	6	5	61
713	711	2	1			3
715	711	231	30	13	26	300
Cl.4	Total	999	140	90	82	1,311
712	701	47	9	21	16	93
712	705	2				2
712	707	297	39	27	44	407
712	708	2	1			3
712	709	2				2
712	711	43	7	6	5	61
712	715	18	3	3	1	25
701	712	43	8	10	17	78
705	712	2	1			3
707	712	272	37	25	51	385
708	712	1				1
709	712	1	1			2
711	712	37	7	6	4	54
715	712	16	2	3	1	22
Cl.4	Total	783	115	101	139	1,138
713	701	2				2
713	705	1				1
713	707	2	1	1		4
713	708	1				1
713	711	2	1			3
713	715	2	1			3
701	713	2				2
705	713	1				1
707	713	5	1	1		7
711	713	1	1			2
715	713	1	1	1		3
Cl.4	Total	20	6	3		29

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
715	701	14	1	2	2	19							
715	705	9	2			11							
715	706	1				1							
715	707	155	22	18	11	206							
715	708	3				3							
715	709		1			1							
715	711	231	30	13	26	300							
715	712	16	2	3	1	22							
715	713	1	1	1		3							
715	716	1				1							
701	715	9	2	1	1	13							
703	715	1				1							
705	715	9	2			11							
706	715	1				1							
707	715	172	25	15	14	226							
708	715	1				1							
709	715	2	2			4							
711	715	208	27	12	27	274							
712	715	18	3	3	1	25							
713	715	2	1			3							
Cl.4	Total	854	121	68	83	1,126							

TABLE E-2

ALBIA STUDY AREA

NONDIRECTIONAL TRIPS BETWEEN STATIONS AND TRACTS

1969 AVERAGE JULY WEEKDAY TRAFFIC

VEHICLE TRIPS							VEHICLE TRIPS						
Between		Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total	Between		Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total
701	001	149	48	5	2	204	707	001	191	41	11	4	247
701	002	20	3	2		25	707	002	29	5	3	2	39
701	003	8		4		12	707	003	13				13
701	004	18	3			21	707	004	46	6	18	2	72
701	005	65	8	2		75	707	005	129	12	6	4	151
701	006		1			1	707	006	7	3			10
701	007	24	2	4		30	707	007	48	9	7		64
701	008	5	4	2		11	707	008	8	8	5		21
701	009	62	15	2		79	707	009	76	13	14	3	106
701	010	51	21	7	1	80	707	010	60	14	3	4	81
701	011	6	2	1		9	707	011	15				15
Cl.2&3	Total	408	107	29	3	547	Cl.2&3	Total	622	111	67	19	819
705	001	87	15		1	103	708	001	52	20			72
705	002	16	2			18	708	002	8	1			9
705	003	15	2			17	708	003	11	2			13
705	004	20		2		22	708	004	5	2			7
705	005	33	1			34	708	005	23		1		24
705	006	4				4	708	007	6	2			8
705	007	7	1	2		10	708	008	3	7			10
705	008		1			1	708	009	34	6	2		42
705	009	46	10			56	708	010	8	1	5		14
705	010	32	11			43	708	011	1				1
Cl.2&3	Total	260	43	4	1	308	Cl.2&3	Total	151	41	8		200

VEHICLE TRIPS						
Between		Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total
709	001	66	9	3		78
709	002	3	3			6
709	003	6				6
709	004	8				8
709	005	19	1	1		21
709	006	1				1
709	007	10	1	1		12
709	008	4	1			5
709	009	8	2			10
709	010	12	6	3		21
Cl.2&3	Total	137	23	8		168
711	001	252	81	13		346
711	002	24	4	1		29
711	003	18	4			22
711	004	14	10			24
711	005	74	6	3		83
711	006	4				4
711	007	49	11	7	1	68
711	008	16	16	1		33
711	009	116	12	1		129
711	010	72	10	22		104
711	011	2	1	1		4
Cl.2&3	Total	641	155	49	1	846
712	001	141	37	14	6	198
712	002	15	4			19
712	003	13	1			14
712	004	14	3			17
712	005	55	5	5		65
712	007	33	12	22		67
712	008	11				11
712	009	52	4	6	4	66
712	010	21	13	16		50
712	011	6				6
Cl.2&3	Total	361	79	63	10	513
713	001	75	20	4		99
713	002	8				8
713	003	8				8
713	004	4	1			5
713	005	13	2			15
713	007	9				9
713	008			3		3
713	009	29	1	3		33
713	010	43	10	8		61
713	011	1				1
Cl.2&3	Total	190	34	18		242
715	001	558	95	21	4	678
715	002	55	6	2	4	67
715	003	81	3	1		85
715	004	50	14	2		66
715	005	128	17	4		149
715	006	2				2
715	007	35		4	2	41
715	008	10	1	3	1	15
715	009	286	26	7		319
715	010	134	37	20		191
715	011	18	1			19
Cl.2&3	Total	1,357	200	64	11	1,632

VEHICLE TRIPS						
Between		Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total
701	705	2	1	2		5
701	707	14	5	1		20
701	708	3	2			5
701	709	4	2			6
701	711	181	27	33	12	253
701	712	90	17	31	33	171
701	713	4				4
701	715	23	3	3	3	32
Cl. 4	Total	321	57	70	48	496
Cl.2&3	Total	408	107	29	3	547
701	Total	729	164	99	51	1,043
705	701	2	1	2		5
705	707	1	1			2
705	708	1				1
705	709	4				4
705	711	3	1			4
705	712	4	1			5
705	713	2				2
705	715	18	4			22
Cl. 4	Total	35	8	2		45
Cl.2&3	Total	260	43	4	1	308
705	Total	295	51	6	1	353
707	701	14	5	1		20
707	705	1	1			2
707	706	2				2
707	708	6	1	1		8
707	709	10	2			12
707	711	283	38	20	8	349
707	712	569	76	52	95	792
707	713	7	2	2		11
707	715	327	47	33	25	432
Cl. 4	Total	1,219	172	109	128	1,628
Cl.2&3	Total	622	111	67	19	819
707	Total	1,841	283	176	147	2,447
708	701	3	2			5
708	703		2			2
708	705	1				1
708	707	6	1	1		8
708	709	2				2
708	711	8	1			9
708	712	3	1			4
708	713	1				1
708	715	4				4
Cl.4	Total	28	7	1		36
Cl.2&3	Total	151	41	8		200
708	Total	179	48	9		236
709	701	4	2			6
709	705	4				4
709	707	10	2			12
709	708	2				2
709	711	1				1
709	712	3	1			4
709	715	2	3			5
Cl.4	Total	26	8			34
Cl.2&3	Total	137	23	8		168
709	Total	163	31	8		202

VEHICLE TRIPS						
Between		Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total
711	701	181	27	33	12	253
711	704	1				1
711	705	3	1			4
711	707	283	38	20	8	349
711	708	8	1			9
711	709	1				1
711	712	80	14	12	9	115
711	713	3	2			5
711	715	439	57	25	53	574
Cl. 4	Total	999	140	90	82	1,311
Cl.2&3	Total	641	155	49	1	846
711	Total	1,640	295	139	83	2,157
712	701	90	17	31	33	171
712	705	4	1			5
712	707	569	76	52	95	792
712	708	3	1			4
712	709	3	1			4
712	711	80	14	12	9	115
712	715	34	5	6	2	47
Cl. 4	Total	783	115	101	139	1,138
Cl.2&3	Total	361	79	63	10	513
712	Total	1,144	194	164	149	1,651

VEHICLE TRIPS						
Between		Auto	Pickup and Panel	Single Unit & Bus	Semi Truck	Total
713	701	4				4
713	705	2				2
713	707	7	2	2		11
713	708	1				1
713	711	3	2			5
713	715	3	2	1		6
Cl. 4	Total	20	6	3		29
Cl.2&3	Total	190	34	18		242
713	Total	210	40	21		271
715	701	23	3	3	3	32
715	703	1				1
715	705	18	4			22
715	706	2				2
715	707	327	47	33	25	432
715	708	4				4
715	709	2	3			5
715	711	439	57	25	53	574
715	712	34	5	6	2	47
715	713	3	2	1		6
715	716	1				1
Cl. 4	Total	854	121	68	83	1,126
Cl.2&3	Total	1,357	200	64	11	1,632
715	Total	2,211	321	132	94	2,758