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# Retail Trade Area Analysis

## Grafton North Dakota

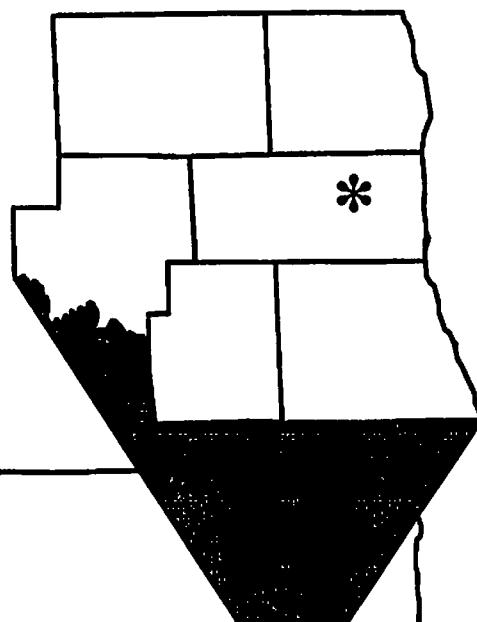
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The authors accept sole responsibility for any remaining errors or omissions.

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## HIGHLIGHTS

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

Current trade area information for Grafton 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 Grafton population, retail sales, per capita income, pull factors, and Walsh County population and employment were identified and discussed. Grafton's population, trade area population, retail sales, and pull factors along with Walsh County population and average annual employment have all decreased throughout the 1980s. Although most demographic and economic measurements have decreased, Grafton has fared as well, if not better than other North Dakota cities with similar populations, and has fared similar to smaller competing trade centers. The economic situation found in Grafton and Walsh County are somewhat typical of the problems found in northeastern North Dakota communities in the 1980s.

Grafton'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. Grafton's MTA decreased in size by seven townships, compared to MTA boundaries determined in 1973.

The typical household for survey respondents appears to be a middle-aged married couple, who have completed high school, have few children at home, primarily are 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 9.5 and 9.8 miles to Grafton to purchase selected convenience and specialty goods and services, respectively. Many (41.3 percent) of the respondents who purchased 50 percent or more of convenience and specialty goods in Grafton traveled over 20 miles to purchase the item.

Grafton appears to be an important trade center for those who shop there; however, Grafton could capture more of the available market for nearly half of the nonagricultural and three-fourths of the agricultural goods and services listed on the survey.

Grand Forks, Park River, Cavalier, Hoople, St. Thomas, and Minto were the most popular cities for the purchase of nonagricultural goods and services by Grafton MTA residents who did not purchase a majority of the good or service in Grafton. Nash, Park River, Minto, and Hoople were popular for purchasing agricultural goods and services.

Outshopping analysis revealed no substantial demographic or socioeconomic differences between Grafton MTA residents purchasing 50 percent or more and those purchasing less than 50 percent of selected goods and services in Grafton. Differences between groups were evident only in miles traveled.

The Grand Forks Herald and The Forum (Fargo) were the most popular daily newspapers for both Grafton MTA and GTA residents. The Grafton Record and The Walsh County Press were the most popular weekly newspapers for Grafton MTA and GTA residents, respectively. The most popular radio stations for Grafton MTA residents included KXPO of Grafton, KNOX of Grand Forks, and KFGO of Fargo.

According to selected demographic and economic measurements, Grafton appears to have survived the 1980s in good shape; however, Grafton has lost a substantial portion of its main trade area to competing trade centers. Even though Grafton's main trade area has decreased, Grafton still extends considerable retail influence in the northeastern corner of North Dakota and will continue to be an important trade center in northeastern North Dakota.

## RETAIL TRADE AREA ANALYSIS: GRAFTON, 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 indepth 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 Grafton 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.



This report will describe Grafton's main and greater trade areas, provide information on the demographic characteristics of Grafton area shoppers, and identify essential and nonessential services Grafton 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 Grafton trade area.

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

### GRAFTON 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 Grafton population, retail sales, market share, per capita income, pull factors, and Walsh 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 1989 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.

Grafton's population declined about 10 percent from 1980 to 1988 (Table 1). Of the North Dakota cities in the population range 2,500 to 10,000, only three had population increases from

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

City	County	City Population		Percent Change	Trade Area Population <sup>a</sup>		Percent Change
		1980	1988	1980-88	1980	1988	1980-88
Population over 10,000							
Grand Forks	Grand Forks	43,765	48,430	10.66			
Group Total		253,628	274,280	8.14	--	--	--
Population 2,500 to 10,000							
Grafton	Walsh	5,293	4,770	-9.88	11,374	11,080	-2.58
Group Total		43,813	45,650	4.19	9,602	9,579	2.52
Population 1,500 to 2,500							
Park River	Walsh	1,844	1,620	-12.15	4,682	4,300	-8.16
Cavalier	Pembina	1,505	1,550	2.99	5,568	5,520	-0.86
Group Total		39,095	37,540	-3.98	--	--	--
Population 1,000 to 1,500							
Drayton	Pembina	1,082	1,140	5.36	1,677	1,730	3.16
Group Total		29,622	27,540	-7.03	--	--	--
Population 500 to 1,000							
Minto	Walsh	592	680	14.86	1,807	1,870	3.49
St. Thomas	Pembina	528	540	2.27			
Group Total		32,154	31,200	-2.97	--	--	--
Population 200 to 500							
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.

1980 to 1988. If Beulah, the population of which increased almost 90 percent, was removed from the group, the size category would have negative population growth. Grafton's trade area population decreased about 2.6 percent from 1980 to 1988, the second smallest decrease for any town in the category. The population of Grafton's competing trade centers and their trade area populations all increased, except for Park River and the Park River and Cavalier trade areas.

Since Grafton's trade area covers parts of counties other than Walsh County, population, average annual employment, and per capita income have been identified for surrounding counties (Table 2). Population in Walsh County decreased about 5 percent from 1980 to 1988. All of the surrounding counties lost population during the same time period, except for Grand Forks and Ramsey Counties.

Average annual employment in Walsh County decreased about 1 percent from 1980 to 1988. Employment in all but two counties surrounding Walsh County declined substantially. Although population and employment declined in Walsh County during 1980 to 1988, real per capita income (i.e., adjusted for inflation) actually increased from 1979 to 1987, while per capita income

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

County	1980	1982	1984	1986	1988	1989	Percent Change 1980-88/89
----- Population -----							
Walsh	15,371	15,600	15,800	15,000	14,600	---	-5.02
Surrounding Counties							
Cavalier	7,636	7,300	7,100	6,700	6,400	---	-16.19
Grand Forks	66,100	67,100	69,100	69,800	70,500	---	6.66
Nelson	5,233	5,000	5,100	4,900	4,700	---	-10.19
Pembina	10,399	10,200	10,300	10,300	10,300	---	-0.95
Ramsey	13,048	13,000	13,000	13,100	13,100	---	0.40
North Dakota	652,717	672,000	687,000	679,000	667,000	---	2.19
----- Average Annual Employment <sup>a</sup> -----							
Walsh	7,444	7,817	7,431	7,797	7,681	7,390	-0.73
Surrounding Counties							
Cavalier	3,305	3,265	2,631	2,617	2,516	2,487	-24.75
Grand Forks	24,911	24,958	31,414	33,866	34,726	35,181	41.23
Nelson	2,534	2,549	2,058	1,979	1,843	1,837	-27.51
Pembina	5,333	5,390	4,879	4,848	4,950	4,983	-6.56
Ramsey	6,180	6,114	6,135	6,255	6,302	6,446	4.30
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>		<u>Percent Change 1979 to 1987</u>		
Walsh	\$8,154		\$8,682		6.5		
Surrounding Counties							
Cavalier	9,556		10,346		8.3		
Grand Forks	10,200		9,957		-2.4		
Nelson	8,651		8,089		-6.5		
Pembina	9,551		9,690		1.5		
Ramsey	9,931		9,649		-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.

decreased in all but two of the surrounding counties. Grafton's deflated taxable sales (i.e., adjusted for inflation) decreased 13.2 and 3.7 percent from 1980 to 1989 and from 1987 to 1989, respectively (Table 3). Grafton had the second smallest decrease in taxable sales of any city in the population range 2,500 to 10,000 from 1980 to 1989. Although Grafton fared favorably compared to other cities in the same population category, average taxable sales for the group decreased 5.27 percent (1987 to 1989). Competing cities also suffered large decreases in their adjusted taxable sales for the same time

TABLE 3. DEFLATED TAXABLE SALES AND PURCHASES FOR GRAFTON 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					
Grand Forks	345,823,249	417,195,195	432,857,077	25.17	3.75
Group Total	2,578,781,160	2,337,648,605	2,396,999,678	-7.05	2.54
Population 2,500 to 10,000					
Grafton	49,064,196	44,218,845	42,582,528	-13.21	-3.70
Group Total	398,731,612	315,496,552	298,875,168	-25.04	-5.27
Population 1,500 to 2,500					
Cavalier	19,471,384	17,158,747	17,211,421	-11.61	0.31
Park River	12,803,271	8,660,013	7,755,265	-39.43	-10.45
Group Total	415,612,668	251,583,986	226,276,758	-45.56	-10.06
Population 1,000 to 1,500					
Drayton	5,162,669	5,148,886	4,568,724	-11.50	-11.27
Group Total	222,752,746	141,859,953	130,721,134	-41.32	-7.85
Population 500 to 1,000					
Minto	1,760,719	2,124,710	2,614,703	48.50	23.06
St. Thomas	824,206	816,820	619,555	-24.83	-24.15
Group Total	197,005,522	124,426,751	123,454,776	-37.33	-0.78
Population 200 to 500					
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.

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.

Grafton's pull factor decreased almost 17 percent from 1980 to 1989 (Table 4). Only Devils Lake and Wahpeton, in the population group 2,500 to 10,000, increased their pull factors from 1980 to 1989. Grafton's pull factor, however, 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. Changes in pull factors for competing cities were mixed from 1980 to 1989. Pull factors in 1989 for cities competing with Grafton were less than Grafton's pull factor, suggesting Grafton does a better job of capturing its available market than do neighboring cities.

TABLE 4. PULL FACTORS FOR GRAFTON 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						
Grand Forks	*	*	*	*	*	*
Group Average	1.12	0.96	1.01	-14.20	-9.63	5.32
Population 2,500 to 10,000						
Grafton	0.84	0.86	0.70	2.69	-16.60	-18.78
Group Average	0.79	0.73	0.64	-8.40	-19.82	-12.47
Population 1,500 to 2,500						
Cavalier	0.58	0.62	0.63	8.23	9.62	1.28
Park River	0.53	0.43	0.33	-17.84	-38.26	-24.85
Group Average	0.89	0.65	0.52	-26.93	-42.26	-20.99
Population 1,000 to 1,500						
Drayton	0.51	0.59	0.53	15.91	5.46	-9.02
Group Average	0.65	0.53	0.43	-18.35	-34.55	-19.84
Population 500 to 1,000						
Minto	0.19	0.25	0.25	34.20	34.34	0.10
St. Thomas	*	*	*	*	*	*
Group Average	0.60	0.49	0.42	-18.94	-29.78	-13.38
Population 200 to 500						
Group Average	0.41	0.35	0.28	-14.30	-30.65	-19.07

SOURCE: Leistritz et al. 1990.

Both city and county populations have declined in the geographic area near Grafton. Only Grand Forks and Ramsey Counties' population increased from 1980 to 1988. Deflated taxable sales in Grafton and average annual employment in Walsh County have decreased in the 1980s. Although real per capita income in Walsh County increased from 1979 to 1987, Grafton's pull factor has continued to decrease (1980 to 1989). Changes in economic activity and population for Grafton have been similar to other North Dakota cities in the 2,500 to 10,000 population range, suggesting Grafton is no worse off than other cities of comparable size.

Although Grafton suffers from decreased economic activity and population declines, the city is doing better compared to its smaller competing cities. Smaller cities and towns competing with Grafton 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 Grafton and Walsh 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 Grafton.

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.

Grafton was classified as a complete shopping center based on average retail sales from 1987 to 1989. 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	Groceries
Eating places	Hardware
Gas and diesel service	Prescription drugs

#### Specialty Goods and Services

Accounting services	Auto repair
Auto sales	Beautician
Building supplies	Dentist
Doctor	Hospital
Major appliances	Men's clothing
Plumber	Radios, TVs, VCRs
Shoes	Sporting goods
Teen's clothing	Women's clothing

#### Agricultural Goods and Services

Farm equipment	Fertilizer
Farm supplies	

The main trade area for Grafton 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 Grafton. 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 Grafton.

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.

The GTA for Grafton extends into Minnesota; however, only Grafton's trade areas in North Dakota were determined in this report. Grafton's MTA captures more townships to the north and south of the city, then to the east or west. The GTA (within North Dakota) captures a large number of townships to the west and north of the city (Figure 1). Grafton's ability to attract customers from the south appears limited due to competition from Grand Forks; however, Grafton draws some retail activity from the entire northeastern corner of the state, with additional activity coming from areas in Minnesota.

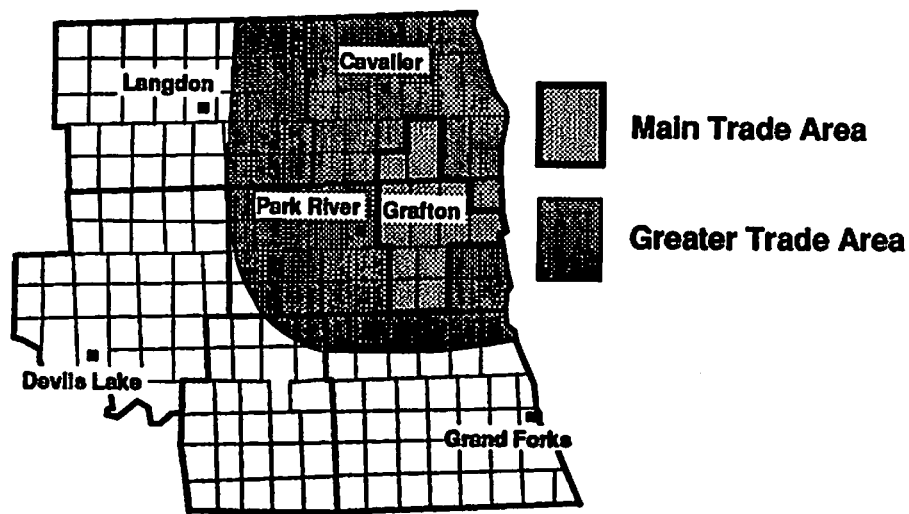


Figure 1. Main and Greater Trade Areas for Grafton, North Dakota, 1989

#### CHARACTERISTICS OF GRAFTON AREA RESIDENTS

Business people and community leaders usually are interested in the characteristics of local shoppers and shopping patterns. The characteristics of Grafton shoppers were analyzed, using 222 survey responses from the Grafton MTA. Other analyses included examination of important and less important services for patron shoppers of Grafton, identification of neighboring cities area shoppers patronize, determination of distances area shoppers traveled to Grafton, and listing popular newspapers and radio stations among area residents.

#### Demographic Profile of Shoppers in Grafton Main Trade Area

Demographic characteristics of the survey respondents for the Grafton 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, GRAFTON, NORTH DAKOTA, 1989

Demographic Characteristic	Average of Survey Responses	
Age (Years)	53.1	
Education (Years)	12.2	
Lived in County (Years)	42.3	
Household Size (People)	2.8	
Average Household Income	\$27,597	
Occupation	Respondent	Spouse
	---%---	---%---
Farming	30.2	21.7
Retired	22.8	15.9
Professional	11.4	13.0
Tech/Sales/Admin	10.4	22.5
Service Jobs	9.9	10.1
Craft/Repair	7.4	6.5
Equipment Operator	3.5	--
Housewife	2.5	5.8
Other	1.9	4.5
Martial Status	--- % ---	
Single	10.6	
Separated/Divorced	2.3	
Married	72.9	
Widowed	14.2	
Male	64.4	
Female	35.6	

#### Distance Traveled by Grafton Area Shoppers

Average distances that area residents traveled to Grafton were determined for each convenience and specialty good or service in the 25-item goods and services mix (Table 6). Distances were determined by averaging respondents' estimated miles between Grafton and their home residence. Grafton residents and any respondents who lived one mile or less from Grafton 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 Grafton 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 Grafton. 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 Grafton.

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

<u>All Respondents Purchasing 50 Percent or More of the Service in Grafton</u>			
<u>Convenience Items</u>		<u>Specialty Items</u>	
Goods and Services	Average Miles Traveled	Goods and Services	Average Miles Traveled
Groceries	14.2	Mens Clothing	22.1
Eating Places	14.6	Radios, TVs, VCRs	18.1
Prescription Drugs	13.8	Womens Clothing	24.0
Banking and Savings	16.5	Auto Repair	16.5
Hardware	13.1	Teen Clothing	23.3
Drinking Places	11.1	Beautician	15.7
		Shoes	22.9
		Hospital	16.1
		Sporting Goods	17.8
		Accounting Services	16.8
		Auto Sales	20.0
		Building Supplies	11.8
		Family Doctor	16.2
		Major Appliance	17.2
		Plumber	10.3
		Dentist	16.0
Average	14.1	Average	18.1
<u>MTA Respondents Only Who Purchase 50 Percent or More of the Service in Grafton</u>			
<u>Convenience Items</u>		<u>Specialty Items</u>	
Goods and Services	Average Miles Traveled	Goods and Services	Average Miles Traveled
Groceries	9.8	Mens Clothing	9.7
Eating Places	9.3	Radios, TVs, VCRs	10.2
Prescription Drugs	9.4	Womens Clothing	10.4
Banking and Savings	10.3	Auto Repair	9.3
Hardware	8.9	Teen Clothing	9.8
Drinking Places	8.4	Beautician	10.2
		Shoes	10.0
		Hospital	9.9
		Sporting Goods	9.1
		Accounting Services	9.9
		Auto Sales	10.2
		Building Supplies	9.9
		Family Doctor	9.1
		Major Appliance	9.8
		Plumber	9.1
		Dentist	10.7
Average	9.5	Average	9.8

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

The average distance traveled to Grafton 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 Grafton. For those respondents living in the MTA, the average distance traveled for both types of goods and services was nearly identical. The average distance traveled by MTA respondents was about one-third less than all respondents purchasing 50 percent or more of the 25 item goods and services mix.

Distance traveled by type of good or service (convenience and specialty) was broken down into distance categories. Many (41.3 percent) of the respondents (regardless of residence location) who purchase 50 percent or more of a convenience and specialty good or service travel over 20 miles to purchase the item in Grafton (Table 7). For those living in the MTA, a majority (63.3 percent) of the respondents traveled between 6 and 15 miles to purchase convenience and specialty items in Grafton.

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

<u>All Respondents Purchasing 50 Percent or More of a Service in Grafton</u>				
Distance (Miles) <sup>a</sup>	<u>Convenience Goods</u>		<u>Specialty Goods</u>	
	Number	Percent	Number	Percent
1 to 5	28	8.4	28	5.2
6 to 10	74	22.3	75	14.0
11 to 15	50	15.1	55	10.2
16 to 20	71	21.4	129	24.0
21 to 25	33	9.9	63	11.7
over 25	76	22.9	187	34.8
<u>MTA Respondents Only Who Purchase 50 Percent or More of a Service in Grafton</u>				
Distance (Miles) <sup>a</sup>	<u>Convenience Goods</u>		<u>Specialty Goods</u>	
	Number	Percent	Number	Percent
1 to 5	24	17.3	24	16.6
6 to 10	52	37.4	52	35.9
11 to 15	36	25.9	40	27.6
16 to 20	21	15.1	22	15.2
21 to 25	6	4.3	7	4.8
over 25	0	0.0	0	0.0

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

### Area Shoppers' Utilization of Goods and Services Provided in Grafton

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

Goods and services that appear to be most utilized by those shopping in Grafton include chiropractor, mortician, heating fuel and propane, dentist, banking and saving, barber, plumber, florist, and commercial feeds (services where 95 percent of those buying the service in Grafton purchase a majority of the service in Grafton). The goods and services that people are less likely to purchase a majority of in Grafton include shoes, teenage clothing, women's clothing and coats, men's clothing, veterinary services (small animals and livestock), livestock marketing, farm fuel and lubricant, and grain marketing.

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

Goods and services for which Grafton is capturing a large amount of the potential market (85 percent or more) within the MTA include florist, mortician, chiropractor, banking and savings, and appliance and electronic repair. Goods and services for which Grafton does not capture much of the existing market (less than 70 percent) include shoes, women's coats and clothing, heating fuel and propane, dentist, accounting services, optometrist, family doctor, computers, hospital, major appliances, furniture, sporting goods, veterinarian (small animals and livestock), teenage clothing, men's clothing, crop seeds, other farm chemicals, other farm supplies, fertilizer, farm fuel and lubrication, commercial feeds, crop consultants, grain marketing, and livestock marketing.

Goods and services that are important to Grafton shoppers and those for which Grafton is capturing a large percentage of the market include florist and mortician. Computers, heating fuel and propane, hospital, accounting, and optometrist services

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

Goods and Services	Purchase the Goods & Services Somewhere	Responses in Grafton Main Trade Area				
		Purchase Some of the Goods & Services in Grafton		Purchase Majority of the Goods & Services in Grafton		Measure of Market Capture
		No.	% <sup>a</sup>	No.	% <sup>b</sup>	
Chiropractor	106	95	89.6	94	98.9	88.7
Mortician	146	137	93.8	135	98.5	92.5
Heating Fuel/Propane	183	113	61.7	110	97.3	60.1
Dentist	210	149	71.0	145	97.3	69.0
Banking and Savings	214	193	90.2	186	96.4	86.9
Barber	164	129	78.7	124	96.1	75.6
Plumber	174	144	82.8	138	95.8	79.3
Florist	194	188	96.9	180	95.7	92.8
Legal Service	192	170	88.5	161	94.7	83.9
Accounting Services	142	105	73.9	99	94.3	69.7
Appliance/Elec Repair	186	172	92.5	160	93.0	86.0
Auto Sales	201	157	78.1	145	92.4	72.1
Beautician	181	142	78.5	129	90.8	71.3
Prescription Drugs	207	173	83.6	157	90.8	75.8
Building Supplies	199	182	91.5	164	90.1	82.4
Gas/Diesel Service	208	163	78.4	146	89.6	70.2
Nursery (Plants)	186	170	91.4	151	88.8	81.2
Optometrist	211	131	62.1	115	87.8	54.5
Hardware	204	184	90.2	159	86.4	77.9
Auto Repair	208	179	86.1	154	86.0	74.0
Groceries	218	211	96.8	180	85.3	82.6
Family Doctor	214	158	73.8	134	84.8	62.6
Drinking Places	115	102	88.7	86	84.3	74.8
Radios, TVs, VCRs	201	176	87.6	148	84.1	73.6
Computers	51	31	60.8	26	83.9	51.0
Hospital	195	133	68.2	110	82.7	56.4
Jewelry	153	134	87.6	108	80.6	70.6
Eating Places	210	195	92.9	157	80.5	74.8
Major Appliances	199	173	86.9	139	80.3	69.8
Furniture	196	169	86.2	133	78.7	67.9
Sporting Goods	143	128	89.5	97	75.8	67.8
Shoes	203	169	83.3	119	70.4	58.6
Veterinarian (Sm Animals)	127	6	4.7	4	66.7	3.1
Men's Clothing	193	165	85.5	106	64.2	54.9
Women's Coats	180	113	62.8	65	57.5	36.1
Teenage Clothing	75	56	74.7	32	57.1	42.7
Women's Clothing	193	169	87.6	92	54.4	47.7
----- Agricultural Goods and Services -----						
Commercial Feeds	16	6	37.5	6	100.0	37.5
Crop Consultants	38	24	63.2	21	87.5	55.3
Other Farm Chemicals	55	37	67.3	32	86.5	58.2
Farm Mach Repair/Parts	62	59	95.2	50	84.7	80.6
Other Farm Supplies	49	44	89.8	37	84.1	75.5
Farm Machinery	60	54	90.0	44	81.5	73.3
Fertilizer	60	30	50.0	24	80.0	40.0
Crop Seeds	55	30	54.5	22	73.3	40.0
Grain Marketing	56	28	50.0	19	67.9	33.9
Farm Fuel & Lubricant	62	28	45.2	17	60.7	27.4
Veterinary Services	27	0	0.0	0	0.0	0.0
Livestock Marketing	9	0	0.0	0	0.0	0.0

<sup>a</sup>Determined by dividing number of responses of those who purchase some of the service in Grafton 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 Grafton.

<sup>b</sup>Determined by dividing number of responses of those who purchase majority of the service in Grafton by the number who purchase some of the service in Grafton. Number is proxy for relative importance of Grafton 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 Grafton by the number who purchase some of the service anywhere. Number is proxy for ability of Grafton to capture potential market for that service.

are important to shoppers in Grafton, but few of the potential buyers purchase a majority of those goods and services in Grafton. This suggests some loyalty for those shopping in Grafton yet a good portion of the market has not been captured. Grafton appears to be an important trade center for those that shop there; however, Grafton could capture more of the potential market for about half of the goods and services listed on the questionnaire. Grafton only captured 70 percent or more of the potential market for 3 out of the 12 agricultural goods and services used in this study.

#### Where Services Are Purchased When Not Purchased In Grafton

For most of the goods and services listed in the survey, some respondents did not purchase any of the good or service in Grafton or purchased more of the good or service in other cities. For people living in the Grafton MTA and not purchasing a majority of the services in Grafton, the cities where the majority of those services were purchased were identified (Table 9). Grand Forks was the most popular choice for services purchased outside of the Grafton MTA. Other popular cities included Park River, Cavalier, Hoople, St. Thomas, and Minto. Nash, Park River, Minto, and Hoople were popular for purchasing agricultural goods and services.

Grafton will always lose some shoppers to surrounding cities and towns for several reasons. First, many shoppers in the Grafton 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, Grand Forks, because of its size, will have an image of greater variety and more favorable prices for many goods and services. Thus, many people will travel to Grand Forks 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).

#### Analysis of Outshoppers in Grafton Main Trade Area

Responses were analyzed to determine if those who bought 50 percent or more of selected goods and services in Grafton differed from those who bought less than 50 percent. Differences

TABLE 9. MOST POPULAR CITIES FOR THE PURCHASE OF GOODS AND SERVICES BY GRAFTON MAIN TRADE AREA RESIDENTS WHO DID NOT PURCHASE A MAJORITY OF THE GOOD OR SERVICE IN GRAFTON, 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	62.2	Eating Places	Grand Forks	34	62.1
	Hoople	5	77.0		Hoople	7	54.3
	Park River	4	67.5		Park River	5	60.0
Drinking Places	Park River	5	57.4	Men's Clothing	Grand Forks	84	73.7
	Grand Forks	5	55.0	Teen Clothing	Grand Forks	41	77.1
	Hoople	3	83.3	Shoes	Grand Forks	74	78.1
	St. Thomas	3	70.0		Catalog Sales	4	67.5
	Minto	3	46.6	Radios, TVs, VCRs	Grand Forks	45	77.9
Women's Clothing	Grand Forks	92	70.8		Fargo	4	63.8
	Catalog Sales	2	70.0	Florist	Grand Forks	5	69.0
Women's Coats	Grand Forks	108	77.7		Park River	4	93.8
	Fargo	3	78.3		Cavalier	4	77.5
Jewelry	Grand Forks	39	74.6	Gas Station	St. Thomas	12	89.2
	Fargo	4	55.0		Hoople	10	93.5
Major Appliance Rpr	Grand Forks	13	81.2		Park River	9	88.3
	Park River	3	76.7		Minto	8	81.3
	Crystal	3	66.7		Forest River	6	81.5
Auto Sales	Grand Forks	21	86.6	Plumber	St. Thomas	12	83.8
	Park River	8	81.3		Park River	10	91.0
	Oslo, Minn	7	80.7		Drayton	4	77.5
	Cavalier	7	71.3	Nursery (Plants)	Grand Forks	11	72.3
Furniture	Grand Forks	57	78.7		Cavalier	10	79.0
	Fargo	3	80.0		Park River	7	82.9
Auto Repair	Grand Forks	14	62.1	Legal Service	Hamilton	6	93.3
	Park River	12	77.1		Grand Forks	6	90.0
	Minto	8	78.8		Cavalier	6	80.0
	Oslo, Minn	5	73.0		Park River	5	86.0
Heating Fuel/Propane	Park River	16	97.5	Accounting Service	Fargo	10	88.9
	Minto	10	95.0		Park River	9	95.5
	St. Thomas	9	97.8		Grand Forks	8	93.8
	Nash	9	93.8		Cavalier	6	93.3
	Hoople	8	100.0	Barber	Hoople	10	94.0
	Forrest River	6	91.7		Grand Forks	9	94.4
Beautician	Grand Forks	23	85.4		Minto	8	85.6
	St. Thomas	6	98.3		Park River	6	90.8
	Hoople	6	90.8	Family Doctor	Grand Forks	46	83.3
	Park River	5	100.0		Cavalier	21	85.2
Optometrist	Grand Forks	80	93.7		Park River	7	96.4
	Cavalier	4	100.0	Banking and Services	Park River	4	100.0
	Park River	4	86.3		Minto	4	79.5
Computers	Grand Forks	19	82.3		Grand Forks	3	100.0
Major Appliance	Grand Forks	50	74.8		St. Thomas	3	91.7
	Park River	4	65.0	Building Supplies	Grand Forks	12	72.5
	Cavalier	3	75.0		Hoople	8	73.1
Chiropractor	Grand Forks	7	92.1		Park River	7	80.7
Dentist	Park River	49	91.7	Mortician	Park River	7	98.6
	Grand Forks	10	82.5		Cavalier	3	88.7
	Cavalier	3	96.6	Hospital	Grand Forks	52	84.1
Prescription Drugs	Grand Forks	21	87.6		Cavalier	15	88.0
	Cavalier	16	90.6		Park River	10	91.5
	Park River	10	92.5		Fargo	5	88.0
Vet (Small Animal)	Park River	118	97.3	Hardware	Grand Forks	13	60.3
	Grand Forks	4	78.7		Hoople	11	81.4
Sporting Goods	Grand Forks	38	69.1		Park River	7	74.3
	Fargo	2	65.0		St. Thomas	5	74.0
Farm Machinery Rpr	Park River	4	72.5	Farm Machinery	Cavalier	6	65.0
	Cavalier	3	76.6		Park River	5	74.0
	Hoople	3	65.0	Crop Consultant	Park River	6	95.0
Farm Fuel	Nash	11	92.7		Minto	4	82.5
	Hoople	8	89.4	Fertilizer	Minto	9	85.6
	St. Thomas	6	86.6		Nash	7	81.4
	Three cities w/five resp. ea.				St. Thomas	5	90.0
Commercial Feed	Pisek	2	100.0		Park River	4	100.0
	Nash	2	100.0	Crop Seeds	Hoople	6	79.2
	Park River	2	60.0		Nash	4	78.8
Farm Chemical	Minto	5	72.0		St. Thomas	4	67.5
	St. Thomas	4	82.5		Forest River	4	63.7
	Hoople	3	86.7	Grain Marketing	Nash	10	79.5
	Nash	3	78.3		Hoople	7	72.1
Livestock Marketing	West Fargo	3	85.0		Three cities w/three resp. ea.		
Veterinary Services	Park River	27	97.0	Farm Supplies	Park River	4	75.0
					Drayton	2	70.0

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 Grafton and those who purchase a majority of their goods and services elsewhere (Table 10).

The group purchasing less than 50 percent of the four goods and services in Grafton traveled farther (for each of the services) than the group purchasing 50 percent or more of the same goods and services in Grafton.

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 Grafton MTA are small, with few school children. Only slight differences were evident between the two main groups, with no substantial differences appearing between those purchasing 50 percent or more and those purchasing less than 50 percent of the goods and services in Grafton.

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 GRAFTON, NORTH DAKOTA, 1989

Attribute	Group Purchasing 50 Percent or More of Goods in Grafton				Group Purchasing Less Than 50 Percent of Goods in Grafton			
	Groc- eries	Womens Clothing	Doctor	Prescription Drugs	Groc- eries	Womens Clothing	Doctor	Prescription Drugs
Age	53.2	55.8	53.0	52.4	51.5	48.7	53.2	53.3
Education	12.1	11.9	12.0	12.1	12.9	12.6	12.5	12.8
Years Lived In County	42.1	45.3	40.5	40.8	42.5	38.2	45.4	47.1
Number in Household	2.9	2.7	3.0	2.8	2.6	3.2	2.6	2.8
Number in Grade School	0.6	0.4	0.7	0.6	0.6	0.8	0.4	0.6
Number in High School	0.4	0.3	0.4	0.4	0.2	0.4	0.2	0.2
Average Miles Traveled <sup>a</sup>	9.8	10.4	9.1	9.4	16.0	19.3	25.2	21.9
Household Income	\$27,753	\$24,771	\$27,500	\$28,052	\$27,708	\$30,786	\$27,955	\$26,927

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



# Newspaper Subscriptions of Grafton Area Residents

Newspaper subscriptions of respondents in the Grafton 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 newspapers for both the main and greater trade areas were *The Grand Forks Herald* and *The Forum* (Fargo). The most popular weekly papers for the main and greater trade areas were *The Grafton Record* and *Walsh County Press*. Other popular weekly newspapers for respondents included *The Cavalier Republican*, *The Cavalier Chronicle*, *Lakota American* and *The Grand Forks Herald* (sunday paper).

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

Main Trade Area			Greater Trade Area		
Newspaper	Numbers of Respondents	Percent	Newspaper	Number of Respondents	Percent
----- Daily Newspapers -----					
Grand Forks Herald	135	90.0	Grand Forks Herald	1,507	88.2
Fargo Forum	11	7.3	Fargo Forum	108	6.3
Wall Street Journal	2	1.3	Devils Lake Journal	61	3.6
Others	2	1.4	Others	32	1.9
Total	150 <sup>a</sup>		Total	1,708 <sup>b</sup>	
----- Weekly Newspapers -----					
Grafton Record	153	75.9	Grafton Record	371	17.5
Walsh County Press	44	11.2	Walsh County Record	288	13.6
AgWeek-Grand Forks	8	2.2	Cavalier County Rep.	254	12.0
Grand Forks Herald	7	2.2	Cavalier Chronicle	202	9.5
Cavalier Chronicle	6	2.2	Lakota American	114	5.4
Cavalier County Rep.	4	1.7	G.F. Herald (Sun.)	102	4.8
Others	13	4.6	Northwood Cleaner	90	4.2
			Larimore Leader	85	4.0
			AgWeek-Grand Forks	78	3.7
			Walhalla Mountaineer	58	2.7
			Michigan Arena	57	2.7
			Valley News & Views	52	2.4
			Tri-County Sun	32	1.5
			New Era-Pembina	31	1.5
			Larimore Pioneer	31	1.5
			Others <sup>c</sup>	278	13.0
Total	235 <sup>d</sup>		Total	2,123 <sup>e</sup>	

<sup>a</sup>145 respondents subscribe to a daily paper with 5 respondents subscribing to more than one paper.

<sup>b</sup>1,624 respondents subscribe to a daily paper with 84 respondents subscribing to more than one paper.

<sup>c</sup>Golden Valley News, Towner County Record Herald, Griggs County Sentinel-Courier, Edgeley Mail, Adams Standard, Aneta Star, The Express, McVillie Messenger, Hatton Free Press, Hillsboro Banner, LaMoure Chronicle, Traill County Tribune, Benson County Farmer, Pierce County Tribune, Leader, Fargo Forum (Sunday), West Fargo Pioneer, Tioga Tribune.

<sup>d</sup>184 respondents subscribe to a weekly paper with 51 respondents subscribing to more than one paper.

<sup>e</sup>1,542 respondents subscribe to a weekly paper with 581 respondents subscribing to more than one paper.

### Radio Stations of Grafton Area Residents

The most popular radio stations that respondents in Grafton's main trade area listened to were KXPO of Grafton, followed by KNOX of Grand Forks and KFGO of Fargo (Table 12).

### Comparison of Current and Previous Grafton Trade Area Boundaries

Vangsness (1973) discussed general information on retail trade and identified both main and greater trade areas for Grafton. Information from the past Grafton 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 Grafton's main and greater trade areas. Although trade area delineation criteria used in the previous Grafton trade area report differ, enough similarity exists to make comparisons with the trade area boundaries determined in this report.

The main trade area for Grafton has changed some from 1973. Grafton lost one and gained one township from Drayton. Grafton lost one township each to Crystal, Grand Forks, and Park River, and lost two townships each to Minto and Edinburg. Grafton lost seven townships overall since the early 1970s; however, comparisons were made to maps determined without MTAs for Crystal, Edinburg, and Minto, thus by including these cities' MTAs in the current analysis, Grafton appears to have lost more townships than would be the case if the townships captured by those cities were allocated to Grafton and other larger towns. The greater trade area appears to have remained unchanged. Some of the differences in trade areas may be attributed to different trade area delineation criteria.

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

Radio Station	Number of Respondents	Percent
KXPO-Grafton	134	65.7
KNOX-Grand Forks	24	11.8
KFGO-Fargo	16	7.8
KKXL-Grand Forks	5	2.5
KFJM-Grand Forks	3	1.5
KJKJ-Grand Forks	3	1.5
KSNR-Thief River Falls	3	1.5
KYCK-Crookston	3	1.5
Others	13	6.2

## SUMMARY AND CONCLUSIONS

Trade area analysis was conducted for Grafton based on a statewide trade area survey which the Department of Agricultural Economics at NDSU conducted in 1989. The demographic and economic profile for Grafton was discussed. Grafton has suffered in the 1980s from decreased population, reduced taxable sales, and lower pull factors. Changes in economic activity and population for Grafton have been similar, yet somewhat less severe than other North Dakota cities in the 2,500 to 10,000 population range, suggesting Grafton, during the 1980s, fared at least as well, if not better than other cities of comparable size. Although Grafton suffers from decreased economic activity and population declines, the city is doing relatively better than its smaller competing cities. The depressed economic conditions Grafton experienced in the 1980s were common to many cities in eastern North Dakota.

Main and greater trade areas were defined for Grafton, using several delineation criteria. Townships where the majority of the respondents purchased 50 percent or more of a mix of goods and services in Grafton 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 Grafton were included in the greater trade area (not including main trade area townships). The goods and services mix contained six convenience, 16 specialty, and three agricultural items.

Grafton's main trade area appears to have decreased some since 1973. Grafton lost eight townships to neighboring cities, but gained one township, for an overall reduction in MTA size of seven townships. The greater trade area remained unchanged, drawing retail activity from the entire northeastern corner of the state, with additional activity coming from areas in Minnesota. The shape of the greater trade area appears to reflect competition from Grand Forks.

Grafton appears to be doing a fair job of capturing the available market (those respondents who purchase a majority of the service in Grafton divided by the total number of respondents in the Grafton main trade area who purchase the service) for half of the services listed on the survey questionnaire. Grafton appears to be an important source of services for those shopping in Grafton (i.e., of those shopping in Grafton, most individuals will purchase a majority of the item from Grafton retailers), but Grafton could improve its market capture for many convenience and specialty items, and most agricultural items.

Grand Forks, Park River, Cavalier, and a few smaller towns provide most of the shopping locations for area residents who do not purchase the good or service in Grafton. 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 Grafton. Those purchasing 50 percent or more of one or more convenience or specialty goods or services in Grafton traveled an average distance of about 16 miles.

Even though the 1980s have been difficult for rural North Dakota cities, Grafton appears to have fared as well as other cities of comparable size and somewhat better than smaller neighboring towns. Grafton is faced with decreasing city and county population and decreasing county employment. Grafton has lost some its main trade area, but still extends considerable retail influence in North Dakota and Minnesota, and remains an important trade center in northeastern North Dakota.

## REFERENCES

- Bangsund, Dean A., F. Larry Leistritz, Janet K. Wanzek, Dale Zetocha, and Holly E. Bastow-Shoop. 1991. North Dakota Trade Areas: An Overview. Agricultural Economics Report No. 265. Fargo: North Dakota State University, Department of Agricultural Economics.
- Job Service of North Dakota. Various Issues. North Dakota Labor Force by County, by Region. Bismarck, N.D.
- Leistritz, F. Larry, Janet Wanzek, and Rita R. Hamm. 1990. North Dakota 1990: Patterns and Trends in Economic Activity and Population. Agricultural Economic Statistics Series No. 46. Fargo: North Dakota State University, Department of Agricultural Economics.
- U.S. Department of Commerce, Bureau of the Census, "Current Population Reports," Series P-26 (Spring 1990). Washington D.C.: U.S. Government Printing Office.
- U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index Inflaters. Washington D.C.: U.S. Government Printing Office.
- Vangsness, Elmer C. 1973. Retail Trade and Services Area Survey and Report: Grafton, North Dakota. North Dakota Agricultural Economics Extension Service Paper, North Dakota State University, Fargo.

## APPENDIX

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

**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)

### #. 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)

**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.**

[illegible]

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) _____  |

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

*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

TOWN NAME	%	DO NOT WRITE IN THIS AREA

TOWN NAME	%	DO NOT WRITE IN THIS AREA

WHERE ARE YOUR FARM PRODUCTS MARKETED?

- 59. Grain
- 60. Livestock