


## State of lowa

## PANORA

## Origin And Destination

 Traffic Study January 1965

TRAFFIC AND HIGHWAY PLANNING DEPARTMENT DIVISION OF PLANNING IOWA STATE HIGHWAY COMMISSION

IN COOPERATION WITH THE UNITED STATES DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS

## INTRODUCTION

During the latter part of July and the first part of August in 1962, the Iowa State Highway Commission, in cooperation with the United States Bureau of Public Roads, conducted an external origin-destination traffic survey in Panora.

The purpose of this survey was to determine the total number and type of vehicles entering or leaving the study area and to obtain origin and destination data from a representative sample of those vehicles.

Information of this nature is essential in the planning of streets and highways which will not only serve the needs of local traffic, but which will serve the needs of interstate and intercity traffic as well.

It is not within the scope of this report to make recommendations concerning the revision or construction of routes. It is rather to organize and present the findings of the survey in a manner which will facilitate the determination of traffic needs and thereby provide the basis for future street and highway planning.

## TABLE OF CONTENTS

Page
Introduction ..... iii
List of Illustrations ..... vi
List of Tables ..... vii
Definitions ..... viii
Part I History and Development ..... 1
Part II Survey Procedure ..... 9
Part III Summary ..... 13
Part IV Traffic Movements ..... 17
Part V Appendix ..... 37
Index ..... 45

## LIST OF ILLUSTRATIONS

Figure Page
1-1 Study Area Position in Midwest. ..... 4
1-2 Study Area Position in Iowa ..... 5
1-3 Motor Vehicle Registration in Guthrie County from 1939 Through 1963 ..... 7
2-1 Tract Map of Panora with External Station Loce :ions ..... 12
3-1 Distribution of Trips ..... 14
Internal Dispersion of Trips Passing Through theFollowing Interview Stations:
21
4-1 796, Iowa 17 North23
4-3 798, Iowa 64 West ..... 25
Desire Lines of Travel of Trips to or fromExternal Entrances of Panora and:
4-4 The Central Business District ..... 27
4-5 Other External Entrances ..... 27
4-6 Internal Tracts ..... 27
4-7 External Dispersion of Trips Passing Through Interview Stations in Panora to or from Areas Beyond Guthrie County ..... 30
4-8 External Dispersion of Trips Passing Through Interview Stations in Panora to or from Areas Within Guthrie County ..... 31
4-9 Traffic Volumes on Rural Primary Highways Entering Panora ..... 34
4-10 Traffic Volumes on Primary Road Extensions ancl Major Streets in Panora ..... 35
Table Page
1-1 Motor Vehicle Registration in Guthrie County from 1939 Through 1963 ..... 6
1-2 Population of Panora ..... 8
1-3 Population of Guthrie County ..... 8
3-1 Vehicle Type Summary ..... 16
Internal Dispersion of Trips Passing Through Station:
796, Iowa 17 North ..... 20
4-1
797, Iowa 64 East ..... 22
4-2798, Iowa 64 West24
4-4 Summary of External Trip Termini ..... 29
A-1 Origin and Destination of Trips Entering or Leaving Panora ..... 39
Trip Purpose of Vehicle Drivers Passing Through:

Station 796, Iowa 17 North

Station 796, Iowa 17 North .....  ..... 40 .....  ..... 40
A-2
Station 797, Iowa 64 East ..... 41
A-3
Station 798, Iowa 64 West ..... 42
A-5 All Interview Stations ..... 43

Central Business District

Code Station

Cordon Line

Destination
Desire Line

External Local Trip

External Through Trip

Internal Trip

Interview Station

Origin

Study Area

Traffic

The major business district of a city.

A location on a minor road at the point where it crosses the cordon line and at which no interviews were taken.

A hypothetical line determined by the location of traffic interview stations and used to delimit the area under study.

The location of the objective of a trip.
A straight line between the point of origin and point of destination without regard to routes of travel.

A trip having either origin or destination within the study are and which passes through only one interview station in the cordon line enroute to its destination.

A trip having neither origi nation within the study are passes through it enroute $t$ nation.

A trip having both origin a d destination within the study area.

A location at which vehicle drivers are stopped and interviewed.

The location from which a d:iver started a trip.

The area enclosed by a cordon line of interview stations and gene: ally corresponding with corporation lines or urban area lines.

The total number of vehicle; passing a given point.



## HISTORY

In the spring of 1848, John Nevens and his family settled in the wooded hills twelve miles southeast of the present site of Panora. They were the first white settlers in the area that was to become Guthrie County. Nevens built the first cabin in this county, a twelve-foot-square log shanty, before he left the area in 1852.

Nevens was joined in the fall of 1848 by Benjamin Kunkle and a Mr. Parrott. Parrott failed to establish his cla m, but Kunkle erected a cabin and brought his family in September of the next year. Mrs. Kunkle gave birth to a daughter twelve days after her arrival at the cabin. The girl, Malinda Jane Nevens, was the first white child born in the county.

Michael Leinhart came to Cass Township in the fall of 1850 . Leinhart hauled the logs for the first house built in Fanora. Other early settlers in Panora were: Theophalus Bryan the first judge), 1851; Gillum Reynolds, 1852; John Jackson, 1852; Hugh Campbell, 1853; and D.W. Harper, 1853.

The name "Panora" was chosen when pioneers, seeing the site from a hill for the first time, remarked, "What a beautiful panorama." They contracted the word and named the town Panora.

Guthrie County was named in honor of Captain Edwin Guthrie, who led the only Iowa regiment in the Mexican War. The Iowa Legislature of 1850 appointed David Bishop of Madison County and Lewis Whitten of Polk County to select a location for a courthouse. They chose Panora, and the county was organized there on July 8, 1851. Panora, which by this time had grown to a population of 222 , was divided into two townships, Jackson and Cass.

The first post office in the town was a straw hat. It hung from the rafters in one of the first log cabins, waiting for travelers to take it to nearby towns. On July 22, 1852, an official post office was established at Panora with John Anderson as the first postmaster. Valentine Leinhart, who was only ll years old, became the first mail carrier. Leinhart carried mail weekly between Panora and Redfield for 25 ¢ a trip. On April 14, 1853, Theophalus Bryan
was appointed postmaster, and the post office was moved to liis cabin.

A contract for the first courthouse was let in 1853. For some reason, however, it was not built till sometime later. By the time it was completed, the county seat was being shifted back and forth from Panora to Guthrie Center. Finally, around 1873, Guthrie Center was selected as the permanent location. The Panora Courthouse, emptied of its records, was later taken over by the high school.

A narrow gauge railroad reached Panora in 1879. The first public water supply tank was built fourteen years later on April 24, 1893. The tank greatly aided the work of the fire department that was organized the same year. It served the town until 1905, when it was replaced by a steel tank and tower.

The first electric light in Panora was switched on, on the evening of February l, 1893. A flat monthly rate was charged for each bulb. It cost 75 ¢ for 8 watts, $\$ 1.25$ for 16 watts, and $\$ 2.50$ for 32 watts. When more than one light was used, the customer had to install a meter at his own expense.

Panora is today chiefly an agricultural community with a population, according to the 1960 census, of 1,019 . Panora is connected to neighboring communities by Iowa Highways 64 and 17 and to Interstate 80 to the south by gravel and blacktop.


## STUDY AREA POSITION IN THE MIDWEST



## STUDY AREA POSITION IN IOWA



FIGURE $1-2$

Table 1-1
MOTOR VEHICLE REGISTRATION IN GUTHRIE CO NTY
FROM 1939 THROUGH 1963

| Year | Autos | Trucks | Motorcycles | Total |
| :---: | :---: | :---: | :---: | :---: |
| 1939 | 4316 | 572 | 10 | 4898 |
| 1940 | 4426 | 635 | 5 | 5066 |
| 1941 | 4568 | 682 | 7 | 5257 |
| 1942 | 4274 | 641 | 8 | 4923 |
| 1943 | 4042 | 622 | 16 | 4680 |
| 1944 | 4009 | 647 | 16 | 4672 |
| 1945 | 3957 | 653 | 15 | 4625 |
| 1946 | 4044 | 718 | 26 | 4788 |
| 1947 | 4286 | 827 | 34 | 5147 |
| 1948 | 4519 | 921 | 50 | 5490 |
| 1949 | 4742 | 1045 | 49 | 5836 |
| 1950 | 5160 | 1136 | 43 | 6339 |
| 1951 | 5103 | 1227 | 42 | 6372 |
| 1952 | 4995 | 1248 | 45 | 6288 |
| 1953 | 4963 | 1241 | 43 | 6247 |
| 1954 | 5042 | 1326 | 44 | 6412 |
| 1955 | 5303 | 1366 | 49 | 6718 |
| 1956 | 5169 | 1351 | 50 | 6570 |
| 1957 | 5352 | 1363 | 63 | 6778 |
| 1958 | 5320 | 1413 | 68 | 6801 |
| 1959 | 5519 | 1508 | 62 | 7089 |
| 1960 | 5384 | 1541 | 60 | 6985 |
| 1961 | 5361 | 1568 | 61 | 6990 |
| 1962 | 5415 | 1559 | 68 | 7042 |
| 1963 | 5466 | 1597 | 57 | 7120 |



NUMBER OF MOTOR VEHICLE REGISTRATION


Table 1-2

POPULATION OF PANORA

| Census <br> Year | Panora <br> Population | Percent Change <br> lo Year Period | Percent <br> Since |
| :---: | :---: | :---: | :---: |
| 1900 | 958 |  |  |
| 1900 | 1080 | 12.73 |  |
| 1910 | 966 | -10.56 | $1: .73$ |
| 1930 | 1014 | 4.97 | .84 |
| 1940 | 1169 | 15.29 | .85 |
| 1950 | 1062 | -9.15 | $2: .03$ |
| 1960 | 1019 | -4.05 | 10.86 |

Table 1-3
POPULATION OF GUTHRIE COUNTY

| Census <br> Year | Guthrie Co. <br> Population | Percent Change <br> 10 Year Period | Percent <br> Since 1900 |
| :---: | :---: | :---: | :---: |$|$| Change |
| :--- |
| 1900 |



## THE SURVEY

An origin-destination survey is a comprehensive study of trip termini with special emphasis being placed on the origin, destination, and routes of travel between the terminal points of each trip. The ultimate goal of such a survey is to obtain factual evidence of traffic patterns in a given locality. This information can then be used in the development of an efficient and practical street or highway program.

In order to obtain accurate information, it is necessary to interview vehicle drivers at strategically located interview stations. In Panora, interview stations were located at or near the corporate limits on each of the primary highways. Secondary roads entering Panora were given station code numbers for the purpose of establishing routes of entry or exit to or from the study area. The study area was divided into five internal tracts using major streets or highways, in most cases, as the dividing lines between tracts. A map showing the location of tract boundary lines, interview stations, and code stations will be found on page 12.

Interviewing for the Panora survey was done during the last week of July and the first week of August in 1962. In terviewing was done over a sixteen-hour period from 6 A.M. to 10 P.M. at each station. Each vehicle passing through an interview station was stopped and the driver was asked the origin, destination, route of entry or exit, purpose of his trip, and the place where his vehicle was normally kept or garaged. In addition, in erviewers also noted and recorded the type of vehicle, number of occupants, direction of travel, and the state or Iowa county in which the vehicle was registered.

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 at a later date and, together with the data provided by the mechanical recorders, were used to expand the interview data to twenty-four hour, average July weekday traffic for 1962.

At the conclusion of the field work, the data per taining to each trip was converted into code and punched on tabulating cards.

These cards were then sorted and tabulated by machine according to 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 which are composed of "external local trips" and "external through trips."

External local trips have only one terminal (which may be either 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 pass through at least two interview stations 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.



## mosurums



# FIGURE 3-1 <br> DISTRIBUTION OF TRIIDS 

INTERNAL TRACTS


## CENTRAL BUSINESS DISTRICT


(2582
EXTERNAL

## SUMMARY OF MAJOR TRAFFIC MOVEMENTS

The chart at left graphically illustrates some of the more significant traffic volumes derived from the Panora origin-destination traffic survey. An average of 2,582 trips per day passed through the external cordon line of interview stations surrounding the study area during the survey period in July and August of 1962.

463 trips or 17.93 percent of the total number of trips were between external areas and the central business district.

945 trips or 36.60 percent of the total number of trips were between external areas and internal areas exclusive of the central business district.

1174 trips or 45.47 percent of the total number of trips were through trips which passed through Panora enroute to another destination.

Table 3-1
VEHICLE TYPE SUMMARY

Average July Weekday Traffic 1962

| External <br> Station <br> Location | Passenger <br> Cars and <br> Pickups | Single <br> Unit <br> Trucks | Truck <br> Combi- <br> nations | Total | No. of <br> Inte <br> views | Percent <br> Inter- <br> viewed |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: |
| Iowa 25 N. | 706 | 39 | 28 | 773 | 76 | 98.44 |
| Iowa 64 E. | 1287 | 161 | 40 | 1488 | 1434 | 96.37 |
| Iowa 64 W. | 1195 | 165 | 47 | 1407 | 1473 | $104.69 *$ |
| Total | 3188 | 365 | 115 | 3668 | 3668 | 100.00 |

* Higher than average traffic volumes were encountered during the interview period.

The above table shows the total traffic passing through interview stations located on primary roads leading to Panora. All totals include duplicate through trips.


## 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. Trip origins and destinations are not differentiated and the tract or station totals shown may be considered as either origin or destination.

The adjoining table of statistics across from Figures 4-1 through 4-3 shows the number of trips to or from each external interview station and tracts within the study area along with the percent of the total number of trips to each area.

Table 4-1
INTERNAL DISPERSION OF TRIPS PASSING THROUGH STATION 796, IOWA 17 NORTH

| Trips with internal origin or destination | 366 |
| :--- | :--- |
| Trips with external origin and destination | 407 |
| Grand total of all trips through station 796 | 773 |
| Trips with origin or destination in C.B.D. | 109 |
| Number of interviews (l6 hours) | 761 |
| Percent of total traffic through all interview |  |
| stations |  |

Percent
47.35
52.65
100.00
14.10
98.44
21.07

External Local Trips

| Tract | Trips | Percent |
| :---: | :---: | :---: |
|  | 109 | 14.10 |
| 2 | 122 | 15.78 |
| 3 | 41 | 5.31 |
| 4 | 44 | 5.69 |
| 5 | 50 | 6.47 |
| Total | 366 | 47.35 |

External. Through Trips

| Station | Trips | Percent |
| :---: | :---: | :---: |
| 796 | - | - |
| 797 | 165 | 21.35 |
| 798 | 215 | 27.81 |
| 799 | 27 | 3.49 |
|  | 407 | 52.65 |



FIGURE 4-I
INTERNAL DISPERSION OF TRIPS PASSING THROUGH
STATION 796, IOWA 17 NORTH
OF
PANORA

Table 4-2
INTERNAL DISPERSION OF TRIPS PASSING THROUG STATION 797. IOWA 64 EAST

|  | Trips | Percent |
| :---: | :---: | :---: |
| Trips with internal origin or destination | 583 | 39.18 |
| Trips with external origin and destination | 905 | 60.82 |
| Grand total of all trips through Station 797 | 1488 | 100.00 |
| Trips with origin or destination in C.B.D. | 203 | 13.64 |
| Number of interviews (16 hours) | 1434 | 96.37 |
| Percent of total traffic through all interview stations |  | 40.57 |
| External Local Trips |  |  |
| Tract Trips | Percen |  |
| 1203 | 13.64 |  |
| 2130 | 8.74 |  |
|  | 5.71 |  |
| 4 49 | 3.29 |  |
| 5116 | 7.80 |  |
| Total 583 | 39.18 |  |
| External Throuqh Trips |  |  |
| Station Trips | Percen |  |
| 795 2 | . 13 |  |
| $\begin{array}{lr}796 & 165\end{array}$ | 11.09 |  |
| 798 ( 706 | 47.45 |  |
| 799 - 32 | 2.15 |  |
| Total 905 | 60.82 |  |
| -22- |  |  |



FIGURE 4-2
INTERNAL DISPERSION OF TRIPS PASSING THROUGH STATION 797, IOWA 64 EAST

OF
PANORA

Table 4-3
INTERNAL DISPERSION OF TRIPS PASSING THROUC I STATION 798, IOWA 64 WEST

Trips with internal origin or destination Trips with external origin and destination

Trips Percent
$459 \quad 32.62$
$؟ 48 \quad 67.38$
$1407 \quad 100.00$
151 10.73
1473104.69 *
38.36

External Local Trips

| Tract | Trips | Percent |
| :---: | ---: | ---: |
| 1 | 151 | 10.73 |
| 2 | 128 | 9.09 |
| 3 | 61 | 4.34 |
| 4 | 57 | 4.05 |
| 5 | 62 | 4.41 |
| Total | 459 | 32.62 |

External Throuqh Trips

| Station | Trips | Percent |
| :---: | :---: | :---: |
|  |  |  |
| 796 | 215 | 15.28 |
| 797 | 706 | 50.18 |
| 798 | - | - |
| 799 | 27 | 1.92 |
|  |  |  |
| Total | 948 | 67.38 |

*Higher than average traffic volumes were encounterec during the interview period.


FIGURE 4-3
INTERNAL DISPERSION OF TRIPS PASSING THROUGH STATION 798, IOWA 64 WEST OF PANORA

The following desire line charts illustrate cesired routes of travel between external stations and internal tracts without regard to existing streets or actuel routes traveled. Charts such as these graphically illustrate the travel desires of motorists and frequently point cut the need for improvement of existing routes or constriction of new ones to satisfy the demands of traffic.

This series of desire line charts illustrates the travel desires of external local trips and externe through trips. The top overlay shows travel desires of tr ips between external stations and the central business district. The second overlay shows the travel desires of through trips between external stations. The base map shows travel desires between external stations and internal tracts othe than the central business district.


FIGURE 4-4



FIGURE 4-5



LEGEND
TRACT BOUNDARY LINES
CORPORATION LINE

GRAPHIC SCALE
AVERAGE JULY WEEKDAY TRAFFIC-1962

FIGURE 4-6
DESIRE LINES OF TRAVEL OF TRIPS
TO OR FROM
EXTERNAL ENTRANCES OF
PANORA
AND
INTERNAL TRACTS

## EXTERNAL TRIP TERMINI

Table 4-4 on the adjoining page shows a tabulation of the number and percent of those trips which had termini in municipalities in Guthrie County, rural areas within th county, other counties in Iowa, and other states.

The following traffic flow charts illustrate the external termini of all trips which passed through interview stations in Panora during the 1962 origin-destination survey.

Figure $4-7$ shows the external termini of all trips which originated or terminated beyond Guthrie County. Those trips having terminal points in other states are shown as entering or leaving Iowa on routes which are most direct to the study area. All routes shown are approximate rather than exa t and should be interpreted as such.

Figure $4-8$ is a continuation of Figure $4-7$ and shows the external termini of those trips which originated or terinated in Guthrie County beyond the corporate limits of Panora

Table 4-4
SUMMARY OF EXTERNAL TRIP TERMINI

Average July Weekday Traffic 1962

| Origin or Destination | Iowa 17 <br> North |  | Iowa 64 East |  | Iowa 64 West |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Station 796 |  | Station 797 |  | Station 798 |  |
|  | No. | \% | No. | \% | No. | \% |
| Bagley | 61 | 7.89 |  |  |  |  |
| Bayard | 5 | . 64 |  |  | 2 | . 14 |
| Casey |  |  |  |  | 14 | 1.00 |
| Guthrie Center |  |  |  |  | 949 | 67.45 |
| Herndon | 3 | . 39 |  |  |  |  |
| Jamaica | 19 | 2.46 |  |  |  |  |
| Monteith |  |  |  |  | 3 | . 21 |
| Yale | 235 | 30.40 |  |  |  |  |
| Total to Towns | 323 | 41.78 |  |  | 968 | 68.80 |
| Rural Guthrie Co. | 205 | 26.52 | 324 | 21.77 | 115 | 8.17 |
| Other Counties | 234 | 30.27 | 1113 | 74.80 | 230 | 16.35 |
| Out-of-State | 11 | 1.43 | 51 | 3.43 | 94 | 6.68 |
| Grand Total | 773 | 100.00 | 1488 | 100.00 | 1407 | 100.00 |

FIGURE 4-7
EXTERNAL DISPERSION OF TRIPS PASSING THROUGH INTERVIEW STATIONS IN PANORA TO OR FROM AREAS BEYOND
$-30-$


FIGURE 4-8
EXTERNAL DISPERSION OF TRIPS PASSING THROUGH INTERVIEW STATIONS

IN PANORA
TO OR FROM AREAS WITHIN GUTHRIE COUNTY


## 】 <br> I  I I I  I ! I !

## TRAFFIC VOLUMES ON PRIMARY HIGHWAYS <br> IN AND NEAR PANORA

The following charts on pages 33 and 34 illustrate the average annual daily traffic on rural primary highways entering or leaving Panora and on primary extensions and major streets within the study area.

The data shown in Figures $4-9$ and $4-10$ was obtained from traffic counts rather than interviews and indicates average annual daily traffic for 1962 and 1963 rather than average July weekday traffic 1962.



AVERAGE ANNUAL DAILY
TRAFFIC 1963

# FIGURE 4-IO <br> TRAFFIC VOLUMES ON PRIMARY ROAD EXTENSIONS AND MAJOR STREETS <br> IN <br> PANORA 


#### Abstract

$-9 \varepsilon-$


$\frac{1}{6}$

The following table shows a compilation of the $: .962$ average July weekday traffic 1962 for Panora.

Table A-1 shows the directional movement of external trips to, from, and through Panora. Tract or statior origin may be found in the vertical columns along either sicle of the table. Tract or station destination may be found in the horizontal columns across the top or bottom of the tiole. In Table A-1 it will be necessary to add origins to clestinations in order to determine the number of trips between two points.

Origin and Destination of Trips
Entering or Leaving
Panora
Table A-1
Average July Weekday Traffic 1962


Table A-2
Average July Weekday Traffic 1962


Table A-3
TRIP PURPOSE OF VEHICLE DRIVERS PASSING THROUGH
STATION 797, IOWA 64 EAST

|  | Trip Purpose - Destination |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Trip Purpose } \\ \text { Origin } \\ \hline \end{gathered}$ | Work | Transact Business | During Work | Medical <br> or Dental | School | Recreation Social or cultural | Eat | Shop | Serve Passengers | Home | Total | Percent |
| Work |  | 15 | 1 |  |  | 2 | 3 |  |  | 83 | 104 | 6.99 |
| Transact Business | 2 | 15 |  |  |  | 4 |  |  |  | 156 | 177 | 11.90 |
| During Work |  |  | 264 |  |  |  |  |  |  |  | 264 | 17.74 |
| Medical or Dental |  | 1 |  |  |  |  |  |  |  | 8 | 9 | .60 |
| School |  |  |  |  |  |  |  |  |  |  |  |  |
| Recreation Social or Cultural | 2 | 6 |  |  |  | 33 |  |  |  | 223 | 264 | 17.74 |
| Eat | 3 |  |  |  |  | 2 |  |  |  | 14 | 19 | 1.28 |
| Shop |  |  |  |  |  | 1 |  |  |  | 27 | 28 | 1.88 |
| Serve Passengers |  |  |  | 1 |  |  |  |  | 2 | 14 | 17 | 1.14 |
| Home | 96 | 153 |  | 14 | 3 | 283 | 13 | 20 | 24 |  | 606 | 40.73 |
| Total | 103 | 190 | 265 | 15 | 3 | 325 | 16 | 20 | 26 | 525 | 1488 | 100.00 |
| Percent | 6.92 | 12.77 | 17.81 | 1.01 | . 20 | 21.84 | 1.08 | 1.34 | 1.75 | 35.28 | 100.00 |  |

TRIP PURPOSE OF VEHICLE DRIVERS PASSING THROUGH STATION 798. IOWA 64 WEST
Table A-4 OF PANORA
Average July Weekday Traffic 1962


```
TRIP PURPOSE OF VEHICLE DRIVERS PASSING THROUGH
    ALL INTERVIEW STATIONS
                                    TO OR FROM PANORA
    (Duplicate Through Trips Removed)
```

Average July Weekday Traffic 1962

| Trip Purpose - Destination |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Trip Purpose Origin | Work | Transact Business | During Work | Medical <br> or Dental | School | Recreation Social or cultural | Eat | Shop | Serve Passen- gers | Home | Total | Percent |
| Work |  | 21 | 2 |  |  | 3 | 5 |  | 2 | 166 | 199 | 7.71 |
| Transact Business | 7 | 26 | 2 |  |  | 5 |  |  |  | 283 | 323 | 12.51 |
| During Work | 1 |  | 475 |  |  |  |  |  |  | 2 | 478 | 18.51 |
| Medical or Dental |  | 1 |  | 1 |  |  |  |  |  | 21 | 23 | . 89 |
| School |  |  |  |  |  | 1 |  |  |  | 3 | 4 | . 15 |
| Recreation Social or Cultural | 3 | 8 |  | 1 |  | 54 |  |  | 2 | 333 | 401 | 15.53 |
| Eat | 3 |  |  |  |  | 3. |  |  |  | 22 | 28 | 1.09 |
| Shop |  |  |  |  |  | 2 |  |  | 1 | 46 | 49 | 1.90 |
| Serve Passengers | 1 | 1 |  | 2 |  | 3 | 1 | 1 | 3 | 25 | 37 | 1.43 |
| Home | 165 | 307 | 2 | 23 | 4 | 425 | 24 | 52 | 38 |  | 1040 | 40.28 |
| Total | 180 | 364 | 481 | 27 | 4 | 496 | 30 | 53 | 46 | 901 | 2582 | 100.00 |
| Percent | 6.97 | 14.10 | 18.63 | 1.05 | . 15 | 19.21 | 1.16 | 2.05 | 1.78 | 34.90 | 100.00 |  |

E - - - - -
Definitions ..... viii
Desire Line Charts ..... 27
Distribution of Trips ..... 14
Flow Charts - External Dispersion
External Dispersion of Trips Passing Through Interview Stations in Panora to or from Areas Beyond Guthrie Co. ..... 30
External Dispersions of Trips Passing Through Interview Stations in Panora to or from Areas Within Guthrie Co。 ..... 31
Flow Charts - Internal Dispersion
Station 796, Iowa 17 North ..... 21
Station 797, Iowa 64 East ..... 23
Station 798, Iowa 64 West ..... 25
History ..... 2
Map, Study Area Position in Iowa ..... 5
Map, Study Area Position in Midwest ..... 4
Map, Tract and Station Locations ..... 12
Motor Vehicle Registration in Guthrie County ..... 7
Origin and Destination of Trips Entering or Leaving Panora ..... 39
Population Tables ..... 8
Summary, External Trip Termini ..... 29
Summary, Major Traffic Movements ..... 15
Summary, Vehicle Type ..... 16
Traffic Volumes on Rural Primary Highways Entering Panora ..... 34
Traffic Volumes on Primary Extensions and Major Streets in Panora ..... 35
Trip Purpose of Vehicle Drivers Passing Through the Following Stations:
Station 796. Iowa 17 North ..... 40
Station 797, Iowa 64 East ..... 41
Station 798, Iowa 64 West ..... 42
All Interview Stations ..... 43

1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1

