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# Retail Trade Area Analysis

## Mayville-Portland

### North Dakota

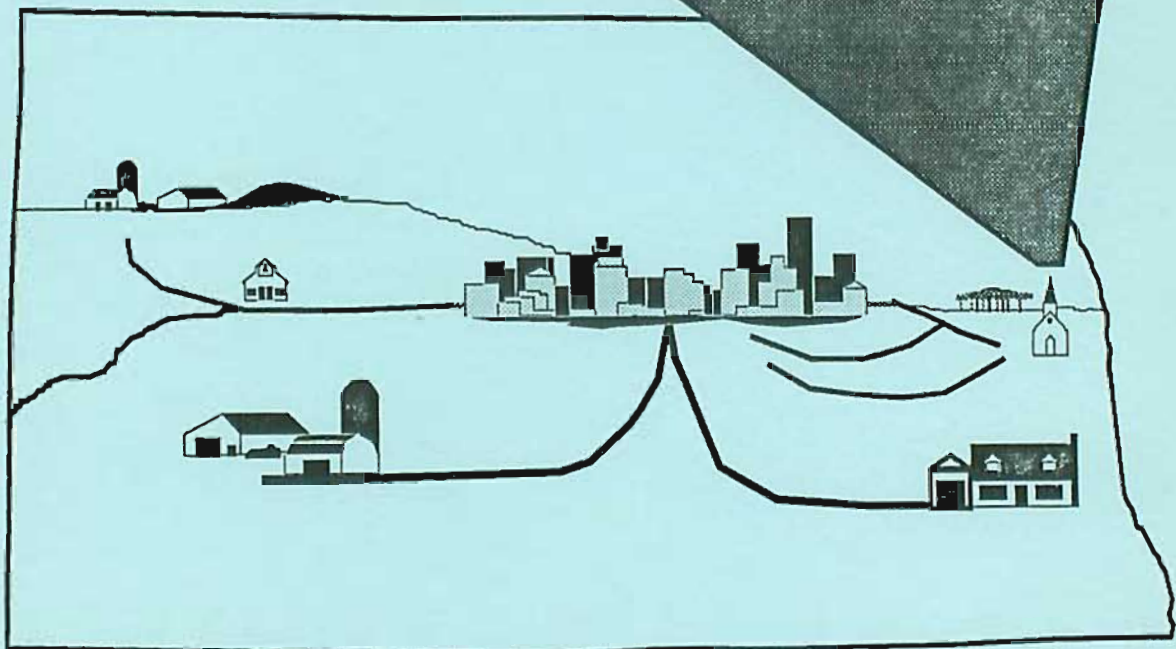
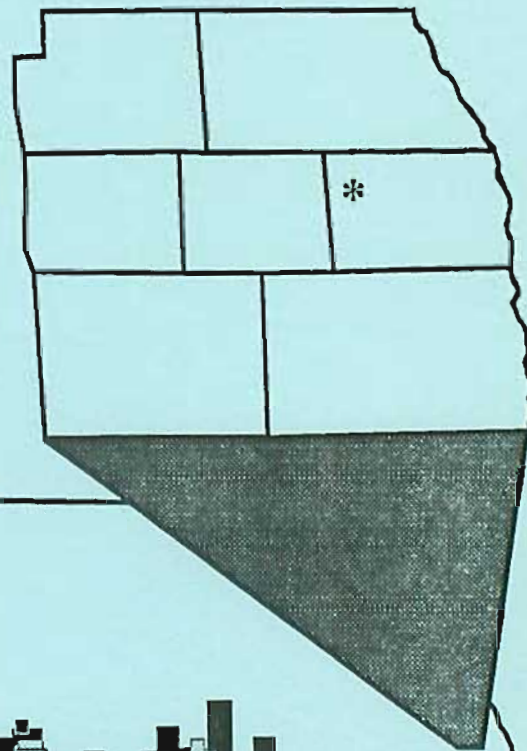
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## ACKNOWLEDGMENTS

The information in this report was assembled through the combined efforts of a number of people and organizations. First, the authors wish to express appreciation to the Center for Rural Revitalization and the Institute for Business and Industry Development at North Dakota State University for their partial financial support of the study and to Ronald Anderson and Wallace Eide of those organizations, respectively, for their support and encouragement. The authors also wish to thank our former colleagues, Tim Mortensen and Brenda Ekstrom, whose assistance in designing and conducting the survey was invaluable.

The authors also extend sincere appreciation to Sharon Hilber for her editorial and graphics assistance, to Charlene Lucken for her editorial contribution, and to numerous support personnel whose efforts in coding and inputting the survey data made this report possible. Thanks are also extended to our colleagues in the Department of Agricultural Economics for their helpful reviews.

The authors accept sole responsibility for any remaining errors or omissions.

## TABLE OF CONTENTS

|                                                                | <u>Page</u> |
|----------------------------------------------------------------|-------------|
| List of Tables . . . . .                                       | ii          |
| List of Figures . . . . .                                      | ii          |
| Highlights . . . . .                                           | iii         |
| Introduction . . . . .                                         | 1           |
| Purpose . . . . .                                              | 1           |
| Methods and Scope . . . . .                                    | 2           |
| Mayville-Portland and Surrounding Area Profile . . . . .       | 2           |
| Trade Area Delineation . . . . .                               | 7           |
| Characteristics of Mayville-Portland Area Residents . . . . .  | 10          |
| Demographic Profile of Shoppers in Mayville-Portland           |             |
| Main Trade Area . . . . .                                      | 10          |
| Distance Traveled by Mayville-Portland Area Shoppers . . . . . | 11          |
| Area Shoppers' Utilization of Goods and Services               |             |
| Provided in Mayville-Portland . . . . .                        | 13          |
| Where Services Are Purchased When not                          |             |
| Purchased in Mayville-Portland . . . . .                       | 15          |
| Analysis of Outshoppers in Mayville-Portland                   |             |
| Main Trade Area . . . . .                                      | 17          |
| Newspaper Subscriptions of Mayville-Portland                   |             |
| Area Residents . . . . .                                       | 18          |
| Radio Stations of Mayville-Portland Area Residents . . . . .   | 18          |
| Comparison of Current and Previous Mayville-Portland           |             |
| Trade Area Boundaries . . . . .                                | 18          |
| Summary and Conclusions . . . . .                              | 20          |
| References . . . . .                                           | 22          |
| Appendix . . . . .                                             | 23          |

## List of Tables

| <u>Table</u>                                                                                                                                                                                                          | <u>Page</u> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1 CITY AND TRADE AREA POPULATION FOR MAYVILLE-PORTLAND AND SELECTED CITIES, NORTH DAKOTA, 1980 AND 1988 . . . . .                                                                                                     | 3           |
| 2 POPULATION, AVERAGE ANNUAL EMPLOYMENT, AND PER CAPITA INCOME FOR TRAILL AND SURROUNDING COUNTIES, NORTH DAKOTA, 1980 TO 1989 . . . . .                                                                              | 4           |
| 3 DEFLATED TAXABLE SALES AND PURCHASES FOR MAYVILLE-PORTLAND AND SELECTED CITIES, NORTH DAKOTA, 1980 TO 1989 . . . . .                                                                                                | 5           |
| 4 PULL FACTORS FOR MAYVILLE-PORTLAND AND SELECTED CITIES, NORTH DAKOTA, 1980 TO 1989 . . . . .                                                                                                                        | 6           |
| 5 DEMOGRAPHIC PROFILE OF RESPONDENTS IN MAIN TRADE AREA, MAYVILLE-PORTLAND, NORTH DAKOTA, 1989 . . . . .                                                                                                              | 10          |
| 6 AVERAGE DISTANCE TRAVELED BY AREA RESIDENTS WHO PURCHASED 50 PERCENT OR MORE OF SELECTED SERVICES IN MAYVILLE-PORTLAND, NORTH DAKOTA, 1989 . . . . .                                                                | 11          |
| 7 MILEAGE BREAKDOWN FOR AREA SHOPPERS PURCHASING 50 PERCENT OR MORE OF A CONVENIENCE AND SPECIALTY SERVICE IN MAYVILLE-PORTLAND, NORTH DAKOTA, 1989 . . . . .                                                         | 12          |
| 8 RELATIVE IMPORTANCE OF MAYVILLE-PORTLAND TO SHOPPERS PURCHASING SOME GOODS AND SERVICES AND FOR THOSE PURCHASING A MAJORITY OF THEIR GOODS AND SERVICES IN MAYVILLE-PORTLAND, NORTH DAKOTA, 1989 . . . . .          | 14          |
| 9 MOST POPULAR CITIES FOR THE PURCHASE OF GOODS AND SERVICES BY MAYVILLE-PORTLAND MAIN TRADE AREA RESIDENTS WHO DID NOT PURCHASE A MAJORITY OF THE GOOD OR SERVICE IN MAYVILLE-PORTLAND, NORTH DAKOTA, 1989 . . . . . | 16          |
| 10 DEMOGRAPHIC CHARACTERISTICS FOR PEOPLE IN THE MAIN TRADE AREA WHO PURCHASE LESS THAN 50 PERCENT AND THOSE WHO PURCHASE MORE THAN 50 PERCENT OF THEIR SERVICES IN MAYVILLE-PORTLAND, NORTH DAKOTA, 1989 . . . . .   | 17          |
| 11 NEWSPAPER SUBSCRIPTIONS FOR MAIN AND GREATER TRADE AREA RESPONDENTS, MAYVILLE-PORTLAND, NORTH DAKOTA, 1989 . . . . .                                                                                               | 19          |
| 12 MOST POPULAR RADIO STATIONS FOR RESPONDENTS IN THE MAIN TRADE AREA, MAYVILLE-PORTLAND, NORTH DAKOTA, 1989 . . . . .                                                                                                | 19          |

## List of Figures

| <u>Figure</u>                                                             | <u>Page</u> |
|---------------------------------------------------------------------------|-------------|
| 1 Main and Greater Trade Areas for Wahpeton, North Dakota, 1989 . . . . . | 9           |

## HIGHLIGHTS

This report is intended to provide an indepth trade area analysis of Mayville-Portland, North Dakota. Specific analyses included determining Mayville-Portland's main and greater trade areas, identifying the demographic profile of Mayville-Portland shoppers, examining important and less important services for patron shoppers of Mayville-Portland, identifying neighboring cities that area shoppers patronize, determining distances area shoppers traveled to Mayville-Portland, and listing popular newspapers and radio stations among area residents.

Current trade area information for Mayville-Portland was obtained from a statewide trade area survey conducted by the Department of Agricultural Economics at North Dakota State University in 1989.

Recent trends (1980 to 1989) in Mayville-Portland population, retail sales, per capita income, pull factors, and Traill County population and employment were identified and discussed. Mayville-Portland's population, trade area population, retail sales, and pull factors, along with Traill County population, average annual employment, and per capita income have all decreased throughout the 1980s. Although most demographic and economic measurements have decreased, Mayville-Portland has fared as well as other North Dakota cities with similar populations, and has fared favorably compared to smaller competing trade centers. The economic situation found in Mayville-Portland and Traill County are somewhat typical of the problems found in rural North Dakota communities in the 1980s.

Mayville-Portland's trade areas were broken down into main and greater trade areas. A main trade area (MTA) was defined as an area where the majority of township residents purchase a majority of selected goods and services in one city. A greater trade area (GTA) was defined as the area beyond the MTA where some township residents purchase some selected goods and services in one city. Mayville-Portland's MTA decreased in size by one township, compared to MTA boundaries determined in 1971.

The typical household for survey respondents appears to be a middle-aged married couple, who have completed high school, have few children at home, are primarily employed in agriculture and professional/technical professions, and have resided in the area a large portion of their lives.

Main trade area residents traveled an average of 8.8 and 9.3 miles to Mayville-Portland to purchase selected convenience and specialty goods and services, respectively. Many (41.2 percent) of the respondents who purchased 50 percent or more of convenience and specialty goods in Mayville-Portland traveled between 11 and 20 miles to purchase the item.

Mayville-Portland appears to be an important source of goods and services for those who shop in Mayville-Portland; however, Mayville-Portland could capture much more of the available market for two-fifths of the nonagricultural and nearly all of the agricultural goods and services included in the survey questionnaire. Mayville-Portland's location between Grand Forks and Fargo hinders their ability to capture more of their potential market.

Fargo, Grand Forks, Hatton, Hillsboro, Galesburg, and Clifford were the most popular cities for the purchase of nonagricultural goods and services by Mayville-Portland MTA residents who did not purchase a majority of the good or service in Mayville-Portland. Galesburg, Hatton, and Clifford were popular for purchasing agricultural goods and services.

Outshopping analysis revealed no substantial demographic or socioeconomic differences between Mayville-Portland MTA residents purchasing 50 percent or more and those purchasing less than 50 percent of selected goods and services in Mayville-Portland. Slight differences between groups were evident in the number of years resided in the county, average income, and miles traveled.

The Forum (Fargo) was the most popular daily newspaper for both Mayville-Portland MTA and GTA residents. The Traill County Tribune and Steele County Press were the most popular weekly newspapers for Mayville-Portland MTA and GTA residents, respectively. The most popular radio stations for Mayville-Portland MTA residents included KFGO of Fargo, KMAV of Mayville, and WDAY of Fargo.

Although economic times have been difficult, Mayville-Portland appears to be doing a good job of retaining most of its past trade area and should remain an important trade center for residents of Traill County and the surrounding area.

## RETAIL TRADE AREA ANALYSIS: MAYVILLE-PORTLAND, NORTH DAKOTA

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### INTRODUCTION

North Dakota has witnessed considerable demographic and economic change in the 1980s. Rural population in North Dakota has continued to decline, due, in part, to instate migration to larger cities and outmigration of state residents. The economic base for many of North Dakota's smaller cities has continued to decline due to economic stress in both the farm sector and the energy industries. The combination of rural economic stress and reduced population has had significant impacts on retail trade for most geographic areas of North Dakota.

In addition to demographic and economic influences on retail activity in North Dakota, relative income levels, improved transportation, and changes in consumer tastes and preferences contribute to changes in retail trade patterns. The number and severity of factors influencing retail activity in North Dakota during the 1980s make trade area information crucial to concerned businesses and policymakers interested in developing effective strategies to cope with changing economic conditions. Dissemination of trade area information to rural cities and towns can help communities meet the challenges of the 1990s.

### Purpose

The Department of Agricultural Economics at North Dakota State University has prepared two levels of trade area reports. An overview report was prepared discussing previous trade area work, outlining the methods and procedures used to determine trade areas for all cities in North Dakota, determining trade areas for the 11 largest North Dakota cities, and comparing purchases of services by patrons of different sized trade centers within the state (Bangsund et al. 1991). Other reports have been prepared to disseminate specific trade area information for individual cities.<sup>1</sup> The purpose of this report is to provide specific information about the Mayville-Portland trade area.

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<sup>1</sup> Copies of individual city reports can be obtained from the Department of Agricultural Economics, North Dakota State University, Fargo, North Dakota, 58105, (701) 237-7441.



Due to the proximity of Mayville and Portland to each other and the relative ease with which shoppers in either city travel to the other to shop, Mayville and Portland were considered one trade center. This report will describe Mayville-Portland's main and greater trade areas, provide information on the demographic characteristics of Mayville-Portland area shoppers, and identify essential and nonessential services Mayville-Portland businesses provide.

### Methods and Scope

The data for this report were obtained from a statewide trade area survey which the Department of Agricultural Economics at NDSU conducted in 1989. The NDSU Extension Service and the North Dakota Agricultural Experiment Station, through their respective Rural Development Center projects, partially financed the study.

The survey was designed to obtain information about geographic shopping preferences for 37 nonagricultural and 12 agricultural goods and services and selected demographic characteristics of those responding. Although the survey provided information on all North Dakota cities and towns where people purchase goods and services, the material presented in this report primarily covers the Mayville-Portland trade area.

This report is organized into four sections: (1) population and other demographic information about Mayville-Portland, (2) trade area delineation criteria and boundaries, (3) trade patterns of Mayville-Portland area shoppers, and (4) summary and conclusions.

### MAYVILLE-PORTLAND AND SURROUNDING AREA PROFILE

Understanding changes in population and economic activity is helpful to businesses and community planners. Much of the prosperity of rural trade areas hinges on the population base. The following briefly highlights the patterns and trends from 1980 to 1989 in Mayville-Portland population, retail sales, market share, per capita income, pull factors, and Traill County population and employment.

Population figures presented in this section are based on the 1980 Decennial Census count, with population estimates for years 1981 through 1988 reflecting adjustments to the 1980 Census count. Population figures from the 1990 Decennial Census count were not available for use in this report. Trade area information in this section is based on trade area boundaries which were determined in the 1970s. Although population and trade area information in this section was not adjusted for current findings (i.e., 1990 Census numbers and new trade area boundaries), the economic information used was current and the

general condition of rural communities can be described using this information.

Mayville and Portland's population declined about 13.5 and 9.1 percent from 1980 to 1988, respectively (Table 1). Of the North Dakota cities in the population range 1,500 to 2,500, only three cities had population increases from 1980 to 1988, and of the North Dakota cities in the population range 500 to 1,000, only 16 out of 44 cities had population increases. The size categories of 1,500 to 2,500 and 500 to 1,000 had population declines of about 4 and 3 percent from 1980 to 1988, respectively. Mayville and Portland's trade area populations decreased about 7.8 and 6.2 percent from 1980 to 1988, respectively. Mayville's decrease in trade area population was the seventh largest decrease for any city in the category. Portland's decrease in trade area population was the ninth smallest decrease for any city in the category. The population of Mayville-Portland's competing trade centers and their trade area populations (those cities with populations less than 2,500) also decreased, except for Page and the Page and Northwood trade areas.

TABLE 1. CITY AND TRADE AREA POPULATION FOR MAYVILLE-PORTLAND AND SELECTED CITIES, NORTH DAKOTA, 1980 AND 1988

| City                       | County      | City Population |         | Percent Change<br>1980-88 | Trade Area Population <sup>a</sup> |       | Percent Change<br>1980-88 |
|----------------------------|-------------|-----------------|---------|---------------------------|------------------------------------|-------|---------------------------|
|                            |             | 1980            | 1988    |                           | 1980                               | 1988  |                           |
| Population over 10,000     |             |                 |         |                           |                                    |       |                           |
| Group Total                |             | 253,628         | 274,280 | 8.14                      | --                                 | --    | --                        |
| Population 2,500 to 10,000 |             |                 |         |                           |                                    |       |                           |
| Group Total                |             | 43,813          | 45,650  | 4.19                      | 9,602                              | 9,579 | 2.52                      |
| Population 1,500 to 2,500  |             |                 |         |                           |                                    |       |                           |
| Hillsboro                  | Traill      | 1,600           | 1,370   | -14.37                    | 2,961                              | 2,810 | -5.10                     |
| Mayville                   | Traill      | 2,255           | 1,950   | -13.53                    | 4,512                              | 4,160 | -7.80                     |
| Group Total                |             | 39,095          | 37,540  | -3.98                     | --                                 | --    | --                        |
| Population 1,000 to 1,500  |             |                 |         |                           |                                    |       |                           |
| Cooperstown                | Griggs      | 1,308           | 1,220   | -6.73                     | 3,779                              | 3,580 | -5.27                     |
| Northwood                  | Grand Forks | 1,240           | 1,160   | -6.45                     | 2,115                              | 2,120 | 0.24                      |
| Group Total                |             | 29,622          | 27,540  | -7.03                     | --                                 | --    | --                        |
| Population 500 to 1,000    |             |                 |         |                           |                                    |       |                           |
| Finley                     | Steele      | 718             | 620     | -13.65                    | 1,548                              | 1,380 | -10.85                    |
| Hatton                     | Traill      | 787             | 730     | -7.24                     | 1,669                              | 1,600 | -4.13                     |
| Portland                   | Traill      | 627             | 570     | -9.09                     | 853                                | 800   | -6.21                     |
| Group Total                |             | 32,154          | 31,200  | -2.97                     | --                                 | --    | --                        |
| Population 200 to 500      |             |                 |         |                           |                                    |       |                           |
| Buxton                     | Traill      | 336             | 320     | -4.76                     | *                                  | *     | *                         |
| Hope                       | Steele      | 406             | 340     | -16.26                    | 752                                | 690   | -8.24                     |
| Hunter                     | Cass        | 369             | 350     | -5.15                     | 635                                | 620   | -2.36                     |
| Page                       | Cass        | 329             | 360     | 9.42                      | 653                                | 660   | 1.07                      |
| Reynolds                   | Grand Forks | 309             | 130     | -57.93                    | *                                  | *     | *                         |
| Group Total                |             | 28,746          | 27,373  | -4.78                     | --                                 | --    | --                        |
| All Population Categories  |             |                 |         |                           |                                    |       |                           |
| State Total                |             | 427,058         | 443,583 | 3.87                      | --                                 | --    | --                        |

<sup>a</sup>Trade areas were based on previous work by North Dakota State University Extension Service.

SOURCE: Leistritz et al. 1990.

Since Mayville and Portland's trade areas cover parts of counties other than Traill County, population, average annual employment, and per capita income have been identified for surrounding counties (Table 2). Population in Traill County decreased about 6.5 percent from 1980 to 1988. Population in the surrounding counties increased, except for Steele County.

Average annual employment in Traill County decreased 2.2 percent from 1980 to 1989. Employment increased substantially in all but one of the surrounding counties. Along with declines in county population and employment, real per capita income in

TABLE 2. POPULATION, AVERAGE ANNUAL EMPLOYMENT, AND PER CAPITA INCOME FOR TRAILL AND SURROUNDING COUNTIES, NORTH DAKOTA, 1980 TO 1989

| County                                             | 1980    | 1982                    | 1984    | 1986    | 1988        | 1989    | Percent Change<br>1980-88/89          |
|----------------------------------------------------|---------|-------------------------|---------|---------|-------------|---------|---------------------------------------|
| ----- Population -----                             |         |                         |         |         |             |         |                                       |
| Traill                                             | 9,624   | 9,600                   | 9,600   | 9,200   | 9,000       | ---     | -6.48                                 |
| Surrounding Counties                               |         |                         |         |         |             |         |                                       |
| Cass                                               | 88,247  | 90,500                  | 94,500  | 98,000  | 100,200     | ---     | 13.54                                 |
| Grand Forks                                        | 66,100  | 67,100                  | 69,100  | 69,800  | 70,500      | ---     | 6.66                                  |
| Steele                                             | 3,106   | 2,900                   | 3,000   | 2,800   | 2,800       | ---     | -9.85                                 |
| North Dakota                                       | 652,717 | 672,000                 | 687,000 | 679,000 | 667,000     | ---     | 2.19                                  |
| ----- Average Annual Employment <sup>a</sup> ----- |         |                         |         |         |             |         |                                       |
| Traill                                             | 4,338   | 4,480                   | 4,344   | 4,368   | 4,276       | 4,243   | -2.19                                 |
| Surrounding Counties                               |         |                         |         |         |             |         |                                       |
| Cass                                               | 42,369  | 42,592                  | 50,231  | 55,917  | 59,912      | 61,026  | 44.03                                 |
| Grand Forks                                        | 24,911  | 24,958                  | 31,414  | 33,866  | 34,726      | 35,181  | 41.23                                 |
| Steele                                             | 1,361   | 1,353                   | 1,259   | 1,154   | 1,102       | 1,076   | -20.94                                |
| North Dakota                                       | 288,002 | 297,002                 | 310,953 | 313,001 | 316,000     | 317,000 | 10.07                                 |
| ----- Per Capita Income <sup>b</sup> -----         |         |                         |         |         |             |         |                                       |
|                                                    |         | <u>1979<sup>c</sup></u> |         |         | <u>1987</u> |         | Percent Change<br><u>1979 to 1987</u> |
| Traill                                             |         | \$10,183                |         |         | \$9,525     |         | -6.5                                  |
| Surrounding Counties                               |         |                         |         |         |             |         |                                       |
| Cass                                               |         | 12,026                  |         |         | 11,294      |         | -6.1                                  |
| Grand Forks                                        |         | 10,200                  |         |         | 9,957       |         | -2.4                                  |
| Steele                                             |         | 10,826                  |         |         | 11,130      |         | 2.8                                   |
| North Dakota                                       |         | 10,041                  |         |         | 9,641       |         | -4.0                                  |

<sup>a</sup>Job Service North Dakota. Various Issues. North Dakota Labor Force by County, by Region. Bismarck.

<sup>b</sup>U.S. Department of Commerce, Bureau of the Census, "Current Population Reports," Series P-26 (Spring 1990).

<sup>c</sup>Real Dollars, 1979 dollars inflated to 1987 dollars using Consumer Price Index inflators (U.S. Department of Labor, Bureau of Labor Statistics).

SOURCE: Leistritz et al. 1990.

Trails county (i.e., adjusted for inflation) decreased 6.5 percent from 1979 to 1987. Per capita income decreased in all but one of the surrounding counties.

Mayville's deflated taxable sales (i.e., adjusted for inflation) decreased about 32 and 7.4 percent from 1980 to 1989 and 1987 to 1989, respectively. Portland's deflated taxable sales decreased about 33.3 and 3.4 percent from 1980 to 1989 and 1987 to 1989, respectively (Table 3). Mayville and Portland's decreases in taxable sales were slightly higher than each group's average decrease for the same time periods, except Portland's decrease in taxable sales for 1980 to 1989 was less than the group average. Even though Mayville and Portland fared similarly compared to other cities in their respective population categories, average taxable sales for the population groups decreased 25.04 and 5.27 (1,500 to 2,500) and 37.33 and 0.78 percent (500 to 1,000) from 1980 to 1989 and 1987 to 1989, respectively. Competing cities also suffered large decreases in

TABLE 3. DEFLATED TAXABLE SALES AND PURCHASES FOR MAYVILLE-PORTLAND AND SELECTED CITIES, NORTH DAKOTA, 1980 TO 1989

| City                       | Deflated Taxable Sales and Purchases (1989 Dollars) |               |               | Percent Change |         |
|----------------------------|-----------------------------------------------------|---------------|---------------|----------------|---------|
|                            | 1980                                                | 1987          | 1989          | 1980-89        | 1987-89 |
| ----- dollars -----        |                                                     |               |               |                |         |
| Population over 10,000     |                                                     |               |               |                |         |
| Group Total                | 2,578,781,160                                       | 2,337,648,605 | 2,396,999,678 | -7.05          | 2.54    |
| Population 2,500 to 10,000 |                                                     |               |               |                |         |
| Hillsboro                  | 8,795,876                                           | 8,978,895     | 8,232,379     | -6.41          | -8.31   |
| Mayville                   | 16,481,639                                          | 12,116,595    | 11,216,517    | -31.95         | -7.43   |
| Group Total                | 398,731,612                                         | 315,496,552   | 298,875,168   | -25.04         | -5.27   |
| Population 1,500 to 2,500  |                                                     |               |               |                |         |
| Group Total                | 415,612,668                                         | 251,583,986   | 226,276,758   | -45.56         | -10.06  |
| Population 1,000 to 1,500  |                                                     |               |               |                |         |
| Cooperstown                | 14,752,326                                          | 10,122,606    | 10,094,243    | -31.58         | -0.28   |
| Northwood                  | 16,172,391                                          | 9,655,663     | 10,978,981    | -32.11         | 13.71   |
| Group Total                | 222,752,746                                         | 141,859,953   | 130,721,134   | -41.32         | -7.85   |
| Population 500 to 1,000    |                                                     |               |               |                |         |
| Finley                     | 4,087,935                                           | 2,726,246     | 2,717,158     | -33.53         | -0.33   |
| Hatton                     | 3,064,088                                           | 1,905,969     | 1,883,887     | -38.52         | -1.16   |
| Portland                   | 2,300,364                                           | 1,589,489     | 1,535,509     | -33.25         | -3.40   |
| Group Total                | 197,005,522                                         | 124,426,751   | 123,454,776   | -37.33         | -0.78   |
| Population 200 to 500      |                                                     |               |               |                |         |
| Buxton                     | 1,062,059                                           | 981,812       | 976,859       | -8.02          | -0.50   |
| Hope                       | 3,659,684                                           | 1,240,614     | 1,010,234     | -72.40         | -18.57  |
| Hunter                     | 4,923,326                                           | 3,447,778     | 3,498,703     | -28.94         | 1.48    |
| Page                       | 3,520,309                                           | 3,122,164     | 2,262,970     | -35.72         | -27.52  |
| Reynolds                   | 1,159,466                                           | 987,525       | 881,168       | -24.00         | -10.77  |
| Group Total                | 150,696,574                                         | 96,258,478    | 83,084,913    | -44.87         | -13.69  |
| All Population Categories  |                                                     |               |               |                |         |
| State Total                | 3,963,580,282                                       | 3,267,274,325 | 3,259,412,427 | -17.77         | -0.24   |

SOURCE: Leistritz et al. 1990.

their adjusted taxable sales for the same time periods. Statewide, taxable sales decreased 17.77 and 0.24 percent from 1980 to 1989 and 1987 to 1989, respectively.

Pull factors measure a community's success in capturing the potential purchasing power of residents in its trade area. Pull factors greater than 1.0 mean a community's retail sales are greater than the purchasing power of its trade area, suggesting the community may be "pulling" customers from outside its normal trade area. Conversely, if a pull factor is less than 1.0, the community is not capturing its share of the purchasing power in its trade area.

Mayville and Portland's pull factors decreased about 6.8 and 10.2 percent from 1980 to 1989, respectively (Table 4). Only four cities in the population group 1,500 to 2,500 and five cities in population group 500 to 1,000 increased their pull factors from 1980 to 1989. Mayville's pull factor is above the group average, indicating the community captures a greater percent of its trade area purchasing power than most of the cities with similar population. Portland's pull factor, however, is below the group average, indicating the community captures

TABLE 4. PULL FACTORS FOR MAYVILLE-PORTLAND AND SELECTED CITIES, NORTH DAKOTA, 1980 TO 1989

| City                       | Pull Factor |      |      | Percent Change |         |         |
|----------------------------|-------------|------|------|----------------|---------|---------|
|                            | 1980        | 1987 | 1989 | 1980-87        | 1980-89 | 1987-89 |
| Population over 10,000     |             |      |      |                |         |         |
| Group Average              | 1.12        | 0.96 | 1.01 | -14.20         | -9.63   | 5.32    |
| Population 2,500 to 10,000 |             |      |      |                |         |         |
| Group Average              | 0.79        | 0.73 | 0.64 | -8.40          | -19.82  | -12.47  |
| Population 1,500 to 2,500  |             |      |      |                |         |         |
| Hillsboro                  | 0.47        | 0.63 | 0.58 | 34.16          | 24.48   | -7.21   |
| Mayville                   | 0.58        | 0.56 | 0.54 | -2.95          | -6.83   | -4.00   |
| Group Average              | 0.89        | 0.65 | 0.52 | -26.93         | -42.26  | -20.99  |
| Population 1,000 to 1,500  |             |      |      |                |         |         |
| Cooperstown                | 0.69        | 0.64 | 0.50 | -7.50          | -27.78  | -21.93  |
| Northwood                  | 1.22        | 0.91 | 1.08 | -25.69         | -11.78  | 18.72   |
| Group Average              | 0.65        | 0.53 | 0.43 | -18.35         | -34.55  | -19.84  |
| Population 500 to 1,000    |             |      |      |                |         |         |
| Finley                     | 0.40        | 0.33 | 0.46 | -17.36         | 15.08   | 39.25   |
| Hatton                     | 0.29        | 0.24 | 0.23 | -15.37         | -19.05  | -4.34   |
| Portland                   | 0.42        | 0.41 | 0.38 | -4.51          | -10.17  | -5.92   |
| Group Average              | 0.60        | 0.49 | 0.42 | -18.94         | -29.78  | -13.38  |
| Population 200 to 500      |             |      |      |                |         |         |
| Buxton                     | *           | *    | *    | *              | *       | *       |
| Hope                       | 0.73        | 0.31 | 0.34 | -57.73         | -53.56  | 9.85    |
| Hunter                     | 1.06        | 0.97 | 1.33 | -7.76          | 26.10   | 36.70   |
| Page                       | 0.73        | 0.84 | 0.81 | 14.50          | 10.19   | -3.77   |
| Reynolds                   | *           | *    | *    | *              | *       | *       |
| Group Average              | 0.41        | 0.35 | 0.28 | -14.30         | -30.65  | -19.07  |

SOURCE: Leistritz et al. 1990.

ness of its trade area purchasing power than most of the cities with similar population. Changes in pull factors for competing cities were mixed. Pull factors in 1989 for cities competing with Mayville and Portland were similar, suggesting Mayville and Portland do an average job of capturing their available market, compared to neighboring cities.

Both city and county populations have declined in the geographic area near Mayville-Portland. Deflated taxable sales and pull factors in Mayville and Portland and average annual employment and per capita income in Traill County have decreased in the 1980s. Changes in economic activity and population for Mayville and Portland have been similar to other North Dakota cities in the 1,500 to 2,500 and 500 to 1,000 population ranges, suggesting Mayville and Portland are no worse off than other cities of comparable size.

Although Mayville and Portland suffer from decreased economic activity and population declines, the two cities are doing better than their smaller competing cities. Smaller cities and towns competing with Mayville-Portland also face tough economic pressures; however, they appear to be suffering more economic decline than is evident in larger cities. Economic pressures and population declines found in Mayville, Portland, and Traill County are somewhat typical of the economic problems found in rural North Dakota communities in the 1980s.

#### TRADE AREA DELINEATION

A trade area can be loosely defined as the geographic area from which a business or city draws its customers. Determining a trade area depends heavily on the city size, location of the city with respect to other trade centers, and the criteria used to distinguish the trade area boundaries. Trade area criteria can vary according to trade center classification and type of trade area, and these trade areas can be broken down into primary and secondary trade areas.

Generally, primary (main) trade areas (MTAs) are those geographic regions where a trade center draws a significant portion of its retail activity. Secondary (greater) trade areas (GTAs) are geographic areas outside of the primary trade area where the trade center still extends some retail influence; however, only limited retail or service activity is generated from this region.

A primary trade area (main) was defined as an area where the majority of the people purchase a majority of their goods and services at one location. A secondary trade area (greater) was defined as an area where some of the people purchase some of their goods and services at one location.

Two major criteria were used in determining trade areas in North Dakota. The first criterion was to classify each trade center according to the level of retail activity and use the trade center classification to determine a mix of goods and services, and the second criterion determined how townships were included in the main trade area and greater trade area (Bangsund et al. 1991). The scope of this report does not permit the detailed discussion of all the procedures involved in determining a city's main and greater trade area; however, a brief synopsis is included of the trade area criteria used for Mayville-Portland.

North Dakota cities were put in seven size classifications, and the types of services expected to be provided by each size classification were outlined (Bangsund et al. 1991). Each size of trade center was expected to provide a different number of goods and services and different amounts of similar services across trade center sizes. Thus, trade area boundaries were defined by using a mix of goods and services most appropriately provided by a city of that size.

The mix included some convenience, specialty, and agricultural goods and services. Convenience goods and services are those that typically have a small unit value, are frequently purchased with a minimum of effort, and are purchased soon after the idea of the purchase enters the buyer's mind. Specialty goods are those nonstandardized goods and services that typically have a large unit value, are purchased only after comparing price, quality, features, and type among stores, and customers are willing to travel and exert more energy to secure the good or service than convenience items.

#### Convenience Goods and Services

Banking and savings  
Hardware

Groceries

#### Specialty Goods and Services

Barber  
Doctor  
Florist  
Heating fuel and propane

Legal services  
Mortician  
Plumber

#### Agricultural Goods and Services

Farm machinery

Farm supplies

The Mayville-Portland trade center was classified as a full convenience center based on average retail sales for Mayville from 1987 to 1989. Mayville and Portland were considered one trade center in all analyses, including trade area delineation,

and will be identified in this report as the Mayville-Portland trade center.

The main trade area for Mayville-Portland was defined by townships where 50 percent or more of the residents purchased 50 percent or more of the selected mix of goods and services in Mayville-Portland. The greater trade area was defined by townships where 10 percent or more of the residents purchased at least 10 percent of a selected mix of goods and services in Mayville-Portland.

Several problems arise when trying to define trade areas using survey information. The most common problems were lack of usable responses from some townships and unclear distinction of purchase behavior in some townships, i.e., respondents diversified their shopping equally among several trade centers. Bangsund et al. (1991) discussed the procedures and criteria for handling townships which did not clearly meet the requirements for the main and greater trade areas.

Mayville-Portland's MTA extends mostly to the south and to a lesser extent, to the west of the two cities; however, the GTA extends east to the Red River and has considerable influence to the west of the MTA (Figure 1). Mayville-Portland's ability to attract customers from the north and southeast appears limited due to competition from other trade centers, primarily Grand Forks and Fargo, and to some extent, Hillsboro.

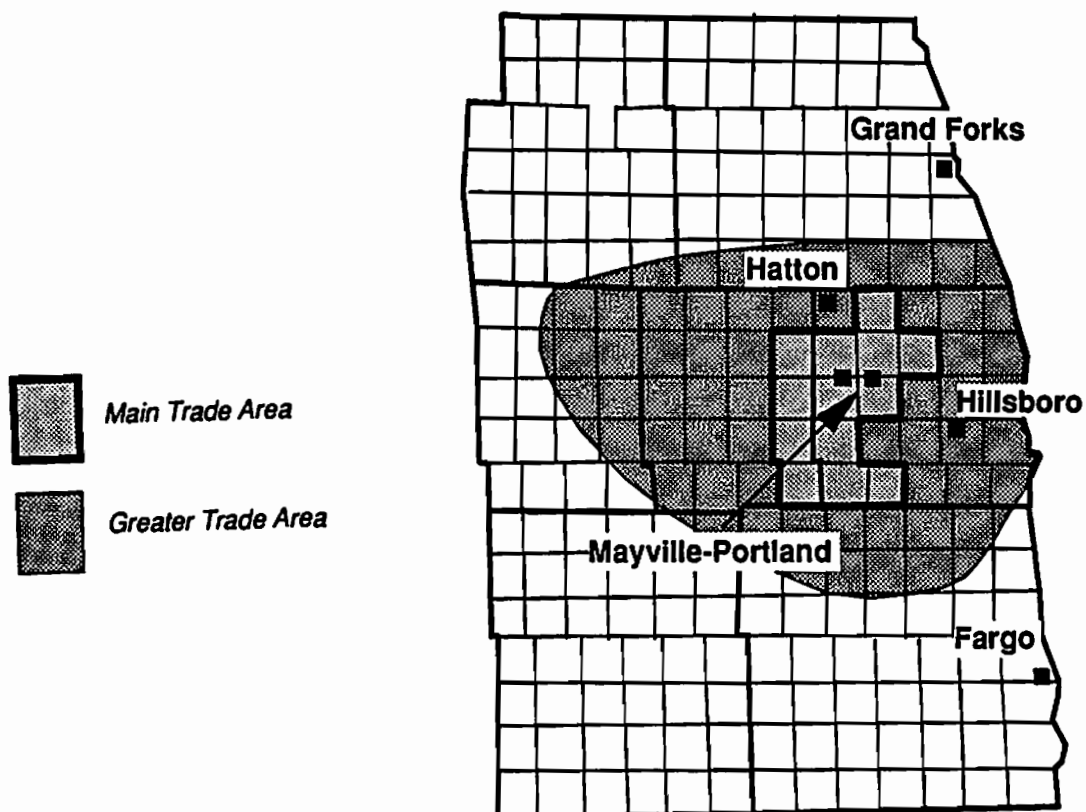


Figure 1. Main and Greater Trade Areas for Mayville-Portland, North Dakota, 1989



## CHARACTERISTICS OF MAYVILLE-PORTLAND AREA RESIDENTS

Business people and community leaders usually are interested in the characteristics of local shoppers and shopping patterns. The characteristics of Mayville-Portland shoppers were analyzed, using 172 survey responses from the Mayville-Portland MTA. Other analyses included examination of important and less important services for patron shoppers of Mayville-Portland, identification of neighboring cities area shoppers patronize, determination of distances area shoppers traveled to Mayville-Portland, and listing popular newspapers and radio stations among area residents.

Demographic Profile of Shoppers in Mayville-Portland Main Trade Area

Demographic characteristics of the survey respondents for the Mayville-Portland MTA were identified (Table 5). The typical household for survey respondents appears to be a middle-aged married couple who have completed high school, have few children at home, are primarily employed in agriculture and professional/technical professions, and have resided in the area a large portion of their lives.

TABLE 5. DEMOGRAPHIC PROFILE OF RESPONDENTS IN MAIN TRADE AREA, MAYVILLE-PORTLAND, NORTH DAKOTA, 1989

| Demographic Characteristic | Average of Survey Responses |         |
|----------------------------|-----------------------------|---------|
| Age (Years)                | 53.3                        |         |
| Education (Years)          | 12.2                        |         |
| Lived in County (Years)    | 36.2                        |         |
| Household Size (People)    | 2.9                         |         |
| Average Household Income   | \$26,337                    |         |
| Occupation                 | Respondent                  | Spouse  |
|                            | ---%---                     | ---%--- |
| Farming                    | 30.9                        | 24.3    |
| Retired                    | 24.2                        | 20.7    |
| Professional               | 16.8                        | 23.4    |
| Tech/Sales/Admin           | 9.4                         | 9.0     |
| Service Jobs               | 7.4                         | 9.0     |
| Craft/Repair               | 4.0                         | 4.5     |
| Equipment Operator         | 2.7                         | 0.9     |
| Housewife                  | 1.3                         | 4.5     |
| Other                      | 3.3                         | 3.7     |
| Martial Status             | --- % ---                   |         |
| Single                     | 5.3                         |         |
| Separated/Divorced         | 3.5                         |         |
| Married                    | 79.4                        |         |
| Widowed                    | 11.8                        |         |
| Male                       | 65.8                        |         |
| Female                     | 34.2                        |         |

### Distance Traveled by Mayville-Portland Area Shoppers

Average distances that area residents traveled to Mayville-Portland were determined for each good or service in the 12-item goods and services mix (Table 6). Distances were determined by averaging respondents' estimated miles between Mayville-Portland and their home residence. Mayville-Portland residents and any respondents who lived one mile or less from Mayville-Portland were not included in the analysis. Once the average distance was determined for each township, the number of respondents purchasing 50 percent or more of the item in Mayville-Portland was multiplied by the average distance to determine total miles of travel for that township (for the specific good or service).

Townships included in the distance analysis were not limited to those in the MTA; instead distances traveled were included for anyone (living in surrounding counties) who purchased 50 percent or more of the selected good or service in Mayville-Portland.

TABLE 6. AVERAGE DISTANCE TRAVELED BY AREA RESIDENTS WHO PURCHASED 50 PERCENT OR MORE OF SELECTED SERVICES IN MAYVILLE-PORTLAND, NORTH DAKOTA, 1989<sup>a</sup>

#### All Respondents Purchasing 50 Percent or More of the Service in Mayville-Portland

| <u>Convenience Items</u>  |                               | <u>Specialty Items</u>    |                               |
|---------------------------|-------------------------------|---------------------------|-------------------------------|
| <u>Goods and Services</u> | <u>Average Miles Traveled</u> | <u>Goods and Services</u> | <u>Average Miles Traveled</u> |
| Groceries                 | 9.5                           | Barber                    | 9.5                           |
| Banking and Savings       | 10.0                          | Doctor                    | 16.5                          |
| Hardware                  | 11.8                          | Florist                   | 13.1                          |
|                           |                               | Heating Fuel              | 9.8                           |
|                           |                               | Legal Services            | 13.6                          |
|                           |                               | Mortician                 | 12.6                          |
|                           |                               | Plumber                   | 10.0                          |
| Average                   | 10.5                          | Average                   | 12.8                          |

#### MTA Respondents Only Who Purchase 50 Percent or More of the Service in Mayville-Portland

| <u>Convenience Items</u>  |                               | <u>Specialty Items</u>    |                               |
|---------------------------|-------------------------------|---------------------------|-------------------------------|
| <u>Goods and Services</u> | <u>Average Miles Traveled</u> | <u>Goods and Services</u> | <u>Average Miles Traveled</u> |
| Groceries                 | 9.0                           | Barber                    | 8.2                           |
| Banking and Savings       | 8.6                           | Doctor                    | 10.1                          |
| Hardware                  | 8.9                           | Florist                   | 8.9                           |
|                           |                               | Heating Fuel              | 9.1                           |
|                           |                               | Legal Services            | 10.4                          |
|                           |                               | Mortician                 | 10.0                          |
|                           |                               | Plumber                   | 8.2                           |
| Average                   | 8.8                           | Average                   | 9.3                           |

<sup>a</sup>One-way distance to Mayville-Portland only.

Total miles of travel were summed for all townships for that good or service and divided by the total number of respondents who purchased 50 percent or more of that item in Mayville-Portland.

The average distance traveled to Mayville-Portland to purchase convenience goods and services was less than that traveled for specialty goods and services for all respondents (regardless of residence location). The average distance traveled to purchase convenience goods and services was less than that traveled for specialty goods and services for respondents in the MTA who purchased 50 percent or more of the item in Mayville-Portland. For those respondents living in the MTA, the average distance traveled for both types of goods and services was similar.

Distance traveled by type of good or service (convenience and specialty) was broken down into distance categories. Many (41.2 percent) of the respondents (regardless of residence location) who purchase 50 percent or more of a convenience and specialty good or service traveled between 11 to 20 miles to purchase the item in Mayville-Portland (Table 7). For those living in the MTA, 55.2 percent of the respondents traveled between one to 10 miles to purchase a convenience or specialty item in Mayville-Portland.

TABLE 7. MILEAGE BREAKDOWN FOR AREA SHOPPERS PURCHASING 50 PERCENT OR MORE OF A CONVENIENCE AND SPECIALTY SERVICE IN MAYVILLE-PORTLAND, NORTH DAKOTA, 1989

| <u>All Respondents Purchasing 50 Percent or More of a Service in Mayville-Portland</u>        |                          |         |                        |         |
|-----------------------------------------------------------------------------------------------|--------------------------|---------|------------------------|---------|
| Distance (Miles) <sup>a</sup>                                                                 | <u>Convenience Goods</u> |         | <u>Specialty Goods</u> |         |
|                                                                                               | Number                   | Percent | Number                 | Percent |
| 1 to 5                                                                                        | 30                       | 24.4    | 30                     | 13.7    |
| 6 to 10                                                                                       | 30                       | 24.4    | 33                     | 15.1    |
| 11 to 15                                                                                      | 24                       | 19.5    | 35                     | 16.0    |
| 16 to 20                                                                                      | 22                       | 17.9    | 60                     | 27.4    |
| 21 to 25                                                                                      | 9                        | 7.3     | 21                     | 9.6     |
| over 25                                                                                       | 8                        | 6.5     | 40                     | 18.3    |
| <u>MTA Respondents Only Who Purchase 50 Percent or More of a Service in Mayville-Portland</u> |                          |         |                        |         |
| Distance (Miles) <sup>a</sup>                                                                 | <u>Convenience Goods</u> |         | <u>Specialty Goods</u> |         |
|                                                                                               | Number                   | Percent | Number                 | Percent |
| 1 to 5                                                                                        | 29                       | 34.5    | 29                     | 29.9    |
| 6 to 10                                                                                       | 20                       | 23.8    | 22                     | 22.7    |
| 11 to 15                                                                                      | 17                       | 20.2    | 19                     | 19.6    |
| 16 to 20                                                                                      | 13                       | 15.5    | 20                     | 20.6    |
| 21 to 25                                                                                      | 5                        | 6.0     | 4                      | 4.1     |
| over 25                                                                                       | --                       | --      | 3                      | 3.1     |

<sup>a</sup>Those living in Mayville-Portland or traveling less than one mile to Mayville-Portland were not included in the analysis.

Area Shoppers' Utilization of Goods and Services Provided in Mayville-Portland

The importance of Mayville-Portland as a trade center for those who shop in Mayville-Portland and the ability of Mayville-Portland to capture the MTA market for selected goods and services were determined (Table 8). The importance of shopping in Mayville-Portland was determined by examining the number of respondents who purchased some of their goods and services in Mayville-Portland and comparing those responses to the number who purchased a majority of their goods and services in Mayville-Portland. A high percentage meant if respondents shopped in Mayville-Portland, they likely would purchase a majority of those goods and services in Mayville-Portland. A low percentage meant that, although some of the goods and services were purchased in Mayville-Portland, the majority of the goods and services was purchased elsewhere.

Goods and services that appear to be most utilized by those shopping in Mayville-Portland include plumber, mortician, heating fuel and propane, accounting services, optometrist, commercial feeds, and veterinary (livestock) services (services where 95 percent of those buying the service in Mayville-Portland purchase a majority of the service in Mayville-Portland). The goods and services that people are less likely to purchase a majority of in Mayville-Portland include shoes, teenage clothing, women's clothing and coats, men's clothing, sporting goods, jewelry, and livestock marketing.

The ability of Mayville-Portland to capture the potential market within the MTA was determined by comparing those who purchase the good or service (not necessarily in Mayville-Portland) to the number of respondents who purchase a majority of the good or service in Mayville-Portland. A high percentage meant that Mayville-Portland captures a large amount of the potential market for the good or service. A low percentage meant that Mayville-Portland does not capture much of the market for that good or service.

Goods and services for which Mayville-Portland is capturing a large amount of the potential market (80 percent or more) within the MTA include plumber, mortician, prescription drugs, and florist. Goods and services for which Mayville-Portland does not capture much of the existing market (less than 60 percent) include more than two-fifths of the nonagricultural and all but one of the agricultural goods and services.

Goods and services that are important to Mayville-Portland shoppers and those for which Mayville-Portland is capturing a large percentage of the market include plumber and prescription drugs. Optometrist, dentist, veterinarian (small animals), chiropractor, and accounting services are important to shoppers in Mayville-Portland, but few of the potential buyers purchase a majority of those goods and services in Mayville-Portland.

TABLE 8. RELATIVE IMPORTANCE OF MAYVILLE-PORTLAND TO SHOPPERS PURCHASING SOME GOODS AND SERVICES AND FOR THOSE PURCHASING A MAJORITY OF THEIR GOODS AND SERVICES IN MAYVILLE-PORTLAND, NORTH DAKOTA, 1989

| Goods and Services                          | Responses in Mayville-Portland Main Trade Area |                                                 |                |                                                     |                           |                |
|---------------------------------------------|------------------------------------------------|-------------------------------------------------|----------------|-----------------------------------------------------|---------------------------|----------------|
|                                             | Purchase the Goods & Services Somewhere        | Purchase Some of the items in Mayville-Portland |                | Purchase Majority of the items in Mayville-Portland | Measure of Market Capture |                |
|                                             |                                                | No.                                             | % <sup>a</sup> |                                                     | % <sup>b</sup>            | % <sup>c</sup> |
| Plumber                                     | 136                                            | 126                                             | 92.6           | 125                                                 | 99.2                      | 91.9           |
| Mortician                                   | 122                                            | 104                                             | 85.2           | 103                                                 | 99.0                      | 84.4           |
| Heating Fuel/Propane                        | 141                                            | 107                                             | 75.9           | 103                                                 | 96.3                      | 73.0           |
| Accounting Services                         | 111                                            | 71                                              | 64.0           | 68                                                  | 95.8                      | 61.3           |
| Optometrist                                 | 161                                            | 114                                             | 70.8           | 108                                                 | 94.7                      | 67.1           |
| Prescription Drugs                          | 169                                            | 158                                             | 93.5           | 148                                                 | 93.7                      | 87.6           |
| Florist                                     | 147                                            | 137                                             | 93.2           | 128                                                 | 93.4                      | 87.1           |
| Chiropractor                                | 55                                             | 28                                              | 50.9           | 26                                                  | 92.9                      | 47.3           |
| Legal Service                               | 149                                            | 112                                             | 75.2           | 104                                                 | 92.9                      | 69.8           |
| Dentist                                     | 158                                            | 93                                              | 58.9           | 86                                                  | 92.5                      | 54.4           |
| Veterinarian (Sm Animals)                   | 88                                             | 54                                              | 61.4           | 49                                                  | 90.7                      | 55.7           |
| Gas/Diesel Service                          | 161                                            | 135                                             | 83.9           | 121                                                 | 89.6                      | 75.2           |
| Appliance/Elec Repair                       | 134                                            | 94                                              | 70.1           | 84                                                  | 89.4                      | 62.7           |
| Auto Sales                                  | 154                                            | 112                                             | 72.7           | 100                                                 | 89.3                      | 64.9           |
| Banking and Savings                         | 171                                            | 143                                             | 83.6           | 127                                                 | 88.8                      | 74.3           |
| Barber                                      | 133                                            | 88                                              | 66.2           | 78                                                  | 88.6                      | 58.6           |
| Hardware                                    | 163                                            | 146                                             | 89.6           | 127                                                 | 87.0                      | 77.9           |
| Beautician                                  | 141                                            | 104                                             | 73.8           | 90                                                  | 86.5                      | 63.8           |
| Auto Repair                                 | 157                                            | 124                                             | 79.0           | 107                                                 | 86.3                      | 68.2           |
| Family Doctor                               | 169                                            | 145                                             | 85.8           | 124                                                 | 85.5                      | 73.4           |
| Drinking Places                             | 69                                             | 51                                              | 73.9           | 43                                                  | 84.3                      | 62.3           |
| Nursery (Plants)                            | 139                                            | 111                                             | 79.9           | 92                                                  | 82.9                      | 66.2           |
| Hospital                                    | 161                                            | 132                                             | 82.0           | 109                                                 | 82.6                      | 67.7           |
| Radios, TVs, VCRs                           | 157                                            | 98                                              | 62.4           | 78                                                  | 79.6                      | 49.7           |
| Furniture                                   | 155                                            | 109                                             | 70.3           | 82                                                  | 75.2                      | 52.9           |
| Computers                                   | 49                                             | 20                                              | 40.8           | 15                                                  | 75.0                      | 30.6           |
| Building Supplies                           | 154                                            | 127                                             | 82.5           | 95                                                  | 74.8                      | 61.7           |
| Groceries                                   | 171                                            | 158                                             | 92.4           | 115                                                 | 72.8                      | 67.3           |
| Major Appliances                            | 157                                            | 81                                              | 51.6           | 56                                                  | 69.1                      | 35.7           |
| Eating Places                               | 159                                            | 140                                             | 88.1           | 95                                                  | 67.9                      | 59.7           |
| Jewelry                                     | 102                                            | 61                                              | 59.8           | 36                                                  | 59.0                      | 35.3           |
| Sporting Goods                              | 114                                            | 61                                              | 53.5           | 34                                                  | 55.7                      | 29.8           |
| Women's Coats                               | 135                                            | 25                                              | 18.5           | 8                                                   | 32.0                      | 5.9            |
| Shoes                                       | 159                                            | 50                                              | 31.4           | 15                                                  | 30.0                      | 9.4            |
| Men's Clothing                              | 149                                            | 63                                              | 42.3           | 17                                                  | 27.0                      | 11.4           |
| Women's Clothing                            | 148                                            | 85                                              | 57.4           | 22                                                  | 25.9                      | 14.9           |
| Teenage Clothing                            | 60                                             | 34                                              | 56.7           | 5                                                   | 14.7                      | 8.3            |
| ----- Agricultural Goods and Services ----- |                                                |                                                 |                |                                                     |                           |                |
| Commercial Feeds                            | 16                                             | 12                                              | 75.0           | 12                                                  | 100.0                     | 75.0           |
| Veterinary Services                         | 26                                             | 8                                               | 30.8           | 8                                                   | 100.0                     | 30.8           |
| Crop Consultants                            | 35                                             | 22                                              | 62.9           | 20                                                  | 90.9                      | 57.1           |
| Farm Fuel & Lubricant                       | 54                                             | 35                                              | 64.8           | 31                                                  | 88.6                      | 57.4           |
| Fertilizer                                  | 52                                             | 27                                              | 51.9           | 23                                                  | 85.2                      | 44.2           |
| Farm Machinery                              | 53                                             | 35                                              | 66.0           | 29                                                  | 82.9                      | 54.7           |
| Other Farm Chemicals                        | 52                                             | 30                                              | 57.7           | 24                                                  | 80.0                      | 46.2           |
| Crop Seeds                                  | 53                                             | 27                                              | 50.9           | 21                                                  | 77.8                      | 39.6           |
| Grain Marketing                             | 54                                             | 36                                              | 66.7           | 26                                                  | 72.2                      | 48.1           |
| Farm Mach Repair/Parts                      | 53                                             | 39                                              | 73.6           | 27                                                  | 69.2                      | 50.9           |
| Other Farm Supplies                         | 44                                             | 28                                              | 63.6           | 19                                                  | 67.9                      | 43.2           |
| Livestock Marketing                         | 17                                             | 3                                               | 17.6           | 2                                                   | 66.7                      | 11.8           |

<sup>a</sup>Determined by dividing number of responses of those who purchase some of the service in Mayville-Portland by the number who purchase some of the service anywhere. Number indicates how many buyers of the service are willing to purchase some of the service in Mayville-Portland.

<sup>b</sup>Determined by dividing number of responses of those who purchase majority of the service in Mayville-Portland by the number who purchase some of the service in Mayville-Portland. Number is proxy for relative importance of Mayville-Portland as a provider of the service for those purchasing the item.

<sup>c</sup>Determined by dividing number of responses who purchase majority of the service in Mayville-Portland by the number who purchase some of the service anywhere. Number is proxy for ability of Mayville-Portland to capture potential market for that service.

Many patrons purchase a majority of their goods and services in Mayville-Portland; however, Mayville-Portland could capture much more of the potential market for these items. This phenomenon suggests some strong trade center loyalty exists for those shopping in Mayville-Portland, but at the same time a large portion of the market is being lost to other trade centers. Mayville-Portland appears to be an important source of services for those shopping in Mayville-Portland, but Mayville-Portland could improve its market capture for about half of the convenience and specialty items, and nearly all of the agricultural items. Mayville-Portland is in a difficult situation considering its location between Grand Forks and Fargo and must compete with the selection and prices found in two of the largest trade centers in the state.

#### Where Services Are Purchased When Not Purchased In Mayville-Portland

For most of the goods and services listed in the survey, some respondents did not purchase any of the good or service in Mayville-Portland or purchased more of the good or service in other cities. For people living in the Mayville-Portland MTA and not purchasing a majority of the services in Mayville-Portland, the cities where the majority of those services were purchased were identified (Table 9). Fargo and Grand Forks were the most popular choices for services purchased outside of the Mayville-Portland MTA. Other popular cities included Hatton, Hillsboro, Galesburg, and Clifford. Galesburg, Hatton, and Clifford were popular for purchasing agricultural goods and services.

Mayville-Portland will always lose some shoppers to surrounding cities and towns for several reasons. First, many shoppers in the Mayville-Portland MTA live close to other towns where it may be more convenient to shop for some goods and services (e.g., some agricultural services and convenience items). Second, Fargo and Grand Forks, because of their size, will have an image of greater variety and more favorable prices for many goods and services. Thus, many people will travel to those cities to shop even if the same merchandise is available locally and is competitively priced. Third, some towns have businesses which have a reputation for providing excellent service and/or quality products, often drawing customers from areas not normally considered within its trade area. Finally, when people travel to other towns, primarily for reasons other than shopping, they likely may spend some time shopping (e.g., when parents/students travel to a state basketball tournament in Bismarck, Fargo, Minot, etc., they are likely to shop while in town; also trips to larger trade centers to see medical specialists or attend recreational events can result in considerable outshopping).

TABLE 9. MOST POPULAR CITIES FOR THE PURCHASE OF GOODS AND SERVICES BY MAYVILLE-PORTLAND MAIN TRADE AREA RESIDENTS WHO DID NOT PURCHASE A MAJORITY OF THE GOOD OR SERVICE IN MAYVILLE-PORTLAND, NORTH DAKOTA, 1989

| Goods and Services   | Most Popular Cities            | Responses Per City | Percent Purchased | Goods and Services  | Most Popular Cities | Responses Per City | Percent Purchased |       |
|----------------------|--------------------------------|--------------------|-------------------|---------------------|---------------------|--------------------|-------------------|-------|
| Grocery              | Grand Forks                    | 20                 | 66.5              | Eating Places       | Grand Forks         | 29                 | 67.2              |       |
|                      | Fargo                          | 18                 | 64.4              |                     | Fargo               | 24                 | 52.1              |       |
|                      | Clifford                       | 5                  | 60.0              |                     | Galesburg           | 8                  | 55.6              |       |
|                      | Hatton                         | 4                  | 72.5              |                     |                     |                    |                   |       |
| Drinking Places      | Clifford                       | 7                  | 53.1              | Mens Clothing       | Fargo               | 69                 | 73.0              |       |
|                      | Fargo                          | 7                  | 44.1              |                     | Grand Forks         | 59                 | 73.8              |       |
|                      | Grand Forks                    | 6                  | 86.7              | Shoes               | Fargo               | 78                 | 75.2              |       |
|                      |                                |                    | Grand Forks       |                     | 62                  | 76.5               |                   |       |
| Teen Clothing        | Grand Forks                    | 28                 | 73.5              | Major Appliances    | Fargo               | 53                 | 75.5              |       |
|                      | Fargo                          | 24                 | 64.0              |                     | Grand Forks         | 40                 | 77.5              |       |
| Jewelry              | Fargo                          | 40                 | 73.8              |                     | Hatton              | 3                  | 90.0              |       |
|                      | Grand Forks                    | 26                 | 74.5              | Appliance Repair    | Fargo               | 28                 | 71.0              |       |
| Radios, TVs, VCRs    | Fargo                          | 50                 | 78.0              |                     | Grand Forks         | 16                 | 80.6              |       |
|                      | Grand Forks                    | 28                 | 76.0              |                     | Hatton              | 3                  | 60.0              |       |
| Florist              | Fargo                          | 14                 | 73.9              | Nursery (plants)    | Fargo               | 23                 | 63.4              |       |
|                      | Grand Forks                    | 7                  | 86.0              |                     | Grand Forks         | 21                 | 75.9              |       |
| Furniture            | Fargo                          | 50                 | 73.2              | Auto Sales          | Fargo               | 18                 | 70.5              |       |
|                      | Grand Forks                    | 21                 | 70.4              |                     | Grand Forks         | 14                 | 79.9              |       |
| Auto Repair          | Fargo                          | 15                 | 65.7              |                     | Hillsboro           | 5                  | 86.0              |       |
|                      | Grand Forks                    | 8                  | 85.0              |                     | Northwood           | 3                  | 76.7              |       |
|                      | Galesburg                      | 7                  | 47.9              | Gas Station         | Galesburg           | 10                 | 67.5              |       |
|                      | Hillsboro                      | 4                  | 71.0              |                     | Grand Forks         | 8                  | 69.3              |       |
|                      | Clifford                       | 4                  | 56.3              |                     | Hatton              | 5                  | 83.0              |       |
| Heating Fuel/Propane | Galesburg                      | 9                  | 94.4              |                     | Clifford            | 4                  | 63.8              |       |
|                      | Blanchard                      | 7                  | 94.3              |                     | Fargo               | 4                  | 46.3              |       |
|                      | Grand Forks                    | 5                  | 100.0             | Barber              | Hatton              | 14                 | 88.9              |       |
|                      | Hatton                         | 4                  | 100.0             |                     | Hillsboro           | 12                 | 79.0              |       |
| Barber               | Grand Forks                    | 3                  | 100.0             |                     | Grand Forks         | 9                  | 93.3              |       |
|                      | Hatton                         | 2                  | 100.0             |                     | Fargo               | 9                  | 73.3              |       |
|                      | Hunter                         | 2                  | 80.0              |                     | Galesburg           | 5                  | 62.0              |       |
| Beautician           | Fargo                          | 17                 | 75.2              | Legal Service       | Grand Forks         | 13                 | 90.0              |       |
|                      | Grand Forks                    | 11                 | 86.4              |                     | Hillsboro           | 13                 | 84.2              |       |
|                      | Hatton                         | 7                  | 91.4              |                     | Fargo               | 10                 | 82.5              |       |
|                      | Accounting Service             | Clifford           | 6                 | 93.3                | Computers           | Fargo              | 14                | 95.7  |
|                      |                                | Galesburg          | 5                 | 68.0                |                     | Grand Forks        | 13                | 89.6  |
| Grand Forks          |                                | 11                 | 99.5              | Buxton              |                     | 5                  | 78.0              |       |
| Fargo                |                                | 11                 | 87.1              | Optometrist         | Fargo               | 30                 | 88.2              |       |
| Hillsboro            |                                | 4                  | 100.0             |                     | Grand Forks         | 17                 | 96.6              |       |
| Minneapolis          | 3                              | 100.0              | Chiropractor      | Fargo               | 22                  | 90.0               |                   |       |
| Family Doctor        | Fargo                          | 28                 |                   | 84.3                | Grand Forks         | 6                  | 80.0              |       |
|                      | Grand Forks                    | 10                 | 88.0              | Hospital            | Fargo               | 39                 | 85.0              |       |
| Dentist              | Fargo                          | 26                 | 89.6              |                     | Grand Forks         | 10                 | 88.8              |       |
|                      | Grand Forks                    | 17                 | 98.0              | Mortician           | Page                | 8                  | 88.8              |       |
|                      | Hatton                         | 13                 | 95.0              |                     | Hatton              | 4                  | 100.0             |       |
|                      | Hillsboro                      | 9                  | 90.6              |                     | Grand Forks         | 3                  | 100.0             |       |
| Prescription Drugs   | Fargo                          | 11                 | 69.7              | Vet (small animals) | Cooperstown         | 17                 | 87.9              |       |
|                      | Grand Forks                    | 3                  | 100.0             |                     | Casselton           | 9                  | 99.4              |       |
|                      | Five cities with one resp. ea. |                    |                   |                     | Grand Forks         | 8                  | 90.6              |       |
| Banking and Savings  | Galesburg                      | 13                 | 93.1              | Building Supplies   | Fargo               | 24                 | 59.8              |       |
|                      | Hatton                         | 6                  | 80.0              |                     | Grand Forks         | 15                 | 65.5              |       |
|                      | Buxton                         | 5                  | 81.0              |                     | Hatton              | 8                  | 77.5              |       |
|                      | Hillsboro                      | 4                  | 76.3              |                     | Reynolds            | 4                  | 75.0              |       |
|                      | Hunter                         | 4                  | 75.0              |                     | Hunter              | 4                  | 75.0              |       |
|                      | Hope                           | 4                  | 72.5              |                     | Sporting Goods      | Fargo              | 46                | 69.8  |
| Hardware             | Fargo                          | 14                 | 66.1              | Grand Forks         |                     | 35                 | 77.5              |       |
|                      | Grand Forks                    | 11                 | 58.5              | Farm Mach. Repair   | Galesburg           | 15                 | 74.3              |       |
|                      | Hatton                         | 6                  | 56.7              |                     | Hillsboro           | 3                  | 53.3              |       |
| Farm Machinery       | Galesburg                      | 14                 | 73.2              | Commercial Feed     | Galesburg           | 4                  | 77.5              |       |
|                      | Northwood                      | 4                  | 61.3              |                     | Crop Consultant     | Galesburg          | 4                 | 100.0 |
| Farm Fuel/Lubricant  | Blanchard                      | 7                  | 94.3              | Clifford            |                     | 4                  | 95.0              |       |
|                      | Hope                           | 4                  | 100.0             | Fertilizer          |                     | Galesburg          | 9                 | 81.7  |
|                      | Hatton                         | 4                  | 87.5              |                     | Clifford            | 8                  | 85.0              |       |
| Crop Seeds           | Clifford                       | 10                 | 75.0              |                     | Hatton              | 4                  | 95.0              |       |
|                      | Galesburg                      | 9                  | 79.4              | Vet (livestock)     | Cooperstown         | 12                 | 85.0              |       |
|                      | Hatton                         | 4                  | 72.5              |                     | Casselton           | 6                  | 85.0              |       |
| Farm Chemicals       | Galesburg                      | 9                  | 93.9              |                     | Grain Marketing     | Galesburg          | 11                | 84.1  |
|                      | Clifford                       | 8                  | 91.3              | Clifford            |                     | 9                  | 80.0              |       |
|                      | Hatton                         | 5                  | 94.0              | Livestock Marketing | West Fargo          | 14                 | 91.4              |       |
| Farm Supplies        | Fargo                          | 8                  | 48.8              |                     |                     |                    |                   |       |
|                      | Galesburg                      | 7                  | 70.0              |                     |                     |                    |                   |       |
|                      | Clifford                       | 3                  | 58.3              |                     |                     |                    |                   |       |

### Analysis of Outshoppers in Mayville-Portland Main Trade Area

Responses were analyzed to determine if those who bought 50 percent or more of selected goods and services in Mayville-Portland differed from those who bought less than 50 percent. Differences between the two groups also were analyzed by convenience and specialty services.

According to selected demographic characteristics, little difference exists between those who purchase a majority of their goods and services in Mayville-Portland and those who purchase a majority of their goods and services elsewhere (Table 10). Household income was higher across all four services for the group purchasing less than 50 percent of the services in Mayville-Portland than for the group purchasing 50 percent or more of the same services in Mayville-Portland. Slight differences were also evident between the groups in the number of years lived in the county, with those purchasing less than 50 percent of the four items in Mayville-Portland having resided in the county less time than those purchasing 50 percent or more of the same items in Mayville-Portland. The group purchasing less

**TABLE 10. DEMOGRAPHIC CHARACTERISTICS FOR PEOPLE IN THE MAIN TRADE AREA WHO PURCHASE LESS THAN 50 PERCENT AND THOSE WHO PURCHASE MORE THAN 50 PERCENT OF THEIR SERVICES IN MAYVILLE-PORTLAND, NORTH DAKOTA, 1989**

| Attribute                              | Group Purchasing 50 Percent or More<br>of Goods in Mayville-Portland |                |                      |                     | Group Purchasing Less Than 50<br>Percent of Goods in Mayville-Portland |                |                      |                     |
|----------------------------------------|----------------------------------------------------------------------|----------------|----------------------|---------------------|------------------------------------------------------------------------|----------------|----------------------|---------------------|
|                                        | Prescrip.<br>Drugs                                                   | Gas<br>Station | Building<br>Supplies | Radios<br>TVs, VCRs | Prescrip.<br>Drugs                                                     | Gas<br>Station | Building<br>Supplies | Radios<br>TVs, VCRs |
| Age                                    | 53.8                                                                 | 53.0           | 55.0                 | 61.4                | 49.6                                                                   | 50.5           | 47.1                 | 46.2                |
| Education                              | 13.2                                                                 | 13.4           | 13.2                 | 13.0                | 13.5                                                                   | 13.4           | 13.4                 | 13.6                |
| Years Lived<br>In County               | 36.7                                                                 | 36.4           | 38.1                 | 41.2                | 33.6                                                                   | 34.4           | 30.4                 | 31.5                |
| Number in<br>Household                 | 2.9                                                                  | 2.8            | 2.8                  | 2.5                 | 2.8                                                                    | 3.2            | 3.3                  | 3.2                 |
| Number in<br>Grade School              | 0.4                                                                  | 0.4            | 0.4                  | 0.3                 | 0.3                                                                    | 0.4            | 0.4                  | 0.5                 |
| Number in<br>High School               | 0.3                                                                  | 0.3            | 0.3                  | 0.4                 | 0.1                                                                    | 0.3            | 0.3                  | 0.2                 |
| Average Miles<br>Traveled <sup>a</sup> | 9.9                                                                  | 8.2            | 8.7                  | 8.6                 | 25.7                                                                   | 12.9           | 20.6                 | 43.3                |
| Household<br>Income                    | \$26,529                                                             | \$25,833       | \$25,767             | \$23,438            | \$27,375                                                               | \$29,091       | \$28,729             | \$28,974            |

<sup>a</sup>Those living in Mayville-Portland and those traveling less than one mile to Mayville-Portland were not included in the analysis.



than 50 percent of the four goods and services in Mayville-Portland traveled farther (for each of the services) than the group purchasing 50 percent or more of the same goods and services in Mayville-Portland.

Both the average age and years resided in county were very high, suggesting either that the survey respondents were older individuals or the MTA is composed of older clientele (providing the survey is a representative sample of the MTA). Other demographic variables suggest that households in the Mayville-Portland MTA are small, with few school children. Slight differences were evident between the two main groups in years resided in the county, household income, and miles traveled; however, no substantial differences appearing between those purchasing 50 percent or more and those purchasing less than 50 percent of the goods and services in Mayville-Portland.

#### Newspaper Subscriptions of Mayville-Portland Area Residents

Newspaper subscriptions of respondents in the Mayville-Portland main and greater trade areas were identified (Table 11). Newspaper subscriptions were divided into daily and weekly papers for both main and greater trade area respondents. The most popular daily newspaper for both the main and greater trade areas was *The Forum* (Fargo). The most popular weekly newspapers for the main and greater trade areas were the *Traill County Tribune* and *Steele County Press*, respectively. Other popular weekly newspapers for respondents included *Hatton Free Press*, *Hillsboro Banner*, *Cass County Reporter*, and *Griggs County Sentinel*.

#### Radio Stations of Mayville-Portland Area Residents

The most popular radio stations that respondents in Mayville-Portland's main trade area listened to were KFGO of Fargo, followed by KMAV of Mayville and WDAY of Fargo (Table 12).

#### Comparison of Current and Previous Mayville-Portland Trade Area Boundaries

Owens and Vangness (1971) discussed general information on retail trade and identified both main and greater trade areas for Mayville-Portland. Information from the past Mayville-Portland retail trade report was based on a different questionnaire; however, some comparisons to information in this report can be made. Probably the most valid and worthwhile comparison is to examine changes in Mayville-Portland's main and greater trade areas. Although trade area delineation criteria used in the previous Mayville-Portland trade area report differ, enough similarity exists to make comparisons with the trade area

TABLE 11. NEWSPAPER SUBSCRIPTIONS FOR MAIN AND GREATER TRADE AREA RESPONDENTS, MAYVILLE-PORTLAND, NORTH DAKOTA, 1989

| Main Trade Area               |                        |         | Greater Trade Area        |                       |         |
|-------------------------------|------------------------|---------|---------------------------|-----------------------|---------|
| Newspaper                     | Numbers of Respondents | Percent | Newspaper                 | Number of Respondents | Percent |
| ----- Daily Newspapers -----  |                        |         |                           |                       |         |
| Fargo Forum                   | 110                    | 75.9    | Fargo Forum               | 176                   | 51.2    |
| Grand Forks Herald            | 34                     | 23.4    | Grand Forks Herald        | 155                   | 45.1    |
| Jamestown Sun                 | 1                      | 0.7     | Valley City Times         | 5                     | 1.5     |
|                               |                        |         | USA Today                 | 3                     | 0.9     |
|                               |                        |         | Others                    | 5                     | 1.3     |
| Total                         | 145 <sup>a</sup>       |         | Total                     | 344 <sup>b</sup>      |         |
| ----- Weekly Newspapers ----- |                        |         |                           |                       |         |
| Trail County Tribune          | 126                    | 72.8    | Steele County Press       | 104                   | 28.1    |
| Steele County Press           | 11                     | 6.4     | Hatton Free Press         | 51                    | 13.8    |
| Hillsboro Banner              | 9                      | 5.2     | Hillsboro Banner          | 51                    | 13.8    |
| Hatton Free Press             | 7                      | 4.0     | Trail County Tribune      | 48                    | 13.0    |
| AgWeek-Grand Forks            | 5                      | 2.9     | Cass County Reporter      | 30                    | 8.1     |
| Others <sup>c</sup>           | 15                     | 8.7     | Griggs County Sentinel    | 26                    | 7.0     |
|                               |                        |         | AgWeek-Grand Forks        | 18                    | 4.9     |
|                               |                        |         | Northwood Gleaner         | 17                    | 4.6     |
|                               |                        |         | Grand Forks Herald (Sun.) | 6                     | 1.6     |
|                               |                        |         | Fargo Forum (Sun.)        | 5                     | 1.4     |
|                               |                        |         | Others <sup>c</sup>       | 14                    | 3.7     |
| Total                         | 173 <sup>d</sup>       |         | Total                     | 370 <sup>e</sup>      |         |

<sup>a</sup>138 respondents subscribe to a daily paper with 7 respondents subscribing to more than one paper.

<sup>b</sup>321 respondents subscribe to a daily paper with 23 respondents subscribing to more than one paper.

<sup>c</sup>Other weekly newspapers included Bowman County Pioneer, Cavalier Chronicle, The Crosby Journal, Aneta Star, McVillage Messenger, New Rockford Transcript, Ozone Press-Steele, and Stephen Messenger.

<sup>d</sup>136 respondents subscribe to a weekly paper with 37 respondents subscribing to more than one paper.

<sup>e</sup>290 respondents subscribe to a weekly paper with 80 respondents subscribing to more than one paper.

TABLE 12. MOST POPULAR RADIO STATIONS FOR RESPONDENTS IN THE MAIN TRADE AREA, MAYVILLE-PORTLAND, NORTH DAKOTA, 1989

| Radio Station | Number of Respondents | Percent |
|---------------|-----------------------|---------|
| KFGO-Fargo    | 65                    | 42.2    |
| KMAV-Mayville | 41                    | 26.6    |
| WDAY-Fargo    | 35                    | 22.7    |
| KFNW-Fargo    | 4                     | 2.6     |
| KQWB-Fargo    | 3                     | 1.9     |
| Others        | 6                     | 4.0     |

boundaries determined in this report. The old trade areas for both Mayville and Portland were compared to the new trade area for the Mayville-Portland trade center.

The main trade area for Mayville-Portland has changed little from 1971. Mayville-Portland lost two townships to Hillsboro, but gained one township from Hatton, for an overall decrease of one township since the early 1970s. The greater trade area appears to have remained constant or increased to the west and remained unchanged elsewhere. Some of the differences in trade areas may be attributed to different trade area delineation criteria and to changes in the relative strength of the competing trade centers.

### SUMMARY AND CONCLUSIONS

Trade area analysis was conducted for Mayville-Portland based on a statewide trade area survey which the Department of Agricultural Economics at NDSU conducted in 1989. The demographic and economic profile for Mayville-Portland was discussed. Mayville-Portland has suffered in the 1980s from decreased population, reduced taxable sales, and lower pull factors. Changes in economic activity and population for Mayville-Portland have been similar to other North Dakota cities in the 1,500 to 2,500 and 500 to 1,000 population ranges, suggesting Mayville-Portland, during the 1980s, fared at least as well as other cities of comparable size. Although Mayville-Portland suffers from decreased economic activity and population declines, the two cities are doing relatively better than their smaller competing cities. The depressed economic conditions Mayville-Portland experienced in the 1980s were common to most cities in North Dakota.

Main and greater trade areas were defined for Mayville-Portland, using several delineation criteria. Townships where the majority of the respondents purchased 50 percent or more of a mix of goods and services in Mayville-Portland were included in the main trade area. Townships where 10 percent of the respondents purchased at least 10 percent of the goods and services mix in Mayville-Portland were included in the greater trade area (not including main trade area townships). The goods and services mix contained three convenience, seven specialty, and two agricultural items.

Mayville-Portland's main trade area appears to have decreased slightly since 1971. Mayville-Portland lost two townships to neighboring cities, but gained one township, for an overall reduction in MTA size of one township. The greater trade area increased slightly to the west and remained unchanged elsewhere. The shape of the greater trade area appears to reflect competition from Grand Forks and Fargo.

Mayville-Portland appears to be doing a fair job of capturing most of the available market (those respondents who

purchase a majority of the service in Mayville-Portland divided by the total number of respondents in the Mayville-Portland main trade area who purchase the service) for three-fifths of the services listed on the survey questionnaire. Mayville-Portland appears to be an important source of services for those shopping in Mayville-Portland (i.e., of those shopping in Mayville-Portland, most individuals will purchase a majority of the item from Mayville-Portland retailers); however, Mayville-Portland could improve their market capture for half of the convenience and specialty items, and most of the agricultural items.

Fargo, Grand Forks, Hillsboro, Hatton, Galesburg, and Clifford provide most of the shopping locations for area residents who do not purchase the good or service in Mayville-Portland. No substantial differences were found in the demographic characteristics of those purchasing less than 50 percent and those purchasing more than 50 percent of selected convenience and specialty goods and services in Mayville-Portland. Subtle differences were found between the groups with the number of years resided in the county, average income, and distance traveled. Those purchasing 50 percent or more of one or more convenience or specialty goods or services in Mayville-Portland traveled an average distance of about 11 miles.

Even though the 1980s have been difficult for rural North Dakota cities, Mayville-Portland appears to have fared as well as other cities of comparable size and somewhat better than smaller neighboring towns. Although economic times have been difficult, Mayville-Portland appears to be doing a good job of retaining most of their past trade area and should remain an important trade center for residents of Traill County and the surrounding area.

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**APPENDIX**

# TRADE AREA STUDY CONFIDENTIAL

- Please fill out both sides of the page.
- Any adult in your household may complete the survey.

## BEGIN HERE...

**LOCATION OF RESIDENCE**

Town: \_\_\_\_\_

Township Name (or range #): \_\_\_\_\_  
(Township information is critical to the survey; please enter)

County: \_\_\_\_\_

To what daily newspapers do you subscribe?  
\_\_\_\_\_  
\_\_\_\_\_

To what weekly newspapers do you subscribe?  
\_\_\_\_\_  
\_\_\_\_\_

What are the call letters of the radio station you listen to most for weather, news, and other information?  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ in \_\_\_\_\_  
(town)

## DIRECTIONS:

For each item below indicate up to three towns where you do a great deal of shopping and the percentage of spending made at each town by your household. Totals do not have to add up to 100% across each category.

- #. EXAMPLE: Groceries
1. Groceries
2. Eating places
3. Drinking places (alcoholic)
4. Men's clothing
5. Women's clothing
6. Women's coats
7. Teenage clothing
8. Shoes
9. Jewellery
10. Major appliances
11. Radios, TVs, VCRs
12. Appliance/electronic repair
13. Florist
14. Nursery (plants)
15. Furniture
16. Auto sales
17. Auto repair
18. Gas or diesel service sta.
19. Heating fuel/propane
20. Plumber
21. Barber
22. Beautician
23. Legal services
24. Accounting services
25. Computers
26. Eye doctor
27. Family doctor
28. Chiropractor
29. Dentist
30. Hospital
31. Mortician (funeral home)

| TOWN NAME | %     | DO NOT WRITE IN THIS AREA | TOWN NAME | %     | DO NOT WRITE IN THIS AREA | TOWN NAME | %     | DO NOT WRITE IN THIS AREA |
|-----------|-------|---------------------------|-----------|-------|---------------------------|-----------|-------|---------------------------|
| Carson    | 60    |                           | Bismarck  | 15    |                           | Mandan    | 10    |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |
| _____     | _____ |                           | _____     | _____ |                           | _____     | _____ |                           |

Please continue on the next page →

Please continue here

- 32. Prescription drugs
- 33. Veterinarian (sm. animal)
- 34. Banking & savings
- 35. Building supplies
- 36. Hardware
- 37. Sporting goods

| TOWN NAME | % | DO NOT WRITE IN THIS AREA |
|-----------|---|---------------------------|
|           |   |                           |
|           |   |                           |
|           |   |                           |
|           |   |                           |
|           |   |                           |
|           |   |                           |

| TOWN NAME | % | DO NOT WRITE IN THIS AREA |
|-----------|---|---------------------------|
|           |   |                           |
|           |   |                           |
|           |   |                           |
|           |   |                           |
|           |   |                           |
|           |   |                           |

| TOWN NAME | % | DO NOT WRITE IN THIS AREA |
|-----------|---|---------------------------|
|           |   |                           |
|           |   |                           |
|           |   |                           |
|           |   |                           |
|           |   |                           |
|           |   |                           |

38 Overall, what are your three main trading centers and the distance to each from your residence?

| Town Name | Miles |
|-----------|-------|
|           |       |
|           |       |
|           |       |

39. What town do you consider to be your main trade center?

\_\_\_\_\_

40. Are you ...

|                                                |                                                |
|------------------------------------------------|------------------------------------------------|
| <input type="checkbox"/> single, never married | <input type="checkbox"/> separated or divorced |
| <input type="checkbox"/> married               | <input type="checkbox"/> widowed               |

- 41. What is your age? \_\_\_\_\_
- 42. What is your gender?  male  female
- 43. How many years of formal education have you had? \_\_\_\_\_
- 44. How many years have you lived in the county? \_\_\_\_\_
- 45. If employed (other than farming), in what town do you work?  
\_\_\_\_\_
- 46a. How many people live in your household, including yourself? \_\_\_\_\_
- b. How many of these people are in grade school? \_\_\_\_\_
- c. How many of these people are in high school? \_\_\_\_\_

Please continue with question 47

47. Please check the category that best fits your occupation (and your spouse's):

- | Respondent               | Spouse                                                                                                                                                          |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> farming (also forestry, fishing)                                                                                                       |
| <input type="checkbox"/> | <input type="checkbox"/> professional/management (e.g., teachers, registered nurses)                                                                            |
| <input type="checkbox"/> | <input type="checkbox"/> technical, sales, or administrative support (e.g., office workers, salespersons, nurses-LPNs, mail carriers, health care support jobs) |
| <input type="checkbox"/> | <input type="checkbox"/> service jobs (e.g., health care aides, policemen, firemen, cooks, barbers, janitors)                                                   |
| <input type="checkbox"/> | <input type="checkbox"/> precision production, craft, and repair jobs (e.g., mechanics, welders, construction trades)                                           |
| <input type="checkbox"/> | <input type="checkbox"/> equipment operators and fabricators (e.g., bus/truck drivers, laborers)                                                                |
| <input type="checkbox"/> | <input type="checkbox"/> other (explain) _____                                                                                                                  |

If you are a farm operator (not strictly a landlord), please continue with question 49 below.

- 49. Farm machinery
- 50. Farm mach. repair/parts
- 51. Farm fuel & lubricants
- 52. Commercial feeds
- 53. Crop seeds
- 54. Crop consultants
- 55. Fertilizer
- 56. Other farm chemicals
- 57. Veterinary services
- 58. Other farm supplies

| TOWN NAME | % | DO NOT WRITE IN THIS AREA |
|-----------|---|---------------------------|
|           |   |                           |
|           |   |                           |
|           |   |                           |
|           |   |                           |
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|           |   |                           |

| TOWN NAME | % | DO NOT WRITE IN THIS AREA |
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| TOWN NAME | % | DO NOT WRITE IN THIS AREA |
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WHERE ARE YOUR FARM PRODUCTS MARKETED?

|               |  |  |  |  |
|---------------|--|--|--|--|
| 59. Grain     |  |  |  |  |
| 60. Livestock |  |  |  |  |

48. What was your total family net income before taxes last year?

- |                                            |                                            |
|--------------------------------------------|--------------------------------------------|
| <input type="checkbox"/> under \$5,000     | <input type="checkbox"/> \$25,001-\$30,000 |
| <input type="checkbox"/> \$5,000-\$10,000  | <input type="checkbox"/> \$30,001-\$35,000 |
| <input type="checkbox"/> \$10,001-\$15,000 | <input type="checkbox"/> \$35,001-\$40,000 |
| <input type="checkbox"/> \$15,001-\$20,000 | <input type="checkbox"/> \$40,001-\$45,000 |
| <input type="checkbox"/> \$20,001-\$25,000 | <input type="checkbox"/> over \$45,000     |

IF YOU ARE A FARMER, PLEASE COMPLETE QUESTIONS 49-60 TO THE LEFT